<table>
<thead>
<tr>
<th>Motorcycle/Retailer Data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motorcycle data</strong></td>
</tr>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Vehicle identification number</td>
</tr>
<tr>
<td>Color number</td>
</tr>
<tr>
<td>First registration</td>
</tr>
<tr>
<td>Registration number</td>
</tr>
<tr>
<td><strong>Retailer Data</strong></td>
</tr>
<tr>
<td>Contact in Service</td>
</tr>
<tr>
<td>Ms./Mr.</td>
</tr>
<tr>
<td>Phone number</td>
</tr>
<tr>
<td>Retailer's address/phone number (company stamp)</td>
</tr>
</tbody>
</table>
Welcome to BMW

We congratulate you on your choice of a motorcycle from BMW and welcome you to the community of BMW riders. Familiarize yourself with your new motorcycle so that you can ride it safely and confidently in all traffic situations. Please read this Rider’s Manual carefully before starting to use your new BMW motorcycle. It contains important information on how to operate the controls and how to make the best possible use of all your BMW’s technical features. In addition, it contains information on maintenance and care to help you maintain your motorcycle’s reliability and safety, as well as its value. If you have any questions concerning your motorcycle, your authorized BMW motorcycle retailer will gladly provide advice and assistance.

We wish you many miles of safe and enjoyable riding.

BMW Motorrad.
## Table of Contents

You can also use the index at the end of this Rider’s Manual to find a specific topic.

### 1 General instructions... 5
- Overview...
- Abbreviations and symbols...
- Equipment...
- Technical data...
- Currency...

### 2 Overviews... 9
- General view, left side...
- General view, right side...
- Underneath seat...
- Left handlebar fitting...
- Handlebar fitting, right...
- Instrument cluster...
- Headlight...

### 3 Status indicators... 19
- Multifunction display...
- Warning and indicator lights...
- ABS warning light...
- Function indicators...
- General warning indicators...
- ABS warning indicators...

### 4 Operation... 35
- Ignition switch and steering lock...
- Electronic immobilizer...
- Hazard warning flashers...
- Tripmaster...
- Onboard computer...
- Clock...
- Emergency ON/OFF switch...
- Heated hand grips...
- Clutch...
- Brakes...
- Lights...

### 5 Riding... 59
- Safety instructions...
- Checklist...
- Starting...
- Starting off...
- Running in...
- Parking your motorcycle...
- Refueling...
- General brake system...
- Brake system with BMW Integral ABS...

---

Headlight... 48
Turn indicators... 49
Seat... 50
Helmet holder... 52
Luggage loops... 53
Mirrors... 53
Spring preload... 53
Shock absorbers... 54
Electronic suspension adjustment ESA... 55
Tires... 57
### 6 Accessories
- General instructions: 82
- Onboard socket: 82
- Luggage: 85
- Case: 86
- Flat tire kit: 89

### 7 Maintenance
- Maintenance - General Information: 91
- Toolkit: 92
- Contents of supplemental set: 92
- Overview of supplemental set: 92
- Engine oil: 92
- General brake system: 92
- Brake pads: 95
- Brake fluid: 97
- Clutch: 100
- Tires: 100
- Rims: 101
- Wheels: 101
- Front wheel stand: 108
- Rear-wheel stand: 110
- Lamps: 111

### 8 Care
- Jump starting: 117
- Battery: 119
- Care products: 123
- Washing your motorcycle: 124
- Cleaning sensitive motorcycle parts: 125
- Paint care: 126
- Protective wax coating: 126
- Storing motorcycle: 126
- Returning motorcycle to use: 126

### 9 Technical data
- Troubleshooting chart: 129
- Threaded fasteners: 130
- Engine: 132
- Riding specifications: 134
- Clutch: 134
- Transmission: 134
- Rear-wheel drive: 135
- Running gear: 135
- Brakes: 136
- Wheels and tires: 136
- Electrical system: 137
- Frame: 139
- Dimensions: 139
- Weights: 140

### 10 Service
- BMW Motorrad service: 141
- BMW Motorrad service quality: 142
- BMW Motorcycle Service Card - breakdown service on the road: 143
- BMW Motorrad service network: 143
- Maintenance work: 143
- Maintenance schedules: 144
- Confirmation of maintenance work: 145
- Confirmation of service: 150
General instructions
Overview ....................... 6
Abbreviations and symbols ..... 6
Equipment ...................... 7
Technical data .................. 7
Currency ....................... 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 10. For generous treatment of claims submitted after the warranty period has expired, proof of the maintenance performed is essential. Should you want to sell your BMW one day, please also remember to turn over the Rider’s Manual to the new owner; it is an important part of your motorcycle.

Abbreviations and symbols

⚠ Indicates warnings that you must comply with for reasons of your safety and the safety of others, and to protect your motorcycle against damage.

▷ 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.

OE Optional equipment
BMW equipment available only as a factory installed option.

OA Optional accessories
BMW optional accessories can be purchased and retrofitted at your authorized BMW motorcycle retailer.

EWS Electronic immobilizer.

ESA Electronic Suspension Adjustment
Electronic suspension adjustment.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.
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 a separate operating manual.

Technical data
All dimensions, weights and performance specifications in the Rider’s Manual refer to the standards of the Deutsche Institut für Normung e.V. (DIN) and comply with its tolerance specifications. Versions for individual countries may differ.

Currency
The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider’s Manual. Nor can errors and omissions be entirely ruled out. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.
Overviews
General view, left side ........ 11
General view, right side ...... 13
Underneath seat ............... 14
Left handlebar fitting ......... 15
Handlebar fitting, right ...... 16
Instrument cluster ............. 17
Headlight ..................... 18
General view, left side

1. Adjusting headlight range (49)
2. Clutch fluid reservoir (100)
3. Adjuster, spring preload, rear (54)
4. Seat lock beneath rear light (50)
5. Rear shock absorber damping adjustment (54)
6. Onboard socket (82)
General view, right side

1. Display for engine oil level (page 92)
2. Fill location on fuel tank (page 76)
3. Battery compartment (page 120)
4. Brake-fluid reservoir, front (page 97)
5. Type plate on rear cross tube
6. Vehicle identification number (VIN), on front right side panel
7. Brake-fluid reservoir, rear (page 98)
Underneath seat

1 Helmet holder under seat (⇒ 52)
2 Toolkit (⇒ 92)
3 Filler neck, engine oil (⇒ 94)
**Left handlebar fitting**

1. Tripmaster/Onboard computer button (OE) (39) (41)
2. ESA button (55)
3. Pushbutton, horn
4. Button for left turn indicator and hazard warning flashers (49) (38)
5. Switch, high-beam headlight and headlight flasher (47)
Handlebar fitting, right

1. Emergency ON/OFF switch (45)
2. Pushbutton, starter (62)
3. Heated hand grips switch (45)
4. Button for right turn indicator and hazard warning flashers (49) (38)
5. Off button for turn indicator and hazard warning flashers (50) (39)
Instrument cluster

1 Speedometer
2 Tachometer
3 Warning and indicator lights (➔ 20)
4 Multifunction display (➔ 20)
5 Anti-theft alarm indicator light (OE) and sensor for instrument lighting
6 Adjustment of clock (➔ 44)

The instrument-cluster lighting has automatic day and night switchover.
Headlight
1 High-beam headlights
2 Low-beam headlight
3 Side light
Status indicators
Multifunction display ............ 20
Warning and indicator lights.... 20
ABS warning light ............... 20
Function indicators ............. 20
General warning indicators..... 21
ABS warning indicators ......... 28
Multifunction display

1 Clock
2 Area for warning symbols (⇒ 21)
3 Area for onboard computer displays
4 Gear indicator (⇒ 20)
5 Engine temperature indicator (⇒ 21)
6 Area for ESA displays (⇒ 56)
7 Display, Tripmaster (⇒ 39)
8 Fuel gauge (⇒ 20)

Warning and indicator lights

1 Indicator light, left turn indicator
2 Indicator light, high-beam headlight
3 Warning light, general
4 Indicator light, neutral
5 ABS warning light
6 Indicator light, right turn indicator

ABS warning light
In some countries a different display of the ABS warning light is possible.

Alternative display of ABS warning light.

Function indicators

Fuel capacity
The horizontal bars under the gas pump symbol indicated the remaining fuel quantity.

Gear
Engaged gear is indicated. If no gear is engaged, the gear indicator displays 0; the ‘neutral’ indicator light also lights up.
Coolant temperature

The lateral bars under the temperature symbol show the coolant temperature level.

General warning indicators

Display

General warnings are displayed by means of texts and symbols in the multifunction display. In some cases, an additional general warning light lights up red or yellow. A number of warnings may be issued simultaneously.
## Overview of warning indicators

<table>
<thead>
<tr>
<th>Display</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Lights up yellow" /> The warning EWS! is indicated</td>
<td>Electronic immobilizer is active (24)</td>
</tr>
<tr>
<td><img src="image" alt="Lights up yellow" /> The warning FUEL! is indicated</td>
<td>Fuel down to reserve (24)</td>
</tr>
<tr>
<td><img src="image" alt="Lights up red" /> Is indicated</td>
<td>Coolant temperature too high (24)</td>
</tr>
<tr>
<td><img src="image" alt="Lights up yellow" /> Is indicated</td>
<td>Engine electronics (25)</td>
</tr>
<tr>
<td><img src="image" alt="Lights up red" /> Is indicated</td>
<td>Engine oil pressure insufficient (25)</td>
</tr>
<tr>
<td><img src="image" alt="Lights up red" /> Is indicated</td>
<td>Battery charge current insufficient (26)</td>
</tr>
<tr>
<td><img src="image" alt="Lights up yellow" /> The warning LAMPR! is indicated</td>
<td>Rear bulb defective (26)</td>
</tr>
<tr>
<td><img src="image" alt="The warning LAMPF! is indicated" /></td>
<td>Front bulb defective (26)</td>
</tr>
<tr>
<td>Display</td>
<td>Meaning</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>! Lights up yellow</td>
<td>The warning LAMPS! is indicated Bulbs defective (27)</td>
</tr>
<tr>
<td>is indicated</td>
<td>Ice warning (27)</td>
</tr>
<tr>
<td>! Is displayed with note DWA</td>
<td>Anti-theft alarm battery weak (27)</td>
</tr>
<tr>
<td>! Lights up yellow</td>
<td>Is displayed with note DWA Anti-theft alarm battery drained (27)</td>
</tr>
</tbody>
</table>
Electronic immobilizer is active

- General warning light lights up yellow.
- The warning EWS! is indicated.
- 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 motorcycle retailer.

Fuel down to reserve

- General warning light lights up yellow.
- The warning FUEL! is indicated.

- A fuel shortage can lead to misfiring and to the engine dying unexpectedly. Misfiring can damage the catalytic converter, and the engine dying unexpectedly can lead to accidents.
- Do not drive until the fuel tank is completely empty.
- The Tripmaster indicates the probable residual operating range.
- At the most, the fuel tank still contains the reserve fuel quantity.
  - Reserve fuel quantity 1.1 gal
  - Refueling (⇒ 76)

Coolant temperature too high

- General warning light lights up red.

- The coolant temperature indicator flashes 10 times.
- Continued driving with an overheated engine can result in engine damage.
- Always observe the measures listed below.
- The coolant temperature is too high.
- Continued driving is possible; ride in the part-load range to cool down the engine.
- In traffic jams, switch off the engine, but keep the ignition on so that the radiator fan continues to operate.
- Should the coolant temperature frequently be too high, have the fault rectified as quickly as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.
Engine electronics

⚠️ General warning light lights up yellow.

⚠️ Engine electronics symbol is displayed.

⚠️ The engine is running in emergency operating mode. Engine power may be reduced, and this can cause hazardous situations, particularly if you attempt to overtake other road users. Adapt your style of riding to the reduced level of engine power.

The engine-electronics control unit has diagnosed a fault. In exceptional cases, the engine stops and can no longer be started. Otherwise, the engine runs in emergency operating mode.

- Continued driving is possible, however the accustomed engine performance may not be available.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Engine oil pressure insufficient

⚠️ General warning light lights up red.

⚠️ Engine oil pressure symbol is displayed.

The oil pressure in the lubricating oil circuit is too low.

⚠️ The warning on insufficient engine oil pressure is no substitute for the function of an oil-level indicator. The correct engine oil level can only be checked at the oil sight glass.

The cause of the warning on insufficient engine oil pressure can be an insufficient engine oil level.
- Checking engine oil level (ữu 92)
- Topping up engine oil (ữu 94)

If the warning on insufficient engine oil pressure appears despite a correct engine oil level:

⚠️ In addition to an insufficient engine oil level, other problems in the engine can lead to the warning on insufficient engine oil pressure. Continuing to ride in these cases can cause engine damage.

If this warning appears, do not continue to ride even though the engine oil level might be correct.
• Do not continue driving.
• Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Battery charge current insufficient

General warning light lights up red.

Battery charge current symbol is displayed.

A discharged battery can result in the engine cutting out unexpectedly, causing a hazardous situation. Have faults eliminated as soon as possible.⚠️

If the battery is no longer charged, continued driving can lead to deep discharging, and therefore to the destruction of the battery.

If possible, do not continue driving.⚠️

The battery is not being charged.

• Continued driving is possible until the battery is discharged. However, the engine can die suddenly and the battery can be exhaustively discharged and therefore destroyed.
• Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Rear bulb defective

General warning light lights up yellow.

The warning LAMPR! is indicated.

A defective bulb places your safety at risk because it is easier for other users to oversee you and your motorcycle.

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

Rear light or brake light bulb defective.
• Replacing brake light and rear light bulbs (115)

Front bulb defective

The warning LAMPF! is indicated.

A defective bulb places your safety at risk because it is easier for other users to oversee you and your motorcycle.

Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.⚠️
Low-beam headlight, high-beam headlight, side-light or turn indicator bulb defective.
- Replacing low-beam bulb (112)
- Replacing high-beam bulb (113)
- Replacing side-light bulb (114)
- Replacing front turn indicator bulb (116)
- Replacing rear turn indicator bulb (116)

**Bulbs defective**

⚠️ General warning light lights up yellow.

The warning LAMPS! is indicated.

⚠️ A defective bulb places your safety at risk because it is easier for other users to oversee you and your motorcycle.

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

A combination of several bulb defects is present.
- See the fault descriptions above.

**Ice warning**

Ice warning symbol is displayed.

The air temperature measured at the motorcycle is lower than 37 °F (3 °C).

⚠️ The ice warning does not mean that there is no risk of black ice forming at measured temperatures above 37 °F (3 °C).

