

Freeride 250 F

Art. no. 3214014en



KTM

Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports vehicle that will continue giving you pleasure for a long time if you maintain it properly.

We wish you good and safe riding at all times!

Enter the serial numbers of your vehicle below.

Vehicle identification number (📖 p. 13)	Dealer's stamp
Engine number (📖 p. 13)	
Key number (📖 p. 13)	

The Owner's Manual contained the latest information for this model series at the time of going to print. Slight deviations resulting from continuing development and design of the motorcycles can, however, not be completely excluded.

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ISO 9001(12 100 6061)

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Issued by: TÜV Management Service

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This document is valid for the following models:

Freeride 250 F EU (F8103T4)



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1.1 Symbols used

The meaning of specific symbols is described below.

	Indicates an expected reaction (e.g. of a work step or a function).
	Indicates an unexpected reaction (e.g. of a work step or a function).
	All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs performed by an authorized KTM workshop! Your motorcycle will be optimally cared for there by specially trained experts using the auxiliary tools required.
	Indicates a page reference (more information is provided on the specified page).
	Indicates information with more details or tips.
	Indicates the result of a testing step.
	Indicates a voltage measurement.
	Indicates a current measurement.
	Indicates the end of an activity, including potential rework.

1.2 Formats used

The typographical formats used in this document are explained below.

Proprietary name	Indicates a proprietary name.
Name®	Indicates a protected name.
Brand™	Indicates a brand available on the open market.
<u>Underlined terms</u>	Refer to technical details of the vehicle or indicate technical terms, which are explained in the glossary.

2.1 Use definition – intended use

This vehicle has been designed and built to withstand the normal stresses and strains of offroad use.



Info

This vehicle is only authorized for operation on public roads in the homologated (restricted) version. The derestricted version of this vehicle must only be operated in closed off areas away from public highway traffic.
This vehicle has been designed for trial riding and difficult offroad terrain and not for motocross.

2.2 Misuse

The vehicle must only be used as intended.

Dangers can arise for people, property and the environment through use not as intended.

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

Misuse also includes the use of operating and auxiliary fluids which do not meet the required specification for the respective use.

2.3 Safety advice

A number of safety instructions need to be followed to operate the product described safely. Therefore read this instruction and all further instructions included carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.



Info

Various information and warning labels are attached in prominent locations on the product described. Do not remove any information or warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.4 Degrees of risk and symbols



Danger

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



Warning

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



Caution

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

Note

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



Note

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

2.5 Tampering warning

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

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

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

- 1 Removal or puncturing of the main silencers, baffles, header pipes or any other components which conduct exhaust gases.
- 2 Removal or puncturing of parts of the intake system.
- 3 Lack of proper maintenance.
- 4 Replacing moving parts of the vehicle, or parts of the exhaust system or intake system, with parts other than those specified by the manufacturer.

2.6 Safe operation



Danger

Danger of accidents A rider who is not fit to ride poses a danger to him or herself and 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 impaired.



Danger

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.



Warning

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

- Do not touch any parts such as the exhaust system, radiator, engine, shock absorber, or brake system before the vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work on the vehicle.

Only operate the vehicle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.

The vehicle should only be used by trained persons.

Have malfunctions that impair safety promptly eliminated by an authorized KTM workshop.

Adhere to the information and warning labels on the vehicle.

2.7 Protective clothing



Warning

Risk of injury Missing or poor protective clothing presents an increased safety risk.

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

In the interest of your own safety, KTM recommends that you only operate the vehicle while wearing protective clothing.

2.8 Work rules

Unless specified otherwise, the ignition must be turned off during all work (model with ignition switch) or the engine must be at a standstill (models without ignition switch).

Special tools are necessary for certain tasks. The tools are not a component of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)

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

In the case of certain screws, a screw adhesive (e.g. **Loctite**[®]) is required. Observe the manufacturer's instructions.

If thread locker (e.g., **Precote**[®]) has already been applied to a new part, do not apply any additional thread locker. After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.

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

2.9 Environment

If you use your motorcycle responsibly, you can ensure that problems and conflicts do not occur. To protect the future of the motorcycle sport, make sure that you use your motorcycle legally, display environmental consciousness, and respect the rights of others.

When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the laws and regulations of the respective country.

Because motorcycles are not subject to the EU regulations governing the disposal of used vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. Your authorized KTM dealer will be glad to advise you.

2.10 Owner's Manual

It is important that you read this Owner's Manual carefully and completely before making your first trip. The Owner's Manual contains useful information and many tips on how to operate, handle, and service your motorcycle. Only then will you find out how to customize the vehicle ideally for your own use and how you can protect yourself from injury.

Keep the Owner's Manual in an accessible place to enable you to refer to it as needed.

If you would like to know more about the vehicle or have questions on the material you read, please contact an authorized KTM dealer.

The Owner's Manual is an important component of the vehicle and must be handed over to the new owner if the vehicle is sold.

The Owner's Manual is also available for download from your authorized KTM dealer and on the KTM website.
International KTM Website: <http://www.ktm.com>

3 IMPORTANT NOTES

3.1 Manufacturer and implied warranty

The work prescribed in the service schedule must only be carried out in an authorized KTM workshop and confirmed in the **KTM Dealer.net**, 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 warranty.

3.2 Fuel, auxiliary substances



Note

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

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

Use fuels and auxiliary substances in accordance with the Owner's Manual and specification.

3.3 Spare parts, accessories

For your own safety, only use spare parts and accessory products that are approved and/or recommended by KTM and have them installed by an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage or loss.

Certain spare parts and accessory products are specified in parentheses in the descriptions. Your authorized KTM dealer will be glad to advise you.

The current **KTM PowerParts** for your vehicle can be found on the KTM website.

International KTM Website: <http://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 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.

It is imperative that you adhere to the stipulated run-in times and service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.

The relevant mileage or time interval is whichever occurs first.

3.5 Figures

The figures contained in the manual may depict special equipment.

In the interest of clarity, some components may be shown disassembled or may not be shown at all. It is not always necessary to disassemble the component to perform the activity in question. Please follow the instructions in the text.

3.6 Customer service

Your authorized KTM dealer will be happy to answer any questions you may have on your vehicle and KTM.

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

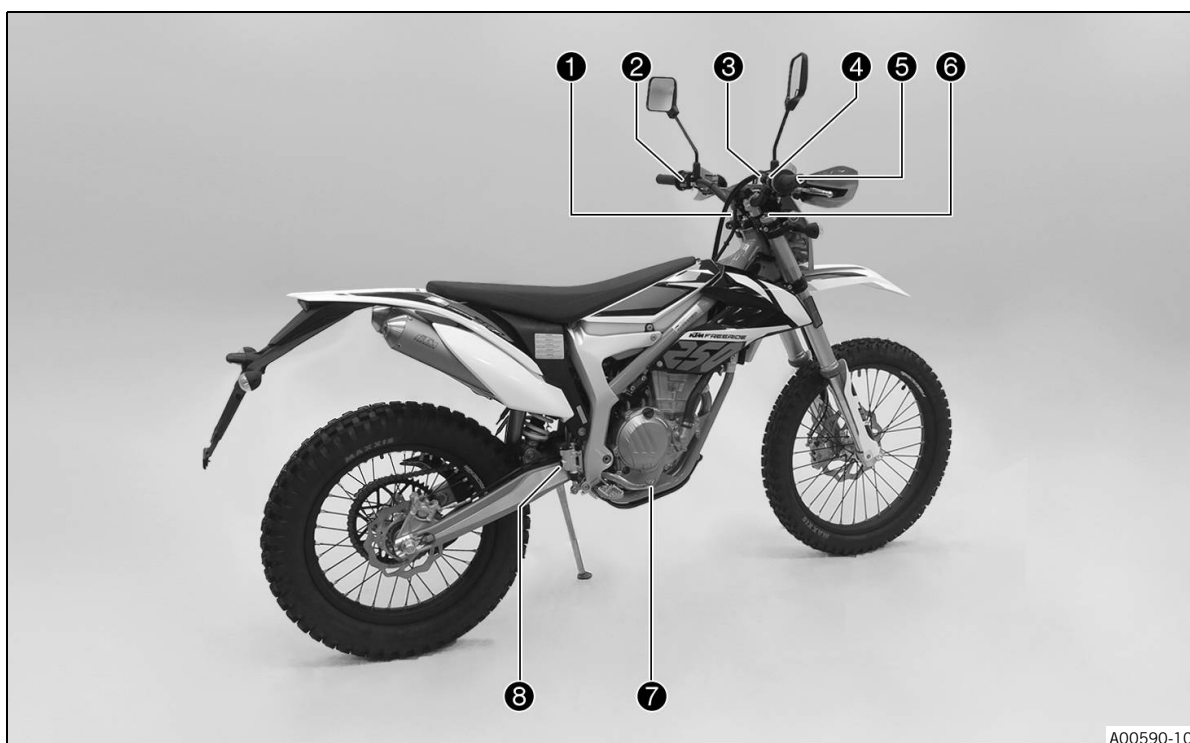
International KTM Website: <http://www.ktm.com>

4.1 View of vehicle, front left (example)



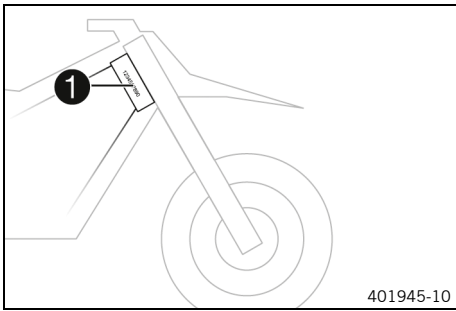
- ① Hand brake lever (📖 p. 15)
- ② Clutch lever (📖 p. 15)
- ③ Fuel tank filler cap
- ④ Seat release
- ⑤ Shock absorber compression adjustment
- ⑥ Shock absorber rebound adjustment
- ⑦ Side stand (📖 p. 20)
- ⑧ 12-V battery
- ⑨ Shift lever (📖 p. 19)
- ⑩ Steering lock (📖 p. 21)

4.2 View of vehicle, rear right (example)



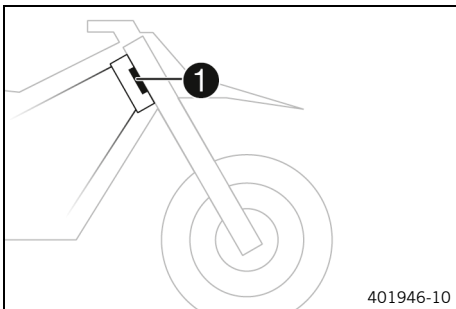
- ❶ Fork compression adjuster
- ❷ Switch-off button (📖 p. 15)
- ❷ Horn button (📖 p. 16)
- ❷ Light switch (📖 p. 16)
- ❷ Turn signal switch (📖 p. 16)
- ❸ Start button (📖 p. 17)
- ❹ Emergency OFF switch (📖 p. 16)
- ❺ Throttle grip (📖 p. 15)
- ❻ Fork rebound adjustment
- ❼ Foot brake lever (📖 p. 20)
- ❽ Level viewer for brake fluid, rear

5.1 Vehicle identification number



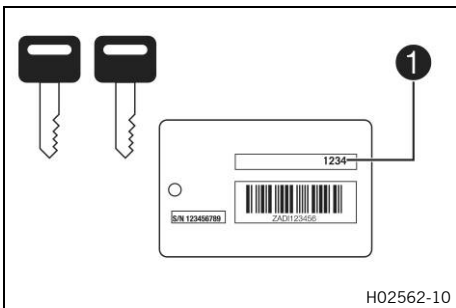
The vehicle identification number **1** is stamped on the right side of the steering head.

5.2 Type label



Type label **1** is fixed to the front of the steering head.

5.3 Key number



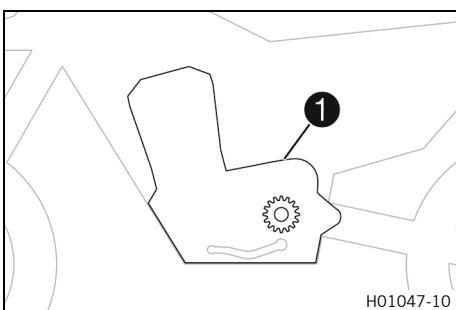
The key number **1** can be found on the **KEYCODECARD**.



Info

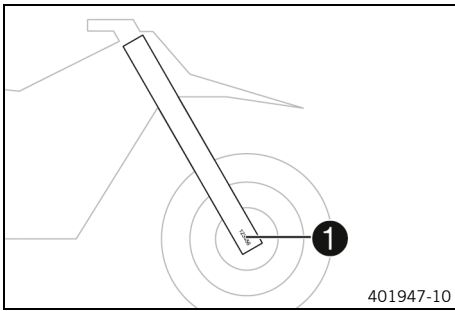
You need the key number to order a spare key. Keep the **KEYCODECARD** in a safe place.

5.4 Engine number



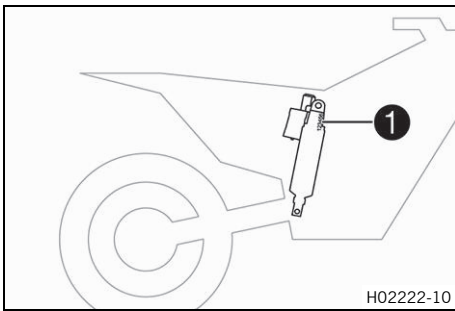
The engine number **1** is embossed on the left side of the engine above the engine sprocket.

5.5 Fork part number



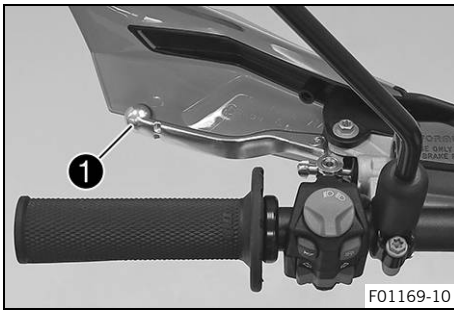
The fork part number **1** is stamped on the inner side of the axle clamp.

5.6 Shock absorber article number



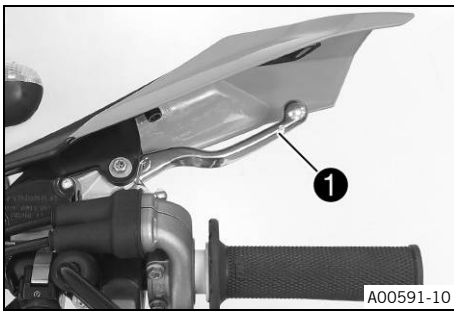
Shock absorber article number **1** is stamped on the top of the shock absorber above the adjusting ring towards the motor side.

6.1 Clutch lever



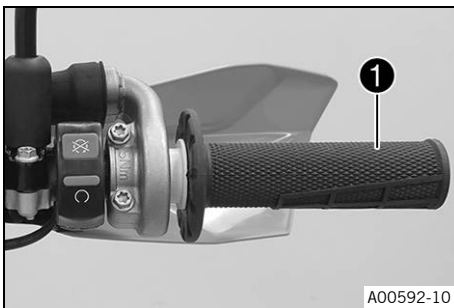
The clutch lever ❶ is fitted on the left side of the handlebar. The clutch is hydraulically operated and self-adjusting.

6.2 Hand brake lever



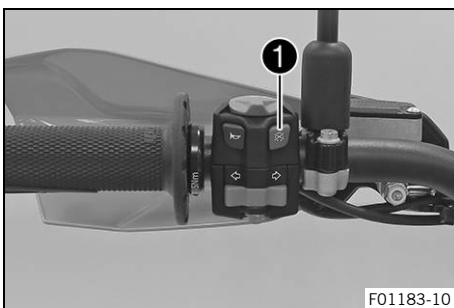
The hand brake lever ❶ is fitted on the right side of the handlebar. The front brake is engaged using the hand brake lever.

6.3 Throttle grip



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

6.4 Switch-off button

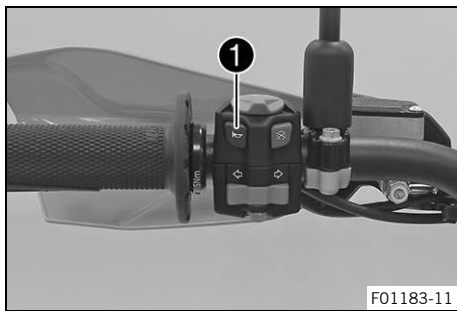


Switch-off button ❶ is fitted on the left side of the handlebar.

Possible states

- The switch-off button ☒ is in the basic position – In this position, the ignition circuit is closed and the engine can be started.
- The switch-off button ☒ is pressed – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.

6.5 Horn button

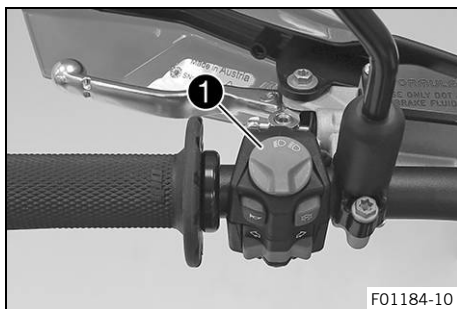


Horn button ❶ is fitted on the left side of the handlebar.

Possible states

- The horn button is in the basic position
- The horn button is pressed – The horn is operated in this position.

6.6 Light switch

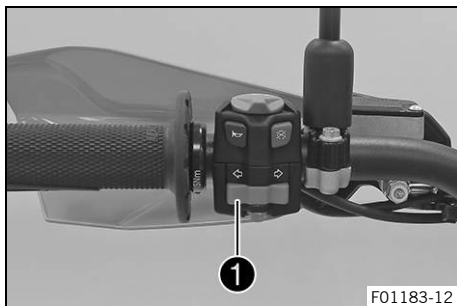


The light switch ❶ is fitted on the left side of the handlebar.

Possible states

	Low beam on – Light switch is in the central position. In this position, the low beam and tail light are switched on.
	High beam on – The light switch is turned counter-clockwise. In this position, the high beam and the tail light are switched on.

6.7 Turn signal switch

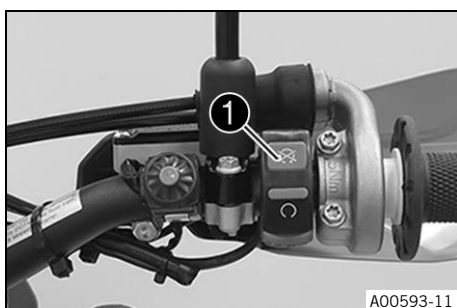


Turn signal switch ❶ is fitted on the left side of the handlebar.

Possible states

	Turn signal light off – Turn signal switch is in the central position.
	Turn signal light, left, on – Turn signal switch is turned to the left.
	Turn signal light, right, on – Turn signal switch is turned to the right.

6.8 Emergency OFF switch

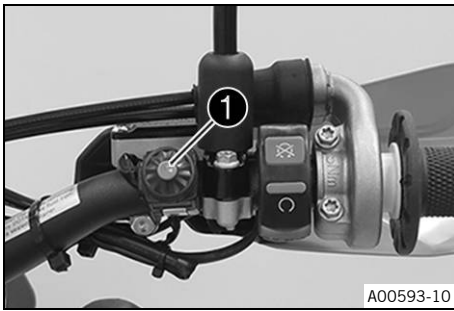


The emergency OFF switch ❶ is fitted on the right side of the handlebar.

Possible states

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

6.9 Start button

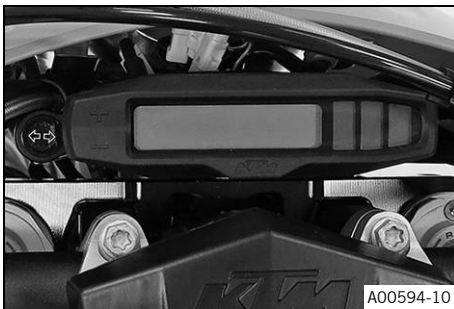


Start button ① is fitted on the right side of the handlebar.

Possible states

- The start button ③ is in the basic position
- The start button ③ is pressed – In this position, the starter motor is actuated.

6.10 Overview of indicator lamps



Possible states

	The high beam indicator lamp lights up blue – The high beam is switched on.
	Malfunction indicator lamp lights up/flashes yellow – The <u>OBD</u> has detected an error in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.
	The fuel level warning lamp lights up yellow – The fuel level has reached the reserve mark.
	Turn signal indicator lamp flashes green – The turn signal is switched on.

6.11 Opening fuel tank filler 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 or lit cigarettes.
- 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 off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing in case of fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.



Note

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

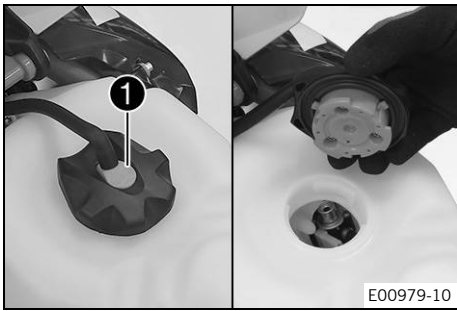
- Do not allow fuel to enter the groundwater, the soil, or the sewage system.

Preparatory work

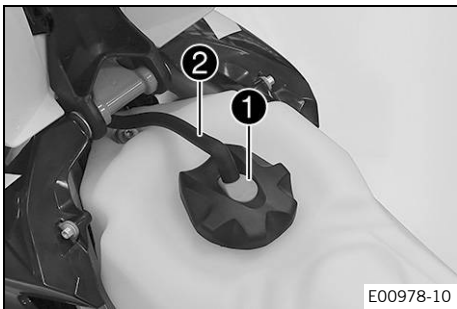
- Fold the seat up. (📖 p. 66)

Main work

- Press release button **1**, turn the fuel tank filler cap counter-clockwise, and lift it off.



6.12 Closing the fuel tank filler cap



Main work

- Mount fuel tank filler cap and turn it clockwise until the release button **1** engages.



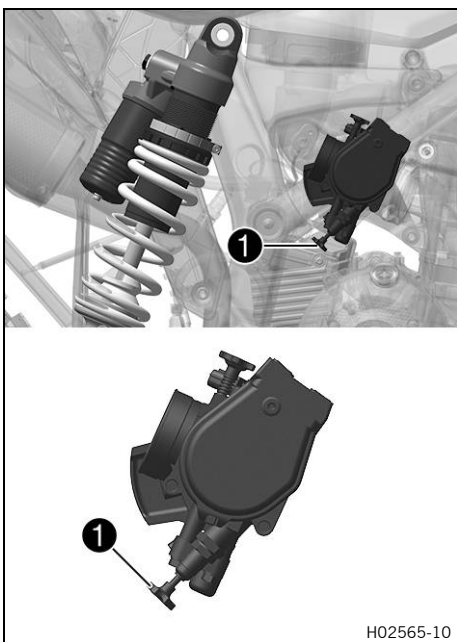
Info

Route the fuel tank breather hose **2** without kinks.

Finishing work

- Lock the seat. (📖 p. 66)

6.13 Cold start button



The cold start button **1** is fitted to the bottom of the throttle valve body.

The electronic fuel injection system extends the injection time if 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 pushing the cold start button.

After briefly opening up the throttle and then releasing the throttle grip again, or turning the throttle grip towards the front, the cold start button returns to its original position.



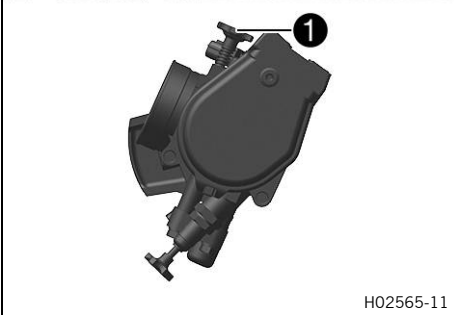
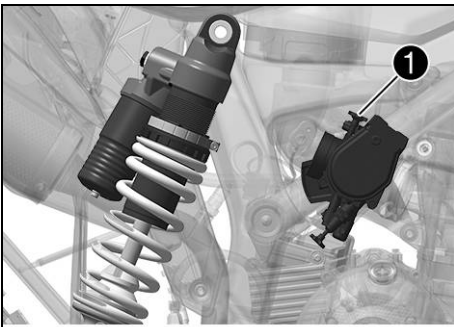
Info

Check whether the cold start button has returned to its basic position.

Possible states

- The cold start button is activated – The cold start button is pushed in all the way.
- The cold start button is deactivated – The cold start button is in its basic position.

6.14 Idle speed adjusting screw



H02565-11

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

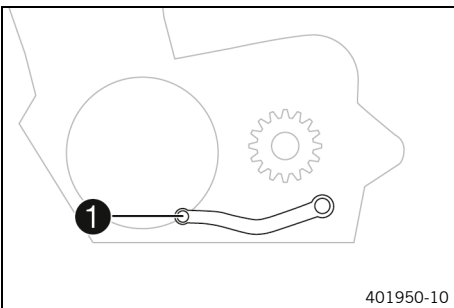
An engine with a correctly set idle speed is easier to start than an engine with the idle speed set incorrectly.

The idle speed is adjusted using the idle speed adjusting screw **1**.

Increase the idle speed by turning the idle speed adjusting screw clockwise.

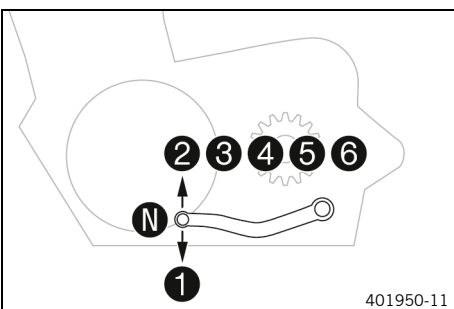
Decrease the idle speed by turning the idle speed adjusting screw counterclockwise.

6.15 Shift lever



401950-10

Shift lever **1** is mounted on the left side of the engine.

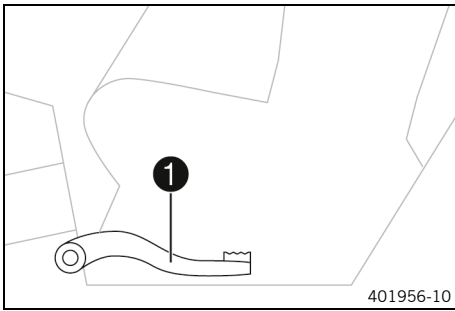


401950-11

The gear positions can be seen in the photograph.

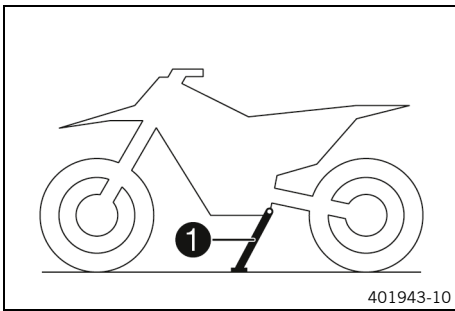
The neutral or idle position is between the first and second gears.

6.16 Foot brake lever

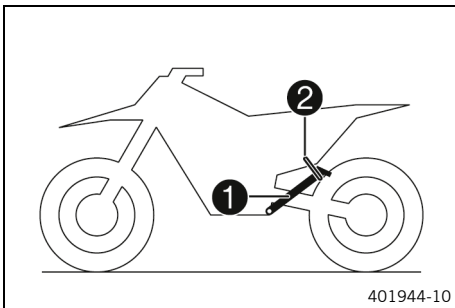


Foot brake lever **1** is located in front of the right footrest. The foot brake lever is used to activate the rear brake.

6.17 Side stand



The side stand **1** is attached to the left side of the vehicle.

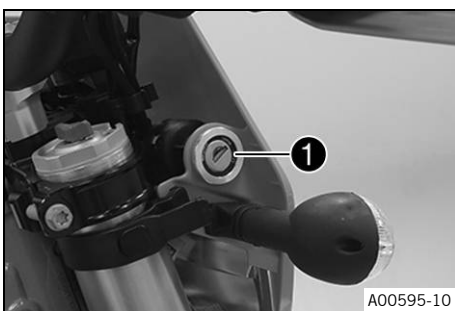


The side stand is used for parking the motorcycle.

i Info

When you are riding, side stand **1** must be folded up and secured with rubber strap **2**.

6.18 Ignition lock

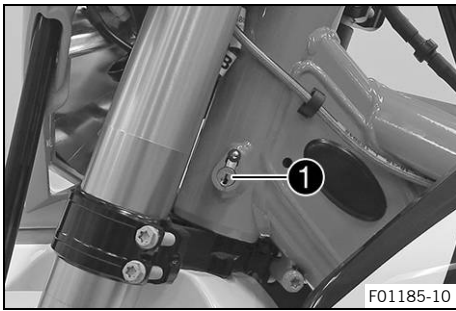


The ignition lock **1** is on the right behind the headlight mask.

Possible states

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

6.19 Steering lock



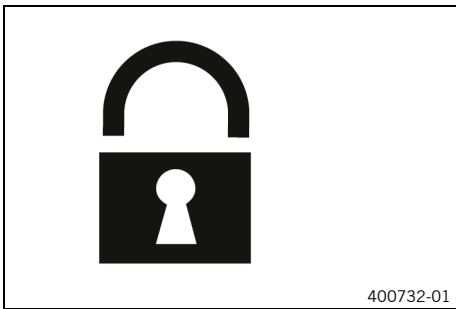
Steering lock ① is fitted on the left side of the steering head. The steering lock is used to lock the steering. Steering, and therefore riding, is no longer possible.

6.20 Locking the steering

Note

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

- Park the vehicle on a firm and level surface.



- Park the vehicle.
- Turn the handlebar as far as possible to the right.
- Lubricate the steering lock regularly.

Universal oil spray (📖 p. 150)

- Insert the ignition key in the steering lock (🔑 p. 21), turn it to the left, press it in, and turn it to the right. Remove the ignition key.
- ✓ Steering is no longer possible.

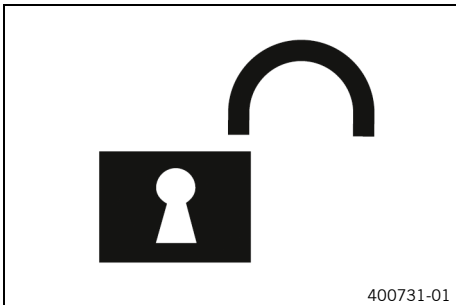


Info

Never leave the ignition key in the steering lock.



6.21 Unlocking the steering



- Insert the ignition key in the steering lock (🔑 p. 21), turn it to the left, pull it out, and turn it to the right. Remove the ignition key.
- ✓ The handlebar can now be moved again.

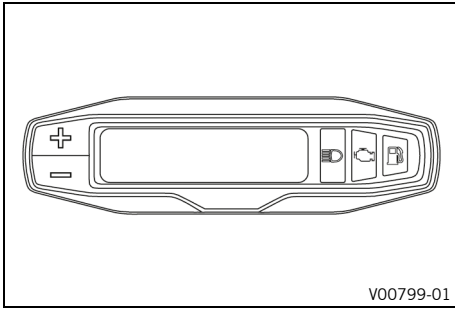


Info

Never leave the ignition key in the steering lock.



7.1 Combination instrument overview

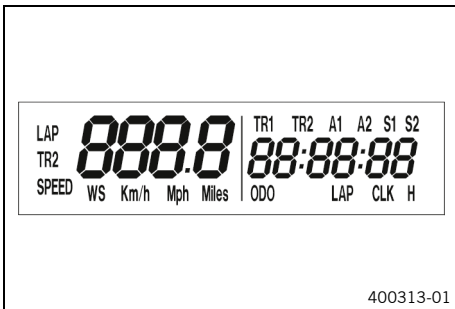


- Press the button to control different functions.
- Press the button to control different functions.

Info

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

7.2 Activation and test



Activating combination instrument

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

Display test

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



WS (wheel size)

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

Info

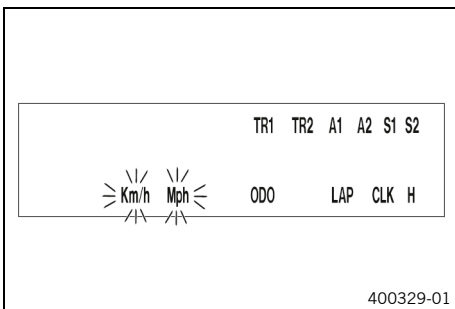
The number 2205 equals the circumference of the 21" front wheel with standard tires.

