OWNER'S MANUAL 2017

READY TO RACE
»www.ktm.com

85 SX

Art. no. 3213468en

KTM

DEAR KTM CUSTOMER

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

We hope you enjoy your new vehicle!

Enter the serial numbers of your vehicle below.

Chassis number (📖 p. 10)	Dealer's stamp
Engine number (📖 p. 10)	

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

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

TÜV MANAGEMENT SERVICE ISO 9001
REG.NO. 12 100 6061

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

KTM Sportmotorcycle GmbH
5230 Mattighofen, Austria

This document is valid for the following models:

85 SX 19/16 (F6001Q9)

85 SX 17/14 (F6001Q8)

3213468en

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1 MEANS OF REPRESENTATION

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. There, your motorcycle will be optimally cared for by specially trained experts using the specialist 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.

1.2 Formats used

The typographical formats used in this document are explained below.

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

2 SAFETY ADVICE

2.1 Use definition - intended use

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

Info
The motorcycle may only be used in closed off areas remote from public road traffic.

2.2 Safety advice

A number of safety instructions need to be followed to operate the vehicle safely. Therefore, read this manual carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.

Info
The vehicle has various information and warning labels at prominent locations. Do not remove information/warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.3 Degrees of risk and symbols

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

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

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

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

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

2.4 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.

2.5 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.

2.6 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.
- Alway 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.

2.7 Work rules

Special tools are necessary for certain tasks. The tools are not contained in the vehicle but can be ordered under the number in parentheses. E.g.: bearing puller (15112017000)
During assembly, non-reusable parts (e.g. self-locking screws and nuts, seals and seal rings, O-rings, pins, lock washers) must be replaced by new parts.
In some instances, a thread locker (e.g. **Loctite®**) is required. The manufacturer instructions for use must be followed.
After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.
After you complete the repair or service work, check the operating safety of the vehicle.

2.8 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.

2.9 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 IMPORTANT NOTES

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

Warning

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 (such as fuel and lubricants) as specified in the Owner's Manual.

3.3 Spare parts, accessories

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

The current **KTM PowerParts** for your vehicle can be found on the KTM website.
International KTM Website: http://www.ktm.com

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work on the engine and chassis is properly carried out as described in the Owner's Manual. 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.

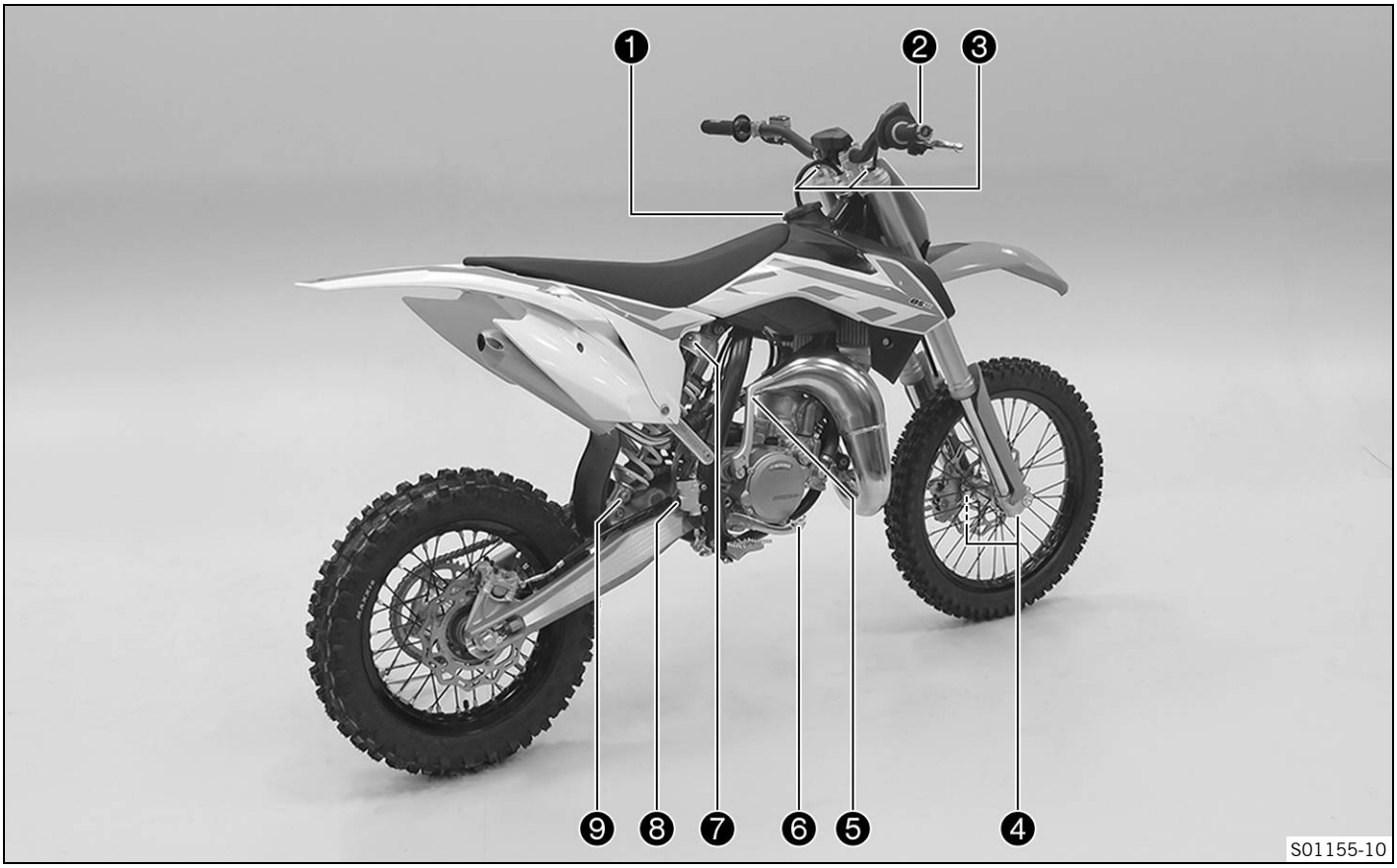
A list of authorized KTM dealers can be found on the KTM website.
International KTM Website: http://www.ktm.com

4 VIEW OF VEHICLE

4.1 View of vehicle, front left (example)

1	Hand brake lever (📖 p. 11)
2	Kill switch (📖 p. 11)
3	Clutch lever (📖 p. 11)
4	Air filter box cover
5	Shift lever (📖 p. 13)
6	Choke (📖 p. 13)
7	Fuel tap (📖 p. 12)

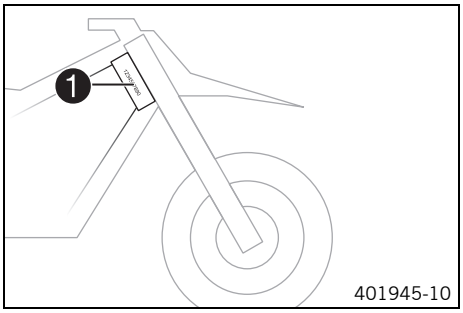
4.2 View of vehicle, rear right (example)



1	Filler cap
2	Throttle grip (📖 p. 11)
3	Fork rebound adjustment
4	Fork compression adjustment
5	Kick starter (📖 p. 13)
6	Foot brake lever (📖 p. 13)
7	Shock absorber compression adjustment
8	Level viewer for brake fluid, rear
9	Shock absorber rebound adjustment

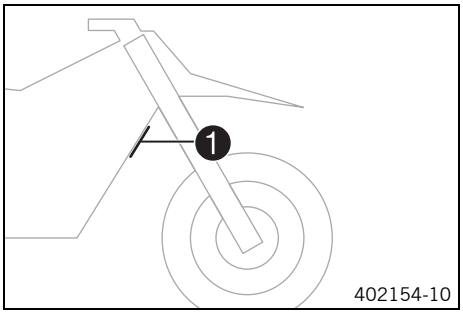
5 SERIAL NUMBERS

5.1 Chassis number



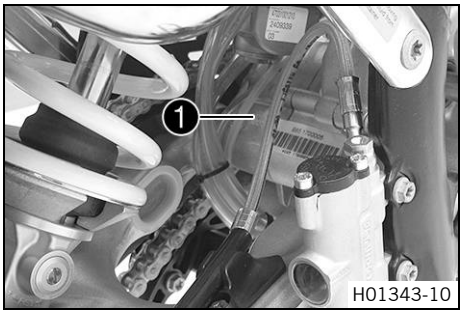
Chassis number ❶ is stamped on the right side of the steering head.

5.2 Type label



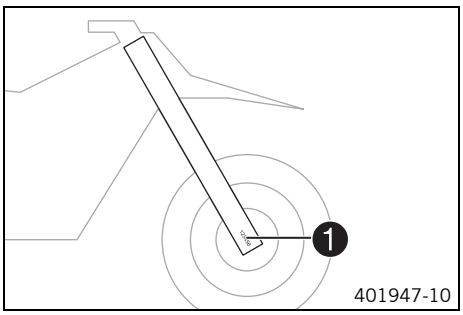
Type label ❶ is located on the front frame tube.

5.3 Engine number



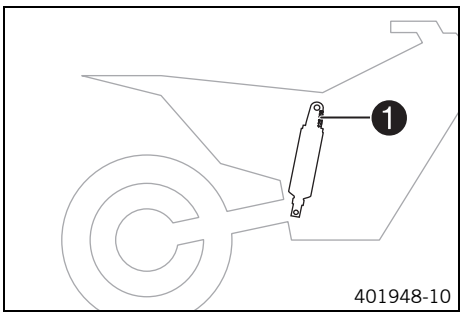
Engine number ❶ is stamp into the engine case below the carburetor.

5.4 Fork part number



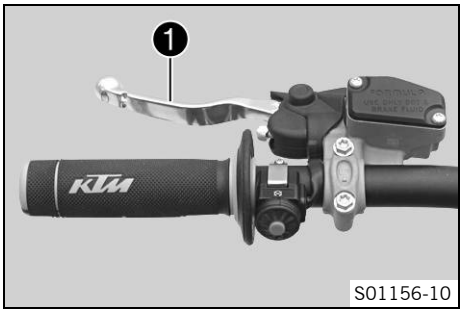
Fork part number ❶ is stamped on the inner side of the axle clamp.

5.5 Shock absorber article number



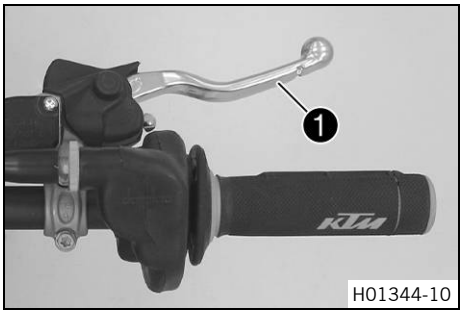
The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring towards the engine side.

6.1 Clutch lever



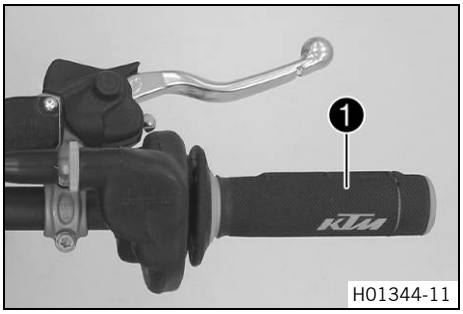
Clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is hydraulically operated and self-adjusting.

6.2 Hand brake lever



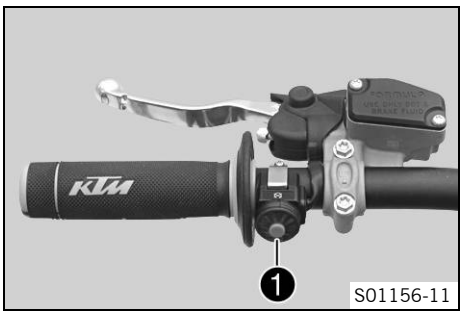
Hand brake lever ❶ is located on the right side of the handlebar.
The front brake is engaged using the hand brake lever.

6.3 Throttle grip



Throttle grip ❶ is fitted on the right side of the handlebar.

6.4 Kill switch



Kill switch ❶ 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.

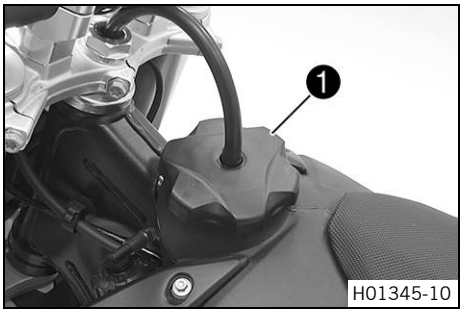
– Do not refuel the vehicle in the vicinity of open flames or lit cigarettes.
– Switch off the engine for refueling.
– Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
– If any fuel is spilled, wipe it off immediately.
– Observe the specifications for refueling.

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.

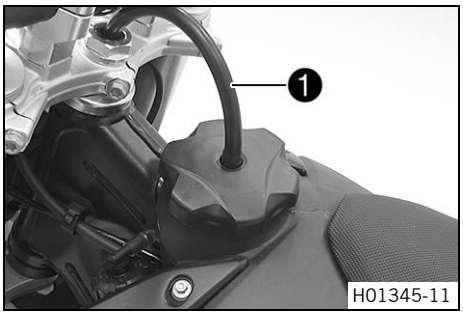
Warning
Environmental hazard Improper handling of fuel is a danger to the environment.

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



- Turn filler cap ❶ counterclockwise and lift it off.

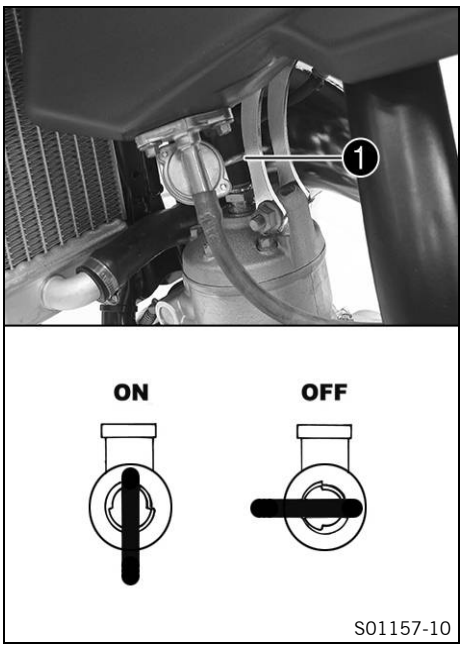
6.6 Closing the filler cap



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

Info
Run fuel tank breather hose ❶ without kinks.

6.7 Fuel tap

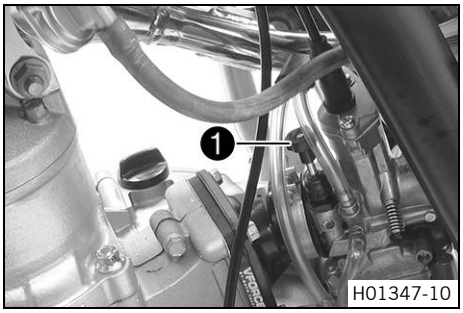


The fuel tap is on the left of the fuel tank.
Tap handle ❶ on the fuel tap can be used to open or close the fuel supply to the carburetor.

Possible states

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

6.8 Choke

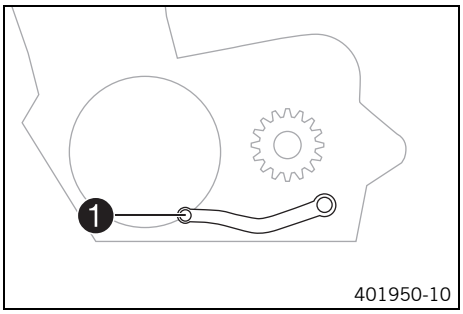


Choke ❶ is fitted on the left side of the carburetor.
Activating the choke function frees a drill hole in the carburetor through which the engine can draw extra fuel. This results in a richer fuel-air mixture, which is needed for a cold start.

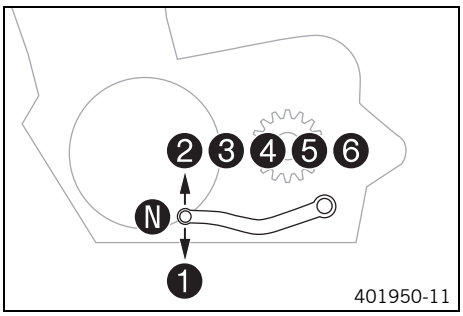
Info
If the engine is warm, the choke function must be deactivated.

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

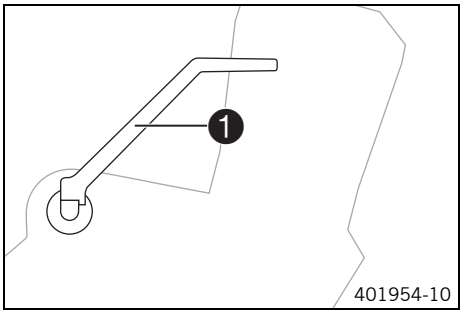


Shift lever ❶ is mounted on the left side of the engine.



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

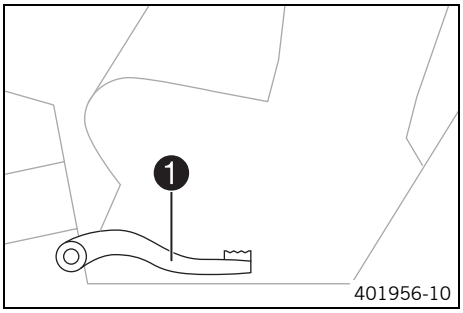
6.10 Kick starter



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

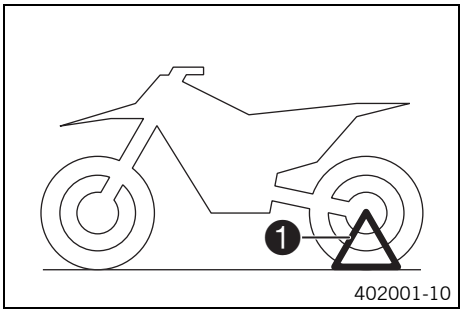
Info
Before riding, swing the kickstarter inwards towards the engine.

6.11 Foot brake lever



Foot brake lever ❶ 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 ❶ 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 ❶ is fitted on the right side of the frame.
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
It is not possible to delete or adjust anything on the service hour counter.

7 PREPARING FOR USE

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.
- Alway 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 passengers.

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 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. 51)
– Adjust the free travel of the handbrake lever. (📖 p. 54)
– Adjust the basic position of the foot brake lever. 🔧 (📖 p. 59)
– 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 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.
– Do not exceed the maximum permissible rider weight.
  Guideline

Maximum rider weight	75 kg (165 lb.)

– Check the spoke tension. (📖 p. 67)

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

– Run the engine in. (📖 p. 16)

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

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.

