BMW Motorrad

Rider's Manual (US Model)

G 310 GS

Motorcycle/Retailer Data

Motorcycle Data

Model

Vehicle identification number

Color number

Initial registration

License plate

Retailer Data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/phone number (company stamp)

Welcome to BMW

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

About this Rider's Manual

Please read this Rider's Manual carefully before starting to use your new BMW. It contains important information on how to operate the controls and how to get the most benefit from your BMW's advanced technical features.
In addition, it contains information on maintenance and care to help you maintain your motorcycle's reliability and safety, as well as its value.

Documentation confirming performance of scheduled maintenance is a precondition for generous handling of out-of-warranty claims and goodwill warranty treatment.
Should you want to sell your BMW one day, please also remember to turn over the Ride's Manual to the new owner. it is an important part of your motorcycle.

Suggestions and complaints

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

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

BMW Motorrad.

01 40 9 480 087

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General instructions

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Quick & easy reference

This Rider's Manual has been designed to provide quick and efficient orientation. Go straight to the "Overviews" chapter if you would like an initial overview of your motorcycle.

Abbreviations and symbols

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

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

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

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

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

◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

Reference to a page with more detailed information.

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

Tightening torque.

Technical data.

ABS Anti-Lock Brake System.

NV National-market version.

OA Optional accessory. BMW Motorrad optional accessories can be purchased and installed at your authorized BMW Motorrad retailer.

Equipment

When you ordered your BMW motorcycle, you chose various items of custom equipment. This rider's manual describes selected optional accessories (OA) from BMW. 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 motorcycle comes with equipment not described here, you can find the descriptions in a separate manual.

Technical Data

All dimensions, weights and power ratings stated in the rider's manual are quoted to the standards and comply with the tolerance requirements of the Deutsches Institut für Normung e. V. (DIN). Versions for individual countries may differ.

Notice concerning current status

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

Overviews

General view, left side 11
General view, right side 13
Underneath seat 14
Multifunction switch, left 15
Multifunction switch, right 16
Instrument panel 17


1
2
3
7
6
5
4

General view, left side

1 – with additional onboard socket[OA]
Power socket (📖 101)
2 Adjusting ring for spring preload (behind the frame cover) (📖 43)
3 Seat lock (📖 39)
4 Chain adjustment values (📖 86)
5 Engine oil level indicator (📖 67)
6 Type plate (on the left steering head)
7 Tire pressure table (on the left fork leg) (📖 76)

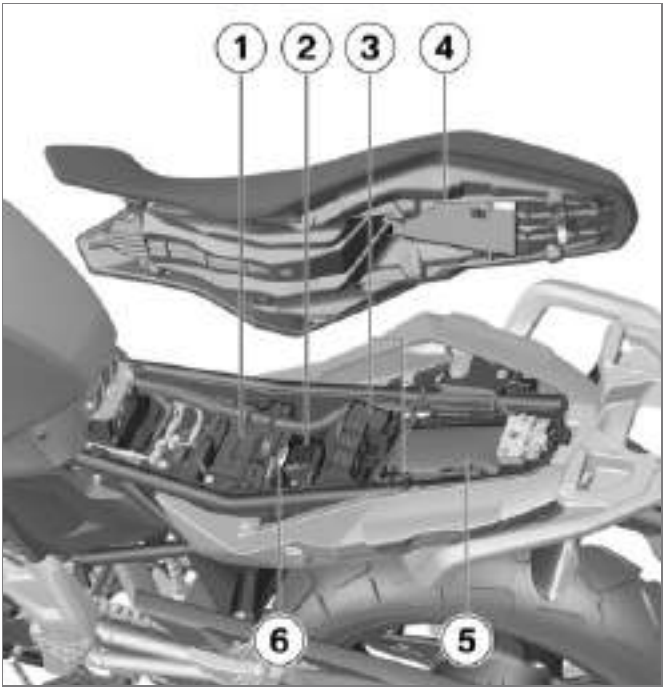

1
2
3
4
5
6
7

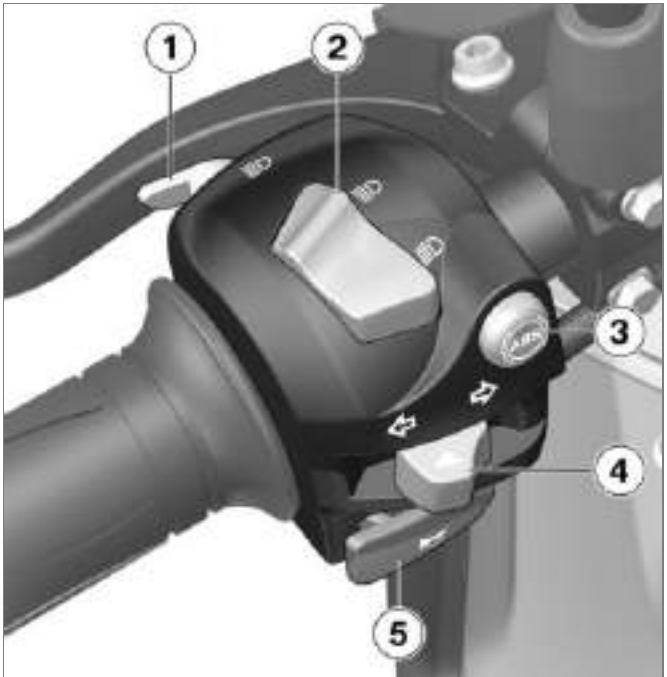
General view, right side

1 Fuel filler opening (➠ 55)
2 Brake-fluid reservoir, front (➠ 71)
3 Vehicle identification number
4 Coolant expansion tank (➠ 74)
5 Oil fill location (➠ 68)
6 Brake fluid reservoir, rear (behind the frame cover) (➠ 72)
7 Grab handle (➠ 46)

Underneath seat

1 Battery (➠ 92)
2 Data link connector (➠ 97)
3 Fuses (➠ 95)
4 Rider's Manual (US Model) (➠ 6)
5 Tool kit (➠ 64)
6 Spare fuses





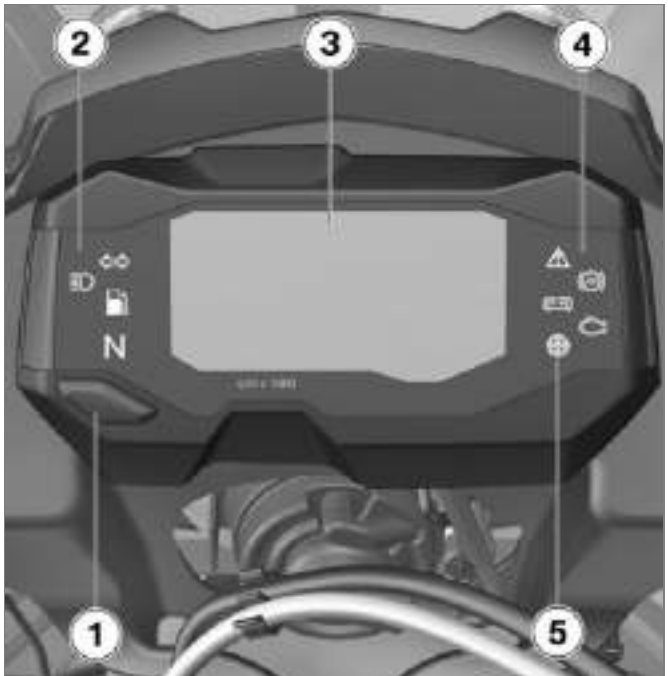
Multifunction switch, left

1 Headlight flasher (➡ 34)
2 High beams/low beams rocker switch (➡ 34)
3 ABS (➡ 38).
4 Turn indicators (➡ 34)
5 Horn

Multifunction switch, right

1 Emergency on/off switch (kill switch) (➠ 33)

2 Starter button (➠ 33) (➠ 48)



Instrument panel

1 Button
Selecting display readings (➠ 36).

2 Indicator lights (➠ 20)

3 Multifunction display (➠ 21)

4 Warning lights (➠ 20)

5 Photosensor for brightness control in the multifunction display
Engine speed warner (➠ 51).

Displays

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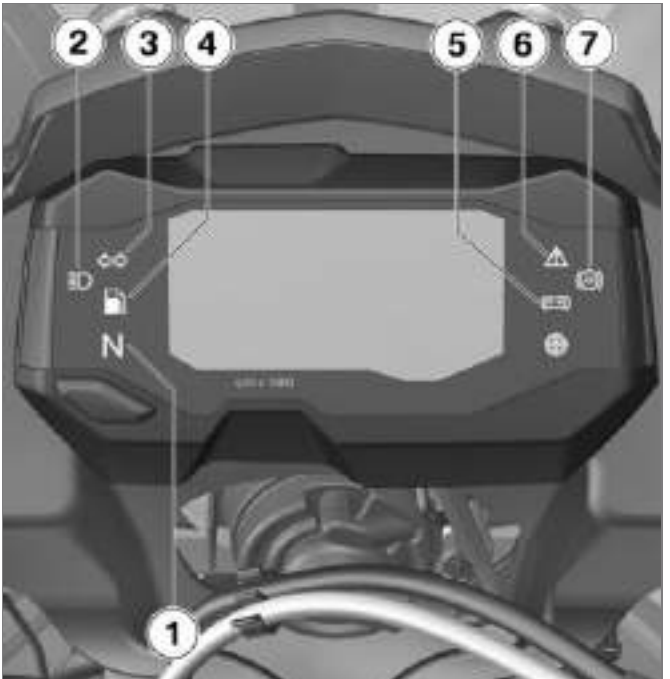
Warning and indicator lights

1 Neutral indicator light
2 Headlight high beam indicator light (➠ 34)
3 Turn signal indicator light (➠ 34)
4 Low-fuel warning light (➠ 27) (➠ 29)
5 Warning light for vehicle voltage (➠ 25)
6 General warning light (➠ 22)
7 ABS warning light (➠ 26)



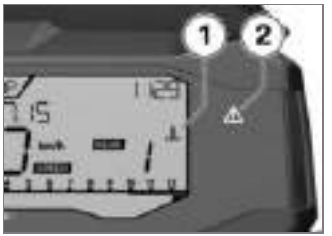
Multifunction display

1 Onboard computer (➡ 36)
2 Indication range for values
3 Service display (➡ 28)
4 Time (➡ 37)
5 Warning symbols (➡ 22)
6 Gear, "N" indicates neutral
7 Speed
8 Engine speed (➡ 29)
9 Fuel level (➡ 27) (➡ 29)

Warning lights

Displays

Warnings are displayed with appropriate warning lights.
If several warnings are active, all of the corresponding warning lamps and warning symbols will appear in the display.
You will find an overview of the potential warnings on the following pages.



Warnings for which there are no separate warning lamps are represented by a warning symbol **1** in the multifunction display in connection with the general warning lamp **2**. Depending on how urgent the warning is, the general warning lamp will either light up or flash red or yellow.

Overview of warning indicators

Indicator and warning lights	Display text	Meaning
 Warning lamp for vehicle voltage lights up.		Vehicle voltage is too low (➠ 25)
 General warning light flashes red.	 Temperature symbol is displayed.	Coolant temperature too high (➠ 25)
 General warning light lights up yellow.	 The engine electronics symbol appears on the display.	Engine in emergency-operation mode (➠ 25)
 General warning light flashes yellow.	 The engine electronics symbol appears on the display.	Engine warning (➠ 26)
 ABS indicator light flashes.		ABS self-diagnosis not completed (➠ 26)
 ABS indicator light lights up.		ABS error (➠ 27)

Indicator and warning lights	Display text	Meaning
 ABS indicator light lights up.		ABS switched off (➠ 27)
 Low-fuel warning light lights up.		Fuel down to reserve (➠ 27)
 General warning light lights up yellow.	SERVICE is displayed continuously.	Service appointment has passed (➠ 28)

Vehicle voltage is too low


Warning lamp for vehicle voltage lights up.

WARNING

Failure of vehicle systems
Accident hazard
- Do not continue riding.◀

Possible cause:

Battery is faulty.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

Coolant temperature too high


General warning light flashes red.


Temperature symbol is displayed.

