# OWNER'S MANUAL 2027

READY TO RACE

## 125 XC-W
## 150 XC-W

ITEM NO.: 3240386EN



# Dear KTM customer,

Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports vehicle which, with proper care, will bring you pleasure for a long time to come.

We hope you enjoy your bike and have a safe journey at all times!

You can enter the serial numbers of your vehicle below to find the serial numbers more quickly if required:

| | |
|---|---|
| Vehicle identification number (p. 16) | Stamp of the contractual partner |
| Engine number (p. 16) | |

The Owner's Manual contained the latest information for this model series at the time of going to print. However, minor differences due to further developments in design cannot be ruled out completely.

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## 1.1 Conventions

### 1.1.1 Icons

✓ Indicates a desired result (e.g. of a work step or a function).

✗ Indicates an undesired result (e.g. of a work step or a function).


All work marked with this symbol requires specialist knowledge and technical understanding. Ensure that this work is carried out or supervised by trained personnel from an authorized contractual partner, and that any special tools required are used.


Indicates a page reference.


Indicates information with more details.


Indicates a tip, e.g. to simplify work.

» Indicates the result from a test step.

◀ Indicates the end of an activity, including any rework.

### 1.1.2 Formatting

| | |
|---|---|
| **Proprietary name** | Indicates a proprietary name. |
| **Name** ® | Indicates a protected name. |
| **Brand** ™ | Indicates a brand available on the open market. |
| **Underlined terms** | Refer to technical details of the vehicle or indicate technical terms that are explained in the glossary. |

### 1.1.3 Abbreviations

| | |
|---|---|
| 2–pc. | two-part |
| Part no. | Part number |
| or | respectively |
| approx. | circa |
| etc. | et cetera |
| poss. | possibly/possible |
| if necessary | if necessary |
| cmpl. | complete |
| min. | at least |
| no. | number |
| no fig. | no figure |
| s. | see |
| among others | among others/not limited to |
| and the like | and the like |
| etc. | et cetera |
| cf. | compare |
| e.g. | for example |

## 2.1 Safety instructions

**Function of the safety instruction**

Safety instruction brings attention to dangers when handling the product. Hazards are classified, named, described, and supplemented with information on how to avoid them.

- If there is a safety instruction before a list of instructions, the danger exists throughout the entire activity.
- If there is a safety instruction immediately before an instruction, the next step presents a danger.

**Safety instruction layout**

All safety instructions are identified by a signal word and a warning symbol. The combination of signal word and warning symbol determines the degree of danger.



**DANGER**
Indicates an imminent danger that leads to serious injury or death.



**WARNING**
Indicates a potentially imminent danger that could lead to serious injury or death.



**CAUTION**
Indicates a potentially imminent danger that can lead to minor or slight injuries.



**NOTE**
Indicates a situation that can lead to damage to the product or the product environment.



**NOTE**
Indicates a situation that can lead to environmental damage.

## 2.2 Ban on tampering

No changes may be made to the noise control equipment and components.

**Tampering that is prohibited**

- Removing or disabling any devices or components used for noise control before the new vehicle is sold or delivered to the end customer.
- Removing or disabling any device or component used for noise control for purposes other than service, repair, or replacement during the service life of the vehicle.
- Use of the vehicle after a device or component used for noise control has been removed, disabled, or inadequately maintained.

**Examples of prohibited tampering**

- Removing or drilling through rear mufflers, baffle plates, manifolds, or other components that conduct exhaust gases.
- Removing or puncturing parts of the intake system.
- Replacing moving parts of the vehicle, or parts of the exhaust system or intake system, with parts other than those specified by the manufacturer.

## 2.3 Safe use

**DANGER**

**Danger of accidents** A rider who is not fit to ride poses a danger to themself and to others.

– Do not operate the vehicle if you are not fit to ride due to alcohol, drugs, or medication.
– Do not operate the vehicle if you are physically or mentally incapable of doing so.

**DANGER**

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

– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

**WARNING**

**Danger of burns** Some vehicle components become hot when the vehicle is operated.

– Do not touch any parts such as the exhaust system, radiator, engine, damper, or brake system before the vehicle parts have cooled down.
– Allow the vehicle parts to cool down before performing any work on the vehicle.

The vehicle should only be used when it is in perfect technical condition, for its intended purpose, and in a safe and environmentally-friendly manner.

The vehicle must only be used by trained persons. An appropriate driver's license is needed to drive the vehicle on public roads.

Have any faults that impair safety immediately remedied by an authorized contractual partner.

Adhere to the information and warning labels on the vehicle.

## 2.4 Protective clothing

**WARNING**

**Risk of injury** Missing or inadequate protective clothing increases the risk of injury.

– Wear appropriate protective clothing such as helmet, boots, gloves as well as pants and a jacket with protectors on all rides.
– Always wear protective clothing that is in good condition and meets the legal regulations.

## 2.5 Work rules

Unless specified otherwise, the ignition must be switched off during all work (models with ignition lock, models with transponder key) or the engine must be at a standstill (models without ignition lock or transponder key).

Special tools are required for some work. The tools are not part of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)

Unless otherwise noted, normal conditions apply to all tasks and descriptions.

| | |
|---|---|
| Ambient temperature | 20 °C<br>(68.0 °F) |
| Ambient air pressure | 1,013 mbar<br>(14.69 psi) |
| Relative air humidity | 60 ±5 % |

During assembly, use new parts to replace parts which cannot be reused (e.g. self-locking screws and nuts, expansion screws, seals, sealing rings, O-rings, pins, and lock washers).

A thread lock (e.g. **Loctite®**) is required for some screw connections. Observe the manufacturer's specific instructions for use.

If thread lock (e.g. **Precote®**) has already been applied to a new part, do not apply any additional thread lock.

After disassembly, clean the parts that are to be reused and check them for damage and wear. Replace damaged or worn parts.

After completing a repair or service, check the operating safety of the vehicle.

## 2.6 Environment

Handling the vehicle responsibly reduces the risk of conflict with other road users and the surrounding area. The future of motorcycling also depends on using motorcycles legally, being environmentally conscious and respecting the rights of others.

When disposing of used oil, other operating and auxiliary fluids, and used components, the laws and regulations of the respective country must be observed.

As motorcycles are not subject to the EU regulations governing the disposal of end-of-life vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. More information is available from the authorized contractual partner.

## 2.7 Owner's manual

Read this owner's manual carefully and in full before riding off for the first time. The owner's manual contains information and tips on how to operate, handle, and service your vehicle, as well as advice on optimum tuning and how to avoid injuries.

**Tip**

Save this owner's manual on your smartphone, for example, so that you can access it at any time.

An authorized contractual partner will be happy to assist you if you are unsure.

The owner's manual is an important component of the vehicle. If the vehicle is sold, the owner's manual must be downloaded again by the new owner.

The owner's manual can be downloaded multiple times using the QR code or the link on the delivery certificate.

The owner's manual is also available for download from your authorized contractual partner and on the KTM website.

International KTM Website: https://www.ktm.com

A printed copy can be ordered from the following address.

Website for printed copy: https://print.ktm.com

## 2.8 Use definition – intended use

This vehicle has been designed and built to withstand the typical stresses and strains of racing. This vehicle complies with the currently valid regulations and categories of the top international motorsports organizations.

**Note**

This vehicle is not approved for use on public roads.

This vehicle is designed for use in offroad endurance competition, and not primarily for use in motocross.

## 2.9 Improper use

The vehicle may only be used as intended.

Improper use can result in danger to people, property and the environment.

Any use of the vehicle beyond the intended and defined use constitutes misuse.

Improper use includes the use of operating and auxiliary materials that do not meet the required specifications for the respective use.

## 3.1 Manufacturer's warranty, implied warranty

The work prescribed in the service schedule must only be carried out by an authorized contractual partner and confirmed in the electronic proof of service, as otherwise all warranty claims will be void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle are not covered by the manufacturer's warranty.

## 3.2 Auxiliary material, operating material

Use operating materials and auxiliary materials in accordance with the operating instructions and specifications.

## 3.3 Spare parts, accessories

For safety reasons, only spare parts and accessories approved by KTM may be used. They may only be installed by an authorized contractual partner. KTM accepts no liability for other products and any resulting damage or loss.

Certain spare parts and accessory products are specified in parentheses in the descriptions. Authorized contractual partners will be happy to help.

The current **KTM PowerParts** are listed for each vehicle on the KTM website.

International KTM Website: https://www.ktm.com

## 3.4 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. An incorrect suspension setting can lead to damage and breakage of chassis components.

Use of the vehicle under arduous conditions, such as on sand or on wet, dusty and muddy surfaces, can result in significantly increased wear of components, such as the powertrain, brake system, air filter, or suspension components. For this reason, it may be necessary to inspect or replace parts before the next scheduled service interval.

Please adhere to the prescribed run-in times and service intervals at all times. Strictly adhering to this will ensure a much longer service life for your motorcycle.

The relevant mileage or time interval is whichever occurs first.

A list of services that have already been carried out on the vehicle can be found in the Service area on the international KTM website:

International KTM Website: https://www.ktm.com

Authorized contractual partners will be happy to answer any questions regarding the services performed.

A list of authorized contractual partners can be found on the KTM website.

## 3.5 Figures

Some of the figures in this document contain optional extras.

For clarity, some components may be shown disassembled or may not be shown at all. Disassembly is not always absolutely necessary in order to carry out the activities described. The textual information takes precedence.

## 3.6 Customer service

Authorized contractual partners will be happy to answer questions about the vehicle and KTM.

A list of authorized contractual partners can be found on the KTM website.

International KTM Website: https://www.ktm.com

# 4 View of the vehicle

## 4.1 View of vehicle, left side (example)

**Note**
Arrow faces in the direction of forward travel.




1. Clutch lever (p. 18)
2. **(XC-W US)**
   Light switch (p. 19)
3. Fuel tank cap
4. Air filter box cover
5. Side stand (p. 24)
6. Engine number (p. 16)
7. Gear shift lever (p. 23)

## 4.2 View of vehicle, right side (example)

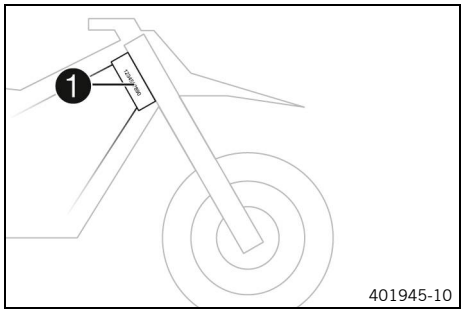
**Note**
Arrow faces in the direction of forward travel.




1 Kill switch (p. 19)
1 Electric starter (p. 19)
2 Throttle grip (p. 18)
3 Handbrake lever (p. 18)
4 Fork part number (p. 16)
5 Brake pedal (p. 24)
6 Level viewer for brake fluid, rear

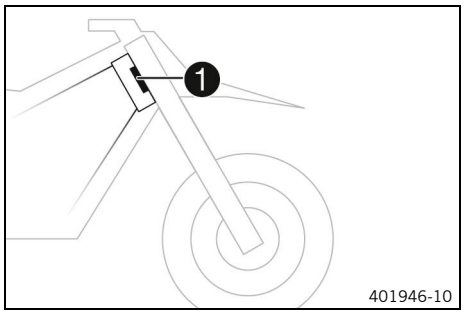
# 5 Serial number

## 5.1 Vehicle identification number



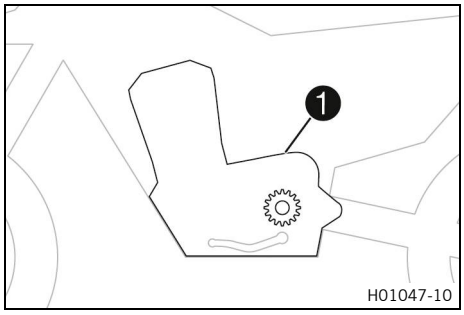

The vehicle identification number ❶ is stamped on the right-hand side of the steering head.

## 5.2 Frame label



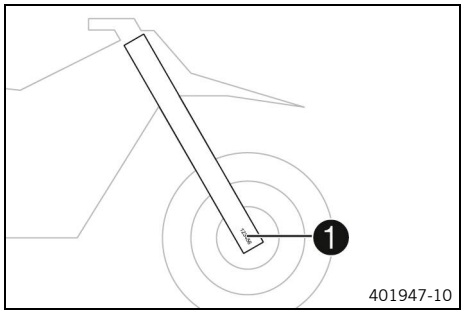

Frame label ❶ is attached to the front of the steering head.

## 5.3 Engine number



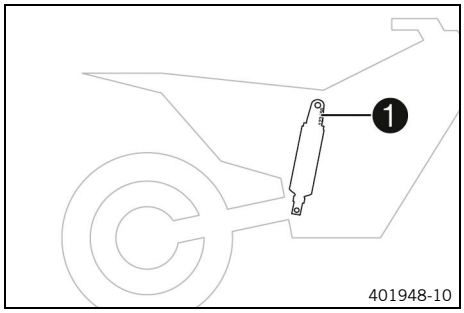

The engine number ❶ is stamped on the left side of the engine above the front sprocket.

## 5.4 Fork part number



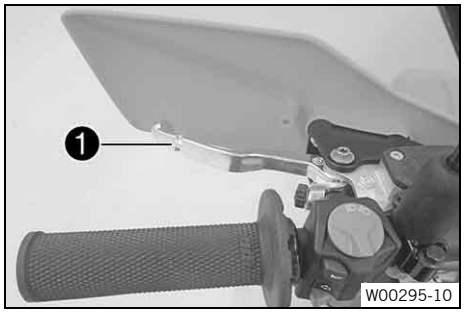

Fork part number ❶ is stamped on the inside of the fork shoe.

## 5.5 Shock absorber part number



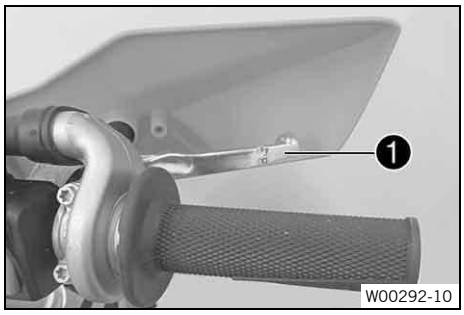

Shock absorber part number ❶ is stamped on the top right of the shock absorber.

## 6.1 Clutch lever



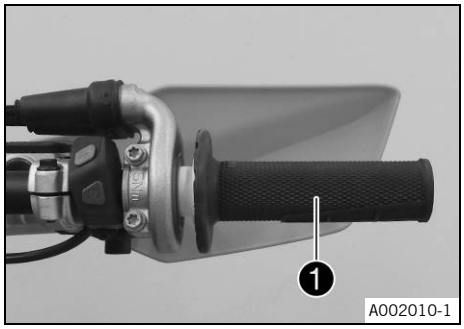

Clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is activated hydraulically and adjusts itself automatically.

## 6.2 Handbrake lever



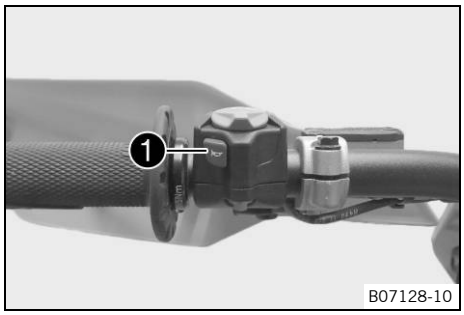

Hand brake lever ❶ is fitted on the right side of the handlebar.
The front brake is engaged using the hand brake lever.

## 6.3 Throttle grip




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

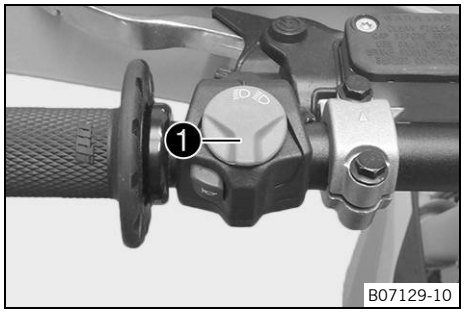
## 6.4 Horn button (XC-W EU)




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

| Condition | Meaning |
|---|---|
| Horn buttons in the basic position | No function |
| Horn buttons pressed | The horn is operated in this position. |

## 6.5 Light switch (XC-W EU)




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

| Condition | | Meaning |
|---|---|---|
|  | Light switch is in the central position. | In this position, the low beam and the tail light are switched on. |
|  | The light switch is turned counterclockwise. | In this position, the high beam and the tail light are switched on. |

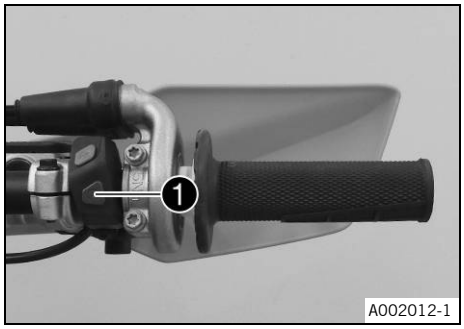
## 6.6 Light switch (XC-W US)




The light switch ❶ is located to the left of the combination instrument.

| Condition | Meaning |
|---|---|
| Light switch is pulled out to the stop. | In this position, the light is switched off. |
| Light switch is pressed in up to the stop. | In this position, the low beam and tail light are switched on. |

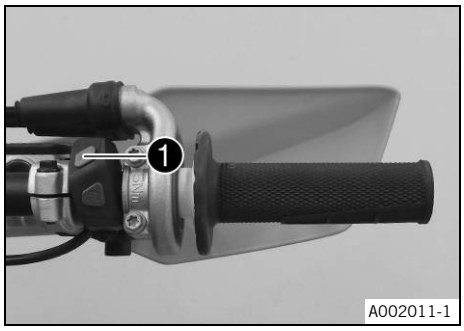
## 6.7 Electric starter




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

| Condition | Meaning |
|---|---|
| Electric starter ⚡ in the basic position | No function |
| Electric starter ⚡ pressed | In this position, the starter motor is actuated. |

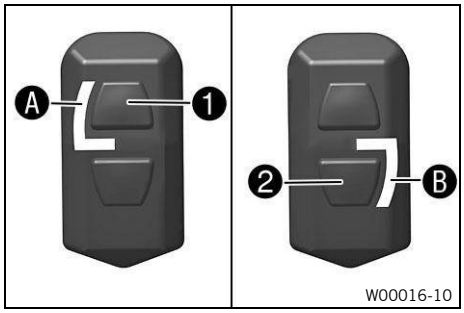
## 6.8 Kill switch




Kill switch ❶ is fitted on the right side of the handlebar.

| Condition | Meaning |
|---|---|
| Kill button ⊗ is not pressed. | In this position, the ignition circuit is closed, and the engine can be started. |
| The kill button ⊗ is pressed and held. | In this position, the ignition circuit is interrupted, a running engine stops, and an engine at standstill will not start. |

## 6.9 Combination switch (XC-W EU)




The combination switch is fitted on the left side of the handlebar.

The engine characteristic can be changed using button ❶ and button ❷ on the combination switch.

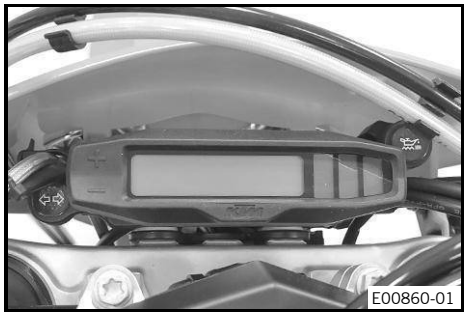
| Condition | Meaning |
|---|---|
| STANDARD ❶ | STANDARD mapping is activated when indicator light Ⓐ lights up. |
| ADVANCED ❷ | ADVANCED mapping is activated when the indicator light Ⓑ illuminates. |

**Note**

If no combination switch is installed, the last selected mapping is activated.

If a combination switch has never been mounted, the **STANDARD** mapping is activated.

## 6.10 Overview of indicator lights (XC-W EU)




| Condition | | Meaning |
|---|---|---|
| | The high beam indicator lamp lights up blue | The high beam is switched on. |
| | Malfunction indicator lamp lights up/flashes yellow | The **OBD** has detected a malfunction in the vehicle electronics. Come safely to a halt, and contact an authorized dealer. |
| | The fuel level warning lamp lights up yellow | The fuel level has reached the reserve mark. |

## 6.11 Overview of indicator lights (XC-W US)




| Condition | | Meaning |
|---|---|---|
| | Malfunction indicator lamp lights up/flashes yellow | The **OBD** has detected a malfunction in the vehicle electronics. Come safely to a halt, and contact an authorized dealer. |
| | The fuel level warning lamp lights up yellow | The fuel level has reached the reserve mark. |
| | The oil level warning lamp lights up red | Oil level has reached the **MIN**marking. Ride for no more than until the remaining fuel in the tank is depleted and at the next opportunity refuel with 2-stroke oil. |

## 6.12 Opening the fuel tank cap

**DANGER**

**Fire hazard** Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

- Do not refuel the vehicle in the vicinity of open flames, glowing, or smoldering objects.
- Make sure that nobody smokes in the vicinity of the vehicle during the refueling process.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it up immediately.
- Do not overfill the fuel tank.

**WARNING**

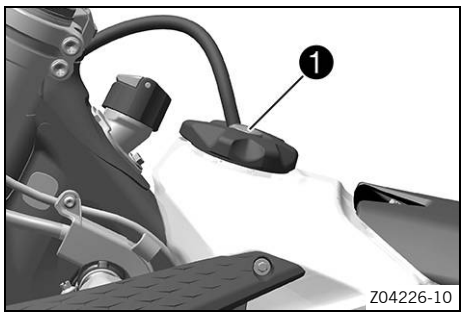
**Danger of poisoning** Fuel is harmful to health.

- Do not allow fuel to come into contact with skin, eyes, or clothing.
- Consult a doctor immediately if fuel has been ingested.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if fuel comes into contact with eyes.
- If fuel spills on to your clothing, change the clothing.
- Store fuel properly in a suitable container and keep out of the reach of children.

**NOTE**

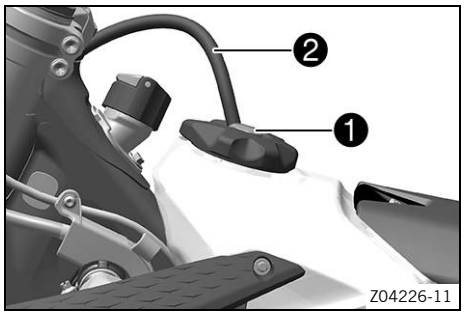
**Environmental hazard** Improper handling of fuel is dangerous to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.




– Press release button ❶, turn the fuel tank cap counterclockwise, and lift it off.

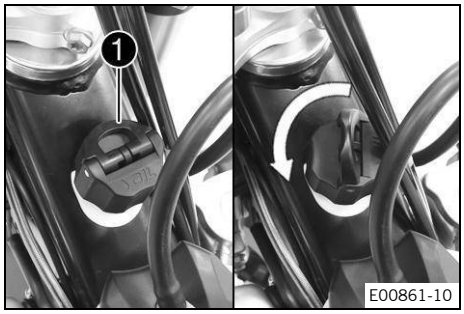
## 6.13 Closing the fuel tank cap




– Mount the fuel tank filler cap and turn it clockwise until release button ❶ engages.

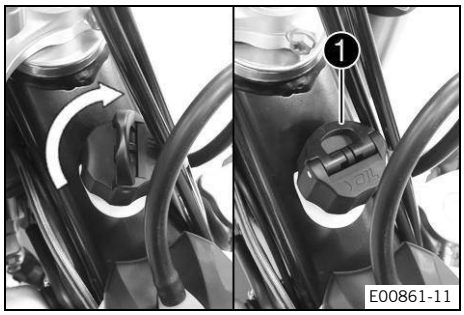
| Route hose of fuel tank vent ❷ without kinks. |
|---|

## 6.14 Opening 2-stroke oil tank cap (XC-W US)



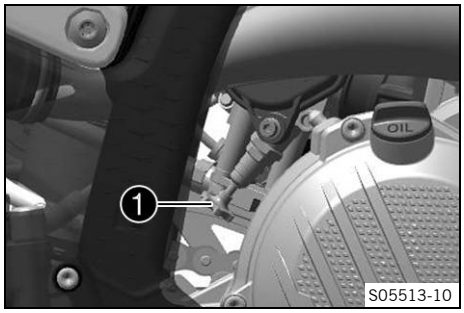

– Fold loop ❶ upward.
– Turn the 2-stroke oil tank cap counterclockwise and pull it up.

## 6.15 Closing 2-stroke oil tank cap (XC-W US)




– Put the 2-stroke oil tank cap on and turn it clockwise.
  ✓ The 2-stroke oil tank cap engages.
– Fold loop ❶ down.

## 6.16 Cold start button



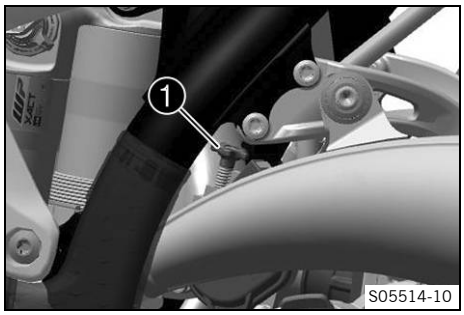

The electronic fuel injection extends the injection time when the engine is cold and the ambient temperature is low. To help the engine burn the increased fuel quantity, it must be supplied with additional oxygen by pulling the cold start button.

**Note**
If the engine is warm, the cold start button must be deactivated.

The cold start button ❶ is fitted on the side of the throttle valve body.

| Condition | Meaning |
|---|---|
| The cold start button is pushed in all the way to the stop. | Cold start button is activated. |
| The cold start button is in the basic position. | Cold start button is deactivated. |

## 6.17 Idle speed adjustment screw




The idle setting of the throttle body substantially influences the vehicle's starting behavior, a stable idle speed, and the vehicle's response when the throttle is opened.

An engine with a correctly set idle speed is easier to start than an engine with the idle speed set incorrectly.

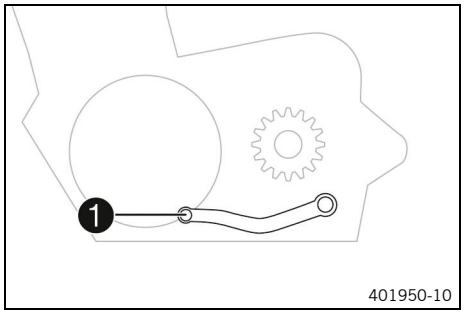
The idle speed is adjusted using idle speed adjusting screw ❶.

**Note**
If the idle speed is high, the engine is slow to run, the engine brake is low and the throttle response is aggressive, the adjusting screw must be turned counterclockwise.

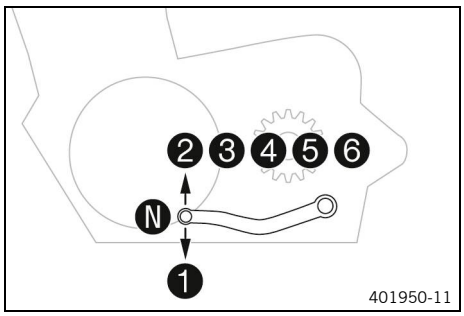
If the idle speed is low, the engine is running fast, the engine brake is high and the throttle response is not clean, the adjusting screw must be turned clockwise.

For optimum performance, it is recommended to adjust the idle speed using the dedicated functions in the diagnostics tool.

## 6.18 Gear shift lever

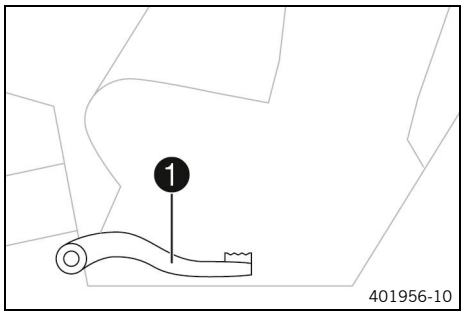



Gear shift lever ❶ is mounted on the left of the engine.



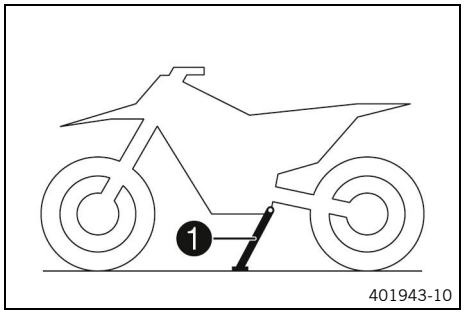

The gear positions can be seen in the figure.
The neutral or idle position is between the first and second gears.

## 6.19 Brake pedal

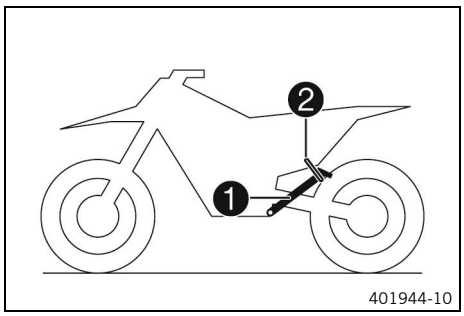



Brake pedal ❶ is located in front of the right footpeg.
The rear brake is operated with the brake pedal.

## 6.20 Side stand

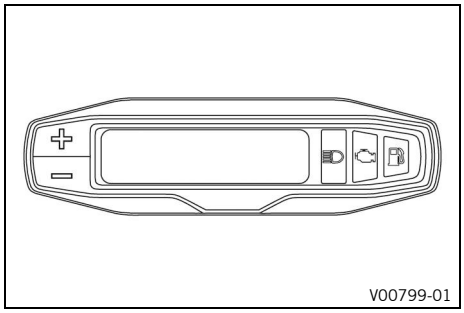



The side stand ❶ is located on the left of the vehicle.
The side stand is used for parking the motorcycle.




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

## 7.1 Combination instrument overview

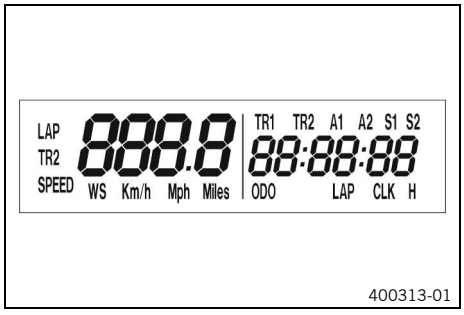



- **Button** + is used to select menus and make settings.
- **Button** — is used to select menus and make settings.

**Note**
In the condition at delivery, only the **SPEED/H** and **SPEED/ODO** display modes are activated.

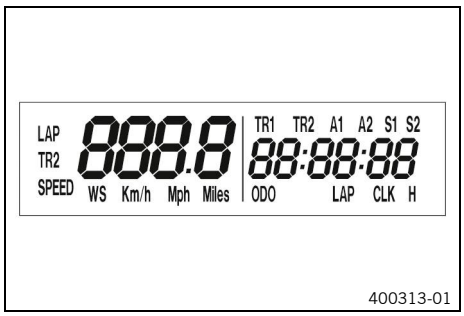
## 7.2 activation and testing

### 7.2.1 Activating combination instrument



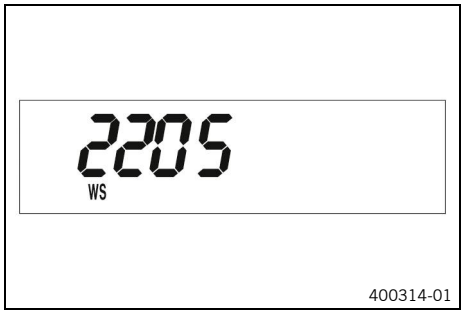

The combination instrument is activated when one of the buttons is pressed or an impulse comes from the wheel speed sensor.

### 7.2.2 Display test




To enable you to check that the display is functioning properly, all display segments light up briefly.

### 7.2.3 WS (wheel size)




After the display function check, the wheel circumference **WS** is displayed briefly.

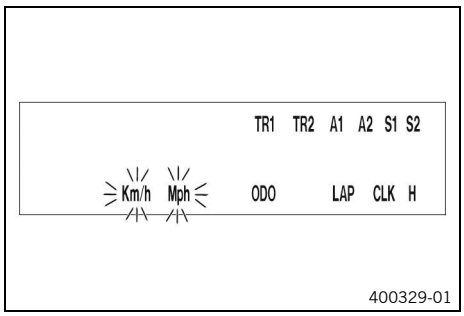
**Note**
The number 2205 equals the circumference of the 21" front wheel with standard tires.

The indicator then changes to the last selected mode.

## 7.3 Setting kilometers or miles

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

Condition: Motorcycle is stationary




– Briefly and repeatedly press button + until indicator **H** appears in the bottom right of the display.
– Press button + for 2–3 seconds.
  ✓ The Setup menu is displayed and the active functions are shown.
– Press button + briefly until indicator **Km/h** / **Mph** flashes.

– Select one of the following alternatives.

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

**Adjusting the Mph**
  – Press button –.

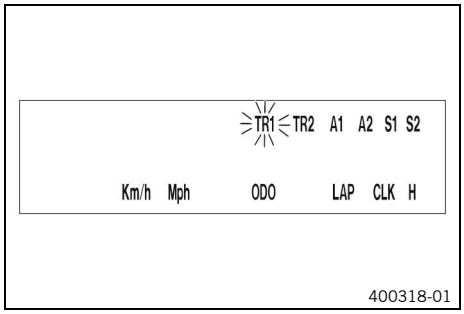
– Wait 3 - 5 seconds.
  ✓ The settings are stored.

**Note**
If no button is pressed for 10–12 seconds, or if an impulse comes from the wheel speed sensor, the settings are automatically saved and the setup menu is closed.

## 7.4 Adjusting combination instrument function

**Note**
In the condition at delivery, only the **SPEED/H** and **SPEED/ODO** display modes are activated.

Condition: Motorcycle is stationary




– Briefly and repeatedly press button + until indicator **H** appears in the bottom right of the display.
– Press button + for 2–3 seconds.
✓ The Setup menu is displayed and the active functions are shown.

**Note**
If no button is pressed for 10–12 seconds, the settings are automatically saved.
If no button is pressed for 20 seconds, or if an impulse comes from the wheel speed sensor, the settings are automatically saved and the setup menu is closed.

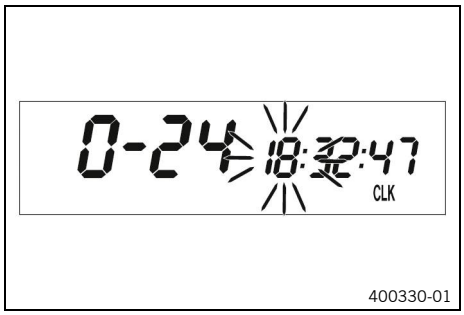
– Press button + briefly until the desired function flashes.
✓ The selected function flashes.
– Select one of the following alternatives.

**Activating the function**
– Press button +.
✓ The symbol continues to appear in the display and the indicator switches to the next function.

**Deactivating a function**
– Press button —.
✓ The symbol disappears in the display and the indicator switches to the next function.

## 7.5 Setting the clock

Condition: Motorcycle is stationary



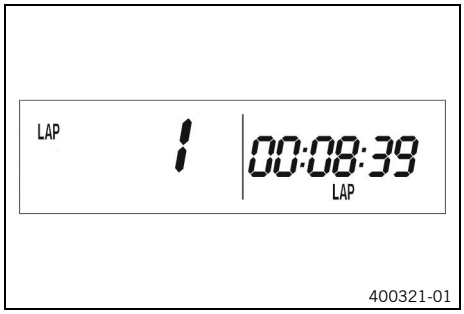

– Briefly and repeatedly press button + until indicator **CLK** appears in the bottom right of the display.
– Press button + for 2–3 seconds.
✓ The hour display flashes.
– Adjust the hour display with **button** + or **button** —.
– Wait 3 - 5 seconds.
✓ The next segment of the display flashes and can be set.
– You can set the following segments in the same way as the hours by pressing **button** + and **button** —.

**Note**
The seconds can only be set to zero.
If no button is pressed for 15–20 seconds, or if an impulse comes from the wheel speed sensor, the settings are automatically saved and the setup menu is closed.

## 7.6 Viewing the lap time

**Note**
This function can only be opened if lap times have actually been timed.

Condition: Motorcycle is stationary




– Briefly and repeatedly press button + until indicator **LAP** appears in the bottom right of the display.
– Press button + briefly.
  ✓ **LAP 1** appears on the left side of the display.
– The laps 1–10 can be viewed with **button** —.
– Press and hold **button** + for 3–5 seconds.
  ✓ The lap times are deleted.
– Press button + briefly.
  ✓ Next display mode

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

## 7.7 Display mode SPEED (speed)




– Briefly and repeatedly press button + until indicator **SPEED** appears in the left of the display.

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

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

## 7.8 Display mode SPEED/H (operating hours)




Condition: Motorcycle is stationary

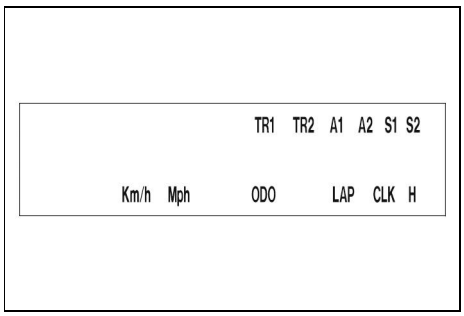
– Briefly and repeatedly press button + until indicator **H** appears in the bottom right of the display.

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

**Note**
The operating hour counter is necessary for ensuring that service work is carried out at the right intervals.
If the combination instrument is in **H** display mode when starting off, it automatically changes to the **ODO** display mode.
The **H** display mode is suppressed during the journey.

| | |
|---|---|
| – Press button + for 2–3 seconds. | The display changes to the setup menu for the combination instrument functions. |
| – Press button + briefly. | Next display mode |
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | No function |

## 7.9 Setup menu




Condition: Motorcycle is stationary

– Briefly and repeatedly press button + until indicator **H** appears in the bottom right of the display.
– Press button + for 2–3 seconds.

The Setup menu displays the active functions.

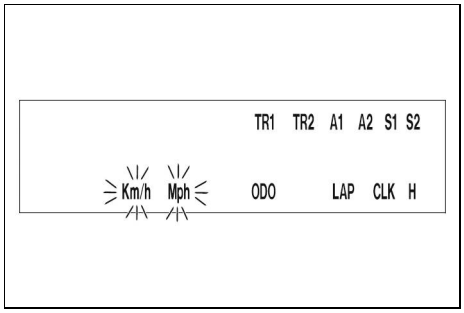
**Note**

Repeatedly press the **button** + briefly until the desired function is reached.

If no button is pressed for 20 seconds, the settings are automatically saved.

| | |
|---|---|
| – Press button + briefly. | Activates the flashing display and changes to the next display |
| – Press button + for 2–3 seconds. | No function |
| – Press button — briefly. | Deactivates the flashing display and changes to the next display |
| – Press button — for 2–3 seconds. | No function |
| – Wait 3 - 5 seconds. | Changes to the next display without changes |
| – Wait 10–12 seconds. | Setup menu starts, stores the settings, and changes to **H** or **ODO**. |

## 7.10 Adjusting the unit of measurement




Condition: Motorcycle is stationary

– Press button + for 2–3 seconds.
– Briefly and repeatedly press button + until indicator **H** appears in the bottom right of the display.
– Press button + briefly until indicator **Km/h** / **Mph** flashes.

In measurement unit mode, you can change the unit of measurement.

**Note**
If no button is pressed for 5 seconds, the settings are automatically saved.

| | |
|---|---|
| – Press button + briefly. | Starts selection, activates **Km/h** display |
| – Press button + for 2–3 seconds. | No function |
| – Press button — briefly. | Activates **Mph** display |
| – Press button — for 2–3 seconds. | No function |
| – Wait 3 - 5 seconds. | Changes to the next display, changes from selection to the Setup menu |
| – Wait 10–12 seconds. | Stores and closes the Setup menu |

## 7.11 Display mode SPEED/CLK (time)




– Briefly and repeatedly press button + until indicator **CLK** appears in the bottom right of the display.

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

| | |
|---|---|
| – Press button + for 2–3 seconds. | The display changes to the Setup menu of the clock. |
| – Press button + briefly. | Next display mode |
| – Press button — for 2–3 seconds. | No function |

| | |
|---|---|
| – Press button — briefly. | No function |

## 7.12 Setting the clock




Condition: Motorcycle is stationary

– Briefly and repeatedly press button + until indicator **CLK** appears in the bottom right of the display.
– Press button + for 2–3 seconds.

| | |
|---|---|
| – Press button + for 2–3 seconds. | Increases the value |
| – Press button + briefly. | Increases the value |
| – Press button — for 2–3 seconds. | Reduces the value |
| – Press button — briefly. | Reduces the value |
| – Wait 3 - 5 seconds. | Changes to the next value |
| – Wait 10–12 seconds. | Exit the Setup menu |

## 7.13 Display mode SPEED/LAP (lap time)




– Briefly and repeatedly press button + until indicator **LAP** appears in the bottom right of the display.