Always think well ahead when temperatures are low, especially on bridges and where the road is in the shade.
- Think well ahead when driving.

**Anti-theft alarm battery weak**

Battery symbol with note DWA is displayed.

The anti-theft alarm battery no longer has its full capacity. The operation of the anti-theft alarm is only ensured for a limited time with the motorcycle battery disconnected.

- Contact a specialized workshop, preferably an authorized BMW motorcycle retailer.

**Anti-theft alarm battery drained**

Battery symbol with note DWA is displayed.

The anti-theft alarm battery has no capacity. The operation of the anti-theft alarm is no longer ensured with the
motorcycle battery disconnected.

- Contact a specialized workshop, preferably an authorized BMW motorcycle retailer.

**ABS warning indicators**

**Display**

ABS warnings are indicated by a combination of the general warning light and the ABS warning light. Both warning lights can light up continuously or flash at a rate of one or four flashes per second.

The ABS warning light is shown in two versions depending on country:

- Country version 1.
- Country version 2.

The warning indicators in this chapter are described using country version 1.
### Overview of warning indicators

<table>
<thead>
<tr>
<th>Display</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lights up red</td>
<td>Brake switch defective (30)</td>
</tr>
<tr>
<td>Flashes 1x per second</td>
<td>Pull-away test not completed (30)</td>
</tr>
<tr>
<td>Flashes 4x per second</td>
<td>Self-diagnosis not completed (30)</td>
</tr>
<tr>
<td>Lights up red, Lights up</td>
<td>ABS warning lights defective (31)</td>
</tr>
<tr>
<td>Lights up red, Flashes 1x per second</td>
<td>ABS function not available (31)</td>
</tr>
<tr>
<td>Lights up red, Flashes 4x per second</td>
<td>Residual braking function active (31)</td>
</tr>
<tr>
<td>Flashes red 1x per second</td>
<td>Brake fluid level in wheel brake circuit too low (32)</td>
</tr>
<tr>
<td>Flashes red 4x per second</td>
<td>ABS error (33)</td>
</tr>
</tbody>
</table>
Brake switch defective

General warning light lights up red.

There is a defect in the brake system which can lead to delayed braking action, and therefore to accidents. Brake early, as delayed braking action must be expected.

The brake switch is defective or incorrectly adjusted. The BMW Integral ABS detects the driver’s request for braking by the pressure buildup from the brake levers. There may be an unusual response from the brakes.

- Continue driving is possible. However, the brakes may behave in an unaccustomed manner.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Pull-away test not completed

ABS warning light flashes once per second.

Without the ABS function, the wheels may lock up during very hard braking, resulting in accidents. Avoid hard braking whenever possible.

The ABS function is not available, as the pull-away test has not yet been completed.

- Continue driving is possible. However, the ABS function is not available up to the end of the pull-away test.
- Do not use emergency braking if possible until the pull-away test has been completed.

Self-diagnosis not completed

ABS warning light flashes four times per second.

Without the ABS function, the wheels could lock during very hard braking. Without servo-assisted brakes, considerably greater force is required to brake. The altered braking behavior can lead to accidents. Avoid hard braking whenever possible. Brake early, as increased braking force is required.

Only the residual braking function is available in both brake circuits, because self-diagnosis has not been completed.

- Continue driving is possible. The ABS function and the servo assistance are not
available until the end of the self-diagnosis.
- As soon as possible, do not operate the brake lever so that the self-diagnosis can be completed.

**ABS warning lights defective**
- General warning light lights up red.
- ABS warning light ON.

ABS warnings not available. The failure of functions of the BMW Integral ABS cannot be displayed. Unexpected braking behavior, and therefore accidents may result.
- Brake early and avoid hard braking whenever possible, as functions of the BMW Integral ABS may have failed.

The controller of the ABS warnings is defective. ABS faults cannot be displayed.
- Continue driving is possible. However, any ABS faults which occur cannot be displayed.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

**ABS function not available**
- General warning light lights up red.
- ABS warning light flashes once per second.
- Without the ABS function, the wheels may lock up during very hard braking, resulting in accidents.
- Avoid hard braking whenever possible.

The ABS function is unavailable in at least one brake circuit.
- Continue driving is possible. However, the ABS function is not available.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

**Residual braking function active**
- General warning light lights up red.
- ABS warning light flashes four times per second.
- Without the ABS function, the wheels could lock during very hard braking. Without servo-assisted brakes, considerably greater force is required to brake.
The altered braking behavior can lead to accidents. Avoid hard braking whenever possible. Brake early, as increased braking force is required.

Only the residual braking function is available in at least one brake circuit.
- Continue driving is possible.
- The ABS function and the servo assistance are not available.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Brake fluid level in wheel brake circuit too low

General warning light flashes red once per second.

ABS warning light flashes once per second.

The ABS wheel brake circuit is a closed system; you cannot check the fluid level in this circuit at the brake-fluid reservoirs.

Triggers for the warning “Brake fluid level too low” can be extremely worn brake pads etc.
- Checking front brake pad thickness (⇒ 95)
- Checking brake pad thickness at rear (⇒ 96)

Worn brake pads can considerably increase the braking distance, and therefore lead to accidents. Brake early.

Worn brake pads can damage the brake disks. Think well ahead and brake carefully; avoid severe braking.

- Have worn brake pads replaced as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

If the brake pad thickness is sufficient, the brake system must be checked for proper operation and leaks:
- Switch off ignition, then operate handbrake lever and footbrake lever consecutively.
  - The following functions must be available:
    - Brake pressure present at both brake levers.
    - Brakes acting on both wheels.
    - No escaping brake fluid is visible.
There is a defect in the brake system that can lead to reduced braking action. Brake early.

- If the functions are active, further driving is possible. However, bear in mind that a loss of brake fluid that cannot be detected might be the cause of the warning.
- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

If a fault has been determined during the operating and leak test:

- There is a defect in the brake system that can lead to accidents.
- Do not continue driving.
- Inform a specialized workshop, preferably an authorized BMW motorcycle retailer.

**ABS error**

General warning light flashes red four times per second.

ABS warning light flashes four times per second.

At least two faults have occurred in the brake system. In at least one brake circuit only the residual braking function is available and the fluid level in the brake system is too low.

- Please see the fault descriptions above.
<table>
<thead>
<tr>
<th>Operation</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ignition switch and steering lock</td>
<td>36</td>
</tr>
<tr>
<td>Electronic immobilizer</td>
<td>37</td>
</tr>
<tr>
<td>Hazard warning flashers</td>
<td>38</td>
</tr>
<tr>
<td>Tripmaster</td>
<td>39</td>
</tr>
<tr>
<td>Onboard computer(^{OE})</td>
<td>41</td>
</tr>
<tr>
<td>Clock</td>
<td>44</td>
</tr>
<tr>
<td>Emergency ON/OFF switch</td>
<td>45</td>
</tr>
<tr>
<td>Heated hand grips(^{OE})</td>
<td>45</td>
</tr>
<tr>
<td>Clutch</td>
<td>46</td>
</tr>
<tr>
<td>Brakes</td>
<td>46</td>
</tr>
<tr>
<td>Lights</td>
<td>47</td>
</tr>
<tr>
<td>Headlight</td>
<td>48</td>
</tr>
<tr>
<td>Turn indicators</td>
<td>49</td>
</tr>
<tr>
<td>Seat</td>
<td>50</td>
</tr>
<tr>
<td>Helmet holder</td>
<td>52</td>
</tr>
<tr>
<td>Luggage loops</td>
<td>53</td>
</tr>
<tr>
<td>Mirrors</td>
<td>53</td>
</tr>
<tr>
<td>Spring preload</td>
<td>53</td>
</tr>
<tr>
<td>Shock absorbers</td>
<td>54</td>
</tr>
<tr>
<td>Electronic suspension adjustment ESA(^{OE})</td>
<td>55</td>
</tr>
<tr>
<td>Tires</td>
<td>57</td>
</tr>
</tbody>
</table>
Ignition switch and steering lock

**Keys**

You receive one master key and one spare key. If a key is lost, please note the information on the electronic immobilizer (EWS) (37).

Ignition key and steering lock, tank filler cap lock and seat lock are all operated with the same key. Cases with locks for the same key as the cases available as optional accessories can be ordered on request.

**Switching on ignition**

1. Turn key to position 1.
   - Side lights and all function circuits switched on.
   - Engine can be started.
   - Pre-ride check is performed. (63)
   - ABS self-diagnosis is performed. (64)

**Switching off ignition**

2. Brake servo assistance is not available when the ignition is off.
   Do not switch off the ignition while the motorcycle is being ridden.

   - Turn key to position 2.
   - Light switched off.
   - Handlebars not locked.
   - Key can be removed.
   - Electrically powered accessories remain operational for a limited period of time.
   - Battery can be recharged via onboard socket.
Locking handlebars

When you prop the motorcycle on the side stand, the surface of the ground will determine whether it is better to turn the handlebars to the left or right. However, the motorcycle is more stable on a level surface with the handlebars turned to the left than with the handlebars turned to the right.

On level ground, always turn the handlebars to the left to set the steering lock.

- Turn handlebars to full left or right lock position.
- Turn key to position 3 while moving handlebars slightly.
- Ignition, lights and all function circuits switched off.
- Handlebars locked.
- Key can be removed.

Electronic immobilizer

Theft protection

The electronic immobilizer helps protect your BMW motorcycle from theft, and this enhanced security is at your disposal without any need for you to set parameters or activate additional systems. The engine of a motorcycle equipped with this electronic immobilizer can be started only with the keys that belong to the motorcycle. You can also have your authorized BMW motorcycle retailer bar individual keys, for example if a particular key is lost. The engine cannot be started with a key that has been barred.

Electronics in key

An electronic component is integrated into each of your keys. The motorcycle’s electronics exchange certain continuously changing signals with the electronics in the key; these signals are specific to your motorcycle and they are transmitted via the ring antenna in the ignition lock. The ignition is not enabled for starting until the key has been recognized as "authorized" for your motorcycle.

A spare key attached to the same ring as the ignition key used to start the engine could "imitate" the electronics, in which case the enabling signal for starting is not issued. The warning EWS
Replacement and extra keys
You can obtain replacement keys only through an authorized BMW motorcycle 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. If you want to have a lost key barred, you must bring along all other keys that belong to the motorcycle. A key that has been barred can subsequently be cleared and reactivated for use.

Hazard warning flashers
Switching on hazard warning flashers
- Switch on ignition.
- Press button for left turn indicator 1 and right turn indicator 2 simultaneously.

If a turn indicator button is pressed with the ignition 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.

- Hazard warning flashers in operation.
- Left/right turn indicator lights flash.
- Switch off ignition.
- Hazard warning flashers continue to operate.
- Left/right turn indicator lights off.
Switching off hazard warning flashers

- Press turn-indicator cancel button 3.
- Hazard warning flashers are switched off.
- Alternative: Press button for left turn indicator 1 and right turn indicator 2 simultaneously.
- Hazard warning flashers are switched off.

Tripmaster

Tripmaster operation

The operation of the Tripmaster described in the following can also be carried out with the button 1 in the instrument cluster as an alternative.

Selecting readings

- Switch on ignition.

When you switch on the ignition, the information shown by the Tripmaster when the ignition was switched off always reappears on the multifunction display.

- Press Tripmaster button 1 once briefly.

The following sequence is shown in the display field of the Tripmaster:
- Total distance covered
- Tripmeter 1 (Trip I)
Resetting tripmeter
- Switch on ignition.
- Select desired tripmeter.
- Press and hold Tripmeter button 1 until display changes.
  » Tripmeter is reset to zero.

Residual range
1
The residual operating range 1 is displayed together with the lettering RANGE only after the reserve fuel level is reached. It is calculated on the basis of your style of riding and the amount of fuel in the tank; the reading indicates the estimated distance you can travel before the fuel supply runs out. If the motorcycle is resting on its side stand, the level in the tank cannot be measured correctly, so this estimate of residual operating range will be inaccurate.

When refueling, fuel is not registered by the Tripmaster until the quantity added is more approx. a gallon (several liters).

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

Onboard computer button

1

On motorcycles with an onboard computer, the onboard computer (BC) button 1 replaces the Tripmaster button on the handlebar fitting.

In this case the Tripmaster can only be operated with the button 1 in the instrument cluster. The display of the operating range is assumed by the onboard computer.

Selecting readings
- Switch on ignition.

- Press BC button 1 once in each case.

The following sequence is shown in the display field of the onboard computer:
- Clock
- Residual range
- Average speed
- Average consumption
- Oil level
- Ambient temperature

Residual range

The operating range 1 can also be displayed before the reserve level is reached. The operating description of the operating range in the Trip-master chapter (40) also applies to the onboard computer.

Calculation of average speed

The average speed 1 is calculated based on the elapsed time since the last "RESET". Times during which the engine was stopped are excluded from the calculation.

Resetting average speed

- Repeatedly press BC button 1 until average speed appears in display.
- Hold down BC button for at least 2 sec. "RESET".
- Display shows "--.-- km"
Calculation of average consumption

The average consumption 1 is calculated by dividing the distance covered since the last “RESET” by the corresponding amount of fuel used.

Resetting average consumption

- Repeatedly press BC button 1 until average consumption appears in display.
- Hold down BC button for at least 2 seconds (“RESET”).
- Display shows “--.- mpg”.

Ambient temperature

The current ambient temperature 1 is displayed.

An ice warning appears if the ambient-temperature reading drops below 37 °F (3 °C). The display automatically switches from any other mode to the temperature reading when the temperature drops below this threshold for the first time. The reading flashes until you select some other display mode.
Clock
Setting clock
The setting of the clock described in the following can also be carried out with the Tripmaster button 1 as an alternative.

Setting clock
• Switch on ignition.

Operation

The setting of the clock described in the following can also be carried out with the Tripmaster button 1 as an alternative.

Setting clock

Attempting to set the clock while riding the motorcycle can lead to accidents.
Adjust the clock only when the motorcycle is stationary.

• Press and hold button 1 until display changes.
• Hours reading 2 starts to flash.
• Press button 1.
• The hour increments by one each time you press the button.
• Press and hold button 1 until display changes.

• Minutes reading 3 starts to flash.
• Press button 1.
• The minute increments by one each time you press the button.
• Press and hold button 1 until display changes.
• The display stops flashing.
• Clock setting ended.
**Emergency ON/OFF switch**

- **1** Emergency ON/OFF switch.

- Actuating the emergency ON/OFF switch while driving can cause the rear wheel to lock up, resulting in a fall. Do not operate the emergency ON/OFF switch while riding.

- The engine can be easily and quickly switched off using the emergency ON/OFF switch.