ATTENTION

Riding with overheated engine
Engine damage
- Be sure to observe the measures listed below.◀

Possible cause:

Coolant level is too low.
- Checking coolant level (➡ 74).

If coolant level is too low:
- Top up coolant (➡ 75).

Possible cause:

The radiator is dirty.
- Clean radiator (➡ 109).

Possible cause:

The fan or fan control is faulty.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

Possible cause:

The coolant circuit is faulty.
- If possible, allow the engine to cool down.
- Only ride in partial load range.
- If the coolant temperature is often too high, have the fault rectified as soon as possible by a specialist workshop, preferably an authorized BMW Motorrad retailer.

Engine in emergency-operation mode

General warning light lights up yellow.

The engine electronics symbol appears on the display.

WARNING

Unusual handling when the engine is in emergency operation

Accident hazard

- Avoid rapid acceleration and passing maneuvers.◀

Possible cause:

The engine control unit has diagnosed a fault which impairs the engine performance or throttle response. The engine is running in the emergency-operation mode. In exceptional cases, the engine stops and can no longer be started.

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

» It is possible to continue riding, however the engine performance and engine speed range may be impaired and not function as normal.

Engine warning


General warning light flashes yellow.


The engine electronics symbol appears on the display.

WARNING

Damage to engine during emergency operation

Accident hazard

- Drive slowly and avoid rapid acceleration and passing maneuvers.
- If possible, have the vehicle picked up and the fault eliminated at a specialist workshop, preferably an authorized BMW Motorrad retailer.◀

Possible cause:

The engine control unit has diagnosed a fault, which can lead to a severe secondary fault. The engine is in the emergency-operation mode.

- Avoid high load and engine speed ranges if possible.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

» Continued driving is possible, however it is not recommended.

ABS self-diagnosis not completed


ABS indicator light flashes.

Possible cause:

ABS self-diagnosis routine not completed
The ABS function is not available, as the self-diagnosis function has not been completed. (The motorcycle must reach a specified minimum speed before the system can check operation of the wheel sensors: min 3 mph (min 5 km/h))

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

ABS error

ABS indicator light lights up.

Possible cause:

The ABS control unit has detected an error. The ABS function is not available at all or is restricted.

- It is possible to continue riding the motorcycle if you make allowance for the failed or limited ABS function. You should also take account of the additional information on situations that can lead to an ABS fault (➠ 61).
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

ABS switched off

ABS indicator light lights up.

Possible cause:

The ABS system has been deactivated by the rider.

- Activating ABS (➠ 39).

Fuel down to reserve

Low-fuel warning light lights up.

WARNING

Rough engine running or switching off of the engine due to a fuel shortage

Accident hazard, damage to catalytic converter

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

Possible cause:

The fuel has all been used up; only the fuel reserve remains.

Fuel reserve	
Approx. 1.1 quarts (Approx. 1 l)	

- Refueling (➡ 55).

Service appointment has passed

General warning light lights up yellow.

SERVICE is displayed continuously.

Possible cause:

The driving performance or the date indicate that servicing is due.

- Have your motorcycle serviced regularly by a specialist workshop, preferably an authorized BMW Motorrad retailer.

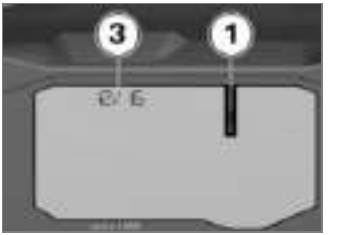
» The motorcycle remains operationally safe and is suitably road-safe.

» The value of the motorcycle is preserved to the greatest possible extent.

Service display

Remaining distance until service is due and service due date

If service is due within 700 miles, the SERVICE inscription **1** and the remaining distance covered **2** will be displayed and counted down in steps of 100 miles. It is briefly displayed following the Pre-Ride-Check.

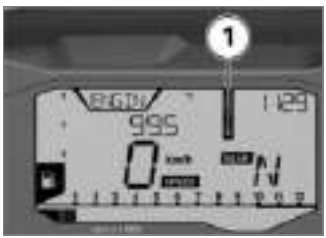


If service is due within a month, the SERVICE inscription **1** and the service date **3** are shown.

If service is due because of the distance covered and the date, the SERVICE inscription **1**, the remaining distance covered **2**

and the service date **3** will be shown.

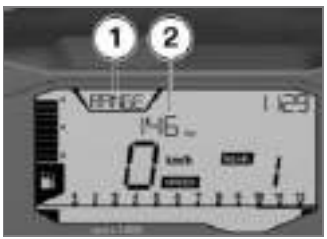
Permanent SERVICE inscription



If the service appointment is overdue or the service distance covered is exceeded, SERVICE **1** will be permanently displayed during operation.

Fuel reserve

Cruising range



The range RANGE **1** indicates how far you can ride **2** with the remaining fuel in the tank. This distance is calculated based on fuel quantity and average consumption.

– If the motorcycle is standing on its side stand, the motorcycle's inclined position will prevent the fuel level from being registered accurately. This is the reason why the range is recalculated only when the side stand is folded in.
– The travel range automatically appears in the multifunction display after the fuel reserve level is reached.
– After a refueling stop, the range is recalculated if the quantity of fuel in the tank is greater than the reserve quantity.
– The determined range is an approximate reading.

Tachometer

1 Unit for tachometer: 1000 revolutions per minute

2 Low engine speed range
3 Segments for tachometer
4 High engine speed range
5 Engine speed warner
(➠ 51).

Operation

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Ignition

Vehicle keys

You are provided with 2 vehicle keys.

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

Locking handlebars

ATTENTION

Handlebars turned in wrong direction when motorcycle propped on side stand.

Component damage cause by tipping over

- On level ground, always turn the handlebars to the left to set the steering lock.
- Otherwise the angle of the ground determines whether the handlebars are set to the left or right.◀
- If the slope of the road permits, turn the handlebars to the left.

- Push the ignition key **1** into the steering lock and turn to the **LOCK** position while moving the handlebars slightly.

» Ignition, lights and all electrical circuits are switched off.

» Handlebars are locked.

» The vehicle key can now be removed.

Switching on ignition

- Insert ignition key **1** into ignition switch/steering lock and turn to the **ON** position.

» Parking lights, lowbeam headlight, and all functional circuits are switched on.

» Engine can be started.

» Pre-Ride-Check is carried out. (➨ 49)

» ABS self-diagnosis is performed (➨ 50)

Switch off ignition

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

» Handlebars are not locked.

» The vehicle key can now be removed.

Emergency on/off switch (kill switch)

A = Operation mode

B = Emergency off (engine is off)

Emergency off or operation mode

WARNING

Operation of the emergency ON/OFF switch when riding

Danger of falling due to blocking of rear wheel

- Do not operate the emergency ON/OFF switch when riding.◀

- Push the emergency off switch **1** forwards to turn off the engine quickly and easily.
- Push the emergency off switch **1** back to start the engine.

Lights

Low-beam headlight and parking lights

The low beam and parking lamps turn on automatically when the ignition is switched on.

NOTICE

The low beam and the parking lamps drain the battery. Do not leave the ignition switched on longer than absolutely necessary.◀

Operating high-beam headlight

- Press switch **1** forwards.
» High beams are switched on.

High beam indicator light lights up.

- Press switch **1** backwards.
» The blue high beam indicator light goes out.
» Low beams are switched on.

Operating headlight flasher

- Press button **1**.
» The high beams are switched on for the duration of the operation.

Turn indicators

Operating turn signals

- Switching on ignition (32).

- Press switch **1** to left.

» Left turn signal is turned on.

Indicator light of turn indicator flashes.

- Press switch **1** to right.

» Right turn signal is switched on.

Indicator light of turn indicator flashes.

- Press switch **1** into center position to turn off turn signals.

Multifunction display

Selecting display readings

Requirement

The motorcycle is stopped.

- Switch on the ignition.

» The onboard computer is displayed.

- Press the button **1** briefly and repeatedly until the desired value is displayed.

Possible displays:

– Total distance traveled: ODO
– Trip distance 1: TRIP1
– Trip distance 2: TRIP2
– Coolant temperature: ENGIN
– Range: RANGE
– Average fuel consumption: CONS1
– Current fuel consumption: CONSA
– Average speed: SPEED
– Date: DATE
– Settings: SETUP

Time and date

Set clock

- Selecting display readings (36).

» SETUP **2** is displayed.

- Press and hold button **1**.

» The hours **3** flash.

- Briefly press button **1** to increment the hours **3**.
- When the hours have been set as desired, press and hold button **1**.

» The minutes **4** flash.

- Briefly press button **1** to increment the minutes.
- When the minutes have been set as desired, press and hold button **1**.

» The time has not yet been saved!

- Setting the date (37).

Setting the date

Requirement

Clock has been set.

- Briefly press button **1** to increment the month **7**.
- When the month has been set as desired, press and hold button **1**.

» Day **6** flashes.

- Briefly press button **1** to increment the day.
- When the day has been set as desired, press and hold button **1**.

» Year **5** flashes.

- Briefly press the button **1** to increment the year.
- When the year has been set as desired, press and hold button **1**.

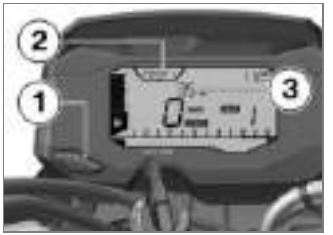
» The clock and date settings have been saved.

Resetting the trip distance

- Selecting display readings (36).

» The trip distance to be reset **2** was selected.

– "TRIP1" or "TRIP2" is indicated.



- Press and hold button **1** until the value **3** has been reset.

Resetting average data

- Selecting display readings (36).

» The average value to be reset **2** was selected.

– "CONSI" or "SPEED" is indicated.

- Press and hold button **1** until the value **3** has been reset.

Antilock Brake System (ABS)

Deactivate ABS

- Switching on ignition (32).

NOTICE

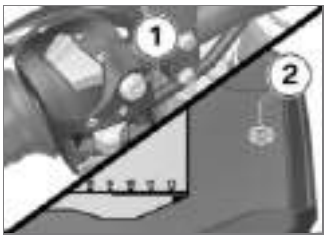
The ABS function can also be deactivated while driving.◀

- Press and hold button **1** until the ABS indicator and warning light lights up.
- Release button **1**.

ABS indicator light lights up.

» ABS is deactivated.

Activating ABS



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

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

» ABS is switched on.

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

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

min 3 mph (min 5 km/h)

Seat

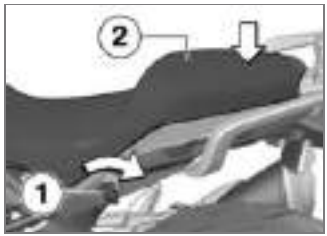
Removing seat

ATTENTION

Unstably parked motorcycle

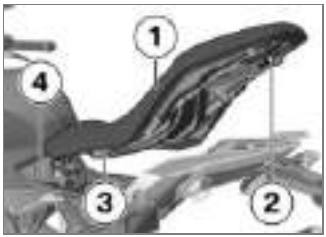
Component damage cause by tipping over

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



- Push down on the rear part of the seat **2** to relieve the strain on the lock and at the same time unlock the seat lock with the vehicle key **1** by turning it clockwise.
- Lift seat at rear and remove.
- Lay the seat on a clean surface.

Install seat



- Insert seat **1** with the mount **3** centered into the battery tray **4**.
- Put on detent pin **2** and press into the locking mechanism.

Setting

Mirrors 42
Headlight 42
Spring preload 43

Mirrors

Adjusting mirrors

- Move mirror to the desired position by turning it.

Adjust mirror arm

- Slide up protective cap **1** for threaded connection on mirror arm.
- Loosen lock nut **2**.
- Turn mirror arm into desired position.
- Tighten lock nut to specified torque while holding mirror arm in place.

Right mirror (lock nut) to adapter
16 lb/ft (22 Nm) (Left-hand thread)

Left mirror (lock nut) to adapter
16 lb/ft (22 Nm)

- Slide protective cap **1** over screw fitting.

