

85 SX

Art. no. 3213846en



KTM

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

We hope you enjoy riding this motorcycle!

Enter the serial numbers of your vehicle below.

Chassis number (📖 p. 13)	Dealer's stamp
Engine number (📖 p. 13)	

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

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5230 Mattighofen, Austria

This document is valid for the following models:

85 SX 19/16 (F6001S9)



85 SX 17/14 (F6001S8)



3213846en

01/2018

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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 is designed and built to withstand the normal stresses and strains of competitive use. This vehicle complies with the currently valid regulations and categories of the top international motorsport organizations.



Info

Only operate the vehicle in closed-off areas remote from public road traffic.

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

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

- 1 Removal or puncturing of the main silencer, 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 part of the vehicle, or parts of the exhaust 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 an effective exhaust extraction system 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.

- Ensure your child wears appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Always use protective clothing for your child that is in good condition and meets the legal requirements.
- When you ride a motorcycle, set an example for your child and wear suitable protective clothing.

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

2.8 Work rules

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 thread locker (e.g. **Loctite**®) is required. Apply according to the manufacturer's instructions.

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 your child makes his or her first trip. The Owner's Manual contains useful information and many tips for you and your child on how to operate, handle, and maintain your motorcycle. This is the only way for you to find out how to ideally customize the vehicle and how to protect your child 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.

3.1 Manufacturer and implied warranty

The work specified in the service schedule may only be performed in an authorized KTM workshop and must be recorded in both the Service & Warranty Booklet and in **KTM Dealer.net**, otherwise any warranty coverage will become void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle are not covered by the warranty. Additional information on the manufacturer or implied warranty and the procedures involved can be found in the Service & Warranty Booklet.

3.2 Operating and 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 operating and auxiliary substances in accordance with the Owner's Manual and specification.

3.3 Spare parts, accessories

For the safety of your child, 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. Incorrect adjustment and tuning of the engine and chassis can lead to damage and breakage of components. Use of the vehicle under difficult conditions, such as on sand or on wet and muddy surfaces, can lead to considerably more rapid 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.

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.

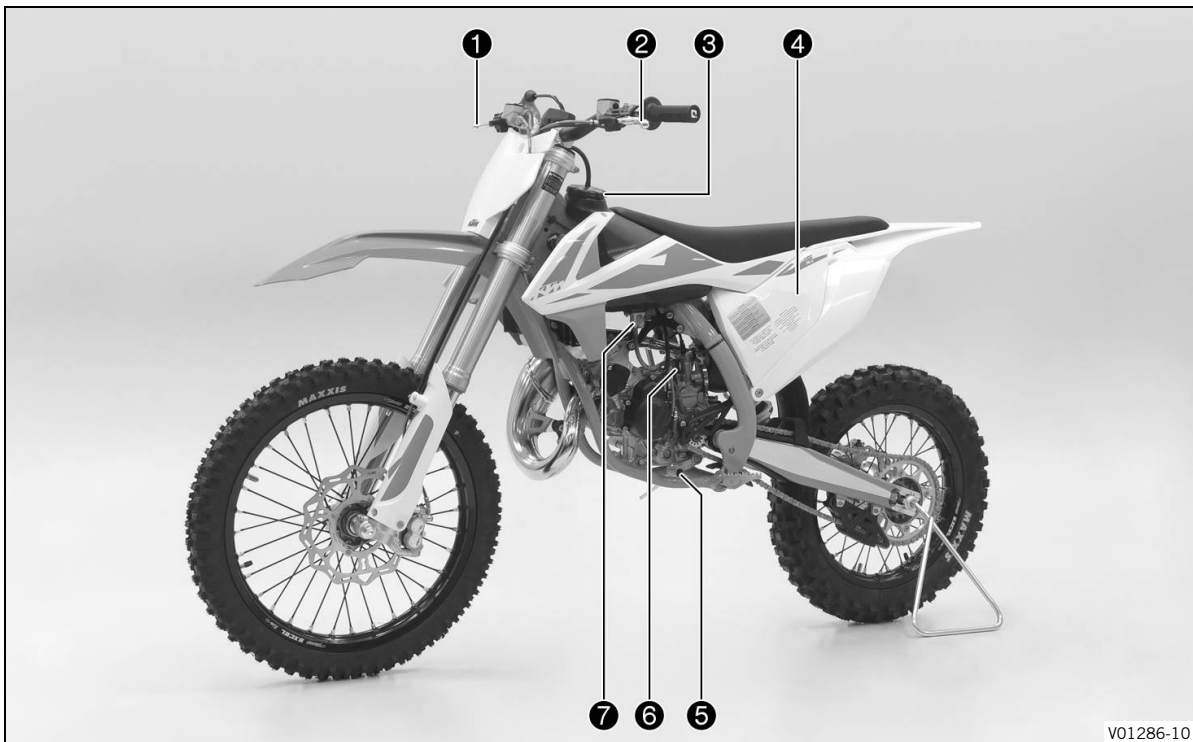
3.6 Customer service

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

3 IMPORTANT NOTES

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)



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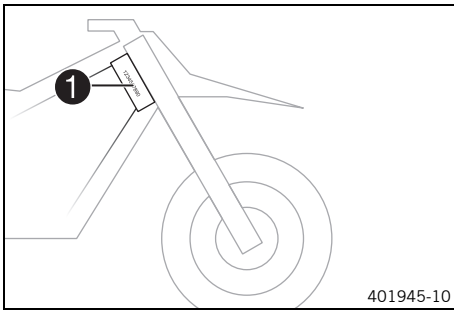
- ① Hand brake lever (📖 p. 15)
- ② Clutch lever (📖 p. 15)
- ③ Filler cap
- ④ Air filter box cover
- ⑤ Shift lever (📖 p. 17)
- ⑥ Choke (📖 p. 17)
- ⑦ Fuel tap (📖 p. 17)

4.2 View of vehicle, rear right (example)



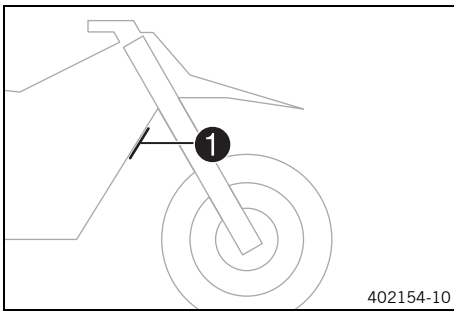
- ❶ Kill switch (📖 p. 15)
- ❷ Throttle grip (📖 p. 15)
- ❸ Fork part number (📖 p. 13)
- ❹ Foot brake lever (📖 p. 18)
- ❺ Kick starter (📖 p. 18)
- ❻ Level viewer for brake fluid, rear

5.1 Chassis number



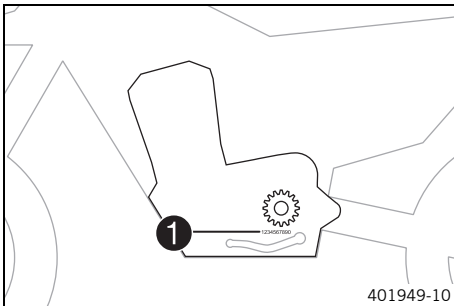
Chassis number ❶ is stamped on the right side of the steering head.

5.2 Type label



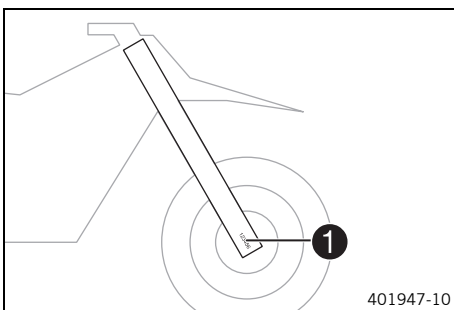
Type label ❶ is located on the front frame tube.

5.3 Engine number



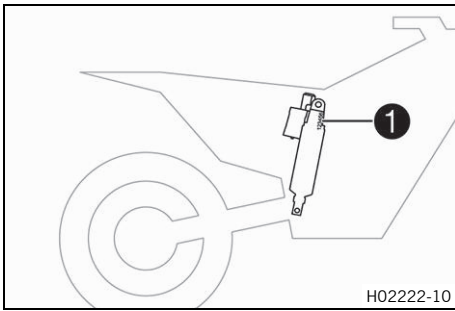
The engine number ❶ is located on the left side of the engine under the engine sprocket.

5.4 Fork part number



Fork part number ❶ is stamped on the inner side of the axle clamp.

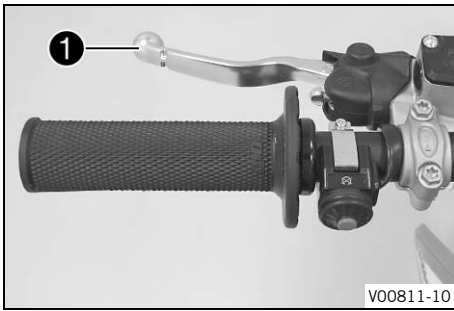
5.5 Shock absorber article number



The shock absorber part number **1** is stamped on the top of the shock absorber above the adjusting ring towards the engine side.

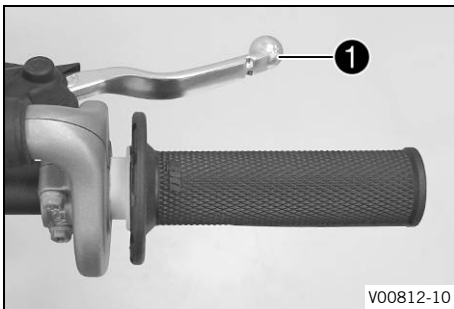
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6.1 Clutch lever



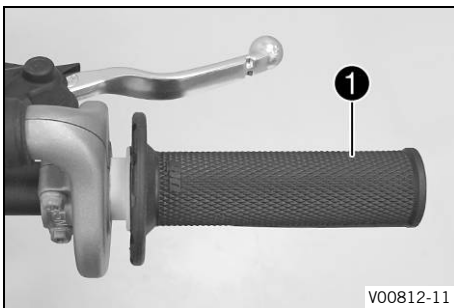
Clutch lever **1** is fitted on the left side of the handlebar. The clutch is hydraulically operated and self-adjusting.

6.2 Hand brake lever



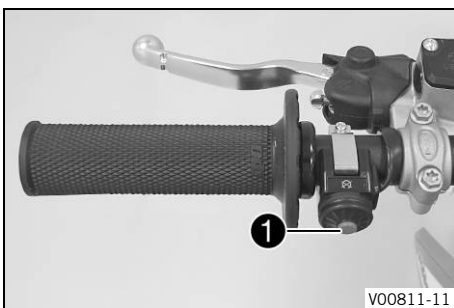
The hand brake lever **1** is fitted on the right side of the handlebar. The front brake is engaged using the hand brake lever.

6.3 Throttle grip





Throttle grip **1** is fitted on the right side of the handlebar.

6.4 Kill switch



Kill switch **1** is fitted on the left side of the handlebar.

Possible states

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

6.5 Opening the 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.

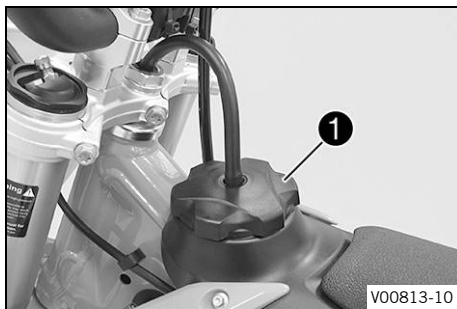
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.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

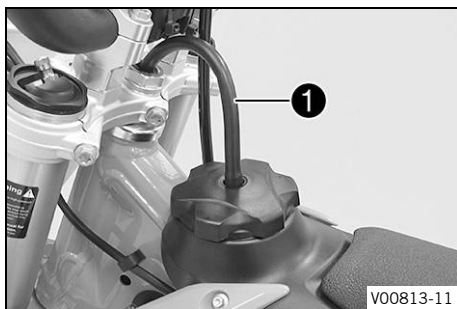
Environmental hazard Improper handling of fuel is a danger to the environment.

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



- Turn filler cap **1** counterclockwise and lift it off.

6.6 Closing the filler cap



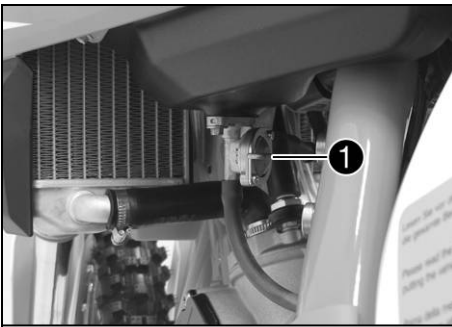
- Mount filler cap and turn it clockwise until the fuel tank is tightly closed.



Info

Run fuel tank breather hose **1** without kinks.

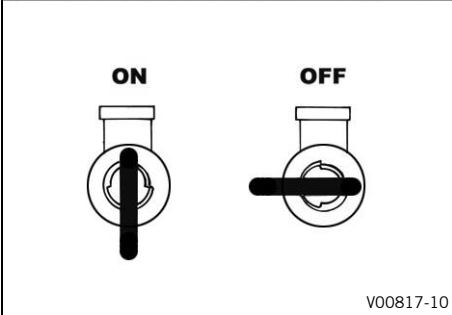
6.7 Fuel tap



The fuel tap is on the left side of the fuel tank. Using the tap handle ① on the fuel tap, you can open or close the fuel supply to the carburetor.

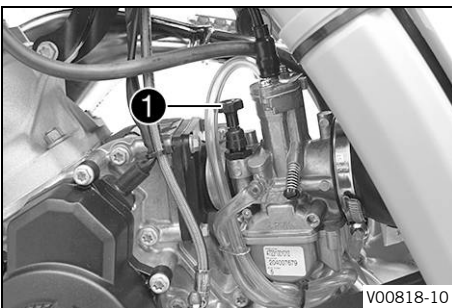
Possible states

- Fuel supply closed **OFF** – Fuel cannot flow from the fuel tank to the carburetor.
- Open fuel supply **ON** – Fuel can flow from the fuel tank to the carburetor. The fuel tank empties completely.



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6.8 Choke



Choke ① is fitted on the left side of the carburetor. Activating the choke function frees a drill hole in the carburetor through which the engine can draw extra fuel. This results in a richer fuel-air mixture, which is needed for a cold start.



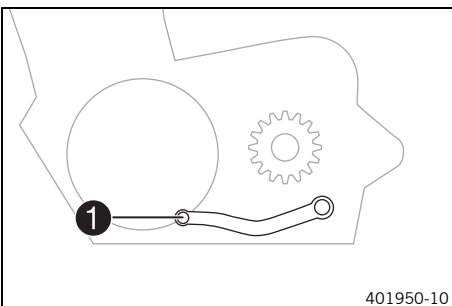
Info

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

Possible states

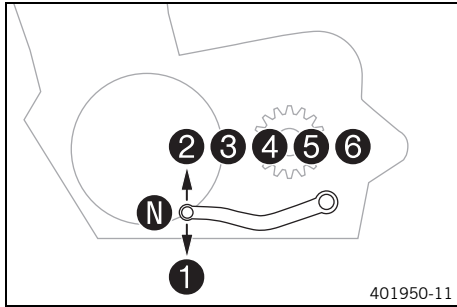
- Choke function activated – The choke lever is pulled out to the stop.
- Choke function deactivated – The choke lever is pushed in to the stop.

6.9 Shift lever



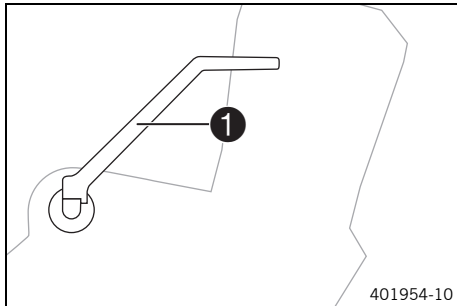
401950-10

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



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

6.10 Kick starter



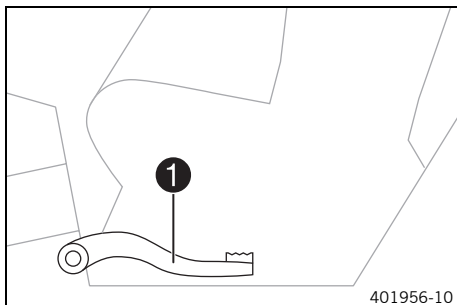
Kick starter **1** is fitted on the right side of the engine. The kick starter can be swiveled.



Info

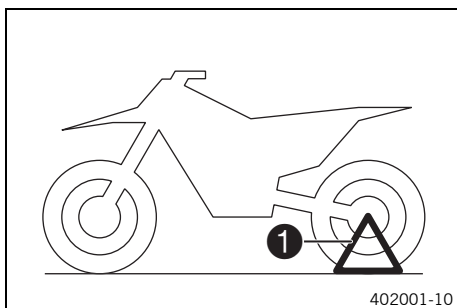
Before riding, swing the kickstarter inwards towards the engine.

6.11 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.

6.12 Plug-in stand



The fixture for plug-in stand **1** is located on the frame on the left side of the vehicle.

The plug-in stand is used to park the motorcycle.



Info

Remove the plug-in stand before riding.

6.13 Service hour counter



The service hour counter **1** is attached below the seat. It shows the total number of service hours of the engine. The service hour counter begins counting when the engine is started and stops when the engine is switched off.

**Info**

The value indicated by the service hour counter cannot be cleared or adjusted.

7.1 Advice on first use



Warning

Danger of accidents A lack of physical and mental readiness on the part of the child poses a major risk. Children often underestimate or fail to recognize dangerous situations.

- Your child must already be able to ride a bicycle.
- Your child must be able to put the vehicle upright independently after a fall.
- Your child must understand that regulations and instructions from you or from other guardians must be followed.
- Make it clear to your child that he or she should not, under any circumstances, operate the vehicle without supervision.
- Make it clear to your child that he or she may only drive at speeds commensurate with the child's riding abilities and the road conditions.
- Do not ask too much of your child.
Do not consider participation in competitive activities until your child's stamina, riding techniques and motivation are at the necessary levels.
- Only let your child ride on the vehicle if he or she is physically and mentally ready.



Warning

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

- Ensure your child wears appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Always use protective clothing for your child that is in good condition and meets the legal requirements.
- When you ride a motorcycle, set an example for your child and wear suitable protective clothing.



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 constitutes a major risk.

- Ensure that your child adapts the riding speed to the road conditions and to his or her riding abilities.



Warning

Danger of accidents The vehicle is not designed to carry passengers.

- Make it clear to your child that he or she must not carry 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.

- Ensure that your child raises his or her foot from the foot brake lever if he or she does not want to brake.



Warning

Danger of accidents The suspension components will become damaged or destroyed if overloaded.

- Do not exceed the maximum permissible weight of the rider.



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-delivery inspection work has been carried out by an authorized KTM workshop.
 - ✓ You receive a delivery certificate and the Service and Warranty Booklet at vehicle handover.
- Carefully read the entire Owner's Manual together with your child before going for the first ride.



Info

Pay special attention to the safety warnings and injury risks. Explain to your child the techniques of riding and falling, e.g. how shifting weight can influence handling characteristics.

- Familiarize your child with the controls.
- Adjust the basic position of the clutch lever. (📖 p. 66)
- Adjust the free travel of the handbrake lever. (📖 p. 70)
- Adjust the basic position of the foot brake lever. 🦶 (📖 p. 76)
- Before using the vehicle for the first time, ensure that the basic settings of the chassis are suitable for the weight of your child.
- Accustom your child to the handling of the motorcycle on suitable terrain, preferably on a large, open meadow.



Info

To give your child a feeling for the brake system, you should push your child on the motorcycle at first. Do not start the engine until your child is able to apply the necessary front brake pressure. Initially, let your child ride to another person who can help your child stop and turn.

- Erect obstacles for your child to navigate around to accustom your child to handling the vehicle.
- Your child should also try to ride as slowly as possible and in a standing position to get a better feeling for the vehicle.
- Do not let your child ride on terrain that exceed your child's capabilities and experience.
- Your child should hold the handlebar firmly with both hands and keep his or her feet on the footrests when riding.
- Make sure the maximum permissible weight of the rider is not exceeded.

Guideline

Maximum rider weight	75 kg (165 lb.)
----------------------	-----------------

- Check the spoke tension. (📖 p. 87)



Info

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

- Run the engine in. (📖 p. 22)



7.2 Running in the engine

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

Guideline

Maximum engine performance	
During the first 3 operating hours	< 70 %
During the first 5 operating hours	< 100 %

- Avoid fully opening the throttle!

7.3 Preparing the vehicle for difficult riding conditions

i Info

Use of the vehicle under difficult conditions, such as on sand or on wet and muddy surfaces, can lead to considerably more rapid 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.

- Clean the air filter and air filter box. 📖 (p. 55)

i Info

Check the air filter approx. every 30 minutes.

- Check the electrical connector for humidity and corrosion and to ensure it is firmly seated.
 - » If humidity, corrosion, or damage is found:
 - Clean and dry the connector, or change it if necessary.

Difficult riding conditions are:

- Rides on dry sand. 📖 (p. 22)
- Rides on wet sand. 📖 (p. 24)
- Rides on wet and muddy circuits. 📖 (p. 25)
- Rides at high temperatures or slow riding. 📖 (p. 25)
- Riding at low temperatures and in snow. 📖 (p. 26)

7.4 Preparing vehicle for rides on dry sand



- Make sure that no radiator covers (📖 p. 88) are installed.
- Check the radiator cap.

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

- » If the indicated value does not correspond to the setpoint value:



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.

- Change the radiator cap.

- Mount a dust cover on the air filter.

Dust cover for air filter (47206920000)



Info

See the **KTM PowerParts** fitting instructions.



M01104-01

- Mount a sand cover on the air filter.

Sand cover for air filter (79006922000)



Info

See the **KTM PowerParts** fitting instructions.



M01105-01

- Adjust the carburetor jetting and setting.



Info

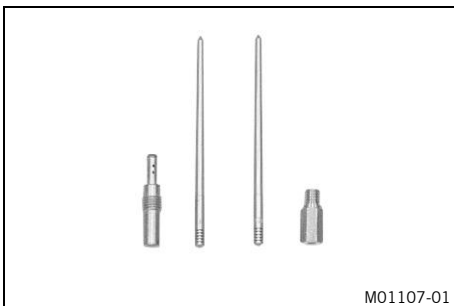
Your authorized KTM workshop can recommend the right carburetor tuning.

- Clean the chain.

Chain cleaner (📖 p. 121)

- Grease the chain.

Universal oil spray (📖 p. 122)



M01107-01

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

Condition

Regular use in sand

- Change the piston every 10 operating hours.

