OWNER'S MANUAL 2012

450 SMR

Art. no. 3211729en

DEAR KTM CUSTOMER

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

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

Enter the serial numbers of your vehicle below.

Chassis number (☛ p. 9)	Dealer's stamp
Engine number (☛ p. 9)	

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

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

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

KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

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Symbols used

The symbols used are explained below.

Indicates an expected reaction (e.g. to a work step or a function).

Indicates an unexpected reaction (e.g. to 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 in an authorized KTM workshop. There, your motorcycle will be serviced optimally by specially trained experts using the specialist tools required.

Identifies a page reference (more information is provided on the specified page).

Formats used

The typographical and other formats used are explained below.

Specific name	Identifies a proprietary name.
Name®	Identifies a protected name.
Brand™	Identifies a trademark.

Use definition

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

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

Service

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

Warranty

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

Fuel, oils, etc.

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

Spare parts, accessories

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

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

Work rules

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

Transport

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

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

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

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

– Switch off the engine.
– Turn the handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10☛ p. 12)
– Use straps or other suitable devices to secure the motorcycle against accidents or falling over.

Environment

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

Notes/warnings

Pay close attention to the notes/warnings.

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

Grades of risks

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

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

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

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

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

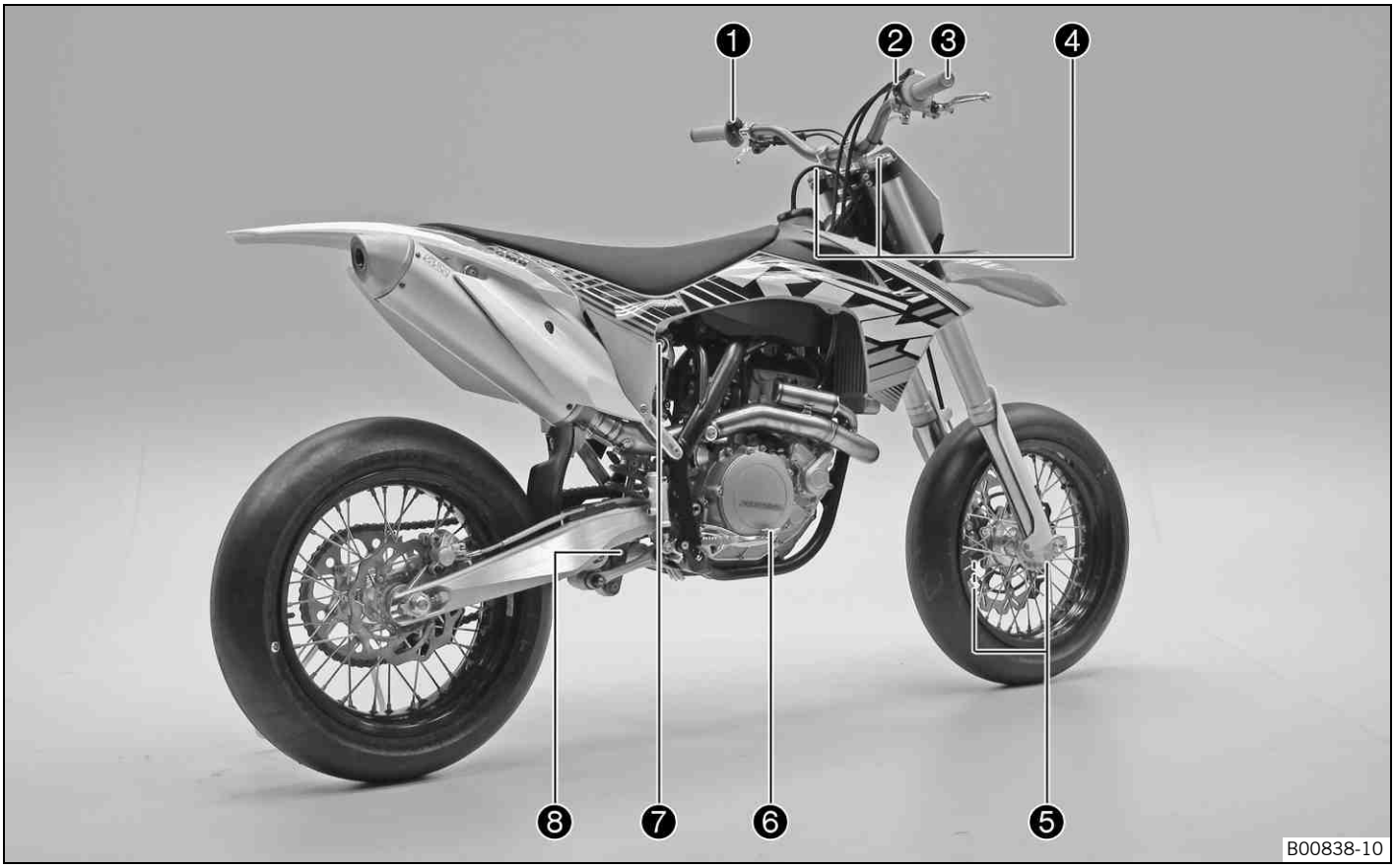
Owner's manual

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

Vehicle view, front left

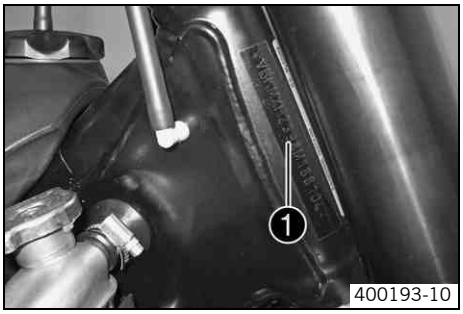
1	Hand brake lever (☛ p. 10)
2	Hot start lever (☛ p. 10)
3	Clutch lever (☛ p. 10)
4	Filler cap
5	Seat
6	Engine number (☛ p. 9)
7	Shift lever (☛ p. 12)
8	Fuel tap (☛ p. 12)

Vehicle view, rear right



1	Kill switch (☛ p. 10)
2	Electric starter button (☛ p. 11)
3	Throttle grip (☛ p. 10)
4	Fork compression adjustment
5	Fork rebound adjustment
6	Foot brake lever (☛ p. 13)
7	Shock absorber compression adjustment
8	Shock absorber rebound adjustment

Chassis number

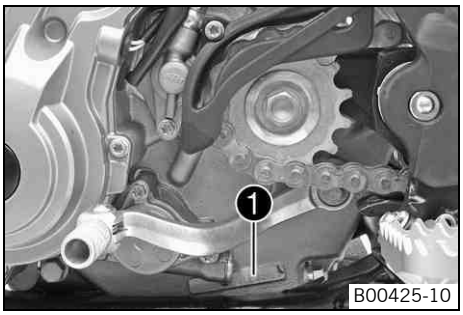


The chassis number ❶ is stamped on the steering head on the right.

Type label

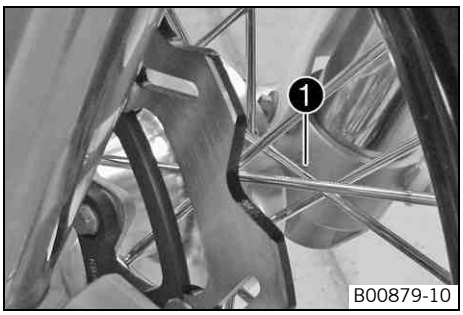
The type label ❶ is fixed to the front of the steering head.

Engine number



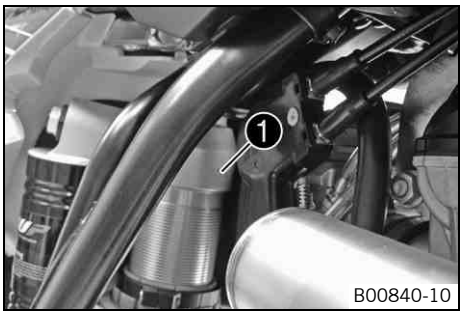
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

Fork part number



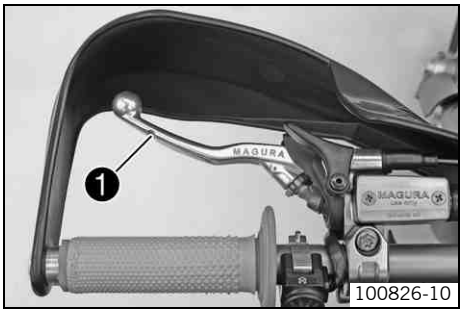
The fork part number ❶ is stamped on the inner side of the fork stub.

Shock absorber part number



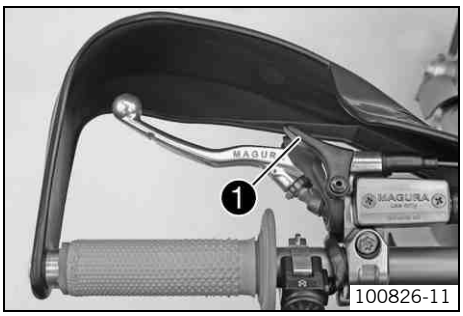
The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring on the engine side.

Clutch lever



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

Hot start lever

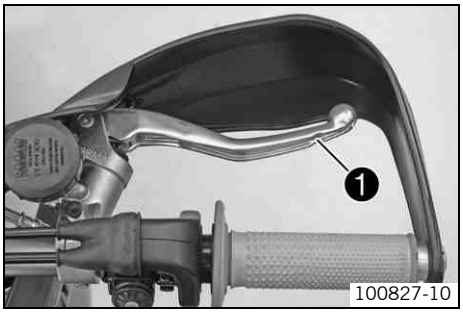


The hot start lever ❶ is fitted on the left side of the handlebar.
If you pull the hot start lever to the handlebar during the start procedure, a bore is opened in the carburetor through which the engine can draw in extra air. This gives a leaner fuel-air mixture, which is needed for a hot start.

Possible states

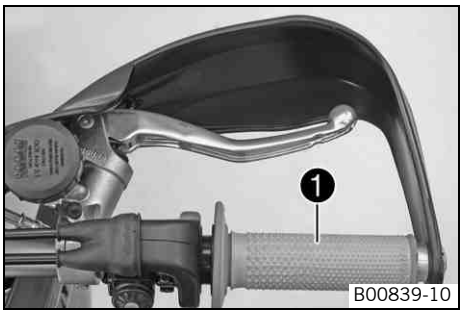
- Hot start function activated – Hot start lever is pulled out to the stop.
- Hot start function deactivated – Hot start lever is pushed back to the stop.

Hand brake lever



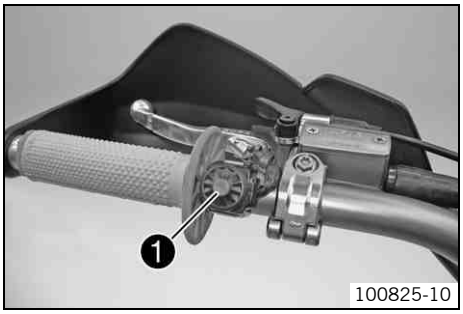
Hand brake lever ❶ is located on the right side of the handlebar.
The hand brake lever is used to activate the front brake.

Throttle grip



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

Kill switch

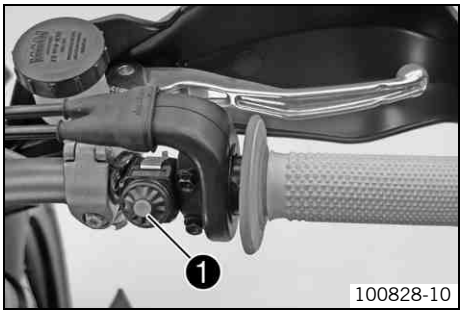


Kill switch ❶ is fitted on the left side of the handlebar.

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.

Electric starter button



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

Possible states

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

Opening filler cap

Danger

Fire hazard Fuel is highly flammable.

– Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.

– Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the notes on refueling.

Warning

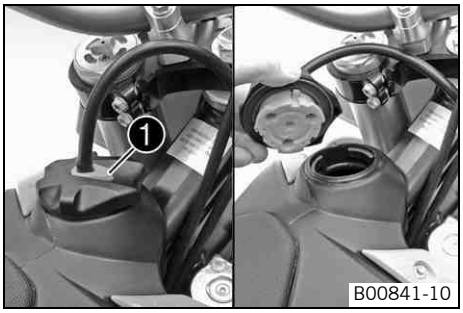
Danger of poisoning Fuel is poisonous and a health hazard.

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

Warning

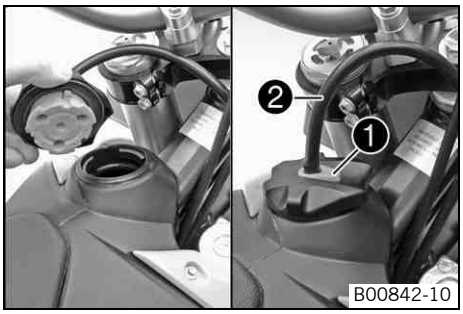
Environmental hazard Improper handling of fuel is a danger to the environment.

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



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

Closing filler cap

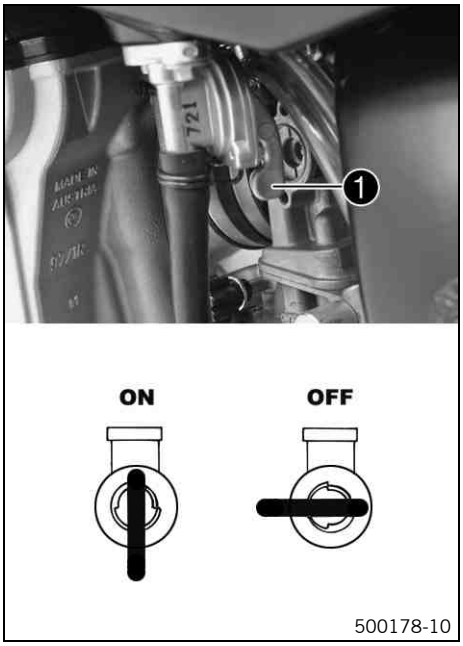


– Replace the filler cap and turn clockwise until the release button ❶ locks in place.