– Seal the air filter box. 🔧 (📖 p. 42)
– Clean the air filter and air filter box. 🔧 (📖 p. 41)

Info
Check the air filter approx. every 30 minutes.

– Additionally secure the rubber grip. (📖 p. 51)
– 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. 17)
– Rides on wet sand. (📖 p. 18)
– Rides on wet and muddy surfaces. (📖 p. 18)

– Rides at high temperature and slow speed. (📖 p. 19)
– Rides at low temperatures or in snow. (📖 p. 19)

7.4 Preparing for rides on dry sand

L00021-10

– Check the radiator cap.

Value on the radiator cap	1.8 bar (26 psi)

» If the indicated value does not correspond to the required 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.

M01071-01

– Fit a dust cover on the air filter.

Dust protection device for air filter (59006019000)

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

M01072-01

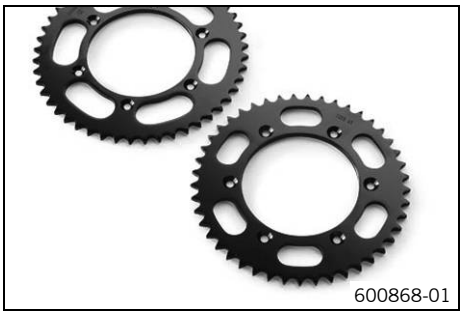
– Fit a sand cover on the air filter.

Sand protection device for air filter (59006022000)

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

– Adjust the carburetor jetting and setting.

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


600868-01

– Clean the chain.

Chain cleaner (📖 p. 89)

– Fit the steel sprocket.

Tip
Do not grease the chain.

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

Condition
Regular use in sand
– Change the piston every 10 operating hours.

7.5 Preparing for rides on wet sand

L00021-10

– Check the radiator cap.

Value on the radiator cap	1.8 bar (26 psi)

» If the indicated value does not correspond to the required 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.


M01073-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (59006021000)

Info

See the **KTM PowerParts** fitting instructions.

– Adjust the carburetor jetting and setting.

Info

Your authorized KTM workshop can recommend the right carburetor tuning.


600868-01

– Clean the chain.

Chain cleaner (📖 p. 89)

– Fit the steel sprocket.

Tip

Do not grease the chain.

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

Condition

Regular use in sand

– Change the piston every 10 operating hours.

7.6 Preparing for rides on wet and muddy surfaces


M01073-01

– Fit a rain cover on the air filter.

Waterproofing device for air filter (59006021000)

Info

See the **KTM PowerParts** fitting instructions.

– Adjust the carburetor jetting and the setting.

Info

Your authorized KTM workshop can recommend the right carburetor tuning.


600868-01

– Fit the steel sprocket.
– Clean the motorcycle. (📖 p. 77)
– Straighten bent radiator fins carefully.

7.7 Preparing for rides at high temperature and slow speed

L00021-10

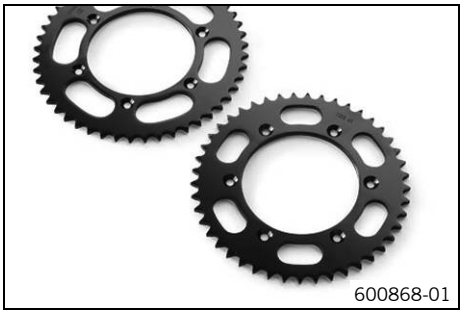
– Check the radiator cap.

Value on radiator cap	1.8 bar (26 psi)

» If the displayed value does not meet specifications:

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.


600868-01

– Adjust the secondary drive to the road conditions.

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

– Clean the chain.

Chain cleaner (📖 p. 89)

– Clean the radiator fins.
– Straighten bent radiator fins carefully.
– Check the coolant level. (📖 p. 69)

7.8 Preparing for riding at low temperatures or in snow

M01073-01

– Fit a rain cover on the air filter.

Waterproofing device for air filter (59006021000)

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

– Adjust the carburetor jetting and the setting.

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

8.1 Checks and maintenance work when preparing for use

Info
Before riding the vehicle, always check its condition and operating safety.
The vehicle must be in perfect technical condition when used.

- Check the gear oil level. (📖 p. 75)
- Check the front brake fluid level. (📖 p. 55)
- Check the rear brake fluid level. (📖 p. 59)
- Check the front brake linings. (📖 p. 56)
- Check the rear brake linings. (📖 p. 61)
- Check that the brake system is functioning properly.
- Check the coolant level. (📖 p. 69)
- Check for chain dirt accumulation. (📖 p. 46)
- Check the chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 48)
- Check the chain tension. (📖 p. 46)
- Check the tire condition. (📖 p. 66)
- Check the tire air pressure. (📖 p. 67)
- Check the spoke tension. (📖 p. 67)
- Clean the dust boots of the fork legs. (📖 p. 33)
- Bleed the fork legs. (📖 p. 32)
- 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 supply.

8.2 Starting

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. 73)

- Turn tap handle ❶ on the fuel tap to the **ON** position. (Figure S01157-10📖 p. 12)
  ✓ 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 you hear unusual noises while riding, stop immediately, switch off the engine, and contact an authorized KTM workshop. First gear is used for starting off and for steep inclines.

– 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 was 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 ¾ 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 downhills. 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.
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 tap handle ❶ on the fuel tap to the **OFF** position. (Figure S01157-10📖 p. 12)
– Park the motorcycle on firm ground.

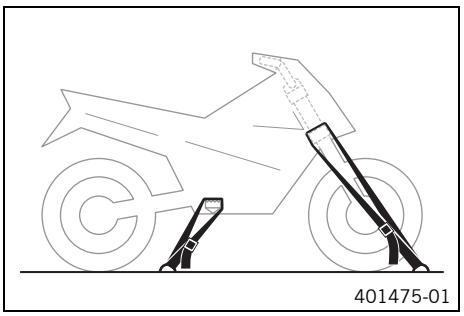
8.7 Transport

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

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

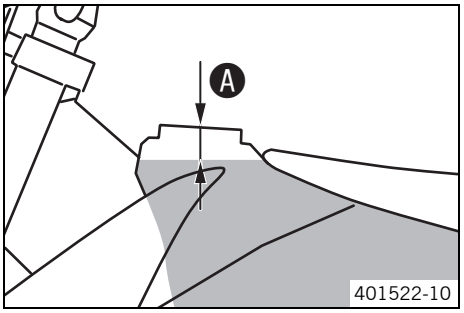
Danger of poisoning Fuel is poisonous and a health hazard.

- 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.

Warning

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. 11)
- Fill the fuel tank with fuel up to measurement A.

  Guideline

Measurement of A		35 mm (1.38 in)
Fuel tank capacity, approx.	5.0 l (1.32 US gal)	Super unleaded (98 octane) mixed with 2-stroke engine oil (1:40) (p. 88)
Engine oil, 2-stroke (p. 87)		

- Close the filler cap. (p. 12)

9 SERVICE SCHEDULE

9.1 Additional information

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

9.2 Required work

	Once after 10 operating hours / Every 10 operating hours	Every 20 operating hours/after every race	Every 40 operating hours
Check the front brake linings. (📖 p. 56)	○	●	●
Check the rear brake linings. (📖 p. 61)	○	●	●
Check the brake discs. (📖 p. 54)	○	●	●
Check the brake lines for damage and leakage.	○	●	●
Change the foot brake cylinder seals. 🔧		●	●
Check the rear brake fluid level. (📖 p. 59)	○	●	●
Check the free travel of the foot brake lever. (📖 p. 58)	○	●	●
Check the frame and swingarm. 🔧		●	●
Check the swingarm bearing. 🔧		●	●
Check the heim joints at the top and bottom of the shock absorber. 🔧		●	●
Check the tire condition. (📖 p. 66)	○	●	●
Check the tire air pressure. (📖 p. 67)	○	●	●
Check the wheel bearing for play. 🔧		●	●
Check the wheel hubs. 🔧		●	●
Check the rim run-out. 🔧	○	●	●
Check the spoke tension. (📖 p. 67)	○	●	●
Check the chain, rear sprocket, engine sprocket, and chain guide. (📖 p. 48)	○	●	●
Check the chain tension. (📖 p. 46)	○	●	●
Grease all moving parts (e.g., hand lever, chain, ...) and check for smooth operation. 🔧	○	●	●
Check the fluid level of the hydraulic clutch. (📖 p. 51)	○	●	●
Check the front brake fluid level. (📖 p. 55)	○	●	●
Check the free travel of the hand brake lever. (📖 p. 54)	○	●	●
Check the play of the steering head bearing. (📖 p. 37)	○	●	●
Change the gear oil. 🔧 (📖 p. 75)	○	●	●
Change the piston and check the cylinder. (under difficult operating conditions) 🔧	●	●	●
Check the clutch. 🔧		●	●
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. 68)	○	●	●
Check the cables for damage and routing without sharp bends. 🔧	○	●	●
Check that the throttle cables are undamaged, routed without sharp bends, and set correctly.		●	●
Clean the air filter and air filter box. 🔧	○	●	●
Change the glass fiber yarn filling of the main silencer. 🔧 (📖 p. 43)			●
Check the screws and nuts for tightness. 🔧	○	●	●
Check idle. 🔧	○	●	●
Final check: Check the vehicle for safe operation 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

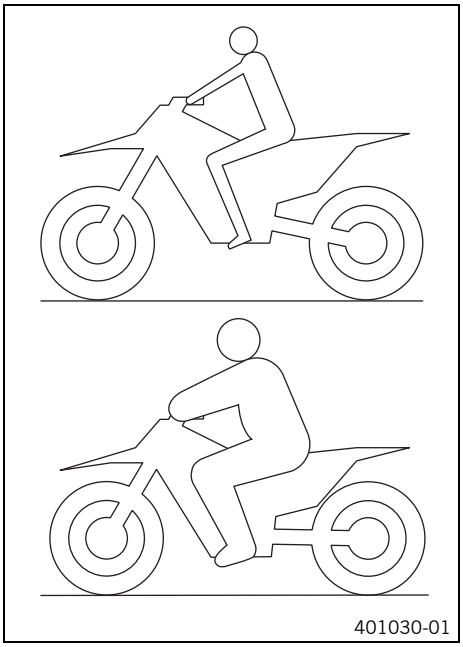
9.3 Recommended work

	Every 20 operating hours/after every race	Every 40 operating hours	Annually
Change the front brake fluid. 🔧			•
Change the rear brake fluid. 🔧			•
Change the hydraulic clutch fluid. 🔧 (📖 p. 52)			•
Service the fork. 🔧		•	
Service the shock absorber. 🔧		•	
Grease the steering head bearing. 🔧 (📖 p. 38)			•
Check/adjust the carburetor components. 🔧		•	•
Perform minor engine service. (Change the piston. Check the cylinder and Z dimension. Change the spark plug. Check the inlet membrane. 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 the spark plug connector. Change all engine bearings.) 🔧		•	

- Periodic interval

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

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


401030-01

– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, 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 Compression damping of the shock absorber

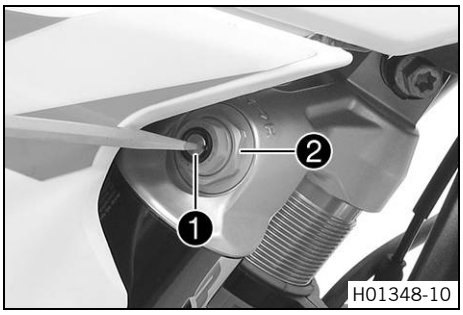
The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.
High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.
The high-speed setting, for example, has an effect on the landing after a jump: the rear wheel suspension compresses more quickly.
The low-speed setting, for example, has an effect when riding over long ground swells: the rear wheel suspension compresses more 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.

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

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

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

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



H01348-10

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

Info
Do not loosen fitting ❷!

– 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

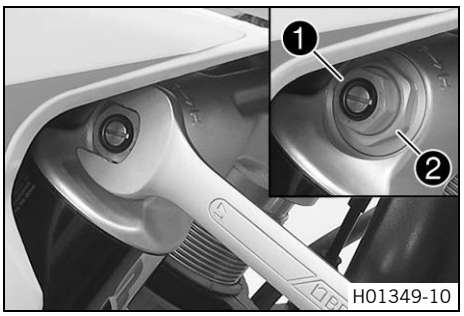
Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

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

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

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

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



– Turn adjusting screw 1 clockwise all the way.

Info
Do not loosen fitting 2!

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

Guideline

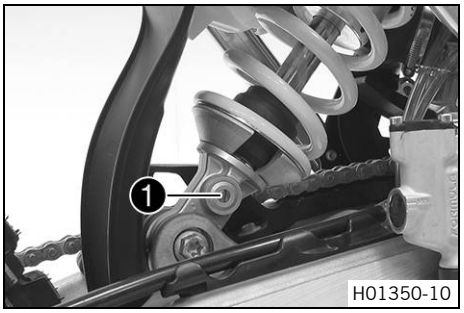
Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn

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

10.5 Adjusting the rebound damping of the shock absorber

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

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



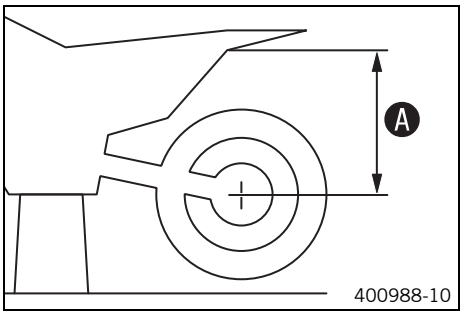
– Turn adjusting screw 1 clockwise up to the last perceptible click.
– Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

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

10.6 Measuring rear wheel sag unloaded



Preparatory work

– Raise the motorcycle with the lift stand. (📖 p. 32)

Main work

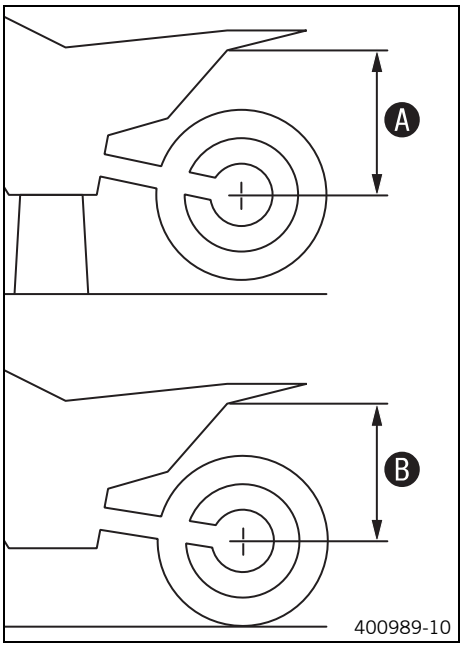
– Measure the distance – as vertically as possible – between the rear axle and a fixed point such as a mark on the side cover.

– Make a note of the value as dimension Ⓐ.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 32)

10.7 Checking the static sag of the shock absorber



– Measure distance Ⓐ of rear wheel unloaded. (📖 p. 28)

– 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 Ⓑ.

Info

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

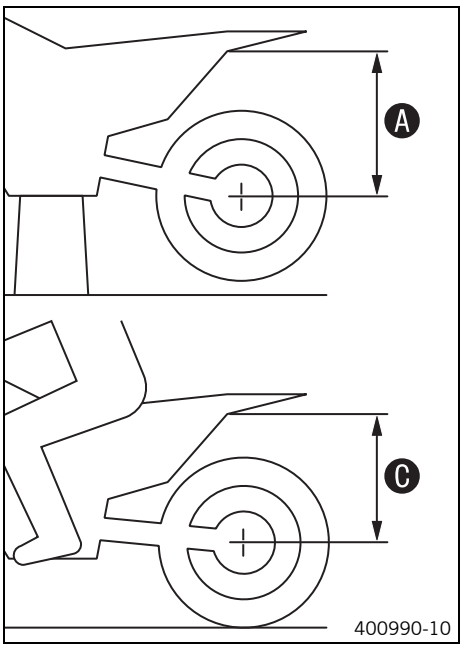
– Check the static sag.

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. 29)

10.8 Checking the riding sag of the shock absorber



– Measure distance Ⓐ of rear wheel unloaded. (📖 p. 28)

– 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 Ⓒ.

Info

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

– Check the riding sag.

Riding sag	100 mm (3.94 in)

» If the riding sag differs from the specified measurement:

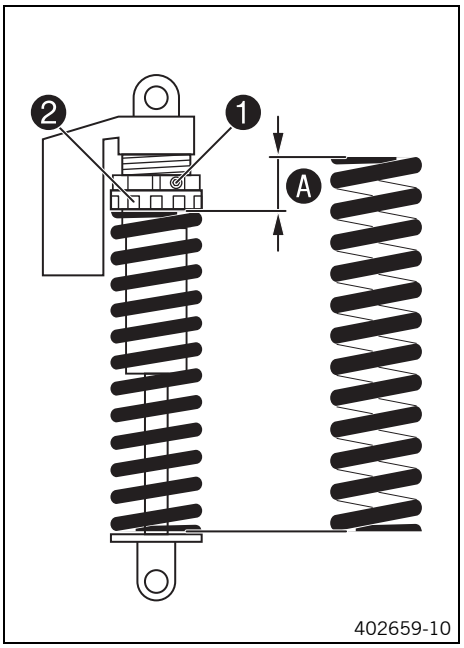
– Adjust the riding sag. 🔧 (📖 p. 29)

10.9 Adjusting the spring preload of the shock absorber

Caution

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

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



Preparatory work
– Raise the motorcycle with the lift stand. (📖 p. 32)
– Remove the shock absorber. 🔧 (📖 p. 39)
– 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 ❶.
– Turn adjusting ring ❷ until the spring is no longer under tension.

Combination wrench (50329080000)
Hook wrench (T106S)

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

Guideline

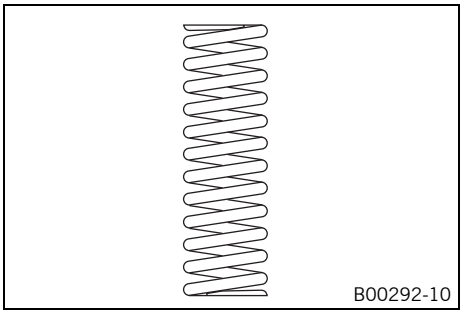
Spring preload	
Standard	10 mm (0.39 in)

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 ❶.

