



BMW Motorrad



Rider's Manual (US Model)

HP4 RACE

Motorcycle/Retailer Data

Motorcycle Data

Model

Vehicle identification number

Color number

Initial operation

Number on fork bridge

Retailer Data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/phone number (company stamp)

Welcome to BMW

We are pleased that you have chosen a BMW Motorrad vehicle and welcome you to the family of BMW riders. Familiarize yourself with your new vehicle so that you can ride safely and confidently on the racing track.

About this Rider's Manual

Read this Rider's Manual before you start your new BMW. It contains important information about operating the vehicle that will enable you to make full use of the technical advantages of your BMW.

It also provides information about vehicle maintenance and care, operating safety, and tips on how best to preserve the value of your vehicle.

Documentation confirming performance of scheduled maintenance is a precondition for gen-

erous handling of out-of-warranty claims and goodwill warranty treatment.

If you want to sell your BMW one day, remember to hand over this Rider's Manual too. It is an important element of the motorcycle.

Feedback and comments

Should you have any questions about your vehicle, your authorized BMW Motorrad retailer is always happy to provide you with advice and support.

We wish you many miles of pleasure and satisfaction with your new BMW, along with a safe and enjoyable ride,

BMW Motorrad.

01 40 8 406 647



Table of Contents

1 General instructions	5	3 Displays	21	Fork bridge offset	53
Overview	6	Indicator and warning		Spring preload	56
Abbreviations and		lights	22	Damping	58
symbols	6	Multifunction display rider		Ride height	61
Technical data	7	view	23	Footrests	65
Notice concerning current sta-		Warning lights	24	Foot piece for footbrake	
tus	7	4 Operation	31	lever	66
Welcome to BMW Motorrad		Ignition switch	32	Footbrake lever height	67
M Sport	7	Emergency on/off switch (kill		Foot piece for gearshift	
2 Overviews	9	switch)	32	lever	68
Overall view, left side	11	Multifunction display	34	Gearshift lever height	68
Overall view, right side	13	Dynamic Traction Control		Seat height	69
Overall view without trim		(DTC)	36	Swinging arm	70
panel	15	Riding mode	37	6 Riding	75
Underneath seat	16	Rider's seat	38	Safety information	76
Left multifunction switch -		5 Setting	39	Checklist	77
front	17	Brakes	40	Starting	77
Left multifunction switch -		Steering damper	40	Bringing the engine up to	
rear	18	Stub handlebars	41	operating temperature	79
Multifunction switch,		Observe the adjustment		Running in	79
right	19	range on the telescopic		Shifting gears	80
Instrument panel	20	forks	42	Brakes	81
		Steering head angle	43	Start of race	82
				Speed limiter for pit lane	84

Parking your motorcycle 84

7 In the pit..... 87

Refueling 88

Displays for the mechatronics technician..... 90

Displays for the mechatronics technician..... 92

DTC..... 93

EBR..... 93

Gearshift-pattern reverser 94

Data recording and 2D software..... 95

HP Race

Calibration Kit Pro 96

Connector for optional accessories 96

Securing motorcycle for transport 96

8 Technology in detail..... 99

Lightweight construction..... 100

Dynamic Traction Control (DTC) 100

Engine brake (EBR) 101

Riding mode 101

Pro gearshift assistant..... 102

9 Maintenance 105

General notes 106

Rear-wheel stand 106

Engine oil 107

Brake system 108

Cleaning the brakes 117

Clutch 121

Coolant..... 122

Tires 123

Rims and tires..... 123

Wheels 123

Fairings and panels 128

Jump-starting 133

Battery 134

Fuse 137

Data link connector 138

Chain..... 139

10 Accessories 143

General notes 144

Connections for additional sensors..... 144

Connection for CAN-Bus signal..... 145

Connection for infrared receiver 145

11 Care 147

Care products 148

Washing your motorcycle..... 148

Cleaning sensitive motorcycle parts..... 148

Paint care 149

Protective wax coating 150

Store motorcycle..... 150

Return motorcycle to use 150

12 Technical data 151

Screw connections 152

Chassis and suspension configuration data 159

Fuel 163

Engine oil	163
Engine	164
Clutch	165
Transmission	165
Rear-wheel drive	166
Frame	166
Chassis and suspension	167
Brakes	168
Wheels and tires	169
Electrical system	170
Dimensions	170
Weights	171
13 Service	173
Reporting safety defects	174
BMW Motorrad Service ...	175
Maintenance proce- dures	175
Maintenance schedule	179
Maintenance confirma- tions.....	180
Service confirmations	194
14 Index	196

General instructions

Overview	6
Abbreviations and symbols	6
Technical data	7
Notice concerning current status	7
Welcome to BMW Motorrad M Sport	7

Overview

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

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

Abbreviations and symbols



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



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



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



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



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



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.

OA

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

NV

National-market version.

DTC Dynamic Traction Control.

EBR Engine Brake
Engine brake

Technical data

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

Notice concerning current status

The high safety and quality standards of BMW motorcycles are maintained by consistent, ongoing development efforts embracing their design, equipment and accessories. For this reason, some aspects of your motorcycle may vary from the descriptions in

this Rider's Manual. In addition, BMW Motorrad cannot guarantee the total absence of errors. We hope you will appreciate that no claims can be recognized based on the data, illustrations or descriptions in this manual.

Welcome to BMW Motorrad M Sport

The world of racing is fascinating. However, it also entails certain risks. A number of things need to be kept in mind so that you can enjoy racing and ensure lasting enjoyment from your HP4 Race.

The HP4 Race is a pure racing vehicle. This means that technical equipment that is fitted in road-approved motorcycles to improve comfort and safety is missing or designed differently. This includes:

- As is common in motorsports, the motorcycle does not have ABS.
- The cooling system does not have an electrical fan. If the coolant temperature becomes too high, the engine has to be turned off; it may be necessary to provide external cooling.
- The engine has upper and lower thermal limits. Warning lights and displays in the instrument cluster indicate whether the current values have exceeded or dropped below these limits. Only ride the motorcycle in the "green" range of the coolant temperature.
- The motorcycle can only be operated in a limited temperature range. Observe the safety information. (77)
- The engine does not have knock control. Always use the

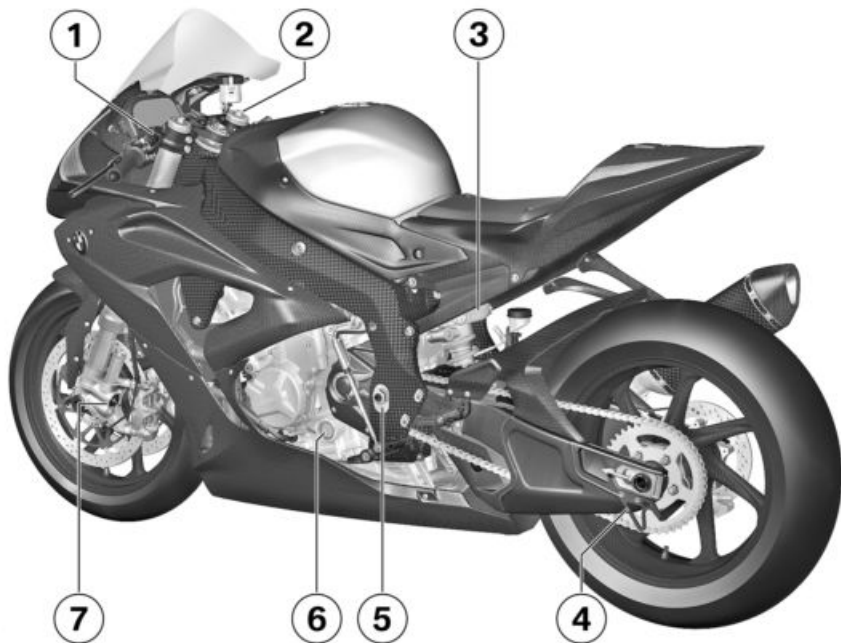
- prescribed fuel grade and octane number.
- The DTC intervenes much later than the well-known S 1000 RR. This helps provide maximum performance with slick tires. You need to gradually familiarize yourself with this feature
 - The starter does not have engine starting suppression. If a gear is engaged, the motorcycle can set off when the starter button is pressed. Furthermore, an installed tire heater could be damaged. In order to start the vehicle, pull the clutch or, better still, shift to neutral.
 - The shift pattern is inverted as the factory setting. This means that 1st gear is shifted upward and gears 2 to 6 are shifted downward.
 - The HP Pro gearshift assistant allows you to shift up and down between gears without the clutch.
 - The brakes need to be cleaned on a regular basis. Observe the information in the Maintenance chapter. (117)
 - The motorcycle does not have a side stand. The supplied rear-wheel stand must be used for parking

The HP4 Race provides a variety of adjustment options for geometry, chassis and suspension and engine control. Each time the settings are changed, this can impair the drivability or even cause a crash. Only make changes to the settings in minor steps and only ever to one component at a time.

Observe the safety information for this motorcycle.

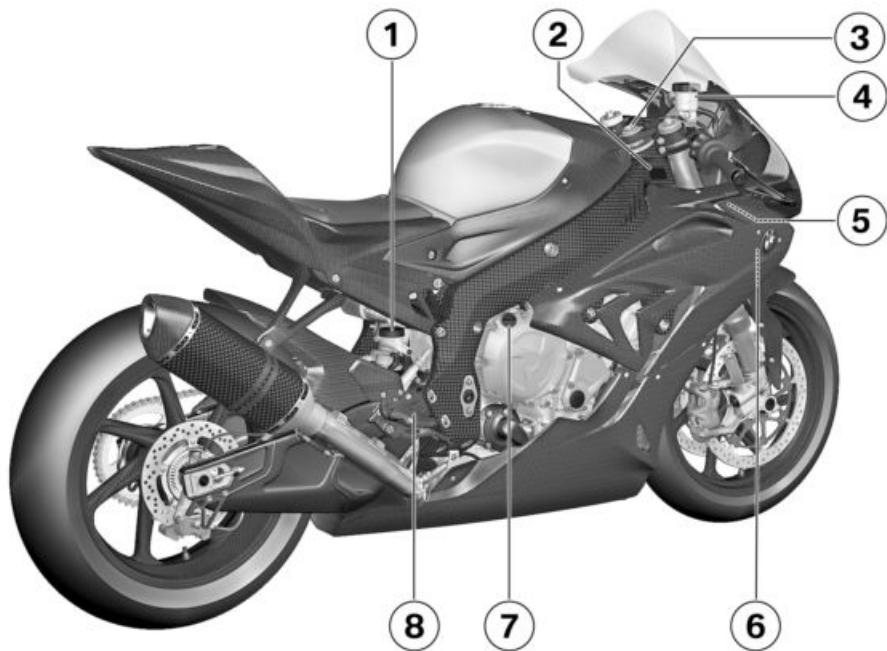
Overviews

Overall view, left side	11
Overall view, right side	13
Overall view without trim panel.....	15
Underneath seat	16
Left multifunction switch - front.....	17
Left multifunction switch - rear.....	18
Multifunction switch, right.....	19
Instrument panel	20



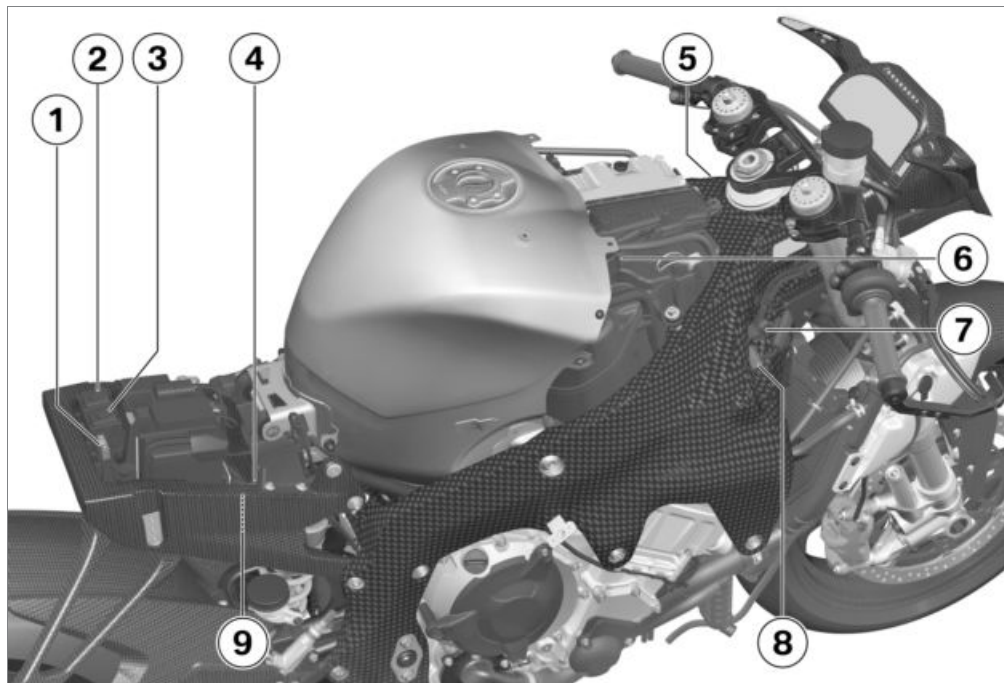
Overall view, left side

- 1** Setting the handlebar off-set (➡ 41)
- 2** Adjuster for spring preload, front (➡ 56)
- 3** Adjusting the rear rebound-stage damping (➡ 59)
Adjusting the rear compression damping (➡ 60)
Adjuster for spring preload, rear (➡ 57)
- 4** Bracket for auxiliary stand (➡ 106) (➡ 106)
- 5** Setting the swinging arm pivot point (➡ 71)
- 6** Engine oil indicator (➡ 107)
- 7** Adjusting the front rebound-stage damping (➡ 58)
Adjusting the front compression damping (➡ 59)



Overall view, right side

- 1** Brake-fluid reservoir, rear
( 111)
- 2** Vehicle identification number and type plate (on steering head at right)
- 3** Adjusting the steering head angle. ( 43)
Adjusting the fork bridge offset. ( 53)
- 4** Brake fluid reservoir, front
( 110)
- 5** Adjusting the steering damper. ( 40)
- 6** Checking the coolant level.
( 122)
- 7** Oil filler opening ( 108)
- 8** Adjusting the footrests.
( 65)

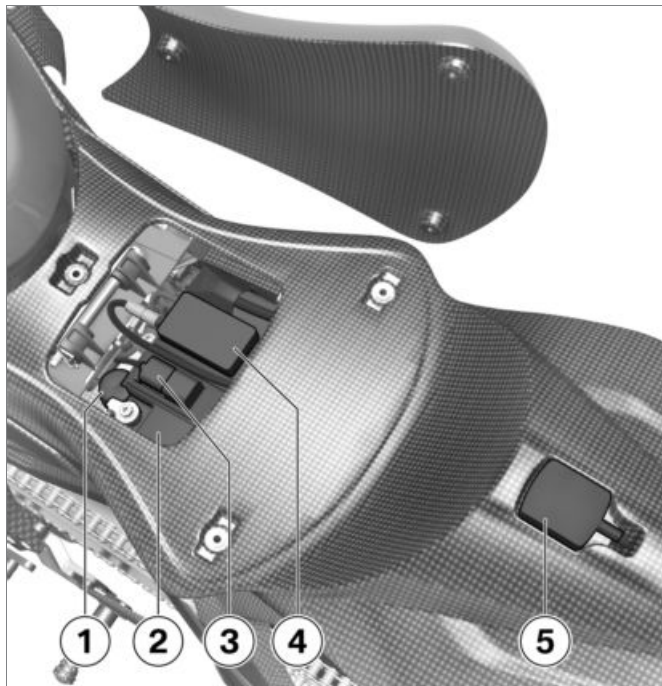


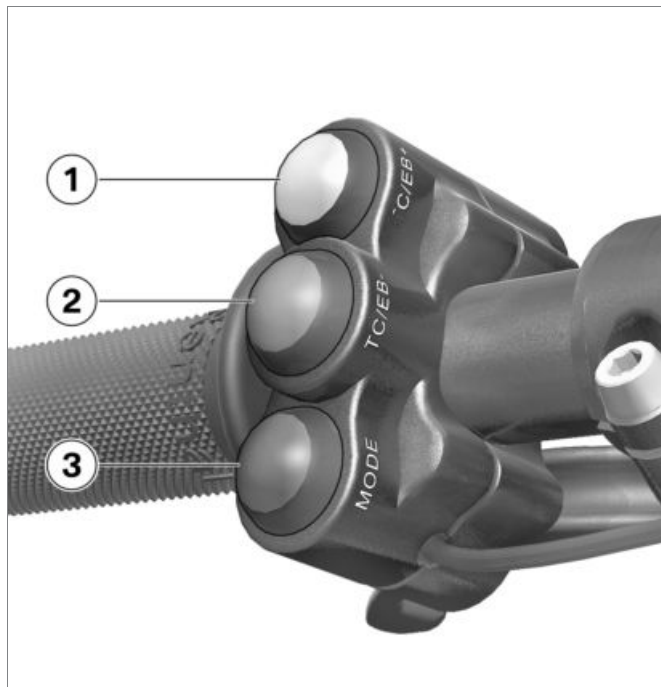
Overall view without trim panel

- 1** Fuse (➡ 137)
- 2** Starter motor relay
- 3** Main relay
- 4** Connector for rear brake pressure sensor (➡ 144)
- 5** Connector for front spring travel sensor (➡ 144)
- 6** Connector for CAN bus signal and voltage supply (➡ 145)
- 7** Connector for front brake pressure sensor (➡ 144)
- 8** Connector for infrared receiver (➡ 145)
- 9** Connector for rear spring travel sensor (➡ 144)

Underneath seat

- 1 Data link connector (➡ 138)
- 2 Battery (➡ 134)
- 3 USB connector (➡ 95)
- 4 Data logger (➡ 95)
- 5 GPS receiver (➡ 95)



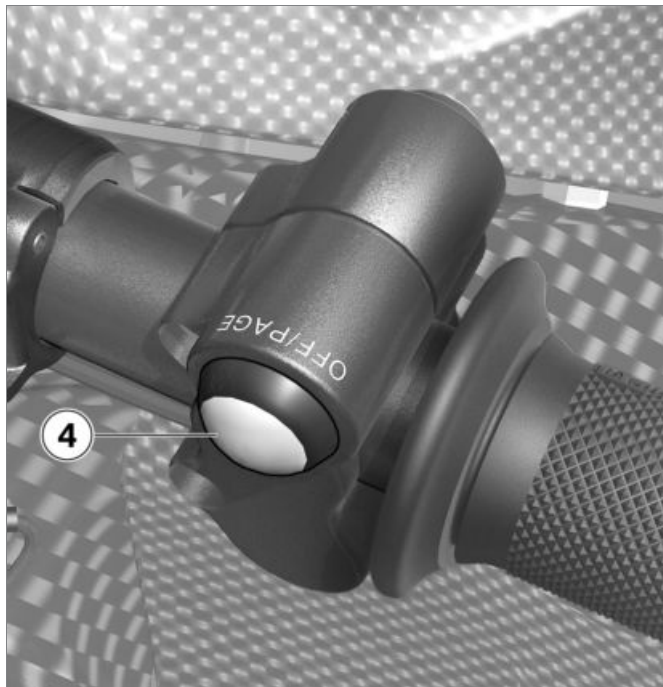


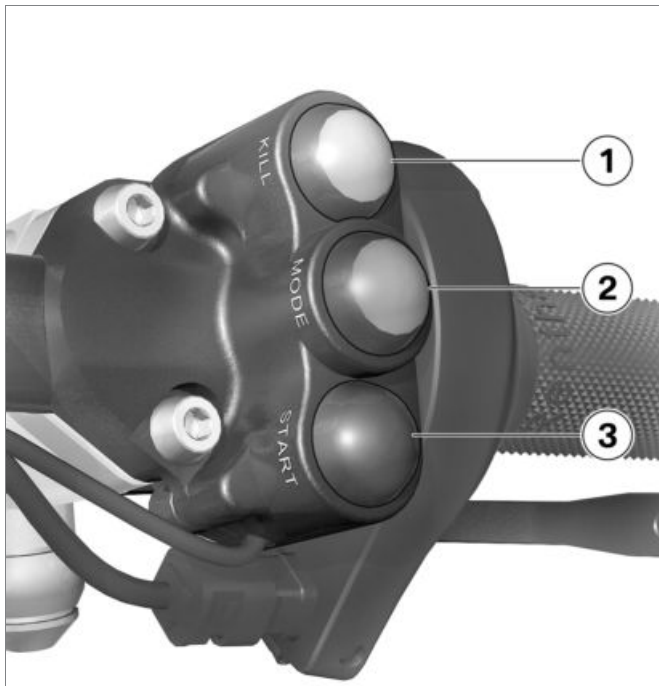
Left multifunction switch - front

- 1** TC/EB- button
Adapt DTC (➡ 93).
Adapt EBR (➡ 94).
- 2** TC/EB+ button
Adapt DTC (➡ 93).
Adapt EBR (➡ 94).
- 3** MODE button
Adapt DTC (➡ 93).
Adapt EBR (➡ 94).

Left multifunction switch - rear

- 4 OFF/PAGE button
Selecting displays in multi-function display (➡ 35).
Deactivating DTC (➡ 36).
Switching on DTC (➡ 36).