The display then changes to the last selected mode.

7.3 Setting the kilometers or miles

Info

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



Condition

The motorcycle is stationary.

- Repeatedly press the button briefly until **H** appears at the bottom right of the display.
- Press the button for 2-3 seconds.
 - ✓ The Setup menu is displayed and the active functions are shown.
- Repeatedly press the button briefly until **Km/h / Mph** flashes.

Adjusting the Km/h

- Press the button .

Adjusting the Mph

- Press the button .

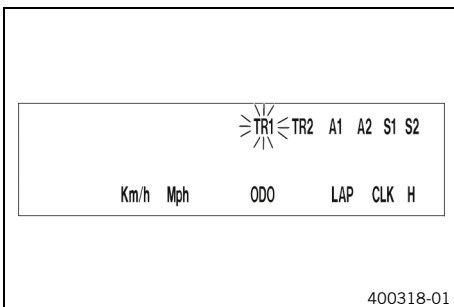
- Wait 3 - 5 seconds.
- ✓ The settings are stored.

i Info
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 Setting the combination instrument

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



Condition
The motorcycle is stationary.

- Repeatedly press the button briefly until **H** appears at the bottom right of the display.
- Press the button for 2–3 seconds.
- ✓ The Setup menu is displayed and the active functions are shown.

i Info
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.

- Repeatedly press the button briefly until the desired function flashes.
- ✓ The selected function flashes.

Activating the function

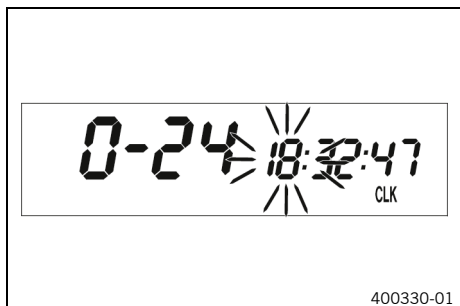
- Press the button .
- ✓ The symbol continues to appear in the display and the next function appears.

Deactivating a function

- Press the button .
- ✓ The symbol disappears in the display and the next function appears.









7.5 Setting the clock



Condition

The motorcycle is stationary.

- Repeatedly press the button  briefly until **CLK** appears at the bottom right of the display.
- Press the button  for 2–3 seconds.
 - ✓ The hour display flashes.
- Adjust the hour display with the button  and/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 the button  and the button .

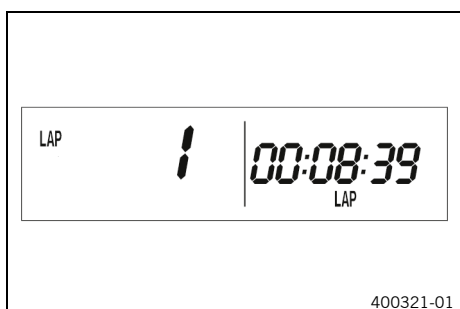
Info

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






Info

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



Condition

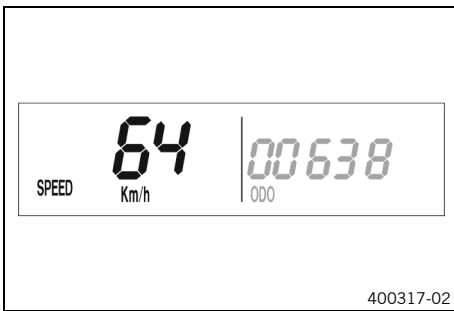
The motorcycle is stationary.

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

Info

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)



- Repeatedly press the button **+** briefly until **SPEED** appears on the left side of the display.

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

i Info
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

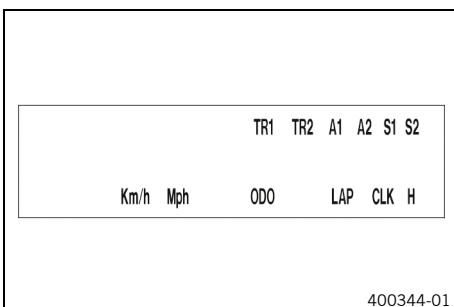
- The motorcycle is stationary.
- Repeatedly press the button **+** briefly until **H** appears at the bottom right of the display.

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

i Info
The service 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 the button + for 2–3 seconds.	The display changes to the functions setup menu.
Briefly press the button + .	Next display mode
Press the button – for 2–3 seconds.	No function
Briefly press the button – .	No function

7.9 Setup menu








Condition

- The motorcycle is stationary.
- Repeatedly press the button **+** briefly until **H** appears at the bottom right of the display.
- Press the button **+** for 2–3 seconds.

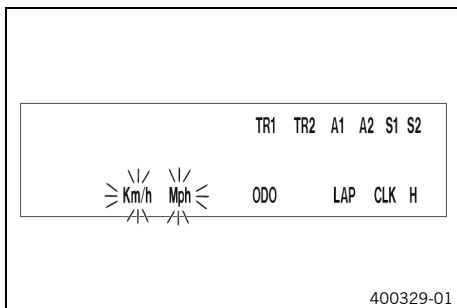
The Setup menu displays the active functions.

i Info




Repeatedly press the button  briefly until the desired function is reached.
If no button is pressed for 20 seconds, the settings are automatically saved.

Briefly press the button  .	Activates the flashing display and changes to the next display
Press the button  for 2–3 seconds.	No function
Briefly press the button  .	Deactivates the flashing display and changes to the next display
Press the 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

- The motorcycle is stationary.
- Repeatedly press the button  briefly until **H** appears at the bottom right of the display.
- Press the button  for 2–3 seconds.
- Repeatedly press the button  briefly until **Km/h / Mph** flashes. In measurement unit mode, you can change the unit of measurement.

i Info

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

Briefly press the button  .	Starts selection, activates Km/h display
Press the button  for 2–3 seconds.	No function
Briefly press the button  .	Activates Mph display
Press the 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)



- Repeatedly press the button briefly until **CLK** appears at the bottom right of the display.

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

Press the button for 2–3 seconds.	The display changes to the Setup menu of the clock.
Briefly press the button .	Next display mode
Press the button for 2–3 seconds.	No function
Briefly press the button .	No function

7.12 Adjusting the clock

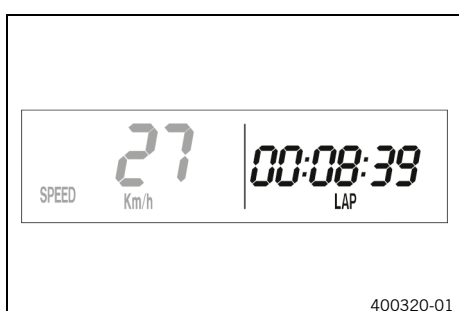


Condition

- The motorcycle is stationary.
- Repeatedly press the button briefly until **CLK** appears at the bottom right of the display.
- Press the button for 2–3 seconds.

Press the button for 2–3 seconds.	Increases the value
Briefly press the button .	Increases the value
Press the button for 2–3 seconds.	Reduces the value
Briefly press the button .	Reduces the value
Wait 3 - 5 seconds.	Changes to the next value
Wait 10 - 12 seconds.	Closes the SETUP menu

7.13 Display mode SPEED/LAP (lap time)



- Repeatedly press the button briefly until **LAP** appears at the bottom right of the display.

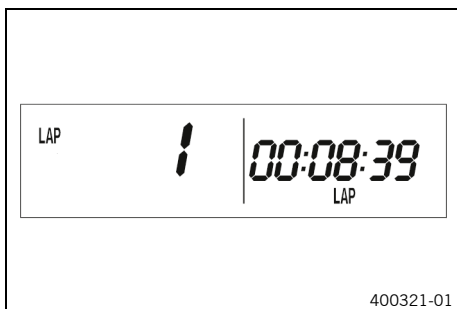
In the **LAP** display mode, up to 10 lap times can be timed with the stop watch.

i Info
If the lap time continues running after the button is pressed, 9 memory locations are occupied. Lap 10 must be timed using the button .

7 COMBINATION INSTRUMENT

Press the button \oplus for 2–3 seconds.	The stop watch and the lap time are reset.
Briefly press the button \oplus .	Next display mode
Press the button \ominus for 2–3 seconds.	Stops the clock.
Briefly press the button \ominus .	Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.

7.14 Viewing the lap time



Condition

- The motorcycle is stationary.
- Repeatedly press the button \oplus briefly until **LAP** appears at the bottom right of the display.
- Briefly press the button \oplus .

Press the button \oplus for 2–3 seconds.	The stop watch and the lap time are reset.
Briefly press the button \oplus .	Select a lap from 1 – 10
Press the button \ominus for 2–3 seconds.	No function
Briefly press the button \ominus .	View the next lap time.

7.15 Display mode SPEED/ODO (odometer)

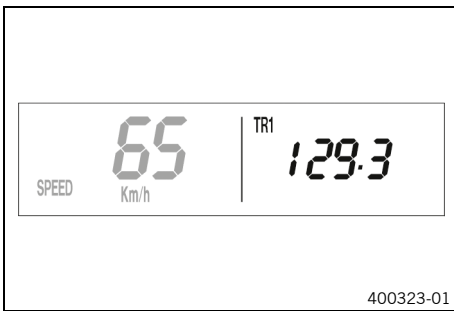


- Repeatedly press the button \oplus briefly until **ODO** appears at the bottom right of the display.

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

Press the button \oplus for 2–3 seconds.	No function
Briefly press the button \oplus .	Next display mode
Press the button \ominus for 2–3 seconds.	No function
Briefly press the button \ominus .	No function

7.16 Display mode SPEED/TR1 (trip master 1)



- Repeatedly press the button briefly until **TR1** appears at the top right of the display.

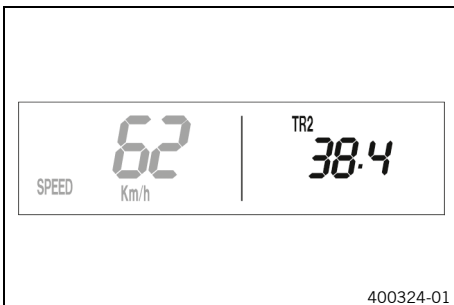
TR1 (trip master 1) runs constantly and counts up to 999.9. You can use it to measure trips or the distance between refueling stops.

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

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

Press the button for 2–3 seconds.	Displays of TR1 , A1 and S1 are reset to 0.0.
Briefly press the button .	Next display mode
Press the button for 2–3 seconds.	No function
Briefly press the button .	No function

7.17 Display mode SPEED/TR2 (trip master 2)

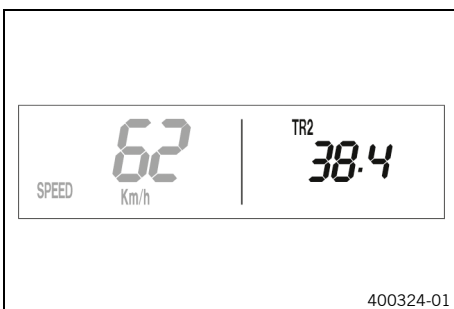


- Repeatedly press the button briefly until **TR2** appears at the top right of the display.

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

Press the button for 2–3 seconds.	Clears the values TR2 and A2 .
Briefly press the button .	Next display mode
Press the button for 2–3 seconds.	Reduces value of TR2 .
Briefly press the button .	Reduces value of TR2 .

7.18 Adjusting TR2 (trip master 2)



Condition

- The motorcycle is stationary.
- Repeatedly press the button briefly until **TR2** appears at 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 the button . This is a very practical function when riding using the road book.

i Info

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

Press the button + for 2–3 seconds.	Increases value of TR2 .
Briefly press the button + .	Increases value of TR2 .
Press the button - for 2–3 seconds.	Reduces value of TR2 .
Briefly press the button - .	Reduces value of TR2 .
Wait 10 - 12 seconds.	Stores and closes the Setup menu.

7.19 Display mode SPEED/A1 (average speed 1)



- Repeatedly press the button **+** briefly until **A1** appears at 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 the button + for 2–3 seconds.	Displays of TR1 , A1 and S1 are reset to 0.0.
Briefly press the button + .	Next display mode
Press the button - for 2–3 seconds.	No function
Briefly press the button - .	No function

7.20 Display mode SPEED/A2 (average speed 2)






- Repeatedly press the button **+** briefly until **A2** appears at the top right of the display.

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

i Info


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

Briefly press the button + .	Next display mode
-------------------------------------	-------------------

Press the button  for 2–3 seconds.	No function
Press the button  for 2–3 seconds.	No function
Briefly press the button  .	No function





7.21 Display mode SPEED/S1 (stop watch 1)



- Repeatedly press the button  briefly until **S1** appears at 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 the button  for 2–3 seconds.	Displays of TR1 , A1 and S1 are reset to 0.0.
Briefly press the button  .	Next display mode
Press the button  for 2–3 seconds.	No function
Briefly press the button  .	No function





7.22 Display mode SPEED/S2 (stop watch 2)



- Repeatedly press the button  briefly until **S2** appears at the top right of the display.

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

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

Press the button  for 2–3 seconds.	The displays of S2 and A2 are set to 0,0.
Briefly press the button  .	Next display mode
Press the button  for 2–3 seconds.	No function
Briefly press the button  .	Starts or stops S2 .

7 COMBINATION INSTRUMENT

7.23 Table of functions

Display	Press the button + for 2–3 seconds.	Briefly press the button + .	Press the button = for 2–3 seconds.	Briefly press the button = .	Wait 3 - 5 seconds.	Wait 10 - 12 seconds.
Display mode SPEED/H (operating hours)	The display changes to the functions setup menu.	Next display mode	No function	No function		
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 .
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
Display mode SPEED/CLK (time)	The display changes to the Setup menu of the clock.	Next display mode	No function	No function		
Adjusting the clock	Increases the value	Increases the value	Reduces the value	Reduces the value	Changes to the next value	Closes the SETUP menu
Display mode SPEED/LAP (lap time)	The stop watch and the lap time are reset.	Next display mode	Stops the clock.	Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.		
Viewing the lap time	The stop watch and the lap time are reset.	Select a lap from 1 – 10	No function	View the next lap time.		
Display mode SPEED/ODO (odometer)	No function	Next display mode	No function	No function		
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/TR2 (trip master 2)	Clears the values TR2 and A2 .	Next display mode	Reduces value of TR2 .	Reduces value of TR2 .		

Display	Press the button ⊞ for 2–3 seconds.	Briefly press the button ⊞ .	Press the button ⊞ for 2–3 seconds.	Briefly press the button ⊞ .	Wait 3 - 5 seconds.	Wait 10 - 12 seconds.
Adjusting TR2 (trip master 2)	Increases value of TR2 .	Increases value of TR2 .	Reduces value of TR2 .	Reduces value of TR2 .		Stores and closes the Setup menu.
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 mode SPEED/A2 (average speed 2)	No function	Next display mode	No function	No function		
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/S2 (stop watch 2)	The displays of S2 and A2 are set to 0,0.	Next display mode	No function	Starts or stops S2 .		

7.24 Table of conditions and menu activation

Display	The motorcycle is stationary.	Menu can be activated
Display mode SPEED/H (operating hours)	•	
Setup menu	•	
Adjusting the unit of measurement	•	
Adjusting the clock	•	
Display mode SPEED/LAP (lap time)		•
Viewing the lap time	•	
Display mode SPEED/TR1 (trip master 1)		•
Display mode SPEED/TR2 (trip master 2)		•
Adjusting TR2 (trip master 2)	•	
Display mode SPEED/A1 (average speed 1)		•
Display mode SPEED/A2 (average speed 2)		•
Display mode SPEED/S1 (stop watch 1)		•
Display mode SPEED/S2 (stop watch 2)		•

8.1 Advice on preparing for first use



Danger

Danger of accidents A rider who is not fit to ride poses a danger to him or herself and 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 impaired.



Warning

Risk of injury Missing or poor protective clothing presents an increased safety risk.

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



Warning

Danger of crashing Different tire tread patterns on the front and rear wheel impair the handling characteristic.

Different tire tread patterns can make the vehicle significantly more difficult to control.

- Make sure that only tires with a similar tire tread pattern are fitted to the front and rear wheel.



Warning

Danger of accidents An unadapted riding style impairs the handling characteristic.

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



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 foot brake lever is not released, the brake linings drag continuously.

- Take your foot off the foot brake lever when you are not braking.



Warning

Danger of accidents Total weight and axle loads influence the handling characteristic.

- Do not exceed the maximum permissible overall weight or the axle loads.



Warning

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

- Do not leave the vehicle unattended if the engine is running.
- Protect the vehicle against access by unauthorized persons.



Info

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

- Make sure that the pre-sales inspection work has been carried out by an authorized KTM workshop.
 - ✓ You will receive a delivery certificate when the vehicle is handed over.
- Before riding for the first time, read the entire Owner's Manual carefully.
- Get to know the controls.
- Adjust the basic position of the clutch lever. (📖 p. 82)
- Adjust the free travel of the handbrake lever. (📖 p. 86)

- Adjust the basic position of the foot brake lever. 📖 (p. 92)
- Adjust the basic position of the shift lever. 📖 (p. 124)
- Get used to the handling characteristics of the motorcycle on a suitable surface before undertaking more challenging trips.



Info

When offroad, it is recommended that you are accompanied by another person on another vehicle so that you can help each other.

- Try also to 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 footrests when riding.
- If you carry any luggage, make sure you fix it firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.



Info

Motorcycles react sensitively to any changes of weight distribution.

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

Guideline

Maximum permissible overall weight	280 kg (617 lb.)
Maximum permissible front axle load	110 kg (243 lb.)
Maximum permissible rear axle load	170 kg (375 lb.)

- Check the spoke tension. 📖 (p. 103)



Info

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

- Run the engine in. 📖 (p. 35)



8.2 Running in the engine

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

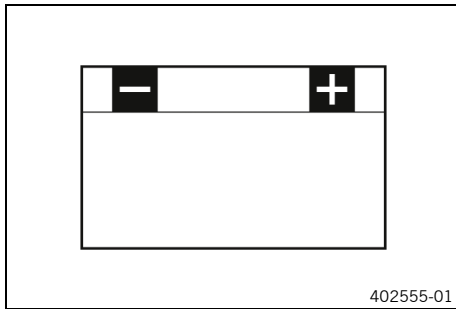
Guideline

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

- Avoid fully opening the throttle!



8.3 Starting power 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.

Multiple starting attempts may be needed. 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.

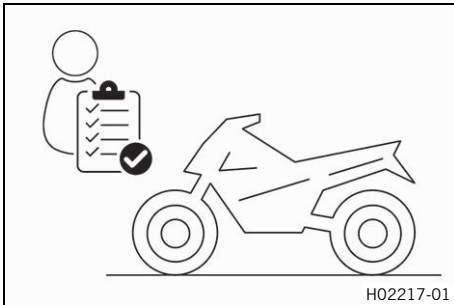
If the charged lithium-ion battery is unable to actuate the electric starter when temperatures are below 15 °C (60 °F), the battery is not faulty, but needs to be warmed up internally to increase its starting power (current output).

The starting power increases as the battery warms up.

9.1 Checks and maintenance measures when preparing for use

i Info

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.



- Check the engine oil level. (📖 p. 126)
- Check the electrical system.
- Check the front brake fluid level. (📖 p. 87)
- Check the rear brake fluid level. (📖 p. 93)
- Check the front brake linings. (📖 p. 89)
- Check the brake linings of the rear brake. (📖 p. 94)
- Check that the brake system is functioning properly.
- Check the coolant level. (📖 p. 116)
- Check for chain dirt accumulation. (📖 p. 76)
- Check the chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 78)
- Check the chain tension. (📖 p. 77)
- Check the tire condition. (📖 p. 101)
- Check tire pressure. (📖 p. 102)
- Check the spoke tension. (📖 p. 103)

i Info

The spoke tension must be checked regularly as incorrect spoke tension will strongly impair riding safety.

- Clean the dust boots of the fork legs. (📖 p. 56)
- Bleed the fork legs. (📖 p. 55)
- Check the air filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts, and hose clips regularly for tightness.
- Check the fuel level.



9.2 Starting the vehicle



Danger

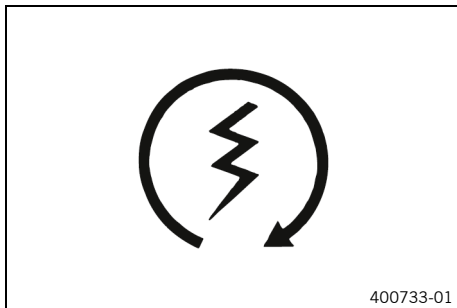
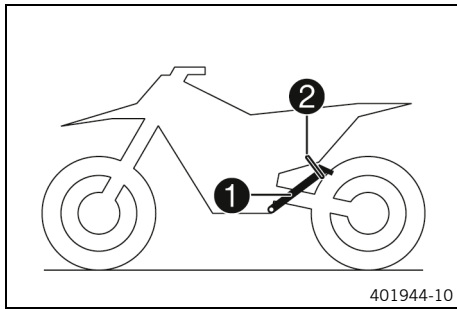
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

Note

Engine damage High revving speed with a cold engine negatively impacts the lifespan of the engine.

- Always run the engine warm at a low speed.



- Take the motorcycle off side stand ① and secure the side stand with rubber strap ②.
- Shift the transmission to the neutral position.
- Turn the ignition key in the ignition lock to the position ○.
- Turn the emergency OFF switch to the position ○.

Condition

Ambient temperature: < 20 °C (< 68 °F)

- Push the cold start button in all the way.

- Press start button ③.

i Info

Press the start button for a maximum of 5 seconds. Wait for 30 seconds before a further attempt at starting.

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.

During the starting process, the malfunction indicator lamp lights up.

9.3 Starting off

i Info

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

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

9.4 Shifting, riding



Warning

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

- Do not change into a low gear at high engine speed.

i Info

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

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

- Shift into a higher gear when conditions allow (incline, road 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.
- After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is $\frac{3}{4}$ open. This will barely reduce the speed but fuel consumption will be considerably lower.
- Always open the throttle only as much as the engine can handle – abrupt throttle opening increases fuel consumption.
- To shift down, apply the brakes 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 running at idle speed or stationary for a long time.

Guideline

≥ 2 min

- Avoid frequent and longer slipping of the clutch. As a result the engine oil, engine and cooling system heat up.
- Ride at a low engine speed instead of at a high engine speed with a slipping clutch.



9.5 Applying the brakes



Warning

Danger of accidents Excessively forceful application of the brakes blocks the wheels.

- Adjust application of the brakes to the respective riding situation and riding surface conditions.



Warning

Danger of accidents A spongy pressure point on the front or rear brake reduces braking efficiency.

- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Moisture and dirt impair the brake system.

- Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

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



9.6 Stopping, parking



Warning

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

- Do not leave the vehicle unattended if the engine is running.
- Protect the vehicle against access by unauthorized persons.



Warning

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

- Do not touch any parts such as the exhaust system, radiator, engine, shock absorber, or brake system before the vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work on the vehicle.

Note

Material damage The vehicle may be damaged by incorrect procedure when parking.

Significant damage may be caused if the vehicle rolls away or falls over.

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


9 RIDING INSTRUCTIONS

- Park the vehicle on a firm and level surface.
- Ensure that nobody sits on the vehicle when the vehicle is parked on a stand.

Note

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

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

-
- Apply the brakes on the motorcycle.
 - Shift the transmission to the neutral position.
 - Turn the ignition key in the ignition lock to the position  while the engine is idling.



Info

If the engine is switched off with the emergency OFF switch and the ignition remains switched on at the ignition lock, power continues to flow to most power consumers. This discharges the 12-V battery. You should therefore always switch off the engine with the ignition lock – the emergency OFF switch is intended for emergencies only.

-
- Park the motorcycle on firm ground.

9.7 Transporting

Note

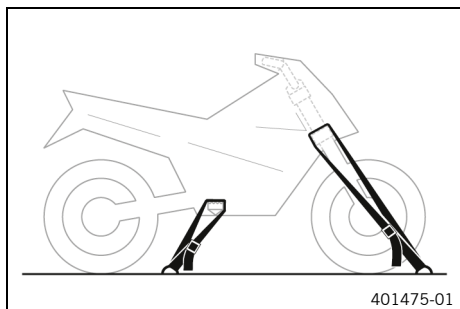
Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.

Note

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

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



- 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 or lit cigarettes.
- 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 off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing in case of fuel spills on them.

Note

Material damage Inadequate fuel quality causes the fuel filter to quickly become clogged.

In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.

- Refuel only with clean fuel that meets the specified standards. (Your authorized KTM workshop will be glad to help.)



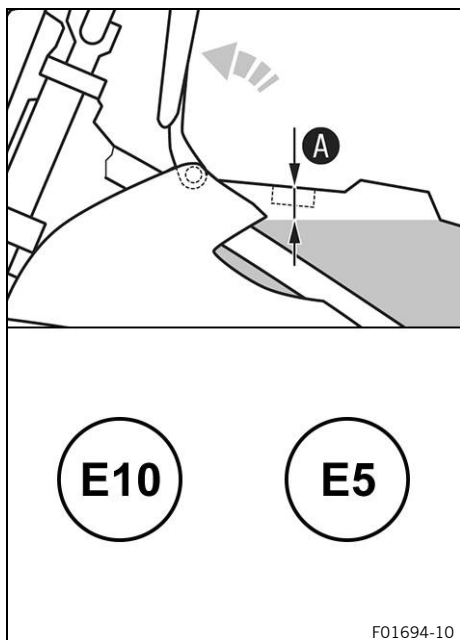
Note

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

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

Preparatory work

- Switch off the engine.
- Fold the seat up. (📖 p. 66)
- Open fuel tank filler cap. (📖 p. 17)



Main work

- Fill the fuel tank with fuel up to measurement **A**.

Guideline

Measurement of A	30 mm (1.18 in)	
Total fuel tank capacity, approx.	5 l (1.3 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 148)

Finishing work

- Close the fuel tank filler cap. (📖 p. 18)
- Lock the seat. (📖 p. 66)

10.1 Additional information

Any further work that results from the required work or from the recommended work must be ordered separately and can be 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 can always be found on KTM Dealer.net. Your authorized KTM dealer will be happy to advise you.

10.2 Required work

	Every 80 operating hours	Every 40 operating hours	Every 20 operating hours	After 1 operating hour
Read out the fault memory using the KTM diagnostics tool. 🛠️	○	●	●	●
Check that the electrical system is functioning properly.	○	●	●	●
Check and charge the 12-V battery. 🛠️		●	●	●
Change the engine oil and oil filter, clean the oil screen. 🛠️ (📖 p. 126)	○	●	●	●
Check the front brake linings. (📖 p. 89)		●	●	●
Check the brake linings of the rear brake. (📖 p. 94)		●	●	●
Check the brake discs. (📖 p. 86)		●	●	●
Check the brake lines for damage and leakage.		●	●	●
Change the foot brake cylinder sealing cup. 🛠️			●	●
Check the rear brake fluid level. (📖 p. 93)		●	●	●
Check the free travel of the foot brake lever. (📖 p. 92)		●	●	●
Check the frame. 🛠️ (📖 p. 81)		●	●	●
Check the link fork. 🛠️ (📖 p. 81)		●	●	●
Check the fork bearing for play. 🛠️				●
Check the heim joint for play. 🛠️		●	●	●
Check the tire condition. (📖 p. 101)	○	●	●	●
Check tire pressure. (📖 p. 102)	○	●	●	●
Check the wheel bearing for play. 🛠️		●	●	●
Check the wheel hubs. 🛠️		●	●	●
Check the rim run-out. 🛠️	○	●	●	●
Check the spoke tension. (📖 p. 103)	○	●	●	●
Check the chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 78)		●	●	●
Check the chain tension. (📖 p. 77)	○	●	●	●
Grease all moving parts (e.g. side stand, hand lever, chain, etc.) and check for smooth operation. 🛠️	○	●	●	●
Check the fluid level of the hydraulic clutch. (📖 p. 82)		●	●	●
Check the front brake fluid level. (📖 p. 87)		●	●	●
Check the free travel of the hand brake lever. (📖 p. 86)		●	●	●
Check steering head bearing play. (📖 p. 62)	○	●	●	●
Check the valve clearance. 🛠️	○			●
Check the clutch. 🛠️				●
Change the cover seal and shaft seal rings of the water pump. 🛠️				●
Change the fuel screen. 🛠️ (📖 p. 125)	○	●	●	●

10 SERVICE SCHEDULE

	Every 80 operating hours	Every 40 operating hours	Every 20 operating hours	After 1 operating hour
Check the fuel pressure. 🛠️	•	•	•	•
Check all hoses (e.g. fuel, cooling, bleeder, drainage, etc.) and sleeves for cracking, leaks, and incorrect routing. 🛠️	○	•	•	•
Check the antifreeze and coolant level. (📖 p. 115)	○	•	•	•
Check the cables for damage and for routing without kinks. 🛠️		•	•	•
Check that the throttle cables are undamaged, routed without sharp bends, and set correctly.	○	•	•	•
Clean the air filter and air filter housing. 🛠️ (📖 p. 70)		•	•	•
Change the glass fiber yarn filling of the main silencer. 🛠️ (📖 p. 71)				•
Service the fork. 🛠️				•
Perform the shock absorber service. 🛠️				•
Check the tightness of the easily accessible, safety-relevant screws and nuts. 🛠️	○	•	•	•
Check the headlight setting. (📖 p. 112)	○	•	•	•
Check the idle speed. 🛠️	○	•	•	•
Check that the radiator fan is functioning properly. 🛠️	○	•	•	•
Final check: Check the vehicle is roadworthy and take a test ride. 🛠️	○	•	•	•
Read out the error memory after the test ride using the KTM diagnostics tool. 🛠️	○	•	•	•
Make a service entry in KTM Dealer.net . 🛠️	○	•	•	•

- One-time interval
- Periodic interval

10.3 Recommended work

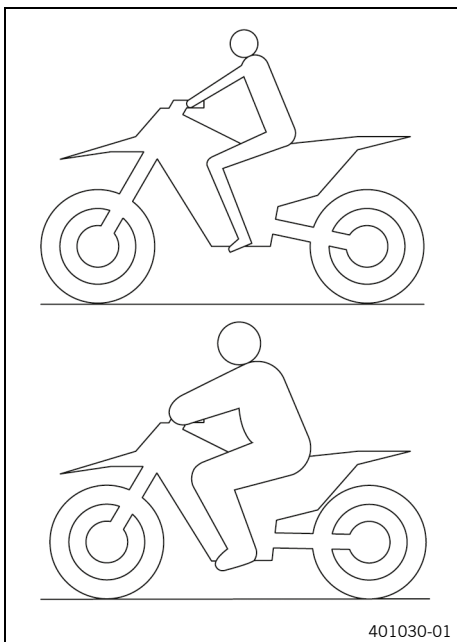
	every 12 months	Every 160 operating hours	After 40 operating hours	After 20 operating hours
Change the front brake fluid. 🛠️				•
Change the rear brake fluid. 🛠️				•
Change the hydraulic clutch fluid. 🛠️ (📖 p. 84)				•
Grease the steering head bearing. 🛠️ (📖 p. 63)				•
Service the fork. 🛠️		○		
Perform the shock absorber service. 🛠️			○	
Change the fuel filter. 🛠️				•
Perform engine service including removing and installing the engine. (Change the spark plug and spark plug connector. Change the piston. Check/measure the cylinder. Check the cylinder head. Change the valves, valve springs, and valve spring seats. Check the camshaft and cam lever. Change the connecting rod, conrod bearing and crank pin. Change the shaft seal rings of the water pump. Check the transmission and shift mechanism. Check the oil pressure control valve. Change the suction pump. Check the force pump and lubrication system. Check the timing assembly. Change the timing chain. Change all engine bearings. Change the freewheel.) 🛠️				•

- One-time interval
- Periodic interval

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

i Info

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, link fork 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).

Guideline

Standard rider weight	75 ... 85 kg (165 ... 187 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 by adjusting the spring 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 adjuster has an effect, for example, when landing after a jump: the rear wheel suspension compresses quickly.

The low-speed compression adjuster has an effect, for example, when riding over long ground swells: the rear wheel suspension compresses slowly.