- The engine can only be started in the operating position.

- If the emergency ON/OFF switch is operated with the ignition switched on, the BMW Integral ABS continues to function.

---

**Heated hand grips**

- **1** Heated hand grips switch

- The handlebar grips can be heated at two different levels. The heated hand grips option can only be activated when the engine is running.

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

2 Heating function off.
3 50 % heat output (one dot visible).
4 100 % heat output (three dots visible).

Clutch

Adjusting clutch lever

- If the position of the clutch fluid reservoir is changed, air can enter the clutch system.
- Do not reposition the handlebar controls on the handlebars or the handlebars in their mounts.
- Attempting to adjust the clutch lever while riding the motorcycle can lead to accidents.
- Adjust the clutch lever only when the motorcycle is stationary.
- Turn adjusting screw 1 clockwise.
- The adjusting screw has a limit position and can be turned more easily when you press the clutch lever forward.
- Distance between handlebar grip and clutch lever increases.
- Turn adjusting screw 1 counterclockwise.
- Distance between handlebar grip and clutch lever decreases.

Brakes

Adjusting handbrake lever

- Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.
- Do not reposition the handlebar controls on the handlebars or the handlebars in their mounts.
Attempting to adjust the brake lever while riding the motorcycle can lead to accidents. Adjust the brake lever only when the motorcycle is stationary.

- Turn adjusting screw 1 clockwise.
- The adjusting screw has a limit position and can be turned more easily when you press the handbrake lever forward.

Distance between handlebar grip and handbrake lever increases.
- Turn adjusting screw 1 counterclockwise.
- Distance between handlebar grip and handbrake lever decreases.

**Lights**

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

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

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

With the engine switched off, you can switch on the lights by switching on the high-beam headlight with the ignition switched on or by operating the headlight flasher.

**Switching on high-beam headlight**

- Press top part of switch 1 for high-beam headlight.
High-beam headlight switched on.
• Move switch 1 for high-beam headlight to center position.
• High-beam headlight switched off.
• Press bottom part of switch 1 for high-beam headlight.
• High-beam headlight is switched on as long as switch is pressed (headlight flasher).

Switching on side lights
• Switch off ignition.

You can switch on the parking lights only immediately after switching off the ignition.

Switching off side lights
• Switch on ignition.
• Side lights switched off.

Headlight
Adjusting headlight for RHD/LHD traffic
When riding in countries where traffic drives on the opposite side of the road to that in which the motorcycle was registered, the asymmetrical low headlight beam will dazzle oncoming traffic.
Have the headlight adjusted to the relevant conditions by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Ordinary adhesive tape damages the plastic lens.
Only use special plastic adhesive film for body applications from specialized retailers.

Headlight range and spring preload
The headlight range generally remains constant due to the adjustment of the spring preload to the loading state. Spring preload adjustment may only be insufficient when the motorcycle is very heavily loaded. In this case, the
Headlight range must be adjusted to the weight.

Consult a specialized workshop, preferably an authorized BMW motorcycle retailer, if you are unsure whether the headlight basic setting is correct.

Headlight range adjustment

1 Headlight range adjustment

In the case of very high payloads, the available spring preload adjustment might not be adequate. To avoid dazzling oncoming traffic, the headlight adjustment can be corrected by adjusting the swivel lever.

A Neutral position
B Position with heavy payload

Turn indicators

Switching on left-hand turn indicator
- Switch on ignition.

Switching on right-hand turn indicator
- Switch on ignition.

- Press left-hand turn indicator button 1.
- After driving for approx. ten seconds or after covering a distance of approx. 650 ft (200 m), the turn indicators are automatically switched off.
- Left-hand turn indicator switched on.
- Indicator light for left-hand turn indicator flashes.
Switching off turn indicators

- Press turn-indicator cancel button 3.
  » Turn indicator switched off.
  » Turn indicator lights in indicator light panel are off.

Seat

Removing seat

- Make sure the ground is level and firm and park the motorcycle.
  » Turn the key counterclockwise in the seat lock.

- Press right-hand turn indicator button 2.
  - After driving for approx. ten seconds or after covering a distance of approx. 650 ft (200 m), the turn indicators are automatically switched off.
  » Right-hand turn indicator switched on.
  » Indicator light for right-hand turn indicator flashes.

- When doing so, press the seat downwards for support.
• Raise the seat at the rear.

⚠️ If the seat is laid on a rough surface, the seat edges may be damaged. Lay the seat on the reference side on a smooth, clean surface, e.g. on the tank.

• Let go of the key and pull the seat from the retaining bracket towards the rear.

Installing seat

⚠️ If too much pressure is applied in the forward direction, there is a danger that the motorcycle will be pushed off its stand. Make sure that the motorcycle is steady on its stand.

• Push seat forward into retaining brackets 1.

• Press the seat firmly downwards beyond the detent. The seat can be heard to lock into place.
Helmet holder
Helmet holder under seat

The helmet holders 1 and 2 are located under the seat. A motorcycle helmet with chin strap can be attached to the helmet holders 1. If cases are fitted or if the chin strap is too short, a steel cable can be used to secure the motorcycle helmet to the helmet holder 2.

Using helmet holder
- Make sure the ground is level and firm and park the motorcycle.
- Removing seat (⇒ 50)

- The helmet catch can scratch the paneling. When hooking on the helmet, watch the position of the helmet lock.
- Hook helmet into helmet holder 2 using steel cable available as an optional accessory.

On the right-hand side of the motorcycle, the helmet could be damaged by heat from the end muffler. Only attach the helmet to the left-hand side of the motorcycle.
- Pull steel cable through helmet and hook it into holder 2.

You can obtain a suitable steel cable from your authorized BMW motorcycle retailer.
Luggage loops
Luggage loops under seat

The loops 1 for attaching luggage straps are located on the underside of the seat. In conjunction with the eyelets 2 on the grab handles, luggage can be strapped onto the rear seat.

Use luggage straps
• Make sure the ground is level and firm and park the motorcycle.
• Removing seat (⇒ 50)

Mirrors
Adjusting mirrors

• Move the mirrors into the desired position by pressing lightly on one of the corners.

Spring preload
Adjusting spring preload

The spring preload must be adapted to the load of the motorcycle. Increase spring preload when the motorcycle is heavily loaded and reduce spring preload accordingly.
when the motorcycle is lightly loaded.

Adjusting spring preload for rear wheel

⚠️ Your motorcycle’s handling will suffer if you do not match the spring-preload and damping-characteristic settings.

Adjust the damping characteristic to suit the spring preload. ⚠️

Adjusting the spring preload while the motorcycle is being ridden can lead to accidents. Adjust the spring preload only when the motorcycle is stationary. ⚠️

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

- To increase spring preload, turn handwheel 1 in direction of arrow HIGH.
- To decrease spring preload, turn handwheel 1 in direction of arrow LOW.

One click corresponds to a half turn of the handwheel. The range of adjustment comprises 15 turns. ⚠️

- Rear wheel spring preload - basic position
  Single rider with one person weighing approx. 185 lbs (85 kg)

Turn handwheel as far as possible in direction of arrow LOW, then turn 15 clicks in direction of arrow HIGH

Shock absorbers

Adjusting damping

The damping must be adapted to the spring preload. An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting rear shock absorber

⚠️ Your motorcycle’s handling will suffer if you do not match the spring-preload and damping-characteristic settings. Adjust the damping characteristic to suit the spring preload. ⚠️
• Make sure the ground is level and firm and park the motorcycle.

• Adjust rear shock absorber, using a screwdriver to turn adjusting screw 1.

• To increase damping, turn adjusting screw 1 in direction of arrow H.
• To decrease damping, turn adjusting screw 1 in direction of arrow S.

The range of adjustment comprises three and a half turns of the adjusting screw.

- Basic setting for rear-wheel damping
  Single rider with one person weighing approx. 185 lbs (85 kg)

Turn adjusting screw as far as possible in direction of arrow H, then turn one and one-half turn in direction of arrow S.

**Electronic suspension adjustment ESA**

**Settings**

Using the electronic suspension adjustment ESA you can conveniently adjust your motorcycle to various driving conditions. Three spring preloads can be combined with three damping.
settings to optimally adapt the motorcycle to the load and the road surface. The damping setting is displayed in the multifunction display in the area 1, and the spring preload in the area 2.

The display of the tripmaster is hidden for the duration of the ESA display.

**Calling up settings**
- Switch on ignition.

**Display goes out automatically after a few seconds.**

### Adjusting damping
- Switch on ignition.

- Press button 1.
  - Current setting is displayed.
  - Press button 1 once briefly.
  - Starting from the current state, the display is in the following order:
    - COMF comfortable damping
    - NORM normal damping
    - SPORT sporty damping

- If button 1 is not pressed for a longer time, damping is set as indicated. During setting procedure, display flashes.

### Adjusting spring preload
- Start engine.

- Press button 1.
  - Current setting is displayed.
  - Press and hold button 1 once.
  - The spring preload cannot be adjusted while the motorcycle is being ridden.
Starting from the current state, the display is in the following order:

- One-up
- One-up with luggage
- Two-up (with luggage)

- If button 1 is not pressed for a longer time, spring preload is set as indicated. During setting procedure, display flashes.

**Tires**

**Checking tire pressures**

- Incorrect tire pressure worsens handling of the motorcycle and can lead to accidents.
- Ensure proper tire pressure.

- At high road speeds, tire valves have a tendency to open as a result of centrifugal force. To avoid a sudden loss of tire pressure, use a metal valve cap with rubber sealing ring on the rear wheel and tighten it securely.

- Incorrect tire pressure reduces the life of the tires. Ensure proper tire pressure.
- Check correct tire pressure using following data:
  - Front-wheel tire pressure 36.3 psi (in cold state)
  - Rear-wheel tire pressure 42.1 psi (in cold state)
- In case of insufficient tire pressure:
  - Correct air pressure.
Riding
Safety instructions ............. 60
Checklist ..................... 62
Starting ..................... 62
Starting off ................. 65
Running in ................. 65
Parking your motorcycle .... 69
Refueling .................. 76
General brake system ....... 77
Brake system with BMW Integral ABS ..................... 77
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 motorcycle retailer will be glad to advise you on the correct clothing for every purpose.

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

Correct loading
⚠️ Overloading and uneven loading can diminish the riding stability of the motorcycle.
Do not exceed the gross weight limit and observe the loading information.

Alcohol and drugs
⚠️ Even small amounts of alcohol or drugs will adversely affect your perception and your ability to assess situations and make decisions, and slow down your reflexes. Medication can exacerbate these effects.

Do not ride your motorcycle after consuming alcohol, drugs and/or medication.

Risk of poisoning
Exhaust fumes contain carbon monoxide, which is colorless and odorless but highly toxic.
⚠️ Inhaling exhaust fumes therefore represents a health hazard and can even cause loss of consciousness with fatal consequences.
Do not inhale exhaust fumes. Do not run the engine in closed rooms.

High voltage
⚠️ Touching live parts of the ignition system with the engine running can cause electric shock.
Do not touch parts of the igni-
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.

Unburned fuel will destroy the catalytic converter.
Note the points listed for protection of the catalytic converter.

Risk of fire
Temperatures at the exhaust are high.

⚠️ Flammable materials (e.g. hay, leaves, grass, clothing and luggage, etc.) could ignite if allowed to come into contact with the hot exhaust pipe.
Make sure that no highly flammable materials can come in contact with the hot exhaust system.

⚠️ Cooling would be inadequate if the engine were allowed to idle for a lengthy period with the motorcycle at a standstill; overheating would result. In extreme cases, the motorcycle could catch fire. Do not run the engine for unnecessary periods when the motorcycle is stationary. After starting, ride off immediately.

Tampering with the control unit of the electronic engine-management system
Tampering with control unit of electronic engine-management system can damage the motorcycle and cause accidents. Do not tamper with the control unit of the electronic engine-management system.

⚠️ Tampering with control unit of electronic engine-management system can result in mechanical loads that the motorcycle’s components are not designed to withstand. Damage caused in this way is not covered by the warranty. Do not tamper with the control unit of the electronic engine-management system.
engine-management system. •

Checklist
Use the following checklist to check important functions, settings and wear limits before you ride off.
- Brakes
- Front and rear brake fluid levels
- Clutch
- Clutch fluid level
- Shock absorber setting and spring preload
- Tread depth and tire pressure
- Firm seating of cases and luggage

At regular intervals:
- Engine oil level (every time you refuel)
- Brake pad wear (during every third stop for refueling)

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

Transmission
You can start the engine when the transmission is in neutral or if you pull the clutch with a gear engaged. Switch on the ignition before you pull the clutch. When the transmission is in neutral, the green neutral indicator light is on and the gear indicator in the multifunction display shows 0.

Starting engine
If you switch on the ignition while the brakes are applied, then start the engine and ride off immediately, the BMW Integral ABS remains in its residual braking function mode. Self-diagnosis is performed as soon as the brake levers are in their fully released positions for the first time. During this period, neither the ABS function nor the power braking assistance is available.

When you start the engine, wait until the ABS self-diagnosis has been performed. •
- Switch on ignition.
Emergency ON/OFF switch 1 in operating position A.

Switch on ignition.

Pre-ride check is performed. (63)

ABS self-diagnosis is performed. (64)

Press starter button 1.

At extremely low temperatures it may be necessary to operate the throttle twist grip during starting. At ambient temperatures below 32 °F (0 °C), actuate the clutch after switching on the ignition.

The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the engine, or use jump leads and a donor battery to start.

Engine starts.

Consult the troubleshooting chart if the engine refuses to start. (130)

Pre-ride check
After switching on the ignition, the instrument cluster carries out a general warning light test. In the process the warning light first lights up yellow and then red for checking. This test, called a "Pre-ride check", is indicated by the lettering CHECK! in the display. If the engine is started during the test, the test is canceled.

Phase 1

General warning light lights up yellow.

The note CHECK! is indicated.
Phase 2

General warning light lights up red.

- The note CHECK! is indicated.

If the general warning light is not shown:

- If the general warning light cannot be displayed, several malfunctions cannot be indicated.

Watch the display of the general warning light in red and yellow.

- Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

ABS warning lights

The ABS warning light is shown in two versions depending on country:

Country version 1.

Country version 2.

The following description is made based on country version 1.

ABS self-diagnosis

The BMW Integral ABS performs self-diagnosis and a pull-away test to ensure its operability. Self-diagnosis is performed automatically when you switch on the ignition. Self-diagnosis is not performed unless both brake levers are in their fully released positions.

Phase 1

Self-diagnosis is performed.

General warning light lights up red.

ABS warning light flashes four times per second.