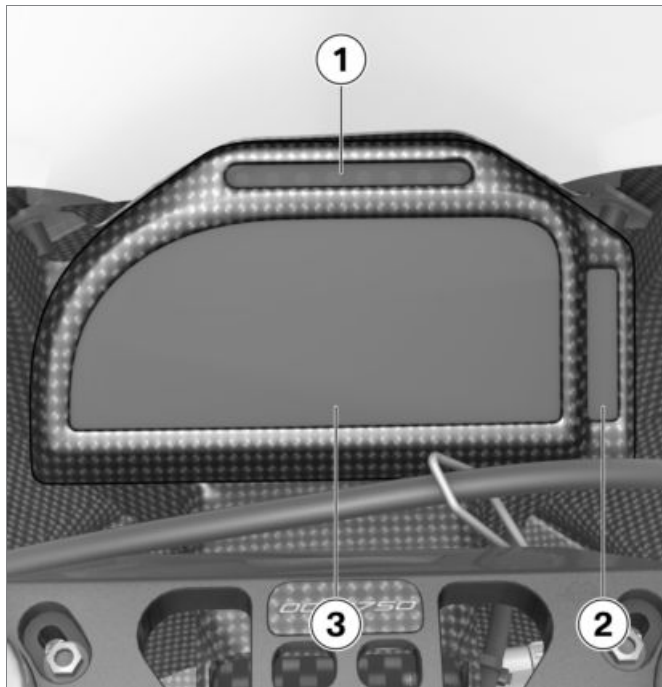


Multifunction switch, right

- 1** KILL button
Emergency on/off switch (kill switch) (➡ 32)
- 2** MODE button
Selecting riding mode (➡ 37)
- 3** START button
Start engine. (➡ 77)
Launch Control (➡ 83)
Speed limiter for pit lane (➡ 84)

Instrument panel

- 1 LED band: for visualization of the speed limit (➡ 80)
Shiftpoint light (➡ 80)
- 2 Indicator and warning lights (➡ 22)
- 3 Multifunction display rider view (➡ 23)

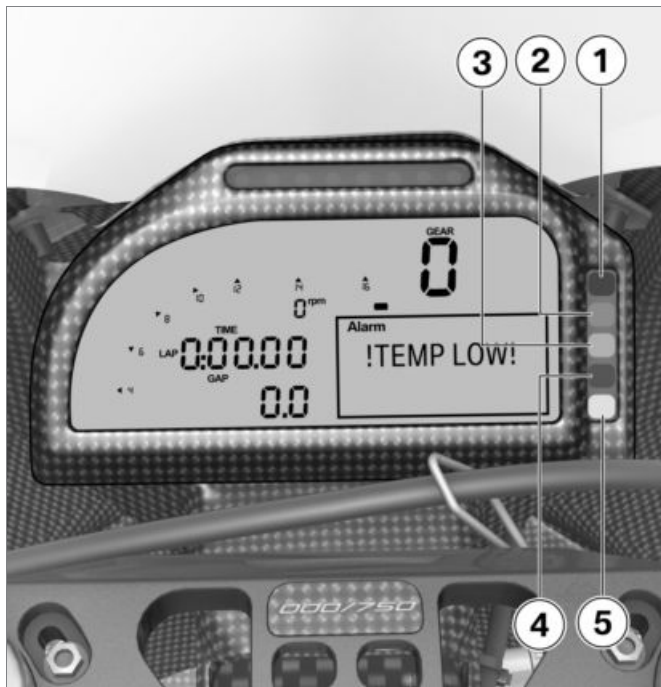


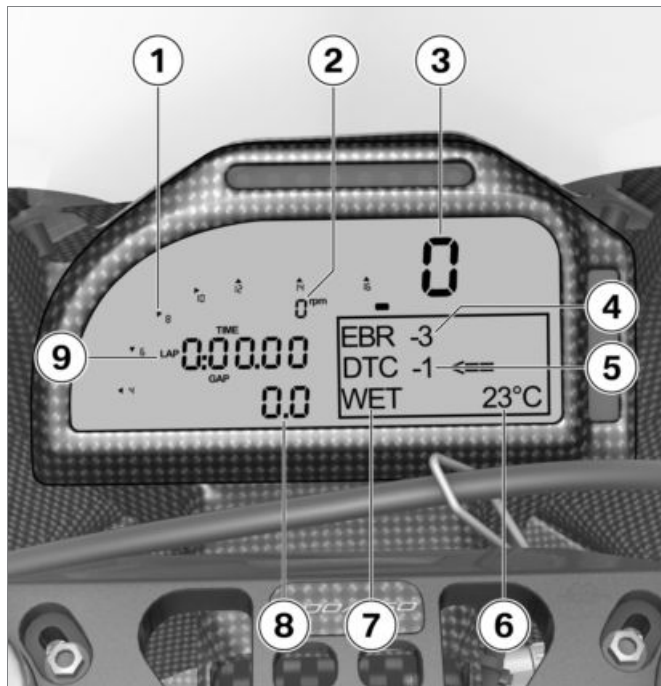
Displays

Indicator and warning lights	22
Multifunction display rider view	23
Warning lights	24

Indicator and warning lights

- 1 Coolant temperature cold (blue) (→ 24)
- 2 Fuel reserve or battery voltage too low (orange) (→ 27)
- 3 Light for the fastest lap (green) (→ 27)
- 4 Coolant or oil temperature too high (red) (→ 24)
- 5 DTC (orange) (→ 29)





Multifunction display rider view

- 1 Tachometer bar chart
- 2 Digital tachometer
- 3 Gear indicator
- 4 Engine brake EBR status display (▮▮▮ 94)
- 5 Traction control DTC status display (▮▮▮ 36)
- 6 Coolant temperature
- 7 Riding mode
Setting the riding mode.
(▮▮▮ 37)
- 8 Difference between previous lap time and best lap time
- 9 Current lap time



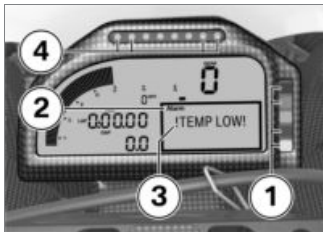
NOTICE

Information about the display modes for mechatronics technician is provided in Chapter 7. ◀

Warning lights

Displays

Warnings are displayed with appropriate warning lights.



In addition to the warning light **1**, an alarm **2** is displayed in the multifunction display with the corresponding warning **3**. In addition, depending on the alarm, the two respective external LEDs **4** of the LED band flash. If several warnings are active, all corresponding warning lights are displayed; warnings are rotated in the display.

You will find an overview of the potential warnings on the following pages.



The warning and the LEDs can be suppressed by pressing the OFF/PAGE button **1**. The warning light remains lit up. If the OFF/PAGE button **1** is pressed again, the warning is displayed again.

Overview of warning indicators

Indicator and warning lights	Display text	Meaning
 Blue warning light lights up.	!TEMP LOW! is displayed.	Coolant temperature too cold (▮▮▮ 27)
 Orange warning light (top) lights up.	!FUEL! is displayed.	Fuel down to reserve (▮▮▮ 27)
 Orange warning light (top) lights up.	!UB LOW! is displayed.	Low battery voltage (▮▮▮ 27)
 Green indicator light lights up.		Fastest lap (▮▮▮ 27)
 Red warning light lights up.	!TWAT HIGH! is displayed.	Coolant temperature above 104 °C (▮▮▮ 28)
 Red warning light lights up.	!ENGINE! is displayed. LED flashing.	Coolant temperature above 115 °C (▮▮▮ 28)
 Red warning light lights up.	!TOIL HIGH! is displayed. LED flashing.	Engine temperature too high (▮▮▮ 28)

Indicator and warning lights

Display text

Meaning

	Red warning light lights up.	! POIL! is displayed. LED flashing.	Oil pressure too low (with sensor installed) (➡ 29)
	Orange warning light (bottom) lights up.	! DTC OFF! is displayed.	DTC switched off (➡ 29)
	Orange warning light (bottom) lights up.	! DTC ERROR! is displayed. LED flashing.	DTC error (➡ 29)
		! LAUNCH! is displayed. LED flashing.	Launch Control activated (➡ 29)

Coolant temperature too cold



Blue warning light for coolant temperature too low lights up.

!TEMP LOW! is displayed.

Possible cause:

- The engine may only be moved in the optimum temperature window. The coolant and engine oil must be warmed up by running the engine in neutral. (➡ 79)

Fuel down to reserve



Orange warning light (top) lights up.

!FUEL! is displayed.



WARNING

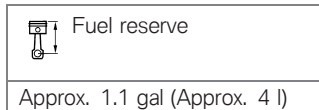
Rough engine running or switching off of the engine due to a lack of fuel

Accident hazard

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

Possible cause:

At the most, the fuel tank still contains the reserve fuel quantity.



- Refueling (➡ 88).

Low battery voltage



Orange warning light (top) lights up.

!UB LOW! is displayed.

Possible cause:



WARNING

Rough engine running or switching off of the engine due to low battery voltage

Accident hazard

- If the warning flashes, ride the motorcycle to the pit at the next opportunity. ◀

- The orange warning light lights up if the vehicle voltage drops below 12.2 V. Check voltage regulator and AC alternator.

Fastest lap



Green indicator light for fastest lap lights up.

When you start a new lap, your intermediate times are taken at regular intervals and compared with the corresponding intermediate times of the best lap stored in memory. If your intermediate times show that you are faster than on your previous best lap, the processor anticipates that this lap will be your new best time. The green indicator light lights up.

Coolant temperature above 104 °C



Red warning light for coolant temperature too high lights up (temperature higher than 104 °C).

!TWAT HIGH! is displayed.

Coolant temperature above 115 °C



Red warning light for coolant temperature too high lights up (temperature higher than 115 °C).

!ENGINE! is displayed.
LED flashing.



ATTENTION

Riding with overheated engine

Irreparable engine damage

- Only carry on riding in partial load range.◀

Possible cause:

The coolant temperature is too high.

- If possible, drive back to the pit in the part-load range to cool down the engine, but not too slowly.
- As the motorcycle does **not** have an electrical fan in order to save weight, the engine must not be left running for too long when still. If the coolant temperature is too high, it may be necessary to cool the radiator using a fan or blower.
- Should the coolant temperature frequently be too high, have the fault rectified as quickly as possible by an authorized workshop, preferably an authorized BMW Motorrad retailer.

Engine temperature too high



Red warning light lights up.

!TOIL HIGH! is displayed.
LED flashing.



ATTENTION

Riding with overheated engine

Irreparable engine damage

- Only carry on riding in partial load range.◀

Possible cause:

- If possible, drive back to the pit in the part-load range to cool down the engine.
- Check cooling system, particularly oil cooler.

Oil pressure too low (with sensor installed)



Red warning light lights up.

Possible cause:



ATTENTION

Riding with insufficient oil pressure

Engine damage

- Do not continue riding.◀
- Stop the motorcycle **immediately** and turn off engine.
- Have fault eliminated at a specialist service facility, preferably an authorized BMW Motorrad retailer.

DTC switched off



Orange warning light for DTC lights up.

! DTC OFF! is displayed.

Possible cause:

The DTC system was deactivated by the rider.

- Switching on DTC (→ 36).

DTC error



Orange warning light for DTC lights up.

! DTC ERROR! is displayed.
LED flashing.

Possible cause:

The control unit has detected a fault with the DTC. It must be noted that the DTC function is not available at all or is restricted.

- It remains possible to continue riding. You should also observe the additional information on situations that can lead to a DTC fault (→ 100).
- Have the malfunction corrected as soon as possible at an authorized service facility, preferably an authorized BMW Motorrad Retailer.

Launch Control activated

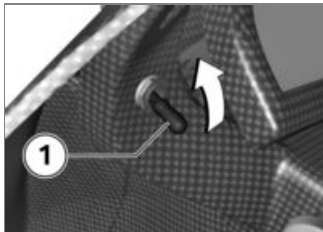
! LAUNCH! is displayed.
LED flashing.

Operation

Ignition switch	32
Emergency on/off switch (kill switch)	32
Multifunction display	34
Dynamic Traction Control (DTC)	36
Riding mode	37
Rider's seat	38

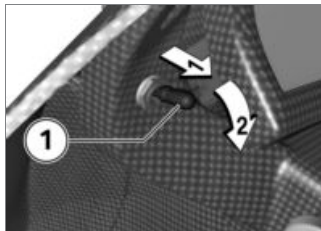
Ignition switch

Switching on ignition



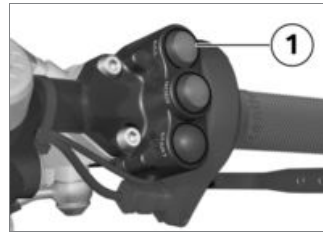
- Set ignition switch **1** in top position.
 - » Reset safeguard engages.
 - » All function circuits are turned on.
- Engine can be started if the emergency off switch is in normal operating position.
 - » Pre-Ride-Check is carried out. (▮▮▮▮ ➔ 78)

Switch off ignition



- Pull ignition switch **1**.
 - » Reset safeguard is released.
- Set ignition switch **1** in bottom position.
 - » All function circuits are turned off.

Emergency on/off switch (kill switch)



- 1** Emergency on/off switch (kill switch)

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



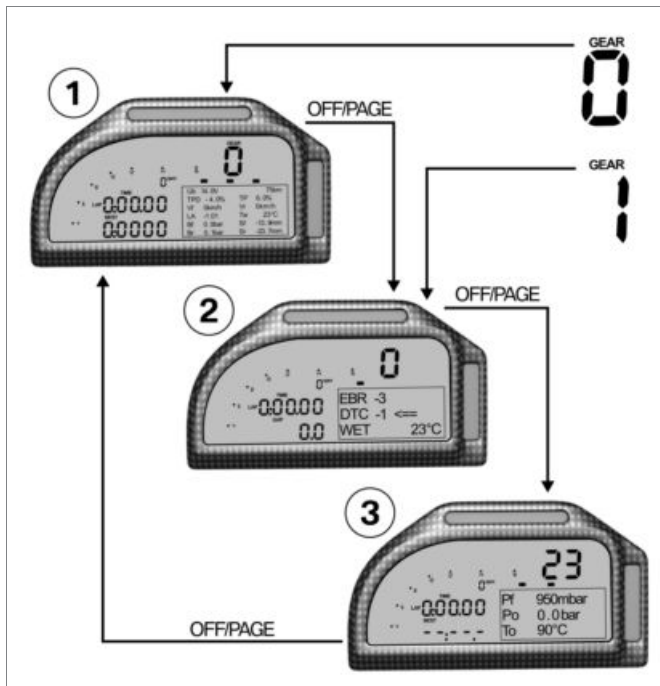
A Engine is switched off

B Operating position

Multifunction display

Overview

- 1 Mechatronics technician view 1
Standard display
Selecting displays in multi-function display (➡ 35).
- 2 Rider view
Selecting displays in multi-function display (➡ 35).
- 3 Mechatronics technician view 2
Selecting displays in multi-function display (➡ 35).



Selecting displays in multifunction display

- Switch on the ignition.
 - » The mechatronics technicians technician view 1 is automatically displayed in the multifunction display when the motorcycle still in idle position.



- Press OFF/PAGE **1** once.
 - » Rider view **2** is displayed.



- Press OFF/PAGE **1** once.
 - » Mechatronics technician view **2 3** is displayed.



- Press OFF/PAGE **1** once.
 - » Mechatronics technician view **1 4** is displayed.

- If a gear is engaged or if the motorcycle starts to move, the multifunction display changes to the rider view. Only this view can be displayed while driving.

Dynamic Traction Control (DTC)

Deactivating DTC

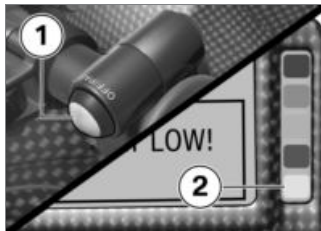
- Switch on the ignition.
- Emergency off switch must be in normal operating position.



NOTICE

The DTC function can also be deactivated while driving.◀

- Change display on the multifunction display to the rider view.



- Keep OFF/PAGE **1** pressed until the DTC indicator and warning light **2** lights up and the warning !DTC OFF! is displayed.



Orange warning light for DTC lights up.

- Release OFF/PAGE **1** within two seconds.



- The warning can be suppressed by pressing the OFF/PAGE button **1**. The warning light remains lit up. If the OFF/PAGE button **1** is pressed again, the warning is displayed again.

Switching on DTC

- Change display on the multifunction display to the rider view.



NOTICE

The DTC function can also be turned on while riding.◀

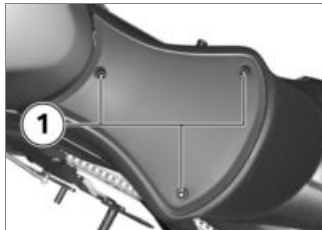


- Press **MODE 1** twice in quick succession.
 - » Riding mode is changed.
- The following riding modes can be selected:
- **WET:** When riding on wet roads with rain tires.
 - **INT:** When riding on slightly wet or drying roads.
 - **DRY1:** When riding on dry roads with softer response characteristics.
 - **DRY2:** When riding on dry roads with full power.
 - Repeat process repeatedly until the desired riding mode is

displayed in the multifunction display.

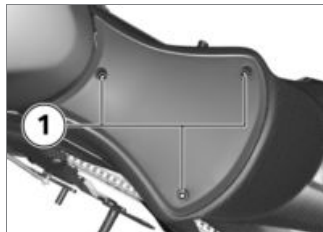
Rider's seat

Remove rider's seat



- Remove bolts **1** and remove rider's seat.
- Lay the rider's seat on a clean surface with the upholstered side down.

Installing rider's seat



- Attach rider's seat and fit bolts **1**.



NOTICE

Observe torque, otherwise there is a danger of damage to the carbon part. ◀



Rider's seat on tail section

Joint compound: Lubricate bolt, Optimoly TA

2 lb/ft (3 Nm)

Setting

Brakes	40
Steering damper	40
Stub handlebars	41
Observe the adjustment range on the telescopic forks	42
Steering head angle	43
Fork bridge offset	53
Spring preload	56
Damping	58
Ride height	61
Footrests	65
Foot piece for footbrake lever	66
Footbrake lever height	67
Foot piece for gearshift lever	68
Gearshift lever height	68

Seat height	69
Swinging arm	70

Brakes

Adjusting brake lever



Modified position of the brake fluid reservoir

Air in the brake system

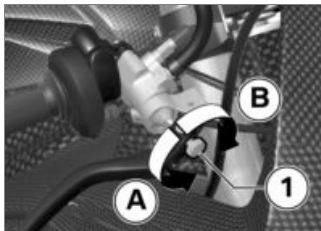
- Do not twist the handlebar fitting or the handlebars. ◀



Adjusting the brake lever while driving

Accident hazard

- Only adjust the brake lever when the motorcycle is stationary. ◀



- Turn adjusting screw **1** to desired position.



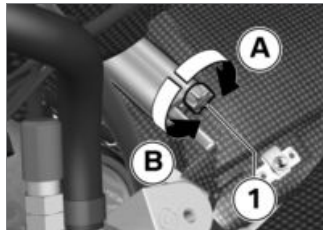
Brake lever adjustment range

20 stages

- » Adjustment options:
- In direction **A**: Distance between handlebar grip and brake lever is reduced.
 - In direction **B**: Distance between handlebar grip and brake lever is increased.

Steering damper

Adjusting the steering damper



Adjusting the steering damper while riding.

Accident hazard

- Never adjust the steering damper except while the motorcycle is stationary. ◀
- Turn adjustment screw **1** in direction **A** to increase damping force.

- Turn the screw **1** in direction **B** to reduce damping force.



Steering damper basic setting

10 clicks opened (from totally closed)

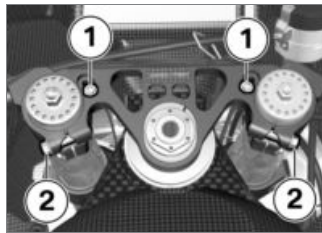


Steering damper adjustment range

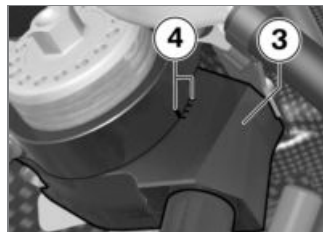
18 clicks

Stub handlebars

Setting the handlebar offset



- Release screws **1** and screws **2**.



- Adjust right handlebar clamp **3** in the area of the markings **4** to the desired position. Adjust the left handlebar clamp in the same way and make sure that both handlebar halves are set in the **same position**.



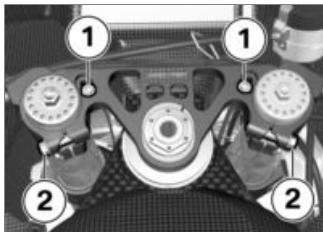
Handlebar offset basic setting

2nd position of handlebar half right at rear



Handlebar offset adjustment range

4 positions



- First tighten screws **1** and then screws **2** to the appropriate torque.



Locking screw on top
fork bridge

Joint compound: Lubricate
thread, Optimoly TA

6 lb/ft (8 Nm)



Handlebar clamp on fork
leg

Joint compound: Lubricate
thread, Optimoly TA

14 lb/ft (19 Nm)

Observe the adjustment range on the telescopic forks



ATTENTION

Free movement of components in steering range not guaranteed

Certain setting combinations can lead to components colliding

- Do not install the setting combinations from the technical data.
- The free movement of the front suspension, steering damper, trim panel components, radiator and brake line must be checked each time a change is made to the riding position. ◀

The HP4 Race provides a number of adjustment options for the chassis and suspension. However, not every possible com-

bination makes sense and, for safety reasons, not all combinations may be implemented.

This combination may not be installed

- Fork bridge offset 32 mm and steering head angle +1°

The reduced ground clearance must be taken into consideration when the front is lowered by the increased fork tube overhang. The maximum allowed fork tube overhang of 25 mm cannot be utilized with some fork bridge offset and steering head angle settings. Please see the **Maximum fork tube overhang information** in the **Technical Data** chapter.

The clearances for all suspension and cornering conditions must be checked each time the chassis and suspension settings are changed.

Steering head angle

Setting

The HP4 Race concept offers the option of adjusting the steering head angle to five different angles using different inserts. Special tools and additional tools such as the engine jack or safety stands on the frame and footrests are required for this; how to handle these tools is not addressed further here. If you are not sure whether this work is within your skill range, please contact a specialist workshop, preferably a BMW Motorrad partner.

Adjusting the steering head angle

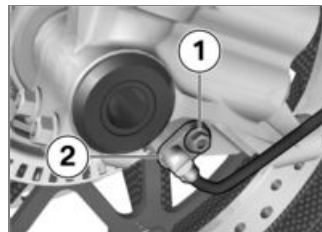


NOTICE

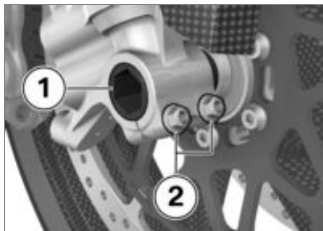
The additional steering head angle inserts are supplied without bearing shells.

If steering head angle inserts need to be exchanged, either the existing bearing shells need to be modified or an additional steering head bearing set is required. The bearing shells can be permanently installed in the bearing shell inserts which means it is possible to quickly change the steering head angle. ◀

- Remove the engine spoiler (➡ 128).
- Removing right fairing side panel (➡ 129).
- Remove left fairing side panel in the same way.
- Remove the upper section of the fairing (➡ 129).
- Lift the motorcycle with the engine jack so that the front end is relieved. Secure the motorcycle against falling over.



- Remove bolt **1** and loosen wheel speed sensor **2**.
- Remove brake calipers (➡ 112).

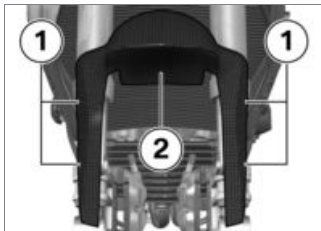


CAUTION

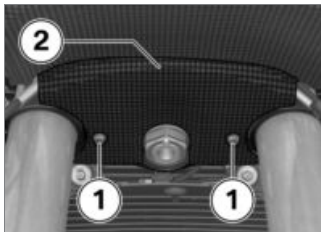
Component damage and malfunction of the assistance systems

Incorrect distance between sensor ring and wheel speed sensor

- Left clamp locks the threaded bush and must not be loosened or removed. ◀
- Loosen clamping bolt 2.
- Remove quick-release axle 1 while supporting wheel.
- Roll front wheel forward to remove it.



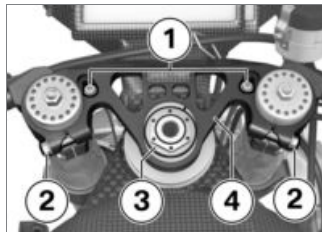
- Remove screws 1 and front wheel cover 2.



- Remove screws 1 and fork partition 2.

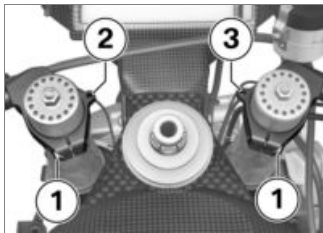


- Remove bolt 1 and loosen bracket 2.

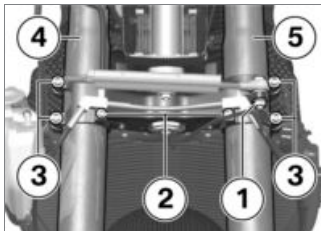


- Remove screws 1.
- Loosen screws 2.
- Remove steering head nut 3.

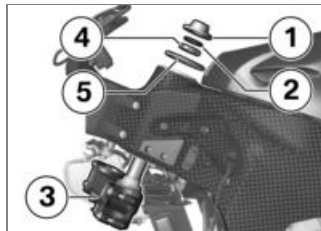
- Remove top fork bridge **4**.



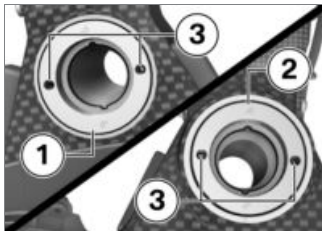
- Loosen screws **1**.
- Detach left stub handlebars **2** and right stub handlebars **3** from fork leg and leave to hang from motorcycle.