These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, modifications 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 around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

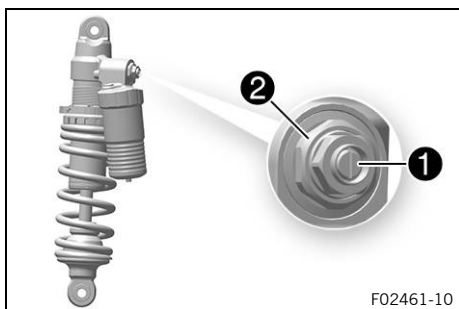
- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

i Info

The low-speed compression adjuster takes effect during slow to normal compression of the shock absorber.

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)
- Fold the seat up. (📖 p. 66)
- Remove the shock absorber. 🛠️ (📖 p. 65)



Main work

- Turn adjusting screw ① clockwise with a screwdriver as far as the last perceptible click.

i Info
Do not loosen fitting ②!

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

Guideline

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

i Info
Turn clockwise to increase the damping; turn counterclockwise to reduce the damping.

Finishing work

- Install the shock absorber. (🔧 p. 65)
- Lock the seat. (🔧 p. 66)
- Remove the motorcycle from the lift stand. (🔧 p. 55)

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

⚠ Caution

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

- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

i Info
The high-speed compression adjuster takes effect during fast compression of the shock absorber.

Preparatory work

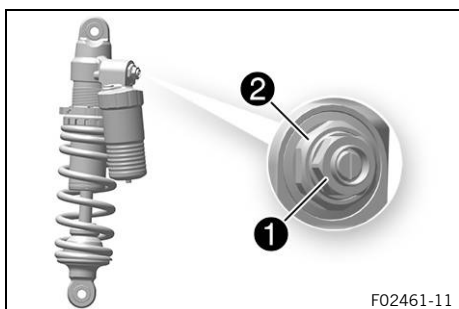
- Raise the motorcycle with a lift stand. (🔧 p. 55)
- Fold the seat up. (🔧 p. 66)
- Remove the shock absorber. (🔧 p. 65)

Main work

- Turn adjusting screw ① all the way clockwise with a socket wrench.

i Info
Do not loosen fitting ②!

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



Guideline

High-speed compression damping	
Comfort	2 turns
Standard	2 turns
Sport	1.5 turns

i Info
Turn clockwise to increase the damping; turn counter-clockwise to reduce the damping.

Finishing work

- Install the shock absorber. (🔧 p. 65)
- Lock the seat. (🔧 p. 66)
- Remove the motorcycle from the lift stand. (🔧 p. 55)



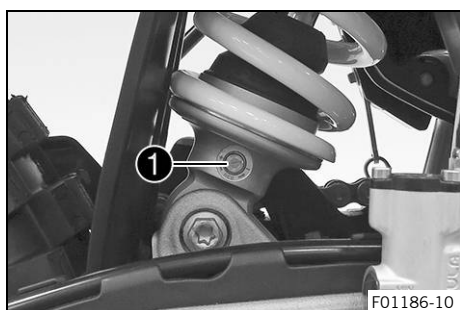
11.5 Adjusting the rebound damping of the shock absorber



Caution

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

- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)



- Turn adjusting screw **1** clockwise up to the last perceptible click.
- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

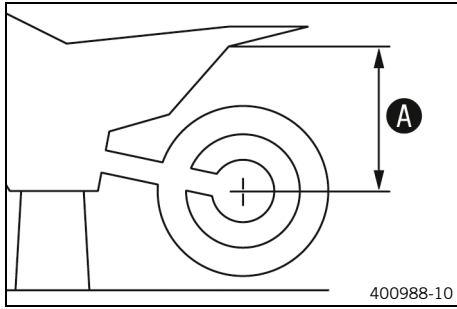
i Info
Turn clockwise to increase the damping; turn counter-clockwise to reduce damping when the shock absorber rebounds.



11.6 Measuring the rear wheel dimension unloaded

Preparatory work

- Raise the motorcycle with a lift stand. (🔧 p. 55)



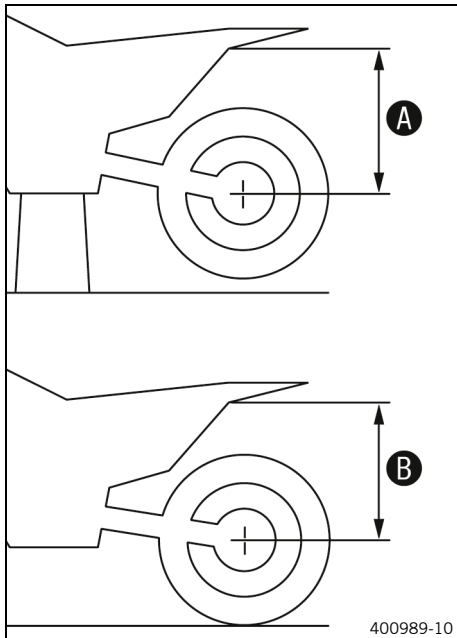
Main work

- Measure the distance – as vertical as possible – between the rear axle and a fixed point, for example, a mark on the rear fairing.
- Note down the value as dimension **A**.

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 55)

11.7 Checking the static sag of the shock absorber



- Measure dimension **A** of rear wheel unloaded. (📖 p. 47)
- Hold the motorcycle upright with aid of an assistant.
- Measure the distance between rear axle and fixed point again.
- Note the value as dimension **B**.

Info

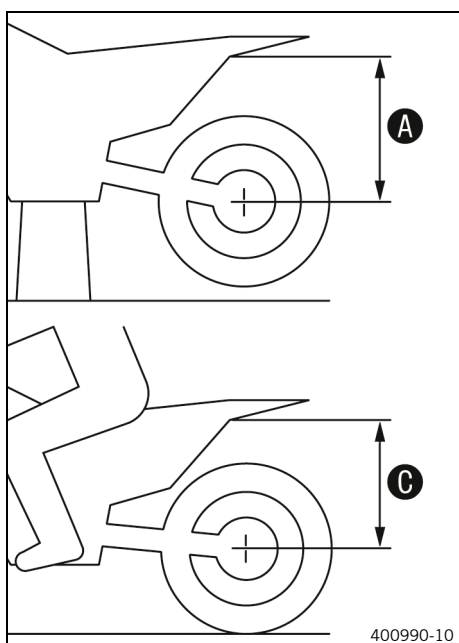
The static sag is the difference between measurements **A** and **B**.

- Check the static sag.

Static sag	25 mm (0.98 in)
------------	-----------------

- » If the static sag is less or more than the specified value:
 - Adjust the spring preload of the shock absorber. (🔧 p. 49)

11.8 Checking the riding sag of the shock absorber



- Measure dimension **A** of rear wheel unloaded. (📖 p. 47)
- With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
 - ✓ The rear wheel suspension levels out.
- Another person now measures the distance between the rear axle and the fixed point.
- Note the value as dimension **C**.

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

- Check riding sag.

Riding sag	115 mm (4.53 in)
------------	------------------

- » If the riding sag differs from the specified measurement:
 - Adjust the riding sag. 🛠️ (📖 p. 50)

11.9 Adjusting the spring preload of the shock absorber 🛠️



Caution

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

- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)

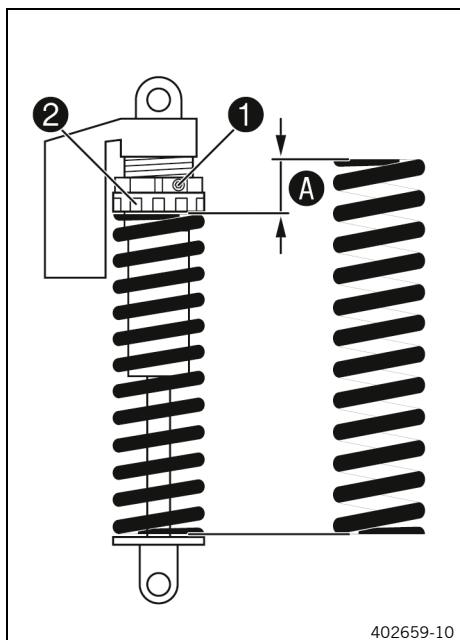


Info

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

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)
- Fold the seat up. (📖 p. 66)
- Remove the shock absorber. 🛠️ (📖 p. 65)
- After removing the shock absorber, clean it thoroughly.



Main work

- Loosen screw ①.
- Turn adjusting ring ② until the spring is no longer under tension.

Hook wrench (90129051000)

- Measure the total spring length while the spring is not under tension.
- Tension the spring by turning adjusting ring ② to specified dimension A.

Guideline

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

Info

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

- Tighten screw ①.

Guideline

Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)
--------------------------------------	----	-------------------

Finishing work

- Install the shock absorber. (🔧 p. 65)
- Lock the seat. (🔧 p. 66)
- Remove the motorcycle from the lift stand. (🔧 p. 55)

11.10 Adjusting the riding sag 🛠️

Preparatory work

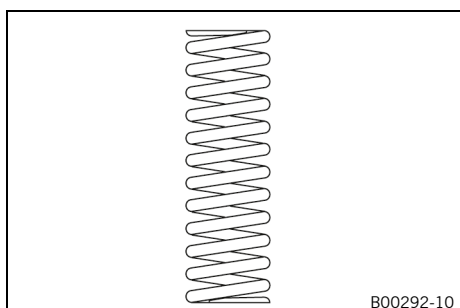
- Raise the motorcycle with a lift stand. (🔧 p. 55)
- Fold the seat up. (🔧 p. 66)
- Remove the shock absorber. 🛠️ (🔧 p. 65)
- After removing the shock absorber, clean it thoroughly.

Main work

- Choose and mount a suitable spring.

Guideline

Spring rate	
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	66 N/mm (377 lb/in)
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	68 N/mm (388 lb/in)
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	69 N/mm (394 lb/in)





Info

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

Finishing work

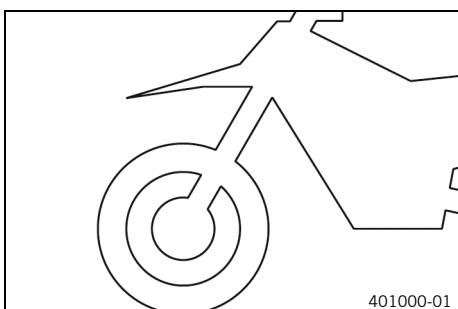
- Install the shock absorber. (📖 p. 65)
- Lock the seat. (📖 p. 66)
- Remove the motorcycle from the lift stand. (📖 p. 55)
- Check the static sag of the shock absorber. (📖 p. 48)
- Check the riding sag of the shock absorber. (📖 p. 49)
- Adjust the rebound damping of the shock absorber. (📖 p. 47)

11.11 Checking the basic setting of the fork



Info

For various reasons, no exact riding 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 is often overloaded (hard end stop on compression), harder springs must be fit to avoid damage to the fork and frame.

11.12 Adjusting the compression damping of the fork



Info

The hydraulic compression damping determines the fork suspension behavior.



- Turn white adjuster ① clockwise as far as it will go.



Info

Adjuster ① is located at the upper end of the left fork leg.

The compression damping is located in left fork leg **COMP** (white adjuster). The rebound damping is located in right fork leg **REB** (red adjuster).

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

Guideline

Compression damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

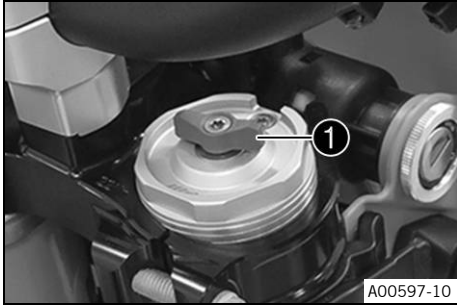
i Info

Turn clockwise to increase damping; turn counterclockwise to reduce damping during compression.

11.13 Adjusting the rebound damping of the fork

i Info

The hydraulic rebound damping determines the fork suspension behavior.



- Turn red adjuster **1** clockwise as far as it will go.

i Info

Adjuster **1** is located at the upper end of the right fork leg.
The rebound damping is located in right fork leg **REB** (red adjuster). The compression damping is located in left fork leg **COMP** (white adjuster).

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

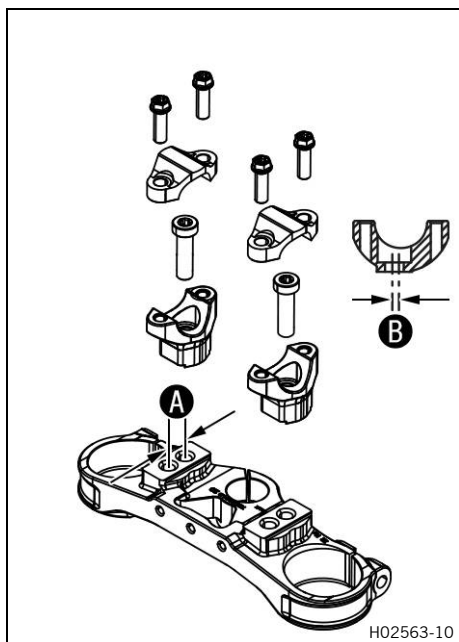
Guideline

Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

i Info

Turn clockwise to increase the damping; turn counterclockwise to reduce damping when the shock absorber rebounds.

11.14 Handlebar position



On the upper triple clamp, there are two holes at a distance of **A** to each other.

Hole distance A	15 mm (0.59 in)
------------------------	-----------------

The holes on the handlebar supports are placed at a distance of **B** from the center.

Hole distance B	3.5 mm (0.138 in)
------------------------	-------------------

The handlebar supports can be mounted in four different positions.

11.15 Adjusting the handlebar position ↴

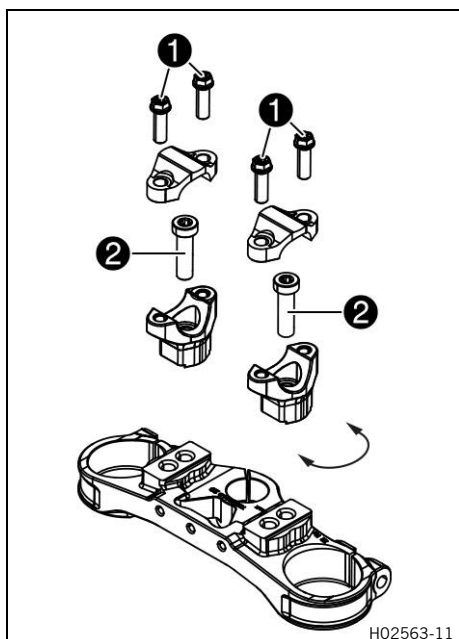


Warning

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 screws **1**. Take off the handlebar clamps. Take off the handlebar and hang to the side.



Info

Cover the components to protect them against damage. Do not kink the cables and lines.

- Remove screws **2**. Take off the handlebar supports.
- Place the handlebar supports in the required position. Mount and tighten screws **2**.

Guideline

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



Info

Position the left and right handlebar supports evenly.

- Position handlebar.

**Info**

Make sure the cables and wiring are positioned correctly.

- Position handlebar clamps. Mount screws ❶ and tighten evenly.

Guideline

Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
------------------------	----	---------------------

**Info**

Make sure the gap widths are even.

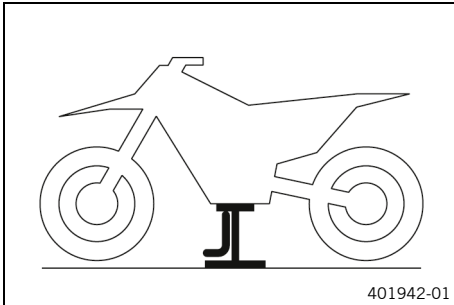


12.1 Raising the motorcycle with a lift stand

Note

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

- Park the vehicle on a firm and level surface.



- Raise the motorcycle at the frame underneath the engine.

Lift stand (78929955100)

- ✓ Neither wheel is in contact with the ground.
- Secure the motorcycle against falling over.

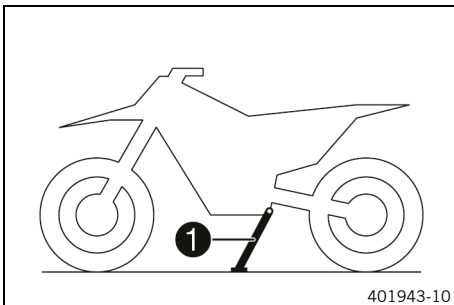


12.2 Removing the motorcycle from the lift stand

Note

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

- Park the vehicle on a firm and level surface.



- Remove the motorcycle from the lift stand.
- Remove the lift stand.
- To park the motorcycle, press side stand **1** to the ground with your foot and lean the motorcycle on it.



Info

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



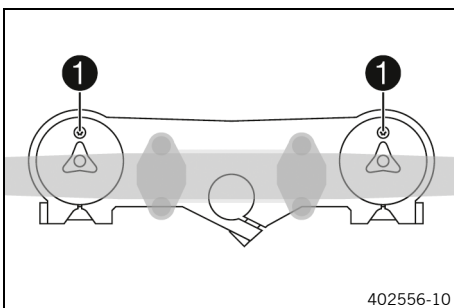
12.3 Bleeding the fork legs

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)

Main work

- Release bleeder screws **1**.
- ✓ Any excess pressure escapes from the interior of the fork.
- Tighten the bleeder screws.

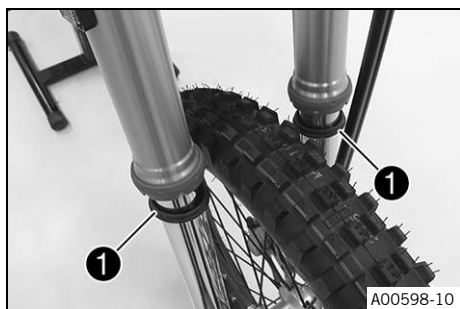


Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 55)



12.4 Cleaning the dust boots of the fork legs



Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)
- Remove the fork protector. (📖 p. 56)

Main work

- Push dust boots ❶ of both fork legs downward.

Info

The dust boots remove dust and coarse dirt particles from the inside 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 or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.

- Clean and oil the dust boots and inner fork tubes of both fork legs.

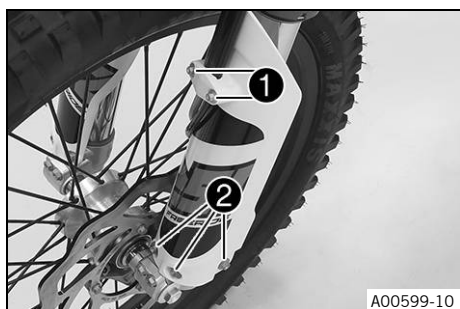
Universal oil spray (📖 p. 150)

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

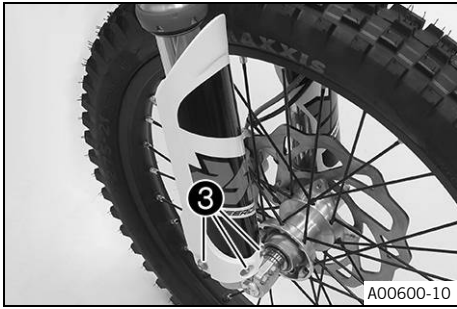
Finishing work

- Install the fork protector. (📖 p. 57)
- Remove the motorcycle from the lift stand. (📖 p. 55)

12.5 Removing the fork protector



- Remove screws ❶. Take off the clamp.
- Remove screws ❷ on the left fork leg. Take off the fork protector.



- Remove screws **3** on the right fork leg. Take off the fork protector.

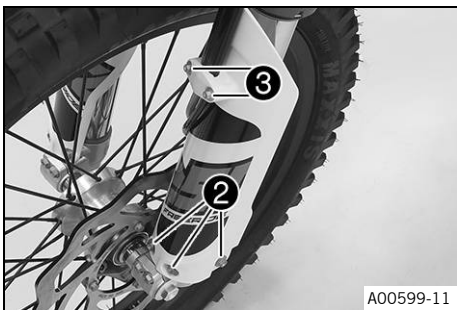
12.6 Installing the fork protector



- Position the fork protection on the right fork leg. Mount and tighten screws **1**.

Guideline

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



- Position the fork protection on the left fork leg. Mount and tighten screws **2**.

Guideline

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

- Position the brake line, wiring harness, and clamp. Mount and tighten screws **3**.

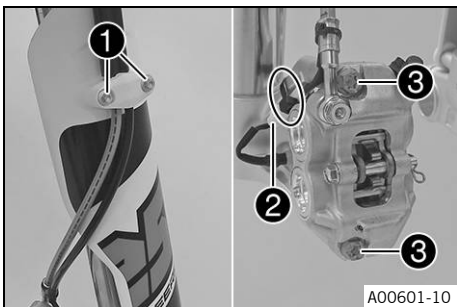
12.7 Removing the fork legs

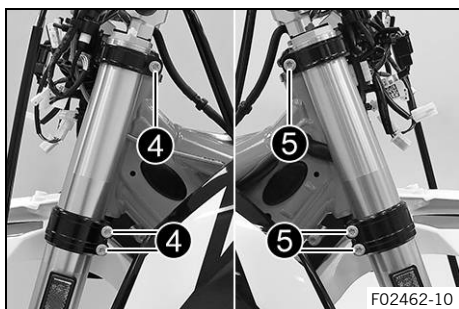
Preparatory work

- Remove the headlight mask with the headlight. (📖 p. 109)
- Raise the motorcycle with a lift stand. (📖 p. 55)
- Remove the front wheel. 🛠️ (📖 p. 98)

Main work

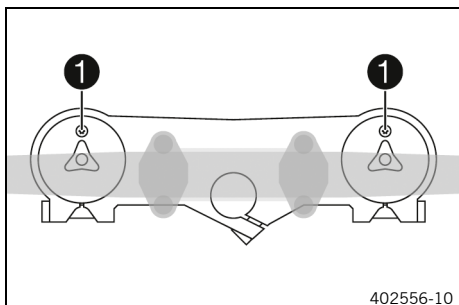
- Remove screws **1** and take off the clamp.
- Remove the cable tie(s) and detach plug-in connector **2**.
- Remove screws **3** with the spacers and take off the brake caliper.
- Allow the brake caliper and brake line to hang loosely to the side.





- Loosen screws ④. Take out the left fork leg.
- Loosen screws ⑤. Take out the right fork leg.

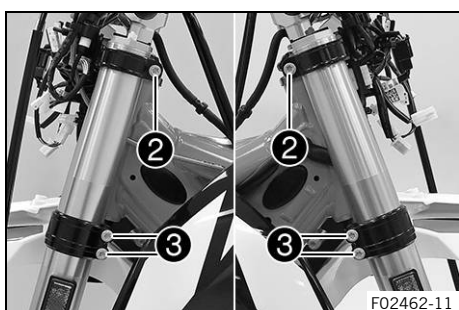
12.8 Installing the fork legs



Main work

- Position the fork legs.
- ✓ Bleeder screws ① are positioned toward the front.

i Info
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.



- Tighten screws ②.

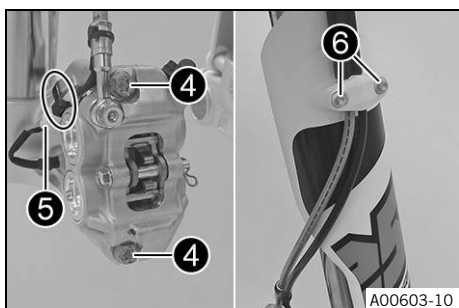
Guideline

Screw, top triple clamp	M8	22 Nm (16.2 lbf ft)
-------------------------	----	---------------------

- Tighten screws ③.

Guideline

Screw, bottom triple clamp	M8	18 Nm (13.3 lbf ft)
----------------------------	----	---------------------



- Position the brake caliper. Mount and tighten screws ④ with the spacers.

Guideline

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

- Connect plug-in connector ⑤ and mount the cable tie(s).
- Position the brake line, wiring harness, and clamp. Mount and tighten screws ⑥.

Finishing work

- Install the front wheel. (📖 p. 98)
- Install the headlight mask with the headlight. (📖 p. 110)
- Check the headlight setting. (📖 p. 112)

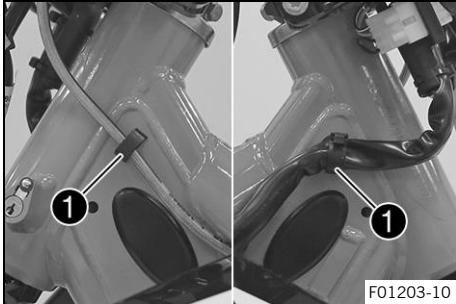
12.9 Removing the lower triple clamp

Preparatory work

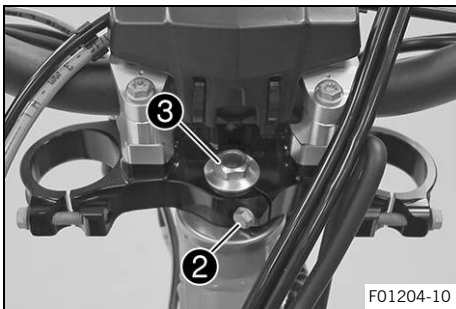
- Remove the headlight mask with the headlight. (p. 109)
- Raise the motorcycle with a lift stand. (p. 55)
- Remove the front wheel. (p. 98)
- Remove the fork legs. (p. 57)
- Remove front fender. (p. 63)

Main work

- Open cable holder ① in front of the right and right radiator and detach the wiring harness.



F01203-10



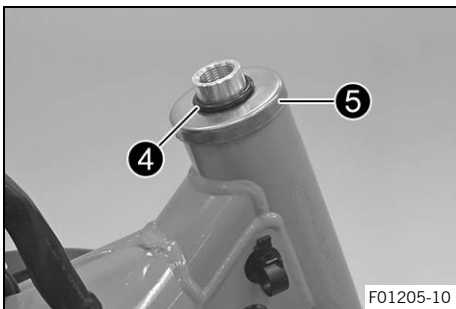
F01204-10

- Pull the fuel tank breather hose out of the steering head screw.
- Remove screw ②.
- Remove screw ③.
- Take off the upper triple clamp with the handlebar and set it aside.



Info

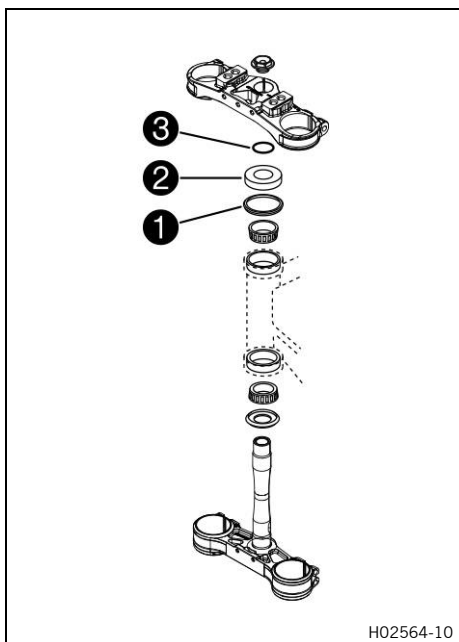
Cover the components to protect them against damage. Do not kink the cables and lines.



F01205-10

- Remove O-ring ④ and protective ring ⑤.
- Take off the lower triple clamp with the steering stem.
- Remove the upper steering head bearing.

12.10 Installing the lower triple clamp

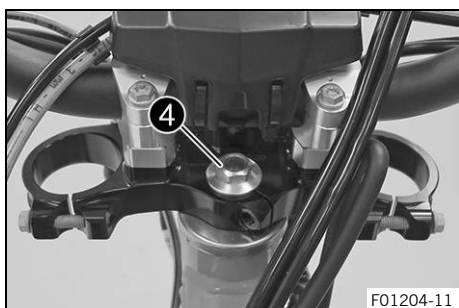


Main work

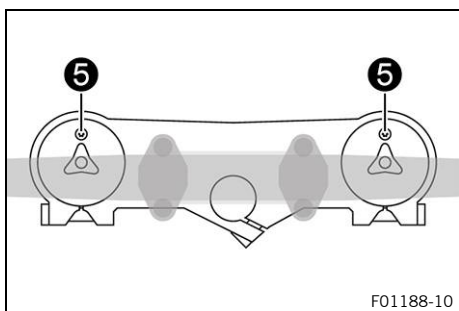
- Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (📖 p. 149)

- Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.
- Check whether upper steering head seal **1** is correctly positioned.
- Slide on protective ring **2** and O-ring **3**.



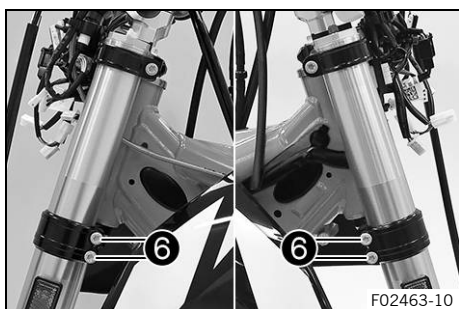
- Position the upper triple clamp with the handlebar.
- Mount screw **4** but do not tighten yet.
- Position the clutch line and wiring harness.



- Position the fork legs.
- ✓ Bleeder screws **5** are positioned toward the front.

Info

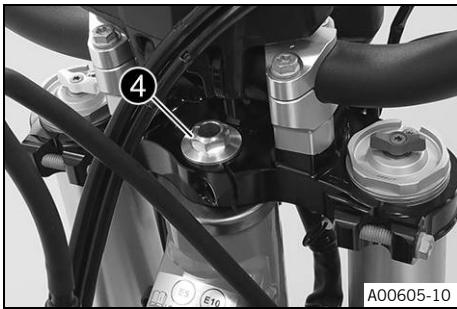
The rebound damping is located in right fork leg **REB** (red adjusting screw). The compression damping is located in left fork leg **COM** (white adjusting screw). Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp.



- Tighten screws **6**.

Guideline

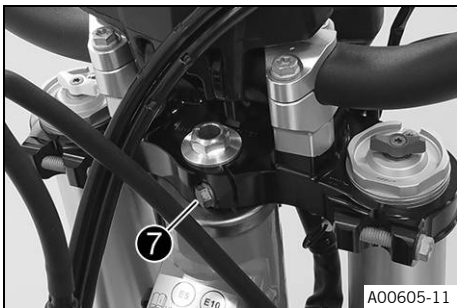
Screw, bottom triple clamp	M8	18 Nm (13.3 lbf ft)
----------------------------	----	---------------------



- Tighten screw 4.

Guideline

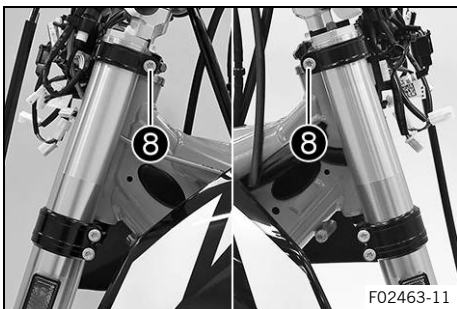
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)
--------------------------	---------	--------------------



- Mount and tighten screw 7.

Guideline

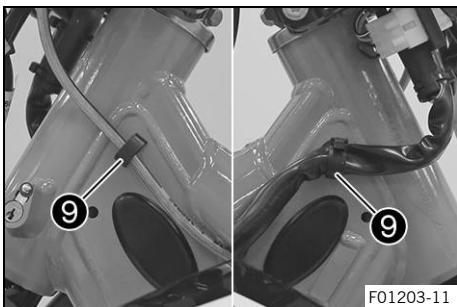
Screw, top steering stem	M8	17 Nm (12.5 lbf ft) Loctite®243™
--------------------------	----	--



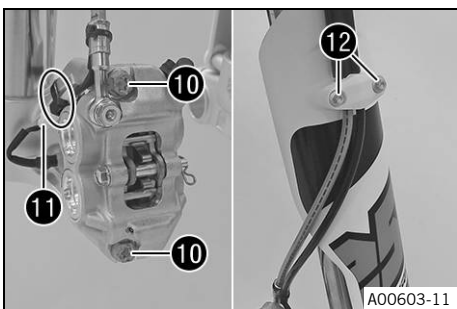
- Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
- Tighten screws 8.

Guideline

Screw, top triple clamp	M8	22 Nm (16.2 lbf ft)
-------------------------	----	---------------------



- Secure cable holder 9 in front of the right and left radiator.
- Insert the fuel tank breather hose into the steering head screw.



- Position the brake caliper. Mount and tighten screws 10 with the spacers.

Guideline

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

- Connect plug-in connector 11 and mount the cable tie(s).
- Position the brake line, wiring harness, and clamp. Mount and tighten screws 12.