Headlight

Adjusting headlight for RHD/LHD traffic

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

Headlamp range and spring preload

The headlight range generally remains constant due to the adjustment of the spring preload to the loading state. The headlight range is correctly adjusted at the factory.

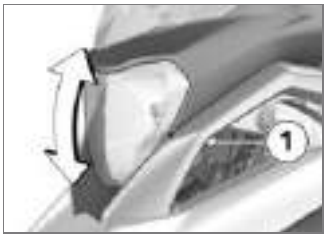
NOTICE

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

Headlight range adjustment

Requirement

Despite adjustment of the spring preload, oncoming traffic is still blinded when the vehicle is heavily loaded.



- Loosen the screw **1** on both sides.
- Turn the headlamp around the screw axis to set the headlamp range.
- Tighten the screw **1** on both sides.

If the motorcycle is ridden again with lower payload:

- Readjust the headlamp range.

Spring preload

Setting

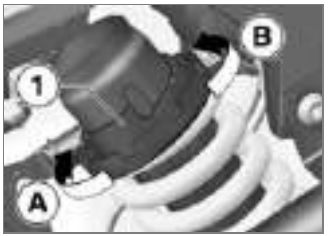
The spring preload must be adjusted to the weight of the rider, passenger and load. Higher weight requires a higher spring preload, lower weight requires a lower spring preload.

Adjusting spring preload at rear wheel

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

- Remove the screw **2**.

- Pull frame cover **3** out of the grommets and take off.



- To increase the spring preload, turn adjustment ring **1** in direction **A** using the vehicle tools.
- To decrease the spring preload, turn adjustment ring **1** in direction **B** using the vehicle tools.

Basic setting of spring preload, rear
Stage 1 (One-up without load)
Stage 5 (One-up with load)
Stage 10 (Two-up and load)

- Insert frame cover **3** into grommets **4**.
- Align frame cover **3** with push-in nut **5**.

- Install screw **2**.

Riding

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Securing motorcycle for transport 56

Safety information

Rider's Equipment

Do not drive without the correct clothing:
– Helmet
– Rider's suit
– Gloves
– Boots

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

Load

WARNING

Reduced riding stability caused by overloading and uneven loading
Accident hazard

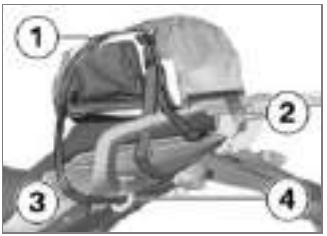
- Do not exceed the gross weight limit and observe the loading information.◀
- Adjust spring preload settings to the gross vehicle weight.

– with topcase OA

or

– with topcase Light OA

- Observe the maximum payload and maximum speed as indicated on the label in the topcase (see also the chapter "Accessories").◁
- Make sure that weight is uniformly distributed between right and left.
- Store heavy pieces of luggage below.



- Securely lash down luggage **1**.
- Thread the straps **2** through the eyes **4** of the luggage rack **3** and tighten.

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:
– Wrong spring system setting
– Unevenly distributed load
– Loose clothing
– Insufficient tire inflation pressure

– Tire tread in poor condition
– Etc.

Maximum speed

DANGER

Maximum speed of the motorcycle is higher than the permissible maximum rated speed of the tires.

Risk of accident due to tire damage at high speed.

- Observe the maximum permissible speed for the tyres.◀

Risk of poisoning

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

WARNING

Harmful exhaust gas

Danger of suffocation

- Do not inhale exhaust fumes.
- Do not run the engine in closed rooms.◀

Burn hazard

CAUTION

Intense heating up of engine and exhaust system while riding

Burn hazard

- After parking the motorcycle, make sure that no persons or objects come into contact with the engine and exhaust system.◀

Catalytic converter

If misfiring causes unburned fuel to enter the catalytic converter, there is a danger of overheating and damage.

For this reason, observe the following points:

– Do not run the fuel tank dry.
– Do not remove the spark plug connector while the engine is running.
– Stop the engine immediately if it misfires.
– Use unleaded fuel only.
– Comply with all specified maintenance intervals.

ATTENTION

Unburned fuel in the catalytic converter

Damage to catalytic converter

- Note the points listed for protection of the catalytic converter.◀

Danger of overheating

ATTENTION

Engine idling for a lengthy period while at a standstill

Overheating due to insufficient cooling; in extreme cases vehicle fire
- Do not allow the engine to idle unnecessarily.
- After starting, ride off immediately.◀

Modifications

ATTENTION

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

Checklist

Observe checklist

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

Always before riding off

- Check brake operation (➠ 68).
- Check that the lights and signaling equipment function.
- Check clutch function (➠ 73).
- Check tire tread depth (➠ 76).
- Checking tyre pressure (➠ 76).
- Check that the luggage is secure.

At every third refueling stop

- Checking the engine oil level (➠ 67).
- Check front brake pad thickness (➠ 69).
- Check rear brake pad thickness (➠ 70).
- Checking front brake fluid level (➠ 71).
- Checking rear brake fluid level (➠ 72).
- Checking coolant level (➠ 74).
- Lubricate chain (➠ 86).
- Check chain tension (➠ 86).

Starting

Starting engine

- Switch on the ignition.
» Pre-Ride-Check is carried out. (➠ 49)
» ABS self-diagnosis is performed (➠ 50)
- Shift to neutral.


Idle mode indicator lamp lights up.


Idle mode appears on the display.

- Alternatively: when the gear is engaged, pull the clutch.

NOTICE

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

NOTICE

If the throttle grip is actuated too strongly, the engine will not start or the current to the starter will be interrupted. Keep the throttle grip closed or only actuate it slightly.◀

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

- Set the emergency-off switch **1** to operation.

Switch is in operation mode.

- Press the starter button **2**.

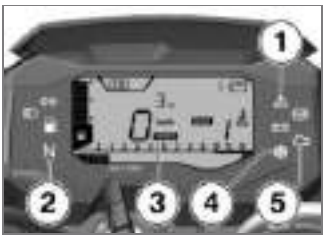
Engine starts.

» Consult the troubleshooting chart if the engine refuses to start. (➡ 114)

Pre-Ride-Check

After the ignition is switched on, the instrument cluster runs a test on the warning and indicator lights and the display, known as the "Pre-Ride-Check". Starting the engine before the test routine is completed will cancel the remainder of the routine.

Phase 1



The general warning light **1** lights up red.

The indicator lights **2** light up.

The display **3** shows the last active display.

The engine speed warner **4** lights up.

The warning lights **5** light up.

Phase 2

The general warning light **1** changes from red to yellow.

Phase 3

The warning and indicator lights and the engine speed warner go out or adopt their functions for the operation.

If the service is due, this is displayed for a short time.

If one of the warning and indicator lights is **not** displayed:

WARNING

Defective warning lights

Lack of display of malfunctions

- Check the display of all indicator and warning lights.◀
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

ABS self-diagnosis

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

Phase 1

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

ABS indicator light flashes.

Phase 2

» Check wheel sensors while starting off.

ABS indicator light flashes.

ABS self-diagnosis completed

» The ABS indicator and warning light goes out.

ABS self-diagnosis routine not completed

The ABS function is not available, as the self-diagnosis function has not been completed. (The motorcycle must reach a specified minimum speed before the system can check operation of the wheel sensors: min 3 mph (min 5 km/h))

If an ABS error is displayed after the ABS self-diagnosis is completed:

- It remains possible to continue riding. Bear in mind that neither the ABS function nor the integral function is available.
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

Running in

Engine

- In the period preceding the initial inspection attempt to change rpm and engine load as frequently as possible, avoiding extended periods at constant rpm.
- Choose curvy, slightly hilly sections of road if possible.
- Observe the engine run-in speeds.

 Engine run-in speed
<6000 min^{-1} (Mileage 0...186 miles (0...300 km))
no full throttle (Mileage 0...621 miles (0...1000 km))

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

 Mileage until running-in check
311...746 miles (500...1200 km)

Brake pads

New brake pads have to bedded in before they can achieve their optimum frictional force. This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the brake levers.

WARNING

New brake pads

Extension of the braking distance, accident hazard

- Brake early.◀

Tyres

New tires have a smooth surface. This must be roughened by riding in a restrained manner at various lean angles until the tires are run in. Only once the surface has been roughened can the tires achieve maximum grip.

WARNING

Loss of adhesion of new tires on wet roads and at extreme angles

Accident hazard

- Always think well ahead and avoid extreme angles.◀

Engine speed warner

Requirement

The vehicle is not yet in 6th gear and the maximum acceleration is to be reached.

- Accelerate.

The engine speed warner **1** lights up when the following engine speed is reached:
>10000 min^{-1}

- Ensure that the following speed is not exceeded:

Maximum engine speed
max 10800 min^{-1}

- Shift up to the next gear.

Brakes

How do you achieve the shortest stopping distances?

The dynamic load distribution between the front and rear wheel changes during braking. The heavier you brake, the greater the weight transfer to the front wheel. Increases in the load on an individual wheel are accompanied by a rise in the effective braking force that the wheel can provide.

To achieve the shortest braking distance, the front wheel brake must be rapidly pulled to the point where ABS activates, the pressure point must be held and the rear wheel brake must be activated at the same time. This procedure provides ideal exploitation of the extra weight transfer to the front wheel. The clutch should also be disengaged at the same time.

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

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

Descending mountain passes

WARNING

Braking only with the rear-wheel brake when descending mountain passes

Reduced of braking action, destruction of the brakes caused by overheating

- Use both front and rear brakes, and make use of the engine's braking effect as well.◀

Wet, soiled brakes

Moisture and dirt on the brake rotors and the brake pads result in a decrease in the braking action.

Delayed or poorer braking action must be expected in the following situations:

– When driving in the rain and through puddles.
– After washing the motorcycle
– When driving on roads spread with salt.
– After working on the brakes due to oil or grease residues.
– When driving on soiled roads or off-road

WARNING

Poorer braking action due to moisture and dirt

Accident hazard

- Brake until brakes are dry or clean; clean if necessary.
- Brake early until the full braking action is available again.◀

Parking your motorcycle

Side stand

- Switch off engine.
- On slopes point the motorcycle uphill and engage 1st gear.

ATTENTION

Poor ground conditions in area of stand

Component damage cause by tipping over

- Always check that the ground under the stand is level and firm.◀
- Fold out side stand and park motorcycle.

ATTENTION

Loading of the side stand with additional weight

Component damage cause by tipping over

- Do not sit on the motorcycle when it is parked on the side stands.◀
- If the slope of the road permits, turn the handlebars to the left.

Center stand

– with center stand OA

- Switch off engine.

ATTENTION

Poor ground conditions in area of stand

Component damage cause by tipping over

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

ATTENTION

Center stand folds if subject to sharp movements.

Component damage cause by tipping over

- Do not sit on the motorcycle while it is resting on the center stand.◀
- Fold out center stand and jack up motorcycle.
- On slopes point the motorcycle uphill and engage 1st gear.

Refueling

Fuel specifications

Requirement

For optimum fuel consumption, fuel should be sulfur-free or with the lowest sulfur content possible.

ATTENTION

Refueling with leaded fuel

Damage to catalytic converter

- Do not refuel with leaded gasoline or gasoline with metallic additives, e.g. manganese or iron.◀

ATTENTION

Use of Ethanol E85 as fuel

Damage to the engine and fuel supply

- Do not refuel with E85, i.e. fuel with an ethanol content of 85 %, or with Flex Fuel.◀
- Check the fuel grade.

Recommended fuel quality
Normal unleaded (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI

Refueling procedure

WARNING

Fuel is highly flammable

Fire and explosion hazard

- Do not smoke. Never bring a naked flame near the fuel tank.◀

ATTENTION

Component damage

Component damage due to overfilled fuel tank

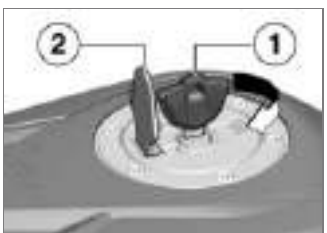
- If the fuel tank is overfilled, the excess fuel will flow into the carbon canister and lead to component damage there.
- Only fill the fuel tank to the lower edge of the fuel filler neck.◀

ATTENTION

Contact of fuel and plastic surfaces

Damage to surfaces (become unattractive or cloudy)

- Immediately clean plastic surfaces after contact with fuel.◀
- Make sure ground is level and firm and place motorcycle on side stand.