Phase 2

Self-diagnosis is complete.

ABS warning light flashes once per second.

If it was not possible to end self-diagnosis:

- Release the brake lever as soon as possible.

If an error message is shown after self-diagnosis is completed:

- Read the meaning of this display in the chapter "Displays".

The ABS warning light does not go out until after completion of the starting-off test.
Starting off
Starting on grades
- Engage gear.
- Release clutch lever and brake lever.
- Switch on ignition.
- Pre-ride check is performed. (63)
- Wait for ABS self-diagnosis to complete.
- Operate brake and clutch.
- Starting engine.

ABS pull-away test
After starting off, the BMW Integral ABS checks the ABS sensors.

ABS warning light flashes once per second.
- The ABS warning light goes out after completion of the pull-away test.
- If an error message is shown after the pull-away test is completed:
  - Read the meaning of this display in the chapter "Displays".

Running in
The first 600 miles (1,000 km)
- While running in motorcycle, vary throttle opening and engine-speed range frequently.
- Try to do most of your riding during this initial period on twisting, fairly hilly roads, avoiding high-speed main roads and highways if possible.

Exceeding the specified engine speeds while running in will lead to increased engine wear.
Adhere to the specified engine run-in speeds.
- Do not exceed engine run-in speeds.
- Engine run-in speeds 7000 min⁻¹
- Do not accelerate at full throttle.
- Avoid low engine speeds at full load.
- After 300 - 750 miles (500 - 1,200 km), have the first inspection performed.

Brake pads
New brake pads must "bed down" and therefore do not achieve their optimum friction levels during the first 300
miles (500 km). This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the levers.

⚠️ New brake pads can extend stopping distance by a significant margin. 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.

⚠️ Tires do not have their full grip when new and there is a risk of accident at extreme heeling angels. Avoid extreme heeling angels.
Riding
Riding
Parking your motorcycle
Placing on side stand

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand. Always check that the ground under the stand is level and firm.

- Switch off engine.
- Pull handbrake lever.
- Hold motorcycle upright and balanced.
- Use your left foot to extend side stand fully (arrow).

The side stand is designed to support only the weight of the motorcycle. Do not lean or sit on the motorcycle with the side stand extended.

- Slowly lean motorcycle to side until its weight is taken by stand and dismount to left.

When you prop the motorcycle on the side stand, the surface of the ground will determine whether it is better to turn the handlebars to the left or right. However, the motorcycle is more stable on a level surface with the handlebars turned to the left than with the handlebars turned to the right.

On level ground, always turn the handlebars to the left to set the steering lock.

- Turn handlebars to full left or right lock position.
- Check that motorcycle is standing firmly.

On a grade, the motorcycle should always face uphill; select 1st gear.
Riding
Removing from side stand

- Unlock steering lock.

⚠️ Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll. Especially on inclines, switch on the ignition and wait for the ABS self-diagnosis.

- Switch on ignition.
- Wait for ABS self-diagnosis to complete.
- From left, grip handlebars with both hands.
- Pull handbrake lever.
- Swing your right leg over the seat and lift the motorcycle to the upright position.
- Hold motorcycle upright and balanced.

⚠️ An extended side stand can catch on the ground when the motorcycle is moving and lead to a fall. Retract the side stand before moving the vehicle.

- Sit on the motorcycle and use your left foot to retract the side stand.
Placing on center stand

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand. Always check that the ground under the stand is level and firm.

- Switch off engine.
- Dismount and keep left hand on left handlebar grip.
- With your right hand, take hold of the passenger grab handle or rear frame.
- Place right foot on extended arm of center stand, and press stand down until its curved feet touch ground.
- Place full weight of body on center stand while pulling motorcycle toward rear (arrow).

Excessive movements could result in the center stand retracting, and the motorcycle would topple as a result.

Do not sit on the motorcycle while it is resting on the center stand.

- Check that motorcycle is standing firmly.
Riding
Pushing off center stand

⚠️ Brake servo assistance is not available when the ignition is off; the motorcycle can start to roll. Especially on inclines, switch on the ignition and wait for the ABS self-diagnosis.

- Switch on ignition.
- Wait for ABS self-diagnosis to complete.
- Place your left hand on the left handlebar grip.
- With your right hand, take hold of the passenger grab handle.
- Push motorcycle forward off center stand.
- Make sure that center stand is fully retracted.
Refueling

Fuel is highly flammable. Fire at the fuel tank can result in fire and explosion. Do not smoke. Never bring a naked flame near the fuel tank.

Fuel expands when exposed to heat. When the tank is overfilled, fuel can escape and get onto the rear wheel. This results in a danger of falling. Do not fill the tank past the bottom edge of the filler neck.

Fuel attacks plastic surfaces, making them dull or unsightly. Wipe spilled fuel off plastic parts immediately.

Leaded fuel will destroy the catalytic converter! Use only unleaded fuel.

- Make sure the ground is level and firm and park the motorcycle.
- Open protective cap.
- Open fuel tank cap with ignition key by turning counterclockwise.
- Fill tank with fuel of quality listed below.
  - Recommended fuel type
    - Premium grade unleaded fuel
    - 98 ROZ
  - Fuel types can be used with poorer performance and consumption
    - Super unleaded
    - 95 ROZ
  - Usable fuel quantity
    - 5 gal
  - Reserve fuel quantity
    - 1.1 gal
- Close fuel tank cap with firm pressure.
- Remove key and close protective cap.
General brake system

Descending mountain passes

There is a danger of the brakes fading if you use only the rear brakes when descending mountain passes. Under extreme conditions, the brakes could overheat and suffer severe damage. Use both front and rear brakes, and make use of the engine’s braking effect as well.

Wet brakes

After the motorcycle has been washed, ridden through water or ridden in the rain, the brake disks and pads might be wet and the brakes might not take effect immediately. Brake early until the brakes are dry or braked until dry.

Salt on brakes

The full braking effect can be delayed if the motorcycle is ridden on salt-covered roads and the brakes are not applied for some time. Brake early until the salt layer of the brake disks and brake pads has been braked off.

Oil or grease on brakes

Oil and grease on the brake disks and pads considerably diminish braking efficiency. Especially after repair and maintenance tasks, make sure that the brake discs and brake pads are free of oil and grease.

Dirt or mud on brakes

When the motorcycle is ridden on loose surfaces or muddy roads, the brakes may fail to take effect immediately because of dirt or moisture on the disks or brake pads. Brake early until the brakes are braked clean.

Brake system with BMW Integral ABS

Sensitive electronic control

It takes skill and sensitive control of the brakes to stop safely on a motorcycle. If the front brakes lock and the wheel skids, the necessary longitudinal and lateral stabilizing forces are lost, and a fall can result. For this reason, the rider seldom makes full use of available braking
The BMW Integral ABS provides improved braking deceleration by means of lock-up protection for both wheels and braking force distribution by means of the integral braking function. Making full use of the motorcycle’s technical braking capacity will minimize braking distances noticeably, even when road conditions are poor. When driving straight ahead, BMW Integral ABS enables safe, reliable braking optimized for the respective conditions.

Reserves for safety
But remember: the potentially shorter braking distances which BMW Integral ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies. Take care when cornering. When you apply the brakes on a corner, the motorcycle’s weight and momentum take over and even BMW Integral ABS is unable to counteract their effects.

Partially integral brake
Your motorcycle is equipped with a partially integral brake configuration. Both front and rear brakes are applied simultaneously when you pull the handbrake lever. The foot-brake lever acts only on the rear brake. The electronic controller in the BMW Integral ABS regulates braking-force distribution between front and rear wheels. Braking-force distribution depends on load and is recalculated every time the ABS controller comes into action.

Brake booster
On braking, BMW Integral ABS boosts the brake force on the wheel by means of a hydraulic pump. By boosting the braking force in this way, BMW Integral ABS achieves higher braking efficiency than standard brake systems.

ABS anti-lock braking system
ABS prevents the wheels locking under braking, thus contributing significantly to road safety.

Rear wheel lift
Even under 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 highsiding situation in which the motorcycle can flip over.

Severe braking can cause the rear wheel to lift off the ground. Be sure to keep in mind that ABS cannot be relied on in all circumstances to prevent the rear wheel from lifting clear of the ground.

Residual braking function
With the ignition switched off, during the self-diagnosis and in the event of a fault in the BMW Integral ABS, the brake circuits concerned only have the residual braking function. The residual braking function is the braking power without the hydraulic servo assistance of the BMW Integral ABS. Under these circumstances, therefore, you must apply considerably higher pressure to the brake levers in question in order to apply the brakes, and lever travel is longer. When the residual braking function is active, the ABS function is unavailable in the brake system in question. When the residual braking function is active, the integral braking function is partially or entirely unavailable.

Without the ABS function, the wheels could lock during very hard braking. Without servo-assisted brakes, considerably greater force is required to brake. The altered braking behavior can lead to accidents.

Avoid hard braking whenever possible. Brake early, as increased braking force is required.

Have the fault rectified as soon as possible by a specialized workshop, preferably an authorized BMW motorcycle retailer.

As the residual braking function means that the lever path before the brake pressure is built up can be longer, BMW Motorrad recommends that a larger lever path be set at the handbrake lever.

In the case of residual braking function in both brake circuits, no pump noise can be heard when the brake lever is operated.
Riding
Accessories
General instructions ........ 82
Onboard socket ............... 82
Luggage ...................... 85
Case^{OA} .................... 86
Flat tire kit^{OA} .............. 89
General instructions

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Genuine BMW parts and accessories and other products which BMW has approved can be obtained from your authorized BMW motorcycle retailer, together with expert advice on their installation and use. These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products. Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.

Onboard socket

Ratings

The supply to the socket 1 is cut off automatically if battery voltage is low or the load exceeds the maximum rating of 5 A.

Operating electrical accessories

You can start using electrical accessories only when the ignition is switched on. The accessory remains operational if the ignition is subsequently switched off. Approx.

BMW cannot evaluate whether every product of other manufacturers is suitable for use on BMW motorcycles without presenting a safety risk. 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-vehicle construction and use regulations.
15 minutes after switching off the ignition and/or during the restart operation, the onboard socket is switched off to take the load off the vehicle electrical system.

**Cable routing**
The cables from the onboard socket to the auxiliary device must be routed in such a way that they:
- Do not impede the rider
- Do not restrict or obstruct the steering angle and handling characteristics
- Cannot be trapped

⚠️ Improperly routed cables can impede the rider.
Route the cables as described above.
Luggage
Correct loading

⚠ Overloading and uneven loading can diminish the riding stability of the motorcycle.

Do not exceed the gross weight limit and observe the loading information.

- Adjust setting of spring preload, damping characteristic and tire pressures to suit total weight.
- Ensure that the case volumes on the left and right are equal.
- Make sure weight is uniformly distributed between right and left.
- Pack heavy items of luggage downwards and inwards.
- Max. load in each case (left and right): 18 lbs (8 kg).
- Max. load in tank rucksack: 11 lbs (5 kg).
Case OA

**Release levers**
There is a release lever on the left and right of each case lock. The gray lever marked OPEN is used to open and close the cases. The black lever marked RELEASE is used to remove and attach the cases.

**Opening case**
- Turn lock barrel vertical to driving direction.
- Case can be opened.
- Cases secured.
- Key can be removed.
- Pull gray release lever (OPEN) upward.
- Lock straps 1 open.
- Pull gray release lever (OPEN) upward again.
- Pull case lid 2 out of retainer.
- Case completely opened.

**Closing case**
- Press catches 1 of case lid into the retainers 2.
- The catches can be heard to lock into place.
- Close the lock straps.

**Adjusting case volume**
- Close case lid.
• Turn lock strap buckles 1 of lock straps outward.
• Pull out the lock straps upwards.
• The maximum volume has been set.

• Close the lock straps.
• Press the lock straps against the case body.
• The case volume is adapted to the contents.

Removing case

• Turn case lock 45° relative to driving direction.
• Key cannot be removed.
  - Cases locked.
  - Cases can be removed.
• Pull black release lever (RELEASE) upward.
• Pull the case out of the upper mounting.
• Lift the case out of the lower mounting.

Mounting case

• Turn case lock 45° relative to driving direction.
  » Key cannot be removed.
  • Cases locked.

• Hook case into lower mounting 2.
• Pull black release lever (RELEASE) upward.
• Press case into upper mounting 3.
• Press black release lever (RELEASE) downward.
  » The case is locked into place.
• Lock case.
• Check secure locking.
Secure hold

If a case wobbles or is difficult to fit, it has to be adapted to the gap between the upper and lower mounting. To achieve this, the height of the lower bracket on the case can be changed.

Adapting case

- Open case.
- Unfasten screws 1.
- Adjust height of bracket.
- Tighten screws 1.

Flat tire kit **DA**

Use

The space for the flat tire kit is located under the left-hand side panel. The repair procedure and safety precautions are contained in the description included with in the flat tire kit.

Removing flat tire kit

- Make sure the ground is level and firm and park the motorcycle.
- Removing seat (⇒ 50)

1. Remove screws 1.
2. Removing side panel.
3. To protect the side panel from scratches, lay it on the seat.
4. Open the securing strap and remove the flat tire kit.

Removing seat (⇒ 50)

- Remove screws 1.
- Removing side panel.
Maintenance

Maintenance - General Information .......................... 92
Toolkit .................................................. 92
Contents of supplemental set OA .............................. 92
Overview of supplemental set ................................. 92
Engine oil ............................................... 92
General brake system ........................................ 94
Brake pads .............................................. 95
Brake fluid ............................................... 97
Clutch .................................................. 100
Tires .................................................. 100
Rims .................................................. 101
Wheels .................................................. 101
Front wheel stand .......................................... 108
Rear-wheel stand .......................................... 110
Lamps ................................................. 111
Jump starting .......................................... 117
Battery ................................................. 119
The 'Maintenance' chapter describes work involving the 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 also listed. Screw connections for which there is a matching tool in the onboard toolkit are marked. If you are interested in information on additional work, we recommend the Repair Manual for your motorcycle on CD-ROM. This is available from your authorized BMW motorcycle retailer.

### Toolkit

1. Reversible screwdriver
2. Torx wrench T25
3. Screwdriver, small

The included toolkit is located under the seat.

### Contents of supplemental set OA

The supplemental set is available as an optional accessory. Please contact your authorized BMW motorcycle retailer.

1. Screwdriver blade
2. Socket wrench, 17
3. Spark plug socket wrench
4. 17 mm open-end wrench
5. TORX wrench T40, T45, T50

### Engine oil

#### Checking engine oil level

The engine can seize if the oil level is low, and this can lead to accidents.
Always make sure that the oil level is correct. 