Info

Route the fuel tank breather hose ❷ without kinking.

Fuel tap

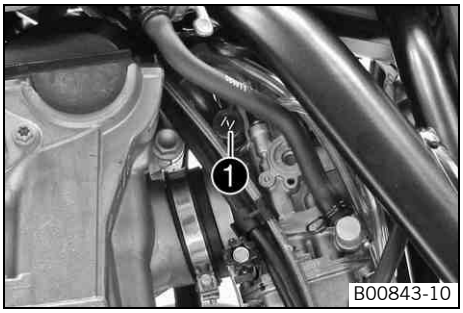


With the tap handle ❶ on the fuel tap, you can open or close the supply of fuel to the carburetor.

Possible states

- Fuel supply closed **OFF** – No fuel can flow from the tank to the carburetor.
- Fuel supply open **ON** – Fuel can flow from the tank to the carburetor. The fuel tank empties completely.

Choke



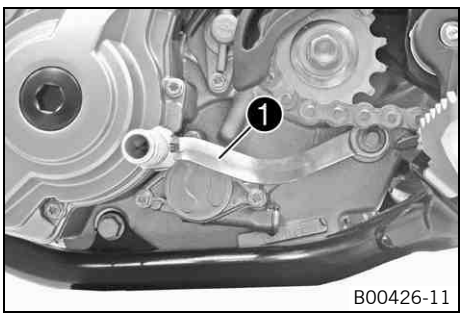
Choke ❶ is fitted on the left side of the carburetor.
Activating the choke function frees an opening through which the engine can draw extra fuel. This gives a richer fuel-air mixture, which is needed for a cold start.

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

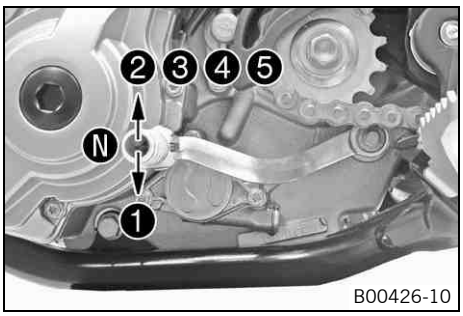
Possible states

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

Shift lever

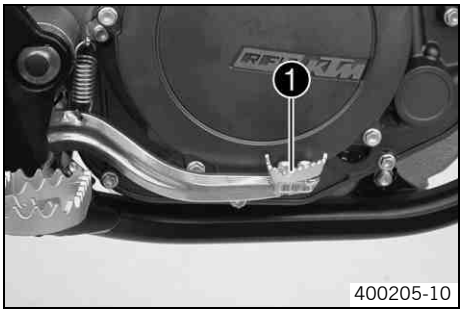


The shift lever ❶ is mounted on the left side of the engine.



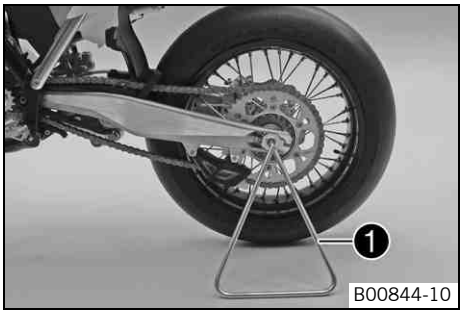
The gear positions can be seen in the photograph.
The neutral or idle position is between the first and second gears.

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.

Plug-in stand



Note

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

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

To stand the motorcycle, plug the plug-in stand ❶ into the left side of the wheel spindle.

Info

Before riding, remove the plug-in stand.

Advice on first use

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

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

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

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

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

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

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

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

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

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

Warning
Danger of accidents Failure of brake system.

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

Warning
Danger of accidents Unstable riding behavior.

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

Warning
Risk of misappropriation Usage by unauthorized persons.

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

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

– Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
  ✓ You receive a delivery certificate and the service record at vehicle handover.
– Before your first trip, read the entire operating instructions carefully.
– Get to know the controls.
– Adjust the basic position of the clutch lever. (☛ p. 45)
– Adjust the basic position of the hand brake lever. (☛ p. 47)
– Adjust the basic position of the foot brake lever. 🔧 (☛ p. 51)
– Get used to handling the motorcycle on a suitable piece of land before making a longer trip.

Info
Your motorcycle is not authorized for riding on public roads.
Offroad, you should be accompanied by another person on another machine so that you can help each other.

– Try also to ride as slowly as possible and in a standing position to get a better feeling for the vehicle.
– Do not make any offroad trips that over-stress your ability and experience.
– Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
– Do not exceed the overall maximum permitted weight and the axle loads.

Guideline

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

– Run in the engine. (☛ p. 15)

Running-in the engine

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

Guideline

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

– Avoid fully opening the throttle!

Checks and maintenance when preparing for use

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

- Check the engine oil level. (☛ p. 70)
- Check the front brake fluid level. (☛ p. 48)
- Check the rear brake fluid level. (☛ p. 52)
- Check the front brake linings. (☛ p. 49)
- Check the rear brake linings. (☛ p. 53)
- Check that the brake system is functioning properly.
- Check the coolant level. (☛ p. 62)
- Check for chain dirt accumulation. (☛ p. 40)
- Check the chain, rear sprocket, engine sprocket and chain guide. (☛ p. 42)
- Check the chain tension. (☛ p. 41)
- Check the tire condition. (☛ p. 57)
- Check the tire air pressure. (☛ p. 57)
- Check the spoke tension. (☛ p. 57)
- Clean the dust boots of the fork legs. (☛ p. 28)
- Bleed fork legs. (☛ p. 28)
- Check the air filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts and hose clamps regularly for tightness.
- Check the fuel reserves.

Starting

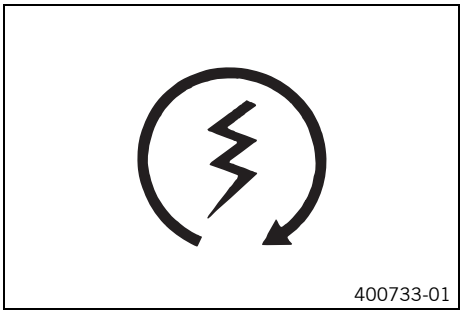
Danger
Danger of poisoning Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

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

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

- Always warm up the engine at low engine speeds.

Info
If the motorcycle is unwilling to start, the cause may be old fuel in the float chamber. The flammable elements of the fuel evaporate after a long time of standing.
If the float chamber is filled with fresh fuel, the engine starts immediately.
Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds before trying again.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Engine has been out of use for more than 1 week
- Empty the carburetor float chamber. 🔧 (☛ p. 65)

- Turn the handle ❶ of the fuel tap to the **ON** position. (Figure 500178-10☛ p. 12)
  ✓ Fuel can flow from the fuel tank to the carburetor.
- Remove the motorcycle from the stand.
- Shift transmission to neutral.

The engine is cold
- Pull choke lever out as far as possible.

The engine is hot
- Pull the hot start lever out to the stop.

- Press the electric starter button Ⓢ.

Info
Do not open the throttle.

The engine is hot and running

– Push back the hot start lever to the stop with the engine running.

Starting off

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

Shifting, riding

Warning

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

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

Info

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

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

  Guideline

≥ 2 min

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

Braking

Warning

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

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

Warning

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

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

Warning

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

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

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

Stopping, parking

Warning
Risk of misappropriation Usage by unauthorized persons.

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

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

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

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

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

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

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

– Brake the motorcycle.
– Shift transmission to neutral.
– Press and hold the kill switch ⊠ while the engine is idling until the engine stops.
– Turn the handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10 ☛ p. 12)
– Park the motorcycle on firm ground.

Refueling

Danger
Fire hazard Fuel is highly flammable.

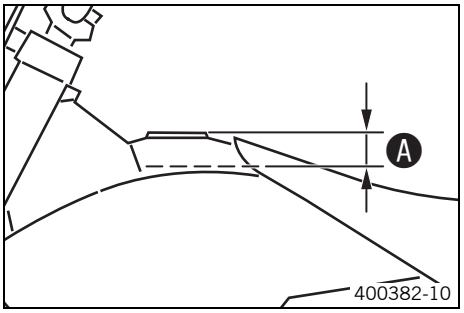
– Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
– Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the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

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

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

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

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



– Switch off engine.
– Open the filler cap. (☛ p. 11)
– Fill the fuel tank with fuel up to measurement Ⓐ.

Guideline

Measurement of Ⓐ		35 mm (1.38 in)
Total fuel tank capacity, approx.	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 87)

– Close the filler cap. (☛ p. 11)

Service schedule

	S1N	S10A	S20A	S30A
Check and charge the battery. 🔧		•	•	•
Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 70)	•	•	•	•
Check the front brake linings. (☛ p. 49)		•	•	•
Check the rear brake linings. (☛ p. 53)		•	•	•
Check the brake discs. (☛ p. 47)		•	•	•
Check the brake lines for damage and leakage.		•	•	•
Check the rear brake fluid level. (☛ p. 52)		•	•	•
Check the free travel of the foot brake lever. (☛ p. 51)		•	•	•
Check the frame and swingarm. 🔧		•	•	•
Check the swingarm bearing. 🔧			•	
Check the shock absorber linkage. 🔧		•	•	•
Conduct a minor fork service. 🔧		•	•	•
Conduct a major fork service. 🔧				•
Check the tire condition. (☛ p. 57)	•	•	•	•
Check the tire air pressure. (☛ p. 57)	•	•	•	•
Check the wheel bearing for play. 🔧		•	•	•
Check the wheel hubs. 🔧		•	•	•
Check the rim run-out. 🔧	•	•	•	•
Check the spoke tension. (☛ p. 57)	•	•	•	•
Check the chain, rear sprocket, engine sprocket and chain guide. (☛ p. 42)		•	•	•
Check the chain tension. (☛ p. 41)	•	•	•	•
Lubricate all moving parts (e.g., hand lever, chain, ...) and check for smooth operation. 🔧		•	•	•
Check the fluid level of the hydraulic clutch. (☛ p. 46)		•	•	•
Check the front brake fluid level. (☛ p. 48)		•	•	•
Check the free travel on the hand brake lever. (☛ p. 47)		•	•	•
Check the steering head bearing play. (☛ p. 32)	•	•	•	•
Check the valve clearance. 🔧	•		•	
Check the clutch. 🔧		•	•	•
Check all hoses (e.g. fuel, cooling, bleeder, drainage, etc.) and sleeves for cracking, leaks and correct routing. 🔧	•	•	•	•
Check the anti-freeze and coolant level. (☛ p. 62)	•	•	•	•
Check the cables for damage and routing without sharp bends. 🔧		•	•	•
Check that the cables are undamaged, routed without sharp bends and set correctly.	•	•	•	•
Clean the air filter and air filter box. 🔧 (☛ p. 37)	•	•	•	•
Change the glass fiber yarn filling of the main silencer. 🔧 (☛ p. 38)		•	•	•
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 **KTM DEALER.NET** and in the service record. 🔧	•	•	•	•

S1N: Once after 1 operating hour - corresponds to about 7 liters of fuel (1.8 US gal)
S10A: Every 10 operating hours - corresponds to about 70 liters of fuel (18.5 US gal) / after every race
S20A: Every 20 operating hours - corresponds to about 140 liters of fuel (37 US gal)
S30A: Every 30 operating hours - corresponds to about 210 liters of fuel (55.5 US gal)

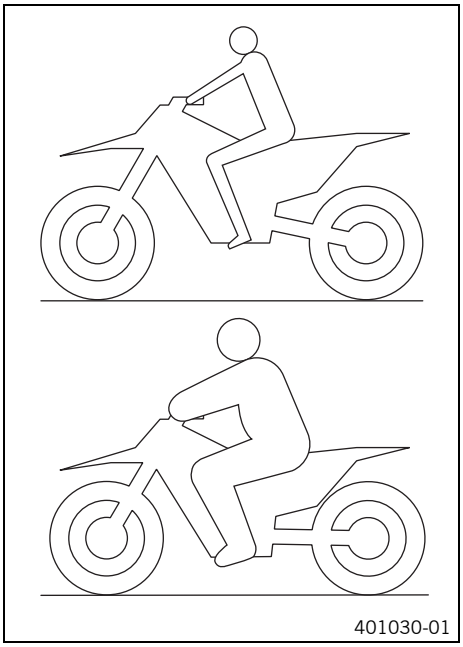
Service work (as additional order)

	S20N	S20A	S40A	S80A	J1A
Change the front brake fluid.					•
Change the rear brake fluid.					•
Change the hydraulic clutch fluid. (p. 46)					•
Grease the steering head bearing. (p. 33)					•
Check/set the carburetor components.			•	•	•
Service the shock absorber.	•		•	•	
Change the spark plug and spark plug connector.			•	•	
Change the piston.			•	•	
Change the piston. (in difficult operating conditions)		•	•	•	
Check/measure the cylinder.			•	•	
Check the cylinder head.			•	•	
Change the valves, valve springs and valve spring seats.				•	
Check the camshaft and cam lever.			•	•	
Change the connecting rod, conrod bearing and crank pin.			•	•	
Change the crankshaft bearing.			•	•	
Check the transmission and shift mechanism.			•	•	
Check the oil pressure regulator valve.			•	•	
Check the oil pumps and lubrication system.			•	•	
Check the timing assembly.			•	•	
Change all engine bearings.				•	

S20N: Once after 20 operating hours - corresponds to about 140 liters of fuel (37 US gal)
S20A: Every 20 operating hours - corresponds to about 140 liters of fuel (37 US gal)
S40A: Every 40 operating hours - corresponds to about 280 liters of fuel (74 US gal)
S80A: Every 80 operating hours - corresponds to about 560 liters of fuel (148 US gal)
J1A: Annually

Checking the basic suspension setting against the rider's weight

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


401030-01

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

Guideline

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

– If the rider's weight is above or below the standard 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.

