# OWNER'S MANUAL 2011

## 450 EXC USA
## 530 EXC USA

Art. no. 3211602en

# DEAR KTM CUSTOMER



Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports motorcycle that will give you enormous pleasure if you service and maintain it accordingly.

We wish you a lot of enjoyment in riding this vehicle!

Enter the serial numbers of your vehicle below.

| | |
|---|---|
| Chassis number (☛ p. 12) | Dealer's stamp |
| Engine number (☛ p. 12) | |
| Key number (☛ p. 12) | |

The owner's manual corresponded to the latest state of this series at the time of printing. Slight deviations resulting from continuing development and design of our motorcycles can however not be completely excluded.

All specifications are non-binding. KTM Sportmotorcycle AG specifically reserves the right to modify or delete technical specifications, prices, colors, forms, materials, services, designs, equipment, etc., without prior notice and without specifying reasons, to adapt these to local conditions, as well as to stop production of a particular model without prior notice. KTM accepts no liability for delivery options, deviations from illustrations and descriptions, as well as misprints and other errors. The models portrayed partly contain special equipment that does not belong to the regular scope of delivery.




ISO 9001(12 100 6061)
According to the international quality management standard ISO 9001, KTM uses quality assurance processes that lead to the maximum possible quality of the products.
Issued by: TÜV Management Service

KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

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## Symbols used

The symbols used are explained in the following.

| | |
|---|---|
|  | Indicates an expected reaction (e.g. of a work step or a function). |
|  | Indicates an unexpected reaction (e.g. of a work step or a function). |
|  | All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs done in an authorized KTM workshop! There, your motorcycle will be serviced optimally by specially trained experts using the specialist tools required. |
|  | Identifies a page reference (more information is provided on the specified page). |

## Formats used

The typographical and other formats used are explained below.

| | |
|---|---|
| **Proprietary name** | Denotes a proprietary name. |
| **Name®** | Denotes a protected name. |
| **Brand™** | Denotes a brand available on the open market. |

## Use definition

KTM sport motorcycles are designed and built to withstand the normal stresses and strains of competitive use. The motorcycles comply with currently valid regulations and categories of the top international motorsport organizations.

**Info**

The motorcycle is authorized for use on public roads in the homologated (reduced) version only.
In the derestricted version, the motorcycle must be used only on closed off properties remote from public road traffic.
The motorcycle is designed for off-road sport endurance competition (Enduro) and not for the predominant motocross use.

## Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care and tuning work on the engine and chassis is properly carried out as described in the owner's manual. Poor adjustment and tuning of the engine and chassis can lead to damage and breakage of components.
Using the vehicle in difficult conditions such as on sand or very muddy or wet terrain can lead to above-average wear of components such as the drive train or the brakes. For this reason, it may be necessary to service or replace worn parts before the limit specified in the service schedule is reached.
Pay careful attention to the prescribed running-in period and service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.

## Warranty

The work prescribed in the service schedule must be carried out by an authorized KTM workshop only and confirmed in the customer's service record and in the **KTM dealer.net**; otherwise, all warranty claims will be void. No warranty claim can be honored for damage resulting from manipulation and/or other changes to the vehicle.

## Fuel, oils, etc.

You should use the fuels, oils and greases according to specifications as listed in the owner's manual.

## Spare parts, accessories

For your own safety, only use spare parts and accessory products that have been approved and/or recommended by KTM and have them installed by an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage or loss.
Some spare parts and accessories are specified in brackets in the respective descriptions. Your KTM dealer will be happy to advise you.

You will find the current **KTM PowerParts** for your vehicle on the KTM website.
International KTM Website: http://www.ktm.com

## Work rules

Special tools are necessary for some of the work. These are not included with the vehicle and can be ordered under the number in parentheses. Ex: valve spring compressor (59029019000)
During assembly, non-reusable parts (e.g. self-locking screws and nuts, seals and seal rings, O-rings, pins, lock washers) must be replaced by new parts.
If thread lock (e.g. **Loctite®**) is used for screw connections, be sure to comply with the manufacturer's specific instructions on its usage.
Parts that you want to reuse following repairs and servicing should be cleaned and checked for damage and wear. Change damaged or worn parts.
Following repairs or servicing, the vehicle must be checked for roadworthiness.

## Transport

**Note**

**Danger of damage** The parked vehicle may roll away or fall over.

– Always place the vehicle on a firm and even surface.

**Note**

**Fire hazard** Some vehicle components become very hot when the vehicle is operated.

– Do not park the vehicle near flammable or explosive substances. Do not place objects on the vehicle while it is still warm from being run. Always let the vehicle cool first.

– Switch off engine.

– Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500137-10☛ p. 22)
– Use straps or other suitable devices to secure the motorcycle against accidents or falling over.

## Environment

Motorcycling is a wonderful sport and we naturally hope that you can enjoy it to the full. However, it is a potential problem for the environment and can lead to conflicts with other persons. But if you use your motorcycle responsibly, you can ensure that such problems and conflicts do not have to occur. To protect the future of motorcycle sport, make sure that you use your motorcycle legally, display environmental consciousness, and respect the rights of others.

## Overview of labels


| | |
|---|---|
| 1 | Type label for Canada |
| 2 | Type label for the USA |
| 3 | Fuel evaporative system information |
| 4 | Chain tension information |
| 5 | Information on putting into operation |
| 6 | Emission control information |
| 7 | Noise emission information |

| | | | | | |
|---|---|---|---|---|---|
| MANUFACTURED BY/FABRIQUÈ PAR: | | | **KTM SPORTMOTORCYCLE AG** | | |
| GVWR/PNBV: | 335 KG | | DATE: | | |
| V.I.N./N.I.V.: | | | **VBKXXXXXXMXXXXXX** | | |
| TYPE: | **MC** | | | | |
| GAWR/PNBE | | | TIRE/PNEU-DIMENSION-RIM/JANTE | COLD INFL. PRESS. PRESS. DE GONFL. À FROID PSI/LPC | KPA |
| 1st | 145 | KG | 90/90-21 | 1.60-21 | 22 | 150 |
| 2nd | 190 | KG | 140/80-18 | 2.15-18 | 29 | 200 |
| THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE - CE VÉHICULE EST CONFORME À TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU RÈGLEMENT SUR LA SÉCURITÉ DES VÉHICULES AUTOMOBILES DU CANADA EN VIGUEUR À LA DATE DE SA FABRICATION | | | | | |

500250-01

Type label for Canada

MFD. BY KTM SPORTMOTORCYCLE AG AUSTRIA

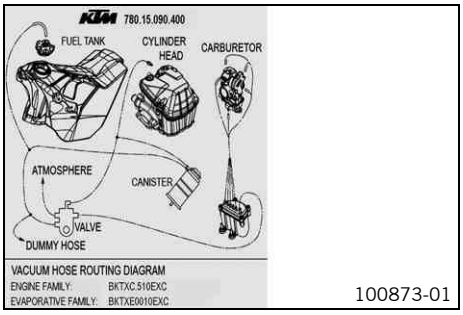
| MOTORCYCLE | | | DATE |
|---|---|---|---|
| GVWR | 739 lbs | 335 kg | |
| GAWR FRONT | 320 lbs | 145 kg WITH 90/90-21 TIRE, 54M TYPE, | |
| | 1,60-21 RIM, AT | 22 psi 1.5 bar COLD | |
| GAWR REAR | 419 lbs | 190 kg WITH 140/80-18 TIRE, 65M TYPE, | |
| | 2,15-18 RIM, AT | 29 psi 2.0 bar COLD | |

THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.

VBKXXXXXXMXXXXXX

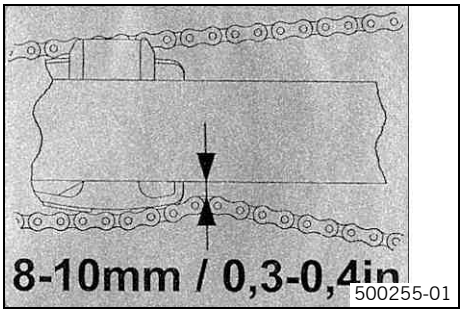
500251-01

Type label for the USA




100873-01

Fuel evaporative system information




500255-01

Chain tension information


700210-01

Information on putting into operation

VEHICLE EMISSION CONTROL INFORMATION

MANUFACTURER: KTM SPORTMOTORCYCLE AG - Mattighofen, Austria
IMPORTER : KTM NORTH AMERICA, INC. - 1119 Milan Ave, Amherst, OH 44001

| | | | |
|---|---|---|---|
| ENGINE DISPLACEMENT | 448 cc | ENGINE EXHAUST EMISSION CONTROL SYSTEM: | |
| ENGINE FAMILY | AKTXC.525EXC | | EM |
| PERMEATION FAMILY | AKTXPP104RK1 | MODEL NAME | 450 EXC |

THIS VEHICLE CONFORMS WITH US EPA AND CALIFORNIA REGULATIONS APPLICABLE TO 20XXMODEL YEAR NEW MOTORCYCLES AND IS CERTIFIED TO 0.8 G/KM HC+NOX, 12.0 G/KM CO EXHAUST EMISSION STANDARD IN CALIFORNIA.

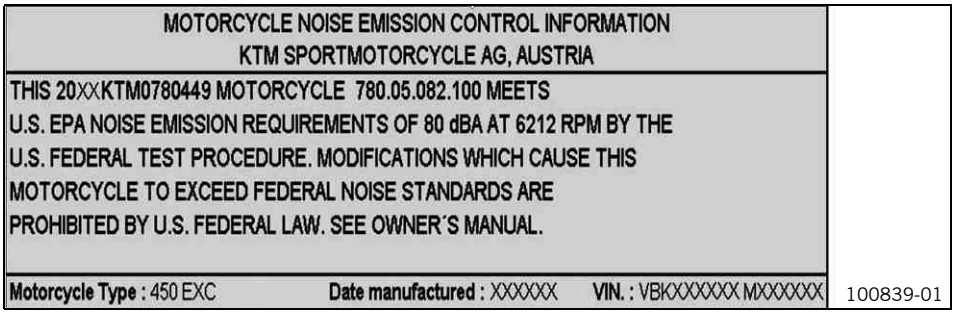
ENGINE TUNEUP SPECIFICATIONS:

| | |
|---|---|
| IGNITION TIMING : | NON ADJUSTABLE |
| IDLE SPEED : | 1500 +/- 50 RPM IN NEUTRAL |
| IDLE MIXTURE : | NON ADJUSTABLE |
| VALVE CLEARANCE : | 0.10 - 0.15 INTAKE & EXHAUST |
| SPARK PLUG : | NGK LKAR8A9 |
| SPARK PLUG GAP : | 0,9 mm |
| FUEL : | UNLEADED GASOLINE ONLY - 91 (R+M)/2 OCTANE OR HIGHER |
| OIL : | SAE 10 W 50 |

V.I.N. : VBKxxxxxxxMxxxxxx | DATE OF MANUFACTURE : xxxxxxx

100840-01

Emission control information


MOTORCYCLE NOISE EMISSION CONTROL INFORMATION
KTM SPORTMOTORCYCLE AG, AUSTRIA
THIS 20XXKTM0780449 MOTORCYCLE 780.05.082.100 MEETS
U.S. EPA NOISE EMISSION REQUIREMENTS OF 80 dBA AT 6212 RPM BY THE
U.S. FEDERAL TEST PROCEDURE. MODIFICATIONS WHICH CAUSE THIS
MOTORCYCLE TO EXCEED FEDERAL NOISE STANDARDS ARE
PROHIBITED BY U.S. FEDERAL LAW. SEE OWNER´S MANUAL.
Motorcycle Type : 450 EXC Date manufactured : XXXXXX VIN. : VBKXXXXXX MXXXXXX
100839-01

Noise emission information

## Notes/warnings

Pay close attention to the notes/warnings.

**Info**
Various information and warning labels are affixed to the vehicle. Do not remove information/warning labels. If they are missing, you or others may not recognize potential hazards and may therefore be injured.

## Grades of risks

**Danger**
Identifies a danger that will immediately and invariably lead to fatal or serious permanent injury if the appropriate measures are not taken.

**Warning**
Identifies a danger that is likely to lead to fatal or serious injury if the appropriate measures are not taken.

**Caution**
Identifies a danger that may lead to minor injuries if the appropriate measures are not taken.

**Note**
Identifies a danger that will lead to considerable machine and material damage if the appropriate measures are not taken.

**Warning**
Identifies a danger that will lead to environmental damage if the appropriate measures are not taken.

## Owner's manual

– It is important that you read this owner's manual carefully and completely before making your first trip. It contains information and tips to help you operate and handle your motorcycle. Only then will you learn how to best adjust the motorcycle for your own use and how to protect yourself from injury. The owner's manual also contains important information on servicing the motorcycle.
– The owner's manual is an important component of the motorcycle and should be handed over to the new owner if the vehicle is sold.

## Reporting of 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 KTM North America, Inc.
If NHTSA receives similar complaints, it may open an investigation. If it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or KTM North America, Inc.
To contact NHTSA, you may either call the Vehicle Safety Hotline toll-free at 1–888–327–4236; or visit www.nhtsa.dot.gov; or write to: NHTSA Headquarters, 1200 New Jersey Avenue, SE, West Building, Washington, DC 20590, USA. You can also obtain other information about motor vehicle safety from the Hotline.

## Noise emission warranty

KTM Sportmotorcycle AG warrants that this exhaust system, at the time of sale, meets all applicable U.S. EPA Federal noise standards.
This warranty extends to the first person who buys this exhaust system for purposes other than resale, and to all subsequent buyers.
Warranty claims should be directed to:
KTM North America, Inc., Customer Support, 1119 Milan Ave., Amherst, OH 44001, USA
Telefon: (440) 985–3553
www.ktmusa.com
KTM Canada, Inc., Customer Support, 1375-1 Marie-Victorin, Saint-Bruno, QC J3V 6B7
Phone: (450) 441–4451 x 4250
www.ktmcanada.com

## Tampering warning

Tampering with the noise control system is prohibited. Federal law prohibits the following acts or the causing thereof:

1 The removal or rendering inoperative by any person, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use; or
2 The use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

1 Removal of, or puncturing the muffler, baffles, header pipes or any other components which conducts exhaust gases.
2 Removal or puncturing of any part of the intake system.
3 Lack of proper maintenance.
4 Replacement of any moving parts of the vehicle, or parts of the exhaust or intake system, with parts other than those specified by the manufacturer.

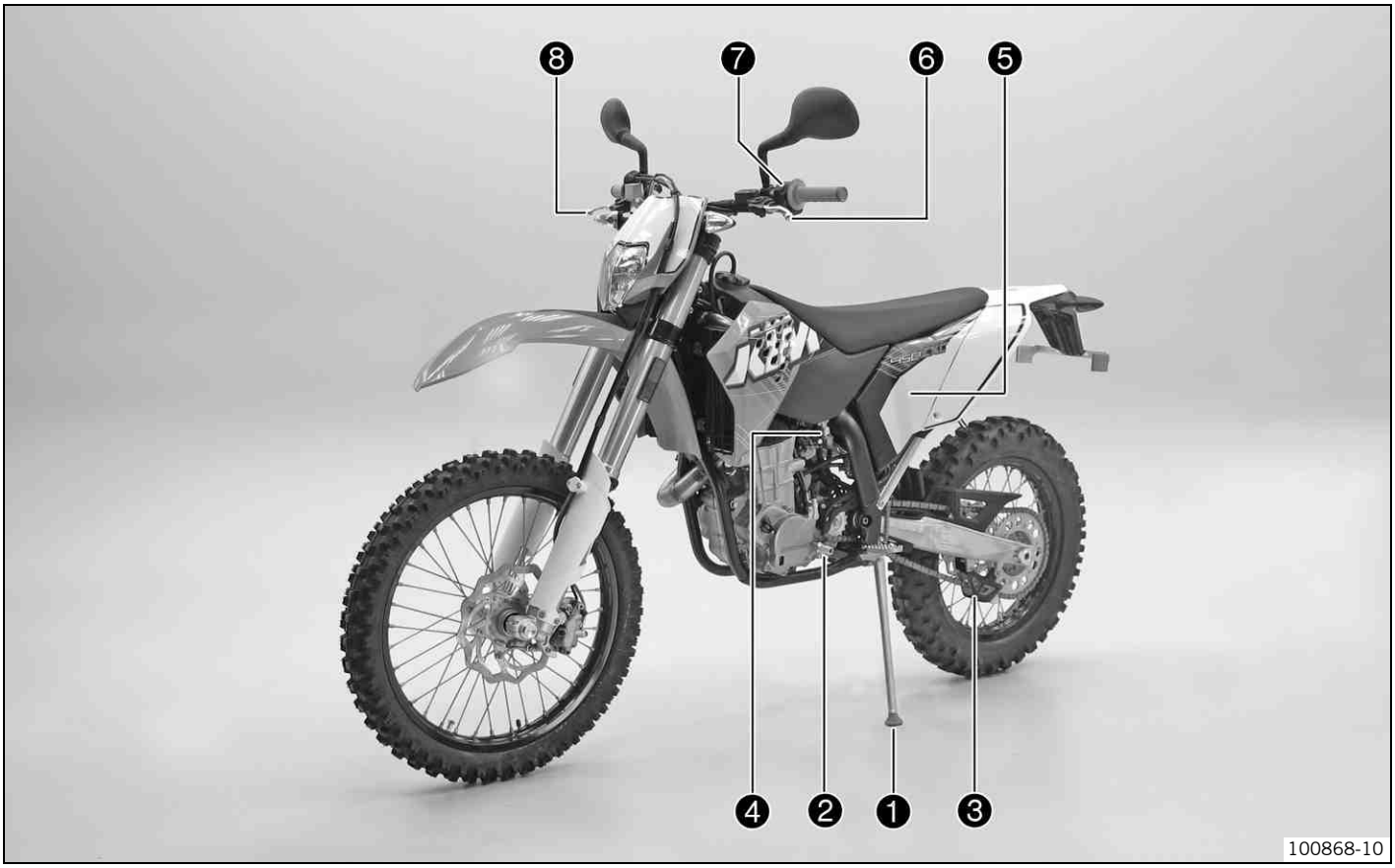
## Operating noise warning

This product should be checked for repair or replacement if the motorcycle noise has increased significantly through use. Otherwise, the owner may become subject to penalties under state and local ordinances.

## Consumer rights

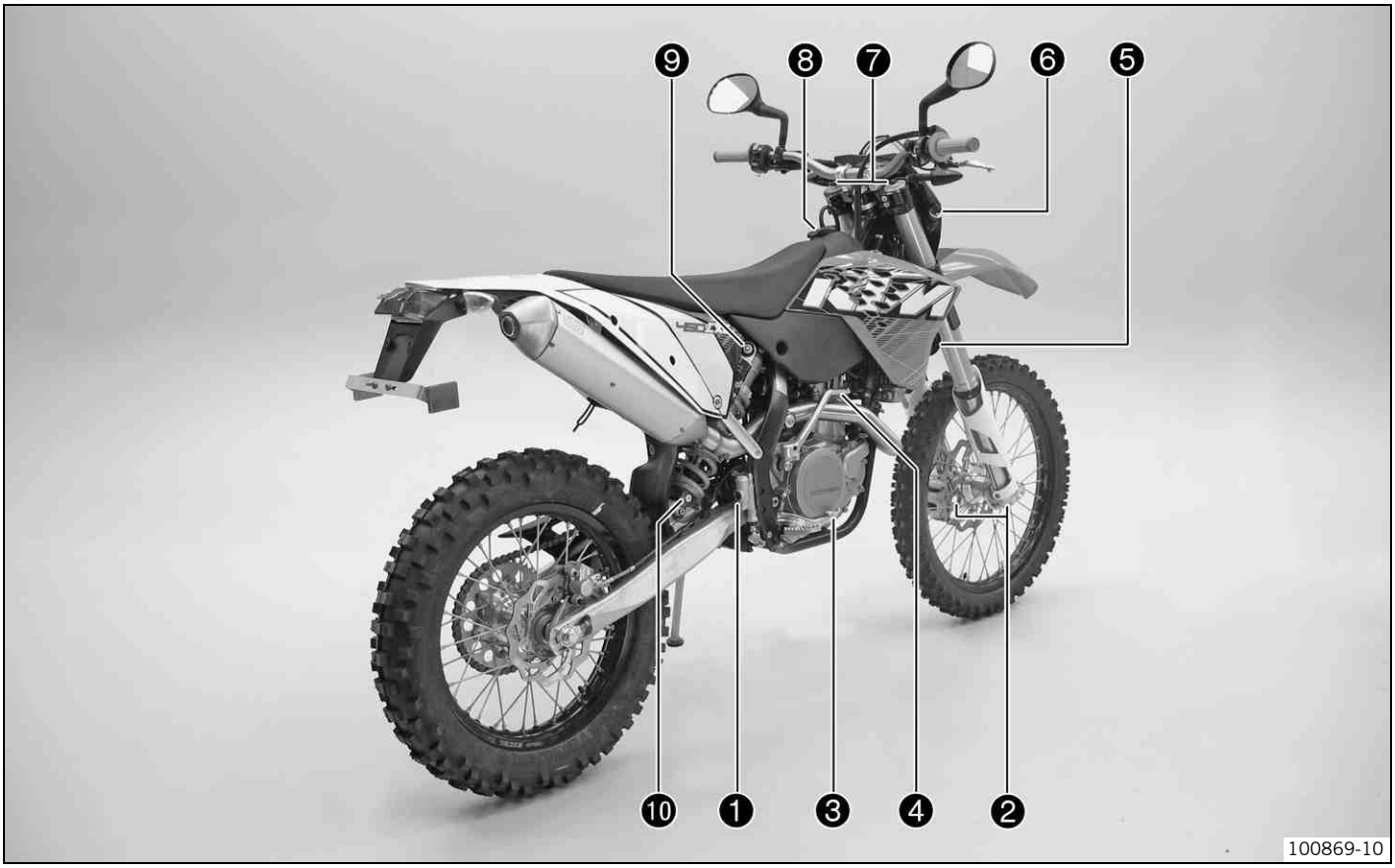
Warranty claims should be submitted to a KTM workshop. If you are not satisfied, please contact:
KTM North America, Inc., Customer Support, 1119 Milan Ave., Amherst, OH 44001, USA
Telefon: (440) 985–3553
www.ktmusa.com
KTM Canada, Inc., Customer Support, 1375-1 Marie-Victorin, Saint-Bruno, QC J3V 6B7
Phone: (450) 441–4451 x 4250
www.ktmcanada.com
Different rights may apply, according to national or regional legislation.

## View of the vehicle from the left front (example)



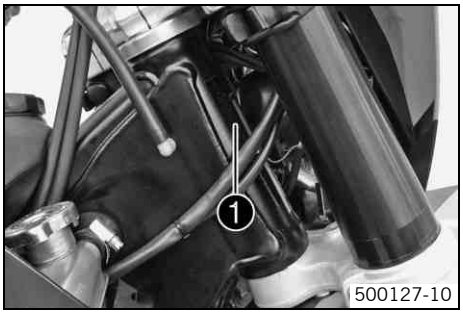

| | |
|---|---|
| 1 | Side stand |
| 2 | Shift lever |
| 3 | Chain guide |
| 4 | Fuel tap |
| 5 | Air filter box lid |
| 6 | Clutch lever |
| 7 | Light switch, headlight flasher switch, turn signal switch, horn button |
| 8 | Hand brake lever |

## View of the vehicle from the right rear (example)



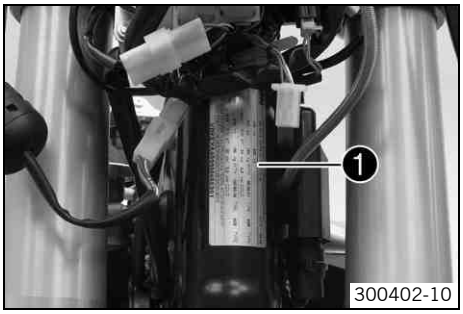

| | |
|---|---|
| 1 | Level viewer for brake fluid, rear |
| 2 | Fork compression adjustment |
| 3 | Foot brake pedal |
| 4 | Kickstarter |
| 5 | Horn |
| 6 | Ignition switch |
| 7 | Fork rebound adjustment |
| 8 | Filler cap |
| 9 | Shock absorber compression adjustment |
| 10 | Shock absorber rebound adjustment |

## Chassis number

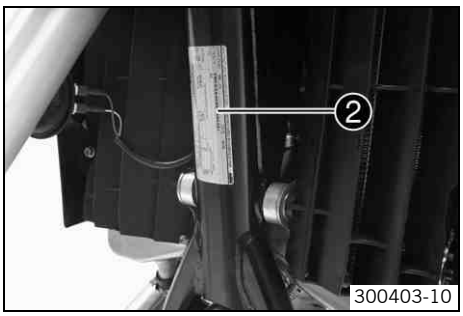



The chassis number ❶ is stamped on the steering head on the right.

## Type label

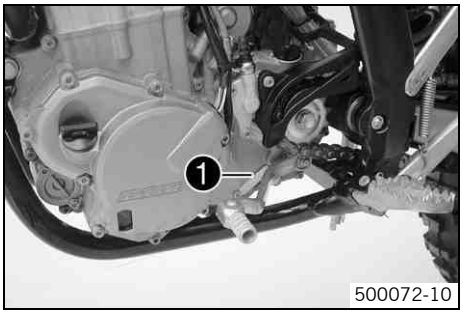



The type label USA ❶ is fixed to the front of the steering head.



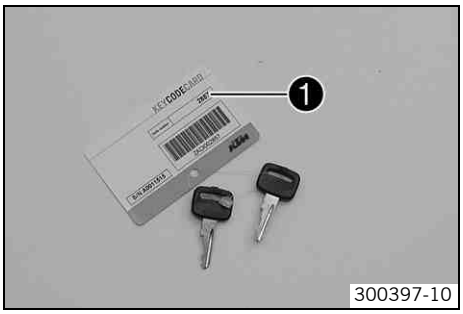

The type label Canada ❷ is fixed to the front of the front pipe.

## Engine number




The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

## Key number

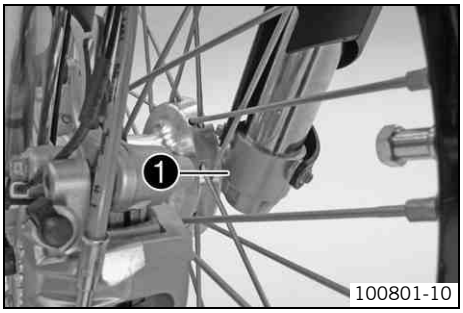



The key number ❶ is provided on the **KEYCODECARD**.

**Info**

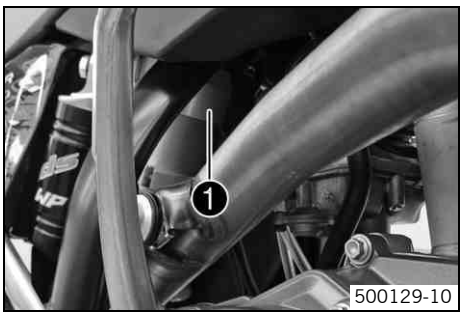
You need the key number to order a spare key. Keep the **KEYCODECARD** in a safe place.

## Fork part number



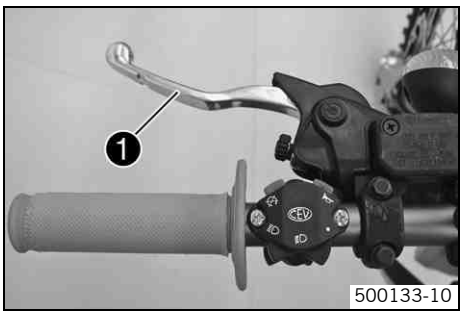

The fork part number ❶ is stamped on the inner side of the fork stub.

## Shock absorber part number



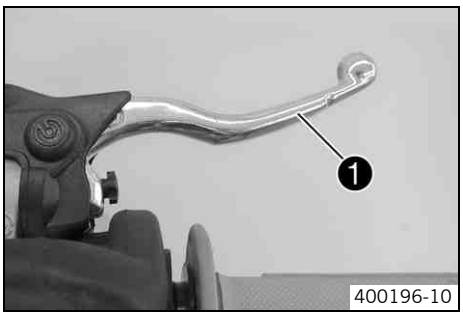

The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring on the engine side.

## Clutch lever



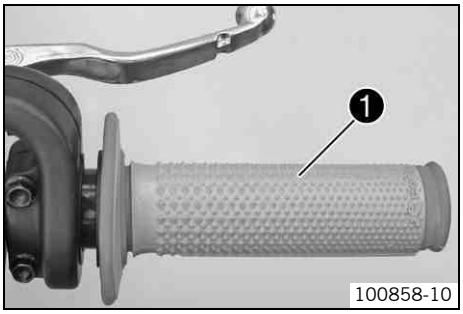

The clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is hydraulically operated and self-adjusting.

## Hand brake lever




Hand brake lever ❶ is located on the right side of the handlebar.
The hand brake lever is used to activate the front brake.

## Throttle grip




The throttle grip ❶ is fitted on the right side of the handlebar.

## Emergency OFF switch


The emergency OFF switch ❶ is fitted on the left side of the handlebar.

**Possible states**

| | |
|---|---|
|  | Ignition off – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start. |
|  | Ignition on – In this position, the ignition circuit is closed, and the engine can be started. |

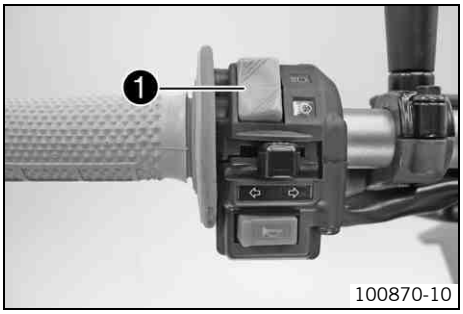
## Electric starter button


Electric starter button ❶ is fitted on the right side of the handlebar.

**Possible states**

- Electric starter button ⓚ is in home position
- Electric starter button ⓚ is pressed – In this position, the electric starter is actuated.

## Light switch

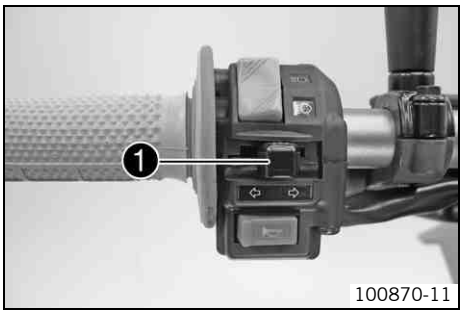



Light switch ❶ is fitted on the left side of the handlebar.

**Possible states**

| | |
|---|---|
| | Low beam on – Light switch is turned downward. In this position, the low beam and tail light are switched on. |
| | High beam on – Light switch is turned upward. In this position, the high beam and tail light are switched on. |

## Turn signal switch



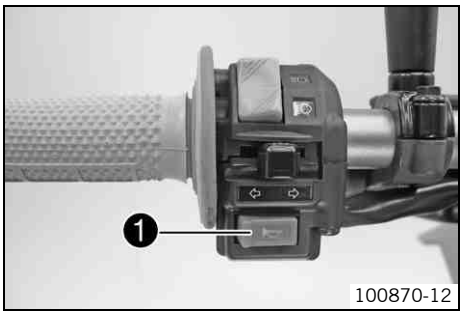

Turn signal switch ❶ is fitted on the left side of the handlebar.

**Possible states**

| | |
|---|---|
| | Turn signal light off |
| | Left turn signal on – Turn signal switch pressed to the left. The turn signal switch returns automatically to the central position after use. |
| | Right turn signal on – Turn signal switch pressed to the right. The turn signal switch returns automatically to the central position after use. |

To switch off the turn signal, press the turn signal switch towards the switch case.

## Horn button




Horn button ❶ is fitted on the left side of the handlebar.

**Possible states**

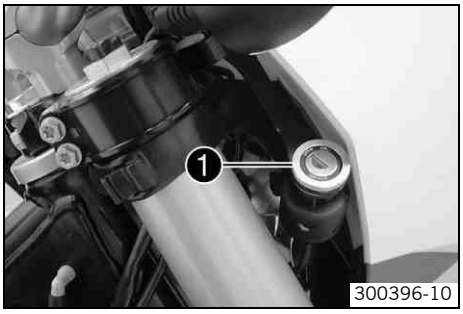
- Horn button ⌯ is in home position
- Horn button ⌯ is pressed – The horn is sounded in this position.

## Overview of indicator lamps


**Possible states**

| | |
|---|---|
| | High beam indicator lamp lights up blue – High beam is switched on. |
| | Turn signal indicator lamp flashes green – Turn signal light is switched on. |

## Ignition switch

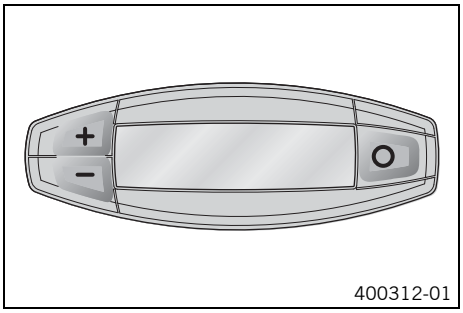



The ignition switch ❶ is on the right behind the headlight mask.

**Possible states**

| | |
|---|---|
| | Ignition off – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start. |
| | Ignition on – In this position, the ignition circuit is closed, and the engine can be started. |

## Speedometer

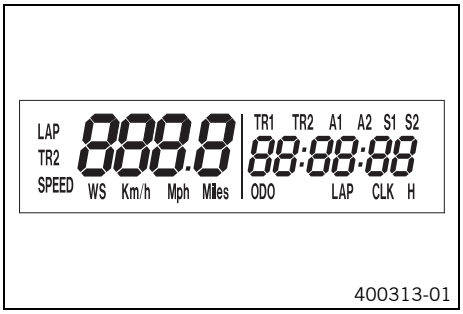


400312-01

– Press the key O to change the display mode or change to one of the Setup menus.
– Press the key + to control different functions.
– Press the key − to control different functions.