⚠️ After longer motorcycle immobilization periods, engine oil can collect in the oil pan; this must be pumped into the oil tank before the reading is taken. Here, the engine oil must be at operating temperature. Checking the oil level with the engine cold or after a short trip leads to misinterpretations and therefore to incorrect oil fill quantities. To ensure that the display of the engine oil level is correct, only check the oil level after a longer trip. 

⚠️ The oil level varies with the temperature of the oil. The higher the temperature the higher the oil level in the oil tank. Check the engine oil level immediately after a longer journey. 

- Make sure the ground is level and firm and hold the motorcycle at operating temperature vertically. with OA Center stand: 
  - Make sure grounded is level and firm and place motorcycle at operating temperature on its center stand. 
  - Let the engine run in neutral for one minute. 
  - Switch off ignition.

Read off the oil level from the display 1.

- Specified level of engine oil 
  Between MIN and MAX marking
If oil level is below MIN mark:
- Top up engine oil.
If oil level is above MAX mark:
- Drain off engine oil.

**Topping up engine oil**
- Make sure the ground is level and firm, and park the motorcycle.
- Removing seat (⇒ 50)

![Image of engine top up steps]

- Wipe area around filler neck clean.
- Unscrew cap of fill opening for engine oil 1.
- Add engine oil to specified level.

**Draining engine oil**
- Press retainer of clear hose 2 on left and right and pull out of oil tank upwards.
- Pull clear hose downward out of frame and drain engine oil into a suitable container until specified level is reached.
- Insert the clear hose in the oil tank and lock into place.
- Store or dispose of excess engine oil in line with sound environmental principles.

**General brake system**

**Operating safety**
A properly functioning brake system is a basic requirement for the road safety of your motorcycle. Do not ride the motorcycle if you have any doubts about the dependability of the brake system. In this case, have the brake system checked by a certified workshop, preferably by an authorized BMW motorcycle retailer.
Incorrect working practices endanger the reliability of the brakes. Have all work on the brake system performed by a certified workshop, preferably by an authorized BMW motorcycle retailer.

Checking brake operation
- Switch on ignition.
- Wait for ABS self-diagnosis to complete.
- Pull handbrake lever.
- Pressure point must be clearly perceptible.
- Hydraulic pump must be heard to run.
- Press footbrake lever.
- Pressure point must be clearly perceptible.
- Hydraulic pump must be heard to run.

with OE Elimination of BMW Motorrad Integral ABS:
- Pull handbrake lever.
- Pressure point must be clearly perceptible.
- Press footbrake lever.
- Pressure point must be clearly perceptible.

Brake pads
Checking front brake pad thickness
- Continuing to use brake pads beyond the minimum pad thickness leads to reduced braking power and under certain circumstances to brake damage. In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.

- Make sure the ground is level and firm and park the motorcycle.
- Visually inspect left and right brake pads to ascertain their thickness.
The brake pads must have a clearly visible wear indicating mark. If the wear indicating mark is no longer clearly visible:
- Have brake pads replaced by a specialized workshop, preferably an authorized BMW motorcycle retailer.

**Checking brake pad thickness at rear**

- Perform a visual inspection of the brake pad thickness from the right.
- Make sure the ground is level and firm and park the motorcycle.

Continuing to use brake pads beyond the minimum pad thickness leads to reduced braking power and under certain circumstances to brake damage. In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.

- Front brake pad thickness
- Rear brake pad thickness

Maintenance
Brake disk must not be visible through bore hole of inner brake pad.

If the brake disk is visible:
- Have brake pads replaced by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Brake fluid
Checking front brake fluid level

⚠️ A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency. Brake early.
- Make sure the ground is level and firm and hold the motorcycle vertically.
- Move handlebars into straight-ahead position.

With OA Center stand:
- Make sure ground is level and firm and place motorcycle on its center stand.
- Move handlebars into straight-ahead position.

Read off the brake fluid level at the reservoir 1.

The brake fluid level in the brake-fluid reservoir does not drop due to brake pad wear.

- Front brake fluid level
  - Brake fluid DOT4
  - Brake fluid level must not drop.

If the brake fluid level falls - even above the MIN mark - this indicates a defect in the brake system.
- Have fault remedied as quickly as possible by a certified workshop, preferably an authorized BMW motorcycle retailer.
with OE Elimination of BMW Motorrad Integral ABS:

Read off the brake fluid level at the reservoir 1.

In the event of brake pad wear, the brake fluid level in the brake-fluid reservoir falls.

Front brake fluid level with OE Elimination of BMW Motorrad Integral ABS:
Brake fluid DOT 4
Brake fluid level must not fall below MIN mark.

If brake fluid level drops below permissible level:
- Have fault remedied as quickly as possible by a certified workshop, preferably an authorized BMW motorcycle retailer.

Checking rear brake fluid level

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency. Brake early.

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

Read off the brake fluid level at the reservoir 1.

Maintenance
The brake fluid level in the brake-fluid reservoir does not drop due to brake pad wear.

Rear brake fluid level

Brake fluid DOT4

Brake fluid level must not drop.

If the brake fluid level falls - even above the MIN mark - this indicates a fault in the brake system.

- Have fault remedied as quickly as possible by a certified workshop.
- Read off the brake fluid level at the reservoir 1.

In the event of brake pad wear, the brake fluid level in the brake-fluid reservoir falls.

- Rear brake fluid level with OE Elimination of BMW Motorrad Integral ABS:

Brake fluid DOT4

Brake fluid level must not fall below MIN mark.

If brake fluid level drops below permissible level:

- Have fault remedied as quickly as possible by a certified workshop, preferably an authorized BMW motorcycle retailer.
Clutch

Checking clutch operation

- Pull clutch lever.
- Pressure point must be clearly perceptible.
If no clear pressure point can be felt:
- Have clutch checked by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Checking clutch fluid level

- Make sure the ground is level and firm and hold the motorcycle vertically.
- Move handlebars into straight-ahead position.
- With OA Center stand:
- Make sure ground is level and firm and place motorcycle on its center stand.

- Move handlebars into straight-ahead position.
- Read off clutch fluid level at reservoir 1.

Clutch fluid level must not drop.
If fluid level drops:

⚠️ Unsuitable hydraulic fluids could cause damage to the clutch system.
No fluids may be poured in.
- Have fault remedied as quickly as possible by a certified workshop, preferably an authorized BMW motorcycle retailer.

⚠️ The clutch system is filled with a special hydraulic fluid that does not require changing.

Tires

Checking tire tread depth

⚠️ Your motorcycle’s handling and grip can be impaired even before the
tires wear to the minimum tire tread depth permitted by law. Have the tires changed in good time before they wear to the minimum permissible tread depth.

- Make sure the ground is level and firm and park the motorcycle.
- Measure tire tread depth in main tread grooves with wear indicating marks.

Tires have wear indicators integrated into the main tread grooves. 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.

If tire tread depth no longer complies with legally required minimum tread depth:
- Replace tire.

Rims

Checking rims
- Make sure the ground is level and firm and park the motorcycle.
- Visually inspect rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialized workshop, preferably an authorized BMW motorcycle retailer.

Wheels

Approved wheels and tires
For each size of tire BMW Motorrad tests certain makes, and approves those that it certifies as roadworthy. If BMW Motorrad has not approved the wheels and tires, it cannot assess their suitability or provide any guarantee of road safety. Use only wheels and tires approved by BMW Motorrad for your type of motorcycle. You can obtain detailed information from your authorized BMW motorcycle retailer or on the Internet at www.bmw-motorrad.com.

Removing front wheel
- Place motorcycle on an auxiliary stand; BMW Motor-
rad recommends the BMW Motorrad rear wheel stand.

- Install rear-wheel stand with OA Center stand:
- Make sure ground is level and firm and place motorcycle on its center stand.

1. Remove screws 1 on left and right.
2. Pull out the front wheel mudguard towards the front.

3. Once the calipers have been removed, there is a risk that the brake pads being pressed together to the extent that they cannot be slipped back over the brake disk on reassembly.
4. Do not operate the handbrake lever when the brake calipers have been removed.
5. Remove mounting bolts 3 of brake calipers on left and right.

- Press brake pads in brake caliper 4 somewhat apart with rotary movements A against brake disks 5.
- Mask off area of wheel rim that could be scratched in process of removing brake calipers.
- Carefully pull brake calipers back and out until clear of brake disks.
- When pulling off left brake caliper, make sure that ABS sensor cable is not damaged.
- Raise front of motorcycle until front wheel can rotate
freely. To raise motorcycle, it is advisable to use BMW Motorrad front wheel stand.

- Mounting front wheel stand (⇒ 109)

The left axle clamping screw fixes the threaded bush in place in the front suspension. A poorly aligned threaded bush results in incorrect spacing between the ABS sensor ring and the ABS sensor, and therefore to ABS malfunctions or destruction of the ABS sensor.

To ensure the proper alignment of the threaded bush, do not loosen or remove the left axle clamping screw.

- Remove right-hand axle clamping screw 6.
- Remove quick-release axle 7, holding wheel as you do so.

BMW Motorrad offers an adapter for removing the quick-release axle. This adapter can be combined with a commercially available 22 mm open-end or ring wrench. The adapter with BMW special tool number 36 3 691 can be obtained from your authorized BMW motorcycle retailer.

- Place the front wheel in the front wheel guide on the ground.
- Roll front wheel forward to remove.

When rolling out/rolling in the front wheel, be careful not to damage the ABS sensor.

**Installing front wheel**

Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.
Always have the security of the fasteners checked by a specialized workshop, preferably an authorized BMW motorcycle retailer.

- During the following work, parts of the front brake, in particular of the BMW Integral ABS, can be damaged. Take care not to damage the brake system, in particular the ABS sensor with cable and the ABS sensor ring.

- The front wheel must be installed right way round to rotate in the correct direction. Observe the direction of rotation arrows on the tires or on the rim.

- Roll front wheel into front wheel guide.
  - When rolling out/rolling in the front wheel, be careful not to damage the ABS sensor.

- Raise the front wheel, install the quick-release axle 7 and tighten with the appropriate tightening torque.
  - Quick-release axle in threaded bush
    - 37 lb/ft
  - Tighten the right-hand axle clamping screw 6 with the appropriate tightening torque.
  - Clamping screw on quick-release axle in wheel carrier
    - 14 lb/ft

- Remove front wheel stand.
Ease brake calipers on to brake disks.

The cable of the ABS sensor could chafe through if it comes into contact with the brake disk. Make sure that ABS sensor cable is routed correctly.

Carefully route ABS cable.

Install mounting screws 3.
- Front brake caliper mounted on wheel carrier (131)
- Remove adhesive tape from wheel rim.

Install front mudguard and screws 1 and tighten.

Switch on ignition.
- Wait for ABS self-diagnosis to complete.
- Press the handbrake lever firmly a number of times until the resistance point is noticeable.

Removing rear wheel
- Place motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad rear wheel stand.
- Install rear-wheel stand, with OA Center stand;
- Make sure ground is level and firm and place motorcycle on its center stand.

- Remove bolt 1 of muffler cover 2.
- Pull cover towards rear.
Maintenance

7

106

- Remove clamp 3 on muffler.
- Do not remove sealing grease from clamp.

- Remove bolt 4 of end muffler bracket on rear footrest.
- Turn end muffler out.

- Engage first gear.

- Remove mounting bolts 5 of rear wheel, holding wheel as you do so.
- When using the BMW Motorrad rear wheel stand: remove the lock washer.

- Lower the rear wheel to the ground.
- Roll rear wheel out toward rear.
- When using the BMW Motorrad rear wheel stand: re-mount the lock washer.

Installing rear wheel

Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage.
Always have the security of the fasteners checked by a specialized workshop, prefer-
ably an authorized BMW motorcycle retailer.

- When using the BMW Motorrad rear wheel stand: remove the lock washer.

- Roll the rear wheel onto the rear wheel support.
- Place the rear wheel on the rear wheel support.
- When using the BMW Motorrad rear wheel stand: remount the lock washer.

- Mount wheel bolts 5 and tighten diagonally with appropriate tightening torque.
  - Rear wheel on wheel flange 44 lb/ft
- Turn the end muffler to its initial position.

- Install screw 4 for end muffler bracket in rear footrest, but do not tighten it at this point.
• Align clamp 3 on end muffler with marking A (arrow) on lambda probe B.
• Tighten clamp 3 on end muffler.
  - Muffler on manifold (131)

If the gap between the rear wheel and the end muffler is too small, the rear wheel can overheat. The gap between the rear wheel and the end muffler must be at least 0.59 in.

• Install bolt 4 of end muffler bracket on rear footrest.
  - Muffler on right passenger footrest 21 lb/ft

• Push muffler cover 2 with guides A into brackets B.
• Remove auxiliary stand if mounted.

**Front wheel stand**

A front wheel stand for simple, safe changing of the front wheel is available from BMW Motorrad. The BMW special tool number is 36 3 971 and the front wheel stand is available from your authorized BMW motorcycle retailer. You also need the
adapters with the BMW special tool number 36 3973.

⚠️ The BMW Motorrad front wheel stand is not designed for holding motorcycles without a center or other auxiliary stands. A motorcycle standing on the front wheel stand and the rear wheel alone can fall over. Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad front wheel stand.

Mounting front wheel stand

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

with OA Center stand:
• Make sure ground is level and firm and place motorcycle on its center stand.

1 2

• Loosen adjusting screws 1.
• Push two mounting pins 2 far enough apart that front suspension fits between them.
• Use locating pins 3 to set front wheel stand to desired height.
• Center front wheel stand relative to front wheel and push it against front axle.

1 2

• Push two mounting pins 2 through triangles of brake caliper support toward inside so that front wheel can still be rolled through.

⚠️ In the case of BMW Integral ABS, the ABS sensor ring can be damaged. Only push the mounting pin so far inward that it does not touch the sensor ring of the BMW Integral ABS.
• Tighten adjusting screws 1.
If the motorcycle is resting on the center stand:
The motorcycle is raised too far at the front, the center stand lifts off the ground and the motorcycle can tip over to the side.
When raising the motorcycle, make sure that the center stand remains on the ground.
- Apply uniform pressure to push front wheel stand down and raise motorcycle.

Rear-wheel stand

In order to work safely on motorcycles without center stands, BMW Motorrad offers a rear wheel stand. The BMW special tool number is 36 3 980 and the rear wheel stand are available from your authorized BMW motorcycle retailer.