Compression damping of shock absorber

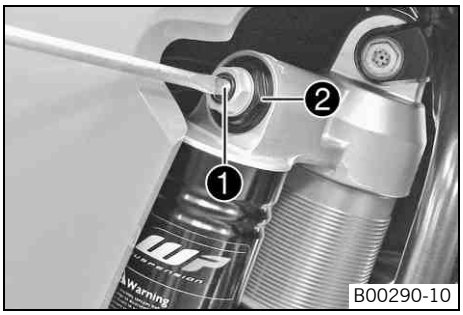
The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.
High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.
The high-speed setting, for example, has an effect on the landing after a jump: the rear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

Adjusting the low-speed compression damping of the shock absorber

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

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

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



B00290-10

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

Info
Do not loosen nut ❷!

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

Guideline

Compression damping, low-speed	
Comfort	21 clicks
Standard	18 clicks

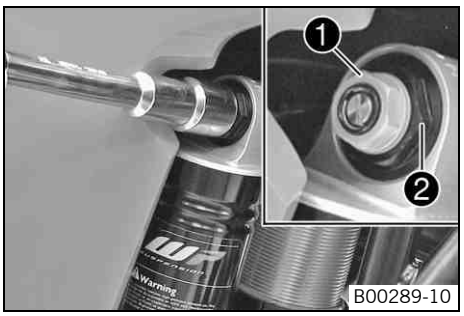
Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

Adjusting the high-speed compression damping of the shock absorber

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

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

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



– Turn adjusting screw ❶ all the way clockwise with a socket wrench.

Info
Do not loosen nut ❷!

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

Guideline

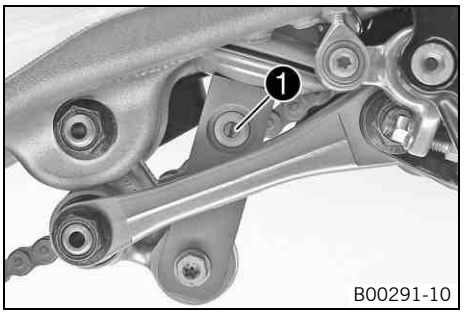
Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns

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

Adjusting the rebound damping of the shock absorber

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

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



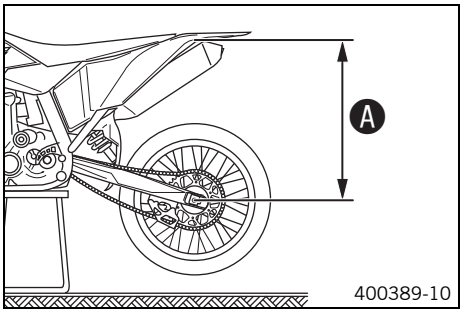
– Turn adjusting screw ❶ clockwise up to the last perceptible click.
– Turn back counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	14 clicks
Standard	12 clicks

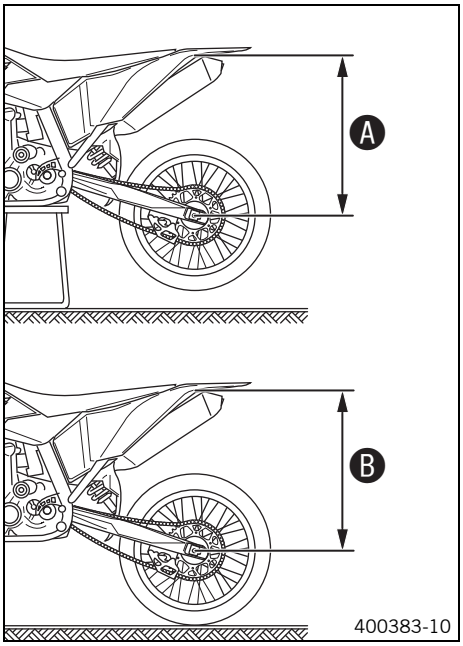
Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

Measuring rear wheel sag unloaded



– Raise the motorcycle with the lift stand. (☛ p. 28)
– Measure the distance – as vertically as possible – between the rear axle and a fixed point, such as a mark on the side cover.
– Make note of the value as measurement Ⓐ.
– Remove the motorcycle from the lift stand. (☛ p. 28)

Checking static sag of shock absorber



– Measure distance Ⓐ of rear wheel unloaded. (☛ p. 23)
– Ask someone to help you by holding the motorcycle upright.
– Measure the distance between the rear axle and the fixed point again.
– Make a note of the value as measurement Ⓑ.

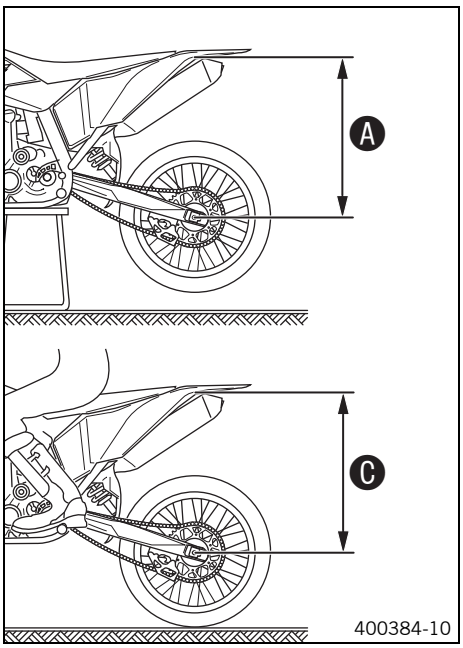
Info
The static sag is the difference between measurements Ⓐ and Ⓑ.

– Check the static sag.

Static sag	20 mm (0.79 in)

» If the static sag is less or more than the specified value:
– Adjust the spring preload of the shock absorber. 🔧 (☛ p. 24)

Checking riding sag of shock absorber



– Measure distance Ⓐ of rear wheel unloaded. (☛ p. 23)
– With the help of another person holding the motorcycle, the rider, wearing complete clothing, sits on the motorcycle in a normal position (feet on footrests) and rocks up and down a few times so that the rear wheel suspension levels out.
– Another person now measures the distance between the rear axle and the fixed point.
– Make a note of the value as measurement Ⓒ.

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

– Check the riding sag.

Riding sag	75 mm (2.95 in)

» If the riding sag differs from the specified measurement:
– Adjust the riding sag. 🔧 (☛ p. 24)

Adjusting the spring preload of the shock absorber

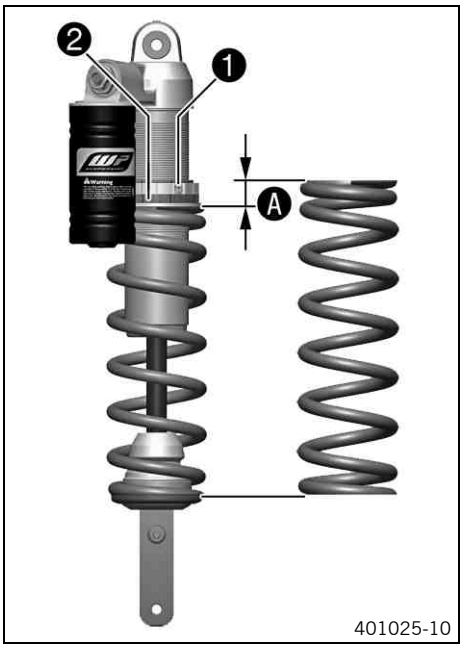
Caution

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

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

Info

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



– Remove the shock absorber. (☛ p. 34)
– After removing the shock absorber, clean it thoroughly.
– Loosen screw ❶.
– Turn adjusting ring ❷ until the spring is no longer under tension.

Hook wrench (T106S)

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

Guideline

Spring preload	19 mm (0.75 in)

Info

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

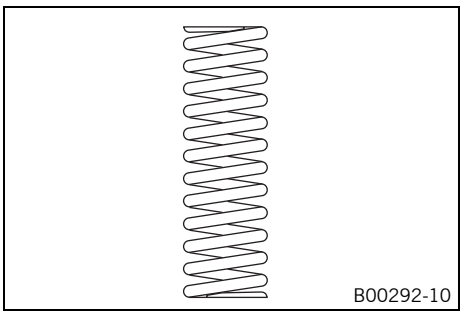
– Tighten screw ❶.

Guideline

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

– Install the shock absorber. (☛ p. 35)

Adjusting the riding sag



– Remove the shock absorber. (☛ p. 34)
– After removing the shock absorber, clean it thoroughly.
– Choose and mount a suitable spring.

Guideline

Spring rate	
Weight of rider: 65… 75 kg (143… 165 lb.)	54 N/mm (308 lb/in)
Weight of rider: 75… 85 kg (165… 187 lb.)	57 N/mm (325 lb/in)
Weight of rider: 85… 95 kg (187… 209 lb.)	60 N/mm (343 lb/in)

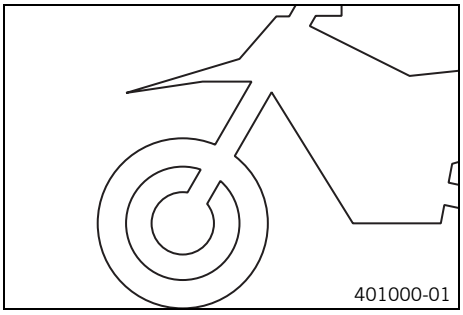
Info

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

– Install the shock absorber. (☛ p. 35)
– Check the static sag of the shock absorber. (☛ p. 23)
– Check the riding sag of the shock absorber. (☛ p. 23)
– Adjust the rebound damping of the shock absorber. (☛ p. 22)

Checking basic setting of fork

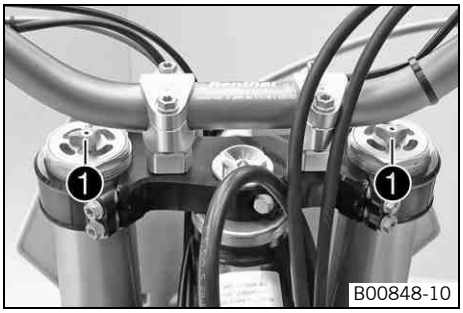
Info
For various reasons, no exact riding sag can be determined for the forks.



– As with the shock absorber, smaller 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.

Adjusting the compression damping of the fork

Info
The hydraulic compression damping determines the fork suspension behavior.



– Turn adjusting screws ❶ clockwise all the way.

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

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

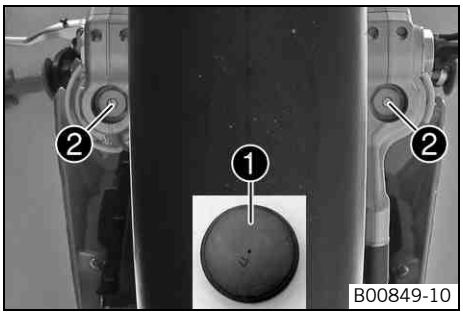
Guideline

Compression damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks

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

Adjusting the rebound damping of the fork

Info
The hydraulic rebound damping determines the fork suspension behavior.



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

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

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

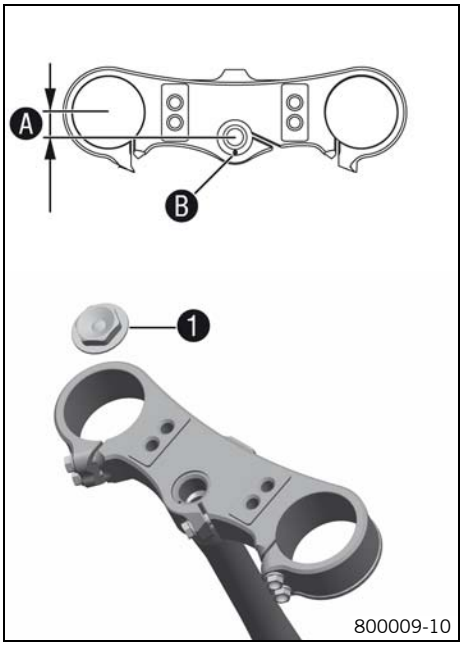
Guideline

Rebound damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks

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

– Mount protection covers ❶.

Fork offset



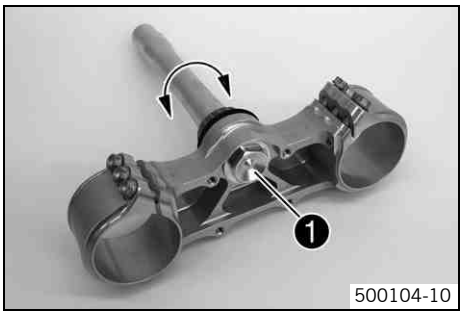
You can see the currently set offset if you remove screw ❶.
The fork offset Ⓐ has an impact on the handling of the vehicle. It is calculated from the center of the fork leg to the center of the steering head bearing.
The fork offset can optionally be adjusted.
Marking Ⓑ to the front gives greater stability on fast racetracks.

Fork offset	
Front marking	14 mm (0.55 in)

Marking Ⓑ to the rear gives better handling in bends.

Fork offset	
Rear marking	16 mm (0.63 in)

Adjusting the fork offset



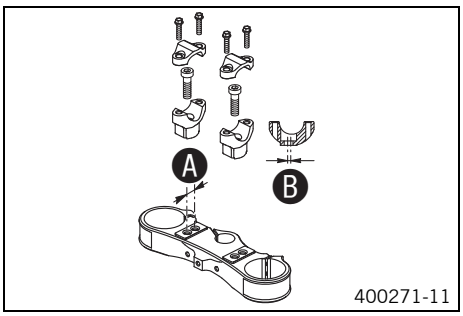
– Remove the lower triple clamp. (☛ p. 30)
– Remove screw ❶. Remove the steering stem.
– Rotate the steering stem 180° and insert into the triple clamp. Mount and tighten screw ❶.