- Open protective cap **2**.
- Unlock fuel-tank cap **1** with ignition key by turning clockwise, then swivel it up.

- Refuel with a fuel quality meeting the specifications listed above, continuing until fuel is no higher than lower edge of filler neck **3**. While doing so, pay attention to the bridge in the filler neck and use caution so that file does not spray out.

NOTICE

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

the fuel warning light is switched off.◀

NOTICE

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

Usable fuel quantity
Approx. 2.9 gal (Approx. 11 l)

Fuel reserve
Approx. 1.1 quarts (Approx. 1 l)

- Unlock fuel tank cap **1** with ignition key by turning clockwise and close with firm pressure.
- Remove vehicle key and close protective cap.

Securing motorcycle for transport

- Protect against scratching all components where tensioning straps are routed. For example, use adhesive tape or soft cloths.

ATTENTION

Motorcycle tips to the side when raising

Component damage cause by tipping over

- Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.◀
- Push motorcycle onto transport surface, and do not place on side stand.

ATTENTION

Pinching of components

Component damage

- Do not pinch components, e.g. brake lines or wiring harnesses.◀
- Lay straps at front over lower fork bridge on both sides.

- Tension straps downward.

- Fasten rear straps on both sides to the brackets for the passenger footrests and then tighten them.
- Tighten all straps evenly.

» The vehicle is pulled down against its springs with the suspension compressed strongly.

Technology in detail

General instructions 60
Anti-Lock Brake System 60

General instructions

You'll find more information on the subject of technology at: **bmw-motorrad.com/technik**

Anti-Lock Brake System

How does the ABS work?

The maximum braking force that can be transferred to the road surface is partially dependent on the friction coefficient of the road surface. Gravel, ice, snow and wet roads offer a considerably poorer friction coefficient than a dry, clean asphalt surface. The poorer the friction coefficient of the road surface is, the longer the braking distance will be. If the maximum transferable brake force is exceeded when the driver increases the brake pressure, the wheels begin to lock and driving stability is lost. A fall can occur. Before this situation can occur, ABS intervenes and adapts brake pressure to the maximum transferable brake force, so the wheels continue to turn and driving stability is maintained irrespective of the condition of the road surface.

What happens when rough roads are encountered?

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

Lifting off rear wheel

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

WARNING

Lifting off of the rear wheel due to heavy braking

Accident hazard

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

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If the system registers implausible data for an extended period of time it will deactivate the ABS as safety precaution and a display will alert you to an ABS error. A self-diagnosis routine must be completed before the error will be displayed. Apart from problems on the BMW Motorrad ABS, unusual riding conditions can also cause a fault message to be generated. Should a fault code occur due to one of the driving conditions described above, the ABS function can be reactivated by switching the ignition off and then on again.

Unusual riding conditions:

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

How important is regular maintenance?

WARNING

Brake system not regularly serviced

Accident hazard

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

Reserves for safety

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

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

Maintenance

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Rims and tires 76
Wheels 77
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Light sources 87
Jump-starting 91
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Fuses 95
Diagnostic connector 97

General instructions

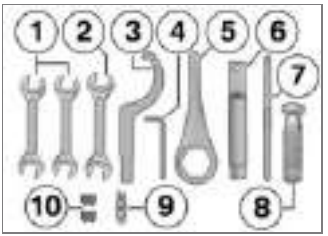
The 'Maintenance' chapter describes work involving the checking and replacement of wear parts that can be performed with a minimum of effort.

If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".

Information on additional maintenance and repair work is provided in the Repair Manual for your motorcycle on DVD, which you can obtain from your authorized BMW Motorrad retailer.

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

Tool kit



1 Open-ended wrench
Wrench size: 12/13 mm
– Adjust chain tension (➠ 85).

2 Open-ended wrench
Wrench size: 10/16 mm
– Adjust mirror arm (➠ 42).
– Removing battery (➠ 93).

3 Hook wrench
– Adjusting spring preload at rear wheel (➠ 43).

4 Allen screw
5 mm
– Headlight range adjustment (➠ 43).

5 Box wrench
Wrench size: 27 mm
– Removing rear wheel (➠ 81).
– Adjust chain tension (➠ 85).

6 Extension for hook wrench and ring wrench

7 Reversible screwdriver insert
with cross heads
– Replacing front and rear turn indicator light sources (➠ 89).

8 Screwdriver handle

9 Gripping clamp
Gripping clamp is affixed to the battery carrier.
– Replace fuses (➠ 95).

10 Fuses
10 A, 15 A and 30 A

10 – Reserve fuses are stuck in the fuse box and hang on the cable for the data link connector.

Front wheel stand

Mount front wheel stand

ATTENTION

Use of the BMW Motorrad front wheel stand without an additional center or auxiliary stand

Component damage cause by tipping over

- Place the motorcycle on the center stand or an auxiliary stand before lifting it with the BMW Motorrad front wheel stand.◀

– with center stand OA

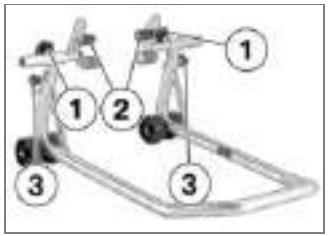
- Place motorcycle on center stand, ensuring that it is resting on a firm and level support surface.◁

– without center stand OA

- Place motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad auxiliary stand.
- Mounting rear-wheel stands (➡ 66).◁

- Use basic stand with front wheel mount.

» The base stand and its accessories are available through your authorized BMW Motorrad retailer.



- Loosen clamping screws **1**.
- Push two mounts **2** outward, continuing until 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.

- Align two mounts **2** so that front suspension rests securely on them.
- Tighten the clamping bolts **1**.

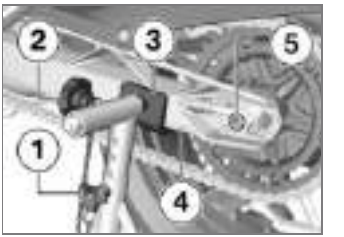
ATTENTION

Center stand retracts if motorcycle is lifted too high.
Component damage cause by tipping over

- 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

Mounting rear-wheel stands



- Set the height of the stand **3** so that it raises the rear wheel slightly off the ground.
- Ensure that the stand height is the same on the left and right, and secure the mount **3** on either side with the bolts **1**.
- Set the mounts **3** to the width of the rear wheel swinging arm **4** and secure using clamping bolts **2**.
- Ensure you do not cover the axle **5**.

- Position the rear-wheel stand **6**.

ATTENTION

Motorcycle tips to side
Component damage cause by tipping over
- Secure motorcycle against tipping away to side.◀
- Push the rear-wheel stand down until the motorcycle is standing upright and the handle of the rear-wheel stand is resting on the floor.

Engine oil

Checking the engine oil level

Requirement

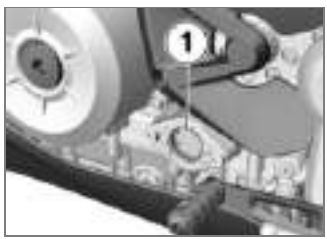
The engine is at operating temperature.

ATTENTION

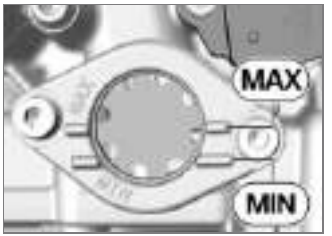
Use of too little or too much engine oil
Engine damage
- Always make sure that the oil level is correct.◀

– with center stand OA
- Place motorcycle on center stand, ensuring that it is resting on a firm and level support surface.◁

– without center stand OA
- Place motorcycle on an auxiliary stand; BMW Motorrad recommends the BMW Motorrad auxiliary stand.
- Alternatively: hold the motorcycle upright, preferably with the assistance of a second person.◁



- Read oil level on the display **1**.



Specified level of engine oil
Between the **MIN** and **MAX** marks (Engine at operating temperature, vehicle is vertical)
Engine oil, quantity for topping up
max 185 ml (Difference between **MIN** and **MAX**)

If oil level is below the minimum mark **MIN**:

- Topping up engine oil (🔗 68).

If oil level is above the maximum mark **MAX**:

- Have oil level corrected at an authorized service facility, preferably an authorized BMW Motorrad retailer.

Topping up engine oil

- Park motorcycle, ensuring that support surface is firm and level.
- Wipe area around oil fill location to clean it.

- Remove cap **1** of oil fill location.

ATTENTION

Use of too little or too much engine oil

Engine damage

- Always make sure that the oil level is correct.◀
- Add engine oil up to specified level.
- Checking the engine oil level (🔗 67).
- Install cap of oil fill location **1**.

Brake system

Check brake operation

- Operate the brake lever.

» There is a clearly perceptible pressure point.

- Actuate the footbrake lever.

» There is a clearly perceptible pressure point.

If no clear pressure points are perceptible:

ATTENTION

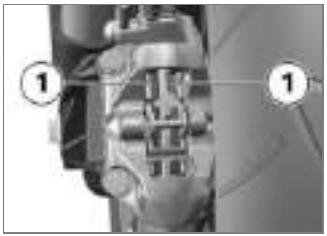
Improper working on the brake system

Endangering of the operating safety of the brake system

- Have all work on the brake system carried out by experts.◀
- Have the brakes checked at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Check front brake pad thickness

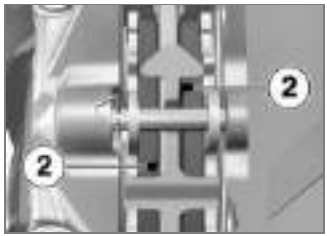
- Park motorcycle, ensuring that support surface is firm and level.



- Turn handlebars to the right.

» The brake pads **1** can be seen from the rear.

- Conduct a visual inspection of the brake pad thickness.



- Check the wear indicators **2**.

	Front brake-pad wear limit
min 0.04 in (min 1.0 mm) (Friction lining without carrier plate)	

If the wear indicating marks are no longer visible:

WARNING

Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

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

Check rear brake pad thickness

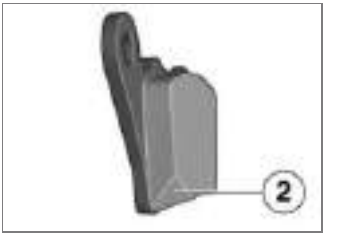
- Park motorcycle, ensuring that support surface is firm and level.

WARNING

Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

- In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀
- Conduct a visual inspection of the brake pad thickness. Direction of view: From rear looking at brake pads **1**.



- Inspect the chamfer **2**.

Rear brake-pad wear limit
min 0.04 in (min 1.0 mm) (Friction material without carrier plate)

If the chamfer is no longer visible:

- Have brake pads replaced at an authorized service facility, preferably an authorized BMW Motorrad retailer.

Checking front brake fluid level

WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Adjust the riding mode immediately until the fault is rectified.
- Check brake fluid level regularly.◀

- Set the handlebars so that the brake fluid reservoir is horizontal.
- Check the brake fluid level in the sight glass **1**.

NOTICE

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

Front brake fluid level
Brake fluid, DOT4
You should never allow the brake fluid level to drop below the **MIN** mark. (Brake-fluid reservoir horizontal)

If brake fluid level falls below the approved level:

- Have defect corrected as soon as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Checking rear brake fluid level

- Make sure ground is level and firm and hold motorcycle vertically.

- Remove the screw **1**.
- Pull frame cover **2** out of the grommets and take off.

- Check brake fluid level in brake fluid reservoir **3**.

NOTICE

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

Rear brake fluid level
Brake fluid, DOT4
You should never allow the brake fluid level to drop below the **MIN** mark. (Brake-fluid reservoir horizontal)

If brake fluid level falls below the approved level:

WARNING

Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Adjust the riding mode immediately until the fault is rectified.
- Check brake fluid level regularly.◀
- Have defect corrected as soon as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

- Insert frame cover **2** into grommets **4**.
- Align frame cover **2** with push-in nut **5**.