Finishing work

- Install front fender. (📖 p. 64)
- Install the front wheel. 🛠️ (📖 p. 98)
- Install the headlight mask with the headlight. (📖 p. 110)

- Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.
- Check steering head bearing play. (📖 p. 62)
- Remove the motorcycle from the lift stand. (📖 p. 55)
- Check the headlight setting. (📖 p. 112)

12.11 Checking steering head bearing play



Warning

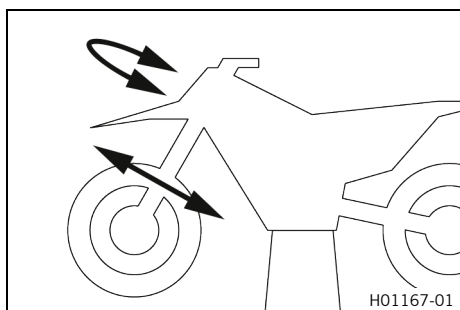
Danger of accidents Incorrect steering head bearing play impairs the handling characteristic and damages components.

- Correct incorrect steering head bearing play immediately. (Your authorized KTM workshop will be glad to help.)



Info

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 over time.



Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)

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 steering head bearing play. 🗨️ (📖 p. 62)

- Move the handlebar to and fro 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 steering head bearing play. 🗨️ (📖 p. 62)
- Check the steering head bearing and replace if required.

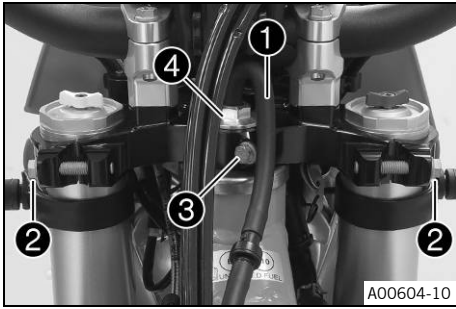
Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 55)

12.12 Adjusting steering head bearing play 🗨️

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)



Main work

- Pull out hose ① from the front steering head screw.
- Loosen screws ②. Remove screw ③.
- Loosen and retighten screw ④.

Guideline

Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)
--------------------------	---------	--------------------

- Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
- Tighten screws ②.

Guideline

Screw, top triple clamp	M8	22 Nm (16.2 lbf ft)
-------------------------	----	---------------------

- Mount and tighten screw ③.

Guideline

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

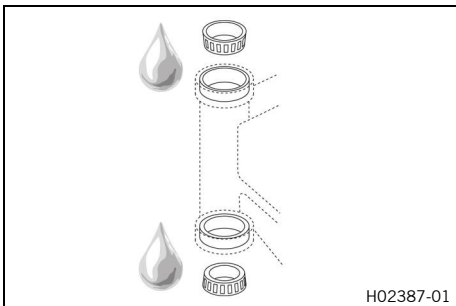
- Insert hose ① into the steering head screw.

Finishing work

- Check steering head bearing play. (📖 p. 62)
- Remove the motorcycle from the lift stand. (📖 p. 55)



12.13 Greasing the steering head bearing 🛠️



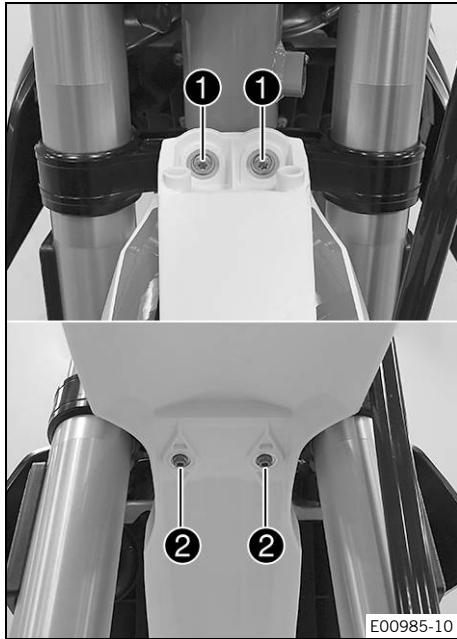
- Remove the lower triple clamp. 🛠️ (📖 p. 59)
- Install the lower triple clamp. 🛠️ (📖 p. 60)



12.14 Removing front fender

Preparatory work

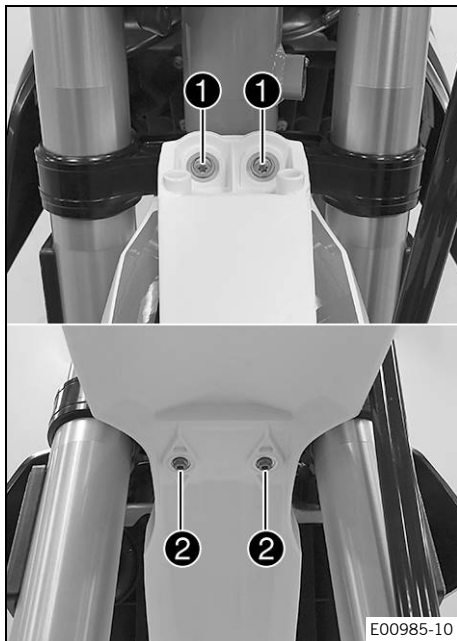
- Remove the headlight mask with the headlight. (📖 p. 109)



Main work

- Remove screws ❶.
- Remove screws ❷.
- Take off the front fender.

12.15 Installing front fender



Main work

- Position front fender. Mount and tighten screws ❶.

Guideline

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

- Mount and tighten screws ❷.

Guideline

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

Finishing work

- Install the headlight mask with the headlight. (🔧 p. 110)
- Check the headlight setting. (📖 p. 112)

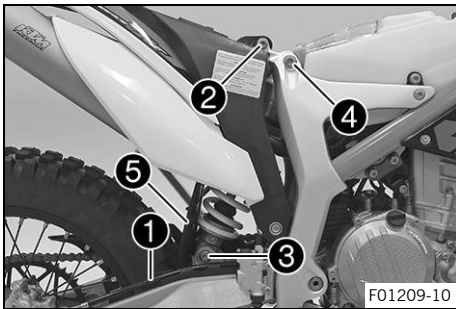
12.16 Removing the shock absorber

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)
- Fold the seat up. (📖 p. 66)

Main work

- Detach brake line ①.
- Remove screw ②.
- Remove screw ③ 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 ④.
- Push splash protector ⑤ 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.

Guideline

Screw, top shock absorber	M12	80 Nm (59 lbf ft) Loctite®2701™
---------------------------	-----	---

- Mount and tighten screw ③.

Guideline

Screw, bottom shock absorber	M12	80 Nm (59 lbf ft) Loctite®2701™
------------------------------	-----	---



Info

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.

- Mount and tighten screw ④.

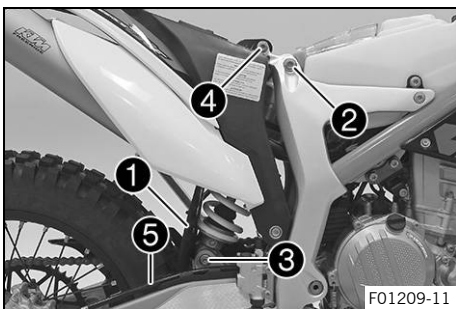
Guideline

Screw, sub-frame top	M10	45 Nm (33.2 lbf ft) Loctite®243™
----------------------	-----	--

- Attach brake line ⑤.

Finishing work

- Lock the seat. (📖 p. 66)
- Remove the motorcycle from the lift stand. (📖 p. 55)

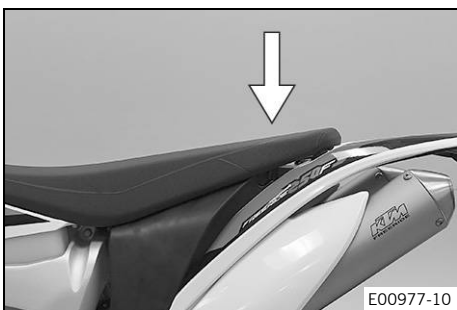


12.18 Folding the seat up



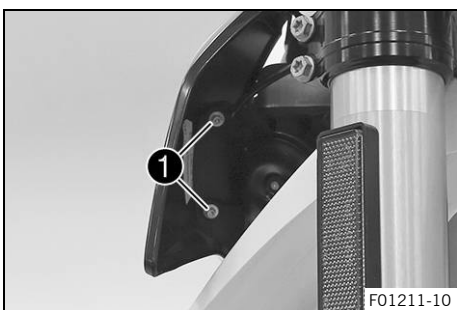
- Press release lever ①.
- Lift the seat and fold it up.

12.19 Locking the seat



- Fold down the seat and push it down.
 - ✓ The seat engages with an audible click.
- Check that the seat is correctly locked.

12.20 Taking off the spoiler

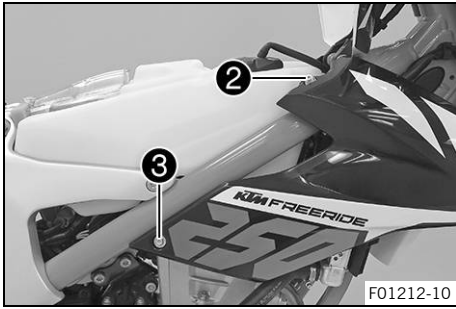


Preparatory work

- Fold the seat up. (🔧 p. 66)

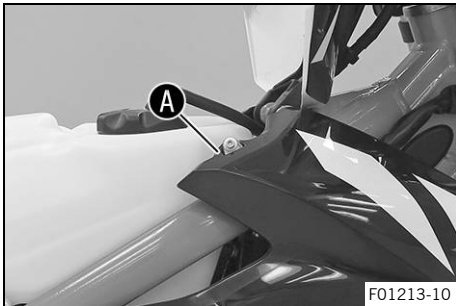
Main work

- Remove screws ①.



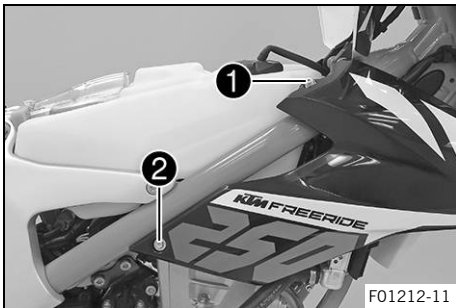
- Remove screw ②.
- Remove screw ③.
- Take off the spoiler.
- Repeat the operation on the opposite side.

12.21 Mounting the spoiler



Main work

- Position the spoiler and hook it in at area A.



- Mount and tighten screw ①.

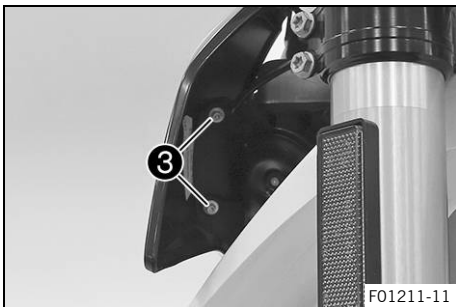
Guideline

Screw for spoiler, top	EJOT PT® K60x20AL	3 Nm (2.2 lbf ft)
------------------------	-----------------------------	-------------------

- Mount and tighten screw ②.

Guideline

Screw for spoiler attachment	M6	5 Nm (3.7 lbf ft)
------------------------------	----	-------------------



- Mount and tighten screws ③.

Guideline

Screw, front spoiler	EJOT PT® K60x30-Z	3 Nm (2.2 lbf ft)
----------------------	-----------------------------	-------------------

- Repeat the operation on the opposite side.

Finishing work

- Lock the seat. (📖 p. 66)

12.22 Removing the air filter housing ↴

Note

Engine damage Unfiltered intake air has a negative effect on the service life of the engine. Dust and dirt will enter the engine without an air filter.

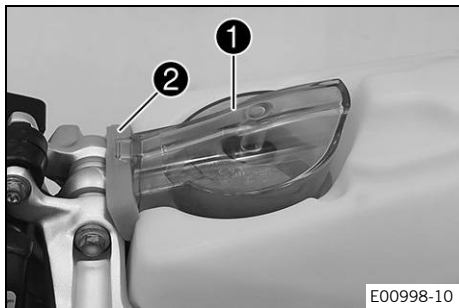
- Never start to use the vehicle without an air filter.

Preparatory work

- Fold the seat up. (📖 p. 66)

Main work

- Pull off air filter housing ❶ and pre-filter ❷ toward the top.



12.23 Installing the air filter housing ↴

Main work

- Position pre-filter ❶ on the air filter housing.

Note

Engine damage The fuel-air mixture changes if the pre-filter is not mounted or is incorrectly mounted.

An incorrect fuel-air mixture has a negative effect on the service life of the engine.

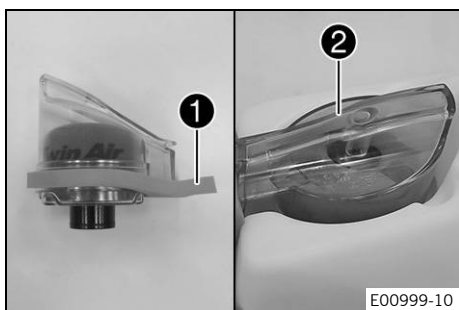
- Make sure the pre-filter is seated correctly.
- Attach air filter housing ❷ to the inlet flange together with the mounted pre-filter.

Info

If the air filter housing is not mounted correctly, dust and dirt may enter the engine and cause damage.

Finishing work

- Lock the seat. (📖 p. 66)



12.24 Removing the air filter ↴

Note

Engine damage Unfiltered intake air has a negative effect on the service life of the engine. Dust and dirt will enter the engine without an air filter.

- Never start to use the vehicle without an air filter.



Note

Environmental hazard Hazardous substances cause environmental damage.

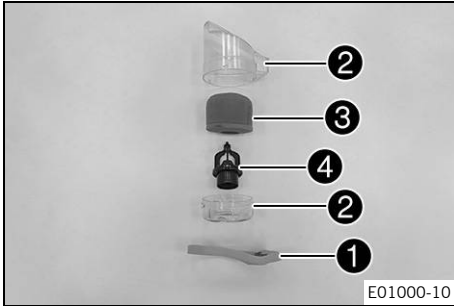
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Preparatory work

- Fold the seat up. (📖 p. 66)
- Remove the air filter housing. 🛠️ (📖 p. 68)

Main work

- Take off pre-filter ❶.
- Press the air filter housing ❷ together and open in counter-clockwise direction.
- Remove the air filter ❸ with the air filter support ❹.
- Take off air filter ❸ from air filter support ❹.

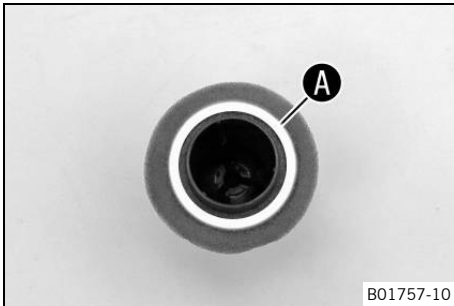


12.25 Installing the air filter 🛠️

Main work

- Mount the clean air filter onto the air filter support.
- Apply grease to the air filter around area A.

Long-life grease (📖 p. 149)



- Insert both parts together and close air filter housing ❶ by turning clockwise.



Info

If the air filter is not mounted correctly, dust and dirt may enter the engine and cause damage.



Finishing work

- Install the air filter housing. 🛠️ (📖 p. 68)
- Lock the seat. (📖 p. 66)

12.26 Cleaning the air filter and air filter housing



Note

Environmental hazard Hazardous substances cause environmental damage.

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



Info

Do not clean the air filter with fuel or petroleum since these substances attack the foam.



Preparatory work

- Fold the seat up. (📖 p. 66)
- Remove the air filter housing. (🔧📖 p. 68)
- Remove the air filter. (🔧📖 p. 68)

Main work

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

Air filter cleaner (📖 p. 149)



Info

Only press the air filter to dry it, never wring it out.

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

Oil for foam air filter (📖 p. 149)

- Clean the air filter housing.
- Check the intake flange for damage and looseness.

Finishing work

- Install the air filter. (🔧📖 p. 69)
- Install the air filter housing. (🔧📖 p. 68)
- Lock the seat. (📖 p. 66)

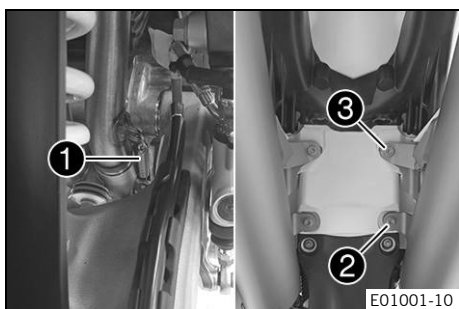
12.27 Removing the main silencer



Warning

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

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

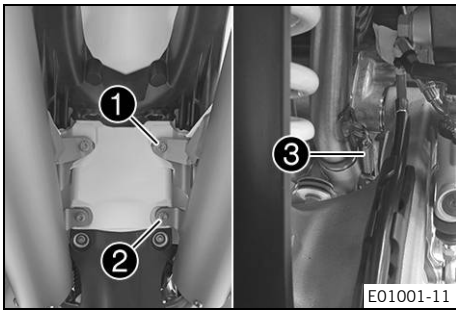


- Detach spring ①.

Spring hook (50305017000C1)

- Remove screw ②.
- Remove screw ③ and take off the main silencer.
- Repeat these steps on the opposite side.

12.28 Installing the main silencer



- Position the main silencer.
- Mount screw ❶, but do not tighten yet.

Guideline

Screw, main silencer	M8x25	25 Nm (18.4 lbf ft)
----------------------	-------	---------------------

- Mount screw ❷, but do not tighten yet.

Guideline

Screw, main silencer	M8x20	25 Nm (18.4 lbf ft)
----------------------	-------	---------------------

- Attach spring ❸.

Spring hook (50305017000C1)

- Tighten screw ❶.

Guideline

Screw, main silencer	M8x25	25 Nm (18.4 lbf ft)
----------------------	-------	---------------------

- Tighten screw ❷.

Guideline

Screw, main silencer	M8x20	25 Nm (18.4 lbf ft)
----------------------	-------	---------------------

- Repeat these steps on the opposite side.



12.29 Changing the glass fiber yarn filling of the main silencer ↗



Warning

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

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



Info

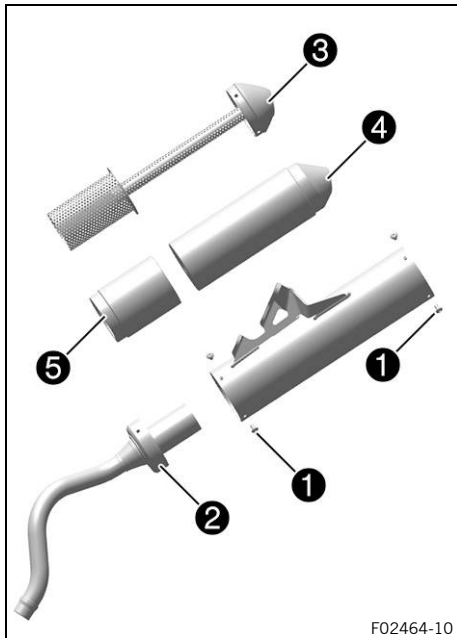
Over time, the fibers of the glass fiber yarn escape and the damper "burns" out.

Not only is the noise level higher, the performance characteristic changes.

The operations are the same for the left and right sides.

Preparatory work

- Remove main silencer. (📖 p. 70)



Main work

- Remove screws ①.
- Take off connecting cap ②.
- Remove the silencer cap ③ together with the perforated pipe and glass fiber yarn fillings ④ and ⑤.
- Clean the parts that need to be reinstalled and check for damage.
- Mount the new glass fiber yarn fillings ④ and ⑤ on the perforated pipe.
- Position the silencer cap with the perforated pipe ③ in the outer tube.
- Position the connection cap ②.
- Mount and tighten screws ①.

Guideline

Screws on main silencer	M5	7 Nm (5.2 lbf ft)
-------------------------	----	-------------------

Finishing work

- Install the main silencer. (📖 p. 71)

12.30 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 or lit cigarettes.
- 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 off immediately.
- Observe the specifications for refueling.



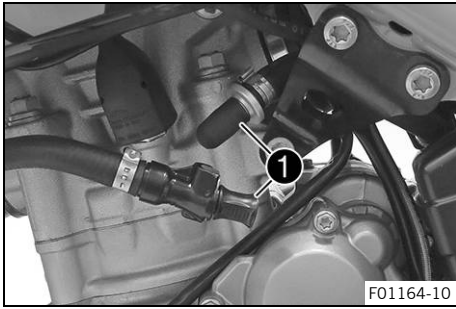
Warning

Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing in case of fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.

Preparatory work

- Fold the seat up. (📖 p. 66)



F01164-10

Main work

- Thoroughly clean the plug-in connection of the fuel line using compressed air.



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

- Disconnect the plug-in connection of the fuel line.

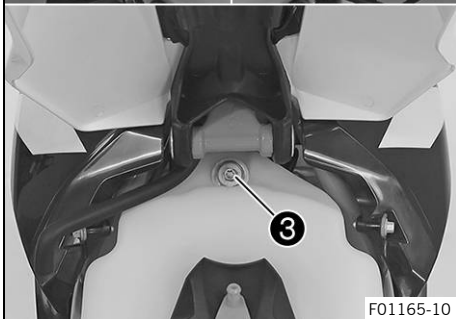
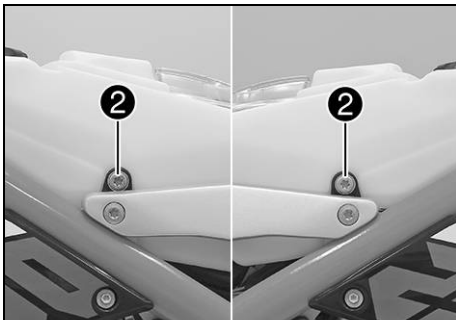


Info

Remaining fuel may flow out of the fuel hose.

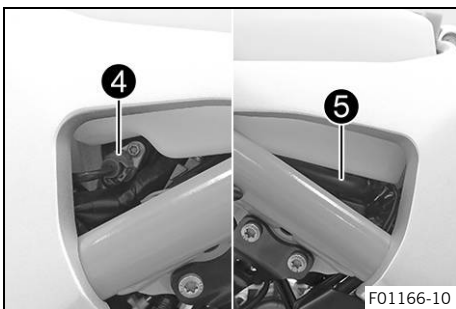
- Mount wash cap set ①.

Wash cap set (81212016100)



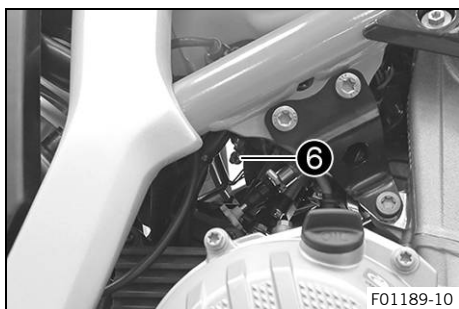
F01165-10

- Remove the hose from the fuel tank breather.
- Remove screws ② on both sides.
- Remove screw ③.

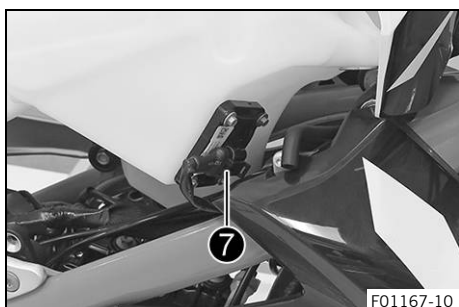


F01166-10

- Unplug connector ④.
- Pull off engine breather hose ⑤.



- Release hose clamp ⑥.
- Detach the intake flange from the throttle valve body.



- Pull up the fuel tank slightly and disconnect the connector ⑦ for the fuel pump.
- Remove the fuel tank from above.

12.31 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.

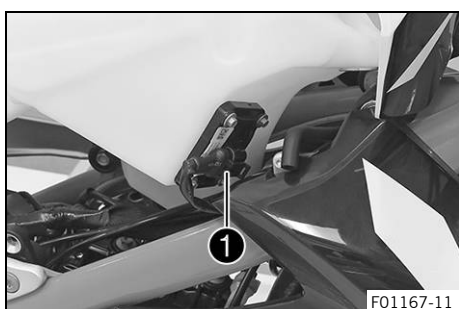
- Do not refuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.



Warning

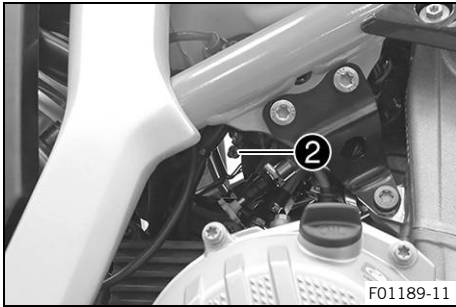
Danger of poisoning Fuel is poisonous and a health hazard.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing in case of fuel spills on them.

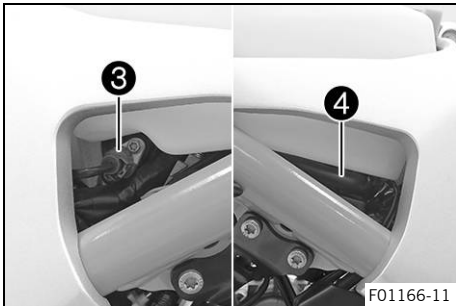


Main work

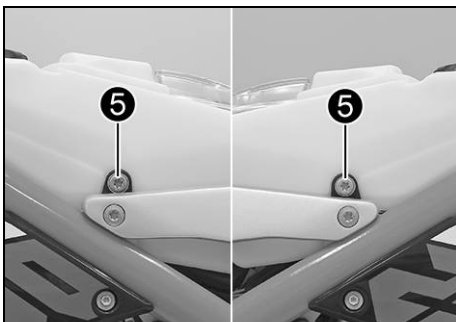
- Check throttle cable routing. (📖 p. 81)
- Make sure that no cables or throttle cables are trapped or damaged.
- Plug in connector ① for the fuel pump.



- Position the fuel tank.
- Position the intake flange on the throttle valve body.
- Tighten hose clamp ②.



- Plug in connector ③.
- Position engine breather hose ④.



- Mount and tighten screws ⑤ on both sides.

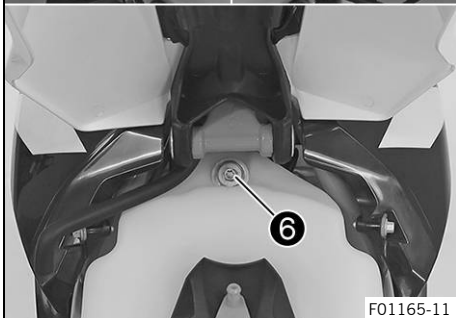
Guideline

Screw, fuel tank	M8	15 Nm (11.1 lbf ft) Loctite®243™
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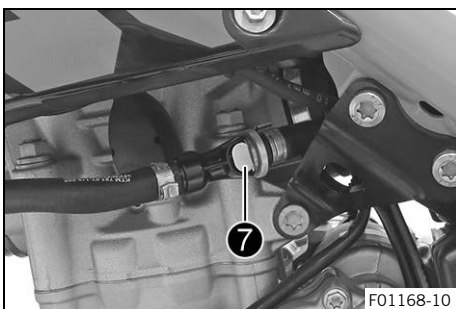
- Mount and tighten screw ⑥.

Guideline

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



- Attach the fuel tank breather hose.



- Thoroughly clean the plug-in connection of the fuel line using compressed air.



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

- Remove the wash cap set. Lubricate the O-ring and connect plug-in connection ⑦ for the fuel line.



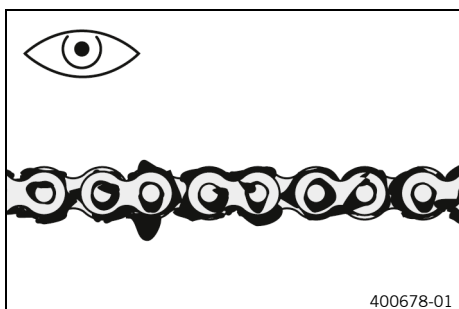
Info

Route the cable and fuel line at a safe distance from the exhaust system.

Finishing work

- Lock the seat. (📖 p. 66)

12.32 Checking for chain dirt accumulation



- Check the chain for coarse dirt accumulation.
 - » If the chain is very dirty:
 - Clean the chain. (📖 p. 76)

12.33 Cleaning the chain



Warning

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

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



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Note

Environmental hazard Hazardous substances cause environmental damage.

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



Info

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

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)

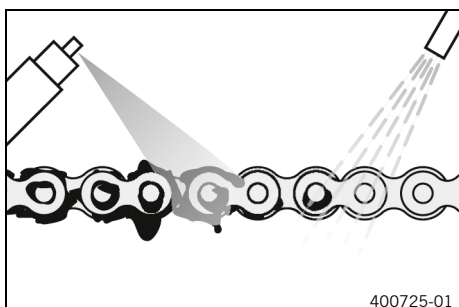
Main work

- Rinse off loose dirt with a soft jet of water.
- Remove old grease residue with chain cleaner.

Chain cleaner (📖 p. 149)

- After drying, apply chain spray.

Off-road chain spray (📖 p. 149)



Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 55)

12.34 Checking the chain tension



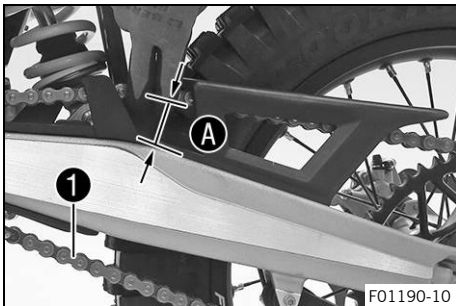
Warning

Danger of accidents Incorrect chain tension damages components and results in accidents.

If the chain is tensioned too much, the chain, engine 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 engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

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



Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)

Main work

- Pull the chain at the end of the chain sliding piece upward to measure chain tension **A**.



Info

Lower chain section **1** must be taut.

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

Chain tension	36 ... 40 mm (1.42 ... 1.57 in)
---------------	---------------------------------

- » If the chain tension does not meet the specification:
 - Adjust the chain tension. (📖 p. 77)

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 55)



12.35 Adjusting the chain tension



Warning

Danger of accidents Incorrect chain tension damages components and results in accidents.

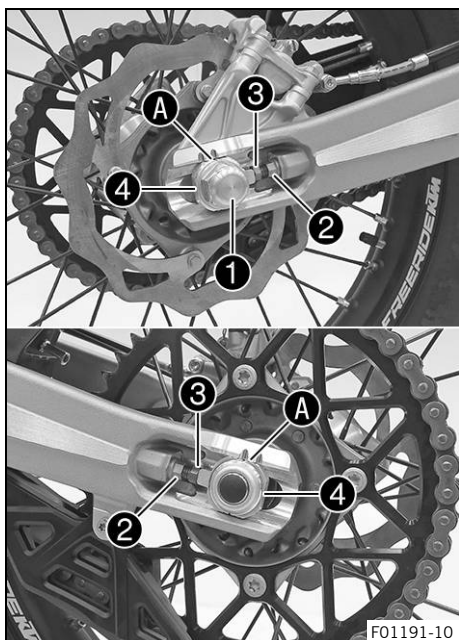
If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

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

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)
- Check the chain tension. (📖 p. 77)



Main work

- Loosen nut ①.
- Loosen nuts ②.
- Adjust the chain tension by turning adjusting screws ③ left and right.

Guideline

Chain tension	36 ... 40 mm (1.42 ... 1.57 in)
---------------	---------------------------------

Turn adjusting screws ③ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to reference marks A. The rear wheel is then correctly aligned.

- Tighten nuts ②.
- Make sure that chain adjusters ④ are fitted correctly on adjusting screws ③.
- Tighten nut ①.

Guideline

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

i Info

The wide adjustment range of the chain adjusters enables different secondary ratios with the same chain length.
Chain adjusters ④ can be turned by 180°.