Guideline

Screw, bottom steering head	M20x1.5	60 Nm (44.3 lbf ft)	**Loctite® 243™**

– Install the lower triple clamp. (☛ p. 31)

Handlebar position



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

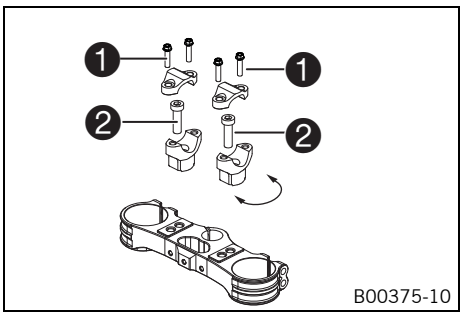
Hole distance A	15 mm (0.59 in)

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.

Adjusting handlebar position



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

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

– Remove 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™**

Info
Position the left and right handlebar supports evenly.

– Position the handlebar.

Info
Make sure cables and wiring are positioned correctly.

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

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

Raising the motorcycle with the lift stand


B00845-01

Note

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

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

– Raise the motorcycle at the frame underneath the engine.

Lift stand (59229055000)

✓ The wheels must no longer touch the ground.

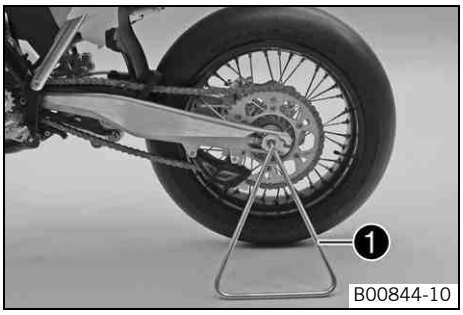
– Secure the motorcycle against falling over.

Removing the motorcycle from the lift stand

Note

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

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



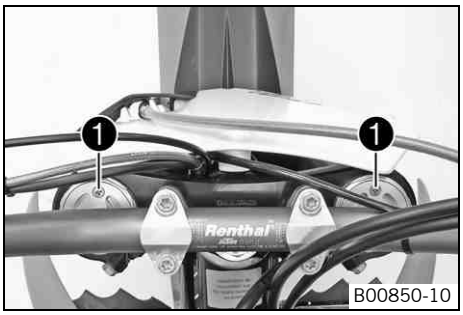
B00844-10

– 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 starting on a trip.

Bleeding fork legs



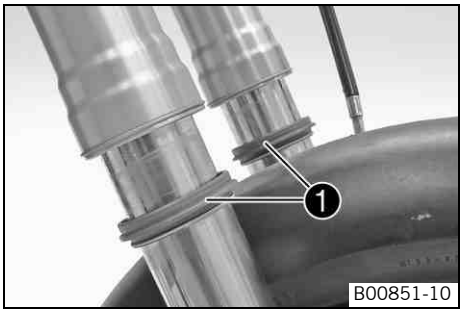
B00850-10

– Raise the motorcycle with the lift stand. (☛ p. 28)
– Remove bleeder screws ❶ briefly.

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

– Mount and tighten bleeder screws.
– Remove the motorcycle from the lift stand. (☛ p. 28)

Cleaning the dust boots of the fork legs



B00851-10

– Raise the motorcycle with the lift stand. (☛ p. 28)
– Remove the fork protector. (☛ p. 30)
– Push dust boots ❶ of both fork legs downwards.

Info

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

Warning

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

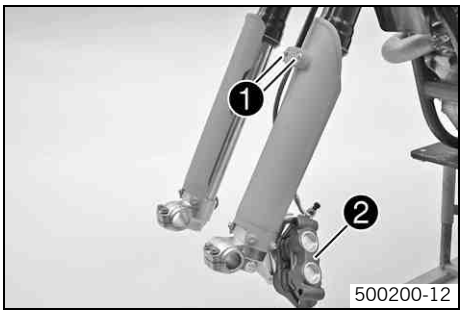
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

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

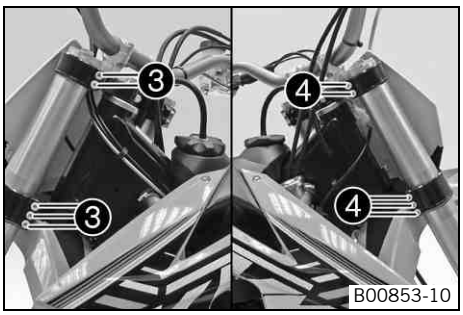
Universal oil spray (☛ p. 89)

– Press the dust boots back into their normal position.
– Remove excess oil.
– Install the fork protector. (☛ p. 30)
– Remove the motorcycle from the lift stand. (☛ p. 28)

Removing the fork legs

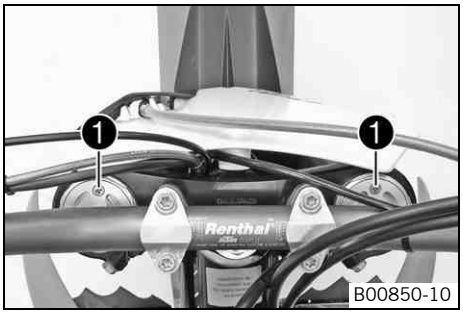


– Remove the front wheel. (☛ p. 54)
– Remove screws ❶ and take off clamp.
– Hang the brake caliper ❷ and the brake line loosely to the side.



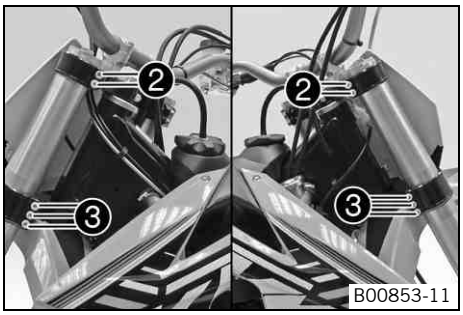
– Loosen screw ❸. Remove the fork leg on the left.
– Loosen screw ❹. Remove the fork leg on the right.

Installing the fork legs



– Position the fork legs.

Info
The lowest milled groove in the fork leg must be flush with the top edge of the upper triple clamp.
Position bleeder screws ❶ toward the front.

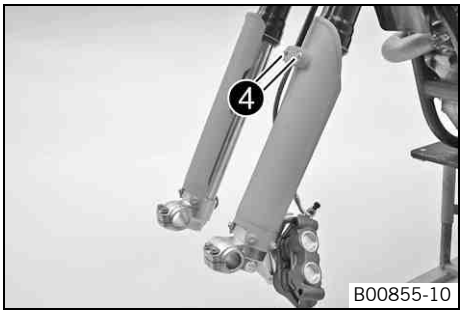


– Tighten screws ❷.
Guideline

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

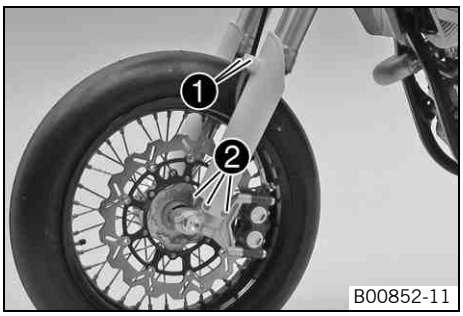
– Tighten screws ❸.
Guideline

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



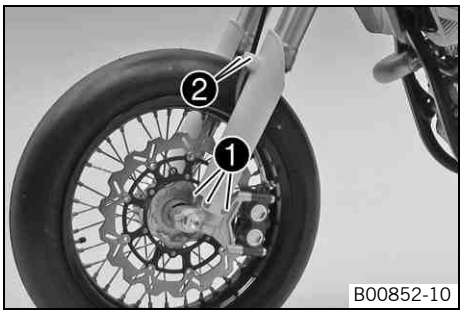
– Position the brake line. Put the clamp on, and mount and tighten screws ❹.
– Install the front wheel. (☛ p. 54)

Removing the fork protector



– Remove screws ❶ and take off clamp.
– Remove screws ❷ on left fork leg. Remove the fork protector.
– Remove the screws on the right fork leg. Remove the fork protector.

Installing the fork protector



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

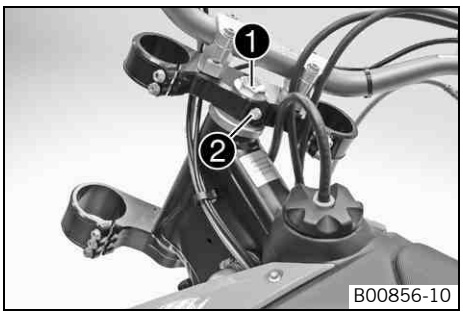
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

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

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

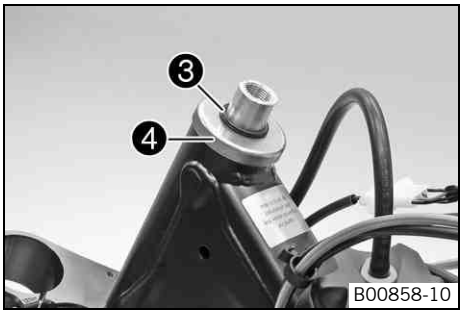
Removing the lower triple clamp

– Remove the fork legs. (☛ p. 29)
– Remove the start number plate. (☛ p. 33)
– Remove the front fender. (☛ p. 34)
– Remove the handlebar cushion.



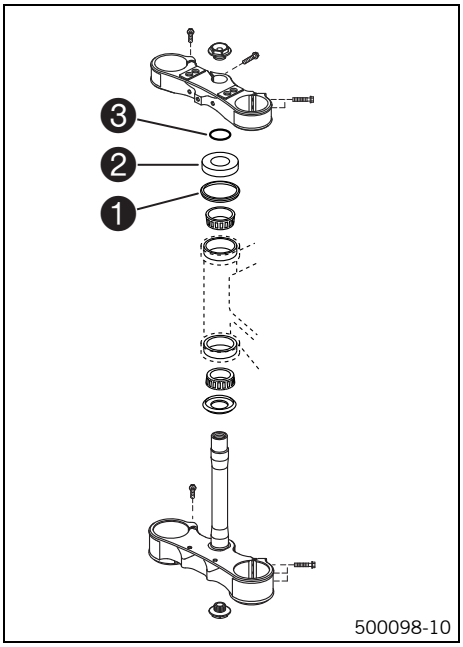
– Remove screw ❶. Remove screw ❷, take off the top triple clamp with the handlebar, and place it on one side.

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



– Remove O-ring ❸. Remove protective ring ❹.
– Take out the lower triple clamp with the steering stem.
– Remove the upper steering head bearing.

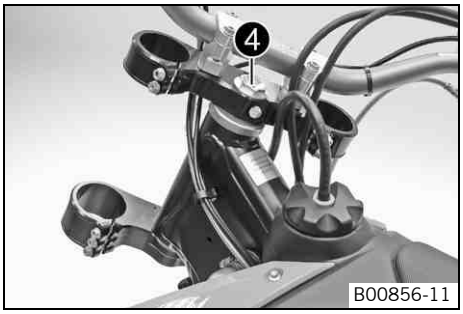
Installing the lower triple clamp



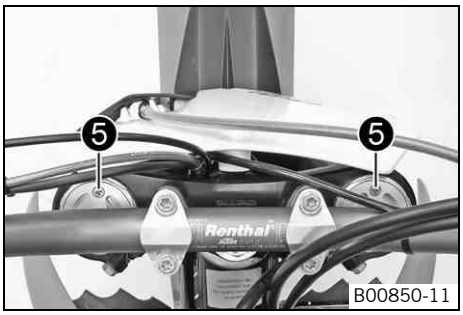
– Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (☛ p. 88)

– Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.
– Check whether the top steering head seal ❶ is correctly positioned.
– Slide on protective ring ❷ and O-ring ❸.

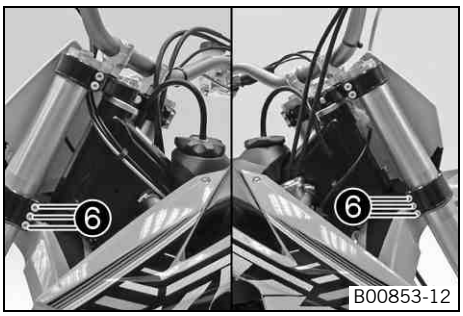


– Position the upper triple clamp with the steering.
– Mount screw ❹ but do not tighten yet.



– Position the fork legs.

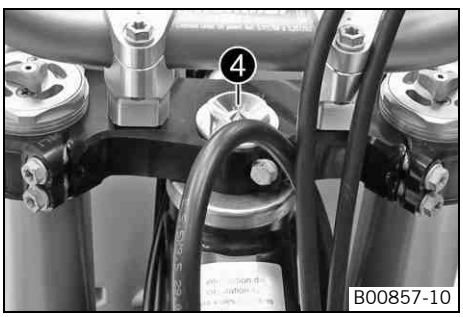
Info
The lowest milled groove in the fork leg must be flush with the top edge of the upper triple clamp.
Position bleeder screws ❺ toward the front.



– Fully tighten screws ❻.

Guideline

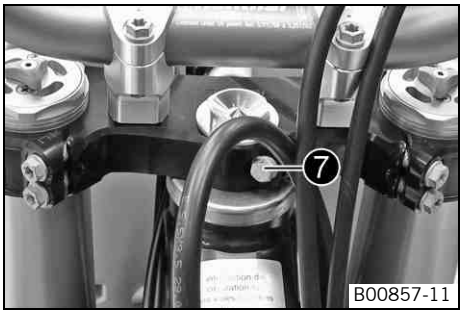
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)



– Tighten screw ❹.

Guideline

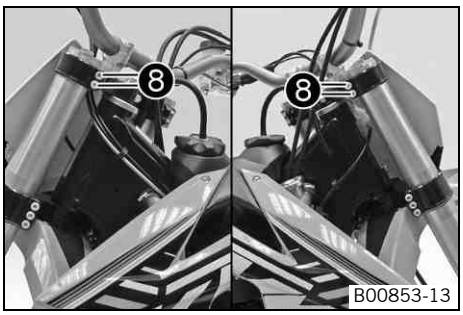
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)



– Mount and tighten screw ❼.

Guideline

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



– Fully tighten screws ❽.