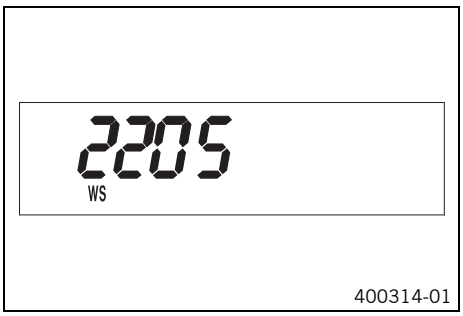
**Info**
When the vehicle is delivered, only the **SPEED/H** and **SPEED/ODO** display modes are activated.

## Speedometer activation and test




400313-01

Activating the speedometer:
The speedometer is activated when one of the keys is pressed or a signal is received from the wheel speed sensor.
Display test
For the function test of the display, all display segments light up briefly.




400314-01

**WS** (wheel size)
After the display function test, the wheel size **WS** is displayed briefly.

**Info**
2205 mm corresponds to the size of the 21" front wheel with a series production tire.

The display then changes to the last selected mode.

## Tripmaster switch

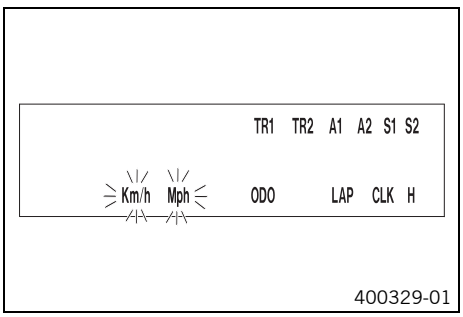
**(Option: Tripmaster switch)**

You can use the trip master switch to control the functions of the speedometer from the handlebar.

**Info**
The trip master is an optional accessory.

## Setting kilometers or miles

**Info**
If you change the unit, the value **ODO** is retained and converted accordingly.
The values **TR1**, **TR2**, **A1**, **A2** and **S1** are cleared when the unit of measure is changed.




400329-01

**Condition**
The motorcycle is stationary.

– Press the button O briefly and repeatedly until **H** appears at the bottom right of the display.
– Press the button O for 3 - 5 seconds.
  ✓ The Setup menu is displayed and the active functions shown.
– Press the button O repeatedly until the **Km/h**/**Mph** display flashes.

**Km/h adjusting**
  – Press the button +.

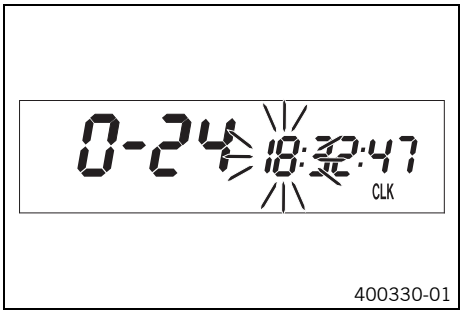
**Mph adjusting**
  – Press the button −.

– Press the button for 3 - 5 seconds.

✓ The settings are stored and the Setup menu is closed.

**Info**
If no button is pressed for 20 seconds, or if no impulse comes from the wheel speed sensor, the settings are automatically saved and the Setup menu is closed.

## Setting the clock



400330-01

**Condition**
The motorcycle is stationary.

– Press the button briefly and repeatedly until **CLK** appears at the bottom right of the display.
– Press the button for 3 - 5 seconds.

✓ The hour display flashes.

– Set the hour display with the button + and/or button −.
– Press the button briefly.

✓ The next segment of the display flashes and can be set.

– You can set the following segments in the same way as the hours by pressing the button + and the button −.

**Info**
The seconds can only be set to zero.

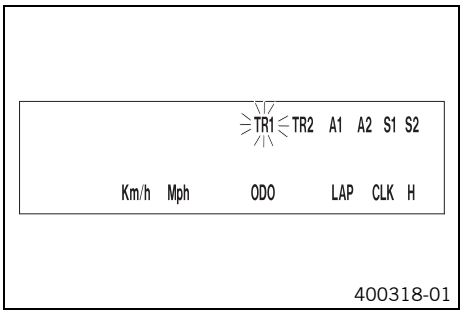
– Press the button for 3 - 5 seconds.

✓ The settings are stored and the Setup menu is closed.

**Info**
If no button is actuated for 20 seconds or there is no signal from the wheel speed sensor, then the settings are automatically stored and the Setup menu closed.

## Adjusting the speedometer functions

**Info**
When the vehicle is delivered, only the **SPEED/H** and **SPEED/ODO** display modes are activated.



400318-01

**Condition**
The motorcycle is stationary.

– Press the button briefly and repeatedly until **H** appears at the bottom right of the display.
– Press the button for 3 - 5 seconds.

✓ The Setup menu is displayed and the activated functions are shown.

– Change to the desired function by pressing the button briefly.

✓ The selected function flashes.

**Activating a function**

– Press the button +.

✓ The symbol remains on the screen and the display changes to the next function.

**Deactivating the function**

– Press the button −.

✓ The symbol on the screen goes out and the display changes to the next function.

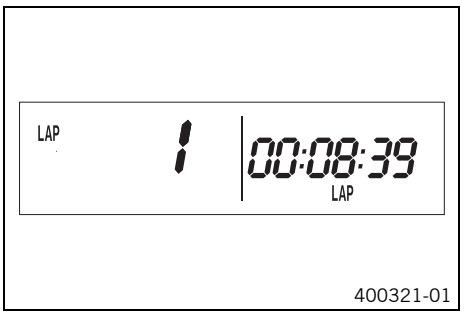
– All desired functions are activated or deactivated accordingly.
– Press the button for 3 - 5 seconds.

✓ The settings are stored and the Setup menu is closed.

**Info**
If no button is pressed for 20 seconds, or if a pulse arrives from the wheel speed sensor, the settings are stored automatically and the Setup menu is closed.

## Querying the lap time

**Info**
This function can be called only if lap times are measured.

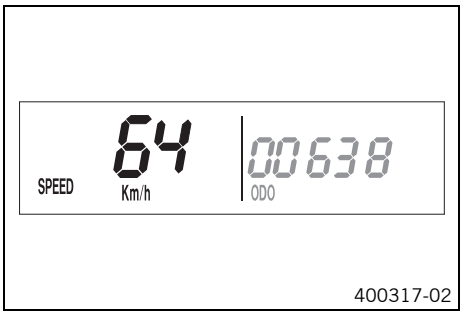



**Condition**
The motorcycle is stationary.

– Press the button briefly and repeatedly until **LAP** appears at the bottom right of the display.
– Press the button briefly.
✓ **LAP 1** appears on the left side of the display.
– Laps 1-10 can be displayed by pressing the button +.
– The − button has no function
– Press the button briefly.
✓ Next display mode

**Info**
If an impulse is received from the wheel speed sensor, the left side of the display changes back to the **SPEED** mode.

## Display mode SPEED (speed)




– Press the button briefly and repeatedly until **SPEED** appears on the left side of the display.

The current speed is displayed in the **SPEED** display mode.
The current speed can be displayed in **Km/h** or **Mph**.

**Info**
Making the setting according to the country.
When an impulse comes from the front wheel, the left side of the speedometer display changes to the **SPEED** mode and the current speed is shown.

## Display mode SPEED/H (service hours)


**Condition**
- The motorcycle is stationary.

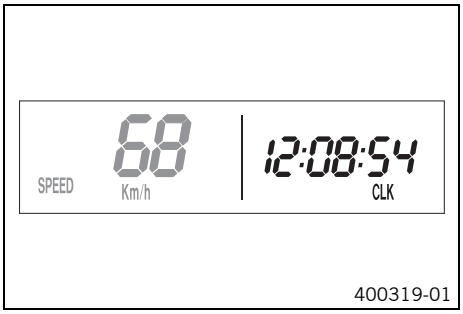
– Press the button briefly and repeatedly until **H** appears at the bottom right of the display.

In display mode **H**, the service hours of the engine are displayed.
The service hour counter stores the total traveling time.

**Info**
The service hour counter is necessary for ensuring that maintenance work is carried out at the right intervals.
If the speedometer is in **H** display mode at the start of the journey, it automatically changes to the **ODO** display mode.
The **H** display mode is suppressed during the journey.

| | |
|---|---|
| Press the button +. | No function |
| Press the button −. | No function |
| Press the button for 3 - 5 seconds. | The display changes to the Setup menu of the speedometer functions. |
| Press the button briefly. | Next display mode |

## Display mode SPEED/CLK (clock)

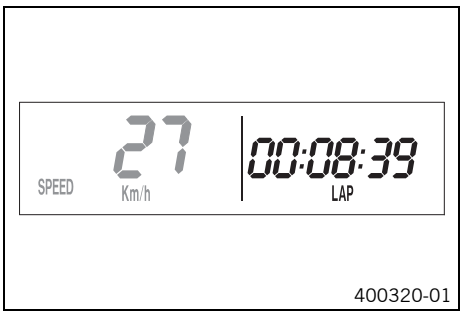



– Press the button briefly and repeatedly until **CLK** appears at the bottom right of the display.

The time is displayed in **CLK** display mode.

| | |
|---|---|
| Press the button +. | No function |
| Press the button −. | No function |
| Press the button for 3 - 5 seconds. | The display changes to the Setup menu of the clock. |
| Press the button briefly. | Next display mode |

## Display mode SPEED/LAP (lap time)



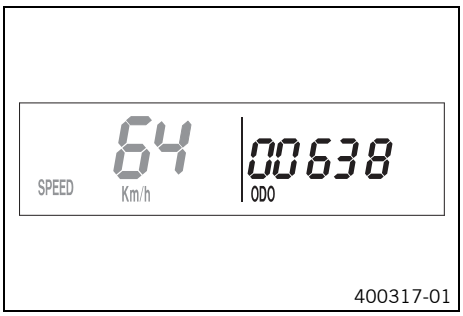

– Press the button briefly and repeatedly until **LAP** appears at the bottom right of the display.

In the **LAP** display mode, up to 10 lap times can be timed with the stop watch.

**Info**
If the lap time continues after you press the button −, 9 memory locations are already occupied.
Lap 10 must be timed with the button +.

| | |
|---|---|
| Press the button +. | Starts or stops the clock. |
| Press the button −. | Stops the current lap time and saves it, and the stop watch starts the next lap. |
| Press the button for 3 - 5 seconds. | The stop watch and the lap time are reset. |
| Press the button briefly. | Next display mode |

## Display mode SPEED/ODO (odometer)

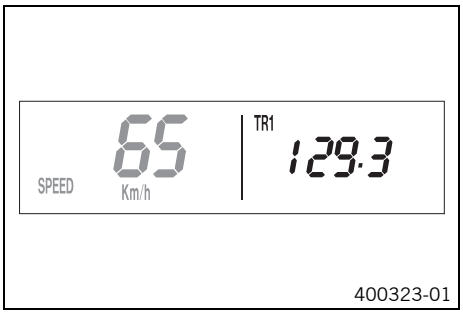



– Press the button briefly and repeatedly until **ODO** appears at the bottom right of the display.

In **ODO** display mode, the total number of kilometers ridden is displayed.

| | |
|---|---|
| Press the button +. | No function |
| Press the button −. | No function |
| Press the button for 3 - 5 seconds. | – |
| Press the button briefly. | Next display mode |

## Display mode SPEED/TR1 (trip master 1)




– Press the button briefly and repeatedly until **TR1** appears at the top right of the display.

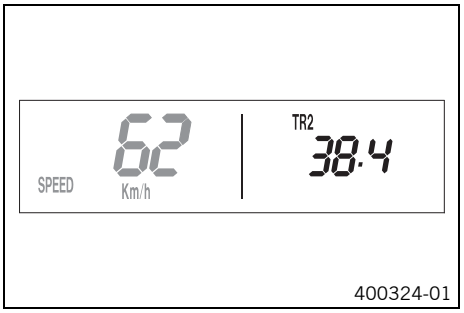
**TR1** (trip master 1) runs constantly and counts to 999.9.
You can use it to measure trips or the distance between refueling stops.
**TR1** is coupled with **A1** (average speed 1) and **S1** (stop watch 1).

**Info**
If 999.9 is exceeded, the values of **TR1**, **A1** and **S1** are automatically reset to 0.0.

| | |
|---|---|
| Press the button +. | No function |
| Press the button −. | No function |
| Press the button for 3 - 5 seconds. | The **TR1**, **A1** and **S1** displays are reset to 0.0. |

| | |
|---|---|
| Press the button briefly. | Next display mode |

## Display mode SPEED/TR2 (trip master 2)



400324-01

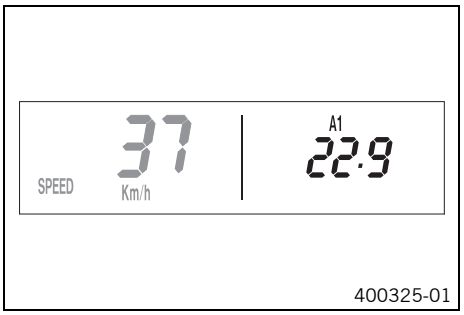
– Press the button briefly and repeatedly until **TR2** appears at the top right of the display.

**TR2** (trip master 2) runs constantly and counts up to 999.9.
The displayed value can be set manually with the button + and the button –. This is a very practical function when riding using the road book.

**Info**
The **TR2** value can also be corrected manually during the journey with the button + and the button –.
If 999.9 is exceeded, the value of **TR2** is automatically reset to 0.0.

| | |
|---|---|
| Press the button +. | Increases value of **TR2**. |
| Press the button –. | Reduces value of **TR2**. |
| Press the button for 3 - 5 seconds. | Deletes value of **TR2**. |
| Press the button briefly. | Next display mode |

## Display mode SPEED/A1 (average speed 1)



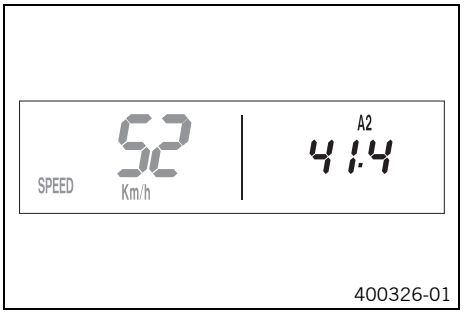
400325-01

– Press the button briefly and repeatedly until **A1** appears at the top right of the display.

**A1** (average speed 1) shows the average speed calculated on the basis of **TR1** (trip master 1) and **S1** (stop watch 1).
The calculation of this value is activated by the first impulse of the wheel speed sensor and ends 3 seconds after the last impulse.

| | |
|---|---|
| Press the button +. | No function |
| Press the button –. | No function |
| Press the button for 3 - 5 seconds. | The **TR1**, **A1** and **S1** displays are reset to 0.0. |
| Press the button briefly. | Next display mode |

## Display mode SPEED/A2 (average speed 2)



400326-01

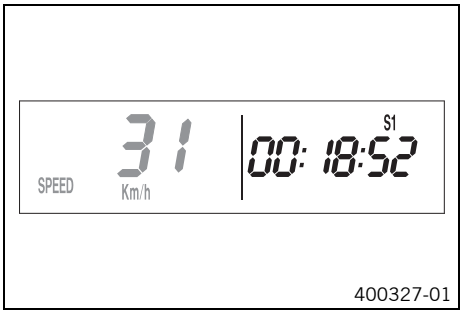
– Press the button briefly and repeatedly until **A2** appears at the top right of the display.

**A2** (average speed 2) shows the average speed on the basis of the current speed if the stop watch **S2** (stop watch 2) is running.

**Info**
The displayed value can differ from the actual average speed if **S2** was not timed after the ride.

| | |
|---|---|
| Press the button +. | No function |
| Press the button –. | No function |
| Press the button for 3 - 5 seconds. | – |
| Press the button briefly. | Next display mode |

## Display mode SPEED/S1 (stop watch 1)

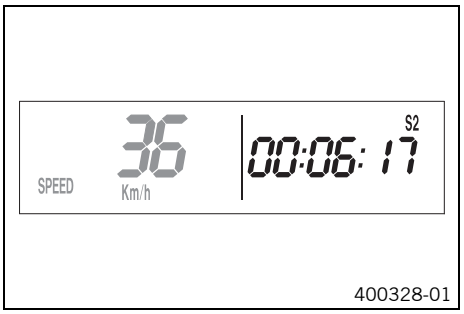



– Press the button briefly and repeatedly until **S1** appears at the top right of the display.

**S1** (stop watch 1) displays the journey time on the basis of **TR1** and continues when an impulse is received from the wheel speed sensor.
The calculation of this value starts with the first impulse of the wheel speed sensor and ends 3 seconds after the last impulse.

| | |
|---|---|
| Press the button +. | No function |
| Press the button –. | No function |
| Press the button for 3 - 5 seconds. | Displays of **TR1**, **A1** and **S1** are reset to 0.0. |
| Press the button briefly. | Next display mode |

## Display mode SPEED/S2 (stop watch 2)




– Press the button briefly and repeatedly until **S2** appears at the top right of the display.

**S2** (stop watch 2) is a manual stop watch.
If **S2** is running in the background, the **S2** display flashes in the speedometer display.

| | |
|---|---|
| Press the button +. | Starts or stops **S2**. |
| Press the button –. | No function |
| Press the button for 3 - 5 seconds. | Displays of **S2** and **A2** are reset to 0.0. |
| Press the button briefly. | Next display mode |

**Table of functions**

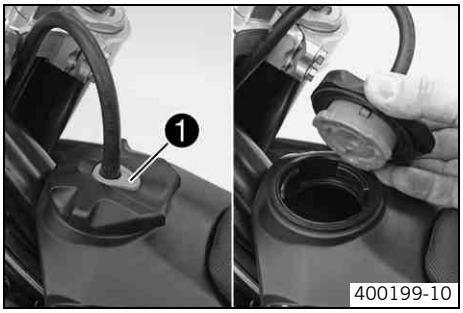
| **Display** | **Press the button +.** | **Press the button –.** | **Press the button for 3 - 5 seconds.** | **Press the button briefly.** |
|---|---|---|---|---|
| Display mode **SPEED/H** (service hours) | No function | No function | The display changes to the Setup menu of the speedometer functions. | Next display mode |
| Display mode **SPEED/CLK** (clock) | No function | No function | The display changes to the Setup menu of the clock. | Next display mode |
| Display mode **SPEED/LAP** (lap time) | Starts or stops the clock. | Stops the current lap time and saves it, and the stop watch starts the next lap. | The stop watch and the lap time are reset. | Next display mode |
| Display mode **SPEED/ODO** (odometer) | No function | No function | – | Next display mode |
| Display mode **SPEED/TR1** (trip master 1) | No function | No function | The **TR1**, **A1** and **S1** displays are reset to 0.0. | Next display mode |
| Display mode **SPEED/TR2** (trip master 2) | Increases value of **TR2**. | Reduces value of **TR2**. | Deletes value of **TR2**. | Next display mode |
| Display mode **SPEED/A1** (average speed 1) | No function | No function | The **TR1**, **A1** and **S1** displays are reset to 0.0. | Next display mode |
| Display mode **SPEED/A2** (average speed 2) | No function | No function | – | Next display mode |
| Display mode **SPEED/S1** (stop watch 1) | No function | No function | Displays of **TR1**, **A1** and **S1** are reset to 0.0. | Next display mode |
| Display mode **SPEED/S2** (stop watch 2) | Starts or stops **S2**. | No function | Displays of **S2** and **A2** are reset to 0.0. | Next display mode |

**Table of conditions and menu activation**

| **Display** | **The motorcycle is stationary.** | **Menu can be activated** |
|---|---|---|
| Display mode **SPEED/H** (service hours) | • | |

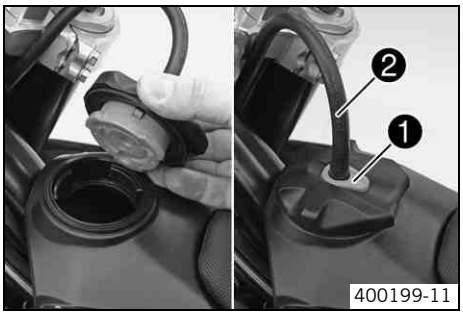
| Table of conditions and menu activation | | |
|---|---|---|
| **Display** | **The motorcycle is stationary.** | **Menu can be activated** |
| Display mode **SPEED/CLK** (clock) | | • |
| Display mode **SPEED/LAP** (lap time) | | • |
| Display mode **SPEED/TR1** (trip master 1) | | • |
| Display mode **SPEED/TR2** (trip master 2) | | • |
| Display mode **SPEED/A1** (average speed 1) | | • |
| Display mode **SPEED/A2** (average speed 2) | | • |
| Display mode **SPEED/S1** (stop watch 1) | | • |
| Display mode **SPEED/S2** (stop watch 2) | | • |

## Opening filler cap




– Press release button ❶, turn filler cap counterclockwise and lift it upwards and remove.

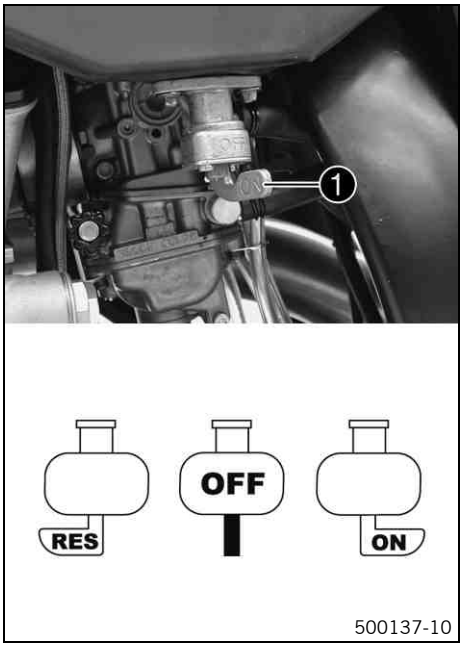
## Closing filler cap




– Replace the filler cap and turn clockwise until the release button ❶ locks in place.

**Info**
Route the fuel tank breather hose ❷ without kinking.

## Fuel tap

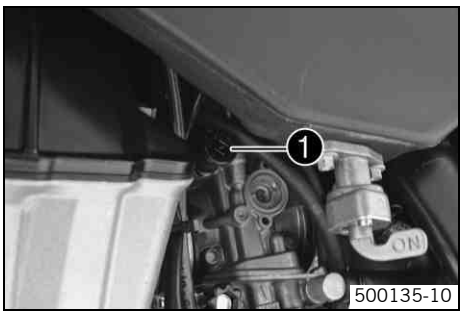



The fuel tap is on the left of the fuel tank.
With tap handle ❶ on the fuel tap, you can open or close the supply of fuel to the carburetor.

**Possible states**

- Fuel supply closed **OFF** – No fuel flows from the tank to the carburetor.
- Fuel supply open **ON** – Fuel flows from the tank to the carburetor. The fuel tank empties down to the reserve.
- Reserve fuel supply open **RES** – Fuel flows from the tank to the carburetor. The fuel tank empties completely.

## Choke

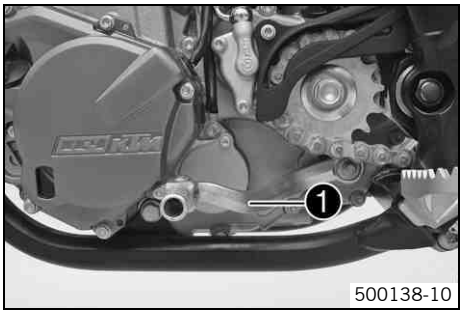



Choke ❶ is fitted on the left side of the carburetor.
Activating the choke function frees an opening through which the engine can draw extra fuel. This gives a richer fuel-air mixture, which is needed for a cold start.

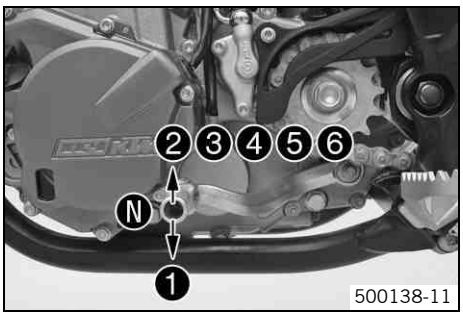
**Info**
If the engine is warm, the choke function must be deactivated.

**Possible states**
- Choke function activated – The choke lever is pulled out to the stop.
- Choke function deactivated – The choke lever is pushed in to the stop.

## Shift lever

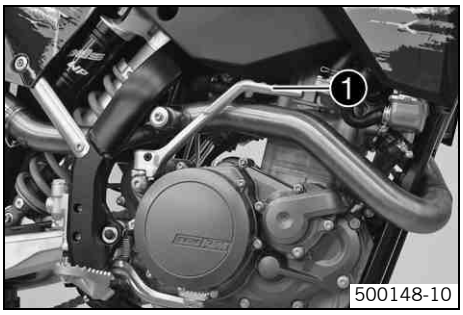



Shift lever ❶ is mounted on the left side of the engine.




The gear positions can be seen in the photograph.
The neutral or idle position is between the first and second gears.

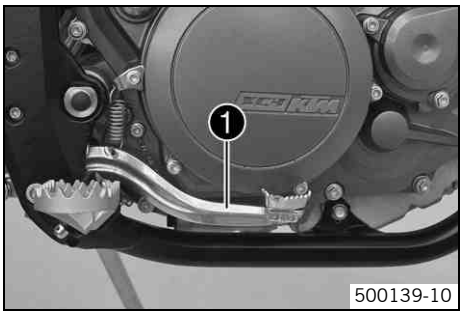
## Kick starter




The kick starter ❶ is fitted on the right of the engine.
The engine can be started with either the kick starter or the electric starter.
The upper part of the kick starter can be swung out.

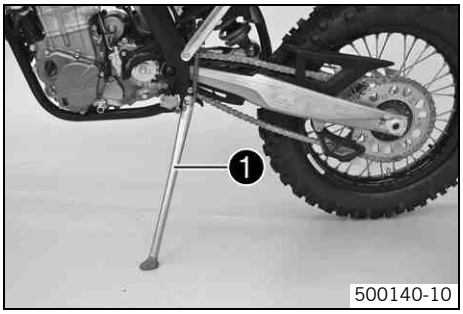
**Info**
Before riding, swing the upper part of the kick starter inwards towards the engine.

## Foot brake lever




Foot brake lever ❶ is located in front of the right footrest.
The foot brake lever is used to activate the rear brake.

## Side stand




**Note**

**Danger of damage** The parked vehicle may roll away or fall over.

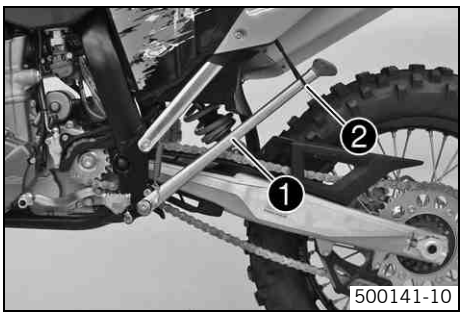
– Always place the vehicle on a firm and even surface.

**Note**

**Material damage** Damage and destruction of components by excessive load.

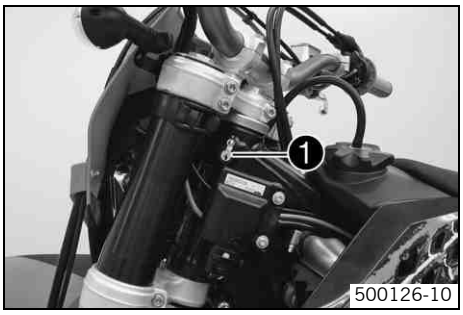
– The side stand is designed for the weight of the motorcycle only. Do not sit on the motorcycle when it is supported by the side stand only. The side stand and/or the frame could be damaged and the motorcycle could fall over.

To park the motorcycle, press side stand ❶ to the ground with your foot and lean the motorcycle on it.




When you are riding, side stand ❶ must be folded up and secured with rubber band ❷.

## Steering lock



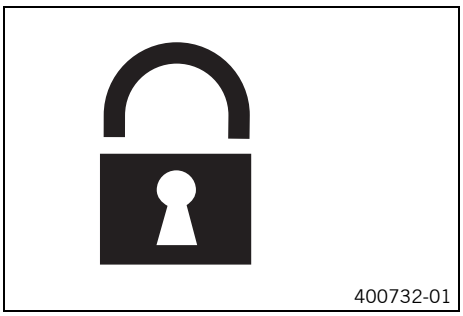

Steering lock ❶ is fitted on the left side of the steering head.
The steering lock is used to lock the steering. Steering, and therefore riding, is no longer possible.

## Locking the steering

**Note**

**Danger of damage** The parked vehicle may roll away or fall over.

– Always place the vehicle on a firm and even surface.



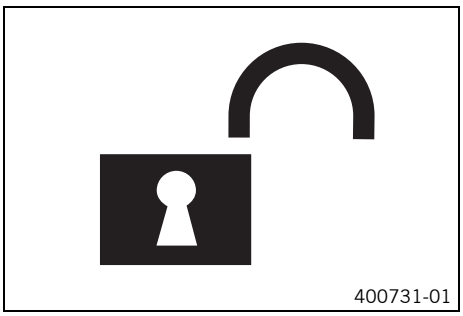

– Park the vehicle.
– Turn the handlebar as far as possible to the right.
– Insert the key in the steering lock, turn it to the left, press it in and turn it to the right. Remove the key.

✓ Steering is no longer possible.

**Info**

Never leave the key in the steering lock.

## Unlocking the steering




– Insert the key in the steering lock, turn it to the left, pull it out and turn it to the right. Remove the key.

✓ You can now steer the bike again.

**Info**
Never leave the key in the steering lock.

## Advice on first use

**Danger**
**Danger of accidents** Danger arising from the rider's judgement being impaired.

– Do not operate the vehicle while under the influence of alcohol, drugs and certain medications or physically or mentally impaired.

**Warning**
**Risk of injury** Missing or poor protective clothing present an increased safety risk.

– Wear protective clothing (helmet, boots, gloves, pants and jacket with protectors) every time you ride the vehicle. Always wear protective clothing, which must be undamaged and meet legal requirements.

**Warning**
**Danger of crashing** Poor vehicle handling due to different tire tread patterns on front and rear wheels.

– The front and rear wheels must be fitted with tires with similar tread patterns to prevent loss of control over the vehicle.

**Warning**
**Danger of accidents** Critical riding behavior due to inappropriate riding.

– Adapt your riding speed to the road conditions and your riding ability.

**Warning**
**Danger of accidents** Accident risk caused by presence of a passenger.

– Your vehicle is not designed to carry passengers. Do not ride with a passenger.

**Warning**
**Danger of accidents** Failure of brake system.

– If the foot brake lever is not released, the brake linings drag continuously. The rear brake may fail due to overheating. Take your foot off the foot brake lever when you are not braking.

**Warning**
**Danger of accidents** Unstable riding behavior.

– Do not exceed the maximum permissible weight and axle loads.

**Warning**
**Risk of misappropriation** Usage by unauthorized persons.

– Never leave the vehicle while the engine is running. Secure the vehicle against use by unauthorized persons.

**Info**
When using your motorcycle, remember that others may feel disturbed by excessive noise.

– Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
  ✓ You receive a delivery certificate and the service record at vehicle handover.
– Before your first trip, read the entire operating instructions carefully.
– Get to know the controls.
– Adjust the basic position of clutch lever. (☛ p. 60)
– Adjust the free travel of the hand brake lever. (☛ p. 62)
– Adjust the basic position of the foot brake lever. 🔧 (☛ p. 66)
– Adjust the basic position of the shift lever. 🔧 (☛ p. 85)
– Get used to handling the motorcycle on a suitable piece of land before making a longer trip.

**Info**
Off-road, you should be accompanied by another person on another machine so that you can help each other.

– Try also to ride as slowly as possible and in a standing position to get a better feeling for the vehicle.
– Do not make any off-road trips that over-stress your ability and experience.
– Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
– If you carry any baggage, make sure it is fixed firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.

**Info**
Motorcycles react sensitively to any changes of weight distribution.

– Do not exceed the overall maximum permitted weight and the axle loads.

Guideline

| | |
|---|---|
| Maximum permissible overall weight | 335 kg (739 lb.) |
| Maximum permissible front axle load | 145 kg (320 lb.) |
| Maximum permissible rear axle load | 190 kg (419 lb.) |

– Run-in the engine.

## Running-in the engine

– During the running-in phase, do not exceed the specified engine speed and engine performance.

Guideline

| | |
|---|---|
| Maximum engine speed | |
| During the first operating hour | 7,000 rpm |
| Maximum engine performance | |
| During the first 3 service hours | ≤ 75 % |

– Avoid fully opening the throttle!

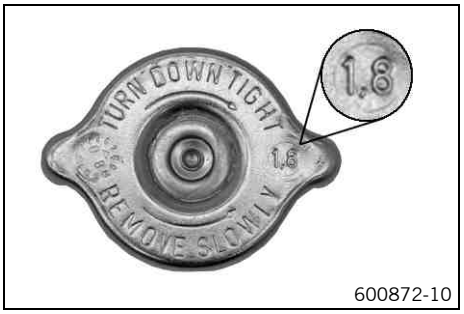
## Preparing vehicle for arduous riding conditions

– Using a motorcycle in arduous conditions can lead to excessive wear of components such as the power train or brakes. For this reason, it may be necessary to service or replace worn parts before the limit specified in the service schedule is reached.

**Arduous riding conditions are:**

– Riding on dry sand. (☛ p. 27)
– Riding on wet sand. (☛ p. 28)
– Riding on wet and muddy surfaces. (☛ p. 29)
– Rides at high temperature and slow speed. (☛ p. 30)
– Rides at low temperatures or in snow. (☛ p. 30)

## Preparing for riding on dry sand




– Check the radiator cap.

| | |
|---|---|
| Value on radiator cap | 1.8 bar (26 psi) |

» If the displayed value does not correspond to the nominal value:

**Warning**
**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.

– Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

– Change the radiator cap.