7.5 Preparing vehicle for rides on wet sand



- Make sure that no radiator covers (📖 p. 88) are installed.
- Check the radiator cap.

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

- » If the indicated value does not correspond to the setpoint value:



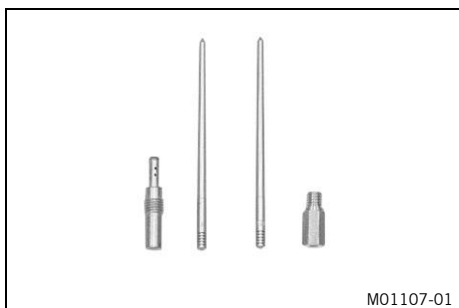
Warning

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.

- Change the radiator cap.

- Adjust the carburetor jetting and setting.



Info

Your authorized KTM workshop can recommend the right carburetor tuning.

- Clean the chain.

Chain cleaner (📖 p. 121)

- Grease the chain.

Universal oil spray (📖 p. 122)

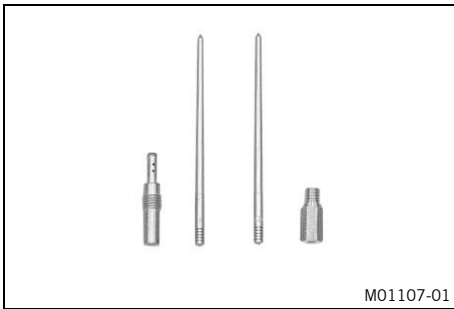
- Clean the radiator fins.
- Straighten bent radiator fins carefully.

Condition

Regular use in sand

- Change the piston every 10 operating hours.

7.6 Preparing vehicle for rides on wet and muddy circuits



- Make sure that no radiator covers (📖 p. 88) are installed.
- Adjust the carburetor jetting and setting.

i Info
Your authorized KTM workshop can recommend the right carburetor tuning.

- Clean the motorcycle. (📖 p. 105)
- Straighten bent radiator fins carefully.

7.7 Preparing vehicle for high temperatures or slow riding



- Make sure that no radiator covers (📖 p. 88) are installed.
- Check the radiator cap.

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

- » If the indicated value does not correspond to the setpoint value:

⚠ 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.

- Change the radiator cap.

- Adjust the secondary drive to the road conditions.

i Info
The engine oil heats up quickly when the clutch is operated frequently due to an excessively high secondary ratio.

- Clean the chain.

Chain cleaner (📖 p. 121)

- Grease the chain.

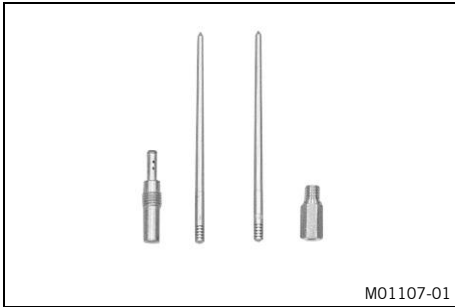
Universal oil spray (📖 p. 122)

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



- Check the coolant level. (📖 p. 91)

7.8 Preparing vehicle for low temperatures or snow



- Adjust the carburetor jetting and setting.



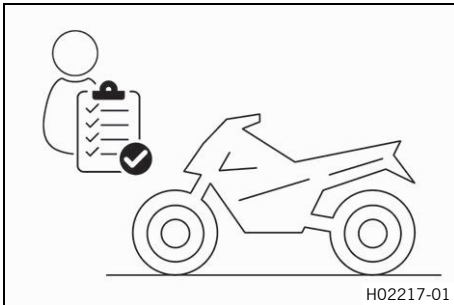
Info

Your authorized KTM workshop can recommend the right carburetor tuning.

8.1 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 gear oil level. (📖 p. 102)
- Check the front brake fluid level. (📖 p. 71)
- Check the rear brake fluid level. (📖 p. 77)
- Check the front brake linings. (📖 p. 73)
- Check the rear brake linings. (📖 p. 78)
- Check that the brake system is functioning properly.
- Check the coolant level. (📖 p. 91)
- Check for chain dirt accumulation. (📖 p. 60)
- Check the chain, rear sprocket, engine sprocket and chain guide. (📖 p. 63)
- Check the chain tension. (📖 p. 61)
- Check the tire condition. (📖 p. 85)
- Check the tire air pressure. (📖 p. 86)
- Check the spoke tension. (📖 p. 87)

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. 45)
- Bleed the fork legs. (📖 p. 44)
- Check the air filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts, and hose clamps regularly for tightness.
- Check the fuel level.

8.2 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 an effective exhaust extraction system when starting or running the engine in an enclosed space.

Note


Engine failure High rpm with a cold engine negatively impacts the lifespan of the engine.

- Ensure that the engine is always warmed up at low engine speeds.

Info

If the motorcycle is unwilling to start, the cause can be old fuel in the float chamber. The flammable elements of the fuel evaporate after a long time of standing.
If the float chamber is filled with fresh fuel, the engine starts immediately.

The motorcycle has been out of use for more than 1 week

- Empty the carburetor float chamber.  (p. 99)
- Turn handle of the fuel tap to the **ON** position.
 - ✓ Fuel can flow from the fuel tank to the carburetor.
- Remove the motorcycle from the stand.
- Shift gear to neutral.

The engine is cold

- Pull the choke lever out as far as possible.
- Press the kick starter robustly through its full range.

Info

Do not open the throttle.

8.3 Starting off

Info

The plug-in stand must be removed before riding.

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

8.4 Shifting, riding



Warning

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

- Make it clear to your child that he or she must not change into a low gear at high engine speed.

Info

If unusual noises occur 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.

- When conditions allow (incline, road situation, etc.), your child can shift into a higher gear. To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch lever and open the throttle.
- If the choke function has been activated, deactivate it after the engine has warmed up.
- 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.
- Your child should always open the throttle only as much as the engine can handle – abruptly opening the throttle 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.
- Your child should switch off the engine if longer periods of engine idling or standing still are expected.

Guideline

≥ 2 min

- Your child should avoid frequent and extended slipping of the clutch. As a result the engine oil, engine and cooling system heat up.
- Insist that your child ride with a low rpm instead of with a high rpm and a slipping clutch.



8.5 Applying the brakes



Warning

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

- Explain to your child that he or she must adapt the braking to the traffic situation and the road 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 allow your child to 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.

- Explain to your child that he or she must 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.
- Always finish braking before you go into a bend. Your child should change down to a lower gear appropriate to the road speed.
- Insist that your child take advantage of the braking action of the engine when riding on long downhill. To do so, shift back one or two gears, but do not overrev the engine. Your child will need to apply the brakes far less often and the brake system will not overheat.



8.6 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.

8 RIDING INSTRUCTIONS

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.

- 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 gear to neutral.
 - Press and hold the kill switch ☒ while the engine is idling until the engine stops.
 - Turn the tap handle of the fuel tap to the **OFF** position.
 - Park the motorcycle on firm ground.

8.7 Transporting

Note

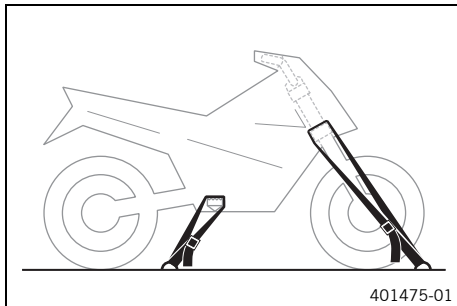
Danger of damage The parked vehicle can roll away or fall over.

- 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.

8.8 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.

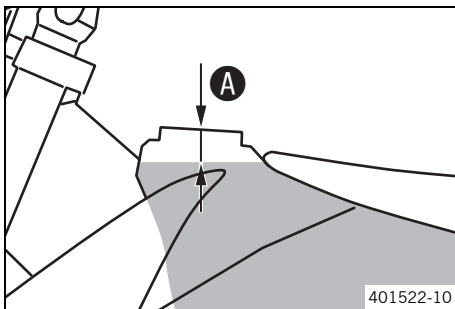
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- In case of skin contact, rinse the affected area with plenty of water.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.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



Note

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.



- Switch off the engine.
- Open the filler cap. (📖 p. 16)
- Fill the fuel tank with fuel up to measurement **A**.

Guideline

Measurement of A	35 mm (1.38 in)
-------------------------	-----------------

Fuel tank capacity, approx.	5.2 l (1.37 US gal)	Super unleaded (98 octane) mixed with 2-stroke engine oil (1:40) (📖 p. 120)
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Engine oil, 2-stroke (📖 p. 119)

- Close the filler cap. (📖 p. 16)



9.1 Additional information

Any further work that results from the compulsory work or from the recommended work must be ordered separately and invoiced separately.

Different service intervals may apply in your country, depending on the local operating conditions.

Individual service intervals and scopes may change in the course of technical developments. The most up-to-date service schedule can always be found on KTM Dealer.net. Your authorized KTM dealer will be happy to advise you.

9.2 Required work

	after every race			
	Every 40 operating hours			
	Every 20 operating hours			
	Once after 10 operating hours / Every 10 operating hours			
Check the front brake linings. (🔧 p. 73)	○	●	●	●
Check the rear brake linings. (🔧 p. 78)	○	●	●	●
Check the brake discs. (🔧 p. 70)	○	●	●	
Check the brake lines for damage and leakage.	○	●	●	●
Change the foot brake cylinder sealing cup. 🛠️		●	●	●
Check the rear brake fluid level. (🔧 p. 77)	○	●	●	●
Check the free travel of the foot brake lever. (🔧 p. 76)	○	●	●	●
Check the frame. 🛠️ (🔧 p. 65)		●	●	●
Check the swingarm. 🛠️ (🔧 p. 65)		●	●	●
Check the swingarm bearing for play. 🛠️		●	●	
Check the heim joint for play. 🛠️		●	●	
Check the tire condition. (🔧 p. 85)	○	●	●	●
Check the tire air pressure. (🔧 p. 86)	○	●	●	●
Check the wheel bearing for play. 🛠️		●	●	●
Check the wheel hubs. 🛠️		●	●	●
Check the rim run-out. 🛠️	○	●	●	
Check the spoke tension. (🔧 p. 87)	○	●	●	●
Check the chain, rear sprocket, engine sprocket and chain guide. (🔧 p. 63)	○	●	●	●
Check the chain tension. (🔧 p. 61)	○	●	●	●
Grease all moving parts (e.g., hand lever, chain, ...) and check for smooth operation. 🛠️	○	●	●	●
Check the fluid level of the hydraulic clutch. (🔧 p. 67)	○	●	●	●
Check the front brake fluid level. (🔧 p. 71)	○	●	●	●
Check the free travel of the hand brake lever. (🔧 p. 70)	○	●	●	●
Check the play of the steering head bearing. (🔧 p. 50)	○	●	●	
Change the spark plug and spark plug connector. 🛠️	●	●	●	
Change the gear oil. 🛠️ (🔧 p. 102)	○	●	●	
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. 90)	○	●	●	●
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 box. 🛠️ (🔧 p. 55)	○	●	●	●
Change the glass fiber yarn filling of the main silencer. 🛠️ (🔧 p. 57)			●	

	after every race			
	Every 40 operating hours			
	Every 20 operating hours			
	Once after 10 operating hours / Every 10 operating hours			
Service the fork. 🛠️			•	
Service the shock absorber. 🛠️			•	
Check the screws and nuts for tightness. 🛠️	○	•	•	•
Check idle. 🛠️	○	•	•	•
Final check: Check the vehicle for operating safety and take a test ride. 🛠️	○	•	•	•
Make the service entry in the KTM Dealer.net and in the Service and Warranty Booklet. 🛠️	○	•	•	•

- One-time interval
- Periodic interval

9.3 Recommended work

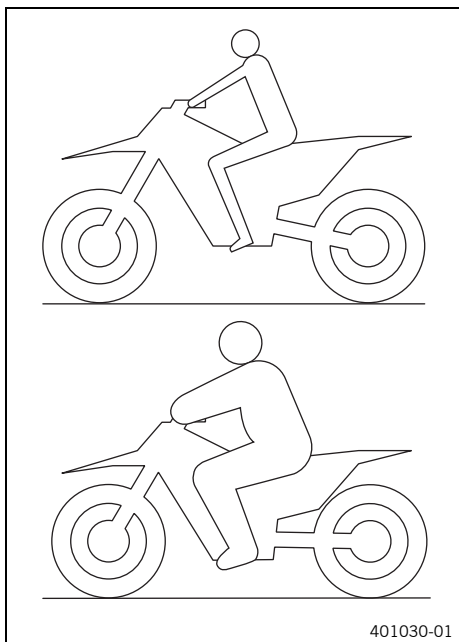
	after every race			
	Annually			
	Every 40 operating hours			
	Once after 20 operating hours / Every 20 operating hours			
	Once after 10 operating hours / Every 10 operating hours			
Change the front brake fluid. 🛠️			•	
Change the rear brake fluid. 🛠️			•	
Change the hydraulic clutch fluid. 🛠️ (📖 p. 68)			•	
Grease the steering head bearing. 🛠️ (📖 p. 51)			•	
Service the fork. 🛠️	○			
Service the shock absorber. 🛠️		○		
Check/adjust the carburetor components. 🛠️			•	•
Perform minor engine service. (Check the inlet membrane. Check the clutch. Under difficult operating conditions: Change the piston and check the cylinder and Z dimension.) 🛠️	•	•	•	•
Perform the intermediate engine service. (Change the piston. Check the cylinder and Z dimension. Check the exhaust control for functioning and smooth operation.) 🛠️		•	•	
Perform major engine service including removing and installing engine. (Change the connecting rod, conrod bearing, and crank pin. Check the transmission and shift mechanism. Change all engine bearings.) 🛠️			•	

- One-time interval
- Periodic interval

10.1 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, swingarm and frame, the basic settings of the suspension components must match the rider's weight.
- As delivered, KTM offroad motorcycles are adjusted for an average rider's weight (with full protective clothing).

Guideline

Standard rider weight	45 ... 55 kg (99 ... 121 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.

10.2 Air suspension AER 43

Air suspension **WP Performance Systems AER 43** is used in the fork.

In this system, suspension is located in the left fork leg and damping in the right fork leg.

As fork springs are no longer required, a significant weight advantage is achieved when compared to conventional forks. The response on slightly uneven surfaces is significantly improved.

In normal driving mode, suspension is provided exclusively by an air cushion. A steel spring is located in the left fork leg as an end stop.

i Info

If the fork is frequently overloaded, then the air pressure in the fork must be increased to avoid damage to the fork and frame.

The air pressure in the fork can be quickly adjusted for the rider's weight, surface conditions and the rider's preference using a fork pump. The fork does not have to be detached. The time consuming mounting of harder or softer fork springs is not required.

If the air chamber loses air due to a damaged seal, the fork will still not sag. In this case the air is retained in the fork. The suspension travel is maintained as far as possible. The damping becomes harder and the riding comfort reduces.

As with a conventional fork, the damping can be adjusted in rebound and compression stages.

The rebound adjustment is located at the upper end of the right fork leg.

The compression adjuster is located at the lower end of the right fork leg.

10.3 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 setting, for example, has an effect on the landing after a jump: the rear wheel suspension compresses quickly. The low-speed setting, for example, has an effect 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, changes in the high-speed range affect the compression damping in the low-speed range and vice versa.

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



Caution

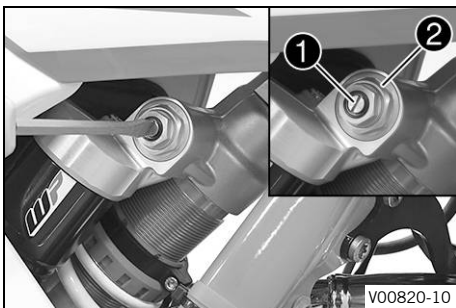
Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

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



Info

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



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



Info

Do not loosen fitting **2**!

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

Guideline

Compression damping, low-speed	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks



Info

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



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



Caution

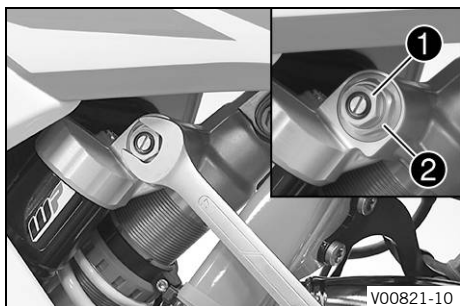
Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

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



Info

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



- Turn adjusting screw ❶ clockwise all the way.



Info

Do not loosen fitting ❷!

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

Guideline

Compression damping, high-speed	
Comfort	1.5 turns
Standard	2 turns
Sport	2.5 turns



Info

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

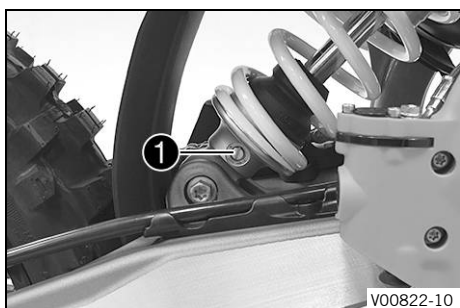
10.6 Adjusting the rebound damping of the shock absorber



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 ❶ 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



Info

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



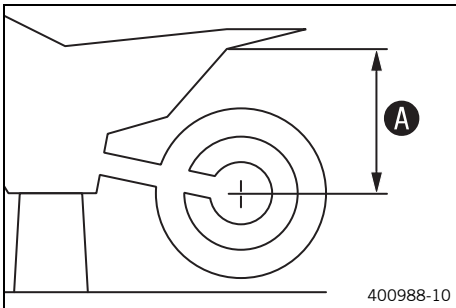
10.7 Measuring rear wheel sag unloaded

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)

Main work

- Measure the distance – as vertically as possible – between the rear axle and a fixed point such as a mark on the side cover.
- Make a note of the value as dimension **A**.



Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)



10.8 Checking the static sag of the shock absorber

- Measure distance **A** of rear wheel unloaded. (📖 p. 37)
- Hold the motorcycle upright with the aid of an assistant.
- Measure the distance between the rear axle and the fixed point again.
- Note down the value as dimension **B**.



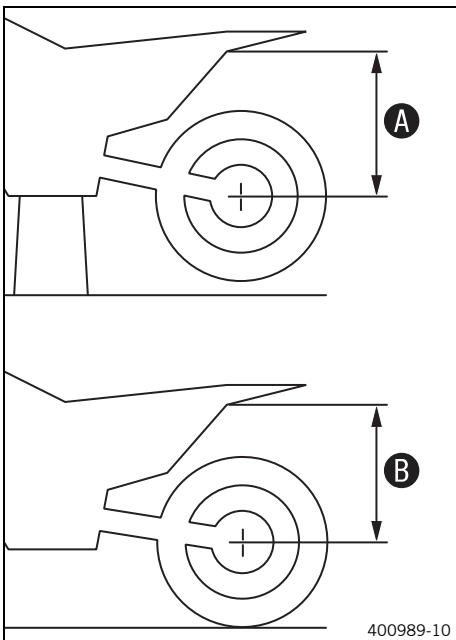
Info

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

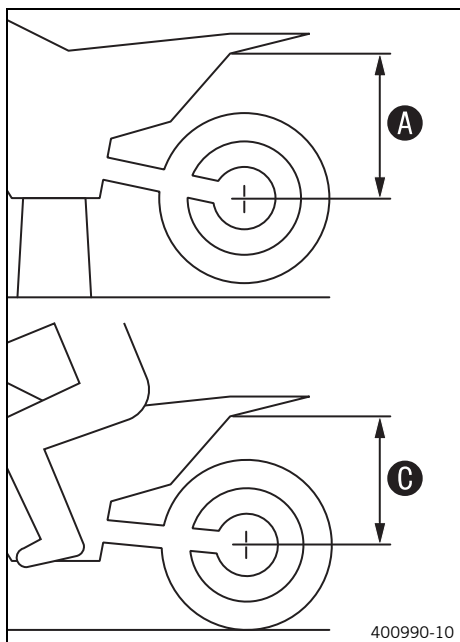
- Check the static sag.

Static sag	30 mm (1.18 in)
------------	-----------------

- » If the static sag is less or more than the specified value:
 - Adjust the spring preload of the shock absorber. (📖 p. 38)



10.9 Checking the riding sag of the shock absorber



- Measure distance **A** of rear wheel unloaded. (📖 p. 37)
- 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 down the value as dimension **C**.



Info

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

- Check the riding sag.

Riding sag	120 mm (4.72 in)
------------	------------------

- » If the riding sag differs from the specified measurement:
 - Adjust the riding sag. (🔧 p. 39)

10.10 Adjusting the spring preload of the shock absorber 🛠️



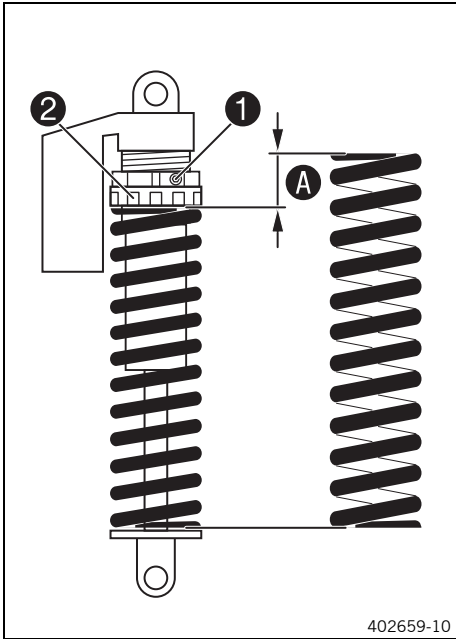
Caution

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.)

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)
- Remove the shock absorber. (🔧 p. 53)
- After removing the shock absorber, clean it thoroughly.



Main work

- Measure the full spring length while it is under tension and note down the value.
- Loosen screw ①.
- Turn adjusting ring ② until the spring is no longer under tension.

Holding wrench (90129051000)

- Measure the overall spring length while the spring is not under tension.
- Tighten the spring by turning adjusting ring ② to measurement A.

Guideline

Spring preload	11 mm (0.43 in)
----------------	-----------------

i Info

The spring preload is the difference between the relaxed spring length and the tensioned spring length. Depending on the static sag and/or the riding sag, it may be necessary to increase or decrease the spring preload.

- Tighten screw ①.

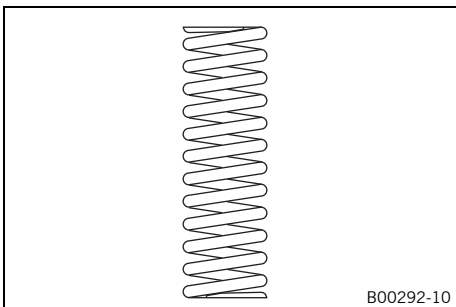
Finishing work

- Install the shock absorber. (🔧 p. 53)
- Remove the motorcycle from the lift stand. (🔧 p. 44)

10.11 Adjusting the riding sag 🛠️

Preparatory work

- Raise the motorcycle with a lift stand. (🔧 p. 44)
- Remove the shock absorber. 🛠️ (🔧 p. 53)
- After removing the shock absorber, clean it thoroughly.