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

**Note**

If the lap time continues running after the **button**— is pressed, 9 memory locations are filled.

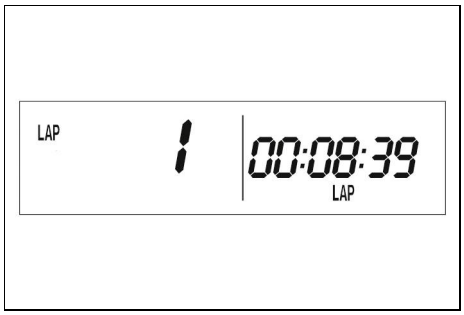
Lap 10 must be timed with the **button**+.

| | |
|---|---|
| – Press button + for 2–3 seconds. | Stop watch and lap time are reset. |
| – Press button + briefly. | Next display mode |




| | |
|---|---|
| – Press button — for 2–3 seconds. | Stops the stop watch |
| – Press button — briefly. | Starts the stop watch or stops the current lap time measurement, stores it and the stop watch starts the next lap. |

## 7.14 Viewing the lap time




Condition: Motorcycle is stationary

– Briefly and repeatedly press button + until indicator **LAP** appears in the bottom right of the display.
– Press button + briefly.

| | |
|---|---|
| – Press button + for 2–3 seconds. | Stop watch and lap time are reset. |
| – Press button + briefly. | Select a lap from 1–10 |
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | View next lap time |

## 7.15 Display mode SPEED/ODO (odometer)




– Briefly and repeatedly press button + until indicator **ODO** appears in the bottom right of the display.

The total traveled distance is shown in display mode **ODO**.

| | |
|---|---|
| – Press button + for 2–3 seconds. | No function |
| – Press button + briefly. | Next display mode |
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | No function |

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




– Briefly and repeatedly press button + until indicator **TR1** appears in the top right of the display.

**TR1** (trip master 1) runs constantly and counts up to 999.9.

You can use it to measure trips or the distance between refueling stops.

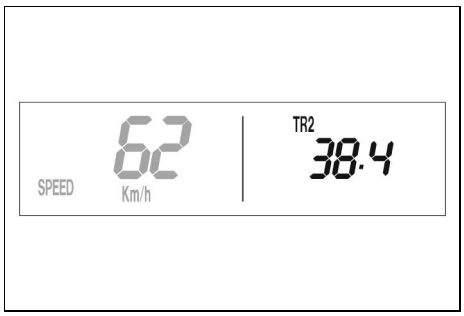
**TR1** is coupled with **A1** (average speed 1) and **S1** (stop watch 1).

**Note**

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

| | |
|---|---|
| – Press button + for 2–3 seconds. | Displays of **TR1**, **A1** and **S1** are reset to 0.0. |
| – Press button + briefly. | Next display mode |
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | No function |

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

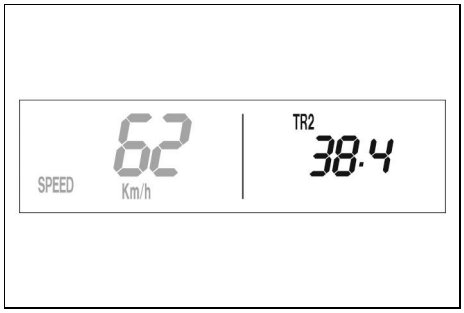



– Briefly and repeatedly press button + until indicator **TR2** appears in the top right of the display.

It **TR2** (trip master 2) runs constantly and counts up to 999.9.

| | |
|---|---|
| – Press button + for 2–3 seconds. | Clears values **TR2** and **A2** |
| – Press button + briefly. | Next display mode |
| – Press button — for 2–3 seconds. | Reduces value **TR2** |
| – Press button — briefly. | Reduces value **TR2** |

## 7.18 Adjusting TR2 (trip master 2)




Condition: Motorcycle is stationary

– Briefly and repeatedly press button + until indicator **TR2** appears in the top right of the display.
– Press the **button** — for 2–3 seconds until **TR2** flashes.

The displayed value can be set manually with the **button**+ and **button**—. This is a very practical function when riding using the road book.

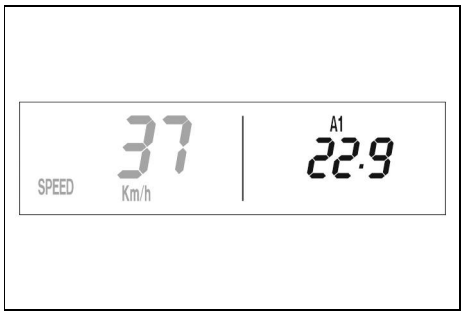
**Note**

The value of **TR2** can also be corrected manually during the journey with **button**+ and **button**—.

If 999.9 is exceeded, the value of **TR2** is automatically reset to 0.0.

| | |
|---|---|
| – Press button + for 2–3 seconds. | Increases value **TR2** |
| – Press button + briefly. | Increases value **TR2** |
| – Press button — for 2–3 seconds. | Reduces value **TR2** |
| – Press button — briefly. | Reduces value **TR2** |
| – Wait 10–12 seconds. | Stores and closes the Setup menu |

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




– Briefly and repeatedly press button + until indicator **A1** appears in the top right of the display.

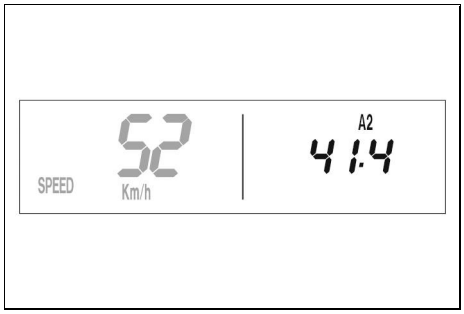
**A1** (average speed 1) shows the average speed calculated using **TR1** (trip master 1) and **S1** (stop watch 1).

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 button + for 2–3 seconds. | Displays of **TR1**, **A1** and **S1** are reset to 0.0. |
| – Press button + briefly. | Next display mode |

| | |
|---|---|
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | No function |

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




– Briefly and repeatedly press button + until indicator **A2** appears in 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.

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

| | |
|---|---|
| – Press button + briefly. | Next display mode |
| – Press button + for 2–3 seconds. | No function |
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | No function |

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




– Briefly and repeatedly press button + until indicator **S1** appears in the top right of the display.

**S1** (Stop watch 1) shows the riding time based on **TR1** and continues running as soon as an impulse arrives from the wheel speed sensor.

The calculation of this value starts with the first impulse from the wheel speed sensor and ends 3 seconds after the last impulse.

| | |
|---|---|
| – Press button + for 2–3 seconds. | Displays of **TR1**, **A1** and **S1** are reset to 0.0. |
| – Press button + briefly. | Next display mode |




| | |
|---|---|
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | No function |

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




– Briefly and repeatedly press button + until indicator **S2** appears in the top right of the display.

**S2** (Stop watch 2) is a manual stop watch.

If **S2** is running in the background, indicator **S2** in the display flashes.

| | |
|---|---|
| – Press button + for 2–3 seconds. | The displays of **S2** and **A2** are set to 0,0. |
| – Press button + briefly. | Next display mode |
| – Press button — for 2–3 seconds. | No function |
| – Press button — briefly. | Starts or stops **S2** |

## 7.23 Table of functions

| **Display** | **Press button + for 2–3 seconds.** | **Press button + briefly.** | **Press button — for 2–3 seconds.** | **Press button — briefly.** | **Wait 3 - 5 seconds.** | **Wait 10–12 seconds.** |
|---|---|---|---|---|---|---|
| Display mode **SPEED/S2** (stop watch 2) | The displays of **S2** and **A2** are set to 0,0. | Next display mode | No function | Starts or stops **S2** | | |
| Display mode **SPEED/S1** (stop watch 1) | Displays of **TR1**, **A1** and **S1** are reset to 0.0. | Next display mode | No function | No function | | |
| Display mode **SPEED/A2** (average speed 2) | No function | Next display mode | No function | No function | | |
| Display mode **SPEED/A1** (average speed 1) | Displays of **TR1**, **A1** and **S1** are reset to 0.0. | Next display mode | No function | No function | | |

| **Display** | **Press button + for 2–3 seconds.** | **Press button + briefly.** | **Press button — for 2–3 seconds.** | **Press button — briefly.** | **Wait 3 - 5 seconds.** | **Wait 10–12 seconds.** |
|---|---|---|---|---|---|---|
| Adjusting **TR2** (trip master 2) | Increases value **TR2** | Increases value **TR2** | Reduces value **TR2** | Reduces value **TR2** | | Stores and closes the Setup menu |
| Display mode **SPEED/TR2** (trip master 2) | Clears values **TR2** and **A2** | Next display mode | Reduces value **TR2** | Reduces value **TR2** | | |
| Display mode **SPEED/TR1** (trip master 1) | Displays of **TR1**, **A1** and **S1** are reset to 0.0. | Next display mode | No function | No function | | |
| Display mode **SPEED/ODO** (odometer) | No function | Next display mode | No function | No function | | |
| Viewing the lap time | Stop watch and lap time are reset. | Select a lap from 1–10 | No function | View next lap time | | |
| Display mode **SPEED/LAP** (lap time) | Stop watch and lap time are reset. | Next display mode | Stops the stop watch | Starts the stop watch or stops the current lap time measurement, stores it and the stop watch starts the next lap. | | |
| Setting the clock | Increases the value | Increases the value | Reduces the value | Reduces the value | Changes to the next value | Exit the Setup menu |
| Display mode **SPEED/CLK** (time) | The display changes to the Setup menu of the clock. | Next display mode | No function | No function | | |
| Adjusting the unit of measurement | No function | Starts selection, activates **Km/h** display | No function | Activates **Mph** display | Changes to the next display, changes from selection to the Setup menu | Stores and closes the Setup menu |
| Setup menu | No function | Activates the flashing display and changes to the next display | No function | Deactivates the flashing display and changes to the next display | Changes to the next display without changes | Setup menu starts, stores the settings, and changes to **H** or **ODO**. |

| Display | Press button + for 2–3 seconds. | Press button + briefly. | Press button — for 2–3 seconds. | Press button — briefly. | Wait 3 - 5 seconds. | Wait 10–12 seconds. |
|---|---|---|---|---|---|---|
| Display mode **SPEED/H** (operating hours) | The display changes to the setup menu for the combination instrument functions. | Next display mode | No function | No function | | |

## 7.24 Table of conditions and menu activation

| Display | Motorcycle is stationary | Menu can be activated |
|---|---|---|
| Display mode **SPEED/S2** (stop watch 2) | | • |
| Display mode **SPEED/S1** (stop watch 1) | | • |
| Display mode **SPEED/A2** (average speed 2) | | • |
| Display mode **SPEED/A1** (average speed 1) | | • |
| Adjusting **TR2** (trip master 2) | • | |
| Display mode **SPEED/TR2** (trip master 2) | | • |
| Display mode **SPEED/TR1** (trip master 1) | | • |
| Display mode **SPEED/ODO** (odometer) | | |
| Viewing the lap time | • | |
| Display mode **SPEED/LAP** (lap time) | | • |
| Setting the clock | • | |
| Display mode **SPEED/CLK** (time) | | |
| Adjusting the unit of measurement | • | |
| Setup menu | • | |
| Display mode **SPEED/H** (operating hours) | • | |
| Display mode **SPEED** (speed) | | |

## 8.1 Notes on preparing for first use

**DANGER**
**Danger of accidents** A rider who is not fit to ride poses a danger to themself and to others.
– Do not operate the vehicle if you are not fit to ride due to alcohol, drugs, or medication.
– Do not operate the vehicle if you are physically or mentally incapable of doing so.

**WARNING**
**Danger of accidents** The vehicle is not designed to carry passengers.
– Do not ride with a passenger.

**WARNING**
**Danger of accidents** The brake system fails in the event of overheating.
If the brake pedal is not released, the brake pads grind continuously.
– Take your foot off the brake pedal when you are not braking.

**WARNING**
**Danger of accidents** Not adapting the riding style constitutes a major risk.
– Adapt the vehicle speed to the road conditions and your riding ability.

**WARNING**
**Danger of accidents** Total weight and axle loads influence the handling characteristic.
– Do not exceed the maximum permissible total weight or the axle loads.

**WARNING**
**Risk of injury** People who act without authorization endanger themselves and others.
– Never leave the vehicle unattended while the engine is running.
– Secure the vehicle against unauthorized access.

**WARNING**
**Danger of accidents** Different tire profiles on the front and rear wheels can make it more difficult to control the vehicle.
– Make sure that only tires of the same tread type are mounted to the front and rear wheel.

**WARNING**
**Risk of injury** Missing or inadequate protective clothing increases the risk of injury.
– Wear appropriate protective clothing such as helmet, boots, gloves as well as pants and a jacket with protectors on all rides.
– Always wear protective clothing that is in good condition and meets the legal regulations.

**Note**
When using the motorcycle, remember that others may be disturbed by excessive noise.

– Ensure that the pre–delivery inspection has been carried out by an authorized contractual partner.
  ✓ The delivery certificate is transferred upon vehicle handover.
– Read the entire owner's manual before riding for the first time.
– Get to know the controls.
– Adjust the basic position of the clutch lever. (p. 92)
– Adjust the free travel of the handbrake lever. (p. 96)
– Adjust the basic position of the brake pedal. (p. 101)
– Adjust the basic position of the gear shift lever. (p. 135)

– Get used to the handling characteristics of the motorcycle on suitable terrain before undertaking a more challenging ride.

**Note**
When off-road, it is recommended that you be accompanied by another person with another vehicle so that you can help each other.

– Also, ride as slowly as possible and in a standing position to get a better feel for the motorcycle.
– Do not make any off-road trips that exceed your ability and experience.
– Hold the handlebar firmly with both hands and keep your feet on the footpegs when riding.
– If luggage is carried, ensure 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.

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

– The maximum permissible overall weight and the maximum permissible axle loads must not be exceeded.

| | |
|---|---|
| Maximum permissible total weight | 335 kg<br>(738.5 lb) |
| Maximum permissible front axle load | 145 kg<br>(319.7 lb) |
| Maximum permissible rear axle load | 190 kg<br>(418.9 lb) |

– Check the spoke tension. (p. 112)

| |
|---|
| The spoke tension must be checked after half an hour of operation. |

– Run in the engine. (p. 40)

## 8.2 Running in the engine

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

| Maximum engine power | |
|---|---|
| during the first 3 operating hours | < 70 % |
| during the first 5 operating hours | < 100 % |

| |
|---|
| Avoid fully opening the throttle. |

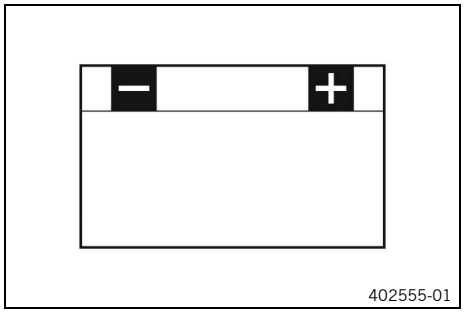
– Check the idle speed regularly.

| | |
|---|---|
| Idle speed | 1,400 rpm ... 1,500 rpm<br>(23.33 Hz ... 25.00 Hz) |

**Note**
The idle speed may change during the run-in time.

» If the idle speed changes:
  – Adjust the idle speed. (p. 134)

## 8.3 Starting performance of lithium-ion batteries at low temperatures




Lithium-ion batteries are far lighter than lead batteries, have a low self-discharge rate, and have more starting power at temperatures over 15 °C (60 °F). At low temperatures, however, the starting power of lithium-ion batteries drops to below that of lead batteries.

Several attempts to start may be required. Press the start button for 5 seconds, and wait 30 seconds between attempts. The pauses are necessary so that the heat created can distribute through the lithium-ion battery and the 12 V battery is not damaged.

At temperatures below 6 °C (45 °F), the charged lithium ion battery is not defective if it does not manage to start the starter motor or it only just manages – instead this means that the battery must be warmed internally to increase the starting power (current output).

The starting power increases as the battery warms up.

## 8.4 Preparing the vehicle for difficult operating conditions

**Note**

Use of the vehicle under difficult conditions, such as on sand or on wet and muddy surfaces, can result in significantly increased wear of components, such as the drive train, brake system, or suspension components. For this reason, it may be necessary to inspect or replace parts before the next scheduled service interval.

– Clean the air filter and air filter box. (p. 78)

| Check the air filter approx. every 30 minutes. |
|---|

– Check the electrical socket connector for humidity and corrosion and to ensure it is firmly seated.
  » If moisture, corrosion, or damage is found:
    – Clean and dry the connector, or change it if necessary.
– Rides on dry sand. (p. 41)
– Rides on wet sand. (p. 42)
– Rides on wet and muddy surfaces. (p. 43)
– Riding at high temperatures or slow speed. (p. 43)
– Riding at low temperatures and in snow. (p. 43)

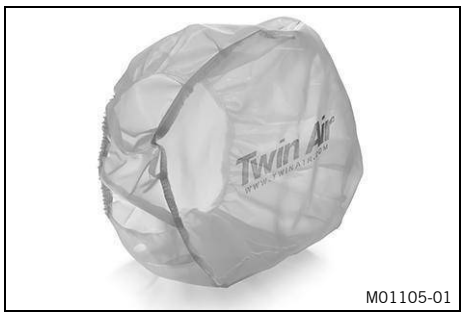
## 8.5 Preparing the vehicle for rides on dry sand




– Mount the air filter dust protection.

| Read the accompanying mounting instructions. |
|---|

| Air filter dust protection cover (79006920000) |
|---|



M01105-01

– Mount the air filter sand protection.

Read the accompanying mounting instructions.

Air filter sand protection (79006922000)


600868-01

– Clean the chain.

Chain cleaner (p. 180)

– Mount the steel sprocket.
– Grease the chain.

Universal oil spray (p. 175)

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

Change the piston every 10 operating hours.

## 8.6 Preparing the vehicle for rides on wet sand



M01106-01

– Mount the air filter water protection.

Read the accompanying mounting instructions.

Air filter water protection (79006921000)


600868-01

– Clean the chain.

Chain cleaner (p. 180)

– Mount the steel sprocket.
– Grease the chain.

Universal oil spray (p. 175)

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

Change the piston every 10 operating hours.

## 8.7 Preparing for rides on wet and muddy surfaces



M01106-01

– Mount the air filter water protection.

| Read the accompanying mounting instructions. |
|---|
| Air filter water protection (79006921000) |


600868-01

– Mount the steel sprocket.
– Clean the motorcycle. (p. 149)
– Straighten the bent radiator fins carefully.

## 8.8 Preparing vehicle for rides at high temperature or slow speed


600868-01

– Adjust the secondary transmission to the road conditions.

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

– Clean the chain.

| Chain cleaner (p. 180) |
|---|

– Clean the radiator fins.
– Straighten the bent radiator fins carefully.
– Check the coolant level. (p. 125)

## 8.9 Preparing the vehicle for low temperatures or snow



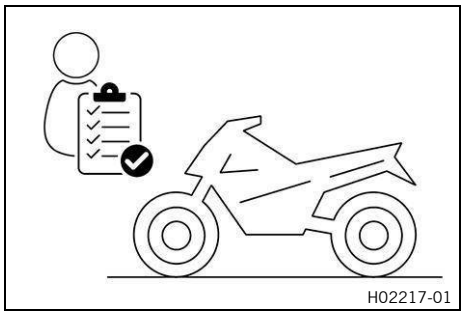
M01106-01

– Mount the air filter water protection.

| Read the accompanying mounting instructions. |
|---|
| Air filter water protection (79006921000) |

## 9.1 checks and maintenance measures when preparing for use

**Note**
Before every trip, check the condition of the vehicle and ensure that it is safe to operate.
The vehicle must be in perfect technical condition when it is being operated.


H02217-01

- Check the gear oil level. (p. 145)
- Check the electrical system.
- Check the brake fluid level for the front brake. (p. 97)
- Check the brake fluid level for the rear brake. (p. 102)
- Check that the brake pads of the front brake are secured. (p. 99)
- Check that the brake pads of the rear brake are secured. (p. 104)
- Check that the brake system is functioning properly.
- Check the coolant level. (p. 125)
- Check the chain for contaminant. (p. 85)
- Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 88)
- Check the chain tension. (p. 86)
- Check the tire condition. (p. 110)
- Check the tire pressure. (p. 111)
- Check the spoke tension. (p. 112)

  The spoke tension must be checked regularly as incorrect spoke tension will severely impair riding safety.
- Clean the dust boots of the fork legs. (p. 64)
- Bleed the fork legs. (p. 63)
- 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 level.

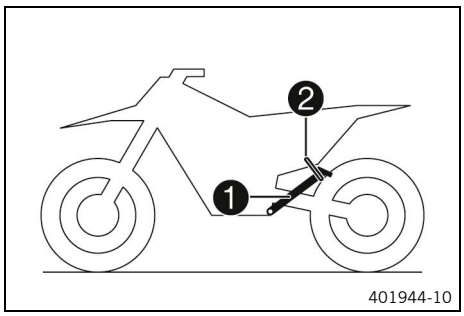
**(XC-W US)**

- Check 2-stroke oil level. (p. 140)

## 9.2 Starting the vehicle

**DANGER**
**Danger of poisoning** Exhaust gases are toxic and inhaling them may result in unconsciousness and death.
- Always ensure that there is sufficient ventilation when running the engine.
- Use suitable exhaust extraction when starting or running the engine in an enclosed space.

**NOTE**
**Engine failure** Running a cold engine at high engine speeds negatively impacts the service life of the engine.
- Always warm up the engine at low engine speeds.

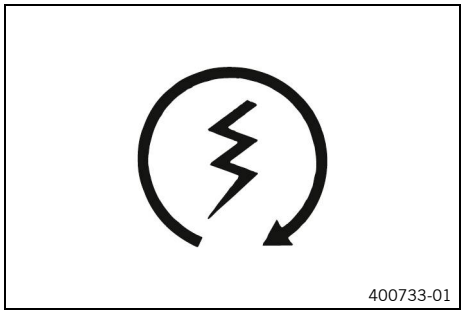



– Take the motorcycle off side stand ❶ and secure the side stand with rubber strap ❷.
– Shift the transmission into the neutral position.

Condition: Ambient temperature: < 10 °C (< 50.0 °F)

– Press the cold start button in all the way to the stop.

| |
|---|
| If the engine is warm, the cold start button must be de-activated. |




– Press the electric starter.

| |
|---|
| Do not open the throttle. |
| Press the electric starter for a maximum of 5 seconds. Wait for 30 seconds before a further attempt at starting. |

**Note**

At temperatures below 15 °C (60 °F), several attempts at starting may be necessary to warm-up the lithium-ion battery and thereby increase the starting power.

The malfunction indicator light lights up during the starting process.

## 9.3 Starting off

**Note**

Switch on the light before riding so that you are easily visible to other road users.

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

– Pull the clutch lever, shift into first gear, release the clutch lever slowly and at the same time carefully open the throttle.

## 9.4 Shifting, riding

**WARNING**

**Engine failure** The engine will not be lubricated unless there is 2-stroke oil in the oil tank.

If the oil level warning light lights up, the 2-stroke oil is sufficient for the remaining tank of fuel.

– As soon as the oil level warning light lights up, ride for no longer than until the remaining fuel in the tank is depleted.
– At the next opportunity add 2-stroke oil before you refuel.
– Time the oil pump if the 2-stroke oil hose has been removed or the 2-stroke oil tank has been fully depleted in error.

**WARNING**

**Danger of accidents** If you downshift at high engine speed, the rear wheel blocks and the engine races.

– Do not downshift to a lower gear at high engine speeds.

**Note**

If you hear unusual noises while riding, stop immediately, switch off the engine, and contact an authorized contractual partner.

First gear is used for starting off or for steep inclines.

– Shift into a higher gear when conditions allow (incline, riding situation, etc.). To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch lever and open the throttle.
– If the cold start function was activated, deactivate the cold start button after the engine has warmed up.
– After reaching maximum speed by fully opening the throttle twist grip, turn the throttle back so that it is ¾ open. This will reduce the speed slightly, but the fuel consumption will be considerably lower.
– Only open the throttle as much as the engine can handle. Abruptly opening the throttle 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 either open the throttle or shift again.
– Switch off the engine if you are likely to be running at idle speed or stationary for a long time.

| ≥ 2 min |
|---|

– Avoid frequent and lengthy slipping of the clutch. This causes the gear oil, engine, and cooling system to heat up.
– Ride at a low engine speed instead of at a high engine speed when riding the clutch.

## 9.5 Braking

**WARNING**

**Danger of accidents** A spongy pressure point on the front or rear brake reduces the brake action.

– Do not drive the vehicle if the brake system has a spongy pressure point.

**WARNING**

**Danger of accidents** Braking with excessive force locks the wheels.

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

**WARNING**

**Danger of accidents** Moisture and dirt impair the brake system.

– Brake carefully several times to dry out and remove dirt from the brake pads and the brake discs.

– On sandy, wet, or slippery surfaces, use the rear brake.
– Always finish braking before you go into a bend. Shift into a lower gear that suits the speed.
– Use the brake action of the engine on long downhill stretches. To do so, shift back one or two gears, but do not overrev the engine. This means that significantly less braking is required and means the brake system does not overheat.

## 9.6 Stop, park

**WARNING**

**Danger of burns** Some vehicle components become hot when the vehicle is operated.

– Do not touch any parts such as the exhaust system, radiator, engine, damper, or brake system before the vehicle parts have cooled down.
– Allow the vehicle parts to cool down before performing any work on the vehicle.

**WARNING**

**Risk of injury** People who act without authorization endanger themselves and others.

– Never leave the vehicle unattended while the engine is running.
– Secure the vehicle against unauthorized access.

**NOTE**

**Fire hazard** Hot vehicle components pose a fire hazard and explosion risk.

– Do not park the vehicle near materials which are highly flammable or explosive.
– Allow the vehicle to cool down before covering it.

**NOTE**

**Material damage** The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.

– Brake the motorcycle.
– Shift the transmission into the neutral position.
– Press kill switch ⊗ when the engine is at idle speed until the engine stops.
– Park the motorcycle on firm ground.

## 9.7 Transportation

**NOTE**

**Fire hazard** Hot vehicle components pose a fire hazard and explosion risk.

– Do not park the vehicle near materials which are highly flammable or explosive.
– Allow the vehicle to cool down before covering it.

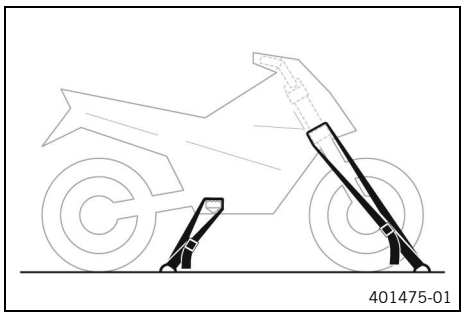
**NOTE**

**Material damage** The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.




– Switch off the engine.
– Use tension belts or other suitable devices to secure the motorcycle against falling over or rolling away.

## 9.8 Refueling

**DANGER**

**Fire hazard** Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

– Do not refuel the vehicle in the vicinity of open flames, glowing, or smoldering objects.
– Make sure that nobody smokes in the vicinity of the vehicle during the refueling process.
– Switch off the engine for refueling.
– Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
– If any fuel is spilled, wipe it up immediately.
– Do not overfill the fuel tank.

**WARNING**

**Danger of poisoning** Fuel is harmful to health.

– Do not allow fuel to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if fuel has been ingested.
– Do not inhale fuel vapors.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if fuel comes into contact with eyes.
– If fuel spills on to your clothing, change the clothing.
– Store fuel properly in a suitable container and keep out of the reach of children.

**NOTE**

**Material damage** Inadequate fuel quality can lead to losses in performance and consequential damage.

– Refuel only with clean fuel that meets the specified standards.

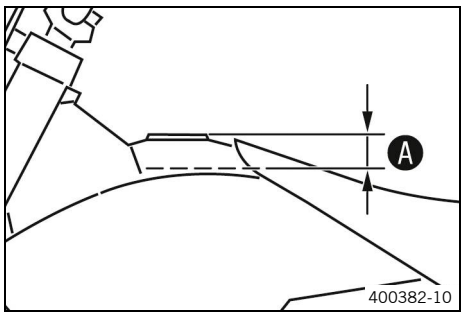
**NOTE**

**Environmental hazard** Improper handling of fuel is dangerous to the environment.

– Do not allow fuel to enter the groundwater, the soil, or the sewage system.

**(XC-W EU)**

– Open the fuel tank cap. (p. 21)




– Fill the fuel tank with fuel up to a maximum of level Ⓐ.

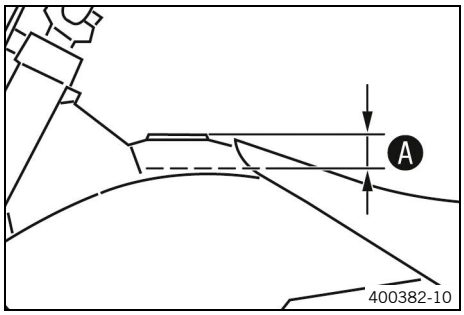
| | |
|---|---|
| Dimension Ⓐ | 35 mm<br>(1.38 in) |

| | |
|---|---|
| Total fuel tank capacity, approx.<br>**(XC-W EU)** | |
| Super unleaded (98 octane) mixed with 2-stroke engine oil (p. 174)<br>Mixture ratio: 1:40 | 9 l<br>(2.4 liq. $gal_{US}$) |
| 2-stroke engine oil (p. 175)<br>fully synthetic | |

– Close the fuel tank cap. (p. 22)

**(XC-W US)**

– Open the fuel tank cap. (p. 21)




– Fill the fuel tank with fuel up to a maximum of level Ⓐ.

| | |
|---|---|
| Dimension Ⓐ | 35 mm<br>(1.38 in) |

| | |
|---|---|
| Total fuel tank capacity, approx.<br>**(XC-W US)** | |
| Super unleaded (ROZ 95) (p. 174) | 9 l<br>(2.4 liq. $gal_{US}$) |

– Close the fuel tank cap. (p. 22)

## 9.9 Adding 2-stroke oil (XC-W US)

**WARNING**

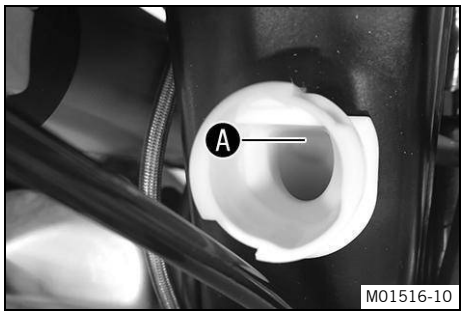
**Engine failure** The engine will not be lubricated unless there is 2-stroke oil in the oil tank.

If the oil level warning light lights up, the 2-stroke oil is sufficient for the remaining tank of fuel.

– As soon as the oil level warning light lights up, ride for no longer than until the remaining fuel in the tank is depleted.
– At the next opportunity add 2-stroke oil before you refuel.
– Time the oil pump if the 2-stroke oil hose has been removed or the 2-stroke oil tank has been fully depleted in error.

**Preparatory work**

– Open 2-stroke oil tank cap. (p. 22)




**Main work**

– Fill the 2-stroke oil tank up to the lower edge Ⓐ of the filler neck.

| |
|---|
| Only use 2-stroke oil which is appropriate for separate lubrication. |

| 2-stroke oil tank content approx. **(XC-W US)** | |
|---|---|
| 2-stroke engine oil (p. 175) fully synthetic | 0.8 l (0.21 liq. $gal_{US}$) |

**Reworking**

– Close 2-stroke oil tank cap. (p. 22)

## 10.1 Service schedule

Any further work that results from the service work must be ordered separately and invoiced separately.
Different service intervals may apply in your country, depending on the local operating conditions.
Individual service intervals and scopes may change in the course of technical developments. The most up-to-date service schedule is available for authorized contractual partners for the electronic proof of service. Your authorized contractual partner will be happy to advise you.

| | | | | | |
|---|---|---|---|---|---|
| | | | | | **Every 24 months** |
| | | | | **Every 90 operating hours** | |
| | | | **Every 45 operating hours** | | |
| | | **After 15 operating hours / Every 15 operating hours** | | | |
| | **After one operating hour** | | | | |
| Read out the fault memory using the diagnostics tool. | ○ | ● | ● | ● | ● |
| Check that the electrical equipment is functioning properly. | ○ | ● | ● | ● | |
| Check and charge the 12 V battery. | ○ | ● | ● | ● | ● |
| Check that the brake pads of the front brake are secured. (p. 99) | | ● | ● | ● | ● |
| Check that the brake pads of the rear brake are secured. (p. 104) | | ● | ● | ● | ● |
| Check the brake discs. (p. 96) | | ● | ● | ● | ● |
| Check the brake lines for damage and tightness. | | ● | ● | ● | ● |
| Check the brake fluid level for the front brake. (p. 97) | | ● | ● | | |
| Change the brake fluid for the front brake. | | | | ● | ● |
| Check the brake fluid level for the rear brake. (p. 102) | | ● | ● | | |
| Change the brake fluid for the rear brake. | | | | ● | ● |
| Check/correct the fluid level of the hydraulic clutch. (p. 92) | | | ● | | |
| Change the hydraulic clutch fluid. (p. 93) | | | | ● | ● |
| Check the free travel on the hand brake lever. (p. 96) | ○ | ● | ● | ● | ● |
| Check the free travel of the brake pedal. (p. 101) | | ● | ● | ● | ● |
| Check the idle speed. | ○ | ● | ● | ● | ● |
| Change the gear oil. (p. 146) | ○ | | ● | ● | ● |
| Check all hoses (e.g. fuel, cooling, bleeder, drainage, etc.) and boots for cracking, leaks, and correct routing. | ○ | ● | ● | ● | ● |
| Check the cables for damage and that there are no kinks in the routing. | | ● | ● | ● | ● |
| Check that the clutch cables are undamaged, routed without kinks, and set correctly. | | ● | ● | ● | ● |
| Check the frame. (p. 90) | | ● | ● | ● | |
| Check the swingarm. (p. 90) | | ● | ● | ● | |
| Check the swingarm bearing for play. | | | ● | ● | |
| Check the heim joint on the shock absorber for play. | | | ● | ● | |
| Check the tire condition. (p. 110) | | ● | ● | ● | ● |
| Check the tire pressure. (p. 111) | | ● | ● | ● | ● |
| Check the wheel bearing for play. | | ● | ● | ● | |
| Check the hubs. | | ● | ● | ● | |
| Check the rim run-out. | ○ | ● | ● | ● | |

| | After one operating hour | After 15 operating hours / Every 15 operating hours | Every 45 operating hours | Every 90 operating hours | Every 24 months |
|---|---|---|---|---|---|
| Check the spoke tension. (p. 112) | ○ | ● | ● | ● | |
| Check the chain, rear sprocket, engine sprocket, and chain guide. (p. 88) | ○ | ● | ● | ● | |
| Check the chain tension. (p. 86) | ○ | ● | ● | ● | ● |
| Grease all moving parts (e.g. side stand, hand lever, chain, etc.) and check for smooth operation. | ○ | ● | ● | ● | ● |
| Check the basic throttle valve position sensor setting. | | ○ | ● | ● | ● |
| **(XC-W EU)** Change the spark plug and spark plug connector. | | ● | ● | ● | |
| **(XC-W US)** Change the spark plug and spark plug connector. | | | ● | ● | |
| Change the fuel filter. | | | | ● | ● |
| Check the clutch. | | | ● | ● | |
| Clean the air filter and air filter box. (p. 78) | | ● | ● | ● | ● |
| Change the damping material on the main silencer. (p. 80) | | | | ● | |
| Carry out fork service. | | | ● | ● | |
| Service the shock absorber. | | | ● | ● | |
| Check all screws, nuts, and hose clamps for a tight fit. | ○ | ● | ● | ● | ● |
| Change the fuel screen. (p. 139) | ○ | ● | ● | ● | ● |
| Check the fuel pressure. | ○ | ● | ● | ● | ● |
| Check the frost protection and coolant level. (p. 124) | | | ● | ● | |
| Check the coolant level. (p. 125) | ○ | ● | | | |
| Change the coolant. (p. 128) | | | | | ● |
| Check the headlight setting. (p. 120) | ○ | ● | ● | ● | |
| Check the steering head bearing play. (p. 70) | ○ | ● | | | |
| Lubricate the steering head bearing. (p. 71) | | | ● | ● | ● |
| Check the reed valve housing, diaphragm, and intake manifold. | | | ● | ● | |
| Check the starter drive. | | | ● | ● | ● |
| **(XC-W US)** Change the oil pump; clean the oil screen. | | | | ● | |
| **(XC-W US)** Clean the oil screen in the oil tank. (p. 142) | | | | ● | |
| **(XC-W EU)** Perform minor engine service. (Change the piston. Check the cylinder head. Change the O-rings of the manifold and the cylinder head. Check the cylinder and Z-dimension. Clean the exhaust control. Check the exhaust control for function and smooth operation. Program the exhaust control end positions. Check the pressure sensor flange for cracks and | | ● | ● | ● | |

| | After one operating hour | After 15 operating hours / Every 15 operating hours | Every 45 operating hours | Every 90 operating hours | Every 24 months |
|---|---|---|---|---|---|
| damage. Remove combustion residues from the exhaust port. Change the bracket for the crankshaft position sensor.) | | | | | |
| **(XC-W US)**<br>Perform minor engine service. (Change the piston. Check the cylinder head. Change the O-rings of the manifold and the cylinder head. Check the cylinder and Z-dimension. Check the exhaust control for function and smooth operation. Check the pressure sensor flange for cracks and damage. Remove combustion residues from the exhaust port. Change the bracket for the crankshaft position sensor.) | | • | • | | |
| **(XC-W EU)**<br>Perform major engine service including removing and installing the engine. (Change the connecting rod, big (bottom) end bearing and crankshaft pin. Check the transmission and shift mechanism. Change all the engine bearings, the radial shaft seal rings, and the seals.) | | • | • | | |
| **(XC-W US)**<br>Perform major engine service including removing and installing the engine. (Change the connecting rod, big (bottom) end bearing and crankshaft pin. Check the transmission and shift mechanism. Replace all engine bearings, radial shaft seals and gaskets). | | | • | | |
| Final check: check the operating safety of the vehicle and take for a test ride. | ○ | • | • | • | • |
| Read out the fault memory after the test ride using the diagnostics tool. | ○ | • | • | • | • |
| Enter the electronic proof of service in the contractual partner portal. | ○ | • | • | • | • |

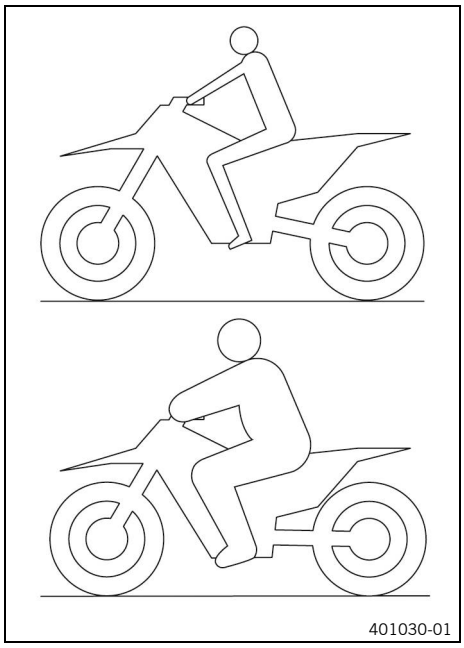
○ One-time interval

• Periodic interval

# 11 Tuning the chassis

## 11.1 Checking the basic chassis setting with the rider's weight

**Note**
When adjusting the basic chassis setting, first adjust the shock absorber and then the fork.




– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, swingarm, and frame, the basic settings of the suspension components must match the rider's weight.
– As delivered, KTM offroad motorcycles are adjusted for an average rider's weight (with full protective clothing).

| | |
|---|---|
| Standard rider's weight | 75 kg ... 85 kg (165.3 lb ... 187.4 lb) |

– If the rider's weight is above or below this range, the basic setting of the suspension components must be adjusted accordingly.
– Small weight differences can be compensated for by adjusting the preload, but in the case of large weight differences, the springs must be replaced.

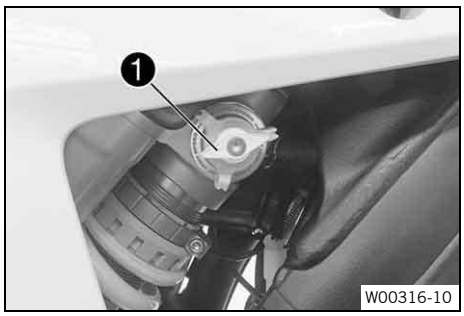
## 11.2 Compression damping of the shock absorber

The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.
High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.
The high-speed compression has an effect, for example, when landing after a jump: the rear wheel suspension compresses quickly.
The low-speed compression has an effect, for example, when riding over long bumps: the rear wheel suspension compresses slowly.
These two ranges can be adjusted separately, although the transition between high-speed and low-speed is floating. As a result, changes in the high-speed range affect the compression damping in the low-speed range and vice versa.