Installing rear-wheel stand

- Set the desired height of the rear wheel stand using the bolts 1.
- Remove the lock washer 2; to do so, press the unlock button 3.
• Push the rear wheel stand from the left into the rear axle.
• Apply the retaining disk from the right; to do so, press the unlock button.
• Place your left hand on the left grab handle of the motorcycle 4 and your right hand on the lever of the rear wheel stand 5.

• Raise the motorcycle, simultaneously pressing the lever downwards until the motorcycle stands vertically.

• Press the lever onto the ground.

Lamps
General instructions
The failure of a bulb is signaled in the display by the lamp defect symbol. If the brake or rear light fails, the general warning light also lights up in yellow. If the rear light fails, the brake light is used as a substitute in that the luminosity of the second glow filament is reduced to rear light level. Failure of the rear light is nevertheless indicated in the display.

⚠️ A defective bulb places your safety at risk because it is easier for other users to oversee you and your motorcycle. Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.⏹
The bulb is pressurized and can cause injury if damaged. Wear eye and hand protection when replacing bulbs.

An overview of the bulb types installed in your motorcycle is provided in the chapter "Technical Data".

Do not touch the glass of new bulbs with your fingers. For installation, use a clean, dry cloth. Dirt deposits, in particular oil and grease, interfere with heat radiation from the bulb. Overheating and therefore short service life of the bulbs are the consequence.

**Replacing low-beam bulb**

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.

- To achieve better accessibility, turn the handlebars to the left.
- Make sure the ground is level and firm and park the motorcycle.
- Switch off ignition.
- Release cover 1 by turning counterclockwise and remove it.
- Disconnect plug 2.
- Remove spring wire brackets 3 from their detents on left and right and fold them up.
• Remove bulb 4.
• Install bulb in reverse order.
• Use a clean, dry cloth to hold new bulb.

• When assembling, make sure that lug 5 points upwards.

Replacing high-beam bulb

⚠️ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.

To achieve better accessibility, turn the handlebars to the left.

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

• Release cover 1 by turning counterclockwise and remove it.

Maintenance
Disconnect plug 2.

Remove spring wire brackets 3 from their detents on left and right and fold them up.

Remove bulb 4.
Install bulb in reverse order.
Use a clean, dry cloth to hold new bulb.

On assembly, make sure that lug 5 points upwards.

Position in headlight

The side-light bulb 1 is accessible via 2.

Replacing side-light bulb

⚠️ If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.

- Make sure the ground is level and firm and park the motorcycle.
- Switch off ignition.
Pull off connector 3 beneath headlight.
Remove bulb holder 4 from headlight housing by turning it counterclockwise.
Twist bulb 5 out of bulb holder.
Install bulb in reverse order.
Use a clean, dry cloth to hold new bulb.

Replacing brake light and rear light bulbs

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.◆

- Make sure the ground is level and firm and park the motorcycle.
- Remove seat (⇒ 50)
- Switch off ignition.

1. Remove the screw 1.
2. Pull bulb housing toward rear until it is clear of holders 2.
3. Turn bulb holder 3 counterclockwise to remove it from bulb housing.
Press bulb into its socket and turn it counterclockwise to remove.
Install brake and tail light in reverse order.
Use a clean, dry cloth to hold new bulb.

Replacing front turn indicator bulb

If it is not standing firmly, the motorcycle could topple in the course of the operations described below.

Make sure that the motorcycle is steady on its stand.
Make sure the ground is level and firm and park the motorcycle.
Switch off ignition.

1. Remove the screw 1.
2. Pull the lamp housing on the screw connection side out of the mirror housing.
3. Remove bulb holder 2 from lamp housing by turning it counterclockwise.
4. Remove bulb 3 from bulb holder.
5. Install bulb in reverse order.
Use a clean, dry cloth to hold new bulb.

Replacing rear turn indicator bulb

If it is not standing firmly, the motorcycle could topple in the course of the operations described below.
Make sure that the motorcycle is steady on its stand.

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

1. Remove the screw 1.

- Pull the lamp housing on the screw connection side out of the turn indicator housing.
- Press bulb 2 into fitting 3 and remove it by turning it counterclockwise.
- Install turn indicator bulb in reverse order.
- Use a clean, dry cloth to hold new bulb.

**Jump starting**

⚠️ The wires leading to the onboard socket do not have a load-capacity rating adequate for jump-starting the engine. Excessively high current can lead to a cable...
fire or damage to the motorcycle electronics. Do not use the onboard socket to jump-start the motorcycle.

Touching live parts of the ignition system with the engine running can cause electric shock. Do not touch parts of the ignition system when the engine is running.

A short-circuit can result if the crocodile clips of the jump leads are accidentally brought into contact with the motorcycle. Use only jump leads fitted with fully insulated crocodile clips at both ends.

Jump-starting with a donor-battery voltage higher than 12 V can damage the motorcycle electronics. The battery of the donor vehicle must have a voltage of 12 V.

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.

- Make sure the ground is level and firm and park the motorcycle.
- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.
- Remove screws.
- Take out the battery compartment lid in a forward and upward direction.
- Run the engine of the donor vehicle during jump-starting.
- Begin by connecting one end of red jumper lead to positive terminal of discharged battery and the other end to positive terminal of donor battery.
- Then connect one end of black jumper lead to negative terminal of donor battery, and other end to negative terminal of discharged battery.
- Start engine of motorcycle with discharged battery in usual way; if engine refuses to start, wait a few minutes before repeating attempt to protect starter and donor battery.
- Allow both engines to idle for a few minutes before disconnecting jumper leads.
- Disconnect the jump lead from the negative terminals first, then disconnect the second lead from the positive terminals.
- Mount battery compartment cover and install screws.
To start the engine, do not use start sprays or similar items.  

Battery  
Maintenance instructions  
Correct upkeep, recharging and storage will prolong the life of the battery and are essential if warranty claims are to be considered. Compliance with the points below is important in order to 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

⚠ If the battery is not disconnected, the onboard electronics (clock etc.) will drain the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted.  
During periods when the motorcycle is not being used, of more than four weeks, disconnect the battery from the motorcycle or connect a trickle-charger to the battery.  
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. You can obtain additional information from your authorized BMW motorcycle retailer.  

Charging connected battery  
⚠ Charging the connected battery directly at the battery terminals can damage the motorcycle electronics. To charge the battery via the battery terminals, disconnect the battery first.  
⚠ If you switch on the ignition and the multifunction display and indicator lights fail to light up, the battery is completely flat. Attempting to charge a completely flat battery via the onboard socket can cause damage to the motorcycle’s electronics. Always charge a completely drained battery directly at the
terminals of the disconnected battery.

Charging the battery via the onboard socket is only possible with suitable chargers. Unsuitable chargers can result in damage to the motorcycle electronics. Use BMW chargers with the part numbers 71 60 7 688 864 (220 V) or 71 60 7 688 865 (110 V). If in doubt, charge the disconnected battery directly at the terminals.

- Charge disconnected battery via onboard socket.
- The motorcycle’s onboard electronics know when the battery is fully charged. The onboard socket is switched off when this happens.
- Comply with operating instructions of charger.

If you are unable to charge the battery via the onboard socket, you may be using a charger that is not compatible with your motorcycle’s electronics. In this case, please charge the battery directly at the terminals of the disconnected battery.

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

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
If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.
- Make sure the ground is level and firm and park the motorcycle.
• Remove screws 1.
• Take out the battery compartment lid in a forward and upward direction, while watching detents 2.

An incorrect disconnection sequence increase the risk of short-circuiting. Always observe the proper sequence.

• Remove negative cable 2 first.
• Then remove the positive battery cable 3.

• Unscrew screws 4 and pull retaining bracket toward rear.
• Lift battery upwards; if it is difficult to move, moving it back and forth will help.

Installing battery

If it is not standing firmly, the motorcycle could topple in the course of the operations described below. Make sure that the motorcycle is steady on its stand.
• Make sure the ground is level and firm and park the motorcycle.
• Switch off ignition.
• Place the battery in the battery compartment, positive terminal on the right in the direction of travel.

An incorrect connection sequence increases the risk of short-circuiting. Always observe the proper sequence. Never install the battery without the protective cap.

• First install the positive battery cable 3.
• Then install the negative battery cable 2.
• Mount battery compartment cover.

• Install battery compartment cover while watching detents 2.
• Install screws 1.
• Switch on ignition.
• Fully open the throttle once or twice.
• The engine management system records the throttle-valve position.
• Setting clock (44)
## Care

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care products</td>
<td>124</td>
</tr>
<tr>
<td>Washing your motorcycle</td>
<td>124</td>
</tr>
<tr>
<td>Cleaning sensitive motorcycle parts</td>
<td>125</td>
</tr>
<tr>
<td>Paint care</td>
<td>126</td>
</tr>
<tr>
<td>Protective wax coating</td>
<td>126</td>
</tr>
<tr>
<td>Storing motorcycle</td>
<td>126</td>
</tr>
<tr>
<td>Returning motorcycle to use</td>
<td>126</td>
</tr>
</tbody>
</table>
Care products
We recommend that you use the cleaning and care products you can obtain from your authorized BMW motorcycle retailer. The materials in BMW Care Products have been tested in laboratories and in practice; they provide optimized care and protection for the materials used in your motorcycle.

⚠️ The use of unsuitable cleaning and care products can damage motorcycle components.

For cleaning, do not use any solvents such as nitro-thinners, cold cleaning agents, fuel or similar, and do not use cleaning agents that contain alcohol.

Washing your motorcycle
We recommend that you use BMW insect remover to soften and wash off insects and resilient dirt on painted parts prior to washing the motorcycle.

To prevent stains, do not wash the motorcycle immediately after it has been exposed to strong 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 every trip.

⚠️ After the motorcycle has been washed, ridden through water or ridden in the rain, the brake disks and pads might be wet and the brakes might not take effect immediately. Brake early until the brakes are dry or braked until dry.

⚠️ Warm water intensifies the effect of salt. Only use cold water to remove road salt.

⚠️ The high pressure of steam cleaners can damage seals, the hydraulic brake system, the electrical system and the seat. Do not use a steam jet or high-pressure cleaning equipment.
Cleaning sensitive motorcycle parts

Plastics
Clean plastic parts with water and BMW plastic care emulsion. This includes in particular:
- Windshields
- Headlight lens made of plastic
- Covering glass of instrument cluster
- Black, unpainted parts

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged. Do not use cleaning agents that contain alcohol, solvents or abrasives to clean plastic parts. ‘Fly sponges’ or sponges with hard surfaces can also lead to scratches.

Windshield
Clean off dirt and insects with a soft sponge and plenty of water.

Fuel and chemical solvents attack the windshield material; the windshield becomes cloudy or dull. Do not use cleaning agents.

Chrome
Especially in the case of road salt, carefully clean chrome parts with a great deal 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. Cooling fins can be bent easily. When cleaning the radiator, ensure that the fins are not bent.

Rubber
Treat rubber components with water or BMW rubber protection coating agent.

Using silicone sprays for the care of rubber seals can cause damage. Do not use silicon sprays or other care products that contain silicon.
Paint care
Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen. However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease, brake fluid as well as bird droppings. BMW vehicle polish or BMW paint cleaner are recommended here.

Contamination on the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. We recommend removing tar spots with BMW tar remover. Then add a protective wax coating to the paint at these locations.

Protective wax coating
For the protective wax coating of paint, we recommend using only BMW auto wax or agents that contain carnauba or synthetic waxes. The best way to see whether the paint has to be protected is that water no longer forms pearls.

Storing motorcycle
- Clean motorcycle.
- Remove battery.
- Spray brake and clutch lever, and main and side stand pivots with a suitable lubricant.
- Coat bare metal and chrome-plated parts with an acid-free grease (e.g. Vaseline).
- Park motorcycle in a dry room so that both wheels are unloaded.

Before storing the vehicle, have the engine oil and the oil filter element changed by a certified workshop, preferably an authorized BMW motorcycle retailer. Combine work for storing/returning to use with maintenance service or an inspection.

Returning motorcycle to use
- Remove protective wax coating.
- Clean motorcycle.
• Install a charged battery.
• Before starting: Observe checklist.
Technical data

Troubleshooting chart ........ 130
Threaded fasteners ............ 131
Engine .......................... 132
Riding specifications .......... 134
Clutch .......................... 134
Transmission .................... 134
Rear-wheel drive ............... 135
Running gear .................... 135
Brakes .......................... 136
Wheels and tires ............... 136
Electrical system .............. 137
Frame .......................... 139
Dimensions ..................... 139
Weights ........................ 140
<table>
<thead>
<tr>
<th>Possible cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency ON/OFF switch activated.</td>
<td>Emergency ON/OFF switch in operating position.</td>
</tr>
<tr>
<td>Side stand extended and gear engaged.</td>
<td>Retract side stand (62).</td>
</tr>
<tr>
<td>Gear engaged and clutch not operated</td>
<td>Place transmission in neutral or disengage clutch (62).</td>
</tr>
<tr>
<td>Clutch disengaged with ignition switched off.</td>
<td>Switch on ignition first, then disengage clutch.</td>
</tr>
<tr>
<td>No fuel in tank.</td>
<td>Refueling (76)</td>
</tr>
<tr>
<td>Battery not adequately charged.</td>
<td>Charging connected battery (119)</td>
</tr>
</tbody>
</table>
**Threaded fasteners**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Type of threaded fastener</th>
<th>Tightening torques</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Front wheel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front brake caliper mounted on wheel carrier</td>
<td>M8 x 32 - 10.9</td>
<td>22 lb/ft (Left)</td>
</tr>
<tr>
<td></td>
<td>M8 x 32 - 10.9</td>
<td>22 lb/ft (Right)</td>
</tr>
<tr>
<td>Clamping screw on quick-release axle in wheel carrier</td>
<td>M8 x 30</td>
<td>14 lb/ft</td>
</tr>
<tr>
<td>Quick-release axle in threaded bush</td>
<td>M24 x 1.5</td>
<td>37 lb/ft</td>
</tr>
<tr>
<td><strong>Rear wheel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muffler on right passenger footrest</td>
<td>M8 x 30</td>
<td>21 lb/ft</td>
</tr>
<tr>
<td>Muffler on manifold</td>
<td>M8 - 10.9 self-locking, Optimoly TA</td>
<td>26 lb/ft</td>
</tr>
<tr>
<td>Rear wheel on wheel flange</td>
<td>M10 x 43 x 1.25</td>
<td>44 lb/ft</td>
</tr>
<tr>
<td></td>
<td>M10 x 40 x 1.25</td>
<td>44 lb/ft</td>
</tr>
</tbody>
</table>
### Engine