Main work

- Choose and mount a suitable spring.

Guideline

Spring rate	
Weight of rider: < 45 kg (< 99 lb.)	35 N/mm (200 lb/in)
Weight of rider: 45 ... 55 kg (99 ... 121 lb.)	40 N/mm (228 lb/in)
Weight of rider: > 55 kg (> 121 lb.)	45 N/mm (257 lb/in)

i 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

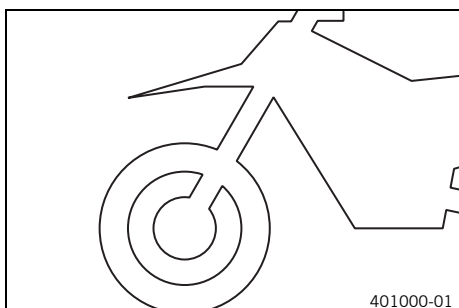
- Install the shock absorber. 🛠️ (🔧 p. 53)
- Remove the motorcycle from the lift stand. (🔧 p. 44)

- Check the static sag of the shock absorber. (📖 p. 37)
- Check the riding sag of the shock absorber. (📖 p. 38)
- Adjust the rebound damping of the shock absorber. (📖 p. 36)

10.12 Checking the basic setting of the fork

i Info

For various reasons, no exact riding sag can be determined for the fork.



- Smaller differences in the rider's weight can be compensated for by the fork air pressure.
- However, if the fork frequently bottoms out (hard end stop on compression), the fork air pressure must be increased, within the specified values, to avoid damage to the fork and frame.

10.13 Adjusting the fork air pressure



Warning

Danger of accidents Modifications to the suspension setting may seriously alter the handling characteristic.

Extreme modifications to the suspension setting may cause a serious deterioration in the handling characteristic and overload components.

- Only make adjustments within the recommended range.
- Make sure your child rides slowly to start with after making adjustments in order that he or she can assess the new handling characteristic.

i Info

Check or adjust the air pressure under the same conditions at the earliest 5 minutes after switching off the engine.

The air suspension is located in the left fork leg. The rebound damping is located in the right fork leg.

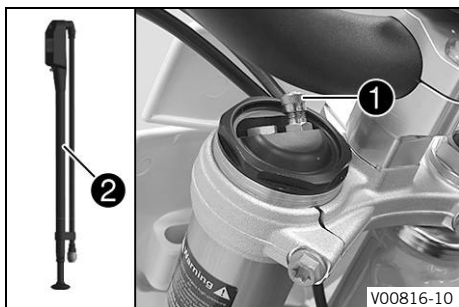
Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)

Main work

- Remove protection cap ①.
- Push fork pump ② together fully.

Fork airpump (79412966000)



i Info

The fork pump is included as part of the motorcycle's separate enclosure.

- Connect the fork pump to the left fork leg.
- ✓ The fork pump indicator switches on automatically.

- ✓ A little air escapes from the fork leg when connecting.

i Info
This is due to the volume of the hose and not due to a defect in the fork pump or the fork.
Read the accompanying **KTM PowerParts** instructions.

- Adjust the air pressure as specified.

Guideline

Air pressure	5 bar (73 psi)
Changing of the air pressure in steps of	0.2 bar (3 psi)
Minimum air pressure	4 bar (58 psi)
Maximum air pressure	8 bar (116 psi)

i Info
Never adjust the air pressure to a value outside the stated range.

- Disconnect the fork pump from the left fork leg.
 - ✓ When disconnecting, excess pressure will escape from the hose – the fork leg does not lose any air.
 - ✓ The fork pump indicator switches off automatically after 80 seconds.
- Mount the protection cap.

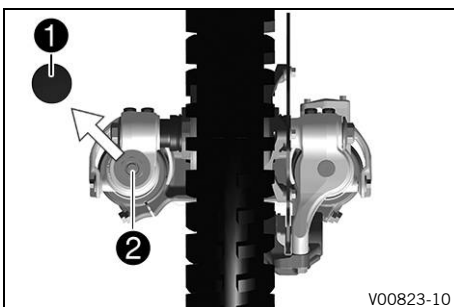
Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)



10.14 Adjusting the compression damping of the fork

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



- Remove protection cap ①.
- Turn adjusting screw ② clockwise all the way.

i Info
The adjusting screw ② is located at the lower end of the right fork leg.

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

Guideline

Compression damping	
Comfort	17 clicks
Standard	12 clicks
Sport	7 clicks

i Info

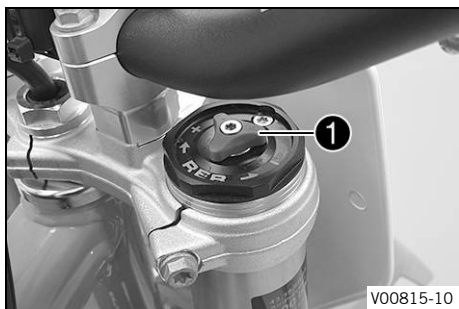
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

- Mount protection cap ❶.

10.15 Adjusting the rebound damping of the fork

i Info

The hydraulic rebound damping determines the fork suspension behavior.



- Turn red adjusting screw ❶ clockwise as far as it will go.

i Info

Adjusting screw ❶ is located at the upper end of the right fork leg. The rebound damping is located in right fork leg **REB** (red adjusting screw).

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

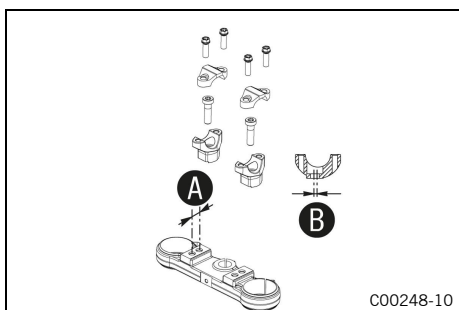
Guideline

Rebound damping	
Comfort	17 clicks
Standard	12 clicks
Sport	7 clicks

i Info

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

10.16 Handlebar position



On the upper triple clamp, there are 2 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. This allows the handlebar to be mounted in the most comfortable position for the rider.

10.17 Adjusting the handlebar position ↩

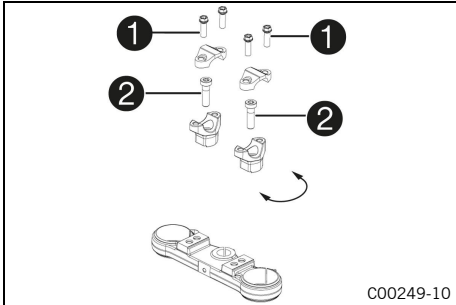


Warning

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 ❶. Take off the handlebar clamps. Remove the handlebar and lay it to one side.



Info

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

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

Guideline

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

- Position the handlebar.



Info

Make sure the cables and wiring are positioned correctly.

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

Guideline

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



Info

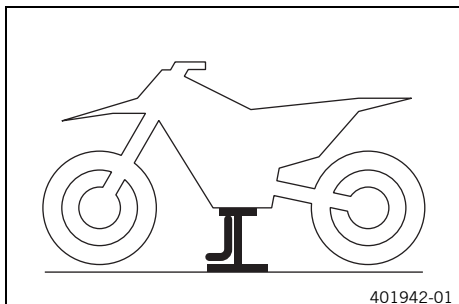
Make sure the gap widths are even.

11.1 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)

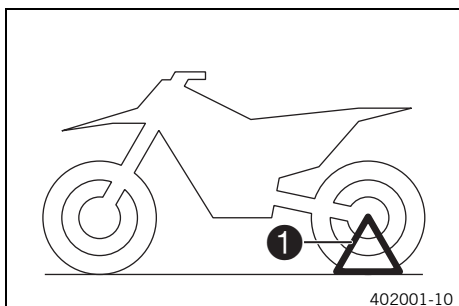
- ✓ Neither wheel is in contact with the ground.
- Secure the motorcycle against falling over.

11.2 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, insert plug-in stand ① into the left side of the wheel spindle.

Info

Remove the plug-in stand before riding.

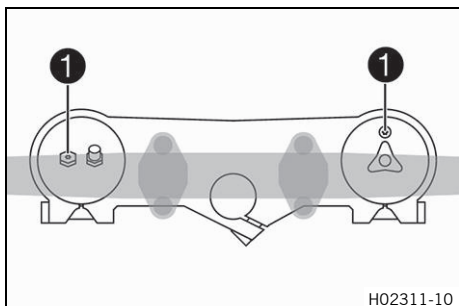
11.3 Bleeding the fork legs

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)

Main work

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



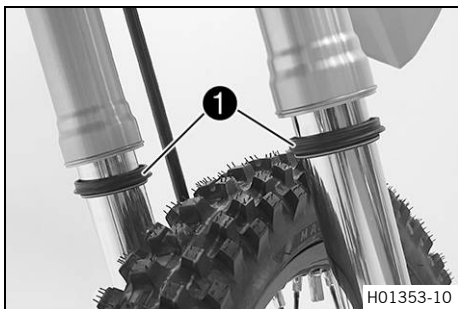
Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)

11.4 Cleaning the dust boots of the fork legs

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)
- Remove the fork protector. (📖 p. 47)



Main work

- Push dust boots ① 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. 122)

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

Finishing work

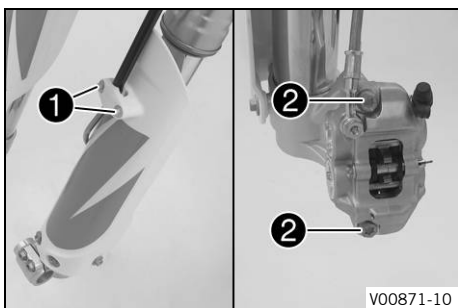
- Install the fork protector. (📖 p. 47)
- Remove the motorcycle from the lift stand. (📖 p. 44)



11.5 Removing the fork legs 🛠️

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)
- Remove the front wheel. 🛠️ (📖 p. 82)



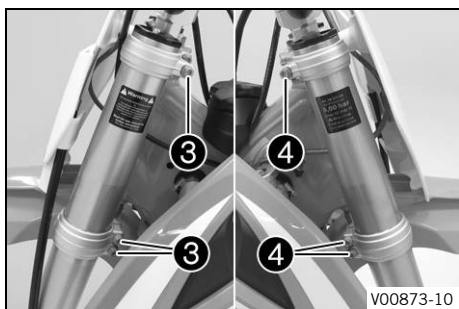
Main work

- Remove screws ① and take off the clamp.
- Remove screws ② and spacers.
- Allow the brake caliper and brake line to hang loosely to the side.



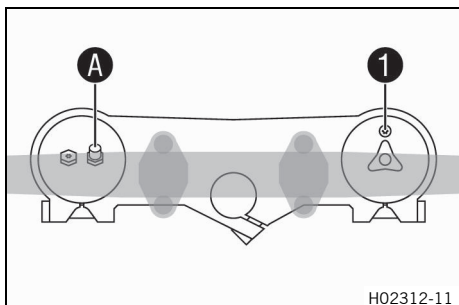
Info

Do not kink the brake line.
Do not pull the hand brake lever when the brake caliper is removed.



- Loosen screws **3**. Remove the left fork leg.
- Loosen screws **4**. Remove the right fork leg.

11.6 Installing the fork legs

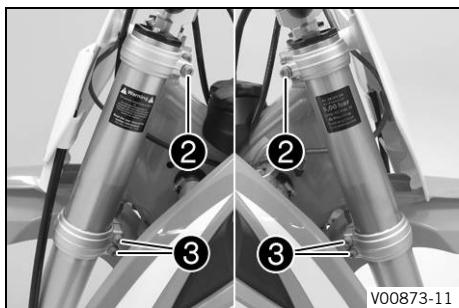


Main work

- Position the fork legs.
 - ✓ Air release screw **1** of the right fork leg is positioned to the front.
 - ✓ Valve **A** of the left fork leg faces the front.

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 top edge of the upper triple clamp. The air suspension is located in the left fork leg. The pressure and rebound damping is located in the right fork leg.



- Tighten screws **2**.

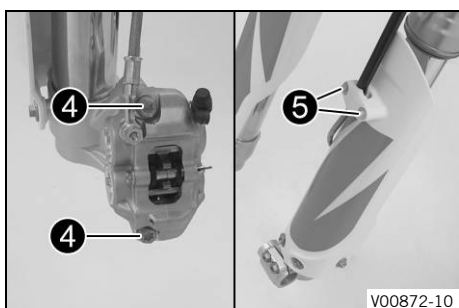
Guideline

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

- Tighten screws **3**.

Guideline

Screw, bottom triple clamp	M8	15 Nm (11.1 lbf ft)
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- Position the brake caliper with spacers and fit and tighten screws **4**.

Guideline

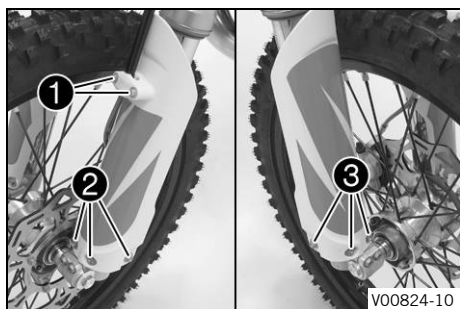
Screw, front brake caliper	M8	25 Nm (18.4 lbf ft) Loctite®243™
----------------------------	----	--

- Position the brake line and clamp. Mount and tighten screws **5**.

Finishing work

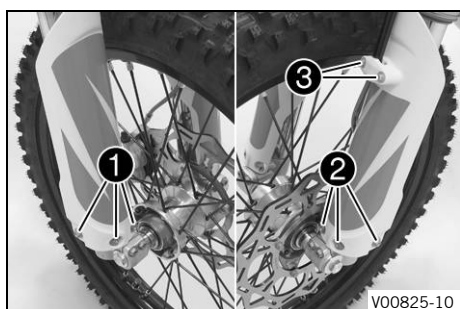
- Install the front wheel. (🔧 p. 82)
- Remove the motorcycle from the lift stand. (🔧 p. 44)

11.7 Removing the fork protector



- Remove screws ① and take off the clamp.
- Remove screws ② on the left fork leg. Take off the fork protector.
- Remove screws ③ on the right fork leg. Take off the fork protector.

11.8 Installing the fork protector



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

Guideline

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

- Position the fork protector 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 and clamp. Mount and tighten screws ③.

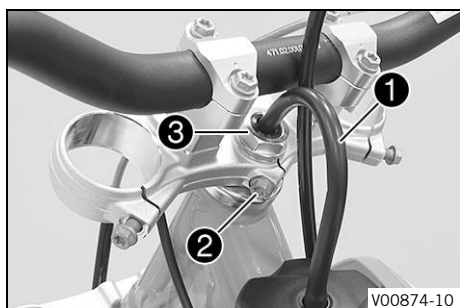
11.9 Removing the lower triple clamp

Preparatory work

- Raise the motorcycle with a lift stand. (p. 44)
- Remove the front wheel. (p. 82)
- Remove the fork legs. (p. 45)
- Remove the start number plate. (p. 51)
- Remove front fender. (p. 52)
- Remove the handlebar cushion.

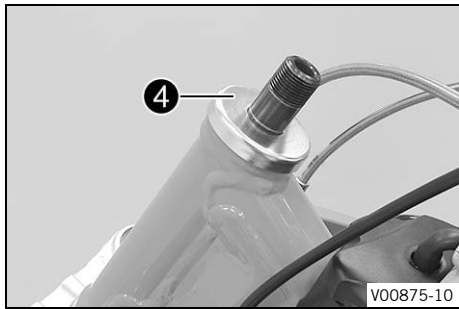
Main work

- Pull fuel tank breather ① out of the steering stem.
- Loosen screw ②. Remove nut ③, pull off the upper triple clamp with the handlebar in an upward direction, and hang it to the side.



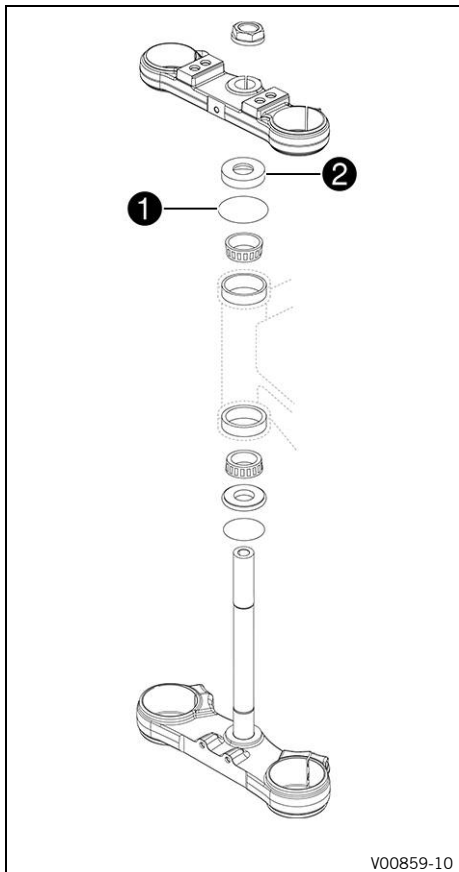
Info

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



- Remove protective ring ④.
- Take off the lower triple clamp with the steering stem in a downward direction.
- Remove the upper steering head bearing.

11.10 Installing the lower triple clamp

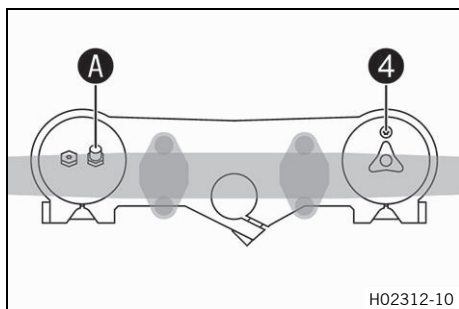


Main work

- Clean the bearing and sealing elements, check for damage, and grease.
- High viscosity grease (📖 p. 121)
- Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.
 - Slide on O-ring ①.
 - Position protective ring ②.

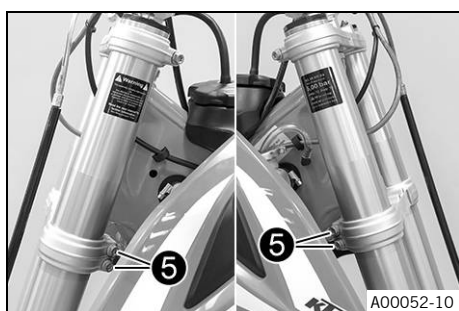


- Position the upper triple clamp with the handlebar.
- Mount nut ③, but do not tighten it yet.



- Position the fork legs.
 - ✓ Air bleeder screw **4** of the right fork leg is positioned to the front.
 - ✓ Valve **A** of the left fork leg faces the front.

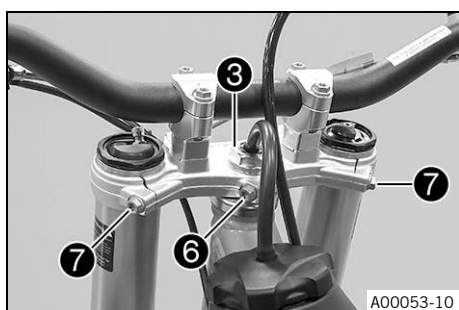
i Info
Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp. The air suspension is located in the left fork leg. The pressure and rebound damping is located in the right fork leg.



- Tighten screws **5**.

Guideline

Screw, bottom triple clamp	M8	15 Nm (11.1 lbf ft)
----------------------------	----	---------------------



- Tighten nut **3**.

Guideline

Nut, steering stem	M20x1.5	10 Nm (7.4 lbf ft)
--------------------	---------	--------------------

- Position the fuel tank breather in the steering stem.

- Tighten screw **6**.

Guideline

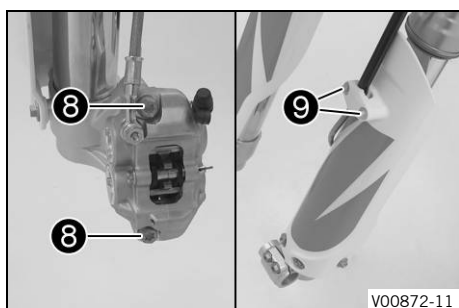
Steering stem clamp screw	M8	20 Nm (14.8 lbf ft)
---------------------------	----	---------------------

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

- Tighten screws **7**.

Guideline

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



- Position the brake caliper with spacers and fit and tighten screws **8**.

Guideline

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

- Position the brake line and clamp. Mount and tighten screws **9**.

Finishing work

- Install front fender. (📖 p. 52)
- Install the start number plate. (📖 p. 52)

- Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.
- Install the front wheel. 🛠️ (p. 82)
- Check the play of the steering head bearing. (p. 50)
- Remove the motorcycle from the lift stand. (p. 44)
- Position the handlebar cushion and secure with cable ties.

11.11 Checking the play of the steering head bearing



Warning

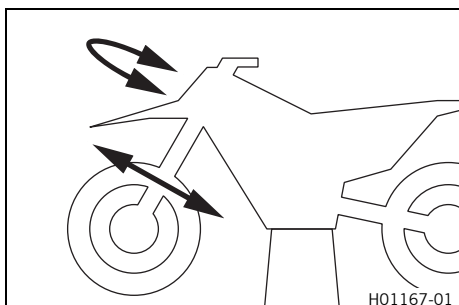
Danger of accidents Incorrect steering head bearing play impairs the handling characteristic and damages components.

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



Info

If the bike is ridden with play in the steering head bearing, the bearing and the bearing seats in the frame can become damaged over time.



Preparatory work

- Raise the motorcycle with a lift stand. (p. 44)

Main work

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

No play should be noticeable in the steering head bearing.

» If there is noticeable play present:

- Adjust the steering head bearing play. 🛠️ (p. 50)
- Move the handlebar to and fro over the entire steering range.

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

» If click positions are noticeable:

- Adjust the steering head bearing play. 🛠️ (p. 50)
- Check the steering head bearing and replace if required.

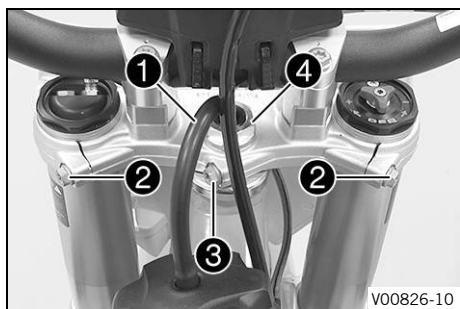
Finishing work

- Remove the motorcycle from the lift stand. (p. 44)

11.12 Adjusting the steering head bearing play 🛠️

Preparatory work

- Raise the motorcycle with a lift stand. (p. 44)



Main work

- Pull fuel tank breather ① out of the steering stem.
- Loosen screws ②.
- Loosen screw ③.
- Loosen and retighten nut ④.