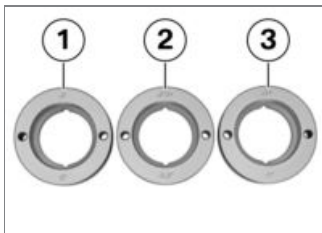
- Remove bolt **1** with washer and nut for steering damper.
- Remove bolts **2** and lay brake lines aside.
- Loosen bolts **3** and remove fork leg **4** and **5** downward.



- Remove lock nut **1** and rubber washer **2**.
- Hold down fork bridge **3** and remove slotted nut **4** with cover plate **5**.
- Pull out fork bridge **3** downward.



- Evenly push out steering-head bearing at bottom **1** and top **2** using the removal thread **3**.



- In addition to the steering-head bearing inserts with 0° installed by default **1**, steering-head bearing inserts with +/-

0.5° **2** and steering-head bearing inserts with +/- 1° **3** are also supplied.



Steering head angle basic setting

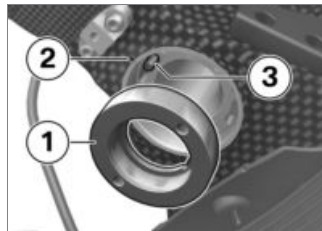
Steering head angle insert 0°



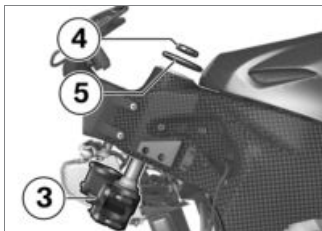
Steering head angle adjustment range

Steering head angle inserts +/- 0.5°; 0.0° and +/- 1°

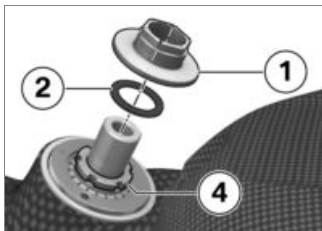
- During the installation, make sure that two identical the steering-head bearing inserts are installed at the top and bottom and that they are aligned with the markings on the frame using the same values.



- Align steering-head bearing insert **1** with the desired angular offset to the marking **2** on the frame.
- Attach the steering-head bearing insert **1** by hand so that the alignment tool **3** engages in the bore on the steering-head bearing insert **1**.
- Install steering-head bearing insert **1** in the frame with bearing draw-in set (83 30 0 444 323).



- Insert fork bridge **3** from below.
- Install slotted nut **4** with cover plate **5**.



- Tighten slotted nut **4** according to adjusting instructions.

Steering-head bearing adjusting instructions

18 lb/ft (25 Nm) (Tightening torque)

Swivel fork three times to the left/right

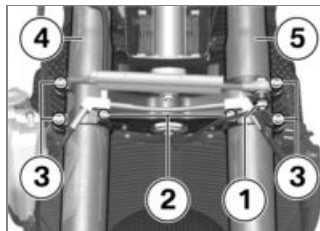
80° (slacken (fork on left steering stop))

4 lb/ft (5 Nm) (Tightening torque (fork on right steering stop))

- Install rubber ring **2** and lock nut **1** and tighten to specified torque.

Lock nut for steering-head bearing adjusting nut

2 lb/ft (3 Nm) (Tightening torque)



- Install fork legs **4** and **5** and provisionally tighten bolts **3**. After installing the top fork bridge, the fork tube overhang must be adjusted.
- Attach brake lines, fit bolts **2** and tighten to specified torque.

Brake line on fork bridge

Joint compound: Lubricate thread, Optimoly TA

6 lb/ft (8 Nm)

- Fit bolt **1** with washer and nut for steering damper and tighten to specified torque.



NOTICE

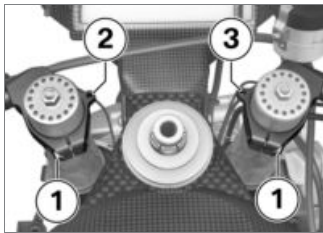
Washer must be fitted between **steering damper** and **fork bridge**.◀



Steering damper on fork bridge

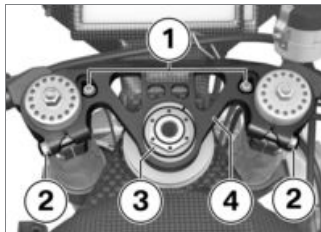
Thread-locking compound:
Loctite 243, Medium-firm

14 lb/ft (19 Nm)



- Install left stub handlebars **2** and right stub handlebars **3** on fork leg.

- Provisionally tighten bolts **1**.



- Install top fork bridge **4**.
- Install steering head nut **3** and tighten to specified torque.



Top fork bridge on head tube

59 lb/ft (80 Nm)

- Do not tighten bolts **2**.
- Fit bolts **1**, but do not tighten yet.



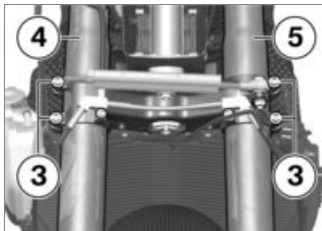
- Attach retainer **2** and fit bolt **1**.



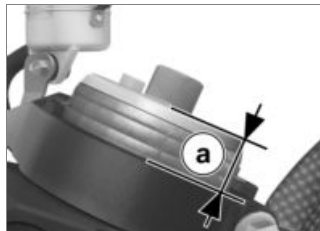
Clutch cable holder on top fork bridge

Joint compound: Lubricate thread, Optimoly TA

2 lb/ft (3 Nm)



- Loosen bolts **3** on lower fork bridge and adjust fork tube overhang on both fork legs **4** and **5**.



- Adjust desired fork tube overhang dimension **a** identically on both fork legs.

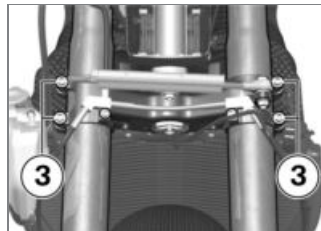


Projection of fork tube in
fork bridge, top

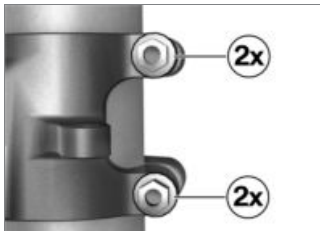
with cap

0.6 in (15 mm) (Basic setting)

0.2...1 in (5...25 mm) (Adjust-
ment range)



- Tighten screws **3** to appropriate torque.

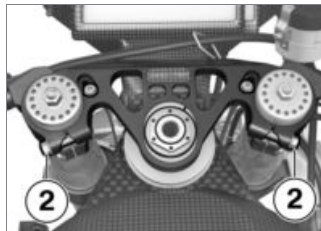


Bottom fork bridge on fixed fork tube

Tightening sequence: Tighten the screws 4 times, alternating between one and the other each time

Joint compound: Lubricate thread, Optimoly TA

10 lb/ft (14 Nm)



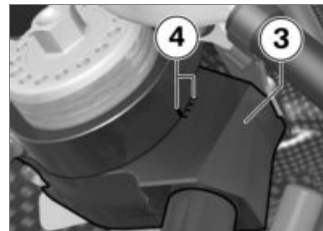
- Tighten screws **2** to appropriate torque.



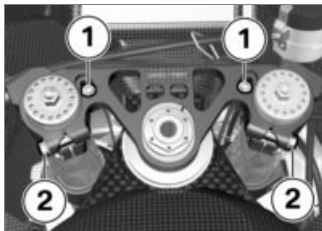
Top fork bridge on fixed fork tube

Joint compound: Lubricate thread, Optimoly TA

14 lb/ft (19 Nm)



- Adjust handlebar clamp **3** in the area of the markings **4** to the desired position. Adjust the left handlebar clamp to the same position.



- First tighten screws **1** and then screws **2** to appropriate torque.

 Locking screw on top fork bridge

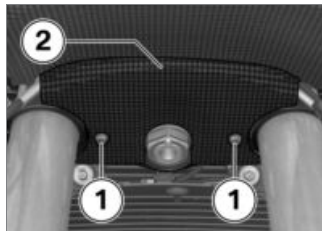
Joint compound: Lubricate thread, Optimoly TA

6 lb/ft (8 Nm)

 Handlebar clamp on fork leg

Joint compound: Lubricate thread, Optimoly TA

14 lb/ft (19 Nm)

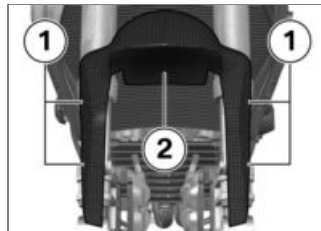


- Attach fork partition **2** and fit screws **1**.

 Fork partition on fork bridge

Joint compound: Lubricate thread, Optimoly TA

4 lb/ft (5 Nm)



- Attach front wheel cover **2** and fit bolts **1**.

 Front wheel cover on bracket for front wheel cover

Thread-locking compound: Loctite 243, Medium-firm

4 lb/ft (5 Nm)

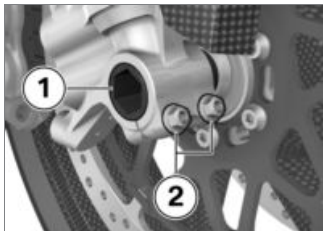
ATTENTION

Front wheel installation opposite the running direction

Accident hazard

- Observe running direction arrows on tire or rim. ◀

- Roll front wheel into front suspension.



- Lift front wheel and install quick-release axle **1** with appropriate torque.



Quick-release axle in threaded bush

Joint compound: Lubricate quick-release axle and thread, Optimoly TA

37 lb/ft (50 Nm)

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



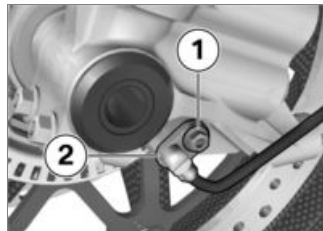
Clamping screw in axle adapter

Tightening sequence: Tighten the screws 4 times, alternating between one and the other each time

Joint compound: Lubricate thread, Optimoly TA

14 lb/ft (19 Nm)

- Fastening brake caliper (113).



- Secure wheel speed sensor **2** and fit bolt **1**.



Front wheel speed sensor on bracket

Joint compound: Lubricate thread, Optimoly TA

4 lb/ft (5 Nm)

- Remove engine jack.
- Install the upper section of the fairing (130).
- Install the right fairing side panel (130).
- Install left fairing side panel in the same way.
- Install engine spoiler (130).

Fork bridge offset

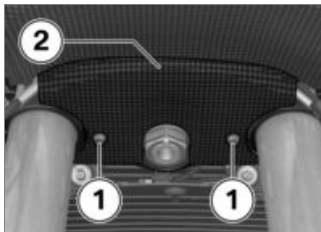
Setting

The HP4 Race concept provides the option to adjust the fork bridge offset to four offsets using different inserts. Special tools and additional tools such as the engine jack or safety stands on the frame and footrests are required for this; how to handle these tools is not addressed further here. If you are not sure whether this work is within your skill range, please contact a specialist workshop, preferably a BMW Motorrad partner.

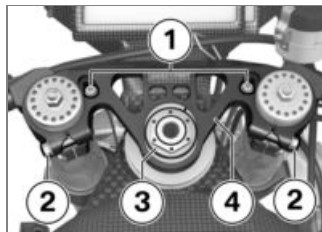
Adjusting the fork bridge offset

- Remove the engine spoiler (111111 128).
- Removing right fairing side panel (111111 129).
- Remove left fairing side panel in the same way.

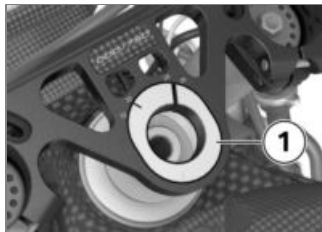
- Lift the motorcycle with the engine jack so that the front end is relieved. Secure the motorcycle against falling over.
- Remove front wheel (111111 123).



- Remove screws **1** and fork partition **2**.

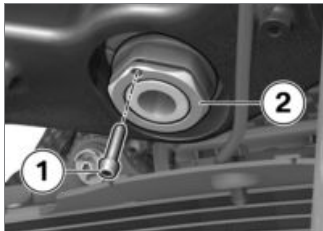


- Remove screws **1**.
- Loosen screws **2**.
- Remove steering head nut **3**.
- Raise top fork bridge **4**.

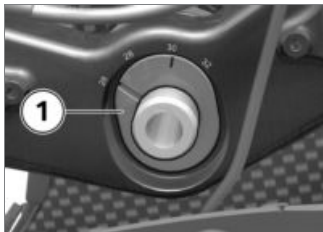


- Remove fork bridge insert **1**.

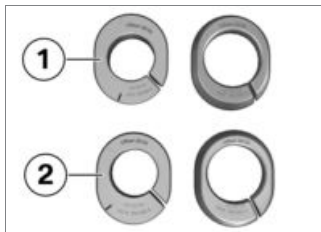
- Support front forks using suitable tool.



- Remove retaining screw **1**.
- Remove nut **2**.



- Remove fork bridge insert **1**.



- In addition to the fork bridge inserts with 28/30 mm **1** installed by default, fork bridge inserts with 26/32 mm **2** are also supplied.



Fork bridge offset basic setting

Fork bridge insert 30 mm



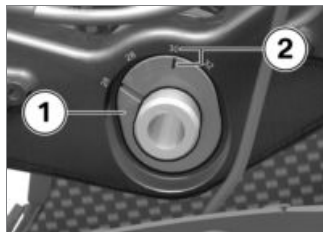
Fork bridge offset adjustment range

Fork bridge inserts 26/32 mm and 28/30 mm

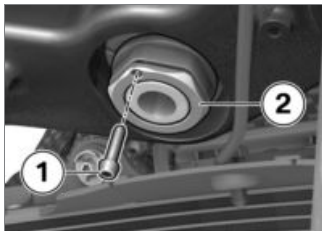
- The fork bridge inserts can be installed in two positions; this

results in four different fork bridge offsets.

- During the installation, make sure that the fork bridge inserts at the top and bottom are both installed with the same offset; align them with the markings on the fork bridge using the same values.



- Install fork bridge insert **1**, taking care to align it with the fork bridge using the marking **2** for the desired offset.



- Install nut **2** and tighten to specified torque.

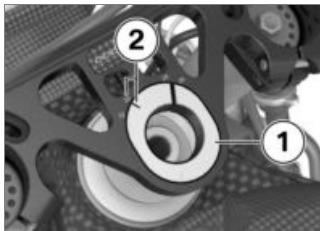
 Lock nut on lower head tube

44 lb/ft (60 Nm)

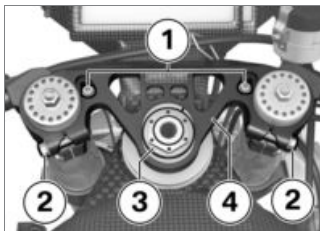
- Install retaining screw **1**.

 Retaining screw on lock nut for lower head tube

2 lb/ft (3 Nm)



- Install fork bridge insert **1**, taking care to align it with the fork bridge using the marking **2** for the desired offset.



- Install top fork bridge **4**.

- Install steering head nut **3** and tighten to specified torque.

 Top fork bridge on head tube

59 lb/ft (80 Nm)

- Tighten screws **2** to appropriate torque.

 Top fork bridge on fixed fork tube

Joint compound: Lubricate thread, Optimoly TA

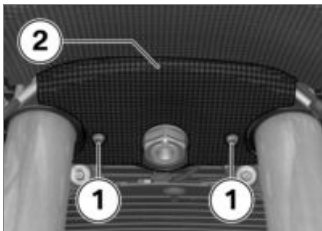
14 lb/ft (19 Nm)

- Install screws **1** and tighten to specified torque.

 Locking screw on top fork bridge

Joint compound: Lubricate thread, Optimoly TA

6 lb/ft (8 Nm)



- Attach fork partition **2** and fit screws **1**.
- Install the front wheel (➡ 124).
- Remove engine jack.
- Install the right fairing side panel (➡ 130).
- Install left fairing side panel in the same way.
- Install engine spoiler (➡ 130).

Spring preload

Adjusting the spring preload on the front wheel

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

- Adjust the spring preload to the rider's weight for the basic setting. The data from the spring travel indicator or data recording must be used for fine tuning.



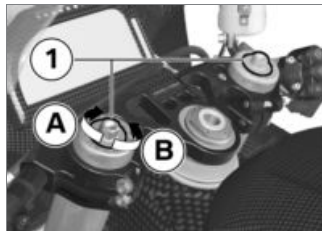
Front forks spring
preload basic setting

Turn adjuster as far as possible anticlockwise, then turn 5 mm (5 revolutions) clockwise



Front forks spring
preload adjustment
range

0...18 mm correspond to
18 revolutions



WARNING

Uncoordinated settings of spring preload and spring strut damping.

Poorer handling.

- Adjust damping characteristic to changed spring preload. ◀
- To decrease spring deflection (increase spring preload), turn adjusting screws **1** in direction **A**.
- To increase spring deflection (reduce spring preload), turn adjusting screws **1** in direction **B**.

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

Adjusting the spring preload on the rear wheel

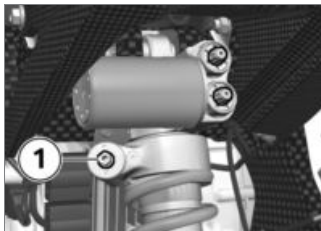
- Park motorcycle, ensuring that support surface is firm and level.
- Adjust the spring preload to the rider's weight for the basic setting. The data from the data recording must be used for fine tuning.

 Spring strut spring preload basic setting

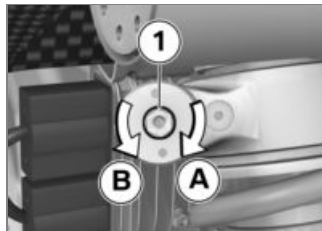
Turn adjuster as far as possible anticlockwise, then turn 1 mm (2 revolutions) clockwise

 Spring strut spring preload adjustment range

0...8.5 mm correspond to 17 revolutions



- Adjust spring preload using the adjusting screw **1**.



WARNING

Uncoordinated settings of spring preload and spring strut damping.

Poorer handling.

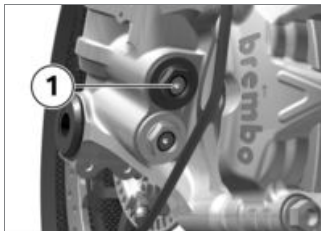
- Adjust damping characteristic to changed spring preload. ◀
- To decrease spring compression (increase spring preload), turn adjusting screw **1** in direction **A**.
- To increase spring compression (reduce spring preload), turn adjusting screw **1** in direction **B**.

Damping Setting

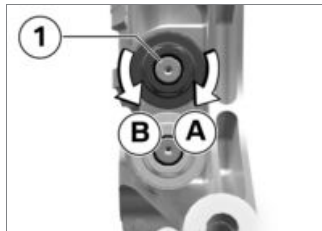
Damping must be adjusted to the road conditions and the spring preload.

- A rough road surface requires softer damping than a smooth road surface.
- An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.
- The damping setting is counted from completely closed position (turn adjusting screw clockwise as far as possible).

Adjusting the rebound-stage damping on front wheel



- Adjust the rebound-stage damping on the fork base of both fork legs using the top adjusting screw **1**.



- To increase the damping: Turn adjusting screw **1** in direction **A**.
- To reduce the damping: Turn adjusting screw **1** in direction **B**.



Front forks rebound basic setting

Turn adjuster (R) as far as possible clockwise, then 20 clicks counterclockwise



Front forks rebound adjustment range

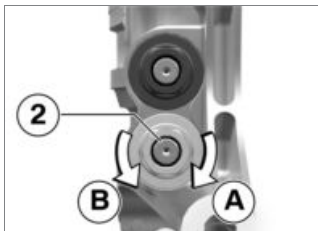
1...26 clicks

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

Adjusting the compression damping on the front wheel



- Adjust the compression damping on the fork base of both fork legs using the adjusting screw **2**.



- To increase the damping: Turn adjusting screw **2** in direction **A**.
- To reduce the damping: Turn adjusting screw **2** in direction **B**.



Front forks compression stage basic setting

Turn adjuster (C) as far as possible clockwise, then 20 clicks counterclockwise



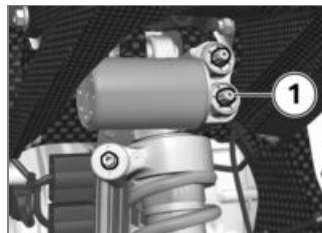
Front forks compression stage adjustment range

1...26 clicks

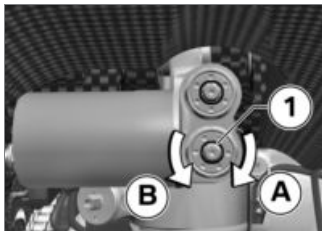
- Make sure that the same values are set on the left and right.

Adjusting the rebound-stage damping on the rear wheel

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



- Adjust rebound-stage damping with the lower adjusting screw **1**.



- To increase the damping: Turn adjusting screw **1** in direction **A**.
- To reduce the damping: Turn adjusting screw **1** in direction **B**.



Spring strut rebound basic setting

Turn adjuster (R) as far as possible clockwise, then 12 clicks counterclockwise



Spring strut rebound adjustment range

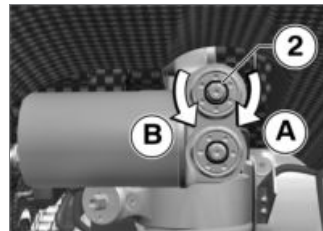
1...26 clicks

Adjusting the compression damping on rear wheel

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



- Adjust compression damping with top adjusting screw **2**.



- To increase the damping: Turn adjusting screw **2** in direction **A**.
- To reduce the damping: Turn adjusting screw **2** in direction **B**.



Spring strut compression stage basic setting

Turn adjuster (C) as far as possible clockwise, then 18 clicks counterclockwise



Spring strut compression stage adjustment range

1...26 clicks

Ride height

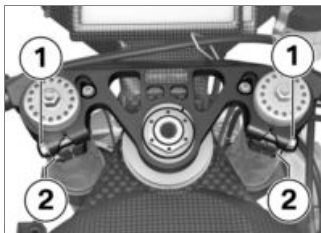
Setting

When adjusting the ride height, be aware that the clearance of various components cannot be guaranteed for certain setting combinations. It is therefore important to always check the clearance of the steering, front wheel, rear wheel swinging arm, and rear wheel after any changes are made.

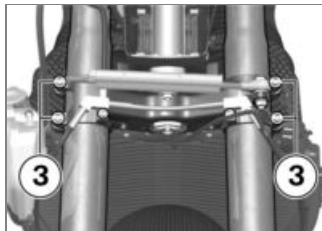
Adjusting the front ride height

- Park motorcycle, ensuring that support surface is firm and level.
- Remove the engine spoiler (► 128).
- Removing right fairing side panel (► 129).
- Remove left fairing side panel in the same way.

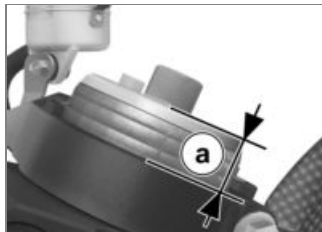
- Lift the motorcycle with the engine jack so that the front end is relieved. Secure the motorcycle against falling over.



- Loosen screws 1.
- Loosen screws 2.



- Support front forks using suitable tool.
- Loosen screws 3.



- Set fork tube overhang (equivalent to the ride height) **a** to the desired value.