Guideline

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

– Install the front fender. (☛ p. 34)
– Install the start number plate. (☛ p. 33)
– Mount the handlebar cushion.
– Check that the wiring harness, cables, and brake and clutch lines can move freely and are routed correctly.
– Install the front wheel. 🔧 (☛ p. 54)
– Check the steering head bearing play. (☛ p. 32)

Checking steering head bearing play

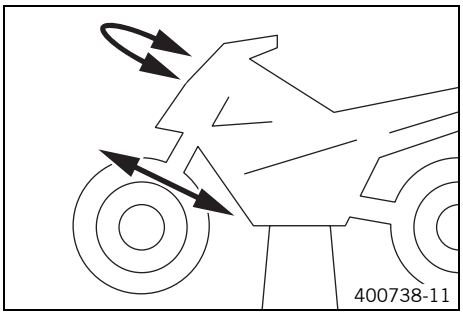
Warning

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

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

Info

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



– Raise the motorcycle with the lift stand. (☛ p. 28)
– Move the handlebar to the straight-ahead position. Move the fork legs to and fro in the direction of travel.

No play should be noticeable in the steering head bearing.

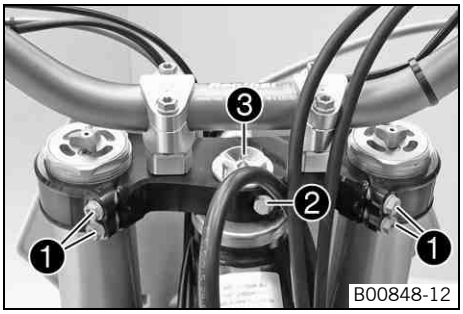
» If there is noticeable play present:
  – Adjust play of the steering head bearing 🔧 (☛ p. 32)
– Move the handlebar to and fro over the entire steering range.

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

» If click positions are noticeable:
  – Adjust play of the steering head bearing 🔧 (☛ p. 32)
  – Check the steering head bearing and replace if required.
– Remove the motorcycle from the lift stand. (☛ p. 28)

Adjusting play of steering head bearing 🔧

– Raise the motorcycle with the lift stand. (☛ p. 28)



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

Guideline

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

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

Guideline

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

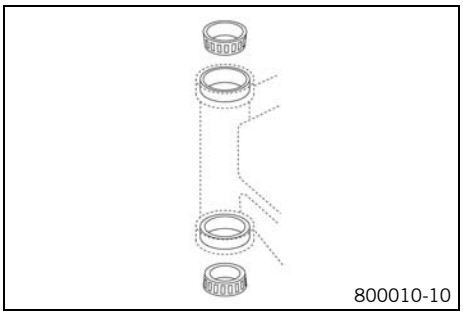
– Mount and tighten screw ❷.

Guideline

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

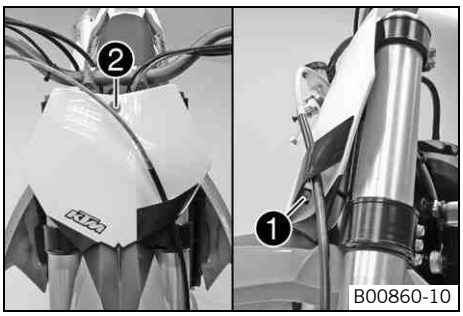
– Check the steering head bearing play. (☛ p. 32)

Greasing the steering head bearing



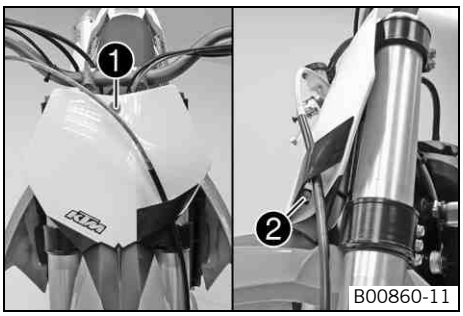
– Remove the lower triple clamp. (☛ p. 30)
– Install the lower triple clamp. (☛ p. 31)

Removing the start number plate



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

Installing the start number plate



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

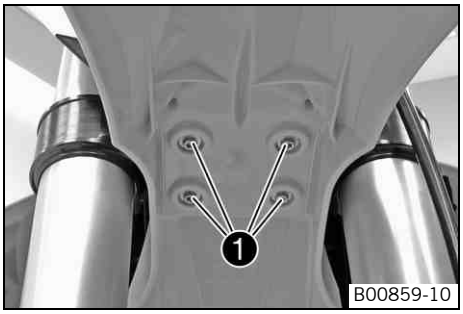
Guideline

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

Info
Ensure that the retaining lugs engage in the fender.

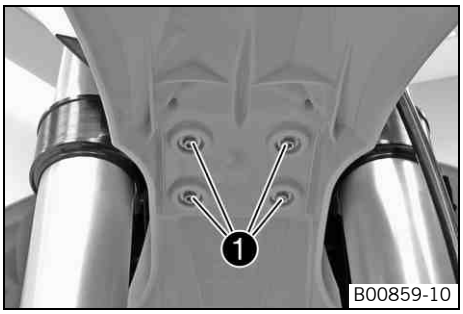
– Position the brake line. Put the clamp on, and mount and tighten screw ❷.

Removing the front fender



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

Installing the front fender



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

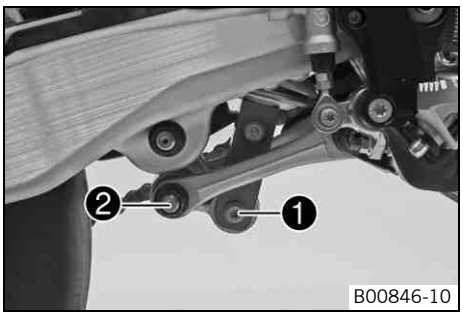
Guideline

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

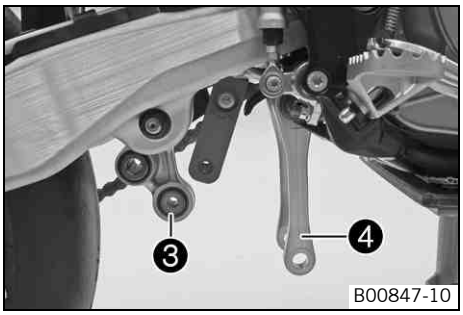
Info
Make sure the holding lugs engage in the start number plate.

Removing the shock absorber

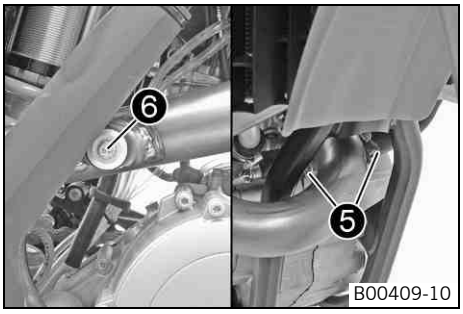
– Raise the motorcycle with the lift stand. (☛ p. 28)
– Remove the main silencer. (☛ p. 37)



– Remove screw ❶.
– Remove screw cap ❷.



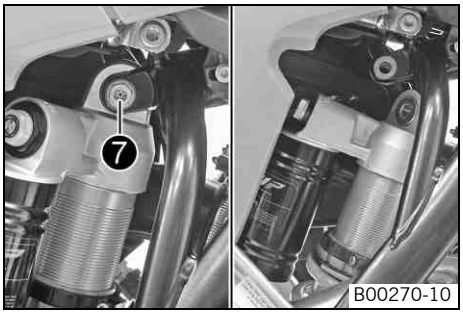
– Press angle lever ❸ toward the rear.
– Press linkage lever ❹ downward.



– Detach springs ❺.

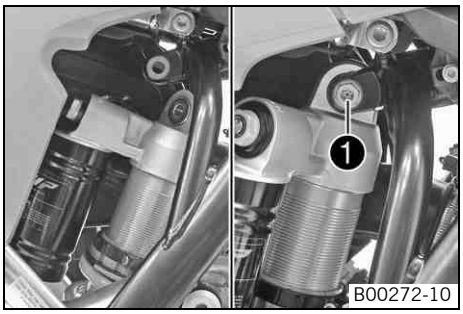
Spring hooks (50305017000)

– Remove screw ❻.



– Remove screw ❼.
– Turn the shock absorber toward the rear and remove the exhaust manifold.
– Remove the shock absorber from the top.

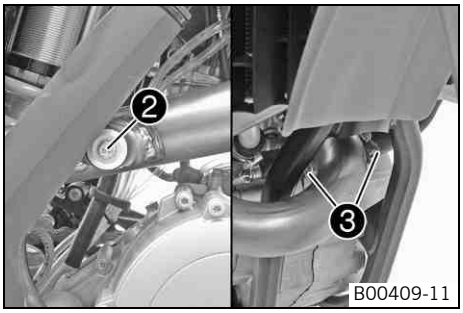
Installing the shock absorber



– Insert the shock absorber from above.
– Turn the shock absorber toward the rear and position the exhaust manifold.
– Position the shock absorber.
– Mount and tighten screw ❶.

Guideline

Screw, top shock absorber	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**



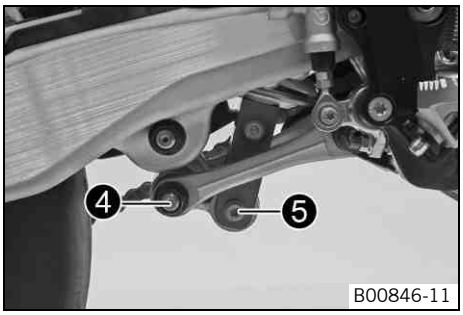
– Mount and tighten screw ❷.

Guideline

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)

– Attach springs ❸.

Spring hooks (50305017000)



– Position the angle lever and linkage lever.
– Mount and tighten screw cap ❹.

Guideline

Nut, linkage lever to angle lever	M14x1.5	80 Nm (59 lbf ft)

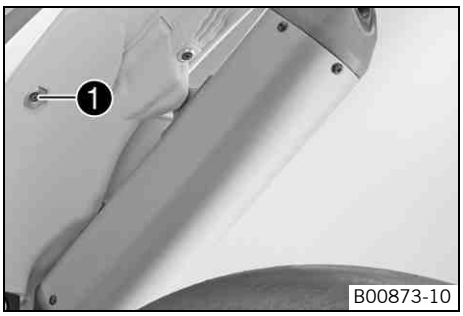
– Mount and tighten screw ❺.

Guideline

Screw, bottom shock absorber	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**

– Install the main silencer. (☛ p. 38)
– Remove the motorcycle from the lift stand. (☛ p. 28)

Removing the seat



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

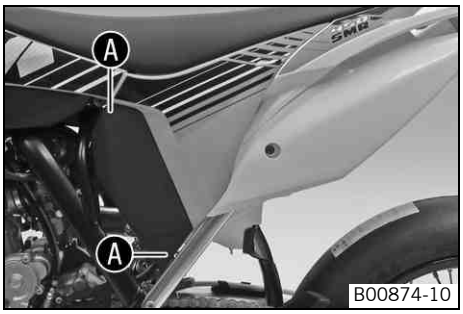
Mounting the seat

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

Guideline

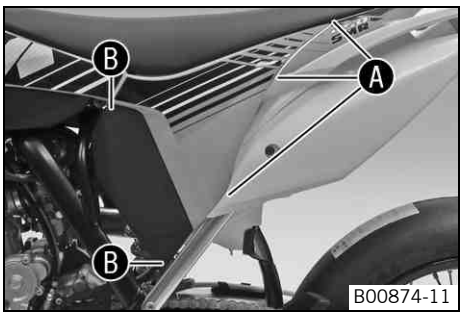
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

Removing the air filter box lid



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

Installing the air filter box lid



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

Removing the air filter

Note

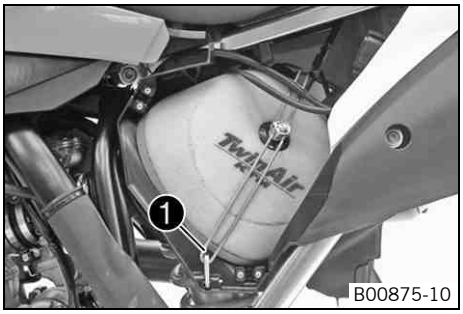
Engine failure Unfiltered intake air has a negative effect on the service life of the engine.

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

Warning

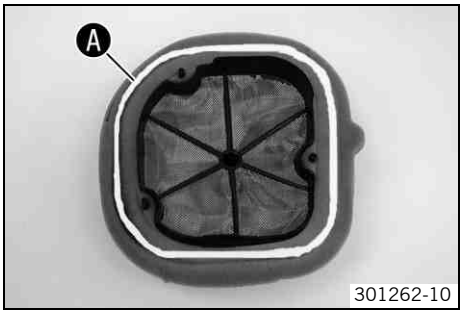
Environmental hazard Hazardous substances cause environmental damage.

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



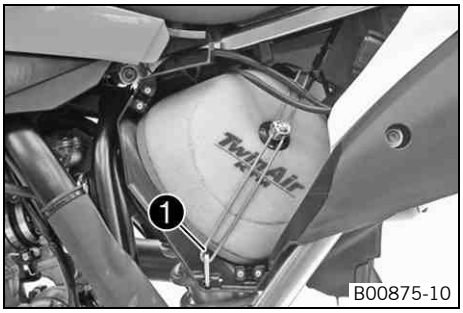
– Remove the air filter box lid. (☛ p. 36)
– Detach air filter holder ❶ at the bottom and swing it to one side. Remove the air filter with the air filter support.
– Remove the air filter from the air filter support.