- Fit the screw **1**.

Clutch

Check clutch function

- Pull back the clutch lever.

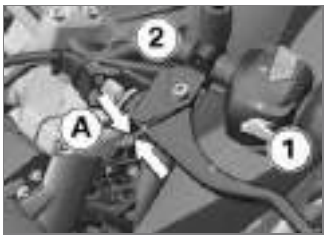
» The clutch must fully disengage. Signs that the clutch is fully disengaged:

– Easy to change gear
– Easy to switch to idling

If this is not the case, or there is a lack of power transmission after the clutch has engaged:

- Have the clutch checked by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Checking clutch lever play



- Loosen the cover **2**.
- Operate clutch lever **1** until resistance is felt.
- In this position, measure the clutch lever play **A** between the clutch lever fitting and the clutch lever.

Clutch lever play
0.04...0.08 in (1...2 mm) (on the handlebar fitting, handlebars in straight-ahead position, with cold engine)

If clutch lever play is outside tolerance:

- Adjusting clutch lever play (74).

If clutch lever play is within tolerance:

- Install cover **2**.

Adjusting clutch lever play

- Loosen the cover **4**.
- Loosen the knurled nut **2**.
- Lift the clutch cable to relieve the adjusting sleeve **3**.
- To increase clutch lever play: screw the adjusting sleeve **3** into the handlebar lever.
- To reduce clutch lever play: unscrew the adjusting sleeve **3** away from the handlebar lever.
- Lock the adjusting sleeve **3** using the knurled nut **2**.
- Checking clutch lever play (74).
- Repeat the steps until the clutch lever play is set correctly.
- Install cover **4**.

Coolant

Checking coolant level

Requirement

The engine is cold.

- Hold the motorcycle upright, preferably with the assistance of a second person.

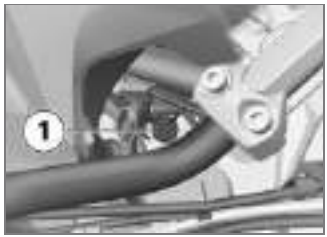
- Read off coolant level on the coolant expansion tank **1**. Direction of view: from front looking at inside of right-hand side panel.

Coolant, specified level
between **MIN** and **MAX** marks on the expansion tank (Engine is cold, motorcycle is upright.)

If coolant level drops below approved level:

- Top up coolant (75).

Top up coolant



- Turn handlebars to left.
- Open cap **1** of the coolant expansion tank.
- Add coolant up to specified level. To do this, use a funnel with a filler neck or hose.

Coolant top-up quantity
Antifreeze and anti-corrosion agents
150 ml (Difference between the **MIN** and **MAX** markings)

• Checking coolant level (→ 74).

When the set level for coolant is reached:

• Close the cap of the coolant expansion tank.

Rims and tires

Checking wheel rims

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

• Subject wheel rims to visual inspection for defects.

• Have damaged rims checked and, if necessary, replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Check tire tread depth

WARNING

Riding with heavily worn tyres

Risk of accident due to poorer rideability

• If necessary, replace the tyres before the legally specified minimum tread depth is reached.◀

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

• Measure tire tread depth in main tread grooves with wear indicators.

NOTICE

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

When the minimum tread depth is reached:

• Replace the worn tires.

Checking tyre pressure

WARNING

Incorrect tire inflation pressure

Poorer handling characteristic of motorcycle, reduction of tire service life

• Ensure proper tire inflation pressure.◀

WARNING

Valve inserts open of their own accord at high speeds

Sudden loss of tire inflation pressure

• Use valve caps with rubber sealing ring and screw on firmly.◀

- Park motorcycle, ensuring that support surface is firm and level.
- Check tyre pressures against data below.

 Tire pressure, front
24.7 psi (1.7 bar) (with cold tires, one-up and two-up riding)
 Tire pressure, rear
27.6 psi (1.9 bar) (with cold tires, one-up and two-up riding)

If tyre pressure is too low:

- Correct tyre pressure.

Wheels

Affect of wheel sizes on suspension control systems

The wheel sizes are very important for the ABS. The diameter and width of the wheels stored in the control unit have particular significance as the basis for all necessary calculations. Any change to these sizes, caused for example by a switch to wheels other than the standard installed ones, can seriously affect handling.

The sensor rings are essential for correct wheel speed detection; they too must match the motorcycle's control systems and consequently cannot be replaced.

If you want to equip your motorcycle with different wheels, please contact a specialist service facility, preferably a BMW Motorrad retailer.

Removing front wheel

– with center stand OA

- Place motorcycle on center stand, ensuring that it is resting on a firm and level support surface.◁

– without center stand OA

- Place the motorcycle on an auxiliary stand. BMW Motorrad recommends you use the BMW Motorrad rear-wheel stand.
- Mounting rear-wheel stands (▪▪ 66).◁

- Raise front of motorcycle, preferably using a BMW Motorrad front wheel stand, continuing until the wheel rotates freely.
- Mount front wheel stand (▪▪ 65).
- Mask off the parts of the wheel rim that could be scratched

when removing the brake caliper.
- Push apart the brake pads a little.

- Loosen clamping screws **1**.

- Remove screw **3**.
- Loosen clamping screws **2**.
- Slightly press the quick-release axle inward for a better grip on the right side.

- Pull quick-release axle **4** out while supporting the front wheel.
- Place front wheel down and roll it forward out of the front suspension. Ensure you do not damage the wheel speed sensor in the process.

ATTENTION

Unintentional pressing together of brake pads

Component damage when mounting the brake caliper or when pressing the brake pads apart

- Do not actuate the brakes with the brake caliper removed.◀
- Remove spacer bushing **5** from the wheel hub.

Install front wheel

WARNING

Use of a wheel which does not comply with series specifications

Malfunctions in ABS operation

- Please see the information on the effect of wheel sizes on the ABS system at the beginning of this chapter.◀

ATTENTION

Tightening of screwed connections with incorrect tightening torque

Damage or loosening of screwed connections

- Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

- Mount spacing bushing **5** on left side in wheel hub.

ATTENTION

Front wheel installation opposite the running direction

Accident hazard

- Observe running direction arrows on tire or rim.◀
- Roll front wheel into front suspension. When doing so, make sure that the wheel speed sensor is not damaged.

- Lift front wheel and install quick-release axle **4**.
- Remove front wheel stand and firmly compress front forks. Do not operate the brake lever at the same time.
- Mount front wheel stand (➡ 65).

- Install screw **3** with specified torque. Brace quick-release axle on the right side at the same time.

Screw in front wheel quick-release axle
37 lb/ft (50 Nm)

- Tighten clamping bolts **2** to appropriate torque.

Clamping screw in axle adapter
Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time
14 lb/ft (19 Nm)

- Tighten clamping bolts **1** to appropriate torque.

Clamping screw in axle adapter
Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time
14 lb/ft (19 Nm)

- Remove front wheel stand.
- Remove adhesive tape from the wheel rim.

WARNING

Brake pads do not contact the brake disc

Risk of accident due to delayed braking effect.

- Before driving off, check that the braking effect kicks in without any delay.◀
- Engage the brakes repeatedly, continuing until the brake pads seat against the rotors.

Removing rear wheel

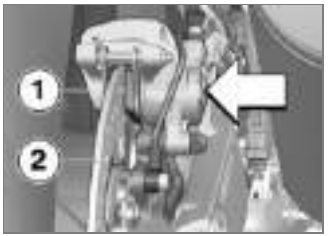
– with center stand OA

- Place motorcycle on center stand, ensuring that it is resting on a firm and level support surface.◁

– without center stand OA

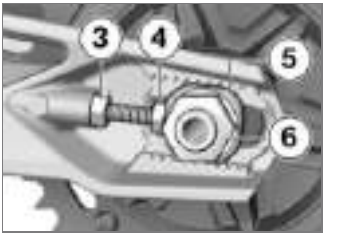
- Raise motorcycle, preferably with a BMW Motorrad rear-wheel stand.
- Mounting rear-wheel stands (66).◁
- Support the rear wheel, e.g., with a wooden block, so that

it cannot fall down after the quick-release axle is removed.

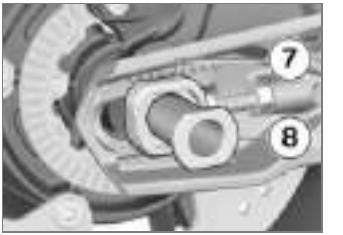


- Press brake caliper **1** against brake disk **2**.

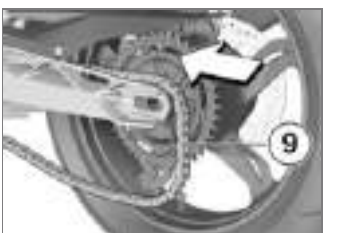
» Brake piston has been pushed back.



- Remove nut **6** using the right tool from the toolkit.
- Remove washer.
- Loosen lock nuts **3** on left and right.
- Screw in the adjusting bolts **4** on the left and right.
- Remove the chain tensioner **5** and push the quick-release axle to the right as far as it will go.



- Remove the quick-release axle **8** and remove the chain tensioner **7**.



- Roll rear wheel as far forward as possible and remove chain **9** from chain sprocket.

- Make sure that the wheel speed sensor **10** is not damaged when rolling out the rear wheel.

- Roll rear wheel toward rear out of swing arm while pulling brake caliper carrier **11** toward rear until rear-wheel rim can be guided past it.

NOTICE

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

Install rear wheel

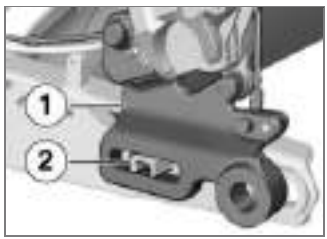
ATTENTION

Tightening of screwed connections with incorrect tightening torque

Damage or loosening of screwed connections

- Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

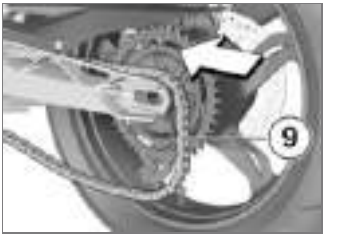
- Roll rear wheel on support into swing arm until brake-caliper support can be installed.



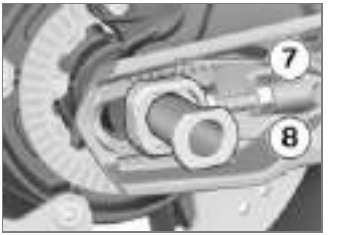
- Place brake-caliper support **1** on the guide **2**.

- Make sure that wheel speed sensor **10** is not damaged when rolling in rear wheel.

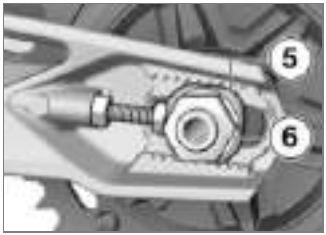
- Roll rear wheel further into swing arm while simultaneously pushing brake caliper carrier **11** toward the front.



- Roll rear wheel as far forward as possible and lay chain **9** on sprocket.



- Insert quick-release axle **8** and chain tensioner **7** in the swinging arm; insert brake-caliper support and rear wheel, making sure that the quick-release axle interlocks into chain tensioner.



- Insert chain tensioner, left **5**.
- Install nut **6** with washer, however do not tighten yet.

WARNING

Brake pads do not contact the brake disc

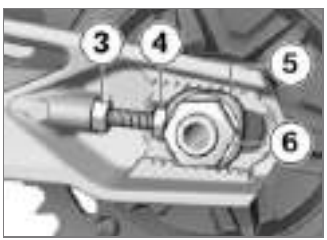
Risk of accident due to delayed braking effect.

- Before driving off, check that the braking effect kicks in without any delay.◀
- Engage the brakes repeatedly, continuing until the brake pads seat against the rotors.
- Adjust chain tension (85).

Chain

Adjust chain tension

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



- Loosen the nut **6**.
- Loosen lock nuts **3** on left and right.
- Adjust chain tension with adjusting screws **4** on left and right.
- Check chain tension (86).
- Ensure that the notch in the chain tensioner **5** is adjusted to the same scale value on the right and left.
- Tighten locknuts **3** on left and right to the specified torque.