Finishing work
– Install the shock absorber. 🔧 (📖 p. 40)
– Remove the motorcycle from the lift stand. (📖 p. 32)

10.10 Adjusting the riding sag



Preparatory work
– Raise the motorcycle with the lift stand. (📖 p. 32)
– Remove the shock absorber. 🔧 (📖 p. 39)
– 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.)	30 N/mm (171 lb/in)
Weight of rider: 45… 55 kg (99… 121 lb.)	35 N/mm (200 lb/in)
Weight of rider: > 55 kg (> 121 lb.)	40 N/mm (228 lb/in)

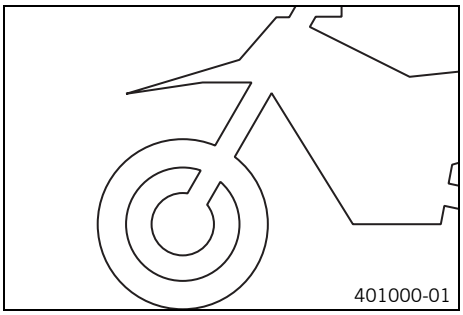
Info
The spring rate is shown on the outside of the spring.
Smaller weight differences can be compensated by changing the spring preload.

Finishing work
– Install the shock absorber. 🔧 (📖 p. 40)
– Remove the motorcycle from the lift stand. (📖 p. 32)

– Check the static sag of the shock absorber. (📖 p. 28)
– Check the riding sag of the shock absorber. (📖 p. 28)
– Adjust the rebound damping of the shock absorber. (📖 p. 27)

10.11 Checking the basic setting of the fork

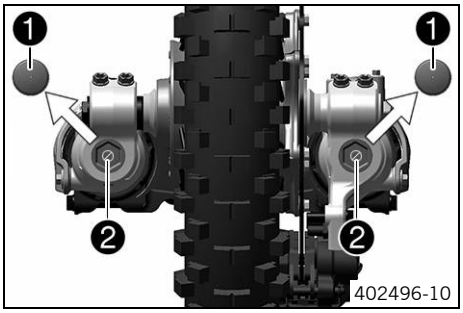
Info
For various reasons, no exact riding sag can be determined for the forks.



– As with the shock absorber, smaller differences in the rider's weight can be compensated by the spring preload.
– However, if the fork is often overloaded (hard end stop on compression), harder springs must be fit to avoid damage to the fork and frame.

10.12 Adjusting the compression damping of the fork

Info
The hydraulic compression damping determines the fork suspension behavior.



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

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

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

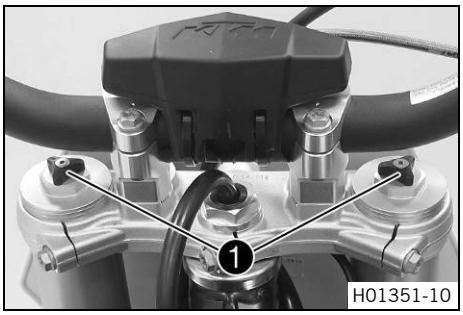
Compression damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

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

– Mount protection caps ❶.

10.13 Adjusting the rebound damping of the fork

Info
The hydraulic rebound damping determines the fork suspension behavior.



– Turn adjusting screws ❶ clockwise all the way.

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

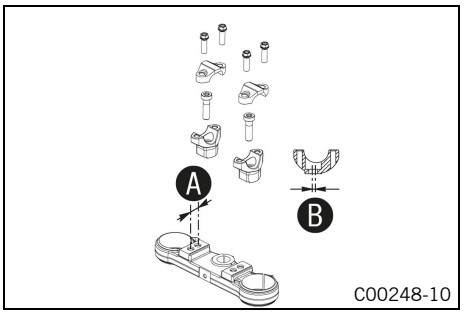
– Turn counterclockwise by the number of clicks corresponding to the fork type.

Guideline

Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks

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

10.14 Handlebar position



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

Hole distance A	15 mm (0.59 in)

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

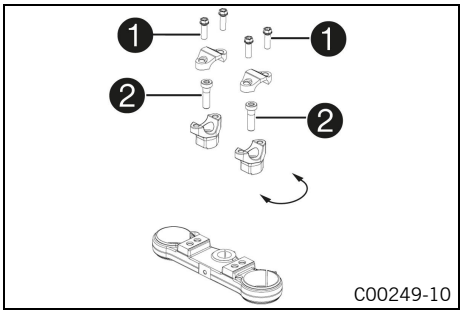
Hole distance B	3.5 mm (0.138 in)

The handlebar can be mounted in four different positions. In this way, the handlebar can be mounted in the position that is most comfortable for the rider.

10.15 Adjusting the handlebar position

Warning
Danger of accidents A repaired handlebar poses a safety risk.
If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.

– Change the handlebar if the handlebar is damaged or bent.



– Remove screws 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)

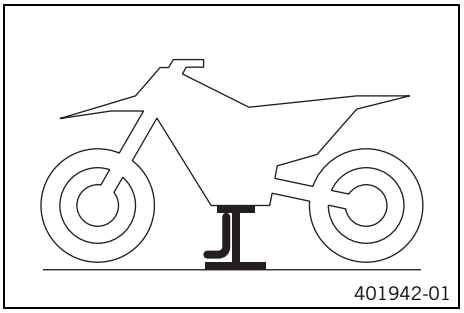
Info
Make sure the gap widths are even.

11.1 Raising the motorcycle with 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.


401942-01

– Raise the motorcycle at the frame underneath the engine.

Lift stand (78929955100)

✓ Neither wheel is in contact with the ground.

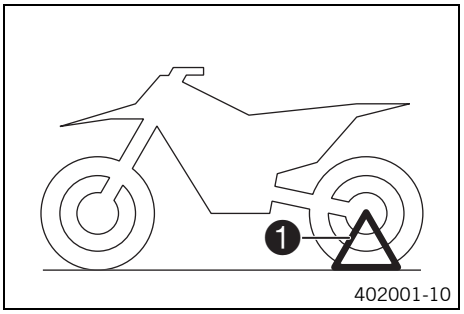
– Secure the motorcycle against falling over.

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.



402001-10

– Remove the motorcycle from the lift stand.
– Remove the lift stand.
– To park the motorcycle, insert plug-in stand ❶ 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 the lift stand. (📖 p. 32)

H01352-10

Main work

– Release bleeder screws ❶.

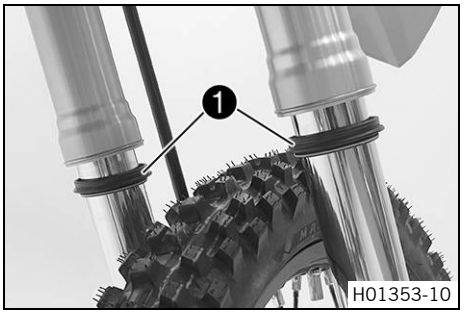
✓ Any excess pressure escapes from the interior of the fork.

– Tighten the bleeder screws.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 32)

11.4 Cleaning the dust boots of the fork legs



Preparatory work
- Raise the motorcycle with the lift stand. (📖 p. 32)
- Remove the fork protector. (📖 p. 34)

Main work
- Push dust boots ❶ of both fork legs downwards.

Info
The dust boots remove dust and coarse dirt particles from the inside fork tubes. Over time, dirt can penetrate 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.

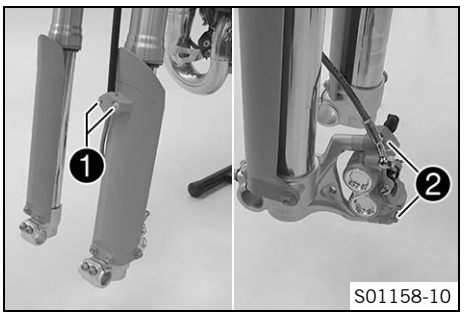
- Clean and oil the dust boots and inner fork tube of both fork legs.

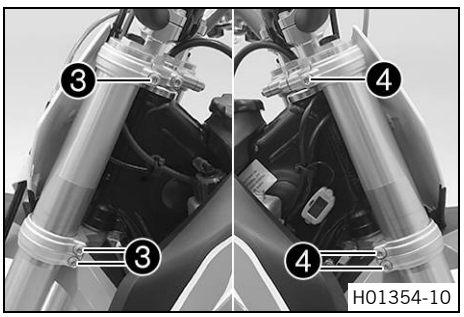
Universal oil spray (📖 p. 90)

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

Finishing work
- Install the fork protector. (📖 p. 35)
- Remove the motorcycle from the lift stand. (📖 p. 32)

11.5 Removing the fork legs 🔧





Preparatory work
- Raise the motorcycle with the lift stand. (📖 p. 32)
- Remove the front wheel. 🔧 (📖 p. 64)

Main work
- Remove screws ❶. Take off the clamp.
- Remove screws ❷ 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 ❸. Remove the left fork leg.
- Loosen screws ❹. Remove the right fork leg.

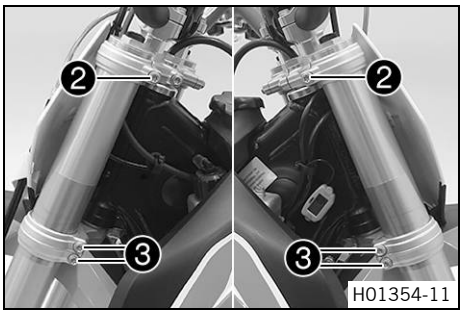
11.6 Installing the fork legs

Main work

– Position the fork legs.

✓ Bleeder screws ❶ are positioned toward the front.

Info
The second milled groove (from the top) must be flush with the top edge of the upper triple clamp.



– Tighten screws ❷.

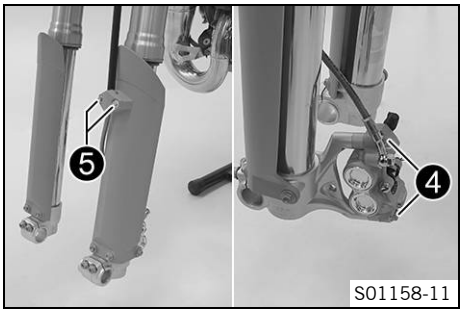
Guideline

Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)

– Tighten screws ❸.

Guideline

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



– Position the brake caliper with spacers and fit and tighten screws ❹.

Guideline

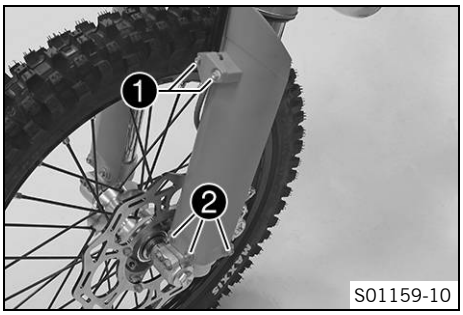
Screw of brake caliper	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**

– Position the brake line and clamp. Mount and tighten screws ❺.

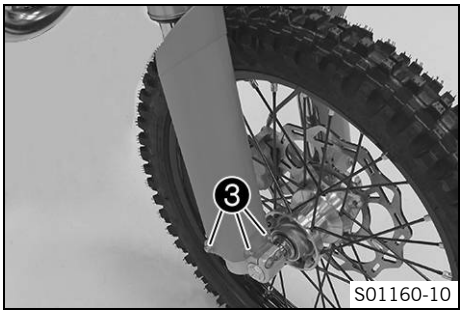
Finishing work

– Install the front wheel. (📖 p. 64)
– Remove the motorcycle from the lift stand. (📖 p. 32)

11.7 Removing the fork protector

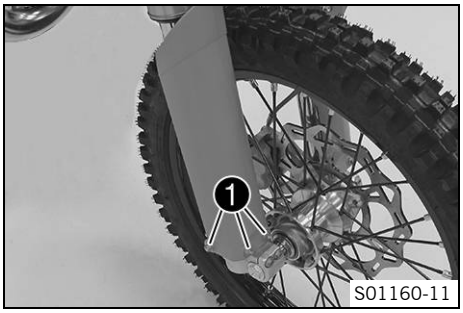


– Remove screws ❶. Take off the clamp.
– Remove screws ❷ on the left fork leg. Take off the fork protector.



– Remove screws ❸ on the right fork leg. Take off the fork protector.

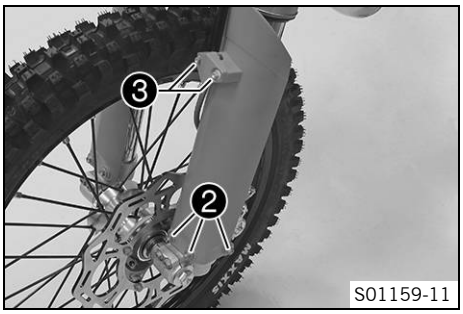
11.8 Installing the fork protector



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

Guideline

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



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

Guideline

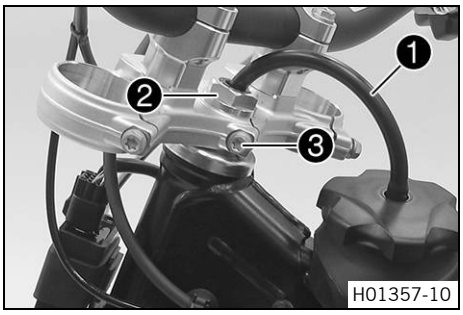
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

– Position the brake line and clamp. Mount and tighten screws ❸.

11.9 Removing the lower triple clamp

Preparatory work

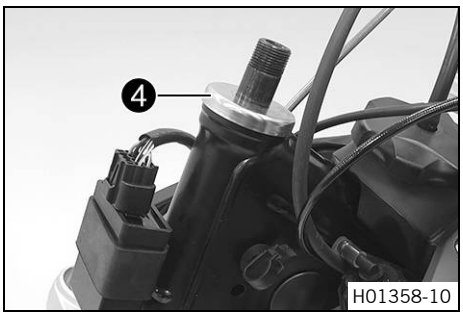
– Raise the motorcycle with the lift stand. (📖 p. 32)
– Remove the front wheel. (📖 p. 64)
– Remove the fork legs. (📖 p. 33)
– Remove the start number plate. (📖 p. 39)
– Remove the front fender. (📖 p. 39)
– Remove the handlebar cushion.



Main work

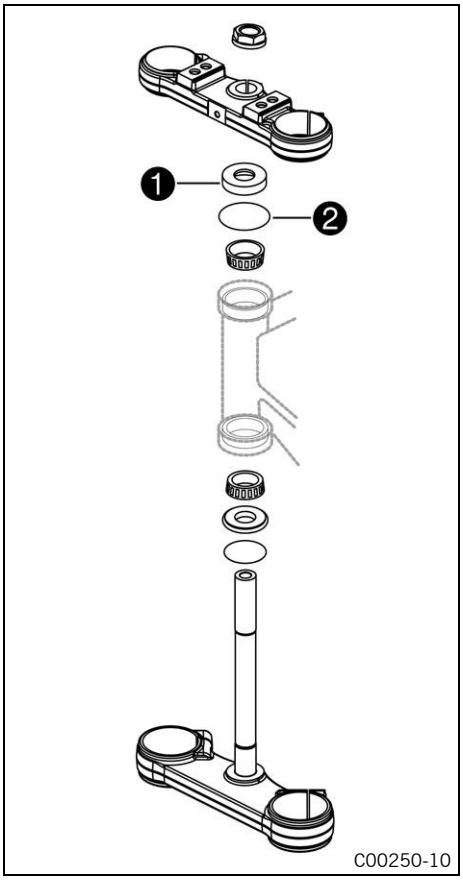
– Pull fuel tank breather ❶ out of the steering stem.
– Remove nut ❷. Remove screw ❸, pull off the upper triple clamp with the handlebar in an upward direction, and hang it to the side.

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



– Remove protective ring ❹.
– 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

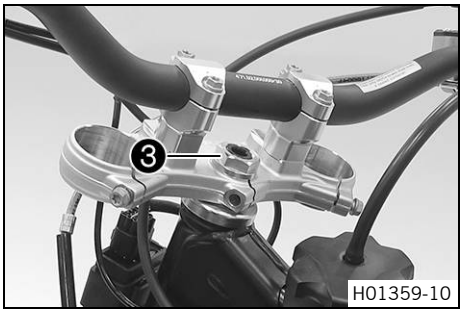
– Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (p. 89)

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

– Slide on O-ring ❷.

– Position protective ring ❶.



– Position the upper triple clamp with the handlebar.

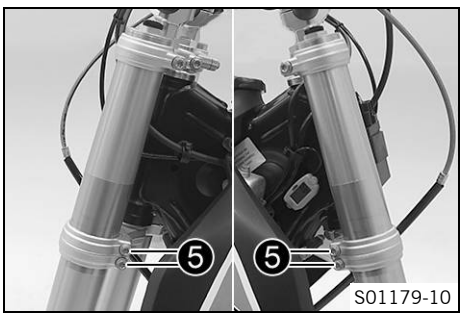
– Mount nut ❸, but do not tighten it yet.

– Position the fork legs.

✓ Bleeder screws ❹ are positioned toward the front.

Info

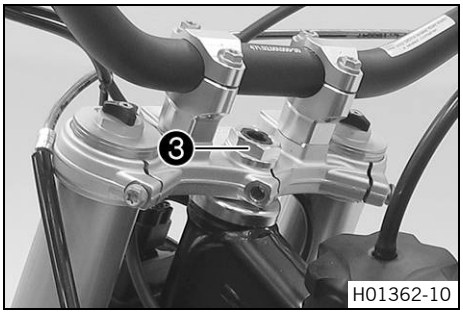
The second milled groove (from the top) must be flush with the top edge of the upper triple clamp.



– Tighten screws ❺.

Guideline

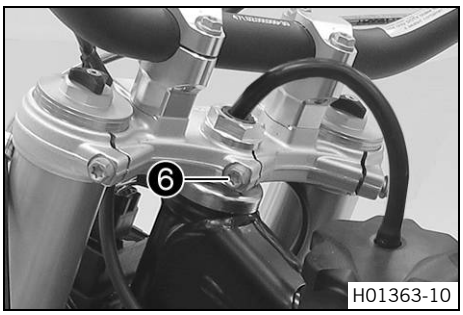
Screw, bottom triple clamp	M8	15 Nm (11.1 lbf ft)



– Tighten nut ❸.

Guideline

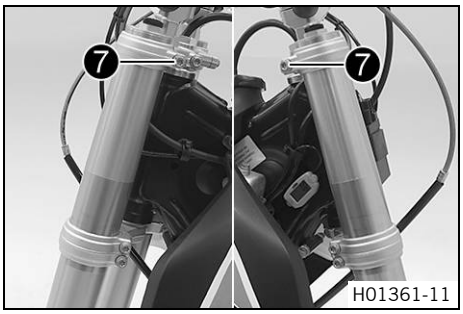
Nut, steering stem	M20x1.5	10 Nm (7.4 lbf ft)



– Position the fuel tank breather in the steering stem.
– Mount and tighten screw ❻.

Guideline

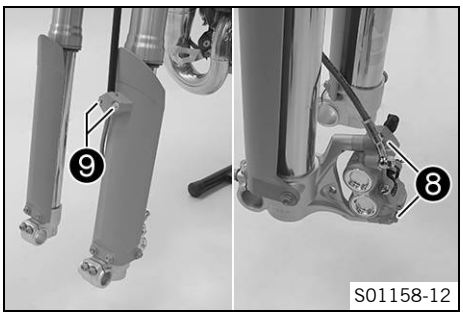
Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)



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

Guideline

Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)



– Position the brake caliper with spacers and fit and tighten screws ❽.