Installing the air filter



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

Long-life grease (☛ p. 88)



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

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

– Install the air filter box lid. (☛ p. 36)

Cleaning the air filter and air filter box

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

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

– Remove the air filter. (☛ p. 36)
– Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner (☛ p. 88)

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

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

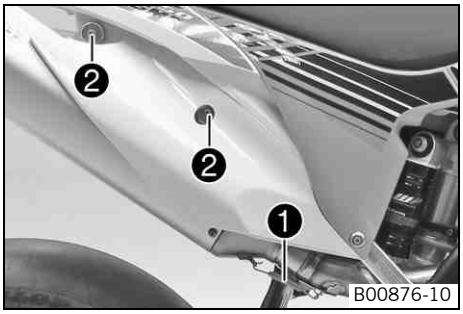
Oil for foam air filter (☛ p. 89)

– Clean the air filter box.
– Check the carburetor connection boot for damage and looseness.
– Install the air filter. (☛ p. 37)

Removing main silencer

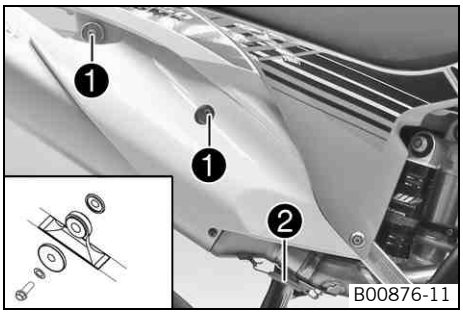
Warning
Danger of burns The exhaust system gets very hot when the vehicle is driven.

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



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

Installing the main silencer



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

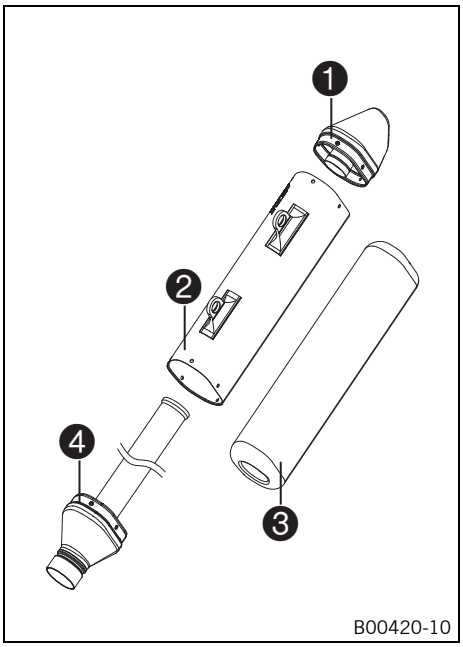
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

– Reconnect spring ❷.

Changing the glass fiber yarn filling of the main silencer

Warning
Danger of burns The exhaust system gets very hot when the vehicle is driven.
– Allow the exhaust system to cool down. Do not touch hot components.

Info
Over a period, the fibers of the insulating material vanish into the air, and the silencer "burns out".
Not only is the noise level higher, the performance characteristic changes.



– Remove the main silencer. (☛ p. 37)
– Remove the screws of locking cap ❶. Take off the locking cap and outer tube ❷.
– Pull the glass fiber yarn filling ❸ from the inner tube ❹.
– Clean the parts that are to be reinstalled.
– Mount the new glass fiber yarn filling on the inner tube.
– Slide the outer tube over the glass fiber yarn filling.
– Insert the locking cap into the outer tube.
– Mount and tighten all screws.
– Install the main silencer. (☛ p. 38)

Removing the fuel tank

Danger
Fire hazard Fuel is highly flammable.

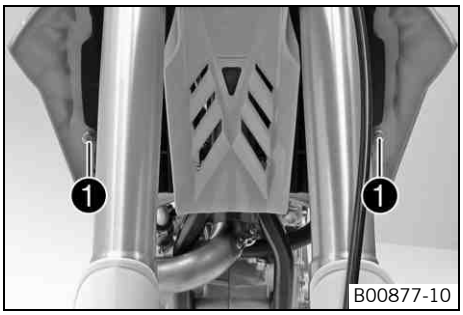
- Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
- Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the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

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

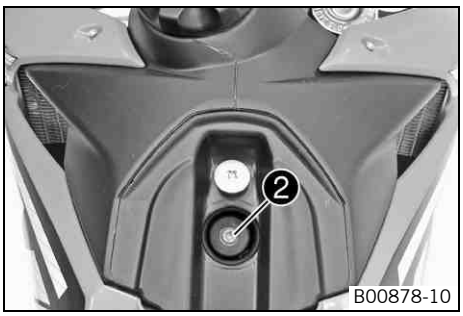
- Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come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

- Remove the seat. (☛ p. 35)
- Turn the handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10☛ p. 12)
- Pull off the fuel hose.

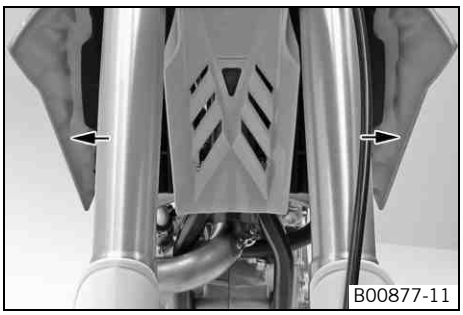
Info
Remaining fuel may flow out of the fuel hose.



- Remove screws ❶ with the collar sleeve.



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



- Pull both spoilers off of the sides of the radiator bracket and lift off the fuel tank.

Installing the fuel tank

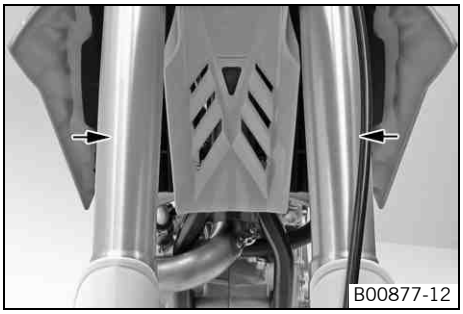
Danger
Fire hazard Fuel is highly flammable.

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

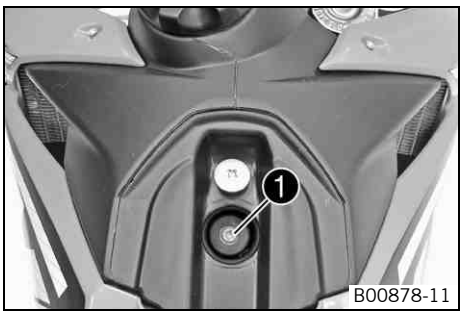
Warning
Danger of poisoning Fuel is poisonous and a health hazard.

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

- Check the throttle cable routing. (☛ p. 45)

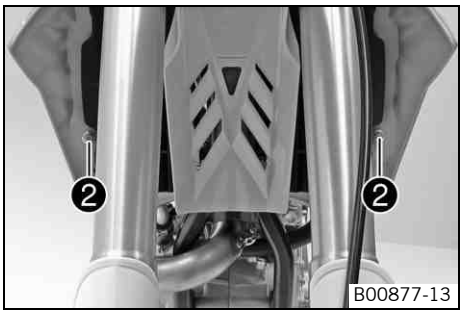


– Position the fuel tank and fit the two spoilers to the sides of the radiator bracket.
– Make sure that no cables are trapped or damaged.



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

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

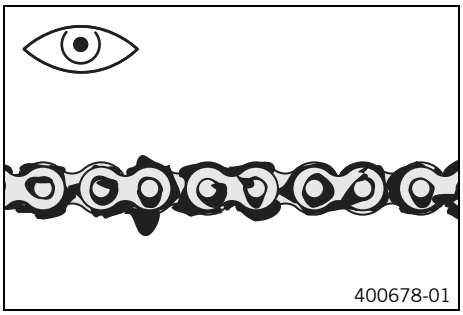


– Mount and tighten screws ❷ with the collar bushing.
Guideline

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

– Connect the fuel hose.
– Mount the seat. (☛ p. 36)

Checking for chain dirt accumulation



– Check the chain for coarse dirt accumulation.
» If the chain is very dirty:
– Clean the chain. (☛ p. 40)

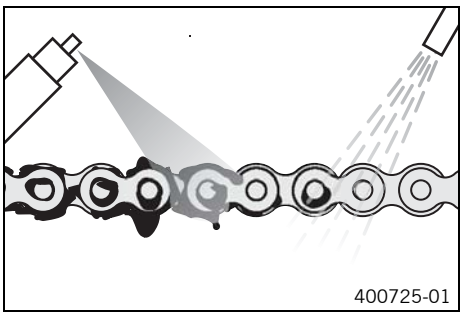
Cleaning the chain

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

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

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

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



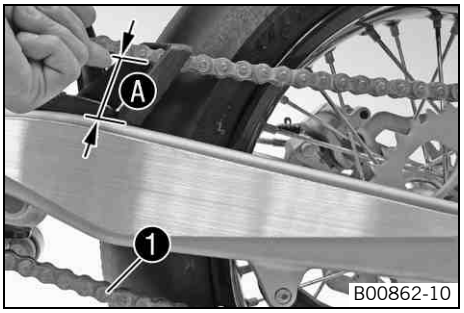
– Clean the chain regularly and then treat with chain spray.

Chain cleaner (☛ p. 88)
Off-road chain spray (☛ p. 88)

Checking the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

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



– Raise the motorcycle with the lift stand. (☛ p. 28)
– Push the chain at the end of the chain sliding component upwards to measure the chain tension Ⓐ.

Info
The 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	53... 55 mm (2.09... 2.17 in)

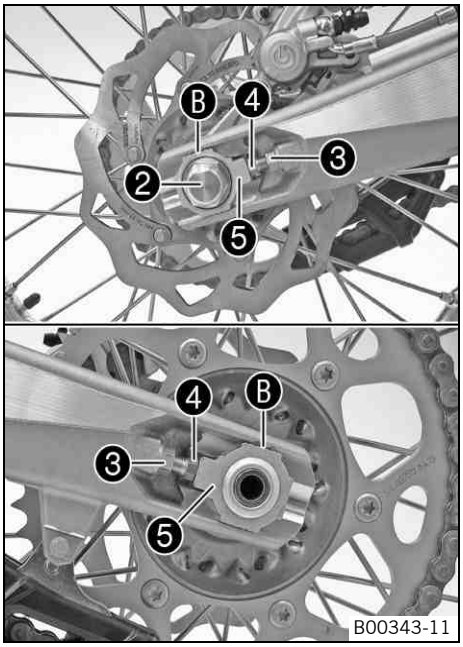
» If the chain tension does not meet specifications:
  – Adjust the chain tension. (☛ p. 41)
– Remove the motorcycle from the lift stand. (☛ p. 28)

Adjusting the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

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

– Raise the motorcycle with the lift stand. (☛ p. 28)
– Check the chain tension. (☛ p. 41)



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

Guideline

Chain tension	53... 55 mm (2.09... 2.17 in)
Turn adjusting screws ❹ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks ❽. The rear wheel is then correctly aligned.	

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

Guideline

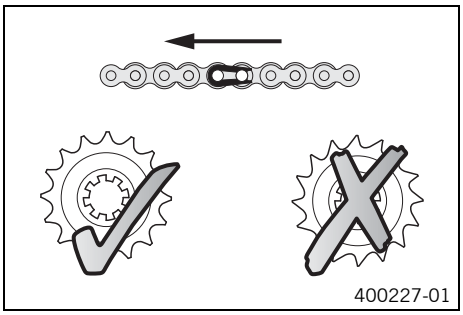
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)

Info
The wide adjustment range of the chain adjusters (32 mm (1.26 in)) enables different secondary ratios with the same chain length.
Chain adjusters ❺ can be turned by 180°.

– Remove the motorcycle from the lift stand. (☛ p. 28)

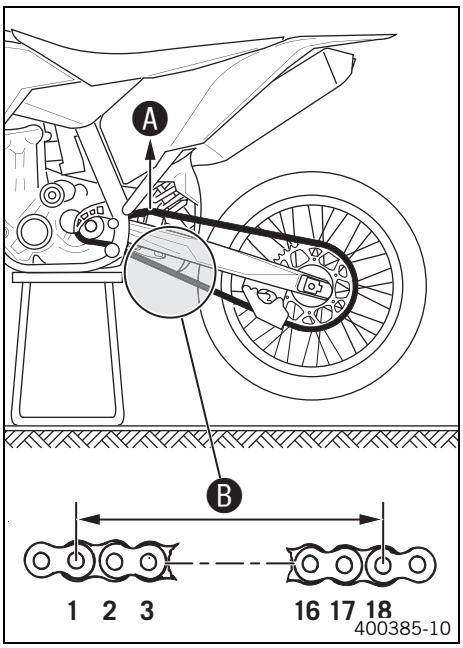
Checking the chain, rear sprocket, engine sprocket and chain guide

– Raise the motorcycle with the lift stand. (☛ p. 28)
– Shift gear to neutral.



– Check the rear sprocket and engine sprocket for wear.
  » If the rear sprocket and engine sprocket are worn:
    – Change the rear sprocket or engine sprocket. 🔧

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



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

Guideline

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

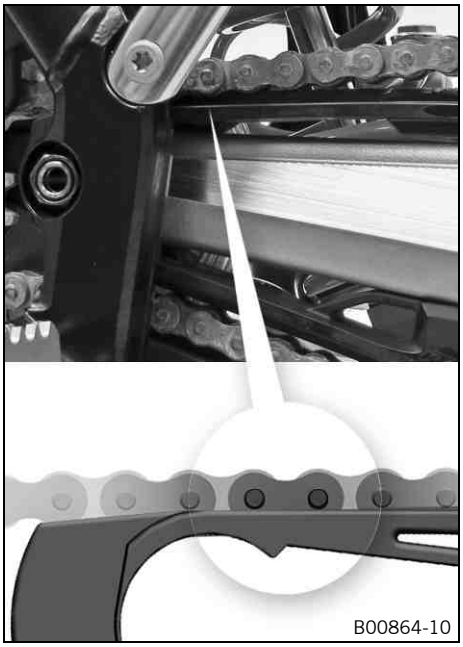
– Measure the distance ❽ of 18 chain links in the lower chain section.