– Seal the air filter box.

**Tip**
Seal the air filter box on the edges against dirt.

– Clean the air filter. (☛ p. 51)

**Info**
Check the air filter approx. every 30 minutes.

600869-01

– Fit a dust protection device on the air filter.

| Dust protection device for air filter (59006019000) |
|---|

**Info**
See the **KTM PowerParts** fitting instructions.

600871-01

– Fit a sand screen device on the air filter.

| Sand protection device for air filter (59006022000) |
|---|

**Info**
See the **KTM PowerParts** fitting instructions.

– Adjust the carburetor jetting and settings.

**Info**
Your authorized KTM workshop has the recommended carburetor tuning settings.


600868-01

– Clean the chain.

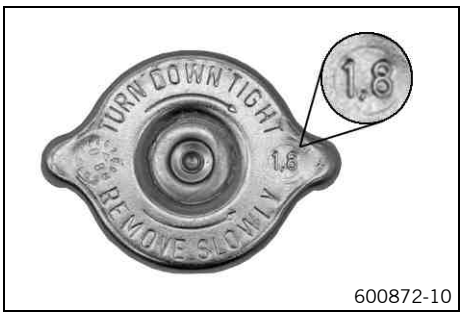
| Chain cleaner (☛ p. 110) |
|---|

– Fit the steel sprocket.

**Tip**
Do not grease the chain.

– Clean radiator fins.
– Straighten bent radiator fins carefully.

## Preparing for riding on wet sand



600872-10

– Check the radiator cap.

| Value on radiator cap | 1.8 bar (26 psi) |
|---|---|

» If the displayed value does not correspond to the nominal value:

**Warning**
**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.

– Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

– Change the radiator cap.

– Seal the air filter box.

**Tip**
Seal the air filter box on the edges against dirt.

– Clean the air filter. (☛ p. 51)

**Info**
Check the air filter approx. every 30 minutes.


600870-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (59006021000)

**Info**
See the **KTM PowerParts** fitting instructions.

– Adjust the carburetor jetting and settings.

**Info**
Your authorized KTM workshop has the recommended carburetor tuning settings.


600868-01

– Clean the chain.

Chain cleaner (p. 110)

– Fit the steel sprocket.

**Tip**
Do not grease the chain.

– Clean radiator fins.
– Straighten bent radiator fins carefully.

## Preparing for riding on wet and muddy surfaces

– Seal the air filter box.

**Tip**
Seal the air filter box along the edges to prevent the ingress of dirt.

– Clean the air filter. (p. 51)

**Info**
Check the air filter approx. every 30 minutes.


600870-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (59006021000)

**Info**
See the **KTM PowerParts** fitting instructions.

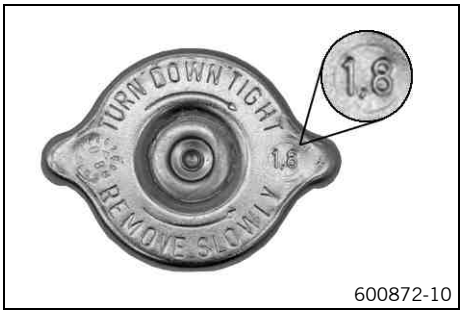
– Adjust the carburetor jetting and settings.

**Info**
Your authorized KTM workshop has the recommended carburetor tuning settings.


600868-01

– Fit the steel sprocket.
– Clean the motorcycle. (p. 93)
– Straighten bent radiator fins carefully.

## Preparing for rides at high temperature and slow speed



600872-10

– Check the radiator cap.

| | |
|---|---|
| Value on radiator cap | 1.8 bar (26 psi) |

» If the displayed value does not correspond to the nominal value:

**Warning**
**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.

– Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

– Change the radiator cap.

– Seal the air filter box.

**Tip**
Seal the air filter box on the edges against dirt.

– Clean the air filter. (p. 51)

**Info**
Check the air filter approx. every 30 minutes.


600868-01

– Adjust the secondary drive to the road conditions.

**Info**
The engine oil quickly gets hot if the clutch has to be operated very often due to an excessively high secondary drive.

– Clean the chain.

Chain cleaner (p. 110)

– Clean radiator fins.
– Straighten bent radiator fins carefully.
– Check the coolant level. (p. 80)

## Preparing for rides at low temperatures or in snow

– Seal the air filter box.

**Tip**
Seal the air filter box on the edges against dirt.

– Clean the air filter. (p. 51)

**Info**
Check the air filter approx. every 30 minutes.


600870-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (59006021000)

**Info**
See the **KTM PowerParts** fitting instructions.

– Adjust the carburetor jetting and settings.

**Info**
Your authorized KTM workshop has the recommended carburetor tuning settings.

## Checks and maintenance before putting into operation

**Info**
The motorcycle must always be in perfect technical condition before use.
Before every trip, check the condition of the vehicle and ensure that it is safe to operate.

- Check the engine oil level. (☛ p. 87)
- Check the electrical system.
- Check the brake fluid level of the front brake. (☛ p. 63)
- Check the rear brake fluid level. (☛ p. 67)
- Check the front brake linings. (☛ p. 64)
- Check the rear brake linings. (☛ p. 68)
- Check the brake system function.
- Check the coolant level. (☛ p. 80)
- Check for chain dirt accumulation. (☛ p. 54)
- Check the chain, rear sprocket, engine sprocket and chain guide. (☛ p. 57)
- Check the chain tension. (☛ p. 55)
- Check the tire condition. (☛ p. 72)
- Check the tire air pressure. (☛ p. 73)
- Clean the dust boots of the fork legs. (☛ p. 44)
- Bleed fork legs. (☛ p. 44)
- Check the air filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts and hose clamps regularly for tightness.
- Check the fuel reserves.

## Starting

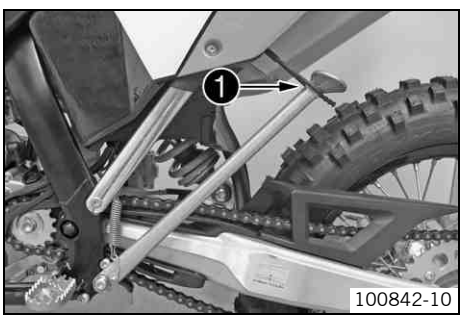
**Danger**
**Danger of poisoning** Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

**Note**
**Engine failure** High engine speeds in cold engines have a negative effect on the service life of the engine.

- Always warm up the engine at low engine speeds.

**Info**
If the motorcycle is unwilling to start, the cause may be old fuel in the float chamber. The flammable elements of the fuel evaporate after a long time of standing.
If the float chamber is filled with fresh fuel, the engine starts immediately.
Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds before trying again.



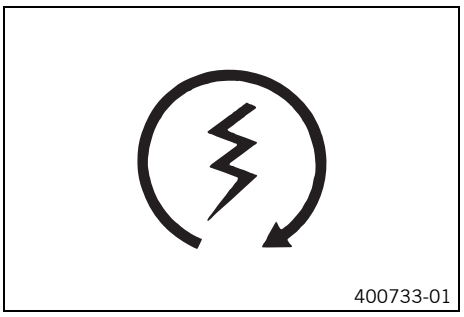

**Motorcycle has been out of use for more than 1 week**

- Empty the carburetor float chamber. 🔧 (☛ p. 85)
- Turn handle ❶ of the fuel tap to the **ON** position. (Figure 500137-10☛ p. 22)

  ✓ Fuel can flow from the fuel tank to the carburetor.
- Raise the motorcycle off of the stand and secure the stand with rubber band ❶.
- Shift transmission to neutral.
- Turn the key in the ignition switch to the position ○.
- Turn the emergency OFF switch to the position ○.

**The engine is cold**

- Pull choke lever out as far as possible.


400733-01

– Press the electric starter button or press the kickstarter robustly through its full range.

**Info**
Do not rev up.

## Starting up

**Info**
If your bike has lights, switch them on before riding. You will then be seen earlier by other motorists.
When you are riding, the side stand must be folded up and secured with the rubber band.

– Pull the clutch lever, engage 1st gear, release the clutch lever slowly and simultaneously open the throttle carefully.

## Shifting, riding

**Warning**
**Danger of accidents** If you change down at high engine speed, the rear wheel can lock up.

– Do not change into a low gear at high engine speed. The engine races and the rear wheel can lock up.

**Info**
If you hear unusual noises while riding, stop immediately, switch off the engine and contact an authorized KTM workshop.
First gear is used for starting off or for steep inclines.

– When conditions allow (incline, road situation, etc.), you can shift into a higher gear. To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch and open the throttle.
– If the choke function was activated, deactivate it after the engine has warmed up.
– When you reach maximum speed after fully opening the throttle, turn back the throttle to about ¾ of its range. This barely reduces vehicle speed but lowers fuel consumption considerably.
– Always open the throttle only as much as the engine can handle – abrupt throttle opening increases fuel consumption.
– To shift down, brake and close the throttle at the same time.
– Pull the clutch lever and shift into a lower gear, release the clutch lever slowly and open the throttle or shift again.
– Switch off the engine if you expect to be stationary for a long time.
  Guideline

| ≥ 2 min |
|---|

– Avoid frequent and prolonged slipping of the clutch. This causes heat build-up in the engine oil, the engine and the cooling system.
– Ride at lower engine speeds instead of high revs and a slipping clutch.

## Braking

**Warning**
**Danger of accidents** If you brake too hard, the wheels can lock.

– Adapt your braking to the traffic situation and the road conditions.

**Warning**
**Danger of accidents** Reduced braking efficiency caused by spongy pressure point of front or rear brake.

– Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Danger of accidents** Reduced braking efficiency due to wet or dirty brakes.

– Clean or dry dirty or wet brakes by riding and braking gently.

– On sandy, wet or slippery surfaces, use the rear brake.
– Braking should always be completed before you go into a bend. Change down to a lower gear appropriate to your road speed.
– On long downhill stretches, use the braking effect of the engine. Change down one or two gears, but do not overstress the engine. In this way, you have to brake far less and the brakes do not overheat.

## Stopping, parking

**Warning**
**Risk of misappropriation** Usage by unauthorized persons.

– Never leave the vehicle while the engine is running. Secure the vehicle against use by unauthorized persons.

**Warning**
**Danger of burns** Some vehicle components get very hot when the vehicle is in use.

– Do not touch hot components such as exhaust system, radiator, engine, shock absorber and brakes. Allow these components to cool down before starting work on them.

**Note**
**Danger of damage** The parked vehicle may roll away or fall over.

– Always place the vehicle on a firm and even surface.

**Note**
**Fire hazard** Some vehicle components become very hot when the vehicle is operated.

– Do not park the vehicle near flammable or explosive substances. Do not place objects on the vehicle while it is still warm from being run. Always let the vehicle cool first.

**Note**
**Material damage** Damage and destruction of components by excessive load.

– The side stand is designed for the weight of the motorcycle only. Do not sit on the motorcycle when it is supported by the side stand only. The side stand and/or the frame could be damaged and the motorcycle could fall over.

– Brake the motorcycle.
– Shift transmission to neutral.
– Turn the key in the ignition switch to the position ⊠ while the engine is idling.
– Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500137-10☛ p. 22)
– Park the motorcycle on firm ground.

## Refueling

**Danger**
**Fire hazard** Fuel is highly flammable.

– Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
– Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.

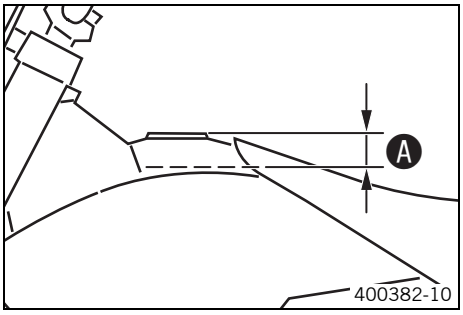
**Warning**
**Danger of poisoning** Fuel is poisonous and a health hazard.

– Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel.

**Warning**
**Environmental hazard** Improper handling of fuel is a danger to the environment.

– Do not allow fuel to get into the ground water, the ground, or the sewage system.

– Switch off engine.
– Open the filler cap. (☛ p. 22)




– Fill the fuel tank with fuel up to measurement Ⓐ.

Guideline

| | | |
|---|---|---|
| Measurement of Ⓐ | | 35 mm (1.38 in) |
| Total fuel tank capacity, approx. | 9.2 l (2.43 US gal) | Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 109) |

– Close the filler cap. (☛ p. 22)

## Service schedule

| | S1N | S15A | S30A |
|---|---|---|---|
| Check the functioning of the electrical equipment. | • | • | • |
| Check and charge the battery. 🔧 | | • | • |
| Change the engine oil and oil filter and clean the engine oil screen. 🔧 (☛ p. 87) | • | • | • |
| Change the gear oil and clean the gear oil screen. 🔧 (☛ p. 90) | • | • | • |
| Check the front brake linings. (☛ p. 64) | | • | • |
| Check the rear brake linings. (☛ p. 68) | | • | • |
| Check the brake discs. (☛ p. 62) | | • | • |
| Check the brake lines for damage and leakage. | | • | • |
| Check the rear brake fluid level. (☛ p. 67) | | • | • |
| Check the free travel of the foot brake lever. (☛ p. 66) | | • | • |
| Check the frame and swingarm. 🔧 | | • | • |
| Check the swingarm bearing. 🔧 | | | • |
| Check the heim joints at the top and bottom of the shock absorber. 🔧 | | • | • |
| Check the tire condition. (☛ p. 72) | • | • | • |
| Check the tire air pressure. (☛ p. 73) | • | • | • |
| Check the wheel bearings for play. 🔧 | | • | • |
| Check the wheel hubs. 🔧 | | • | • |
| Check rim run-out. 🔧 | • | • | • |
| Check the spoke tension. (☛ p. 73) | • | • | • |
| Check the chain, rear sprocket, engine sprocket and chain guide. (☛ p. 57) | | • | • |
| Check the chain tension. (☛ p. 55) | • | • | • |
| Grease all moving parts (e.g. side stand, hand lever, chain, ...) and check for smooth operation. 🔧 | | • | • |
| Check the fluid level of the hydraulic clutch. (☛ p. 60) | | • | • |
| Check the brake fluid level of the front brake. (☛ p. 63) | | • | • |
| Check the free travel of the hand brake lever. (☛ p. 62) | | • | • |
| Check the steering head bearing play. (☛ p. 48) | • | • | • |
| Check the valve clearance. 🔧 | • | • | • |
| Check the clutch. 🔧 | | | • |
| Check all hoses (e.g. fuel, cooling, bleeder, drainage, etc.) and sleeves for cracking, leaks and correct routing. 🔧 | • | • | • |
| Check the anti-freeze and coolant level. (☛ p. 80) | • | • | • |
| Check the cables for damage and routing without sharp bends. 🔧 | | • | • |
| Check that the cables are undamaged, routed without sharp bends and set correctly. | • | • | • |
| Clean the air filter and air filter box. 🔧 | | • | • |
| Change the glass fiber yarn filling of the main silencer. 🔧 (☛ p. 52) | | | • |
| Check the screws and nuts for tightness. 🔧 | • | • | • |
| Check the headlight adjustment. (☛ p. 78) | • | • | • |
| Check idle. 🔧 | • | • | • |
| Final check: Check the vehicle for roadworthiness and take a test ride. | • | • | • |
| Make the service entry in **KTM DEALER.NET** and in the service record. 🔧 | • | • | • |

**S1N:** Once after one operating hour
**S15A:** Every 15 operating hours
**S30A:** Every 30 operating hours/after every race

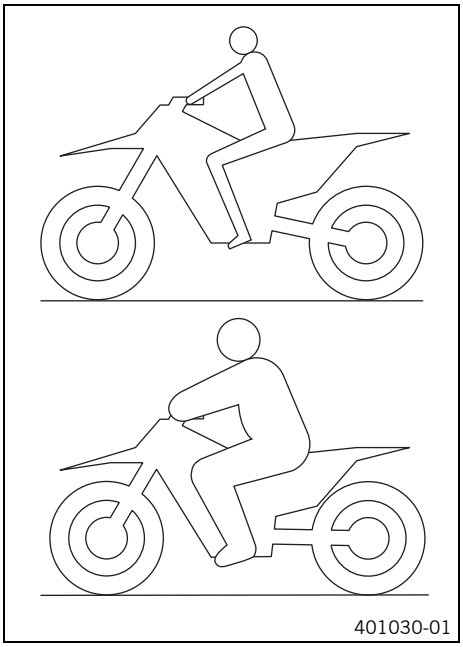
## Service work (as additional order)

| | S15N | S45A | S90A | J1A |
|---|---|---|---|---|
| Change the front brake fluid. | | | | • |
| Change the rear brake fluid. | | | | • |
| Change the foot brake cylinder seals. | | | | • |
| Change the hydraulic clutch fluid. (☛ p. 60) | | | | • |
| Grease the steering head bearing. (☛ p. 48) | | | | • |
| Clean the spark arrestor. | | | | • |
| Check/set the carburetor components. | | | • | • |
| Perform a fork service. | • | • | • | |
| Perform a shock absorber service. | | • | • | |
| Change the spark plug and spark plug connector. | | • | • | |
| Change the piston. | | | • | |
| Check/measure the cylinder. | | | • | |
| Check the cylinder head. | | | • | |
| Check the valves, valve springs and valve spring seats. | | | • | |
| Check the camshaft and rocker arm. | | | • | |
| Change the connecting rod, conrod bearing and crank pin. | | | • | |
| Check the transmission and shift mechanism. | | | • | |
| Check the oil pressure regulator valve. | | | • | |
| Check the oil pumps and lubrication system. | | | • | |
| Check the timing assembly. | | | • | |
| Change all engine bearings. | | | • | |

**S15N:** Once after 15 operating hours
**S45A:** Every 45 operating hours
**S90A:** Every 90 operating hours/every 45 operating hours after sporting use
**J1A:** Annually

## Checking the basic suspension setting with the rider's weight

**Info**
When adjusting the basic suspension setting, first adjust the shock absorber and then the fork.


401030-01

– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, swing arm and frame, the basic settings of the suspension components must match your body weight.
– As delivered, KTM off-road motorcycles are adjusted for a standard rider weight (with full protective clothing).

Guideline

| | |
|---|---|
| Standard rider weight | 75... 85 kg (165... 187 lb.) |

– If your weight is above or below the standard range, you have to adjust the basic setting of the suspension components accordingly.
– Small weight differences can be compensated by adjusting the spring preload, but in the case of large weight differences, the springs must be replaced.

## Compression damping of shock absorber

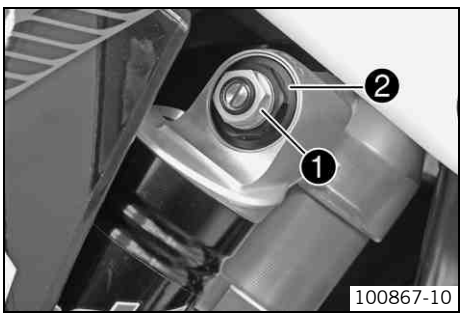
The shock absorber can regulate compression damping separately in the low-speed and high-speed ranges (Dual Compression Control). The terms low-speed and high-speed refers to the movement of the shock absorber during compression and not to the riding speed of the motorcycle.
Changes in the settings in the low-speed range have an impact on the high-speed range and vice versa.

## Adjusting the high-speed compression damping of the shock absorber

**Caution**
**Danger of accidents** Disassembly of pressurized parts can lead to injury.

– The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)

**Info**
The high-speed setting can be seen during the fast compression of the shock absorber.



100867-10

– Turn adjusting screw ❶ clockwise with a socket wrench until it stops.

**Info**
Do not loosen nut ❷!

– Turn back counterclockwise by the number of turns corresponding to the shock absorber type.

Guideline

| Compression damping, high-speed | |
|---|---|
| Comfort | 2 turns |
| Standard | 1.5 turns |
| Sport | 1.25 turns |

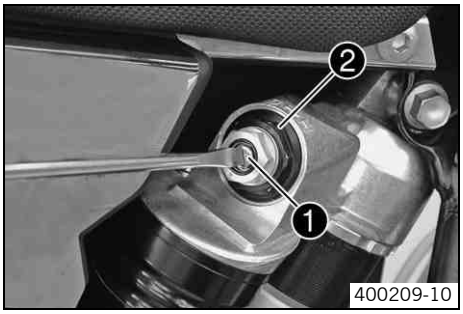
**Info**
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

## Adjusting the low-speed compression damping of the shock absorber

**Caution**
**Danger of accidents** Disassembly of pressurized parts can lead to injury.

– The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)

**Info**
The low-speed setting can be seen during the slow to normal compression of the shock absorber.




– Turn adjusting screw ❶ clockwise with a screwdriver up to the last perceptible click.

**Info**
Do not loosen nut ❷!

– Turn back counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

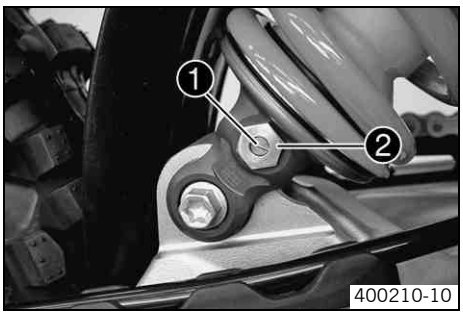
| Compression damping, low-speed | |
|---|---|
| Comfort | 22 clicks |
| Standard | 20 clicks |
| Sport | 15 clicks |

**Info**
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

## Adjusting the rebound damping of the shock absorber

**Caution**
**Danger of accidents** Disassembly of pressurized parts can lead to injury.

– The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)




– Turn adjusting screw ❶ clockwise up to the last perceptible click.

**Info**
Do not loosen nut ❷!

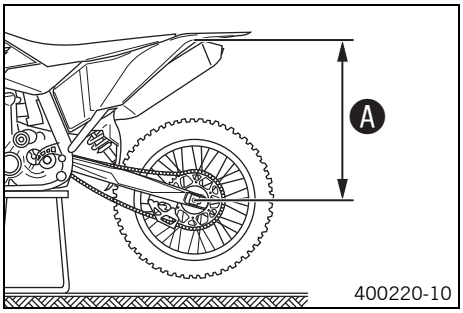
– Turn back counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

| Rebound damping | |
|---|---|
| Comfort | 26 clicks |
| Standard | 24 clicks |
| Sport | 22 clicks |

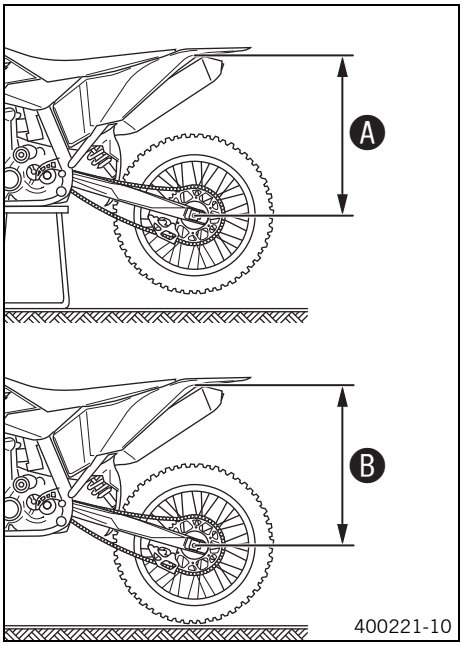
**Info**
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

## Measuring rear wheel sag unloaded




– Raise the motorcycle with the lift stand. (☛ p. 44)
– Measure the distance – as vertically as possible – between the rear axle and a fixed point, such as a mark on the side cover.
– Make note of the value as measurement Ⓐ.
– Remove the motorcycle from the lift stand. (☛ p. 44)

## Checking static sag of shock absorber




– Measure distance Ⓐ of rear wheel unloaded. (☛ p. 39)
– Hold the motorcycle upright with the aid of an assistant.
– Measure the distance between the rear axle and the fixed point again.
– Make note of the value as measurement Ⓑ.

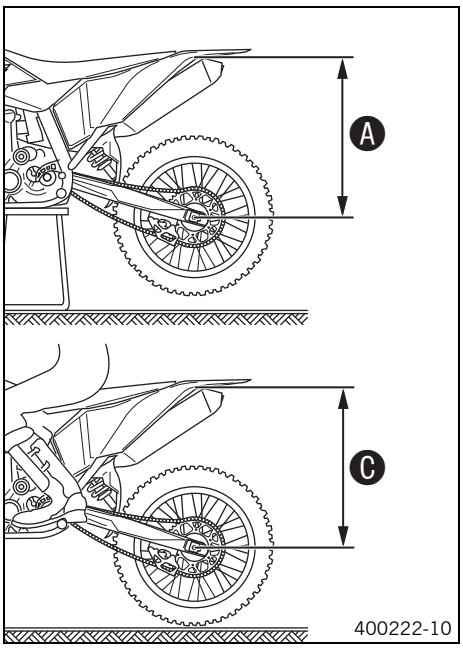
**Info**
The static sag is the difference between measurements Ⓐ and Ⓑ.

– Check the static sag.

| | |
|---|---|
| Static sag | 35 mm (1.38 in) |

» If the static sag is less or more than the specified value:
– Adjust the spring preload of the shock absorber. 🔧 (☛ p. 40)

## Checking riding sag of shock absorber




– Measure distance Ⓐ of rear wheel unloaded. (☛ p. 39)
– With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.

✓ The rear wheel suspension levels out.

– Another person now measures the distance between the rear axle and a fixed point.
– Make note of the value as measurement Ⓒ.

**Info**
The riding sag is the difference between measurements Ⓐ and Ⓒ.

– Check the riding sag.

| | |
|---|---|
| Riding sag | 105 mm (4.13 in) |

» If the riding sag differs from the specified measurement:
– Adjust the riding sag. 🔧 (☛ p. 40)

## Adjusting spring preload of the shock absorber

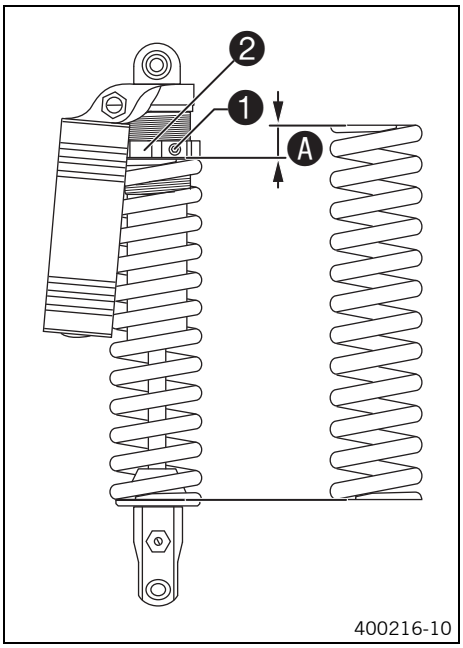
**Caution**

**Danger of accidents** Disassembly of pressurized parts can lead to injury.

– The shock absorber is filled with high density nitrogen. Adhere to the description provided. (Your authorized KTM workshop will be glad to help.)

**Info**

Before changing the spring preload, make a note of the present setting, e.g., by measuring the length of the spring.




– Remove shock absorber. (☛ p. 49)
– After removing the shock absorber, clean it thoroughly.
– Unscrew screw ❶.
– Turn adjusting ring ❷ until the spring is no longer under tension.

| |
|---|
| Combination wrench (50329080000) |
| Hook wrench (T106S) |

– Measure the overall spring length when not under tension.
– Tighten the spring by turning adjusting ring ❷ to measurement Ⓐ.

Guideline

| | |
|---|---|
| Spring preload | 9 mm (0.35 in) |

**Info**

Depending on the static sag and/or the riding sag, it may be necessary to increase or decrease the spring preload.

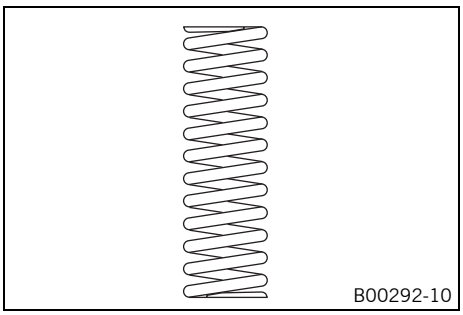
– Tighten screw ❶.

Guideline

| | | |
|---|---|---|
| Screw, shock absorber adjusting ring | M6 | 5 Nm (3.7 lbf ft) |

– Install the shock absorber. (☛ p. 49)

## Adjusting riding sag




– Remove shock absorber. (☛ p. 49)
– After removing the shock absorber, clean it thoroughly.
– Choose and fit a suitable spring.

Guideline

| | |
|---|---|
| Spring rate | |
| Weight of rider: 65… 75 kg (143… 165 lb.) | 69 N/mm (394 lb/in) |
| Weight of rider: 75… 85 kg (165… 187 lb.) | 72 N/mm (411 lb/in) |
| Weight of rider: 85… 95 kg (187… 209 lb.) | 76 N/mm (434 lb/in) |

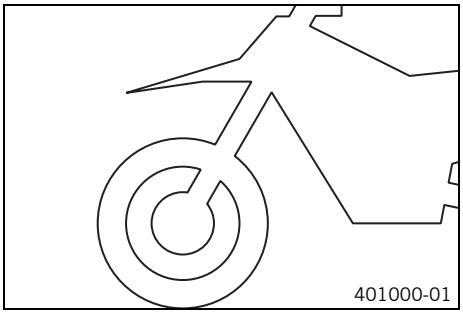
**Info**

The spring rate is shown on the outside of the spring.
Smaller weight differences can be compensated by changing the spring preload.

– Install the shock absorber. (☛ p. 49)
– Check the static sag of the shock absorber. (☛ p. 39)
– Check the riding sag of the shock absorber. (☛ p. 39)
– Adjust the rebound damping of the shock absorber. (☛ p. 38)

## Checking basic setting of fork

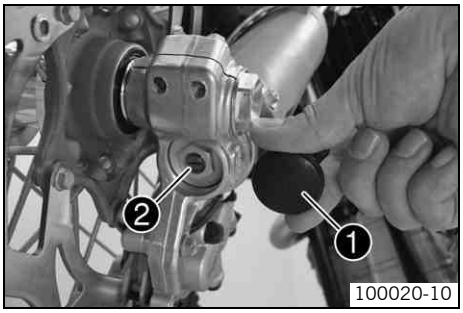
**Info**
For various reasons, no exact riding sag can be determined for the forks.




– As with the shock absorber, smaller weight differences can be compensated by the spring preload.
– However, if your fork is often overloaded (hits the bump stops on compression), it is recommended to fit stiffer springs to avoid damage to the fork and frame.

## Adjusting the compression damping of the fork

**Info**
The hydraulic compression damping determines the fork suspension behavior.




– Remove protection caps ❶.
– Turn adjusting screws ❷ clockwise all the way.

**Info**
Adjusting screws ❷ are located at the bottom end of the fork legs.
Make the same adjustment on both fork legs.

– Turn back counterclockwise by the number of clicks corresponding to the fork type.

Guideline

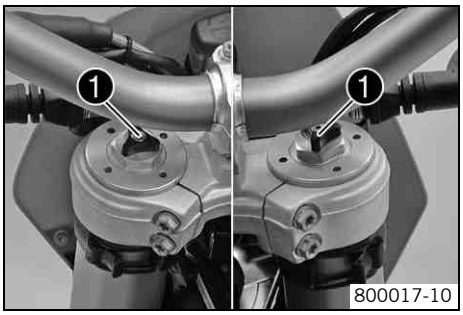
| Compression damping | |
|---|---|
| Comfort | 26 clicks |
| Standard | 22 clicks |
| Sport | 18 clicks |

**Info**
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

– Mount protection covers ❶.

## Adjusting the rebound damping of the fork

**Info**
The hydraulic rebound damping determines the fork suspension behavior.




– Turn adjusting screws ❶ clockwise all the way.

**Info**
Adjusting screws ❶ are located at the top end of the fork legs.
Make the same adjustment on both fork legs.

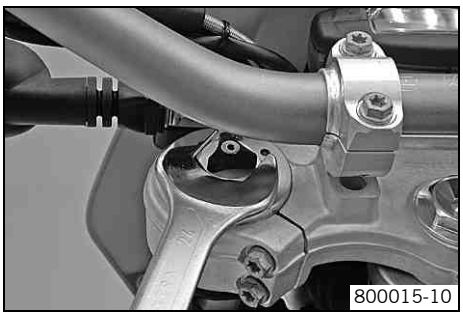
– Turn back counterclockwise by the number of clicks corresponding to the fork type.

Guideline

| Rebound damping | |
|---|---|
| Comfort | 24 clicks |
| Standard | 20 clicks |
| Sport | 20 clicks |

**Info**
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

## Adjusting spring preload of the fork


800015-10

– Turn adjusting screws counterclockwise until they stop.

**Info**
Make sure the setting is identical on both fork legs.

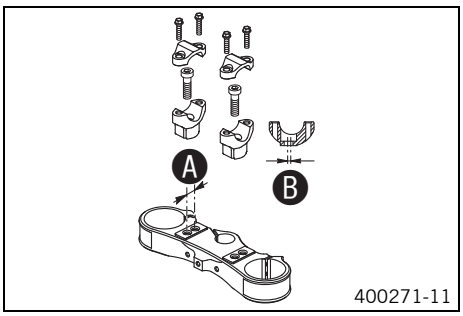
– Turn back clockwise by the number of turns corresponding to the fork type.

Guideline

| Spring preload - **Preload Adjuster** | |
|---|---|
| Comfort | 0 turn |
| Standard | 2 turns |
| Sport | 4 turns |

**Info**
Turn clockwise to increase spring preload, turn counterclockwise to reduce spring preload.
Adjusting the spring preload has no influence on the absorption setting of the rebound damping.
Basically, however, you should set the rebound damping higher with a higher spring preload.

## Handlebar position



400271-11

On the upper triple clamp, there are 2 holes at a distance of ❹ to each other.

| Distance ❹ between holes | 15 mm (0.59 in) |
|---|---|

The holes on the handlebar support are placed at a distance of ❺ from the center.