<table>
<thead>
<tr>
<th>Type</th>
<th>Engine design</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transverse-mounted four-cylinder, four-stroke inline engine, angled 55° toward front. With four valves per cylinder, actuated by two overhead camshafts and trailing valve levers; liquid cooled, electronic fuel injection, integrated six-speed cassette transmission, dry-sump lubrication</td>
</tr>
</tbody>
</table>

### Technical data

<table>
<thead>
<tr>
<th>Effective displacement</th>
<th>1157 cc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder bore</td>
<td>3.1 in</td>
</tr>
<tr>
<td>Piston stroke</td>
<td>2.3 in</td>
</tr>
<tr>
<td>Compression ratio</td>
<td>13:1</td>
</tr>
<tr>
<td>Rated output</td>
<td>167 hp, - at engine speed: 10250 min⁻¹</td>
</tr>
<tr>
<td></td>
<td>101 hp, - at engine speed: 7000 min⁻¹</td>
</tr>
<tr>
<td></td>
<td>107 hp, - at engine speed: 8750 min⁻¹</td>
</tr>
<tr>
<td>Maximum torque</td>
<td>96 lb/ft, - at engine speed: 8250 min⁻¹</td>
</tr>
<tr>
<td>Permissible maximum engine speed</td>
<td>11000 min⁻¹</td>
</tr>
<tr>
<td>Idle speed</td>
<td>1150⁺⁰⁰ min⁻¹</td>
</tr>
</tbody>
</table>
### Fuel

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended fuel type</td>
<td>Premium grade unleaded fuel 98 ROZ</td>
</tr>
<tr>
<td>Fuel types can be used with poorer performance and consumption</td>
<td>Super unleaded 95 ROZ</td>
</tr>
<tr>
<td>Fuel tank capacity</td>
<td>5 gal, Usable 1.1 gal, Of that reserve</td>
</tr>
</tbody>
</table>

### Engine oil

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total engine oil capacity</td>
<td>3.7 quarts, With filter change 0.5 quarts, Difference between Min and Max</td>
</tr>
<tr>
<td>Lubricant</td>
<td>Castrol GPS 10W-40 (SAE 10W40; API SG; JASO MA)</td>
</tr>
<tr>
<td>Oil grades</td>
<td>Mineral engine oils of the API classification SF to SH. BMW Motorrad does not recommend using oil additives, as these can worsen clutch operation.</td>
</tr>
</tbody>
</table>

### Permissible viscosity classes

<table>
<thead>
<tr>
<th>Oil grade</th>
<th>Temperature</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAE 5 W-30</td>
<td>-4...68 °F</td>
<td>Winter operation</td>
</tr>
<tr>
<td>SAE 10 W-40</td>
<td>14...86 °F</td>
<td>At low temperatures</td>
</tr>
<tr>
<td>Technical data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>--</td>
<td></td>
</tr>
<tr>
<td><strong>Riding specifications</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top speed</td>
<td>&gt;124 mph</td>
<td></td>
</tr>
<tr>
<td>Acceleration 0-62 mph (0-100 km/h)</td>
<td>2.8 s</td>
<td></td>
</tr>
<tr>
<td><strong>Clutch</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clutch design</td>
<td>Multi-disk oil-bath clutch</td>
<td></td>
</tr>
<tr>
<td><strong>Transmission</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission design</td>
<td>Claw-shifted 6-speed cassette transmission integrated in engine housing</td>
<td></td>
</tr>
<tr>
<td><strong>Gear ratios</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall gear ratio in 1st gear</td>
<td>2.521</td>
<td></td>
</tr>
<tr>
<td>Overall gear ratio in 2nd gear</td>
<td>1.842</td>
<td></td>
</tr>
<tr>
<td>Overall gear ratio in 3rd gear</td>
<td>1.455</td>
<td></td>
</tr>
<tr>
<td>Overall gear ratio in 4th gear</td>
<td>1.287</td>
<td></td>
</tr>
<tr>
<td>Overall gear ratio in 5th gear</td>
<td>1.143</td>
<td></td>
</tr>
<tr>
<td>Overall gear ratio in 6th gear</td>
<td>1.015</td>
<td></td>
</tr>
</tbody>
</table>
### Rear-wheel drive

<table>
<thead>
<tr>
<th>Rear-wheel drive design</th>
<th>Shaft drive with bevel gears</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gear ratio of rear-wheel drive</td>
<td>2.82:1</td>
</tr>
</tbody>
</table>

### Running gear

<table>
<thead>
<tr>
<th>Front suspension design</th>
<th>Double leading link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total suspension travel of front suspension</td>
<td>4.5 in, Static</td>
</tr>
<tr>
<td></td>
<td>4.9 in, Dynamic</td>
</tr>
<tr>
<td>Rear suspension design</td>
<td>Single-tube gas pressure shock-absorber</td>
</tr>
<tr>
<td>Total suspension travel of rear-wheel suspension</td>
<td>5.3 in, On wheel</td>
</tr>
</tbody>
</table>

Technical data
### Brakes

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front brake design</td>
<td>Hydraulic two-disk brake with 4-piston fixed calipers and floating brake disks</td>
</tr>
<tr>
<td>Front brake-pad material</td>
<td>Sintered metal</td>
</tr>
<tr>
<td>Rear brake design</td>
<td>Hydraulic disk brake with 2-piston floating caliper and fixed brake disk</td>
</tr>
<tr>
<td>Rear brake-pad material</td>
<td>Organic</td>
</tr>
</tbody>
</table>

### Wheels and tires

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front wheel design</td>
<td>Cast aluminum, MT H2</td>
</tr>
<tr>
<td>Front-wheel rim size</td>
<td>3.50&quot; x 17&quot;</td>
</tr>
<tr>
<td>Front-wheel tire designation</td>
<td>120/70 ZR 17</td>
</tr>
<tr>
<td>Rear wheel design</td>
<td>Cast aluminum, MT H2</td>
</tr>
<tr>
<td>Rear-wheel rim size</td>
<td>6.00&quot; x 17&quot;</td>
</tr>
<tr>
<td>Rear-wheel tire designation</td>
<td>190/50 ZR17</td>
</tr>
</tbody>
</table>

### Tire pressures

<table>
<thead>
<tr>
<th>Tire pressure</th>
<th>Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front-wheel</td>
<td>36.3 psi, In cold state</td>
</tr>
<tr>
<td>Rear-wheel</td>
<td>42.1 psi, In cold state</td>
</tr>
</tbody>
</table>
## Electrical system

<table>
<thead>
<tr>
<th>Rated load of onboard socket</th>
<th>5 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuses</td>
<td>All circuits are electronically protected, so plug-in fuses are no longer necessary. If an electronic fuse trips and de-energizes a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.</td>
</tr>
</tbody>
</table>

### Type

| Battery design               | AGM (Absorptive Glass Matt) battery |

### Technical data

<table>
<thead>
<tr>
<th>Battery nominal voltage</th>
<th>12 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery nominal capacity</td>
<td>14 Ah</td>
</tr>
<tr>
<td>Battery low-temperature test current</td>
<td>100 A</td>
</tr>
</tbody>
</table>

### Technical data

<table>
<thead>
<tr>
<th>Spark plug manufacturer and designation</th>
<th>Bosch YR5DDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spark-plug electrode gap</td>
<td>0.03 in</td>
</tr>
<tr>
<td>Wear limit</td>
<td>No wear limit, spark plug is replaced after maintenance interval</td>
</tr>
</tbody>
</table>
## Bulbs

<table>
<thead>
<tr>
<th>Description</th>
<th>Designation</th>
<th>Voltage</th>
<th>Wattage</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-beam headlight bulb - standard designation</td>
<td>Halogen bulb H7</td>
<td>12 V</td>
<td>55 W</td>
</tr>
<tr>
<td>Low-beam headlight bulb - standard designation</td>
<td>Halogen bulb H7</td>
<td>12 V</td>
<td>55 W</td>
</tr>
<tr>
<td>Side-light bulb standard designation</td>
<td>W5W</td>
<td>12 V</td>
<td>5 W</td>
</tr>
<tr>
<td>Tail light/brake light bulb standard designation</td>
<td>P21W</td>
<td>12 V</td>
<td>21 W</td>
</tr>
<tr>
<td>Front turn indicator bulb standard designation</td>
<td>W16W</td>
<td>12 V</td>
<td>10 W</td>
</tr>
<tr>
<td>License-plate light bulb standard designation</td>
<td>W5W</td>
<td>12 V</td>
<td></td>
</tr>
</tbody>
</table>
License-plate light bulb wattage | 5 W
---|---

**Frame**

<table>
<thead>
<tr>
<th>Main frame design</th>
<th>Composite with IHU/extruded section and diecasting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of type plate</td>
<td>On rear cross frame tube</td>
</tr>
<tr>
<td>Location of vehicle identification number (VIN)</td>
<td>At front right on frame side-section</td>
</tr>
</tbody>
</table>

**Dimensions**

<table>
<thead>
<tr>
<th>Overall motorcycle length</th>
<th>86.7 in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum width</td>
<td>35.6 in, Across mirrors</td>
</tr>
<tr>
<td>Maximum height</td>
<td>47.7 in, DIN unladen weight</td>
</tr>
<tr>
<td>Seat height for driver</td>
<td>32.3 in, Without driver</td>
</tr>
<tr>
<td>with OE Low driver's seat</td>
<td>31.1 in, Without driver</td>
</tr>
<tr>
<td>Wheelbase in normal-load position</td>
<td>61.9 in, Full tank of gas, with rider: 187 lbs</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>5.7 in, In normal-load position, full tank of gas, with rider: 187 lbs</td>
</tr>
</tbody>
</table>
## Technical data

### Weights

<table>
<thead>
<tr>
<th>Permissible gross weight</th>
<th>Unladen weight, ready for road.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum payload</td>
<td>Unladen weight, ready for road.</td>
</tr>
<tr>
<td>140 lbs</td>
<td>547 lbs</td>
</tr>
<tr>
<td>992 lbs</td>
<td>85% full tank of gas, without OE</td>
</tr>
</tbody>
</table>
Service

BMW Motorrad service ........ 142
BMW Motorrad service quality 142
BMW Motorcycle Service Card - breakdown service on the road 143
BMW Motorrad service network 143
Maintenance work ............ 143
Maintenance schedules ...... 144
Confirmation of maintenance work 145
Confirmation of service ...... 150
BMW Motorrad service

Advanced technology requires specially adapted methods of maintenance and repair.

If this maintenance and repair work is performed inexpertly, there is a danger of damage and associated safety risks.

BMW recommends only having work carried out on your motorcycle by an authorized BMW motorcycle retailer or a workshop which works with personnel trained in accordance with BMW specifications.

You can contact your BMW motorcycle retailer for information on the contents of BMW Service, inspections and the Annual Inspection.

Have all maintenance and repair work carried out confirmed in the "Service" chapter in this manual.

Your authorized BMW motorcycle retailer is supplied with all the latest technical information and therefore possesses the necessary technical know-how. BMW Motorrad therefore recommends that you consult your authorized BMW motorcycle retailer on all questions concerning your motorcycle.

BMW Motorrad service quality

BMW Motorrad stands not only for good handling and a high degree of reliability, but also for an excellent quality of service.

To ensure that your BMW is always in optimum condition, we recommend that you have the maintenance work required for your motorcycle carried out, preferably by your authorized BMW motorcycle retailer. For generous treatment of claims submitted after the warranty period has expired, evidence of regular maintenance is essential. Certain signs of wear, moreover, may otherwise not be noticed until it is too late to correct them at moderate cost. The workshop personnel at BMW motorcycle retailers are familiar with your motorcycle and can take action before minor problems can turn into major trouble. By having the necessary repairs done properly and in good time, you save time and money in the long run.
BMW Motorcycle Service Card - breakdown service on the road
With all new BMW motorcycles, the BMW Motorrad Service Card protects you in the event of a breakdown with an extensive range of services such as breakdown assistance, motorcycle transportation etc. (differing regulations are possible in individual countries). In the case of a breakdown, you contact the Mobile Service of BMW Motorrad. Here you will find our specialists ready to help with both advice and action.

Important country-specific contact addresses and the relevant after-sales service organization phone numbers as well as information on Mobile Service and the dealership network can be found in the "Service Kontakt / Service Contact" brochures.

BMW Motorrad service network
With our worldwide service network we support you and your motorcycle in over 100 countries around the globe. In Germany alone, you have the best possible access to approximately 200 authorized BMW motorcycle retailers. All information on the international dealership network is contained in the "Service Contact Europe" brochure and "Service Contact Africa, America, Asia, Australia and Oceania".

Maintenance work Intervals
Some maintenance tasks must be performed after a certain time, others depend on the distance covered by the motorcycle.

BMW Running-in Check
The BMW running-in check has to be performed when the motorcycle has covered between 300 miles (500 km) and 750 miles (1,200 km).

BMW Annual Inspection
Some maintenance work must be carried out at least once a year. Other tasks depend on the distance the motorcycle has covered.
BMW Service
After the first 6,000 miles (10,000 km) and every additional 12,000 miles (20,000 km) (24,000 miles, 36,000 miles, 48,000 miles etc. (40,000 km, 60,000 km, 80,000 km etc.)) if this distance is covered within a year.

BMW Inspection
After the first 12,000 miles (20,000 km) and every additional 12,000 miles (20,000 km) (24,000 miles, 36,000 miles, 48,000 miles etc. (40,000 km, 60,000 km, 80,000 km etc.)) if this distance is covered within a year.

Maintenance schedules
The maintenance schedule for your motorcycle depends on the equipment installed, and on the motorcycle’s age and the distance it has covered. Your authorized BMW motorcycle retailer will be happy to supply a copy of the current maintenance schedule for your motorcycle on request.

Every authorized BMW motorcycle retailer has a fixed scale of charges based on labor times and carefully calculated hourly rates. Fuel, lubricants and similar substances, filters, gaskets etc. are charged separately.
### Confirmation of maintenance work

<table>
<thead>
<tr>
<th>BMW Pre-delivery Check</th>
<th>BMW Running-in Check</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carried out properly in accordance with workshop specifications.</td>
<td>Carried out properly in accordance with workshop specifications.</td>
</tr>
<tr>
<td>Brake fluid changed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Without BMW Integral ABS</td>
<td></td>
</tr>
<tr>
<td>□ With BMW Integral ABS</td>
<td></td>
</tr>
<tr>
<td>□ Wheel circuit</td>
<td></td>
</tr>
<tr>
<td>□ Control circuit</td>
<td></td>
</tr>
</tbody>
</table>

Date, stamp, signature

Date, stamp, signature
Carried out properly in accordance with workshop specifications.