Locknut of drive-chain tensioning screw
14 lb/ft (19 Nm)

- Tighten nut **6** to the specified torque.

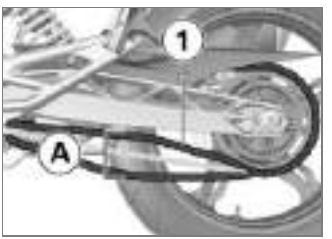
Rear-wheel quick-release axle in swinging arm
74 lb/ft (100 Nm)

– Once you have tightened the rear wheel quick-release axle, complete the following task again:

- Check chain tension (86).

Check chain tension

- Park motorcycle, ensuring that support surface is firm and level.
- Turn the rear wheel until the position with the lowest chain sag is reached.



- Using a screwdriver, push chain **1** up and down in the middle between the chain take-up roller and chain sprocket and measure the chain tension **A**.

Chain sag
1.6...2 in (40...50 mm) (Motorcycle unloaded on side stand)

If the chain tension is outside the approved tolerance:

- Adjust chain tension (➠ 85).

Lubricate chain

ATTENTION

Insufficient cleaning and lubrication of the drive chain

Increased wear

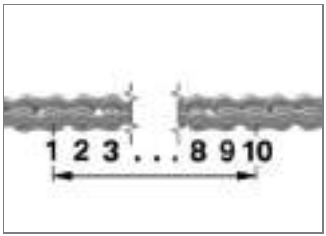
- Clean and lubricate the drive chain regularly.◀
- Lubricate the drive chain every third fuel stop.
- After driving though water or dust and dirt perform the lubrication at shorter intervals.
- Switch off ignition and engage Neutral.
- Clean drive chain with suitable cleaning agent, dry and apply chain lubricant.
- To extend and maximize the chain's service life BMW Motorrad recommends using BMW Motorrad chain lubricant or:

Lubricant
Chain spray

- Wipe off excess lubricant.

Check chain wear

- Engage 1st gear.
- Rotate rear wheel toward front of motorcycle until the chain is tensioned.
- Determine chain length below rear wheel swinging arm.



Permissible chain length
max 5.7 in (max 144.30 mm) (measured over the **center** of 10 rivets, chain under tension)

If the chain has reached the maximum approved length:

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

Light sources

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

- Loosen connector **1**.

- Remove cover **2**.
- Loosen wire spring **3** from the locking and open.

- Pull light source **4** out of socket **5**.

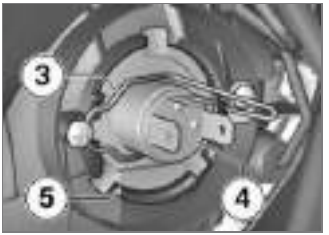
- Replace defective light source.

NOTICE

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

Bulb for low-beam and high-beam headlight
H4 / 12 V / 60 W / 55 W

- To protect the glass against soiling, grasp the light source **4** by the base only.

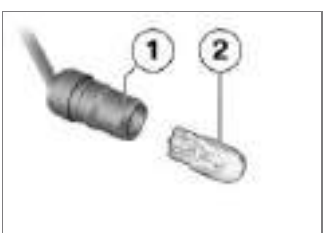


- Align the light source **4** and press into the socket **5**.
- Install wire spring **3**.

- Install cover **2**.
- Attach plug **1**.

Replacing parking light light source

- Pull the socket **1** out of the headlight housing.

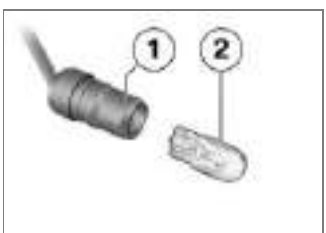


- Pull light source **2** out of socket **1**.

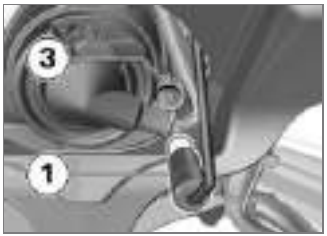
- Replace defective light source.

Bulb for parking light
W5W / 12 V / 5 W

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



- Insert light source **2** into socket **1**.



- Insert socket **1** into the headlight housing **3**.

Replacing front and rear turn indicator light sources

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

- Remove the screw **1**.

- Remove the lens from the housing by pulling it outward on the side with the screw.

- Remove bulb **2** from light housing by turning it counterclockwise.
- Replace defective light source.

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

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

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

- Install light source **2** by turning clockwise in light housing.

- Insert inside end of lens into light housing and close it.

- Fit the screw **1**.

Replacing LED tail light

If the LEDs in the tail lamp fail, the tail lamp must be replaced. In this case:

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

Replace license plate light

If the LEDs for the license plate lamp in the tail lamp fail, the tail lamp must be replaced. In this case:

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

Jump-starting

CAUTION

Touching live parts of the ignition system when the engine is running

Electrocution

- Do not touch parts of the ignition system when the engine is running.◀

ATTENTION

Current too high when jump-starting the motorcycle

Cable fire or damage to the motorcycle electronics

- Do not jump-start the motorcycle using the power socket, only via the battery terminal.◀

ATTENTION

Contact between crocodile clips of jump leads and motorcycle

Danger of short circuit

- Use jump leads fitted with fully insulated crocodile clips at both ends.◀

ATTENTION

Jump-starting with a voltage higher than 12 V

Damage to the motorcycle's electronics

- The battery of the donor vehicle must not exceed a voltage of 12 V.◀
- Do not disconnect battery from onboard electrical system for jump-starting procedure.
- Removing seat (39).
- Allow engine on support motorcycle to run while jump-starting.
- Begin by clamping one end of the red jumper cable to the positive terminal of the discharged battery and clamping the other end to the positive terminal of the donor battery.
- Then connect one end of the black jump cables to the negative terminal of the donor battery, and the other end to the negative terminal of the discharged battery.
- Start engine of motorcycle with discharged battery in usual way; if engine does not start, wait a few minutes before repeating attempt in order to protect starter motor and donor battery.
- Allow both engines to idle for a few minutes before disconnecting the jump cables.

- Disconnect the jump cable from the negative terminal first, then disconnect the second cable from the positive terminal.
- Install seat (➨ 40).

Battery

Maintenance instructions

Correct battery maintenance combined with proper charging and storage procedures extends the battery's service life, and is also required for warranty claims. Compliance with the points below is important in order to maximize battery life:

– Keep the surface of the battery clean and dry.
– Do not open the battery.
– Do not top up with water.
– Be sure to read and comply with the instructions for charging the battery on the following pages.
– Do not turn the battery upside down.

ATTENTION

Discharging of the connected battery by the vehicle electronics (e.g. clock)

Total discharge of battery leading to a rejection of warranty claims

- During riding breaks of more than 4 weeks, connect a trickle-charger to the battery.◀

Charging a connected battery

ATTENTION

Charging the battery connected to the vehicle using the battery terminals

Damage to the motorcycle's electronics

- Disconnect the battery before charging on the battery terminals.◀
- Disconnect battery from motorcycle (➨ 93).

Charging a disconnected battery

- Disconnect battery from motorcycle (➨ 93).
- Charge battery using a suitable charger.
- Comply with operating instructions of charger.
- Once battery is fully charged, disconnect charger's terminal clips from battery terminals.

NOTICE

In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the instructions for caring for your battery. Always fully recharge

the battery before returning it to use.◀

- Connect battery to vehicle (➠ 93).

Disconnect battery from motorcycle

- Park motorcycle, ensuring that support surface is firm and level.
- Removing seat (➠ 39).

ATTENTION

Incorrect battery disconnection

Danger of short circuit

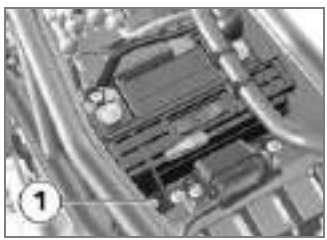
- Follow the disconnection sequence.◀
- Disconnect the battery earth lead **1** first.
- Then push the protective cap **3** to the side and disconnect the positive battery cable **2**.

Connect battery to vehicle

- First install the positive battery cable **2** and cover with the protective cap **3**.
- Then install negative battery cable **1**.
- Install seat (➠ 40).

Removing battery

- Removing seat (➠ 39).
- Disconnect battery from motorcycle (➠ 93).



- Remove the screw **1**.

- Unhook and lift up the holder **1** on the left.
- Unloosen the holder from the battery tray **2** on the right.

» The holder is now only attached to the wiring harness **3**.

- Push the holder and the wiring harness to the right out of the way.

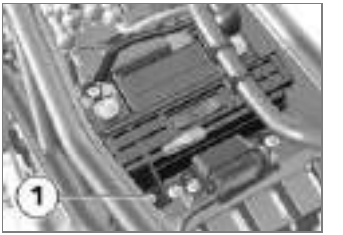
» You can now remove the battery.

- Lift the battery **4** up and out. Work it back and forth slightly if it is difficult to remove.

Install battery

- Place the battery **4** in the battery compartment with the positive terminal on the right in the direction of travel.
- Attach the right side of the holder to the battery tray **2**.
- Fold the holder **1** down and attach on the left.

» The wiring harness **3** is now back in its initial position.



- Fit the screw **1**.
- Connect battery to vehicle (➠ 93).
- Install seat (➠ 40).

NOTICE

If the motorcycle was disconnected from the battery for a longer time, the current date must be entered in the instrument cluster to ensure the proper operation of the service display.◀

- Setting the date (➠ 37).

Fuses

Replace fuses

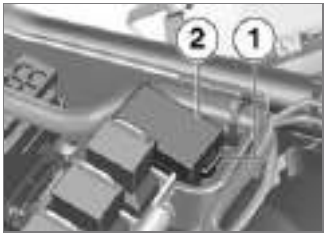
ATTENTION

Bypassing defective fuses

Risk of short circuit and fire

- Do not bypass defective fuses.
- Replace defective fuses with new fuses.◀

- Switch off ignition.
- Park motorcycle, ensuring that support surface is firm and level.
- Removing seat (➠ 39).



- Press locking device **1**.
- Open the fuse box **2**.
- Replace defective fuse in accordance with following fuse assignment diagram.

» Fuse assignments (➠ 96)

- Close the fuse box **2** again. Make sure that the lock **1** has engaged.

- Press the lock **4** in on both sides.
- Remove the cap **5**.
- Replace defective fuse in accordance with following fuse assignment diagram.

» Fuse assignments (➠ 96)

- Replace the cap **5**. Make sure that the lock **4** on the fuse box **3** engages.

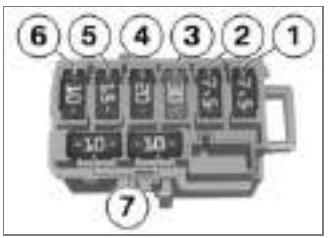
NOTICE

If the fuses blow frequently, have the electrical system checked by an authorized specialized work-

shop, preferably an authorized BMW Motorrad retailer.◀

- Install seat (➡ 40).

Fuse assignments



Fuse 1
7.5 A (Oxygen sensor, evaporative emission valve, secondary air system, injection system, electric fuel pump)

Fuse 2
7.5 A (Heated grips, data link connector, engine control unit, additional onboard socket, ABS pressure modulator)

Fuse 3
30 A (Main fuse)

Fuse 4
20 A (ABS pressure modulator)

Fuse 5
15 A (Lighting, horn)

Fuse 6
10 A (Instrument cluster, engine control unit)

– Spare fuses **7**

Fuse **8** for radiator fan

Fuse for radiator fan
7.5 A (Radiator fan)

Diagnostic connector

Removing the diagnostic connector

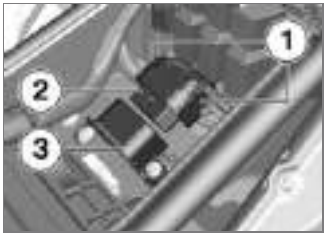
CAUTION

Incorrect procedure followed when disconnecting the data link connector for the On-Board Diagnostics.