Guideline

Screw of brake caliper	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**

– Position the brake line and clamp. Mount and tighten screws ❾.

Finishing work

– Install the front fender. (📖 p. 39)
– Install the start number plate. (📖 p. 39)
– Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.
– Install the front wheel. 🔧 (📖 p. 64)
– Check the play of the steering head bearing. (📖 p. 37)
– Remove the motorcycle from the lift stand. (📖 p. 32)
– Position the handlebar cushion and secure with cable ties.

11.11 Checking the play of the steering head bearing

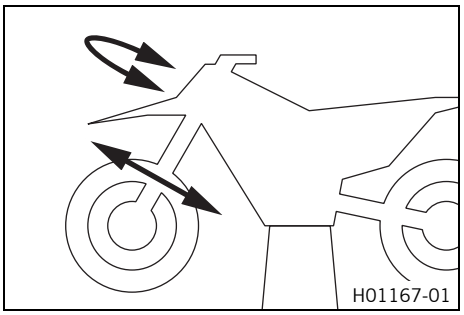
Warning

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 the lift stand. (📖 p. 32)

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. 38)

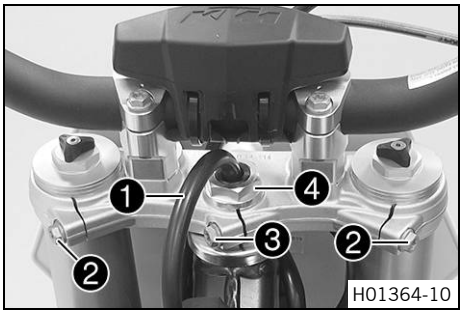
– Move the handlebar to and fro over the entire steering range.

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. 38)
– Check the steering head bearing and replace if required.

Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 32)

11.12 Adjusting the steering head bearing play 🔧



Preparatory work
– Raise the motorcycle with the lift stand. (📖 p. 32)

Main work
– Pull fuel tank breather ❶ out of the steering stem.
– Loosen screws ❷.
– Loosen screw ❸.
– Loosen and retighten nut ❹.

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 ❸.

Guideline

Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)

– Tighten screws ❷.

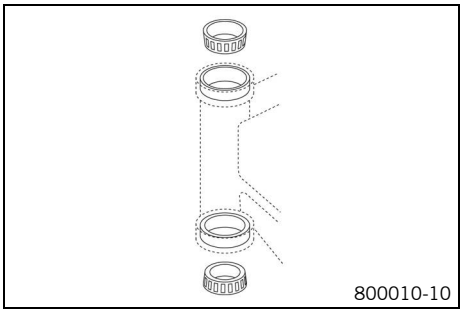
Guideline

Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)

– Position the fuel tank breather ❶ in the steering stem.

Finishing work
– Check the play of the steering head bearing. (📖 p. 37)
– Remove the motorcycle from the lift stand. (📖 p. 32)

11.13 Greasing the steering head bearing 🔧



– Remove the lower triple clamp. 🔧 (📖 p. 35)
– Install the lower triple clamp. 🔧 (📖 p. 36)

11.14 Removing the start number plate

– Remove screw ❶. Take off the clamp.
– Remove screw ❷. Take off the start number plate.

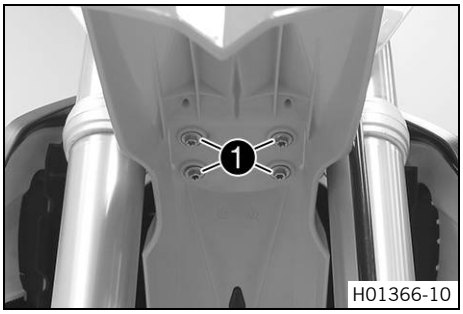
11.15 Installing the start number plate

– Position the start number plate. Mount and tighten screw ❶.
Guideline

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

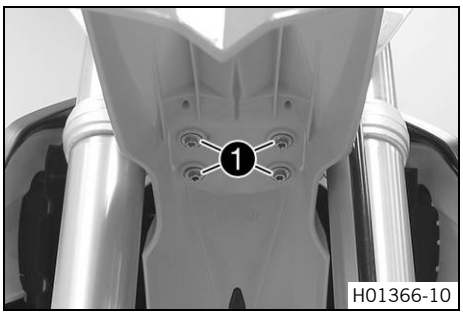
✔ The holding lugs on the fender engage in the start number plate.
– Position the brake line and clamp. Mount and tighten screw ❷.

11.16 Removing the front fender



– Remove screws ❶. Remove the front fender.

11.17 Installing the front fender



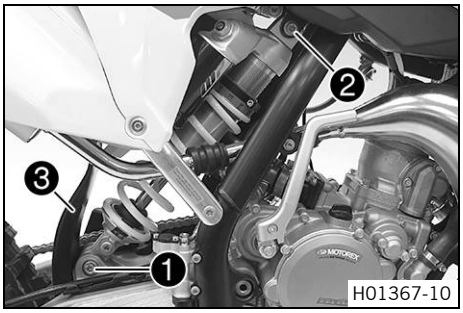
– Position the front fender. Mount and tighten screws ❶.
Guideline

Screw, front fender	M6	10 Nm (7.4 lbf ft)

✔ The holding lugs on the fender engage in the start number plate.

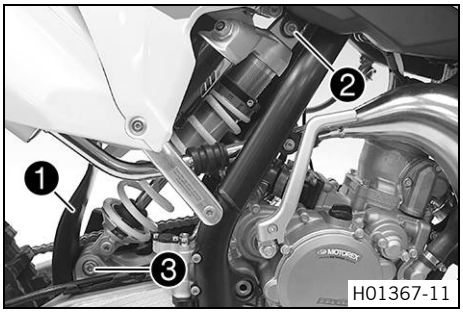
11.18 Removing the shock absorber

Preparatory work
– Raise the motorcycle with the lift stand. (📖 p. 32)



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

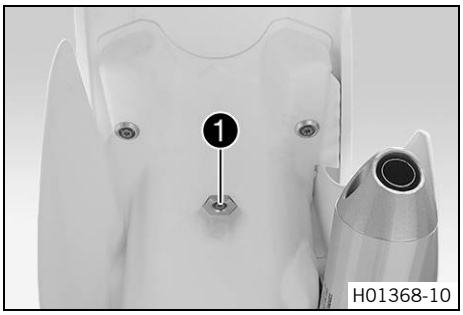
Screw, bottom shock absorber	M12	60 Nm (44.3 lbf ft)	**Loctite® 2701™**

– Attach brake line.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 32)

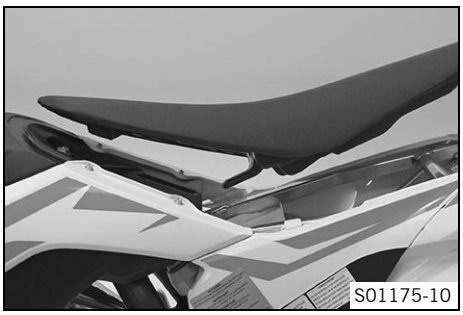
11.20 Removing the seat



– Remove screw ❶.

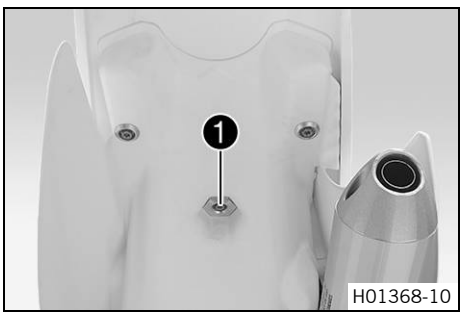
– Raise the rear of the seat, pull the seat back, and lift it off.

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.

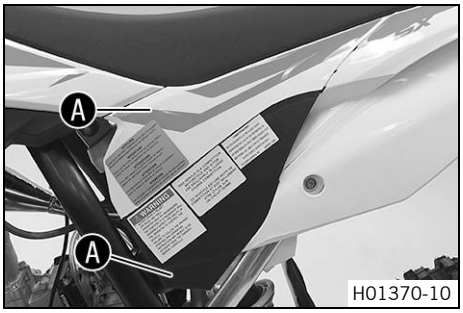


– Mount and tighten screw ❶ of the seat fixing.

Guideline

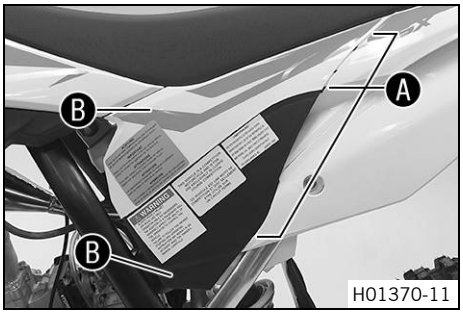
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

11.22 Removing the air filter box cover



– Pull off the air filter box cover in area Ⓐ sideways and remove it toward the front.

11.23 Installing the air filter box cover



– Insert the air filter box cover into rear area Ⓐ and clip it into front area Ⓑ.

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.

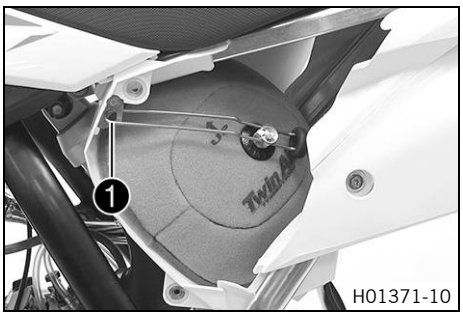
Warning

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. 41)



Main work

– Unhook air filter holder ❶ and swing it to the side. Remove the air filter with the air filter support.

– Remove the air filter from the air filter support.

11.25 Cleaning the air filter and air filter box

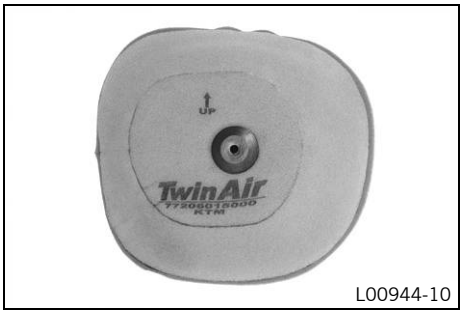
Warning

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.



L00944-10

Preparatory work
- Remove the air filter box cover. (📖 p. 41)
- Remove the air filter. 🔧 (📖 p. 41)

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

Air filter cleaner (📖 p. 89)

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

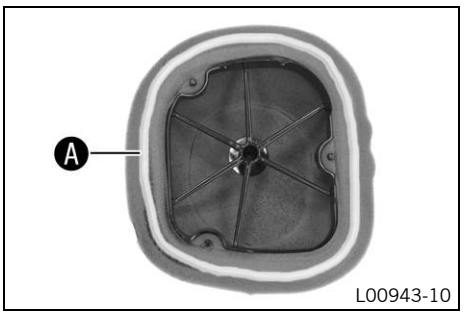
- Oil the dry air filter with a high quality filter oil.

Oil for foam air filter (📖 p. 89)

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

Finishing work
- Install the air filter. 🔧 (📖 p. 42)
- Install the air filter box cover. (📖 p. 41)

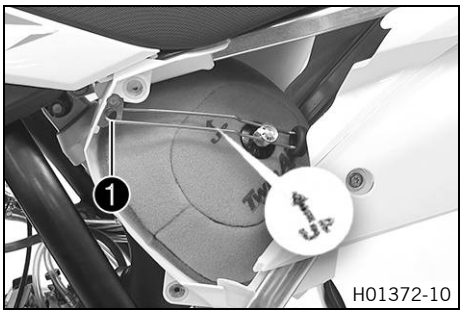
11.26 Installing the air filter 🔧



L00943-10

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

Long-life grease (📖 p. 89)



H01372-10

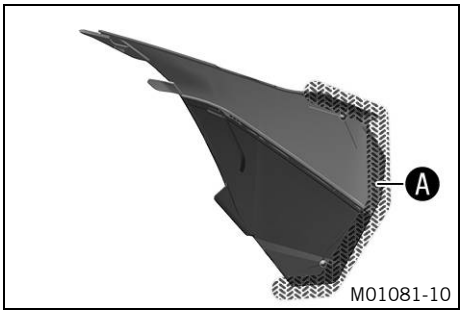
- Put in both parts together, position them and fix them with air filter holder ❶.
  ✓ The arrow of the **UP** marking points upward.

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

Finishing work
- Install the air filter box cover. (📖 p. 41)

11.27 Sealing the air filter box 🔧

Preparatory work
- Remove the air filter box cover. (📖 p. 41)



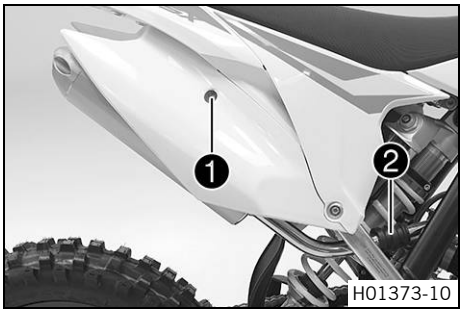
M01081-10

Main work
- Seal the air filter box in marked area Ⓐ.

Finishing work
- Install the air filter box cover. (📖 p. 41)

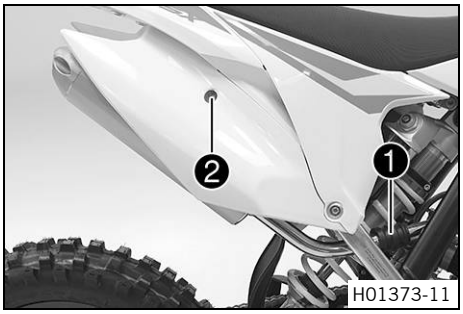
11.28 Removing the main silencer

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 ❶.
– Pull the main silencer off of the manifold at rubber sleeve ❷.

11.29 Installing the main silencer



– Mount the main silencer with rubber sleeve ❶.
– Mount and tighten screw ❷.
Guideline

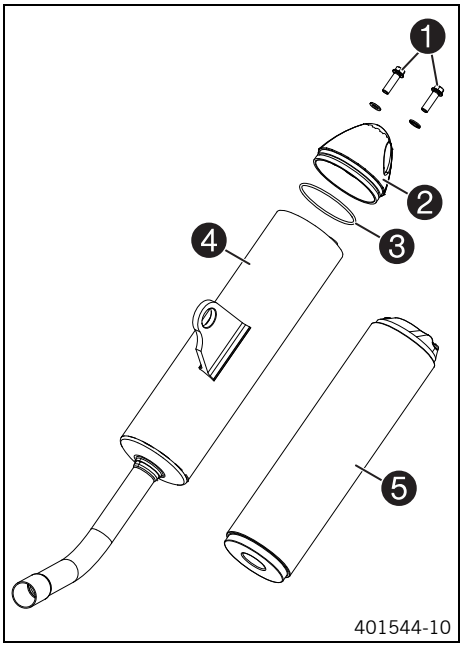
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

11.30 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 a period, the fibers of the glass fiber yarn vanish into the air, and the silencer "burns out".
Not only is the noise level higher, the performance characteristic changes.

Preparatory work
– Remove the main silencer. (📖 p. 43)



Main work
- Remove screws ❶. Take off silencer cap ❷ with O-ring ❸ and outer tube ❹.
- Pull glass fiber yarn filling ❺ from the inner tube.
- Clean the parts that are to be reinstalled.
- Mount new glass fiber yarn filling ❺ on the inner tube.
- Slide outer tube ❹ over the inner tube with the new glass fiber yarn filling.
- Insert silencer cap ❷ with O-ring ❸ into the outer tube.
- Mount and tighten screws ❶ with toothed washers.

  Guideline

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

Finishing work
- Install the main silencer. (📖 p. 43)

11.31 Removing the fuel tank

Danger

Fire hazard Fuel is highly flammable.

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

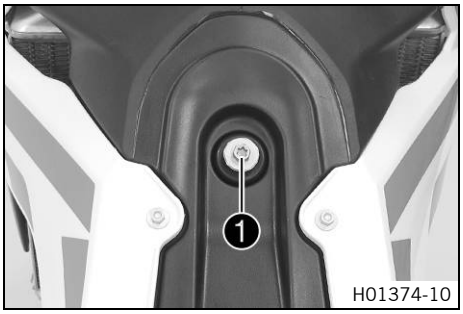
- Do not refuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.

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. 40)
- Turn tap handle ❶ on the fuel tap to the **OFF** position. (Figure S01157-10📖 p. 12)



Main work
- Pull off fuel hose.

Info

Remaining fuel may flow out of the fuel hose.

- Remove screw ❶.
- Remove the tube from the fuel tank breather.

– Remove screws 2.
– Remove the fuel tank from above.

11.32 Installing the fuel tank

Danger

Fire hazard Fuel is highly flammable.

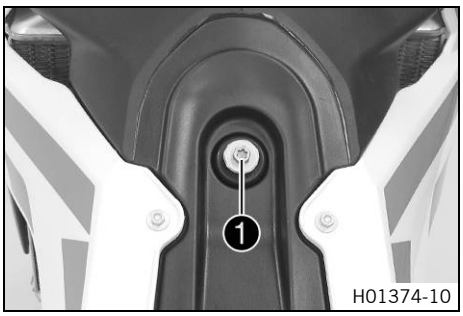
The fuel in the fuel tank expands when warm and can escape if overfilled.

– Do not refuel the vehicle in the vicinity of open flames 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

– Position the fuel tank.
– Make sure that no cables or throttle cables are trapped or damaged.
– Connect the fuel hose.
– Mount and tighten screw 1.

Guideline

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

– Mount and tighten screws 2.

Guideline

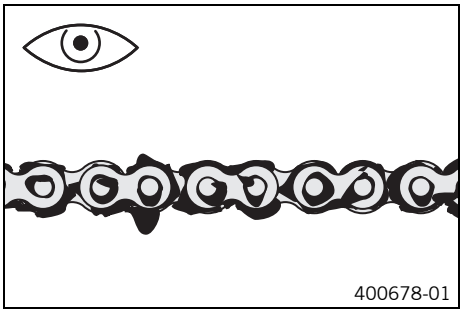
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

– Position the fuel tank breather.

Finishing work

– Mount the seat. (📖 p. 40)

11.33 Checking for chain dirt accumulation



– Check the chain for coarse dirt accumulation.
  » If the chain is very dirty:
    – Clean the chain. (📖 p. 46)

11.34 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.

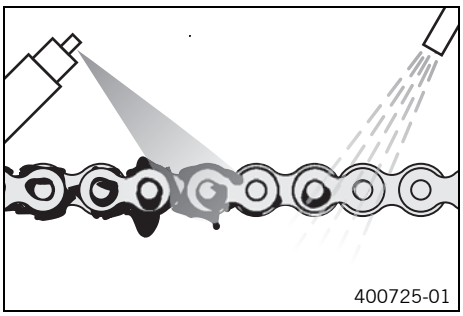
Warning
Danger of accidents Oil or grease on the brake discs reduces the braking effect.