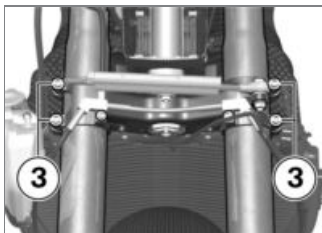
Projection of fork tube in
fork bridge, top

with cap

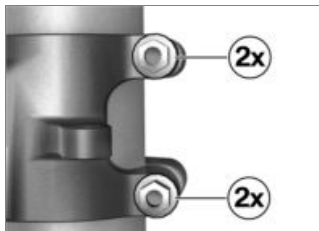
0.6 in (15 mm) (Basic setting)

0.2...1 in (5...25 mm) (Adjust-
ment range)

- Make sure that the fork tube
overhang is the same on both
fork legs.



- Tighten screws **3** to appropri-
ate torque.

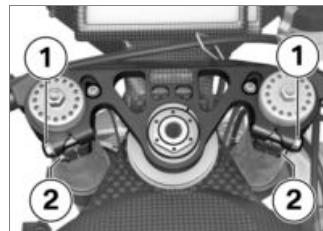


Bottom fork bridge on
fixed fork tube

Tightening sequence: Tighten
the screws 4 times, alternating
between one and the other
each time

Joint compound: Lubricate
thread, Optimoly TA

10 lb/ft (14 Nm)



- Tighten screws **1** to appropri-
ate torque.



Top fork bridge on fixed
fork tube

Joint compound: Lubricate
thread, Optimoly TA

14 lb/ft (19 Nm)

- Tighten screws **2** to appropri-
ate torque.



Handlebar clamp on fork
leg

Joint compound: Lubricate
thread, Optimoly TA

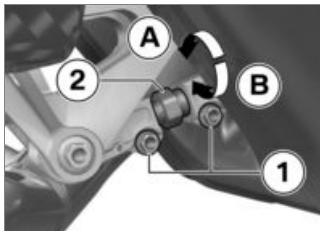
 Handlebar clamp on fork leg

14 lb/ft (19 Nm)

- Remove engine jack.
- Install the right fairing side panel (➡ 130).
- Install left fairing side panel in the same way.
- Install engine spoiler (➡ 130).

Adjusting the rear ride height at the tension strut

- Park motorcycle, ensuring that support surface is firm and level.
- Remove the engine spoiler (➡ 128).
- Lift the motorcycle with the engine jack so that the rear wheel swinging arm is relieved. Secure the motorcycle against falling over.



- Loosen clamping bolt **1**.
- To increase the ride height: Turn the adjusting screw **2** in direction **A**.
- To reduce the ride height: Turn the adjusting screw **2** in direction **B**.



Tension strut length

4.4 in (113 mm) (Basic setting)

4.3...4.6 in (108...118 mm)
(Adjustment range)

- Tighten clamping bolts **1**.

 Clamping bolt on tension strut

Joint compound: Lubricate thread, Optimoly TA

7 lb/ft (10 Nm)

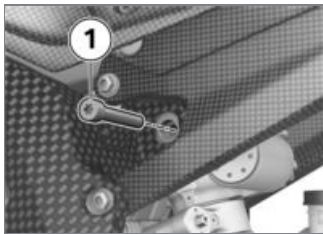
- Remove engine jack.
- Install engine spoiler (➡ 130).

Rear ride height (Ride-Height)

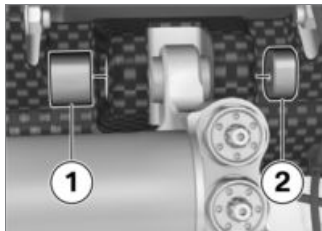
The ride height at the rear-wheel guide can be adjusted using the following parameters: swing-arm pivot point, top spring strut attachment position and tension strut length. The ride height of the motorcycle is precisely adjusted by setting the tension strut length before delivery to the customer. The tension strut length may therefore differ slightly from the nominal dimension of 113 mm.

Adjusting the rear ride height at the spring strut attachment point

- Park motorcycle, ensuring that support surface is firm and level.
- Remove the engine spoiler (➡ 128).
- Lift the motorcycle with the engine jack so that the rear wheel swinging arm is relieved. Secure the motorcycle against falling over.



- Remove the screw **1**.



- Remove sliding blocks **1** and **2** and install in inverted position.



Rear vehicle height

0 mm (lower eye) (Basic setting)

0/-3 mm (Adjustment range)



- Fit bolt **1** and tighten to specified torque.



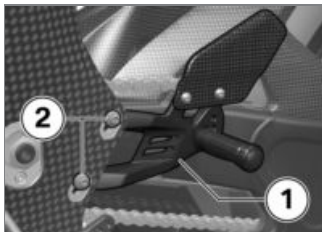
Spring strut on main frame

41 lb/ft (56 Nm)

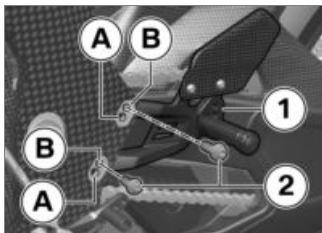
- Remove engine jack.
- Install engine spoiler (➡ 130).

Footrests

Adjusting the footrests



- To adjust the footrest plate **1**, remove the bolts **2**.



- Attach footrest plate **1** in desired position. Footrest plate **1**

can be installed in two positions **A** or **B**.

- Fit bolts **2** and tighten to specified torque.

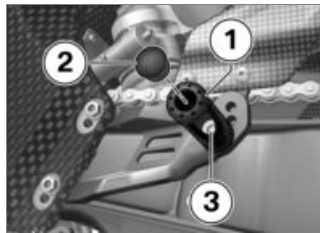


Driver's footrest bracket on main frame

Joint compound: Lubricate thread, Optimoly TA

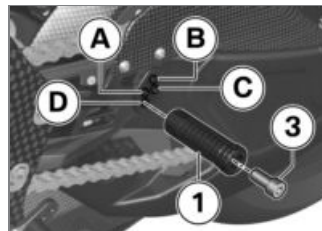
14 lb/ft (19 Nm)

- On the right-hand side, adjust the footrest plate in the same way.



- To adjust the footrest **1**, remove the protective cap **2**.

- Remove bolt **3** and take out footrest **1**.



- Attach footrest **1** in desired position. Footrest **1** can be installed in four positions **A**, **B**, **C** or **D**.
- Fit bolt **3** and tighten to specified torque, making sure to brace footrest **1**.



Footrest on footrest plate

Thread-locking compound: Loctite 243, Medium-firm

18 lb/ft (25 Nm)



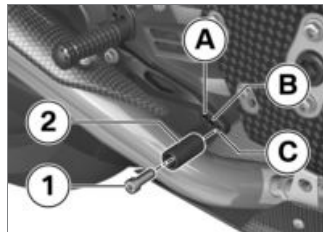
- Install protective cap **2**.

Foot piece for footbrake lever

Adjusting the foot piece on the footbrake lever



- Remove bolt **1** and foot piece **2**.



- Attach foot piece **2** in desired position. Foot piece **2** can be install in three positions **A**, **B** or **C**.
- Fit bolt **1** and tighten to specified torque.



Foot piece on footbrake lever

7 lb/ft (10 Nm)

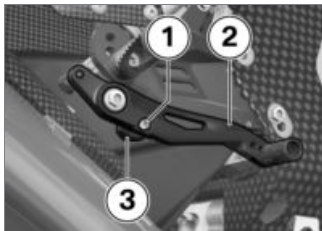
Footbrake lever height

Adjusting the footbrake lever height



NOTICE

After adjusting the footbrake lever, the free travel of the pushrod must be adjusted on the brake pedal cylinder.◀



- Loosen the screw **1**.
- Press down footbrake lever **2** and turn eccentric **3** until desired footbrake lever **2** height is reached.

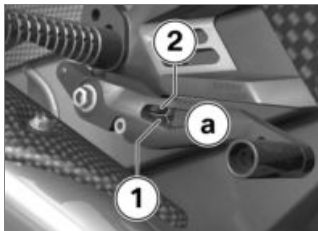
- Tighten bolt **1**, making sure to brace eccentric **3**.



Eccentric height adjustment on brake lever

Joint compound: Lubricate thread, Optimoly TA

4 lb/ft (5 Nm)



- Check blow-by clearance **a** between eccentric **1** and stop **2**.

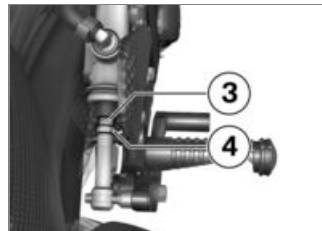


Blow-by clearance of footbrake lever

0.08 in (2 mm) (between eccentric and stop)

Blow-by clearance not correct

- Adjust blow-by clearance.



- Loosen nut **3** on pushrod **4**.
- Twist pushrod **4** until play on brake lever is correct.
- Counter nut **3** on pushrod **4**.

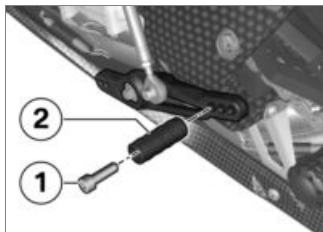


Pushrod on brake pedal cylinder

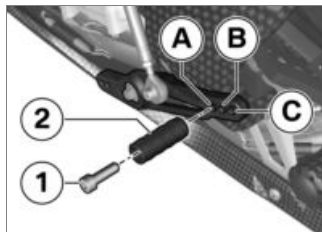
4 lb/ft (6 Nm)

Foot piece for gearshift lever

Adjusting the foot piece on the gearshift lever



- Remove bolt **1** and foot piece **2**.



- Attach foot piece **2** in desired position. Foot piece **2** can be install in three positions **A**, **B** or **C**.
- Fit bolt **1** and tighten to specified torque.

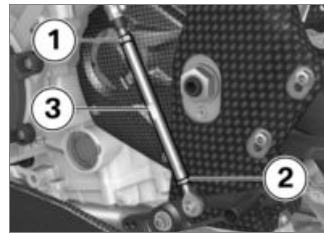


Foot piece on gearshift lever

7 lb/ft (10 Nm)

Gearshift lever height

Adjusting the gearshift lever height



- Loosen nuts **1** and **2**, making sure to brace on gearshift rod **3**.
- Turn gearshift rod **3** until the gearshift lever has reached the desired height.



Gearshift rod length

Distance between both steering head axles



Gearshift rod length

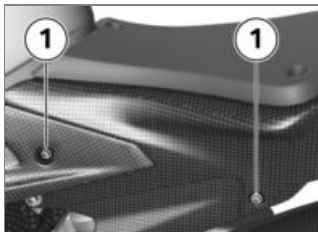
10.3 in (260.8 mm) (Delivery status)

10.3...10.7 in
(260.8...272.8 mm)
(Adjustment range)

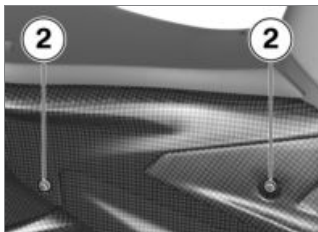
- Tighten nuts **1** and **2**, taking care to counter on the gearshift rod **3**.
- Make sure that joints are not stressed on tightening.

Seat height

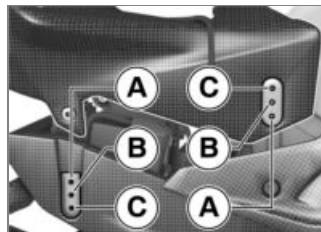
Adjusting the seat height



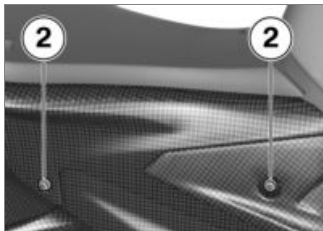
- Remove screws **1**.



- Remove screws **2**.



- The tail section can be installed in the position **A**, **B** or **C**.
- When doing so, make sure that the same height is set at the front and rear.
- Position **A** is the delivery status.



- Fit bolts **2**, do not tighten.



- Fit and tighten bolts **1**.



Tail section with tank cover on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

6 lb/ft (8 Nm)



Tail section on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

6 lb/ft (8 Nm)



Tail section with tank cover on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

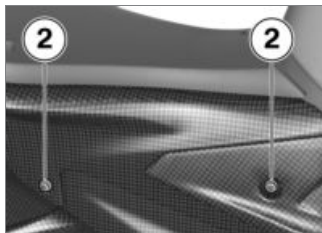
6 lb/ft (8 Nm)



Tail section on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

6 lb/ft (8 Nm)



- Tighten screws **2**.

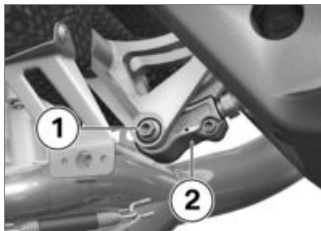
Swinging arm Setting

The HP4 Race concept provides the option to adjust the swinging arm pivot point to various positions. Additional tools such as the engine jack or footrest stands are required for this; how to handle these tools is not addressed further here. If you are not sure whether this work is within your

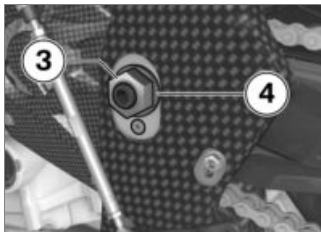
skill range, please contact a specialist workshop, preferably a BMW Motorrad partner.

Setting the swing arm pivot point

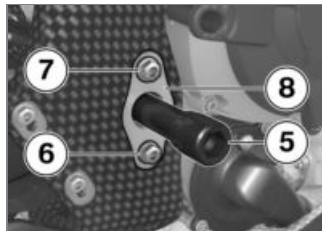
- Park motorcycle, ensuring that support surface is firm and level.
- Remove the engine spoiler (► 128).
- Raise the motorcycle using an engine jack or another suitable jack so that the rear wheel swinging arm is relieved.
- Support the rear wheel swinging arm before removing the swing axle and secure against falling over.



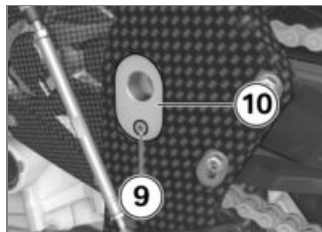
- Remove bolt **1** and loosen pivot strut **2**.



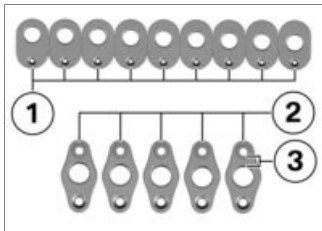
- Remove nut **3** and washer **4**.



- Remove swing axle **5**.
- Remove bolts **6** and **7** insert **8**.

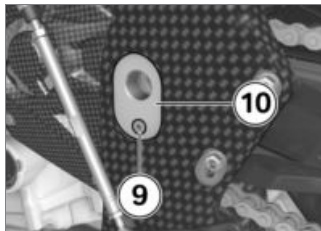


- Remove bolt **9** and insert **10**.



- Select desired inserts for left **1** and right **2**.
- Here it is important to note:
 - The inserts for the right-hand side can be installed in two positions. The offset is specified with + or - on the insert.
 - The offset specification **3**, which can be read above the swing axle, is the valid value.
 - The inserts for the left-hand side can only be installed in one position.
- **The inserts for the left and right must always be in-**

stalled with the same off-set.



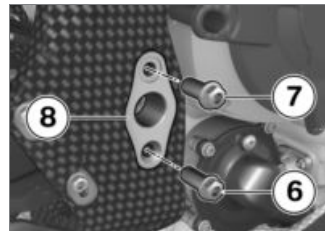
- Install desired insert **10** and bolt **9**.



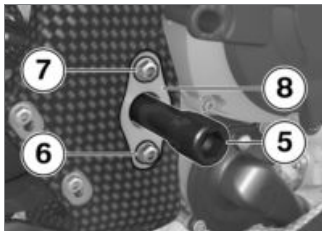
Left swinging arm bearing insert on frame

Thread-locking compound:
Loctite 243, Medium-firm

4 lb/ft (5 Nm) (Countersunk screw)



- When fitting the bolts **6** and **7**, note that the bolt **6** with a countersunk cone needs to be fitted in the countersunk bore of the insert **8**.



- Install desired insert **8** and fit bolt **6** so that it is hand-tight.
- Fit bolt **7** and tighten both bolts with specified torque.

 Right swinging arm bearing insert on frame

Joint compound: Lubricate thread, Optimoly TA

28 lb/ft (38 Nm) (with countersunk taper)

Joint compound: Lubricate thread, Optimoly TA

28 lb/ft (38 Nm) (with collar)

- Install swing axle **5** and tighten to specified torque.

 Swing axle on frame

7 lb/ft (10 Nm)



- Install nut **3** with washer **4** and tighten to specified torque, making sure to **brace swing axle 5**.

 Nut on swing axle

Thread-locking compound: mechanical

 Nut on swing axle

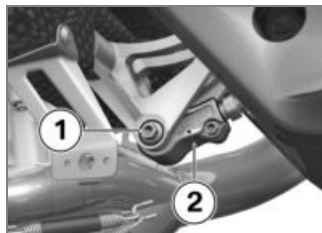
74 lb/ft (100 Nm)

- Tighten screw **9** to specified torque.

 Left swinging arm bearing insert on frame

Thread-locking compound: Loctite 243, Medium-firm

4 lb/ft (5 Nm) (Countersunk screw)



- Attach pivot strut **2**, fit bolt **1** and tighten to specified torque.

Riding

Safety information	76
Checklist.....	77
Starting	77
Bringing the engine up to operating temperature	79
Running in	79
Shifting gears	80
Brakes	81
Start of race	82
Speed limiter for pit lane	84
Parking your motorcycle	84

Safety information

M Sport is dangerous

BMW Motorrad wants you to have a great time with your motorcycle. That's why you should be aware that the HP4 Race is a very special motorcycle whose unique purpose is for racing. Engine power at superbike world championship level and a weight close to that of a MotoGP motorcycle creates extraordinary driving dynamics that are not comparable with a road-approved motorcycle. This requires a calm riding style, particularly in the initial turns. Gradually get used to the ride feeling, throttle response, control characteristics of the assistance systems, engine power and braking response. Familiarize yourself with the racing sport features. Read this rider's manual and observe the warnings and notes.

Rider's Equipment

Never ride without wearing the right clothing! Always wear:

- Helmet
- Leather combination suit
- Back protector
- Gloves
- Boots

This applies throughout the whole year. Your authorized BMW Motorrad retailer will be happy to advise you and has the correct clothing for every purpose.

Speed

While riding at high speeds on the racing track, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:

- Settings of spring-strut and shock absorber system
- incorrect tire pressure
- worn racing tires

- temperature and condition of the road
- Etc.

Risk of poisoning

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



WARNING

Harmful exhaust gas

Danger of suffocation

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

Burn hazard



CAUTION

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.◀

Danger of overheating



ATTENTION

Engine running for an extended period while stationary

Overheating caused by insufficient cooling, vehicle fire in extreme cases

- Do not allow the engine to idle unnecessarily.

- Drive off after reaching the operating temperature, or turn off the engine again.◀

Outside temperatures

Do not drive the motorcycle outside of the specified temperature range.



Recommended outside-
temperature range

41...104 °F (5...40 °C)

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.

Before every journey:

- Check tire pressure and tire condition.
- Check operation of the brake system.
- Checking clutch function (121).
- Check function and free movement of the steering damper and the steering.
- Check settings of DTC, EBR and riding mode.

Starting

Starting engine

- Switch on the ignition.



ATTENTION

Component damage

Starting the engine with gear engaged

- The motorcycle is not equipped with engine starting suppression. Always engage neutral gear when starting or pull the clutch. ◀
- Engage neutral, or pull back clutch lever if a gear is engaged.
- In the case of cold start or under cold temperatures: Pull back clutch lever.



- Press KILL button **1**.
- » Button engages.
- Press START button **2**.



NOTICE

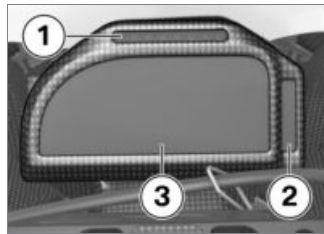
The starting attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you attempt to start the engine again, or use jumper cables and a donor battery to start. More detailed information can be found in the "Maintenance" chapter under "Jump-starting". ◀

» Engine starts.

Pre-Ride-Check

After the ignition is switched on, the instrument panel performs a Pre-Ride-Check test to check the warning lights and the tachometer. Only start the engine if the Pre-Ride-Check has been completed.

Phase 1



The LED band **1** lights up from left to right.

The warning and indicator lights **2** light up from top to bottom.

The start screen appears in the multifunction display **3**.

Phase 2

The LED and the warning and indicator lights are unlit; the mechatronics technician page 1 is displayed in the multifunction display.

Should one of the warning lights fail to appear:

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.

Bringing the engine up to operating temperature

It is very important that the engine and its operating fluids are at the right temperature before you start riding on the racing track.

Therefore warm up the coolant and engine oil according to the following procedure:

- Run engine in neutral until the coolant temperature reaches 90 °C.
- Turn off engine and wait for 10 minutes.
- Start engine again and run until the coolant temperature reaches 90 °C again.

Your motorcycle is now completely warmed up and ready for use.

Running in Engine

- The HP4 Race engine is broken-in ex-works and can be fully loaded immediately within the intended temperature limits.

Brake discs

New brake discs need to be broken in so that they can achieve their optimum performance and to avoid damage caused by distortion.

If possible, use used brake pads to break-in the brake discs. Ride 4-5 laps and brake softly at an average speed. Avoid any kind of thermal peak load. After completing the breaking-in laps, park the motorcycle in the pit and allow the brakes to cool down completely without using any tools.

Do not brake while accelerating the motorcycle. This can lead to

a sudden increase in temperature that impairs the brake discs' coefficient of friction.

WARNING

New brake discs

Extension of the braking distance, risk of accident

- Brake early.◀

Brake pads

New brake pads must be run in before they achieve their optimum friction force.

If possible, use used brake discs to break-in the brake pads. Ride 2-3 laps and brake softly at an average speed. Avoid any kind of thermal peak load.

If new brake pads and new brake discs need to be broken in at the same time, perform the breaking-in procedure particularly carefully. Do not brake while accelerating the motorcycle. This can lead to a sudden increase in temperature

that impairs the brake pads' coefficient of friction.

WARNING

New brake pads

Extension of the braking distance, accident hazard

- Brake early.◀

Tires

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

WARNING

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

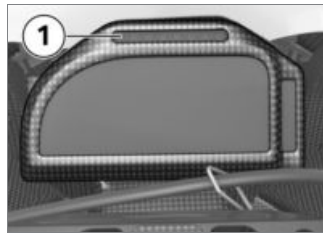
Accident hazard

- Always think well ahead and avoid extreme angles.◀

The tires must always be pre-heated using tire heaters. This helps to reduce the risk of accident due to cold tires and also increase the service life of the tires.

Shifting gears

Shiftpoint light



While driving, the LED band **1** indicates the speed at which the rider should shift up to the next-highest gear.

- LEDs light up: Switching speed will soon be reached.
- LED band flashes: Switching speed reached.

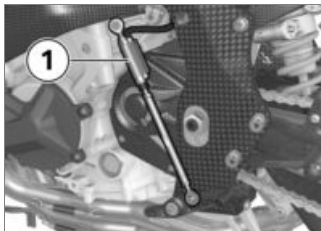
The speed thresholds of the LEDs can be adjusted using the 2D software.

HP Pro gearshift assistant



NOTICE

More detailed information on HP Pro Gear-shift Assistance can be found in the "Technology in detail" chapter. ◀



- The gears are shifted into as usual with foot force on the shift lever.
- » The sensor **1** on the gear-shift rod detects the intention to change gear and initiates gear-shift assistance.
- » No shifting support is provided in the following situations:
 - If the gear lever is not in the zero position
 - When upshifting with the throttle valve closed (overrun mode) or when decelerating
- To be able to make another gear shift using gear-shift assistance, the gear lever must

be fully released after the first gear change.