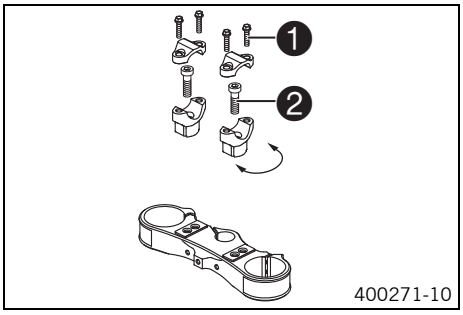
| Distance ❺ between holes | 3.5 mm (0.138 in) |
|---|---|

The handlebar supports can be mounted in 4 different positions.

## Adjusting the handlebar position

**Warning**
**Danger of accidents** Handlebar breakage.

– If the handlebar is bent or straightened it will cause material fatigue, and the handlebar can break. Always replace handlebar.



400271-10

– Remove the four screws ❶. Remove the handlebar clamp. Remove the handlebar and lay it to one side.

**Info**
Protect the motorcycle and its attachments from damage by covering them. Do not bend the cables and lines.

– Remove the two screws ❷. Remove the handlebar support.
– Place the handlebar support in the required position. Mount and tighten the two screws ❷.

Guideline

| | | | |
|---|---|---|---|
| Screw, handlebar support | M10 | 40 Nm (29.5 lbf ft) | **Loctite® 243™** |

**Info**
Position evenly the left and right handlebar supports.

– Position the handlebar.

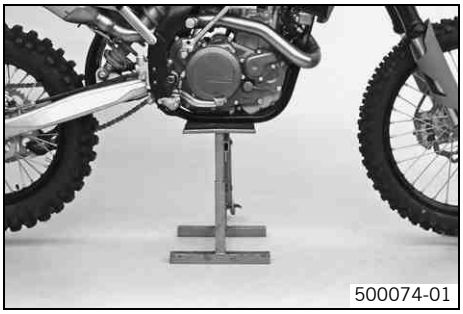
**Info**
Make sure cables and wiring are positioned correctly.

– Position the handlebar clamp. Mount and evenly tighten the four screws ❶.
Guideline

| | | |
|---|---|---|
| Screw, handlebar clamp | M8 | 20 Nm<br>(14.8 lbf ft) |

**Info**
Make sure the gap width is even.

## Raising the motorcycle with the lift stand


500074-01

**Note**

**Danger of damage** The parked vehicle may roll away or fall over.

– Always place the vehicle on a firm and even surface.

– Raise the motorcycle at the frame underneath the engine.

| Lift stand (54829055000) |
|---|

✓ The wheels should no longer touch the ground.

– Secure the motorcycle against falling over.

## Removing the motorcycle from the lift stand

**Note**

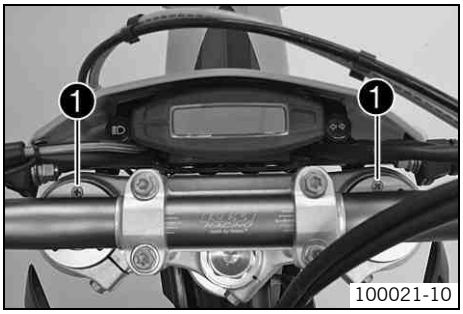
**Danger of damage** The parked vehicle may roll away or fall over.

– Always place the vehicle on a firm and even surface.

– Remove the motorcycle from the lift stand.

– Remove the lift stand.

## Bleeding fork legs



100021-10

– Raise the motorcycle with the lift stand. (☛ p. 44)

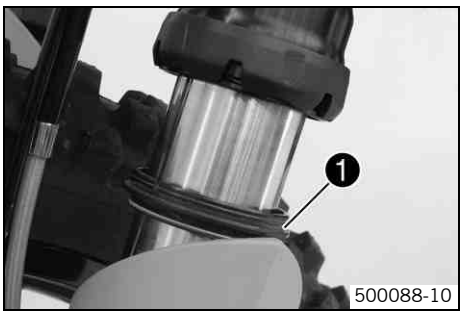
– Remove bleeder screws ❶ briefly.

✓ Any excess pressure escapes from the interior of the fork.

– Mount and tighten bleeder screws.

– Remove the motorcycle from the lift stand. (☛ p. 44)

## Cleaning the dust boots of the fork legs



500088-10

– Raise the motorcycle with the lift stand. (☛ p. 44)

– Loosen the fork protector. (☛ p. 45)

– Push dust boots ❶ of both fork legs downwards.

**Info**

The dust boots should remove dust and coarse dirt particles from the fork tubes. Over time, there is an ingress of dirt inside the boots. If this dirt is not removed, it may cause the oil seals to leak.

**Warning**

**Danger of accidents** Reduced braking efficiency due to oil or grease on the brake discs.

– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

– Clean and oil the dust boots and inner fork tube of both fork legs.

| Universal oil spray (☛ p. 111) |
|---|

– Press the dust boots back into their normal position.

– Remove excess oil.

– Position the fork protector. (☛ p. 45)

– Remove the motorcycle from the lift stand. (☛ p. 44)

## Loosening the fork protector


– Remove screws ❶ and remove the clamp.
– Remove screws ❷ on the left fork leg. Push the fork protector downwards.
– Remove the screws on the right fork leg. Push the fork protector downwards.

## Positioning the fork protector


– Position the fork protector on the left fork leg. Mount and tighten screws ❶.

Guideline

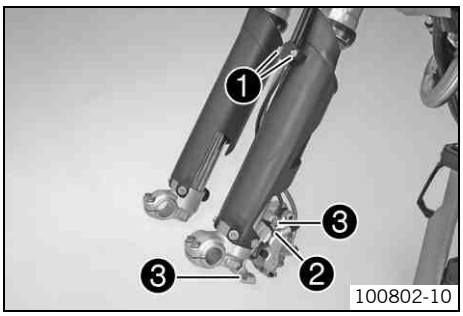
| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Position the brake line and wiring harness. Put the clamp on, and mount and tighten screws ❷.
– Position the fork protector on the right fork leg. Mount and tighten the screws.

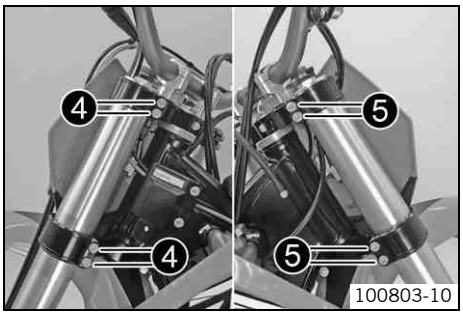
Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

## Removing the fork legs

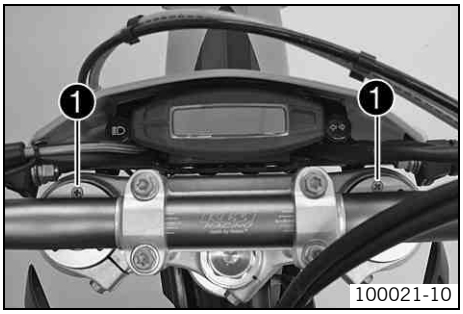



– Remove front wheel. (p. 70)
– Remove screws ❶ and remove the clamp.
– Remove cable clip ❷, remove screw ❸ and remove the brake caliper.
– Allow the brake caliper and brake line to hang tension-free to the side.




– Unscrew screws ❹. Take out the left fork leg.
– Unscrew screws ❺. Take out the right fork leg.

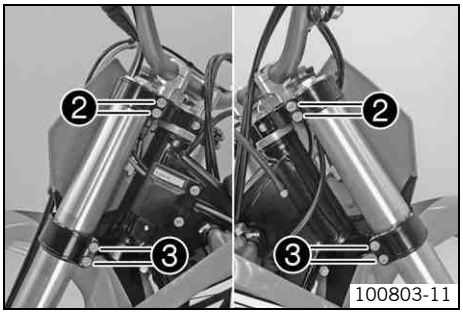
## Installing fork legs




– Position the fork legs.

**Info**

The topmost milled groove in the fork leg must be flush to the upper edge of the upper triple clamp.
Position bleeder screws ❶ toward the front.




– Fully tighten screw ❷.

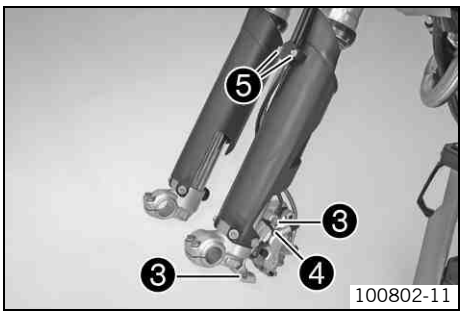
Guideline

| | | |
|---|---|---|
| Screw, top triple clamp | M8 | 17 Nm (12.5 lbf ft) |

– Tighten screws ❸.

Guideline

| | | |
|---|---|---|
| Screw, bottom triple clamp | M8 | 12 Nm (8.9 lbf ft) |




– Position brake caliper, mount and tighten screws ❸.

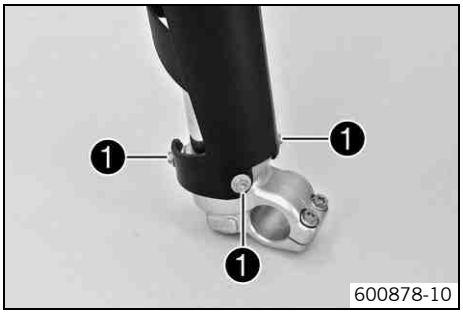
Guideline

| | | | |
|---|---|---|---|
| Screw, front brake caliper | M8 | 25 Nm (18.4 lbf ft) | **Loctite® 243™** |

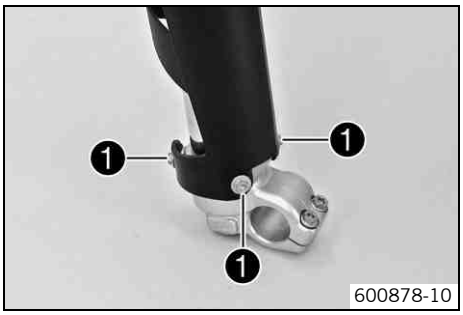
– Mount cable clip ❹.
– Position the brake line and wiring harness. Put the clamp on, mount and tighten screws ❺.
– Install the front wheel. (☛ p. 70)

## Removing the fork protector

– Remove the fork legs. (☛ p. 45)
– Remove screws ❶ on the left fork leg. Remove the fork protector upwards.
– Remove the screws on the right fork leg. Remove the fork protector upwards.




## Installing the fork protector




– Position the fork protection on the left fork leg. Mount and tighten screws ❶.

Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Position the fork protection on the right fork leg. Mount and tighten the screws.

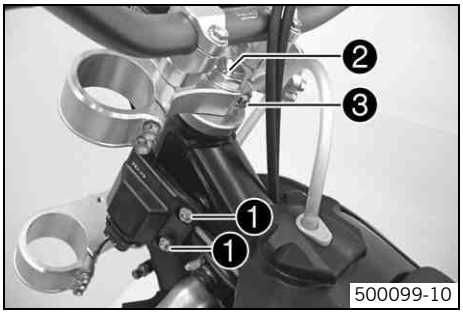
Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Install the fork legs. (☛ p. 45)

## Removing the lower triple clamp

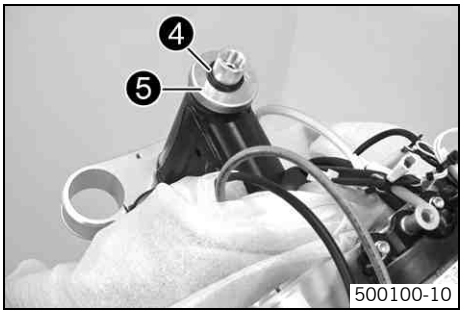
– Remove the fork legs. (☛ p. 45)
– Remove the headlight mask with the headlight. (☛ p. 77)
– Remove the front fender. (☛ p. 49)
– Remove screws ❶ and hang the CDI control unit to the side.




**Info**
Do not unplug the CDI control unit.

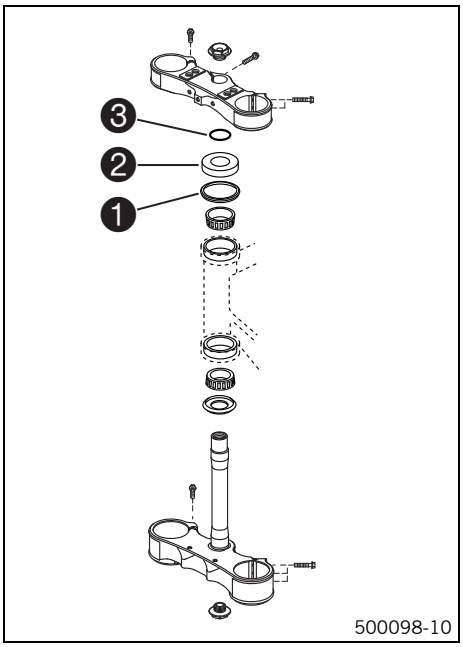
– Remove screw ❷. Remove screw ❸, take off top triple clamp with the handlebar and place it on one side.

**Info**
Protect the motorcycle and its attachments from damage by covering them. Do not bend the cables and lines.




– Remove o-ring ❹. Remove protector ring ❺.
– Remove the lower triple clamp with the steering stem.
– Remove the upper steering head bearing.

## Installing the lower triple clamp



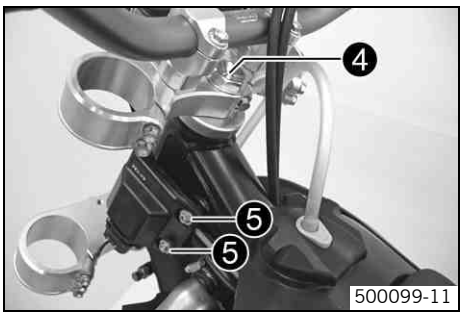

– Clean the bearing and sealing elements, check for damage, and grease.

| |
|---|
| Long-life grease (☛ p. 110) |

– Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.

**Info**
Check whether the top steering head seal ❶ is correctly positioned.

– Push up protective ring ❷ and o-ring ❸.




– Position the upper triple clamp with the steering.
– Mount and tighten screw ❹.

Guideline

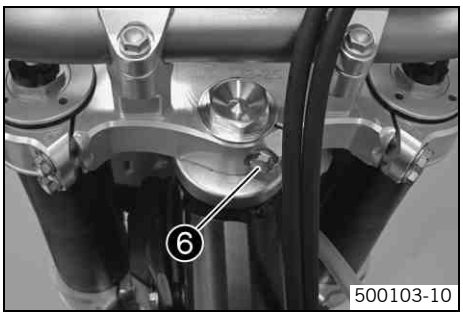
| | | |
|---|---|---|
| Screw, top steering head | M20x1.5 | 10 Nm (7.4 lbf ft) |

– Position the clutch line, wiring harness and CDI control unit. Mount and tighten screws ❺.

Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Install the front fender. (☛ p. 49)
– Refit the headlight mask with the headlight. (☛ p. 77)
– Install the fork legs. (☛ p. 45)




– Mount and tighten screw ❻.

Guideline

| | | | |
|---|---|---|---|
| Screw, top steering stem | M8 | 17 Nm (12.5 lbf ft) | **Loctite® 243™** |

– Check the cable harness, cable, brake and clutch line for free movement and free laying.
– Check the steering head bearing play. (☛ p. 48)

## Checking steering head bearing play

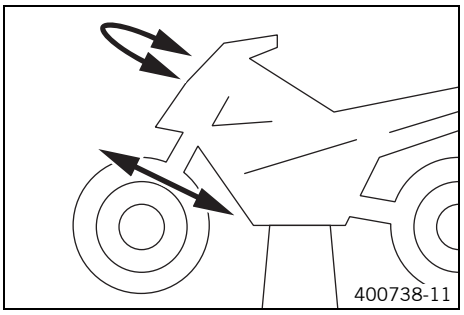
**Warning**

**Danger of accidents** Unstable vehicle handling from incorrect steering head bearing play.

– Adjust the steering head bearing play without delay. (Your authorized KTM workshop will be glad to help.)

**Info**

If the bike is driven for a longer time with play in the steering head bearing, the bearing and the bearing seats in the frame can be damaged after time.




– Raise the motorcycle with the lift stand. (☛ p. 44)
– Move the handlebar to the straight-ahead position. Move the fork legs to and fro in the direction of travel.

| |
|---|
| No play should be noticeable in the steering head bearing. |

» If there is noticeable play present:
– Adjust play of the steering head bearing. 🔧 (☛ p. 48)

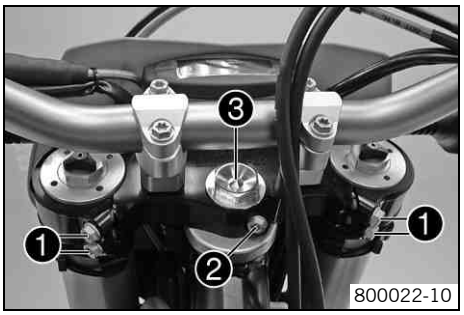
– Move the handlebar to and fro over the entire steering range.

| |
|---|
| The handlebar must be able to move easily over the entire steering range. No resting locations should be noticeable. |

» If click positions are noticeable:
– Adjust play of the steering head bearing. 🔧 (☛ p. 48)
– Check the steering head bearing and replace if required.

– Remove the motorcycle from the lift stand. (☛ p. 44)

## Adjusting play of steering head bearing 🔧




– Raise the motorcycle with the lift stand. (☛ p. 44)
– Loosen screw ❶. Remove screw ❷.
– Loosen and retighten screw ❸.

Guideline

| | | |
|---|---|---|
| Screw, top steering head | M20x1.5 | 10 Nm (7.4 lbf ft) |

– Using a plastic hammer, tap lightly on the upper triple clamp to avoid strains.
– Fully tighten screw ❶.

Guideline

| | | |
|---|---|---|
| Screw, top triple clamp | M8 | 17 Nm (12.5 lbf ft) |

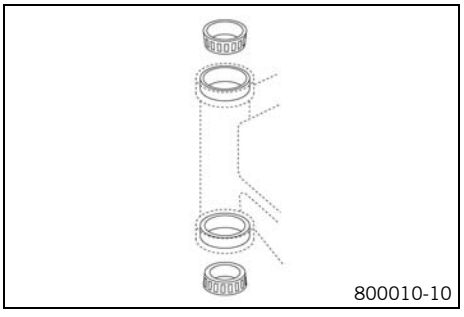
– Mount and tighten screw ❷.

Guideline

| | | | |
|---|---|---|---|
| Screw, top steering stem | M8 | 17 Nm (12.5 lbf ft) | **Loctite® 243™** |

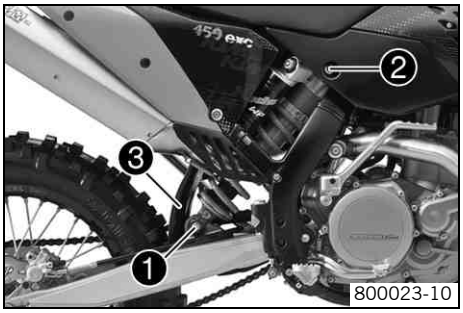
– Check the steering head bearing play. (☛ p. 48)

## Greasing the steering head bearing 🔧



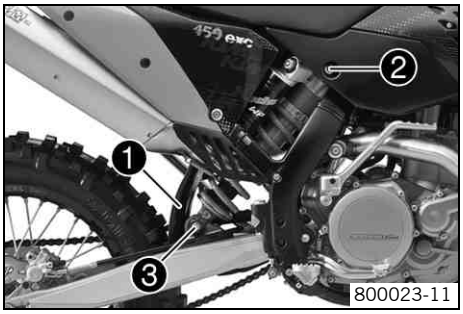

– Remove the lower triple clamp. 🔧 (☛ p. 46)
– Install the lower triple clamp. 🔧 (☛ p. 47)

## Removing the shock absorber




– Raise the motorcycle with the lift stand. (☛ p. 44)
– Remove screw ❶ and lower the rear wheel with the swing arm as far as possible without blocking the rear wheel. Fix the rear wheel in this position.
– Remove screw ❷, push splash protector ❸ to the side, and remove the shock absorber.

## Installing the shock absorber




– Push splash protector ❶ to the side and position the shock absorber. Mount and tighten screw ❷.

Guideline

| | | | |
|---|---|---|---|
| Screw, top shock absorber | M12 | 80 Nm (59 lbf ft) | **Loctite® 243™** |

– Mount and tighten screw ❸.

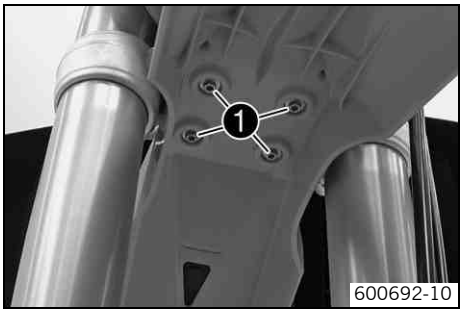
Guideline

| | | | |
|---|---|---|---|
| Screw, bottom shock absorber | M12 | 80 Nm (59 lbf ft) | **Loctite® 243™** |

**Info**
The heim joint for the shock absorber at the swing arm is Teflon coated. It must not be greased with grease or with other lubricants. Lubricants dissolve the Teflon coating, thereby drastically reducing the service life.

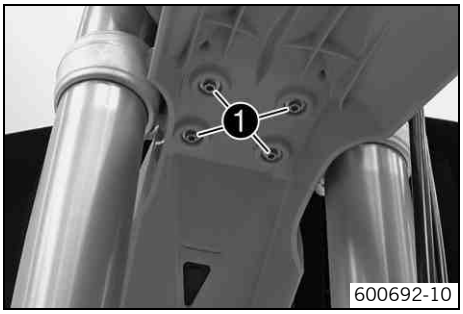
– Remove the motorcycle from the lift stand. (☛ p. 44)

## Removing the front fender




– Remove screws ❶. Remove the front fender.
– Make sure the spacers remain in place.

## Installing the front fender



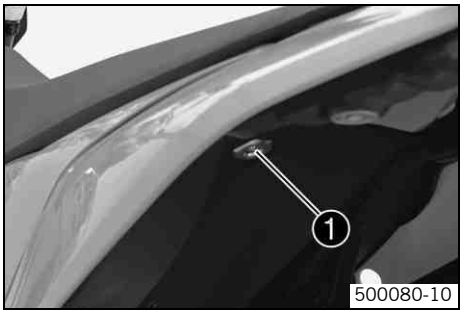

– Ensure that the spacers are mounted in the fender.
– Position the front fender. Mount and tighten screws ❶.

Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

**Info**
Make sure the holding lugs engage in the start number plate or headlight mask.

## Removing the seat




– Remove screw ❶. Lift up the seat at the rear, pull it back and then remove from above.

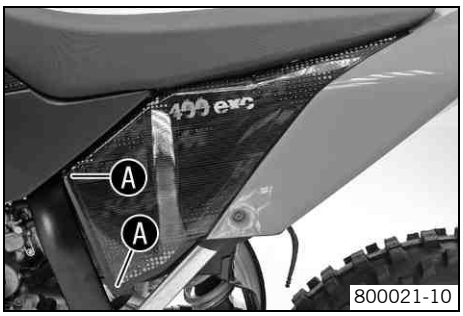
## Mounting the seat


– Hook in the front of the seat at the collar sleeve of the fuel tank, lower it at the rear and simultaneously push it forward.
– Make sure that the seat is correctly locked in.
– Mount and tighten the screw of the seat fixing.

Guideline

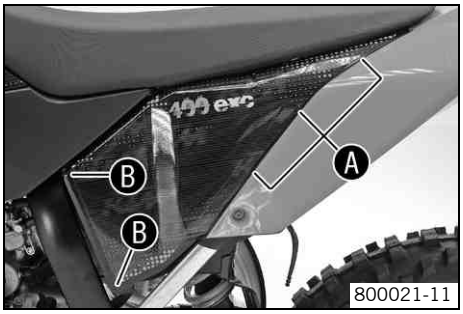
| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

## Removing the air filter box lid




– Pull off the air filter box lid in area ❹ to the side and remove to the front.

## Installing the air filter box lid




– Insert the air filter box lid into the rear area ❹ and clip it into the front area ❺.

## Removing the air filter

**Note**

**Engine failure** Unfiltered intake air has a negative effect on the service life of the engine.

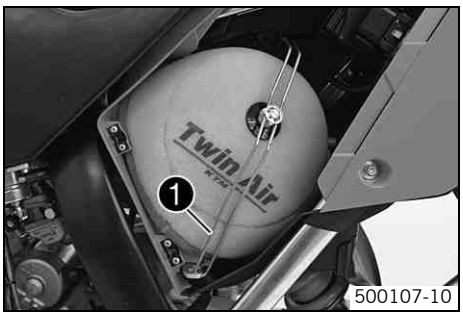
– Never ride the vehicle without an air filter since dust and dirt can get into the engine and result in increased wear.

**Warning**

**Environmental hazard** Hazardous substances cause environmental damage.

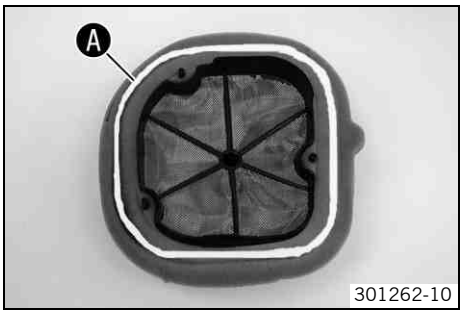
– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

– Remove the air filter box lid. (☛ p. 50)



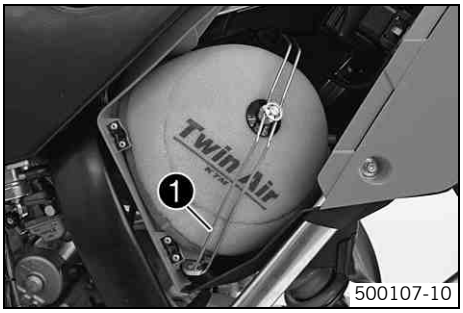

– Detach air filter holder ❶ at the bottom and swing it to one side. Remove the air filter with the air filter support.
– Remove the air filter from the air filter support.

## Installing the air filter




– Mount the clean air filter onto the air filter support.
– Apply grease to the section Ⓐ of the air filter.

| Long-life grease (☛ p. 110) |
|---|




– Put in both parts together, position them and fix them with air filter holder ❶.

**Info**
If the air filter is not correctly mounted, dust and dirt can penetrate into the engine and can cause damage.

– Install the air filter box lid. (☛ p. 50)

## Cleaning air filter

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
Do not clean the air filter with fuel or gasoline since these substances attack the foam.

– Remove the air filter. (☛ p. 50)
– Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

| Air filter cleaner (☛ p. 110) |
|---|

**Info**
Only squeeze the air filter when drying it out, never wring it out.

– Oil the dry air filter with a high/quality filter oil.

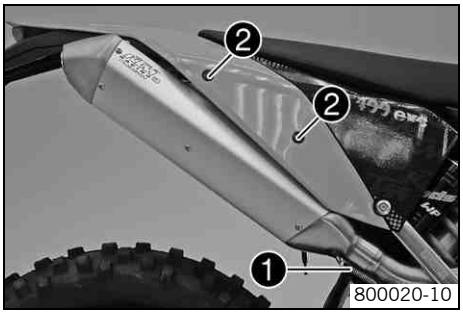
| Oil for foam air filter (☛ p. 110) |
|---|

– Clean the air filter box.
– Check carburetor connection boot for damage and tightness.
– Install the air filter. (☛ p. 51)

## Removing main silencer

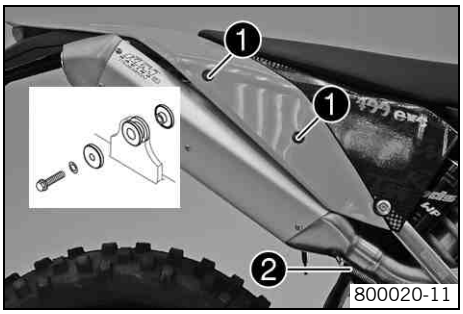
**Warning**
**Danger of burns** The exhaust system gets very hot when the vehicle is driven.

– Allow the exhaust system to cool down. Do not touch hot components.




– Disconnect spring ❶.
– Remove screws ❷ and take off main silencer.

## Installing the main silencer




– Mount the main silencer. Mount and tighten screws ❶.
Guideline

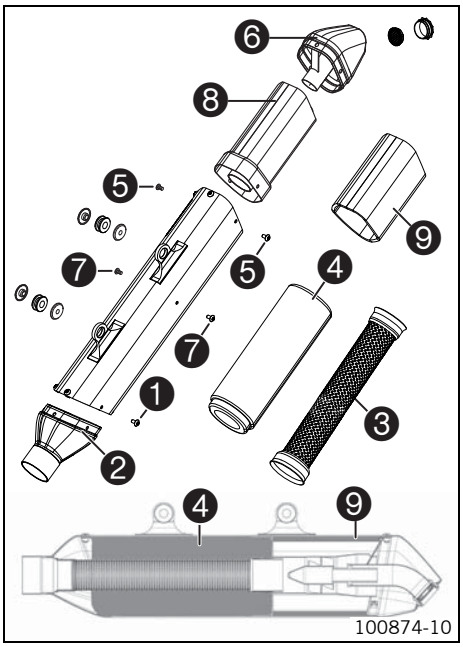
| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Reconnect spring ❷.

## Changing the glass fiber yarn filling of the main silencer

**Warning**
**Danger of burns** The exhaust system gets very hot when the vehicle is driven.

– Allow the exhaust system to cool down. Do not touch hot components.




– Remove the main silencer. (☛ p. 52)
– Remove screws ❶ of connecting cap ❷.
– Remove the connecting cap, perforated pipe ❸ and glass fiber yarn filling ❹.
– Remove screws ❺ and end cap ❻.
– Remove screws ❼ and take off spark arrestor ❽ with stuffing yarn ❾.
– Mount the new stuffing yarn on spark arrestor ❽ and fix it with adhesive tape.
– Position the spark arrestor. Mount and tighten the screws.
– Position the end cap. Mount and tighten the screws.
– Insert the perforated piping and mount the new glass fiber yarn filling using a blunt tool.

**Tip**
To aid you in mounting the glass fiber yarn filling, you can create a wooden or metal cone piece that is inserted into the perforated piping.

– Position the connection cap. Mount and tighten the screws.
– Install the main silencer. (☛ p. 52)

## Removing the fuel tank

**Danger**
**Fire hazard** Fuel is highly flammable.

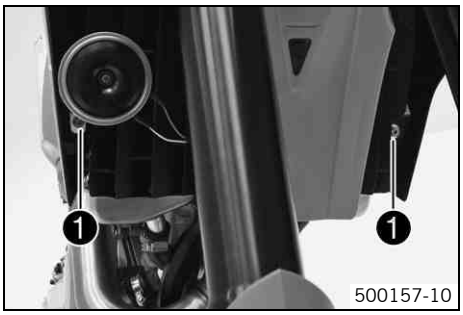
- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.

**Warning**
**Danger of poisoning** Fuel is poisonous and a health hazard.

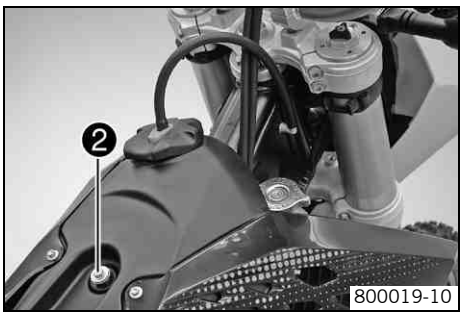
- Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel. Store fuel in a suitable canister according to regulations and keep it out of the reach of children.

- Remove the seat. (☛ p. 50)
- Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500137-10☛ p. 22)
- Pull off the fuel hose.

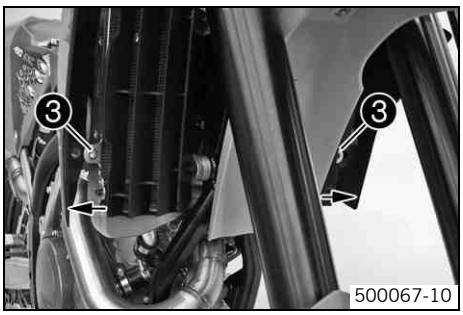
**Info**
Remaining fuel may flow out of the fuel hose.




- Remove screws ❶ with the collar sleeve.
- Hang the horn and horn bracket to one side.




- Remove screw ❷ with the collar sleeve.
- Remove the tube from the fuel tank vent line.




- Pull both spoilers to the side of the radiator bracket ❸ and take the fuel tank away upward.

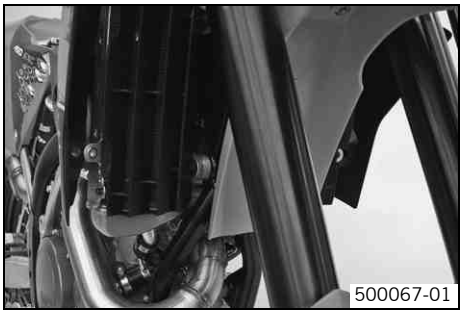
## Installing the fuel tank

**Danger**
**Fire hazard** Fuel is highly flammable.

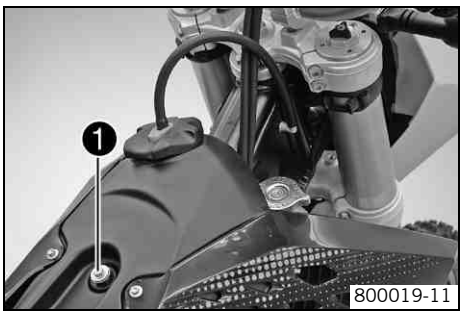
- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.