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

Warning
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 the lift stand. (📖 p. 32)

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

Chain cleaner (📖 p. 89)
Off-road chain spray (📖 p. 89)

Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 32)

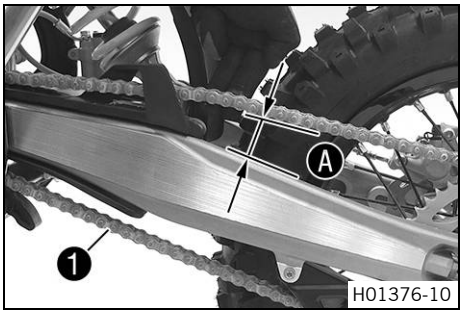
11.35 Checking the chain tension

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 the lift stand. (📖 p. 32)



Main work

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

Info

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

Chain tension	55... 58 mm (2.17... 2.28 in)

» If the chain tension does not meet specifications:
– Adjust the chain tension. (📖 p. 47)

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 32)

11.36 Adjusting the chain tension

Warning

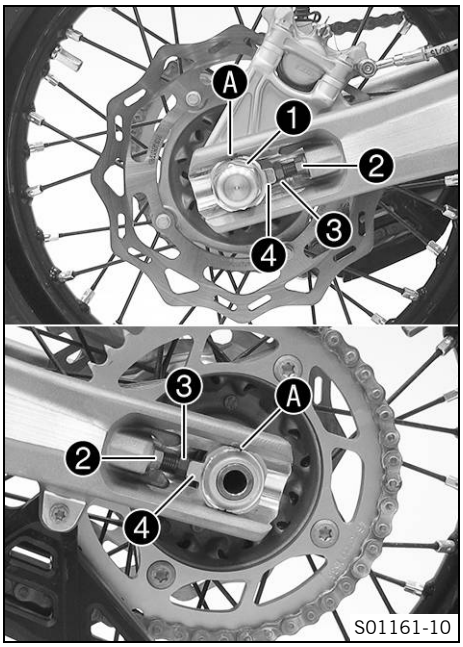
Danger of accidents Incorrect chain tension damages components and results in accidents.

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 the lift stand. (📖 p. 32)
– Check the chain tension. (📖 p. 46)



Main work

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

Chain tension	55... 58 mm (2.17... 2.28 in)
Turn adjusting screws ❸ 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 Ⓐ. The rear wheel is then correctly aligned.	

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

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

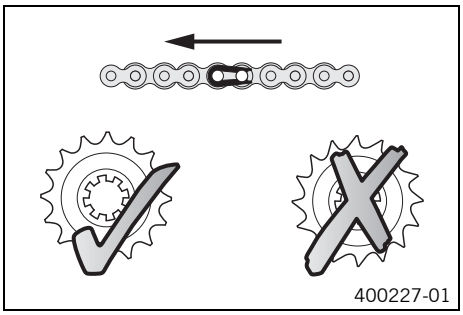
Info

The wide adjustment range of the chain adjusters (32 mm (1.18 in)) enables different secondary ratios with the same chain length.
Chain adjusters ❹ can be turned by 180°.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 32)

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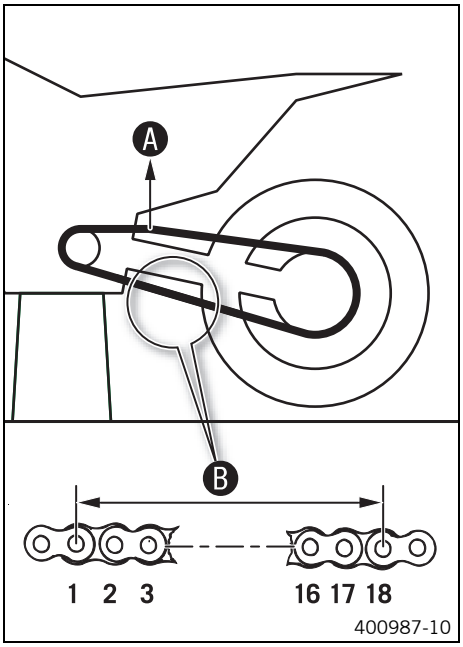
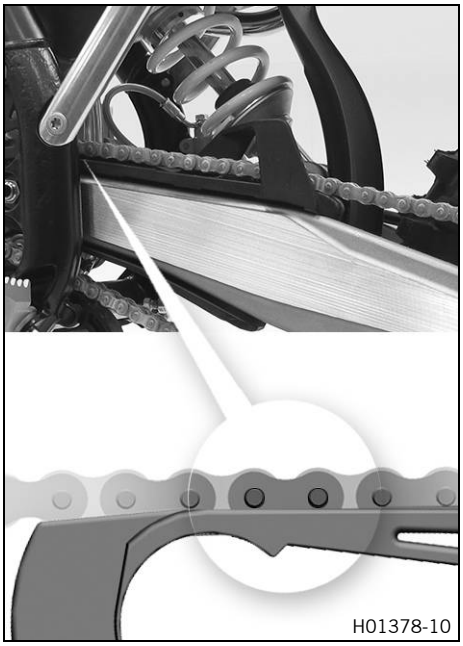


400987-10


H01378-10

Preparatory work

– Raise the motorcycle with the lift stand. (📖 p. 32)

Main work

– Shift gear to neutral.

– Check the rear sprocket and engine sprocket for wear.

» If the rear sprocket or engine sprocket is worn:

– Change the drivetrain kit. 🔧

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

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

Guideline

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

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

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

Maximum distance Ⓑ at the longest chain section	219 mm (8.62 in)

» If distance Ⓑ is greater than the specified measurement:

– Change the drivetrain kit. 🔧

> **Info**
> When you replace the chain, you should also change the rear sprocket and engine sprocket.
> 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. 🔧

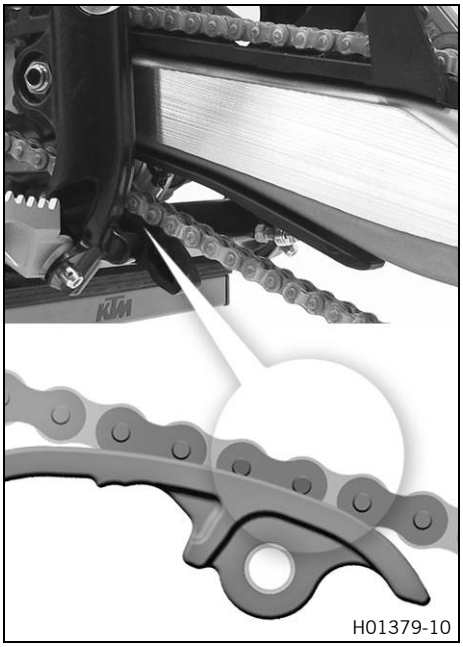
– Check the chain sliding guard for tightness.

» If the chain sliding guard is loose:

– Tighten the screws on the chain sliding guard.

Guideline

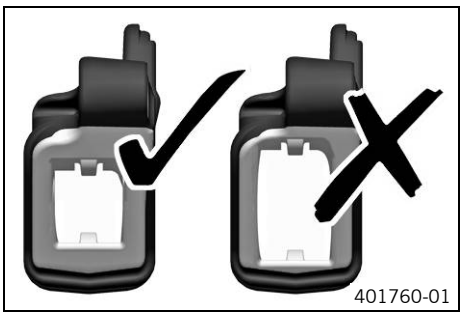
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)



– 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 the chain sliding piece for tightness.
  » If the chain sliding piece is loose:
    – Tighten the screw on the chain sliding piece.

    Guideline

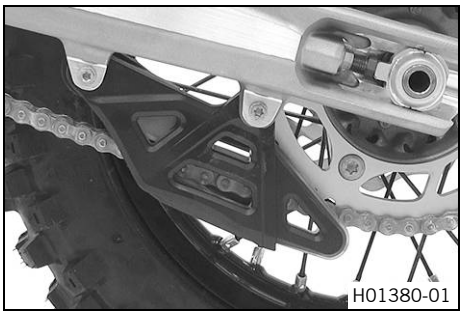
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)



– Check the chain guide for wear.

Info
Wear can be seen on the front of the chain guide.

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



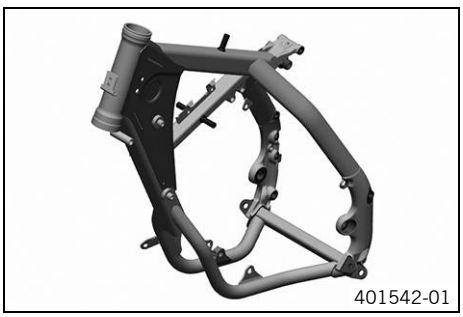
– Check the chain guide for tightness.
  » If the chain guide is loose:
    – Tighten the screws on the chain guide.

    Guideline

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

Finishing work
– Remove the motorcycle from the lift stand. (p. 32)

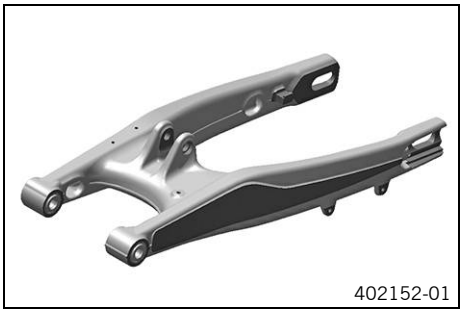
11.38 Checking the frame



– Check the frame for cracks and deformation.
  » If the frame exhibits cracks or deformation due to a mechanical impact:
    – Change the frame.

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

11.39 Checking the swingarm


402152-01

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

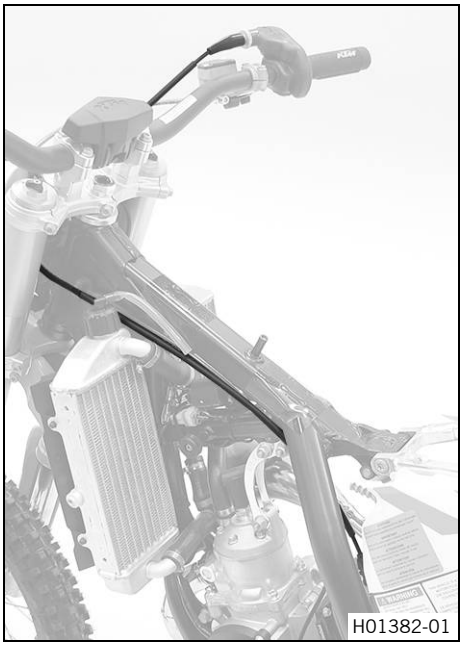
Info
Always change a damaged swingarm. Repair of the swingarm is not authorized by KTM.

11.40 Checking the routing of the throttle cable

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. 40)
– Turn tap handle ❶ on the fuel tap to the **OFF** position. (Figure S01157-10p. 12)
– Remove the fuel tank. (p. 44)


H01382-01

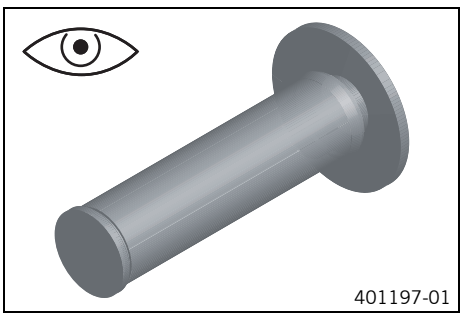
Main work
– Check the routing of the throttle cable.

The throttle cable must be routed to the carburetor on the left side above the fuel tank bracket.

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

Finishing work
– Install the fuel tank. (p. 45)
– Mount the seat. (p. 40)

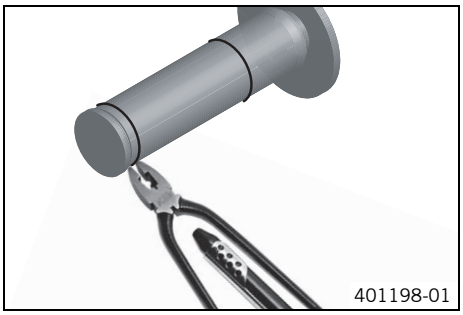
11.41 Checking the rubber grip


401197-01

– 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. 89)

11.42 Additionally securing the rubber grip



Preparatory work

– Check the rubber grip. (📖 p. 50)

Main work

– Secure the rubber grip at two points using the securing wire.

Securing wire (54812016000)
Wire twister forceps (U6907854)

✓ The twisted wire ends face away from the hands and are bent toward the rubber grip.

11.43 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.

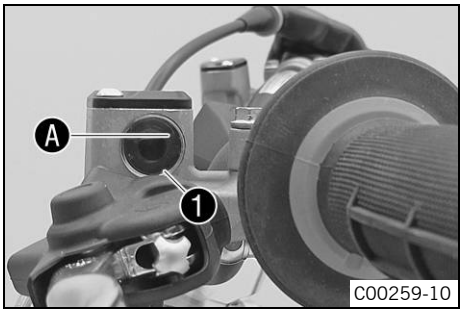
Info

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!

11.44 Checking the fluid level of the hydraulic clutch

Info

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



– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Check the fluid level in viewer ❶.
  » If the fluid has dropped below marking Ⓐ in the viewer:
    – Correct the fluid level of the hydraulic clutch. (📖 p. 51)

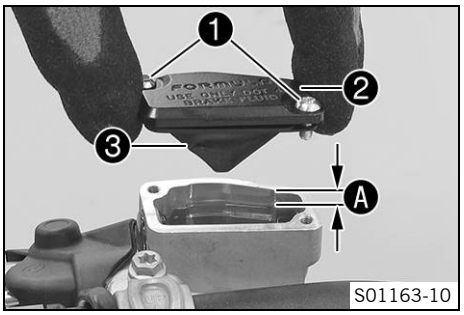
11.45 Correcting the fluid level of the hydraulic clutch

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.

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 ❶.
- Remove cover ❷ with membrane ❸.
- Correct the fluid up to level Ⓐ.

  Guideline

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

Brake fluid DOT 4 / DOT 5.1 (📖 p. 87)

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

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

11.46 Changing the hydraulic clutch fluid

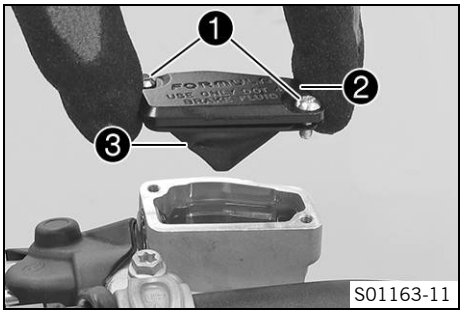
Warning
Skin irritation Brake fluid causes skin irritation.

- 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.

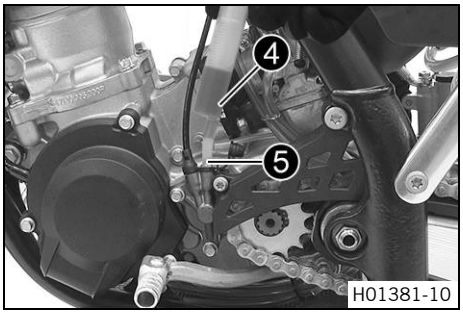
Warning
Environmental hazard Hazardous substances cause environmental damage.

- 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.



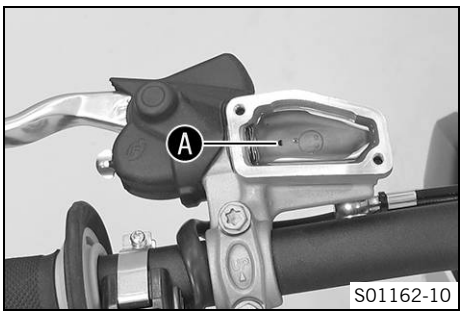
- Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ❶.
- Remove cover ❷ with membrane ❸.



– Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

Bleed syringe (50329050000)
Brake fluid DOT 4 / DOT 5.1 (📖 p. 87)

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



– Inject the liquid into the system until it escapes from opening Ⓐ 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.

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

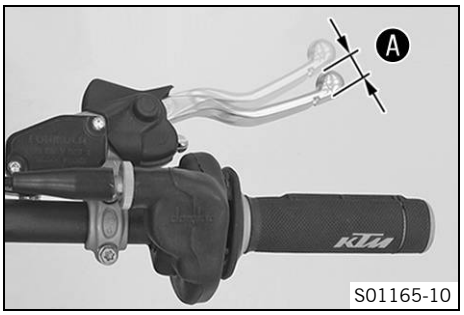
12.1 Checking the free travel of the hand brake lever

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.



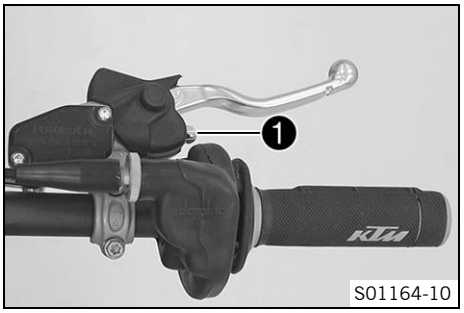
– Push the hand brake lever forward and check free travel A.

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

» If the free travel does not meet specifications:

– Adjust the free travel of the handbrake lever. (📖 p. 54)

12.2 Adjusting the free travel of the handbrake lever



– Check the free travel of the hand brake lever. (📖 p. 54)

– Adjust the free travel of the handbrake lever with adjustment screw 1.

Info

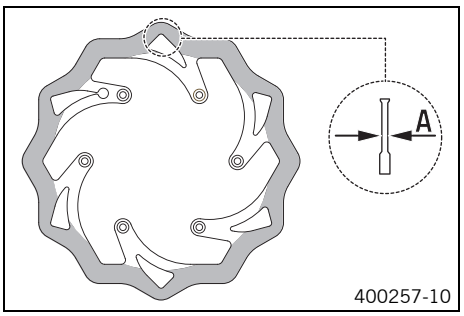
Turn the adjusting screw clockwise to reduce free travel. The pressure point moves away from the handlebar.
Turn the adjusting screw counterclockwise to increase free travel. The pressure point moves towards the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and 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 thickness of the front and rear brake discs at several places on the disk to see if it conforms to measurement A.

Info

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

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

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

– Change the brake disc.

– Check the front and rear brake discs for damage, cracking and deformation.

» If the brake disc shows signs of damage, cracking, or deformation:

– Change the brake disc.