Guideline

Nut, steering stem	M20x1.5	10 Nm (7.4 lbf ft)
--------------------	---------	--------------------

- Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.
- Tighten screw ③.

Guideline

Steering stem clamp screw	M8	20 Nm (14.8 lbf ft)
---------------------------	----	---------------------

- Tighten screws ②.

Guideline

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

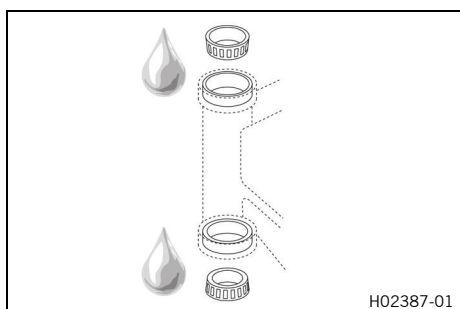
- Position the fuel tank breather ① in the steering stem.

Finishing work

- Check the play of the steering head bearing. (📖 p. 50)
- Remove the motorcycle from the lift stand. (📖 p. 44)



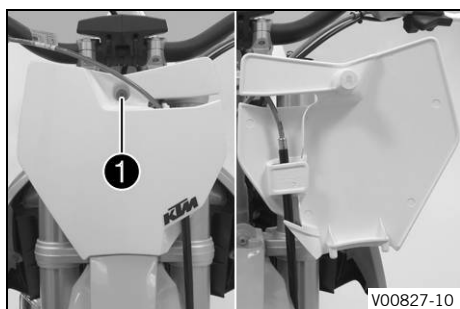
11.13 Greasing the steering head bearing 🛠️



- Remove the lower triple clamp. 🛠️ (📖 p. 47)
- Install the lower triple clamp. 🛠️ (📖 p. 48)



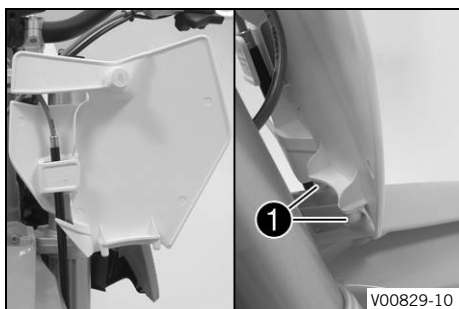
11.14 Removing the start number plate



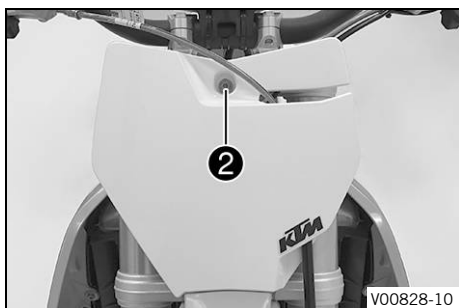
- Remove screw ①.
- Unhook the start number plate from the brake line and remove it.



11.15 Installing the start number plate



- Attach the start number plate to the brake line.
- Position the start number plate.
- ✓ Holding lugs **1** engage in the fender.



- Mount and tighten screw **2**.

Guideline

Start number plate screw	M6	4 Nm (3 lbf ft)
--------------------------	----	-----------------

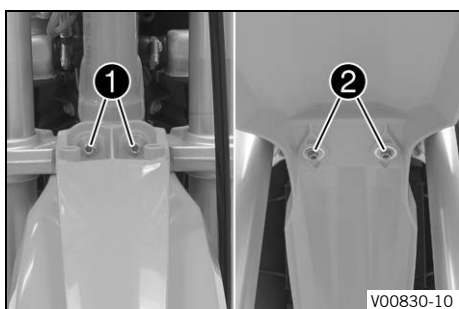
11.16 Removing front fender

Preparatory work

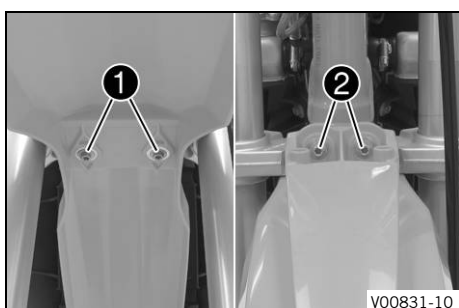
- Remove the start number plate. (📖 p. 51)

Main work

- Remove screws **1**.
- Remove screws **2**. Take off the front fender.



11.17 Installing front fender



Main work

- Position front fender.
- Mount and tighten screws **1**.

Guideline

Screw, front fender	M6	6 Nm (4.4 lbf ft)
---------------------	----	-------------------

- Mount and tighten screws **2**.

Guideline

Screw, front fender	M6	6 Nm (4.4 lbf ft)
---------------------	----	-------------------

Finishing work

- Install the start number plate. (📖 p. 52)

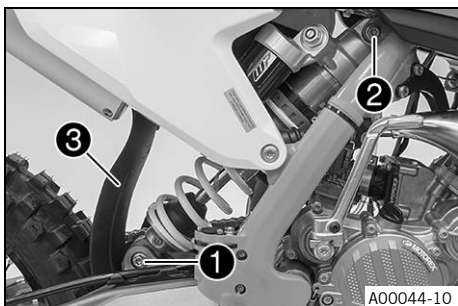
11.18 Removing the shock absorber

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)

Main work

- Detach brake line from the brake line guide.
- Remove screw ❶ and lower the rear wheel with the swingarm as far as possible without blocking the rear wheel. Fix the rear wheel in this position.
- Remove screw ❷, push splash protector ❸ to the side, and remove the shock absorber.



11.19 Installing the shock absorber

Main work

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

Guideline

Screw, top shock absorber	M12	60 Nm (44.3 lbf ft) Loctite®2701™
---------------------------	-----	---

- Mount and tighten screw ❸.

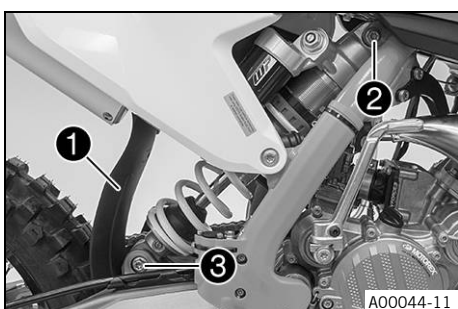
Guideline

Screw, bottom shock absorber	M12	60 Nm (44.3 lbf ft) Loctite®2701™
------------------------------	-----	---

- Attach brake line.

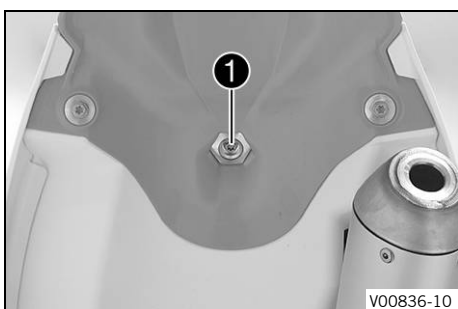
Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)



11.20 Removing the seat

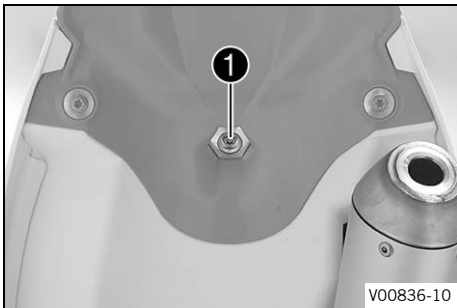
- Remove screw ❶.
- Raise the rear of the seat, pull the seat back, and lift it off.



11.21 Mounting the seat



- Mount the front of the seat on the collar bushing of the fuel tank, lower the seat at the rear, and push the seat forward.
- Make sure that the seat is correctly locked in.

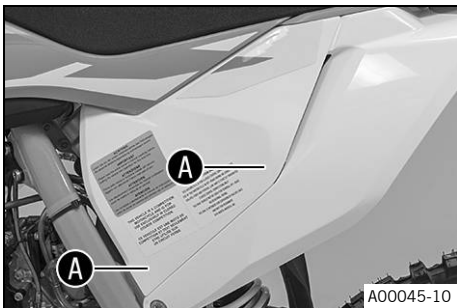


- Mount and tighten screw **1** of the seat fixing.

Guideline

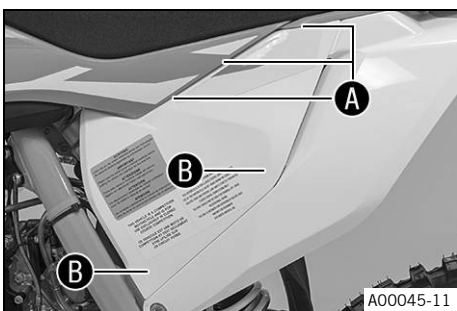
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

11.22 Removing the air filter box cover



- Pull off the air filter box cover laterally in the area **A** and take off toward the front.

11.23 Installing the air filter box cover



- Insert the air filter box cover in the area **A** and clip it into the area **B**.

11.24 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.

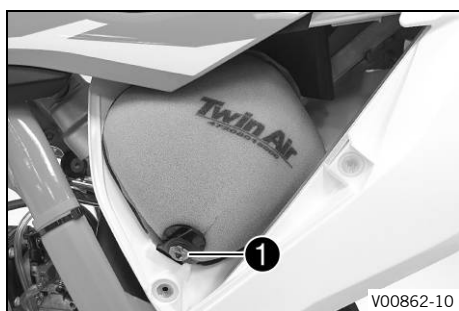
- Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Preparatory work

- Remove the air filter box cover. (📖 p. 54)

Main work

- Detach retaining tab ❶. Remove air filter with air filter support.
- Remove air filter from air filter support.



11.25 Cleaning the air filter and air filter box



Note

Environmental hazard Hazardous substances cause environmental damage.

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



Info

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

Preparatory work

- Remove the air filter box cover. (📖 p. 54)
- Remove the air filter. (🔧📖 p. 55)

Main work

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

Air filter cleaner (📖 p. 121)



Info

Only squeeze the air filter to dry it; never wring it out.

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

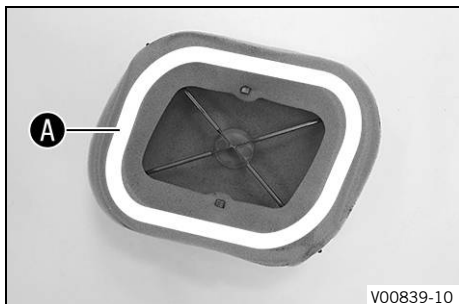
Oil for foam air filter (📖 p. 122)

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

Finishing work

- Install the air filter. (📖 p. 56)
- Install the air filter box cover. (📖 p. 54)

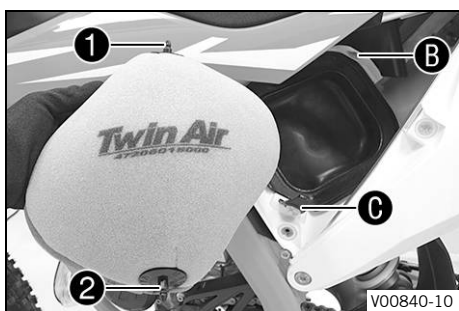
11.26 Installing the air filter 🛠️



Main work

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

Long-life grease (📖 p. 121)



- Insert the air filter and position top retaining pin **1** in bushing **B**.
✓ The air filter is correctly positioned.
- Secure the bottom retaining pin **2** with holding tab **C**.

i Info

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

Finishing work

- Install the air filter box cover. (📖 p. 54)

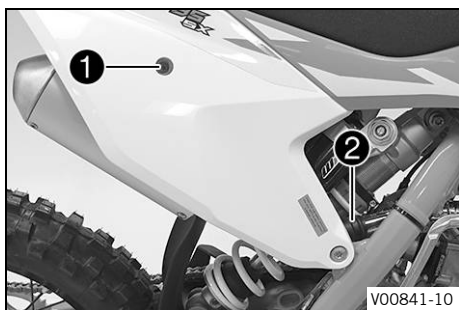
11.27 Removing the main silencer



Warning

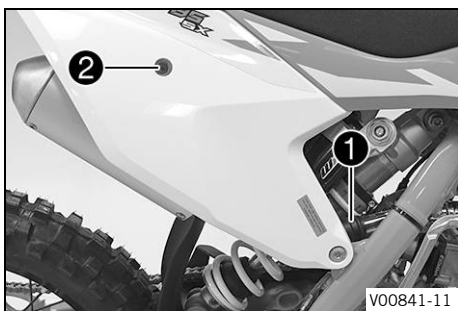
Danger of burns The exhaust system gets very hot when the vehicle is driven.

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



- Remove screw **1**.
- Pull the main silencer off of the manifold at rubber sleeve **2**.

11.28 Installing the main silencer



- Mount the main silencer with rubber sleeve ①.
- Mount and tighten screw ②.

Guideline

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

11.29 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.

Preparatory work

- Remove the main silencer. (🗨 p. 56)

Main work

- Remove screws ①.
- Take off outer tube ②.
- Remove glass fiber yarn filling ③ from inner tube ④.
- Clean the parts that need to be reinstalled and check for damage.
- Mount the new glass fiber yarn filling on the inner tube.



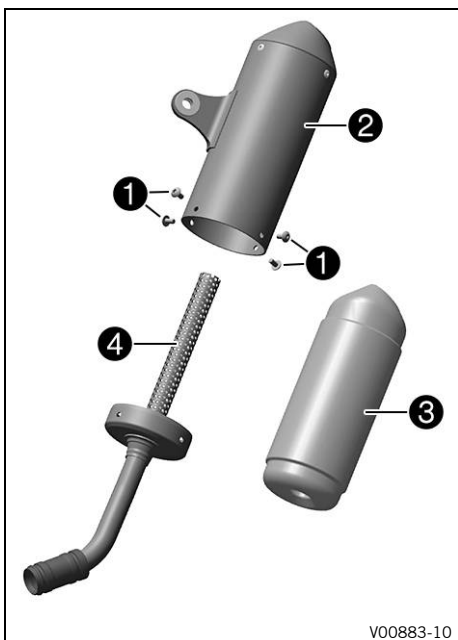
Info

Mount the glass fiber yarn filling so that the thermal protection foil is positioned on the right in the direction of travel.

- Slide outer tube over the inner tube with the new glass fiber yarn filling.
- Mount and tighten the screws.

Guideline

Screw, main silencer	M5	7 Nm (5.2 lbf ft)
----------------------	----	-------------------



Finishing work

- Install the main silencer. (🗨 p. 57)

11.30 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

- Remove the seat. (📖 p. 53)
- Turn the tap handle of the fuel tap to the **OFF** position.

Main work

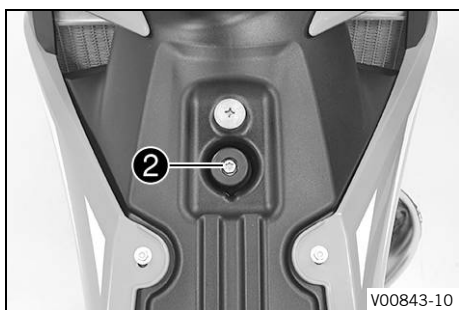
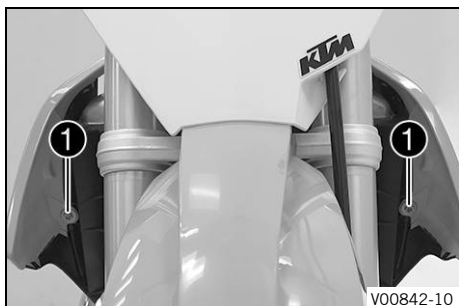
- Pull off the fuel hose.



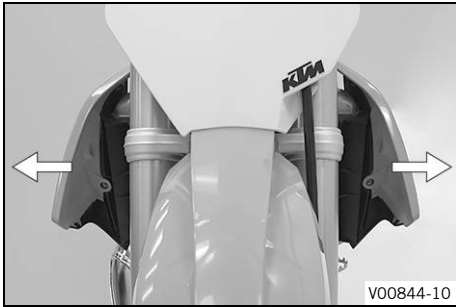
Info

Remaining fuel may flow out of the fuel hose.

- Remove screws ❶.



- Remove screw ❷ with the rubber bushing.
- Remove the hose from the fuel tank breather.



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



11.31 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.



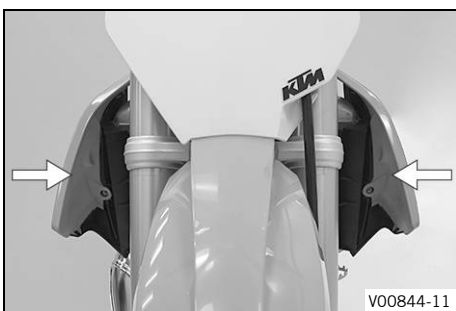
Warning

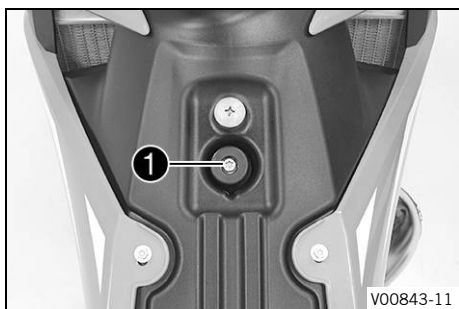
Danger of poisoning Fuel is poisonous and a health hazard.

- 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.
- Keep fuels correctly in a suitable canister, and out of the reach of children.

Main work

- Check the throttle cable routing. (📖 p. 65)
- Position the fuel tank and fit the two spoilers to the sides of the radiator bracket.
- Make sure that no cables or throttle cables are trapped or damaged.

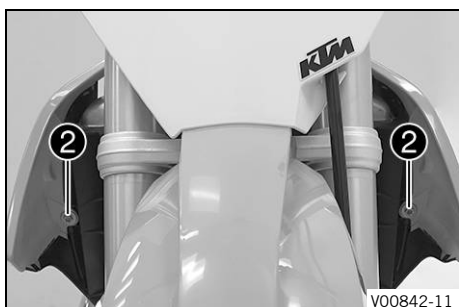




- Mount and tighten screw ❶ with the rubber bushing.

Guideline

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



- Mount and tighten screws ❷.

Guideline

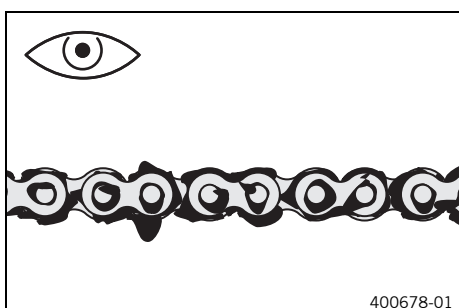
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	--------------------

- Mount fuel hose.
- Position the fuel tank breather in the steering stem.

Finishing work

- Mount the seat. (📖 p. 54)

11.32 Checking for chain dirt accumulation



- Check the chain for coarse dirt accumulation.
 - » If the chain is very dirty:
 - Clean the chain. (📖 p. 60)

11.33 Cleaning the chain



Warning

Danger of accidents Oil or grease on the tires reduces the road grip.

- Remove the lubricant 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

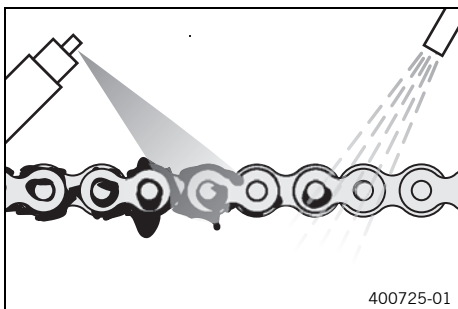
Environmental hazard Hazardous substances cause environmental damage.

- 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. 44)

Main work

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

Chain cleaner (📖 p. 121)

- After drying, apply chain spray.

Off-road chain spray (📖 p. 121)

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)



11.34 Checking the chain tension



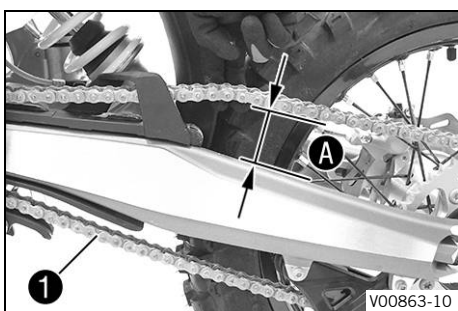
Warning

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. 44)

Main work

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



Info

The 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	46 ... 49 mm (1.81 ... 1.93 in)
---------------	---------------------------------

- » If the chain tension does not meet the specification:
 - Adjust the chain tension. (📖 p. 62)

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)



11.35 Adjusting the chain tension



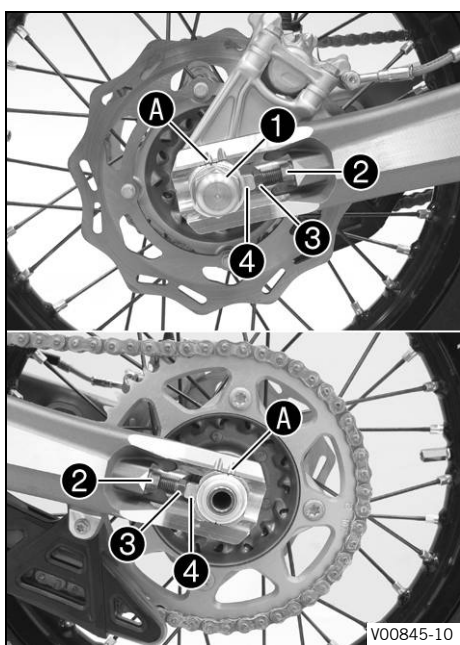
Warning

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. 44)
- Check the chain tension. (📖 p. 61)

Main work

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

Guideline

Chain tension	46 ... 49 mm (1.81 ... 1.93 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)
-------------------------	---------	-------------------



Info

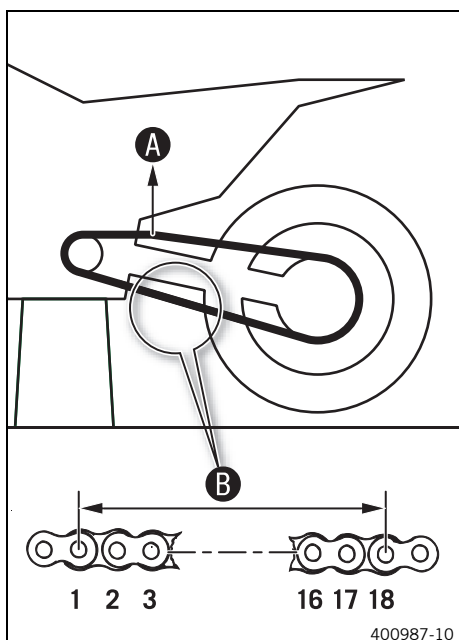
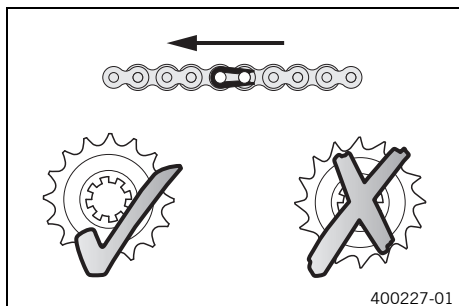
The wide adjustment range of the chain adjusters (32 mm (1.18 in)) enables different secondary ratios with the same chain length.