Brakes

How do you achieve the shortest stopping distances?

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

To achieve the shortest possible braking distance, the front brake must be applied quickly and with progressively greater levels of force. This procedure provides ideal exploitation of the extra weight transfer to the front wheel.

The adjustable electronically controlled engine brake EBR stabilizes the motorcycle when braking.

Wet, soiled brakes

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

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

- When driving in the rain and through puddles.
- After washing the vehicle.
- After working on the brakes due to oil or grease residues.
- During riding on dirty roads.



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.◀

Start of race

Launch Control

Launch Control supports the rider in maintaining the ideal speed for a race start. Launch Control is activated each time the motorcycle comes to a standstill; this thus ensures that the rider is not distracted before the start of the race, and that Launch Control is available.



Engine speed after the activation of Launch Control at full throttle

9000 min⁻¹

When Launch Control is active, the engine torque is reduced so that the maximum propulsion on level ground is set with the front

wheel slightly lifting off. If the front wheel is detected as lifting off, the torque is temporarily slightly reduced. The speed limiter is deactivated if one of the conditions below is reached.



Conditions for deactivating engine speed limitation for Launch Control

Approx. 112 mph (Approx. 180 km/h)

3rd gear is engaged.

Inclined position exceeds 30°

Launch Control is switched off under the following conditions:

- Third gear is engaged.
- The speed exceeds 110 mph (180 km/h).
- The inclined position exceeds 30°.

Race start with Launch Control

CAUTION

Risk of accident due to incorrect handling of Launch Control.

If engaged too quickly, there is a risk of the engine stalling or the front wheel abruptly lifting despite Wheely Control

- Engage carefully when starting race with Launch Control.◀

NOTICE

Starting the race with Launch Control causes increased clutch wear.

Let the clutch cool down after race start.

The number of race starts possible with Launch Control in quick succession is limited to three.◀

- Launch Control is activated by turning on the ignition and starting the engine. If the engine is running, Launch Control automatically starts after stopping.
- Bring motorcycle in start position.
 - » Vehicle is stationary, engine is running, Launch Control is activated.
- ! LAUNCH ! is displayed in the multifunction display; LEDs flash.
- Proceed as usual when starting, **twist throttle grip completely open**, the normally closed contact keep the speed at the previously set value.
- Engage as quickly as possible, but still smoothly.
 - » Launch Control controls the ideal torque on the rear wheel and keeps the engine speed constant up to the speed specified below.
- Leave throttle grip completely open.
 - » Due to the full-throttle position of the throttle grip, the engine speed increases, as soon as speed limiting is deactivated.
 - » The throttle grip reacts again as usual.
- Depending on the race track, upshift and drive around curves in the inclined position.
 - » If third gear is engaged, the speeds rises above 110 mph (180 km/h) or an inclined position of more than 30° is achieved, the Launch Control switches off.
 - » The race start is completed with Launch Control.

Speed limiter for pit lane



- Ride in 1st gear.



NOTICE

The maximum speed can be adjusted using the Race Calibration Kit Pro.

The speed resulting from the maximum engine speed depends on the gear ratio and the tire size.◀

- Hold down starter button **1**.
- Twist throttle grip open until cutoff speed is reached.

» The engine speed is limited with ignition interruption.



WARNING

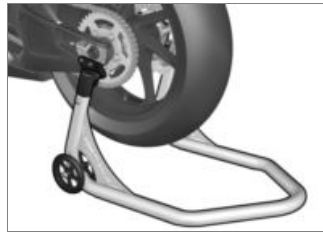
When the starter button is released, the engine accelerates according to the position of the throttle grip.

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

- Do not open the throttle grip completely, but instead only until the limit speed is reached.◀
 - Release starter button **1**.
- » The vehicle accelerates in line with the throttle position.

Parking your motorcycle

Rear-wheel stand



- 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.◀

- Attach rear-wheel stand to motorcycle and turn off motorcycle.
- Mount the rear-wheel stand (➡ 106).

In the pit

Refueling	88
Displays for the mechatronics technician	90
Displays for the mechatronics technician	92
DTC	93
EBR	93
Gearshift-pattern reverser	94
Data recording and 2D software	95
HP Race Calibration Kit Pro	96
Connector for optional accessories	96
Securing motorcycle for transport	96

Refueling

Fuel specifications

- Gasoline must be refueled with the recommended fuel grade in order to avoid engine damage.



Recommended fuel quality

Gasoline according to
DIN EN 228 (max 5 %
ethanol)

min 91 AKI (min 98 ROZ/
RON)

min 93 AKI

Refueling



WARNING

Fuel is highly flammable

Fire and explosion hazard

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



WARNING

Escaping of fuel due to expansion under exposure to heat with overfilled fuel tank

Accident hazard

- Do not overfill the fuel tank. ◀

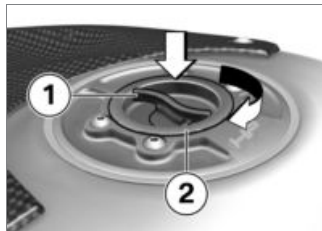


ATTENTION

Contact of fuel and plastic surfaces

Damage to surfaces (become unattractive or cloudy)

- Immediately clean plastic surfaces after contact with fuel. ◀
- Park motorcycle, ensuring that support surface is firm and level.



- Press locking mechanism **1** and rotate clockwise.
- » Fuel filler cap is unlocked.
- Remove fuel filler cap **2**.



- Refuel with a fuel meeting the specifications above, continu-

ing until fuel is no higher than lower edge of filler neck.



NOTICE

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



NOTICE

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



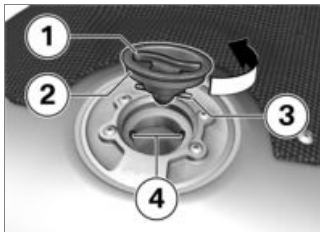
Usable fuel quantity

Approx. 4.6 gal (Approx. 17.5 l)



Fuel reserve

Approx. 1.1 gal (Approx. 4 l)

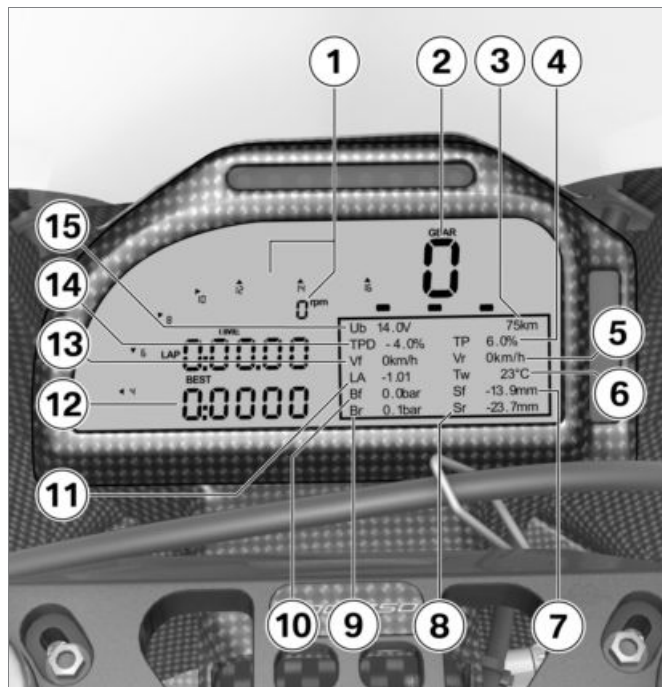


- Install fuel filler cap **2** so that bolts **3** can be inserted through recesses **4**.
- Rotate locking mechanism **1** counterclockwise until the fuel filler cap audibly engages.

Displays for the mechatronics technician

Multifunction display mechatronics technician view 1

- 1 Tachometer
- 2 Gear indicator
- 3 Odometer
- 4 Throttle valve opening angle
- 5 Rear wheel speed
- 6 Coolant temperature
- 7 Front spring travel (with mounted sensor)
- 8 Rear spring travel (with mounted sensor)
- 9 Rear brake pressure (with mounted sensor)
- 10 Front brake pressure (with mounted sensor)
- 11 Inclined position
- 12 Best lap time
- 13 Front wheel speed

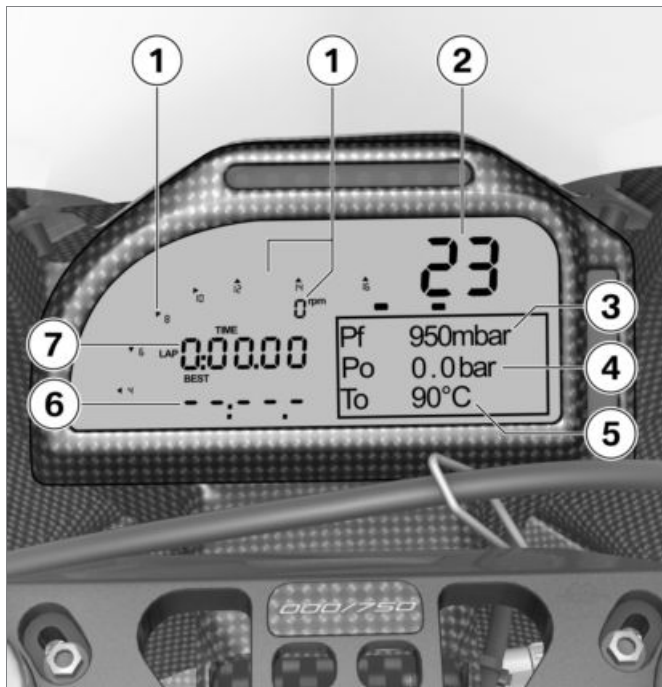


- 14** Throttle grip opening angle
- 15** Battery voltage

Displays for the mechatronics technician

Multifunction display mechatronics technician view 2

- 1 Tachometer
- 2 Coolant temperature
- 3 Fuel pressure
- 4 Oil pressure (with mounted sensor)
- 5 Oil temperature
- 6 Best lap time
- 7 Previous lap time



DTC

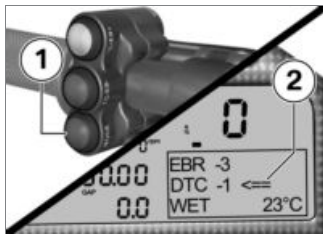
DTC setting

A setting for DTC is stored in each module. This settings can be adjusted to individual needs both when parked and during riding.

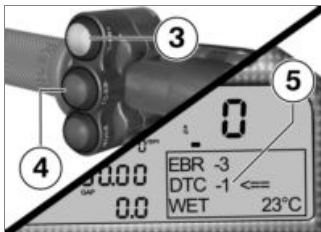
Adapt DTC

Requirement

Multifunction display must show the rider view



- Press MODE **1** to select EBR **2**.



- Briefly press TC/EB+ **3** to increase the value **5**.
- Briefly press TC/EB- **4** to reduce the value **5**.
 - » The set value **5** is shown in the multifunction display and lies between -7 and $+7$:
 - » $+1 \dots +7$: reduction of the slip on the rear wheel by a maximum of seven stages. The value $+7$ corresponds to the earliest DTC intervention.
 - » $-1 \dots -7$: increase of the slip on the rear wheel by a maximum of seven stages. The value -7 corresponds to the latest DTC intervention.

DTC deactivation

On very loose surfaces (e.g. a gravel bed at a racetrack) the control interventions of the DTC can reduce the drive power at the rear wheel to such a degree that the rear wheel no longer turns sufficiently. In this case, BMW Motorrad recommends switching off the DTC temporarily.

Note that the rear wheel will spin on the loose surface, and close the throttle in a timely manner before reaching a solid surface. Then switch on the DTC again.

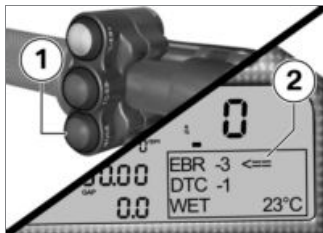
EBR

EBR setting

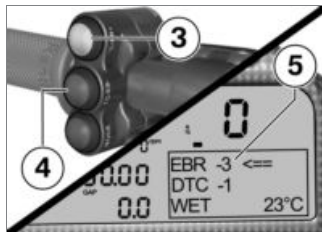
A setting for EBR is stored in each module. This settings can be adjusted to individual needs both when parked and during riding.

Adapt EBR Requirement

Multifunction display must show the rider view



- Press MODE **1** to select EBR **2**.



- Briefly press TC/EB+ **3** (+) to increase the value **5**.
- Briefly press TC/EB- **4** (-) to reduce the value **5**.
- » The set value **5** is shown in the multifunction display and lies between -7 and +7:
- » +1 ... +7: increase the drag torque at the rear wheel by a maximum of seven stages. The value +7 corresponds to the highest braking effect through the engine drag torque.
- » -1 ... -7: reduction of the drag torque at the rear wheel by a maximum of seven stages. The value -7 corresponds to the

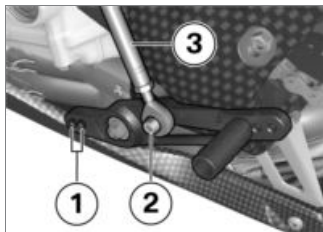
lowest braking effect through the engine drag torque.

Gearshift-pattern reverser

Gearshift-pattern reverser

The motorcycle is equipped by default with a shift pattern that offers the best and quickest way to shift gears for the racing track. If desired, the shift pattern can be inverted by modifying the gearshift rod. As for driving on public roads, first gear can then be engaged by pushing downward and all other gears by pushing upward.

Reversing shift pattern



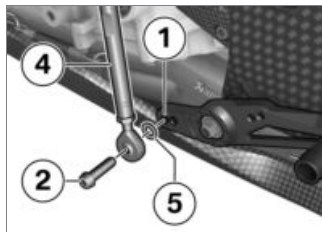
- Clean desired thread **1**.
- Remove the screw **2**.
- Remove washer between ball joint and gearshift lever.
- Reposition gearshift rod **3** onto desired thread **1**.



Gearshift rod attachment points on gearshift lever

Thread for outer pivot point
(Basic setting for both shift patterns)

Thread for outer or inner pivot point
(Adjustment range for both shift patterns)



- Insert bolt **2** through ball joint **4** and washer **5**, install in thread **1** and tighten to specified torque.



Shift rod on gearshift lever

Joint compound: Lubricate thread, Optimoly TA

6 lb/ft (8 Nm)

- » Shifting is then setup for operation with the standard shift pattern.
- Check and, if necessary, adjust the gearshift lever height.

- Adjust the gearshift lever height (→ 68).

Data recording and 2D software

Data recording and 2D software

You will find all the necessary information and support for dealing with the 2D software as well as reading out and evaluating the recorded driving data on:

2d-datarecording.com



NOTICE

The motorcycle can only be operated if a 2D data logger is connected.

Do not remove data logger or replace with another brand.◀

HP Race Calibration Kit Pro

– with HP Calibration Kit Pro ^{OA}
With the HP Race Calibration Kit Pro it is possible to access various parameters of the engine control unit and adjust the settings. To discover more information about this, see the HP Race Calibration Kit Pro accompanying the operating instructions, or visit the website on:

bmw-motorrad.com/hprace

Connector for optional accessories

Equipment

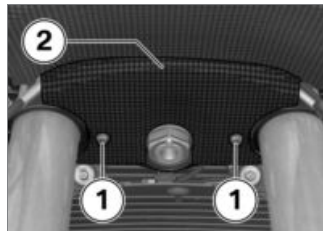
The vehicle is equipped with the following connectors for special and racing accessories:

- Front and rear brake pressure sensors
- Front and rear spring travel sensors
- Infrared receiver
- CAN-Bus connection

You will find a more detailed description in the Accessories chapter.

Securing motorcycle for transport

- Protect all component surfaces against which straps are routed against scratching. For example, use adhesive tape or soft cloths.



- Remove bolts **1** and fork partition **2**.

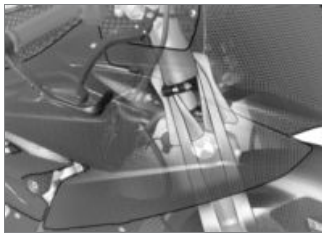


ATTENTION

Motorcycle tips to the side when raising

Component damage caused by tipping over

- Secure the motorcycle against tipping to the side, preferably with the assistance of a second person.◀
- Push motorcycle onto transport surface.



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.



- Place straps at rear on both sides on rear frame and tension.
- Tension all straps evenly; the motorcycle should be pulled down against its springs with the suspension compressed as much as possible.

Technology in detail

Lightweight construction.....	100
Dynamic Traction Control (DTC)	100
Engine brake (EBR)	101
Riding mode	101
Pro gearshift assistant	102

Lightweight construction

Every gram less of weight leads to success.

Leaving out unnecessary components for the racing track such as headlamps, turn signals, horn, passenger footrest and using lots of CFRP carbon components such as frame, wheels, self-supporting carbon rear frame, trim panel and titanium exhaust system makes the HP4 RACE lighter than a WSBK racing bike.

Titanium bolts are used for the engine and frame. High-strength special bolts are only used in the places where it was not possible to use titanium bolts.

Benefit:

- Maximum weight reduction and minimum need for tools. A significant part of the motorcycle can be dismantled and put to-

gether again using three sizes of wrench.

Dynamic Traction Control (DTC)

How does Traction Control function?

DTC takes the motorcycle's inclined position into consideration and is suitable for improving lap times on the racetrack.

Traction Control compares the wheel circumferential speeds of the front and rear wheels. The slip, and with it the stability reserves at the rear wheel, are determined from the speed difference. The engine management system adapts the engine torque when the slip limit is exceeded. The DTC can be adjusted between +7 and -7 for the HP4 RACE. The DTC intervenes through ignition interruption, also known as ignition cuts.

Significantly greater confidence in the DTC is ensured by audible perception.



WARNING

Risky riding style

Risk of accident despite DTC

- The rider is always responsible for adapting his/her driving style.
- Do not reduce the system's extra safety margin with careless riding or unnecessary risks. ◀

Special situations

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

To detect spinning or slipping away of the rear wheel, the DTC compares the speeds of the front and rear wheel and takes the angle of inclination and other factors into account.

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

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

Unusual riding conditions:

- Driving on the rear wheel (wheely) for a longer period.
- Rear wheel spinning in place with front brake engaged (burn out).

- Heating up on an auxiliary stand at idle speed or with gear engaged.

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

Engine brake (EBR)

How does the engine brake (EBR) work?

The EBR controls the engine brake behavior using the throttle valves and ignition suppression with a closed throttle grip so that an even traction characteristic is achieved at the rear wheel. In addition, the slip between the front wheel and rear wheel is

considered to avoid blocking the rear wheel.

The EBR can be adjusted between +7 and -7 for the HP4 Race.

Riding mode

Selection

There are four riding modes to choose from for adapting the motorcycle to the weather, road conditions and tires:

- WET
- MED
- DRY1
- DRY2

Configuring the modes

WET

- Progression map (power): 1st-4th gear reduced; 5th, 6th gear full power; relative maximum engine torque (G1-G6): 67 %,

71 %, 75 %, 96 %, 100 %, 100 %; 1-6 WheelyControl on

MED

- Progression map (power): 1st-3rd gear reduced; 4th, 5th, 6th gear full power; relative maximum engine torque (G1-G6): 71 %, 79 %, 88 %, 100 %, 100 %, 100 %; 1-6 WheelyControl on

DRY1

- Progression map (power): 1st-3rd gear reduced; 4th, 5th, 6th gear full power; relative maximum engine torque (G1-G6): 75 %, 83 %, 92 %, 100 %, 100 %, 100 %; 1-6 WheelyControl on

DRY2

- Progression map (power): 1st-3rd gear reduced; 4th, 5th, 6th gear full power; relative maximum engine torque (G1-G6):

75 %, 92 %, 96 %, 100 %, 100 %, 100 %; 1-2 WheelyControl on, 3-6 off

Pro gearshift assistant

The HP Pro gearshift assistant makes it possible to upshift and downshift without using the clutch or throttle grip, particularly in the upper engine speed ranges.

Benefits

- Throttle does not have to be closed when changing gear under acceleration.
- During deceleration and downshifts (throttle plate closed) the system blips the throttle to obtain the correct engine speed.
- Shifting times are faster than when the clutch is used to change gears.

Unlike with the S 1000 RR gearshift assistant, there is no spring mechanism here. The gearshift assistant therefore feels much more crisp and precise. The rider receives significantly more feedback with each gear shift.

Downshifts

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



Maximum engine speed

max 14300 min⁻¹ (1st gear)

max 14500 min⁻¹ (2nd - 6th gear)

Upshifts

- The gearshift assistant does not provide added support when the engine speed falls

below idle speed during an up-shift.



Idle speed

1500 min⁻¹ (Engine at operating temperature)

Maintenance

General notes.....	106
Rear-wheel stand	106
Engine oil	107
Brake system	108
Cleaning the brakes.....	117
Clutch	121
Coolant	122
Tires	123
Rims and tires	123
Wheels	123
Fairings and panels	128
Jump-starting.....	133
Battery.....	134
Fuse	137
Data link connector	138

Chain	139
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General notes

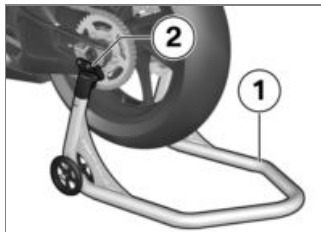
The 'Maintenance' chapter describes work involving the checking and replacement of wear parts that can be performed with a minimum of effort.

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".

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.

Rear-wheel stand

Mounting the rear-wheel stand



- Hold the motorcycle straight and attach the rear-wheel stand **1** to the stand mounts **2**.



ATTENTION

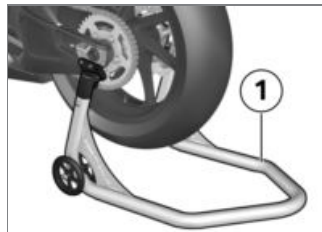
Motorcycle tips to side

Component damage caused by tipping over

- Secure motorcycle against tipping away to side.◀
- Press down the rear-wheel stand **1** until the motorcycle

is vertical and the handle for the rear-wheel stand **1** is on the floor.

Removing the rear-wheel stand



- Secure the motorcycle against falling over and slowly lower the rear-wheel stand **1**, take away the rear-wheel stand **1**.

Engine oil

Checking the engine oil level



ATTENTION

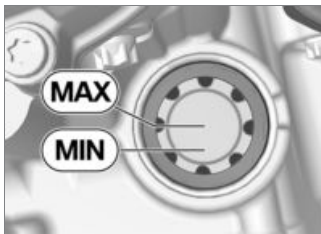
Misinterpretation of the oil filling quantity, as the oil level is temperature-dependent (the higher the temperature, the higher the oil level)

Engine damage

- Only check the oil level after a longer journey or when the engine is warm. ◀
- After switching off the engine, wait for one minute before the oil level can be read.
- Make sure ground is level and firm and hold motorcycle at operating temperature vertically.



- Read oil level in display 1.



Specified level of engine oil

Filling height in the sight glass:
1/3 to 1/2 full



Engine oil, capacity

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

Approx. 1.2 gal (Approx. 4.5 l)
(with filter replacement)

If oil level is below minimum mark:

- Top up engine oil (➡ 108).

If oil level is above maximum mark:

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

Topping up engine oil

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



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



ATTENTION

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.
- Check engine oil level (▶ 107).
- Install cap of oil fill location **1**.

Brake system

Check brake operation

- Operate brake lever.
 - » Pressure point must be clearly perceptible.
- Actuate the footbrake lever.
 - » Pressure point must be clearly perceptible.