Motorcycle experiences malfunctions

- Only have the data link connector disconnected by a specialist workshop or other authorized persons during your next BMW Service appointment.
- Have the work performed by appropriately trained staff.
- Refer to the vehicle manufacturer specifications.◀

- Removing seat (39).

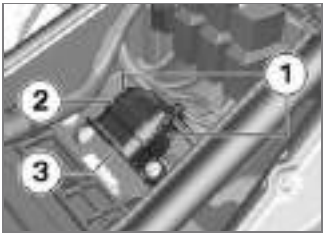


- Press the locks **1** together.
- Remove the diagnostic connector **2** from the bracket **3**.

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

Securing data link connector

- Disconnect the diagnosis and information system interface.



- Seat diagnostic connector **2** into the bracket **3**.

» The locks **1** engage.

- Install seat (40).

Accessories

General instructions 100
Heated handlebar grips 100
Power socket 101
Topcase 101
Topcase Light 104
Maximum payload and maximum speed 105

General instructions

CAUTION

Use of products from other manufacturers

Safety risk

- BMW Motorrad cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW motorcycles without constituting a safety hazard. Nor is this guarantee provided when the official approval of a specific country has been granted. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances.
- Use only parts and accessories approved by BMW for your motorcycle.◀

The safety, operation and suitability of the parts and accessory products have been checked extensively by BMW. Therefore, BMW assumes responsibility for these products. BMW shall not be liable for unapproved parts and accessory products of any kind.

Whenever you are planning modifications, comply with all the legal requirements. The motorcycle must not infringe on national road-motorcycle construction and use regulations of your country.

Your authorized BMW Motorrad retailer offers you qualified advice in choosing genuine BMW parts, accessories and other products. More information on the topic of accessories is available at:

bmw-motorrad.com/accessories

Heated handlebar grips

– with heated grips OA

Operating heated grips

- Start engine.

NOTICE

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

NOTICE

The increase in power consumption caused by the heated grips can drain the battery if you are riding at low engine speeds.◀

NOTICE

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

- Operate rocker switch **1** on the side with two dots to switch to the high heater output.
- Operate rocker switch **1** on the side with one dot to switch to the low heater output.
- Return switch **1** to its center position to switch off the heating.

Power socket

– with additional onboard socket[OA]

Connection of electrical devices

– The ignition must be switched on before electrical devices connected to the power sockets can be operated.

Cable routing

– The cables from the onboard sockets to the auxiliary devices must be routed in such a way that they do not impede the rider.
– Cable routing must not restrict the steering angle and the handling characteristics.
– Cables must not be trapped.

Topcase

– with topcase[OA]

Mount topcase

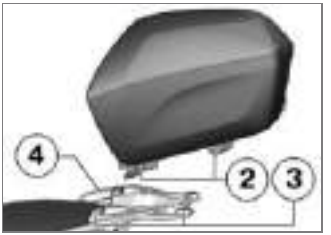
WARNING

Topcase not properly secured

Driving safety is impaired

- Topcase must not shake and must be fastened clearance-free.◀

- Pull handle **1** up as far as it will go.



- Hook the topcase into the luggage rack **4**. Make sure that the hooks **2** fit securely into the corresponding mountings **3**.
- Press handle **1** down until it engages.

- Turn key in topcase lock into Position **1** and remove.

Open topcase

- Turn key in topcase lock into Position **1**.

- Press lock barrel **1** forward.

» Release lever **2** pops up.

- Pull release lever all the way up.

» Topcase lid opens.

Close topcase

- Pull release lever **1** all the way up.
- Close topcase lid and hold it down. Ensure that no items are trapped between cover and case.

NOTICE

You can also lock the topcase by turning the lock to the **LOCK** position. Under such circumstances, ensure that the key is not in the Topcase.◀

- Press release lever **1** down until it engages.
- Turn key in topcase lock into **LOCK** position and remove.

Remove topcase

- Turn key in topcase lock into Position **1**.

» Handle pops out.

- Fold handle **1** all the way up.

- Raise the rear of the topcase and pull it off luggage rack.

Topcase Light

– with luggage rack OA
– with topcase Light OA

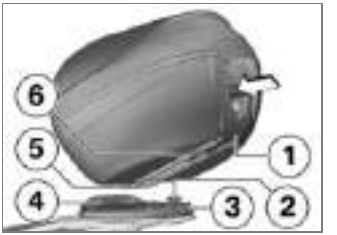
Installing topcase Light

WARNING

Topcase not properly secured

Driving safety is impaired

- Topcase must not shake and must be fastened clearance-free.◀
- Turn the key until it is vertical in the lock.



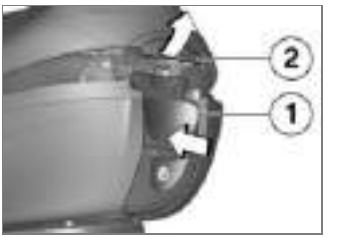
- Insert the base **5** into the slot **4**.
- Fit the mounting **6** onto the hook **2**.
- Ensure that the release lever **1** engages and the topcase is connected securely to the adapter **3**.
- To lock the release lever, turn the key until it is horizontal in the lock and pull it out.

Opening topcase Light

- Turn the key until it is vertical in the lock.

NOTICE

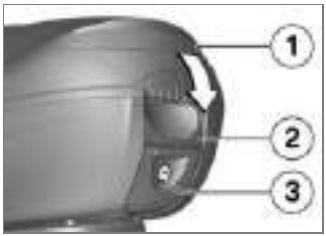
When the key is horizontal in the lock, the release levers are locked.◀



- Push the release lever **1** in the direction of the arrow.
- Open the topcase lid **2**.

Closing topcase Light

- Turn the key until it is vertical in the lock.



- Close Topcase lid **1**. Check that nothing is trapped between the lid and case and that the release lever **2** clicks into place.
- Turn the key in the topcase lock **3** until it is horizontal and remove the key from the lock.

» The release levers are locked You can neither open the topcase nor remove it from the adapter.

Removing the topcase Light

- Turn the key until it is vertical in the lock.

- Push the release lever **1** in the direction of the arrow.
- Lift the topcase at the rear and remove from the adapter **3**.

Maximum payload and maximum speed

Observe maximum payload and maximum speed as indicated on label in the topcase.
Contact your authorized BMW Motorrad retailer if you cannot find your combination of vehicle and topcase on the label.
The following values apply to the combination described here:

Maximum speed when riding with a loaded topcase
– with topcase OA or – with topcase Light OA
max 81 mph (max 130 km/h)◁

Payload of Topcase
– with topcase OA or – with topcase Light OA
max 7 lbs (max 3 kg)◁

Care

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Cleaning sensitive motorcycle parts 109
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Paint preservation 110
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Care products

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW CareProducts have been materials tested, laboratory tested, and field tested and provide optimum care and protection for the materials used in your motorcycle.

ATTENTION

Use of unsuitable cleaning and care agents

Damage to motorcycle parts

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

Washing your motorcycle

BMW Motorrad recommends that you use BMW insect remover to soften and wash off insects and stubborn dirt on painted parts prior to washing the motorcycle.

To prevent stains, do not wash the motorcycle immediately after it has been exposed to bright sunlight and do not wash it in the sun.

To remove road salt, clean the motorcycle with cold water immediately after completion of every trip.

WARNING

Damp brake disks and brake pads after washing the motorcycle, after riding through water or in the rain

Poorer braking action, accident hazard

- Brake early until the brake rotors and brake pads are dry.◀

ATTENTION

Increased effect of salt caused by warm water

Corrosion

- Only use cold water to remove road salt.◀

ATTENTION

Damage caused by high water pressure from high-pressure cleaners or steam-jet devices

Corrosion or short circuit, damage to labels, to seals, to hydraulic brake system, to the electrical system and the seat

- Exercise caution when using high-pressure or steam-jet devices.◀

NOTICE

The case and Topcase do not have surface coating. The best possible appearance is preserved by applying the following care measures:
Remove road salt and corrosive deposits immediately after completion of a trip with cold water.◀

Cleaning sensitive motorcycle parts

Plastics

ATTENTION

Use of unsuitable cleaning agents
Damage to plastic surfaces
- Do not use abrasive cleaners or cleaners containing alcohol or solvents.
- Do not use insect sponges or sponges with a hard surface.◀

Fairings and panels
Clean fairings and panels with water and BMW plastic cleaner.

NOTICE

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

Topcase Light

ATTENTION

Use of unsuitable cleaning and care agents
Surface damage
- Clean the surface with water and a microfiber cloth only.◀

Chrome

Clean chrome sections carefully with plenty of water and motorcycle cleaner from the BMW Motorrad Care Products range. This is required in particular for removing road salt.
Use chrome polish for additional treatment.

Radiator

ATTENTION

Bending of radiator fins
Damage to radiator fins
- When cleaning, ensure that the cooler fins are not bent.◀
- Clean radiator regularly. Use a hose with low water pressure to do this.

» This prevents the engine from overheating due to insufficient cooling.

Rubber

Treat rubber parts with water or BMW rubber protection coating agent.

ATTENTION

Use of silicone sprays for care of rubber seals

Damage to rubber seals
- Do not use silicone sprays or care products that contain silicone.◀

Paint

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.
At the same time, you should remove particularly aggressive materials immediately; otherwise changes in the paint and discoloration can occur. These include spilled fuel, oil, grease and brake fluid as well as bird droppings. We recommend you use BMW Motorrad gloss polish or BMW paint cleaner.
Contamination on the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends using BMW tar remover for removing tar spots. Then add a protective wax coating to the paint at these locations.

Paint preservation

BMW Motorrad recommends applying BMW car wax or products containing carnauba wax or synthetic wax to preserve your paintwork.
When water fails to form beads on the paint surface this indicates it is time to apply wax.

Store motorcycle

- Clean the motorcycle.
- Completely fill the motorcycle's fuel tank.
- Removing battery (➠ 93).
- Spray the brake and clutch lever, and the center and side stand pivots with a suitable lubricant.
- Protect metal and chrome-plated parts with an acid-free grease (Vaseline).
- Park the motorcycle in a dry space in such a way that both wheels are under no load (preferably by using the front and rear-wheel stands available from BMW Motorrad).

Return motorcycle to use

- Remove the protective wax coating.
- Clean the motorcycle.
- Install battery (➠ 94).

- Observe checklist (48).

Technical data

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Troubleshooting chart

Engine does not start.

Possible cause	Remedy
Side stand extended and gear engaged	Fold in side stand.
Emergency on/off switch (kill switch)	Set emergency off switch to operation mode (➠ 33).
Gear engaged and clutch not disengaged	Operate the clutch or put the transmission into idle so that the idle indicator lamp lights up.
No fuel in tank	Refueling (➠ 55).
Battery drained	Charging a disconnected battery (➠ 92).
Throttle grip actuated	Do not actuate the throttle grip while starting the engine.