Chain adjusters ④ can be turned by 180°.

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)

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



Preparatory work

- Raise the motorcycle with a lift stand. (p. 44)

Main work

- Shift the transmission to idle.
- 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 at the top part 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	219 mm (8.62 in)
--	------------------

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

i Info

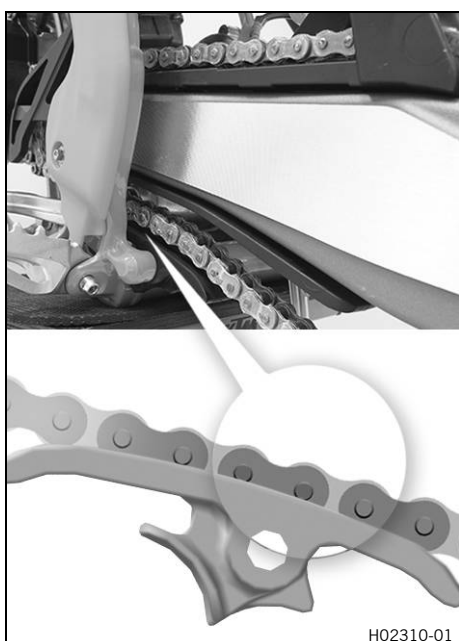
When a new chain is mounted, the rear sprocket and engine sprocket should also be changed. New chains wear out faster on an old, worn rear sprocket or engine sprocket.



- 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

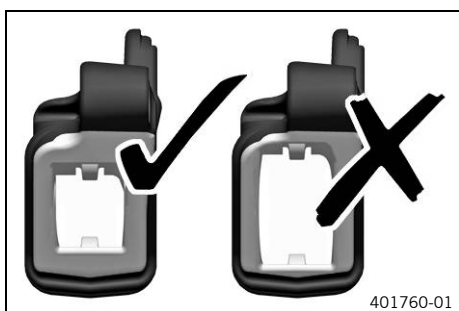
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	-----------------------



- 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.

i 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 screws on the chain guide.

Guideline

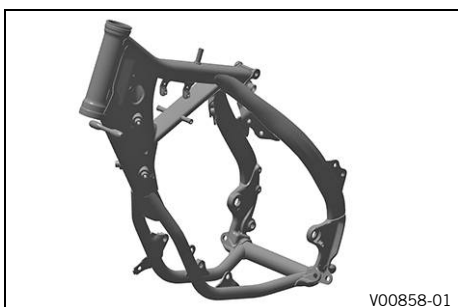
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
---------------------------	----	-----------------------

Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)



11.37 Checking the frame 🛠️



- Check the frame for cracks and deformation.
 - » If the frame exhibits cracks 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.



11.38 Checking the swingarm 🛠️



- Check the swingarm for damage, cracking, and deformation.
 - » If the swingarm shows signs of damage, cracking, or deformation:
 - Change the swingarm. 🛠️

i Info

Always change a damaged swingarm. Repair of the swingarm is not authorized by KTM.



11.39 Checking the throttle cable routing



Warning

Danger of accidents The throttle cable may slip out of the guide if routed incorrectly. The throttle slide will then no longer be closed and the speed can no longer be controlled.

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

Preparatory work

- Remove the seat. (📖 p. 53)
- Turn the tap handle of the fuel tap to the **OFF** position.
- Remove the fuel tank. 🛠️ (📖 p. 58)



Main work

- Check the throttle cable routing.

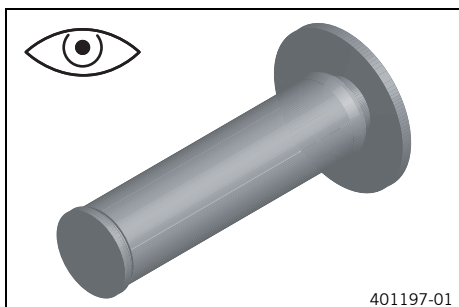
The throttle cable must be routed along the back of the handlebar, to the right of the frame, above the fuel tank bracket, and to the carburetor.

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

Finishing work

- Install the fuel tank. (🔧 p. 59)
- Mount the seat. (🔧 p. 54)

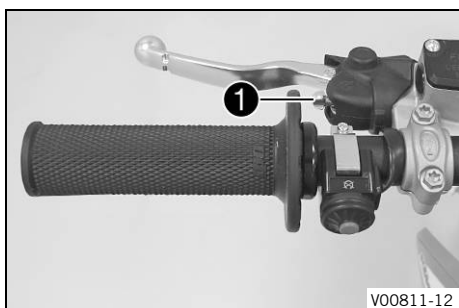
11.40 Checking the rubber grip



- Check the rubber grips on the handlebar for damage and wear and to ensure they are firmly seated.
 - » If a rubber grip is damaged, worn or loose:
 - Change and secure the rubber grip.

Grip adhesive (00062030051) (🔧 p. 121)

11.41 Adjusting the basic position of the clutch lever



- Adjust the basic position of the clutch lever to the size of the rider's hand using adjusting screw ❶.

i 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.

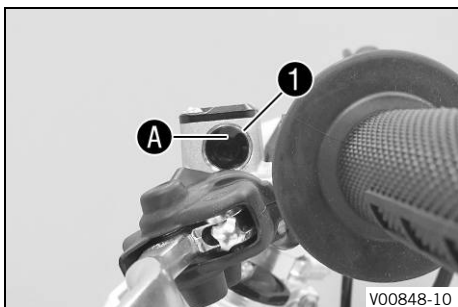
Turn the adjusting screw by hand only, and do not apply force.

Do not make any adjustments while riding!

11.42 Checking the fluid level of the hydraulic clutch

i Info

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



- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Check the fluid level in viewer **1**.
 - » If the fluid has dropped below marking **A** in the viewer:
 - Correct the fluid level of the hydraulic clutch. (📖 p. 67)

11.43 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.

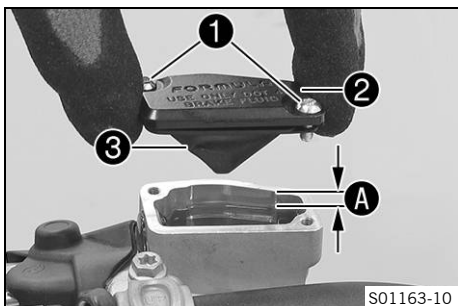
i Info

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. 119)
--

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



Info

Clean up overflowed or spilled brake fluid immediately with water.

11.44 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.

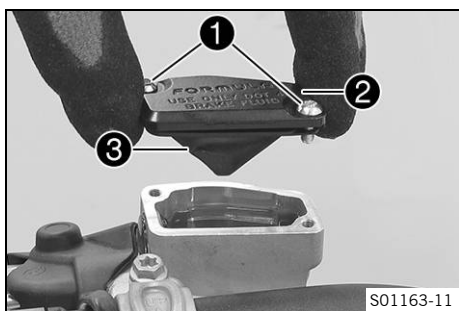


Info

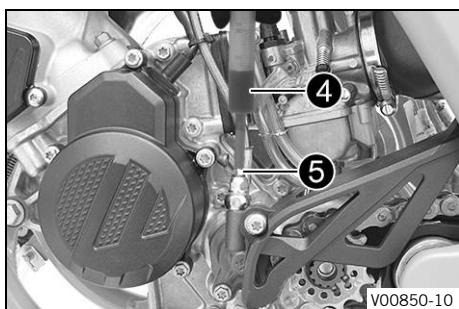
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and clutch lines are not designed for DOT 5 brake fluid.

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**.
- Remove cover **2** with membrane **3**.

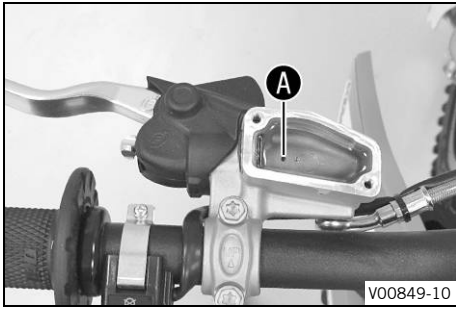


- Fill bleeding syringe **4** with the appropriate hydraulic fluid.

Syringe (50329050000)

Brake fluid DOT 4 / DOT 5.1 (📖 p. 119)
--

- On the clutch slave cylinder, remove bleeder screw **5** and mount bleeding syringe **4**.



- 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. Mount and tighten screws bleeder screw.
- 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.

12.1 Checking the free travel of the hand brake lever

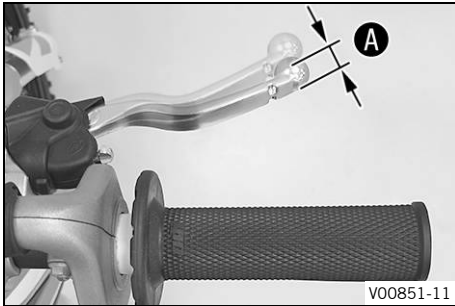


Warning

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.

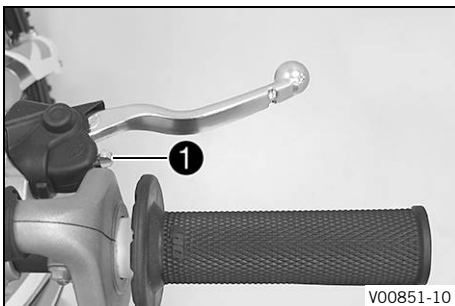


- Push the hand brake lever forward and check free travel **A**.

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

- » If the free travel does not match the specification:
 - Adjust the free travel of the handbrake lever. (🗨️ p. 70)

12.2 Adjusting the free travel of the handbrake lever



- Check the free travel of the hand brake lever. (🗨️ p. 70)
- 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.

Turn the adjusting screw by hand only, and do not apply force.

Do not make any adjustments while riding!

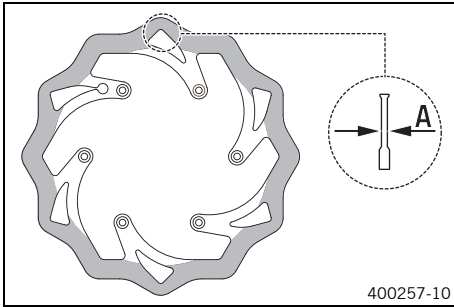
12.3 Checking the brake discs



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	3.5 mm (0.138 in)
rear	3.7 mm (0.146 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. 🛠️

12.4 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.

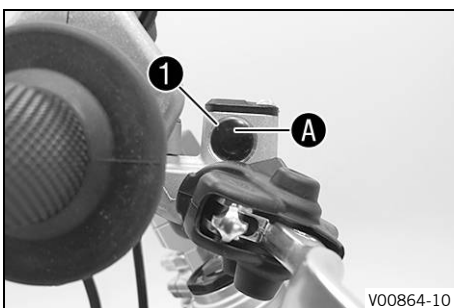
- Check the brake system and ensure that nobody drives the vehicle before the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



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 fluid reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in level viewer **1**.
 - » If the brake fluid has dropped below marking **A**:
 - Add front brake fluid. 🛠️ (📖 p. 72)

12.5 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 ensure that nobody drives the vehicle before 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.

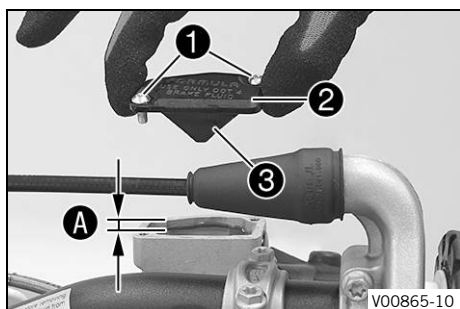


Info

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. 73)

Main work

- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Remove 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. 119)
--

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



Info

Clean up overflowed or spilled brake fluid immediately with water.



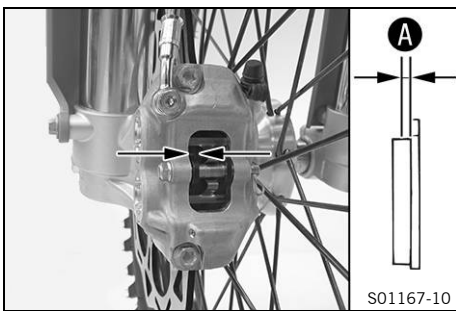
12.6 Checking the front brake linings



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

- » If the minimum thickness is less than specified:
 - Change the front brake linings. 📖 (p. 73)
- Check the brake linings for damage and cracking.
 - » If damage or cracking is visible:
 - Change the front brake linings. 📖 (p. 73)



12.7 Changing the front brake linings 🛠️



Warning

Danger of accidents Incorrect maintenance 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.

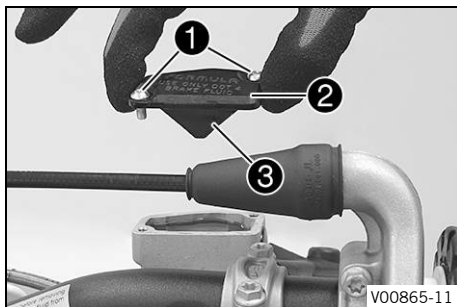


Info

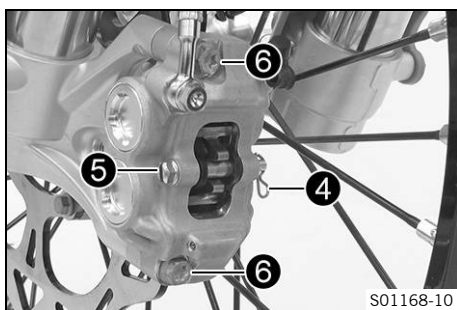
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.

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

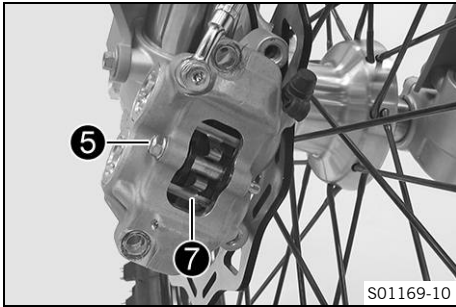
Only use clean brake fluid from a sealed container.



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



- Remove cotter pin ④.
- Loosen pin ⑤.
- Remove screws ⑥ and spacers.
- Press back the brake linings with a light lateral tilting of the brake caliper 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; if necessary, draw some off.

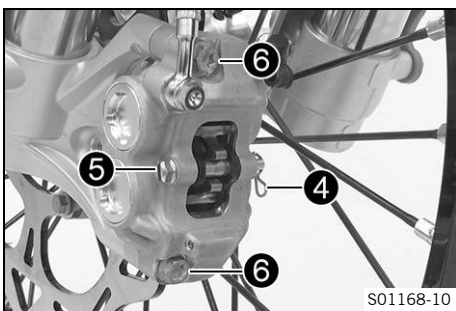


- Remove pin 5.
- Take off retainer spring 7 and remove the brake linings.
- Clean the brake caliper.
- Position new brake linings.

i Info
Always change the brake linings in pairs.

- Position retaining spring 7.
- Mount pin 5 but do not tighten yet.

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



- Position the brake caliper.
- Mount screws 6 with the spacers but do not tighten yet.

Guideline

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

- Tighten pin 5.

Guideline

Pin, front brake	M6	8 Nm (5.9 lbf ft)
------------------	----	-------------------

- Mount cotter pins 4.
- 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 6.

Guideline

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

- Remove the locking piece of the hand brake lever.

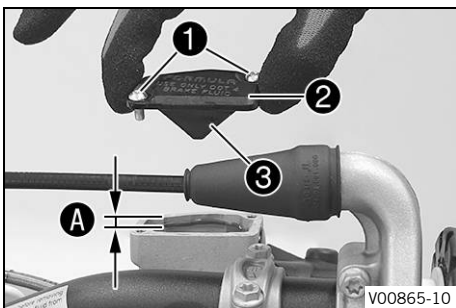
- Add brake fluid to level A.

Guideline

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

Brake fluid DOT 4 / DOT 5.1 (📖 p. 119)

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



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

12.8 Checking the free travel of foot brake lever

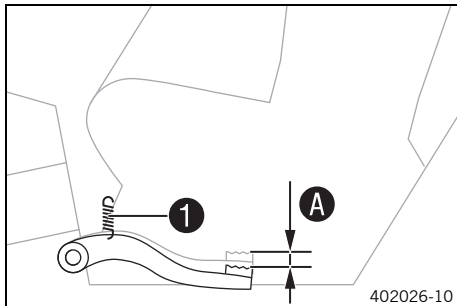


Warning

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. 76)
- Reconnect spring **1**.

12.9 Adjusting the basic position of the foot brake lever

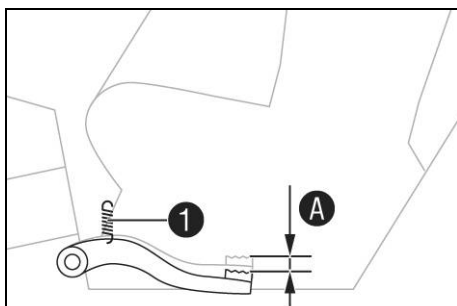


Warning

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.



12.10 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.

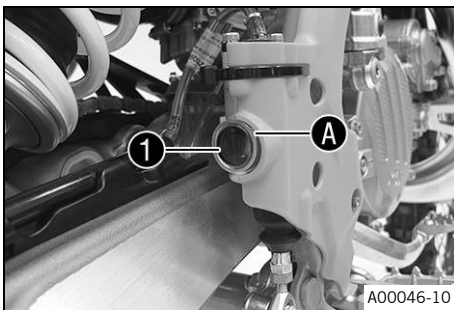
- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



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 level viewer ①.



Tip

Move the frame protector slightly to the side to make it easier to see the marking.

- » If the brake fluid has dropped below the marking ①:
 - Add rear brake fluid. 🛠️ (📖 p. 77)



12.11 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.

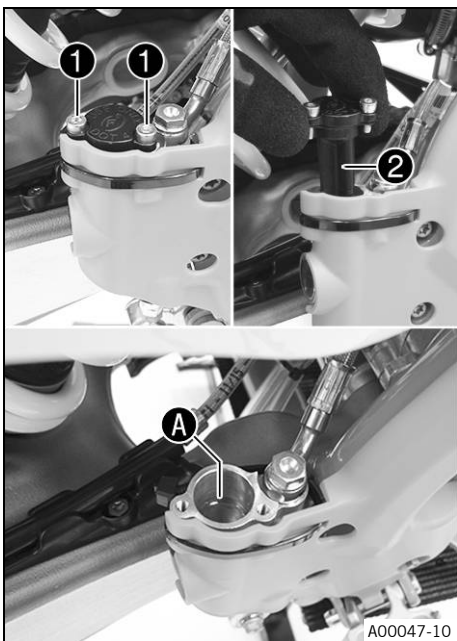


Info

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 rear brake linings. (📖 p. 78)

Main work

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

Brake fluid DOT 4 / DOT 5.1 (📖 p. 119)

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



Info

Clean up overflowed or spilled brake fluid immediately with water.

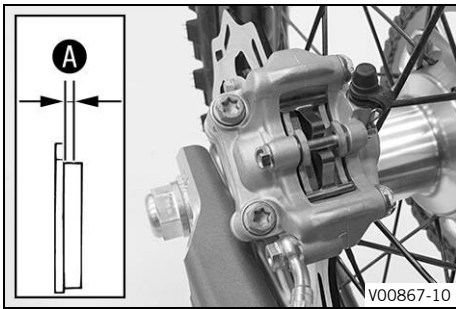
12.12 Checking the rear brake linings



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

- » If the minimum thickness is less than specified:
 - Change the rear brake linings. 🛠️ (📖 p. 79)
- Check the brake linings for damage and cracking.
 - » If damage or cracking is visible:
 - Change the rear brake linings. 🛠️ (📖 p. 79)

12.13 Changing the rear brake linings 🛠️



Warning

Danger of accidents Incorrect maintenance 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.

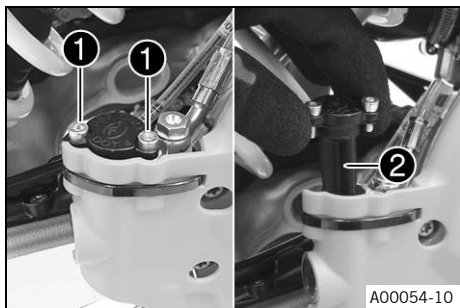


Info

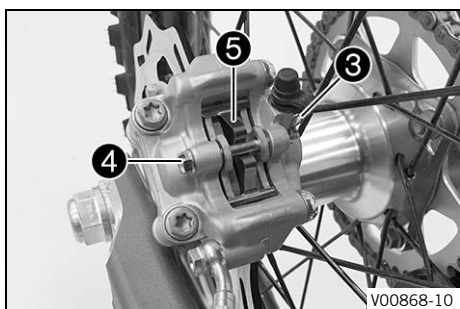
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.

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

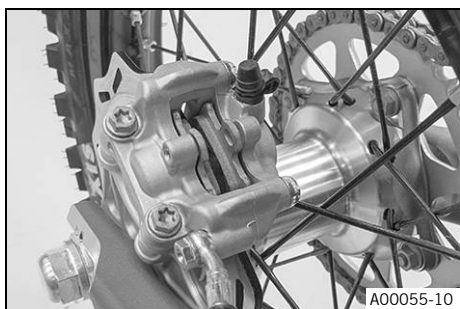
Only use clean brake fluid from a sealed container.



- Stand the vehicle upright.
- Remove screws **1**.
- Take off the cover with the washer and membrane **2**.
- Press the brake piston back into the basic position and ensure that brake fluid does not flow out of the brake fluid reservoir; if necessary, draw some off.



- Take off cotter pin **3** and remove pin **4**.
- Take off retaining spring **5** and remove the brake linings.
- Clean the brake caliper.