**Warning**
**Danger of poisoning** Fuel is poisonous and a health hazard.

- Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel.



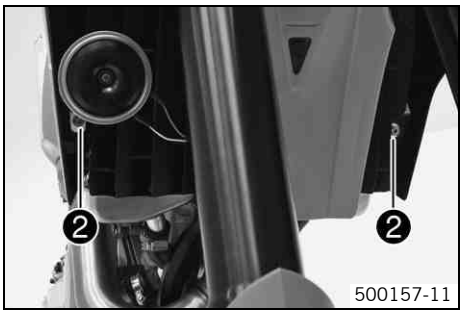

– Position the fuel tank and fit the two spoilers to the sides of the radiator bracket.
– Make sure that no cables are trapped or damaged.




– Mount the fuel tank vent hose.
– Mount and tighten screw ❶ with the collar sleeve.
Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Position the horn with the horn bracket.

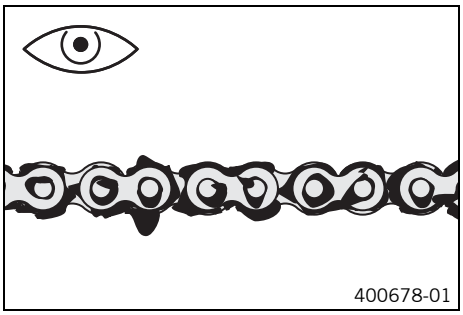



– Mount and tighten screws ❷ with the collar sleeve.
Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Connect the fuel hose.
– Mount the seat. (☛ p. 50)

## Checking for chain dirt accumulation




– Check the chain for coarse dirt accumulation.
» If the chain is very dirty:
– Clean the chain. (☛ p. 54)

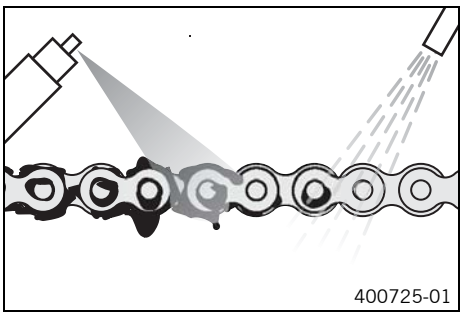
## Cleaning the chain

**Warning**
**Danger of accidents** Oil or grease on the tires reduces their grip.
– Remove oil and grease with a suitable cleaning material.

**Warning**
**Danger of accidents** Reduced braking efficiency due to oil or grease on the brake discs.
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.
– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
The service life of the chain depends largely on its maintenance.



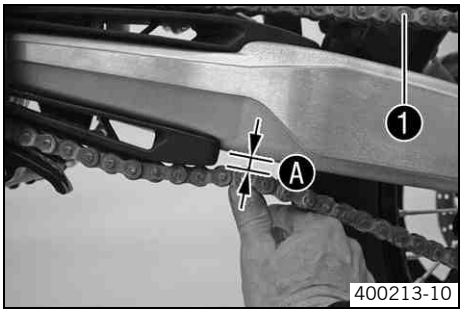

– Clean the chain regularly and then treat with chain spray.

| |
|---|
| Chain cleaner (☛ p. 110) |
| Off-road chain spray (☛ p. 110) |

## Checking the chain tension

**Warning**
**Danger of accidents** Danger caused by incorrect chain tension.

– If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) are under additional load. Apart from premature wear, in extreme cases the chain can rupture or the countershaft of the transmission can break. On the other hand, if the chain is loose, it can fall off the engine sprocket or the rear sprocket and block the rear wheel or damage the engine. Check the chain tension and correct if necessary.




– Raise the motorcycle with the lift stand. (☛ p. 44)
– Push the chain up at the rear edge of the chain guide to measure the chain tension Ⓐ.

**Info**
The upper chain section ❶ must be taut.
Chain wear is not always even, so you should repeat this measurement at different chain positions.

| | |
|---|---|
| Chain tension | 8... 10 mm (0.31... 0.39 in) |

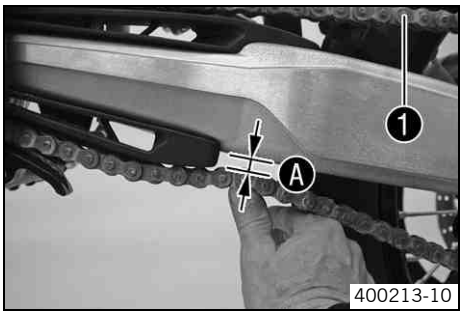
» If the chain tension does not meet specifications:
– Adjusting chain tension - after checking. (☛ p. 57)

– Remove the motorcycle from the lift stand. (☛ p. 44)

## Checking chain tension when fitting rear wheel

**Warning**
**Danger of accidents** Danger caused by incorrect chain tension.

– If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) are under additional load. Apart from premature wear, in extreme cases the chain can rupture or the countershaft of the transmission can break. On the other hand, if the chain is loose, it can fall off the engine sprocket or the rear sprocket and block the rear wheel or damage the engine. Check the chain tension and correct if necessary.




– Make sure that the chain adjusters are fitted correctly on the adjusting screws.
– Push the chain up at the rear edge of the chain guide to measure the chain tension Ⓐ.

**Info**
The upper chain section ❶ must be taut.
Chain wear is not always even, so you should repeat this measurement at different chain positions.

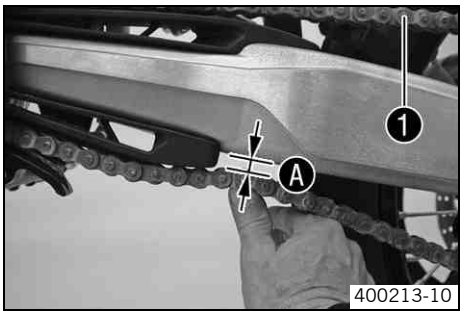
| | |
|---|---|
| Chain tension | 8... 10 mm (0.31... 0.39 in) |

» If the chain tension does not meet specifications:
– Adjust the chain tension when fitting rear wheel. (☛ p. 57)

## Adjusting chain tension

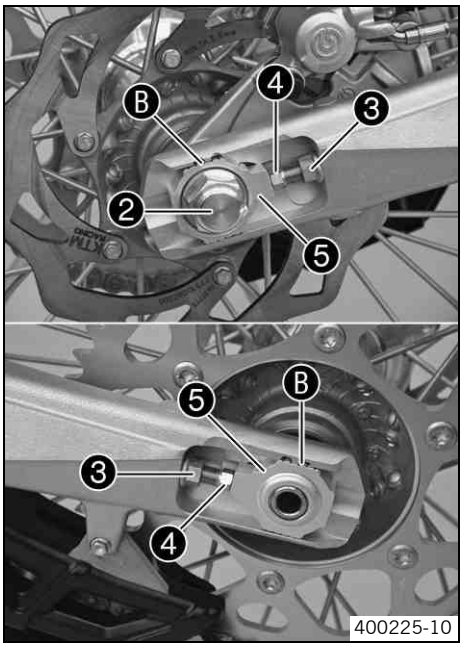
**Warning**
**Danger of accidents** Danger caused by incorrect chain tension.

– If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) are under additional load. Apart from premature wear, in extreme cases the chain can rupture or the countershaft of the transmission can break. On the other hand, if the chain is loose, it can fall off the engine sprocket or the rear sprocket and block the rear wheel or damage the engine. Check the chain tension and correct if necessary.




– Raise the motorcycle with the lift stand. (☛ p. 44)
– Push the chain up at the rear edge of the chain guide to measure the chain tension ❹.

**Info**
The upper chain section ❶ must be taut.
Chain wear is not always even, so you should repeat this measurement at different chain positions.




– Loosen nut ❷.
– Loosen nuts ❸.
– Adjust the chain tension by turning the adjusting screws ❹ left and right.
Guideline

| | |
|---|---|
| Chain tension | 8... 10 mm (0.31... 0.39 in) |
| Turn adjusting screws ❹ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks ❹. The rear wheel is then correctly aligned. | |

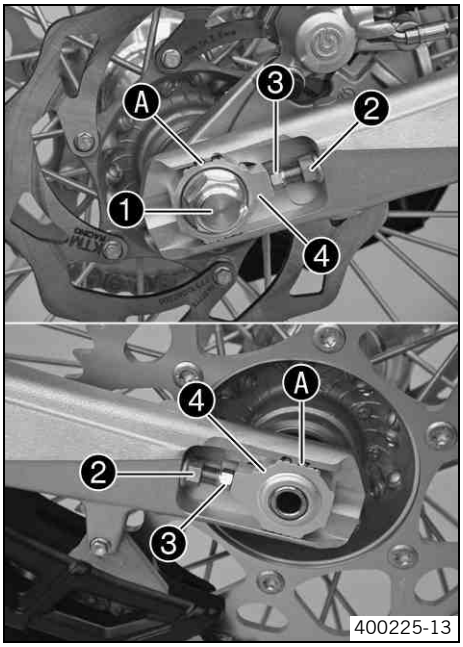
– Tighten nuts ❸.
– Make sure that chain adjusters ❺ are fitted correctly on adjusting screws ❹.
– Tighten nut ❷.
Guideline

| | | |
|---|---|---|
| Nut, rear wheel spindle | M20x1.5 | 80 Nm (59 lbf ft) |

**Info**
The wide adjustment range of the chain adjusters (32 mm) enables different secondary transmissions with the same chain length.
Chain adjusters ❺ can be turned by 180°.

– Remove the motorcycle from the lift stand. (☛ p. 44)

## Adjusting chain tension - after checking



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– Loosen nut ❶.
– Loosen nuts ❷.
– Adjust the chain tension by turning the adjusting screws ❸ left and right.

Guideline

| | |
|---|---|
| Chain tension | 8... 10 mm (0.31... 0.39 in) |
| Turn the adjusting screws ❸ left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks Ⓐ. The rear wheel is then correctly aligned. | |

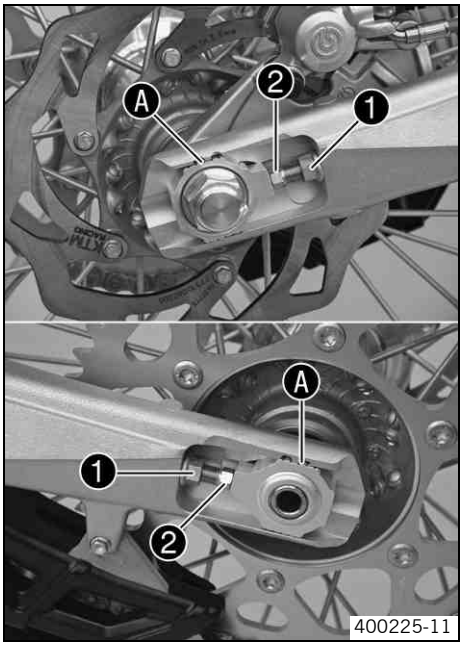
– Tighten nuts ❷.
– Make sure that the chain adjusters ❹ are fitted correctly on the adjusting screws ❸.
– Tighten nut ❶.

Guideline

| | | |
|---|---|---|
| Nut, rear wheel spindle | M20x1.5 | 80 Nm (59 lbf ft) |

**Info**
The wide adjustment range of the chain adjusters (32 mm) enables different secondary transmissions with the same chain length.
The chain adjusters ❹ can be turned by 180°.

## Adjusting chain tension - fitting rear wheel



400225-11

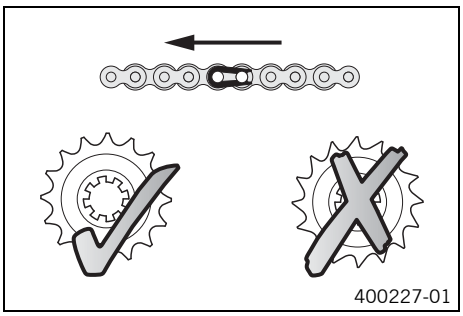
– Loosen nuts ❶.
– Adjust the chain tension by turning the adjusting screws ❷ left and right.

Guideline

| | |
|---|---|
| Chain tension | 8... 10 mm (0.31... 0.39 in) |
| Turn the adjusting screws ❷ left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks Ⓐ. The rear wheel is then correctly aligned. | |

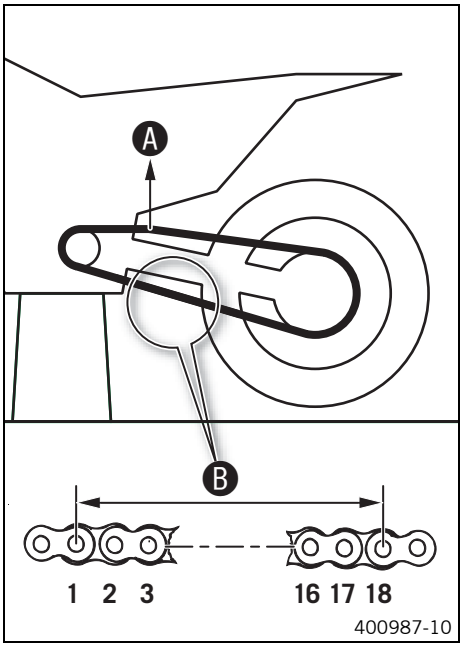
– Tighten nuts ❶.

## Checking the chain, rear sprocket, engine sprocket and chain guide


400227-01

– Raise the motorcycle with the lift stand. (☛ p. 44)
– Shift gear to neutral.
– Check the rear sprocket and engine sprocket for wear.
» If the rear sprocket or engine sprocket is worn:
– Change the rear sprocket or engine sprocket.

**Info**
The engine sprocket, rear sprocket and chain should always be replaced together.




– Pull on the upper part of the chain with the specified weight Ⓐ.

Guideline

| | |
|---|---|
| Weight of chain wear measurement | 10... 15 kg (22... 33 lb.) |

– Measure the distance Ⓑ of 18 chain links in the lower chain section.

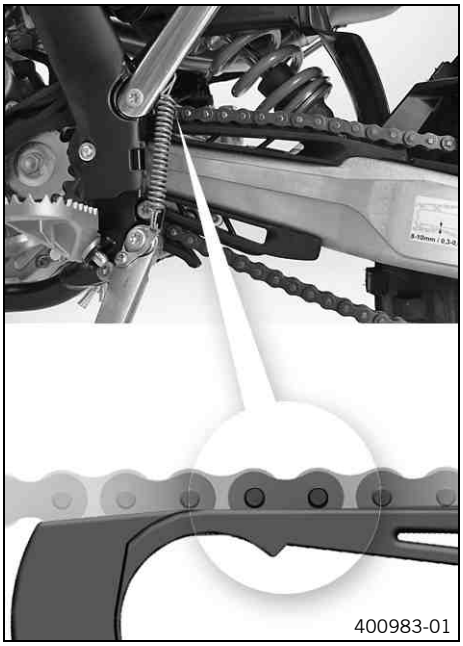
**Info**
Chain wear is not always even, so you should repeat this measurement at different chain positions.

| | |
|---|---|
| Maximum distance Ⓑ at the longest chain section | 272 mm (10.71 in) |

» If the distance Ⓑ is greater than the specified measurement:

– Change the chain.

**Info**
When the chain is replaced, the rear sprocket and engine sprocket should also be changed.
New chains wear out faster on old, worn sprockets.




– Check the chain sliding guard for wear.

» If the bottom edge of the chain bolt is in line with or below the chain sliding guard:

– Change the chain sliding guard.

– Check that the chain sliding guard is firmly seated.

» If the chain sliding guard is loose:

– Tighten the chain sliding guard.

Guideline

| | | | |
|---|---|---|---|
| Screw, chain sliding guard | M6 | 6 Nm (4.4 lbf ft) | **Loctite® 243™** |


– Check the chain sliding piece for wear.

» If the bottom edge of the chain bolt is in line with or below the chain sliding piece:

– Change the chain sliding piece.

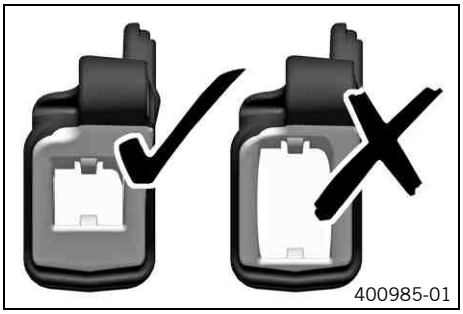
– Check that the chain sliding piece is firmly seated.

» If the chain sliding piece is loose:

– Tighten the chain sliding piece.

Guideline

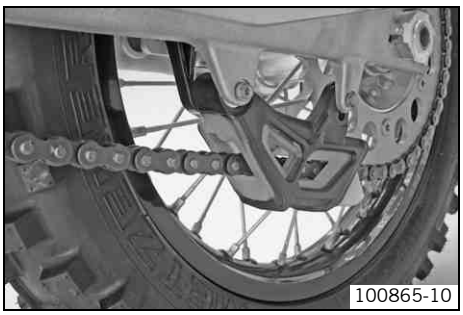
| | | |
|---|---|---|
| Screw, chain sliding piece | M8 | 15 Nm (11.1 lbf ft) |


400985-01

– Check the chain guide for wear.

**Info**
Wear is visible on the front of the chain guide.

» If the light part of the chain guide is worn:
– Change the chain guide.

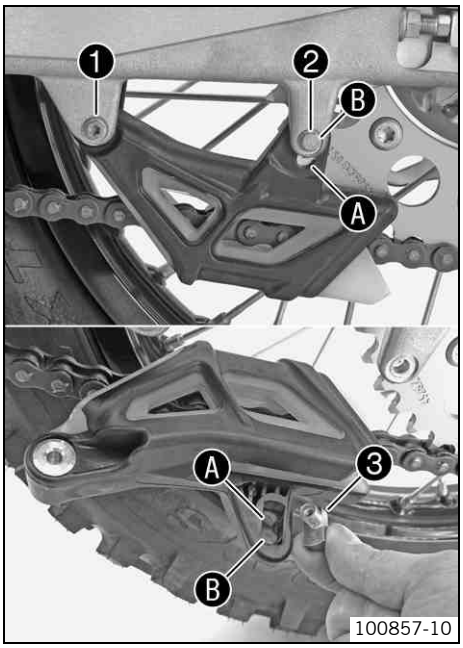

100865-10

– Check that the chain guide is firmly seated.
» If the chain guide is loose:
– Tighten the chain guide.
Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |
| Remaining nuts, chassis | M6 | 15 Nm (11.1 lbf ft) |

– Remove the motorcycle from the lift stand. (☛ p. 44)

## Adjusting chain guide



100857-10

– Remove the nut of screw ❶.
– Remove screws ❶ and ❷. Take off the chain guide.

**Condition**
Number of teeth: ≤ 44 teeth
– Insert nut ❸ in hole Ⓐ. Position the chain guide.
– Mount and tighten screws ❶ and ❷.
Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Mount the nut on screw ❶ and tighten.
Guideline

| | | |
|---|---|---|
| Remaining nuts, chassis | M6 | 15 Nm (11.1 lbf ft) |

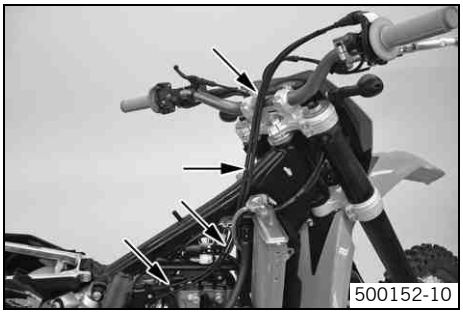
**Condition**
Number of teeth: ≥ 45 teeth
– Insert nut ❸ in hole Ⓑ. Position the chain guide.
– Mount and tighten screws ❶ and ❷.
Guideline

| | | |
|---|---|---|
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) |

– Mount the nut on screw ❶ and tighten it.
Guideline

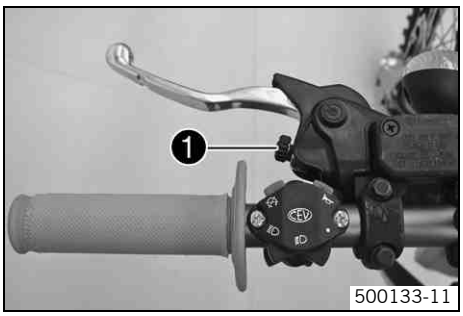
| | | |
|---|---|---|
| Remaining nuts, chassis | M6 | 15 Nm (11.1 lbf ft) |

## Checking throttle cable route


500152-10

– The two throttle cables must run parallel behind the handlebar down to the frame. They must be routed directly to the right of the frame above the tank bracket towards the carburetor.

## Adjusting basic position of clutch lever




– Adjust the basic setting of the clutch lever to your hand size by turning adjusting screw ❶.

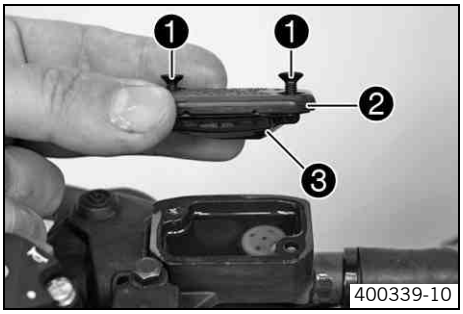
**Info**
Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and do not apply any force.
Do not make any adjustments while riding!

## Checking the fluid level of hydraulic clutch

**Warning**
**Skin irritation** Brake fluid can cause skin irritation on contact.

– Avoid contact with skin and eyes, and keep out of the reach of children.
– Wear suitable protective clothing and goggles.
– If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

**Info**
The fluid level rises with increasing wear of the clutch lining disc.
Avoid contact between brake fluid and painted parts. Brake fluid is corrosive!
Use only clean brake fluid from a sealed container.




– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.
– Check the fluid level.

| | |
|---|---|
| Fluid level under top level of container | 4 mm (0.16 in) |

» If the level of the fluid does not meet specifications:
– Correct the fluid level of the hydraulic clutch.

| |
|---|
| Brake fluid DOT 4 / DOT 5.1 (☛ p. 108) |

– Position the cover with the membrane. Mount and tighten the screws.

**Info**
Clean up overflowed or spilt fluid immediately with water.

## Changing the hydraulic clutch fluid 🔧

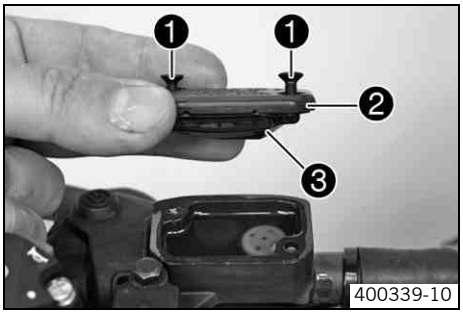
**Warning**
**Skin irritation** Brake fluid can cause skin irritation on contact.

– Avoid contact with skin and eyes, and keep out of the reach of children.
– Wear suitable protective clothing and goggles.
– If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

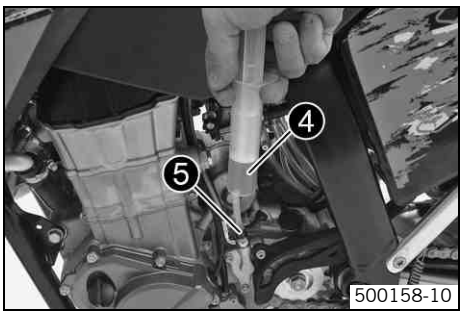
**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
The fluid level rises with increasing wear of the clutch lining disc.
Avoid contact between brake fluid and painted parts. Brake fluid is corrosive!
Use only clean brake fluid from a sealed container.



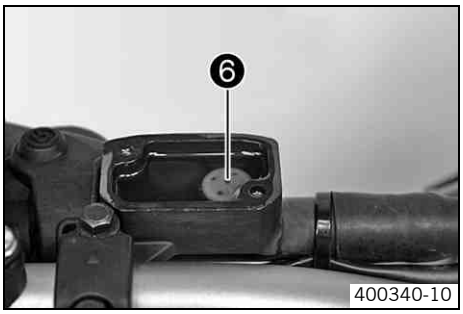

– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.




– Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

| |
|---|
| Bleed syringe (50329050000) |
| Brake fluid DOT 4 / DOT 5.1 (☛ p. 108) |

– On the slave cylinder, remove bleeder screw ❺ and mount bleeding syringe ❹.




– Inject the liquid into the system until it escapes from bore hole ❻ of the master cylinder without bubbles.
– To prevent overflow, drain fluid occasionally from the master cylinder reservoir.
– Remove the bleeding syringe. Mount and tighten screws bleeder screw.
– Correct the fluid level of the hydraulic clutch.

Guideline

| | |
|---|---|
| Fluid level under top level of container | 4 mm (0.16 in) |

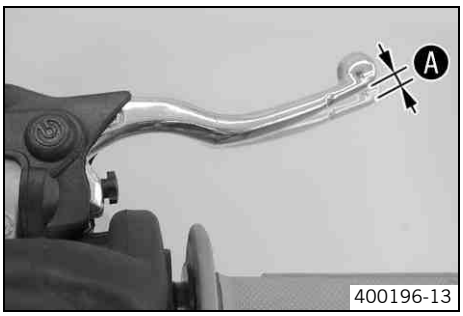
– Position the cover with the membrane. Mount and tighten the screws.

**Info**
Clean up overflowed or spilt fluid immediately with water.

## Checking free travel of hand brake lever

**Warning**
**Danger of accidents** Brake system failure.

– If there is no free travel on the hand brake lever, pressure builds up in the front brake circuit. The front brake can fail due to overheating. Adjust free travel on hand brake lever according to specifications.

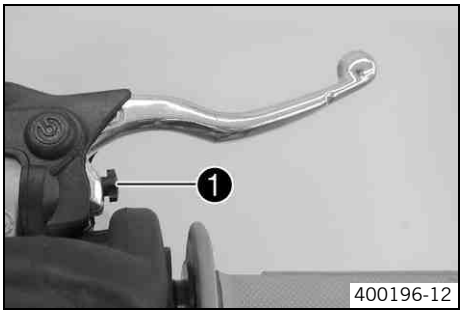



– Push the hand brake to the handlebar and check free travel Ⓐ.

| | |
|---|---|
| Free travel of hand brake lever | ≥ 3 mm (≥ 0.12 in) |

» If the free travel does not meet specifications:
– Adjust the free travel of the hand brake lever. (☛ p. 62)

## Adjusting free travel of hand brake lever



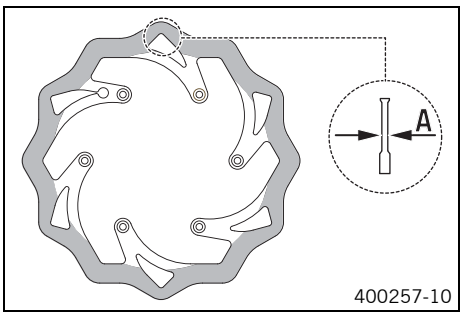

– Check the free travel of the hand brake lever. (☛ p. 62)
– Adjust the free travel of the hand brake lever with adjusting screw ❶.

**Info**
Turn the adjustment screw clockwise to reduce free travel. The pressure point moves away from the handlebar.
Turn the adjustment screw counterclockwise to increase free travel. The pressure point moves towards the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and do not apply any force.
Do not make any adjustments while riding!

## Checking the brake discs

**Warning**
**Danger of accidents** Reduced braking efficiency due to worn brake disc(s).

– Change the worn brake disc(s) without delay. (Your authorized KTM workshop will be glad to help.)




– Check the thickness of the front and rear brake discs at several places on the disk to see if it conforms to measurement Ⓐ.

**Info**
Wear reduces the thickness of the brake disc around the area used by the brake linings.

| Brake discs - wear limit | |
|---|---|
| Front | 2.5 mm (0.098 in) |
| Rear | 3.5 mm (0.138 in) |

» If the brake disc thickness is less than the specified value:
– Change the brake disc.

– Check the front and rear brake discs for damage, cracking and deformation.
» If the brake disc shows signs of damage, cracking or deformation:
– Change the brake disc.

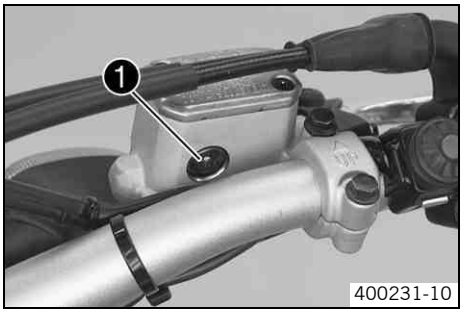
## Checking the brake fluid level of the front brake

**Warning**
**Danger of accidents** Failure of the brake system.

– If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Danger of accidents** Reduced braking effect caused by old brake fluid.

– Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)




– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in viewer ❶.
  » If the brake fluid is below the **MIN** mark:
    – Add front brake fluid. 🔧 (☛ p. 63)

## Adding front brake fluid 🔧

**Warning**
**Danger of accidents** Failure of the brake system.

– If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Skin irritation** Brake fluid can cause skin irritation on contact.

– Avoid contact with skin and eyes, and keep out of the reach of children.
– Wear suitable protective clothing and goggles.
– If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

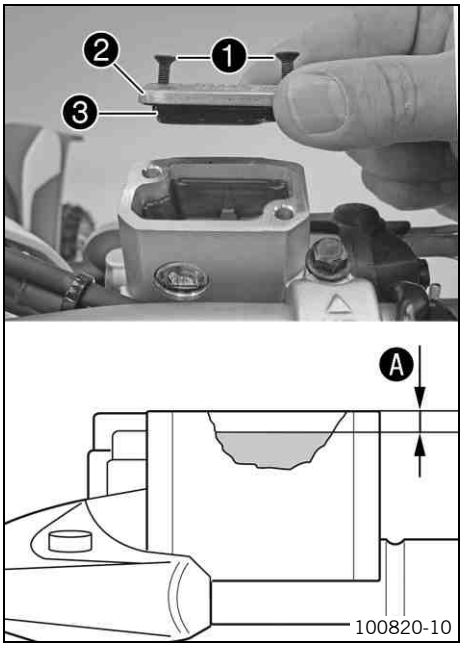
**Warning**
**Danger of accidents** Reduced braking effect caused by old brake fluid.

– Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
Never use DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint!
Use only clean brake fluid from a sealed container.




– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.
– Add brake fluid to level Ⓐ.
Guideline

| | |
|---|---|
| Measurement of Ⓐ | 5 mm (0.2 in) |

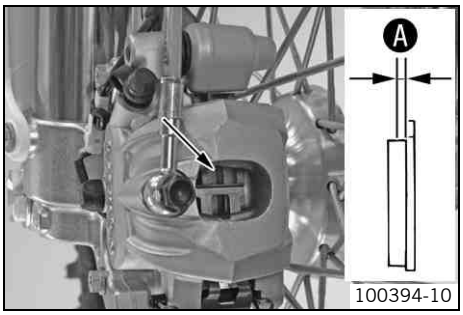
| |
|---|
| Brake fluid DOT 4 / DOT 5.1 (☛ p. 108) |

– Position the cover with the membrane. Mount and tighten the screws.

**Info**
Clean up overflowed or spilt brake fluid immediately with water.

## Checking the front brake linings

**Warning**
**Danger of accidents** Reduced braking efficiency caused by worn brake linings.
– Change worn brake linings immediately. (Your authorized KTM workshop will be glad to help.)




– Check the brake linings for minimum thickness Ⓐ.

| | |
|---|---|
| Minimum thickness Ⓐ | ≥ 1 mm (≥ 0.04 in) |

» If the minimum thickness is less than specified:
– Change the front brake linings. 🔧 (☛ p. 64)
– Check the brake linings for damage and cracking.
» If damage or cracking is visible:
– Change the front brake linings. 🔧 (☛ p. 64)

## Changing the front brake linings 🔧

**Warning**
**Danger of accident** Brake system failure.
– Maintenance work and repairs must be carried out professionally. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Skin irritation** Brake fluid can cause skin irritation on contact.
– Avoid contact with skin and eyes, and keep out of the reach of children.
– Wear suitable protective clothing and goggles.
– If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

**Warning**
**Danger of accidents** Reduced braking effect caused by old brake fluid.
– Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Danger of accidents** Reduced braking efficiency due to oil or grease on the brake discs.
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

**Warning**

**Danger of accidents** Reduced braking efficiency due to use of non-approved brake linings.

– Brake linings available from accessory suppliers are often not tested and approved for use on KTM vehicles. The construction and friction factor of the brake linings and therefore the brake power can differ considerably from the original KTM brake linings. If brake linings are used that differ from the originals, there is no guarantee that they comply with the original license. The vehicle no longer corresponds to the condition at delivery, and the warranty is no longer valid.

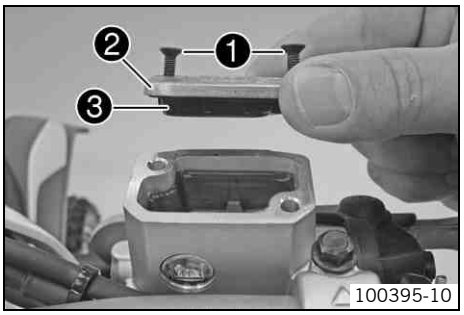
**Warning**

**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**

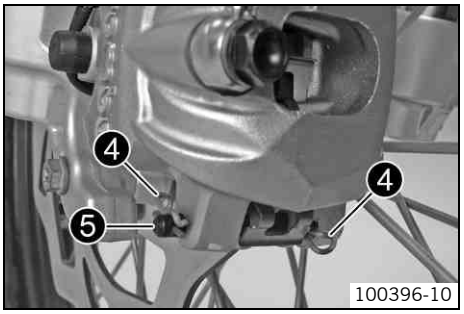
Never user DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid is corrosive!
Use only clean brake fluid from a sealed container.