If no clear pressure points are perceptible:



ATTENTION

Improper working on the brake system

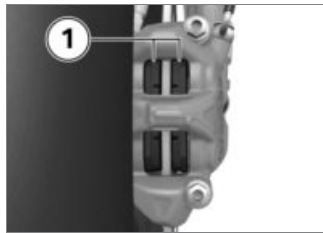
Endangering of the operating safety of the brake system

- Have all work on the brake system carried out by experts. ◀

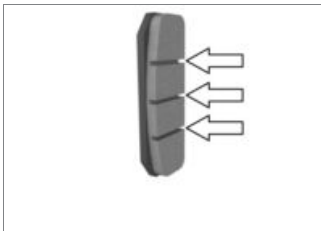
- Have the brakes checked at an authorized workshop, preferably an authorized BMW Motorrad retailer.

Checking the front brake pad thickness

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



- Visually inspect left and right brake pads to determine their thickness. Direction of view: From rear looking at brake pads **1**.



 Front brake-pad wear limit

Grooves in friction lining no longer visible, or

min 0.26 in (min 6.5 mm)
(Friction lining with carrier plate.)

If brake pads are worn:

 **WARNING**

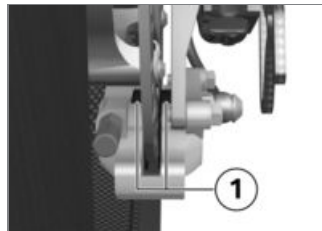
Dropping below the minimum pad thickness

Reduced braking action, damage to the brake

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

Checking the rear brake pad thickness

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



- Conduct a visual inspection of the brake pad thickness. Direction of view: From rear looking at brake pads **1**.



Rear brake-pad wear
limit

min 0.26 in (min 6.5 mm)
(Friction lining with carrier
plate.)

If the wear indicating mark is no
longer visible:



WARNING

Dropping below the minimum pad thickness

Reduced braking action, damage
to the brake

- In order to ensure the operat-
ing reliability of the brake sys-

tem, make sure that the brake
pads are not worn beyond their
minimum thickness. ◀

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

Checking the front brake fluid level

- Make sure ground is level and
firm and hold motorcycle verti-
cally.
- Move handlebars to straight-
ahead position.



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



NOTICE

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



Front brake fluid level

Brake fluid, Brembo Racing

The brake fluid level must not fall below the **MIN**. (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

- Stop riding immediately until 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.

Checking the rear brake fluid level

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



- Read brake fluid level at rear brake-fluid reservoir **1**.



NOTICE

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



Rear brake fluid level

Brake fluid, Brembo Racing

The brake fluid level must not fall below the **MIN.** (Brake fluid reservoir horizontal)

If brake fluid level falls below the approved level:



WARNING

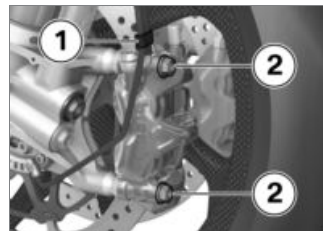
Insufficient brake fluid in the brake-fluid reservoir

Considerably reduced braking performance caused by air in the brake system

- Stop riding immediately until 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.

Removing the brake calipers

- Mask off areas of wheel rim that could be scratched in the process of removing the brake calipers.



- Release bracket **1** from cable for wheel speed sensor.



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 screws **2** of brake calipers on left and right.

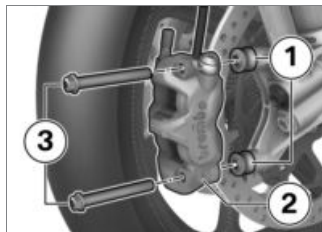
- Carefully pull brake calipers back and outward to remove them from brake rotors.



- Remove left and right spacer bushes 6.

Fastening brake caliper

- The brake pistons need to be cleaned before they are pushed back in.
- Clean the front brake caliper (►► 117).



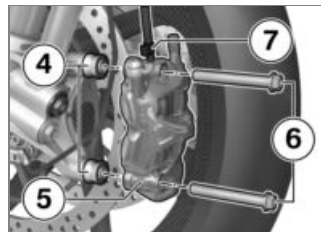
- Install spacer bushes 1.
- Push right brake caliper 2 onto brake disc and attach.
- Install screws 3 to appropriate torque.



Radial brake caliper in axle mount

Joint compound: Lubricate thread, Optimoly TA

28 lb/ft (38 Nm)



- Install spacer bushes 4.
- Push left brake caliper 5 onto brake disc and attach.
- Install screws 6 to appropriate torque.



Radial brake caliper in axle mount

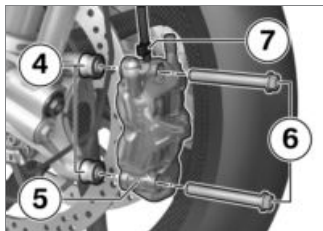
Joint compound: Lubricate thread, Optimoly TA

28 lb/ft (38 Nm)

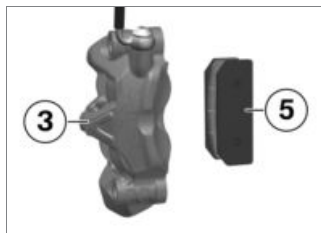
- Secure cable for wheel speed sensor in bracket 7.
- Remove adhesive tape from wheel rim.

- Operate brake lever firmly several times until the pressure point can be felt.

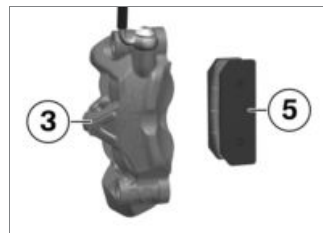
Replacing front brake pads



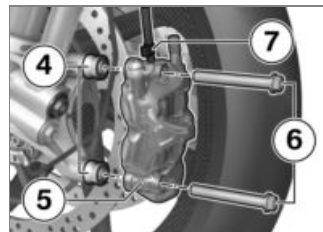
- Mask off areas of wheel rim that could be scratched in the process of removing the brake calipers.
- Release cable for wheel speed sensor from bracket **7**.
- Remove screws **6**.
- Remove left brake caliper **5**.
- Remove spacer bushes **4**.



- Remove brake pads **5** from brake caliper **3**.
- The brake pistons need to be cleaned before they are pushed back in.
- Clean the front brake caliper (→ 117).



- Install new brake pads **5** in the brake calipers **3** in the alignment shown.



- Install spacer bushes **4**.
- Push left brake caliper **5** onto brake disc and attach.

- Install screws **6** with appropriate torque.

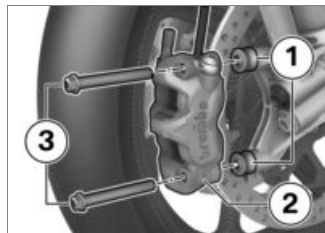


Radial brake caliper in axle mount

Joint compound: Lubricate thread, Optimoly TA

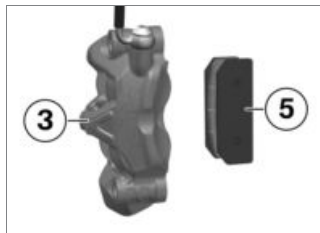
28 lb/ft (38 Nm)

- Secure cable for wheel speed sensor in holder **7**.

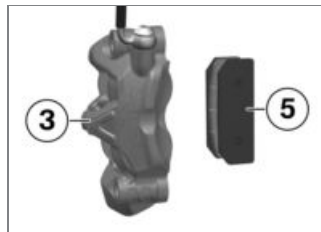


- Remove screws **3**.
- Carefully pull right brake caliper **2** to the rear and away from the brake disc.

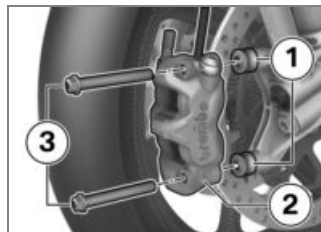
- Remove spacer bushes **1**.



- Remove brake pads **5** from brake caliper **3**.
- The brake pistons need to be cleaned before they are pushed back in.
- Clean the front brake caliper (→ 117).



- Install new brake pads **5** in the brake calipers **3** in the alignment shown.



- Install spacer bushes **1**.
- Push right brake caliper **2** onto brake disc and attach.

- Install screws **3** with appropriate torque.



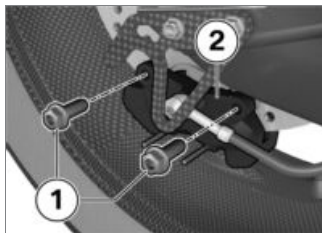
Radial brake caliper in axle mount

Joint compound: Lubricate thread, Optimoly TA

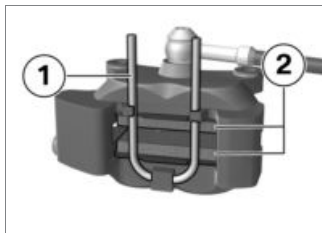
28 lb/ft (38 Nm)

- Remove adhesive tape from wheel rim.
- Operate brake lever firmly several times until the pressure point can be felt.

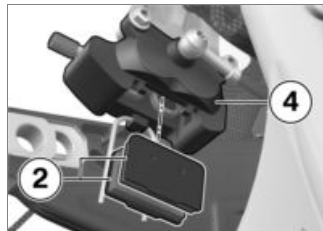
Replacing rear brake pads



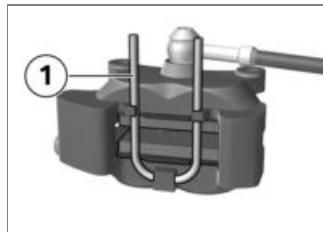
- Remove bolts **1** and detach brake caliper **2** from brake disc.



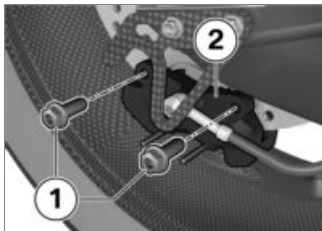
- Release retaining clip **1**.
- Remove brake pads **2**.



- Install new brake pads **2** in the brake calipers **4** in the alignment shown.



- Fasten retaining clip **1**.



- Push brake caliper **2** onto brake disc.
- Install bolts **1** and tighten to specified torque.

 Rear brake caliper on brake caliper mount

Thread-locking compound:
Loctite 243, Medium-firm

10 lb/ft (13 Nm)

Cleaning the brakes

Cleaning the brake caliper and the rear brake disc

The brake dust created during operation settles on the brake calipers and the brake pistons. The dirt that sticks to the brake pistons, in particular, can impair the free movement and thus the response characteristics of the brakes. The brake calipers therefore need to be cleaned regularly after each event.

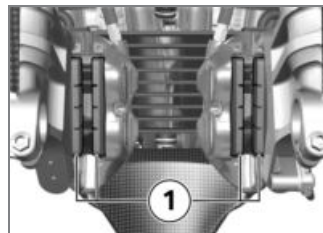
The braking effect of the rear brake can be impaired by "marbles" from tires landing on and sticking to the rear brake disc during riding. The rear brake disc therefore needs to be cleaned regularly after each event.

The work described requires a certain degree of knowledge of the operating principle and maintenance of brake systems. If you are not sure whether this work

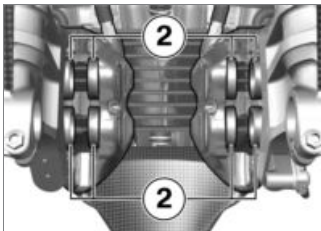
is within your skill range, please contact a specialist workshop, preferably a BMW Motorrad partner.

Cleaning the front brake caliper

- Remove front wheel (➡ 123).



- Remove brake pads **1**.

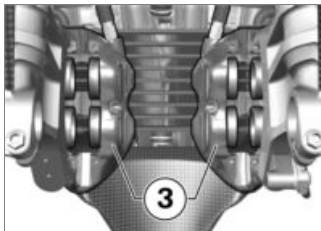


ATTENTION

Leaking brake fluid

Component damage

- Watch brake piston when pushing out. Push out brake piston **evenly and not too far**.◀
- Push out brake pistons **2** with a few strokes on brake lever. In doing so, make sure that the brake pistons **2** are not pushed out too far.



ATTENTION

Use of aggressive cleaning agents

Damage to the seals, leaks

- Only use mild soap solution for cleaning.
- Do not use brake cleaner.◀
- Carefully clean both brake calipers **3** and all brake pistons with **mild soap solution** and soft brush until all contamination caused by brake dust is removed.

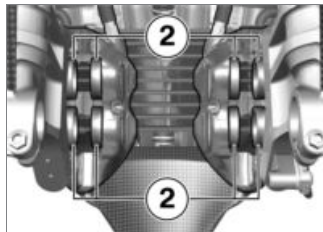


ATTENTION

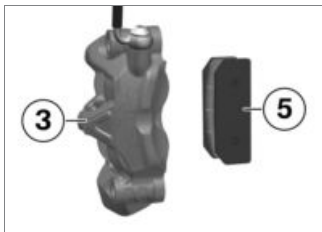
Damaged seals

Component damage

- Do **not** use compressed air to dry the brake calipers after cleaning.◀
- Then rinse with clear water and dry with a cloth.



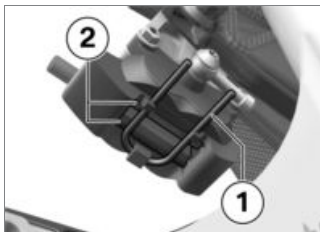
- Push back brake pistons **2** using a suitable tool. In doing so, make sure that the brake pistons **2** do not tilt.



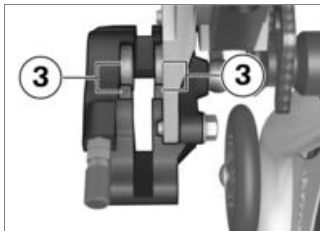
- Install brake pads **5** in the brake calipers **3** in the alignment shown.
- Install the front wheel (➡ 124).

Cleaning rear brake caliper and brake disc

- Remove rear wheel (➡ 126).



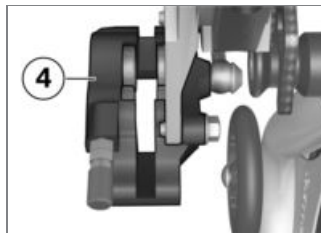
- Release retaining clip **1**.
- Remove brake pads **2**.



ATTENTION

Leaking brake fluid
Component damage

- Watch brake piston when pushing out. Push out brake piston **evenly and not too far**. ◀
- Push out brake pistons **3** with a few strokes on brake lever. In doing so, make sure that the brake pistons **3** are pushed out evenly and not too far.

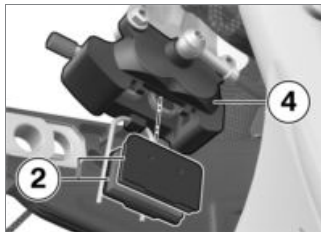
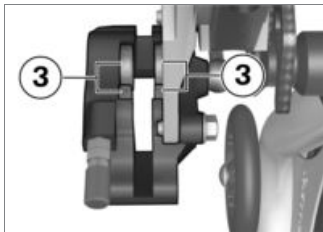


ATTENTION

Use of aggressive cleaning agents

Damage to the seals, leaks

- Only use mild soap solution for cleaning.
- Do not use brake cleaner.◀
- Carefully clean brake caliper **4** and all brake pistons with mild soap solution and soft brush until all contamination caused by brake dust is removed.
- Then rinse with clear water and try with a cloth.
- Make sure that the brake pistons do not fall out when pushing back the other brake caliper. Block with a suitable tool, if necessary.◀
- Push back brake pistons **3** using hands. In doing so, make sure that the brake pistons **3** do not tilt.



- Install brake pads **2** in the brake calipers **4** in the alignment shown.



- Fasten retaining clip **1**.



- Clean brake disc with rear wheel removed using brake cleaner and a cloth.



ATTENTION

Leaking brake fluid

Component damage



Cleaning agent

Brake cleaner

- Install rear wheel (127).

Clutch

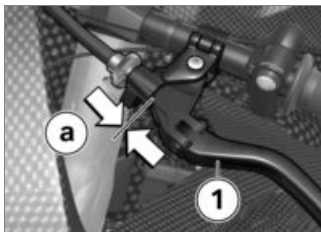
Checking clutch function

- Pull back the clutch lever.
- » Pressure point must be clearly perceptible.

If no clear pressure point can be felt:

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

Check clutch lever play



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



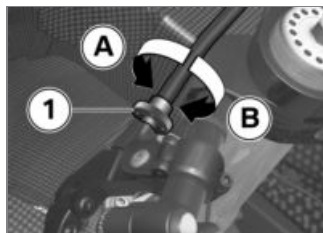
Clutch lever play

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

If clutch pedal free play is outside tolerance:

- Adjust clutch lever play (121).

Adjust clutch lever play

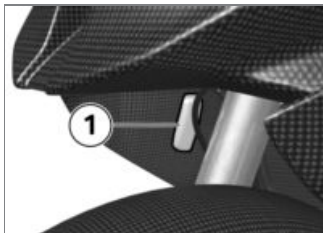


- To increase the clutch lever play: turn bolt **2** in direction **A**.
- To decrease the clutch lever play: turn bolt **2** in direction **B**.
- Check clutch lever play (121).
- Repeat these steps until the clutch lever play is correctly adjusted.

Coolant

Checking the coolant level

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



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



Required coolant level

Between MIN and MAX markings on the expansion tank (with cold engine)

If coolant level drops below approved level:

- Add coolant.

Top up coolant

- Remove the engine spoiler (128).
- Removing right fairing side panel (129).



- Open cap **1** on the expansion tank.
- Add coolant up to specified level.
- Check the coolant level (122).
- Close cap **1** on the expansion tank.
- Install the right fairing side panel (130).
- Install engine spoiler (130).

Tires

Checking the tire 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.

- Adjust tire pressure to the circumstances (outside temperature, track layout, tarmac condition, etc.) according to the tire manufacturer's specifications.

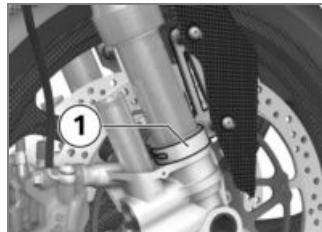
Rims and tires

Checking the 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.

Wheels

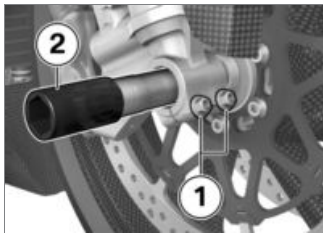
Removing front wheel



- The front forks are fitted with a quick-change system for wheel removal. This makes it possible to remove the front wheel without disassembling the brake calipers. The brackets **1** for the front wheel cover are fitted so that they can be turned; this means the fork legs can be rotated together with the brake caliper and the front wheel can be removed. This requires the use of a front

wheel stand that allows the fork leg to be rotated.

- Raise front of motorcycle, preferably using a BMW Motorrad front-wheel stand, continuing until the wheel rotates freely.

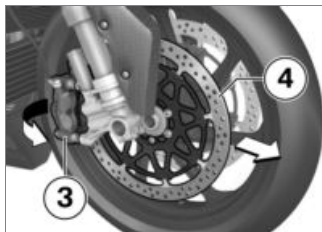


CAUTION

Component damage and malfunction of the assistance systems

Incorrect distance between sensor ring and wheel speed sensor

- Left clamp locks the threaded bush and must not be loosened or removed.◀
- Loosen clamping bolt **1**.
- Remove quick-release axle **2** while supporting wheel.



- Pull the front wheel forward a little until the brake calipers **3** slip off the brake disc **4**.
- Swivel the fork bases on the left and right brake calipers **3** outward and pull out the front wheel to the front.

Installing the front wheel

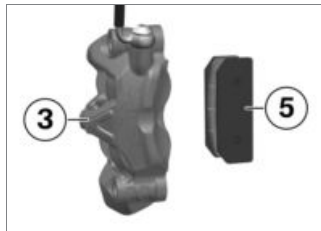


ATTENTION

Tightening of screwed connections with incorrect tightening torque

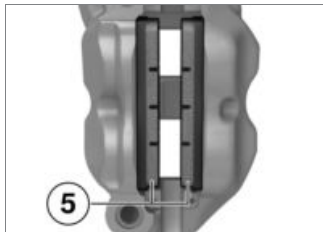
Damage or loosening of screwed connections

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

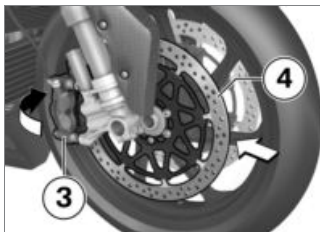


- The brake pads **5** can fall out of the brake calipers **3**.

» Install brake pads **5** in the brake calipers **3** in the alignment shown.



- Check whether brake pads **5** are in the right position.
- Carefully push apart brake pads **5** using suitable tool.



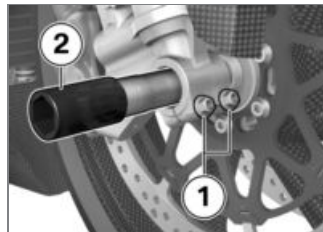
ATTENTION

Front wheel installation opposite the running direction

Accident hazard

- Observe running direction arrows on tire or rim. ◀
- Lift front wheel far enough in the front suspension so that the brake calipers **3** can no longer touch the rim.
- Swivel fork bases on the left and right brake calipers **3** inwardly.
- Push whole front wheel into front suspension, and insert the

brake discs **4** into the brake caliper **3**.



- Install quick-release axle **2** and tighten to specified torque.

 Quick-release axle in threaded bush

Joint compound: Lubricate quick-release axle and thread, Optimoly TA

37 lb/ft (50 Nm)

- Firmly compress fork several times.
- Tighten clamping bolts **1** to appropriate torque.



Clamping screw in axle adapter

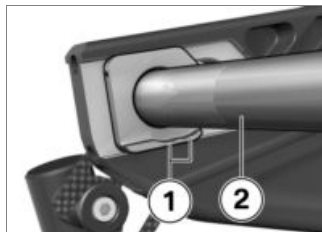
Tightening sequence: Tighten the screws 4 times, alternating between one and the other each time

Joint compound: Lubricate thread, Optimoly TA

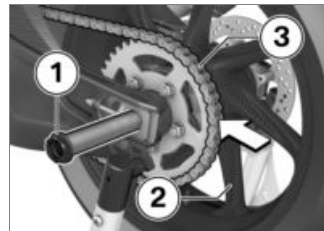
14 lb/ft (19 Nm)

- Remove front-wheel stand.

Removing rear wheel



- The rear wheel swinging arm is fitted with a quick-change system for wheel removal. This makes it possible to remove the rear wheel without disassembling the brake caliper. The clamp shells **1** integrated in the chain tensioner also mean that the rear wheel cannot fall off if the quick-release axle **2** is pulled out. The chain tensioners also do not need to be slackened.



- Loosen and remove quick-release axle **1**.
- Push rear wheel **2** forward until you can feel it engage in the front clamp shell.
- Lift chain **3** and take it off the camshaft sprocket by turning the rear wheel.



- Remove rear wheel **1** towards top rear.

Installing rear wheel

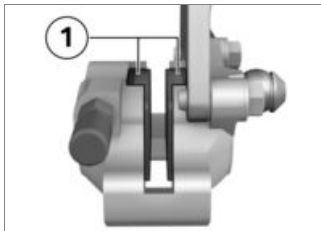


ATTENTION

Tightening of screwed connections with incorrect tightening torque

Damage or loosening of screwed connections

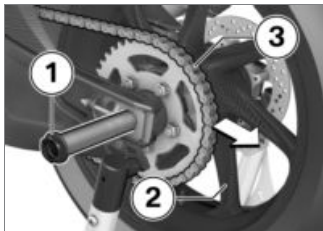
- Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer. ◀



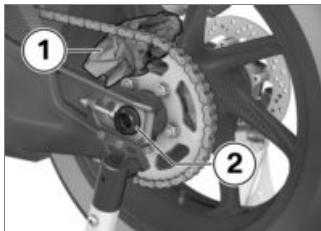
- Position brake pads **1** and clamp a suitable tool between them.
» Brake pads remain in position and the brake disc can be threaded more easily.