Screw connections

Front wheel	Value	Valid
Screw in front wheel quick-release axle		
M12 x 20	37 lb/ft (50 Nm)	
Clamping screw in axle adapter		
M8 x 30	**Tightening sequence: Tighten the screws 6 times, alternating between one and the other each time**	
	14 lb/ft (19 Nm)	

Rear wheel	Value	Valid
Locknut of drive-chain tensioning screw		
M8	14 lb/ft (19 Nm)	
Rear-wheel quick-release axle in swinging arm		
M18 x 1.5	74 lb/ft (100 Nm)	

Mirrors	Value	Valid
Right mirror (lock nut) to adapter		
M10 x 1.25	Left-hand thread, 16 lb/ft (22 Nm)	
Left mirror (lock nut) to adapter		
M10 x 1.25	16 lb/ft (22 Nm)	

Fuel

Recommended fuel quality	Normal unleaded (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 2.9 gal (Approx. 11 l)
Fuel reserve	Approx. 1.1 quarts (Approx. 1 l)
Fuel consumption according to WMTC	71 mpg (3.3 l/100 km)

Engine oil

Engine oil, capacity	Approx. 1.7 quarts (Approx. 1.65 l), with filter replacement
Viscosity rating	
SAE 15W-50, API SJ/JASO MA2	Additives (for instance, molybdenum-based substances) are prohibited, because they would attack the coatings on engine components, BMW Motorrad recommends BMW Motorrad ADVANTEC Pro Oil
Engine oil, quantity for topping up	max 185 ml, Difference between **MIN** and **MAX**

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

Engine

Engine number location	Lower part of crankcase, right
Engine type	A82A03A
Engine design	Water-cooled 1-cylinder four-stroke engine with four valves (operated via rocker arms), two overhead camshafts and a counterbalance shaft
Displacement	313 cc (313 cm^3)
Cylinder bore	3.1 in (80 mm)
Piston stroke	2.4 in (62.1 mm)
Compression ratio	10.9:1
Rated output	34 hp (25 kW), at engine speed: 9500 min^{-1}
Torque	21 lb/ft (28 Nm), at engine speed: 7500 min^{-1}
Maximum engine speed	max 10800 min^{-1}
Idle speed	$1600^{\pm 100}$ min^{-1}, Engine at operating temperature
Emission standard	Euro 4

Clutch

Clutch design	Multi-disk wet clutch
Clutch lever play	0.04...0.08 in (1...2 mm), on the handlebar fitting, handlebars in straight-ahead position, with cold engine

Transmission

Transmission design	Claw-shifted 6-speed transmission integrated in engine housing
Transmission gear ratios	3.083, Primary gear ratio 1:3.000, 1st gear 1:2.063, 2nd gear 1:1.588, 3rd gear 1:1.286, 4th gear 1:1.095, 5th gear 1:0.955, 6th gear

Rear-wheel drive

Type of final drive	Endless Z-ring chain with rear damper in rear wheel hub
Chain sag	1.6...2 in (40...50 mm), Motorcycle unloaded on side stand
Permissible chain length	max 5.7 in (max 144.30 mm), measured over the **center** of 10 rivets, chain under tension
Number of teeth of rear-wheel drive (Pinion/ sprocket)	16/40
Secondary gear ratio	2.500

Frame

Frame design	Lattice-tube frame
Location of type plate	Frame at front left on steering head
Location of the vehicle identification number	Frame at front right on steering head

Chassis and suspension

Front wheel	
Type of front suspension	Upside-down telescopic forks
Spring travel, front	7.1 in (180 mm), on wheel
Rear wheel	
Type of rear suspension	Two-arm aluminum swinging arm
Spring travel, rear	7.1 in (180 mm), on wheel

Brakes

Front wheel	
Type of front brake	4-piston fixed caliper
Front brake pad material	Sintered metal
Front brake-disk thickness	0.2 in (5.0 mm), New min 0.18 in (min 4.5 mm), Wear limit

Rear wheel	
Type of rear brake	1-piston floating caliper
Rear brake pad material	Organic
Rear brake-disk thickness	0.18 in (4.5 mm), New min 0.16 in (min 4 mm), Wear limit
Blow-by clearance of footbrake lever	0.08...0.1 in (2.0...2.5 mm), between footbrake lever and stop at footrest plate

Wheels and tires

Speed category of front/rear tires	H, minimum requirement: 130 mph (210 km/h)
Front wheel	
Front wheel design	Aluminum cast wheel
Front-wheel rim size	2.50-19 MTH2
Front tire designation	110/80 R 19
Load index for front tire	59
Permissible front-wheel imbalance	max 0.2 oz (max 5 g)

Rear wheel	
Rear wheel design	Aluminum cast wheel
Rear-wheel rim size	4.0 " x 17 "
Rear tire designation	150/70 R 17
Load index for rear tire	69
Permissible rear-wheel imbalance	max 1.6 oz (max 45 g)
Tire inflation pressure	
Tire pressure, front	24.7 psi (1.7 bar), with cold tires, one-up and two-up riding
Tire pressure, rear	27.6 psi (1.9 bar), with cold tires, one-up and two-up riding

Electrical system

Fuses	
Fuse 1	7.5 A, Oxygen sensor, evaporative emission valve, secondary air system, injection system, electric fuel pump
Fuse 2	7.5 A, Heated grips, data link connector, engine control unit, additional onboard socket, ABS pressure modulator
Fuse 3	30 A, Main fuse
Fuse 4	20 A, ABS pressure modulator
Fuse 5	15 A, Lighting, horn
Fuse 6	10 A, Instrument cluster, engine control unit
Fuse for radiator fan	7.5 A, Radiator fan
Battery	
Battery design	AGM battery (Absorbent Glass Mat)
Battery voltage	12 V
Battery capacity	8 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK LMAR9D-J

Light sources	
Bulb for low-beam and high-beam headlight	H4 / 12 V / 60 W / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for taillight/brake light	LED
Light source for license plate light	LED integrated into tail light
Bulbs for flashing turn indicators, front	RY10W / 12 V / 10 W
Bulbs for flashing turn indicators, rear	RY10W / 12 V / 10 W

Dimensions

Motorcycle length	81.7 in (2075 mm), over license-plate carrier
Motorcycle height	48.4 in (1230 mm), over windshield, at DIN unladen weight
Motorcycle width	34.6 in (880 mm), using handlebar levers 33.9 in (860 mm), without mounted parts
Rider's seat height	32.9 in (835 mm), without rider, at DIN unladen weight
Rider's inside-leg arc, heel to heel	73.6 in (1870 mm), without rider, at DIN unladen weight

Weights

Vehicle curb weight	374 lbs (169.5 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE
Permissible gross weight	761 lbs (345 kg)
Maximum payload	387 lbs (175.5 kg)

Performance data

Start-off capacity on uphill grades (with permissible total weight)	max 36 %
Top speed	89 mph (143 km/h)

Accessories

Maximum speed when riding with a loaded topcase	
– with topcase[OA] or – with topcase Light[OA]	max 81 mph (max 130 km/h)
Payload of Topcase	
– with topcase[OA] or – with topcase Light[OA]	max 7 lbs (max 3 kg)

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Reporting safety defects

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

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

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

BMW Motorrad Service

With its worldwide retailer network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. Authorized BMW Motorrad retailers have the technical information and expertise needed to conduct reliable service and repairs covering every aspect of your BMW.
You will find the nearest authorized BMW Motorrad retailer to you at our website:
bmw-motorrad.com

WARNING

Improperly performed maintenance and repair work
Accident hazard caused by subsequent damage
- BMW Motorrad recommends having corresponding work on the motorcycle carried out by a specialized workshop, preferably by an authorized BMW Motorrad retailer.◀

To ensure that your BMW consistently remains in optimal condition BMW Motorrad urges you to observe the recommended service intervals.
Have all maintenance and repair work confirmed in the "Service" chapter in this manual. Documentation confirming regular maintenance is essential for generous treatment of claims submitted after the warranty period has expired (goodwill).

You can obtain information on the contents of the BMW Services from your BMW Motorrad retailer.

BMW Motorrad Mobility Services

As the owner of a new BMW motorcycle, in the event of a breakdown you can benefit from the protection afforded by the various BMW Motorrad mobility services (e.g. BMW Roadside Assistance, breakdown service, vehicle recovery service).
Contact your authorized BMW Motorrad retailer for additional information on available mobility-maintenance services.

Maintenance procedures

BMW pre-delivery check

The BMW pre-delivery check is carried out by your authorized BMW Motorrad retailer before it turns the motorcycle over to you.

BMW running-in check

 Mileage until running-in check
311...746 miles (500...1200 km)

BMW Service

BMW Service is carried out once a year. The scope of the services performed may be dependent on the motorcycle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service.

For riders who drive long distances annually, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service date, service must be performed sooner.

The service display in the multifunction display reminds you of the next service date approx. one month or 620 miles (1000 km) before the entered values.

More information on the topic of service is available at:
bmw-motorrad.com/service

The required scope of maintenance work for your motorcycle can be found in the following maintenance plan:

	500 - 1200 km 300 - 750 mls	10 000 km 6 000 mls	20 000 km 12 000 mls	30 000 km 18 000 mls	40 000 km 24 000 mls	50 000 km 30 000 mls	60 000 km 36 000 mls	70 000 km 42 000 mls	80 000 km 48 000 mls	90 000 km 54 000 mls	100 000 km 60 000 mls	12 months	24 months	48 months
①	X													
②												X		
③		X	X	X	X	X	X	X	X	X	X	X[a]		
④			X		X		X		X		X			
⑤			X		X		X		X		X			
⑥			X		X		X		X		X			
⑦			X		X		X		X		X			
⑧					X				X					X[c]
⑨					X				X					X[c]
⑩												X[b]	X[b]	

Maintenance schedule

1 BMW Running-in check (including oil change)
2 Standard BMW Service
3 Engine oil change with filter
4 Replace air cleaner insert
5 Replace spark plug
6 Check valve clearance
7 Telescopic fork oil change
8 Replace fuel filter and fuel hoses
9 Replace hoses from intake silencer to cylinder head and evaporative emission valve
10 Change brake fluid in entire system

a annually or every 6000 miles (10000 km) (whichever comes first)

b for the first time after one year, then every 2 years

c every 24000 miles (10000 km) or every 4 years (whichever comes first)

Maintenance confirmations

BMW Service standard scope

The repair procedures belonging to the BMW Service standard package are listed below. The actual maintenance work applicable for your vehicle may differ.

- Perform a vehicle test with the BMW Motorrad diagnosis system
- Checking coolant level
- Checking/adjusting clutch play
- Checking accelerator Bowden cable for ease of movement, chafing and kinks, and play
- Checking the front brake pads and brake disc for wear
- Checking rear brake pads and brake disk for wear
- Visually inspecting the brake lines, brake hoses and connections
- Checking tire inflation pressure and tread depth
- Checking and lubricating the chain drive
- Checking the brake fluid level of the front wheel brake
- Checking the brake fluid level of the rear wheel brake
- Checking steering-head bearing
- Lubricating the side stand
- Checking the lighting and signal system
- Functional check for engine starting suppression
- Final inspection and check for road safety
- Setting the service due date and remaining distance before next service using the BMW Motorrad diagnosis system
- Checking charging state of battery
- Confirming the BMW service in the vehicle literature

BMW pre-delivery check

performed

on_____

Stamp, signature

BMW Running-in Check

performed

on_____

at km_____

Next service

latest

on_____

or, if reached earlier

at km_____

Stamp, signature

BMW Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
at km_____

_____
Stamp, signature

Work performed

	Yes	No
BMW Service	☐	☐
Engine oil change with filter	☐	☐
Checking valve clearance	☐	☐
Replacing air cleaner element	☐	☐
Oil change - telescopic fork	☐	☐
Replacing all spark plugs	☐	☐
Replacing fuel filters and fuel hoses (at maintenance)	☐	☐
Replace the hose from intake silencer to cylinder head and tank vent valve (in maintenance)	☐	☐
Changing brake fluid in entire system	☐	☐

Information

BMW Service
performed

on_____
at km_____

Next service
latest
on_____
or, if reached earlier
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_____
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Changing brake fluid in entire system	☐	☐

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Changing brake fluid in entire system	☐	☐

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BMW Service
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Replace the hose from intake silencer to cylinder head and tank vent valve (in maintenance)	☐	☐
Changing brake fluid in entire system	☐	☐

Information

Service confirmations

The table serves to provide evidence of maintenance and repair work, as well as installed optional accessories and special campaigns performed.

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Work performed	at km	Date

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The descriptions and illustrations in this manual may vary from your own motorcycle's actual equipment, depending upon its equipment level and accessories as well as your specific national version. No claims stemming from these differences can be recognized.
Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.
The right to modify designs, equipment and accessories is reserved.
Errors and omissions excepted.

Original Rider's Manual, printed in Germany.

Important data for refueling:

Fuel	
Recommended fuel quality	Normal unleaded (max. 10 % ethanol, E10) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 2.9 gal (Approx. 11 l)
Fuel reserve	Approx. 1.1 quarts (Approx. 1 l)
Tire inflation pressure	
Tire pressure, front	24.7 psi (1.7 bar), with cold tires, one-up and two-up riding
Tire pressure, rear	27.6 psi (1.9 bar), with cold tires, one-up and two-up riding

You can find further information on all aspects of your vehicle at:
bmw-motorrad.com

BMW recommends ADVANTEC ORIGINAL BMW ENGINE OIL

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