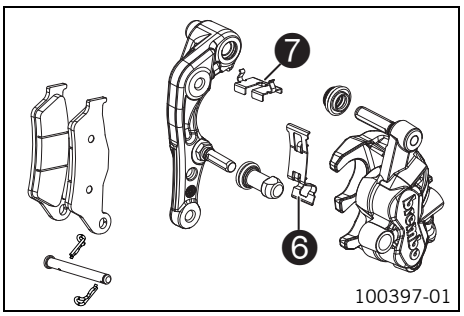

– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.
– Press the brake caliper by hand on to the brake disc in order to press back the brake pistons. Ensure that brake fluid does not overflow from the brake fluid reservoir, using suction to remove it if it does.

**Info**

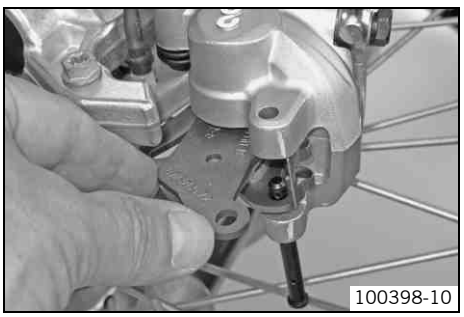
Make sure when pushing back the brake pistons that you do not press the brake caliper against the spokes.



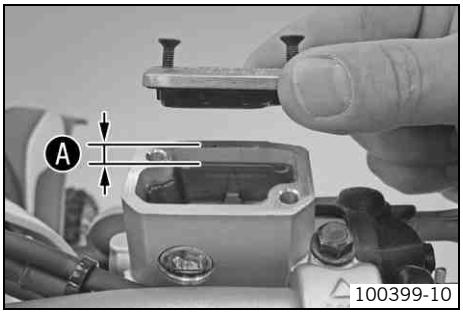

– Remove locking split pins ❹, withdraw bolt ❺, and take out the brake pads.
– Clean brake caliper and brake caliper support.




– Check that anti-squeal shim ❻ in the brake caliper and anti-rattle shim ❼ in the brake caliper support are seated correctly.




– Fit the brake pads, insert the bolt, and mount the locking split pins.
– Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.




– Correct the brake fluid reservoir level to the marking ❹.

Guideline

| | |
|---|---|
| Measurement of ❹ | 5 mm (0.2 in) |

| |
|---|
| Brake fluid DOT 4 / DOT 5.1 (☛ p. 108) |

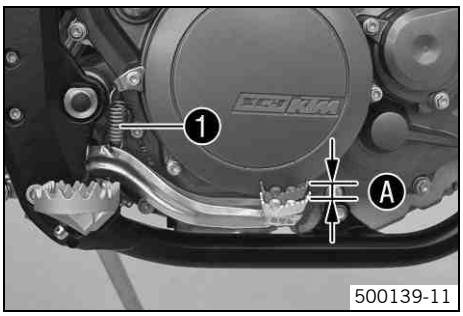
– Position the cover with the membrane. Mount and tighten the screws.

**Info**
Clean up overflowed or spilt brake fluid immediately with water.

## Checking the free travel of the foot brake lever

**Warning**
**Danger of accidents** Brake system failure.

– If there is no free travel on the foot brake lever, pressure builds up on the rear brake circuit. The rear brake can fail due to overheating. Adjust free travel on foot brake lever according to specifications.




– Disconnect spring ❶.
– Move the foot brake lever backwards and forwards between the end stop and the foot brake cylinder piston bracket and check free travel ❹.

Guideline

| | |
|---|---|
| Free travel at foot brake lever | 3... 5 mm (0.12... 0.2 in) |

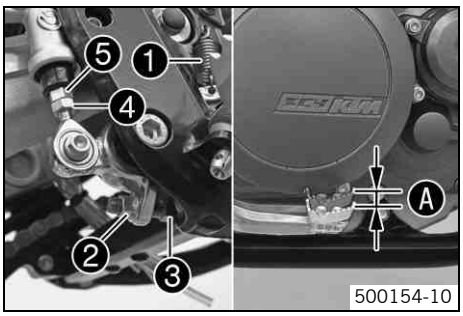
» If the free travel does not meet specifications:
– Adjust the basic position of the foot brake lever. 🔧 (☛ p. 66)

– Reconnect spring ❶.

## Adjusting the basic position of the foot brake lever 🔧

**Warning**
**Danger of accidents** Brake system failure.

– If there is no free travel on the foot brake lever, pressure builds up on the rear brake circuit. The rear brake can fail due to overheating. Adjust free travel on foot brake lever according to specifications.




– Disconnect spring ❶.
– Loosen nut ❹, and with push rod ❺, turn it back until you have maximum free travel.
– To adjust the basic position of the foot brake lever individually, loosen nut ❷ and turn screw ❸ accordingly.

**Info**
The range of adjustment is limited.

– Turn push rod ❺ accordingly until you have free travel ❹. If necessary, adjust the basic position of the foot brake lever.

Guideline

| | |
|---|---|
| Free travel at foot brake lever | 3... 5 mm (0.12... 0.2 in) |

– Hold screw ❸ and tighten nut ❷.

Guideline

| | | |
|---|---|---|
| Remaining nuts, chassis | M8 | 30 Nm (22.1 lbf ft) |

– Hold push rod ❺ and tighten nut ❹.

Guideline

| | | |
|---|---|---|
| Remaining nuts, chassis | M6 | 15 Nm (11.1 lbf ft) |

– Reconnect spring ❶.

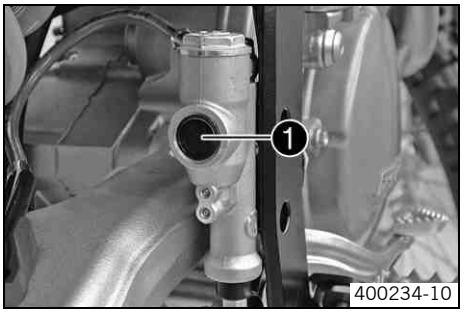
## Checking rear brake fluid level

**Warning**
**Danger of accidents** Failure of the brake system.

– If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Danger of accidents** Reduced braking effect caused by old brake fluid.

– Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)




– Stand the vehicle upright.
– Check the brake fluid level in the sight glass ❶.
  » If there is an air bubble in the sight glass ❶ visible:
    – Add brake fluid to the rear brake circuit. 🔧 (☛ p. 67)

## Adding brake fluid to the rear brake circuit 🔧

**Warning**
**Danger of accidents** Failure of the brake system.

– If the brake fluid level falls below the **MIN** mark, this indicates a leakage in the brake system or worn-out brake linings. Check the brake system and do not continue riding. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Skin irritation** Brake fluid can cause skin irritation on contact.

– Avoid contact with skin and eyes, and keep out of the reach of children.
– Wear suitable protective clothing and goggles.
– If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

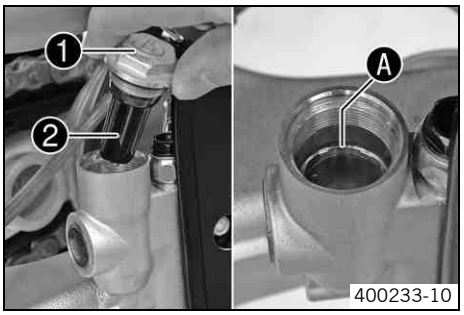
**Warning**
**Danger of accidents** Reduced braking effect caused by old brake fluid.

– Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
Never use DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint!
Use only clean brake fluid from a sealed container.




– Stand the vehicle upright.
– Remove screw cap ❶ with membrane ❷ and the O-ring.
– Add brake fluid to level Ⓐ.

| Brake fluid DOT 4 / DOT 5.1 (☛ p. 108) |
|---|

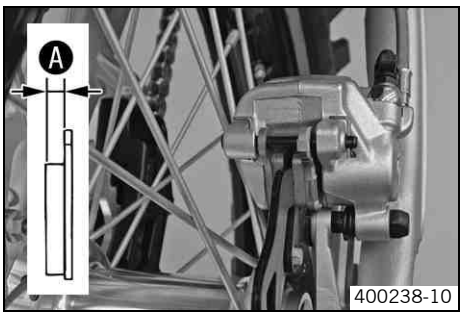
– Mount the screw cap with the membrane and the O-ring.

**Info**
Clean up overflowed or spilt brake fluid immediately with water.

## Checking rear brake linings

**Warning**
**Danger of accidents** Reduced braking efficiency caused by worn brake linings.

– Change worn brake linings immediately. (Your authorized KTM workshop will be glad to help.)




– Check the brake linings for minimum thickness Ⓐ.

| | |
|---|---|
| Minimum thickness Ⓐ | ≥ 1 mm (≥ 0.04 in) |

» If the minimum thickness is less than specified:
– Change the rear brake linings. 🔧 (☛ p. 68)

– Check the brake linings for damage and cracking.

» If damage or cracking is visible:
– Change the rear brake linings. 🔧 (☛ p. 68)

## Changing rear brake linings 🔧

**Warning**
**Danger of accident** Brake system failure.

– Maintenance work and repairs must be carried out professionally. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Skin irritation** Brake fluid can cause skin irritation on contact.

– Avoid contact with skin and eyes, and keep out of the reach of children.
– Wear suitable protective clothing and goggles.
– If brake fluid comes into contact with the eyes, flush the eyes thoroughly with water and consult a physician immediately.

**Warning**
**Danger of accidents** Reduced braking effect caused by old brake fluid.

– Change the brake fluid of the front and rear brake according to the service schedule. (Your authorized KTM workshop will be glad to help.)

**Warning**
**Danger of accidents** Reduced braking efficiency due to oil or grease on the brake discs.

– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

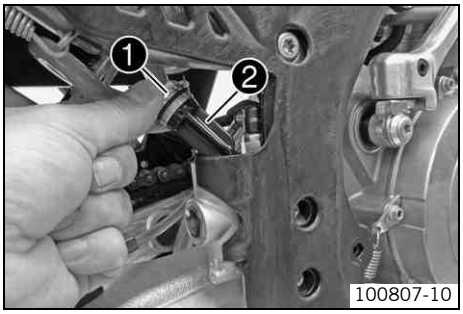
**Warning**
**Danger of accidents** Reduced braking efficiency due to use of non-approved brake linings.

– Brake linings available from accessory suppliers are often not tested and approved for use on KTM vehicles. The construction and friction factor of the brake linings and therefore the brake power can differ considerably from the original KTM brake linings. If brake linings are used that differ from the originals, there is no guarantee that they comply with the original license. The vehicle no longer corresponds to the condition at delivery, and the warranty is no longer valid.

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

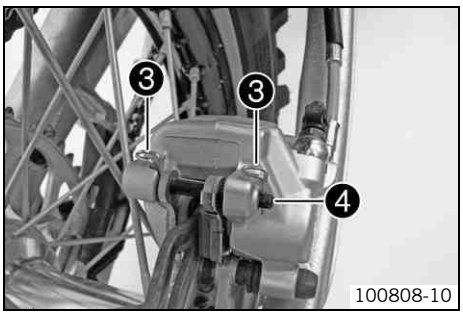
– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
Never user DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid is corrosive!
Use only clean brake fluid from a sealed container.

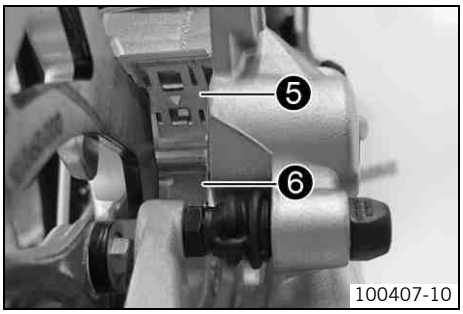



– Stand the vehicle upright.
– Remove screw cap ❶ with membrane ❷ and the O-ring.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.

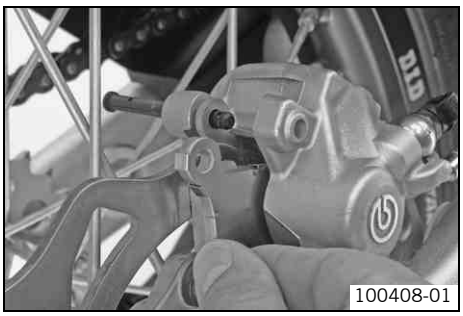
**Info**
Make sure when pushing back the brake piston that you do not press the brake caliper against the spokes.



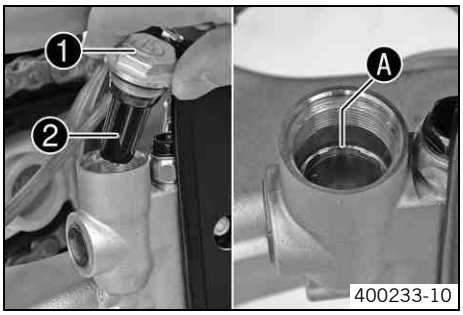

– Remove locking split pins ❸, withdraw bolt ❹, and take out the brake pads.
– Clean brake caliper and brake caliper support.




– Check that anti-squeal shim ❺ in the brake caliper and anti-rattle shim ❻ in the brake caliper support are seated correctly.




– Fit the brake pads, insert the bolt, and mount the locking split pins.
– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.




– Correct the brake fluid reservoir level to the marking Ⓐ.

| Brake fluid DOT 4 / DOT 5.1 (☛ p. 108) |
|---|

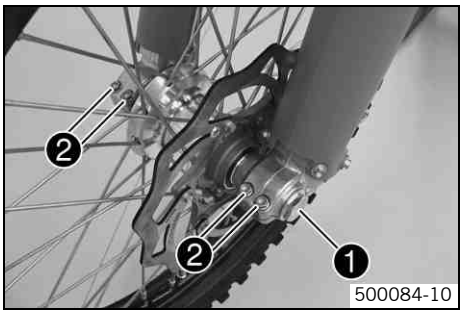
– Mount the screw cap ❶ with the membrane ❷ and the O-ring.

**Info**
Clean up overflowed or spilt brake fluid immediately with water.

## Removing front wheel


– Raise the motorcycle with the lift stand. (☛ p. 44)
– Press the brake caliper by hand on to the brake disc in order to press back the brake pistons.

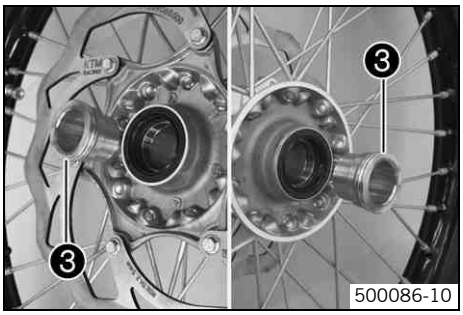
**Info**
Make sure when pushing back the brake pistons that you do not press the brake caliper against the spokes.




– Remove screw ❶.
– Loosen screw ❷.


– Holding the front wheel, withdraw the wheel spindle. Take the front wheel out of the fork.

**Info**
Do not operate the hand brake lever when the front wheel is removed. Always lay the wheel down in such a way that the brake disc is not damaged.

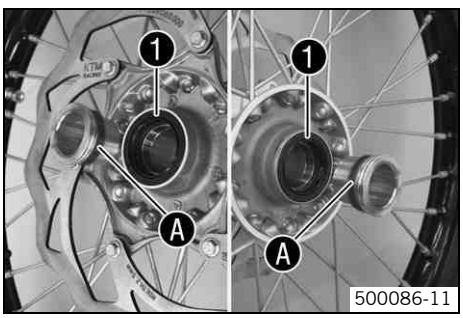



– Remove spacers ❸.

## Installing the front wheel

**Warning**
**Danger of accidents** Reduced braking efficiency due to oil or grease on the brake discs.

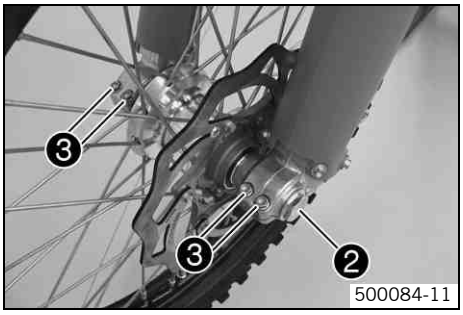
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.




– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the wheel bearing.
– Clean and grease shaft seal rings ❶ and bearing surface Ⓐ of the spacers.

| Long-life grease (☛ p. 110) |
|---|

– Insert the spacers.




– Lift the front wheel into the fork, position it, and insert the wheel spindle.
– Mount and tighten screw ❷.

Guideline

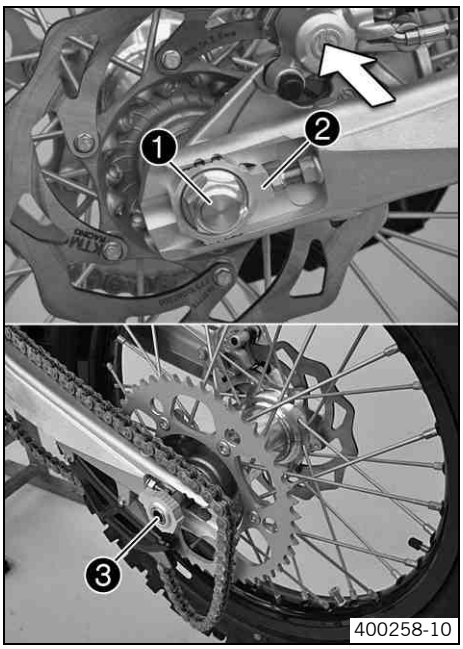
| | | |
|---|---|---|
| Screw, front wheel spindle | M24x1.5 | 45 Nm (33.2 lbf ft) |

– Activate the hand brake lever multiple times until the brake linings are in contact with the brake disc.
– Remove the motorcycle from the lift stand. (☛ p. 44)
– Pull the front wheel brake and push down hard on the fork several times to align the fork legs.
– Fully tighten screw ❸.

Guideline

| | | |
|---|---|---|
| Screw, fork stub | M8 | 15 Nm (11.1 lbf ft) |

## Removing the rear wheel

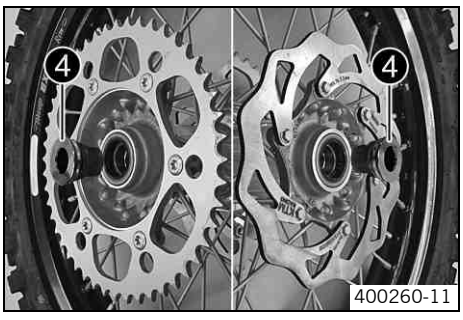



– Raise the motorcycle with the lift stand. (☛ p. 44)
– Press the brake caliper by hand on to the brake disc in order to press back the brake piston.

**Info**
Make sure when pushing back the brake piston that you do not press the brake caliper against the spokes.

– Remove nut ❶.
– Remove chain adjuster ❷. Withdraw wheel spindle ❸ only enough to allow the rear wheel to be pushed forward.
– Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.
– Holding the rear wheel, withdraw the wheel spindle. Take the rear wheel out of the swingarm.

**Info**
Do not operate the foot brake when the rear wheel is removed.
Always lay the wheel down in such a way that the brake disc is not damaged.

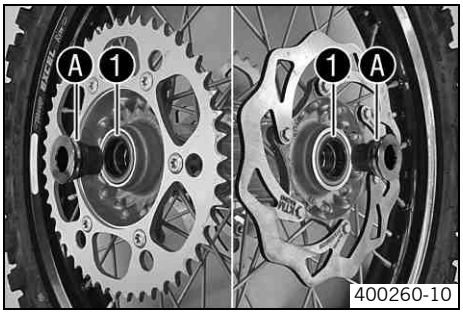



– Remove spacers ❹.

## Installing the rear wheel

**Warning**
**Danger of accidents** Reduced braking efficiency due to oil or grease on the brake discs.

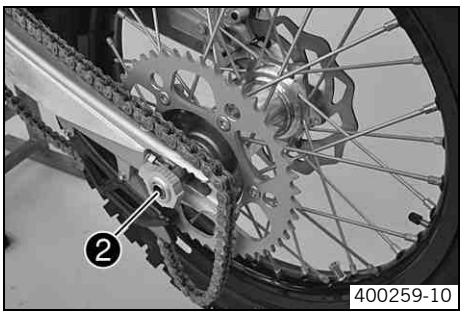
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



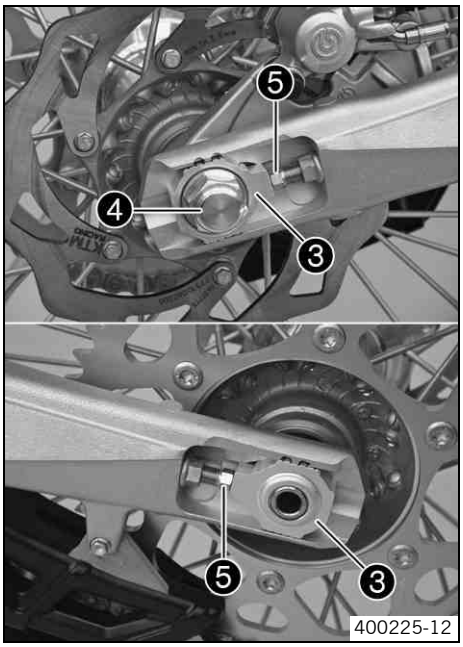

– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the wheel bearing.
– Clean and grease shaft seal rings ❶ and bearing surface Ⓐ of the spacers.

| Long-life grease (☛ p. 110) |
|---|

– Insert the spacers.




– Lift the rear wheel into the swing arm, position it, and insert the wheel spindle ❷.
– Put the chain on.




– Position the chain adjuster ❸. Mount nut ❹, but do not tighten it yet.
– Check chain tension when fitting rear wheel. (☛ p. 55)
– Make sure that the chain adjusters ❸ are fitted correctly on the adjusting screws ❺.
– Tighten nut ❹.

Guideline

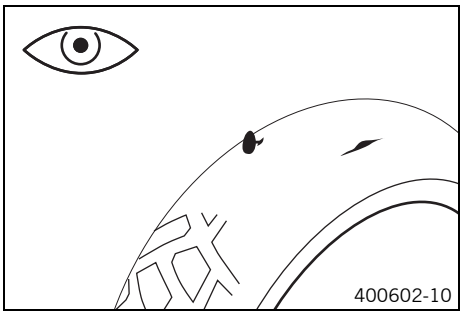
| | | |
|---|---|---|
| Nut, rear wheel spindle | M20x1.5 | 80 Nm (59 lbf ft) |

**Info**
The wide adjustment range of the chain adjusters (32 mm) enables different secondary transmissions with the same chain length.
The chain adjusters ❸ can be turned by 180°.

– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
– Remove the motorcycle from the lift stand. (☛ p. 44)

## Tire condition checking

**Info**
Only mount tires approved or recommended by KTM.
Other tires could have a negative effect on riding behavior.
The type, condition and air pressure of the tires all have an important impact on the riding behavior of the motorcycle.
The front and rear wheels must be mounted with tires with similar profiles.
Worn tires have a negative effect on riding behavior, especially on wet surfaces.




– Examine the front and rear tires for cuts, foreign bodies and other damage.
  » If you find cuts, foreign bodies or other damage on a tire:
    – Change the tires.
– Check the depth of the tread.

**Info**
Note local national regulations concerning the minimum tread depth.

| | |
|---|---|
| Minimum tread depth | ≥ 2 mm (≥ 0.08 in) |

  » If the tread depth is less than the minimum allowable depth:

– Change the tires.

– Check the age of the tires.

**Info**

The tire's date of manufacture is usually part of the tire markings and is indicated by the last four digits of the **DOT** marking. The first two digits refer to the week of manufacture and last two digits refer to the year of manufacture.
KTM recommends that the tires be changed after five years at the latest, regardless of the actual state of wear.

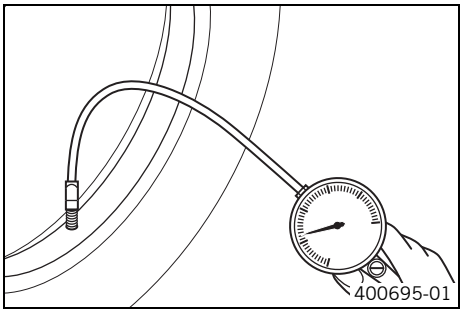
» If a tire is more than 5 years old:

– Change the tires.

## Checking tire air pressure

**Info**

Low tire air pressure leads to abnormal wear and overheating of the tire.
Correct tire air pressure ensures optimal riding comfort and maximum tire service life.




– Remove the dust cap.

– Check tire air pressure when tires are cold.

| Tire air pressure off road | |
|---|---|
| Front | 1.0 bar (15 psi) |
| Rear | 1.0 bar (15 psi) |

| Road tire pressure | |
|---|---|
| Front | 1.5 bar (22 psi) |
| Rear | 2.0 bar (29 psi) |

» If the tire pressure does not meet specifications:

– Correct the tire air pressure.

– Fit the dust cap.

## Checking spoke tension

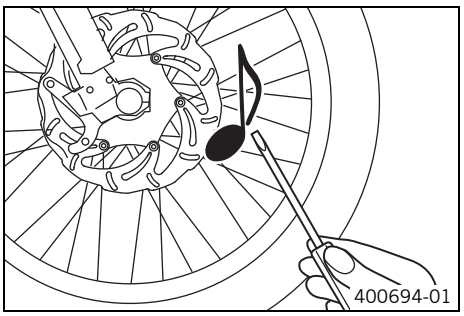
**Warning**

**Danger of accidents** Instable handling due to incorrect spoke tension.

– Ensure that the spoke tension is correct. (Your authorized KTM workshop will be glad to help.)

**Info**

A loose spoke can cause wheel imbalance, which leads to more loose spokes in a short time.
If the spokes are too tight, they can break due to local overload.
Check the spoke tension regularly, especially on a new motorcycle.




– Tap each spoke with a screwdriver.

**Info**

The sound frequency depends on the length and thickness of the spoke.
If there are different sound frequencies in spokes with the same length and thickness, this indicates different spoke tensions.

| You should hear a high note. |
|---|

» If the spoke tension varies:

– Correct the spoke tension.

– Check the spoke torque.

Guideline

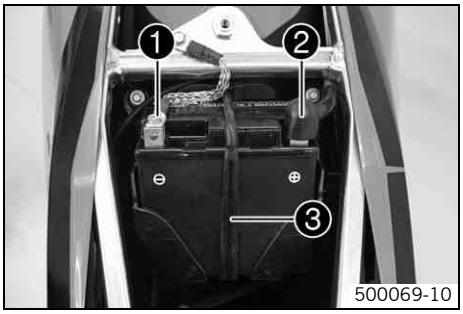
| | | |
|---|---|---|
| Spoke nipple, front wheel | M4.5 | 5... 6 Nm (3.7... 4.4 lbf ft) |
| Spoke nipple, rear wheel | M5 | 5... 6 Nm (3.7... 4.4 lbf ft) |

| |
|---|
| Torque wrench with various accessories in set (58429094000) |

## Removing the battery

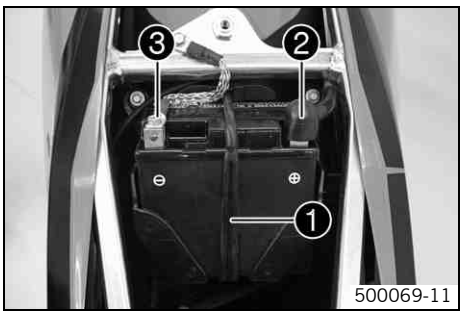
**Warning**
**Risk of injury** Battery acid and battery gases cause serious cauterization.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open fire. Charge only in well ventilated rooms.
- Flush with copious amounts of water in case of skin contact. If battery acid comes into contact with the eyes, flush the eyes with water for at least 15 minutes and consult a physician.




- Switch off all power-consuming components and switch off the engine.
- Remove the seat. (☛ p. 50)
- Disconnect the negative (minus) cable ❶ of the battery.
- Pull back the plus pole cover ❷ and disconnect the positive (plus) cable of the battery.
- Hang the rubber band ❸ out to the bottom.
- Lift the battery up.

## Installing the battery




- Place the battery in the battery holder.

| Battery (YTX5L-BS) (☛ p. 103) |
|---|

- Reconnect the rubber band ❶.
- Attach the plus cable and replace the plus pole cover ❷.
- Attach the minus cable ❸.
- Mount the seat. (☛ p. 50)

## Recharging the battery

**Warning**
**Risk of injury** Battery acid and battery gases cause serious cauterization.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open fire. Charge only in well ventilated rooms.
- Flush with copious amounts of water in case of skin contact. If battery acid comes into contact with the eyes, flush the eyes with water for at least 15 minutes and consult a physician.

**Warning**
**Environmental hazard** Battery parts and acid are harmful to the environment.

- Do not discard batteries with the household trash. Dispose of a defective battery in an environmentally compatible manner. Give the battery to your KTM dealer or to a recycling center that accepts used batteries.

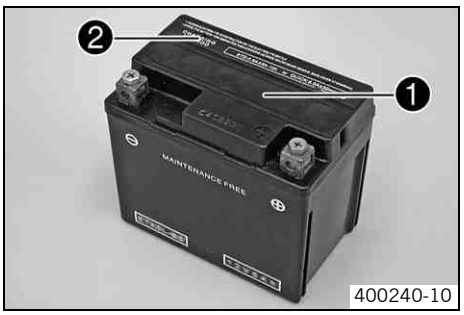
**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**

Even if there is no load on the battery, it loses power every day.
The charge state and the type of charge are very important for the service life of the battery.
Fast recharging with a high charge current shortens the battery's service life.
If the charge current, the charge voltage and the charge time are exceeded, electrolyte escapes through the breathing holes.
The battery capacity is then reduced.
If the battery is discharged from starting, it must be recharged immediately.
If it stands for a long time in a discharged state, the battery becomes over-discharged and sulfated, and then it is destroyed.
The battery is maintenance-free, i.e., the acid level does not have to be checked.

– Switch off all consumers and the engine.
– Remove the seat. (☛ p. 50)
– Disconnect the minus (negative) cable of the battery to avoid damage to the motorcycle's electronics.




– Connect the battery charger to the battery. Switch on the battery charger.

| Battery charger (58429074000) |
|---|

You can also use the battery charger to test the open-circuit voltage and cranking power of the battery, and to test the generator. With this device, you cannot overcharge the battery.

**Info**

Never remove the lid ❶.
Charge the battery with at most 10% of the capacity specified on the battery ❷.

– Switch off the charger after charging. Disconnect the battery.

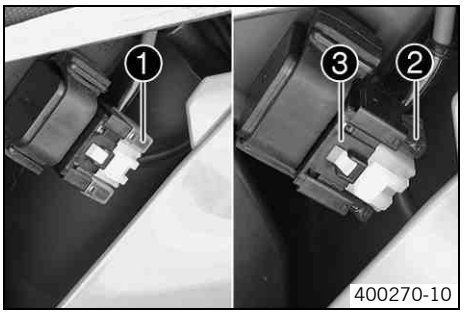
Guideline

| The charge current, charge voltage and charge time must not be exceeded. | |
|---|---|
| Charge the battery regularly when the motorcycle is not in use | 3 months |

– Mount the seat. (☛ p. 50)

## Removing the main fuse

– Switch off all consumers and the engine.
– Remove the air filter box lid. (☛ p. 50)




– Remove protective cover ❶.

**Info**

The main fuse ❷ is located in starter relay ❸ under the filter box cover.

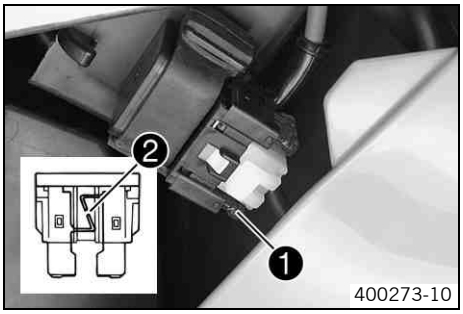
– Remove main fuse ❷.

## Installing the main fuse

**Warning**

**Fire hazard** The electrical system can be overloaded by the use of incorrect fuses.

– Use only fuses with the prescribed amperage. Never by-pass or repair fuses.



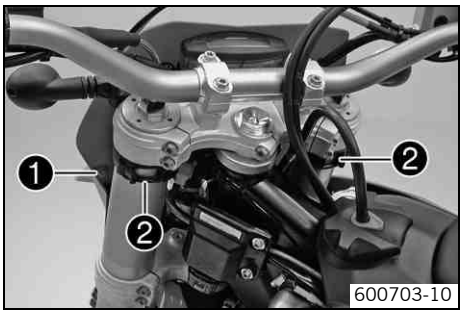

– Insert the main fuse.

| Fuse (58011109110) (☛ p. 103) |
|---|

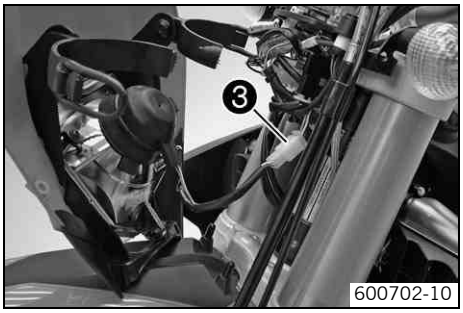
**Info**
A reserve fuse ❶ is located in the starter relay.
Replace a faulty fuse ❷ by an equivalent fuse only.

– Replace the protection cover.
– Install the air filter box lid. (☛ p. 50)

## Removing headlight mask with headlight

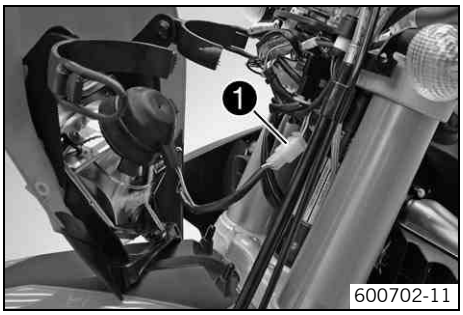



– Switch off all electrical equipment.
– Remove screw ❶ and take off clamp.
– Loosen the rubber band ❷. Push up the headlight mask and swing it forwards.