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

**CAUTION**
**Risk of injury** Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly.
The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided.

**Note**
The effect of the low-speed compression adjustment can be seen in slow to normal compression of the shock absorber.




– Turn adjusting screw ❶ clockwise with a screwdriver as far as the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

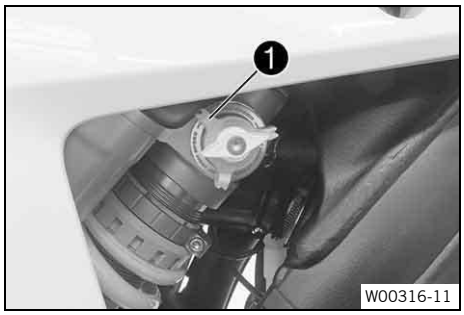
| Low-speed compression damping | |
|---|---|
| Comfort | 18 clicks |
| Standard | 15 clicks |
| Sport | 12 clicks |

**Note**
Turning clockwise increases damping; turning anticlockwise reduces damping.

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

**CAUTION**
**Risk of injury** Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.
– Please follow the description provided.

**Note**
The effect of the high-speed compression adjustment can be seen in the fast compression of the shock absorber.




– Using an open end wrench, turn adjusting screw ❶ clockwise all the way.
– Turn counterclockwise by the number of turns corresponding to the shock absorber type.

| High-speed compression damping | |
|---|---|
| Comfort | 2.5 turns (900°) |
| Standard | 2 turns (720°) |
| Sport | 1.5 turns (540°) |

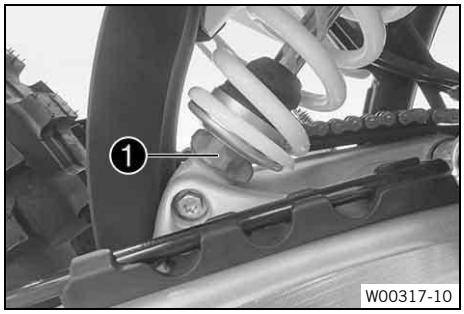
**Note**
Turning clockwise increases damping; turning anticlockwise reduces damping.

## 11.5 Adjusting the rebound damping of the shock absorber

**CAUTION**

**Risk of injury** Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided.




– Turn adjusting screw ❶ clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

| Rebound damping | |
|---|---|
| Comfort | 18 clicks |
| Standard | 15 clicks |
| Sport | 12 clicks |

**Note**

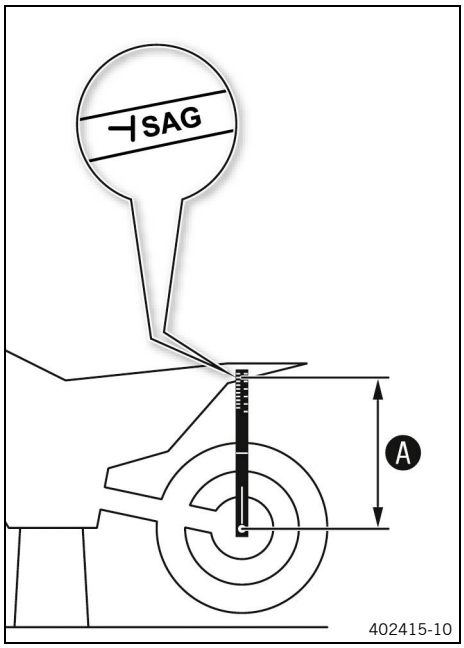
Turning clockwise increases damping; turning anticlockwise reduces damping on rebound.

## 11.6 Measuring the dimension of the unloaded rear wheel

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)

**Main work**




– Position the sag gage in the rear axle and measure the distance to marking **SAG** on the rear fender.

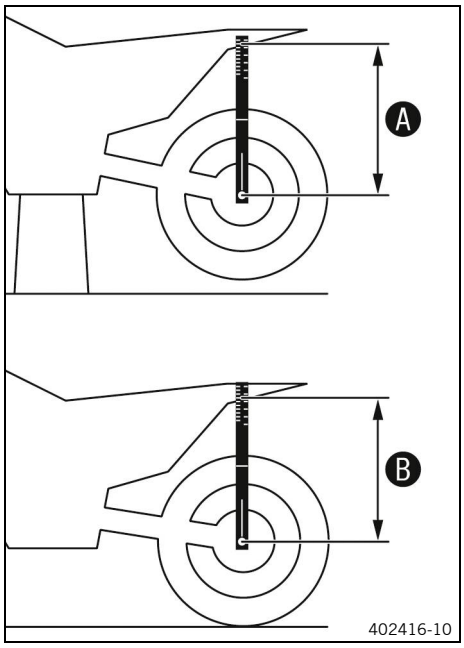
| Sag scale (00029090100) |
|---|
| Pin, sag scale (00029990010) |

– Note the value as dimension Ⓐ.

**Reworking**

– Remove the motorcycle from the lift stand. (p. 63)

## 11.7 Checking the static sag of the shock absorber




– Determine the dimension of the unloaded rear wheel. (p. 56)
– Hold the motorcycle upright with aid of an assistant.
– Measure the distance again between the rear axle and marking **SAG** on the rear fender using the sag scale.
– Note the value as dimension **B**.

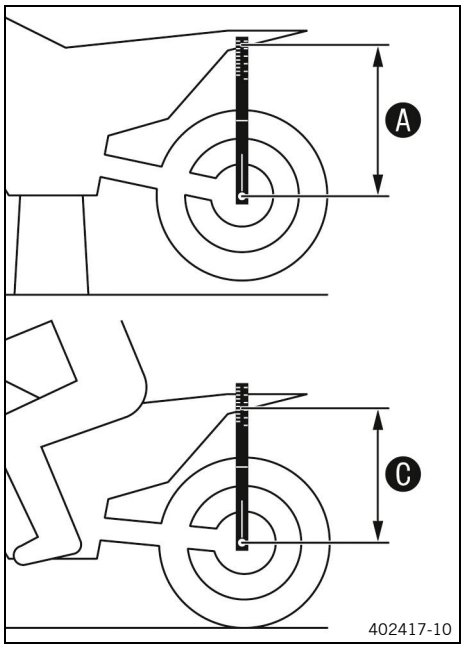
**Note**
The static sag is the difference between measurements **A** and **B**.

– Check the static sag.

| | |
|---|---|
| Static sag | 40 mm<br>(1.57 in) |

» If the static sag is more or less than the specified value:
– Adjust the preload for the shock absorber. (p. 58)

## 11.8 Checking the rider sag of the shock absorber




– Determine the dimension of the unloaded rear wheel. (p. 56)
– With another person holding the motorcycle, sit on the saddle with full protective clothing in a normal sitting position (feet on footrests) and bounce up and down a few times.
✓ The rear wheel suspension levels out.
– With the help of another person, remeasure the distance between the rear axle and marking **SAG** on the rear fender using the sag scale.
– Note the value as dimension **C**.

**Note**
The rider sag is the difference between measurements **A** and **C**.

– Check the rider sag.

| | |
|---|---|
| Rider sag | 110 mm<br>(4.33 in) |

» If the rider sag differs from the specified measurement:
– Adjust the rider sag. (p. 59)

## 11.9 Adjusting the preload for the shock absorber

**CAUTION**

**Risk of injury** Parts of the shock absorber will move erratically if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

– Please follow the description provided.

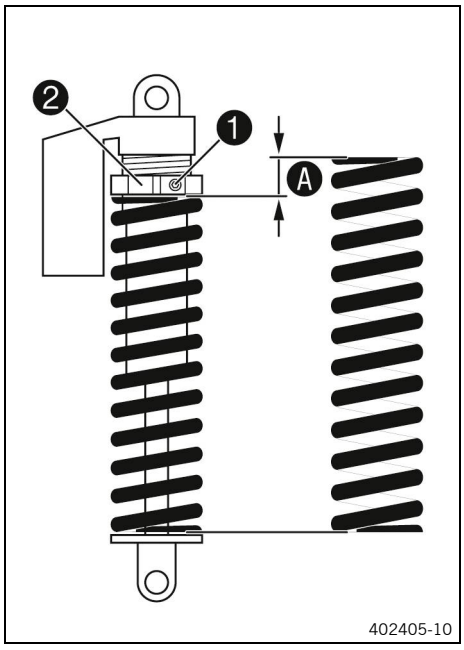
**Note**

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

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)
– Remove the seat. (p. 75)
– Remove the frame protector. (p. 76)
– Remove the muffler. (p. 79)
– Remove the shock absorber. (p. 73)
– After removing the shock absorber, clean it thoroughly.

**Main work**




– Loosen screw ❶.
– Turn adjusting ring ❷ until the spring is no longer under tension.

| Hook wrench (90129051000) |
|---|

**Note**

If the spring cannot be fully released, the spring must be removed to accurately measure the spring length.

– Measure the total spring length while the spring is not under tension.
– Tension the spring by turning adjusting ring ❷ to the specified degree Ⓐ.

| Preload | 7 mm (0.28 in) |
|---|---|

**Note**

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

– Tighten screw ❶.

| Screw, shock absorber adjusting ring | |
|---|---|
| M5×20 | 5 Nm (3.7 ft·lb$_f$) |

**Reworking**

– Install the shock absorber. (p. 73)
– Install the muffler. (p. 80)
– Install the frame protector. (p. 76)

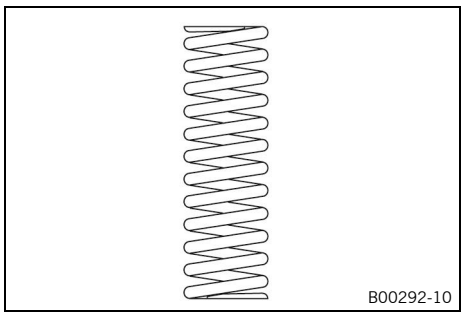
– Mount the seat. (p. 75)
– Remove the motorcycle from the lift stand. (p. 63)

## 11.10 Adjusting the rider sag

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)
– Remove the seat. (p. 75)
– Remove the frame protector. (p. 76)
– Remove the muffler. (p. 79)
– Remove the shock absorber. (p. 73)
– After removing the shock absorber, clean it thoroughly.

**Main work**




– Select and mount a suitable spring.

| Spring rate | |
|---|---|
| Weight of rider: 65 kg ... 75 kg (143.3 lb ... 165.3 lb) | 60 N/mm (342.6 $lb_f$/in) |
| Weight of rider: 75 kg ... 85 kg (165.3 lb ... 187.4 lb) | 63 N/mm (359.7 $lb_f$/in) |
| Weight of rider: 85 kg ... 95 kg (187.4 lb ... 209.4 lb) | 66 N/mm (376.9 $lb_f$/in) |

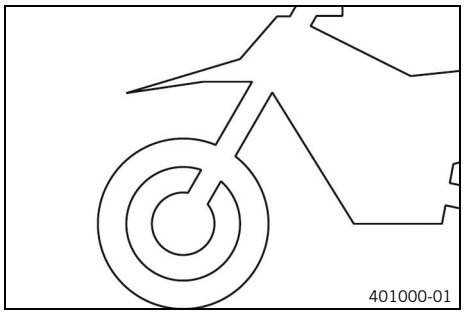
**Note**
The spring rate is shown on the outside of the spring.

**Reworking**

– Install the shock absorber. (p. 73)
– Install the muffler. (p. 80)
– Install the frame protector. (p. 76)
– Mount the seat. (p. 75)
– Remove the motorcycle from the lift stand. (p. 63)
– Check the static sag of the shock absorber. (p. 57)
– Check the rider sag of the shock absorber. (p. 57)
– Adjust the rebound damping of the shock absorber. (p. 56)

## 11.11 Checking the basic setting of the fork

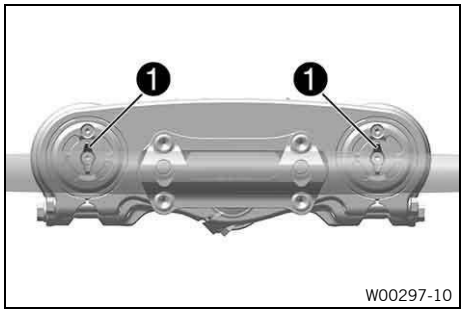
**Note**
For various reasons, no exact rider sag can be determined for the fork.




- As with the shock absorber, smaller differences in the rider's weight can be compensated by the spring preload.
- However, if the fork frequently bottoms out (hard end stop on compression), harder springs must be fitted to avoid damage to the fork and frame.
- If the fork feels unusually hard after extended periods of operation, the fork legs need to be bled.

## 11.12 Adjusting the compression damping of the fork

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




- Turn white adjuster ❶ clockwise as far as it will go.

**Note**
Adjusters ❶ **COMP** are located at the top end of the fork legs.

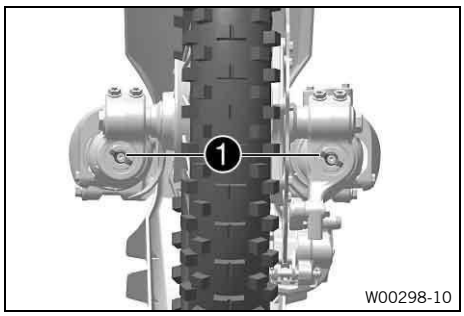
- Turn counterclockwise by the number of clicks corresponding to the fork type.

| Compression damping | |
|---|---|
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 7 clicks |

**Note**
Turning clockwise increases damping; turning counterclockwise reduces damping during compression.

## 11.13 Adjusting the rebound damping of the fork

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




– Turn red adjuster ❶ clockwise as far as it will go.

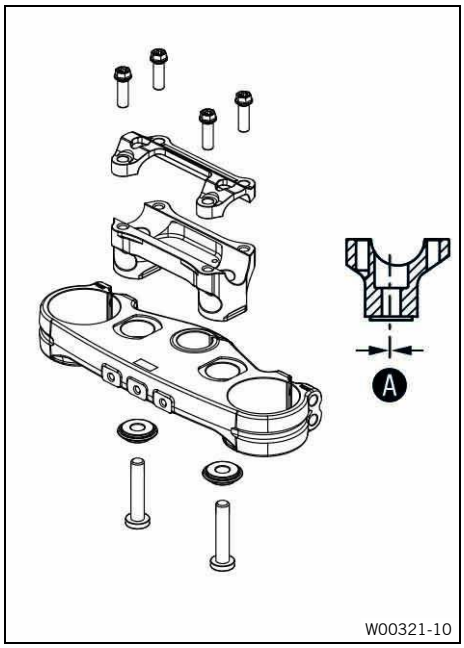
**Note**
Adjusters ❶ **REB** are located at the bottom end of the fork legs.

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

| Rebound damping | |
|---|---|
| Comfort | 19 clicks |
| Standard | 17 clicks |
| Sport | 9 clicks |

**Note**
Turning clockwise increases damping; turning anticlockwise reduces damping on rebound.

## 11.14 Handlebar position



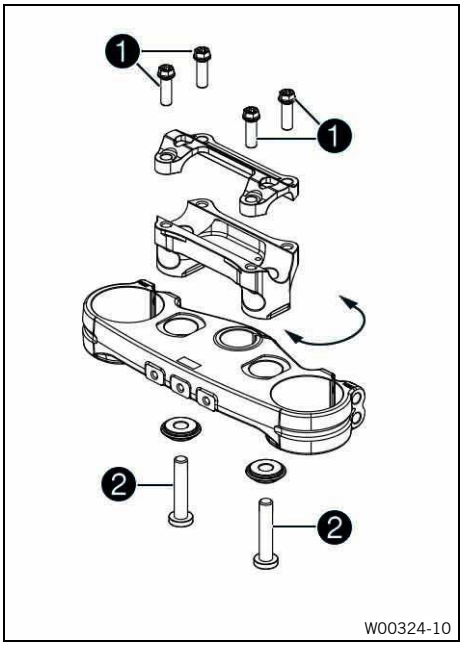

The holes on the handlebar support are placed at a distance of Ⓐ from the center.

| | |
|---|---|
| Hole distance Ⓐ | 3.5 mm<br>(0.138 in) |

The handlebar mount can be mounted in two different positions.

## 11.15 Adjusting the handlebar position

**WARNING**
**Danger of accidents** A repaired handlebar poses a safety risk.
If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.
– Change the handlebar if the handlebar is damaged or bent.




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

| |
|---|
| Protect the components against damage by covering them. |
| Do not kink the cables or lines. |

– Remove ❷ screws.
– Take off the handlebar support.
– Place the handlebar mount in the required position.
– Mount and tighten screws ❷.

| Screw, handlebar mount | |
|---|---|
| M10×50 | 40 Nm<br>(29.5 ft·lb$_f$)<br>**Loctite® 243** |

| |
|---|
| Position the handlebar support so that it is even. |

– Position the handlebar.

| |
|---|
| Make sure the cables and wiring are positioned correctly. |

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

| Screw, handlebar clamp | |
|---|---|
| M8×25 | 20 Nm<br>(14.8 ft·lb$_f$) |

| |
|---|
| Make sure the installed gap widths are even. |

## 12.1 Raising the motorcycle with a lift stand

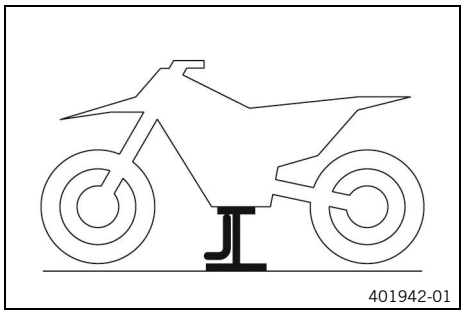
**NOTE**

**Material damage** The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.


401942-01

– Raise the motorcycle at the frame underneath the engine.

| Lift stand (78129955100) |
|---|

✓ Neither wheel is in contact with the ground.

– Secure the motorcycle against falling over.

## 12.2 Removing the motorcycle from the lift stand

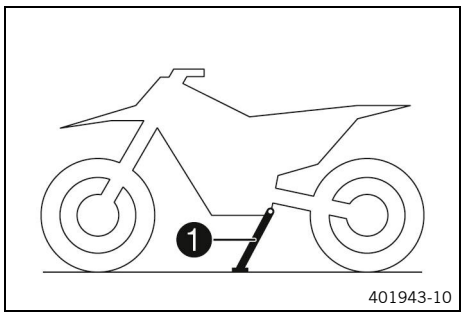
**NOTE**

**Material damage** The vehicle may be damaged if parked incorrectly.

Damage can occur if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

– Park the vehicle on a firm and level surface.
– Make sure that nobody sits on the vehicle when it is parked on a stand.



401943-10

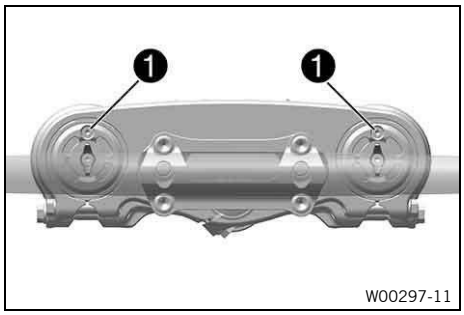
– Remove the motorcycle from the lift stand.
– Remove the lift stand.
– To park the motorcycle, press side stand ❶ to the ground with your foot and lean the motorcycle on it.

| When you are riding, the side stand must be folded up and secured with the rubber band. |
|---|

## 12.3 Bleeding the fork legs

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)




**Main work**

– Loosen bleeder screw 1.
  ✓ Any excess pressure escapes from the inner fork.
– Tighten the bleeder screw.

**Reworking**

– Remove the motorcycle from the lift stand. (p. 63)

## 12.4 Cleaning the dust boots of the fork legs

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)
– Remove the fork protector. (p. 65)




**Main work**

– Push dust boot 1 downward on both fork legs.

**Note**

The dust boots should remove dust and coarse dirt particles from the inner fork tubes. Over time, dirt can accumulate behind the dust boots. If this dirt is not removed, the oil seals behind can start to leak.

**WARNING**

**Danger of accidents** Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

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

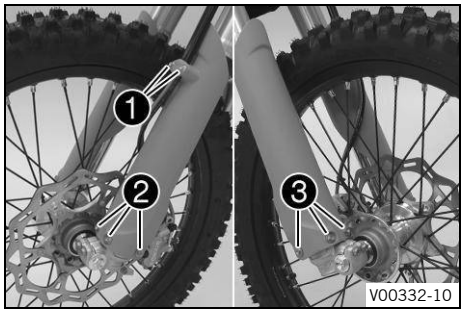
| Universal oil spray (p. 175) |
|---|

– Press the dust boots back into their installation position.
– Remove excess oil.

**Reworking**

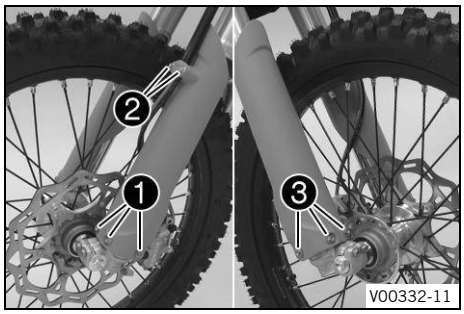
– Install the fork protector. (p. 65)
– Remove the motorcycle from the lift stand. (p. 63)

## 12.5 Removing the fork protector




– Remove screw ❶ and take off the clamp.
– Remove screws ❷ and take off the left fork protector.
– Remove screws ❸ and take off the right fork protector.

## 12.6 Installing the fork protector




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

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm (7.4 ft·lb$_f$) |

– Position the brake line, the wiring harness, and the clamp.
– Mount and tighten screws ❷.

| Remaining screws on chassis | |
|---|---|
| **EJOT PT®** – K60×25 | 2 Nm (1.5 ft·lb$_f$) |

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

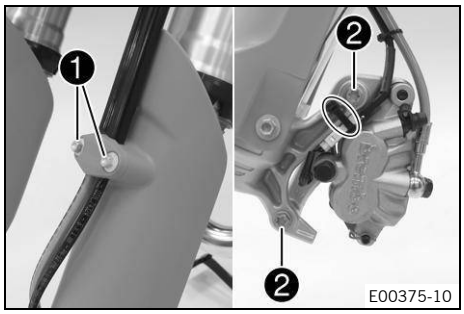
| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm (7.4 ft·lb$_f$) |

## 12.7 Removing the fork legs

**Preparatory work**

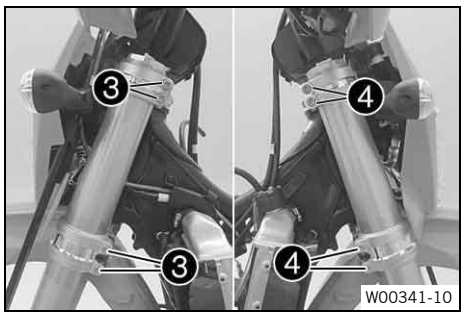
– Raise the motorcycle with a lift stand. (p. 63)
– Remove the front wheel. (p. 107)

**Main work**



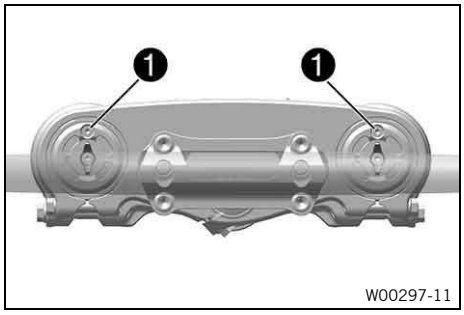

– Remove screw ❶ and take off the clamp.
– Remove the cable tie.
– Remove screws ❷ and take off the brake caliper.
– Allow the brake caliper and the brake line to hang loosely to the side.

| Do not actuate the hand brake lever when the front wheel is removed. |
|---|




– Loosen screws ❸.
– Remove the left fork leg.
– Loosen screws ❹.
– Remove the right fork leg.

## 12.8 Installing the fork legs




**Main work**

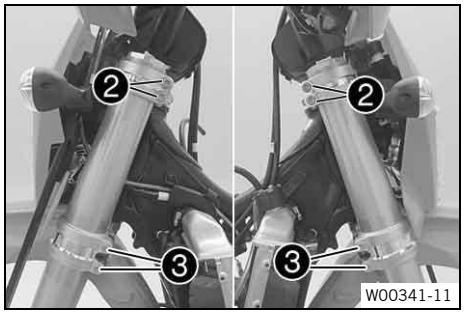
– Position the fork legs.

✓ Bleeder screws ❶ are positioned toward the front.

**Note**

Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp.

The pressure and rebound damping is located in the left and right fork leg.

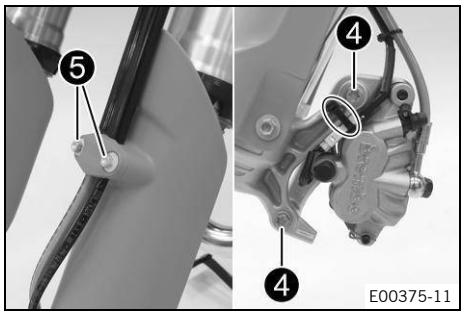



– Tighten screws ❷.

| Screw, top triple clamp | |
|---|---|
| M8×40 | 20 Nm (14.8 ft·lb$_f$) |

– Tighten screws ❸.

| Screw, bottom triple clamp | |
|---|---|
| M8×50 | 15 Nm (11.1 ft·lb$_f$) |




– Position the brake caliper, and mount and tighten screws ❹.

| Screw, front brake caliper | |
|---|---|
| M8×30 | 25 Nm (18.4 ft·lb$_f$) **Loctite® 243** |

– Mount the cable tie.
– Position the brake line, the wiring harness, and the clamp.
– Mount and tighten screws ❺.

| Remaining screws on chassis | |
|---|---|
| **EJOT PT®** – K60×25 | 2 Nm (1.5 ft·lb$_f$) |

**Reworking**

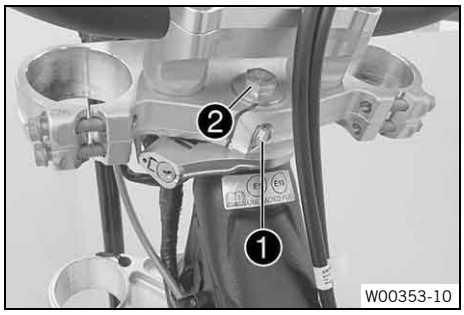
– Install the front wheel. (p. 108)

## 12.9 Removing the lower triple clamp

**Preparatory work**

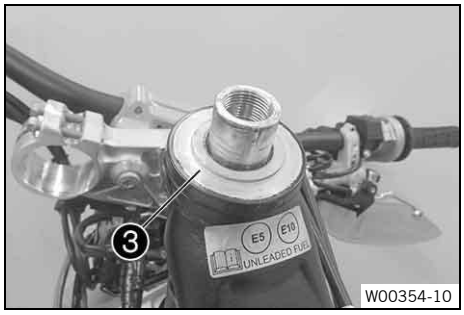
- Raise the motorcycle with a lift stand. (p. 63)
- Remove the front wheel. (p. 107)
- Remove the fork legs. (p. 65)
- Remove the headlight mask with the headlight. (p. 119)
- Remove the front top fender. (p. 71)
- Remove the seat. (p. 75)
- Remove the fuel tank. (p. 81)
- Remove the handlebar pad.

**Main work**



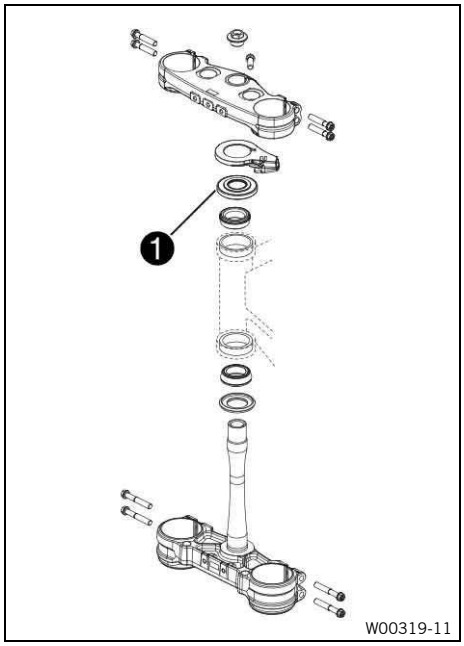

- Loosen screw 1.
- Remove screw 2.
- Take off the upper triple clamp with the handlebar and hang them to the side.

| |
|---|
| Do not kink the cables or lines. |
| Protect the components against damage by covering them. |




- Remove protective ring 3.
- Take off the lower triple clamp with the steering stem.
- Remove the upper steering head bearing.

## 12.10 Installing the lower triple clamp

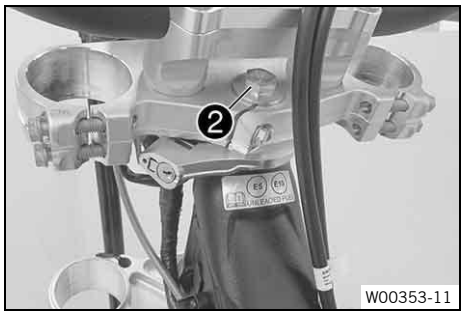



**Main work**

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

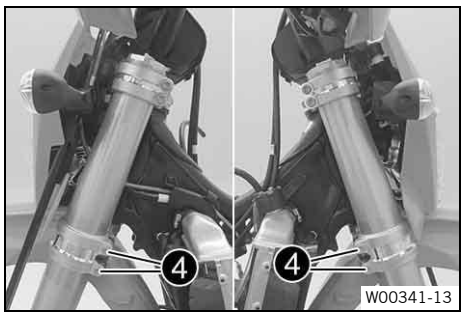
| High viscosity grease (p. 176) |
|---|

– Insert the lower triple clamp with the steering stem.
– Mount the upper steering head bearing.
– Push on protective ring ❶.



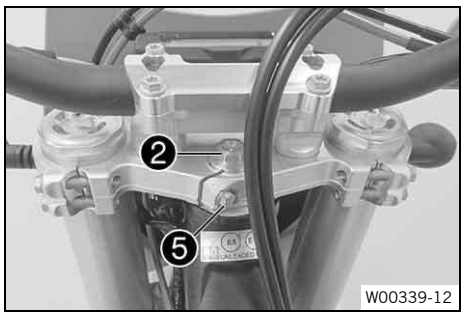

– Position the upper triple clamp and handlebar.
– Mount screw ❷, but do not tighten yet.

| Screw, top steering head | |
|---|---|
| M20×1.5 | 12 Nm (8.9 ft·lb$_f$) |




– Tighten screws ❹.

| Screw, bottom triple clamp | |
|---|---|
| M8×50 | 15 Nm (11.1 ft·lb$_f$) |

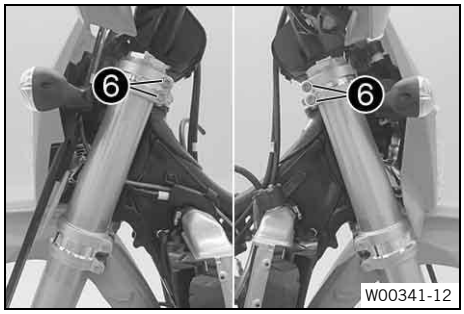



– Tighten screw ❷.

| Screw, top steering head | |
|---|---|
| M20×1.5 | 12 Nm (8.9 ft·lb$_f$) |

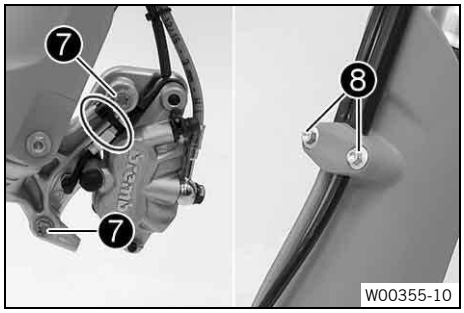
– Remove screw ❺.
– Mount and tighten screw ❺.

| Screw, upper steering stem | |
|---|---|
| M8×25 | 20 Nm<br>(14.8 ft·lb$_f$)<br>**Loctite® 243** |




– Tighten screws ❻.

| Screw, top triple clamp | |
|---|---|
| M8×40 | 20 Nm<br>(14.8 ft·lb$_f$) |




– Position the brake caliper, and mount and tighten screws ❼.

| Screw, front brake caliper | |
|---|---|
| M8×30 | 25 Nm<br>(18.4 ft·lb$_f$)<br>**Loctite® 243** |

– Mount the cable tie.
– Position the brake line, the wiring harness, and the clamp.
– Mount and tighten screws ❽.

| Remaining screws on chassis | |
|---|---|
| **EJOT PT®** – K60×25 | 2 Nm<br>(1.5 ft·lb$_f$) |

**Reworking**

– Mount the handlebar pad.
– Install the front top fender. (p. 72)
– Install the front wheel. (p. 108)
– Install the headlight mask with the headlight. (p. 119)
– Check the wiring harness, cables, and brake and clutch lines for freedom of movement and correct routing.
– Check the steering head bearing play. (p. 70)
– Remove the motorcycle from the lift stand. (p. 63)
– Install the fuel tank. (p. 83)
– Mount the seat. (p. 75)
– Check the headlight setting. (p. 120)

## 12.11 Checking the steering head bearing play

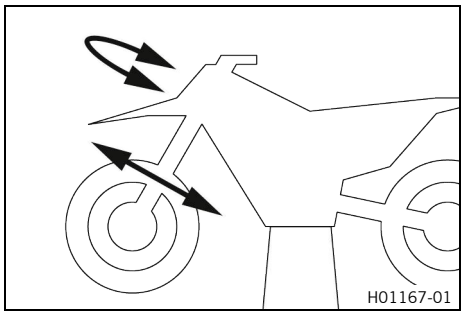
**WARNING**

**Danger of accidents** Incorrect steering head bearing play can impair the handling characteristic and damage components.

– Correct incorrect steering head bearing play immediately.

**Note**

If the vehicle is operated for a lengthy period with play in the steering head bearing, the bearings and the bearing seats in the frame can become damaged.




**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)

**Main work**

– Move the handlebar to the straight-ahead position. Move the fork legs to and fro in the direction of travel.

| Play should not be detectable on the steering head bearing. |
|---|

» If there is detectable play:

– Adjust the steering head bearing play. (p. 70)

– Move the handlebar back and forth over the entire steering range.

| It must be possible to move the handlebar easily over the entire steering range. There should be no detectable detent positions. |
|---|

» If detent positions are detected:

– Adjust the steering head bearing play. (p. 70)

– Check the steering head bearing and adjust if necessary.

– Check the steering stop bolts for correct adjustment and locking.

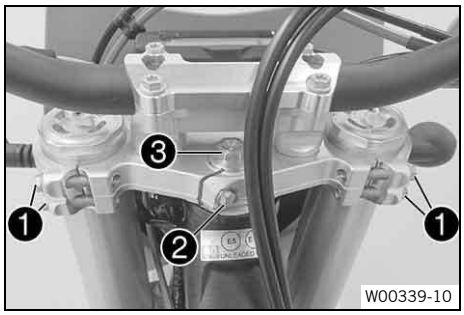
**Reworking**

– Remove the motorcycle from the lift stand. (p. 63)

## 12.12 Adjusting the steering head bearing play

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)




**Main work**

– Loosen screws ❶.
– Remove screw ❷.
– Loosen and retighten screw ❸.

| Screw, top steering head | |
|---|---|
| M20×1.5 | 12 Nm<br>(8.9 ft·lb$_f$) |

– Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
– Mount and tighten screw ❷.

| Screw, upper steering stem | |
|---|---|
| M8×25 | 20 Nm<br>(14.8 ft·lb$_f$)<br>**Loctite® 243** |

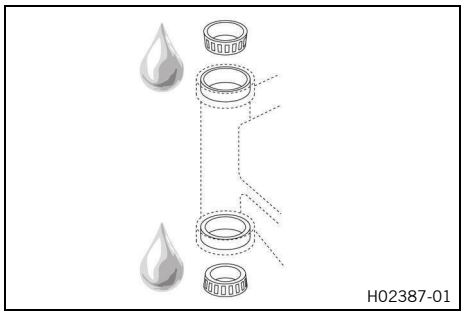
– Tighten screws ❶.

| Screw, top triple clamp | |
|---|---|
| M8×40 | 20 Nm<br>(14.8 ft·lb$_f$) |

**Reworking**

– Check the steering head bearing play. (p. 70)
– Remove the motorcycle from the lift stand. (p. 63)

## 12.13 Lubricating the steering head bearing




– Remove the lower triple clamp. (p. 67)
– Install the lower triple clamp. (p. 68)

**Note**
The steering head bearing is cleaned and lubricated in the course of removal and installation of the lower triple clamp.

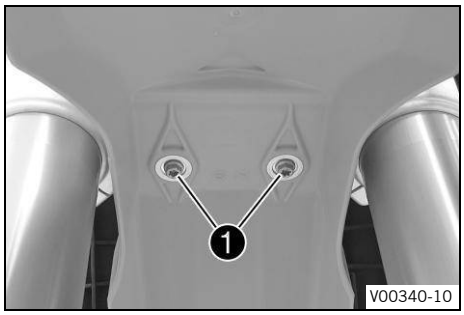
## 12.14 Removing the front top fender

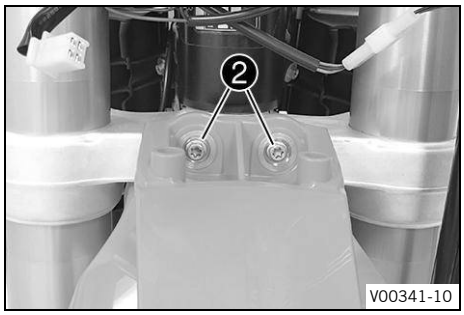
**Preparatory work**

– Remove the headlight mask with the headlight. (p. 119)

**Main work**

– Remove ❶ screws.



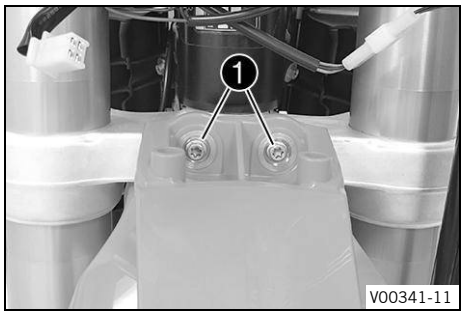

– Remove ❷ screws.
– Remove the front fender.

## 12.15 Installing the front top fender

**Main work**

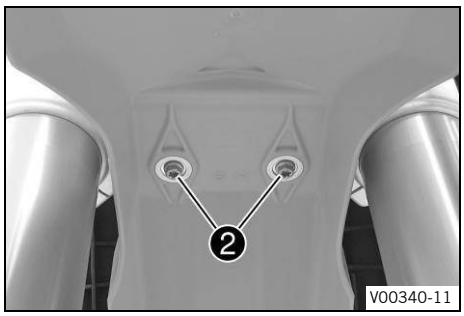
– Position the front fender.
– Mount and tighten screws ❶.

| Screw, fender to triple clamp | |
|---|---|
| M6×16 | 12 Nm (8.9 ft·lb$_f$) |




– Mount and tighten screws ❷.

| Screw, fender to triple clamp | |
|---|---|
| M6×16 | 12 Nm (8.9 ft·lb$_f$) |




**Reworking**

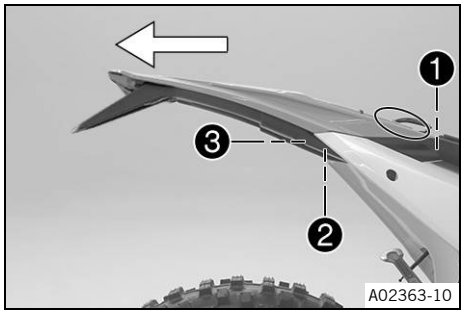
– Install the headlight mask with the headlight. (p. 119)
– Check the headlight setting. (p. 120)

## 12.16 Removing the shock absorber

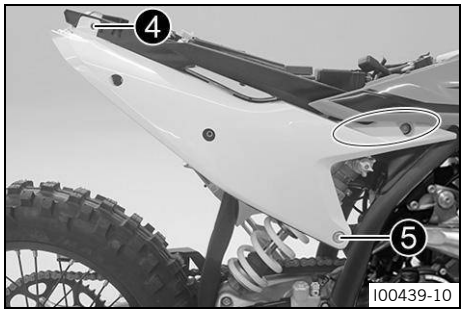
**Preparatory work**

- Raise the motorcycle with a lift stand. (p. 63)
- Remove the seat. (p. 75)
- Remove the frame protector. (p. 76)
- Remove the muffler. (p. 79)

**Main work**

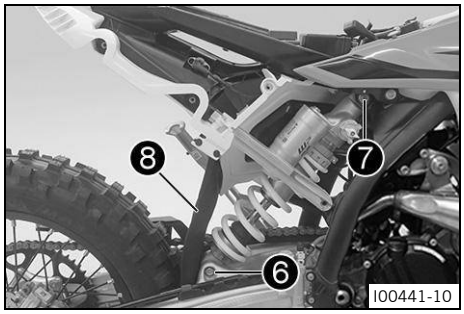



- Remove screws 1.
- Disconnect the plug-in connector of the tail light.
- Remove screws 2 and screws 3.
- Take off the license plate holder with tail light toward the rear.