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 55)

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

Preparatory work

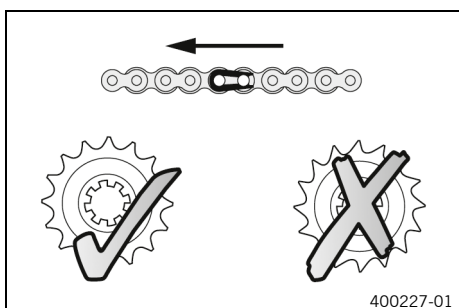
- Raise the motorcycle with a lift stand. (📖 p. 55)

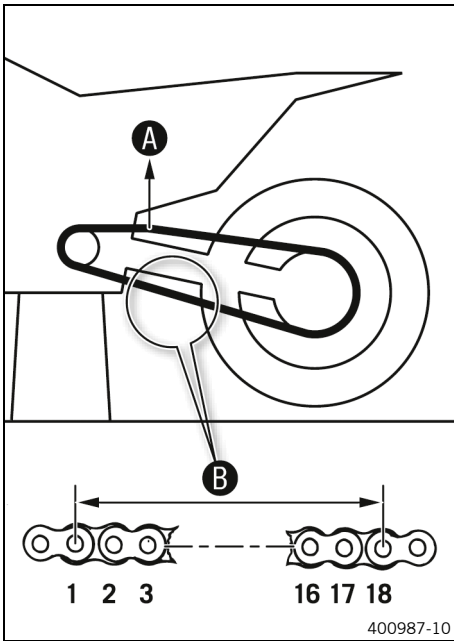
Main work

- Shift the transmission to the neutral position.
- Check the chain, rear sprocket and engine sprocket for wear.
 - » If the chain, rear sprocket or engine sprocket is worn:
 - Change the drivetrain kit. 🛠️

i Info

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





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

Guideline

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

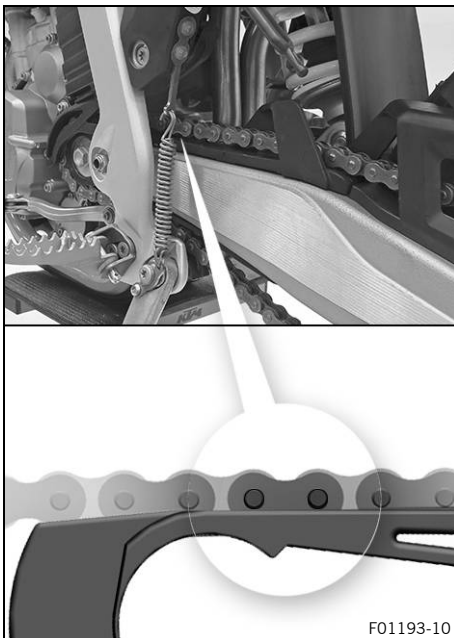
- Measure distance **B** of 18 chain rollers in the lower chain section.

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

Maximum distance B from 18 chain rollers at the longest chain section	272 mm (10.71 in)
--	-------------------

- » If distance **B** is greater than the specified measurement:
 - Change the drivetrain kit. 🛠️

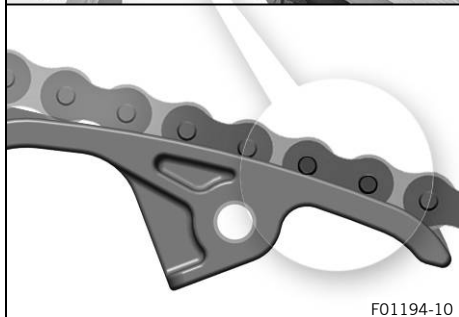
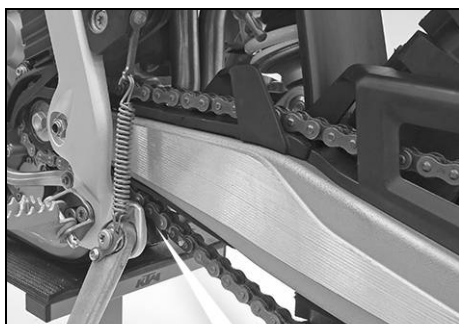
i Info
When a new chain is mounted, the rear sprocket and engine sprocket should also be changed. New chains wear out faster on old, worn sprockets.



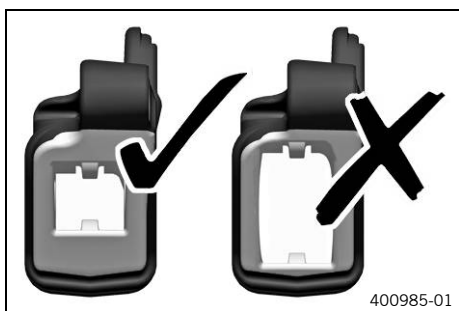
- Check the chain sliding guard for wear.
 - » If the lower edge of the chain pins is in line with, or below, the chain sliding guard:
 - Change the chain sliding guard. 🛠️
- Check that the chain sliding guard is firmly seated.
 - » If the chain sliding guard is loose:
 - Tighten the screws on the chain sliding guard.

Guideline

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



F01194-10



400985-01



F01192-01

- Check the chain sliding piece for wear.
 - » If the lower edge of the chain pins is in line with or below the chain sliding piece:
 - Change the chain sliding piece. 🛠️
- Check that the chain sliding piece is firmly seated.
 - » If the chain sliding piece is loose:
 - Tighten the screw on the chain sliding piece.

Guideline

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

- Check the chain guide for wear.



Info

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 fitting on the chain guide.

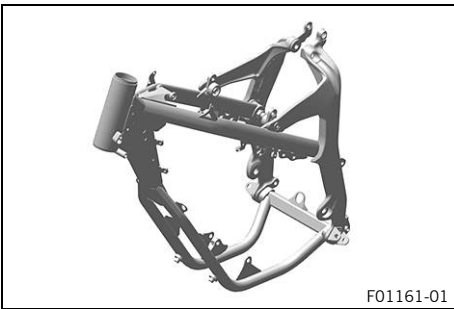
Guideline

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

Finishing work

- Remove the motorcycle from the lift stand. (🛠️ p. 55)

12.37 Checking the frame ↩



- Check the frame for cracking and deformation.
 - » If the frame exhibits cracking or deformation due to a mechanical impact:
 - Change the frame. ↩

i Info

Always replace a frame that has been damaged due to a mechanical impact. Repair of the frame is not authorized by KTM.



12.38 Checking the link fork ↩



- Check the link fork for damage, cracking, and deformation.
 - » If the link fork exhibits damage, cracking, or deformation:
 - Change the link fork. ↩

i Info

Always replace a damaged link fork. Repairing the link fork is not authorized by KTM.



12.39 Checking throttle cable routing

Preparatory work

- Fold the seat up. (📖 p. 66)
- Remove the fuel tank. ↩ (📖 p. 72)

Main work

- Check throttle cable routing.

Both throttle cables must be routed to the throttle valve body side by side behind the handlebars and below the seat fixing.

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

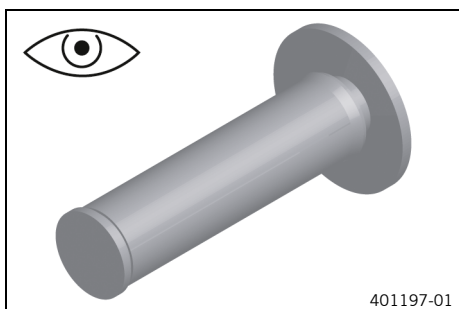


Finishing work

- Install the fuel tank. ↩ (📖 p. 74)

- Lock the seat. (📖 p. 66)

12.40 Checking the rubber grip



- Check the rubber grips on the handlebar for damage, wear, and looseness.



Info

The rubber grips are vulcanized onto a sleeve on the left and onto the handle tube of the throttle grip on the right. The left sleeve is clamped onto the handlebar. The rubber grip can only be replaced with the sleeve or the throttle tube.

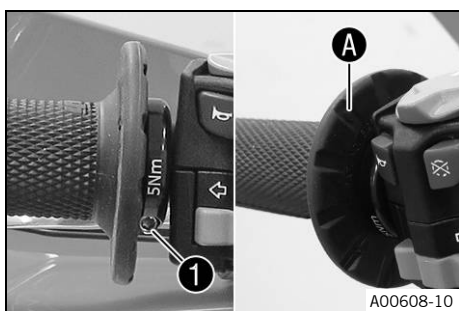
- » If a rubber grip is damaged, worn, or loose:
 - Change the rubber grip.

- Check that screw ① is firmly seated.

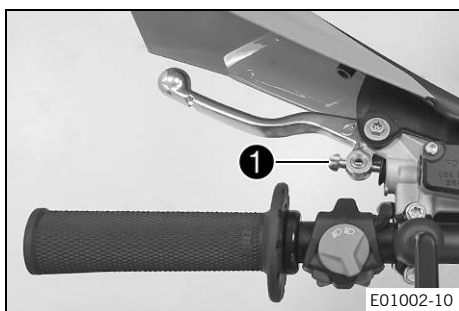
Guideline

Screw, fixed grip	M4	5 Nm (3.7 lbf ft) Loctite®243™
-------------------	----	--

Diamond ① must be positioned visibly as shown in the figure.



12.41 Adjusting the basic position of the clutch lever



- Adjust the basic position of the clutch lever to your hand size by turning adjusting screw ①.



Info

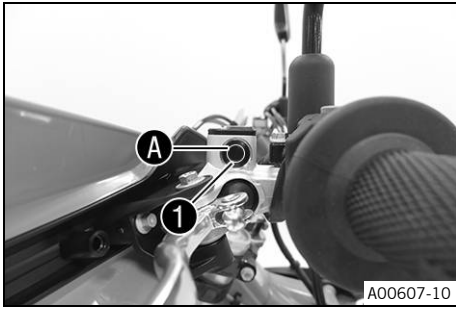
Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar. Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar. The range of adjustment is limited. Turn the adjusting screw by hand only, and do not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

12.42 Checking fluid level of the hydraulic clutch



Info

The fluid level rises with increasing wear of the clutch facing discs.



- Move the clutch fluid reservoir mounted on the handlebar into a horizontal position.
- Check the fluid level in viewer ①.
 - » If the fluid has dropped below marking A in the level viewer:
 - Correct the fluid level of the hydraulic clutch. (📖 p. 83)

12.43 Correcting the fluid level of the hydraulic clutch



Warning

Skin irritation Brake fluid causes skin irritation.

- 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 swallowed.
- 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 compliance with the applicable regulations.



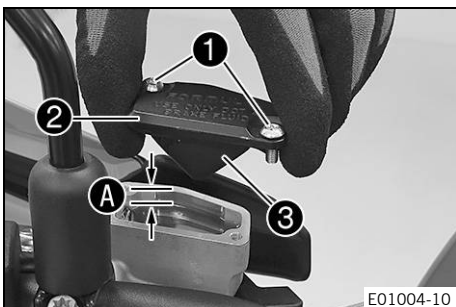
Info

The fluid level rises with increasing wear of the clutch facing discs.

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.

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

Only use clean brake fluid from a sealed container.



- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Remove cover ② with membrane ③.
- Correct the fluid up to level A.

Guideline

Level A (fluid level below container rim)	4 mm (0.16 in)
---	----------------

Brake fluid DOT 4 / DOT 5.1 (📖 p. 147)
--

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



Info

Clean up overflowed or spilled brake fluid immediately with water.

12.44 Changing the hydraulic clutch fluid ↩



Warning

Skin irritation Brake fluid causes skin irritation.

- 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 swallowed.
- 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 compliance with the applicable regulations.

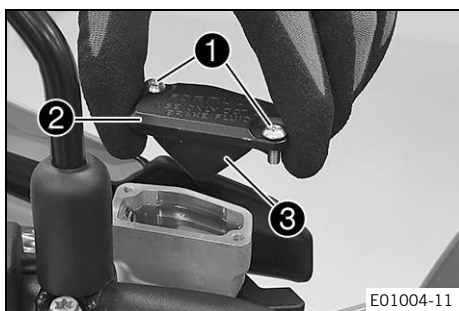


Info

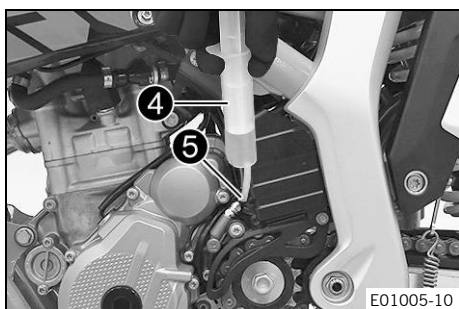
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.

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

Only use clean brake fluid from a sealed container.



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

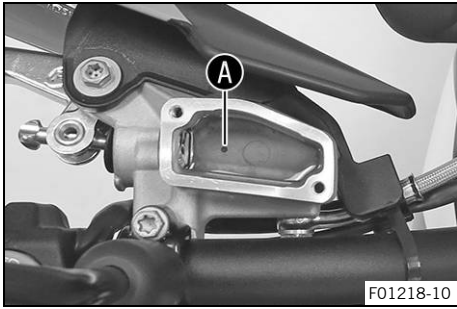


- Fill bleeding syringe ④ with the appropriate hydraulic fluid.

Syringe (50329050000)

Brake fluid DOT 4 / DOT 5.1 (📖 p. 147)
--

- Remove the protection cap.
- Loosen bleeder screw ⑤.
- Mount bleeding syringe ④ on the clutch slave cylinder.



- Inject the liquid into the system until it escapes from opening **A** of the master cylinder without bubbles.
- Now and then, extract fluid from the master cylinder reservoir to prevent overflow.
- Remove the bleeding syringe. Tighten the bleeder screw. Mount the protection cap.
- Correct the fluid level of the hydraulic clutch.

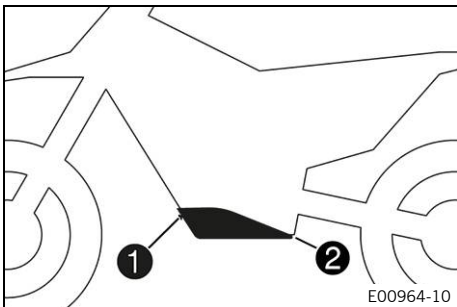
Guideline

Fluid level below container rim	4 mm (0.16 in)
---------------------------------	----------------

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

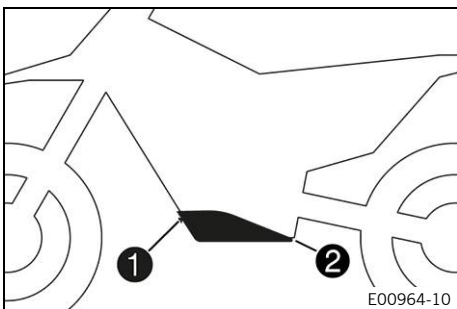
i Info
Clean up overflowed or spilled brake fluid immediately with water.

12.45 Removing the engine guard



- Remove screws **1** and **2**.
- Lower the engine guard at the rear and remove it toward the front.

12.46 Installing the engine guard



- Position the engine guard on the frame at the front and mount screws **1** but do not tighten yet.
- Position the engine guard on the frame at the rear and mount and tighten screws **2**.

Guideline

Screw, engine guard	M6x20	10 Nm (7.4 lbf ft)
---------------------	-------	--------------------

- Tighten screws **1**.

Guideline

Screw, engine guard	M6x12	10 Nm (7.4 lbf ft)
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13.1 Checking the free travel of the hand brake lever

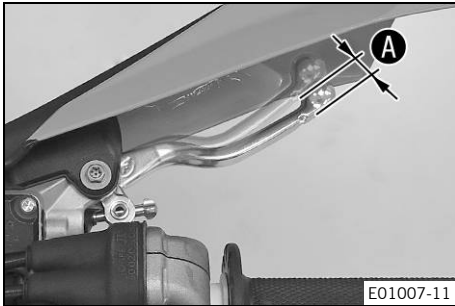


Warning

Danger of accidents The brake system fails in the event of overheating.

If there is no free travel on the hand brake lever, pressure builds up on the front brake circuit.

- Set the free travel on the hand brake lever in accordance with the specification.

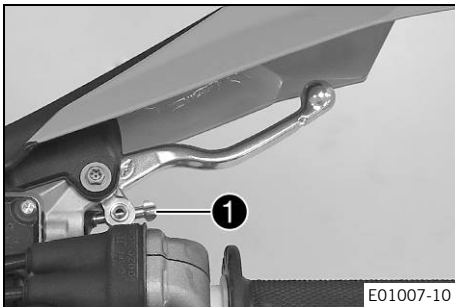


- Push the hand brake to the handlebar and check free travel **A**.

Free travel of hand brake lever	$\geq 3 \text{ mm } (\geq 0.12 \text{ in})$
---------------------------------	---

- » If the free travel does not meet specifications:
 - Adjust the free travel of the handbrake lever. (📖 p. 86)

13.2 Adjusting the free travel of the handbrake lever



- Check the free travel of the hand brake lever. (📖 p. 86)
- Adjust the free travel of the handbrake lever with adjustment screw **1**.

Info

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.

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

Do not make any adjustments while riding.

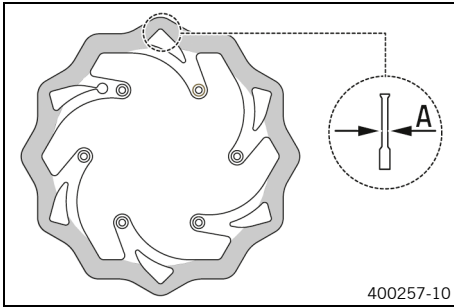
13.3 Checking the brake discs



Warning

Danger of accidents Worn-out brake discs reduce the braking effect.

- Make sure that worn-out brake discs are replaced immediately. (Your authorized KTM workshop will be glad to help.)



- Check the front and rear brake disc thickness at multiple points for the dimension **A**.

i Info
Wear reduces the thickness of the brake disc around the contact surface of the brake linings.

Brake discs - wear limit	
front	3.7 mm (0.146 in)
rear	3.5 mm (0.138 in)

- » If the brake disc thickness is less than the specified value:
 - Change the front brake disc. 🛠️
 - Change the rear brake disc. 🛠️
- Check the front and rear brake discs for damage, cracking, and deformation.
 - » If the brake disc exhibits damage, cracking, or deformation:
 - Change the front brake disc. 🛠️
 - Change the rear brake disc. 🛠️



13.4 Checking the front brake fluid level



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 is leaking or the brake linings are worn down.

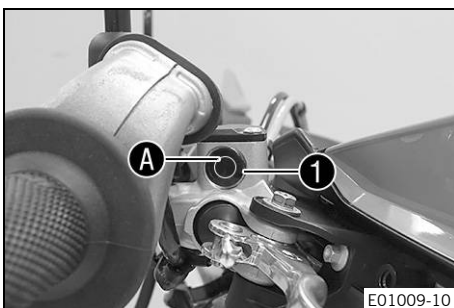
- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



- Move the brake reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in level viewer **1**.
 - » If the brake fluid level has dropped below the marking **A**:
 - Add front brake fluid. 🛠️ (📖 p. 88)



13.5 Adding front brake fluid



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 is leaking or the brake linings are worn down.

- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid causes skin irritation.

- 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 swallowed.
- 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.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



Note

Environmental hazard Hazardous substances cause environmental damage.

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

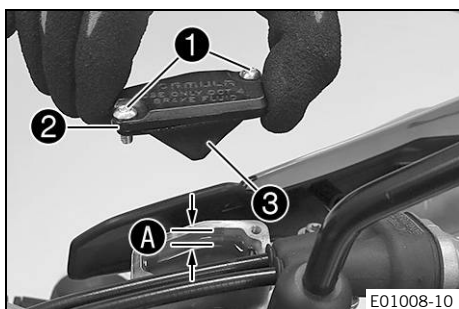


Info

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.

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

Only use clean brake fluid from a sealed container.



Preparatory work

- Check the front brake linings. (📖 p. 89)

Main work

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

Guideline

Level A (brake fluid level below reservoir rim)	5 mm (0.2 in)
---	---------------

Brake fluid DOT 4 / DOT 5.1 (📖 p. 147)
--

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



Info

Clean up overflowed or spilled brake fluid immediately with water.



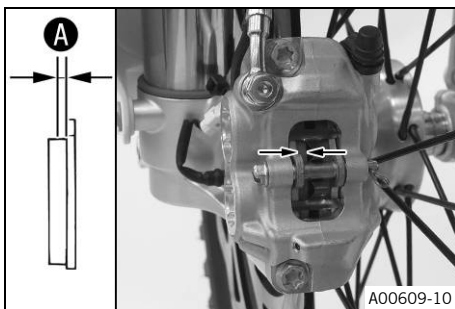
13.6 Checking the front brake linings



Warning

Danger of accidents Worn-out brake linings reduce the braking effect.

- Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)



- Check the brake linings for minimum thickness **A**.

Minimum thickness	$\geq 1 \text{ mm } (\geq 0.04 \text{ in})$
-------------------	---

- » If the minimum thickness is less than specified:
 - Change the front brake linings. 🛠️ (📖 p. 89)
- Check the brake linings for damage and cracking.
 - » If damage or wear is encountered:
 - Change the front brake linings. 🛠️ (📖 p. 89)



13.7 Changing the front brake linings 🛠️



Warning

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

- Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid causes skin irritation.

- 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 swallowed.
- 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.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents Brake linings which have not been approved alter the braking efficiency.

Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings. If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the warranty shall be void.

- Only use brake linings approved and recommended by KTM.



Note

Environmental hazard Hazardous substances cause environmental damage.

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

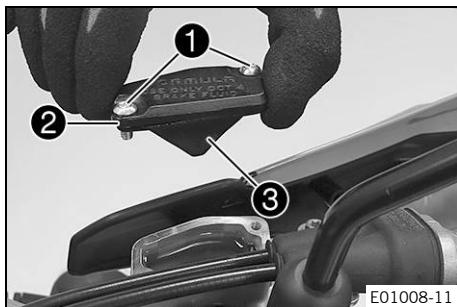


Info

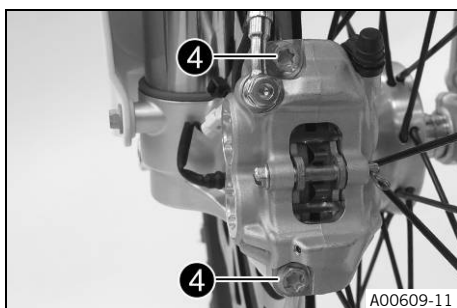
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.

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

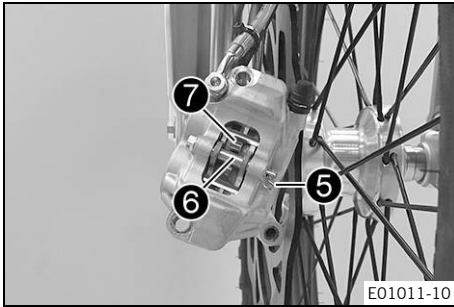
Only use clean brake fluid from a sealed container.



- Move the brake reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Take off cover ② with membrane ③.



- Remove screws ④ and spacers.
- Press back the brake linings by slightly tilting the brake caliper laterally on the brake disc. Carefully pull the brake caliper backward from the brake disc.
- Press the brake piston back into the basic position and ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.



- Remove cotter pin 5.
- Remove pin 6.
- Take off retainer spring 7 and remove the brake linings.
- Clean the brake caliper.
- Position new brake linings.



Info

Always change the brake linings in pairs.

- Position retaining spring 7.
- Mount pin 6.



Info

To make it easier to mount the pin, push the retainer spring down.
Make sure the retaining spring is seated correctly.

- Mount cotter pins 5.
- Position the brake caliper. Mount screws 4 with the spacers but do not tighten yet.
- Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point. Fix the hand brake lever in the activated position.
- ✓ The brake caliper straightens.
- Tighten screws 4.

Guideline

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

- Remove the locking piece of the hand brake lever.
- Add brake fluid to level A.

Guideline

Level A (brake fluid level below reservoir rim)	5 mm (0.2 in)
---	---------------

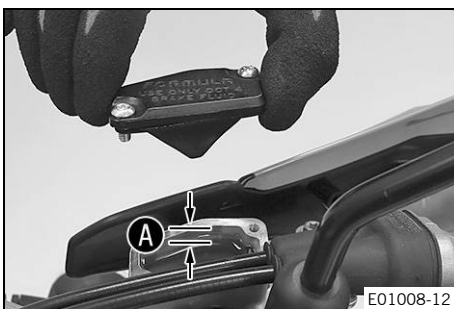
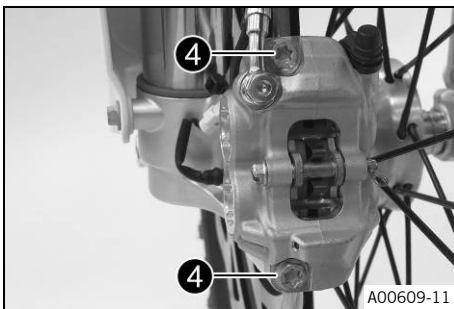
Brake fluid DOT 4 / DOT 5.1 (📖 p. 147)

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



Info

Clean up overflowed or spilled brake fluid immediately with water.



13.8 Checking the free travel of foot brake lever

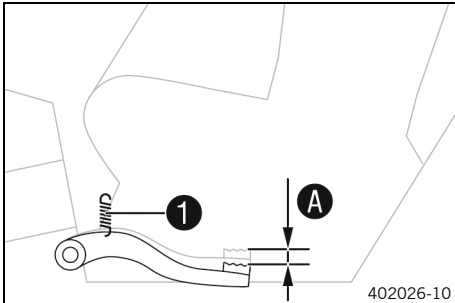


Warning

Danger of accidents The brake system fails in the event of overheating.

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.

- Set the free travel on the foot brake lever in accordance with the specification.



- Disconnect spring ①.
- Move the foot brake lever back and forth between the end stop and the contact to the foot brake cylinder piston and check free travel A.

Guideline

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

» If the free travel does not meet specifications:

- Adjust the basic position of the foot brake lever. ↗
(📖 p. 92)
- Reconnect spring ①.

13.9 Adjusting the basic position of the foot brake lever ↗

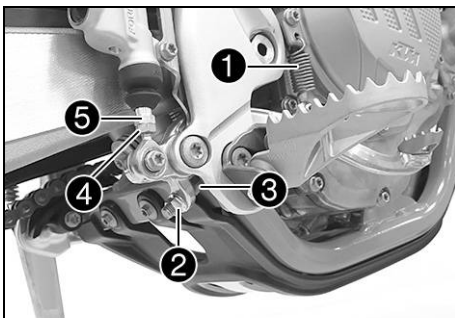


Warning

Danger of accidents The brake system fails in the event of overheating.

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.

- Set the free travel on the foot brake lever in accordance with the specification.



- Detach spring ①.
- Loosen nut ④ and, with push rod ⑤, turn it back until you have maximum free travel.
- To adjust the basic position of the foot brake lever to individual requirements, loosen nut ② and turn screw ③ accordingly.



Info

The range of adjustment is limited.

- Turn push rod ⑤ accordingly until you have free travel A. If necessary, adjust the basic position of the foot brake lever.

Guideline

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

- Hold screw ③ and tighten nut ②.

Guideline

Nut, foot brake lever stop	M8	20 Nm (14.8 lbf ft)
----------------------------	----	---------------------

- Hold push rod ⑤ and tighten nut ④.

Guideline

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

- Attach spring ①.



13.10 Checking the rear brake fluid level



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 is leaking or the brake linings are worn down.

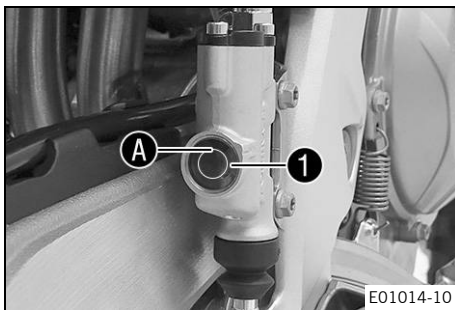
- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



- Stand the vehicle upright.
- Check the brake fluid level in the viewer ①.
 - » If the brake fluid level drops below marking A:
 - Add rear brake fluid. 🛠️ (📖 p. 93)



13.11 Adding rear brake fluid 🛠️



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 is leaking or the brake linings are worn down.

- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid causes skin irritation.

- 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 swallowed.
- 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.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



Note

Environmental hazard Hazardous substances cause environmental damage.

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

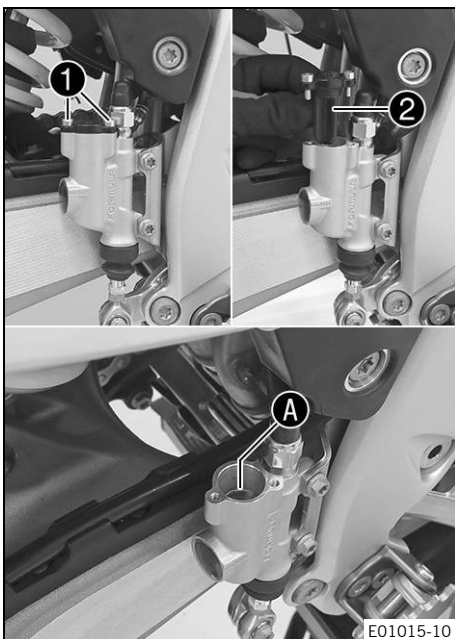


Info

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.

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

Only use clean brake fluid from a sealed container.



Preparatory work

- Check the brake linings of the rear brake. (📖 p. 94)

Main work

- Stand the vehicle upright.
- Remove screws ①.
- Take off the cover with the washer and membrane ②.
- Add brake fluid to the mark A.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 147)

- Position the cover with the washer and membrane.
- Mount and tighten the screws.



Info

Clean up overflowed or spilled brake fluid immediately with water.

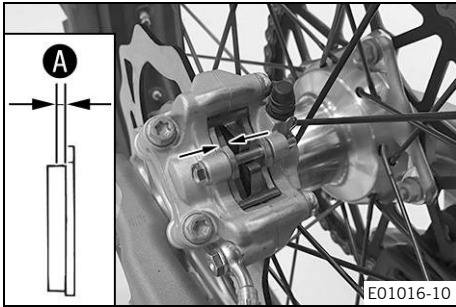
13.12 Checking the brake linings of the rear brake



Warning

Danger of accidents Worn-out brake linings reduce the braking effect.

- Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)



- Check the brake linings for minimum thickness **A**.

Minimum thickness	$\geq 1 \text{ mm } (\geq 0.04 \text{ in})$
-------------------	---

- » If the minimum thickness is less than specified:
 - Change the rear brake linings. (p. 95)
- Check the brake linings for damage and cracking.
 - » If damage or wear is encountered:
 - Change the rear brake linings. (p. 95)

13.13 Changing the rear brake linings



Warning

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

- Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid causes skin irritation.

- 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 swallowed.
- 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.



Warning

Danger of accidents Old brake fluid reduces the braking effect.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents Brake linings which have not been approved alter the braking efficiency.

Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings. If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the warranty shall be void.

- Only use brake linings approved and recommended by KTM.



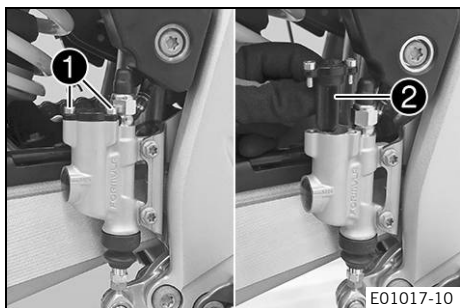
Note

Environmental hazard Hazardous substances cause environmental damage.

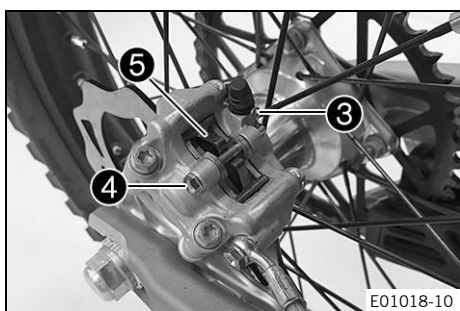
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

i Info

Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
 Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
 Only use clean brake fluid from a sealed container.



- Stand the vehicle upright.
- Remove screws ❶.
- Take off the cover with the washer and membrane ❷.
- Press the brake piston back into the basic position and ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.



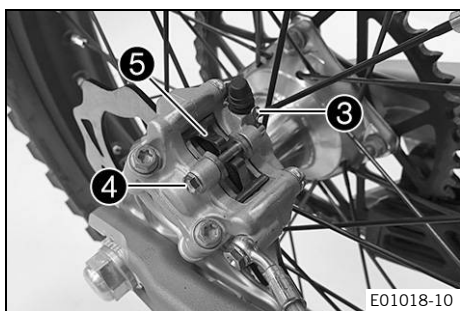
- Remove cotter pin ❸.
- Remove pin ❹.
- Take off retainer spring ❺ and remove the brake linings.
- Clean the brake caliper.