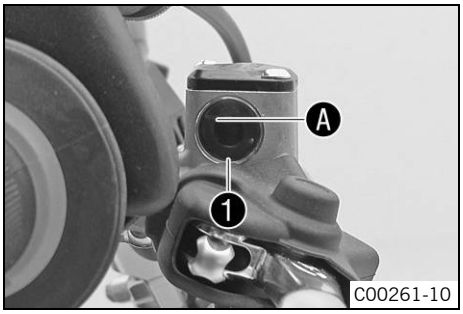
12.4 Checking front brake fluid level

Warning
Danger of accidents An insufficient brake fluid level will cause the brake system to fail.
If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

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

Warning
Danger of accidents Old brake fluid reduces the braking effect.

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



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in viewer 1.
  » If the brake fluid has dropped below marking A:
    – Add front brake fluid. (📖 p. 55)

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 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.

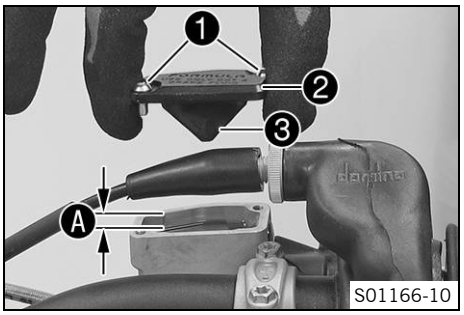
Warning
Danger of accidents Old brake fluid reduces the braking effect.

– 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.)

Warning
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. 56)

Main work

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

Guideline

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

Brake fluid DOT 4 / DOT 5.1 (📖 p. 87)

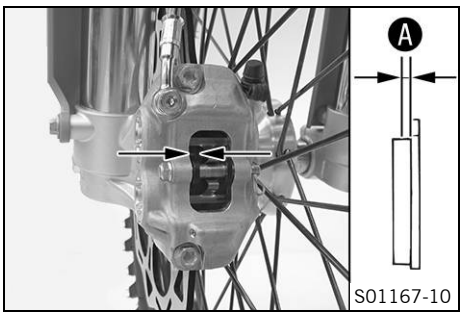
– Position the cover with the membrane. Mount and tighten the screws.

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 Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the front brake linings. 🔧 (📖 p. 56)

– Check the brake linings for damage and cracking.

» If damage or cracking is visible:
– Change the front brake linings. 🔧 (📖 p. 56)

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.

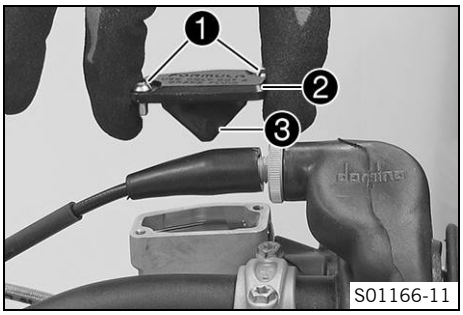
Warning

Environmental hazard Hazardous substances cause environmental damage.

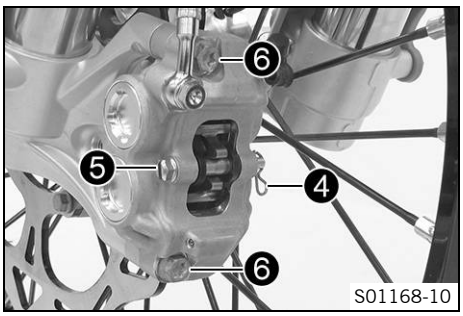
– Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Info

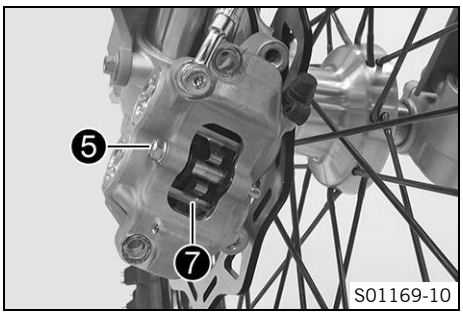
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



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



– Remove cotter pin ❹.
– Loosen pin ❺ .
– Remove screws ❻ 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, sucking it away if necessary.



– Remove pin ❺.
– Take off retaining spring ❼ and remove the brake linings.
– Clean the brake caliper.
– Position the new brake linings.

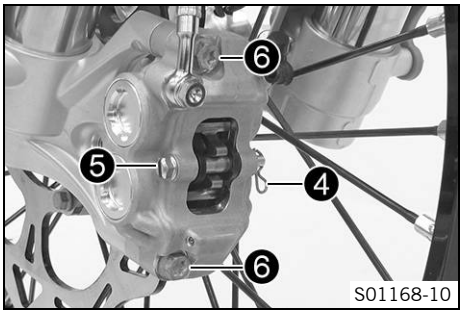
Info

Always change the brake linings in pairs.

– Position retaining spring ❼.
– Mount pin ❺ but do not tighten yet.

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 ❻ with the spacers but do not tighten yet.
– Tighten pin ❺ .

Guideline

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

– Mount cotter pins ❹.
– 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.

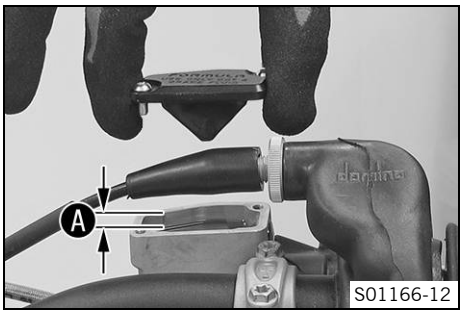
✓ The brake caliper straightens.

– Tighten screws ❻.

Guideline

Screw of brake caliper	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**

– Remove the locking piece of the hand brake lever.

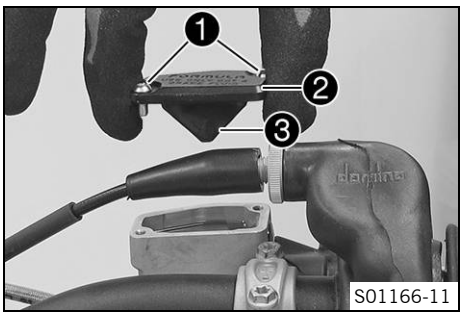


– Add brake fluid to level Ⓐ.

Guideline

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

Brake fluid DOT 4 / DOT 5.1 (📖 p. 87)



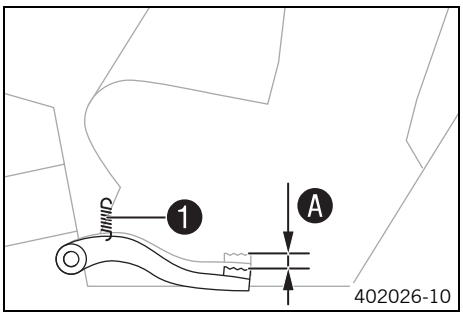
– Position cover ❷ with membrane ❸.
– Mount and tighten screws ❶.

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 ❶.
– 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 Ⓐ.

Guideline

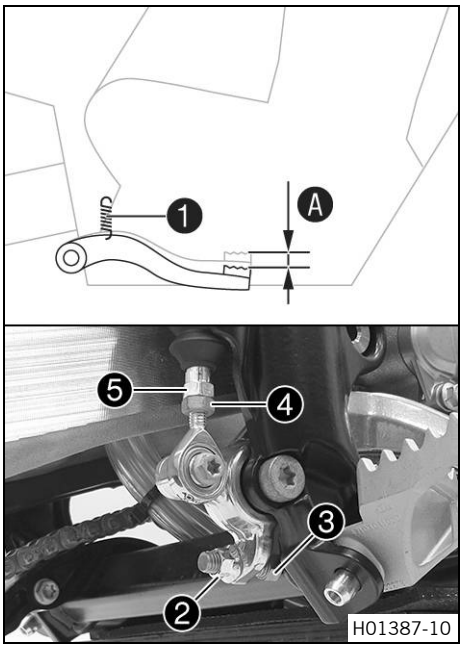
Free travel at foot brake lever	3... 5 mm (0.12... 0.2 in)

» If the free travel does not meet specifications:
  – Adjust the basic position of the foot brake lever. 🔧 (📖 p. 59)
– Reconnect spring ❶.

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

Info
The range of adjustment is limited.

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

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

– Hold screw ❸ and tighten nut ❷.
Guideline

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

– Hold push rod ❺ and tighten nut ❹.
Guideline

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

– Attach spring ❶.

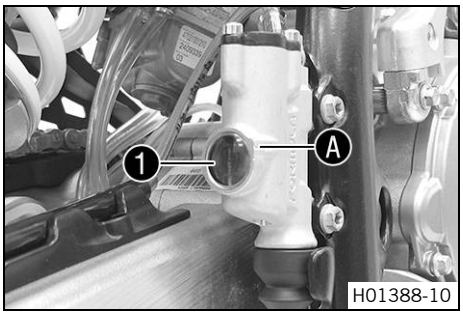
12.10 Checking the rear brake fluid level

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 viewer ❶.
» If the brake fluid has dropped below marking Ⓐ:
– Add rear brake fluid. (📖 p. 60)

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.

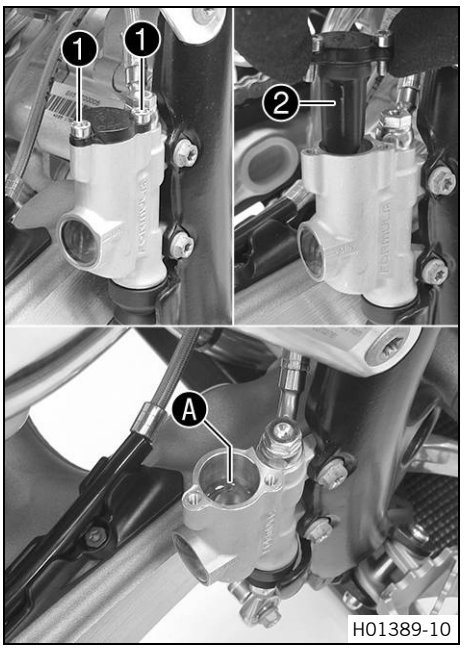
Warning
Danger of accidents Old brake fluid reduces the braking effect.

– 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.)

Warning
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. 61)

Main work
– Stand the vehicle upright.
– Remove screws ❶.
– Take off the cover with the washer and membrane ❷.
– Add brake fluid to level Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (p. 87)

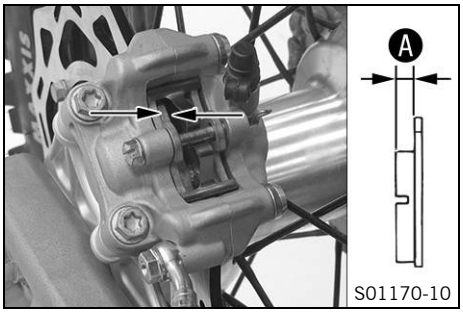
– Mount the cover with the washer and membrane.
– Mount and tighten the screws.

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 Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the rear brake linings. 🔧 (📖 p. 61)

– Check the brake linings for damage and cracking.

» If damage or cracking is visible:
– Change the rear brake linings. 🔧 (📖 p. 61)

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.

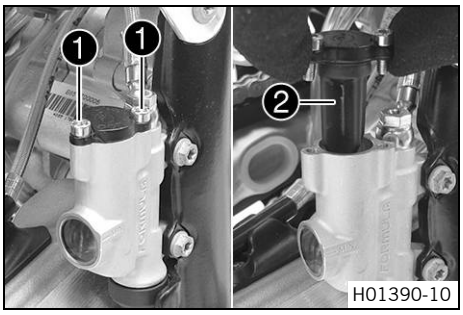
Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings.
If brake linings are used that differ from the original equipment, compliance with the original 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.

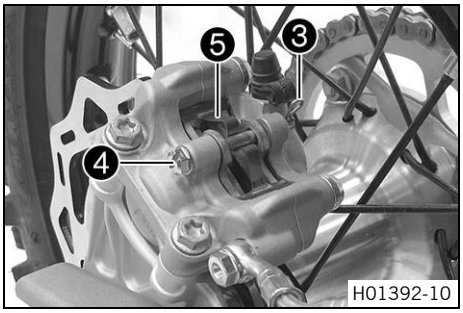
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

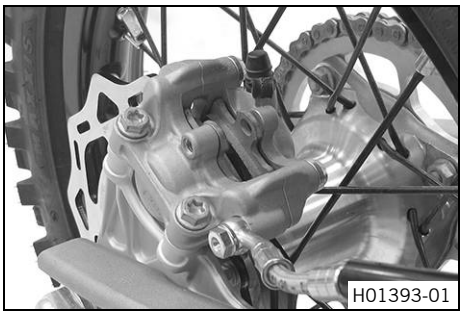
Info
Never use DOT 5 brake fluid. It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint.
Only use clean brake fluid from a sealed container.



– Stand the vehicle upright.
– Remove screws ❶.
– Take off the cover with the washer and membrane ❷.
– Press the brake piston back into the basic position and ensure that brake fluid does not flow out of the brake fluid reservoir, sucking it away if necessary.

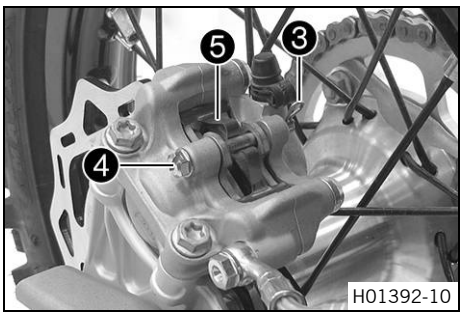


– Take off cotter pin ❸ and remove bolt ❹.
– Take off retaining spring ❺ and remove the brake linings.
– Clean the brake caliper.



– Position the new brake linings.

Info
Always change the brake linings in pairs.



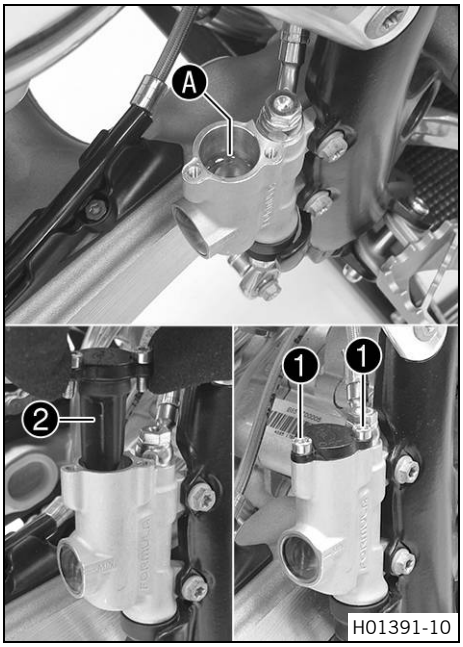
– Position retaining spring ❺.
– Mount pin ❹.

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



– Add brake fluid to level Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (📖 p. 87)

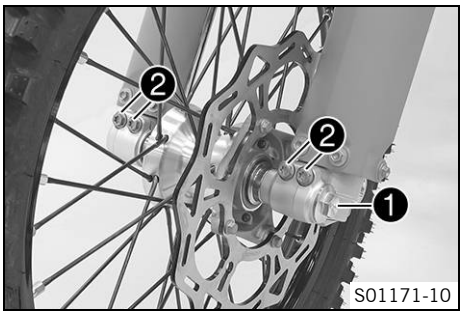
– Mount the cover with the washer and membrane ❷.
– Mount and tighten screws ❶.

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

13.1 Removing the front wheel

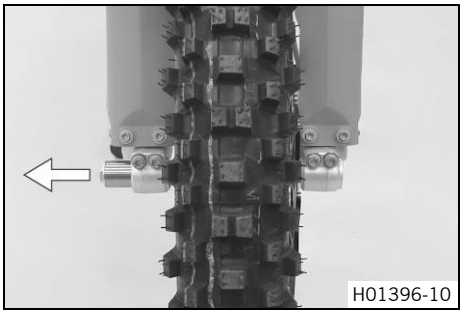
Preparatory work

– Raise the motorcycle with the lift stand. (p. 32)



Main work

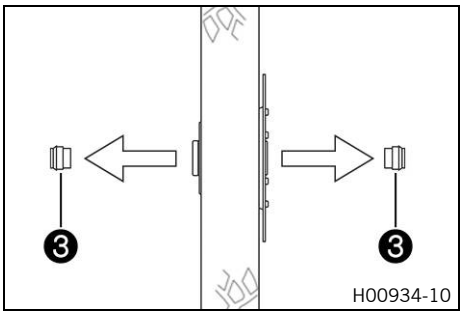
– Loosen screw ❶ by several rotations.
– Loosen screws ❷.
– Press on screw ❶ to push the wheel spindle out of the axle clamp.
– Remove screw ❶.



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.

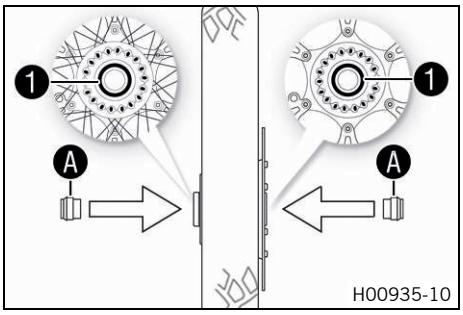
Info
Do not pull the hand brake lever when the front wheel is removed.



– 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.

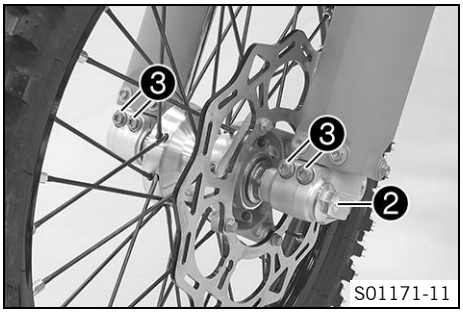


Main work

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

Long-life grease (p. 89)

– Insert the spacers.



– Position the front wheel.
  ✓ The brake linings are correctly positioned.
– Insert wheel spindle.
– Mount and tighten screw ❷.

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. 32)
– Operate the front brake and compress the fork a few times firmly.
  ✔ The fork legs straighten.
– Tighten screws ❸.