- Remove screw 4.
- Remove screw 5.
- Carefully take off the right side cover to the side.

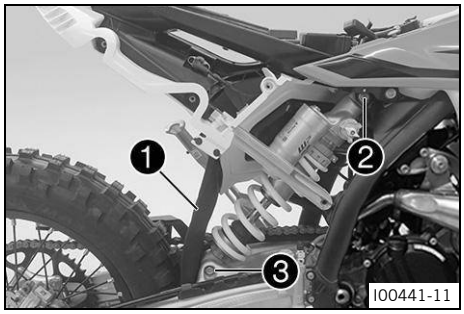
> **Note**
> The right side cover also engages behind the spoiler.




- Remove screw 6 and lower the rear wheel with the link fork as far as possible without blocking the rear wheel.
- Secure the rear wheel in this position.
- Remove screw 7.
- Push splash protector 8 to the side and remove the shock absorber.

## 12.17 Installing the shock absorber

**Main work**




- Push splash protector 1 to the side and position the shock absorber.
- Mount and tighten screw 2.

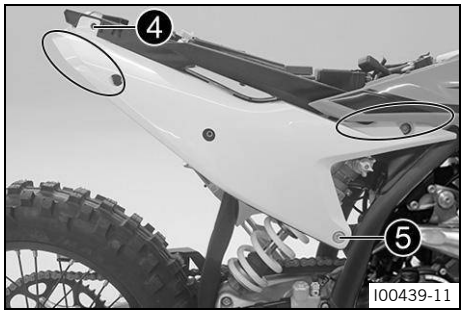
| Top shock absorber screw | |
|---|---|
| M12×50 | 80 Nm<br>(59.0 ft·lb$_f$)<br>**Loctite® 2701** |

– Mount and tighten screw ❸.

| Bottom shock absorber screw | |
|---|---|
| M12×50 | 80 Nm<br>(59.0 ft·lb$_f$)<br>**Loctite® 2701** |

**Note**

The heim joint for the shock absorber on the link fork is Teflon coated. It must not be lubricated with grease, nor with any other lubricants. Lubricants dissolve the Teflon coating, thereby drastically reducing the service life.

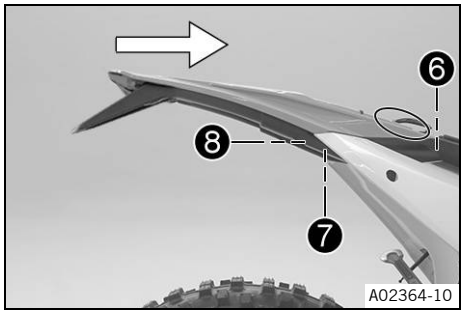



– Position the right side fairing on the tail section.
– Position the right side fairing correctly behind the spoiler.

| Ensure that it is correctly seated on the tail section. |
|---|

– Mount screw ❹ and screw in hand-tight.
– Mount and tighten screw ❺.

| Screw, subframe on bottom frame | |
|---|---|
| M8×18 | 30 Nm<br>(22.1 ft·lb$_f$)<br>**Loctite® 2701** |




– Slide the license plate holder with tail light carefully onto the tail section.

| Pay attention to cable routing. |
|---|

– Mount and tighten screws ❻.

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm<br>(7.4 ft·lb$_f$) |

– Join and stow away tail light plug-in connector.
– Mount and tighten screws ❼.

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm<br>(7.4 ft·lb$_f$) |

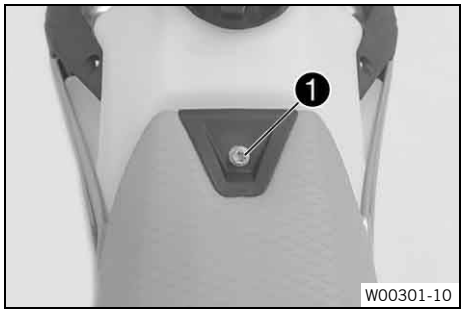
– Mount and tighten screws ❽.

| Remaining screws on chassis | |
|---|---|
| **EJOT PT®** – K60×25 | 2 Nm<br>(1.5 ft·lb$_f$) |

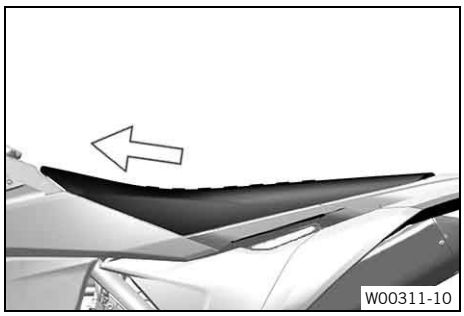
**Reworking**

– Install the muffler. (p. 80)
– Install the frame protector. (p. 76)
– Mount the seat. (p. 75)
– Remove the motorcycle from the lift stand. (p. 63)

## 12.18 Removing the seat

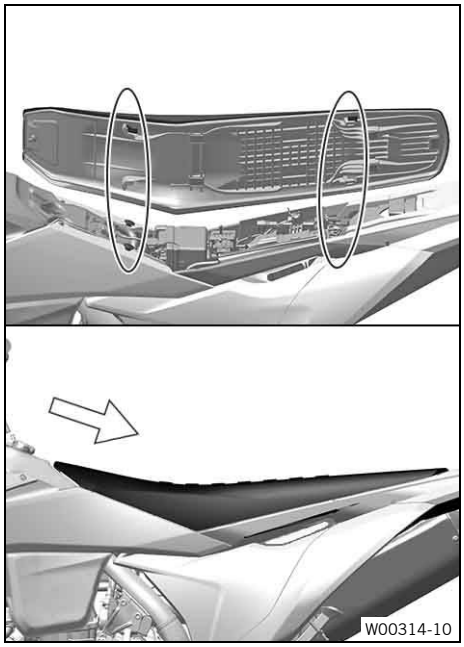



– Remove screw ❶.

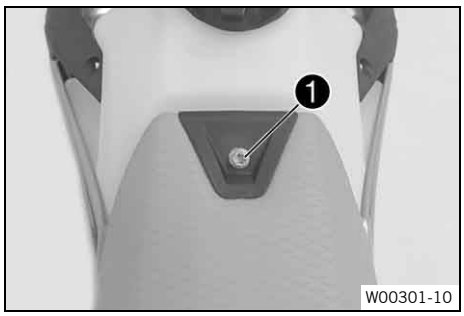



– Raise seat, pull it toward the fuel tank and take it off.

## 12.19 Mounting the seat



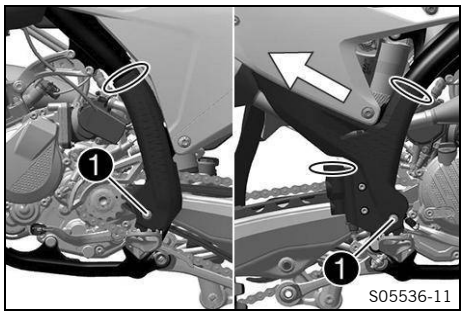

– Hook the front of the seat onto the two collar bushings of the fuel tank, lower it at the rear and push it back.
  ✓ The holding lugs engage in the recesses at the back.
– Make sure the seat is latched in place correctly.




– Mount and tighten screw 1.

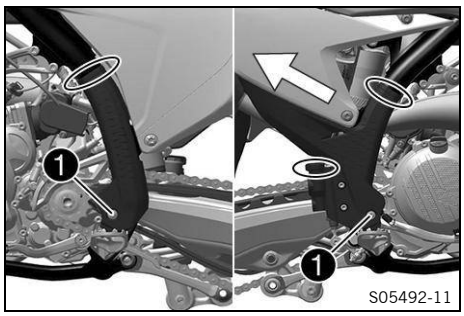
| Screw, seat installation | |
|---|---|
| M6×25 | 8 Nm<br>(5.9 ft·lb$_f$) |

## 12.20 Removing the frame protector




– Remove the cable ties.
– Remove screws 1 and bushings.
– Take off the left frame protector.
– Push the right frame protector to the front and take off at the bottom.

## 12.21 Installing the frame protector




– Position the left frame protector.
– Insert the right frame protector from below and push it to the rear.
– Mount screw 1 and bushing and tighten.

| Screw, frame protector | |
|---|---|
| M5×10 | 3 Nm<br>(2.2 ft·lb$_f$) |

– Secure the frame protector with cable ties.

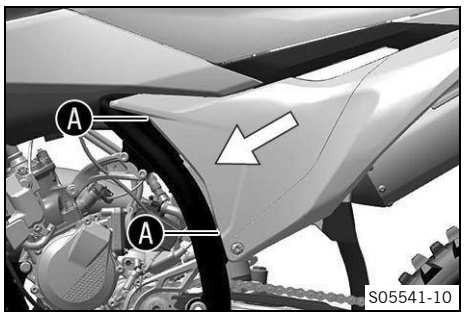
| |
|---|
| Turn the head of the cable tie so far back that it does not touch any other components. |

## 12.22 Removing air filter box cover

Condition: Air filter box cover secured

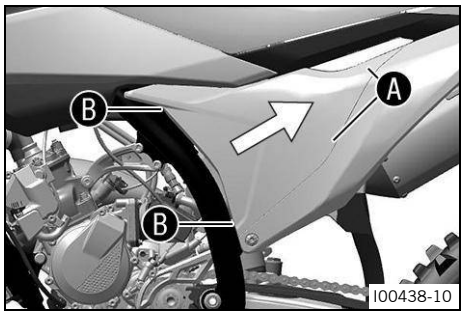



– Remove screw 1.




– Pull off the air filter box cover in areas Ⓐ and push it sideways and forward.
– Take off the air filter box cover.

## 12.23 Installing air filter box cover




– Attach the air filter box cover in areas Ⓐ and clip in areas Ⓑ.

Condition: Air filter box cover secured




– Mount and tighten screw ❶.

| Screw, air filter box cover | |
|---|---|
| **EJOT PT®** – K60×20 – Z | 3 Nm (2.2 ft·lb$_f$) |

## 12.24 Removing the air filter

**NOTE**

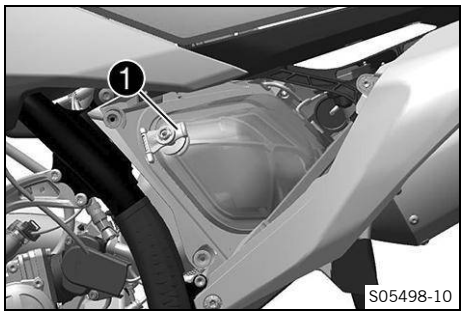
**Engine failure** Unfiltered intake air has a negative effect on the service life of the engine.
Dust and dirt can enter the engine if there is no air filter or if the air filter is mounted incorrectly.
– Only operate the vehicle if an air filter is correctly fitted.

**NOTE**

**Environmental hazard** Hazardous substances cause environmental damage.
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Preparatory work**

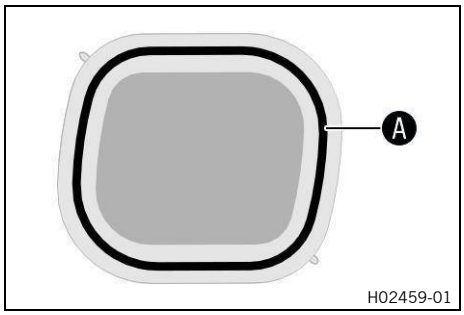
– Remove air filter box cover. (p. 76)




**Main work**

– Detach tab ❶.
– Remove air filter with air filter support.
– Remove the air filter with the air filter support.

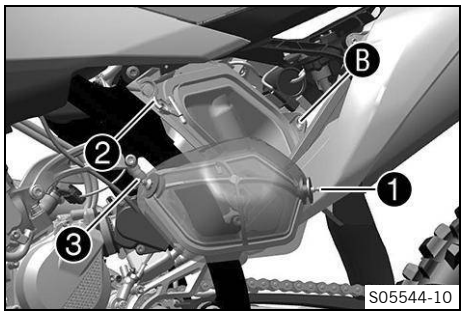
## 12.25 Installing the air filter




**Main work**

– Mount the clean air filter on the air filter support.
– Grease the air filter in area Ⓐ.

| Long-life grease (p. 175) |
|---|




– Insert air filter and position retaining pin ❶ in bushing Ⓑ.
  ✓ The air filter is correctly positioned.
– Insert retaining tab ❷.
  ✓ Retaining pin ❸ is secured with retaining tab ❷.

**Note**
If the air filter is not mounted correctly, dust and dirt may enter the engine and result in damage.

**Reworking**

– Install the air filter box cover. (p. 77)

## 12.26 Cleaning the air filter and air filter box

**NOTE**
**Environmental hazard** Hazardous substances cause environmental damage.
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Preparatory work**

– Remove air filter box cover. (p. 76)
– Remove the air filter. (p. 77)




**Main work**

– Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

| |
|---|
| Do not clean the air filter with fuel or petroleum as these substances will damage the foam rubber. |
| Only press the air filter to dry it, do not wring it out. |

| |
|---|
| Air filter cleaning agent (p. 180) |

– Oil the dry air filter with a high-grade air filter oil.

| |
|---|
| Oil for foam air filter (p. 176) |

– Clean the air filter box.
– Clean the intake flange and check it for damage and that it is firmly seated.

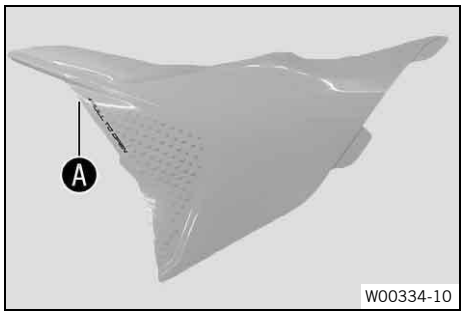
**Reworking**

– Install the air filter. (p. 78)
– Install the air filter box cover. (p. 77)

## 12.27 Preparing the air filter box cover for securing

**Preparatory work**

– Remove air filter box cover. (p. 76)




**Main work**

– Drill a hole at marking A.

| | |
|---|---|
| Diameter | 6 mm<br>(0.24 in) |

**Reworking**

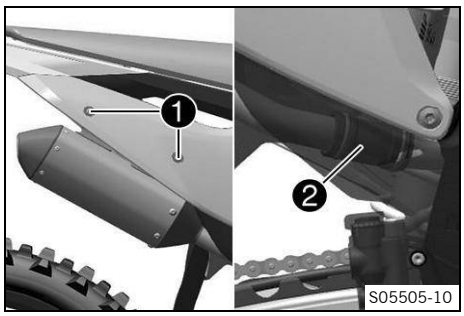
– Install the air filter box cover. (p. 77)

## 12.28 Removing the muffler

**WARNING**

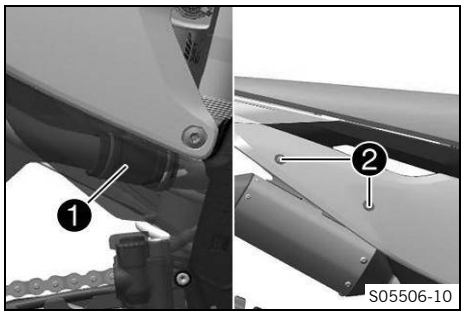
**Danger of burns** The exhaust system gets hot when the vehicle is driven.

– Allow the exhaust system to cool down before performing any work on the vehicle.




– Remove screws ❶.
– Pull off the silencer with exhaust sleeve ❷ and the spring rings from the header.

## 12.29 Installing muffler




– Mount the silencer with exhaust sleeve ❶ and the spring rings.
– Mount and tighten screws ❷.

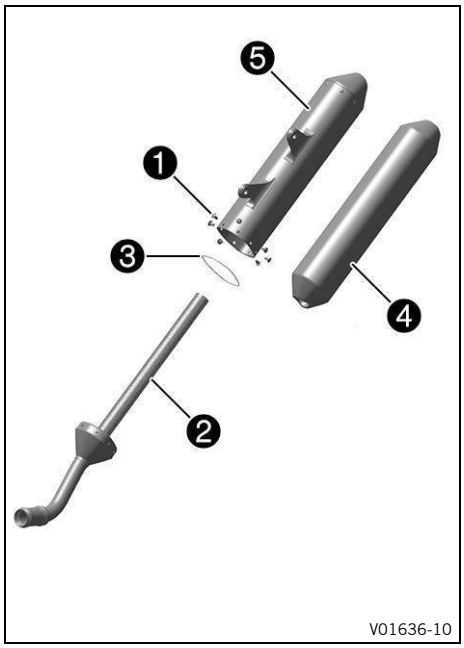
| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm (7.4 ft·lb$_f$) |

## 12.30 Changing the damping material on the main silencer

**WARNING**
**Danger of burns** The exhaust system gets hot when the vehicle is driven.
– Allow the exhaust system to cool down before performing any work on the vehicle.

**Note**
Over time, the fibers of the rock wool dissipate and the main silencer “burns out”.
Not only does this make the noise level higher, but the performance characteristics also change.

**Preparatory work**
– Remove the muffler. (p. 79)




**Main work**

– Remove screws ❶.
– Pull out inner tube ❷ with O-ring ❸.
– Remove old damping material.
– Clean the parts that need to be reinstalled and check for damage.
– Mount new damping material ❹ on the inner tube.
– Slide outer tube ❺ over the inner tube with the new damping material and the O-ring.
– Mount and tighten all screws ❶.

| Screws on muffler | |
|---|---|
| M5 | 7 Nm<br>(5.2 ft·lb$_f$) |

**Reworking**

– Install the muffler. (p. 80)

## 12.31 Removing the fuel tank

**DANGER**

**Fire hazard** Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

– Do not refuel the vehicle in the vicinity of open flames, glowing, or smoldering objects.
– Make sure that nobody smokes in the vicinity of the vehicle during the refueling process.
– Switch off the engine for refueling.
– Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
– If any fuel is spilled, wipe it up immediately.
– Do not overfill the fuel tank.

**WARNING**

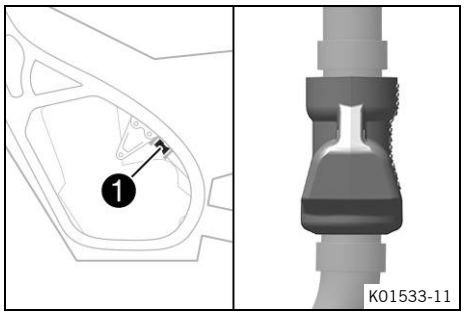
**Danger of poisoning** Fuel is harmful to health.

– Do not allow fuel to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if fuel has been ingested.
– Do not inhale fuel vapors.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if fuel comes into contact with eyes.
– If fuel spills on to your clothing, change the clothing.
– Store fuel properly in a suitable container and keep out of the reach of children.

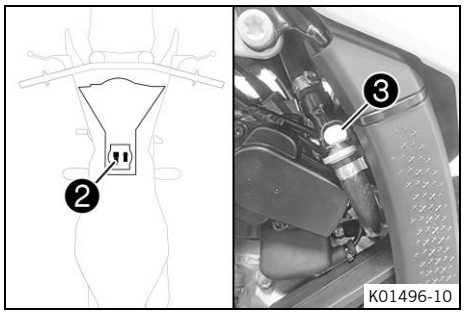
**Preparatory work**

– Remove the seat. (p. 75)

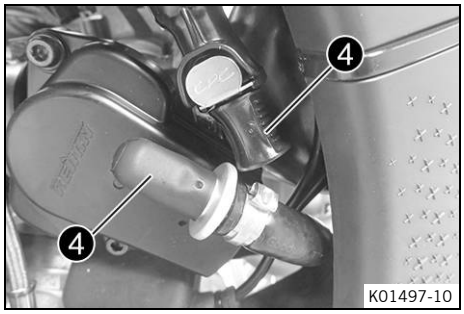
**Main work**




– Remove protection cap ❶ of the fuel line.




– Unplug socket connector ❷ of the fuel pump.
– Remove hose ❸ from the fuel tank breather.




– Clean the quick release coupling thoroughly with compressed air.

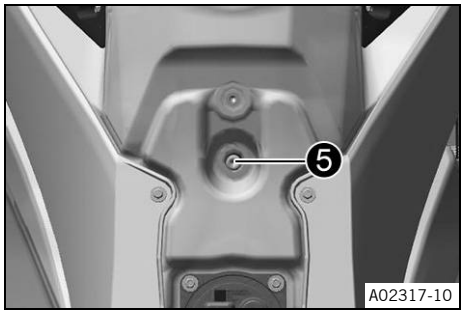
| |
|---|
| Dirt must not enter into the fuel line. Dirt in the fuel line clogs the injector! |

– Disconnect the quick-lock coupling.

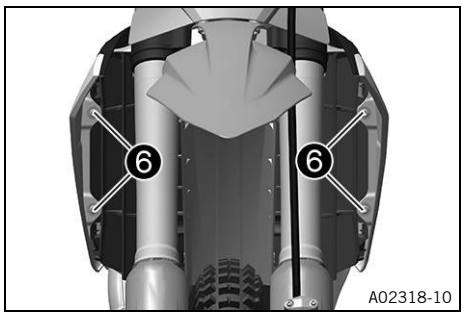
**Note**
Remaining fuel may flow out of the fuel hose.

– Mount wash cap set ❹.

| |
|---|
| Wash cap set (81212016100) |



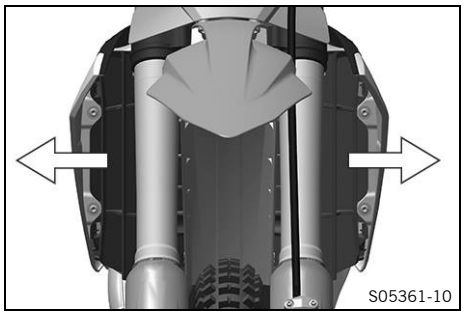

– Remove screw ❺ with the rubber bushing.




– Remove screws ❻ with collar bushings.

**(XC-W EU)**

– Hang the horn and horn bracket to one side.




– Pull both spoilers off laterally from the radiator bracket and lift off the fuel tank.

## 12.32 Installing the fuel tank

**DANGER**

**Fire hazard** Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

– Do not refuel the vehicle in the vicinity of open flames, glowing, or smoldering objects.
– Make sure that nobody smokes in the vicinity of the vehicle during the refueling process.
– Switch off the engine for refueling.
– Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
– If any fuel is spilled, wipe it up immediately.
– Do not overfill the fuel tank.

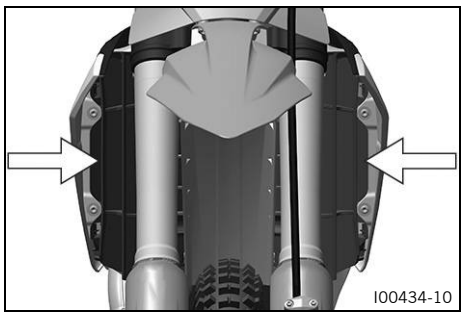
**WARNING**

**Danger of poisoning** Fuel is harmful to health.

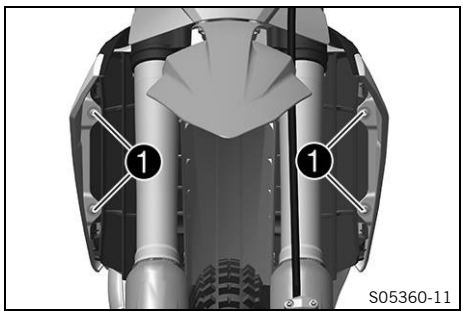
– Do not allow fuel to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if fuel has been ingested.
– Do not inhale fuel vapors.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if fuel comes into contact with eyes.
– If fuel spills on to your clothing, change the clothing.
– Store fuel properly in a suitable container and keep out of the reach of children.

**Main work**

– Check the throttle cable routing. (p. 90)




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

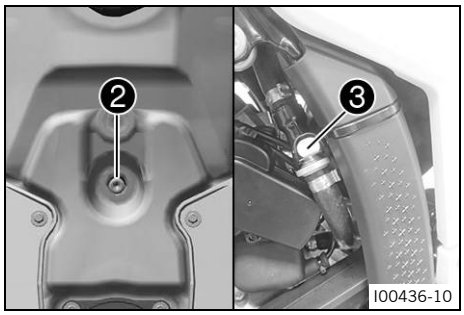



– Mount and tighten screws ❶ with the collar bushings.

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm (7.4 ft·lb$_f$) |

**(XC-W EU)**

– Position the horn with the horn bracket.




– Mount and tighten screw ❷ with the rubber bushing.

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm (7.4 ft·lb$_f$) |

– Remove the wash cap set.
– Clean the quick release coupling thoroughly with compressed air.

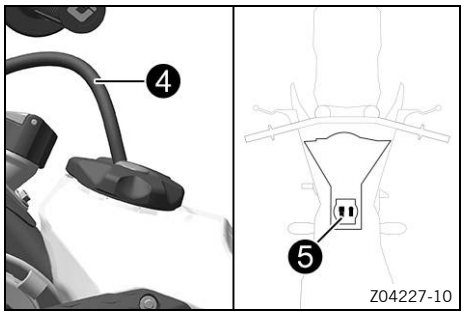
| Dirt must not enter into the fuel line. Dirt in the fuel line clogs the injector! |
|---|

– Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-lock coupling.

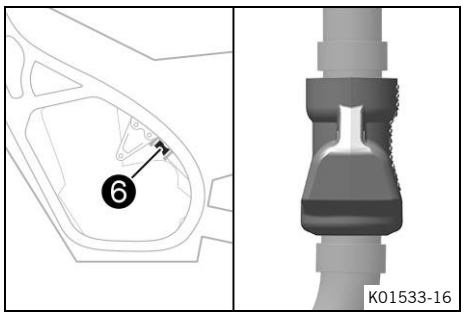
| Silicone spray (p. 176) |
|---|

– Join quick release coupling ❸.

| Route the wire and fuel line at a safe distance from the exhaust system. |
|---|




– Attach fuel tank breather hose ❹.
– Plug in fuel pump socket connector ❺.

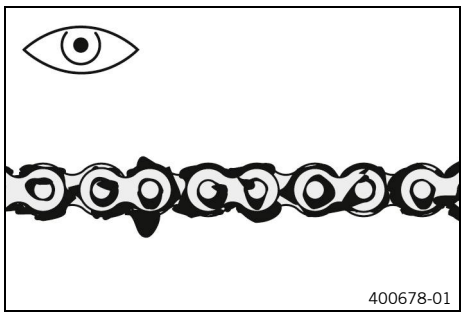



– Mount protection cap ❻ of the fuel line.

**Reworking**

– Mount the seat. (p. 75)

## 12.33 Checking the chain for contaminant




– Check the chain for coarse dirt accumulation.
  » If the chain is very dirty:
    – Clean the chain. (p. 85)

## 12.34 Cleaning the chain

**WARNING**

**Danger of accidents** Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

**WARNING**

**Danger of accidents** Lubricants on the tires reduces the road grip.

– Remove lubricants from the tires using a suitable cleaning agent.

**NOTE**

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

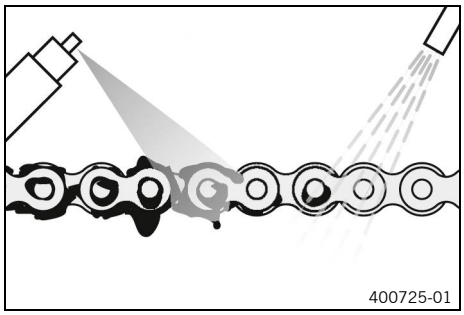
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Note**

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

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)




**Main work**

– Rinse off the loose dirt with a gentle jet of water.
– Remove old grease residues with a chain cleaner.

| Chain cleaner (p. 180) |
|---|

– After drying, apply chain spray.

| Off-road chain spray (p. 175) |
|---|

**Reworking**

– Remove the motorcycle from the lift stand. (p. 63)

## 12.35 Checking the chain tension

**WARNING**

**Danger of accidents** Incorrect chain tension can damage components and result in an accident.

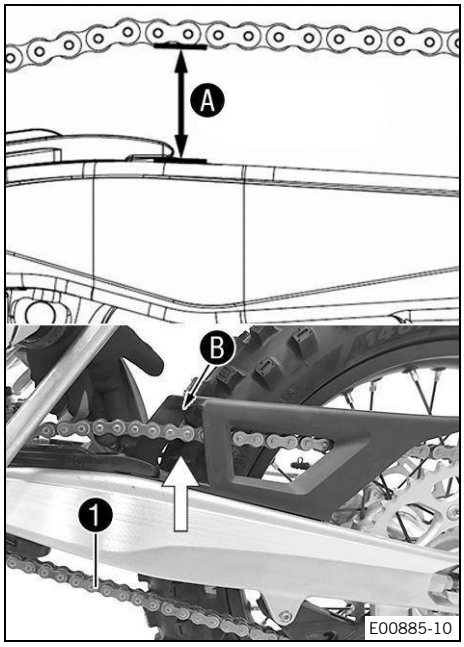
If the chain is tension is too high, the chain, front sprocket, rear sprocket, transmission, and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the front sprocket or the rear sprocket. This can damage the rear wheel or the engine.

– Check the chain tension regularly.
– Set the chain tension in accordance with the specification.

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)




**Main work**

– Pull the chain at the end of the chain slider upward to measure chain tension A.

| | |
|---|---|
| Chain tension | 58 mm ... 61 mm (2.28 in ... 2.40 in) |
| Lower chain section 1 must be taut. | |
| When the chain guard is mounted, it must be possible to pull up the chain at least to the point where it makes contact with chain guard B. | |
| Chain wear is not always even, so repeat this measurement at different positions on the chain. | |

» If the chain tension does not meet the specification:
– Adjust the chain tension. (p. 87)

**Reworking**

– Remove the motorcycle from the lift stand. (p. 63)

## 12.36 Adjusting the chain tension

**WARNING**

**Danger of accidents** Incorrect chain tension can damage components and result in an accident.

If the chain is tension is too high, the chain, front sprocket, rear sprocket, transmission, and rear wheel bearings wear more quickly. Some components may break if overloaded.

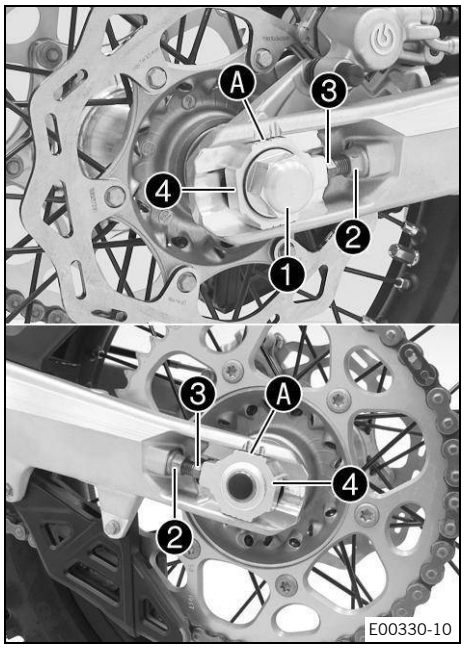
If the chain is too loose, the chain may fall off the front sprocket or the rear sprocket. This can damage the rear wheel or the engine.

– Check the chain tension regularly.
– Set the chain tension in accordance with the specification.

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)
– Check the chain tension. (p. 86)

**Main work**




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

| | |
|---|---|
| Chain tension | 58 mm … 61 mm<br>(2.28 in … 2.40 in) |
| In order for the rear wheel to be correctly aligned, the markings on the left and right chain adjusters must be in the same position relative to reference markings Ⓐ. | |

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

| Nut, wheel spindle, rear | |
|---|---|
| M22×1.5 | 80 Nm<br>(59.0 ft·lb$_f$) |

**Note**

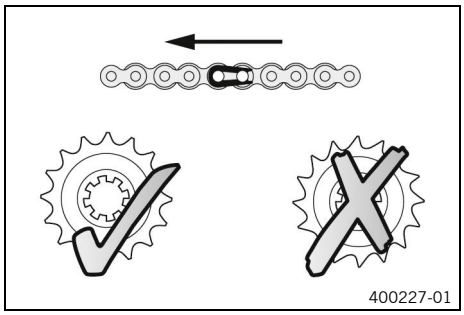
The wide adjustment range of the chain adjusters enables different secondary ratios with the same chain length.

Chain tension adjusters ❹ can be turned by 180°.

**Reworking**

– Remove the motorcycle from the lift stand. (p. 63)

## 12.37 Checking the chain, rear sprocket, front sprocket, and chain guide


400227-01

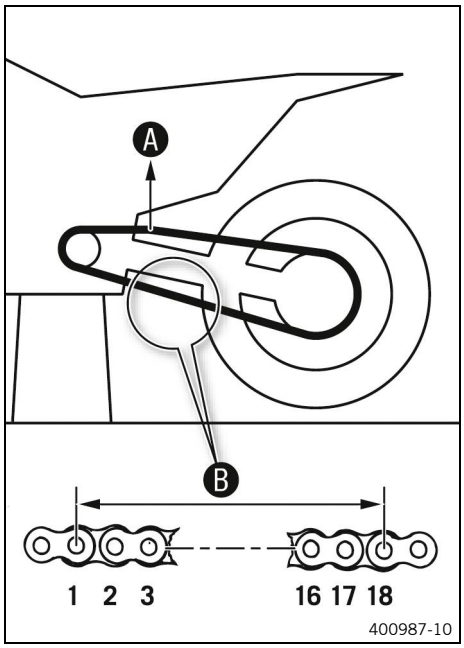
**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)

**Main work**

– Shift the transmission into the neutral position.
– Check the chain, rear sprocket, and front sprocket for wear.
  » If the chain, rear sprocket, or front sprocket is worn:
    – Change the drivetrain kit.

| |
|---|
| Always replace the front sprocket, rear sprocket, and chain together. |



400987-10

– Pull on the top section of the chain with the specified weight A.

| | |
|---|---|
| Weight, chain wear measurement | 10 kg ... 15 kg<br>(22.0 lb ... 33.1 lb) |

– Measure distance B of chain rollers in the lower chain section.

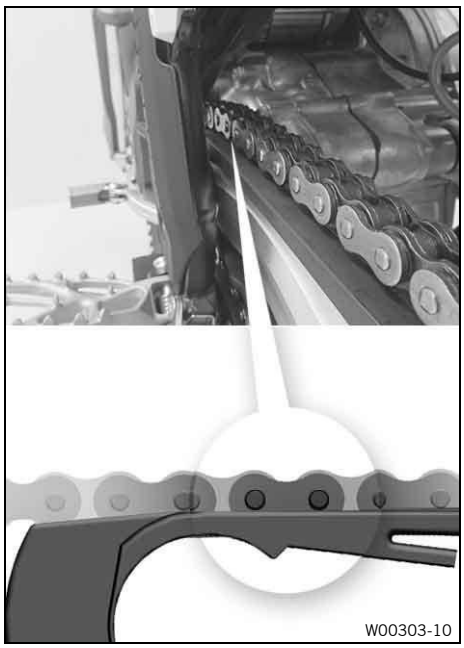
| | |
|---|---|
| Maximum distance B of chain rollers at the longest chain section | 272 mm<br>(10.71 in) |
| Chain wear is not always even, so repeat this measurement at different positions on the chain. | |

  » If distance B is greater than the specified measurement:
    – Change the drivetrain kit.

| |
|---|
| When installing a new chain, also replace the rear sprocket and front sprocket. |

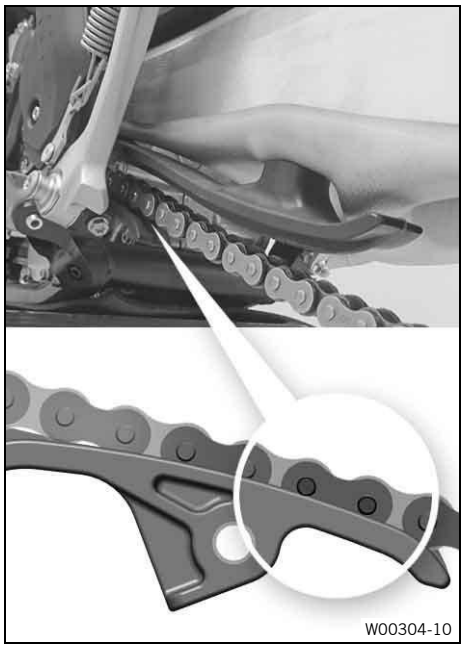
**Note**

New chains wear out faster on old, worn sprockets.



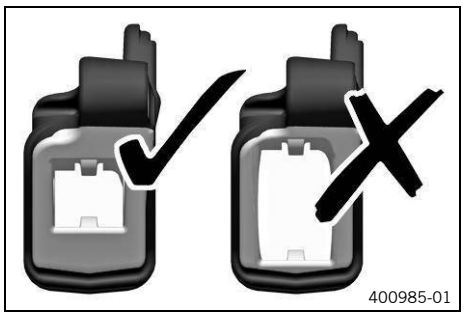

– Check the chain slider at the top for wear.
  » If the lower edge of the chain pins is in line with, or below, the chain slider:
    – Change the chain slider.
– Check that the chain slider is firmly seated.
  » If the chain slider is loose:
    – Tighten the screws of the chain slider.

| Screw, chain sliding guard on link fork | |
|---|---|
| M6×16 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 243** |




– Check the chain slider for wear.
  » If the lower edge of the chain pins is in line with or below the chain slider:
    – Change the chain slider.
– Check that the chain slider is firmly seated.
  » If the chain slider is loose:
    – Tighten the screws of the chain slider.

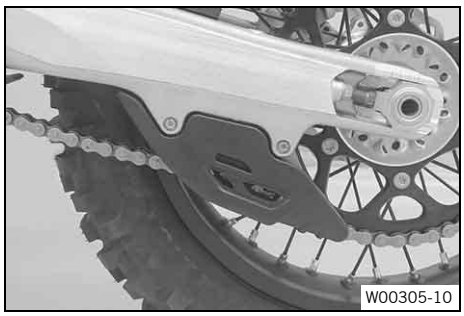
| Screw, chain glider on frame | |
|---|---|
| M8×20 | 15 Nm<br>(11.1 ft·lb$_f$) |




– Check the chain guide for wear.

**Note**
Wear can be seen on the front of the chain guide.

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



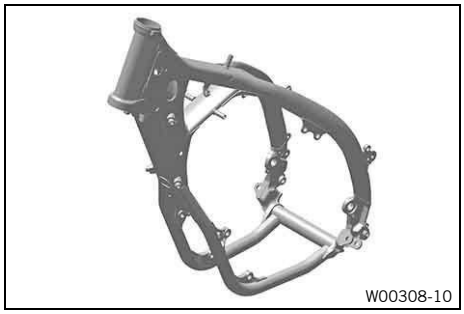

– Check that the chain guide is firmly seated.
  » If the chain guide is loose:
    – Tighten the screws on the chain guide.

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm (7.4 ft·lb$_f$) |

**Reworking**

– Remove the motorcycle from the lift stand. (p. 63)

## 12.38 Checking the frame




– Check the frame for damage, cracks, and deformation.
  » If the frame shows signs of damage, cracks, or deformation:
    – Change the frame.

Repairs on the frame are not permitted.

## 12.39 Checking the swingarm




– Check the swingarm for damage, cracks, and deformation.
  » If the swingarm shows signs of damage, cracks, or deformation:
    – Change the swingarm.

Repairs on the swingarm are not permitted.

## 12.40 Checking the throttle cable routing

**WARNING**

**Danger of accidents** The throttle cable can become kinked, jammed, or blocked if it has been routed incorrectly.

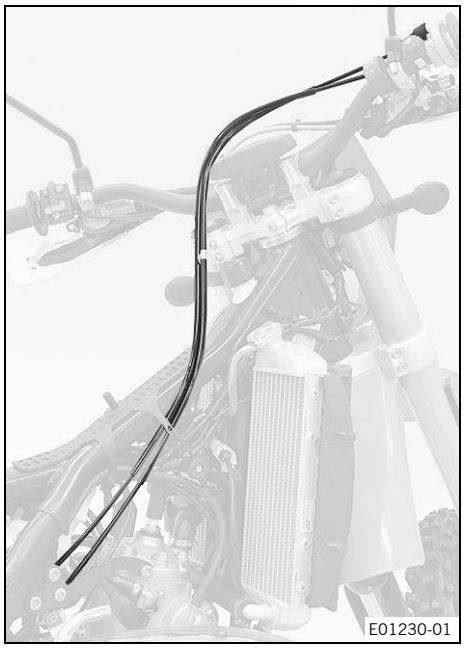
If the throttle cable is kinked, jammed or blocked, the speed can no longer be controlled.

– Make sure that the throttle cable routing and the play in the throttle cable complies with the specification.