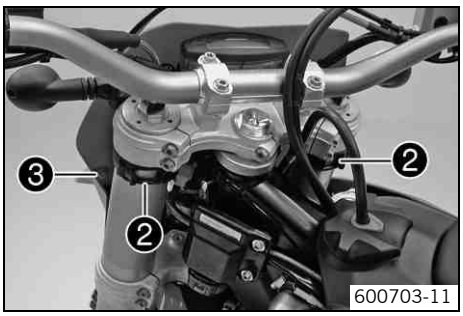



– Pull out the electric plug connector ❸ and remove the headlight mask with the headlight.

## Refitting the headlight mask with the headlight




– Connect the electric plug connector ❶.




– Position the headlight mask and fix it with the rubber band ❷.

**Info**
Ensure that the retaining lugs engage in the fender.

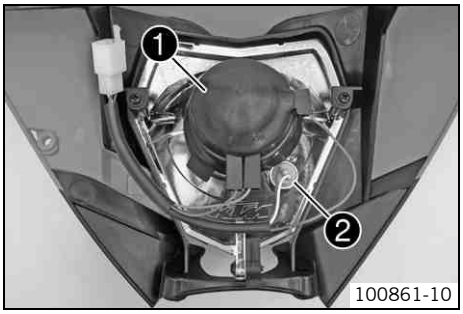
– Position the brake line and wiring harness. Put the clamp on, mount and tighten screw ❸.
– Check the headlight adjustment. (☛ p. 78)

## Changing the headlight bulb

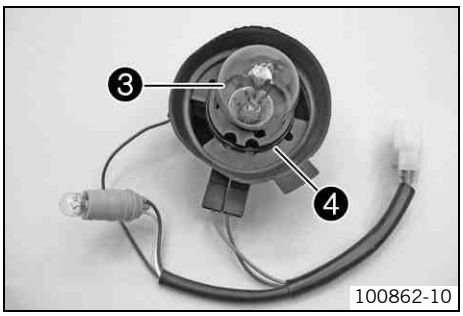
**Note**

**Damage to reflector** Reduced luminance.

– Grease on the lamp will evaporate due to the heat and be deposited on the reflector. Clean the lamp and keep it free of grease before mounting.




– Remove the headlight mask with the headlight. (☛ p. 77)
– Turn rubber cap ❶ together with the underlying lamp socket counterclockwise all the way and remove it.
– Pull lamp socket ❷ of the parking light out of the reflector.




– Press headlight bulb ❸ into the lamp socket lightly, turn it counterclockwise all the way and pull it out.
– Insert a new headlight bulb.

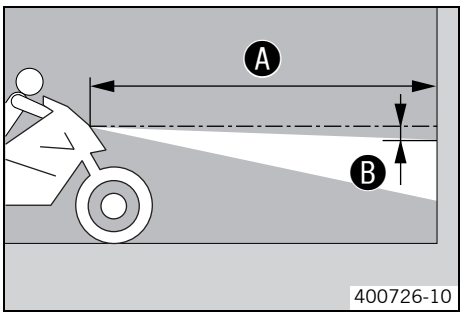
| |
|---|
| Headlight (S2 / socket BA20d) (☛ p. 103) |

– Insert the rubber cap together with the lamp socket into the reflector and turn it clockwise all the way.

**Info**
Ensure that the O-ring ❹ is seated properly.

– Insert the lamp socket of the parking light into the reflector.
– Refit the headlight mask with the headlight. (☛ p. 77)

## Checking the headlight adjustment




– Stand the vehicle upright on a horizontal surface in front of a light wall and make a mark at the height of the center of the low beam headlight.
– Make another mark at a distance Ⓑ under the first mark.

Guideline

| | |
|---|---|
| Distance Ⓑ | 5 cm (2 in) |

– Position the vehicle vertically at a distance Ⓐ in front of the wall.

Guideline

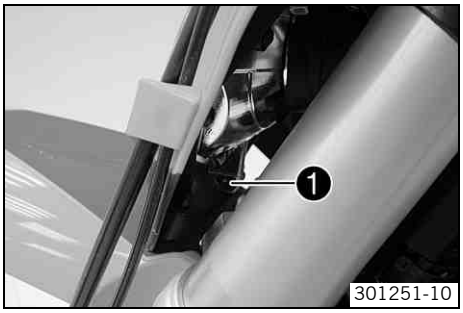
| | |
|---|---|
| Distance Ⓐ | 5 m (16 ft) |

– The rider now sits down on the motorcycle.
– Switch on the low beam.
– Check the headlight adjustment.

| |
|---|
| The border between light and dark must be exactly at the lower mark when the motorcycle is operational and complete with rider. |

» If the boundary between light and dark does not meet specifications:
– Adjust the beam width of the headlight. (☛ p. 79)

## Adjusting the beam width of the headlight




– Check the headlight adjustment. (☛ p. 78)
– Loosen screw ❶.
– Adjust the light range by swiveling the headlight.

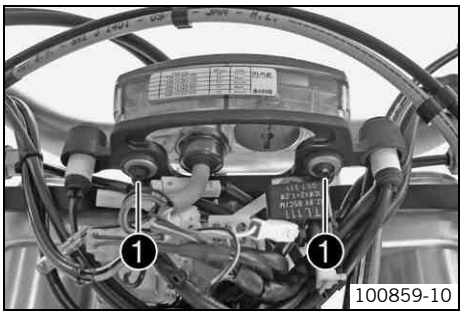
Guideline

| |
|---|
| The boundary between light and dark must be exactly on the lower mark for a motorcycle with a rider (mark is applied under: Checking the headlight adjustment). |

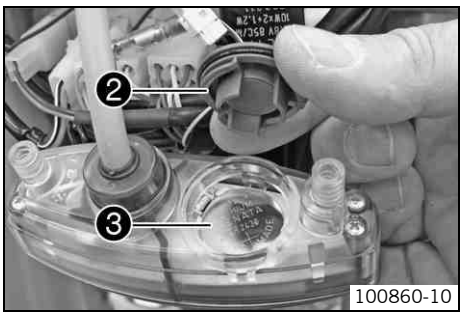
**Info**
A change in weight may make it necessary to correct the headlight range.

– Tighten screw ❶.

## Changing the speedometer battery



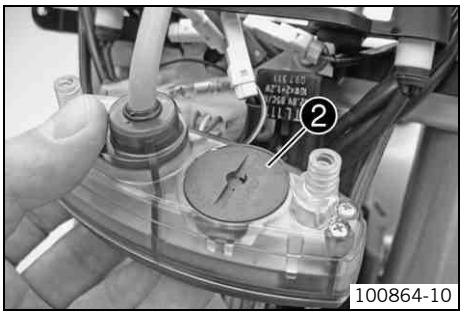

– Remove the headlight mask with the headlight. (☛ p. 77)
– Remove screws ❶.
– Pull the speedometer out of the bracket from above.




– Using a coin, turn locking cap ❷ counterclockwise all the way and remove it.
– Remove speedometer battery ❸.
– Insert the new battery with the label facing upward.

| |
|---|
| Speedometer battery (CR 2430) (☛ p. 103) |

– Check that the O-ring of the locking cap is seated properly.

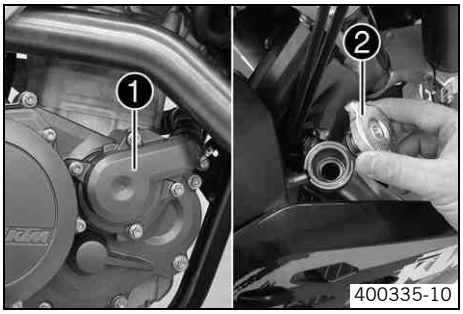



– Position locking cap ❷ and, using a coin, turn it clockwise all the way.
– Press any button on the speedometer.

✓ The speedometer is activated.

– Position the speedometer in the bracket.
– Mount and tighten the screws with washers.
– Refit the headlight mask with the headlight. (☛ p. 77)
– Set kilometers or miles. (☛ p. 16)
– Adjust the speedometer functions. (☛ p. 17)
– Set the clock. (☛ p. 17)

## Cooling system




The water pump ❶ in the engine forces the coolant to flow.
The pressure resulting from the warming of the cooling system is regulated by a valve in the radiator cap ❷. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

| |
|---|
| 120 °C (248 °F) |

Cooling is effected by the air stream.
The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

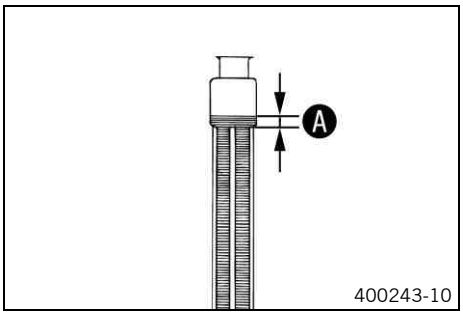
## Checking the anti-freeze and coolant level

**Warning**
**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.

– Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

**Warning**
**Danger of poisoning** Coolant is poisonous and a health hazard.

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.




**Condition**
Engine is cold.

– Stand the motorcycle upright on a horizontal surface.
– Remove radiator cap.
– Check the anti-freeze of the coolant.

| |
|---|
| −25... −45 °C (−13... −49 °F) |

» If the anti-freeze of the coolant does not meet specifications:
– Correct the anti-freeze of the coolant.

– Check the coolant level in the radiator.

| | |
|---|---|
| Coolant level ❹ above radiator fins. | 10 mm (0.39 in) |

» If the level of the coolant does not meet specifications:
– Correct the coolant level.

**Alternative 1**

| |
|---|
| Coolant (☛ p. 108) |

**Alternative 2**

| |
|---|
| Coolant (mixed ready to use) (☛ p. 108) |

– Refit the radiator cap.

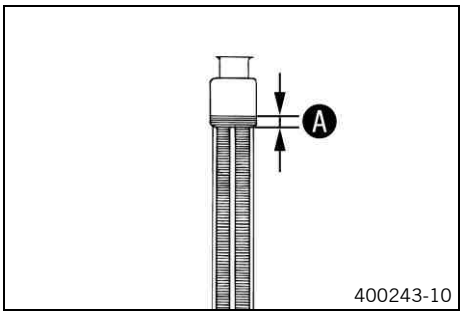
## Checking the coolant level

**Warning**
**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.

– Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

**Warning**
**Danger of poisoning** Coolant is poisonous and a health hazard.

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.




**Condition**
The engine is cold.

– Stand the motorcycle upright on a horizontal surface.
– Remove radiator cap.
– Check the coolant level in the radiator.

| | |
|---|---|
| Coolant level ❹ above the radiator fins. | 10 mm (0.39 in) |

» If the coolant level does not meet specifications:
– Correct the coolant level.

**Alternative 1**

| |
|---|
| Coolant (☛ p. 108) |

**Alternative 2**

| |
|---|
| Coolant (mixed ready to use) (☛ p. 108) |

– Mount the radiator cap.

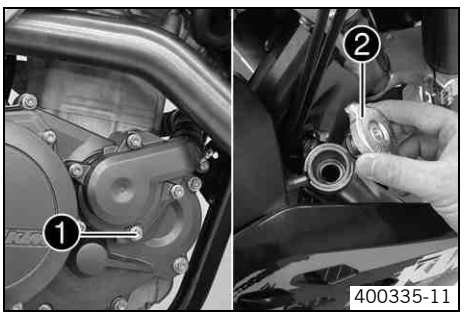
## Draining coolant

**Warning**
**Danger of scalding** During motorcycle operation, the coolant gets very hot and is under pressure.

– Do not remove the radiator cap, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. In case of scalding, rinse immediately with lukewarm water.

**Warning**
**Danger of poisoning** Coolant is poisonous and a health hazard.

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.




**Condition**
Engine is cold.

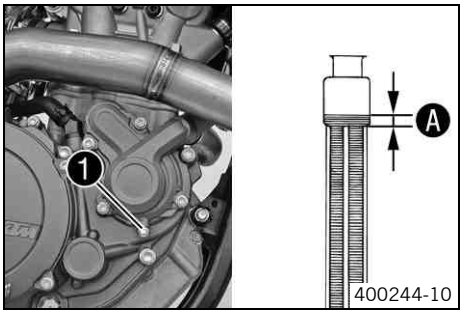
– Stand the motorcycle upright.
– Place a suitable container under the water pump cover.
– Remove screw ❶. Remove the radiator cap ❷.
– Completely drain the coolant.
– Fit screw ❶ with a new seal and tighten it.
Guideline

| | | |
|---|---|---|
| Screw, water pump cover | M6x25 | 10 Nm (7.4 lbf ft) |

## Refilling coolant

**Warning**
**Danger of poisoning** Coolant is poisonous and a health hazard.

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.



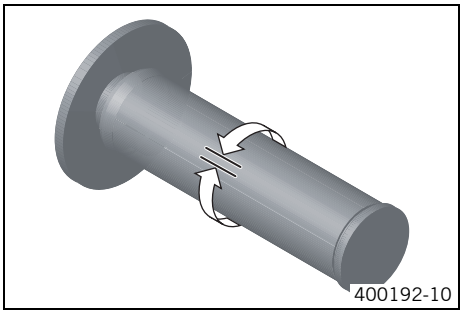

– Make sure that the screw ❶ is tightened.
– Stand the vehicle upright.
– Pour coolant in up to measurement ❹ above the radiator fins.
Guideline

| |
|---|
| 10 mm (0.39 in) |

| | | |
|---|---|---|
| Coolant | 0.95 l (1 qt.) | Coolant (☛ p. 108) |
| | | Coolant (mixed ready to use) (☛ p. 108) |

– Refit the radiator cap.
– Make a short test ride.
– Check the coolant level. (☛ p. 80)

## Checking the play in the throttle cable




– Move the handlebar to the straight-ahead position. Move the throttle grip backwards and forwards to ascertain the play in the throttle cable.

| | |
|---|---|
| Play in throttle cable | 3... 5 mm (0.12... 0.2 in) |

» If the throttle cable play does not meet specifications:
– Adjust the play in the throttle cable. 🔧 (☛ p. 83)

**Danger**

**Danger of poisoning** Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

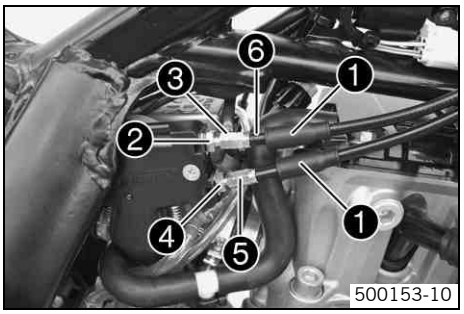
– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

– Start the engine and let it run idle. Move the handlebar to and fro over the entire steering range.

| |
|---|
| The idle speed must not change. |

» If the idle speed changes:
– Adjust the play in the throttle cable. 🔧 (☛ p. 83)

## Adjusting the play in the throttle cable 🔧



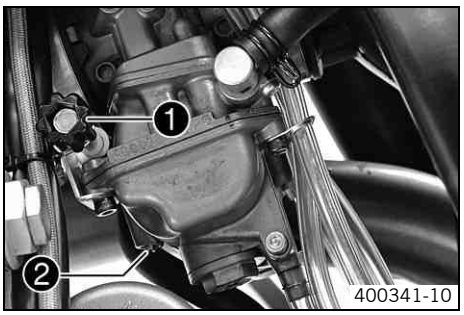

– Remove the fuel tank. 🔧 (☛ p. 53)
– Check throttle cable route. (☛ p. 59)
– Move the handlebar to the straight-ahead position.
– Push back bellows ❶.
– Loosen nut ❷. Turn adjusting screw ❸ in as far as possible.
– Loosen nut ❹. Turn adjusting screw ❺ so that there is play in the gas throttle cable at the throttle grip.

Guideline

| | |
|---|---|
| Play in throttle cable | 3... 5 mm (0.12... 0.2 in) |

– Tighten nut ❹.
– Press and hold the throttle grip in the closed setting. Turn adjusting screw ❸ out until there is no play in the throttle cable ❻.
– Tighten nut ❷.
– Push bellows ❶ on. Check the throttle grip for smooth operation.
– Install the fuel tank. 🔧 (☛ p. 53)
– Check the play in the throttle cable. (☛ p. 83)

## Carburetor - idle



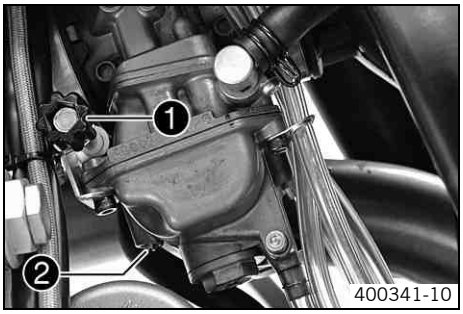

The idle setting of the carburetor has a big influence on the starting behavior, stable idling and the response to throttle opening. That means that an engine with a correctly set idle speed is easier to start than if the idle is set wrongly.

**Info**

The carburetor and its components are subject to increased wear caused by engine vibration. Wear can result in malfunctioning.

The idle speed is adjusted with the adjustment screw ❶.
The idle mixture is adjusted with the idle mixture adjustment screw ❷.

## Carburetor - adjusting idle




– Screw in the idle adjusting screw ❷ until it stops and then to the prescribed basic setting.

Guideline

| | |
|---|---|
| Idle mixture adjusting screw (450 EXC USA) | |
| Open | 1.75 turns |
| Idle mixture adjusting screw (530 EXC USA) | |
| Open | 2.0 turns |

| |
|---|
| Adjustment tool for mixture control screw (77329034000) |

– Run the engine until warm.

Guideline

| | |
|---|---|
| Warm-up time | ≥ 5 min |

**Danger**

**Danger of poisoning** Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

– Adjust the idle speed with adjusting screw ❶.

Guideline

| | |
|---|---|
| Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 23) | |
| Idle speed | 1,550... 1,650 rpm |

– Turn the idle adjusting screw ❷ slowly until the idle speed begins to fall.
– Note the position and turn the idle adjusting screw slowly counterclockwise until the idle speed falls.
– Adjust to the point between these two positions with the highest idle speed.

**Info**

If there is a big engine speed rise, reduce the idle speed to a normal level and repeat the above steps.
The extreme sport motorcyclist will set the mixture about ¼ of a turn back from this ideal value (leaner, in a clockwise direction) since the engine becomes hotter in sporting use.
If the procedure described here does not lead to satisfactory results, the cause may be a wrongly dimensioned idling jet.
If you can turn the idle adjusting screw to the end without any change of engine speed, you have to mount a smaller idling jet.
The idle adjusting screw must not be opened more than two turns. If more than two turns are necessary (rich mixture), use a larger idling jet.
After changing the idling jet, start from the beginning with the adjusting steps.

– Adjust the idle speed with adjusting screw ❶.

Guideline

| | |
|---|---|
| Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 23) | |
| Idle speed | 1,550... 1,650 rpm |

**Info**

Following extreme air temperature or altitude changes, adjust the idle speed again.

## Emptying the carburetor float chamber

**Danger**

**Fire hazard** Fuel is highly flammable.

- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.

**Warning**

**Danger of poisoning** Fuel is poisonous and a health hazard.

- Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel. Store fuel in a suitable canister according to regulations and keep it out of the reach of children.

**Warning**

**Environmental hazard** Improper handling of fuel is a danger to the environment.

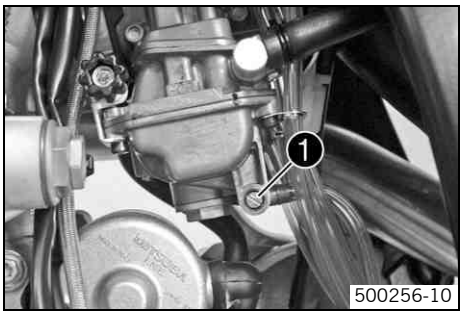
- Do not allow fuel to get into the ground water, the ground, or the sewage system.

**Info**

Carry out this work with a cold engine.

- Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500137-10 p. 22)

  ✓ No more fuel flows from the tank to the carburetor.
- Direct the hose of the float chamber into a suitable container.

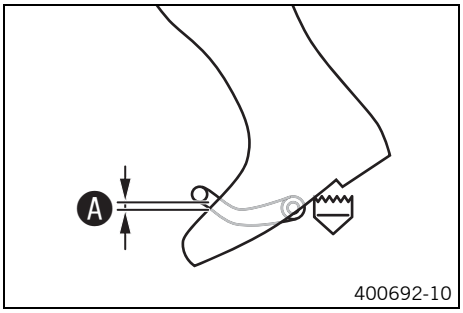



**Info**

Water in the float chamber results in malfunctioning.

- Undo the screw ❶ (turn it counterclockwise) a few turns and drain the fuel from the float chamber.
- Tighten screw ❶.

## Checking the basic position of the shift lever

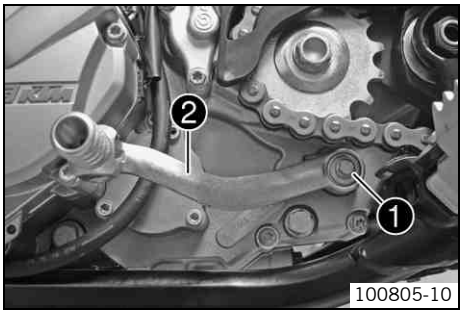



- Sit on the vehicle (facing the direction of travel) and measure the gap between the top of the boot and shift lever Ⓐ.

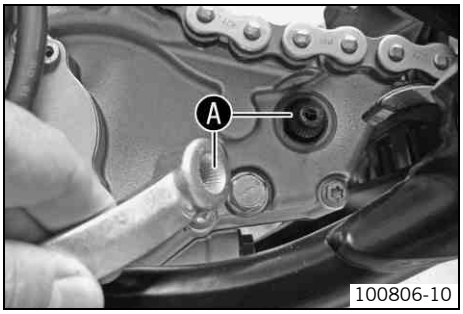
| | |
|---|---|
| Gap between the shift lever and the top of the boot | 10... 20 mm (0.39... 0.79 in) |

» If the distance does not meet the specifications:
  - Adjust the basic position of the shift lever. (p. 85)

## Adjusting the basic position of the shift lever




- Remove screw ❶ and take off shift lever ❷.




– Clean gear teeth Ⓐ of the shift lever and shift shaft.
– Mount the shift lever on the shift shaft in the required position and engage the gearing.

**Info**
The range of adjustment is limited.
The shift lever must not come into contact with any other vehicle components during the shift procedure.

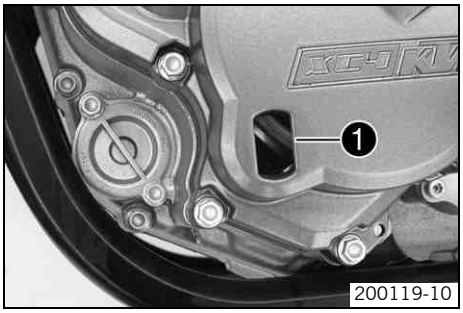
– Mount and tighten screw.

Guideline

| | | | |
|---|---|---|---|
| Screw, shift lever | M6 | 14 Nm (10.3 lbf ft) | **Loctite® 243™** |

## Checking engine oil level

**Info**
The engine oil level must be checked when the engine is cold.




– Stand the motorcycle upright on a horizontal surface.

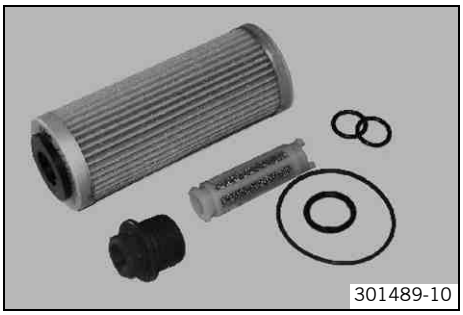
**Condition**
Engine is cold.

– Check the engine oil level.

| |
|---|
| The engine oil must be between the halfway mark and the top of the oil level viewer ❶. |

» If the engine oil level is below the specified level:
– Add engine oil. (☛ p. 89)

## Changing engine oil and oil filter, cleaning engine oil screen 🔧




– Drain the engine oil and clean the engine oil screen. 🔧 (☛ p. 87)
– Remove the oil filter. 🔧 (☛ p. 88)
– Install the oil filter. 🔧 (☛ p. 88)
– Fill up with engine oil. 🔧 (☛ p. 89)

## Draining engine oil, cleaning engine oil screen 🔧

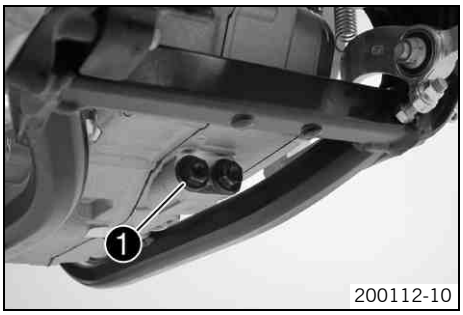
**Warning**
**Danger of scalding** Engine oil and gear oil get very hot when the motorcycle is ridden.

– Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
Drain the engine oil only when the engine is warm.




– Stand the motorcycle on its side stand on a horizontal surface.
– Place a suitable container under the engine.
– Remove engine oil plug screen ❶.
– Completely drain the engine oil.
– Thoroughly clean the plug and engine oil screen.
– Clean the sealing surface on the engine.
– Mount and tighten the engine oil screen drain plug ❶.

Guideline

| | | |
|---|---|---|
| Plug, engine oil screen | M17x1.5 | 20 Nm (14.8 lbf ft) |

## Removing the oil filter

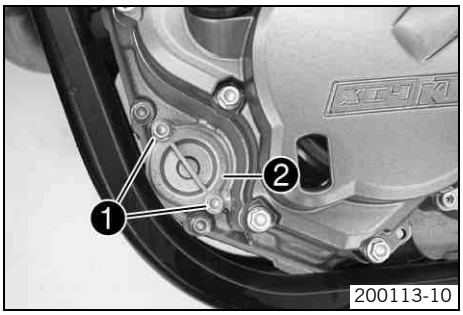
**Warning**
**Danger of scalding** Engine oil and gear oil get very hot when the motorcycle is ridden.

– Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

– Place a suitable container under the engine.
– Remove screws ❶. Remove oil filter cover ❷ with the O-ring.

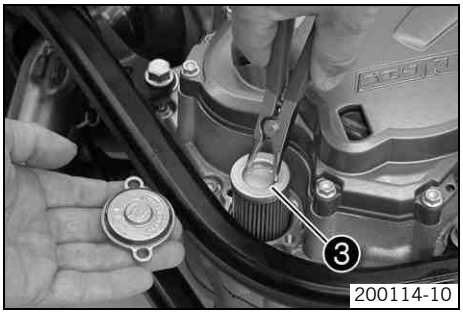


200113-10

– Pull the oil filter insert ❸ out of the oil filter casing.

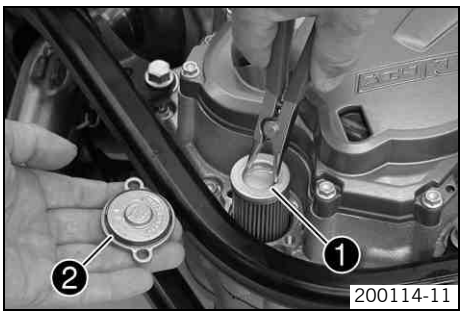
| Circlip pliers reverse (51012011000) |
|---|

– Completely drain the engine oil.
– Thoroughly clean parts and sealing surface.



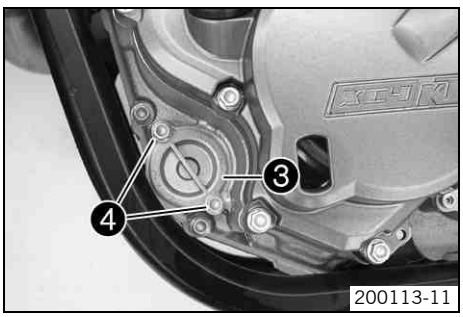
200114-10

## Installing the oil filter



200114-11

– Lay the motorcycle on its side and fill the oil filter housing to about ⅓ full with engine oil.
– Fill the oil filter ❶ with engine oil and place it in the oil filter container.
– Lubricate the O/ring ❷ of the oil filter cover.



200113-11

– Refit the oil filter cover ❸.
– Mount and tighten screws ❹.

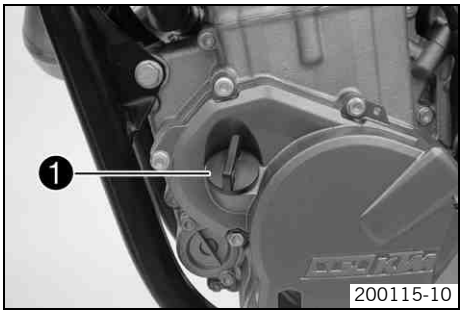
Guideline

| | | |
|---|---|---|
| Screw, oil filter cover | M6 | 10 Nm (7.4 lbf ft) |

– Stand the motorcycle upright.

## Filling up with engine oil

**Info**
Too little engine oil or poor-quality engine oil results in premature wear to the engine.




– Remove the screw cap ❶ on the generator cover and fill up with engine oil.

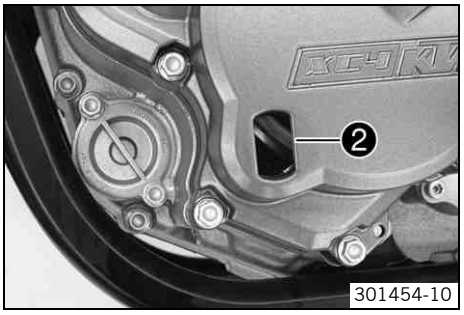
| | | |
|---|---|---|
| Engine oil (1st partial quantity approx.) | 0.35 l (0.37 qt.) | Engine oil (SAE 10W/50) (☛ p. 108) |

– Mount and tighten the screw connection on the generator cover.

**Danger**
**Danger of poisoning** Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

– Start the engine and let it run idle for 30 seconds.
– Stop the engine and check that it is oil-tight.
– Stand the motorcycle upright on a horizontal surface.
– Remove the screw connection on the generator cover.



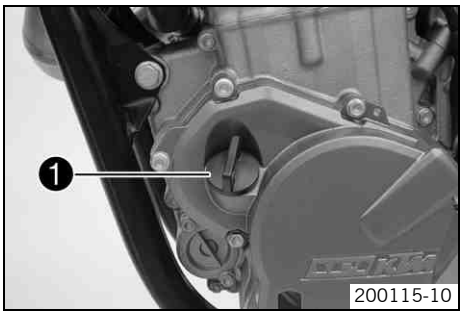

– Fill in engine oil to the upper half of level viewer ❷.

| | | |
|---|---|---|
| Engine oil (total filling capacity approx.) | 0.60 l (0.63 qt.) | Engine oil (SAE 10W/50) (☛ p. 108) |

– Mount and tighten the screw connection on the generator cover.

## Adding engine oil

**Info**
Too little engine oil or poor-quality engine oil results in premature wear to the engine.




– Remove the screw cap ❶ on the alternator cover and fill up with engine oil.

| |
|---|
| Engine oil (SAE 10W/50) (☛ p. 108) |

– Mount and tighten screw cap ❶.

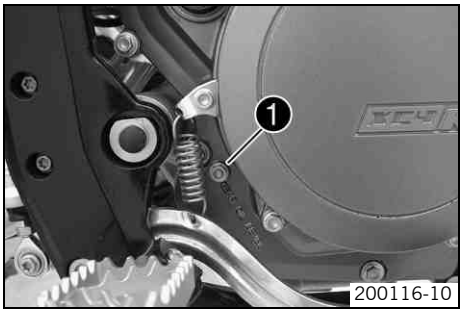
**Danger**
**Danger of poisoning** Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

– Start the engine and check that it is oil-tight.
– Check the engine oil level. (☛ p. 87)

## Checking the gear oil level

**Info**
The gear oil level should only be checked when the engine is cold.




– Stand the motorcycle upright on a horizontal surface.

**Condition**
Engine is cold.

– Remove gear oil level check screw ❶. Stand the motorcycle upright.
– Check the gear oil level.

| A small amount of gear oil should flow out. |
|---|

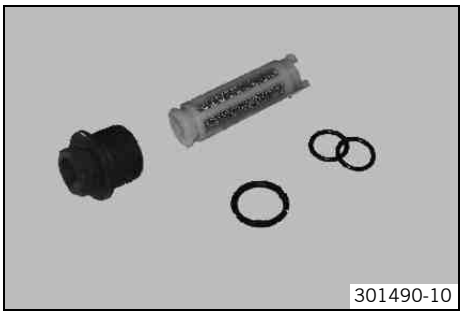
» If no gear oil flows out:
– Add gear oil. 🔧 (☛ p. 91)

– Mount and tighten the gear oil level check screw.

Guideline

| | | |
|---|---|---|
| Screw, gear oil level check | M6 | 8 Nm (5.9 lbf ft) |

## Changing gear oil, cleaning gear oil screen 🔧




– Drain the gear oil and clean the gear oil screen. 🔧 (☛ p. 90)
– Fill up with gear oil. 🔧 (☛ p. 91)

## Draining gear oil, cleaning gear oil screen 🔧

**Warning**
**Danger of scalding** Engine oil and gear oil get very hot when the motorcycle is ridden.

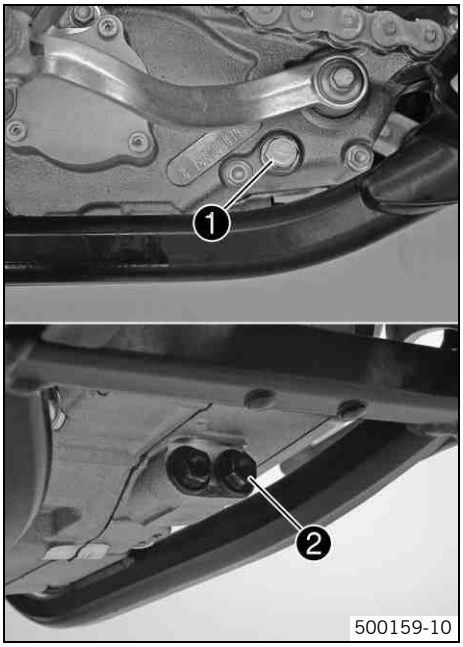
– Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.