---

**BMW Service**
- BMW Annual Inspection
- BMW Service
- BMW Inspection

Brake fluid changed
- Without BMW Integral ABS
- With BMW Integral ABS
  - Wheel circuit
  - Control circuit

Date, stamp, signature
Carried out properly in accordance with workshop specifications.

at miles: ______________

Brake fluid changed
Without BMW Integral ABS
With BMW Integral ABS
Wheel circuit
Control circuit

Date, stamp, signature
<table>
<thead>
<tr>
<th>BMW Service</th>
<th>BMW Service</th>
<th>BMW Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ BMW Annual Inspection</td>
<td>□ BMW Annual Inspection</td>
<td>□ BMW Annual Inspection</td>
</tr>
<tr>
<td>□ BMW Service</td>
<td>□ BMW Service</td>
<td>□ BMW Inspection</td>
</tr>
<tr>
<td>□ BMW Inspection</td>
<td>□ BMW Inspection</td>
<td>□ BMW Inspection</td>
</tr>
</tbody>
</table>

Carried out properly in accordance with workshop specifications.

at miles:__________________

Brake fluid changed
□ Without BMW Integral ABS
□ With BMW Integral ABS
  □ Wheel circuit
  □ Control circuit

Date, stamp, signature

at miles:__________________

Brake fluid changed
□ Without BMW Integral ABS
□ With BMW Integral ABS
  □ Wheel circuit
  □ Control circuit

Date, stamp, signature

at miles:__________________

Brake fluid changed
□ Without BMW Integral ABS
□ With BMW Integral ABS
  □ Wheel circuit
  □ Control circuit

Date, stamp, signature
Carried out properly in accordance with workshop specifications. at miles:

 Brake fluid changed
  Without BMW Integral ABS
  With BMW Integral ABS
 Wheel circuit
 Control circuit

 BMW Service
 BMW Annual Inspection
 BMW Service
 BMW Inspection

 Date, stamp, signature

 BMW Service
 BMW Annual Inspection
 BMW Service
 BMW Inspection

 Carried out properly in accordance with workshop specifications. at miles:

 Brake fluid changed
  Without BMW Integral ABS
  With BMW Integral ABS
 Wheel circuit
 Control circuit

 BMW Service
 BMW Annual Inspection
 BMW Service
 BMW Inspection

 Carried out properly in accordance with workshop specifications. at miles:

 Brake fluid changed
  Without BMW Integral ABS
  With BMW Integral ABS
 Wheel circuit
 Control circuit

 Date, stamp, signature
Confirmation of service

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

<table>
<thead>
<tr>
<th>Work carried out</th>
<th>at miles:</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work carried out</td>
<td>at miles:</td>
<td>Date</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Index</td>
<td>A Abbreviations and symbols, 6</td>
<td></td>
</tr>
<tr>
<td>-------</td>
<td>-------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anti-theft alarm, 17</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Battery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Battery charging-current warning indicator, 26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Charging connected battery, 119</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Charging disconnected battery, 120</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installing, 121</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Removing, 120</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brake fluid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking front level, 97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking rear level, 98</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brake pads</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking front, 95</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking rear, 96</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brakes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technical data, 136</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Case</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adapting, 89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjusting, 86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Closing, 86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mounting, 88</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opening, 86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Removing, 87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clock, 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjusting, 17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Setting, 44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clutch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fluid reservoir, 11, 13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technical data, 134</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Commissioning, 126</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Confirmation of maintenance work, 145</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coolant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coolant-temperature warning indicator, 24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temperature display, 21</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Electrical system</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technical data, 137</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Emergency ON/OFF switch, 16, 45</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engine-electronics warning indicator, 25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engine oil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Checking level, 92</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Engine oil-pressure warning indicator, 25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technical data, 133</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Temperature display, 20</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ESA, 55</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjusting damping, 56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adjusting spring preload, 56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Calling up settings, 56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EWS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Warning indicator, 24</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Flat tire kit, 89</td>
<td></td>
</tr>
</tbody>
</table>
Frame
Technical data, 139
Front wheel stand
Mounting, 109
Fuel
Quantity indicator, 20
Refueling, 76
Reserve-quantity warning indicator, 24
Technical data, 133
Fuses, 137

G
Gear indicator, 20

H
Handlebar fittings
General view, left, 15
General view, right, 16
Hazard warning flashers, 15, 16
Switching off, 39
Switching on, 38

Headlight
Adjusting headlight range, 48
High-beam headlight, 18
Low-beam headlight, 18
Side lights, 18
Headlight flasher, 15
Heated hand grips, 16, 45
High-beam headlight, 15
Horn, 15

I
Ignition
Switching off, 36
Switching on, 36
Immobilizer
Warning indicator, 24
Indicator lights, 17
Instrument cluster
Lighting sensor, 17
Overview, 17

J
Jump starting, 117

L
Lamps
Bulb-defect warning indicator, 26, 27
General instructions, 111
Replacing brake light bulbs, 115
Replacing front turn indicator bulb, 116
Replacing high-beam bulb, 113
Replacing low-beam bulb, 112
Replacing rear light bulbs, 115
Replacing rear turn indicator bulb, 116
Replacing side-light bulb, 114
Technical data, 138
Lights
Switching off side lights, 48
Switching on high-beam headlight, 47
Switching on low-beam headlight, 47
Switching on side lights, 47, 48

Motorcycle
General view of left side, 11
General view of right side, 13
returning to use, 126
Storing, 126
Multifunction display, 17, 20

Onboard computer
Ambient temperature, 43
Average consumption, 43
Average speed, 42
Button, 15
Resetting average consumption, 43
Resetting average speed, 42
Residual range, 42
Selecting readings, 41
Tripmaster operation, 41
Onboard socket, 11, 13
Overview of warning indicators, 22, 29

Pre-ride check, 63
Rear shock absorber system
Adjusting, 11, 13, 54
Rear suspension preload
Adjusting, 11, 13, 54
Rear-wheel drive
Technical data, 135
Rear-wheel stand
Mounting, 110
Refueling, 76
Reserve
Warning indicator, 24
Residual range, 40, 42
Running gear
Technical data, 135

Seat
Installing, 51
Lock, 11, 13
Removing, 50
Service, 142
Side stand
During starting, 62
Speedometer, 17
Starter, 16
Steering lock, 37
Storing, 126

Tachometer, 17
Technical data
Brakes, 136
Bulbs, 138
Clutch, 134
Electrical system, 137
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine, 132</td>
<td></td>
</tr>
<tr>
<td>Engine oil, 133</td>
<td></td>
</tr>
<tr>
<td>Frame, 139</td>
<td></td>
</tr>
<tr>
<td>Fuel, 133</td>
<td></td>
</tr>
<tr>
<td>Rear-wheel drive, 135</td>
<td></td>
</tr>
<tr>
<td>Running gear, 135</td>
<td></td>
</tr>
<tr>
<td>Transmission, 134</td>
<td></td>
</tr>
<tr>
<td>Wheels and tires, 136</td>
<td></td>
</tr>
<tr>
<td>Tires</td>
<td></td>
</tr>
<tr>
<td>Checking air pressure, 57</td>
<td></td>
</tr>
<tr>
<td>Checking tread depth, 100</td>
<td></td>
</tr>
<tr>
<td>Technical data, 136</td>
<td></td>
</tr>
<tr>
<td>Toolkit</td>
<td></td>
</tr>
<tr>
<td>Overview of basic set, 92</td>
<td></td>
</tr>
<tr>
<td>Overview of supplemental set, 92</td>
<td></td>
</tr>
<tr>
<td>Torques, 129</td>
<td></td>
</tr>
<tr>
<td>Transmission</td>
<td></td>
</tr>
<tr>
<td>During starting, 62</td>
<td></td>
</tr>
<tr>
<td>Technical data, 134</td>
<td></td>
</tr>
<tr>
<td>Tripmaster, 20</td>
<td></td>
</tr>
<tr>
<td>Operation, 39</td>
<td></td>
</tr>
<tr>
<td>Resetting tripmeter, 40</td>
<td></td>
</tr>
<tr>
<td>Residual range, 40</td>
<td></td>
</tr>
<tr>
<td>Selecting readings, 39</td>
<td></td>
</tr>
<tr>
<td>Troubleshooting chart, 130</td>
<td></td>
</tr>
<tr>
<td>Turn indicators</td>
<td></td>
</tr>
<tr>
<td>Left, 15, 49</td>
<td></td>
</tr>
<tr>
<td>Right, 16, 49</td>
<td></td>
</tr>
<tr>
<td>Switching off, 16, 50</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td></td>
</tr>
<tr>
<td>Warning indicators, 20</td>
<td></td>
</tr>
<tr>
<td>Display, 21</td>
<td></td>
</tr>
<tr>
<td>Warning lights, 17</td>
<td></td>
</tr>
<tr>
<td>Wheels</td>
<td></td>
</tr>
<tr>
<td>Installing front wheel, 103</td>
<td></td>
</tr>
<tr>
<td>Installing rear wheel, 106</td>
<td></td>
</tr>
<tr>
<td>Removing front wheel, 101</td>
<td></td>
</tr>
<tr>
<td>Removing rear wheel, 105</td>
<td></td>
</tr>
<tr>
<td>Technical data, 136</td>
<td></td>
</tr>
</tbody>
</table>
Details described or illustrated in this booklet may differ from the motorcycle’s actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.

Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances. The right to modify designs, equipment and accessories is reserved.

Errors and omissions excepted.

© 2005 BMW Motorrad
Not to be reproduced either wholly or in part without written permission from BMW Motorrad, After Sales.
Printed in Germany.
The most important data for a filling station stop can be found in the following chart.

<table>
<thead>
<tr>
<th>Fuel</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended fuel type</td>
<td>Premium grade unleaded fuel</td>
</tr>
<tr>
<td>Minimum octane number</td>
<td>98 ROZ</td>
</tr>
<tr>
<td>Fuel tank capacity</td>
<td>5 gal, Usable</td>
</tr>
<tr>
<td></td>
<td>1.1 gal, Of that reserve</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tire pressures</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Front-wheel tire pressure</td>
<td>36.3 psi, in cold state</td>
</tr>
<tr>
<td>Rear-wheel tire pressure</td>
<td>42.1 psi, in cold state</td>
</tr>
</tbody>
</table>

BMW recommends BMW Motorrad
Order No.:
01 47 7 698 347
08.2005
3rd Edition

The Ultimate Riding Machine
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 dealer, or BMW of North America, LLC.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1–888–327–4236 (TTY: 1–800–424–9153); go to 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
Order No: 01 47 7 706 697 08.2006

Please attach this sticker to the inside back cover page of your Rider's Manual.
How does ABS work?
The maximum braking force which can be transferred to the road surface is partially dependent on the coefficient of friction of the road surface. Gravel, ice, snow and wet road surfaces offer a considerably poorer coefficient of friction than a dry, clean layer of asphalt. The lower the coefficient of friction 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 applied, the wheels begin to lock and the driving stability is lost, resulting in a danger of falling. Before this situation occurs, the ABS intervenes and adjusts the brake pressure to the maximum transferrable braking force. As a result, the wheels continue to turn and the driving stability is maintained regardless of the road surface condition.

What happens on uneven road surfaces?
Wavy ground or uneven road surfaces can briefly result in a loss of contact between the tire and the road surface, and the transferrable braking force decreases to zero. If the brakes are applied in this situation, the ABS must assume extremely low coefficients of friction (gravel, ice or snow) so that the wheels turn in every imaginable case and the driving stability is ensured. After the actual conditions are detected, the system adjusts the brake pressure to the optimum value.

What must be observed during driving safety training?
Compared to normal braking, braking during which the ABS must intervene in a regulating manner requires a consider-
ably increased amount of current, which places a heavy load on the battery.

During normal driving the battery is constantly charged, and therefore has a sufficient capacity. During driving breaks of several weeks, a trickle-charger available from an authorized BMW Motorrad retailer should be connected or the battery should be disconnected and recharged before the next time the motorcycle is driven.

During driving-safety training courses an unusually high number of ABS-controlled braking actions take place within a short time. Between those actions there are waiting and evaluation phases during which the motorcycle is not driven. The battery is heavily loaded by the ABS control actions, however at the same time it is not recharged, as virtually no driving takes place. In isolated cases, braking actions of this kind in this artificially produced situation during which the brake lever is pulled with maximum force and extremely quickly, in combination with a decreasing electrical system voltage, push the ABS to technical limits at which the control function is no longer fulfilled. Field observations by BMW Motorrad show that no comparable situations occur in road traffic or during circuit training.

During safety training the following instructions must be followed:

- Observe the warning and control lights before each braking exercise
- Drive a longer distance after a maximum of five braking exercises to charge the battery
- Switch off consumers like seat and hand grip heaters, radio, navigation system and accessories connected to the sockets
- Switch off the ignition during breaks and conversations. If the engine is switched off with the emergency ON/OFF switch, the light and all electronic systems remain switched on and load the battery
How can the shortest braking distance be achieved?

During braking, the dynamic load distribution between the front and rear wheel changes. The heavier braking is, the higher the load on the front wheel. The greater the wheel load, the more braking force can be transferred. To achieve the shortest possible braking distance, the front brake must be operated quickly and with increasing force. This optimally utilizes the dynamic load increase on the front wheel. At the same time, the clutch should also be disengaged.

With the "forced braking" often practiced, during which the brake pressure is generated as quickly as possible and with maximum force, the dynamic load distribution is unable to follow the increase in deceleration and the brake force cannot be completely transferred to the road surface. To prevent locking of the front wheel, the ABS must intervene and reduce the brake pressure, which increases the braking distance.

What happens when the ABS control function fails?

A fault in the BMW Motorrad Integral ABS is indicated by a corresponding warning in the instrument cluster. If only the ABS control function fails, the integral system and the brake booster continue to operate. If these systems also fail, the residual braking function is activated. In this case, the forces to be applied to the brake levers are considerably higher and the required lever travel increases.

The residual braking function is a mechanical function and is always available when the BMW Motorrad Integral ABS fails, regardless of the battery charging level. It meets all requirements of the worldwide legislation on the brake design of motor vehicles and enables the rider to brake the motorcycle.

When driving with the residual braking function, the following instructions must be followed:

- Adjust the brake levers to the maximum travel
Always brake with the front and rear brakes. In clear situations, carry out test braking to learn the response behavior of the braking force applied accordingly.

As it is an emergency running function, you should drive to a specialized workshop, preferably an authorized BMW Motorrad retailer, as quickly as possible.

To ensure that the BMW Motorrad Integral ABS is in optimum condition with regard to maintenance, the specified inspection intervals must always be complied with.

Any technical system is only as good as its maintenance status.