- Install rear wheel **1** and place in front clamp shell.
- Make sure that tool between brake pads is removed.



- Place chain **3** on camshaft sprocket and install completely by turning the rear wheel **2**.
- Pull rear wheel **2** back until you feel it engage in the rear clamp shells.
- Install quick-release axle **1**, but do not tighten yet.
- Check chain sag (→ 139).



- Turn to clamp rag **1** between chain and camshaft sprocket.
» Quick-release axle is pulled onto the stops of the chain tensioners.
- Tighten quick-release axle **2** to appropriate torque.



Rear-wheel quick-release axle in swinging arm

Joint compound: Lubricate quick-release axle and thread, Optimoly TA

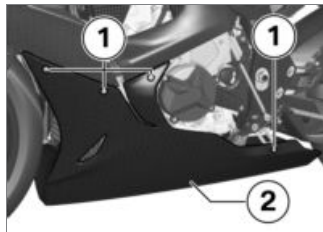
74 lb/ft (100 Nm)

- Remove rag **1**.

- Operate rear brake lever firmly several times until the pressure point can be felt.

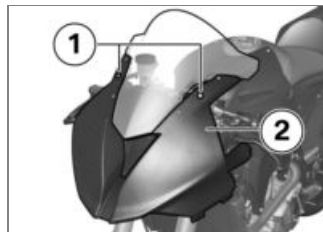
Fairings and panels

Removing the engine spoiler

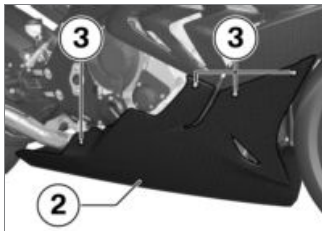


- Remove snap fastener bolts **1**.
- Support engine spoiler **2**.

Removing the upper section of the fairing



- Remove snap fastener bolts **1**.
- Take off upper section of fairing **2**, making sure that the air inlet does not fall off.



- Remove snap fastener bolts **3**.
- Remove engine spoiler **2**.

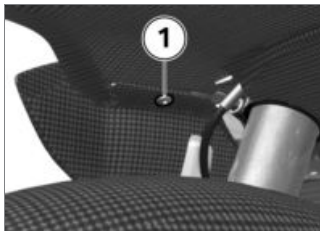
Removing fairing side panel



NOTICE

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

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



- Remove snap fastener bolt **1** on inside of fairing side panel.



- Remove snap fastener bolts **2**.
- Remove fairing side panel **3**.

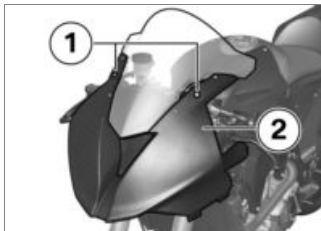


- Remove air inlet **3**.

Installing the upper section of the fairing



- Install air inlet **3**.

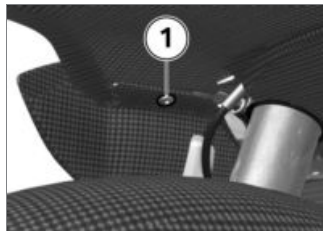


- Attach upper section of fairing **2**.
- Fit snap fastener bolts **1**.

Install fairing side panel

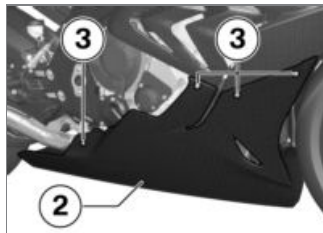


- Attach fairing side panel **3**.
- Fit snap fastener bolts **2**.

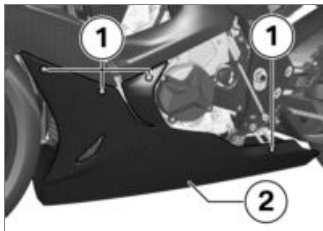


- Fit snap fastener bolt **1**.

Installing the engine spoiler

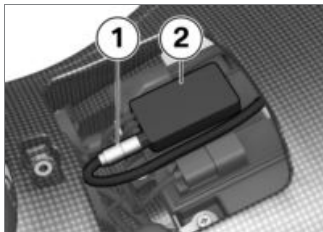


- Position engine spoiler **2**.
- Fit snap fastener bolts **3**.
- Support engine spoiler **2**.



- Position engine spoiler **2**.
- Fit snap fastener bolts **1**.

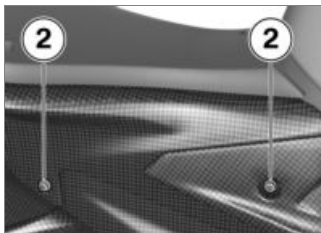
Removing the tail section



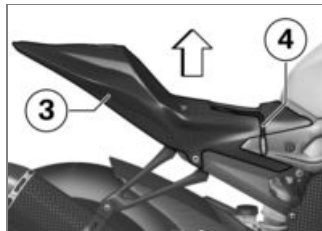
- Disconnect connector **1** from data logger **2** and hang aside.



- Remove screws **1**.

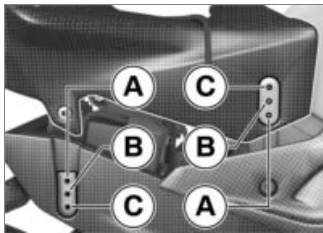


- Remove screws **2**.

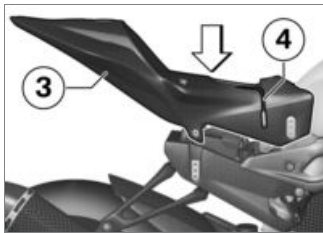


- Remove tail section **3**, making sure to pull out the cable **4** from the GPS receiver.

Installing the tail section

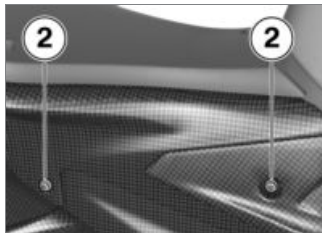


- Adjust the tail section when installing it at the desired seat height **A**, **B** or **C**.

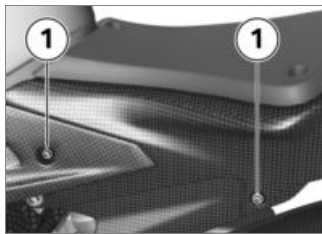


- Thread cable **4** from GPS receiver as shown.

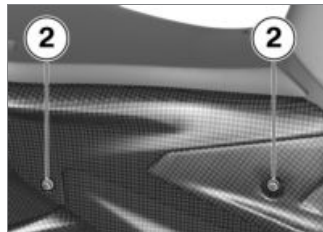
- Attach tail section **3**, and widen the left and right tank cover **5** a little as required.



- Fit bolts **2**, do not tighten.



- Fit and tighten bolts **1**.



- Tighten screws **2**.



Tail section with tank cover on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

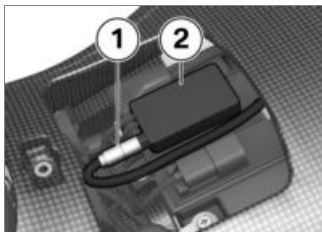
6 lb/ft (8 Nm)



Tail section on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

6 lb/ft (8 Nm)



- Connect connector **1** to data logger **2**.



Tail section with tank cover on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

6 lb/ft (8 Nm)



Tail section on rear frame

Thread-locking compound:
Loctite 243, Medium-firm

6 lb/ft (8 Nm)

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

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.◀

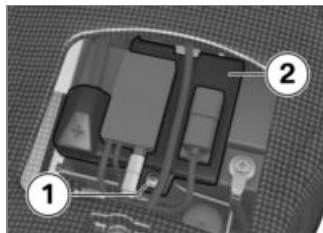


ATTENTION

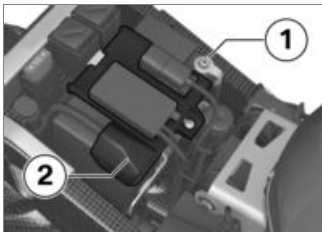
Jump-starting with a voltage higher than 12 V

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.
- Remove rider's seat (► 38).



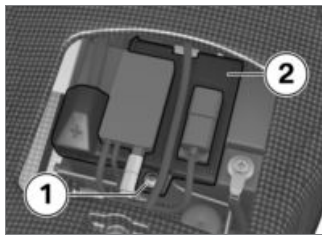
- Remove the screw **1**.
- Unhook battery carrier **2**, lift and hang to the side.



- Allow engine on support motorcycle to run while jump-starting.
- Begin by connecting one end of the red jumper cable to the positive terminal **2** on the discharged battery and the other end to the positive terminal of the donor battery.
- Connect black jumper cable to negative terminal on donor battery and then to negative terminal **1** of 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 jumper cables.
- Disconnect jumper cable from negative terminals first, then disconnect second cable from positive terminals.



- Attach and hook in battery carrier **2**.
- Fit the screw **1**.
- Installing rider's seat (➡ 38).

Battery

Maintenance instructions

Correct upkeep, recharging and storage will prolong the life of the lithium ion battery and are essential for recognition of warranty claims.

Compliance with the points below is important in order to maximize battery life:

- Keep the surface of the battery clean and dry.
- Do not open the battery.
- Only charge the battery using a charger that is suitable for lithium ion batteries.
- Be sure to read and comply with the instructions for charging the battery on the following pages.



ATTENTION

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

Total discharge of battery leading to a rejection of warranty claims

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

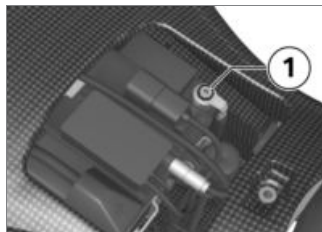


NOTICE

BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods when the motorcycle is not being used without having to disconnect the battery from the motorcycle's onboard systems. Additional information is available at your authorized BMW Motorrad retailer.◀

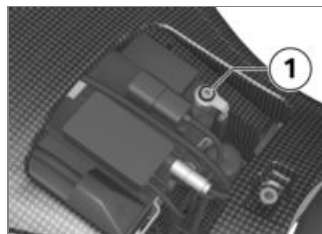
Disconnecting battery from motorcycle

- Park motorcycle, ensuring that support surface is firm and level.
- Remove rider's seat (▶▶▶ 38).



- Remove bolt **1** and remove battery earth lead.

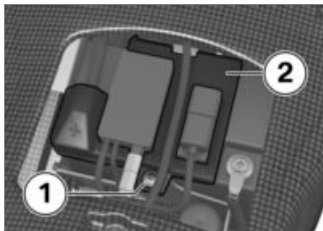
Connecting battery to vehicle



- Position battery earth lead and fit bolt **1**.
- Installing rider's seat (▶▶▶ 38).

Charging the battery

- Remove rider's seat (▶▶▶ 38).



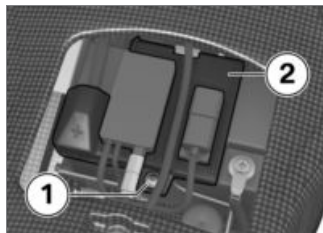
- Remove the screw **1**.
- Unhook battery carrier **2**, lift and hang aside.
- Charge battery using a suitable charger.
- Comply with operating instructions of charger.
- Once battery is fully charged, disconnect charger's terminal clips from battery terminals.



NOTICE

In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the

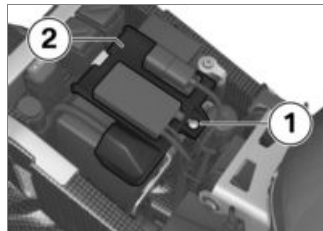
instructions for caring for your battery. Always fully recharge the battery before returning it to use. ◀



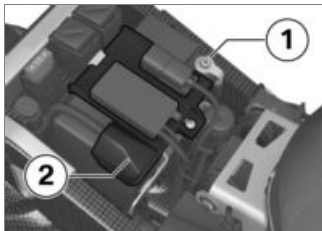
- Attach and hook in battery carrier **2**.
- Fit the screw **1**.
- Installing rider's seat (▶▶ 38).

Removing battery

- Remove rider's seat (▶▶ 38).
- Removing tail section (▶▶ 131).



- Remove the screw **1**.
- Unhook battery carrier **2**, lift and hang to the side.



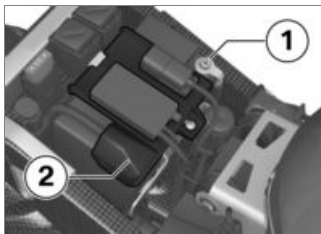
ATTENTION

Incorrect battery disconnection

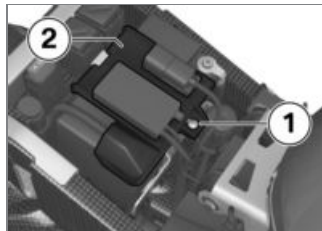
Danger of short circuit

- Follow the disconnection sequence. ◀
- First remove negative battery cable 1.
- Then remove positive battery cable 2.
- Lift battery up and out, using tilting movements if it is difficult to move.

Install battery



- Place battery in battery compartment, positive terminal on right in direction of travel.
- First install positive battery cable 2.
- Then install negative battery cable 1.



- Attach and hook in battery carrier 2.
- Fit the screw 1.
- Install the tail section (➡ 132).
- Installing rider's seat (➡ 38).

Fuse

Removing the fuse



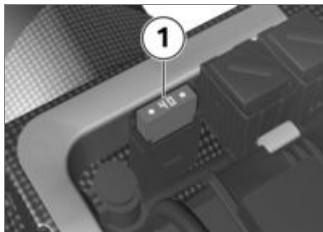
ATTENTION

Bypassing defective fuses

Risk of short circuit and fire

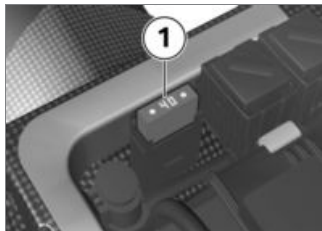
- Do not bypass defective fuses.
- Replace defective fuses with new fuses. ◀

- Turn off ignition.
- Park motorcycle, ensuring that support surface is firm and level.
- Remove rider's seat (➡ 38).
- Removing tail section (➡ 131).



- Pull faulty fuse **1** upward and out of the fuse box.

Installing fuse



- Replace faulty fuse with a fuse with the required current level.
- Insert new fuse **1** in the fuse box.



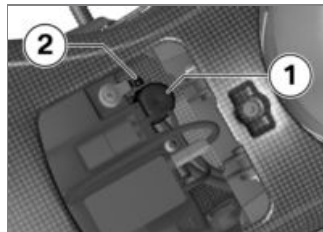
NOTICE

If the fuses blow frequently, have the electrical system checked by an authorized specialized workshop, preferably an authorized BMW Motorrad retailer. ◀

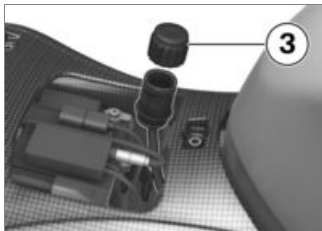
- Install the tail section (➡ 132).
- Installing rider's seat (➡ 38).

Data link connector

Removing the diagnostic connector



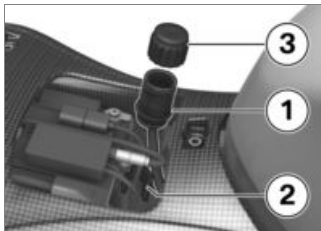
- Unplug the Data link connector **1** from the bracket **2**.



- Remove cap **3**.
» The diagnosis and information system interface can be connected at the diagnostic connector **1**.

Secure the data link connector

- Disconnect the diagnosis and information system interface.



- Install cap **3**.
- Secure data link connector **1** in the bracket **2**.
- Installing rider's seat (➔ 38).

Chain

Lubricate chain



ATTENTION

Insufficient cleaning and lubrication of the drive chain

Increased wear

- Clean and lubricate the drive chain regularly.◀

- Regularly lubricate drive chain. After riding in the wet, lubricate more frequently as appropriate.
- 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:



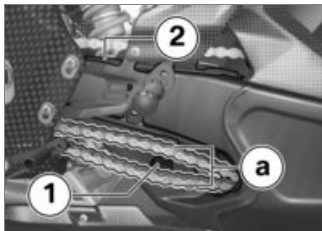
Lubricant

Chain spray

- Wipe off excess lubricant.

Checking chain sag

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



- Push chain up and down at the screw connection bore hole **1** and measure difference **a**.
- The top chain strand must not touch the swinging-arm guard **2** when pushing the bottom chain strand downward.



Chain sag

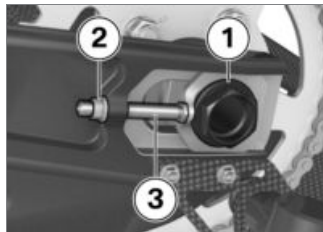
1.2...1.4 in (30...35 mm) (Motorcycle unloaded on rear-wheel stand)

If the measured value is outside the approved tolerance:

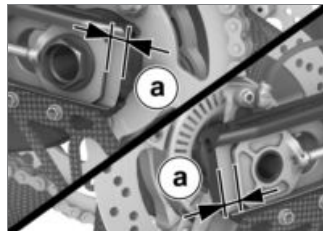
- Adjusting chain sag (➡ 140).

Adjusting chain sag

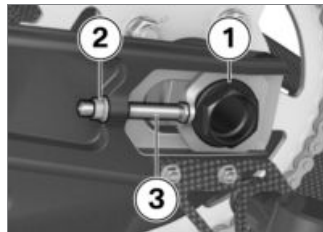
- Park motorcycle, ensuring that support surface is firm and level.



- Release quick-release axle **1**.
- Loosen lock nuts **2** on left and right.
- Adjust chain sag with adjusting screws **3** on left and right.
- Check chain sag (➡ 139).



- Adjust left and right chain tensioner to the same distance **a** from the edge of the rear wheel swinging arm.



- Tighten quick-release axle **1** to appropriate torque.



Rear-wheel quick-release axle in swinging arm

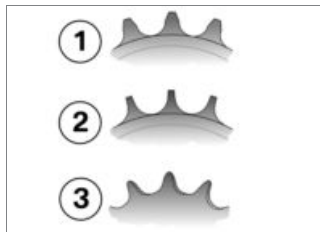
Joint compound: Lubricate quick-release axle and thread, Optimoly TA

74 lb/ft (100 Nm)

- Tighten left and right lock nuts **2**, taking care to brace adjusting screws **3**.

Check chain wear

- Check chain, camshaft sprocket and pinion regularly for wear and irregularities.



- Check camshaft sprocket and pinion for deformation.

Image 1: No or minor deformation detectable on the teeth.

- Camshaft sprocket and pinion are good.

Image 2 or 3: Deformation or pronounced wear detectable on the teeth.

- Renew chain set.

Accessories

General notes	144
Connections for additional sensors	144
Connection for CAN-Bus signal	145
Connection for infrared receiver	145

General notes

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Your authorized BMW Motorrad retailer is the right place to go for genuine BMW parts and accessories, other BMW approved products, and expert advice on their installation and use.

These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products.

Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.



CAUTION

Use of products from other manufacturers

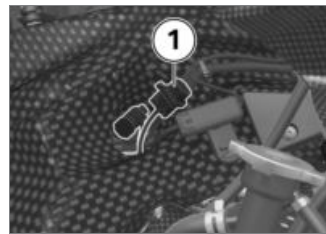
Safety risk

- 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. ◀

Connections for additional sensors

The wiring harness is prepared for the 2D sensor system customary in racing sport.

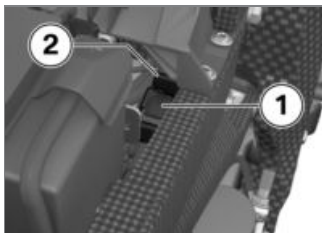
- Front brake pressure sensor
- Rear brake pressure sensor
- Front spring travel sensor
- Rear spring travel sensor
- Oil pressure sensor



The connector **1** for the front brake pressure sensor is located on the front right of the frame.



The connector **1** for the front spring travel sensor is located on the front left of the frame.



The connector **1** for the rear spring travel sensor is located

in the rear frame on the right in front of the battery. The connector **2** for the rear brake pressure sensor is located in the rear frame on the right below the tank bridge.

Connection for CAN-Bus signal



The connector **1** next to the control unit is provided to pick up the CAN-Bus signal. It also provides the connection to the voltage supply of the vehicle electrical system and is therefore suitable for connecting an action

cam for example. Sensor data can be imported into the image via the CAN-Bus signal. In order to install an action cam, please follow the documentation provided by the action cam manufacturer and the documentation from 2D.

Connection for infrared receiver



The right connector **1** on the frame is provided for connecting the infrared receiver from the BMW Motorrad optional accessories.

Care

Care products	148
Washing your motorcycle	148
Cleaning sensitive motorcycle parts	148
Paint care	149
Protective wax coating	150
Store motorcycle	150
Return motorcycle to use	150

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 from painted parts before washing the motorcycle.

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

Thoroughly wash the vehicle with water and BMW Motorrad solvent cleaner after each event.



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

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.◀

Cleaning sensitive motorcycle parts

Plastics



ATTENTION

Use of unsuitable cleaning agents

Damage to plastic surfaces

- Do not use abrasive cleaners or cleaners containing alcohol or solvents.
- Do not use insect sponges or sponges with a hard surface.◀

Fairings and panels

Clean body panels with water and BMW plastic cleaner.

Windshields and lenses are manufactured in plastic

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



NOTICE

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

Radiator

Clean the radiator regularly to prevent overheating of the engine due to inadequate cooling. For example, use a garden hose with low water pressure.



ATTENTION

Bending of radiator fins

Damage to radiator fins

- When cleaning, ensure that the cooler fins are not bent.◀

Rubber

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



ATTENTION

Use of silicone sprays for care of rubber seals

Damage to rubber seals

- Do not use silicone sprays or care products that contain silicone.◀

Paint care

Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your

motorcycle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen.

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. It is advisable to use BMW Car Polish or BMW Paint Cleaner in this case.

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.

Protective wax coating

BMW Motorrad recommends that you apply BMW Car Wax or another wax containing carnauba or synthetic wax additives to protect the paintwork.

When water fails to form beads on the paint surface this indicates it is time to apply wax.

Store motorcycle

- Clean motorcycle.
- Completely fill the motorcycle's fuel tank.
- Removing battery (➡ 136).
- Braking brake, clutch and gearshift lever with suitable lubricant.
- Preserve bare parts with acid-free grease (Vaseline).

- Park motorcycle in a dry room, raising it to remove weight from both wheels (preferably using the front-wheel and rear-wheel stands offered by BMW Motorrad).

Return motorcycle to use

- Remove the protective wax coating.
- Clean motorcycle.
- Install battery (➡ 137).
- Observe checklist (➡ 77).