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

Maximum distance ❽ at the longest chain section	272 mm (10.71 in)

  » If the distance ❽ is greater than the specified measurement:
    – Change the chain. 🔧

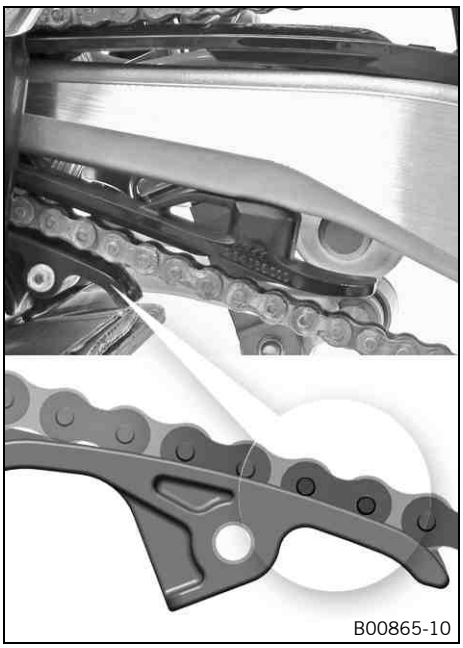
Info
When the chain is replaced, the rear sprocket and engine sprocket should also be changed.
New chains wear out faster on old, worn sprockets.


B00864-10

– Check the chain sliding guard for wear.
  » If the bottom edge of the chain bolt is in line with or below the chain sliding guard:
    – Change the chain sliding guard.
– Check that the chain sliding guard is firmly seated.
  » If the chain sliding guard is loose:
    – Tighten the chain sliding guard.

    Guideline

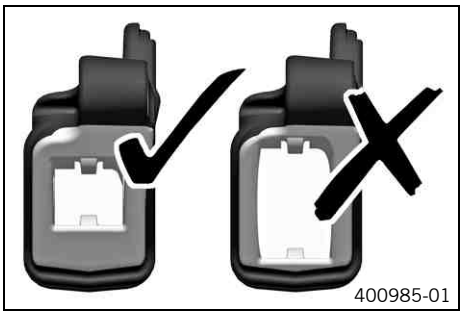
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**


B00865-10

– Check the chain sliding piece for wear.
  » If the bottom edge of the chain bolt is in line with or below the chain sliding piece:
    – Change the chain sliding piece.
– Check that the chain sliding piece is firmly seated.
  » If the chain sliding piece is loose:
    – Tighten the chain sliding piece.

    Guideline

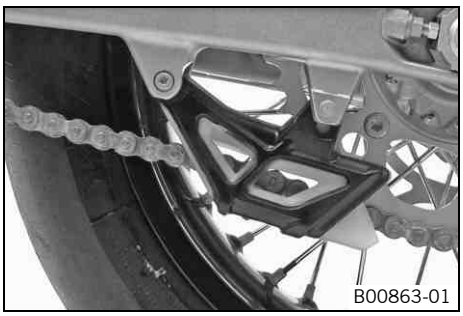
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)


400985-01

– Check the chain guide for wear.

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

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


B00863-01

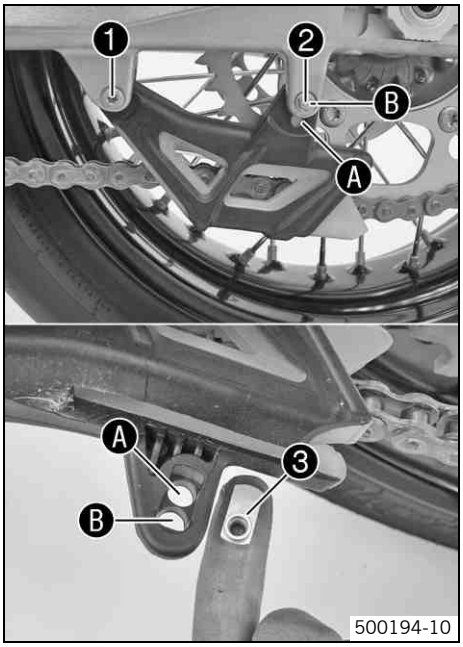
– Check that the chain guide is firmly seated.
  » If the chain guide is loose:
    – Tighten the chain guide.

    Guideline

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

– Remove the motorcycle from the lift stand. (p. 28)

Adjusting the chain guide



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

Condition

Number of teeth: ≤ 44 teeth

– Insert nut ❸ in hole Ⓐ. Position the chain guide.
– Mount and tighten screws ❶ and ❷.

Guideline

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

– Mount the nut on screw ❶ and tighten.

Guideline

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

Condition

Number of teeth: ≥ 45 teeth

– Insert nut ❸ in hole Ⓑ. Position the chain guide.
– Mount and tighten screws ❶ and ❷.

Guideline

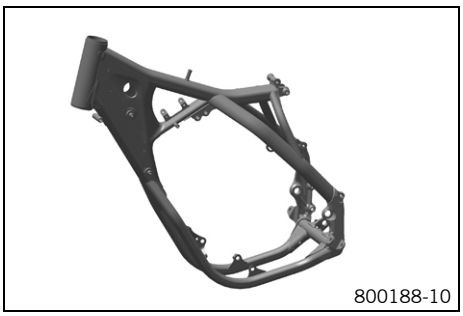
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

– Mount the nut on screw ❶ and tighten.

Guideline

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

Checking the frame



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

Info
A frame that has been damaged due to a mechanical impact must always be changed. Repair of the frame is not authorized by KTM.

Checking the swingarm

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

Info
A damaged swingarm must always be changed. Repair of the swingarm is not authorized by KTM.

Checking the throttle cable routing

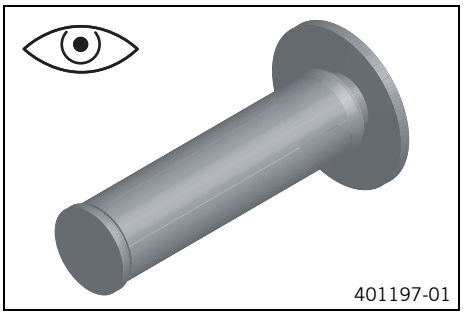

B00861-01

– Remove the fuel tank. 🔧 (☛ p. 39)
– Check the throttle cable routing.

Both throttle cables must be routed to the carburetor side by side behind the handlebars and above the tank bearing.

» If the throttle cable is not routed as specified:
  – Correct the throttle cable routing.
– Install the fuel tank. 🔧 (☛ p. 39)

Checking the rubber grip

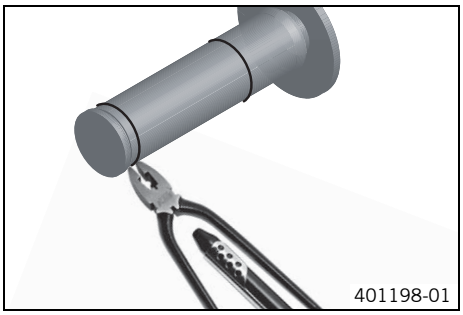

401197-01

– 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 rubber adhesive (00062030051) (☛ p. 88)

Additionally securing the rubber grip

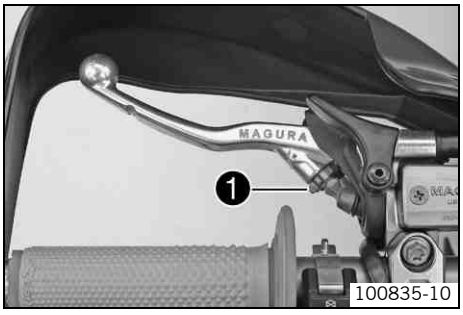

401198-01

– Check the rubber grip. (☛ p. 45)
– 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.

Adjusting basic position of clutch lever



100835-10

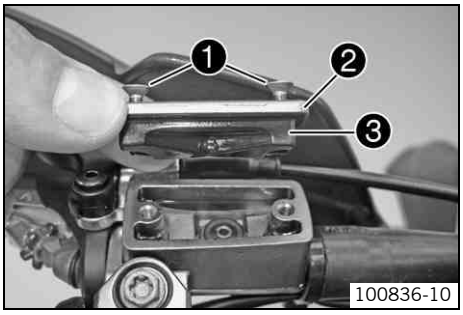
– Adjust the basic setting of the clutch lever to your hand size by turning adjusting screw ❶.

Info

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

Checking the fluid level of hydraulic clutch

Info
The fluid level rises with increasing wear of the clutch lining disc.
Do not use brake fluid.



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

Fluid level below container rim	4 mm (0.16 in)

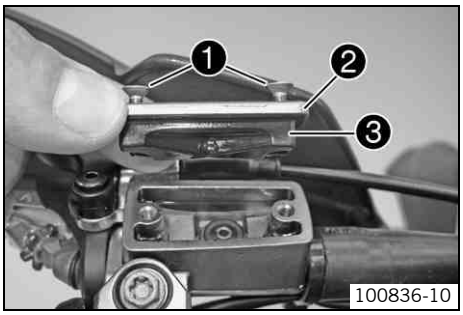
» If the level of the fluid does not meet specifications:
– Correct the fluid level of the hydraulic clutch.

Hydraulic fluid (15) (☛ p. 86)

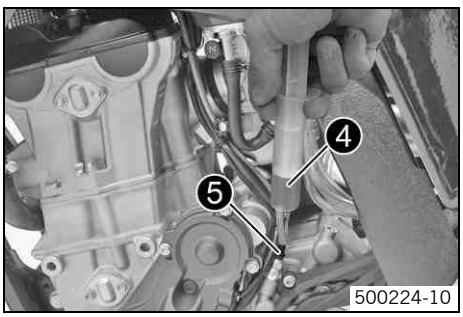
– Position the cover with the membrane. Mount and tighten the screws.

Changing the hydraulic clutch fluid

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



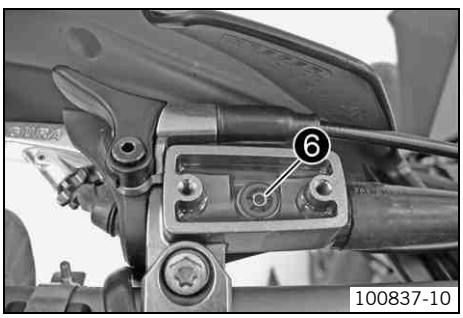
– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.



– Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

Bleed syringe (50329050000)
Hydraulic fluid (15) (☛ p. 86)

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



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

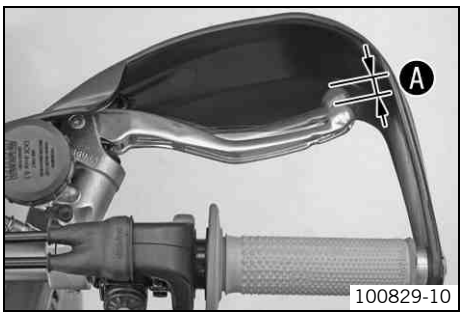
Fluid level below container rim	4 mm (0.16 in)

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

Checking free travel on hand brake lever

Warning
Danger of accidents Brake system failure.

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

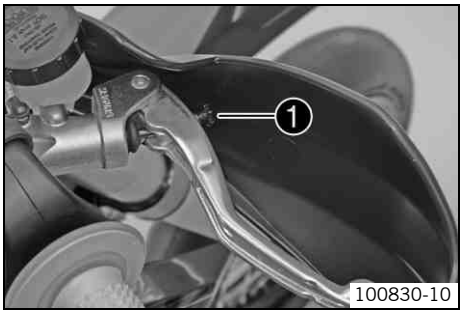


– Push the hand brake lever forwards and check the free travel Ⓐ.

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

» If the free travel does not meet specifications:
– Adjust the basic position of the hand brake lever. (☛ p. 47)

Adjusting the basic position of the hand brake lever



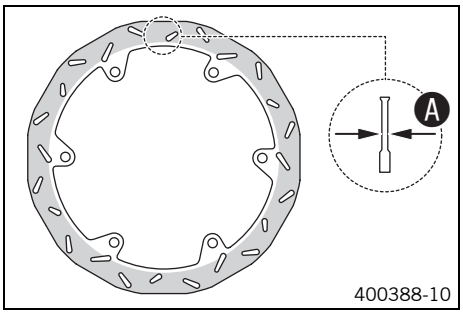
– Check the free travel on the hand brake lever. (☛ p. 47)
– Adjust the basic setting of the hand brake lever to your hand size by turning adjusting screw ❶.

Info
If you turn the adjusting screw clockwise (as seen in the direction of travel), the hand brake lever moves nearer to the handlebar.
If you turn the adjusting screw counterclockwise (as seen in the direction of travel), the hand brake lever moves away from the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and do not apply any force.
Do not make any adjustments while riding!

Checking the brake discs

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

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



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

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

Brake discs - wear limit	
Front	4.5 mm (0.177 in)
Rear	3.5 mm (0.138 in)

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

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

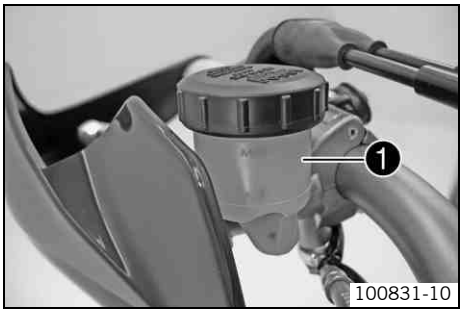
Checking the front brake fluid level

Warning
Danger of accidents Failure of the brake system.

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

Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

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



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in the brake fluid reservoir ❶.
  » If the brake fluid is below the **MIN** marking:
    – Add front brake fluid. 🔧 (☛ p. 48)

Adding front brake fluid 🔧

Warning
Danger of accidents Failure of the brake system.

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

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

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

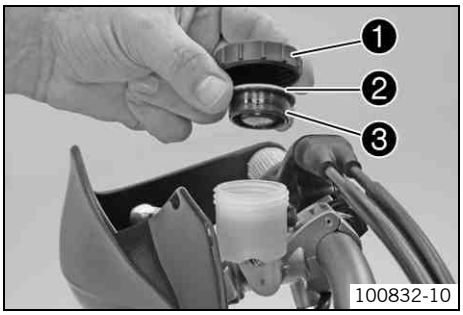
Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never use DOT 5 brake fluid! 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 is corrosive!
Use only clean brake fluid from a sealed container.