- Position new brake linings.

i Info

Always change the brake linings in pairs.

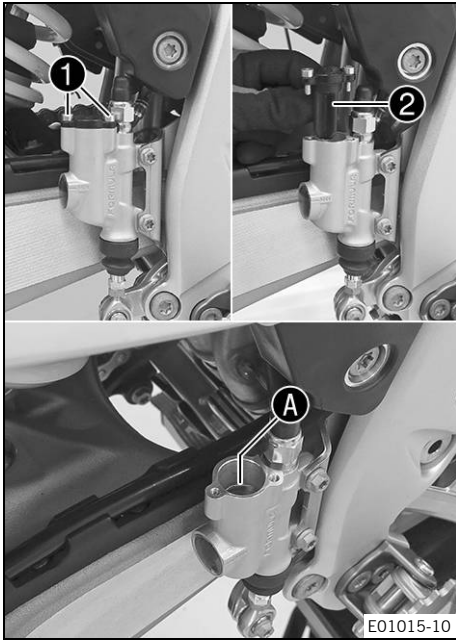


- Position retaining spring ❺.
- Mount pin ❹.

i Info

To make it easier to mount the pin, push the retainer spring down.
 Make sure the retaining spring is seated correctly.

- Mount cotter pins ❸.
- Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.



- Add brake fluid to level **A**.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 147)

- Position the cover with the washer and membrane **2**.
- Mount and tighten screws **1**.



Info

Clean up overflowed or spilled brake fluid immediately with water.

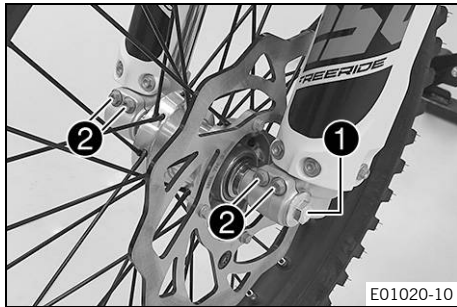
14.1 Removing the front wheel ↩

Preparatory work

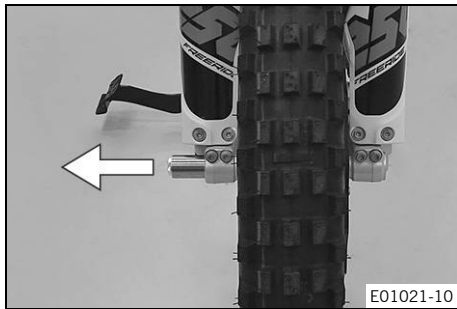
- Raise the motorcycle with a lift stand. (📖 p. 55)

Main work

- Loosen screw ❶ by several rotations.
- Loosen screws ❷.
- Press on screw ❶ to push the wheel spindle out of the axle clamp.
- Remove screw ❶.



E01020-10



E01021-10



Warning

Danger of accidents Damaged brake discs reduce the braking effect.

- Always lay the wheel down in such a way that the brake disc is not damaged.

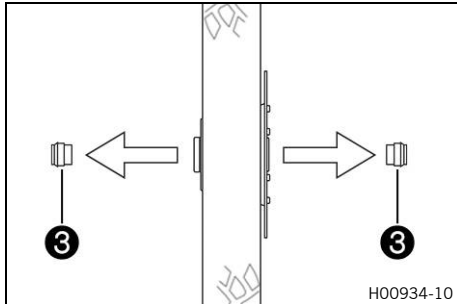
- Holding the front wheel, withdraw the wheel spindle. Take the front wheel out of the fork.



Info

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

- Remove spacers ❸.



H00934-10

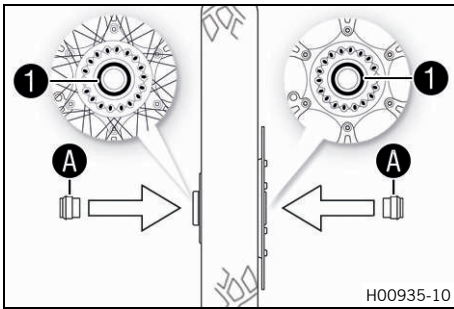
14.2 Installing the front wheel ↩



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.

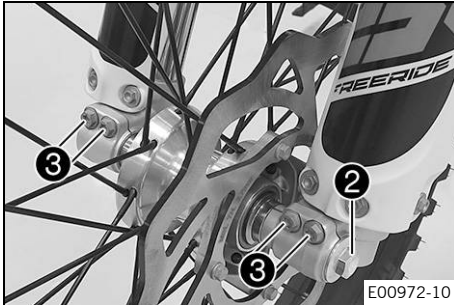


- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change front wheel bearing. 🛠️
- Clean and grease shaft seal rings **1** and contact surfaces **A** of the spacers.

Long-life grease (📖 p. 149)

- Insert the spacers.
- Clean and grease the wheel spindle.

Long-life grease (📖 p. 149)



- Position the front wheel and insert the wheel spindle.
 - ✓ The brake linings are correctly positioned.
- Mount and tighten screw **2**.

Guideline

Screw, front wheel spindle	M20x1.5	35 Nm (25.8 lbf ft)
----------------------------	---------	---------------------

- Operate the hand brake lever several times until the brake linings are seated correctly against the brake disc.
- Remove the motorcycle from the lift stand. (📖 p. 55)
- Operate the front brake and compress the fork a few times firmly.
 - ✓ The fork legs straighten.
- Tighten screws **3**.

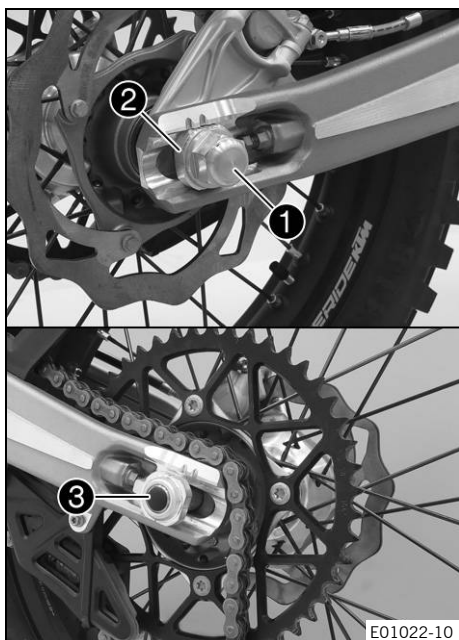
Guideline

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

14.3 Removing the rear wheel 🛠️

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 55)



E01022-10

Main work

- Remove nut ①.
- Take off chain adjuster ②.
- Pull out wheel spindle ③ 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.

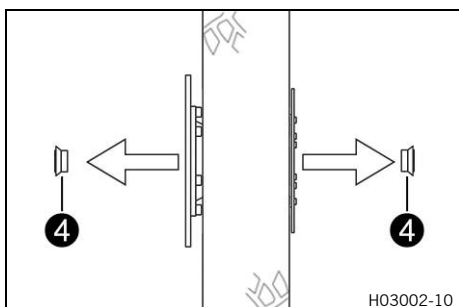
Info
Cover the components to protect them against damage.

Warning
Danger of accidents Damaged brake discs reduce the braking effect.
- Always lay the wheel down in such a way that the brake disc is not damaged.

- Holding the rear wheel, withdraw the wheel spindle. Take the rear wheel out of the link fork.

Info
Do not operate the foot brake lever when the rear wheel is removed.

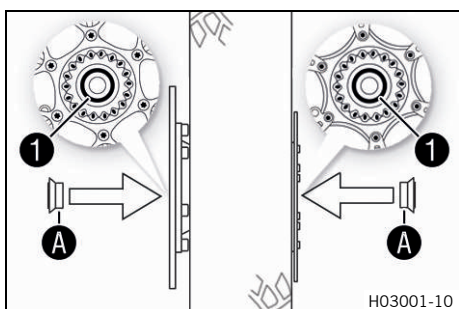
- Remove spacers ④.



H03002-10

14.4 Installing the rear wheel ↻

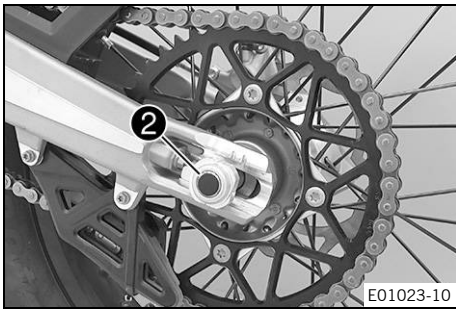
Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.
- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



H03001-10

Main work

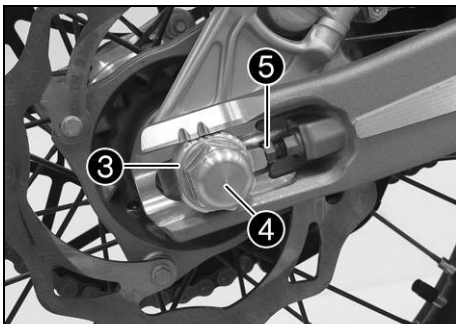
- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change the rear wheel bearing. ↻
 - Clean and grease shaft seal rings ① and contact surfaces A of the spacers.
- Long-life grease (🛢️ p. 149)
- Insert the spacers.



- Clean and grease the wheel spindle.

Long-life grease (📖 p. 149)

- Lift the rear wheel into the link fork, position it, and insert wheel spindle ②.
- Mount the chain.
 - ✓ The brake linings are correctly positioned.



- Position chain adjuster ③. Mount nut ④, but do not tighten it yet.
- Make sure that chain adjusters ③ are fitted correctly on adjusting screws ⑤.
- Check the chain tension. (📖 p. 77)
- Tighten nut ④.

Guideline

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



Info

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

Chain adjusters ③ can be turned by 180°.

- Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 55)

14.5 Checking the tire condition



Info

Only mount tires approved and/or recommended by KTM.

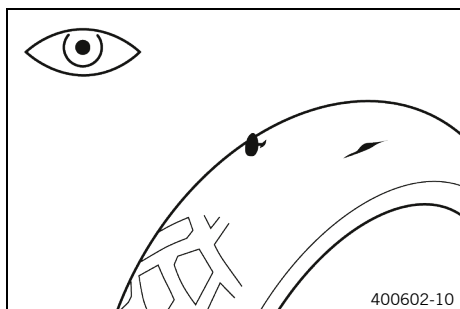
Other tires could have a negative effect on handling characteristics.

The type, condition, and pressure of the tires all have a major impact on the handling characteristic 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.

If used regularly on public roads, tires wear much faster and the minimum tread depth and general condition of the tires must be checked more frequently.

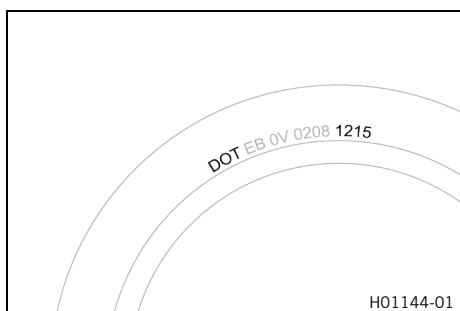


- Check the front and rear tires for cuts, run-in objects, and other damage.
 - » If the tires have cuts, run-in objects, or other damage:
 - Change the tires. 🛠️
- Check the tread depth.

i Info
Adhere to the legally required minimum tread depth.

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

- » If the tread depth is less than the minimum tread depth:
 - Change the tires. 🛠️
- Check the tire age.

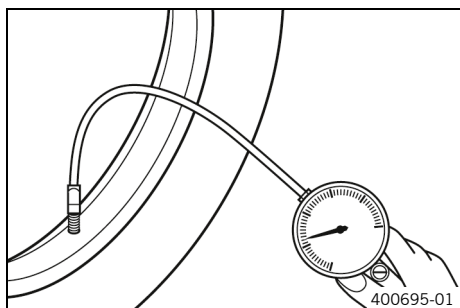


i Info
The tire date of manufacture is usually contained in the tire label and is indicated by the last four digits of the **DOT** number. The first two digits indicate the week of manufacture and the last two digits the year of manufacture.
KTM recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

- » If the tires are more than 5 years old:
 - Change the tires. 🛠️

14.6 Checking tire pressure

i Info
Low tire pressure leads to abnormal wear and overheating of the tire.
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.

Offroad tire pressure	
front	0.9 bar (13 psi)
rear	0.7 bar (10 psi)

Street tire pressure	
front	2 bar (29 psi)
rear	2 bar (29 psi)

- » If the tire pressure does not meet specifications:
 - Correct the tire pressure.
- Mount the protection cap.

14.7 Checking the spoke tension



Warning

Danger of accidents Incorrectly tensioned spokes impair the handling characteristic and result in secondary damage.

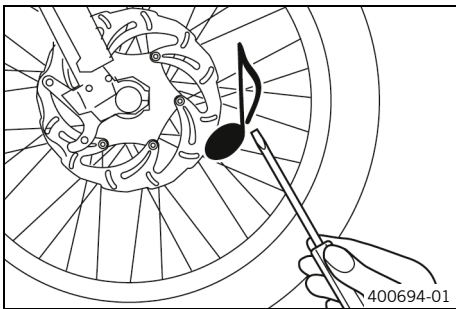
The spokes break due to being overloaded if they are too tightly tensioned. If the tension in the spokes is too low, then lateral and radial run-out will form in the wheel. Other spokes will become looser as a result.

- Check spoke tension regularly, and in particular on a new vehicle. (Your authorized KTM workshop will be glad to help.)



Info

A loose spoke causes wheel imbalance and rapidly leads to more loose spokes. If the spokes are too tight, they can break due to local overload. Check the spoke tension regularly, especially on a new motorcycle.



- Briefly strike each spoke with the tip of a screwdriver.



Info

The tone frequency depends on the length of the spoke and the spoke diameter.

If you hear different tone frequencies from different spokes of equal length and diameter, this is an indication of different spoke tensions.

You should hear a high note.

- » If the spoke tension varies:
 - Correct the spoke tension. ↩
- Check the spoke torque.

Guideline

Spoke nipple	M4.5	6 Nm (4.4 lbf ft)
--------------	------	-------------------

Torque wrench kit (58429094000)



15.1 Removing the 12 V battery



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.

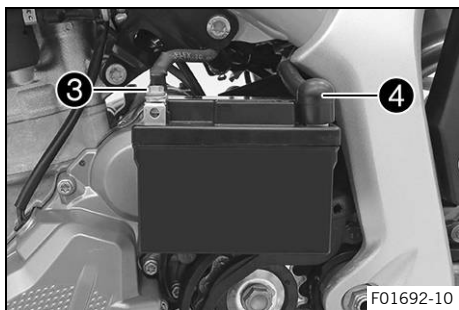
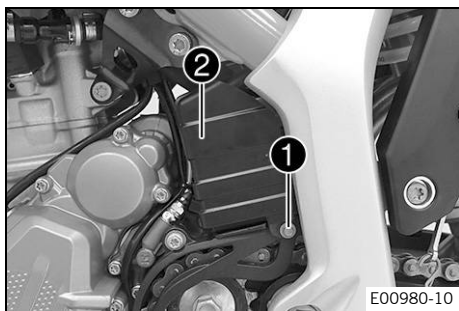
- Dispose of oils, grease, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Preparatory work

- Turn the ignition key in the ignition lock to the position ☒ while the engine is idling.

Main work

- Remove screw ❶.
- Remove battery cover ❷.



- Remove the 12-V battery from the battery compartment.



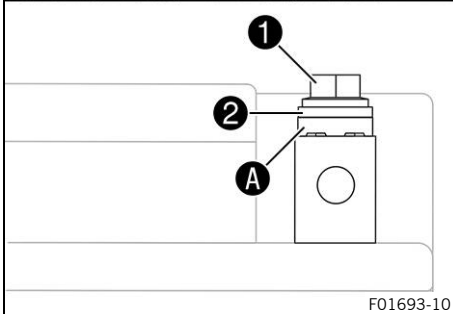
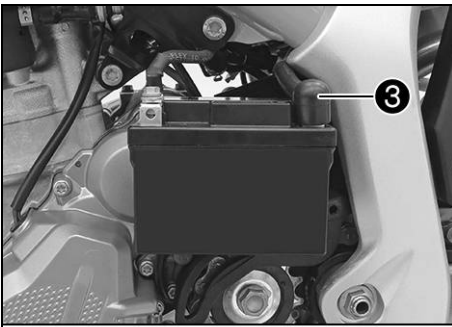
Warning

Risk of injury 12 V batteries contain harmful substances.

- Keep 12 V batteries out of the reach of children.
- Keep sparks and open flames away from 12 V batteries.
- Only charge 12 V batteries in well-ventilated rooms.
- Maintain a minimum clearance from inflammable materials when charging 12 V batteries.
Minimum clearance 1 m (3 ft)
- Do not charge deeply discharged 12 V batteries if the charge is already below the minimum voltage.
Minimum voltage before the start of the charge 9 V
- Dispose of 12 V batteries with less than the minimum voltage correctly.

- Disconnect negative cable ❸ from the 12-V battery.
- Pull back positive terminal cover ❹ and disconnect the positive cable from the 12 V battery.

15.2 Installing the 12 V battery ↗



- Position the positive cable and mount and tighten the screw.

Guideline

Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)
-------------------------	----	-------------------------

12-V battery (HJTZ5S-FP-C) (📖 p. 143)

i Info

Contact disk **A** must be mounted under screw **1** and cable lug **2** with the claws toward the battery terminal.

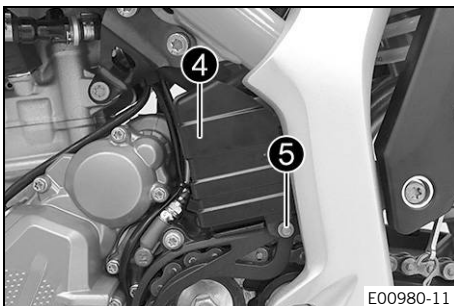
- Slide positive terminal cover **3** over the positive terminal.
- Position the negative cable and mount and tighten the screw.

Guideline

Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)
-------------------------	----	-------------------------

i Info

Contact disk **A** must be mounted under screw **1** and cable lug **2** with the claws toward the battery terminal.



- Position the 12-V battery in the battery compartment.
- Insert battery cover **4**.
- Mount and tighten screw **5**.

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 sparks and open flames away from 12 V batteries.
- Only charge 12 V batteries in well-ventilated rooms.
- Maintain a minimum clearance from inflammable materials when charging 12 V batteries.
Minimum clearance 1 m (3 ft)
- Do not charge deeply discharged 12 V batteries if the charge is already below the minimum voltage.
Minimum voltage before the start of the charge 9 V
- Dispose of 12 V batteries with less than the minimum voltage correctly.



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 compliance with the applicable regulations.



Info

Even when there is no load on the 12 V battery, it discharges steadily.

The charging level and the method of charging are very important for the service life of the 12 V battery.

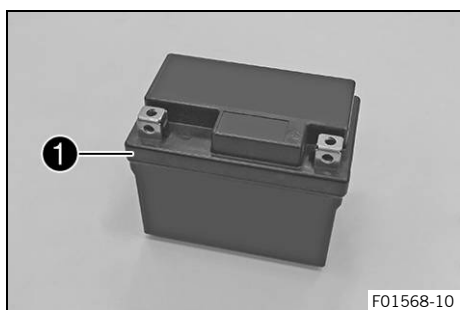
Rapid recharging with a high charging current shortens the service life of the battery.

If the charging current, charging voltage, or charging time is exceeded, the 12 V battery will be destroyed.

If the 12 V battery is depleted by repeated starting, the 12 V battery must be charged immediately.

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

- Turn the ignition key in the ignition lock to the position ☒ while the engine is idling.
- Remove the 12 V battery. 🛠️ (📖 p. 104)

Main work

- 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 the battery charger to the 12 V battery. Switch on the battery charger.

Guideline

Maximum charging voltage	14.4 V
Maximum charging current	3.0 A
Maximum charging time	12 h
Recharge the 12 V battery regularly when the motorcycle is not being used	6 months
Ideal charging and storage temperature of the lithium-ion battery	10 ... 20 °C (50 ... 68 °F)

Battery charger (58429074000)

The charging time may be longer at low temperatures.
This battery charger is not suitable for the trickle charging of lithium-ion batteries.

i Info
Never remove cover ❶.

- Switch off the battery charger after charging and disconnect from the 12 V battery.

Finishing work

- Install the 12 V battery. 🗑️ (📖 p. 105)



15.4 Changing the main fuse

! Warning
Fire hazard Incorrect fuses overload the electrical system.

- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.

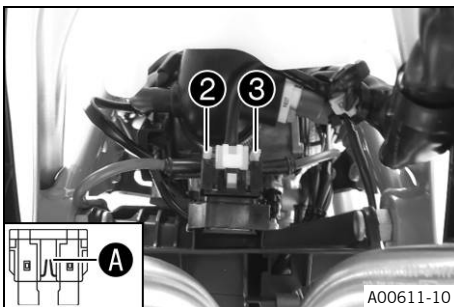
i Info
The main fuse protects all power consumers of the vehicle. It is located behind the 12-V battery.

Preparatory work

- Turn the ignition key in the ignition lock to the position ☒ while the engine is idling.
- Raise the motorcycle with a lift stand. (📖 p. 55)
- Fold the seat up. (📖 p. 66)
- Remove the shock absorber. 🗑️ (📖 p. 65)

Main work

- Take off protection caps ❶.



- Remove faulty main fuse ❷.

i Info
A faulty fuse has a burned-out fuse wire **A**.
A spare fuse **❸** is located in the starter relay.

- Insert a new main fuse.

Fuse (58011109120) (📖 p. 143)

- Check that the electrical system is functioning properly.



Tip

Insert a spare fuse so that it is available if needed.

- Mount the protection caps.

Finishing work

- Install the shock absorber. (🔧 p. 65)
- Lock the seat. (🔒 p. 66)
- Remove the motorcycle from the lift stand. (📖 p. 55)

15.5 Changing the fuses of individual power consumers



Info

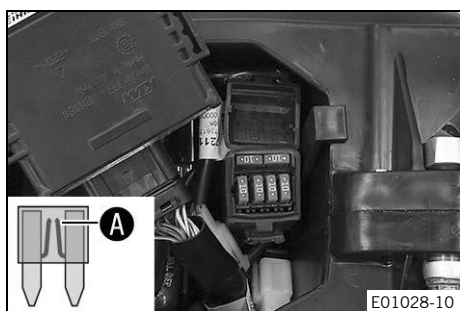
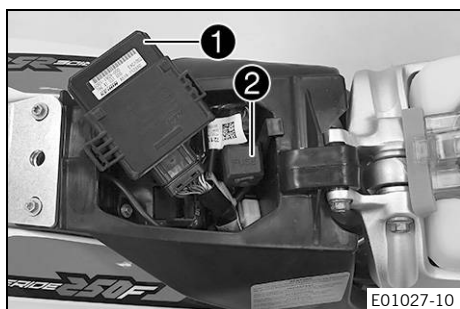
The fuse box containing the fuses of individual power consumers is located under the seat.

Preparatory work

- Turn the ignition key in the ignition lock to the position ☒ while the engine is idling.
- Fold the seat up. (📖 p. 66)

Main work

- Pull EFI control unit ① off the holder and hang to the side.
- Open fuse box cover ②.



- Remove the faulty fuse.

Guideline

Fuse 1 - 10 A - EFI control unit, lambda sensor, injection valve, combination instrument, diagnostics connector

Fuse 2 - 10 A - high beam, low beam, position light, tail light, license plate lamp

Fuse 3 - 10 A - horn, turn signal, brake light, radiator fan
--

Fuse 4 - 10 A - fuel pump

Fuses res - 10 A - spare fuses



Info

A faulty fuse has a burned-out fuse wire (A).



Warning

Fire hazard Incorrect fuses overload the electrical system.

- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.

- Insert a spare fuse with the correct rating only.

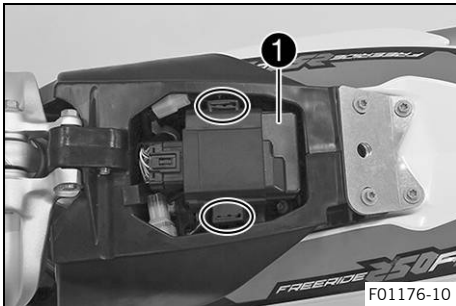
Fuse (75011088010) (🔧 p. 143)



Tip

Replace the spare fuse in the fuse box so that it is available if needed.

- Check that the power consumer is functioning properly.
- Close the fuse box cover.
- Mount EFI control unit **1** on the holder.



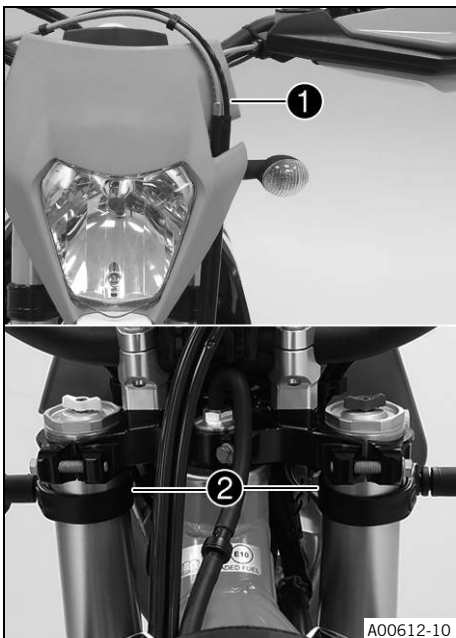
Finishing work

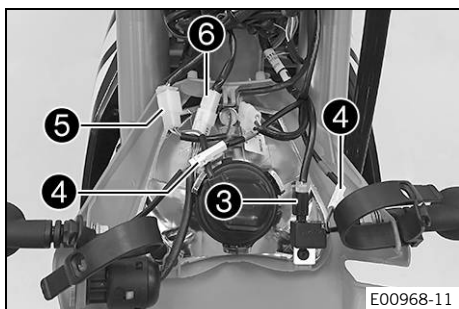
- Lock the seat. (🔧 p. 66)



15.6 Removing the headlight mask with the headlight

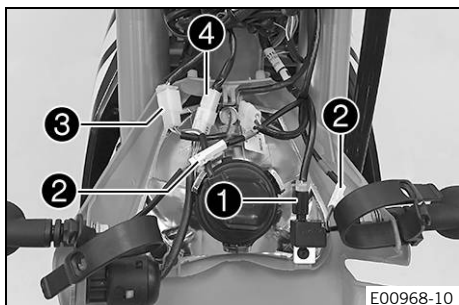
- Turn the ignition key in the ignition lock to the position ☒ while the engine is idling.
- Detach the brake line and wiring harness **1**.
- Loosen rubber straps **2**. Slide the headlight mask up and swing it forward.





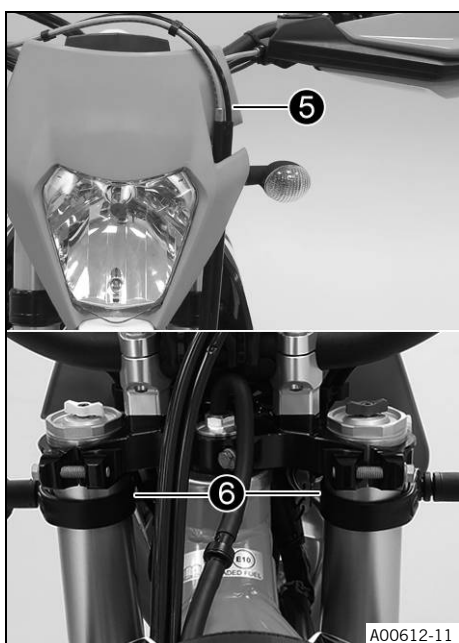
- Disconnect plug-in connector **3** of the turn signal relay, plug-in connectors **4** of the turn signals, plug-in connector **5** of the headlight and plug-in connector **6** of the ignition lock.

15.7 Installing the headlight mask with the headlight



Main work

- Join plug-in connector **1** of the turn signal relay, plug-in connectors **2** of the turn signals, plug-in connector **3** of the headlight and plug-in connector **4** of the ignition lock.



- Attach the brake line and wiring harness **5**.
- Position the headlight mask and secure it with rubber straps **6**.
- ✓ The holding lugs on the fender engage in the headlight mask.

Finishing work

- Check the headlight setting. (📖 p. 112)

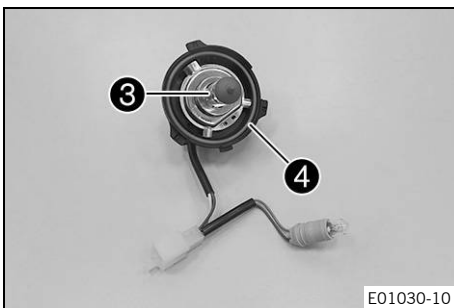
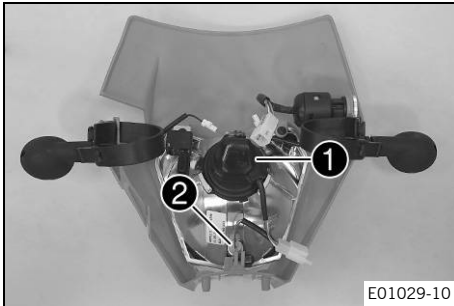
15.8 Changing the headlight bulb

Note

Damage to reflector Grease on the reflector reduces the light intensity.

Grease on the bulb will evaporate due to the heat and be deposited on the reflector.

- Clean and degrease the bulbs before mounting.
- Do not touch the bulbs with your bare hands.



Preparatory work

- Remove the headlight mask with the headlight. (📖 p. 109)

Main work

- Turn protection cap ❶ together with the underlying bulb socket counterclockwise all the way and remove it.
- Pull bulb socket ❷ of the position light out of the reflector.

- Pull out headlight bulb ❸.
- Insert the new headlight bulb.

Headlight (HS1 / socket PX43t) (📖 p. 143)

- Insert the protection cap with the bulb socket into the reflector and turn it clockwise all the way.

i Info

Ensure that O-ring ❹ is seated properly.

- Insert the bulb socket of the position light into the reflector.

Finishing work

- Install the headlight mask with the headlight. (📖 p. 110)
- Check the headlight setting. (📖 p. 112)



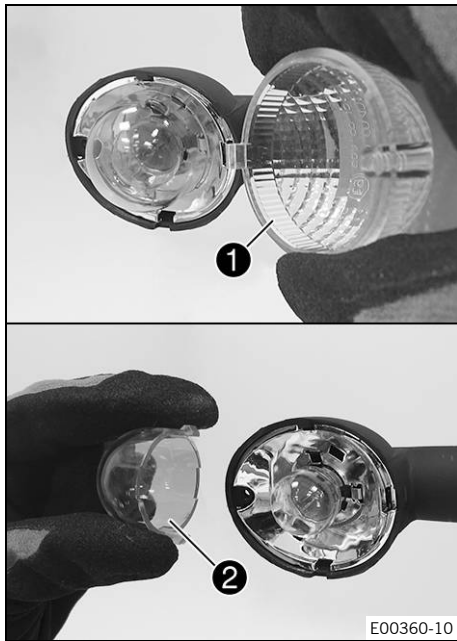
15.9 Changing the turn signal bulb

Note

Damage to reflector Grease on the reflector reduces the light intensity.

Grease on the bulb will evaporate due to the heat and be deposited on the reflector.

- Clean and degrease the bulbs before mounting.
- Do not touch the bulbs with your bare hands.



Main work

- Remove the screw on the rear of the turn signal housing.
- Carefully remove turn signal glass ①.
- Lightly squeeze together the orange cap ② in the area of the holding lugs and take it off.
- Press the turn signal bulb lightly into the socket, turn it counterclockwise by about 30 °, and take it out of the socket.

Info

Do not touch the reflector with your fingers and keep it free from grease.

- Press the new turn signal bulb carefully into the socket and turn it clockwise until it stops.