Technical data

Screw connections	152
Chassis and suspension configuration data	159
Fuel.....	163
Engine oil	163
Engine	164
Clutch	165
Transmission	165
Rear-wheel drive.....	166
Frame	166
Chassis and suspension	167
Brakes	168
Wheels and tires	169
Electrical system.....	170
Dimensions	170

Weights.....	171
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Screw connections

Front wheel	Value	Valid
Quick-release axle in threaded bush		
M24 x 1.5 Lubricate quick-release axle and thread, Optimoly TA	37 lb/ft (50 Nm)	
Clamping screw in axle adapter		
M8 x 30 Lubricate thread, Optimoly TA	Tightening sequence: Tighten the screws 4 times, alternating between one and the other each time	
	14 lb/ft (19 Nm)	
Front forks	Value	Valid
Top fork bridge on fixed fork tube		
M8 x 40 Lubricate thread, Optimoly TA	14 lb/ft (19 Nm)	

Front forks	Value	Valid
Bottom fork bridge on fixed fork tube		
M8 x 45 Lubricate thread, Optimoly TA	Tightening sequence: Tighten the screws 4 times, alternating between one and the other each time	
	10 lb/ft (14 Nm)	
Steering-head bearing adjusting instructions		
Lower slotted nut, M30 x 1	Tightening torque, 18 lb/ft (25 Nm)	
	Swivel fork three times to the left/right	
	Slacken (fork on left steering stop), 80°	
	Tightening torque (fork on right steering stop), 4 lb/ft (5 Nm)	
Lock nut for steering-head bearing adjusting nut		
Lock nut, M30 x 1	Tightening torque, 2 lb/ft (3 Nm)	
Top fork bridge on head tube		
M28 x 1	59 lb/ft (80 Nm)	

Front forks	Value	Valid
Brake line on fork bridge		
M6 x 15 Lubricate thread, Optimoly TA	6 lb/ft (8 Nm)	
Front wheel speed sensor on bracket		
M5 x 15 Lubricate thread, Optimoly TA	4 lb/ft (5 Nm)	
Steering	Value	Valid
Locking screw on top fork bridge		
M6 x 20 Lubricate thread, Optimoly TA	6 lb/ft (8 Nm)	
Handlebar clamp on fork leg		
M8 x 25 Lubricate thread, Optimoly TA	14 lb/ft (19 Nm)	
Steering damper on fork bridge		
M8 x 35 Loctite 243, Medium-firm	14 lb/ft (19 Nm)	

Steering	Value	Valid
Steering damper on frame		
M8 x 35 Loctite 243, Medium-firm	14 lb/ft (19 Nm)	
Front brake	Value	Valid
Radial brake caliper in axle mount		
M10 x 1,25 x 75 Lubricate thread, Optimoly TA	28 lb/ft (38 Nm)	
Rear brake	Value	Valid
Rear brake caliper on brake caliper mount		
M7 x 65 Loctite 243, Medium-firm	10 lb/ft (13 Nm)	
Rear wheel swinging arm	Value	Valid
Swing axle on frame		
Swing axle, M27 x 1.25	7 lb/ft (10 Nm)	

Rear wheel swinging arm	Value	Valid
Nut on swing axle		
M18 x 1.5, Replace nut mechanical	74 lb/ft (100 Nm)	
Left swinging arm bearing insert on frame		
M5 x 16 Loctite 243, Medium-firm	Countersunk screw, 4 lb/ft (5 Nm)	
Right swinging arm bearing in- sert on frame		
M10 x 27 Lubricate thread, Optimoly TA	With countersunk taper, 28 lb/ft (38 Nm)	
M10 x 25 Lubricate thread, Optimoly TA	With collar, 28 lb/ft (38 Nm)	
Pivot strut on relay lever		
M10 x 55 Lubricate thread, Optimoly TA	28 lb/ft (38 Nm)	
Clamping bolt on tension strut		
M6 x 16 Lubricate thread, Optimoly TA	7 lb/ft (10 Nm)	

Rear wheel swinging arm	Value	Valid
Wheel speed sensor/cable clip on rear brake caliper mount		
M5 x 15 Lubricate thread, Optimoly TA	4 lb/ft (5 Nm)	
Footrests	Value	Valid
Driver's footrest bracket on main frame		
M8 x 20 Lubricate thread, Optimoly TA	14 lb/ft (19 Nm)	
Footrest on footrest plate		
M8 x 20 Loctite 243, Medium-firm	18 lb/ft (25 Nm)	
Rear brake actuation	Value	Valid
Foot piece on footbrake lever		
M6 x 20	7 lb/ft (10 Nm)	
Pushrod on brake pedal cylinder		
M6, Lock nut	4 lb/ft (6 Nm)	

Rear brake actuation		Value	Valid
Eccentric height adjustment on brake lever			
M5 x 16 Lubricate thread, Optimoly TA		4 lb/ft (5 Nm)	
Shifting		Value	Valid
Foot piece on gearshift lever			
M6 x 20		7 lb/ft (10 Nm)	
Shift rod on gearshift lever			
M6 x 22 Lubricate thread, Optimoly TA		6 lb/ft (8 Nm)	
Rear wheel		Value	Valid
Rear-wheel quick-release axle in swinging arm			
M24 x 1.5 Lubricate quick-release axle and thread, Optimoly TA		74 lb/ft (100 Nm)	

Chassis and suspension configuration data

Steering damper basic setting	10 clicks opened (from totally closed)
Steering damper adjustment range	18 clicks
Steering head angle basic setting	Steering head angle insert 0°
Steering head angle adjustment range	Steering head angle inserts +/- 0.5°; 0.0° and +/- 1°
Fork bridge offset basic setting	Fork bridge insert 30 mm
Fork bridge offset adjustment range	Fork bridge inserts 26/32 mm and 28/30 mm
Projection of fork tube in fork bridge, top (with cap)	0.6 in (15 mm), Basic setting
	0.2...1 in (5...25 mm), Adjustment range
Maximum fork tube overhangs	max 0.9 in (max 23 mm) (Fork bridge offset 26 mm and steering head angle 0°)
	max 1 in (max 25 mm) (Fork bridge offset 26 mm and steering head angle +0.5°)
	max 1 in (max 25 mm) (Fork bridge offset 26 mm and steering head angle +1°)
	max 0.7 in (max 19 mm) (Fork bridge offset 26 mm and steering head angle -0.5°)
	max 0.6 in (max 15 mm) (Fork bridge offset 26 mm and steering head angle -1°)

	max 1 in (max 25 mm) (Fork bridge offset 28 mm and steering head angle 0°)
	max 1 in (max 25 mm) (Fork bridge offset 28 mm and steering head angle +0.5°)
	max 1 in (max 25 mm) (Fork bridge offset 28 mm and steering head angle +1°)
	max 0.8 in (max 21 mm) (Fork bridge offset 28 mm and steering head angle -0.5°)
	max 0.7 in (max 17 mm) (Fork bridge offset 28 mm and steering head angle -1°)
	max 1 in (max 25 mm) (Fork bridge offset 30 mm and steering head angle 0°)
	max 1 in (max 25 mm) (Fork bridge offset 30 mm and steering head angle +0.5°)
	max 1 in (max 25 mm) (Fork bridge offset 30 mm and steering head angle +1°)
	max 0.9 in (max 23 mm) (Fork bridge offset 30 mm and steering head angle -0.5°)
	max 0.7 in (max 19 mm) (Fork bridge offset 30 mm and steering head angle -1°)
	max 1 in (max 25 mm) (Fork bridge offset 32 mm and steering head angle 0°)

	max 1 in (max 25 mm) (Fork bridge offset 32 mm and steering head angle +0.5°)
	Must not be installed! (Fork bridge offset 32 mm and steering head angle +1°)
	max 1 in (max 25 mm) (Fork bridge offset 32 mm and steering head angle -0.5°)
	max 0.8 in (max 21 mm) (Fork bridge offset 32 mm and steering head angle -1°)
Front forks spring preload basic setting	Turn adjuster as far as possible anticlockwise, then turn 5 mm (5 revolutions) clockwise
Front forks spring preload adjustment range	0...18 mm correspond to 18 revolutions
Front forks rebound basic setting	Turn adjuster (R) as far as possible clockwise, then 20 clicks counterclockwise
Front forks rebound adjustment range	1...26 clicks
Front forks compression stage basic setting	Turn adjuster (C) as far as possible clockwise, then 20 clicks counterclockwise
Front forks compression stage adjustment range	1...26 clicks
Spring strut spring preload basic setting	Turn adjuster as far as possible anticlockwise, then turn 1 mm (2 revolutions) clockwise
Spring strut spring preload adjustment range	0...8.5 mm correspond to 17 revolutions

Spring strut rebound basic setting	Turn adjuster (R) as far as possible clockwise, then 12 clicks counterclockwise
Spring strut rebound adjustment range	1...26 clicks
Spring strut compression stage basic setting	Turn adjuster (C) as far as possible clockwise, then 18 clicks counterclockwise
Spring strut compression stage adjustment range	1...26 clicks
Projection of fork tube in fork bridge, top (with cap)	0.6 in (15 mm), Basic setting
	0.2...1 in (5...25 mm), Adjustment range
Tension strut length	4.4 in (113 mm), Basic setting
	4.3...4.6 in (108...118 mm), Adjustment range
Rear vehicle height	0 mm (lower eye) (Basic setting)
	0/-3 mm (Adjustment range)

BMW recommends ADVANTEC
ORIGINAL BMW ENGINE OIL

Engine

Engine number location	Crankcase bottom part, right, behind the coolant pump
Engine type	104EZ
Engine design	Water/oil-cooled four-cylinder, in-line four-stroke engine, four titanium valves per cylinder, two overhead racing camshafts, milled oil pan, Pankl connecting rod, precision-balanced and lightened crankshaft
Displacement	999 cc (999 cm ³)
Cylinder bore	3.1 in (80 mm)
Piston stroke	2 in (49.7 mm)
Compression ratio	13,6
Rated output	215 hp (158 kW), at engine speed: 13900 min ⁻¹
Torque	89 lb/ft (120 Nm), at engine speed: 10000 min ⁻¹
Maximum engine speed	max 14300 min ⁻¹ , 1st gear
	max 14500 min ⁻¹ , 2nd - 6th gear
Idle speed	1500 min ⁻¹ , Engine at operating temperature

Clutch

Clutch design	Multiple-disc wet clutch, anti-hopping
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Transmission

Transmission design	Claw-shifted 6-gear motorsport transmission integrated in engine housing
Transmission gear ratios	1.652 (76:46 teeth), Primary gear ratio 2.389 (43:18 teeth), 1st gear 2.000 (44:22 teeth), 2nd gear 1.727 (38:22 teeth), 3rd gear 1.545 (34:22 teeth), 4th gear 1.400 (35:25 teeth), 5th gear 1.292 (31:24 teeth), 6th gear

Rear-wheel drive

Type of final drive	Chain drive
Type of rear suspension	Suter aluminum beam swinging arm
Number of teeth of rear-wheel drive (Pinion/ sprocket)	16:43, Installed ex works
	Supplied:
	15, 17, Pinion 41, 42, 44, 45, Camshaft sprocket

Frame

Frame design	Monocoque design CFRP frame, unidirectional, RTM design
Location of type plate	Frame at front right on steering head

Chassis and suspension

Front wheel

Type of front suspension	Öhlins FGR 300 WSBK upside-down telescopic forks
Spring travel, front	5.1 in (130 mm), on wheel

Rear wheel

Type of rear suspension	Suter aluminum beam swinging arm
Type of final drive	Chain drive
Type of rear suspension	Öhlins TTX 36 GP central spring strut with adjustable spring basis, adjustable rebound and adjustable compression stage.
Spring travel, rear	4.7 in (120 mm), on wheel

Brakes

Front wheel

Type of front brake	Hydraulically, radially actuated Brembo Racing two-rotor disc brake; floating, supported Racing brake discs; 4-piston monobloc fixed caliper with titanium pistons
Front brake pad material	Sintered metal, mixture Z04
Front brake-disk thickness	0.27 in (6.75 mm), New min 0.25 in (min 6.25 mm), Wear limit

Rear wheel

Type of rear brake	Hydraulically actuated Brembo Racing single-disc brake, 4-piston fixed caliper with titanium pistons
Rear brake pad material	Sintered metal, mixture H38
Rear brake-disk thickness	0.16 in (4.0 mm), New min 0.14 in (min 3.5 mm), Wear limit
Blow-by clearance of footbrake lever	0.08 in (2 mm), between eccentric and stop

Wheels and tires

12

169

Technical data

Front wheel

Front wheel design	Solid CFRP woven wheel and RTM design
Front-wheel rim size	3.50" x 17"
Permissible front-wheel imbalance	max 0.2 oz (max 5 g)
Balance weight for front wheel (Half of each weights must be attached on the right and left of the rim respectively)	max 2.8 oz (max 80 g)
Front tire designation	120/70 ZR 17

Rear wheel

Rear wheel design	Solid CFRP woven wheel and RTM design
Rear-wheel rim size	6.00" x 17"
Permissible rear-wheel imbalance	max 1.6 oz (max 45 g)
Balance weight for rear wheel (Half of each weights must be attached on the right and left of the rim respectively)	max 2.8 oz (max 80 g)
Rear tire designation	200/60 ZR 17

Electrical system

Fuse

Main fuse	40 A
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Battery

Battery design	Lithium ion battery
Battery voltage	12.8 V
Battery capacity	5 Ah

Dimensions

Motorcycle length	81.5 in (2070 mm)
Motorcycle height	47 in (1193 mm), over windshield, at DIN unladen weight
Motorcycle width	30.6 in (777 mm)
Rider's seat height	32.1 in (816 mm), lowest position 32.7 in (831 mm), middle position 33.3 in (846 mm), top position
Rider's inside-leg arc, heel to heel	72 in (1829 mm), lowest position 73.2 in (1859 mm), middle position 74.4 in (1889 mm), top position

Weights

Vehicle curb weight

377 lbs (171 kg), DIN unladen weight, ready for road, 90% fueled

Service

Reporting safety defects	174
BMW Motorrad Service	175
Maintenance procedures	175
Maintenance schedule	179
Maintenance confirmations	180
Service confirmations	194

Reporting safety defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying BMW of North America, LLC.

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

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to <http://www.safercar.gov>; or write to: Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

BMW Motorrad 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.

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 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.

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:

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰
5 000 km		X					X	X	X	X	X	X					
10 000 km		X					X	X	X	X	X	X	X				
15 000 km		X					X	X	X	X	X	X					
12 months	X		X	X ^a	X ^a	X								X	X	X	X
24 months							X ^b	X ^b	X ^b	X ^b	X ^b	X ^b					

Maintenance schedule

- 1** BMW Service Standard Scope
- 2** Engine service
- 3** Engine oil change with filter
- 4** Check clutch
- 5** Clean brake calipers
- 6** Replace air cleaner insert
- 7** Telescopic forks maintenance
- 8** Steering damper maintenance
- 9** Rear spring strut maintenance
- 10** Handbrake fitting maintenance
- 11** Front brake caliper maintenance
- 12** Rear brake caliper maintenance
- 13** Replacing the steering tube
- 14** Change front brake fluid
- 15** Change rear brake fluid
- 16** Replace rubber grommets for rotational speed sensors
- 17** Check rubber grips for wear and positioning
 - a after each event and annually
 - b every two years or every 5000 km (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.

- Performing the vehicle test using the BMW Motorrad diagnosis system
- Checking steering-head bearing
- Checking the coolant level
- Checking the attachment of the clutch lever fitting
- Checking the clutch cable and clutch lever play
- Lubricating the clutch control
- Checking front brake pads and brake disks for wear
- Checking the rear brake pads and brake disk for wear
- Checking and lubricating the chain drive
- Checking the tires' condition and checking for damage
- Performing the vehicle test using the BMW Motorrad diagnosis system
- Confirm the BMW service in the vehicle literature

**BMW pre-delivery
check**

performed

on _____

Stamp, signature

BMW Service

performed

on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

Work performed

BMW Service

Yes

No

☐☐

Engine service (for maintenance)

☐☐

Engine oil change with filter

☐☐

Replacing air cleaner element

☐☐Cleaning the front brake calipers and
the rear brake calipers☐☐

Changing front brake fluid

☐☐

Changing brake fluid, rear

☐☐Replacing the steering tube (for main-
tenance)☐☐Replacing the rubber grommets for
the rotational speed sensor (for main-
tenance)☐☐

Information

Stamp, signature

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performed

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Next service

latest

on _____

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BMW Service

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Engine service (for maintenance)

Engine oil change with filter

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tenance)

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Yes

No

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

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No

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Next service

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☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

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on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

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BMW Service

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BMW Service

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Next service

latest

on _____

or, if reached earlier

at km _____

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Work performed

BMW Service

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tenance)

Information

Yes

No

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

BMW Service

performed

on _____

at km _____

Next service

latest

on _____

or, if reached earlier

at km _____

Work performed

BMW Service

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at km _____

Next service

latest

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or, if reached earlier

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BMW Service

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Changing brake fluid, rear

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tenance)

Information

Yes

No

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

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performed

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at km _____

Next service

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or, if reached earlier

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tenance)☐☐Replacing the rubber grommets for
the rotational speed sensor (for main-
tenance)☐☐

Information

Stamp, signature

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

[illegible]

Work performed	at km	Date

A

- Abbreviations and symbols, 6
- Accessories
 - General instructions, 144

B

- Battery
 - Charging, 135
 - Connecting to vehicle, 135
 - Disconnecting from vehicle, 135
 - Installing, 137
 - Maintenance instructions, 134
 - Position on vehicle, 16
 - Removing, 136
 - Technical data, 170
- Brake discs
 - Breaking in, 79
- Brake fluid
 - Checking the fluid level at rear, 111
 - Checking the front fluid level, 110
 - Front fluid tank, 13
 - Rear fluid tank, 13

Brake pads

- Breaking in, 80
- Check rear, 109
- Checking the front, 108

Brakes

- Adjust brake lever, 40
- Checking operation, 108
- Cleaning, 117, 119
- Replacing front brake pads, 114
- Replacing rear brake pads, 116
- Safety information, 81
- Technical data, 168

Breaking in, 79**C****Chain**

- Adjusting sag, 140
- Checking sag, 139
- Checking wear, 141
- Lubricating, 139

Checklist, 77**Clutch**

- Adjust play, 121
- Checking operation, 121
- Checking play, 121
- Technical data, 165

Connection for accessories, 145

- Position on vehicle, 15

Connection for additional sensor, 144

- Position on vehicle, 15

Coolant

- Checking the filling level, 122
- Filling level indicator, 13
- Topping up, 122
- Warning light for overtemperature, 28

D**Damping, 59**

- Adjusting, 58
- Front adjusting element, 11
- Rear adjuster, 11

Data logger

- Position on vehicle, 16

- Data recording
 - Data recording, 95
- Diagnostic connector
 - fasten, 139
 - Loosen, 138
 - Position on vehicle, 16
- Dimensions
 - Technical data, 170
- Display
 - see multifunction display, 20
- DTC
 - Adjusting control, 93
 - Control, 17, 18
 - Operating, 36
 - Switching off, 36
 - Switching on, 36
 - Technology in detail, 100

E

- EBR
 - Adjusting control, 93
 - Technology in detail, 101
- Electrical system
 - Technical data, 170

- Emergency on/off switch (kill switch)
 - Operating, 32
 - Position on vehicle, 19
- Engine
 - bring up to operating temperature, 79
 - Parking, 32
 - Starting, 77
 - Technical data, 164
- Engine oil
 - Checking the filling level, 107
 - Filling level indicator, 11
 - Oil filler opening, 13
 - Technical data, 163
 - Topping up, 108
- Engine speed warning indicator, 20

F

- Fairing
 - Install fairing side panel, 130
 - Installing the engine spoiler, 130
 - Installing the tail section, 132

- Installing the upper section of the fairing, 130
- Removing fairing side panel, 129
- Removing the engine spoiler, 128
- Removing the tail section, 131
- Removing the upper section of the fairing, 129
- Footbrake lever
 - Adjusting, 66, 67
- Footrests
 - Adjusting, 13, 65
- Fork bridge offset, 53
 - Adjusting, 13, 53
- Frame
 - Technical data, 166
- Fuel
 - Refueling, 88
 - Technical data, 163
- Fuel reserve
 - Warning light, 27

Fuses, 137
 Renewing fuse, 15
 Replacing, 137
 Technical data, 170

G
 Gearshift assistant, 81, 102
 GPS receiver
 Position on vehicle, 16

H
 Handlebars
 Adjusting, 41

I
 Ignition
 Switching off, 32
 Switching on, 32
 Indicator lights
 Overview, 22
 Instrument cluster
 Overview, 20

J
 Jump-start, 133

L
 Launchcontrol, 82
 Start of race, 83

M
 Maintenance
 General instructions, 106
 Maintenance schedule, 179
 Maintenance confirmations, 180
 Maintenance intervals, 175
 Motorcycle
 Care, 147
 Cleaning, 147
 Parking, 84
 Putting into operation, 150
 Removal from operation, 150
 Tying down, 96
 Multifunction display, 20
 Control, 17, 18
 Displays for the mechatronics technician, 90
 Displays for the mechatronics technician 2, 92
 Overview, 23
 Select display readings, 34

Multifunction switch
 Overall view, left, 17, 18
 Overall view, right, 19

N
 Notice concerning current status, 7

O
 Overview of warning indicators, 25
 Overviews
 Indicator and warning lights, 22
 Instrument panel, 20
 Left side of motorcycle, 11
 Left-side multifunction switch, 17, 18
 Multifunction display, 23
 Right side of motorcycle, 13
 Right-hand multifunction switch, 19
 Underneath seat, 16
 Without trim panel, 15

P

- Pit
 - In the pit, 87
- Pit-lane limiter
 - Operating, 84
- Pre-Ride-Check, 78

R

- Racetrack
 - Pit-lane limiter, 84
 - Race start with Launch Control, 83
- Rear-wheel drive
 - Technical data, 166
- Rear-wheel stand
 - Mounting, 106
- Refueling, 88
- Relay
 - Position on vehicle, 15
- Riding mode
 - Adjusting, 37
 - Control, 19
 - Technology in detail, 101

S

- Safety instructions
 - On braking, 81
 - On riding, 76
- Seat
 - Adjusting, 69
- Seats
 - Installing, 38
 - Removing, 38
- Service, 175
 - Reporting safety defects, 174
- Shift lever
 - Adjusting, 68
 - Gearshift-pattern reverser, 94
- Shifting flash, 20
- Shifting gears
 - Shiftpoint light, 80
- Speedometer, 23
- Spring preload
 - Adjusting, 56
 - Front adjusting element, 11
 - Rear adjuster, 11
- Starting, 77
 - Control, 19

- Steering damper
 - Adjusting, 40
 - Position on vehicle, 13
- Steering head angle, 43
 - Adjusting, 13, 43
- Suspension, 61, 63, 64
 - Adjusting, 61
 - Technical data, 159, 167
- Swinging arm
 - Adjusting, 70
- Switching off, 84

T

- Technical data
 - Battery, 170
 - Brakes, 168
 - Chassis and suspension, 167
 - Clutch, 165
 - Dimensions, 170
 - Electrical system, 170
 - Engine, 164
 - Engine oil, 163
 - Frame, 166
 - Fuel, 163
 - Fuses, 170

- Rear-wheel drive, 166
- Standards, 7
- Suspension, 159
- Transmission, 165
- Weights, 171
- Wheels and tires, 169
- Tires
 - Breaking in, 80
 - Checking tire pressures, 123
 - Technical data, 169
- Torques, 152
- Traction Control, 100
 - DTC, 100
- Transmission
 - Technical data, 165
- Type plate
 - Position on vehicle, 13

V

- Vehicle identification number
 - Position on vehicle, 13

W

- Warning lamps
 - Displays, 24
 - Fuel reserve, 27
 - Overheating, 28
 - Overview, 22
- Weights
 - Technical data, 171
- Wheels
 - Checking rims, 123
 - Installing rear wheel, 127
 - Installing the front wheel, 124
 - Removing front wheel, 123
 - Removing rear wheel, 126
 - Technical data, 169

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 will be entertained as a result of such discrepancies.

Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.

The right to modify designs, equipment and accessories is reserved.

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