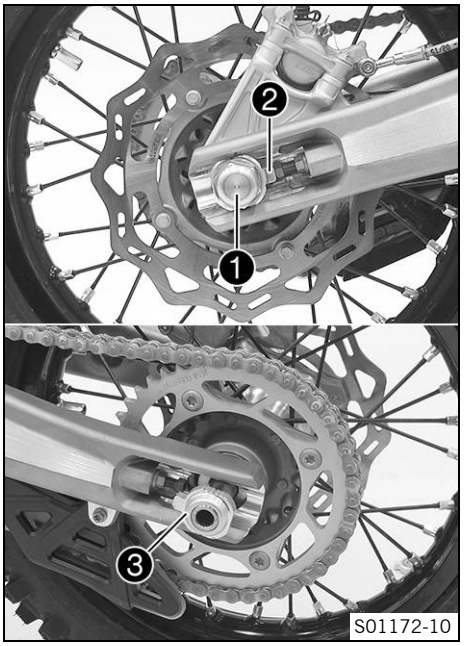
  Guideline

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

Finishing work
– Remove the motorcycle from the lift stand. (📖 p. 32)

13.3 Removing the rear wheel

Preparatory work
– Raise the motorcycle with the lift stand. (📖 p. 32)



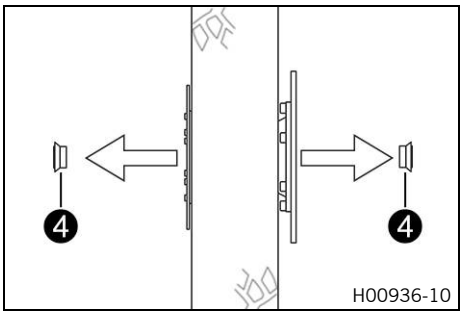
Main work
– Remove nut ❶.
– Remove chain adjuster ❷. Withdraw wheel spindle ❸ only enough to allow the rear wheel to be pushed forward.
– Push the rear wheel forward as far as possible. Remove the chain from the rear sprocket.

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.

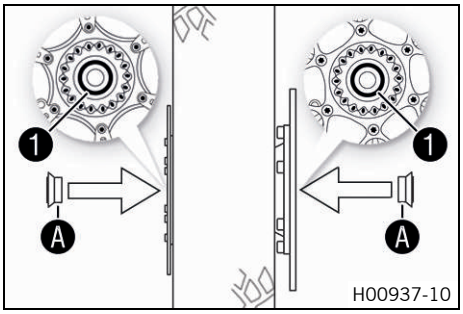
Info
Do not operate the foot brake lever when the rear wheel is removed.



– Remove spacers ❹.

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.

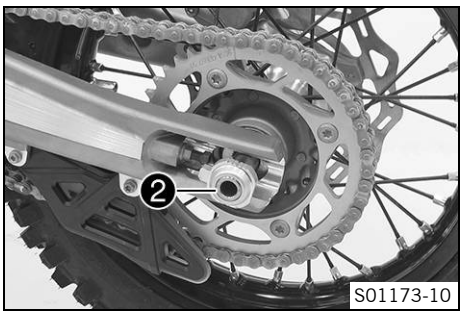


Main work

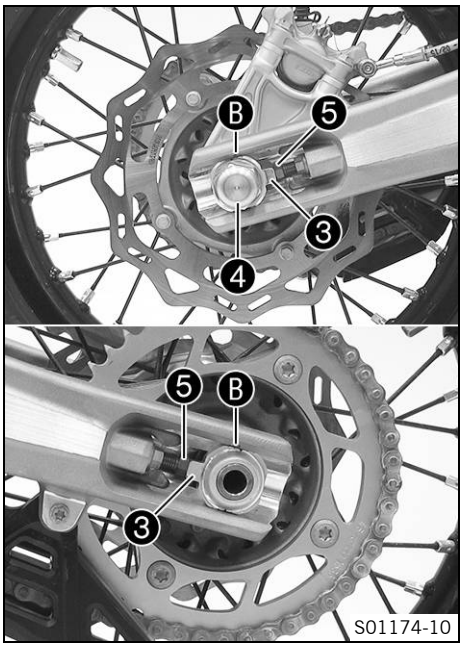
– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the rear wheel bearing.
– Clean and grease shaft seal rings 1 and contact surface A of the spacers.

Long-life grease (📖 p. 89)

– Insert the spacers.



– Lift the rear wheel into the swingarm, position it, and attach 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.

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. 46)
– Tighten nut 4.

Guideline

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

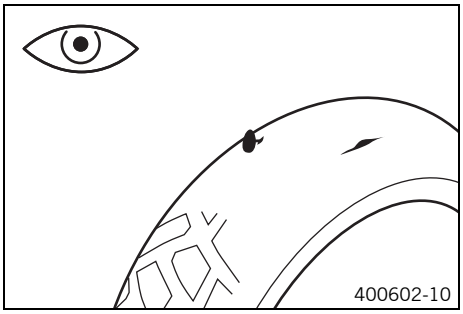
– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.

Finishing work

– Remove the motorcycle from the lift stand. (📖 p. 32)

13.5 Checking the tire condition

Info
Only mount tires approved and/or recommended by KTM.
Other tires could have a negative effect on handling characteristics.
The type, condition, and 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.

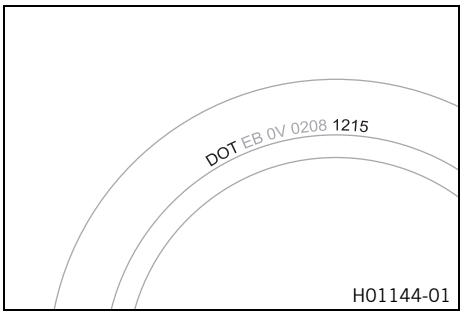


– Check the front and rear tires for cuts, run-in objects, and other damage.
  » If the tires have cuts, run-in objects, or other damage:
    – Change the tires.
– Check the tread depth.

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.



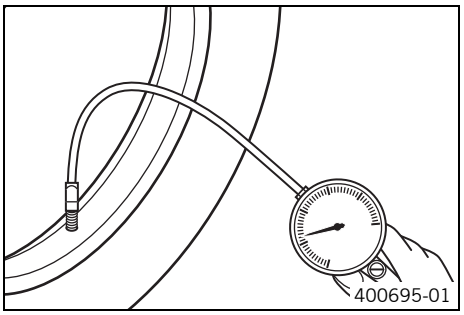
– Check the tire age.

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

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.

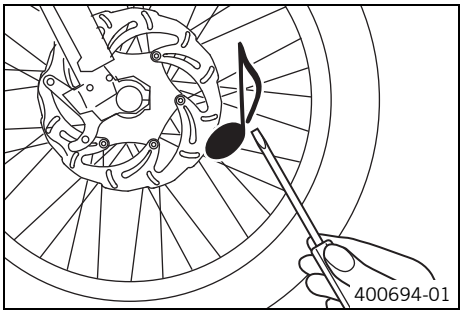
Tire air pressure off road	
Front	1.0 bar (15 psi)
Rear	1.0 bar (15 psi)

» 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.

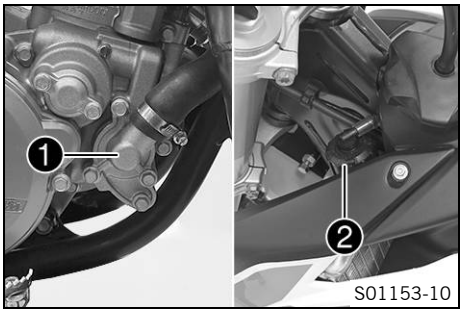
Guideline

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

Torque wrench with various accessories in set (58429094000)

14 COOLING SYSTEM

14.1 Cooling system



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

120 °C (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.

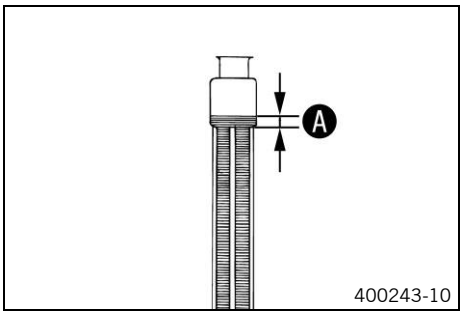
14.2 Checking the antifreeze and coolant level

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 coolant antifreeze.

−25… −45 °C (−13… −49 °F)

  » If the antifreeze of the coolant does not meet specifications:
    - Correct the coolant antifreeze.
- Check the coolant level in the radiator.

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

  » If the coolant level does not meet specifications:
    - Correct the coolant level.

Coolant (📖 p. 87)

- Mount the radiator cap.

14.3 Checking the coolant level

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

- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
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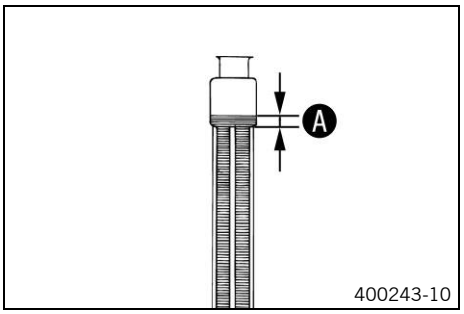
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately 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 radiator fins.	10 mm (0.39 in)

» If the coolant level does not meet specifications:
  - Correct the coolant level.

Coolant (📖 p. 87)

- Mount the radiator cap.

14.4 Draining the coolant

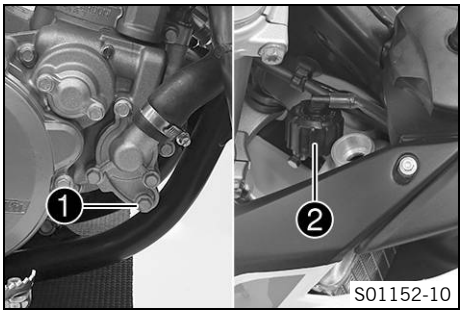
Warning
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.

Warning
Danger of poisoning Coolant is toxic and a health hazard.

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

Condition
The engine is cold.

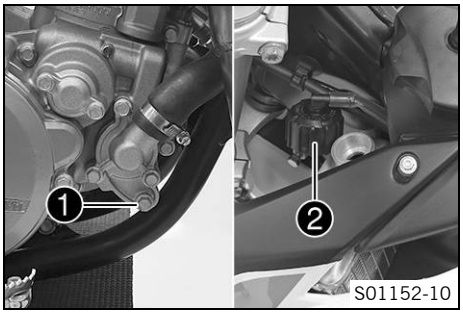


– Position the motorcycle upright.
– Place a suitable container under the water pump cover.
– Remove screw ❶. Take off radiator cap ❷.
– Completely drain the coolant.
– Mount and tighten screw ❶ with a new seal ring.
Guideline

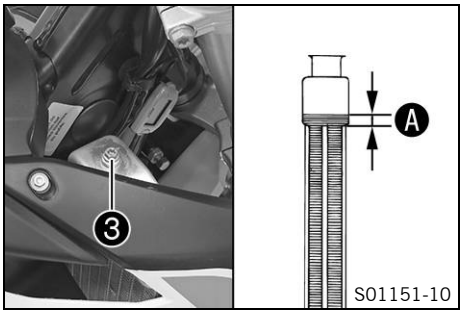
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)

14.5 Refilling 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 ❶ is tightened.
– Position the motorcycle upright.
– Take off radiator cap ❷.



– Remove bleeder screw ❸.
– Pour coolant in up to measurement Ⓐ above the radiator fins.
Guideline

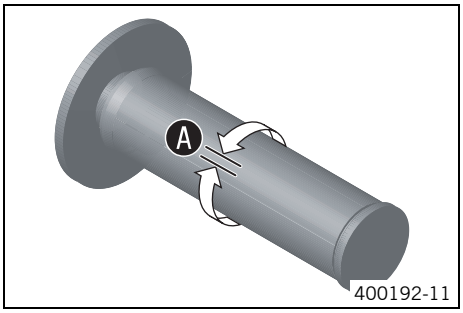
10 mm (0.39 in)

Coolant	1.0 l (1.1 qt.)	Coolant (📖 p. 87)

– Mount and tighten screws bleeder screw ❸.
– Mount the radiator cap.

Finishing work
– Take a short test ride.
– Check the cooling system for leaks.
– Check the coolant level. (📖 p. 69)

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 Ⓐ 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. 71)

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.

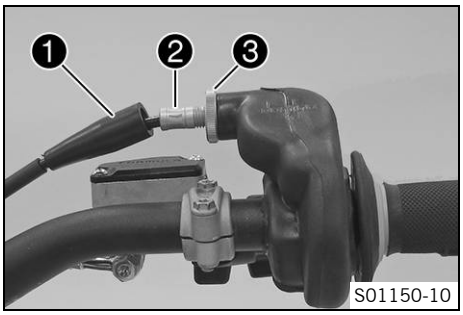
– Start the engine and let it idle. Move the handlebar to and fro over the entire steering range.

The idle speed should not change.

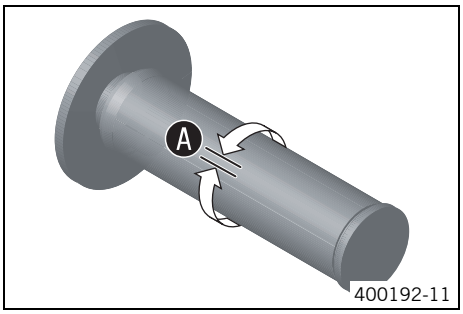
» If the idle speed changes:
– Adjust the play in the throttle cable. 🔧 (📖 p. 71)

15.2 Adjusting the play in the throttle cable 🔧

Preparatory work
– Remove the seat. (📖 p. 40)
– Turn tap handle ❶ on the fuel tap to the **OFF** position. (Figure S01157-10📖 p. 12)
– Remove the fuel tank. 🔧 (📖 p. 44)
– Check the routing of the throttle cable. (📖 p. 50)



Main work
– Move the handlebar to the straight-ahead position.
– Push back sleeve ❶.
– Ensure that the throttle cable sleeve is pushed all the way into barrel adjuster ❷.
– Loosen nut ❸.



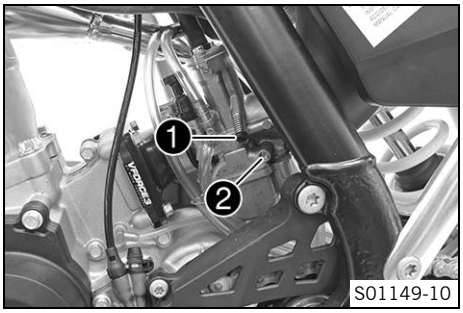
– Turn adjusting screw ❷ in such a way there is throttle cable play Ⓐ in the throttle grip.
Guideline

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

– Tighten nut ❸.
– Slide on sleeve ❶.

Finishing work
– Check the play in the throttle cable. (📖 p. 71)
– Install the fuel tank. 🔧 (📖 p. 45)
– Mount the seat. (📖 p. 40)

15.3 Carburetor - idle

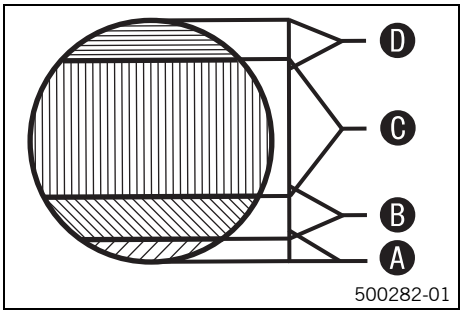


The idle setting of the carburetor has a big influence on the starting behavior, stable idling and the response to throttle opening. This means that an engine with a correctly set idle speed is easier to start than if the idle is set wrongly.

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

The carburetor's factory setting matches the following values.

Height above sea level	500 m (1,640 ft)
Ambient temperature	20 °C (68 °F)
Super unleaded (98 octane) mixed with 2-stroke engine oil (1:40) (📖 p. 88)	



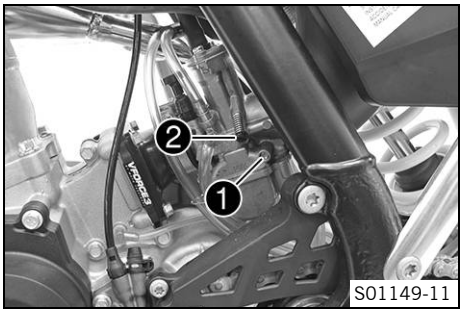
Idling range A
Operation when throttle side is closed. This range is affected by adjusting screw ❶ and idle air adjusting screw ❷.

Transitional range B
Engine behavior when the throttle slide is opened. This range is affected by the idling jet and throttle slide.
If, despite good idling and part-load settings, the engine starts to stutter and smoke heavily when the throttle slide is opened, and if it reaches full performance at high engine speeds suddenly, the carburetor is not being regulated leanly enough, the float level is too high or the float needle valve is leaky.

Part-load range C
Operation when throttle side is partially open. This range is affected by the jet needle (shape and position). In the lower range, the idle setting affects engine tuning; in the upper range, it is the main jet.
If, during acceleration with a partially opened throttle slide, the engine runs only at stuttering performance, the jet needle must be lowered by one notch. If the engine knocks, particularly during acceleration, when it is in the top-performance engine speed range, the jet needle must be raised. If the phenomena described above occur during idling or just above, the idling system is to be regulated more leanly during stuttering performance, and less so during knocking.

Full-load range D
Operating with open throttle slide (full throttle). This range is affected by the main jet and the jet needle.
If the insulator of a new spark plug is very bright or white after a short journey at full throttle, or if the engine is knocking, a larger main jet must be used. If the insulator is dark brown or sooty, a smaller main jet must be used.

15.4 Carburetor - adjusting idle speed 🔧



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

Guideline

Idle air adjusting screw	
Open	1.5 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 ❷.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (📖 p. 13)	
Idle speed	1,400... 1,500 rpm

– Turn idle air adjusting screw ❶ 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 falls again.
– Adjust to the point between these two positions with the highest idle speed.

Info
If the engine speed rises considerably, 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, you need to install 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.

15.5 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.

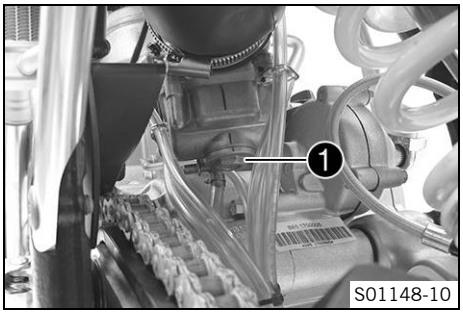
– Avoid skin, eye and clothing contact with fuel.
– Immediately consult a doctor if you swallow fuel.
– Do not inhale fuel vapors.
– In case of skin contact, rinse the affected area with plenty of water.
– Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.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

Warning
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 tap handle ❶ on the fuel tap to the **OFF** position. (Figure S01157-10📖 p. 12)
✓ No more fuel flows from the fuel tank to the carburetor.



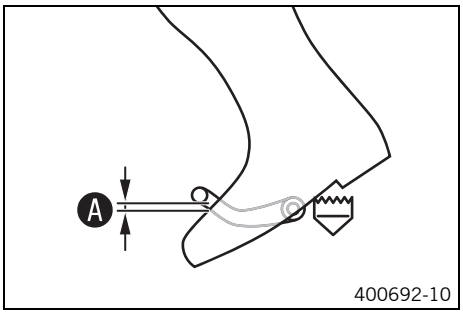
Main work

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

15.6 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.

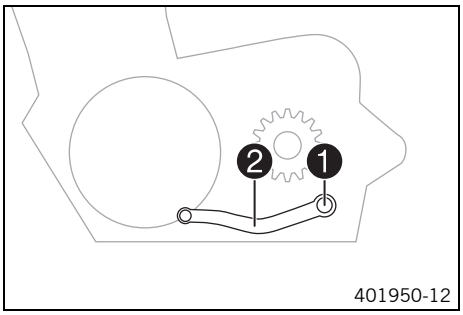


– Sit on the vehicle in the riding position and determine distance A between the upper edge of your boot and the shift lever.