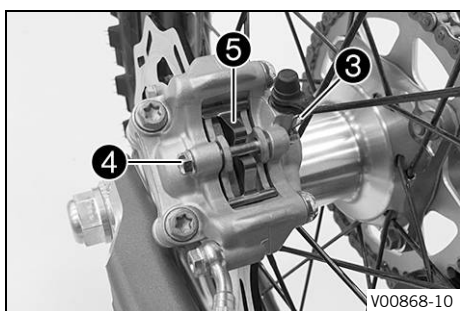


- Position new brake linings.



Info

Always change the brake linings in pairs.



- Position retaining spring **5**.
- Mount and tighten pin **4**.

Guideline

Pin, rear brake	M6	4 Nm (3 lbf ft)
-----------------	----	-----------------



Info

To make it easier to mount the pin, push the retainer spring down.

Make sure the retaining spring is seated correctly.

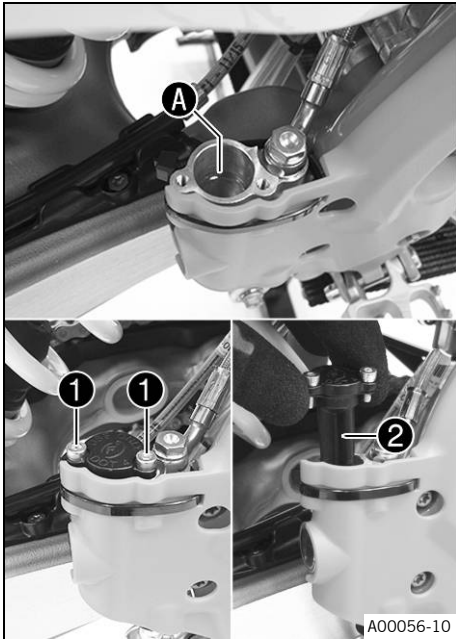
- Mount cotter pins **3**.
- Check the brake discs. (🗨️ p. 70)

- 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. 119)

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



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

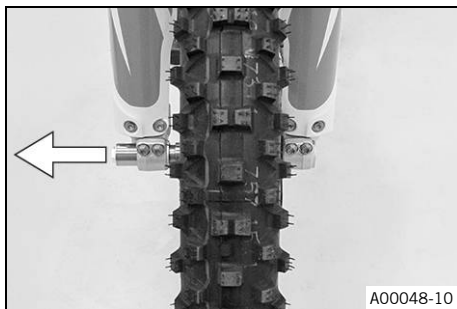
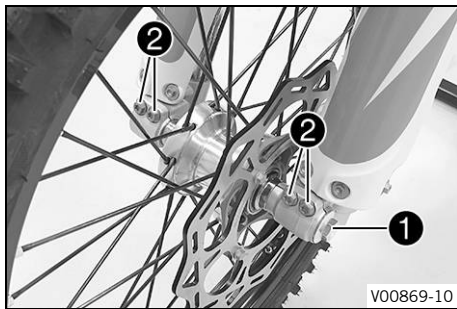
13.1 Removing the front wheel ↩

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)

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.



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.

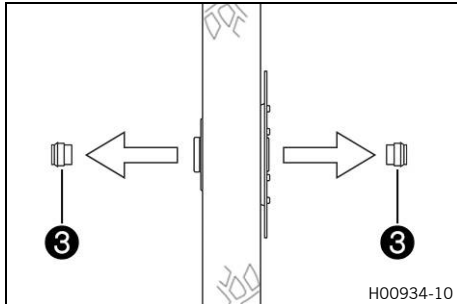
- Holding the front wheel, withdraw the wheel spindle. Take the front wheel out of the fork.



Info

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

- Remove spacers ❸.



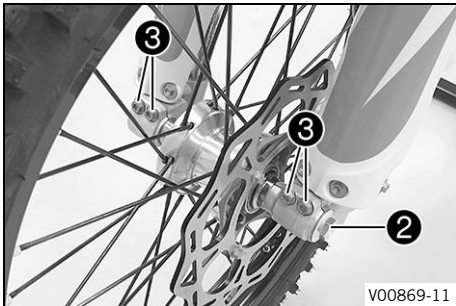
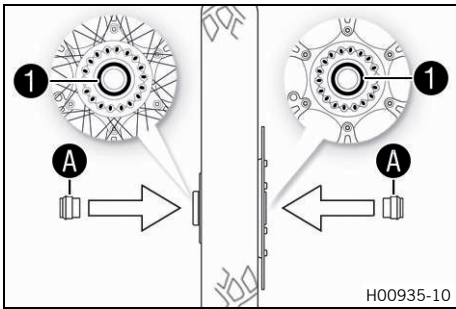
13.2 Installing the front wheel ↩



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.



Main work

- 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 surface A of the spacers.

Long-life grease (📖 p. 121)

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

Long-life grease (📖 p. 121)

- Position the front wheel.
 - ✓ The brake linings are correctly positioned.
- Insert the wheel spindle.
- 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. 44)
- 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)
------------------	----	---------------------

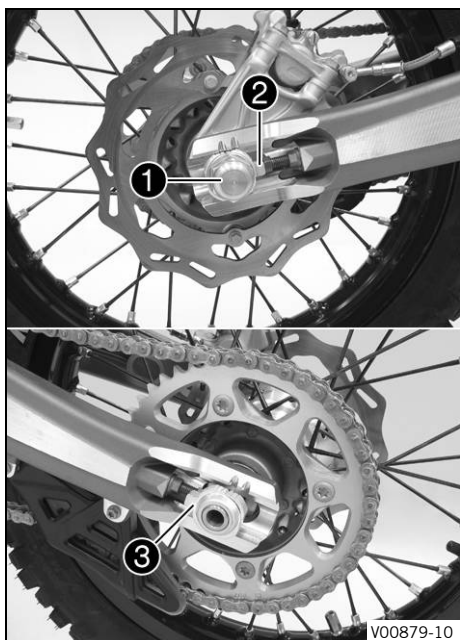
Finishing work

- Remove the motorcycle from the lift stand. (📖 p. 44)

13.3 Removing the rear wheel 🛠️

Preparatory work

- Raise the motorcycle with a lift stand. (📖 p. 44)



Main work

- Remove nut ①.
- Remove 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.

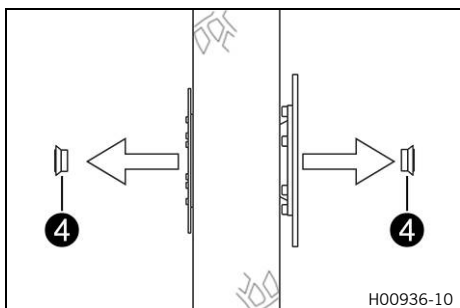
Info
Cover the components to protect them against damage.

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 swingarm.

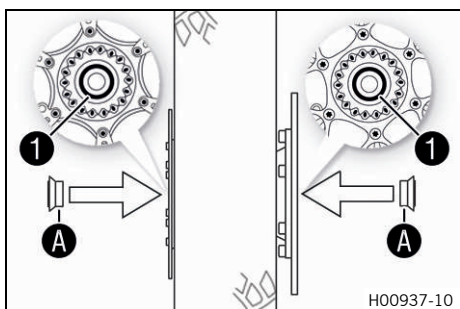
Info
Do not operate the foot brake lever when the rear wheel is removed.

- Remove spacers ④.



13.4 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.



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 surface A of the spacers.

Long-life grease (p. 121)

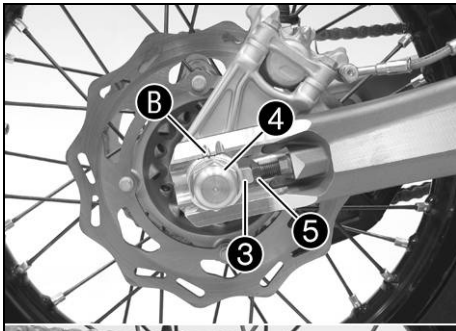
- Insert the spacers.



- Clean and grease the wheel spindle.

Long-life grease (📖 p. 121)

- Position rear wheel and mount the chain.
 - ✓ The brake linings are correctly positioned.
- Insert wheel spindle ②.

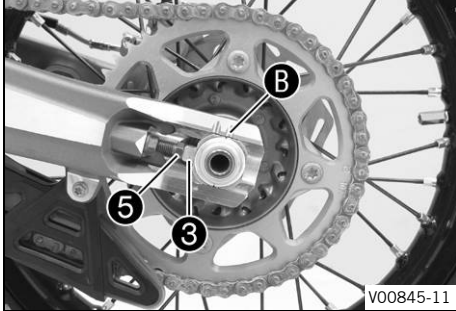


- Position chain adjuster ③. Mount nut ④, but do not tighten it yet.
- Make sure that chain adjusters ③ are fitted correctly on adjusting screws ⑤.
- Make sure that the markings on the left and right chain adjusters ③ are in the same position relative to reference marks B. The rear wheel is then correctly aligned.

i 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°.



- Check the chain tension. (📖 p. 61)
- Tighten nut ④.

Guideline

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

- 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. 44)

13.5 Checking the tire condition

i Info

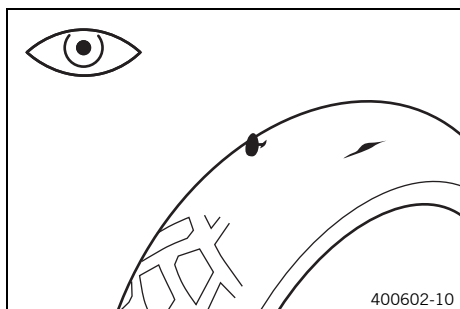
Only mount tires approved and/or recommended by KTM.

Other tires could have a negative effect on handling characteristics.

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

The tires mounted on the front and rear wheels must have a similar profile.

Worn tires have a negative effect on handling characteristics, especially on wet surfaces.



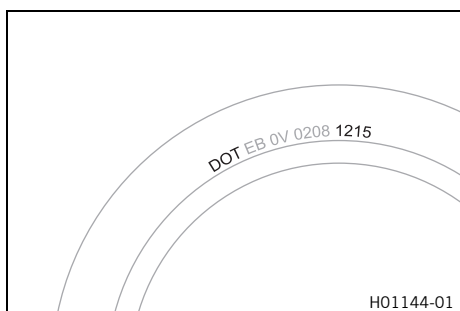
- Check the front and rear tires for cuts, run-in objects, and other damage.
 - » If the tires have cuts, run-in objects, or other damage:
 - Change the tires. 🛠️
- Check the tread depth.

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.

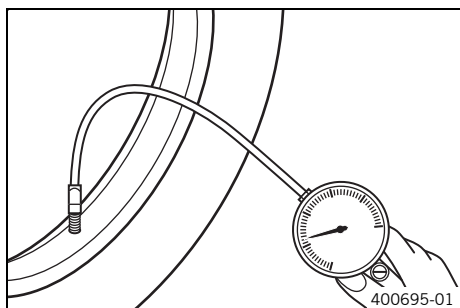


i Info
The tire date of manufacture is usually contained in the tire label and is indicated by the last four digits of the **DOT** number. The first two digits indicate the week of manufacture and the last two digits the year of manufacture.
KTM recommends that the tires be changed after 5 years at the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

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

13.6 Checking the tire air pressure

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



- Remove the protection cap.
- Check the tire air pressure when the tires are cold.

Tire air pressure off road	
front	1.0 bar (15 psi)
rear	1.0 bar (15 psi)

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

13.7 Checking spoke tension

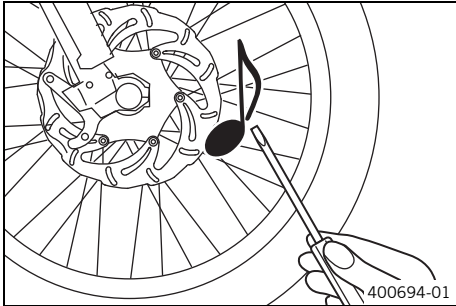


Warning

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.)



- Strike each spoke briefly using a screwdriver blade.



Info

The frequency of the sound depends on the spoke length and 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.

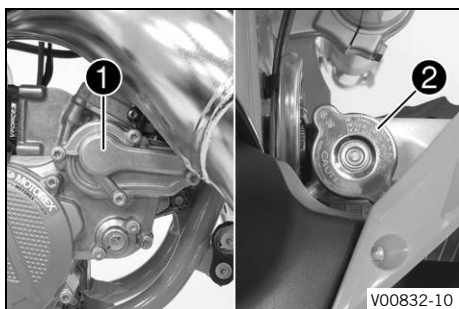
- » If the spoke tension differs:
 - Correct the spoke tension. 🛠️
- Check the spoke torque.

Guideline

Spoke nipple	M4.5	5 Nm (3.7 lbf ft)
--------------	------	-------------------

Torque wrench set (58429094000)

14.1 Cooling system

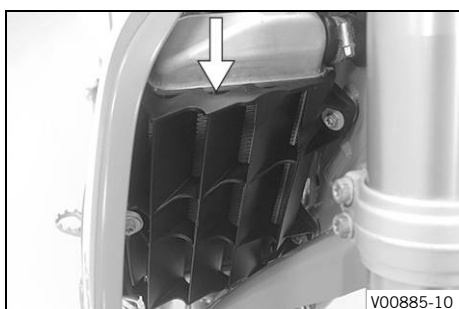


Water pump **1** in the engine circulates the coolant. The pressure resulting from the warming of the cooling system is regulated by a valve in radiator cap **2**. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

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.

14.2 Radiator cover



The radiator covers are mounted in front of the radiator between the radiator shield and radiator.

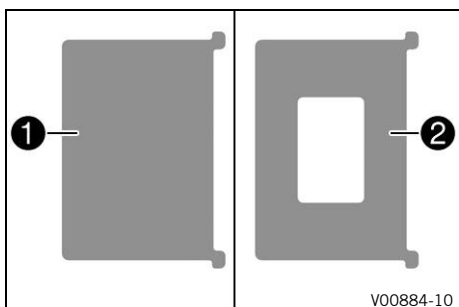
i Info

Do not use radiator covers in difficult operating conditions.

The radiator cover keeps the coolant temperature in the correct range.

Optimal coolant temperature	60 ... 70 °C (140 ... 158 °F)
-----------------------------	-------------------------------

The radiator covers are installed in front of the radiator, depending on the ambient temperature.



Full radiator cover right side 1 and half radiator cover left side 2	< 0 °C (< 32 °F)
--	------------------

Full radiator cover right side 1	0 ... 10 °C (32 ... 50 °F)
---	----------------------------

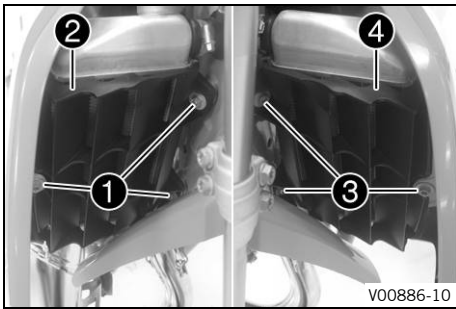
Half radiator cover right side 2	10 ... 20 °C (50 ... 68 °F)
---	-----------------------------

No radiator cover	> 20 °C (> 68 °F)
-------------------	-------------------

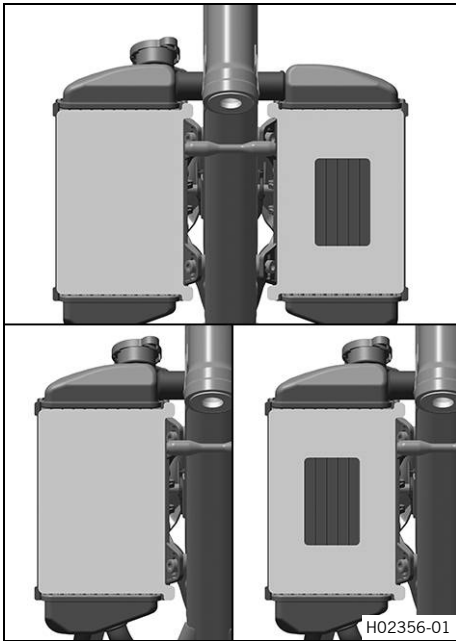
14.3 Installing the radiator cover

i Info

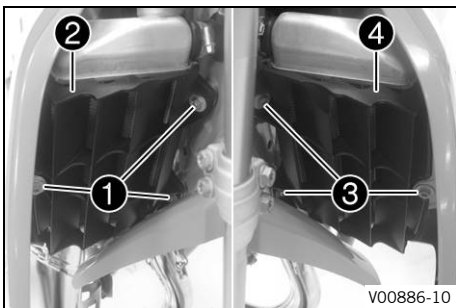
Only remove left radiator shield if both radiator covers are mounted.



- Remove screws ①.
- Remove right radiator shield ②.
- Remove screws ③.
- Remove left radiator shield ④.



- Position the matching radiator cover (📖 p. 88).
- ✓ The projections point towards the frame.



- Position left radiator shield ④.
- Mount and tighten screws ③.

Guideline

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

- Position right radiator shield ②.
- Mount and tighten screws ①.

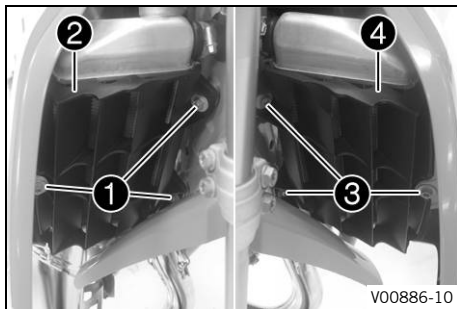
Guideline

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

14.4 Removing the radiator cover

i Info

Only remove left radiator shield if both radiator covers are mounted.



- Remove screws ①.
- Remove right radiator shield ②.
- Remove screws ③.
- Remove left radiator shield ④.
- Remove corresponding radiator cover.
- Position right radiator shield ②.
- Mount and tighten screws ①.

Guideline

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

- Position left radiator shield ④.
- Mount and tighten screws ③.

Guideline

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

14.5 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.



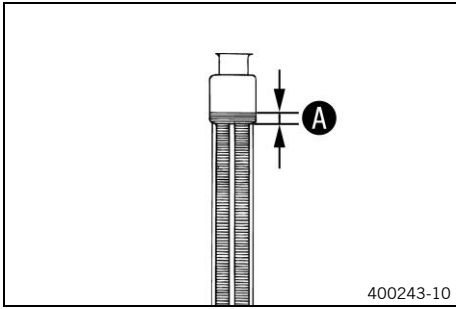
Warning

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 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. 119)

- Mount the radiator cap.

14.6 Checking the coolant level

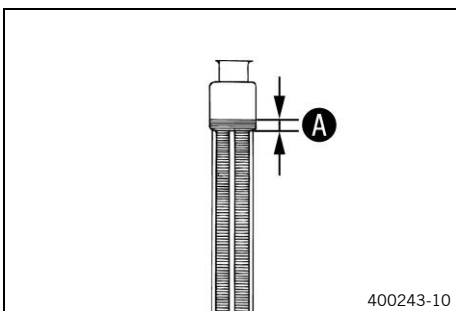
Warning
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

- 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. 119)

- Mount the radiator cap.

14.7 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.

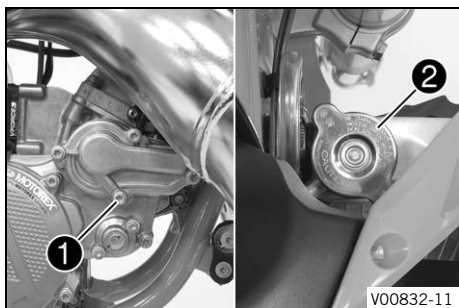
Condition

The engine is cold.

- Position the motorcycle upright.
- Place a suitable container under the water pump cover.
- Remove screw **1**. Take off radiator cap **2**.
- Completely drain the coolant.
- Mount and tighten screw **1** with a new seal ring.

Guideline

Coolant drain plug	M6	8 Nm (5.9 lbf ft)
--------------------	----	-------------------



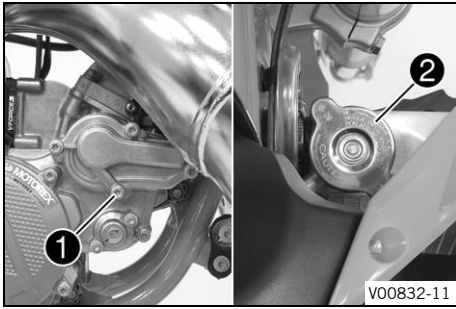
14.8 Refilling with coolant



Warning

Danger of poisoning Coolant is toxic and a health hazard.

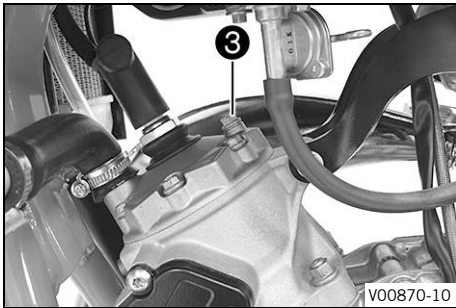
- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly 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.
- Take off radiator cap ②.
- Completely fill the radiator with coolant.

Coolant (📖 p. 119)



- Loosen screw ③ until coolant escapes without bubbles.
- Mount and tighten screw ③.


Guideline

Screw, radiator bleeding	M6	8 Nm (5.9 lbf ft)
--------------------------	----	-------------------

- Completely fill the radiator with coolant.

Coolant (📖 p. 119)

- Mount radiator cap ②.

 **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 an effective exhaust extraction system when starting or running the engine in an enclosed space.

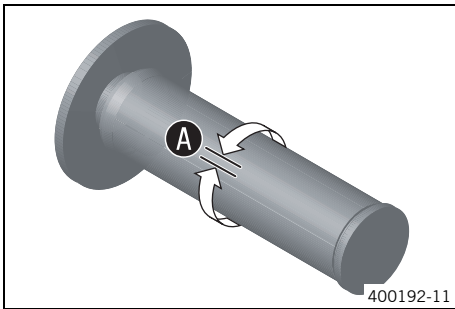
- Allow the engine to warm up and cool down again.
- Check the coolant level. (📖 p. 91)

Finishing work

- Check the cooling system for leaks.



15.1 Checking the play in the throttle cable



- Check the throttle grip for smooth operation.
- Move the handlebar to the straight-ahead position. Move the throttle grip backwards and forwards to ascertain play **A** in the throttle cable.

Throttle cable play	2 ... 3 mm (0.08 ... 0.12 in)
---------------------	-------------------------------

- » If the throttle cable play does not meet specifications:
 - Adjust the play in the throttle cable. 🛠️ (📖 p. 94)



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 an effective exhaust extraction system when starting or running the engine in an enclosed space.

- Start the engine and let it idle. Move the handlebar to and fro over the entire steering range.

The idle speed should not change.