**Preparatory work**

– Remove the seat. (p. 75)
– Remove the fuel tank. (p. 81)

**Main work**


E01230-01

– Check the throttle cable routing.

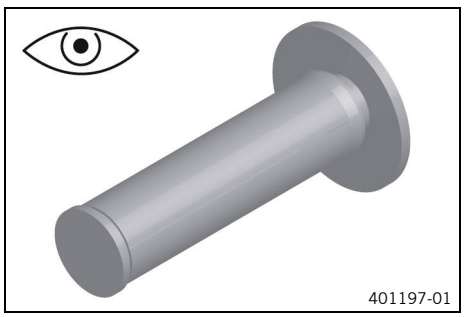
| |
|---|
| Both throttle cables must be routed, side by side, on the back of the handlebars, above the fuel tank roller on the right of the frame to the throttle valve body. Both throttle cables must be secured behind the rubber strap of the fuel tank support. |

» If the throttle cable routing is not as specified:
– Correct the throttle cable routing.

**Reworking**

– Install the fuel tank. (p. 83)
– Mount the seat. (p. 75)

## 12.41 Checking the hand grip


401197-01

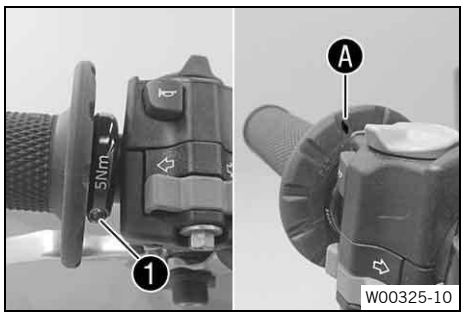
– Check the hand grips on the handlebar for damage, wear, and that they are firmly seated.

**Note**

The hand grips are vulcanized onto a sleeve on the left and onto the grip tube of the throttle grip on the right. The left sleeve is clamped onto the handlebar.

The hand grip can only be replaced with the sleeve or the gas pipe.

» If a hand grip is damaged or worn:
– Replace the hand grip.

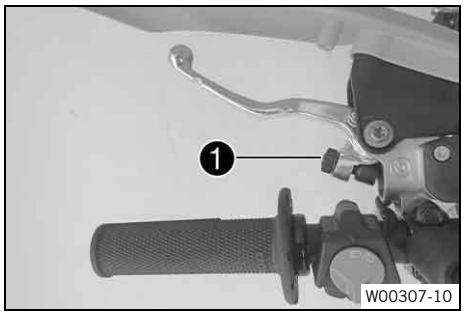



– Check that screw ❶ is firmly seated.

| Screw, fixed grip | |
|---|---|
| M4×12 | 5 Nm<br>(3.7 ft·lb$_f$)<br>**Loctite® 243** |

Diamond Ⓐ must be positioned visibly as shown in the figure.

## 12.42 Adjusting the basic position of the clutch lever




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

Only turn the adjusting screw by hand, and do not use force.

Do not make any adjustments while riding.

**Note**

When the adjusting screw is turned clockwise, the clutch lever moves away from the handlebar.

When the adjusting screw is turned counterclockwise, the clutch lever moves closer to the handlebar.

The range of adjustment is limited.

## 12.43 Checking/correcting the fluid level of hydraulic clutch

**WARNING**

**Health hazard** Brake fluid is a harmful substance.

– Keep brake fluid out of the reach of children.
– Wear suitable protective clothing and safety glasses.
– Do not allow brake fluid to come into contact with the skin, the eyes, or clothing.
– Consult a doctor immediately if brake fluid has been ingested.
– Rinse the affected area with plenty of water in the event of contact with the skin.
– Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
– If brake fluid spills on to your clothing, change the clothing.

**NOTE**

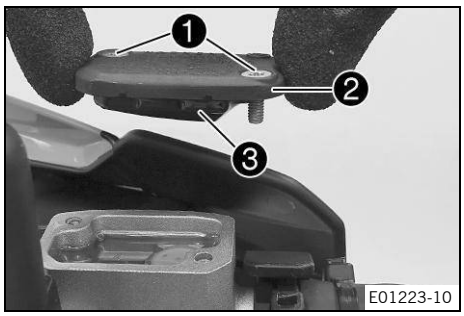
**Environmental hazard** Hazardous substances cause environmental damage.

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Note**

The fluid level rises with increasing wear of the friction plates.

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.




– Move the hydraulic clutch fluid reservoir mounted on the handlebar into a horizontal position.
– Remove screws 1.
– Take off cover 2 with membrane 3.
– Check the fluid level.

| | |
|---|---|
| Fluid level below reservoir rim | 4 mm<br>(0.16 in) |

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

Brake fluid DOT 5.1 (p. 176)

– Position cover 2 with membrane 3.
– Mount and tighten screws 1.

Immediately clean up any brake fluid that has overflowed or spilled using water.

## 12.44 Changing the hydraulic clutch fluid

**WARNING**

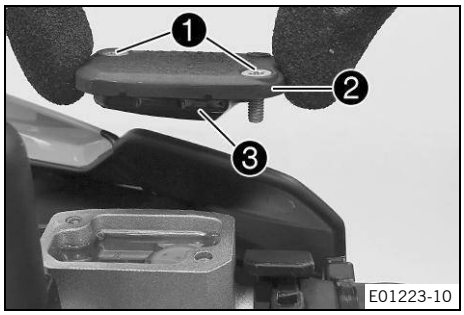
**Health hazard** Brake fluid is a harmful substance.
– Keep brake fluid out of the reach of children.
– Wear suitable protective clothing and safety glasses.
– Do not allow brake fluid to come into contact with the skin, the eyes, or clothing.
– Consult a doctor immediately if brake fluid has been ingested.
– Rinse the affected area with plenty of water in the event of contact with the skin.
– Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
– If brake fluid spills on to your clothing, change the clothing.

**NOTE**

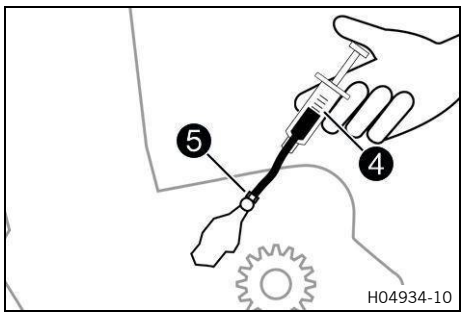
**Environmental hazard** Hazardous substances cause environmental damage.
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Note**

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



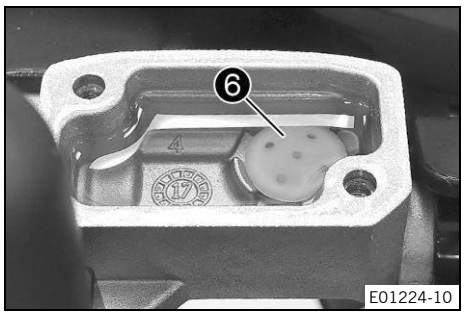

– Move the hydraulic clutch fluid reservoir mounted on the handlebar into a horizontal position.
– Remove screws 1.
– Take off cover 2 with membrane 3.




– Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

| |
|---|
| Syringe (50329050000) |
| Brake fluid DOT 5.1 (p. 176) |

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



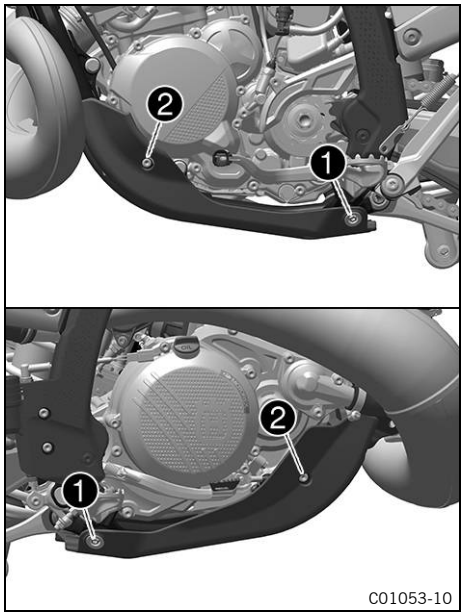

– Inject the liquid into the system until it escapes from bore ❻ of the master cylinder without bubbles.
– Occasionally extract the fluid from the master cylinder reservoir to prevent overflowing.
– Remove the bleeding syringe.
– Tighten the bleeder screw.
– Mount the protection cap.
– Correct the fluid level of the hydraulic clutch.

| | |
|---|---|
| Fluid level below reservoir rim | 4 mm<br>(0.16 in) |

– Position cover ❷ with membrane ❸.
– Mount and tighten screws ❶.

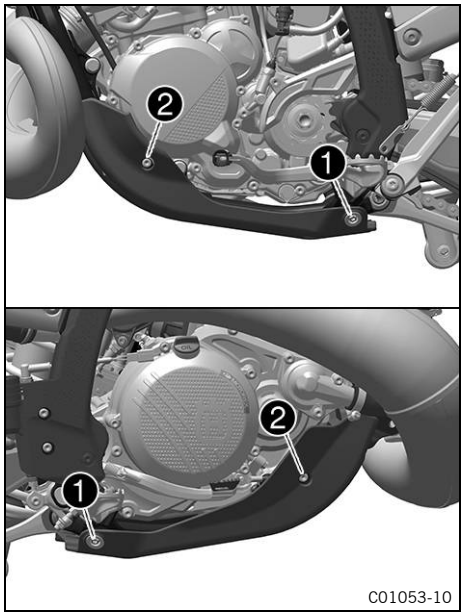
| |
|---|
| Immediately clean up any brake fluid that has overflowed or spilled using water. |

## 12.45 Removing the skid plate (XC-W US)




– Remove screws ❶.
– Remove screws ❷ with bushings and the skid plate.

## 12.46 Installing the skid plate (XC-W US)

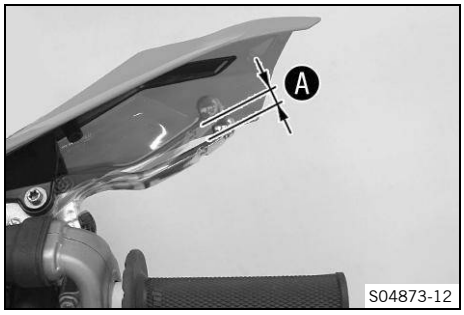



– Position the rear skid plate on the frame.
– Mount screws ❶, but do not tighten yet.
– Mount screws ❷ with bushings, but do not tighten yet.
  ✓ The skid plate is directed evenly toward the front.
– Tighten all the screws of the skid plate.

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm<br>(7.4 ft·lb$_f$) |

## 13.1 Checking the free travel on the hand brake lever

**WARNING**
**Danger of accidents** The brake system fails in the event of overheating.
If there is no free travel on the brake lever, pressure builds up in the brake system.
– Set the free travel on the brake lever as specified.

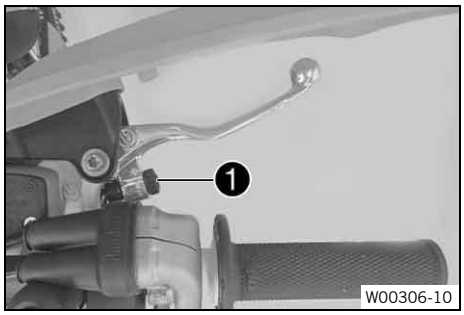



– Push the hand brake lever to the handlebar and check free travel A.

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

» If the free travel does not meet the specifications:
– Adjust the free travel of the handbrake lever. (p. 96)

## 13.2 Adjusting the free travel of the handbrake lever



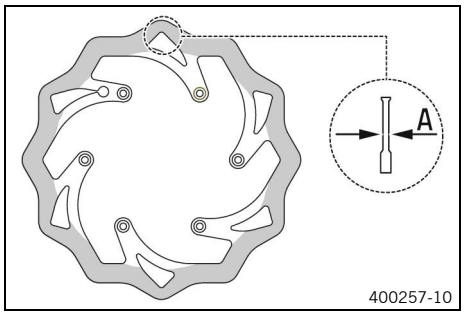

– Check the free travel on the hand brake lever. (p. 96)
– Adjust the free travel of the hand brake lever with adjusting screw 1.

| |
|---|
| Only turn the adjusting screw by hand, and do not use force. |
| Do not make any adjustments while riding. |

**Note**
Turn the adjusting screw clockwise to reduce free travel. The pressure point moves away from the handlebar.
Turn the adjusting screw counterclockwise to increase free travel. The pressure point moves towards the handlebar.
The range of adjustment is limited.

## 13.3 Checking the brake discs

**WARNING**
**Danger of accidents** Worn-out brake discs reduce the braking action.
– Make sure that worn-out brake discs are replaced immediately.




– Check the brake disc thickness of the front and rear brake disc at several places on the disc to see if they conform to measurement A.

| Brake disc wear limit | |
|---|---|
| front | 2.5 mm (0.098 in) |
| rear | 3.5 mm (0.138 in) |

**Note**
Wear reduces the thickness of the brake discs at the contact surface of the brake pads.

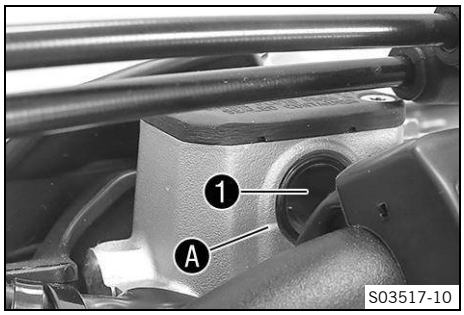
» If the brake disc thickness is less than the specified value:
– Change the brake discs of the front brake.
– Change the brake discs on the rear brake.

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

## 13.4 Checking the brake fluid level for the front brake

**WARNING**
**Danger of accidents** Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

**WARNING**
**Danger of accidents** An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.
– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.




– Move the brake reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in sight glass 1.
» If the brake fluid level has dropped below marking A in the level viewer:
– Add brake fluid for the front brake. (p. 97)

## 13.5 Adding brake fluid for the front brake

**WARNING**
**Danger of accidents** Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

**WARNING**

**Danger of accidents** An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.

– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.

**WARNING**

**Health hazard** Brake fluid is a harmful substance.

– Keep brake fluid out of the reach of children.
– Wear suitable protective clothing and safety glasses.
– Do not allow brake fluid to come into contact with the skin, the eyes, or clothing.
– Consult a doctor immediately if brake fluid has been ingested.
– Rinse the affected area with plenty of water in the event of contact with the skin.
– Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
– If brake fluid spills on to your clothing, change the clothing.

**NOTE**

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

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

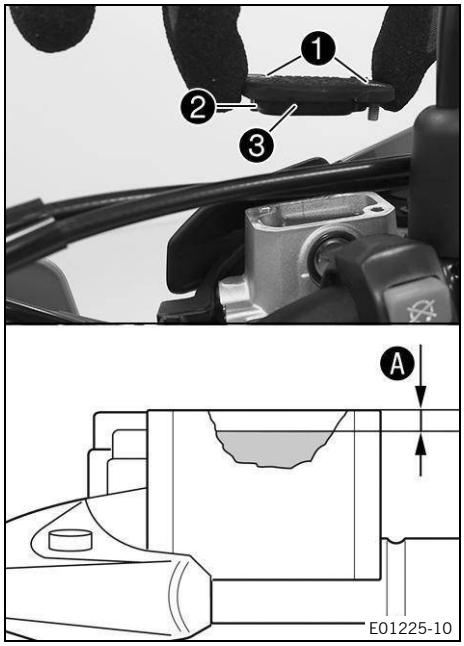
**Note**

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.

**Preparatory work**

– Check that the brake pads of the front brake are secured. (p. 99)

**Main work**




– Move the brake reservoir mounted on the handlebar to a horizontal position.
– Remove 1 screws.
– Take off cover 2 with diaphragm 3.
– Add brake fluid up to level A.

| | |
|---|---|
| Level A (brake fluid level below reservoir rim) | 5 mm (0.20 in) |

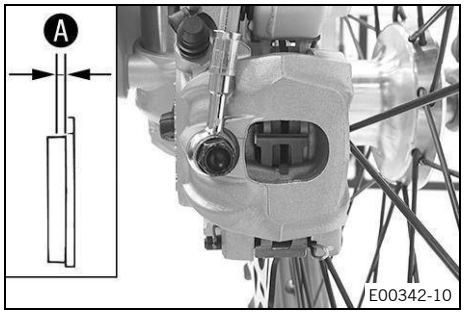
Brake fluid DOT 5.1 (p. 176)

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

Immediately clean up any brake fluid that has overflowed or spilled with water.

## 13.6 Checking that the brake pads of the front brake are secured

**WARNING**
**Danger of accidents** Worn brake pads reduce the brake action.
– Make sure that worn brake pads are replaced immediately.




– Check all brake pads on both brake calipers for their lining thickness Ⓐ.

| | |
|---|---|
| Minimum pad thickness Ⓐ | ≥ 1 mm<br>(≥ 0.04 in) |

» If it is less than the minimum thickness:
– Change the front brake pads. (p. 99)
– Check the brake pads for damage and cracking.
» If there is damage or cracking:
– Change the front brake pads. (p. 99)
– Check that the brake pads are secured.
» If the brake pads are not secured correctly:
– Secure brake pads, replace with new parts if necessary.

## 13.7 Changing the brake pads of the front brake

**WARNING**
**Danger of accidents** Brake pads which have not been approved alter the braking action.
– Only use brake pads approved and recommended by the vehicle manufacturer.

**WARNING**
**Danger of accidents** Incorrect servicing will cause the brake system to fail.
– Ensure that service work and repairs are performed professionally.

**WARNING**
**Danger of accidents** Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

**WARNING**
**Danger of accidents** Oil, grease or wax on the brake discs reduces the brake action.
– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.

**WARNING**
**Health hazard** Brake fluid is a harmful substance.
– Keep brake fluid out of the reach of children.
– Wear suitable protective clothing and safety glasses.
– Do not allow brake fluid to come into contact with the skin, the eyes, or clothing.
– Consult a doctor immediately if brake fluid has been ingested.
– Rinse the affected area with plenty of water in the event of contact with the skin.
– Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
– If brake fluid spills on to your clothing, change the clothing.

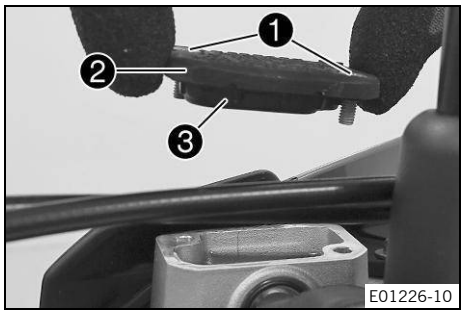
**NOTE**

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

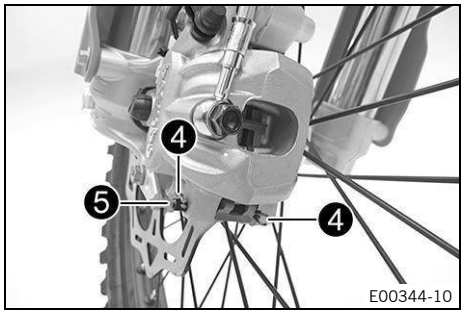
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Note**

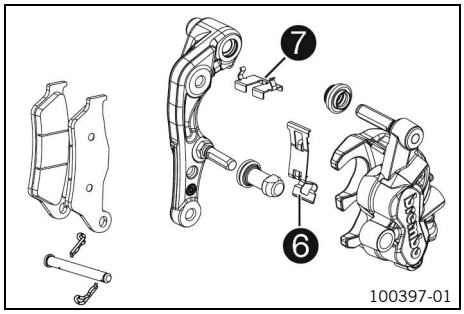
Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



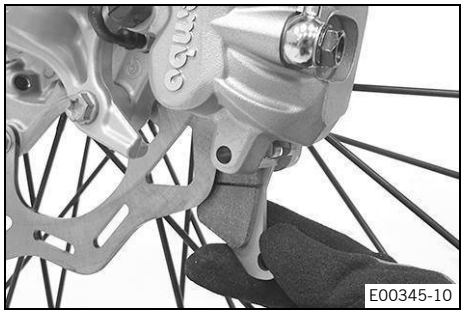

– Move the brake reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Take off cover ❷ with membrane ❸.
– Manually press the brake caliper toward the brake disc to push back the brake pistons. Ensure that brake fluid does not flow out of the brake fluid reservoir, extract some if necessary.




– Remove cotter pins ❹, pull out pin ❺, and remove the brake linings.
– Clean brake caliper and brake caliper support.



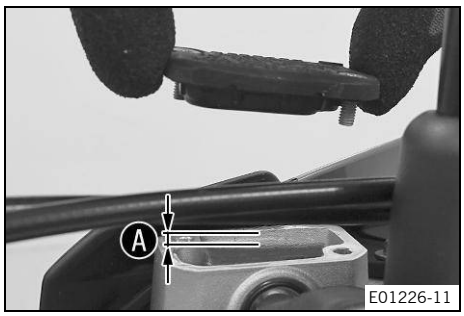

– Check that spring steel clip ❻ in the brake caliper and brake pad guide plate ❼ in the brake caliper support are properly seated.




– Insert new brake pads, insert the bolt, and mount the cotter pins.

| Always replace brake pads in sets. |
|---|

– Operate the hand brake lever repeatedly until the brake pads are in contact with the brake disc and a pressure point is reached.




– Correct the brake fluid level to level Ⓐ.

| | |
|---|---|
| Level Ⓐ (brake fluid level below reservoir rim) | 5 mm (0.20 in) |

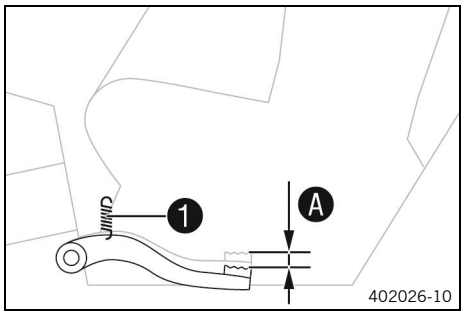
Brake fluid DOT 5.1 (p. 176)

– Position cover ❷ with membrane ❸.
– Mount and tighten screws ❶.

Immediately clean up any brake fluid that has overflowed or spilled using water.

## 13.8 Checking the free travel of the brake pedal

**WARNING**
**Danger of accidents** The brake system fails in the event of overheating.
If there is no free travel on the brake lever, pressure builds up in the brake system.
– Set the free travel on the brake lever as specified.




– Detach spring ❶.
– Move the brake pedal back and forth between the end stop and the brake pedal cylinder piston actuation and check free travel Ⓐ.

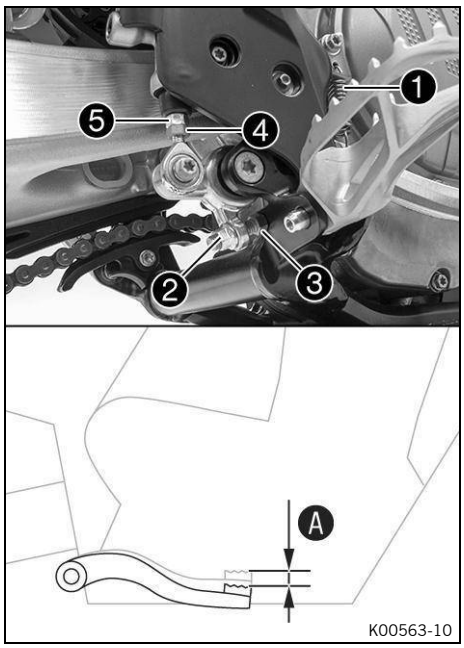
| | |
|---|---|
| Free travel of brake pedal | 3 mm ... 5 mm (0.12 in ... 0.20 in) |

» If the free travel does not meet the specifications:
– Adjust the basic position of the brake pedal. (p. 101)

– Attach spring ❶.

## 13.9 Adjusting the basic position of the brake pedal

**WARNING**
**Danger of accidents** The brake system fails in the event of overheating.
If there is no free travel on the brake lever, pressure builds up in the brake system.
– Set the free travel on the brake lever as specified.




– Detach spring ❶.
– Loosen nut ❹ and unscrew it with push rod ❺ until you have maximum free travel.
– To adjust the basic position of the brake pedal to individual requirements, loosen nut ❷ and turn screw ❸ accordingly.

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

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

| | |
|---|---|
| Free travel of brake pedal | 3 mm ... 5 mm<br>(0.12 in ... 0.20 in) |

– Hold screw ❸ and tighten nut ❷.

| Brake pedal stop nut | |
|---|---|
| M8 | 20 Nm<br>(14.8 ft·lb$_f$) |

– Hold push rod ❺ and tighten nut ❹.

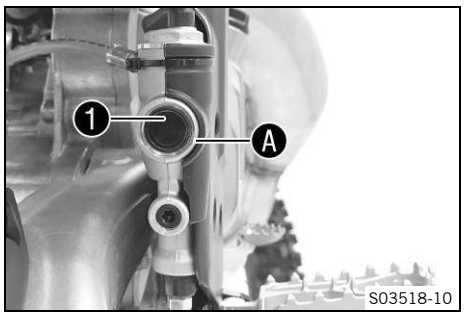
| Remaining nuts on chassis | |
|---|---|
| M6 | 10 Nm<br>(7.4 ft·lb$_f$) |

– Attach spring ❶.

## 13.10 Checking the brake fluid level for the rear brake

**WARNING**
**Danger of accidents** Brake fluid which is too old or of the wrong type impairs the function of the brake system.
– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

**WARNING**
**Danger of accidents** An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.
– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.




– Stand the vehicle upright.
– Check the brake fluid level in sight glass ❶.
» If the fluid has dropped below marking Ⓐ in the level viewer:
– Add brake fluid for the rear brake. (p. 103)

## 13.11 Adding brake fluid for the rear brake

**WARNING**

**Danger of accidents** Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.
– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

**WARNING**

**Danger of accidents** An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the specified marking or the specified value, the brake system has a leak or the brake pads are worn down.

– Have the brake system checked and make sure that the problem has been eliminated before the vehicle is used again.

**WARNING**

**Health hazard** Brake fluid is a harmful substance.

– Keep brake fluid out of the reach of children.
– Wear suitable protective clothing and safety glasses.
– Do not allow brake fluid to come into contact with the skin, the eyes, or clothing.
– Consult a doctor immediately if brake fluid has been ingested.
– Rinse the affected area with plenty of water in the event of contact with the skin.
– Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
– If brake fluid spills on to your clothing, change the clothing.

**NOTE**

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

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

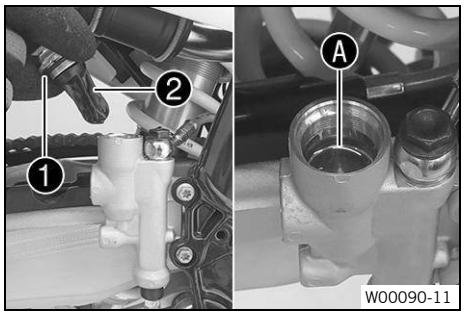
**Note**

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.

**Preparatory work**

– Check that the brake pads of the rear brake are secured. (p. 104)
– Remove the frame protector. (p. 76)

**Main work**




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

| Brake fluid DOT 5.1 (p. 176) |
|---|

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

| Immediately clean up any brake fluid that has overflowed or spilled using water. |
|---|

**Reworking**

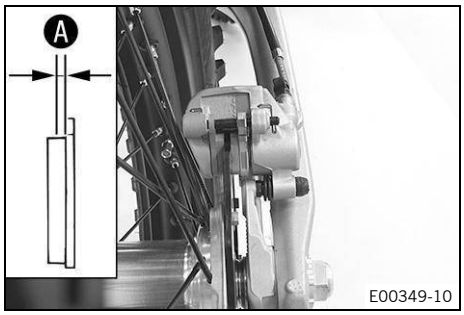
– Install the frame protector. (p. 76)

## 13.12 Checking that the brake pads of the rear brake are secured

**WARNING**

**Danger of accidents** Worn brake pads reduce the brake action.

– Make sure that worn brake pads are replaced immediately.




– Check all brake pads on both brake calipers for their lining thickness A.

| | |
|---|---|
| Minimum pad thickness A | ≥ 1 mm<br>(≥ 0.04 in) |

» If it is less than the minimum thickness:

– Change the rear brake pads. (p. 104)

– Check the brake pads for damage and cracking.

» If there is damage or cracking:

– Change the rear brake pads. (p. 104)

– Check that the brake pads are secured.

» If the brake pads are not secured correctly:

– Secure brake pads, replace with new parts if necessary.

## 13.13 Changing the rear brake pads

**WARNING**

**Danger of accidents** Brake pads which have not been approved alter the braking action.

– Only use brake pads approved and recommended by the vehicle manufacturer.

**WARNING**

**Danger of accidents** Incorrect servicing will cause the brake system to fail.

– Ensure that service work and repairs are performed professionally.

**WARNING**

**Danger of accidents** Brake fluid which is too old or of the wrong type impairs the function of the brake system.

– Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule.

– Make sure that only clean, approved brake fluid from a tightly sealed container is used.

**WARNING**

**Danger of accidents** Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.

– Clean the brake discs with brake cleaner when necessary.

**WARNING**

**Health hazard** Brake fluid is a harmful substance.

– Keep brake fluid out of the reach of children.
– Wear suitable protective clothing and safety glasses.
– Do not allow brake fluid to come into contact with the skin, the eyes, or clothing.
– Consult a doctor immediately if brake fluid has been ingested.
– Rinse the affected area with plenty of water in the event of contact with the skin.
– Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
– If brake fluid spills on to your clothing, change the clothing.

**NOTE**

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

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

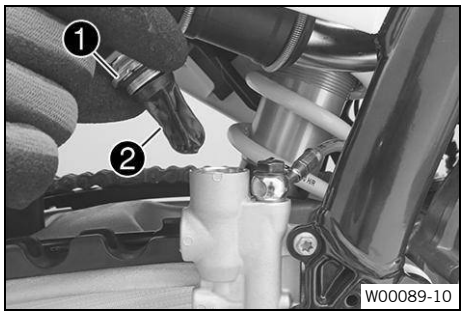
**Note**

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.

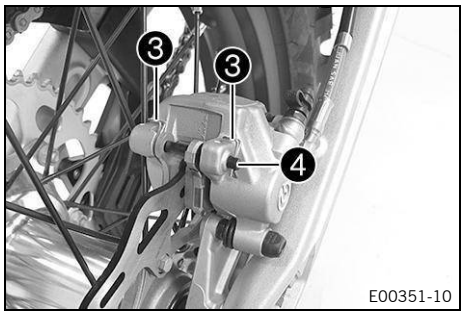
**Preparatory work**

– Remove the frame protector. (p. 76)

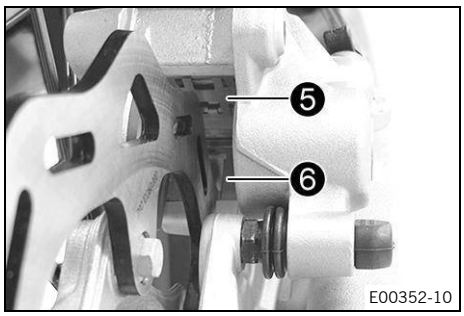
**Main work**



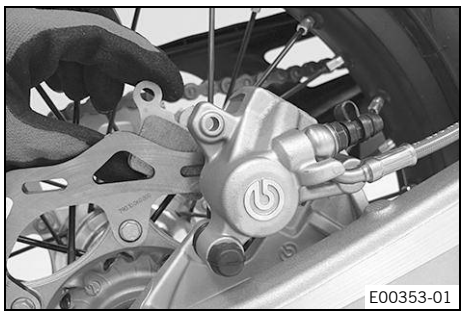

– Stand the vehicle upright.
– Remove screw cap ❶ with diaphragm ❷ and the O-ring.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake reservoir, extract some brake fluid if necessary.




– Remove cotter pin ❸, pull out pin ❹, and remove the brake linings.
– Clean brake caliper and brake caliper support.



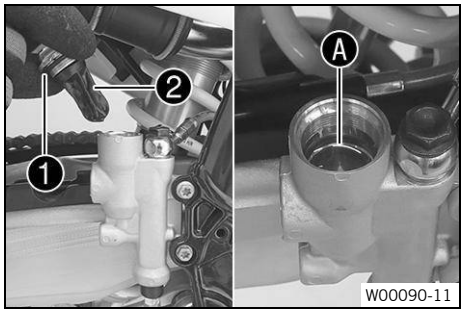

– Check that spring steel clip ❺ in the brake caliper and brake pad guide plate ❻ in the brake caliper support are properly seated.




– Insert the new brake linings, insert the pin, and mount the cotter pins.

| |
|---|
| Always replace brake pads in sets. |

– Actuate the brake disc repeatedly until the brake pads are in contact with the brake disc and a pressure point is achieved.




– Correct the brake fluid level to mark Ⓐ.

| |
|---|
| Brake fluid DOT 5.1 (p. 176) |

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

| |
|---|
| Immediately clean up any brake fluid that has overflowed or spilled using water. |

**Reworking**

– Install the frame protector. (p. 76)

## 14.1 Removing the front wheel

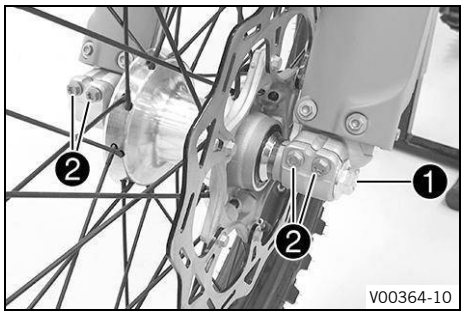
**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)

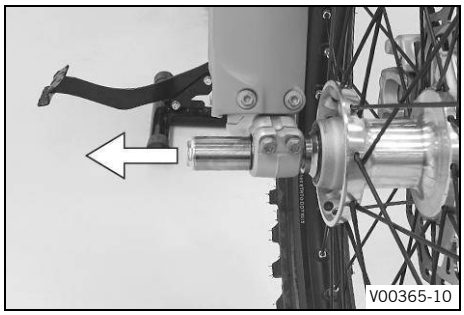
**Main work**




– Manually press the brake caliper toward the brake disc to push back the brake pistons.




– Loosen screw ❶ by four turns.
– Loosen screws ❷.
– Press on screw ❶ to push the wheel spindle out of the fork shoe.
– Remove screw ❶.



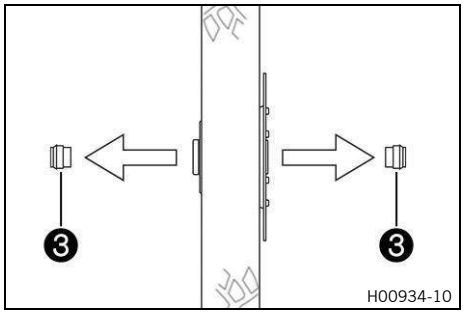

**WARNING**

**Danger of accidents** Damaged brake discs reduce the braking action.

– Always lay the wheel down in such a way that the brake disc is not damaged.

– Hold front wheel and remove wheel spindle. Take the front wheel out of the fork.

Do not actuate the hand brake lever when the front wheel is removed.



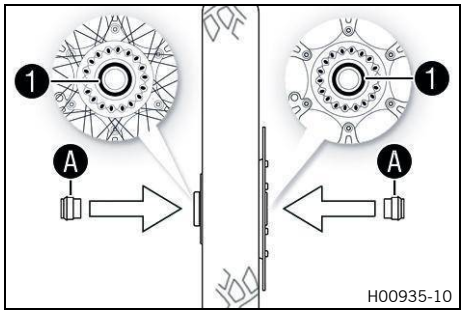

– Remove spacers ❸.

## 14.2 Installing the front wheel

**WARNING**

**Danger of accidents** Oil, grease or wax on the brake discs reduces the brake action.

– Always keep the brake discs free of oil, fat and wax.
– Clean the brake discs with brake cleaner when necessary.



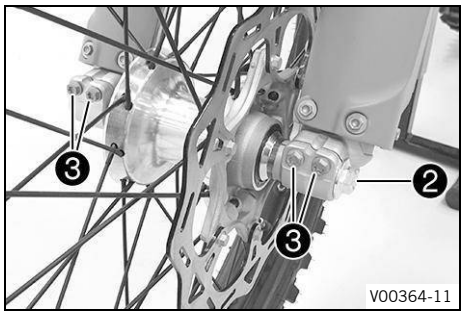

– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the front wheel bearing.
– Clean and grease radial shaft seal ❶ and contact surfaces Ⓐ on the spacers.

| Long-life grease (p. 175) |
|---|

– Insert spacers.
– Clean and lightly grease the wheel spindle.

| Long-life grease (p. 175) |
|---|

– Jack up the front wheel into the fork, position it, and insert the wheel spindle.
  ✓ The brake pads are positioned correctly.




– Mount and tighten screw ❷.

| Screw, wheel spindle, front | |
|---|---|
| M20×1.5 | 35 Nm (25.8 ft·lb$_f$) |

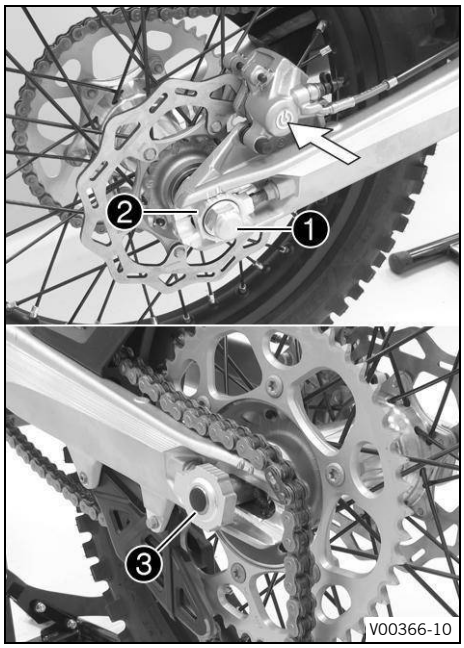
– Operate the hand brake lever several times until the brake pads are in contact with the brake disc.
– Remove the motorcycle from the lift stand. (p. 63)
– Operate the front brake and compress the fork a few times firmly.
  ✓ The fork legs straighten.
– Tighten screws ❸.

| Screw, fork shoe | |
|---|---|
| M8×25 | 15 Nm (11.1 ft·lb$_f$) |

## 14.3 Removing the rear wheel

**Preparatory work**

– Raise the motorcycle with a lift stand. (p. 63)




**Main work**

- Manually press the brake caliper toward the brake disc to push back the brake pistons.
- Remove nut ❶.
- Remove chain tension adjuster ❷.
- Pull out wheel spindle ❸ far 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.

| |
|---|
| Protect the components against damage by covering them. |

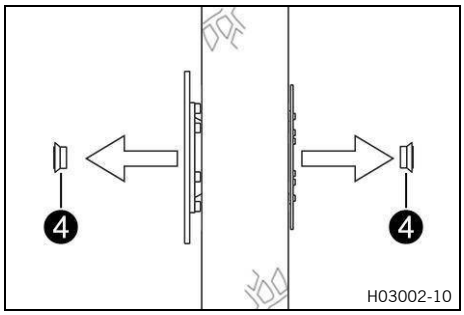
**WARNING**

**Danger of accidents** Damaged brake discs reduce the braking action.

- Always lay the wheel down in such a way that the brake disc is not damaged.

- Hold the rear wheel and remove wheel spindle.
- Take the rear wheel out of the swingarm.

| |
|---|
| Do not actuate the brake pedal when the rear wheel is removed. |



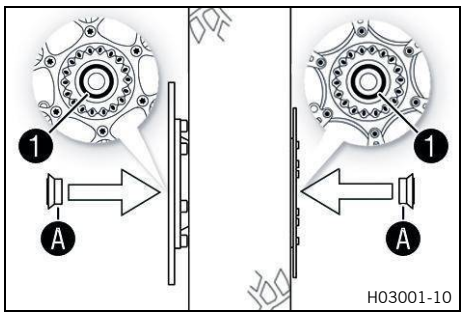

- Remove spacers ❹.

## 14.4 Installing the rear wheel

**WARNING**

**Danger of accidents** Oil, grease or wax on the brake discs reduces the brake action.

- Always keep the brake discs free of oil, fat and wax.
- Clean the brake discs with brake cleaner when necessary.



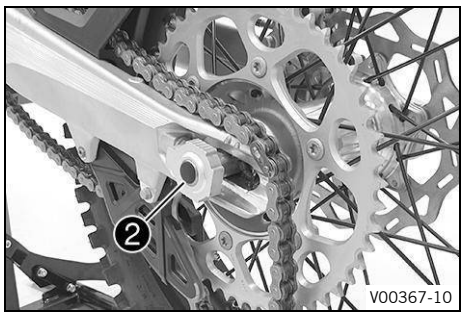

**Main work**

- Check the wheel bearing for damage and wear.
  - » If the wheel bearing is damaged or worn:
    - Change the rear wheel bearing.
- Clean and grease radial shaft seal ❶ and contact surfaces Ⓐ on the spacers.