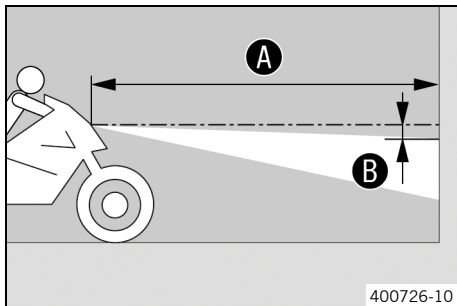
Turn signal (R10W/socket BA15s) (📖 p. 143)
--

- Mount the orange cap.
- Position the turn signal glass.
- Insert the screw and first turn counterclockwise until it engages in the thread with a small jerk. Tighten the screw lightly.

Finishing work

- Check that the turn signal system is functioning properly.

15.10 Checking the headlight setting



- Position the vehicle upright on a horizontal surface in front of a light wall and make a marking at the height of the center of the low beam headlight.

- Make another mark at a distance ② under the first marking.

Guideline

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

- Position the vehicle vertically at a distance ① away from the wall.

Guideline

Distance ①	5 m (16 ft)
------------	-------------

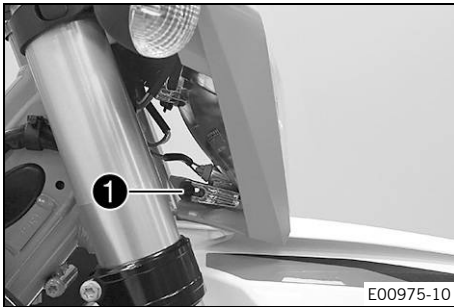
- Sit on the motorcycle.
- Switch on the low beam.
- Check the headlight setting.

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 the headlight range. (📖 p. 113)

15.11 Adjusting the headlight range



Preparatory work

- Check the headlight setting. (📖 p. 112)

Main work

- Loosen screw ①.
- Adjust the headlight range by pivoting the headlight.

Guideline

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).



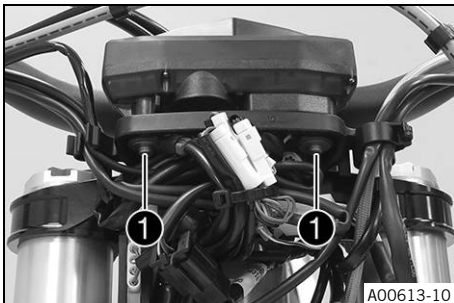
Info

A change in weight on the vehicle may require a correction of the headlight range.

- Tighten screw ①.



15.12 Changing the combination instrument battery

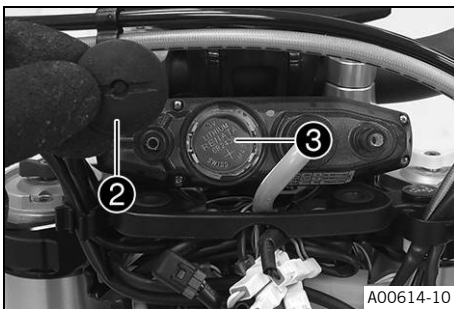


Preparatory work

- Remove the headlight mask with the headlight. (📖 p. 109)

Main work

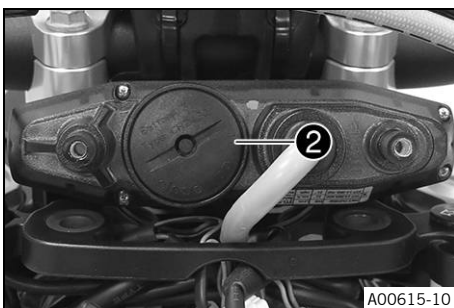
- Remove screws ①.
- Pull the combination instrument upward out of the holder.



- Using a coin, turn protection cap ② all the way counterclockwise and remove it.
- Remove combination instrument battery ③.
- Insert the combination instrument battery with the label facing outward.

Combination instrument battery (CR 2430) (📖 p. 143)

- Check the O-ring of the protection cap for correct seating.

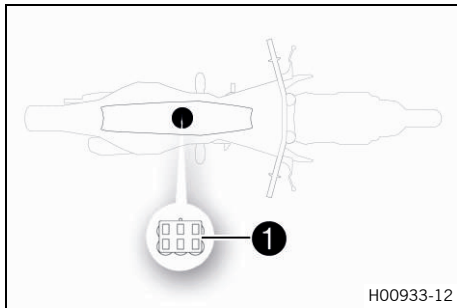


- Position protection cap ② and turn all the way clockwise using a coin.
- Press any button on the combination instrument.
- ✓ The combination instrument is activated.
- Position the combination instrument in the holder.
- Mount and tighten the screws with washers.

Finishing work

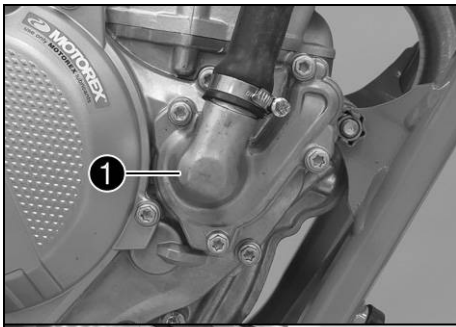
- Install the headlight mask with the headlight. (📖 p. 110)
- Check the headlight setting. (📖 p. 112)
- Set the kilometers or miles. (📖 p. 22)
- Set the combination instrument. (📖 p. 23)
- Set the clock. (📖 p. 24)

15.13 Diagnostics connector



Diagnostics connector **1** is located under the seat.

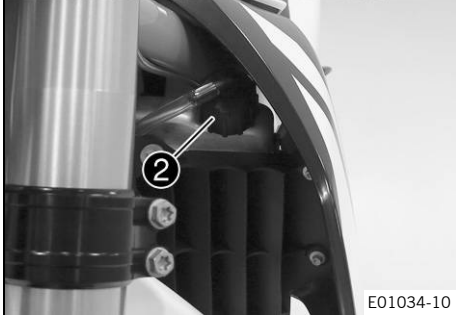
16.1 Cooling system



Water pump ① in the engine ensures forced circulation of the coolant.
 The pressure resulting from the warming of the cooling system is regulated by a valve in radiator cap ②. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

120 °C (248 °F)

Cooling is effected by the air stream.
 The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.
 Additional cooling is provided by the radiator fan, which is activated on a temperature-dependent basis.



E01034-10

16.2 Checking the antifreeze and coolant level



Warning

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

- 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.



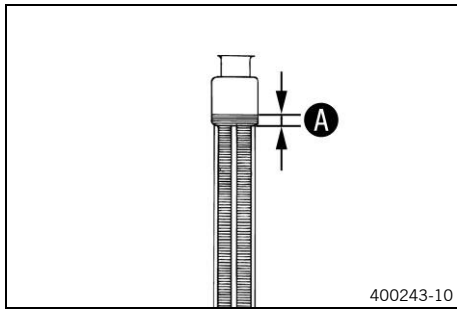
Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

Condition

The engine is cold.



- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the antifreeze in the coolant.

-25 ... -45 °C (-13 ... -49 °F)

- » If the antifreeze in the coolant does not match the specified value:

- Correct the antifreeze in the coolant.

- Check coolant level **A** above the radiator fins.

Coolant level above the radiator fins	10 mm (0.39 in)
---------------------------------------	-----------------

- » If the coolant level does not match the specified value:

- Correct the coolant level.

Coolant (📖 p. 147)

- Mount the radiator cap.

16.3 Checking the coolant level



Warning

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

- 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.



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

Condition

The engine is cold.

- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the coolant level in the radiator.

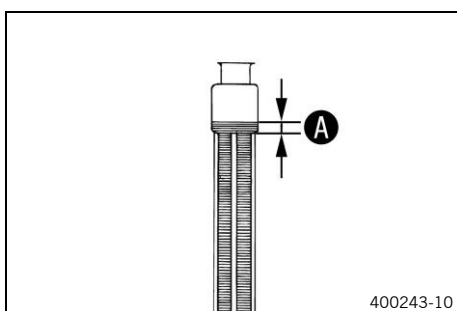
Coolant level A above the radiator fins	10 mm (0.39 in)
--	-----------------

- » If the coolant level does not match the specified value:

- Correct the coolant level.

Coolant (📖 p. 147)

- Mount the radiator cap.



16.4 Draining the coolant 🐦



Warning

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

- 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.



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

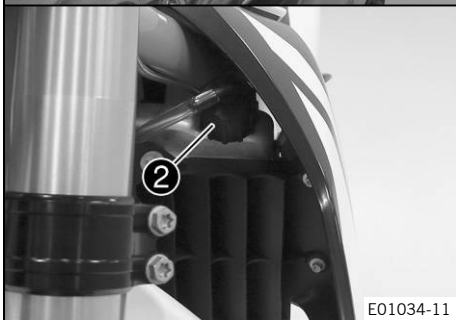
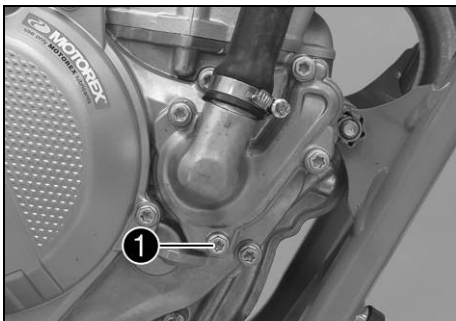
Condition

The engine is cold.

- Position 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 and tighten screw ❶ with a new seal ring.

Guideline

Screw, water pump cover	M6	10 Nm (7.4 lbf ft)
-------------------------	----	--------------------



E01034-11

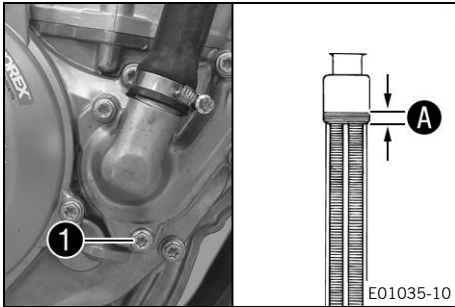
16.5 Refilling with coolant



Warning

Danger of poisoning Coolant is toxic and a health hazard.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Main work

- Make sure that screw **1** is tightened.
- Position the motorcycle upright.
- Pour coolant in up to measurement **A** above the radiator fins.

Guideline

10 mm (0.39 in)		
-----------------	--	--

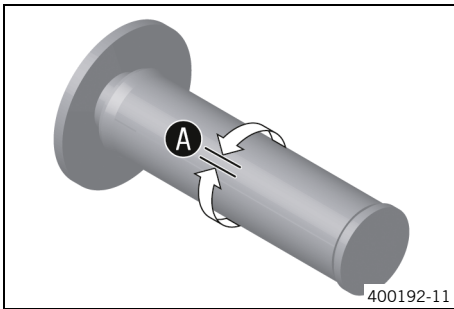
Coolant	0.7 l (0.7 qt.)	Coolant (📖 p. 147)
---------	-----------------	--------------------

- Mount the radiator cap.
- Go for a short test ride.

Finishing work

- Check the coolant level. (📖 p. 116)

17.1 Checking throttle cable play



- Check the throttle grip for smooth operation.
- Move the handlebar to the straight-ahead position. Turn the throttle grip back and forth slightly and determine the play in throttle cable **A**.

Throttle cable play	3 ... 5 mm (0.12 ... 0.2 in)
---------------------	------------------------------

- » If the throttle cable play does not meet specifications:
 - Adjust throttle cable play. 🛠️ (📖 p. 119)



Danger

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective 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 to and fro over the entire steering range.

The idle speed must not change.

- » If the idle speed changes:
 - Adjust throttle cable play. 🛠️ (📖 p. 119)



17.2 Adjusting throttle cable play 🛠️

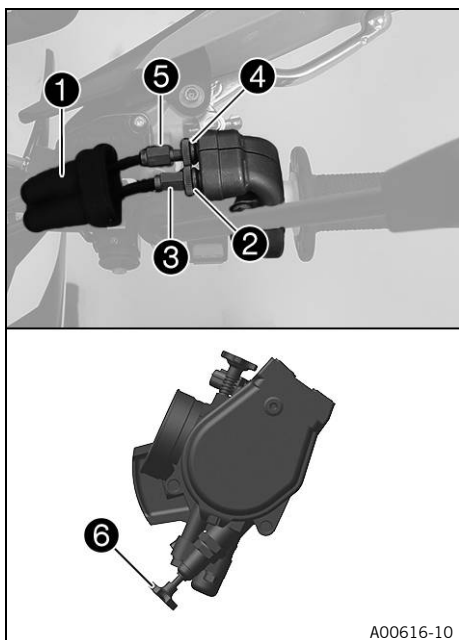


Info

If the correct routing of the throttle cables has already been secured, the fuel tank does not need to be removed.

Preparatory work

- Fold the seat up. (📖 p. 66)
- Remove the fuel tank. 🛠️ (📖 p. 72)
- Check throttle cable routing. (📖 p. 81)



Main work

- Move the handlebar to the straight-ahead position.
- Push back sleeve ①.
- Loosen nut ②.
- Turn adjusting screw ③ in as far as possible.
- Loosen nut ④.
- Push cold start button ⑥ all the way to the stop.
- Turn adjusting screw ⑤ so that the cold start button moves to the basic position when the throttle grip is turned to the front.
- Tighten nut ④.
- Turn barrel adjuster ③ so that there is play in the throttle cable at the throttle grip.

Guideline

Throttle cable play	3 ... 5 mm (0.12 ... 0.2 in)
---------------------	------------------------------

- Tighten nut ②.
- Slide on sleeve ①.
- Check the throttle grip for smooth operation.

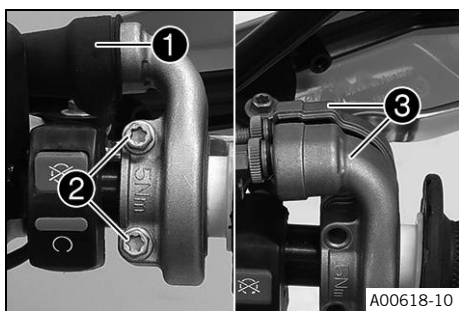
Finishing work

- Check throttle cable play. (📖 p. 119)

17.3 Adjusting the characteristic map of the throttle response 🏹

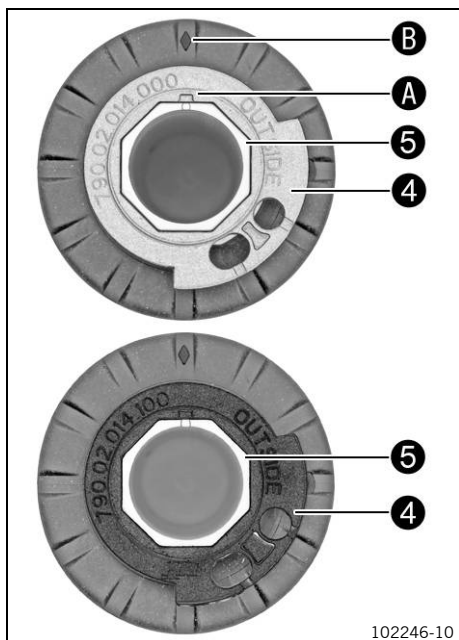
i Info

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 sleeve ①.
- Remove screws ② and half-shells ③.
- Detach the throttle cables and take off the grip tube.



- Remove guide plate 4 from handle tube 5.
- Position the required guide plate on the grip tube.

Guideline

The label **OUTSIDE** must be visible. Marking **A** must be positioned at marking **B**.

Grey guide plate (79002014000)

Alternative 1

Black guide plate (79002014100)

i Info
 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 3, mount and tighten screws 2.

Guideline

Screw for throttle grip	M6	5 Nm (3.7 lbf ft)
-------------------------	----	-------------------

- Slide on sleeve 1 and check the throttle grip for ease of movement.

Finishing work

- Check throttle cable play. (📖 p. 119)



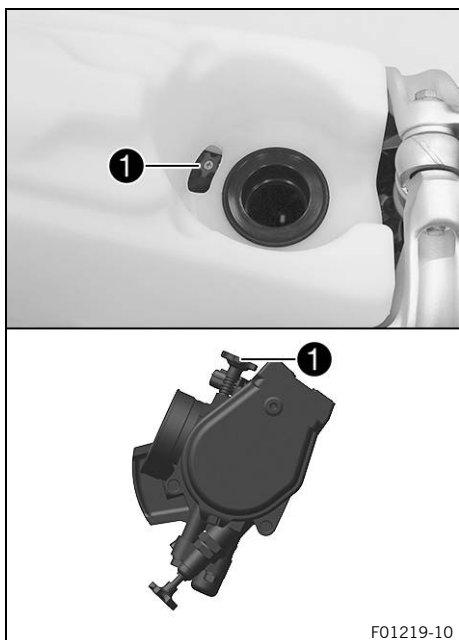
17.4 Adjusting the idle speed 🐦



Warning

Danger of accidents The engine may go out spontaneously if the idle speed is set too low.

- Set the idle speed to the specified value. (Your authorized KTM workshop will be glad to help.)



- Run the engine until warm.
- ✓ The cold start button is deactivated – The cold start button is in its basic position. (📖 p. 18)



Danger

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Check idle speed.

Guideline

Idle speed	1,750 ... 1,850 rpm
------------	---------------------

Tachometer (45129075000)

- Turn the ignition key in the ignition lock to the position ☒ while the engine is idling.

Note

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

Dust and dirt will enter the engine without an air filter.

- Never start to use the vehicle without an air filter.
- Remove the air filter housing. 🛠️ (📖 p. 68)
- Adjust the idle speed by turning idle speed adjusting screw ①.



Info

1/4 turn of the idle speed adjusting screw corresponds to approx. 50 rpm.

Adjust the idle speed in small steps.

Turning counterclockwise lowers the idle speed.

Turning clockwise raises the idle speed.

- Install the air filter housing. 🛠️ (📖 p. 68)



Danger

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Start the engine and check the idle speed.

Guideline

Idle speed	1,750 ... 1,850 rpm
------------	---------------------

Tachometer (45129075000)

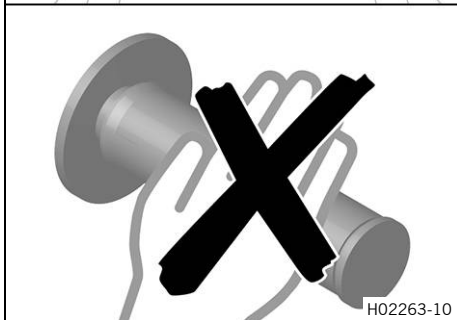
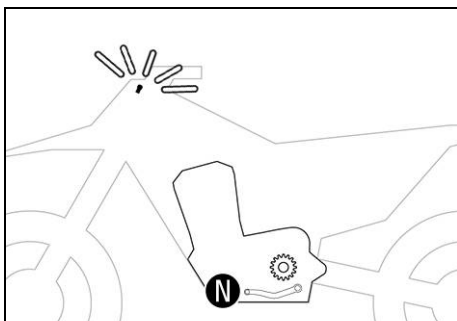
- » If the idle speed does not meet the specifications:
 - Adjust the idle speed.



17.5 Teaching the throttle valve position

i Info

If the control unit detects that the throttle valve position at idle speed needs to be retaught, then the malfunction indicator lamp flashes 2x per second.



Danger

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Allow the vehicle to run at idle speed.
 - ✓ The malfunction indicator lamp stops flashing once teaching is completed.



Info

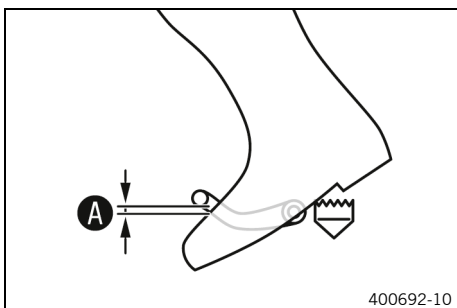
If the engine becomes too hot, perform a cool-down ride at medium revs. Then do not switch off the engine after this, but leave it running at idle speed until teaching is completed.



17.6 Checking the basic position of the shift lever

i Info

When driving, the shift lever must not touch the rider's boot when in the basic position. When the shift lever keeps touching the boot, the transmission will be subject to an excessive load.



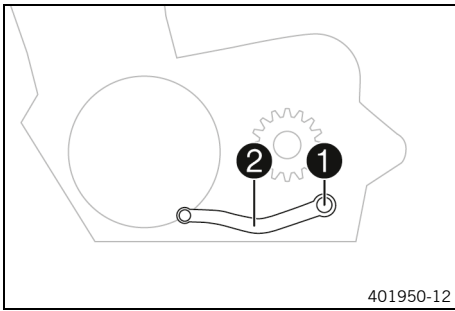
- Sit on the vehicle in the riding position and determine distance **A** between the upper edge of your boot and the shift lever.

Distance between shift lever and upper edge of boot	10 ... 20 mm (0.39 ... 0.79 in)
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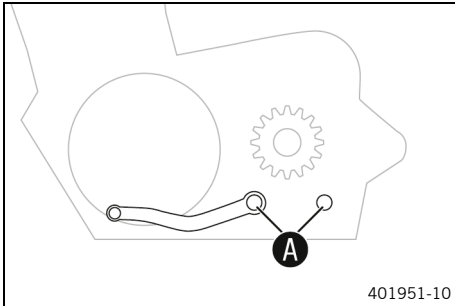
- » If the distance does not meet specifications:
 - Adjust the basic position of the shift lever. (p. 124)



17.7 Adjusting the basic position of the shift lever ↩



- Remove screw **1** with the washers and take off shift lever **2**.



- Clean gear teeth **A** of the shift lever and shift shaft.
- Mount the shift lever on the shift shaft in the required position and engage gearing.

i Info

The range of adjustment is limited.
The shift lever must not come into contact with any other vehicle components during the shift procedure.

- Mount and tighten screw **1** with the washers.

Guideline

Screw, shift lever	M6	14 Nm (10.3 lbf ft) Loctite®243™
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18.1 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 or lit cigarettes.
- 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 off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

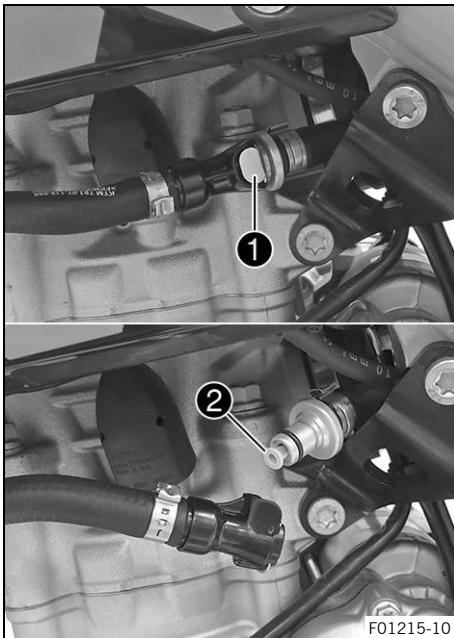
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing in case of fuel spills on them.



Note

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

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



Main work

- Clean plug-in connection **1** of the fuel line thoroughly with compressed air.



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

- Disconnect the plug-in connection of the fuel line.



Info

Remaining fuel may flow out of the fuel hose.

- Pull fuel screen **2** out of the connecting piece.
- Insert the new fuel screen all the way into the connecting piece.
- Lubricate the O-ring and join the plug-in connection of the fuel line.

Finishing work



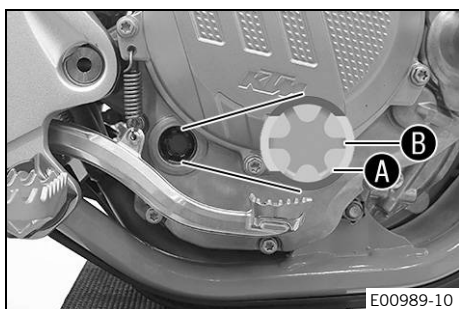
Danger

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Start the engine and check the response.

18.2 Checking the engine oil level



Preparatory work

- Stand the motorcycle upright on a horizontal surface.

Condition

The engine is at operating temperature.

- Check the engine oil level.



Info

After switching off the engine, wait one minute before checking the level.

The engine oil is at a level between the lower edge **A** and the middle **B** of the level viewer.

- » If the engine oil is not up to the lower edge **A** of the level viewer:
 - Add engine oil. (📖 p. 129)

18.3 Changing the engine oil and oil filter, cleaning the oil screen



Warning

Danger of scalding Engine and gear oil get very hot when the motorcycle is ridden.

- 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 compliance with the applicable regulations.

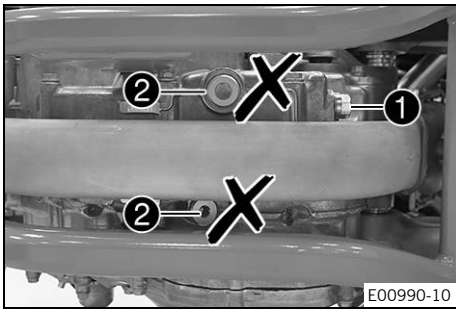


Info

Drain the engine oil while the engine is at operating temperature.

Preparatory work

- Park the motorcycle on a level surface.
- Remove the engine guard. (📖 p. 85)



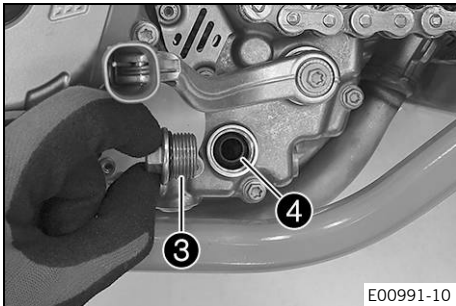
Main work

- Place an appropriate container under the engine.
- Remove oil drain plug **1** with the magnet and seal ring.

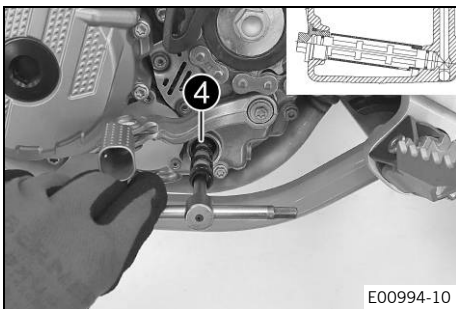


Info

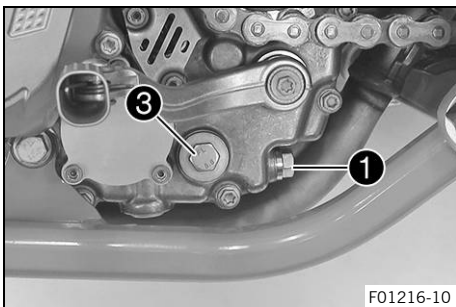
Do not remove screws **2**.



- Remove screw plug **3** with oil screen **4** and the O-rings.
- Allow the engine oil to drain completely.
- Thoroughly clean the parts and the sealing surfaces.



- Position oil screen **4** with the O-rings on a pin wrench.
- Position the pin wrench through the drill hole of the screw plug in the opposite section of the engine case.
- Push the oil screen all the way into the engine case.



- Mount and tighten screw plug **3** with the O-ring.

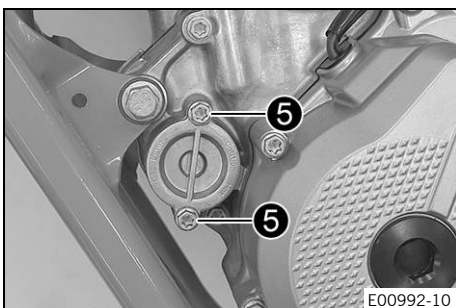
Guideline

Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
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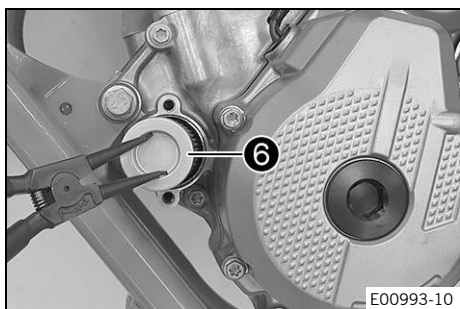
- Mount and tighten oil drain plug **1** with the magnet and a new seal ring.

Guideline

Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
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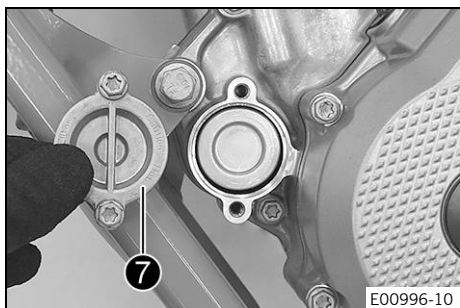
- Remove screws **5**. Remove the oil filter cover with the O-ring.



- Pull oil filter **6** out of the oil filter housing.

Lock ring plier (51012011000)

- Allow the engine oil to drain completely.
- Thoroughly clean the parts and the sealing surfaces.

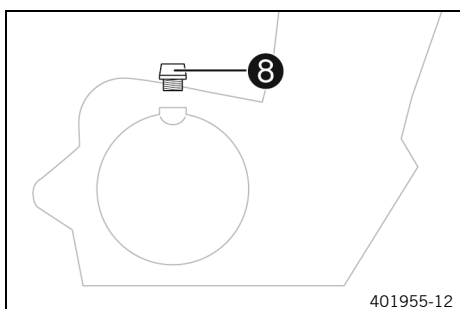


- Lay the motorcycle on its right side and fill the oil filter housing approx. 1/3 full with engine oil.
- Place the oil filter into the oil filter housing.
- Oil the O-ring of the oil filter cover and mount it together with oil filter cover **7**.
- Mount and tighten the screws.

Guideline

Screw, oil filter cover	M6	10 Nm (7.4 lbf ft)
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- Stand the motorcycle upright.
- Remove filler plug **8** with the O-ring, and fill up with engine oil.



Engine oil	1.0 l (1.1 qt.)	Engine oil (SAE 10W/50) (📖 p. 147)
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i Info

Too little engine oil or poor-quality engine oil will result in premature wear of the engine.

- Mount and tighten the filler plug together with the O-ring.



Danger

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Start the engine and check for tightness.

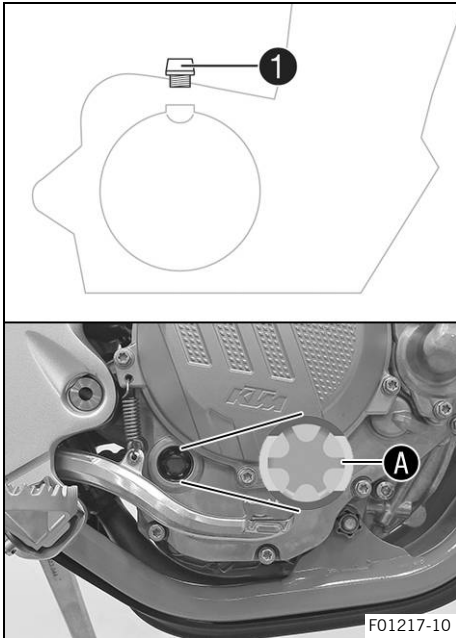
Finishing work

- Install the engine guard. (📖 p. 85)
- Check the engine oil level. (📖 p. 126)

18.4 Adding engine oil

i Info

Too little engine oil or poor-quality engine oil will result in premature wear of the engine.

**Preparatory work**

- Stand the motorcycle upright on a horizontal surface.

Main work

- Remove filler plug ① with the O-ring.
- Fill engine oil to the middle A of the level viewer.

Engine oil (SAE 10W/50) (📖 p. 147)

i Info

In order to achieve optimal engine performance, it is not advisable to mix different engine oils. We recommend changing the engine oil when necessary.

- Mount and tighten the filler plug together with the O-ring.

**Danger**

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

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

- Start the engine and check for tightness.

Finishing work

- Check the engine oil level. (📖 p. 126)



19.1 Cleaning the motorcycle

Note

Material damage Components become damaged or destroyed if a pressure cleaner is used incorrectly. The high pressure forces water into the electrical components, connectors, throttle cables, and bearings, etc. Pressure which is too high causes malfunctions and destroys components.

- Do not direct the water jet directly on to electrical components, connectors, throttle cables or bearings.
- Maintain a minimum distance between the nozzle of the pressure cleaner and the component.
Minimum clearance 60 cm (23.6 in)



Note

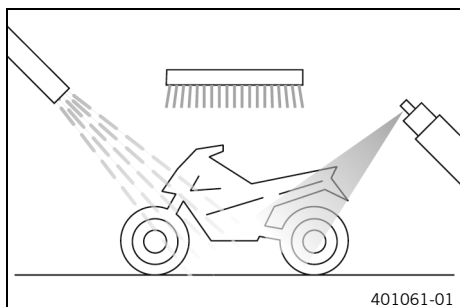
Environmental hazard Hazardous substances cause environmental damage.