- » If the idle speed changes:
 - Adjust the play in the throttle cable. 🛠️ (📖 p. 94)

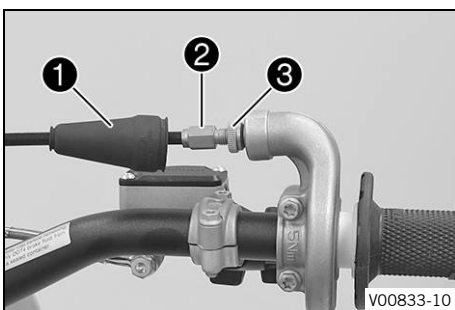
15.2 Adjusting the play in the throttle cable 🛠️

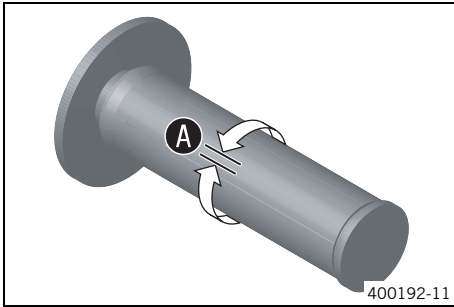
Preparatory work

- Remove the seat. (📖 p. 53)
- Turn the tap handle of the fuel tap to the **OFF** position.
- Remove the fuel tank. 🛠️ (📖 p. 58)
- Check the throttle cable routing. (📖 p. 65)

Main work

- Move the handlebar to the straight-ahead position.
- Push back sleeve **1**.
- Ensure that the throttle cable sleeve is pushed all the way into barrel adjuster **2**.
- Loosen nut **3**.





- Turn adjusting screw ② in such a way there is throttle cable play ① in the throttle grip.

Guideline

Throttle cable play	2 ... 3 mm (0.08 ... 0.12 in)
---------------------	-------------------------------

- Tighten nut ③.
- Slide on sleeve ①.

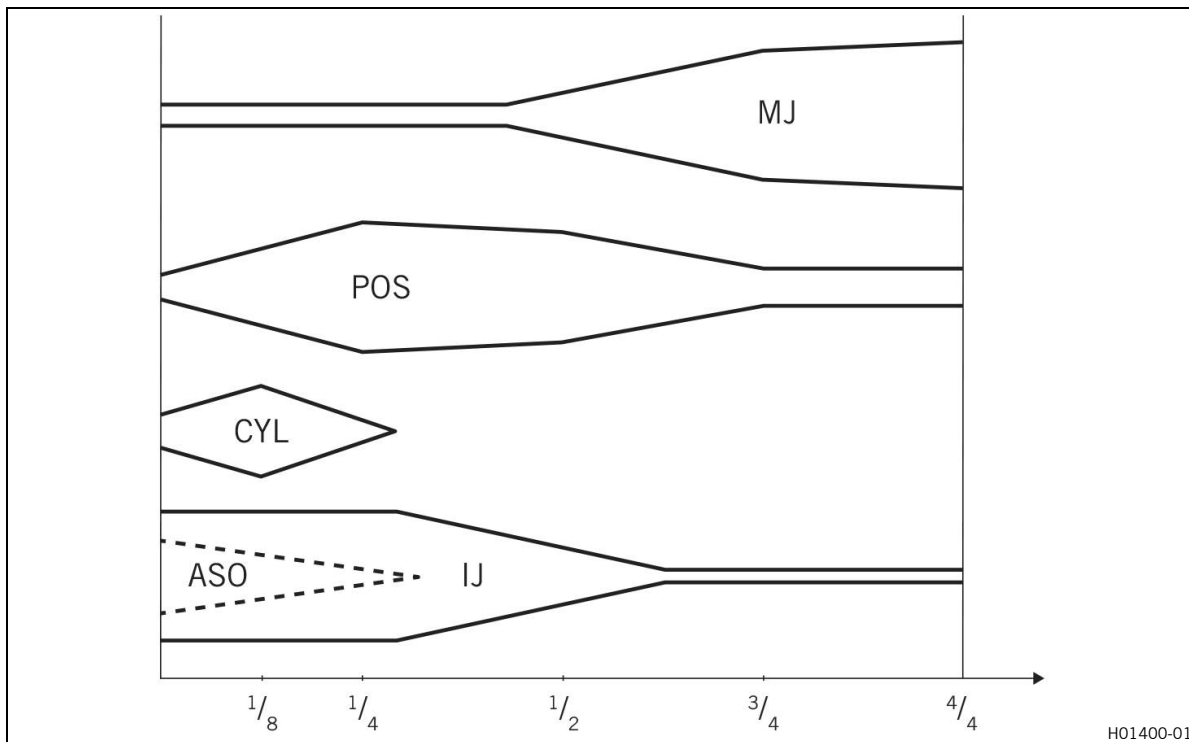
Finishing work

- Check the play in the throttle cable. (📖 p. 94)
- Install the fuel tank. 🛠️ (📖 p. 59)
- Mount the seat. (📖 p. 54)



15.3 Carburetor setting

Effects of the carburetor setting



The different carburetor components must be tuned both to one another and for the use intended.

Main jet MJ

The main jet MJ has the greatest influence with the throttle slide open (full throttle).

If the insulator of a new spark plug is very light or white after a brief ride at full throttle, or if the engine knocks, a larger main jet needs to be used. If the insulator is dark brown or sooty, a smaller main jet needs to be used.

Needle position POS

The needle position has the greatest influence in the mid throttle slide range.

If the engine stutters when accelerating with a partially open throttle slide, the jet needle must be lowered. If the engine knocks when accelerating at the full power rpm range, the jet needle must be raised.

Cylindrical part of the needle CYL

The cylindrical part of the needle has the greatest influence when the throttle slide is almost closed.

Idling jet IJ

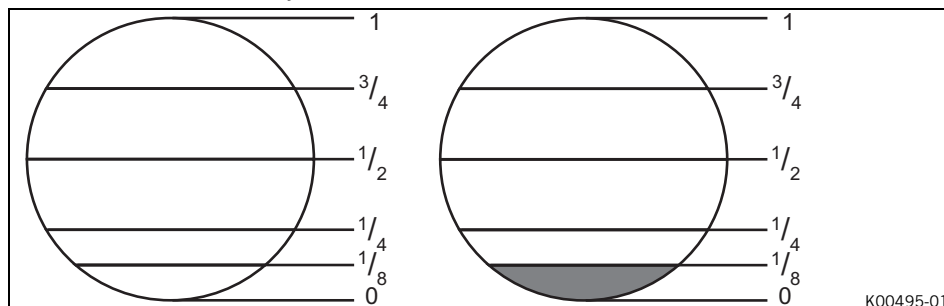
The idling jet has the greatest influence in the low to mid throttle slide range.

If the engine stutters when idling or accelerating with a partially open throttle slide, a smaller idling jet must be used. If the engine knocks in this power range, then a larger idling jet must be used.

Idle air adjusting screw open ASO

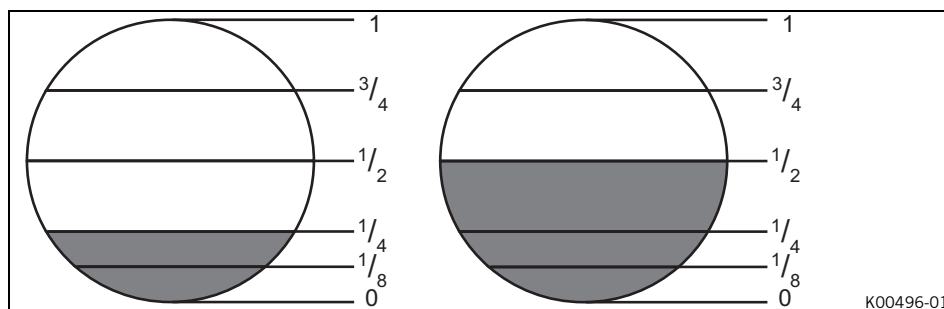
The idle air adjusting screw has the greatest influence during idling.

Influence of throttle slide adjustment



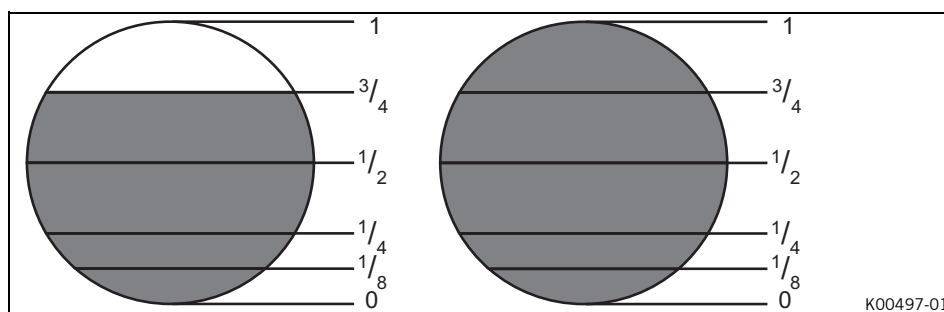
The idling jet has the greatest influence when the throttle slide is closed. The first cylindrical part of the needle and the clip position have only minimal influence.

When the throttle slide is 1/8 open, the first cylindrical part of the needle, the idling jet and the clip position have the greatest influence.



When the throttle slide is 1/4 open, the idling jet and the clip position have the greatest influence. The influence of the first cylindrical part of the needle is less.

When the throttle slide is 1/2 open, the position of the needle has the greatest influence. The influence of the main jet and the idling jet is only minimal.



When the throttle slide is 3/4 open, the influence of the main jet is greatest. The clip position and the idling jet have only minimal influence.

When the throttle slide is fully open, the influence of the main jet is greatest. The clip position and the idling jet have only minimal influence.

Needle overview

The jet needles available are shown in the following table.

	1	2	3
A	NRJ A	NRK A	2.405 mm
B	NRJ B	NRK B	2.415 mm
C	NRJ C	NRK C	2.425 mm
D	NRJ D	NRK D	2.435 mm
E	NRJ E	NRK E	2.445 mm

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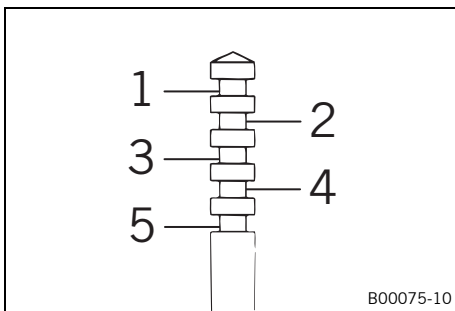
Column **2** corresponds to a needle in the standard position.

Column **1** corresponds to a needle which is half a clip leaner.

Column **3** specifies the diameter of the first cylindrical part of the needle. The smaller the diameter of the first cylindrical part of the needle, the richer the carburation. The larger the diameter of the first cylindrical part of the needle, the leaner the carburation. The first cylindrical part of the needle has the greatest influence in the lowest load adjustment.

i Info

The top right jet needle **A2** corresponds to the richest setting of the carburetor, and the bottom left jet needle **E1** corresponds to the leanest. The optimal carburetor tuning is shown under the respective model.

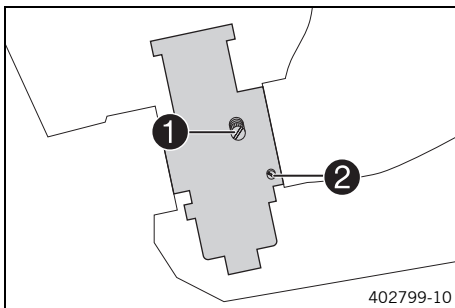


Clip position

1 ... 5	Clip position from above
---------	--------------------------

The five possible clip positions are shown here. The carburetor tuning depends on the defined ambient and operating conditions.

15.4 Carburetor - idle



The idle setting of the carburetor has a big influence on the starting behavior, stable idling, and the response to throttle opening. This means that an engine with a correctly set idle speed is easier to start than if the idle speed is set wrongly.

i Info

The carburetor and its components are subject to increased wear caused by engine vibration. Wear can result in malfunctioning.

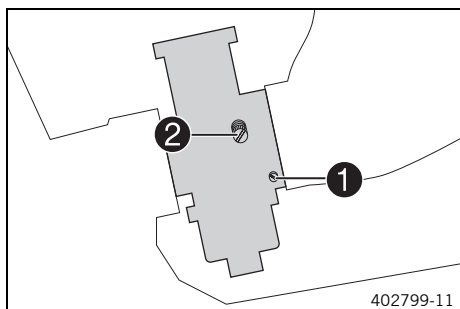
The factory setting for the carburetor is set for the following values.

Height above sea level	301 ... 750 m (988 ... 2,461 ft)
Ambient temperature	16 ... 24 °C (61 ... 75 °F)
Super unleaded (98 octane) mixed with 2-stroke engine oil (1:40) (📖 p. 120)	

The idle speed is adjusted with adjusting screw **1**.

The idle mixture is adjusted using the idle air adjusting screw **2**.

15.5 Carburetor – adjusting the idle speed 🗑️



- Screw in idle air adjusting screw ① all the way and turn it to the specified basic position.

Guideline

Idle air adjusting screw	
open	2 turns

- Run the engine until warm.

Guideline

Warm-up time	≥ 5 min
--------------	---------



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 an effective exhaust extraction system when starting or running the engine in an enclosed space.

- Adjust the idle speed with adjusting screw ②.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (📖 p. 17)	
Idle speed	1,400 ... 1,500 rpm

- Turn idle air adjusting screw ① slowly in a clockwise direction until the idle speed begins to fall.
- Note the position and turn the idle air adjusting screw slowly counterclockwise until the idle speed again begins to fall.
- Adjust to the point between these two positions with the highest idle speed.



Info

If there is a big engine speed rise, reduce the idle speed to a normal level and repeat the above steps. If the procedure described here does not lead to satisfactory results, the cause may be a wrongly dimensioned idling jet. If you can turn the idle air adjusting screw to the end without any change of engine speed, mount a smaller idling jet. After changing the idling jet, start from the beginning with the adjusting steps. Following extreme air temperature or altitude changes, adjust the idle speed again.

15.6 Emptying the carburetor float chamber



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.



Info

Carry out this work with a cold engine.

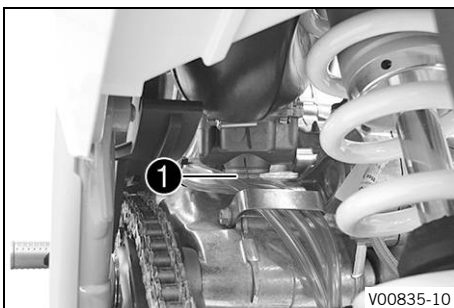
Water in the float chamber results in malfunctioning.

Preparatory work

- Turn the tap handle of the fuel tap to the **OFF** position.
- ✓ No more fuel flows from the fuel tank to the carburetor.

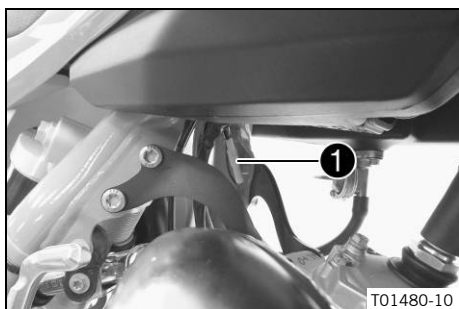
Main work

- Place a cloth beneath the carburetor to soak up emerging fuel.
- Remove plug **1**.
- Completely drain the fuel.
- Mount and tighten screw plug **1**.



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15.7 Plug-in connector of ignition timing map adjustment



Plug-in connector **1** of the ignition timing map adjustment is located on the frame under the fuel tank.

Possible states

- Soft – The plug-in connector of the ignition timing map adjustment is disconnected to achieve better rideability.
- Performance – The plug-in connector of the ignition timing map adjustment is joined to achieve higher performance.

15.8 Changing the ignition timing map

Switching the ignition timing map from Performance to Soft

- Disconnect plug-in connector **1** of the ignition timing map adjustment. (Figure T01480-10 p. 100)
- ✓ Soft – Better rideability

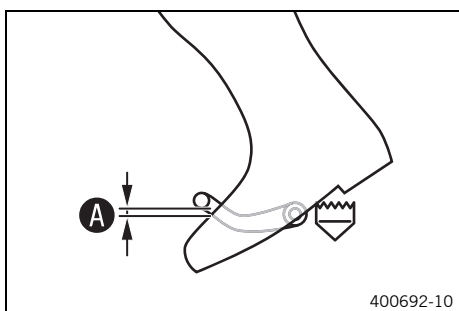
Switching the ignition timing map from Soft to Performance

- Join plug-in connector **1** of the ignition timing map adjustment. (Figure T01480-10 p. 100)
- ✓ Performance – Higher performance

15.9 Checking the basic position of the shift lever

Info

When driving, the shift lever must not touch the driver's boot when in the basic position.
When the shift lever keeps touching the boot, the transmission will be subject to an excessive load.

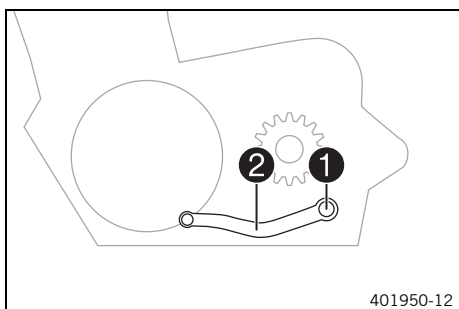


- Sit on the vehicle in the riding position and determine distance **A** between the upper edge of your boot and the shift lever.

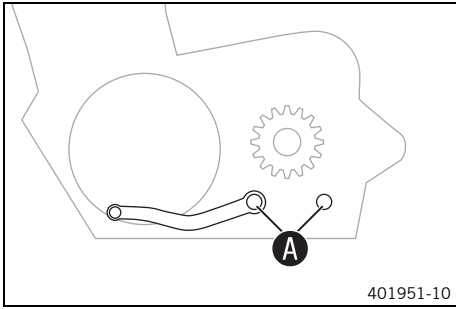
Distance between shift lever and upper edge of boot	10 ... 20 mm (0.39 ... 0.79 in)
---	---------------------------------

- » If the distance does not meet specifications:
 - Set the basic position of the shift lever. p. 100)

15.10 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 the gearing.



Info

The range of adjustment is limited.
The shift lever must not come into contact with any other vehicle components during the shift procedure.

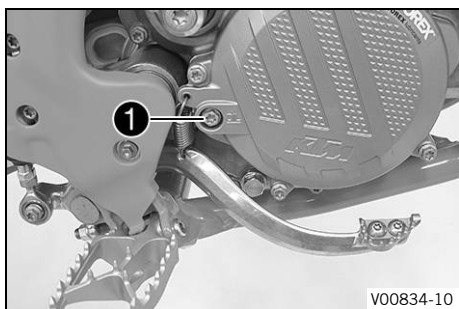
- Mount and tighten screw **1** with washers.

Guideline

Screw, shift lever	M6	14 Nm (10.3 lbf ft) Loctite®243™
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16.1 Checking the gear oil level



Condition

The engine is cold.

Preparatory work

- Stand the motorcycle upright on a horizontal surface.

Main work

- Remove screw ❶.
- Check the gear oil level.

Gear oil must not run out of the hole.

The gear oil level is at the lower edge of the hole.

- » If the gear oil level is below the hole:
 - Add gear oil. 🛠️ (p. 103)
- » If gear oil runs out:
 - Correct the gear oil level.

- Mount and tighten screw ❶.

Guideline

Screw, gear oil level check	M6	8 Nm (5.9 lbf ft)
-----------------------------	----	-------------------

16.2 Changing the gear oil 🛠️



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

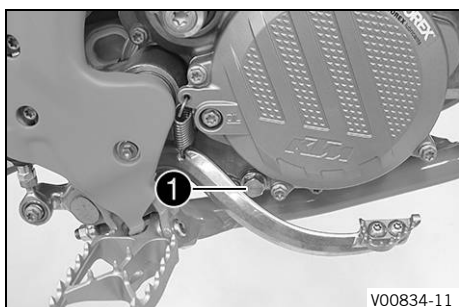
Environmental hazard Hazardous substances cause environmental damage.

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



Info

Drain the gear oil while the engine is at operating temperature.

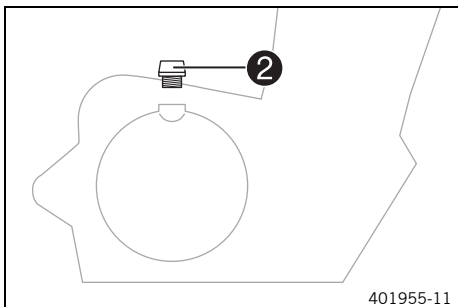


Preparatory work

- Stand the motorcycle upright on a horizontal surface.
- Place a suitable container under the engine.

Main work

- Remove oil drain plug ❶ with the magnet.
- Let the gear oil drain fully.
- Thoroughly clean the oil drain plug with magnet.
- Clean the sealing surface on the engine.
- Mount and tighten the oil drain plug with the magnet and a new seal ring.



Guideline

Oil drain plug with magnet	M12	20 Nm (14.8 lbf ft)
----------------------------	-----	---------------------

- Remove filler plug ② and fill up with gear oil.

Gear oil	0.50 l (0.53 qt.)	Engine oil (15W/50) (📖 p. 119)
----------	----------------------	--------------------------------------

- Mount and tighten filler plug ②.



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 an effective exhaust extraction system when starting or running the engine in an enclosed space.

- Start the engine and check that it is oil-tight.

Finishing work

- Check the gear oil level. (📖 p. 102)

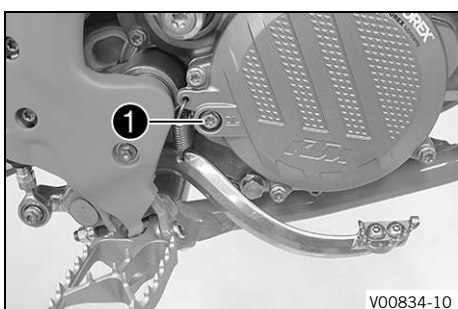


16.3 Adding gear oil ↩



Info

Too little gear oil or poor-quality gear oil results in premature wear to the transmission.

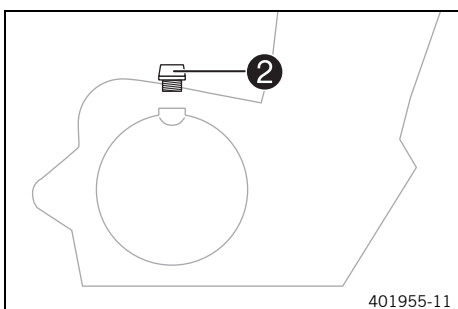


Preparatory work

- Stand the motorcycle upright on a horizontal surface.

Main work

- Remove screw ①.