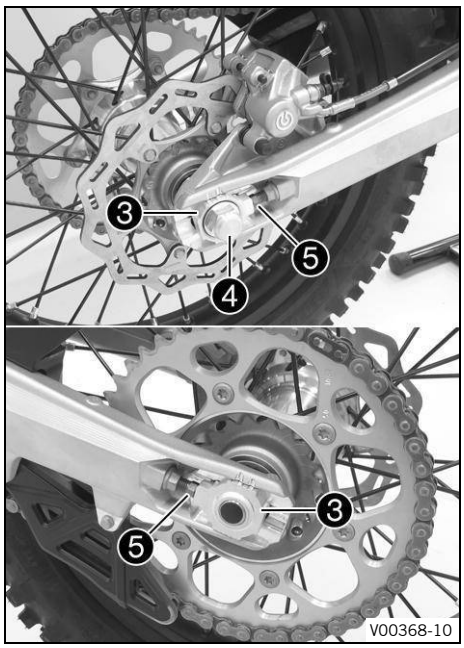
| |
|---|
| Long-life grease (p. 175) |

- Insert spacers.
- Clean and lightly grease the wheel spindle.

| |
|---|
| Long-life grease (p. 175) |




– Position rear wheel and insert wheel spindle ❷.
  ✓ The brake pads are positioned correctly.
– Attach the chain.




– Position chain tension adjuster ❸. Mount nut ❹ but do not tighten yet.
– Make sure that chain adjusters ❸ are fitted correctly on adjusting screws ❺.
– Check the chain tension. (p. 86)
– Tighten nut ❹.

| Nut, wheel spindle, rear | |
|---|---|
| M22×1.5 | 80 Nm<br>(59.0 ft·lb$_f$) |

**Note**
The wide adjustment range of the chain adjusters enables different secondary ratios with the same chain length.
Chain adjusters ❸ can be turned by 180°.

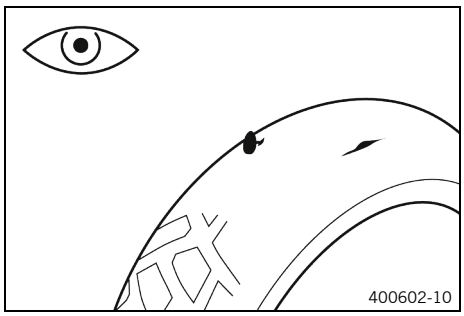
– Actuate the brake disc repeatedly until the brake pads are in contact with the brake disc and a pressure point is achieved.

**Reworking**

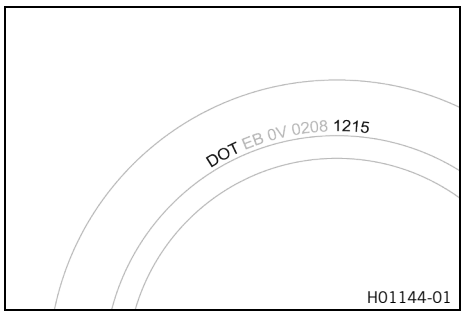
– Remove the motorcycle from the lift stand. (p. 63)

## 14.5 Checking the tire condition

**Note**
Only mount tires approved and/or recommended by KTM.
Other tires could have a negative effect on handling characteristics.
The type, condition, and pressure of the tires all have a major impact on the handling of the motorcycle.
The tires mounted on the front and rear wheels must have a similar profile.
Worn tires have a negative effect on handling characteristics, especially on wet surfaces.




– Check the front and rear tires for cuts, embedded objects, and other damage.
  » If the tires have cuts, run-in objects, or other damage:
    – Change the tires.



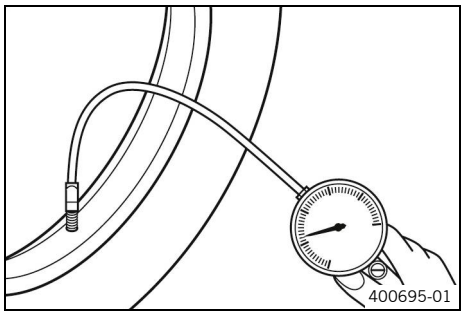

– Check the tire age.

**Note**
The tire date of manufacture is usually contained in the tire label and is indicated by the last four digits of the **DOT** number. The first two digits indicate the week of manufacture and the last two digits the year of manufacture.
KTM recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

  » If the tires are older than five years:
    – Change the tires.

## 14.6 Checking the tire pressure

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




– Remove the protection cap.
– Check the tire pressure when the tires are cold.

| Off-road tire pressure | |
|---|---|
| front | 1.0 bar (14.5 psi) |
| rear | 1.0 bar (14.5 psi) |

  » If the tire pressure does not meet specifications:
    – Correct the tire air pressure.
– Mount the protection cap.

## 14.7 Checking the spoke tension

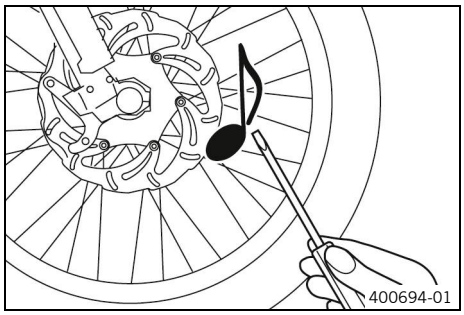
**WARNING**

**Danger of accidents** Incorrectly tensioned spokes impair the handling characteristic and can result in secondary damage.

If the spokes are too tight, they can break due to being overloaded.

Loose spokes can cause lateral or radial run-out in the wheel and other spokes will loosen as a result.

– Check the spoke tension regularly, especially on a new vehicle.




– Briefly tap each spoke with a screwdriver.

| |
|---|
| You should hear a high-pitched sound. |

**Note**

The frequency of the sound depends on the spoke length and spoke diameter.

If spokes of the same length and diameter vibrate with a different tone, this is an indication that the spoke tensions differ.

» If the spoke tension differs:

– Correct the spoke tension.

– Check the spoke torque.

| | |
|---|---|
| Spoke nipple, front wheel | |
| M4,5 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Spoke nipple, rear wheel | |
| M4,5 | 6 Nm<br>(4.4 ft·lb$_f$) |

| |
|---|
| Torque wrench kit (58429094000) |

## 15.1 Removing the 12 V battery

**WARNING**

**Risk of injury** 12–V batteries contain harmful substances.

– Keep 12–V batteries out of the reach of children.
– Keep the battery away from sparks or open flames.
– Only charge batteries in well-ventilated rooms.
– Maintain a minimum distance from flammable materials when charging 12-V batteries.

| | |
|---|---|
| Minimum distance | 1 m<br>(3 ft – 3 in) |

– Do not charge deeply discharged 12– V batteries if the charge is already below the minimum voltage.

| | |
|---|---|
| Minimum voltage before starting charging | 9 V |

– Dispose of 12 V batteries correctly if they have less than the minimum voltage.

**NOTE**

**Environmental hazard** 12–V batteries contain environmentally-hazardous materials.

– Do not dispose of 12–V batteries as household waste.
– Dispose of 12–V batteries at a collection point for used batteries.

**NOTE**

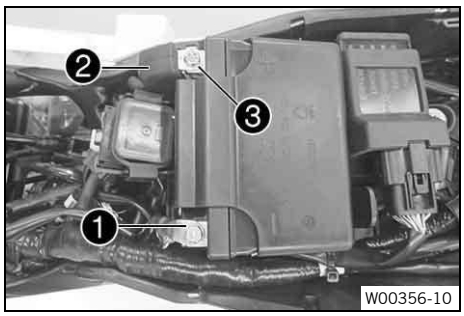
**Environmental hazard** Hazardous substances cause environmental damage.

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

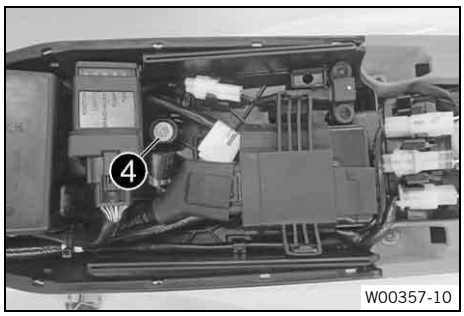
**Preparatory work**

– Remove the seat. (p. 75)
– Remove the fuel tank. (p. 81)

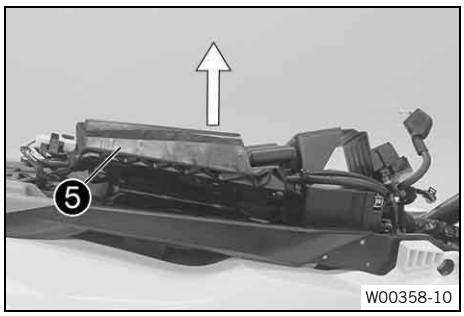
**Main work**




– Disconnect negative cable ❶ from the 12 V battery.
– Pull back positive terminal cover ❷ and disconnect positive cable ❸ from the 12-V battery.




– Remove screw ❹.

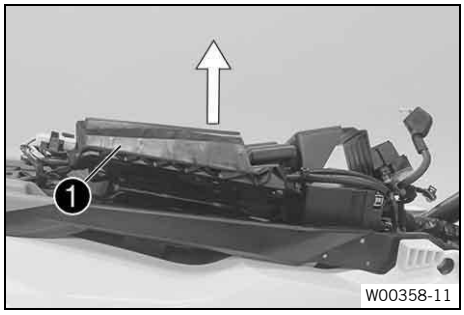



– Pull up battery holding bracket ❺ and remove the 12-V battery to the rear.

| Pay attention to the wiring harness. |
|---|

## 15.2 Installing the 12 V battery

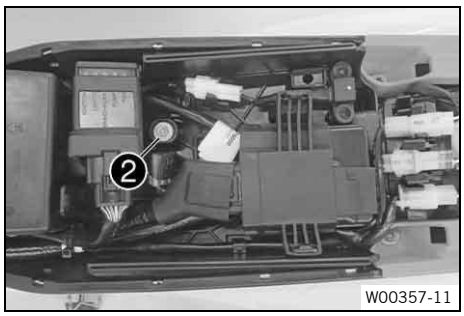
**Main work**




– Pull up battery holding bracket ❶, insert the 12-V battery into the battery compartment with the terminals facing upwards and secure with battery holding bracket ❶.

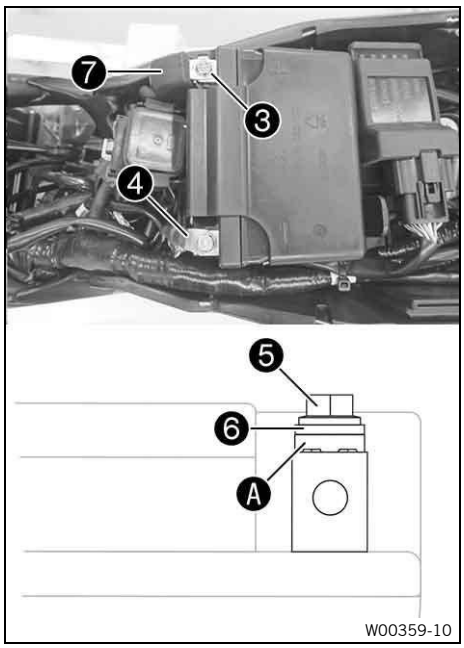
| Ensure that the cable is routed correctly. |
|---|

| 12-V battery (HJTZ5S-FP-C) (p. 178) |
|---|




– Mount and tighten screw ❷.

| Screw, battery holding bracket | |
|---|---|
| M6×12 | 6 Nm<br>(4.4 ft·lb$_f$) |




– Connect positive cable ❸ to the 12 V battery.

| Screw, battery terminal | |
|---|---|
| M5×12 | 2.5 Nm (1.84 ft·lb$_f$) |

– Connect negative cable ❹ to the 12 V battery.

| Screw, battery terminal | |
|---|---|
| M5×12 | 2.5 Nm (1.84 ft·lb$_f$) |

Contact disks Ⓐ must be mounted under screws ❺ and cable lug ❻ with the claws toward the battery terminal.

– Slide positive terminal cover ❼ over the positive terminal.

**Reworking**

– Install the fuel tank. (p. 83)
– Mount the seat. (p. 75)

## 15.3 Charging the 12 V battery

**WARNING**

**Risk of injury** 12–V batteries contain harmful substances.

– Keep 12–V batteries out of the reach of children.
– Keep the battery away from sparks or open flames.
– Only charge batteries in well-ventilated rooms.
– Maintain a minimum distance from flammable materials when charging 12-V batteries.

| Minimum distance | 1 m (3 ft – 3 in) |
|---|---|

– Do not charge deeply discharged 12– V batteries if the charge is already below the minimum voltage.

| Minimum voltage before starting charging | 9 V |
|---|---|

– Dispose of 12 V batteries correctly if they have less than the minimum voltage.

**NOTE**

**Environmental hazard** 12–V batteries contain environmentally-hazardous materials.

– Do not dispose of 12–V batteries as household waste.
– Dispose of 12–V batteries at a collection point for used batteries.

**NOTE**

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

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Note**

Even when there is no load on the 12 V battery, it discharges steadily each day.

The state of charge and the method of charging are very important for the service life of the 12 V battery.

Rapid recharging with a high charging current shortens the service life of the battery.

If the charging current or charging voltage are exceeded, the 12-V battery will be irreparably damaged.

If the 12 V battery is left in a discharged state for an extended period, it will become deeply discharged and suffer a loss of capacity, destroying the battery.

The 12 V battery is maintenance-free.

**Preparatory work**

– Remove the seat. (p. 75)
– Remove the fuel tank. (p. 81)
– Remove the 12 V battery. (p. 113)

**Main work**




– Do NOT remove cover 1.
– Check the battery voltage.

» Battery voltage:
  • < 9 V
  – Do not charge the 12 V battery.
  – Replace the 12 V battery and dispose of the old 12 V battery properly.
» If the specifications have been met:
  Battery voltage:
  • ≥ 9 V
  – Connect a charger to the 12 V battery. Switch the charger on.

| | |
|---|---|
| Read the accompanying instructions. | |
| Maximum charging voltage | 14.4 V |
| Minimum charging voltage | 3.0 A |
| Maximum charging time | 12 h |
| The charging current, charging voltage, and charging time must not be exceeded. | |
| Recharge the 12 V battery regularly when the motorcycle is not being used. | 3 months |
| If the 12 V battery is depleted from starting the vehicle repeatedly, the battery must be charged immediately. | |
| Ideal charging and storage temperature of the lithium-ion battery | 10 °C ... 20 °C (50.0 °F ... 68.0 °F) |

| |
|---|
| Battery charger (79629974000) |
| (US) battery charger (79629974500) |

**Note**
This battery charger tests whether the 12 V battery retains its voltage. It is also impossible to overcharge the 12 V battery with this battery charger. The charging time may be longer at low temperatures.
These chargers are only suitable for lithium iron phosphate batteries. Read the accompanying instructions.

– Switch off the charger after charging and disconnect from the 12 V battery.

**Reworking**
– Install the 12 V battery. (p. 114)
– Install the fuel tank. (p. 83)
– Mount the seat. (p. 75)

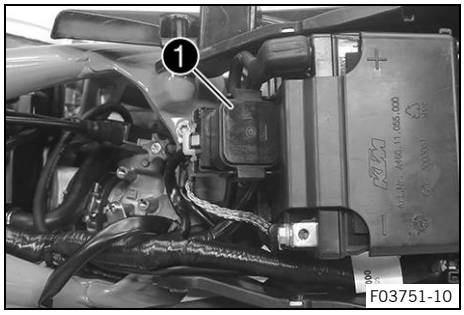
## 15.4 Changing the main fuse

**WARNING**
**Fire hazard** Incorrect fuses overload the electrical system.
– Use only fuses with the prescribed amperage.
– Do not bypass or repair fuses.

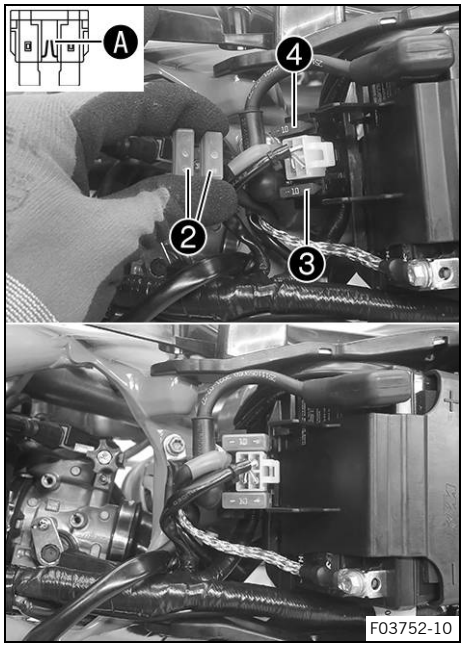
**Note**
The main fuse protects all electrical power loads of the vehicle.

**Preparatory work**
– Remove the seat. (p. 75)

**Main work**




– Pull starter relay ❶ from the holder.




– Take off protection caps ❷.
– Remove faulty main fuse ❸.

**Note**
A faulty fuse has a burned-out fuse wire Ⓐ.
A spare fuse ❹ is located in the starter relay.

– Insert the main fuse.

Fuse (58011109120) (p. 179)

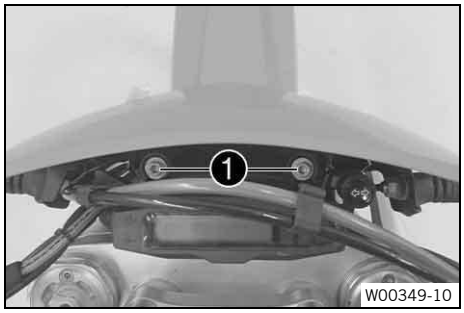
– Check that the electrical equipment is functioning properly.

**Tip**
Insert a new spare fuse so that it is available if needed.

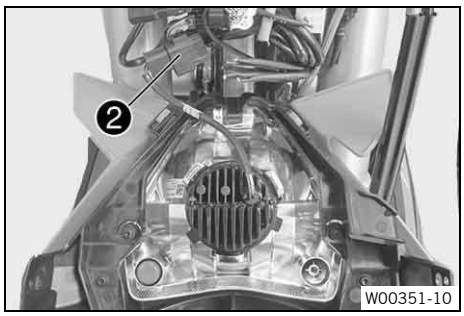
– Mount the protection caps.
– Mount the starter relay onto the holder and route the cable.

**Reworking**
– Mount the seat. (p. 75)

## 15.5 Removing the headlight mask with the headlight




– Release screws ❶.
– Slide the headlight mask up and swing it forward.
– Detach the brake line and wiring harness from the headlight mask.

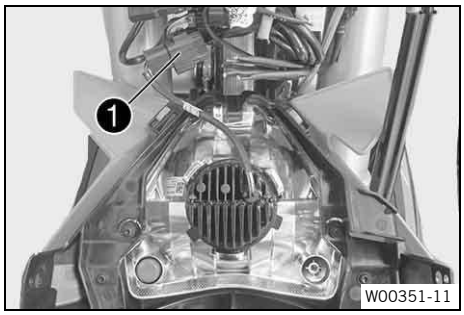



– Disconnect plug-in connector ❷ and take off the headlight mask together with the headlight.

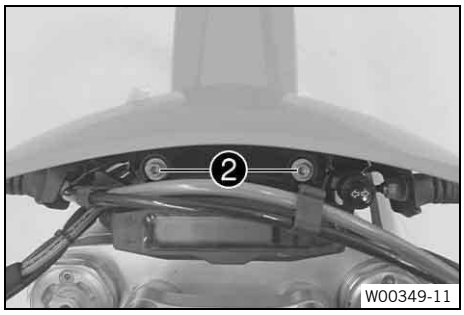
◀

## 15.6 Installing the headlight mask with the headlight

**Main work**




– Join plug-in connector ❶.




– Position the brake line and wiring harness in the brake line guide.
– Position the headlight mask.
  ✓ The holding lugs engage in the fender.
– Tighten screws ❷.

| Remaining screws on chassis | |
|---|---|
| M6 | 10 Nm<br>(7.4 ft·lb$_f$) |

**Reworking**

– Check the headlight setting. (p. 120)

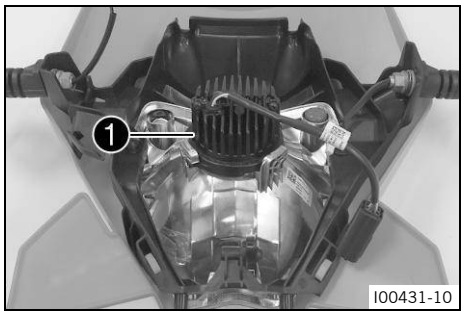
◀

## 15.7 Changing the headlight bulb

**Preparatory work**

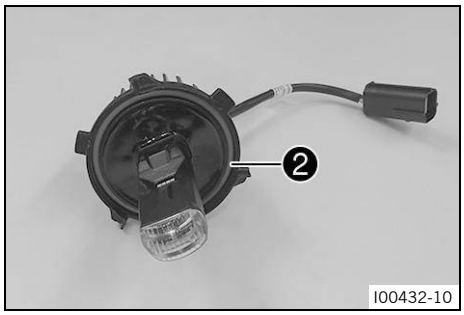
– Remove the headlight mask with the headlight. (p. 119)

**Main work**




– Turn LED unit ❶ counterclockwise all the way and take it out of the reflector.

| |
|---|
| Only touch the LED unit on the cooling element. |



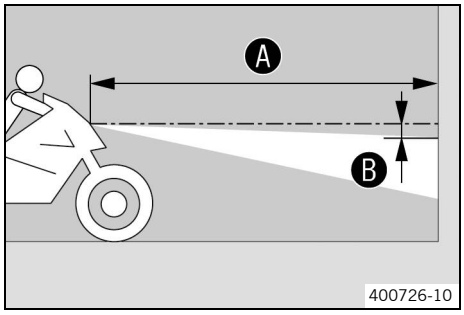

– Insert the LED unit into the reflector and turn it clockwise all the way.

| |
|---|
| Ensure that O-ring ❷ is seated properly. |
| Low beam/high beam (LED) (p. 178) |

**Reworking**

– Install the headlight mask with the headlight. (p. 119)
– Check the headlight setting. (p. 120)

## 15.8 Checking the headlight setting




– Park the vehicle on a horizontal surface in front of a light-colored 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 marking.

| | |
|---|---|
| Distance Ⓑ | 5 cm<br>(2.0 in) |

– Position the vehicle vertically at a distance Ⓐ away from the wall.

| | |
|---|---|
| Distance Ⓐ | 5 m<br>(16 ft – 5 in) |

– Sit on the motorcycle.
– Switch on the low beam.
– Check the headlight setting.

The boundary between light and dark must be exactly on the lower mark for a motorcycle with rider.

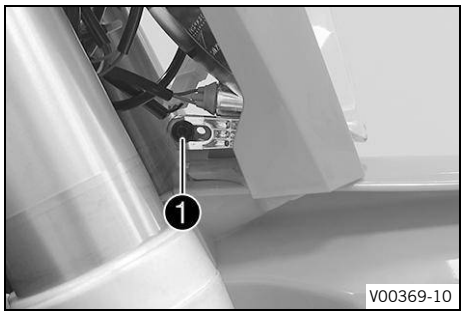
» If the boundary between light and dark does not meet specifications:
  – Adjust headlight range. (p. 121)

## 15.9 Adjusting the headlight range

**Preparatory work**

– Check the headlight setting. (p. 120)

**Main work**




– Loosen screw 1.
– Adjust the headlight range by pivoting the headlight.

The boundary between light and dark must be exactly on the lower mark for a motorcycle with rider (instructions on how to apply the mark: Checking the headlight setting).

**Note**
A change in weight may require a correction of the headlight range.

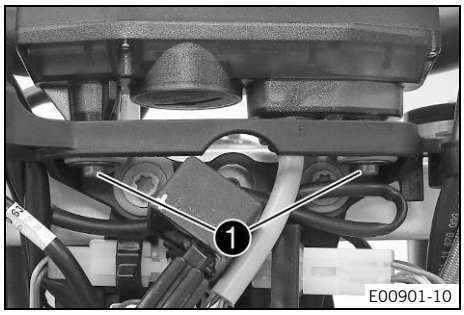
– Tighten screw 1.

## 15.10 Changing the combination instrument battery

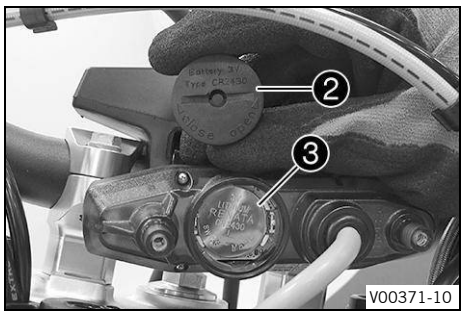
**Preparatory work**

– Remove the headlight mask with the headlight. (p. 119)

**Main work**



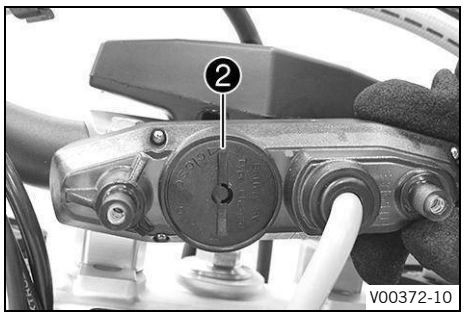

– Remove screws 1.
– Pull the combination instrument upward out of the holder.




– Using a coin, turn protection cap 2 all the way counterclockwise and take it off.
– Remove combination instrument battery 3.
– Insert the combination instrument battery with the label facing outward.

Button cell (CR 2430) (p. 178)

– Check the O-ring of the protection cap for correct seating.

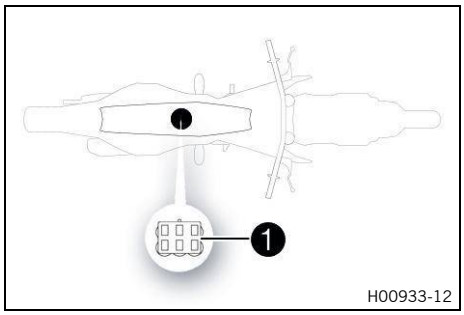



– Position protection cap ❷ and turn all the way clockwise using a coin.
– Press any button on the combination instrument.
  ✓ The combination instrument is activated.
– Position the combination instrument in the holder.
– Mount and tighten the screws.

**Reworking**

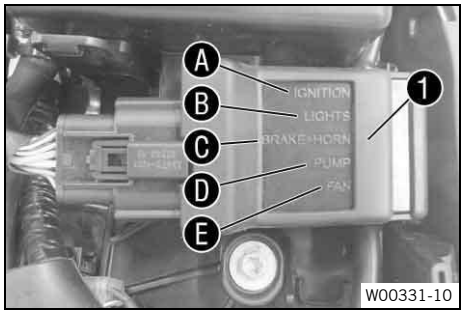
– Install the headlight mask with the headlight. (p. 119)
– Check the headlight setting. (p. 120)
– Set to kilometers or miles. (p. 26)
– Adjust combination instrument function. (p. 27)
– Set the clock. (p. 27)

## 15.11 Diagnostic connector




Diagnostics connector ❶ is located under the seat.

## 15.12 OCU




OCU ❶ is located under the seat.

The OCU replaces the electronic fuses and relays.

All outputs are switched independently of the signals of the voltage regulator and ECU.

The outputs are deactivated individually in the event of overcurrent.

This enables easy error detection because the status of each output is indicated via LED lights.

The OCU monitors the electronics system completely independently.

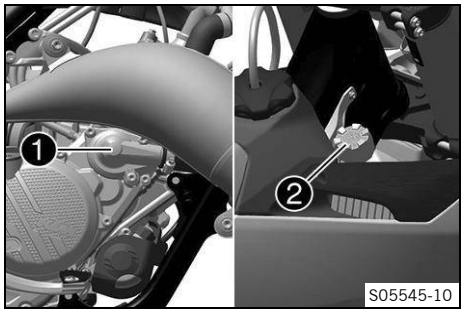
As soon as an indicated error is rectified, the status light of the OCU changes from red to green.

### Overview

| | |
|---|---|
| **A** | Ignition |
| **B** | Light |
| **C** | Brake light + horn |
| **D** | Fuel pump |

| | |
|---|---|
| **E** | Not in use; continuously lights up red |

## 16.1 Cooling system




Water pump ❶ in the engine circulates the coolant.

The pressure resulting from the warming of the cooling system is regulated by a valve in radiator cap ❷. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

| |
|---|
| 120 °C<br>(248.0 °F) |

The coolant is cooled by the air stream.

The lower the vehicle speed, the lower the cooling effect. Dirty cooling fins also reduce the cooling effect.

## 16.2 Checking the frost protection and coolant level

**WARNING**

**Health hazard** Coolant is harmful to health.

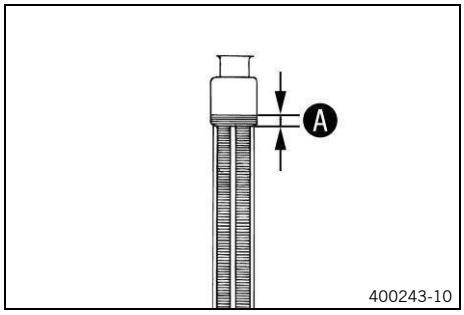
- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with skin, eyes, or clothing.
- Consult a doctor immediately if coolant has been ingested.
- Rinse the affected area immediately with plenty of water in the event of contact with skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
- If coolant spills on to your clothing, change the clothing.
- Store coolant properly in a suitable container and keep out of the reach of children.

**WARNING**

**Danger of scalding** The coolant heats up and is under high pressure when the vehicle is operated.

- Do not open the radiator, the radiator hoses, or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses, or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.

Condition: The engine is cold




- Stand the motorcycle upright on a level surface.
- Take off the radiator cap.
- Check the frost protection in the coolant.

| |
|---|
| −45 °C ... −25 °C<br>(−49.0 °F ... −13.0 °F) |

  » If the frost protection in the coolant does not match the specified value:
    - Correct the frost protection in the coolant.
- Check the coolant level in the radiator.

| | |
|---|---|
| Coolant level Ⓐ above the radiator fins | 10 mm<br>(0.39 in) |

» If the coolant level does not meet the specifications:
– Correct the coolant level.

| coolant | |
|---|---|
| Coolant (p. 176)<br>Antifreeze protection to at least: −25 °C (−13.0 °F) | 1.2 l<br>(0.32 liq. $gal_{US}$) |

– Mount the radiator cap.

## 16.3 Checking the coolant level

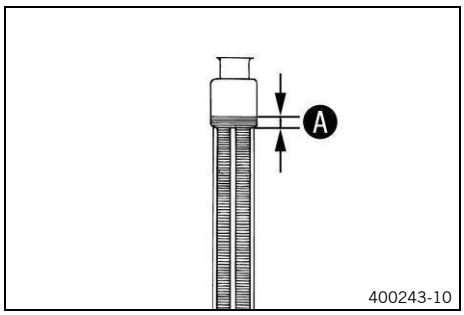
**WARNING**

**Health hazard** Coolant is harmful to health.
– Keep coolant out of the reach of children.
– Do not allow coolant to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if coolant has been ingested.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
– If coolant spills on to your clothing, change the clothing.
– Store coolant properly in a suitable container and keep out of the reach of children.

**WARNING**

**Danger of scalding** The coolant heats up and is under high pressure when the vehicle is operated.
– Do not open the radiator, the radiator hoses, or other cooling system components if the engine or the cooling system are at operating temperature.
– Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses, or other components of the cooling system.
– In the event of scalding, rinse the area affected immediately with lukewarm water.

Condition: The engine is cold




– Stand the motorcycle upright on a level surface.
– Take off the radiator cap.
– Check the coolant level in the radiator.

| | |
|---|---|
| Coolant level Ⓐ above the radiator fins | 10 mm<br>(0.39 in) |

» If the coolant level does not meet the specifications:
– Correct the coolant level.

| coolant | |
|---|---|
| Coolant (p. 176)<br>Antifreeze protection to at least: −25 °C (−13.0 °F) | 1.2 l<br>(0.32 liq. $gal_{US}$) |

– Mount the radiator cap.

## 16.4 Draining the coolant

**WARNING**

**Health hazard** Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with skin, eyes, or clothing.
- Consult a doctor immediately if coolant has been ingested.
- Rinse the affected area immediately with plenty of water in the event of contact with skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
- If coolant spills on to your clothing, change the clothing.
- Store coolant properly in a suitable container and keep out of the reach of children.

**WARNING**

**Danger of scalding** The coolant heats up and is under high pressure when the vehicle is operated.

- Do not open the radiator, the radiator hoses, or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses, or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.

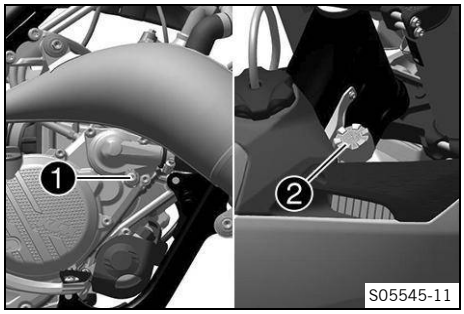
**NOTE**

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

- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

Condition: The engine is cold

- Stand the motorcycle upright.
- Place an appropriate container under the water pump cover.




- Remove screw ❶. Take off radiator cap ❷.
- Completely drain the coolant.
- Mount screw ❶ with the new sealing ring and tighten.

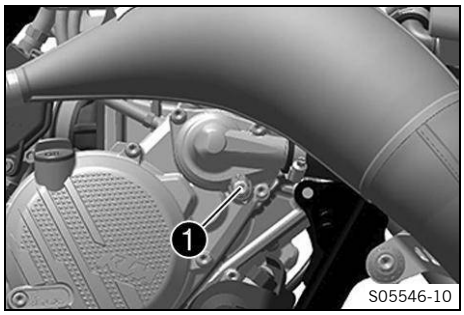
| Bleed screw, water pump cover | |
|---|---|
| M6 | 8 Nm<br>(5.9 ft·lb$_f$) |

## 16.5 Refilling the coolant

**WARNING**

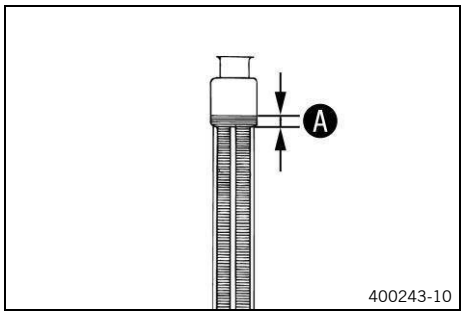
**Health hazard** Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with skin, eyes, or clothing.
- Consult a doctor immediately if coolant has been ingested.
- Rinse the affected area immediately with plenty of water in the event of contact with skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
- If coolant spills on to your clothing, change the clothing.
- Store coolant properly in a suitable container and keep out of the reach of children.




**Main work**

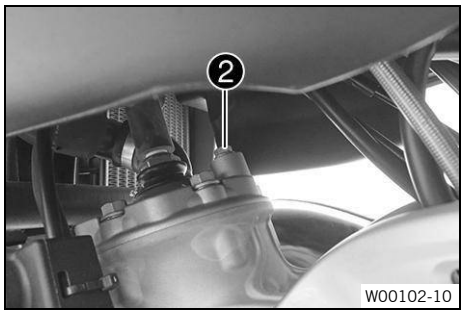
– Make sure that screw ❶ is tightened.
– Stand the motorcycle upright.




– Pour coolant in up to level Ⓐ above the radiator fins.

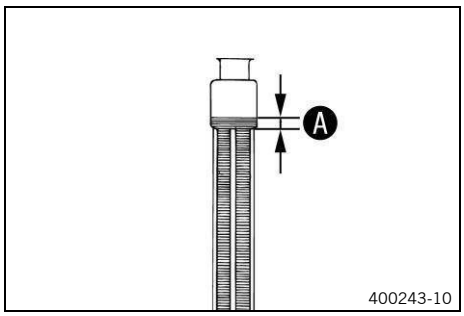
| |
|---|
| 10 mm<br>(0.39 in) |

| coolant | |
|---|---|
| Coolant 📖 (p. 176)<br>Antifreeze protection to at least: −25 °C (−13.0 °F) | 1.2 l<br>(0.32 liq. $gal_{US}$) |




– Remove screw ❷ and wait until coolant emerges without bubbles.
– Mount and tighten screw ❷.

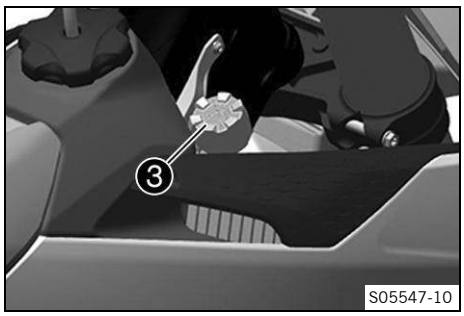
| Cylinder head bleed screw | |
|---|---|
| M6 | 8 Nm<br>(5.9 $ft{\cdot}lb_f$) |




– Pour coolant in up to level Ⓐ above the radiator fins.

| |
|---|
| 10 mm<br>(0.39 in) |

| coolant | |
|---|---|
| Coolant 📖 (p. 176)<br>Antifreeze protection to at least: −25 °C (−13.0 °F) | 1.2 l<br>(0.32 liq. $gal_{US}$) |




– Mount radiator cap ❸.

**DANGER**

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

– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

– Allow the engine to warm up and cool down again.

**Reworking**

– Check the coolant level. (p. 125)

## 16.6 Changing the coolant

**WARNING**

**Health hazard** Coolant is harmful to health.

– Keep coolant out of the reach of children.
– Do not allow coolant to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if coolant has been ingested.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if coolant comes into contact with eyes.
– If coolant spills on to your clothing, change the clothing.
– Store coolant properly in a suitable container and keep out of the reach of children.

**WARNING**

**Danger of scalding** The coolant heats up and is under high pressure when the vehicle is operated.

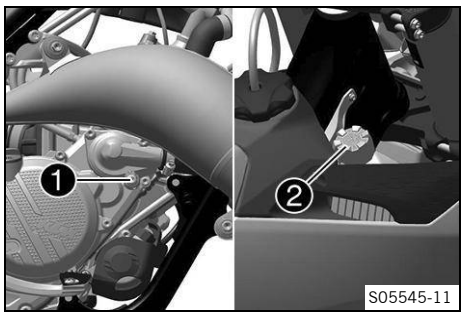
– Do not open the radiator, the radiator hoses, or other cooling system components if the engine or the cooling system are at operating temperature.
– Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses, or other components of the cooling system.
– In the event of scalding, rinse the area affected immediately with lukewarm water.

**NOTE**

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

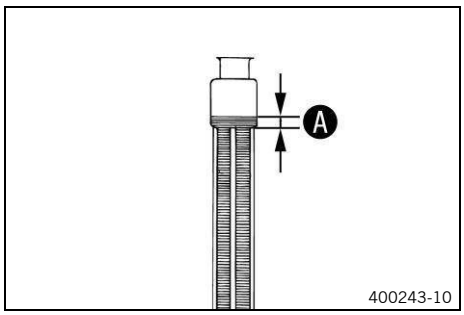
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

Condition: The engine is cold




– Remove screw ❶. Take off radiator cap ❷.
– Place an appropriate container under the water pump cover.
– Completely drain the coolant.
– Mount screw ❶ with the new sealing ring and tighten.

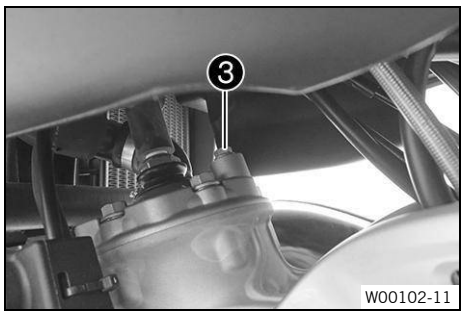
| Bleed screw, water pump cover | |
|---|---|
| M6 | 8 Nm<br>(5.9 ft·lb$_f$) |




– Stand the motorcycle upright.
– Pour coolant in up to level Ⓐ above the radiator fins.

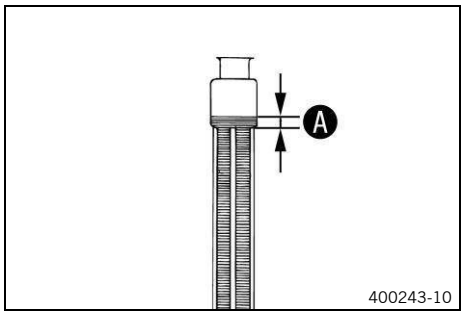
| 10 mm<br>(0.39 in) |
|---|

| coolant | |
|---|---|
| Coolant 📖 (p. 176)<br>Antifreeze protection to at least: −25 °C (−13.0 °F) | 1.2 l<br>(0.32 liq. gal$_{US}$) |




– Remove screw ❸ and wait until coolant emerges without bubbles.
– Mount and tighten screw ❸.