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



Info

Clean the motorcycle regularly to maintain its value and appearance over a long period. Avoid direct sunshine when cleaning the motorcycle.



- Close off exhaust system to keep water from entering.
- Rinse off the loose dirt with a soft jet of water.
- Spray the heavily soiled parts with a normal commercial motorcycle cleaner, working with a soft brush.

Motorcycle cleaner (📖 p. 149)



Info

Use warm water containing normal motorcycle cleaner and a soft sponge. Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first.

- After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.
- Remove the closure of 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 linings and the brake discs.

- After cleaning, ride the vehicle a short distance until the engine warms up.



Info

The heat produced causes water at inaccessible locations in the engine and on the brake system to evaporate.

- After the motorcycle has cooled down, lubricate all moving parts and pivot points.
- Clean the chain. (📖 p. 76)

- Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.

Preserving materials for paints, metal and rubber (📖 p. 149)

- Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

Special cleaner for glossy and matte paint finishes, metal and plastic surfaces (📖 p. 150)

- Oil the steering lock.

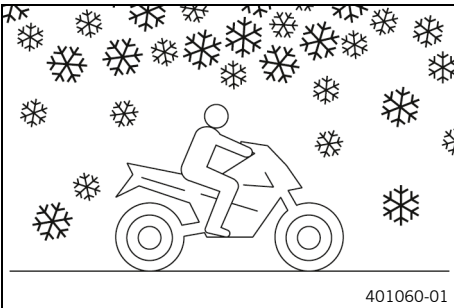
Universal oil spray (📖 p. 150)



19.2 Checks and maintenance steps for winter operation

i Info

If you use the vehicle in winter, you must expect salt on the roads. You should therefore take precautions against aggressive road salt. If the vehicle has been used on salted roads, use cold water for cleaning after riding. Warm water enhances the corrosive effects of salt.



- Clean the motorcycle. (📖 p. 130)
- Clean the brake system.

i Info

After **EVERY** trip on salted roads, thoroughly clean the brake calipers and brake linings, after they have cooled down and without removing them, with cold water and dry them carefully. After riding on salted roads, thoroughly clean the vehicle with cold water and dry it well.

- Treat the engine, the link fork, and all other bare or zinc-plated parts (except brake discs) with a wax-based corrosion inhibitor.

i Info

Corrosion inhibitor must not come in contact with the brake discs as this would greatly reduce the braking force.

- Clean the chain. (📖 p. 76)



20.1 Storage



Warning

Danger of poisoning Fuel is poisonous and a health hazard.

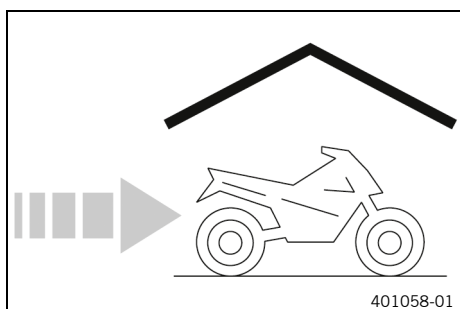
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing in case of fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.



Info

If you plan to garage the motorcycle for a longer period, perform the following steps or have them performed.

Before storing the motorcycle, check all parts for function and wear. If service, repairs, or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.



- When refueling for the last time before taking the motorcycle out of service, add fuel additive.

Fuel additive (📖 p. 149)

- Refuel. (📖 p. 41)
- Clean the motorcycle. (📖 p. 130)
- Change the engine oil and oil filter, clean the oil screen. 🛠️ (📖 p. 126)
- Check the antifreeze and coolant level. (📖 p. 115)
- Check tire pressure. (📖 p. 102)
- Remove the 12 V battery. 🛠️ (📖 p. 104)
- Charge the 12 V battery. 🛠️ (📖 p. 105)

Guideline

Storage temperature of the 12 V battery without direct sunlight	0 ... 35 °C (32 ... 95 °F)
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- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.



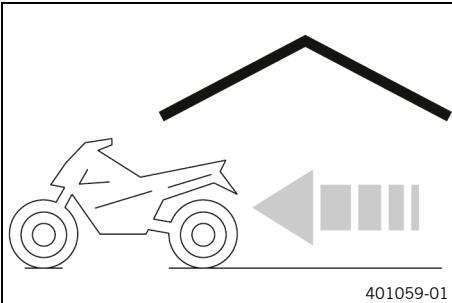
Info

KTM recommends jacking up the motorcycle.

- Raise the motorcycle with a lift stand. (📖 p. 55)
- Cover the motorcycle with a porous sheet or blanket. Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion.

**Info**

Avoid running the engine for a short time only. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and the exhaust system to rust.

**20.2 Preparing for use after storage**

- Remove the motorcycle from the lift stand. (📖 p. 55)
- Install the 12 V battery. 🛠️ (📖 p. 105)
- Perform checks and maintenance measures when preparing for use. (📖 p. 37)
- Take a test ride.











Faults	Possible cause	Action
The engine cannot be cranked (starter motor)	Operating error	– Carry out start procedure. (📖 p. 37)
	12 V battery discharged	– Charge the 12 V battery. 🛠️ (📖 p. 105) – Check the charging voltage. 🛠️ – Check the open-circuit current. 🛠️ – Check the stator winding of the alternator. 🛠️
	Main fuse blown	– Change the main fuse. (📖 p. 107)
	Starter relay defective	– Check the starter relay. 🛠️
	Starter motor defective	– Check the starter motor. 🛠️
The engine turns but does not start	Operating error	– Carry out start procedure. (📖 p. 37)
	The plug-in connection of the fuel hose connection is not connected	– Connect the plug-in connection of the fuel line.
	Fuse 1 blown	– Change the fuses of individual power consumers. (📖 p. 108)
	Fuse 2 blown	– Change the fuses of individual power consumers. (📖 p. 108)
	Idle speed is not set correctly	– Adjust the idle speed. 🛠️ (📖 p. 121)
	Spark plug oily or wet	– Clean and dry the spark plug, or change it if necessary.
	Plug gap of spark plug too wide	– Adjust plug gap. Guideline Spark plug electrode gap 1.0 mm (0.039 in)
	Faulty ignition	– Ignition coil - check the secondary winding. 🛠️ – Check the spark plug connector. 🛠️ – Check the stator winding of the alternator. 🛠️
	Short-circuit cable in wiring harness frayed, switch-off button or emergency OFF switch faulty	– Check the wiring harness. (visual check) – Check the electrical system.
Engine does not speed up	Error in the electronic fuel injection	– Read out the fault memory using the KTM diagnostics tool. 🛠️
	Faulty ignition	– Ignition coil - check the secondary winding. 🛠️ – Check the spark plug connector. 🛠️ – Check the stator winding of the alternator. 🛠️
Engine has too little power	Air filter is very dirty	– Clean the air filter and air filter housing. 🛠️ (📖 p. 70)
	Fuel filter is very dirty	– Change the fuel filter. 🛠️
	Fuel screen is very dirty	– Change the fuel screen. 🛠️ (📖 p. 125)
	Error in the electronic fuel injection	– Read out the fault memory using the KTM diagnostics tool. 🛠️







Faults	Possible cause	Action
Engine has too little power	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer	<ul style="list-style-type: none"> – Check exhaust system for damage. – Change the glass fiber yarn filling of the main silencer. 🛠️ (📖 p. 71)
	Valve clearance too little	<ul style="list-style-type: none"> – Adjust the valve clearance. 🛠️
	Faulty ignition	<ul style="list-style-type: none"> – Ignition coil - check the secondary winding. 🛠️ – Check the spark plug connector. 🛠️ – Check the stator winding of the alternator. 🛠️
The engine dies during the trip	Lack of fuel	<ul style="list-style-type: none"> – Refuel. (📖 p. 41)
	Fuse 1 blown	<ul style="list-style-type: none"> – Change the fuses of individual power consumers. (📖 p. 108)
	Fuse 4 blown	<ul style="list-style-type: none"> – Change the fuses of individual power consumers. (📖 p. 108)
Engine overheats	Too little coolant in cooling system	<ul style="list-style-type: none"> – Check the cooling system for leaks. – Check the coolant level. (📖 p. 116)
	Too little air stream	<ul style="list-style-type: none"> – Switch off the engine when standing.
	Radiator fins very dirty	<ul style="list-style-type: none"> – Clean the radiator fins.
	Foam formation in cooling system	<ul style="list-style-type: none"> – Drain the coolant. 🛠️ (📖 p. 117) – Refill with coolant. 🛠️ (📖 p. 118)
	Bent radiator hose	<ul style="list-style-type: none"> – Change the radiator hose. 🛠️
	Defect in radiator fan system	<ul style="list-style-type: none"> – Check fuse 3. – Check the radiator fan. 🛠️
Malfunction indicator lamp lights up or flashes	Error in the electronic fuel injection	<ul style="list-style-type: none"> – Stop the motorcycle and identify the faulty component using the blink code. <hr/> <div style="display: flex; align-items: center; margin-bottom: 10px;"> <div style="font-size: 2em; margin-right: 5px;">i</div> <div style="margin-left: 5px;"> Info See blink code </div> </div> <hr/> <ul style="list-style-type: none"> – Check the cabling for damage and the connectors for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool. 🛠️
		<ul style="list-style-type: none"> – Check the cabling for damage and the connectors for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool. 🛠️
High oil consumption	Engine vent hose bent	<ul style="list-style-type: none"> – Route the vent hose without bends or change it if necessary.
	Engine oil level too high	<ul style="list-style-type: none"> – Check the engine oil level. (📖 p. 126)
	Engine oil too thin (low viscosity)	<ul style="list-style-type: none"> – Change the engine oil and oil filter, clean the oil screen. 🛠️ (📖 p. 126)
	Piston or cylinder worn	<ul style="list-style-type: none"> – Measure the piston/cylinder mounting clearance. 🛠️
12 V battery discharged	The 12-V battery is not being charged by the alternator	<ul style="list-style-type: none"> – Check the charging voltage. 🛠️ – Check the stator winding of the alternator. 🛠️
	Unwanted power consumer	<ul style="list-style-type: none"> – Check the open-circuit current. 🛠️
Combination instrument values deleted (time, stop watch, lap times)	The combination instrument battery is empty	<ul style="list-style-type: none"> – Change the combination instrument battery. (📖 p. 113)

Faults	Possible cause	Action
The high beam, low beam, position light, tail light, and license plate lamp are not working	Fuse 2 blown	– Change the fuses of individual power consumers. (📖 p. 108)
The horn, turn signal, brake light and radiator fan are not working	Fuse 3 blown	– Change the fuses of individual power consumers. (📖 p. 108)

i Info

The blink codes are only displayed by the derestricted version of the vehicle.

Blink code for malfunction indicator lamp	 02a Malfunction indicator lamp flashes 2x per second
Error level condition	Teaching of throttle valve position required
Blink code for malfunction indicator lamp	 02 Malfunction indicator lamp flashes 2x short
Error level condition	Crankshaft speed sensor - circuit fault
Blink code for malfunction indicator lamp	 06 Malfunction indicator lamp flashes 6x short
Error level condition	Throttle valve position sensor circuit A - circuit fault
	Throttle valve position sensor circuit A - input signal too high
Blink code for malfunction indicator lamp	 09 Malfunction indicator lamp flashes 9x short
Error level condition	Induction manifold pressure sensor - circuit fault
	Induction manifold pressure sensor - input signal too low
Blink code for malfunction indicator lamp	 12 Malfunction indicator lamp flashes 1x long, 2x short
Error level condition	Coolant temperature sensor - circuit fault
	Coolant temperature sensor - input signal too low
Blink code for malfunction indicator lamp	 13 Malfunction indicator lamp flashes 1x long, 3x short
Error level condition	Intake air temperature sensor - circuit fault
	Intake air temperature sensor - input signal too low
Blink code for malfunction indicator lamp	 15 Malfunction indicator lamp flashes 1x long, 5x short
Error level condition	Rollover sensor (A/D type) – input signal too low
	Rollover sensor (A/D type) – input signal too high
Blink code for malfunction indicator lamp	 21 Malfunction indicator lamp flashes 2x long, 1x short
Error level condition	Battery voltage - input voltage too high

Blink code for malfunction indicator lamp	 22 Malfunction indicator lamp flashes 2x long, 2x short
Error level condition	Gear position sensor – circuit fault
	Gear position sensor – input signal too high
	Gear position sensor – malfunction
Blink code for malfunction indicator lamp	 33 Malfunction indicator lamp flashes 3x long, 3x short
Error level condition	Injection valve cylinder 1 – circuit fault
Blink code for malfunction indicator lamp	 37 Malfunction indicator lamp flashes 3x long, 7x short
Error level condition	Ignition coil - circuit fault
Blink code for malfunction indicator lamp	 41 Malfunction indicator lamp flashes 4x long, 1x short
Error level condition	Fuel pump controller – short circuit to ground/open circuit
	Open/short circuit to plus
Blink code for malfunction indicator lamp	 65 Malfunction indicator lamp flashes 6x long, 5x short
Error level condition	EEPROM error
Blink code for malfunction indicator lamp	 Malfunction indicator lamp lights up
Error level condition	Lambda sensor heater - circuit fault
	Lambda sensor heater - input signal too high
	Lambda sensor - circuit fault
	Lambda sensor - input signal too low
	Evaporate emission control valve – input signal too low
	Evaporate emission control valve – input signal too high
	THREF – malfunction

23.1 Engine

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	249.91 cm ³ (15.2505 cu in)
Stroke	52.3 mm (2.059 in)
Bore	78 mm (3.07 in)
Compression ratio	13.8:1
Idle speed	1,750 ... 1,850 rpm
Control	DOHC, four valves controlled via cam lever, drive via timing chain
Valve diameter, intake	32.5 mm (1.28 in)
Valve diameter, exhaust	26.5 mm (1.043 in)
Valve clearance	
Intake at: 20 °C (68 °F)	0.08 ... 0.15 mm (0.0031 ... 0.0059 in)
Exhaust at: 20 °C (68 °F)	0.12 ... 0.19 mm (0.0047 ... 0.0075 in)
Crankshaft bearing	2 cylinder bearings
Conrod bearing	Slide bearing
Piston pin bearing	Bearing bush
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with 2 trochoidal pumps
Primary transmission	24:73
Clutch	Multidisc clutch in oil bath/hydraulically activated
Gearbox	6 gear transmission, claw shifted
Transmission ratio	
First gear	13:32
Second gear	16:30
Third gear	16:24
Fourth gear	23:28
Fifth gear	23:23
Sixth gear	26:20
Alternator	12 V, 196 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Spark plug	NGK LMAR9AI-10
Spark plug electrode gap	1.0 mm (0.039 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid	Starter motor

23.2 Engine tightening torques

Nozzle, crank chamber ventilation	M4	2 Nm (1.5 lbf ft)	Loctite®243™
Oil nozzle for alternator cooling	M4	2 Nm (1.5 lbf ft)	Loctite®243™
Oil nozzle for balancer shaft lubrication	M4	2 Nm (1.5 lbf ft)	Loctite®243™
Oil nozzle for clutch lubrication	M4	2 Nm (1.5 lbf ft)	Loctite®243™
Oil nozzle for conrod bearing lubrication	M4	2 Nm (1.5 lbf ft)	Loctite®243™
Screw, oil nozzle for piston cooling	M4	2.5 Nm (1.84 lbf ft)	Loctite®243™
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Oil channel screw plug in alternator cover	M5	2 Nm (1.5 lbf ft)	Loctite®243™
Oil nozzle for cam lever lubrication	M5	3 Nm (2.2 lbf ft)	Loctite®243™
Oil nozzle, piston cooling	M5	2 Nm (1.5 lbf ft)	Loctite®243™
Screw, bearing bolt, oil pump idler gear	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, clutch spring retainer	M5	6 Nm (4.4 lbf ft)	
Screw, crankshaft speed sensor	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, gear position sensor	M5	5 Nm (3.7 lbf ft)	Loctite®243™
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, stator	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Nut, cylinder head	M6	10 Nm (7.4 lbf ft)	Lubricated with engine oil
Nut, water pump impeller	M6	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, alternator cover	M6	10 Nm (7.4 lbf ft)	
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	
Screw, engine case	M6	10 Nm (7.4 lbf ft)	
Screw, guide rail	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, oil filter cover	M6	10 Nm (7.4 lbf ft)	
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, shift lever	M6	14 Nm (10.3 lbf ft)	Loctite®243™

Screw, starter motor	M6	10 Nm (7.4 lbf ft)
Screw, timing chain failure protection	M6	10 Nm (7.4 lbf ft) Loctite®243™
Screw, valve cover	M6	8 Nm (5.9 lbf ft)
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)
Stud, cylinder head	M6	10 Nm (7.4 lbf ft)
Screw, camshaft bearing bridge	M7x1	1st tightening stage 5 Nm (3.7 lbf ft) 2nd tightening stage 14 Nm (10.3 lbf ft) Lubricated with engine oil
Crankshaft clamp screw plug	M8	10 Nm (7.4 lbf ft)
Screw, tensioning rail	M8	15 Nm (11.1 lbf ft) Loctite®243™
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft) Loctite®243™
Plug, oil channel	M10x1	15 Nm (11.1 lbf ft) Loctite®243™
Screw plug, cam lever axis	M10x1	10 Nm (7.4 lbf ft)
Screw, rotor	M10x1	70 Nm (51.6 lbf ft) Collar and thread oiled / cone degreased
Screw, unlocking of timing chain tensioner	M10x1	8 Nm (5.9 lbf ft)
Spark plug	M10x1	12 Nm (8.9 lbf ft)
Coolant temperature sensor	M10x1.25	12 Nm (8.9 lbf ft)
Nut, cylinder head	M10x1.25	Tightening sequence: Tighten diagonally. 1st tightening stage 10 Nm (7.4 lbf ft) 2nd tightening stage 30 Nm (22.1 lbf ft) 3rd tightening stage 180°
Stud, cylinder head	M10x1.25	20 Nm (14.8 lbf ft) Loctite®243™
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
Screw plug, oil pressure control valve	M12x1.5	20 Nm (14.8 lbf ft)
Oil drain plug	M14x1.5	15 Nm (11.1 lbf ft)
Nut, inner clutch hub	M18x1.5	100 Nm (73.8 lbf ft) Loctite®243™
Nut, primary gear wheel	M18LHx1.5	120 Nm (88.5 lbf ft) Loctite®243™
Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)
Plug, timing chain tensioner	M24x1.5	40 Nm (29.5 lbf ft)
Screw, alternator cover	M24x1.5	18 Nm (13.3 lbf ft)

23.3 Capacities

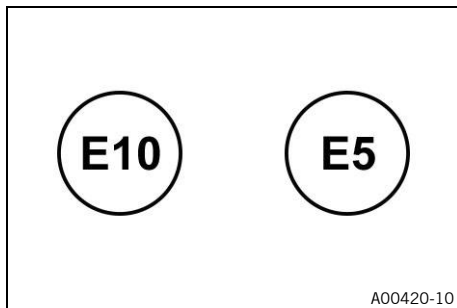
23.3.1 Engine oil

Engine oil	1.0 l (1.1 qt.)	Engine oil (SAE 10W/50) (📖 p. 147)
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23.3.2 Coolant

Coolant	0.7 l (0.7 qt.)	Coolant (📖 p. 147)
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23.3.3 Fuel



Please observe the labels on EU fuel pumps.

Total fuel tank capacity, approx.	5 l (1.3 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (📖 p. 148)
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Fuel reserve, approx.	1.5 l (1.6 qt.)
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23.4 Chassis

Frame	Perimeter, steel-aluminum composite frame
Fork	WP XPLOR 5343
Suspension travel	
front	250 mm (9.84 in)
rear	260 mm (10.24 in)
Fork offset	20 mm (0.79 in)
Shock absorber	WP XPLOR 5743
Brake system	
front	Disc brake with radially mounted 4-piston brake caliper
rear	Disc brake with radially mounted 2-piston brake caliper
Brake discs - diameter	
front	260 mm (10.24 in)
rear	210 mm (8.27 in)
Brake discs - wear limit	
front	3.7 mm (0.146 in)
rear	3.5 mm (0.138 in)
Offroad tire pressure	
front	0.9 bar (13 psi)
rear	0.7 bar (10 psi)

Street tire pressure	
front	2 bar (29 psi)
rear	2 bar (29 psi)
Secondary ratio	14:48 (12:48)
Chain	5/8 x 1/4" X-ring
Rear sprockets available	46, 48
Steering head angle	67°
Wheelbase	1,418 ± 10 mm (55.83 ± 0.39 in)
Ground clearance, unloaded	325 mm (12.8 in)
Seat height, unloaded	915 mm (36.02 in)
Weight without fuel, approx.	98.5 kg (217.2 lb.)
Maximum permissible front axle load	110 kg (243 lb.)
Maximum permissible rear axle load	170 kg (375 lb.)
Maximum permissible overall weight	280 kg (617 lb.)

23.5 Electrical system

12-V battery	HJTZ5S-FP-C	Lithium-ion battery Battery voltage: 12 V Nominal capacity: 2.0 Ah Maintenance-free
Combination instrument battery	CR 2430	Battery voltage: 3 V
Fuse	75011088010	10 A
Fuse	58011109120	20 A
Headlight	HS1 / socket PX43t	12 V 35/35 W
Position light	W5W / socket W2.1x9.5d	12 V 5 W
Indicator lamps	W2.3W / socket W2x4.6d	12 V 2.3 W
Turn signal	R10W/socket BA15s	12 V 10 W
Brake/tail light	LED	
License plate lamp	W5W/socket W2.1x9.5d	12 V 5 W

23.6 Tires

Front tire	Rear tire
2.75 - 21 M/C 45M TT Maxxis TRIALMAXX	4.00 R 18 M/C 64M TL Maxxis TRIALMAXX
The tires specified represent one of the possible series production tires. Additional information is available in the Service section under: http://www.ktm.com	

23.7 Fork

Fork article number	05.18.8T.40	
Fork	WP XPLOR 5343	
Compression damping		
Comfort	18 clicks	
Standard	15 clicks	
Sport	12 clicks	
Rebound damping		
Comfort	18 clicks	
Standard	15 clicks	
Sport	12 clicks	
Spring length with preload spacer(s)	427 mm (16.81 in)	
Spring rate		
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	4.6 N/mm (26.3 lb/in)	
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	4.8 N/mm (27.4 lb/in)	
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	5.0 N/mm (28.6 lb/in)	
Fork length	845 mm (33.27 in)	
Fork oil per fork leg	383 ± 5 ml (12.95 ± 0.17 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 148)

23.8 Shock absorber

Shock absorber article number	12.18.7T.40	
Shock absorber	WP XPLOR 5743	
Low-speed compression damping		
Comfort	18 clicks	
Standard	15 clicks	
Sport	12 clicks	
High-speed compression damping		
Comfort	2 turns	
Standard	2 turns	
Sport	1.5 turns	
Rebound damping		
Comfort	18 clicks	
Standard	15 clicks	
Sport	12 clicks	
Spring preload	9 mm (0.35 in)	
Spring rate		
Weight of rider: 65 ... 75 kg (143 ... 165 lb.)	66 N/mm (377 lb/in)	
Weight of rider: 75 ... 85 kg (165 ... 187 lb.)	68 N/mm (388 lb/in)	
Weight of rider: 85 ... 95 kg (187 ... 209 lb.)	69 N/mm (394 lb/in)	
Spring length	200 mm (7.87 in)	
Gas pressure	10 bar (145 psi)	
Static sag	25 mm (0.98 in)	
Riding sag	115 mm (4.53 in)	

Fitted length	367 mm (14.45 in)
Damper oil	Shock absorber fluid (SAE 2.5) (50180751S1) (📖 p. 148)

23.9 Chassis tightening torques

Screw for spoiler, top	EJOT PT® K60x20AL	3 Nm (2.2 lbf ft)
Screw, front spoiler	EJOT PT® K60x30-Z	3 Nm (2.2 lbf ft)
Screw, pressure regulator	EJOT PT® K60x25-Z	2.3 Nm (1.7 lbf ft)
Screw, fixed grip	M4	5 Nm (3.7 lbf ft) Loctite®243™
Spoke nipple	M4.5	6 Nm (4.4 lbf ft)
Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)
Screw, intake air temperature sensor	M5	2 Nm (1.5 lbf ft)
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)
Screws on main silencer	M5	7 Nm (5.2 lbf ft)
Nut, cable on starter motor	M6	4 Nm (3 lbf ft)
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
Screw for spoiler attachment	M6	5 Nm (3.7 lbf ft)
Screw, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft) Loctite®243™
Screw, engine guard	M6x20	10 Nm (7.4 lbf ft)
Screw, engine guard	M6x12	10 Nm (7.4 lbf ft)
Screw, foot brake cylinder	M6	10 Nm (7.4 lbf ft) Loctite®243™
Screw, front brake disc	M6	14 Nm (10.3 lbf ft) Loctite®243™
Screw, radiator bracket	M6	6 Nm (4.4 lbf ft)
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft) Loctite®243™
Screws, throttle grip	M6	5 Nm (3.7 lbf ft)
Fuel connection on fuel pump	M8	10 Nm (7.4 lbf ft)
Nut, foot brake lever stop	M8	20 Nm (14.8 lbf ft)
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft) Loctite®2701™
Nut, rim lock	M8	10 Nm (7.4 lbf ft)
Remaining nuts, chassis	M8	25 Nm (18.4 lbf ft)
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)
Screw, bottom triple clamp	M8	18 Nm (13.3 lbf ft)
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)
Screw, engine brace on cylinder head	M8	25 Nm (18.4 lbf ft) Loctite®2701™
Screw, engine brace on frame	M8	25 Nm (18.4 lbf ft) Loctite®2701™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)

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Screw, front brake caliper	M8	25 Nm (18.4 lbf ft) Loctite®243™
Screw, fuel tank	M8	15 Nm (11.1 lbf ft) Loctite®243™
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
Screw, main silencer	M8x20	25 Nm (18.4 lbf ft)
Screw, main silencer	M8x25	25 Nm (18.4 lbf ft)
Screw, rear brake caliper	M8	25 Nm (18.4 lbf ft) Loctite®243™
Screw, side stand attachment	M8	25 Nm (18.4 lbf ft) Loctite®2701™
Screw, subframe	M8	30 Nm (22.1 lbf ft) Loctite®243™
Screw, top steering stem	M8	17 Nm (12.5 lbf ft) Loctite®243™
Screw, top triple clamp	M8	22 Nm (16.2 lbf ft)
Engine bracket screw	M10	60 Nm (44.3 lbf ft)
Nut, fuel tank attachment	M10	10 Nm (7.4 lbf ft)
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)
Screw, battery compartment	M10	45 Nm (33.2 lbf ft)
Screw, cross bar	M10	45 Nm (33.2 lbf ft)
Screw, foot brake lever	M10	30 Nm (22.1 lbf ft) Loctite®243™
Screw, footrest bracket	M10	45 Nm (33.2 lbf ft) Loctite®243™
Screw, handlebar support	M10	40 Nm (29.5 lbf ft) Loctite®243™
Screw, subframe top	M10	45 Nm (33.2 lbf ft) Loctite®243™
Nut, fuel pump fixation	M12	15 Nm (11.1 lbf ft)
Screw, bottom shock absorber	M12	80 Nm (59 lbf ft) Loctite®2701™
Screw, top shock absorber	M12	80 Nm (59 lbf ft) Loctite®2701™
Nut, swingarm pivot	M14x1.5	75 Nm (55.3 lbf ft)
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)
Screw, front wheel spindle	M20x1.5	35 Nm (25.8 lbf ft)
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)

Brake fluid DOT 4 / DOT 5.1

Standard/classification

- DOT

Guideline

- Use only brake fluid that complies with the specified standard (see specifications on the container) and that exhibits the corresponding properties.

Recommended supplier

Castrol

- REACT PERFORMANCE DOT 4

MOTOREX®

- Brake Fluid DOT 5.1

Coolant

Guideline

- Only use high-grade, silicate-free coolant with corrosion inhibitor additive for aluminum motors. Low grade and unsuitable antifreeze causes corrosion, deposits and frothing.
- Do not use pure water as only coolant is able to meet the requirements needed in terms of corrosion protection and lubrication properties.
- Only use coolant that complies with the requirements stated (see specifications on the container) and that has the relevant properties.

Antifreeze protection to at least	-25 °C (-13 °F)
-----------------------------------	-----------------

The mixture ratio must be adjusted to the necessary antifreeze protection. Use distilled water if the coolant needs to be diluted.

The use of premixed coolant is recommended.

Observe the coolant manufacturer specifications for antifreeze protection, dilution and miscibility (compatibility) with other coolants.

Recommended supplier

MOTOREX®

- COOLANT M3.0

Engine oil (SAE 10W/50)

Standard/classification

- JASO T903 MA2 (📖 p. 151)
- SAE (📖 p. 151) (SAE 10W/50)

Guideline

- Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

Fully synthetic engine oil

Recommended supplier

MOTOREX®

- Cross Power 4T

Fork oil (SAE 4) (48601166S1)

Standard/classification

- SAE (📖 p. 151) (SAE 4)

Guideline

- Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

Shock absorber fluid (SAE 2.5) (50180751S1)

Standard/classification

- SAE (📖 p. 151) (SAE 2.5)

Guideline

- Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

Super unleaded (ROZ 95/RON 95/PON 91)

Standard/classification

- DIN EN 228 (ROZ 95/RON 95/PON 91)

Guideline

- Only use unleaded super fuel that matches or is equivalent to the specified fuel grade.
- Fuel with an ethanol content of up to 10 % (E10 fuel) is safe to use.



Info

Do **not** use fuel containing methanol (e. g. M15, M85, M100) or more than 10 % ethanol (e. g. E15, E25, E85, E100).

Air filter cleaner

Recommended supplier

MOTOREX®

- Racing Bio Dirt Remover

Chain cleaner

Recommended supplier

MOTOREX®

- Chain Clean

Fuel additive

Recommended supplier

MOTOREX®

- Fuel Stabilizer

High viscosity grease

Recommended supplier

SKF®

- LGHB 2

Long-life grease

Recommended supplier

MOTOREX®

- Bike Grease 2000

Motorcycle cleaner

Recommended supplier

MOTOREX®

- Moto Clean

Off-road chain spray

Recommended supplier

MOTOREX®

- Chainlube Offroad

Oil for foam air filter

Recommended supplier

MOTOREX®

- Racing Bio Liquid Power

Preserving materials for paints, metal and rubber

Recommended supplier

MOTOREX®

- Moto Protect

Special cleaner for glossy and matte paint finishes, metal and plastic surfaces

Recommended supplier

MOTOREX®

- Quick Cleaner

Universal oil spray

Recommended supplier

MOTOREX®

- Joker 440 Synthetic

JASO T903 MA2

Different technical development directions required a separate specification for motorcycles – the **JASO T903 MA2** standard.

Earlier, engine oils from the automobile industry were used for motorcycles because there was no separate motorcycle specification.

Whereas long service intervals are demanded for automobile engines, the focus for motorcycle engines is on high performance at high engine speeds.

In most motorcycle engines, the transmission and clutch are lubricated with the same oil.

The **JASO T903 MA2** standard meets these special requirements.

SAE



The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

OBD	On-board diagnosis	Vehicle system, which monitors the specified parameters of the vehicle electronics
-----	--------------------	--

Art. no.	Article number
ca.	circa
cf.	compare
e.g.	for example
etc.	et cetera
i.a.	inter alia
no.	number
poss.	possibly



29.1 Yellow and orange symbols

Yellow and orange symbols indicate an error condition that requires prompt intervention. Active driving aids are also represented by yellow or orange symbols.

	Malfunction indicator lamp lights up/flashes yellow – The OBD has detected an error in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.
	The fuel level warning lamp lights up yellow – The fuel level has reached the reserve mark.

29.2 Green and blue symbols

Green and blue symbols reflect information.

	The high beam indicator lamp lights up blue – The high beam is switched on.
	Turn signal indicator lamp flashes green – The turn signal is switched on.

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READY TO RACE

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KTM

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5230 Mattighofen/Austria
<http://www.ktm.com>



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