- Remove filler plug ②.
- Add gear oil up to bottom of the hole of the gear oil level screw.

Engine oil (15W/50) (📖 p. 119)

- Mount and tighten screw ①.

Guideline

Screw, gear oil level check	M6	8 Nm (5.9 lbf ft)
-----------------------------	----	-------------------

- Mount and tighten filler plug ②.



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 an effective exhaust extraction system when starting or running the engine in an enclosed space.

- Start the engine and check that it is oil-tight.

Finishing work

- Check the gear oil level. (📖 p. 102)



17.1 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

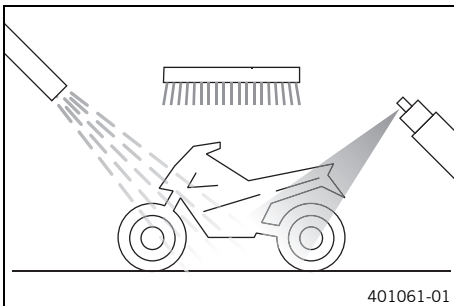
Environmental hazard Hazardous substances cause environmental damage.

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



Info

To maintain the value and appearance of the motorcycle over a long period, clean it regularly. Avoid direct sunshine when cleaning the motorcycle.



- Close off the exhaust system to keep water from entering.
- Remove loose dirt first with a soft jet of water.
- Spray very dirty parts with a normal, commercially available engine cleaner and then brush off with a soft brush.

Motorcycle cleaner (📖 p. 121)



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.
- Empty the carburetor float chamber. 🛠️ (📖 p. 99)



Warning

Danger of accidents Moisture and dirt impair the brake system.

- Explain to your child that he or she must brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.

- After cleaning, let your child ride the vehicle a short distance until the engine warms up and the brakes have dried due to careful application of the brakes.

**Info**

The heat produced causes water at inaccessible locations in the engine and on the brake system to evaporate.

- Push back the protection caps on the handlebar controls to allow water to evaporate.
- After the motorcycle has cooled off, lubricate all moving parts and bearings.
- Clean the chain. (📖 p. 60)
- Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.

Preserving materials for paints, metal and rubber
(📖 p. 122)

- 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. 122)

18.1 Storage

**Warning**

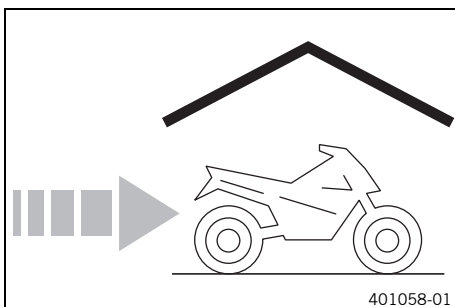
Danger of poisoning Fuel is poisonous and a health hazard.

- 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. 121)

- Refuel. (📖 p. 30)
- Clean the motorcycle. (📖 p. 105)
- Change the gear oil. 🛠️ (📖 p. 102)
- Check the antifreeze and coolant level. (📖 p. 90)
- Check the tire air pressure. (📖 p. 86)
- Empty the carburetor float chamber. 🛠️ (📖 p. 99)
- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

**Info**

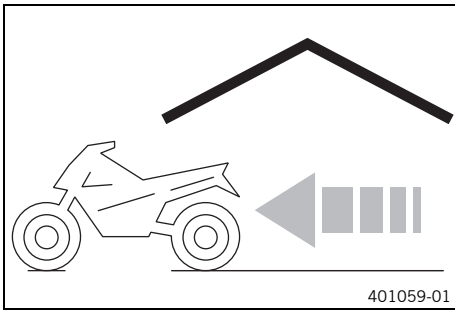
KTM recommends jacking up the motorcycle.

- Raise the motorcycle with a lift stand. (📖 p. 44)
- Cover the vehicle with a tarp or similar cover that is permeable to air.

**Info**

Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion. Avoid running the engine for a short time only. Because the engine will not warm up sufficiently, the water vapor produced during combustion will condense, causing engine parts and the exhaust system to rust.

18.2 Preparing for use after storage



- Remove the motorcycle from the lift stand. (📖 p. 44)
- Perform checks and maintenance measures when preparing for use. (📖 p. 27)
- Take a test ride.

Faults	Possible cause	Action
Engine turns but does not start	Operating error	– Carry out the start procedure. (🔧 p. 27)
	Motorcycle was out of use for a long time and there is old fuel in the float chamber	– Empty the carburetor float chamber. 🛠️ (🔧 p. 99)
	Fuel feed interrupted	– Check the fuel tank breather. – Clean the fuel tap. – Check/set the carburetor components.
	Spark plug oily or wet	– Clean and dry the spark plug, or change it if necessary.
	Electrode distance (plug gap) of spark plug too wide	– Adjust the plug gap. Guideline Spark plug electrode gap 0.60 mm (0.0236 in)
	Fault in ignition system	– Check the ignition system. 🛠️ – Adjust the ignition. 🛠️
	Short circuit cable in wiring harness frayed, kill switch defective	– Check the kill switch. 🛠️
	Water in carburetor or jets blocked	– Check/set the carburetor components.
Engine has no idle	Idling jet blocked	– Check/set the carburetor components.
	Adjusting screws on carburetor distorted	– Carburetor – adjust the idle speed. 🛠️ (🔧 p. 98)
	Spark plug defective	– Change the spark plug.
	Ignition system defective	– Check the ignition coil. 🛠️ – Check the spark plug connector. 🛠️
Engine does not speed up	Carburetor running over because float needle dirty or worn	– Check/set the carburetor components.
	Loose carburetor jets	– Check/set the carburetor components.
	Fault in ignition system	– Check the ignition system. 🛠️ – Adjust the ignition. 🛠️
Engine has too little power	Fuel feed interrupted	– Check the fuel tank breather. – Clean the fuel tap. – Check/set the carburetor components.
	Air filter is very dirty	– Clean the air filter and air filter box. 🛠️ (🔧 p. 55)
	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer	– Check exhaust system for damage. – Change the glass fiber yarn filling of the main silencer. 🛠️ (🔧 p. 57)
	Fault in ignition system	– Check the ignition system. 🛠️ – Adjust the ignition. 🛠️
	Membrane or reed valve housing is damaged	– Check the membrane and reed valve housing.

19 TROUBLESHOOTING

Faults	Possible cause	Action
Engine stalls or is popping into the carburetor	Lack of fuel	<ul style="list-style-type: none"> – Turn handle of the fuel tap to the ON position. – Refuel. (📖 p. 30)
	Engine takes in bad air	<ul style="list-style-type: none"> – Check intake flange and carburetor for tightness.
	The connector or ignition coil is loose or oxidized	<ul style="list-style-type: none"> – Clean the connector and treat it with contact spray.
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. 91)
	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. 92) – Refill with coolant. 🛠️ (📖 p. 92)
	Damaged cylinder head or cylinder head gasket	<ul style="list-style-type: none"> – Check the cylinder head and cylinder head gasket.
	Bent radiator hose	<ul style="list-style-type: none"> – Change the radiator hose. 🛠️
	Incorrect ignition point due to loose stator	<ul style="list-style-type: none"> – Adjust the ignition. 🛠️
White smoke emission (steam in exhaust gas)	Damaged cylinder head or cylinder head gasket	<ul style="list-style-type: none"> – Check the cylinder head and cylinder head gasket.
Gear oil exits at the vent hose	Too much gear oil added	<ul style="list-style-type: none"> – Check the gear oil level. (📖 p. 102)
Water in the gear oil	Damaged shaft seal ring or water pump	<ul style="list-style-type: none"> – Check the shaft seal ring and water pump.

20.1 Engine

Design	1-cylinder 2-stroke engine, water-cooled, with reed intake and exhaust control
Displacement	84.93 cm ³ (5.1828 cu in)
Stroke	48.95 mm (1.9272 in)
Bore	47 mm (1.85 in)
Idle speed	1,400 ... 1,500 rpm
Crankshaft bearing	1 grooved ball bearing / 1 roller bearing
Conrod bearing	Needle bearing
Piston pin bearing	Needle bearing
Pistons	Aluminum cast
Piston rings	1 rectangular ring
Engine lubrication	Mixture oil lubrication
Primary transmission	20:64 straight cut spur gear drive
Clutch	Multidisc clutch in oil bath/hydraulically activated
Transmission	6-gear, claw shifted
Transmission ratio	
1st gear	11:29
2nd gear	14:28
3rd gear	16:26
4th gear	19:26
5th gear	21:25
6th gear	20:21
Ignition	Kokusan 504
Spark plug	NGK BR9 ECMVX
Spark plug electrode gap	0.60 mm (0.0236 in)
Cooling	Water-cooled
Starting aid	Kick starter

20.2 Engine tightening torques

Screw, adjusting lever	M5x16	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, clutch spring retainer	M5	6 Nm (4.4 lbf ft)	
Screw, control lever	M5x12	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, crankshaft position sensor	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, exhaust control bearing support	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, exhaust control cap	M5	6 Nm (4.4 lbf ft)	
Screw, exhaust control cover	M5	5 Nm (3.7 lbf ft)	
Screw, guide piece	M5x12	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, ignition system/stator	M5	6 Nm (4.4 lbf ft)	Loctite®243™

Screw, locking lever	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, power valve stop plate	M5x12	6 Nm (4.4 lbf ft)	Loctite®243™
Screw, water pump wheel	M5	6 Nm (4.4 lbf ft)	Loctite®243™
Coolant drain plug	M6	8 Nm (5.9 lbf ft)	
Nut, adjusting screw, power valve	M6	8 Nm (5.9 lbf ft)	
Screw, alternator cover	M6	8 Nm (5.9 lbf ft)	
Screw, bearing retainer	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	
Screw, engine case	M6x45	10 Nm (7.4 lbf ft)	
Screw, engine case	M6x50	10 Nm (7.4 lbf ft)	
Screw, engine sprocket cover	M6	10 Nm (7.4 lbf ft)	
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	
Screw, gear oil level check	M6	8 Nm (5.9 lbf ft)	
Screw, intake flange	M6	6 Nm (4.4 lbf ft)	
Screw, intermediate clutch cover	M6x25	10 Nm (7.4 lbf ft)	
Screw, intermediate clutch cover	M6x55	10 Nm (7.4 lbf ft)	
Screw, intermediate clutch cover	M6x60	10 Nm (7.4 lbf ft)	
Screw, intermediate kick starter gear	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, kick starter stop plate	M6	10 Nm (7.4 lbf ft)	Loctite®243™
Screw, outer clutch cover	M6x25	8 Nm (5.9 lbf ft)	
Screw, outer clutch cover	M6x55	8 Nm (5.9 lbf ft)	
Screw, outer clutch cover	M6x60	8 Nm (5.9 lbf ft)	
Screw, radiator bleeding	M6	8 Nm (5.9 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, water pump cover	M6	10 Nm (7.4 lbf ft)	
Nut, cylinder base	M8	23 Nm (17 lbf ft)	
Screw, cylinder base	M8	10 Nm (7.4 lbf ft)	
Screw, kick starter	M8	25 Nm (18.4 lbf ft)	Loctite®243™
Oil drain plug with magnet	M12	20 Nm (14.8 lbf ft)	
Nut, rotor	M12x1	60 Nm (44.3 lbf ft)	
Nut, primary gear	M14LHx1.25	60 Nm (44.3 lbf ft)	Loctite®243™
Spark plug	M14x1.25	25 Nm (18.4 lbf ft)	
Nut, inner clutch hub	M16x1.5	60 Nm (44.3 lbf ft)	Loctite®243™

20.3 Carburetor

Carburetor type	KEIHIN PWK 28
Needle position	3rd position from top
Idle air adjusting screw	
open	2 turns
Main jet	142 (140, 145, 148)
Jet needle	NRKC (NRJC)
Idling jet	48 (45, 50)
Throttle slide	3
Cold start jet	62

20.3.1 Basic carburetor setting for sandy surfaces

Idle air adjusting screw	2 turns
Idling jet	48
Jet needle	NRJ C
Needle position	4th position from top
Main jet	148

i Info
If the engine is not running smoothly, use a smaller main jet.

20.3.2 Carburetor tuning ↗

KEIHIN PWK 28							
M/FT ASL ↓	TEMP →	-20°C ... -7°C	-6°C ... 5°C	6°C ... 15°C	16°C ... 24°C	25°C ... 36°C	37°C ... 49°C
		-2°F ... 20°F	19°F ... 41°F	42°F ... 60°F	61°F ... 78°F	79°F ... 98°F	99°F ... 120°F
3.000 m 10,000 ft ↑ 2.301 m 7,501 ft	ASO IJ NDL POS MJ	2 48 NRK C 3 142	2 45 NRK C 3 142	1,5 42 NRK C 3 140	2 42 NRK C 3 138	1,5 42 NRJ C 3 138	
2.300 m 7,500 ft ↑ 1.501 m 5,001 ft	ASO IJ NDL POS MJ	2 48 NRK C 3 145	2 48 NRK C 3 142	2 45 NRK C 3 142	1,5 42 NRK C 3 140	2 42 NRK C 3 138	1,5 42 NRJ C 3 138
1.500 m 5,000 ft ↑ 751 m 2,501 ft	ASO IJ NDL POS MJ	2 48 NRJ C 4 145	2 48 NRK C 3 145	2 48 NRK C 3 142	2 45 NRK C 3 142	1,5 42 NRK C 3 140	2 42 NRK C 3 138
750 m 2,500 ft ↑ 301 m 1,001 ft	ASO IJ NDL POS MJ	2 48 NRJ C 4 148	1,5 48 NRK C 3 148	2 48 NRK C 3 145	2 48 NRK C 3 142	2 45 NRK C 3 142	1,5 42 NRK C 3 140
300 m 1,000 ft ↑ 0 m 0 ft	ASO IJ NDL POS MJ	2 48 NRJ C 4 148	1,5 48 NRK C 3 148	2 48 NRK C 3 145	2 48 NRK C 3 142	2 45 NRK C 3 142	1,5 42 NRK C 3 140

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M/FT ASL	Above sea level
TEMP	Temperature
ASO	Open (rotations) idle air adjusting screw
IJ	Idling jet
NDL	Jet needle
POS	Needle position from top
MJ	Main jet

20.4 Capacities

20.4.1 Gear oil

Gear oil	0.50 l (0.53 qt.)	Engine oil (15W/50) (📖 p. 119)
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20.4.2 Coolant

Coolant	0.8 l (0.8 qt.)	Coolant (📖 p. 119)
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20.4.3 Fuel

Fuel tank capacity, approx.	5.2 l (1.37 US gal)	Super unleaded (98 octane) mixed with 2-stroke engine oil (1:40) (📖 p. 120)
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20.5 Chassis

Frame	Central tube frame of chrome molybdenum steel tubing, powder-coated
Fork	WP Performance Systems Upside down AER 43
Shock absorber	WP Performance Systems 4618 PDS DCC
Suspension travel	
front	278 mm (10.94 in)
rear	305 mm (12.01 in)
Fork offset	14 mm (0.55 in)
Brake system	
front	Disc brake with four-pot brake caliper
rear	Disc brake with two-pot brake caliper
Brake discs - diameter	
front	240 mm (9.45 in)
rear	210 mm (8.27 in)
Brake discs - wear limit	
front	3.5 mm (0.138 in)
rear	3.7 mm (0.146 in)
Tire air pressure off road	
front	1.0 bar (15 psi)
rear	1.0 bar (15 psi)
Secondary ratio (85 SX 17/14)	13:46
Secondary ratio (85 SX 19/16)	13:49
Chain	1/2 x 5/16"
Rear sprockets available	44, 45, 46, 47, 48, 49, 50, 51
Steering head angle	66°
Wheelbase	1,290 ± 10 mm (50.79 ± 0.39 in)
Seat height, unloaded (85 SX 17/14)	865 mm (34.06 in)
Seat height, unloaded (85 SX 19/16)	890 mm (35.04 in)
Ground clearance, unloaded (85 SX 17/14)	336 mm (13.23 in)
Ground clearance, unloaded (85 SX 19/16)	362 mm (14.25 in)
Weight without fuel, approx. (85 SX 17/14)	67 kg (148 lb.)

Weight without fuel, approx. (85 SX 19/16)	68 kg (150 lb.)
Maximum rider weight	75 kg (165 lb.)

20.6 Tires

Validity	Front tire	Rear tire
(85 SX 17/14)	70/100 - 17 M/C 40M TT MAXXIS MAXX CROSS SI	90/100 - 14 M/C 49M TT MAXXIS MAXX CROSS SI
(85 SX 19/16)	70/100 - 19 M/C 42M TT MAXXIS MAXX CROSS SI	90/100 - 16 M/C 52M TT MAXXIS MAXX CROSS SI

The tires specified represent one of the possible series production tires. Additional information is available in the Service section under:
<http://www.ktm.com>

20.7 Fork

Fork article number	43.18.8S.04	
Fork	WP Performance Systems Upside down AER 43	
Compression damping		
Comfort	17 clicks	
Standard	12 clicks	
Sport	7 clicks	
Rebound damping		
Comfort	17 clicks	
Standard	12 clicks	
Sport	7 clicks	
Fork length	845 mm (33.27 in)	
Oil capacity external mechanism right	363 ± 10 ml (12.27 ± 0.34 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 120)
Oil capacity external mechanism left	100 ± 20 ml (3.38 ± 0.68 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 120)
Grease capacity, left cartridge	5 g (0.18 oz)	Multi-purpose grease (00062010051) (📖 p. 121)

20.8 Shock absorber

Shock absorber article number	12.18.7S.04	
Shock absorber	WP Performance Systems 4618 PDS DCC	
Compression damping, high-speed		
Comfort	1.5 turns	
Standard	2 turns	
Sport	2.5 turns	
Compression damping, low-speed		
Comfort	18 clicks	
Standard	15 clicks	
Sport	12 clicks	
Rebound damping		
Comfort	18 clicks	

Standard	15 clicks
Sport	12 clicks
Spring preload	11 mm (0.43 in)
Spring rate	
Weight of rider: < 45 kg (< 99 lb.)	35 N/mm (200 lb/in)
Weight of rider: 45 ... 55 kg (99 ... 121 lb.)	40 N/mm (228 lb/in)
Weight of rider: > 55 kg (> 121 lb.)	45 N/mm (257 lb/in)
Spring length	215 mm (8.46 in)
Gas pressure	10 bar (145 psi)
Static sag	30 mm (1.18 in)
Riding sag	120 mm (4.72 in)
Fitted length	397 mm (15.63 in)
Shock absorber fluid (調 p. 120)	SAE 2.5

20.9 Chassis tightening torques

Spoke nipple	M4.5	5 Nm (3.7 lbf ft)
Screw, main silencer	M5	7 Nm (5.2 lbf ft)
Pin, front brake	M6	8 Nm (5.9 lbf ft)
Pin, rear brake	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 throttle grip	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, foot brake cylinder	M6	10 Nm (7.4 lbf ft)
Screw, front brake disc	M6	14 Nm (10.3 lbf ft) Loctite®243™
Screw, front fender	M6	6 Nm (4.4 lbf ft)
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft) Loctite®243™
Start number plate screw	M6	4 Nm (3 lbf ft)
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	15 Nm (11.1 lbf ft)
Screw, engine brace	M8	25 Nm (18.4 lbf ft) Loctite®2701™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)
Screw, front brake caliper	M8	25 Nm (18.4 lbf ft) Loctite®243™
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)
Screw, rear brake caliper	M8	18 Nm (13.3 lbf ft) Loctite®243™
Screw, rear sprocket	M8	35 Nm (25.8 lbf ft) Loctite®2701™
Screw, subframe	M8	35 Nm (25.8 lbf ft) Loctite®2701™

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Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)	
Steering stem clamp screw	M8	20 Nm (14.8 lbf ft)	
Engine carrying screw	M10	45 Nm (33.2 lbf ft)	
Nut, foot brake lever	M10	45 Nm (33.2 lbf ft)	Loctite®243™
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)	
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	
Screw, handlebar support	M10	40 Nm (29.5 lbf ft)	Loctite®243™
Screw, bottom shock absorber	M12	60 Nm (44.3 lbf ft)	Loctite®2701™
Screw, top shock absorber	M12	60 Nm (44.3 lbf ft)	Loctite®2701™
Nut, seat fixing	M12x1	20 Nm (14.8 lbf ft)	
Nut, swingarm pivot	M14x1.5	75 Nm (55.3 lbf ft)	
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)	
Nut, steering stem	M20x1.5	10 Nm (7.4 lbf ft)	
Screw, front wheel spindle	M20x1.5	35 Nm (25.8 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)
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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 (15W/50)**Standard/classification**

- JASO T903 MA2 (📖 p. 123)
- SAE (📖 p. 123) (15W/50)

Guideline

- Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

Recommended supplier**Motorex®**

- **Top Speed 4T**

Engine oil, 2-stroke**Standard/classification**

- JASO FD (📖 p. 123)

Guideline

- Only use high grade 2-stroke engine oil of a reputable brand.

Fully synthetic

Recommended supplier

Motorex®

- Cross Power 2T

Fork oil (SAE 4) (48601166S1)

Standard/classification

- SAE (📖 p. 123) (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. 123) (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 98 / RON 98 / PON 94)

Standard/classification

- DIN EN 228 (ROZ 98 / RON 98 / PON 94)

Super unleaded (98 octane) mixed with 2-stroke engine oil (1:40)

Standard/classification

- DIN EN 228
- JASO FD (📖 p. 123) (1:40)

Mixture ratio

1:40	Engine oil, 2-stroke (📖 p. 119) Super unleaded (ROZ 98 / RON 98 / PON 94) (📖 p. 120)
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Recommended supplier

Motorex®

- Cross Power 2T

Air filter cleaner

Recommended supplier

Motorex®

- Racing Bio Dirt Remover

Chain cleaner

Recommended supplier

Motorex®

- Chain Clean

Fuel additive

Recommended supplier

Motorex®

- Fuel Stabilizer

Grip adhesive (00062030051)

Recommended supplier

KTM AG

- GRIP GLUE

High viscosity grease

Recommended supplier

SKF®

- LGHB 2

Long-life grease

Recommended supplier

Motorex®

- Bike Grease 2000

Motorcycle cleaner

Recommended supplier

Motorex®

- Moto Clean

Multi-purpose grease (00062010051)

Recommended supplier

Klüber Lubrication®

- CENTOPLEX 2 EP

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.

JASO FD

JASO FD is a classification for a 2-stroke engine oil that was specifically developed for the extreme demands of racing. Thanks to first rate synthetic esters and specially designed additives, superb combustion is achieved even under extreme operating conditions.

24 LIST OF ABBREVIATIONS

Art. no.	Article number
ca.	circa
cf.	compare
e.g.	for example
etc.	et cetera
i.a.	inter alia
no.	number
poss.	possibly

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