**Warning**
**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**
Drain the gear oil only when the engine is warm.

– Stand the motorcycle on its side stand on a horizontal surface.




– Place a suitable container under the engine.
– Remove the gear oil drain plug ❶.
– Remove the gear oil screen plug ❷.
– Completely drain the gear oil.
– Thoroughly clean the gear oil drain plug with a magnet.
– Thoroughly clean the drain plug and gear oil screen with a magnet.
– Clean the sealing surface on the engine.
– Refit gear oil drain plug ❶ with seal ring and tighten it.

Guideline

| | | |
|---|---|---|
| Gear oil drain plug with magnet | M12x1.5 | 20 Nm (14.8 lbf ft) |

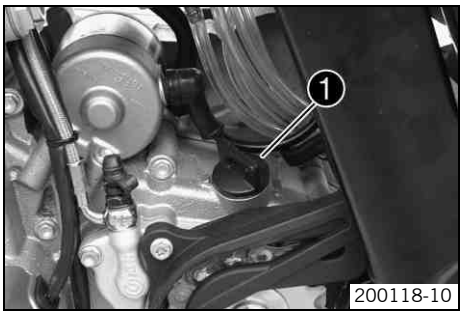
– Mount and tighten the gear oil screen drain plug ❷.

Guideline

| | | |
|---|---|---|
| Plug, gear oil screen | M16x1.5 | 20 Nm (14.8 lbf ft) |

## Filling up with gear oil

**Info**
Too little gear oil or poor-quality oil results in premature wear to the transmission.




– Remove the screw cap ❶ and fill up with gear oil.

| | | |
|---|---|---|
| Gear oil | 0.90 l (0.95 qt.) | Engine oil (SAE 10W/50) (☛ p. 108) |

– Mount and tighten screw cap ❶.

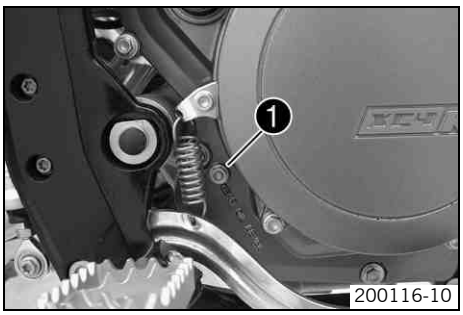
**Danger**
**Danger of poisoning** Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

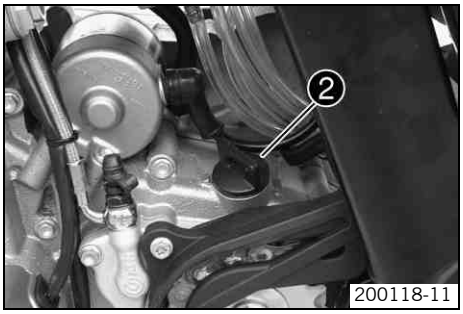
– Start the engine and check that it is oil-tight.
– Check the gear oil level. (☛ p. 90)

## Adding gear oil

**Info**
Too little gear oil or poor-quality oil results in premature wear to the transmission.




– Remove gear oil level check screw ❶.




– Remove screw cap ❷. Stand the motorcycle upright.
– Add gear oil until it flows out of the bore of the gear oil level screw.

| Engine oil (SAE 10W/50) (☛ p. 108) |
|---|

– Mount and tighten the gear oil level check screw.

Guideline

| Screw, gear oil level check | M6 | 8 Nm (5.9 lbf ft) |
|---|---|---|

– Mount and tighten screw cap ❷.

**Danger**

**Danger of poisoning** Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

– Start the engine and check that it is oil-tight.

## Cleaning the motorcycle

**Note**

**Material damage** Damage and destruction of components by high-pressure cleaning equipment.

– Never clean the vehicle with high-pressure cleaning equipment or a strong water-jet. The excessive pressure can penetrate electrical components, socket connects, throttle cables, and bearings, etc., and can damage or destroy these parts.

**Warning**

**Environmental hazard** Hazardous substances cause environmental damage.

– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

**Info**

If you clean the motorcycle regularly, its value and appearance are maintained over a long period.
Avoid direct sunshine on the motorcycle during cleaning.

– Seal the exhaust system to keep water out.
– First remove coarse dirt particles with a gentle water spray.
– Spray very dirty areas with a normal motorcycle cleaner and then clean with a paintbrush.

Motorcycle cleaner (☛ p. 110)

**Info**

Use warm water containing normal motorcycle cleaner and a soft sponge.

– After rinsing the motorcycle with a gentle water spray, allow it to dry thoroughly.
– Empty the carburetor float chamber. 🔧 (☛ p. 85)

**Warning**

**Danger of accidents** Reduced braking efficiency due to wet or dirty brakes.

– Clean or dry dirty or wet brakes by riding and braking gently.

– After cleaning, ride a short distance until the engine reaches operating temperature.

**Info**

The heat produced causes water at inaccessible positions in the engine and the brakes to evaporate.

– Push back the protection covers of the handlebar grips to allow any water that has penetrated to evaporate.
– After the motorcycle has cooled off, lubricate all moving parts and bearings.
– Clean the chain. (☛ p. 54)
– Treat bare metal parts (except for brake discs and exhaust system) with anti-corrosion materials.

Cleaning and preserving materials for metal, rubber and plastic (☛ p. 110)

– Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces (☛ p. 110)

– Lubricate the steering lock.

Universal oil spray (☛ p. 111)

## Protection for winter operation

**Info**

If you use the motorcycle in the winter, you can expect to encounter salt on the roads. Precautions need to be taken against road salt corrosion.
If the vehicle has been used on salted roads, clean it with cold water. Warm water intensifies the effects of salt.

– Clean the motorcycle. (☛ p. 93)
– Treat the engine, swingarm and all other bare or galvanized parts (except the brake discs) with a wax-based anticorrosive.

**Info**

Avoid getting anticorrosive on the brake discs: this would badly affect the braking.
After use on salted roads, clean the motorcycle thoroughly with cold water and dry it properly.

– Clean the chain. (☛ p. 54)

## Storage

**Warning**

**Danger of poisoning** Fuel is poisonous and a health hazard.

– Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come into contact with fuel. Store fuel in a suitable canister according to regulations and keep it out of the reach of children.

**Info**

If you want to garage the motorcycle for a longer period, take the following actions.
Before storing the motorcycle, check all parts for function and wear. If service, repairs or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.

– Clean the motorcycle. (☛ p. 93)
– Change the engine oil and oil filter and clean the engine oil screen. 🔧 (☛ p. 87)
– Change the gear oil and clean the gear oil screen. 🔧 (☛ p. 90)
– Check the anti-freeze and coolant level. (☛ p. 80)
– Drain the fuel from the tanks into a suitable container.
– Empty the carburetor float chamber. 🔧 (☛ p. 85)
– Check the tire air pressure. (☛ p. 73)
– Remove the battery. 🔧 (☛ p. 75)
– Recharge the battery. 🔧 (☛ p. 75)

Guideline

| | |
|---|---|
| Storage temperature of battery (not placed in direct sunshine) | 0... 35 °C (32... 95 °F) |

– Place the vehicle on a dry storage place that is not subject to large temperature variations.

**Info**

KTM recommends raising the motorcycle.

– Raise the motorcycle with the lift stand. (☛ p. 44)
– Cover the vehicle with an air-permeable cover or blanket.

**Info**

Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion.
Avoid running the engine for a short time only. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes parts of the engine and exhaust system to rust.

## Putting into operation after storage

– Remove the motorcycle from the lift stand. (☛ p. 44)
– Install the battery. 🔧 (☛ p. 75)
– Refuel. (☛ p. 33)
– Perform checks and maintenance steps before putting into operation. (☛ p. 31)
– Take a test ride.

| Faults | Possible cause | Action |
|---|---|---|
| The engine cannot be cranked (electric starter). | Operating error | – Go through the steps of starting the engine. (☛ p. 31) |
| | Battery discharged | – Recharge the battery. 🔧 (☛ p. 75)<br>– Check the charging voltage. 🔧<br>– Check the stall current. 🔧<br>– Check the generator. 🔧 |
| | Main fuse blown | – Remove the main fuse. (☛ p. 76)<br>– Install the main fuse. (☛ p. 76) |
| | Starter relay defective | – Check the starter relay. 🔧 |
| | Starter motor defective | – Check the starter motor. 🔧 |
| Engine turns but does not start | Operating error | – Go through the steps of starting the engine. (☛ p. 31) |
| | Motorcycle was out of use for a long time and there is old fuel in the float chamber | – Empty the carburetor float chamber. 🔧 (☛ p. 85) |
| | Fuel supply interrupted | – Check the fuel tank breather.<br>– Clean the fuel tap.<br>– Check/adjust the carburetor components. 🔧 |
| | Spark plug oily or wet | – Clean and dry the spark plug or replace if necessary. |
| | Electrode distance (plug gap) of spark plug too wide | – Adjust the plug gap.<br>Guideline<br>Spark plug electrode gap<br>0.9 mm (0.035 in) |
| | Defect in ignition system | – Check the ignition system. 🔧 |
| | Short-circuit cable in wiring harness frayed, short-circuit button or emergency OFF switch defective | – Check the wiring harness. (visual check)<br>– Check the electrical system. |
| | Plug connector of CDI control device, pulse generator or ignition coil oxidized. | – Clean the plug connector and treat it with contact spray. |
| | Water in carburetor or jets blocked | – Check/adjust the carburetor components. 🔧 |
| Engine has no idle | Idling jet blocked | – Check/adjust the carburetor components. 🔧 |
| | Adjusting screws on carburetor distorted | – Carburetor - adjust the idle speed. 🔧 (☛ p. 84) |
| | Spark plug defective | – Change spark plug. |
| | Ignition system defective | – Check the ignition coil. 🔧<br>– Check the CDI controller. 🔧<br>– Check the spark plug connector. 🔧<br>– Check the ignition pulse generator. 🔧<br>– Check the generator. 🔧 |
| Engine does not speed up | Carburetor running over because float needle dirty or worn | – Check/adjust the carburetor components. 🔧 |
| | Loose carburetor jets | – Check/adjust the carburetor components. 🔧 |
| | Ignition system defective | – Check the ignition coil. 🔧<br>– Check the CDI controller. 🔧<br>– Check the spark plug connector. 🔧<br>– Check the ignition pulse generator. 🔧<br>– Check the generator. 🔧 |
| Engine has a lack of power | Fuel supply interrupted | – Check the fuel tank breather.<br>– Clean the fuel tap.<br>– Check/adjust the carburetor components. 🔧 |
| | Air filter heavily contaminated | – Clean the air filter. 🔧 (☛ p. 51) |

| Faults | Possible cause | Action |
|---|---|---|
| Engine has a lack of power | Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer | – Check exhaust system for damage.<br>– Change the glass fiber yarn filling of the main silencer. 🔧 (☛ p. 52) |
| | Valve clearance too little | – Adjust the valve clearance. 🔧 |
| | Ignition system defective | – Check the ignition coil. 🔧<br>– Check the CDI controller. 🔧<br>– Check the spark plug connector. 🔧<br>– Check the ignition pulse generator. 🔧<br>– Check the generator. 🔧 |
| Engine stalls or pops back into the carburetor | Lack of fuel | – Turn handle ❶ of the fuel tap to the **ON** position. (Figure 500137-10☛ p. 22)<br>– Refuel. (☛ p. 33) |
| | The intake system has an air leak | – Check rubber sleeves and carburetor for tightness. |
| Engine overheats | Coolant level low in cooling system | – Check the cooling system for leaks.<br>– Check the coolant level. (☛ p. 80) |
| | Insufficient airflow | – Switch off engine when stationary. |
| | Radiator fins very dirty | – Clean radiator fins. |
| | Foam formation in cooling system | – Drain the coolant. 🔧 (☛ p. 81)<br>– Refill the coolant. 🔧 (☛ p. 81) |
| | Bent radiator hose | – Change the radiator hose. 🔧 |
| | Thermostat defective | – Check the thermostat. 🔧<br>Guideline<br>Opening temperature: 70 °C (158 °F) |
| High oil consumption | Engine vent hose bent | – Route the vent hose without bends or replace it if necessary. |
| | Engine oil level too high | – Check the engine oil level. (☛ p. 87) |
| | Engine oil too thin (low viscosity) | – Change the engine oil and oil filter and clean the engine oil screen. 🔧 (☛ p. 87) |
| | Piston and/or cylinder worn | – Piston/cylinder - determine the mounting clearance 🔧 |
| Battery discharged | The battery does not charge | – Check the charging voltage. 🔧<br>– Check the charging current. 🔧<br>– Check the generator. 🔧 |
| | Undesired power consumer | – Check the stall current. 🔧 |
| Speedometer values deleted (time, stop watch, lap times) | The battery in the speedometer is discharged | – Change the speedometer battery. (☛ p. 79) |

| | |
|---|---|
| Design | 1-cylinder 4-stroke engine, water-cooled |
| Displacement (450 EXC USA) | 449.3 cm³ (27.418 cu in) |
| Displacement (530 EXC USA) | 510.4 cm³ (31.147 cu in) |
| Stroke (450 EXC USA) | 63.4 mm (2.496 in) |
| Stroke (530 EXC USA) | 72 mm (2.83 in) |
| Bore | 95 mm (3.74 in) |
| Compression ratio | 11.9:1 |
| Idle speed | 1,550... 1,650 rpm |
| Control | OHC, 4 valves controlled via rocker arm, drive via tooth/wheel chain |
| Valve diameter, intake | 39.5 mm (1.555 in) |
| Valve diameter, exhaust | 31.7 mm (1.248 in) |
| Valve clearance | |
| Exhaust at: 20 °C (68 °F) | 0.12... 0.17 mm (0.0047... 0.0067 in) |
| Intake at: 20 °C (68 °F) | 0.10... 0.15 mm (0.0039... 0.0059 in) |
| Crankshaft bearing | 2 grooved ball bearings |
| Conrod bearing | Needle bearing |
| Piston pin bearing | No bearing bushes - DLC-plated piston pins |
| Pistons | Forged light alloy |
| Piston rings | 1 compression ring, 1 oil scraper ring |
| Engine lubrication | Pressure circulation lubrication with 2 rotor pumps (engine) / 1 rotor pump (transmission) |
| Primary transmission | 33:76 |
| Clutch | Multidisc clutch in oil bath / hydraulically activated |
| Transmission ratio | |
| 1st gear | 14:36 |
| 2nd gear | 17:32 |
| 3rd gear | 19:28 |
| 4th gear | 22:26 |
| 5th gear | 24:23 |
| 6th gear | 26:21 |
| Generator | 12 V, 150 W |
| Ignition | Contactless controlled fully electronic ignition with digital ignition adjustment, type Kokusan |
| Spark plug | NGK LKAR 8AI - 9 |
| Spark plug electrode gap | 0.9 mm (0.035 in) |
| Cooling | Water, permanent circulation of coolant by water pump |
| Starter | Electric starter/kick starter |

## Capacity - engine oil

| | | |
|---|---|---|
| Engine oil | 0.60 l (0.63 qt.) | Engine oil (SAE 10W/50) (☛ p. 108) |

## Capacity - gear oil

| | | |
|---|---|---|
| Gear oil | 0.90 l (0.95 qt.) | Engine oil (SAE 10W/50) (☛ p. 108) |

## Capacity - coolant

| | | |
|---|---|---|
| Coolant | 0.95 l (1 qt.) | Coolant (☛ p. 108) |
| | | Coolant (mixed ready to use) (☛ p. 108) |

| | | | |
|---|---|---|---|
| Screw, cable holder in generator cover | M4 | 4 Nm (3 lbf ft) | **Loctite® 243™** |
| Locking screw for bearing | M5 | 6 Nm (4.4 lbf ft) | **Loctite® 243™** |
| Oil jet, piston cooling | M5 | 2 Nm (1.5 lbf ft) | **Loctite® 243™** |
| Oil jet, rocker arm lubrication | M5 | 2 Nm (1.5 lbf ft) | **Loctite® 243™** |
| Screw, ignition pulse generator | M5 | 6 Nm (4.4 lbf ft) | **Loctite® 243™** |
| Screw, locking lever | M5 | 6 Nm (4.4 lbf ft) | **Loctite® 243™** |
| Screw, oil pump cover | M5 | 6 Nm (4.4 lbf ft) | **Loctite® 222** |
| Bleeding connection, transmission | M6 | 4 Nm (3 lbf ft) | **Loctite® 243™** |
| Nut, water pump impeller | M6 | 8 Nm (5.9 lbf ft) | **Loctite® 243™** |
| Plug, vacuum connection | M6 | 5 Nm (3.7 lbf ft) | **Loctite® 243™** |
| Screw generator cover | M6x25 | 10 Nm (7.4 lbf ft) | – |
| Screw generator cover | M6x40 | 10 Nm (7.4 lbf ft) | – |
| Screw, camshaft bearing support | M6 | 10 Nm (7.4 lbf ft) | **Loctite® 243™** |
| Screw, clutch cover | M6x25 | 10 Nm (7.4 lbf ft) | – |
| Screw, clutch cover | M6x30 | 10 Nm (7.4 lbf ft) | – |
| Screw, clutch spring | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, cylinder head | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, engine housing | M6x60 | 10 Nm (7.4 lbf ft) | – |
| Screw, engine housing | M6x75 | 10 Nm (7.4 lbf ft) | – |
| Screw, exhaust flange | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, gear oil level check | M6 | 8 Nm (5.9 lbf ft) | – |
| Screw, idler | M6 | 10 Nm (7.4 lbf ft) | **Loctite® 243™** |
| Screw, kickstarter spring hanger | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, kickstarter stop | M6 | 10 Nm (7.4 lbf ft) | **Loctite® 243™** |
| Screw, oil filter cover | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, shift drum locating | M6 | 10 Nm (7.4 lbf ft) | **Loctite® 243™** |
| Screw, shift lever | M6 | 14 Nm (10.3 lbf ft) | **Loctite® 243™** |
| Screw, starter motor | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, stator bracket | M6 | 10 Nm (7.4 lbf ft) | **Loctite® 243™** |
| Screw, timing chain guide rail | M6 | 8 Nm (5.9 lbf ft) | **Loctite® 243™** |
| Screw, timing chain securing guide | M6 | 8 Nm (5.9 lbf ft) | **Loctite® 243™** |
| Screw, timing chain tensioning rail | M6 | 8 Nm (5.9 lbf ft) | **Loctite® 243™** |
| Screw, torque governor | M6 | 10 Nm (7.4 lbf ft) | **Loctite® 243™** |
| Screw, valve cover | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, water pump cover | M6x25 | 10 Nm (7.4 lbf ft) | – |
| Screw, water pump cover | M6x55 | 10 Nm (7.4 lbf ft) | – |
| Oil jet, conrod lubrication | M6x0.75 | 4 Nm (3 lbf ft) | – |
| Plug, oil channel | M7 | 9 Nm (6.6 lbf ft) | **Loctite® 243™** |
| Screw, rocker arm bearing | M7x1 | 15 Nm (11.1 lbf ft) | – |
| Plug, crankshaft location | M8 | 10 Nm (7.4 lbf ft) | – |
| Screw, kickstarter | M8 | 25 Nm (18.4 lbf ft) | **Loctite® 243™** |
| Plug, oil drilling | M10 | 15 Nm (11.1 lbf ft) | **Loctite® 243™** |
| Screw, engine sprocket | M10 | 60 Nm (44.3 lbf ft) | **Loctite® 243™** |
| Balancer shaft nut | M10x1 | 40 Nm (29.5 lbf ft) | – |
| Screw, unlocking of timing chain tensioner | M10x1 | 10 Nm (7.4 lbf ft) | – |

| | | | |
|---|---|---|---|
| Screw, cylinder head | M10x1.25 | Tightening sequence:<br>Tighten diagonally, beginning with the rear screw on the chain shaft.<br>Step 1<br>10 Nm (7.4 lbf ft)<br>Step 2<br>30 Nm (22.1 lbf ft)<br>Step 3<br>50 Nm (36.9 lbf ft) | Lubricated with engine oil |
| Nut, rotor | M12x1 | 60 Nm (44.3 lbf ft) | – |
| Spark plug | M12x1.25 | 15... 20 Nm (11.1... 14.8 lbf ft) | – |
| Gear oil drain plug with magnet | M12x1.5 | 20 Nm (14.8 lbf ft) | – |
| Oil pressure control valve plug | M12x1.5 | 20 Nm (14.8 lbf ft) | – |
| Plug, SLS | M12x1.5 | 20 Nm (14.8 lbf ft) | – |
| Plug, rocker arm | M14x1.25 | 20 Nm (14.8 lbf ft) | – |
| Plug, gear oil screen | M16x1.5 | 20 Nm (14.8 lbf ft) | – |
| Plug, engine oil screen | M17x1.5 | 20 Nm (14.8 lbf ft) | – |
| Nut, inner clutch hub | M18x1.5 | 80 Nm (59 lbf ft) | – |
| Nut, primary gear | M20LHx1.5 | 100 Nm (73.8 lbf ft) | **Loctite® 243™** |
| Plug, timing chain tensioner | M24x1.5 | 30 Nm (22.1 lbf ft) | – |

## 450 EXC USA

| | |
|---|---|
| Carburetor type | KEIHIN FCR-MX 39 |
| Carburetor identification number | 3900Z |
| Needle position | 4th position from top |
| Idle mixture adjusting screw | |
| Open | 1.75 turns |
| Pump membrane stop | 2.15 mm (0.0846 in) |
| Main jet | 180 |
| Jet needle | OBDYU |
| Idling jet | 48 |
| Idle air jet | 100 |
| Cold start jet | 85 |
| Leakage nozzle | 40 |

## 530 EXC USA

| | |
|---|---|
| Carburetor type | KEIHIN FCR-MX 39 |
| Carburetor identification number | 3900Y |
| Needle position | 3rd position from top |
| Idle mixture adjusting screw | |
| Open | 2.0 turns |
| Pump membrane stop | 2.15 mm (0.0846 in) |
| Main jet | 180 |
| Jet needle | OBDZT |
| Idling jet | 48 |
| Idle air jet | 100 |
| Cold start jet | 85 |
| Leakage nozzle | 40 |

| | |
|---|---|
| Frame | Central tube frame made of chrome molybdenum steel tubing |
| Fork | **WP Suspension** Up Side Down 4860 MXMA PA |
| Suspension travel | |
| Front | 300 mm (11.81 in) |
| Rear | 335 mm (13.19 in) |
| Fork offset | 19 mm (0.75 in) |
| Shock absorber | **WP Suspension** PDS 5018 DCC |
| Brake system | Disc brakes, brake calipers on floating bearings |
| Brake discs - diameter | |
| Front | 260 mm (10.24 in) |
| Rear | 220 mm (8.66 in) |
| Brake discs - wear limit | |
| Front | 2.5 mm (0.098 in) |
| Rear | 3.5 mm (0.138 in) |
| Tire air pressure off road | |
| Front | 1.0 bar (15 psi) |
| Rear | 1.0 bar (15 psi) |
| Road tire pressure | |
| Front | 1.5 bar (22 psi) |
| Rear | 2.0 bar (29 psi) |
| Final drive | 15:45 |
| Chain | 5/8 x 1/4" |
| Rear sprockets available | 38, 40, 42, 45, 48, 49, 50, 51, 52 |
| Steering head angle | 63.5° |
| Wheelbase | 1,475±10 mm (58.07±0.39 in) |
| Seat height unloaded | 985 mm (38.78 in) |
| Ground clearance unloaded | 380 mm (14.96 in) |
| Weight without fuel, approx. | 114.8 kg (253.1 lb.) |
| Maximum permissible front axle load | 145 kg (320 lb.) |
| Maximum permissible rear axle load | 190 kg (419 lb.) |
| Maximum permissible overall weight | 335 kg (739 lb.) |

| | | |
|---|---|---|
| Battery | YTX5L-BS | Battery voltage: 12 V<br>Nominal capacity: 4 Ah<br>Maintenance-free |
| Speedometer battery | CR 2430 | Battery voltage: 3 V |
| Fuse | 58011109110 | 10 A |

## Lighting equipment

| | | |
|---|---|---|
| Headlight | S2 / socket BA20d | 12 V<br>35/35 W |
| Parking light | W5W / socket W2.1x9.5d | 12 V<br>5 W |
| Indicator lights | W2.3W / socket W2x4.6d | 12 V<br>2.3 W |
| Turn signal | RY10W / socket BAU15s | 12 V<br>10 W |
| Brake/tail light | P21/5W / socket BAY15d | 12 V<br>21/5 W |

## Tires

| Front tire | Rear tire |
|---|---|
| **90/90 - 21 M/C 54M M+S TT**<br>Metzeler MCE 6 DAYS EXTREME | **140/80 - 18 M/C 70M M+S TT**<br>Metzeler MCE 6 DAYS EXTREME |
| Additional information is available in the Service section under:<br>http://www.ktm.com | |

## Capacity - fuel

| | | |
|---|---|---|
| Total fuel tank capacity, approx. | 9.2 l (2.43 US gal) | Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 109) |

| | |
|---|---|
| Fuel reserve, approx. | 2 l (2 qt.) |

| | |
|---|---|
| Fork part number | 14.18.7J.06 |
| Fork | **WP Suspension** Up Side Down 4860 MXMA PA |
| Compression damping | |
| Comfort | 26 clicks |
| Standard | 22 clicks |
| Sport | 18 clicks |
| Rebound damping | |
| Comfort | 24 clicks |
| Standard | 20 clicks |
| Sport | 20 clicks |
| Spring length with preload spacer(s) | 510 mm (20.08 in) |
| Spring rate | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 4.4 N/mm (25.1 lb/in) |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 4.6 N/mm (26.3 lb/in) |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 4.8 N/mm (27.4 lb/in) |
| Air chamber length | $110^{+20}_{-30}$ mm ($4.33^{+0.79}_{-1.18}$ in) |
| Spring preload - **Preload Adjuster** | |
| Comfort | 0 turn |
| Standard | 2 turns |
| Sport | 4 turns |
| Fork length | 940 mm (37.01 in) |

| | | |
|---|---|---|
| Fork oil per fork leg | 626 ml (21.17 fl. oz.) | Fork oil (SAE 5) (☛ p. 108) |

| | |
|---|---|
| Shock absorber part number | 12.18.7J.06 |
| Shock absorber | **WP Suspension** PDS 5018 DCC |
| Compression damping, low-speed | |
| Comfort | 22 clicks |
| Standard | 20 clicks |
| Sport | 15 clicks |
| Compression damping, high-speed | |
| Comfort | 2 turns |
| Standard | 1.5 turns |
| Sport | 1.25 turns |
| Rebound damping | |
| Comfort | 26 clicks |
| Standard | 24 clicks |
| Sport | 22 clicks |
| Spring preload | 9 mm (0.35 in) |
| Spring rate | |
| Weight of rider: 65... 75 kg (143... 165 lb.) | 69 N/mm (394 lb/in) |
| Weight of rider: 75... 85 kg (165... 187 lb.) | 72 N/mm (411 lb/in) |
| Weight of rider: 85... 95 kg (187... 209 lb.) | 76 N/mm (434 lb/in) |
| Spring length | 250 mm (9.84 in) |
| Gas pressure | 10 bar (145 psi) |
| Static sag | 35 mm (1.38 in) |
| Riding sag | 105 mm (4.13 in) |
| Fitted length | 411 mm (16.18 in) |

| | |
|---|---|
| Damper oil | Shock absorber oil (SAE 2,5) (50180342S1) (☛ p. 108) |

| | | | |
|---|---|---|---|
| Spoke nipple, front wheel | M4.5 | 5... 6 Nm (3.7... 4.4 lbf ft) | – |
| Screw, spoiler on fuel tank | M5x12 | 1.5 Nm (1.11 lbf ft) | – |
| Spoke nipple, rear wheel | M5 | 5... 6 Nm (3.7... 4.4 lbf ft) | – |
| Remaining nuts, chassis | M6 | 15 Nm (11.1 lbf ft) | – |
| Remaining screws, chassis | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, ball joint of push rod on foot brake cylinder | M6 | 10 Nm (7.4 lbf ft) | – |
| Screw, chain sliding guard | M6 | 6 Nm (4.4 lbf ft) | **Loctite® 243™** |
| Screw, front brake disc | M6 | 14 Nm (10.3 lbf ft) | **Loctite® 243™** |
| Screw, rear brake disc | M6 | 14 Nm (10.3 lbf ft) | **Loctite® 243™** |
| Screw, shock absorber adjusting ring | M6 | 5 Nm (3.7 lbf ft) | – |
| Nut, rear sprocket screw | M8 | 35 Nm (25.8 lbf ft) | **Loctite® 243™** |
| Nut, rim lock | M8 | 10 Nm (7.4 lbf ft) | – |
| Remaining nuts, chassis | M8 | 30 Nm (22.1 lbf ft) | – |
| Remaining screws, chassis | M8 | 25 Nm (18.4 lbf ft) | – |
| Screw, bottom triple clamp | M8 | 12 Nm (8.9 lbf ft) | – |
| Screw, chain sliding piece | M8 | 15 Nm (11.1 lbf ft) | – |
| Screw, engine brace | M8 | 33 Nm (24.3 lbf ft) | – |
| Screw, fork stub | M8 | 15 Nm (11.1 lbf ft) | – |
| Screw, front brake caliper | M8 | 25 Nm (18.4 lbf ft) | **Loctite® 243™** |
| Screw, handlebar clamp | M8 | 20 Nm (14.8 lbf ft) | – |
| Screw, side stand fixing | M8 | 40 Nm (29.5 lbf ft) | **Loctite® 243™** |
| Screw, subframe | M8 | 35 Nm (25.8 lbf ft) | **Loctite® 243™** |
| Screw, top steering stem | M8 | 17 Nm (12.5 lbf ft) | **Loctite® 243™** |
| Screw, top triple clamp | M8 | 17 Nm (12.5 lbf ft) | – |
| Engine attachment bolt | M10 | 60 Nm (44.3 lbf ft) | – |
| Remaining nuts, chassis | M10 | 50 Nm (36.9 lbf ft) | – |
| Remaining screws, chassis | M10 | 45 Nm (33.2 lbf ft) | – |
| Screw, handlebar support | M10 | 40 Nm (29.5 lbf ft) | **Loctite® 243™** |
| Screw, bottom shock absorber | M12 | 80 Nm (59 lbf ft) | **Loctite® 243™** |
| Screw, top shock absorber | M12 | 80 Nm (59 lbf ft) | **Loctite® 243™** |
| Nut, seat fixing | M12x1 | 20 Nm (14.8 lbf ft) | – |
| Nut, swingarm pivot | M16x1.5 | 100 Nm (73.8 lbf ft) | – |
| Nut, rear wheel spindle | M20x1.5 | 80 Nm (59 lbf ft) | – |
| Screw, top steering head | M20x1.5 | 10 Nm (7.4 lbf ft) | – |
| Screw-in nozzles, cooling system | M20x1.5 | 12 Nm (8.9 lbf ft) | **Loctite® 243™** |
| Screw, front wheel spindle | M24x1.5 | 45 Nm (33.2 lbf ft) | – |

## Brake fluid DOT 4 / DOT 5.1

**According to**
– DOT

**Guideline**
– Use only brake fluid that complies with the specified standard (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Castrol** and **Motorex®** products.

**Supplier**
**Castrol**
– **RESPONSE BRAKE FLUID SUPER DOT 4**

**Motorex®**
– **Brake Fluid DOT 5.1**

## Coolant

**Guideline**
– Use only suitable coolant (also in countries with high temperatures). Use of low-quality antifreeze can lead to corrosion and foaming. KTM recommends **Motorex®** products.

**Mixture ratio**

| | |
|---|---|
| Antifreeze protection: −25... −45 °C (−13... −49 °F) | 50 % corrosion inhibitor/antifreeze<br>50 % distilled water |

## Coolant (mixed ready to use)

| | |
|---|---|
| Antifreeze | −40 °C (−40 °F) |

**Supplier**
**Motorex®**
– **Anti Freeze**

## Engine oil (SAE 10W/50)

**According to**
– JASO T903 MA (☛ p. 112)
– SAE (☛ p. 112) (SAE 10W/50)

**Guideline**
– Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

| |
|---|
| Synthetic engine oil |

**Supplier**
**Motorex®**
– **Cross Power 4T**

## Fork oil (SAE 5)

**According to**
– SAE (☛ p. 112) (SAE 5)

**Guideline**
– Use only oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**
– **Racing Fork Oil**

## Shock absorber oil (SAE 2,5) (50180342S1)

**According to**
– SAE (☛ p. 112) (SAE 2,5)

**Guideline**
– Use only oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

## Super unleaded (ROZ 95 / RON 95 / PON 91)

**According to**

– DIN EN 228 (ROZ 95 / RON 95 / PON 91)

## Air filter cleaner

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Twin Air Dirt Bio Remover**

## Chain cleaner

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Chain Clean**

## Cleaning and preserving materials for metal, rubber and plastic

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Protect & Shine**

## Long-life grease

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Bike Grease 2000**

## Motorcycle cleaner

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Moto Clean 900**

## Off-road chain spray

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Chainlube Offroad**

## Oil for foam air filter

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Twin Air Liquid Bio Power**

## Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**
**Motorex®**

– **Clean & Polish**

## Universal oil spray

**Guideline**

– KTM recommends **Motorex®** products.

**Supplier**

**Motorex®**

– **Joker 440 Synthetic**

## JASO T903 MA

Different technical development directions required a new specification for 4-stroke motorcycles– the JASO T903 MA Standard. Earlier, engine oils from the automobile industry were used for 4-stroke motorcycles because there was no separate motorcycle specification. Whereas long service intervals are demanded for automobile engines, high performance at high engine speeds are in the foreground for motorcycle engines. With most motorcycles, the gearbox and the clutch are lubricated with the same oil as the engine. The JASO MA Standard meets these special requirements.

## SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

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