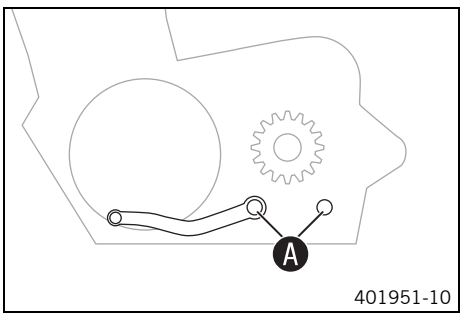
Distance between shift lever and upper edge of boot	10... 20 mm (0.39... 0.79 in)

» If the distance does not meet specifications:
– Adjust the basic position of the shift lever. (p. 74)

15.7 Adjusting the basic position of the shift lever



– Remove screw 1 with 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.

– Locate and tighten screw 1 with washers.

Guideline

Screw, shift lever	M6	12 Nm (8.9 lbf ft)	**Loctite® 243™**

16.1 Checking the gear oil level

Info
The gear oil level must be checked when the engine is cold.

Preparatory work
– Stand the motorcycle upright on a horizontal surface.

Main work
– Remove screw ❶.
– Check the gear oil level.

A small quantity of gear oil must run out of the drilled hole.

» If no gear oil runs out:
– Add gear oil. 🔧 (📖 p. 76)
– Mount and tighten screw ❶.

Guideline

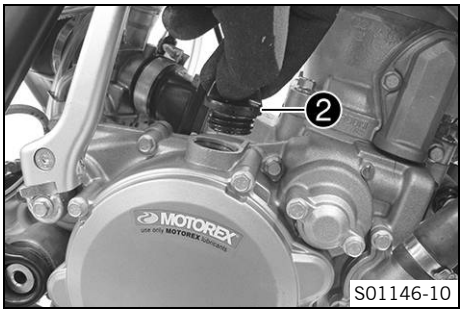
Screw, engine case	M6x25	10 Nm (7.4 lbf ft)

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.

Warning
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 warm.



Preparatory work
– Stand the motorcycle on the plug-in stand 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 the oil drain plug with the magnet and seal ring and tighten it.

Guideline

Oil drain plug with magnet	M10	20 Nm (14.8 lbf ft)

– Remove filler plug ❷ and fill up with gear oil.

Gear oil	0.50 l (0.53 qt.)	Engine oil (15W/50) (📖 p. 87)

– Mount and tighten filler plug ❷.

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. 75)

16.3 Adding gear oil

Info

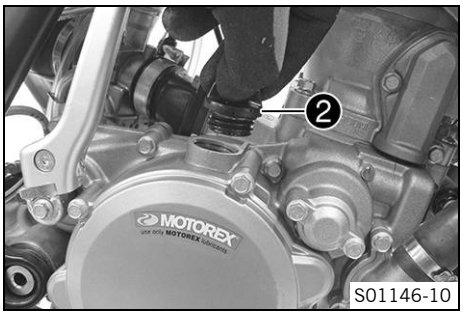
Too little gear oil or poor-quality gear oil results in premature wear to the transmission.

Preparatory work

– Stand the motorcycle upright on a horizontal surface.

Main work

– Remove screw ❶.



– Remove filler plug ❷.
– Add gear oil until it flows out of the hole of the gear oil level screw.

Engine oil (15W/50) (📖 p. 87)

– Mount and tighten screw ❶.

Guideline

Screw, engine case	M6x25	10 Nm (7.4 lbf ft)

– Mount and tighten filler plug ❷.

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. 75)

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)

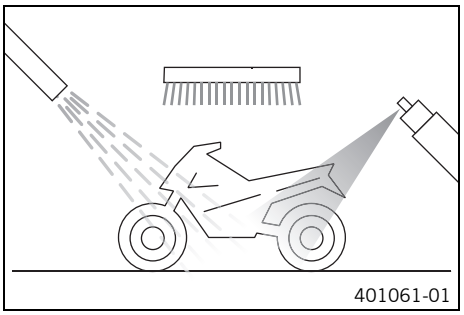
Warning

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.


401061-01

– 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. 89)

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. 73)

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. 46)
– Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.

Preserving materials for paints, metal and rubber (📖 p. 89)

– 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. 89)

18 STORAGE

18.1 Storage

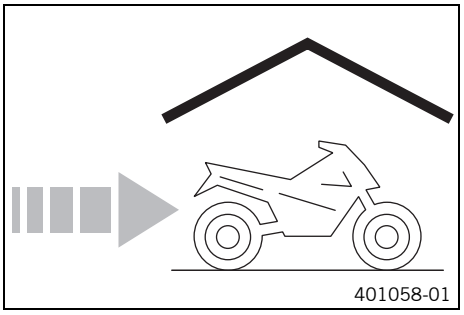
Warning

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 want to garage the motorcycle for a longer period, take the following steps.
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.


401058-01

- When refueling for the last time before taking the motorcycle out of service, add fuel additive.

Fuel additive (📖 p. 89)

- Refuel. (📖 p. 23)
- Clean the motorcycle. (📖 p. 77)
- Change the gear oil. 🔧 (📖 p. 75)
- Check the antifreeze and coolant level. (📖 p. 68)
- Check the tire air pressure. (📖 p. 67)
- Empty the carburetor float chamber. 🔧 (📖 p. 73)
- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

Info

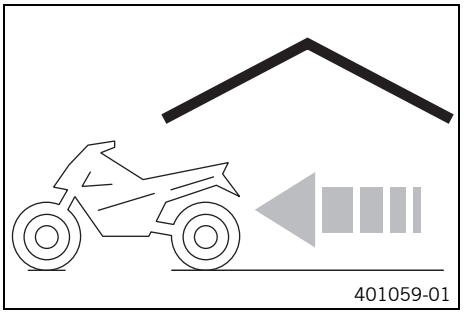
KTM recommends raising the motorcycle.

- Raise the motorcycle with the lift stand. (📖 p. 32)
- 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. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and exhaust system to rust.

18.2 Preparing for use after storage


401059-01

- Remove the motorcycle from the lift stand. (📖 p. 32)
- Perform checks and maintenance work when preparing the vehicle for use. (📖 p. 20)
- Take a test ride.

Faults	Possible cause	Action
Engine turns but does not start	Operating error	– Carry out the start procedure. (📖 p. 20)
	Motorcycle was out of use for a long time and there is old fuel in the float chamber	– Empty the carburetor float chamber. 🔧 (📖 p. 73)
	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. 72)
	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. 41)
	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. 43)
	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.
Engine stalls or is popping into the carburetor	Lack of fuel	– Turn tap handle ❶ on the fuel tap to the **ON** position. (Figure S01157-10📖 p. 12) – Refuel. (📖 p. 23)
	Engine takes in bad air	– Check intake flange and carburetor for tightness.
	The connector or ignition coil is loose or oxidized	– Clean the connector and treat it with contact spray.
Engine overheats	Too little coolant in cooling system	– Check the cooling system for leaks. – Check the coolant level. (📖 p. 69)
	Too little air stream	– Switch off the engine when standing.
	Radiator fins very dirty	– Clean the radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🔧 (📖 p. 69) – Refill the coolant. 🔧 (📖 p. 70)

Faults	Possible cause	Action
Engine overheats	Damaged cylinder head or cylinder head gasket	– Check the cylinder head and cylinder head gasket.
	Bent radiator hose	– Change the radiator hose. 🔧
	Incorrect ignition point due to loose stator	– Adjust the ignition. 🔧
White smoke emission (steam in exhaust gas)	Damaged cylinder head or cylinder head gasket	– Check the cylinder head and cylinder head gasket.
Gear oil exits at the vent hose	Too much gear oil added	– Check the gear oil level. (📖 p. 75)
Water in the gear oil	Damaged shaft seal ring or water pump	– Check the shaft seal ring and water pump.

20 TECHNICAL DATA

20.1 Engine

Design	1-cylinder 2-stroke engine, water-cooled, with reed intake and exhaust control
Displacement	84.93 cm³ (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	19:66 straight cut spur gear
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	Moric Digital 2M1
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

Stop screw for adjustment cable	M4	4 Nm (3 lbf ft)	**Loctite® 243™**
Locking cap screw	M5	8 Nm (5.9 lbf ft)	–
Screw, clutch springs	M5	6 Nm (4.4 lbf ft)	–
Screw, control flap, exhaust control	M5	8 Nm (5.9 lbf ft)	**Loctite® 243™**
Screw, exhaust control cover	M5	6 Nm (4.4 lbf ft)	–
Screw, ignition system/stator	M5	6 Nm (4.4 lbf ft)	**Loctite® 222™**
Screw, water pump wheel	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Lock screw for control flap	M6	8 Nm (5.9 lbf ft)	**Loctite® 243™**
Nut, centrifugal timer	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, alternator cover	M6	8 Nm (5.9 lbf ft)	–
Screw, clutch intermediate cover	M6	10 Nm (7.4 lbf ft)	–
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Screw, engine case	M6x25	10 Nm (7.4 lbf ft)	–
Screw, engine case	M6x40	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)	**Loctite® 243™**
Screw, intake flange/reed valve housing	M6	10 Nm (7.4 lbf ft)	–
Screw, kick starter	M6	12 Nm (8.9 lbf ft)	**Loctite® 243™**
Screw, outer clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift lever	M6	12 Nm (8.9 lbf ft)	**Loctite® 243™**
Screw, slave cylinder of the clutch	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**

Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Nuts, cylinder base	M8	20 Nm (14.8 lbf ft)	–
Screw, locking lever	M8	16 Nm (11.8 lbf ft)	**Loctite® 243™**
Oil drain plug with magnet	M10	20 Nm (14.8 lbf ft)	–
Primary gear screw	M10x1.25	80 Nm (59 lbf ft)	**Loctite® 243™**
Nut, rotor	M12x1	60 Nm (44.3 lbf ft)	–
Nut, inner clutch hub	M14x1.25	60 Nm (44.3 lbf ft)	**Loctite® 243™**
Spark plug	M14x1.25	20 Nm (14.8 lbf ft)	–

20.3 Carburetor

Carburetor type	KEIHIN PWK 28
Needle position	3rd position from top
Idle air adjusting screw	
Open	1.5 turns
Main jet	118
Jet needle	N5HG
Idling jet	45
Needle jet	2,6
Throttle slide	3,5
Cold start jet	62

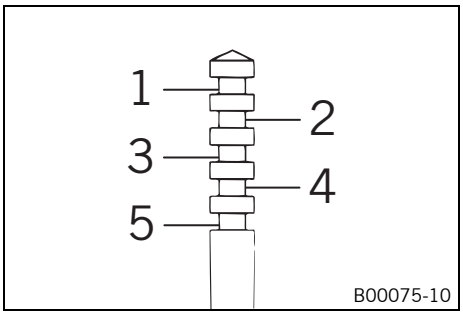
20.3.1 Carburetor tuning

KEIHIN PWK 28

M/FT ASL ↓	TEMP →	-20°C ... -7°C *-2°F ... 20°F*	-6°C ... 5°C *19°F ... 41°F*	6°C ... 15°C *42°F ... 60°F*	16°C ... 24°C *61°F ... 78°F*	25°C ... 38°C *79°F ... 98°F*
3.000 m *10,000 ft* ↑ 2.301 m *7,501 ft*	ASO IJ NDL POS MJ	1,5 45 N5HG 2 118	1,75 42 N5HH 3 115	2 40 N5HH 2 115	2,25 38 N5HH 1 115	2,5 38 N5HH 1 115
2.300 m *7,500 ft* ↑ 1.501 m *5,001 ft*	ASO IJ NDL POS MJ	1,25 48 N5HG 3 120	1,5 45 N5HG 2 118	1,75 42 N5HH 3 115	2 40 N5HH 2 115	2,25 38 N5HH 1 115
1.500 m *5,000 ft* ↑ 751 m *2,501 ft*	ASO IJ NDL POS MJ	1 50 N5HF 3 122	1,25 48 N5HG 3 120	1,5 45 N5HG 2 118	1,75 42 N5HH 2 115	2 40 N5HH 2 115
750 m *2,500 ft* ↑ 301 m *1,001 ft*	ASO IJ NDL POS MJ	0,75 50 N5HF 4 125	1 50 N5HF 3 122	1,25 48 N5HG 3 120	**1,5** **45** **N5HG** **3** **118**	1,75 42 N5HH 2 115
300 m *1,000 ft* ↑ 0 m *0 ft*	ASO IJ NDL POS MJ	0,5 50 N5HF 5 125	0,75 50 N5HF 4 125	1 50 N5HG 3 122	1,25 48 N5HG 3 120	1,5 45 N5HG 2 118

401536-01

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



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1... 5	Needle position from above

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

20.4 Capacities

20.4.1 Gear oil

Gear oil	0.50 l (0.53 qt.)	Engine oil (15W/50) (📖 p. 87)

20.4.2 Coolant

Coolant	1.0 l (1.1 qt.)	Coolant (📖 p. 87)

20.4.3 Fuel

Fuel tank capacity, approx.	5.0 l (1.32 US gal)	Super unleaded (98 octane) mixed with 2-stroke engine oil (1:40) (📖 p. 88)

20.5 Chassis

Frame	Central tube frame of chrome molybdenum steel tubing, powder-coated
Fork	**WP Performance Systems** 4357 MXMA
Shock absorber	**WP Performance Systems** 4618 PDS DCC
Suspension travel	
Front	270 mm (10.63 in)
Rear	300 mm (11.81 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 (85 SX 17/14)	
Front	220 mm (8.66 in)
Brake discs - diameter (85 SX 19/16)	
Front	240 mm (9.45 in)
Brake discs - diameter	
Rear	210 mm (8.27 in)
Brake discs - wear limit	
Front	3.5 mm (0.138 in)
Rear	3.5 mm (0.138 in)
Tire air pressure off road	
Front	1.0 bar (15 psi)
Rear	1.0 bar (15 psi)
Secondary ratio (85 SX 17/14)	14:46
Secondary ratio (85 SX 19/16)	14:49
Chain	1/2 x 5/16”
Rear sprockets available	44, 45, 46, 47, 48, 49, 50, 51
Steering head angle	66°
Wheelbase (85 SX 17/14)	1,290±10 mm (50.79±0.39 in)
Wheelbase (85 SX 19/16)	1,290±10 mm (50.79±0.39 in)
Seat height, unloaded (85 SX 17/14)	855 mm (33.66 in)
Seat height, unloaded (85 SX 19/16)	890 mm (35.04 in)
Ground clearance, unloaded (85 SX 17/14)	352 mm (13.86 in)
Ground clearance, unloaded (85 SX 19/16)	377 mm (14.84 in)
Weight without fuel, approx. (85 SX 17/14)	67.5 kg (148.8 lb.)
Weight without fuel, approx. (85 SX 19/16)	68.5 kg (151 lb.)
Maximum rider weight	75 kg (165 lb.)

20.6 Tires

Validity	Front tires	Rear tires
(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
Additional information is available in the Service section under: http://www.ktm.com		

20.7 Fork

Fork part number	05.18.7M.05
Fork	**WP Performance Systems** 4357 MXMA
Compression damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks
Rebound damping	
Comfort	18 clicks
Standard	15 clicks
Sport	12 clicks
Spring length with preload spacer(s)	438 mm (17.24 in)
Spring rate	
Weight of rider: < 45 kg (< 99 lb.)	3.2 N/mm (18.3 lb/in)
Weight of rider: 45... 55 kg (99... 121 lb.)	3.4 N/mm (19.4 lb/in)
Weight of rider: > 55 kg (> 121 lb.)	3.6 N/mm (20.6 lb/in)
Fork length	835 mm (32.87 in)
Air chamber length	110^{+20}_{-30} mm ($4.33^{+0.79}_{-1.18}$ in)

Fork oil per fork leg	378 ml (12.78 fl. oz.)	Fork oil (SAE 4) (48601166S1) (📖 p. 87)

20.8 Shock absorber

Shock absorber article number	15.18.7Q.02
Shock absorber	**WP Performance Systems** 4618 PDS DCC
Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
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	
Standard	10 mm (0.39 in)
Spring rate	
Weight of rider: < 45 kg (< 99 lb.)	30 N/mm (171 lb/in)
Weight of rider: 45... 55 kg (99... 121 lb.)	35 N/mm (200 lb/in)
Weight of rider: > 55 kg (> 121 lb.)	40 N/mm (228 lb/in)
Spring length	215 mm (8.46 in)

Gas pressure	10 bar (145 psi)
Static sag	30 mm (1.18 in)
Riding sag	100 mm (3.94 in)
Fitted length	397 mm (15.63 in)
Shock absorber fluid (📖 p. 88)	SAE 2.5

20.9 Chassis tightening torques

Spoke nipple	M4.5	5 Nm (3.7 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, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft)	–
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	10 Nm (7.4 lbf ft)	–
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, throttle grip	M6	4.5 Nm (3.32 lbf ft)	–
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 of brake caliper	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, bottom triple clamp	M8	15 Nm (11.1 lbf ft)	–
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	–
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, rear sprocket	M8	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Screw, subframe	M8	30 Nm (22.1 lbf ft)	–
Screw, top triple clamp	M8	20 Nm (14.8 lbf ft)	–
Engine carrying screw	M10	45 Nm (33.2 lbf ft)	–
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw, foot brake lever	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**
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
– **RESPONSE BRAKE FLUID SUPER DOT 4**

Motorex®
– **Brake Fluid DOT 5.1**

Coolant

Guideline
– Only use high quality coolant with corrosion inhibitor for aluminum motors (even in countries with high temperatures). Using inferior antifreeze can result in corrosion and foaming.

Mixture ratio

Antifreeze protection: −25… −45 °C (−13… −49 °F)	anti-corrosion/antifreeze distilled water

Recommended supplier
Motorex®
– **COOLANT M3.0**

Engine oil (15W/50)

Standard/classification
– JASO T903 MA (📖 p. 91)
– SAE (📖 p. 91) (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. 91)

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. 91) (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. 91) (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. 91) (1:40)

Mixture ratio

1:40	Engine oil, 2-stroke (📖 p. 87) Super unleaded (ROZ 98 / RON 98 / PON 94) (📖 p. 88)

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**

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**

23 STANDARDS

JASO T903 MA

Different technical development directions required a new specification for 4-stroke motorcycles – the JASO T903 MA Standard. Earlier, engine oils from the automobile industry were used for 4-stroke motorcycles because there was no separate motorcycle specification. Whereas long service intervals are demanded for automobile engines, high performance at high engine speeds are in the foreground for motorcycle engines. In most motorcycles, the gearbox and the clutch are lubricated with the same oil as the engine. The JASO MA Standard meets these special requirements.

SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

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

INDEX

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