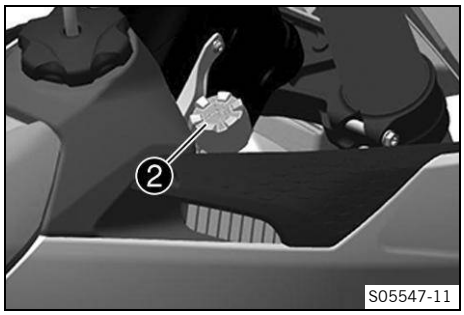
| Cylinder head bleed screw | |
|---|---|
| M6 | 8 Nm<br>(5.9 ft·lb$_f$) |




– Pour coolant in up to level Ⓐ above the radiator fins.

| 10 mm<br>(0.39 in) |
|---|

| coolant | |
|---|---|
| Coolant 📖 (p. 176)<br>Antifreeze protection to at least: −25 °C (−13.0 °F) | 1.2 l<br>(0.32 liq. gal$_{US}$) |




– Mount radiator cap ❷.

**DANGER**

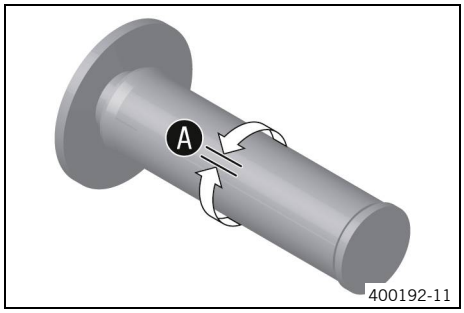
**Danger of poisoning** Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

– Allow the engine to warm up and cool down again.

– Check the transmission and cooling system for leaks.
– Check the coolant level. (p. 125)

## 17.1 Checking the play in the throttle cable




– Check the throttle grip for smooth operation.
– Turn handlebar as far as possible to the right. Turn the throttle twist grip back and forth slightly and determine the play in throttle cable Ⓐ.

| | |
|---|---|
| Throttle cable play | 3 mm ... 5 mm<br>(0.12 in ... 0.20 in) |

» If the throttle cable play does not meet the specified value:
– Adjust the throttle cable play. (p. 131)

**DANGER**

**Danger of poisoning** Exhaust gases are toxic and inhaling them may result in unconsciousness and death.
– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

– Start the engine and let it run at idle speed. Move the handlebar back and forth over the entire steering range.

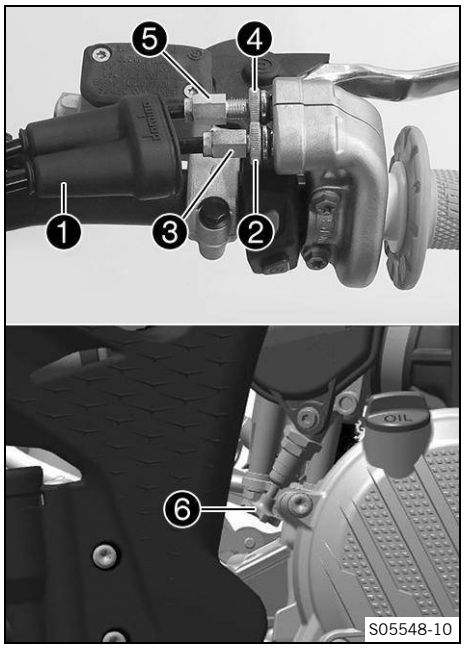
| |
|---|
| The idle speed must not change. |

» If the idle speed changes:
– Adjust the throttle cable play. (p. 131)

## 17.2 Adjusting the throttle cable play

**Note**
If the correct routing of the throttle cables has already been secured, the fuel tank does not need to be removed.

**Preparatory work**
– Remove the seat. (p. 75)
– Remove the fuel tank. (p. 81)
– Check the throttle cable routing. (p. 90)




**Main work**

– Move the handlebar to the straight-ahead position.
– Push back sleeve ❶.
– Loosen nut ❷.
– Turn adjusting screw ❸ in as far as possible.
– Loosen nut ❹.
– Push cold start button ❻ all the way to the stop.
– Turn adjusting screw ❺ so that the cold start button moves to the basic position when the throttle grip is turned to the front.
– Tighten nut ❹.
– Turn adjusting screw ❸ so that there is play in the throttle cable at the throttle grip.

| | |
|---|---|
| Throttle cable play | 3 mm ... 5 mm<br>(0.12 in ... 0.20 in) |

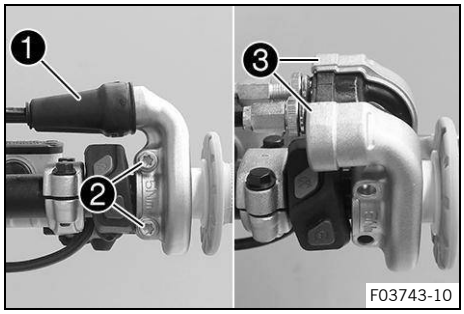
– Tighten nut ❷.
– Slide on sleeve ❶.
– Check the throttle for smooth operation.

**Reworking**

– Check the play in the throttle cable. (p. 131)
– Install the fuel tank. (p. 83)
– Mount the seat. (p. 75)

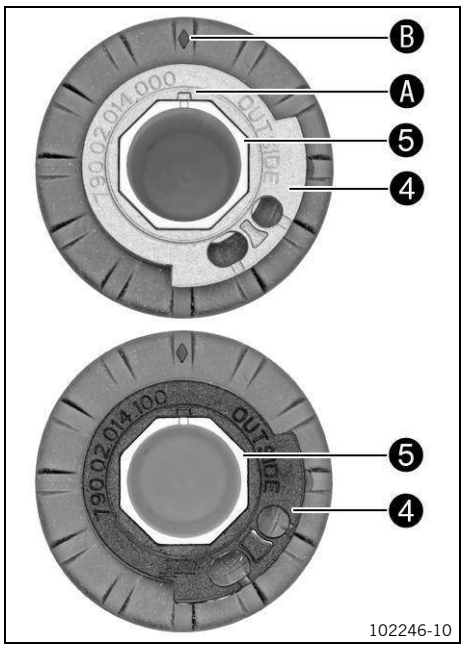
## 17.3 Adjusting the characteristic map of the throttle response

**Note**
On the throttle grip, the characteristic map of the throttle response is changed by changing the guide plate. A guide plate with a different characteristic map is supplied.




**Main work**

– Push back boot ❶.
– Remove screws ❷ and half-shells ❸.
– Detach the throttle cables and take off the grip tube.




– Remove guide plate ❹ from handle tube ❺.
– Position the required guide plate on the grip tube.

| |
|---|
| The label **OUTSIDE** must be visible. Marking Ⓐ must be positioned at marking Ⓑ. |

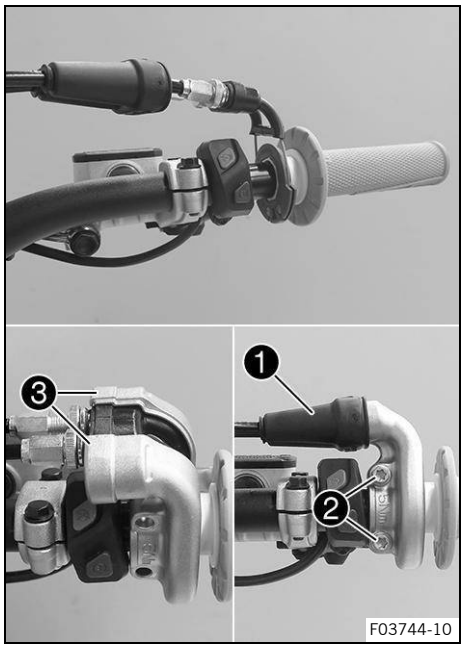
| **Work material (Alternative 1 / 2)** |
|---|
| Gray guide plate (79002014000) |
| **Work material (Alternative 2 / 2)** |
| Black guide plate (79002014100) |

**Note**

The gray guide plate opens the throttle valve more slowly.

The black guide plate opens the throttle valve more quickly.

The gray guide plate is mounted upon delivery.




– Clean the outside of the handlebar and the inside of the grip tube. Mount the grip tube on the handlebar.
– Attach the throttle cables to the guide plate and route correctly.
– Position half-shells ❸, mount and tighten screws ❷.

| Screw, throttle twist grip | |
|---|---|
| M6×20 | 5 Nm<br>(3.7 ft·lb$_f$) |

– Slide on sleeve ❶ and check the throttle grip for ease of movement.

**Reworking**

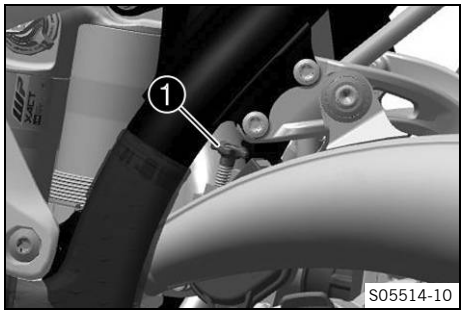
– Check the play in the throttle cable. (p. 131)

## 17.4 Adjusting the idle speed

**WARNING**

**Danger of accidents** The engine may suddenly come to a halt if the idle speed is set too low.

– Set the idle speed to the specified value.




– Run the engine until warm.
– Check whether the cold start button has returned to its basic position.

**DANGER**

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

– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

– Adjust the idle speed by turning idle speed adjusting screw ❶.

| Make the adjustment in small steps. | |
|---|---|
| Idle speed | 1,400 rpm … 1,500 rpm (23.33 Hz … 25.00 Hz) |

Service hour counter with revolution counter (A54012920100)

**Note**

Turning clockwise increases the idle speed.

Turning counterclockwise lowers the idle speed.

An incorrect idle speed can have a negative impact on overall engine running.

## 17.5 Programming ambient air pressure

**DANGER**

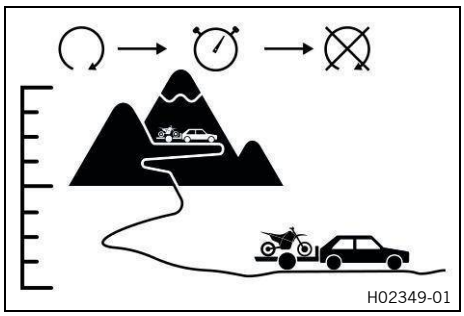
**Danger of poisoning** Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

**Note**

If the vehicle is ridden with the engine running at various heights above sea level, the ambient pressure is programmed on an ongoing basis.

If the vehicle is transported over great height differences, the ambient pressure must be reprogrammed.



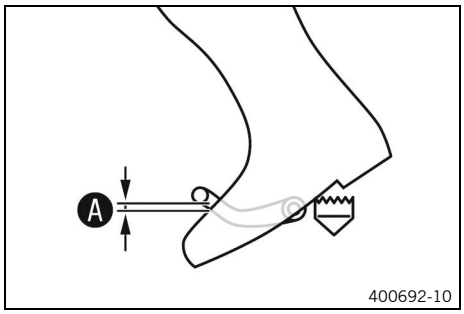

– Start the vehicle at the new height above sea level and switch off the engine again.

| Wait for at least five seconds. |
|---|

– Start the vehicle again and check the response of the vehicle.
  » If the response has not improved:
    – Repeat the procedure.

## 17.6 Checking the basic position of the gear shift lever

**Note**
When driving, the gear shift lever must not touch the rider's boot when in the basic position.
When the gear shift lever keeps touching the boot, the transmission will be subject to an excessive load.

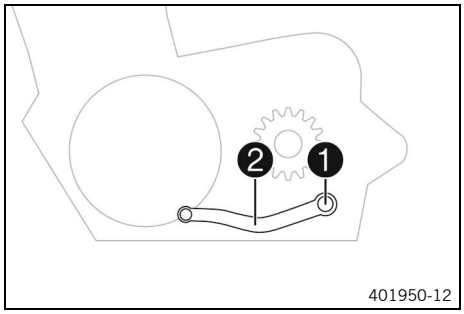



– Sit on the vehicle in the riding position and measure the distance Ⓐ between the upper edge of your boot and the shift lever.

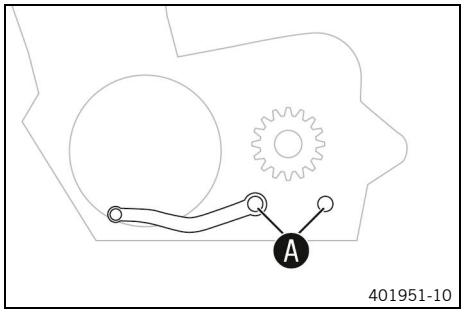
| | |
|---|---|
| Distance between the gear shift lever and upper edge of boot | 10 mm ... 20 mm (0.39 in ... 0.79 in) |

  » If the distance does not meet the specifications:
    – Adjust the basic position of the gear shift lever. (p. 135)

## 17.7 Adjusting the basic position of the gear shift lever




– Remove screw ❶ with the washers and take off shift lever ❷.




– Clean gear teeth Ⓐ of the shift lever and shift shaft.
– Mount the gear shift lever on the shift shaft in the desired position and engage the toothing.

| The gear shift lever must not come into contact with any other vehicle components during the shift procedure. |
|---|

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

– Mount and tighten screw ❶ with washers.

| Screw, shift lever | |
|---|---|
| M6 | 14 Nm<br>(10.3 ft·lb$_f$)<br>**Loctite® 243** |

## 18.1 Programming the end positions of the exhaust control

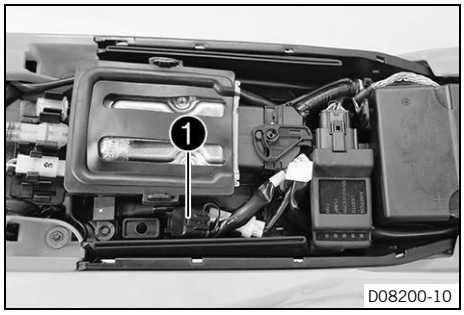
**Note**
If work has been carried out on the exhaust control, the end positions must be reprogrammed.

Condition: Engine is off

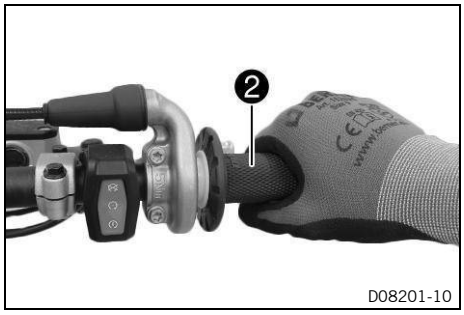
**Preparatory work**

– Remove the seat. (p. 75)

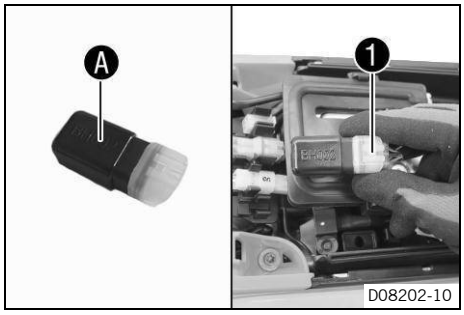
**Main work**




– Pull diagnostics connector ❶ off the holder.



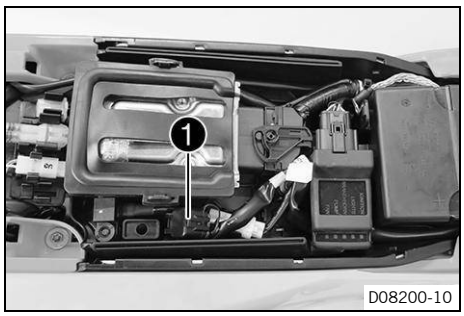

– Move throttle twist grip ❷ to where it is half open and hold in position.




– Plug wake-up connector Ⓐ into diagnostics connector ❶.

**Note**
Wake-up connector Ⓐ is in the motorcycle's accessory pack.

– Wait for at least five seconds.
  ✓ The end positions of the exhaust control are read. The procedure is clearly audible.
  ✓ The dashboard illumination is activated, the combination switch lights up green.
– Release the fixing from the throttle grip.
  ✓ The end positions of the exhaust control are programmed.
– Wait until you can no longer hear the exhaust control engine operating.
– Disconnect wake-up connector Ⓐ from diagnostic connector ❶.




– Mount diagnostics connector ❶ on the holder.

**Reworking**

– Mount the seat. (p. 75)

## 19.1 Changing the fuel screen

**DANGER**

**Fire hazard** Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

– Do not refuel the vehicle in the vicinity of open flames, glowing, or smoldering objects.
– Make sure that nobody smokes in the vicinity of the vehicle during the refueling process.
– Switch off the engine for refueling.
– Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
– If any fuel is spilled, wipe it up immediately.
– Do not overfill the fuel tank.

**WARNING**

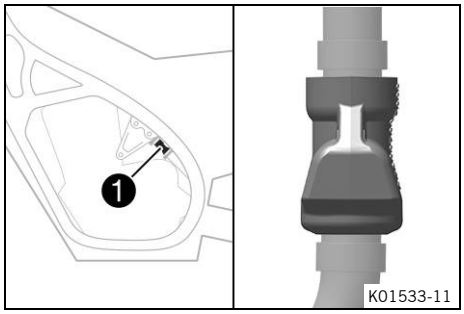
**Danger of poisoning** Fuel is harmful to health.

– Do not allow fuel to come into contact with skin, eyes, or clothing.
– Consult a doctor immediately if fuel has been ingested.
– Do not inhale fuel vapors.
– Rinse the affected area immediately with plenty of water in the event of contact with skin.
– Rinse eyes thoroughly with water and consult a doctor immediately if fuel comes into contact with eyes.
– If fuel spills on to your clothing, change the clothing.
– Store fuel properly in a suitable container and keep out of the reach of children.

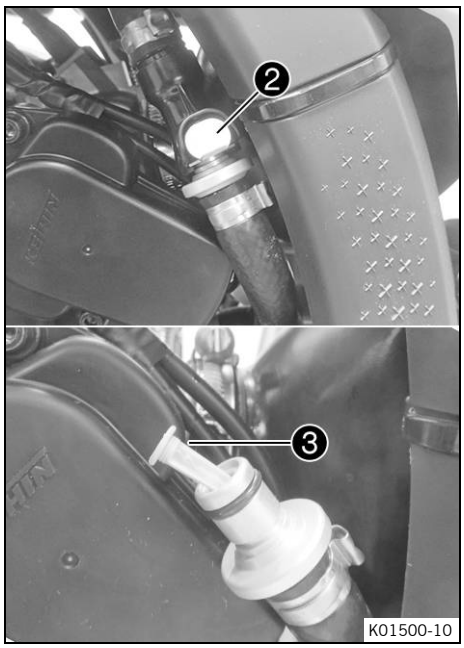
**NOTE**

**Environmental hazard** Improper handling of fuel is dangerous to the environment.

– Do not allow fuel to enter the groundwater, the soil, or the sewage system.




– Remove protection cap ❶ of the fuel line.




– Clean quick-lock coupling ❷ thoroughly with compressed air.

| |
|---|
| Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injector! |

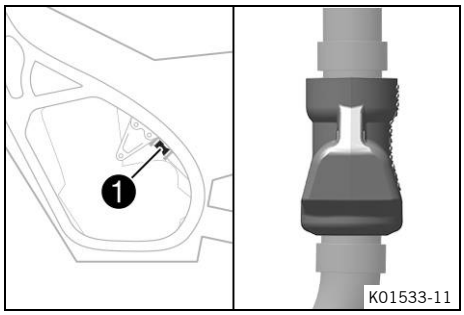
– Disconnect the quick-lock coupling.

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

– Pull fuel screen ❸ out of the connecting piece.
– Slide the new fuel screen all the way into the connecting piece.
– Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-lock coupling.

| |
|---|
| Silicone spray (p. 176) |

– Join quick-lock couplings.




– Mount protection cap ❶ of the fuel line.

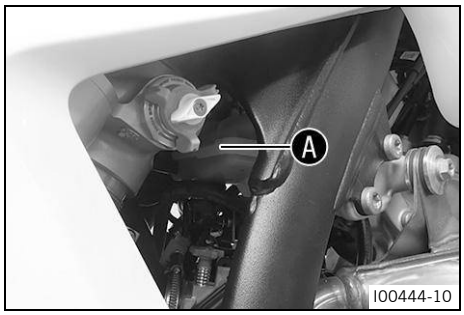
**DANGER**
**Danger of poisoning** Exhaust gases are toxic and inhaling them may result in unconsciousness and death.
– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

– Start the engine and check the response.

## 19.2 Checking 2-stroke oil level (XC-W US)

**WARNING**
**Engine failure** The engine will not be lubricated unless there is 2-stroke oil in the oil tank.
If the oil level warning light lights up, the 2-stroke oil is sufficient for the remaining tank of fuel.
– As soon as the oil level warning light lights up, ride for no longer than until the remaining fuel in the tank is depleted.
– At the next opportunity add 2-stroke oil before you refuel.
– Time the oil pump if the 2-stroke oil hose has been removed or the 2-stroke oil tank has been fully depleted in error.

**Preparatory work**
– Stand the motorcycle upright on a level surface.




**Main work**

– Check the 2-stroke oil level in the oil tank.

For a full tank of fuel, the 2-stroke oil tank must be filled up to at least the upper abutting edge Ⓐ.

✓ The 2-stroke oil tank must be completely filled if possible.

» If the 2-stroke oil level is too low:

**(XC-W US)**

– Add 2-stroke oil. (p. 49)

## 19.3 Priming oil pump

**WARNING**

**Engine failure** The engine will not be lubricated unless there is 2-stroke oil in the oil tank.

If the oil level warning light lights up, the 2-stroke oil is sufficient for the remaining tank of fuel.

– As soon as the oil level warning light lights up, ride for no longer than until the remaining fuel in the tank is depleted.
– At the next opportunity add 2-stroke oil before you refuel.
– Time the oil pump if the 2-stroke oil hose has been removed or the 2-stroke oil tank has been fully depleted in error.

Condition: Engine is off

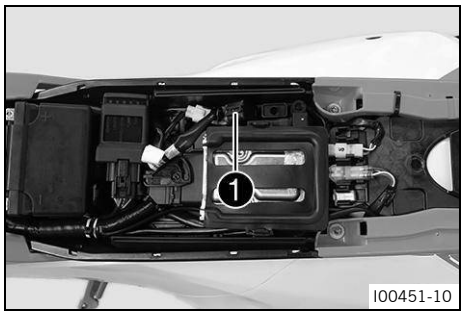
**Preparatory work**

– Remove the seat. (p. 75)

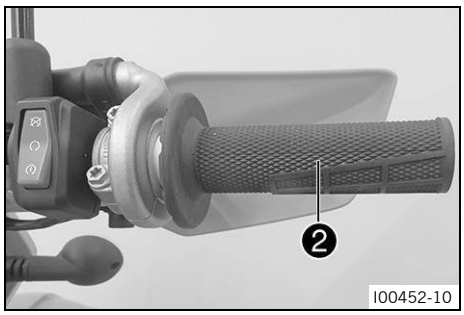
**(XC-W US)**

– Stand the motorcycle upright on a level surface.
– Check 2-stroke oil level. (p. 140)

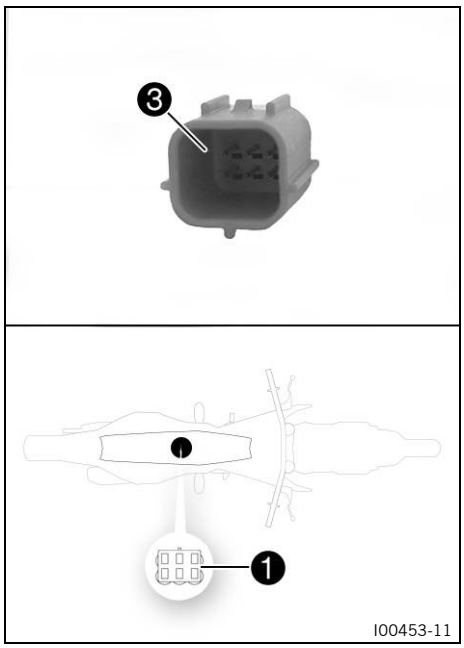
**Main work**




– Pull diagnostics connector ❶ off the holder.




– Put throttle grip ❷ into full throttle position and secure.



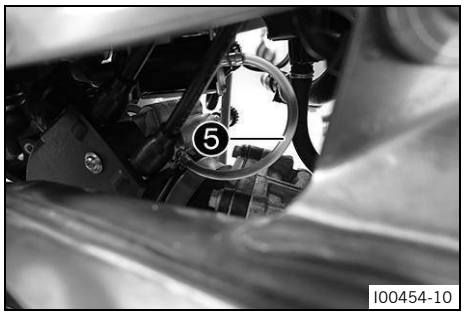

– Plug in wake-up connector ❸ for priming the oil pump to the diagnostics connector ❶.
✓ The combination instrument lighting is activated.

**Note**
The connector ❸ is included as part of the motorcycle's by pack.

– Wait for at least five seconds.
– Release the fixing from the throttle grip.
✓ The oil pump is timed.

**Note**
The oil pump is actuated at various speeds.
The procedure is clearly audible.

– Wait until you can no longer hear the oil pump operating.
– Disconnect the wake-up connector from the diagnostics connector.




– Check whether air bubbles are visible in the hose ❺.
» If air bubbles are visible:
– Repeat the entire procedure until air bubbles are no longer visible.
– Mount the diagnostics connector on the holder.

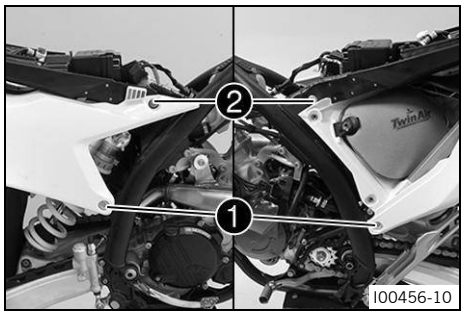
**Reworking**
– Mount the seat. (p. 75)

## 19.4 Cleaning the oil screen in the oil tank (XC-W US)

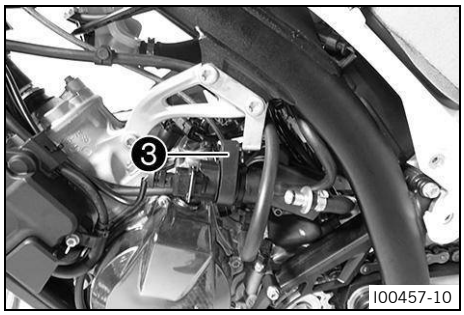
**NOTE**
**Environmental hazard** Hazardous substances cause environmental damage.
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Preparatory work**
– Raise the motorcycle with a lift stand. (p. 63)
– Remove the muffler. (p. 79)
– Remove the seat. (p. 75)
– Remove the fuel tank. (p. 81)
– Remove air filter box cover. (p. 76)

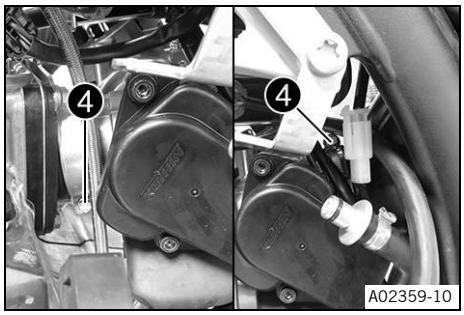
**Main work**



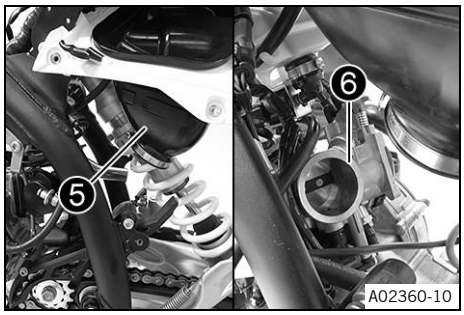

– Remove screws ❶.
– Loosen screws ❷.




– Remove fuel vapor valve ❸ from the bracket and hang it to the side.



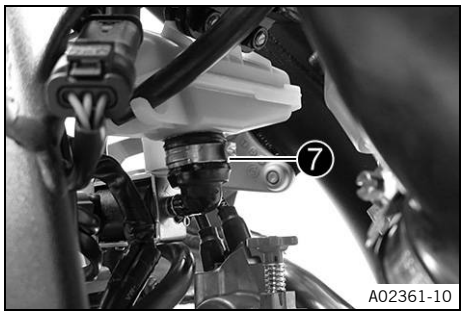

– Loosen clamps ❹ of the throttle valve body.



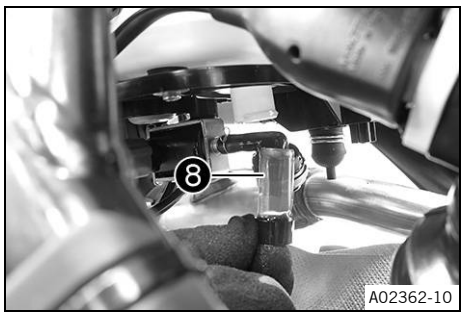

– Lift the subframe slightly and secure it.

| |
|---|
| Pay attention to intake flange ❺. |

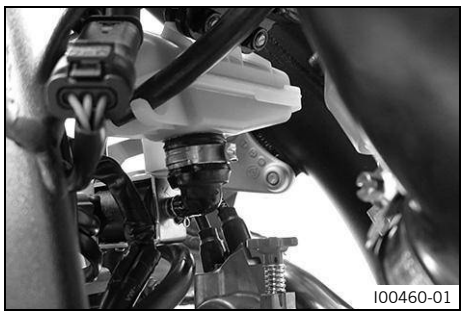
– Pull throttle valve body ❻ towards the rear, out of the intake flange, and hang it to the side.




– Open hose clamp ❼ using a screwdriver.
– Pull off the angle piece and collect the 2-stroke oil in a suitable container.

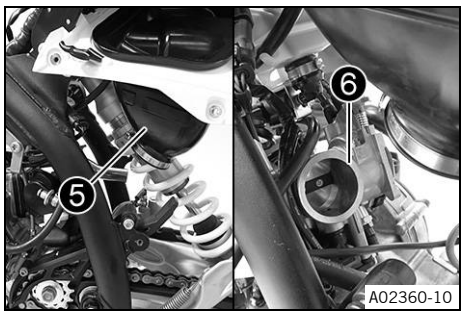



– Remove oil screen ❽ and clean it.
– Check the oil screen for damage.
  » If the oil screen is damaged:
    – Change the oil screen.




– Insert the oil screen and mount the angle piece with a new hose clamp.

| Hose clamp pliers (60029057000) |
|---|

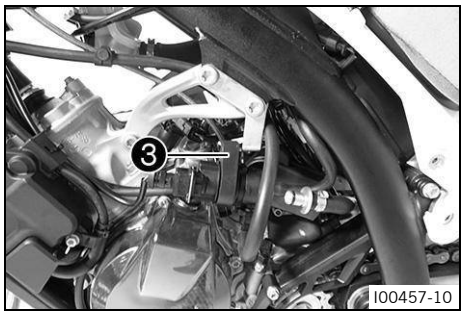



– Mount throttle valve body ❻.
– Remove the locking piece and position the subframe.

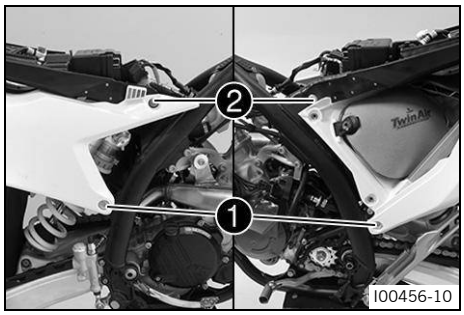
| Pay attention to intake flange ❺. |
|---|

– Position and tighten clamps ❹ of the throttle valve body.

| Screw, intake manifold / diaphragm housing | |
|---|---|
| M6 | 6 Nm<br>(4.4 ft·lb$_f$) |




– Mount fuel vapor valve ❸.




– Mount and tighten screws ❶.

| Screw, subframe on bottom frame | |
|---|---|
| M8×18 | 30 Nm<br>(22.1 ft·lb$_f$)<br>**Loctite® 2701** |

– Remove screws ❷.
– Mount and tighten screws ❷.

| Screw, subframe on top frame | |
|---|---|
| M8×15 | 35 Nm<br>(25.8 ft·lb$_f$)<br>**Loctite® 243** |

**Reworking**

– Install the air filter box cover. 📖 (p. 77)
– Install the fuel tank. 🔧 📖 (p. 83)
– Mount the seat. 📖 (p. 75)

**(XC-W US)**

– Add 2-stroke oil. 📖 (p. 49)
– Close 2-stroke oil tank cap. 📖 (p. 22)
– Prime the oil pump.
– Install the muffler. 📖 (p. 80)
– Remove the motorcycle from the lift stand. 📖 (p. 63)

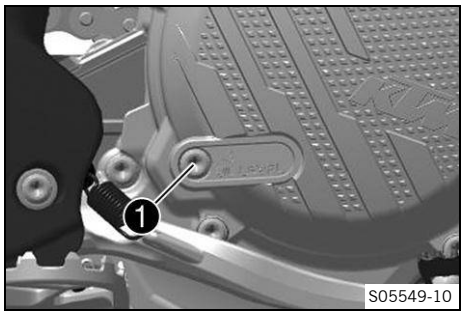
## 19.5 Checking the gear oil level

**Note**
The gear oil level must be checked when the engine is cold.

**Preparatory work**

– Stand the motorcycle upright on a level surface.

**Main work**




– Remove gear oil level monitoring screw ❶.
– Check the gear oil level.

| A small amount of gear oil should run out of the bore. |
|---|

» If no gear oil runs out:
– Add gear oil. 🔧 📖 (p. 147)

– Mount and tighten the gear oil level check screw.

| Screw, gear oil level check | |
|---|---|
| M6 | 8 Nm<br>(5.9 ft·lb$_f$) |

## 19.6 Changing the gear oil

**WARNING**

**Danger of scalding** Engine and gear oil heat up when the motorcycle is operated.

– Wear suitable protective clothing and safety gloves.
– In the event of scalding, rinse the area affected immediately with lukewarm water.

**NOTE**

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

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Note**

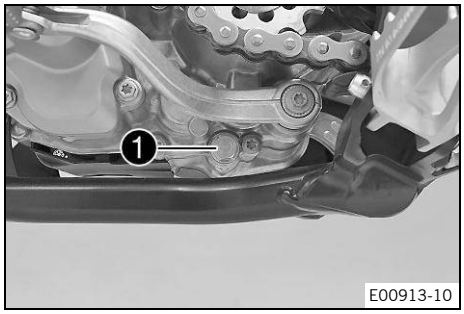
Drain the gear oil while the engine is at operating temperature.

**Preparatory work**

**(XC-W US)**

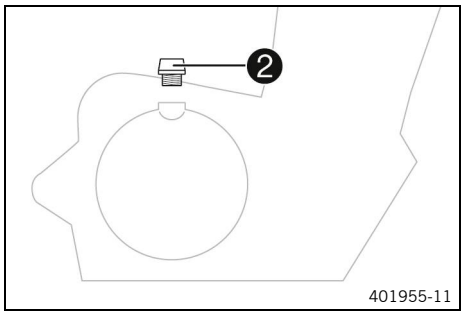
– Remove the skid plate. (p. 94)
– Park the motorcycle on a level surface.
– Position an appropriate container under the engine.

**Main work**




– Remove gear oil drain plug ❶ with magnet.
– Let the gear oil drain fully.
– Thoroughly clean the gear oil drain plug with a magnet.
– Clean the sealing area on the engine.
– Mount and tighten gear oil drain plug ❶ with the magnet and a new seal ring.

| Transmission drain plug with magnet | |
|---|---|
| M12×1.5 | 20 Nm<br>(14.8 ft·lb$_f$) |




– Remove filler plug ❷ with the O-ring, and fill up with gear oil.

| gear oil | |
|---|---|
| Engine oil (15W/50)<br>(p. 175)<br>Partially synthetic | 0.80 l<br>(0.211 liq. gal$_{US}$) |

– Mount and tighten the oil plug together with the O-ring.

**DANGER**

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

– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

– Start the engine and check it for leaks.

**Reworking**

– Check the gear oil level. (p. 145)

**(XC-W US)**

– Install the skid plate. (p. 95)

## 19.7 Adding gear oil

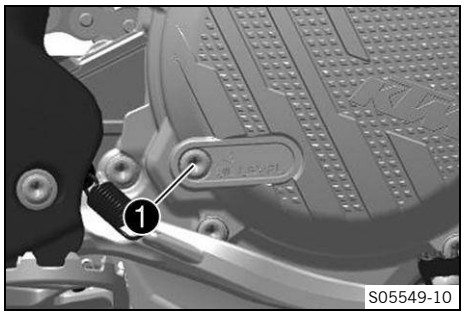
**Note**

Too little gear oil or poor-quality oil results in premature wear to the transmission.
Gear oil must only be topped up when the engine is cold.

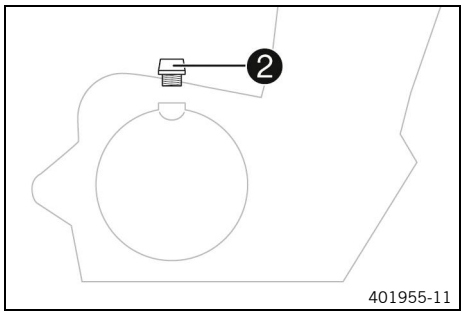
**Preparatory work**

– Park the motorcycle on a level surface.

**Main work**




– Detach the brake pedal spring.
– Remove gear oil level monitoring screw 1.




– Remove filler plug 2 with the O-ring.
– Add gear oil until it emerges from the bore of the gear oil level check screw.

| |
|---|
| Engine oil (15W/50) (p. 175)<br>Partially synthetic |

– Mount and tighten the gear oil level check screw.

| Screw, gear oil level check | |
|---|---|
| M6 | 8 Nm<br>(5.9 ft·lb$_f$) |

– Mount and tighten filler plug 2 with the O-ring.
– Attach the brake pedal spring.

**DANGER**

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

– Always ensure that there is sufficient ventilation when running the engine.
– Use suitable exhaust extraction when starting or running the engine in an enclosed space.

– Start the engine and check it for leaks.

**Reworking**

– Check the gear oil level. (p. 145)

## 20.1 Cleaning the motorcycle

**NOTE**

**Material damage** Components can be damaged or destroyed if a high-pressure cleaner is used incorrectly.

The high pressure forces water into the electrical components, socket connectors, clutch cables, and bearings, etc.

Too high a pressure can cause malfunctions and destroy components.

– Do not direct the water jet directly on to electrical components, socket connectors, clutch cables, or bearings.
– Maintain a minimum distance between the nozzle of the high-pressure cleaner and the component.

| | |
|---|---|
| Minimum distance | 60 cm<br>(23.6 in) |

**NOTE**

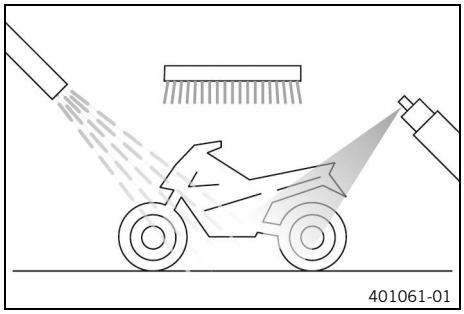
**Environmental hazard** Hazardous substances cause environmental damage.

– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc. correctly and in accordance with the applicable regulations.

**Note**

Clean the motorcycle regularly to maintain its value and appearance over a long period.

Avoid direct sunshine when cleaning the motorcycle.




– Seal the exhaust system to prevent water from entering into it.
– Remove the coarse dirt particles with a gentle water jet.
– Spray the heavily soiled parts with a standard commercial motorcycle cleaner and clean using a brush.

| |
|---|
| Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first. |

| |
|---|
| Environmentally neutral universal cleaning agent<br>(p. 180) |

**Note**

Use warm water containing standard motorcycle cleaner and a soft sponge.

– Clean the motorcycle thoroughly with a soft water jet, then allow to dry.
– Remove the cover from the exhaust system.

**WARNING**

**Danger of accidents** Moisture and dirt impair the brake system.

– Brake carefully several times to dry out and remove dirt from the brake pads and the brake discs.

– After cleaning, ride the vehicle a short distance until the engine warms up.

**Note**

The heat produced causes water to evaporate at inaccessible locations in the engine and on the brake system.

– After the motorcycle has cooled off, lubricate all moving parts and pivot points.
– Clean the chain. (p. 85)
– Treat bare metal (except for brake discs and the exhaust system) with an anticorrosive.

Preserving materials (p. 180)

– Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

Cleaning agents for plastics, glass, lacquers, metals, windshields and visors (p. 180)

## 21.1 Storage

**WARNING**

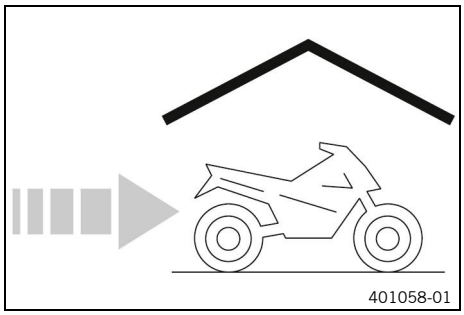
**Danger of poisoning** Fuel is harmful to health.

- Do not allow fuel to come into contact with skin, eyes, or clothing.
- Consult a doctor immediately if fuel has been ingested.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if fuel comes into contact with eyes.
- If fuel spills on to your clothing, change the clothing.
- Store fuel properly in a suitable container and keep out of the reach of children.

**Note**

If the vehicle will not be ridden for an extended period, additional steps are recommended.

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 overload of the authorized partner). This allows you to avoid long waiting periods when the next season starts.




- Clean the motorcycle. (p. 149)
- Change the gear oil. (p. 146)
- Check the frost protection and coolant level. (p. 124)
- When refueling for the last time before taking the motorcycle out of service, add fuel additive.

| |
|---|
| Fuel additive (p. 174) |

- Refuel. (p. 48)

**Tip**

Fill the fuel tank completely as specified, using fuel with the lowest possible ethanol content.

**(XC-W US)**

- Add 2-stroke oil. (p. 49)
- Check the tire pressure. (p. 111)
- Remove the 12 V battery. (p. 113)
- Charge the 12 V battery. (p. 115)

| | |
|---|---|
| Ideal charging and storage temperature of the lithium-ion battery | 10 °C ... 20 °C (50.0 °F ... 68.0 °F) |

- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

**Note**

KTM recommends jacking up the motorcycle.

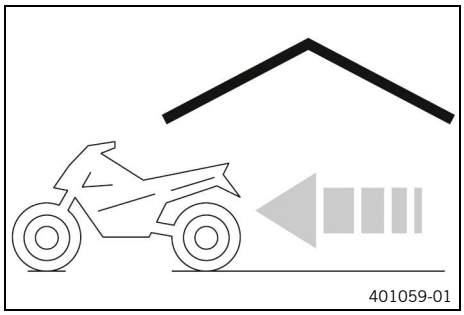
- Raise the motorcycle with a lift stand. (p. 63)

| |
|---|
| Cover the vehicle with a tarpaulin or similar cover that is permeable to air. |
| Do not use non-porous materials because they prevent humidity from escaping and thus cause corrosion. |

**Note**

Avoid running the engine of a motorcycle in storage for a short time only. Because the engine will not warm up sufficiently, the water vapor produced during combustion will condense, causing engine parts and the exhaust system to rust.

## 21.2 Preparing for use after storage




- Remove the motorcycle from the lift stand. (p. 63)
- Install the 12 V battery. (p. 114)
- Perform checks and maintenance measures when preparing for use. (p. 44)
- Take a test ride.

## 22.1 troubleshooting

| Cause | Finding | Remedy |
|---|---|---|
| The engine does not turn over (starter motor) | Operating error<br>12 V battery discharged<br>Main fuse blown<br>Starter relay defective<br>Starter motor defective | – Carry out the starting procedure. (p. 44)<br>– Charge the 12 V battery.<br>(p. 115)<br>– Check the charging voltage.<br>– Check the open-circuit current.<br>– Check the stator winding of the alternator.<br>– Change the main fuse. (p. 118)<br>– Check the starter relay.<br>– Check the starter motor. |
| The engine turns but does not start | Operating error<br>Quick-lock coupling not joined<br>Idle speed is not set correctly<br>Fuel supply interrupted<br>Spark plug sooty or wet<br>Plug gap of spark plug too wide<br>Faulty ignition<br>Short-circuit cable in wiring harness frayed, stop button or emergency OFF switch faulty<br>Connector or ignition coil loose or oxidized<br>Malfunction in the electronic fuel injection | – Carry out the starting procedure. (p. 44)<br>– Join quick-lock couplings.<br>– Adjust the idle speed. (p. 134)<br>– Check the fuel tank vent.<br>– Clean and dry the spark plug and spark plug connector, or change if necessary.<br>– Adjust plug gap.<br>Plug gap of spark plug: 0.80 mm (0.0315 in)<br>– Ignition coil - check the primary winding.<br>– Check the spark plug connector.<br>– Check the stator winding of the alternator.<br>– Check wiring harness (visual check).<br>– Check the electrical system.<br>– Clean the connector and treat with contact spray.<br>– Check wiring for damage and electrical plug-in connectors for corrosion and damage.<br>– Read out the fault memory using the diagnostics tool. |
| The engine has no idle speed | Faulty spark plug<br>Faulty ignition<br>Idle speed is not set correctly | – Change the spark plug.<br>– Ignition coil - check the primary winding.<br>– Check the spark plug connector.<br>– Check the stator winding of the alternator.<br>– Adjust the idle speed. (p. 134) |
| Engine does not speed up | Malfunction in the electronic fuel injection<br>Faulty ignition | – Check wiring for damage and electrical plug-in connectors for corrosion and damage. |

| Cause | Finding | Remedy |
|---|---|---|
| | Ambient pressure is incorrectly stored | – Read out the fault memory using the diagnostics tool.<br>– Ignition coil - check the primary winding.<br>– Check the spark plug connector.<br>– Check the stator winding of the alternator.<br>– Program ambient air pressure. (p. 134) |
| Engine has too little power | Air filter is very dirty<br>Fuel filter is very dirty<br>Fuel screen is very dirty<br>Malfunction in the electronic fuel injection<br>Fuel supply interrupted<br>Exhaust system leaks, deformed or too little damping material in the silencer<br>Faulty ignition<br>Damaged membrane or reed valve housing<br>Ambient pressure is incorrectly stored | – Clean the air filter and air filter box. (p. 78)<br>– Change the fuel filter.<br>– Change the fuel screen. (p. 139)<br>– Check wiring for damage and electrical plug-in connectors for corrosion and damage.<br>– Read out the fault memory using the diagnostics tool.<br>– Check the fuel tank vent.<br>– Check exhaust system for damage.<br>– Change the damping material on the main silencer. (p. 80)<br>– Ignition coil - check the primary winding.<br>– Check the spark plug connector.<br>– Check the stator winding of the alternator.<br>– Check the membrane and reed valve housing.<br>– Program ambient air pressure. (p. 134) |
| The engine dies during the trip | Lack of fuel<br>The engine takes in false air<br>Connector or ignition coil loose or oxidized<br>Ambient pressure is incorrectly stored | – Refuel. (p. 48)<br>– Check that the intake manifold is firmly seated.<br>– Clean the connector and treat with contact spray.<br>– Program ambient air pressure. (p. 134) |
| Engine overheats | Too little coolant in cooling system<br>Too little air stream<br>Radiator fins very dirty<br>Foam formation in the cooling system<br>Damaged cylinder head or cylinder head gasket<br>Bent radiator hose<br>Thermostat defective | – Check the transmission and cooling system for leaks.<br>– Check the coolant level. (p. 125)<br>– Switch off the engine when standing.<br>– Clean the radiator fins.<br>– Drain the coolant. (p. 126)<br>– Refill the coolant. (p. 126)<br>– Check the cylinder head and cylinder head gasket.<br>– Change the radiator hose. |

| Cause | Finding | Remedy |
|---|---|---|
| | | – Check the thermostat.<br>Opening temperature: 70 °C (158.0 °F) |
| White smoke development (steam in the exhaust gas) | Damaged cylinder head or cylinder head gasket | – Check the cylinder head and cylinder head gasket. |
| Gear oil emerges from the vent hose | Too much gear oil added | – Check the gear oil level. (p. 145) |
| Water in the gear oil | Damaged radial shaft seal ring or water pump | – Check the radial shaft seal ring and the water pump. |
| Malfunction indicator lamp lights up or flashes | Malfunction in the electronic fuel injection | – Check wiring for damage and electrical plug-in connectors for corrosion and damage.<br>– Read out the fault memory using the diagnostics tool. |
| 12 V battery discharged | The 12-V battery is not being charged by the alternator<br>unwanted electrical load | – Check the charging voltage.<br>– Check the stator winding of the alternator.<br>– Check the open-circuit current. |
| Values in combination instrument deleted (time, stop watch, lap times) | The combination instrument battery is empty | – Change the combination instrument battery. (p. 121) |

## 23.1 Flash codes

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>02: Malfunction indicator light flashes 2x short |
| **Error level condition** | Crankshaft position sensor - synchronization faulty<br>Time: ≥ 1 s<br>Crankshaft position sensor - too many impulses<br>Time: ≥ 0.1 s<br>Crankshaft speed sensor – signal implausible |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>06: Malfunction indicator light flashes 6x short |
| **Error level condition** | Throttle valve position sensor circuit A – input signal too low<br>Voltage: ≤ 0.2 V<br>Time: ≥ 0.08 s<br>Throttle valve position sensor circuit A – input signal too high<br>Voltage: ≥ 4.7 V<br>Time: ≥ 0.08 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>09: Malfunction indicator light flashes 9x short |
| **Error level condition** | Crankcase pressure sensor - short circuit to ground<br>Voltage: ≤ 0.4 V<br>Time: ≥ 0.1 s<br>Crankcase pressure sensor - open/short circuit to plus<br>Voltage: ≥ 4.6 V<br>Time: ≥ 0.1 s<br>Ambient air pressure sensor - short circuit to ground<br>Ambient air pressure sensor voltage: ≤ 0.4 V<br>Time: ≥ 1 s<br>Ambient air pressure sensor – open/short circuit to plus<br>Ambient air pressure sensor voltage: ≥ 4.6 V<br>Time: ≥ 0.1 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>12: Malfunction indicator light flashes 1x long, 2x short |
| **Error level condition** | Coolant temperature sensor – input signal too low<br>Voltage: ≤ 0.1 V<br>Time: ≥ 3 s<br>Coolant temperature sensor – input signal too high<br>Voltage: ≥ 4.8 V<br>Time: ≥ 3 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>13: Malfunction indicator light flashes 1x long, 3x short |
| **Error level condition** | Intake air temperature sensor – input signal too low<br>Voltage: ≤ 0.2 V<br>Time: ≥ 3 s<br>Intake air temperature sensor – input signal too high<br>Voltage: ≥ 4.8 V<br>Time: ≥ 3 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>14: Malfunction indicator light flashes 1x long, 4x short |
| **Error level condition** | Crankcase pressure sensor – difference too high between sensor and engine control unit |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>15: Failure indicator light flashes 1x long, 5x short |
| **Error level condition** | Tilt sensor – input signal too low<br>Signal voltage: ≤ 0.2 V<br>Signal voltage: 3.7 V ... 4.6 V<br>Tilt sensor – input signal too high<br>Voltage: ≥ 4.8 V |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>17: Malfunction indicator light flashes 1x long, 7x short |
| **Error level condition** | Lambda sensor - input signal too low<br>Time: ≥ 0.1 s<br>Voltage: ≤ 0.05 V<br>Lambda sensor – input signal too high<br>Time: ≥ 0.1 s<br>Voltage: ≥ 4 V |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>21: Malfunction indicator light flashes 2x long, 1x short |
| **Error level condition** | Battery voltage - input voltage too low<br>Engine control unit power supply: ≤ 9.9 V<br>Time: ≥ 1 s<br>Battery voltage - input voltage too low<br>Battery voltage – input voltage too high<br>Engine control unit power supply: ≥ 16.10 V<br>Time: ≥ 1 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>33: Malfunction indicator lamp flashes 3x long, 3x short |
| **Error level condition** | Injector 1, cylinder 1 - input signal too low<br>Time: ≥ 1 s<br>Injector 1, cylinder 1 - input signal too high<br>Time: ≥ 1 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>34: Malfunction indicator lamp flashes 3x long, 4x short |
| **Error level condition** | Injector 2, cylinder 1 - input signal too low<br>Time: ≥ 1 s<br>Injector 2, cylinder 1 - input signal too high<br>Time: ≥ 1 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>37: Malfunction indicator light flashes 3x long, 7x short |
| **Error level condition** | Ignition coil - failure in circuit<br>Time: ≥ 2.0 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>41: Malfunction indicator light flashes 4x long, 1x short |
| **Error level condition** | Fuel pump - interruption/short circuit to ground<br>The engine is switched off: ≥ 0.4 s<br>Fuel pump - short circuit to plus<br>The engine is switched off: ≥ 0.4 s |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>42: Malfunction indicator light flashes 4x long, 2x short |
| **Error level condition** | Oil pump - input signal too low<br>Time: ≥ 1 s<br>Oil pump - input signal too high<br>Oil level sensor – short circuit to ground<br>Oil level sensor – short circuit to plus<br>Oil lamp – malfunction in the circuit<br>Oil lamp – short circuit to ground<br>Oil lamp – short circuit to plus |

| | |
|---|---|
| **Blink code for malfunction indicator light** | <br>45: Malfunction indicator light flashes 4x long, 5x short |
| **Error level condition** | Oxygen sensor heater - short circuit to ground<br>Time: ≥ 1 s<br>Oxygen sensor heater - short circuit to plus<br>Time: ≥ 1 s |

| **Blink code for malfunction indicator light** | <br>50: Malfunction indicator light flashes 5x long |
|---|---|
| **Error level condition** | Exhaust control actuator – no signal<br>Exhaust control actuator – temperature too high<br>Exhaust control actuator – incorrect setting<br>Exhaust control actuator – setpoint value signal faulty<br>Exhaust control actuator – input signal too low<br>Exhaust control actuator – input signal too high<br>Exhaust control actuator – mechanical error in the lower position<br>Exhaust control actuator – mechanical error in the upper position<br>Exhaust control actuator – mechanical error |

| **Blink code for malfunction indicator light** | <br>52: Malfunction indicator light flashes 5x long, 2x short |
|---|---|
| **Error level condition** | Fuel vapor valve – circuit fault<br>Fuel vapor valve – voltage too low<br>Fuel vapor valve – voltage too high |

| **Blink code for malfunction indicator light** | <br>53: Malfunction indicator light flashes 5x long, 3x short |
|---|---|
| **Error level condition** | Sensor voltage 1 – open circuit/short circuit to ground<br>Sensor voltage 1 – short circuit to plus |

| **Blink code for malfunction indicator light** | <br>54: Malfunction indicator light flashes 5x long, 4x short |
|---|---|
| **Error level condition** | Sensor voltage 2 – open circuit/short circuit to ground<br>Sensor voltage 2 – short circuit to plus |

## 24.1 Engine

### 24.1.1 Technical data - engine

| | |
|---|---|
| Design | Single-cylinder 2-stroke engine, liquid-cooled, with diaphragm intake and exhaust control |
| Displacement | |
| **(XC-W EU)** | 124.8 cm³<br>(7.616 in³) |
| **(XC-W US)** | 144 cm³<br>(8.79 in³) |
| Stroke | 54.5 mm<br>(2.146 in) |
| Bore | |
| **(XC-W EU)** | 54 mm<br>(2.13 in) |
| **(XC-W US)** | 58 mm<br>(2.28 in) |
| Idle speed | 1,400 rpm ... 1,500 rpm<br>(23.33 Hz ... 25.00 Hz) |
| Exhaust control - beginning of adjustment | |
| **(XC-W EU)** | 7,200 rpm<br>(120.00 Hz) |
| **(XC-W US)** | 5,500 rpm<br>(91.67 Hz) |
| Crankshaft bearing | 1 grooved ball bearing, 1 roller bearing |
| Big (bottom) end bearing | Needle bearing |
| Wrist pin bearing | Needle bearing |
| Piston | Aluminum |
| Piston rings | |
| **(XC-W EU)** | 2 half keystone rings |
| **(XC-W US)** | 1 rectangular ring, 1 half keystone ring |
| Engine lubrication | |
| **(XC-W EU)** | Mixture lubrication |
| **(XC-W US)** | Separate lubrication |
| X-dimension (upper edge of piston to upper edge of cylinder) | 0 mm ... 0.10 mm<br>(0 in ... 0.0039 in) |
| Z dimension (height of control flap) | |
| **(XC-W EU)** | 36.5 mm ... 36.6 mm<br>(1.437 in ... 1.441 in) |
| **(XC-W US)** | 37.5 mm ... 37.6 mm<br>(1.476 in ... 1.480 in) |
| Primary transmission | 23:73 |
| Clutch | Multi-disc wet clutch / hydraulically activated |
| Transmission | 6 speed transmission, claw shift |
| Gear ratios | |
| 1st gear | 12:33 |

| | |
|---|---|
| 2nd Gear | 15:31 |
| 3rd Gear | 17:28 |
| 4th Gear | 19:26 |
| 5th Gear | 21:25 |
| 6th Gear | 20:20 |
| Ignition system | Electronic ignition |
| Spark plug | NGK BR9 ECMVX |
| Plug gap of spark plug | 0.80 mm<br>(0.0315 in) |
| Cooling | Liquid cooling, permanent circulation of coolant by water pump |
| Starting aid | Electric starter |
| Alternator | • 14 V<br>• 196 W (0.263 hp) |

### 24.1.2 Capacities - engine

| | |
|---|---|
| gear oil | |
| Engine oil (15W/50) (p. 175)<br>Partially synthetic | 0.80 l<br>(0.211 liq. $gal_{US}$) |
| coolant | |
| Coolant (p. 176)<br>Antifreeze protection to at least: −25 °C (−13.0 °F) | 1.2 l<br>(0.32 liq. $gal_{US}$) |

## 24.2 Chassis

### 24.2.1 Technical data - chassis

| | |
|---|---|
| Frame | Central tube frame made of chrome molybdenum steel tubing |
| Suspension travel: | |
| front | 300 mm<br>(11.81 in) |
| rear | 310 mm<br>(12.20 in) |
| Triple clamp offset | 22 mm<br>(0.87 in) |
| Brake system | Disc brakes, floating brake calipers |
| Brake discs - diameter | |
| front | 260 mm<br>(10.24 in) |
| rear | 220 mm<br>(8.66 in) |
| Brake disc wear limit | |
| front | 2.5 mm<br>(0.098 in) |
| rear | 3.5 mm<br>(0.138 in) |

| | |
|---|---|
| Off-road tire pressure | |
| front | 1.0 bar<br>(14.5 psi) |
| rear | 1.0 bar<br>(14.5 psi) |
| Final drive | 13:50 |
| Chain | 520 |
| Rear sprockets available | • 50 teeth |
| Steering head angle | 63.9°<br>(1.115 rad) |
| Wheelbase | 1,488 mm<br>(58.58 in) |
| Seat Height unloaded | 963 mm<br>(37.91 in) |
| Ground clearance unloaded | 347 mm<br>(13.66 in) |
| Weight without fuel approx. | 96.4 kg<br>(212.53 lb) |
| Maximum permissible front axle load | 145 kg<br>(319.7 lb) |
| Maximum permissible rear axle load | 190 kg<br>(418.9 lb) |
| Maximum permissible total weight | 335 kg<br>(738.5 lb) |

### 24.2.2 Technical data - tires

| Validity | Tire front | Rear tire |
|---|---|---|
| **(XC-W EU)** | **90/90 - 21 M/C 54R M+S TT**<br>MAXXIS Maxx Enduro | **140/80 - 18 M/C 70R M+S TT**<br>MAXXIS Maxx Enduro |
| **(XC-W US)** | **80/100 - 21 M/C 51M M+S TT**<br>Dunlop MX33F | **110/100 - 18 M/C 64M M+S TT**<br>Dunlop GEOMAX AT81 |
| The tires specified represent one of the possible series production tires. For alternative manufacturers, if any, contact an authorized manufacturer or qualified tire dealership. If local road approval regulations apply, these and the respective technical specifications must be observed. | | |

### 24.2.3 Capacities - vehicle

| | |
|---|---|
| Total fuel tank capacity, approx.<br>**(XC-W EU)** | |
| Super unleaded (98 octane) mixed with 2-stroke engine oil (p. 174)<br>Mixture ratio: 1:40 | 9 l<br>(2.4 liq. $gal_{US}$) |
| Total fuel tank capacity, approx.<br>**(XC-W US)** | |
| Super unleaded (ROZ 95) (p. 174) | 9 l<br>(2.4 liq. $gal_{US}$) |

| | |
|---|---|
| 2-stroke oil tank content approx.<br>**(XC-W US)** | |
| 2-stroke engine oil (p. 175)<br>fully synthetic | 0.8 l<br>(0.21 liq. $gal_{US}$) |

## 24.3 Electrics

### 24.3.1 Battery

| | | |
|---|---|---|
| 12-V battery | HJTZ5S-FP-C | Lithium-ion battery<br>Battery voltage: 12 V<br>Nominal capacity: 2.0 Ah<br>Maintenance-free |
| Button cell | CR 2430 | Battery voltage: 3 V |

### 24.3.2 Fuses

| | | |
|---|---|---|
| Fuse | 58011109120 | 20 A |

### 24.3.3 Lamps

| | | |
|---|---|---|
| Low beam/high beam | LED | |
| Parking light | LED | |
| Indicator lamps | W2,3W / Sockel W2x4,6d | 12 V<br>2.3 W (0.0031 hp) |
| Brake/tail light | LED | |

## 24.4 Fork

### 24.4.1 Technical data - fork

| | |
|---|---|
| Fork part number | A490C161Z402000 |

| | |
|---|---|
| Fork | **WP XPLOR CC** |
| Compression damping | |
| Comfort | 17 clicks |
| Standard | 15 clicks |
| Sport | 7 clicks |
| Rebound damping | |
| Comfort | 19 clicks |
| Standard | 17 clicks |
| Sport | 9 clicks |
| Spring length with preload spacer(s) | 457 mm<br>(17.99 in) |
| Spring rate | |
| Rider's weight: 65 kg ... 75 kg (143.3 lb ... 165.3 lb) | 40 N/mm<br>(228.4 $lb_f$/in) |
| Rider's weight: 75 kg ... 85 kg (165.3 lb ... 187.4 lb) | 42 N/mm<br>(239.8 $lb_f$/in) |

| | |
|---|---|
| Rider's weight: 85 kg ... 95 kg (187.4 lb ... 209.4 lb) | 44 N/mm (251.2 $lb_f$/in) |
| Fork length | 940 mm (37.01 in) |

### 24.4.2 Capacities - fork

| | |
|---|---|
| Oil capacity, cartridge | |
| Fork oil (48601166S1) (SAE 4) (p. 175) | 175 ml (5.92 fl. $oz_{US}$) |
| Oil capacity, outer assembly | |
| Fork oil (48601166S1) (SAE 4) (p. 175) | 350 ml (11.83 fl. $oz_{US}$) |

## 24.5 Shock absorber

### 24.5.1 Technical data - shock absorber

| | |
|---|---|
| Shock absorber part number | A490C461Z305000 |

| Shock absorber | **WP PDS** |
|---|---|
| Low-speed compression damping | |
| Comfort | 18 clicks |
| Standard | 15 clicks |
| Sport | 12 clicks |
| High-speed compression damping | |
| Comfort | 2.5 turns (900°) |
| Standard | 2 turns (720°) |
| Sport | 1.5 turns (540°) |
| Rebound damping | |
| Comfort | 18 clicks |
| Standard | 15 clicks |
| Sport | 12 clicks |
| Preload | 7 mm (0.28 in) |
| Spring rate | |
| Weight of rider: 65 kg ... 75 kg (143.3 lb ... 165.3 lb) | 60 N/mm (342.6 $lb_f$/in) |
| Weight of rider: 75 kg ... 85 kg (165.3 lb ... 187.4 lb) | 63 N/mm (359.7 $lb_f$/in) |
| Weight of rider: 85 kg ... 95 kg (187.4 lb ... 209.4 lb) | 66 N/mm (376.9 $lb_f$/in) |
| Spring length | 225 mm (8.86 in) |

| | |
|---|---|
| Gas assisted | 10 bar<br>(145 psi) |
| Static sag | 40 mm<br>(1.57 in) |
| Rider sag | 110 mm<br>(4.33 in) |
| Installation position | 402.7 mm<br>(15.854 in) |

### 24.5.2 Capacities - shock absorber

| Oil capacity, shock absorber | |
|---|---|
| Shock absorber oil (50180751S1) (SAE 2.5)<br>(p. 176) | Fill to the maximum mark |

## 24.6 Tightening torque

### 24.6.1 Engine tightening torques

| | |
|---|---|
| Screw, outer reed petals<br>**EJOT DELTA PT®** – 3×6 | 1 Nm<br>(0.7 ft·lb$_f$) |
| Screw, reed valve support plate<br>**EJOT DELTA PT®** – M3×12 | 1 Nm<br>(0.7 ft·lb$_f$) |
| Detent arm screw<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 243** |
| Control lever locknut adjusting screw<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, control lever, exhaust control<br>M5 | 8 Nm<br>(5.9 ft·lb$_f$)<br>**Loctite® 2701** |
| Screw, power valve retaining bracket<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 2701** |
| Screw, shift drum bearing clamping plate<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 2701** |
| Screw, main shaft bearing clamping plate<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 2701** |
| Screw, exhaust control cover<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, clutch spring retainer<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Stator screw<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 2701** |

| | |
|---|---|
| Screw, control flap lever, exhaust control<br>M5 | 8 Nm<br>(5.9 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, control gate, exhaust control<br>M5 | 8 Nm<br>(5.9 ft·lb$_f$)<br>**Loctite® 2701** |
| Screw, actuator cover<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, actuator exhaust control<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, crankshaft position sensor<br>M5 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 243** |
| Coolant drain plug<br>M6×25 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, water pump cover<br>M6×50 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, water pump cover<br>M6×60 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, intake manifold / diaphragm housing<br>M6 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Exhaust flange screw<br>M6 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, gear oil level check<br>M6 | 8 Nm<br>(5.9 ft·lb$_f$) |
| Shift star screw<br>M6 | 10 Nm<br>(7.4 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, shift lever<br>M6 | 14 Nm<br>(10.3 ft·lb$_f$)<br>**Loctite® 243** |
| Bleed screw, water pump cover<br>M6 | 8 Nm<br>(5.9 ft·lb$_f$) |
| Screw, ignition cover<br>M6 | 8 Nm<br>(5.9 ft·lb$_f$) |
| Vacuum fitting, housing vent<br>M6 | 2 Nm<br>(1.5 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, water pump impeller<br>M6 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, inner clutch cover<br>M6 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, outer clutch cover<br>M6 | 8 Nm<br>(5.9 ft·lb$_f$) |
| Screw, starter motor<br>M6 | 8 Nm<br>(5.9 ft·lb$_f$) |

| | |
|---|---|
| Screw, starter motor cover<br>M6 | 8 Nm<br>(5.9 ft·lb$_f$) |
| Screw, engine case<br>M6×50 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, cylinder head<br>M7 | 18 Nm<br>(13.3 ft·lb$_f$) |
| Screw, cylinder base<br>M8 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Nut, cylinder base<br>M8 | 23 Nm<br>(17.0 ft·lb$_f$) |
| Front sprocket screw<br>M10 | 60 Nm<br>(44.3 ft·lb$_f$)<br>**Loctite® 2701** |
| Transmission drain plug with magnet<br>M12×1.5 | 20 Nm<br>(14.8 ft·lb$_f$) |
| Nut, rotor<br>M12×1 | 50 Nm<br>(36.9 ft·lb$_f$) |
| Spark plug<br>M14×1.25 | 25 Nm<br>(18.4 ft·lb$_f$) |
| Nut, inner clutch hub<br>M18×1.5 | 120 Nm<br>(88.5 ft·lb$_f$) |
| Nut, primary gear wheel<br>M18LH×1.5 | 120 Nm<br>(88.5 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, inner reed petals<br>**EJOT DELTA PT®** – 3,5×25 | 1 Nm<br>(0.7 ft·lb$_f$) |
| Screw, pressure sensor<br>**EJOT PT®** – K60×20 – AL | 2 Nm<br>(1.5 ft·lb$_f$) |

### 24.6.2 Chassis tightening torques

| | |
|---|---|
| Screw, radiator hoses clip | 2.4 Nm<br>(1.77 ft·lb$_f$) |
| Screw, hose clip, inlet sleeve | 2.8 Nm<br>(2.07 ft·lb$_f$) |
| Mushroom head screw for spoiler and seat | 2.5 Nm<br>(1.84 ft·lb$_f$) |
| Hose connector, active carbon filter | 3.8 Nm<br>(2.80 ft·lb$_f$) |
| Screw, fixed grip<br>M4×12 | 5 Nm<br>(3.7 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, throttle body cover<br>M5 | 2.6 Nm<br>(1.92 ft·lb$_f$) |
| Remaining nuts on chassis<br>M5 | 5 Nm<br>(3.7 ft·lb$_f$) |
| Remaining screws on chassis<br>M5 | 5 Nm<br>(3.7 ft·lb$_f$) |

| | |
|---|---|
| Screw, battery terminal<br>M5×12 | 2.5 Nm<br>(1.84 ft·lb$_f$) |
| Screw, shock absorber adjusting ring<br>M5×20 | 5 Nm<br>(3.7 ft·lb$_f$) |
| **(XC-W EU)**<br>Screw, light switch<br>M5 | 1 Nm<br>(0.7 ft·lb$_f$) |
| Screw, frame protector<br>M5×10 | 3 Nm<br>(2.2 ft·lb$_f$) |
| **(XC-W US)**<br>Screw, oil tank on frame<br>M6×10 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, oil pump<br>M6×12 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, fuel tank spoiler on radiator<br>M6×12 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Nut, throttle cable wire on throttle valve body<br>M6 | 3 Nm<br>(2.2 ft·lb$_f$) |
| Screw, throttle twist grip<br>M6×20 | 5 Nm<br>(3.7 ft·lb$_f$) |
| Nut, cable on starter motor<br>M6 | 4 Nm<br>(3.0 ft·lb$_f$) |
| Remaining nuts on chassis<br>M6 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Remaining screws on chassis<br>M6 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, rear brake disc<br>M6×13 | 14 Nm<br>(10.3 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, front brake disc<br>M6×13 | 14 Nm<br>(10.3 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, ball joint of push rod on rear brake cylinder<br>M6×20 | 10 Nm<br>(7.4 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, chain sliding guard on link fork<br>M6×16 | 6 Nm<br>(4.4 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, battery holding bracket<br>M6×12 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, cable on starter relay<br>M6×16 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, brake line guide for link fork<br>M6×16 | 4.5 Nm<br>(3.32 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, chain guide<br>M6×16 | 10 Nm<br>(7.4 ft·lb$_f$)<br>**Loctite® 243** |

| | |
|---|---|
| Screw, brake lever<br>M6 | 5 Nm<br>(3.7 ft·lb$_f$) |
| Screw, clutch lever<br>M6 | 5 Nm<br>(3.7 ft·lb$_f$) |
| Screw, seat installation<br>M6×25 | 8 Nm<br>(5.9 ft·lb$_f$) |
| **(XC-W US)**<br>Screw, oil tank cap for oil tank<br>M6×13 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, ground wire in tail section<br>M6×13 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Screw, fender to triple clamp<br>M6×16 | 12 Nm<br>(8.9 ft·lb$_f$) |
| Screw, connector board incl. combination instrument<br>M6×15 | 5 Nm<br>(3.7 ft·lb$_f$) |
| Screw, starter cable to starter motor<br>M6 | 4 Nm<br>(3.0 ft·lb$_f$) |
| Screw, wheel speed sensor on axle clamp<br>M8 | 4.5 Nm<br>(3.32 ft·lb$_f$) |
| Nut, rear sprocket screw<br>M8 | 35 Nm<br>(25.8 ft·lb$_f$)<br>**Loctite® 2701** |
| Nut, rim lock<br>M8 | 12 Nm<br>(8.9 ft·lb$_f$) |
| Remaining nuts on chassis<br>M8 | 25 Nm<br>(18.4 ft·lb$_f$) |
| Remaining screws on chassis<br>M8 | 25 Nm<br>(18.4 ft·lb$_f$) |
| Screw, front brake caliper<br>M8×30 | 25 Nm<br>(18.4 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, top triple clamp<br>M8×40 | 20 Nm<br>(14.8 ft·lb$_f$) |
| Screw, bottom triple clamp<br>M8×50 | 15 Nm<br>(11.1 ft·lb$_f$) |
| Screw, upper steering stem<br>M8×25 | 20 Nm<br>(14.8 ft·lb$_f$)<br>**Loctite® 243** |
| Screw, chain glider on frame<br>M8×20 | 15 Nm<br>(11.1 ft·lb$_f$) |
| Screw, subframe on bottom frame<br>M8×18 | 30 Nm<br>(22.1 ft·lb$_f$)<br>**Loctite® 2701** |
| Screw, subframe on top frame<br>M8×15 | 35 Nm<br>(25.8 ft·lb$_f$)<br>**Loctite® 243** |

| | |
|---|---|
| Screw, side stand attachment<br>M8×26 | 33 Nm<br>(24.3 ft·lb$_f$)<br>**Loctite® 2701** |
| Screw, manifold<br>M8×30 | 15 Nm<br>(11.1 ft·lb$_f$) |
| Screw, front sprocket cover on swingarm<br>M8×25 | 15 Nm<br>(11.1 ft·lb$_f$) |
| Screw, handlebar clamp<br>M8×25 | 20 Nm<br>(14.8 ft·lb$_f$) |
| Screw, fork shoe<br>M8×25 | 15 Nm<br>(11.1 ft·lb$_f$) |
| Brake pedal stop nut<br>M8 | 20 Nm<br>(14.8 ft·lb$_f$) |
| Screw, brake caliper on brake caliper bracket<br>M8×30 | 25 Nm<br>(18.4 ft·lb$_f$)<br>**Loctite® 243** |
| Engine bracket screw<br>M10 | 60 Nm<br>(44.3 ft·lb$_f$) |
| Remaining nuts on chassis<br>M10 | 45 Nm<br>(33.2 ft·lb$_f$) |
| Remaining screws on chassis<br>M10 | 45 Nm<br>(33.2 ft·lb$_f$) |
| Screw, handlebar mount<br>M10×50 | 40 Nm<br>(29.5 ft·lb$_f$)<br>**Loctite® 243** |
| Bushing, foot brake lever<br>M10 | 45 Nm<br>(33.2 ft·lb$_f$) |
| Temperature sensor water to t-plate<br>M10 | 10 Nm<br>(7.4 ft·lb$_f$) |
| Sprocket<br>M10×18 | 60 Nm<br>(44.3 ft·lb$_f$)<br>**Loctite® 2701** |
| Top shock absorber screw<br>M12×50 | 80 Nm<br>(59.0 ft·lb$_f$)<br>**Loctite® 2701** |
| Bottom shock absorber screw<br>M12×50 | 80 Nm<br>(59.0 ft·lb$_f$)<br>**Loctite® 2701** |
| Nut, swingarm pivot<br>M16×1.5 | 100 Nm<br>(73.8 ft·lb$_f$) |
| Screw, top steering head<br>M20×1.5 | 12 Nm<br>(8.9 ft·lb$_f$) |
| Screw, wheel spindle, front<br>M20×1.5 | 35 Nm<br>(25.8 ft·lb$_f$) |
| Nut, wheel spindle, rear<br>M22×1.5 | 80 Nm<br>(59.0 ft·lb$_f$) |
| Screw-in nozzle, cooling system<br>M24×1.5 | 7.5 Nm<br>(5.53 ft·lb$_f$) |

| | |
|---|---|
| Spoke nipple, front wheel<br>M4,5 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Spoke nipple, rear wheel<br>M4,5 | 6 Nm<br>(4.4 ft·lb$_f$) |
| Screw, intake air temperature sensor<br>**EJOT PT®** – K50×18 | 0.7 Nm<br>(0.52 ft·lb$_f$) |
| Screw, oil fill level sensor<br>**EJOT PT®** – 50×18 | 2.5 Nm<br>(1.84 ft·lb$_f$) |
| Remaining screws on chassis<br>**EJOT PT®** – K50×18 | 2 Nm<br>(1.5 ft·lb$_f$) |
| Screw, fuel pump<br>**EJOT PT®** – K60×30 | 2.5 Nm<br>(1.84 ft·lb$_f$) |
| Remaining screws on chassis<br>**EJOT PT®** – K60×25 | 2 Nm<br>(1.5 ft·lb$_f$) |
| Screw, subframe with filter box<br>**EJOT PT®** – K60×20 | 5 Nm<br>(3.7 ft·lb$_f$) |

## 25.1 Recycling




I02045-10

Further information is available at the following website.
Recycling information website: https://www.quefairedemesdechets.fr

## A Technical terms

| | | |
|---|---|---|
| OBD | On-board diagnosis | Vehicle system, which monitors the specified parameters of the vehicle electronics |

# B Fuels

## Super unleaded

| Standards | |
|---|---|
| • ROZ 95 | → DIN EN 228 |

## Super unleaded (98 octane) mixed with 2-stroke engine oil

| Standards |
|---|
| → DIN EN 228<br>→ JASO FD |

| Properties | |
|---|---|
| • Mixture ratio | 1:40 |

| Mixture ratio | |
|---|---|
| | |
| • Super unleaded | 10 l |
| • 2-stroke engine oil | (2.6 liq. $gal_{US}$)<br>250 ml<br>(8.45 fl. $oz_{US}$) |

## Fuel additive

| Recommended supplier |
|---|
| **MOTOREX®** |
| • **FUEL STABILIZER** |

# C Operating material

## Off-road chain spray

**Recommended supplier**

**MOTOREX®**

- **CHAINLUBE OFF ROAD**

## Fork oil

**Order details**

- 48601166S1

**Standards**

- SAE 4 → SAE

## Universal oil spray

**Recommended supplier**

**MOTOREX®**

- **JOKER 440 SYNTHETIC**

## Long-life grease

**Recommended supplier**

**MOTOREX®**

- **Bike Grease 2000**

## Engine oil

**Recommended supplier**

**MOTOREX®**

- **TOP SPEED 4T**

**Standards**

→ JASO T903 MA2

- 15W/50 → SAE

**Properties**

- Partially synthetic

## 2-stroke engine oil

**Recommended supplier**

**MOTOREX®**

- **CROSS POWER 2T**

**Standards**

→ JASO FD

**Properties**

- fully synthetic

## High viscosity grease

**Recommended supplier**

**SKF®**

- **LGHB 2**

## Silicone spray

**Recommended supplier**

**MOTOREX®**

- **SILICONE SPRAY**

## Shock absorber oil

**Order details**

- 50180751S1

**Standards**

- SAE 2.5 → SAE

## Oil for foam air filter

**Recommended supplier**

**MOTOREX®**

- **RACING BIO AIR FILTER OIL**

## Brake fluid DOT 5.1

**Recommended supplier**

**MOTOREX®**

- **BRAKE FLUID DOT 5.1**

**Standards**

→ DOT

## Coolant

**Recommended supplier**

**MOTOREX®**

- **COOLANT M3.0**

| Properties | |
|---|---|
| • Antifreeze protection to at least | –25 °C<br>(–13.0 °F) |

## D Electrics

### Low beam/high beam (LED)

**Product code**

- LED

### Button cell (CR 2430)

**Product code**

- CR 2430

**Properties**

| | |
|---|---|
| • Battery voltage | 3 V |

### 12-V battery (HJTZ5S-FP-C)

**Product code**

- HJTZ5S-FP-C

**Properties**

| | |
|---|---|
| • Lithium-ion battery | |
| • Battery voltage | 12 V |
| • Nominal capacity | 2.0 Ah |
| • Maintenance-free | |

### Brake/tail light (LED)

**Product code**

- LED

### Indicator lamps (W2,3W / Sockel W2x4,6d)

**Product code**

- W2,3W / Sockel W2x4,6d

**Properties**

- 12 V
- 2.3 W
  (0.0031 hp)

### Parking light (LED)

**Product code**

- LED

## Fuse (58011109120)

**Product code**

- 58011109120

**Properties**

- 20 A

# E Cleaning agents

## Chain cleaner

| Recommended supplier |
| --- |
| MOTOREX® |
| • CHAIN CLEAN |

## Preserving materials

| Recommended supplier |
| --- |
| MOTOREX® |
| • MOTO PROTECT |

## Air filter cleaning agent

| Recommended supplier |
| --- |
| MOTOREX® |
| • RACING BIO AIR FILTER CLEANER |

## Cleaning agents for plastics, glass, lacquers, metals, windshields and visors

| Recommended supplier |
| --- |
| MOTOREX® |
| • QUICK CLEANER |

## Environmentally neutral universal cleaning agent

| Recommended supplier |
| --- |
| MOTOREX® |
| • MOTO CLEAN UNIVERSAL |

# F Icons

## F.1 Symbol colors

### F.1.1 Red symbols

Red symbols indicate a fault status that requires immediate intervention.

| | |
|---|---|
|  | The oil level warning lamp lights up red |

### F.1.2 Yellow and orange symbols

Yellow and orange symbols indicate a malfunction status that requires prompt intervention. Active driving aids are also represented by yellow or orange symbols.

| | |
|---|---|
|  | Malfunction indicator lamp lights up/flashes yellow |
|  | The fuel level warning lamp lights up yellow |

### F.1.3 Green and blue symbols

Green and blue symbols convey information.

| | |
|---|---|
|  | The high beam indicator lamp lights up blue |

1

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