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screw cap ❶.
– Remove plastic ring ❷ with membrane ❸.
– Add brake fluid to level **MAX**.

Brake fluid DOT 4 / DOT 5.1 (☛ p. 86)

– Insert the membrane and plastic ring. Mount and tighten the screw cap.

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

Checking the front brake linings

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

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

– Check the brake linings for minimum thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the front brake linings. 🔧 (☛ p. 49)

– Check the brake linings for damage and cracking.

» If damage or cracking is visible:
– Change the front brake linings. 🔧 (☛ p. 49)

Changing the front brake linings 🔧

Warning
Danger of accident Brake system failure.

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

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

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

Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

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

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

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

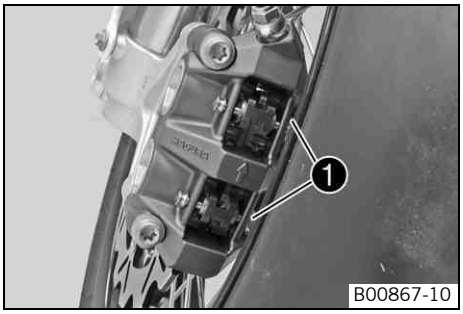
Warning
Danger of accidents Reduced braking efficiency due to use of non-approved brake linings.

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

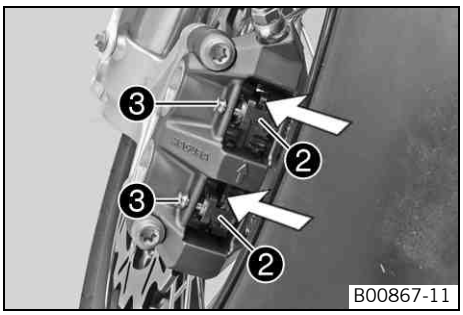
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

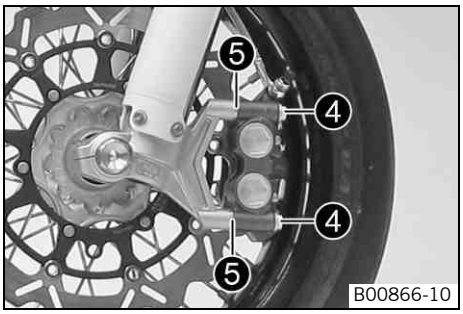
Info
Never use DOT 5 brake fluid! It is silicone-based and purple in color. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid is corrosive!
Use only clean brake fluid from a sealed container!



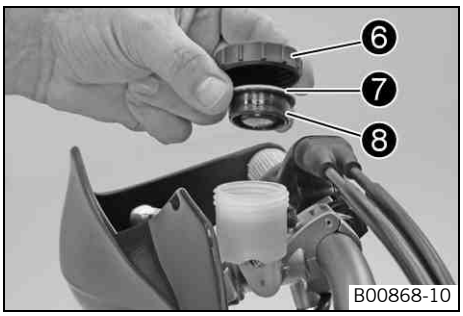
– Remove locking split pins ❶.



– Press the spring hanger of the spring ❷ forward and pull out pin ❸.
– Take off springs ❷. Remove the brake linings.



– Remove screws ❹ with washers ❺ and take off the brake caliper.
– Clean the brake caliper.

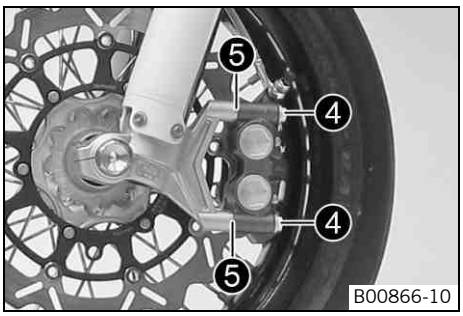


– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screw cap ❻.
– Remove plastic ring ❼ with membrane ❽.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
– Add brake fluid to level **MAX**.

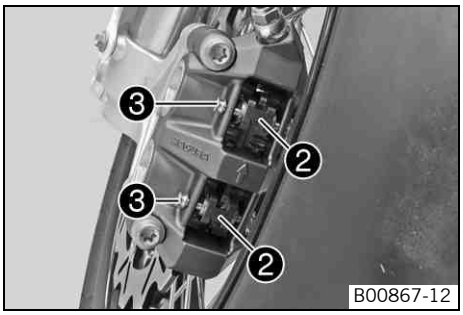
Brake fluid DOT 4 / DOT 5.1 (☛ p. 86)

– Insert the membrane and plastic ring. Mount and tighten the screw cap.

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

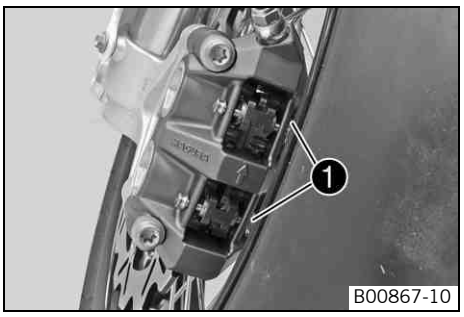


– Position the brake caliper. Mount screws ❹ with washers ❺ but do not tighten yet.



– Insert the brake linings. Position springs ❷ and mount pins ❸.

Info
The spring hanger of springs ❷ should be positioned at the top.



– Mount locking split pins ❶.
– Operate the hand brake lever repeatedly until the brake linings lie on the brake disc and there is a pressure point. Fix the hand brake lever in the activated position.
  ✔ The brake caliper straightens.
– Fully tighten screws ❹.
  Guideline

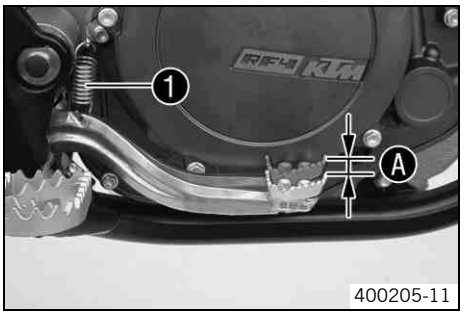
Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	**Loctite® 243™**

– Remove the fixation of the hand brake lever.

Checking the free travel of the foot brake lever

Warning
Danger of accidents Brake system failure.

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



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

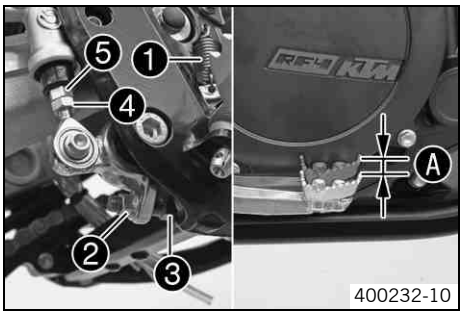
Free travel at foot brake lever	3... 5 mm (0.12... 0.2 in)

  » If the free travel does not meet specifications:
    – Adjust the basic position of the foot brake lever. 🔧 (☛ p. 51)
– Reconnect spring ❶.

Adjusting the basic position of the foot brake lever 🔧

Warning
Danger of accidents Brake system failure.

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



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

Info
The range of adjustment is limited.

– Turn push rod ❺ accordingly until you have free travel Ⓐ. 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)

– Reconnect spring ❶.

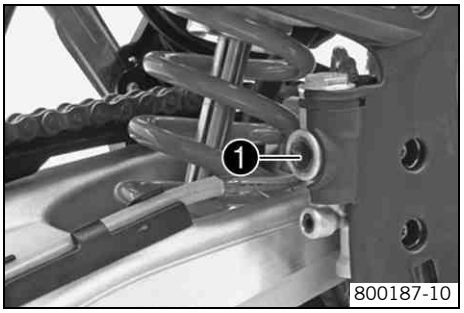
Checking rear brake fluid level

Warning
Danger of accidents Failure of the brake system.

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

Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

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



– Stand the vehicle upright.
– Check the brake fluid level in the sight glass ❶.
  » If there is an air bubble in the sight glass ❶ visible:
    – Add brake fluid to the rear brake circuit. 🔧 (☛ p. 52)

Adding brake fluid to the rear brake circuit 🔧

Warning
Danger of accidents Failure of the brake system.

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

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

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

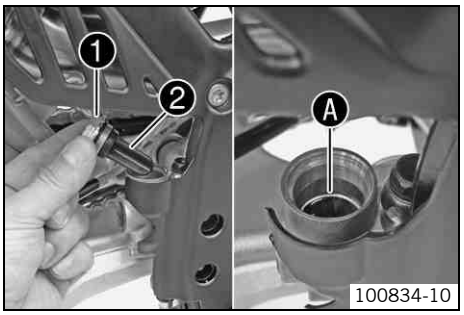
Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never use DOT 5 brake fluid! 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!
Use only clean brake fluid from a sealed container.



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

Brake fluid DOT 4 / DOT 5.1 (☛ p. 86)

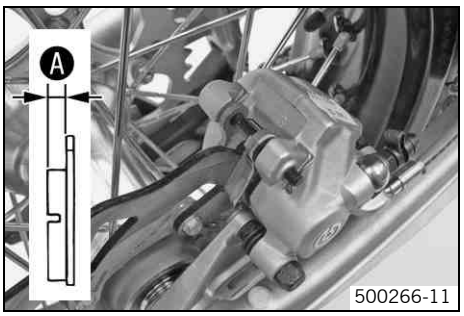
– Mount the screw cap with the membrane and the O-ring.

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

Checking rear brake linings

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

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



– Check the brake linings for minimum thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the rear brake linings. 🔧 (☛ p. 53)

– Check the brake linings for damage and cracking.

» If damage or cracking is visible:
– Change the rear brake linings. 🔧 (☛ p. 53)

Changing the rear brake linings 🔧

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

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

Warning
Danger of accidents Reduced braking efficiency due to old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

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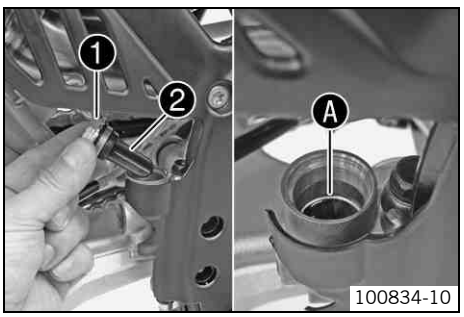


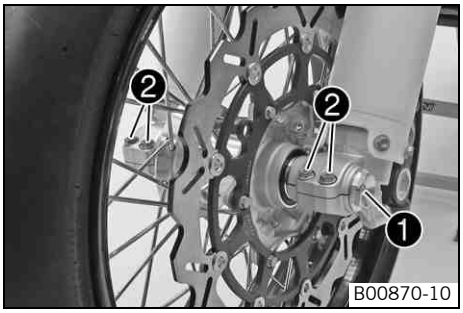
– Remove the rear brake linings. 🔧
– Stand the vehicle upright.
– Remove screw cap ❶ with membrane ❷ and the O-ring.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
– Mount the rear brake linings. 🔧
– Add brake fluid to level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

Brake fluid DOT 4 / DOT 5.1 (☛ p. 86)

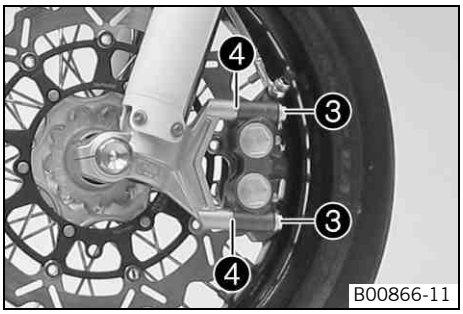
– Mount the screw cap with the membrane and the O-ring.

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

Removing the front wheel

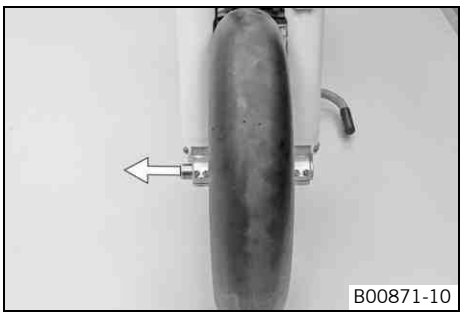


– Raise the motorcycle with the lift stand. (☛ p. 28)
– Remove screw ❶.
– Loosen screw ❷.



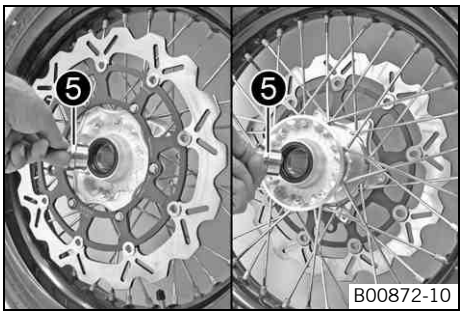
– Remove screws ❸ with washers ❹ and take off the brake caliper.

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



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

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

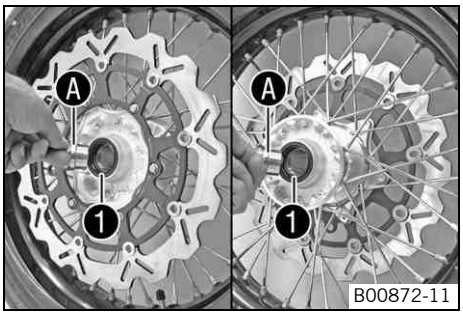


– Remove spacing sleeves ❺.

Installing the front wheel

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

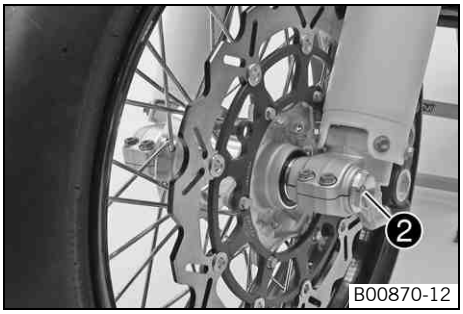
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



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

Long-life grease (☛ p. 88)

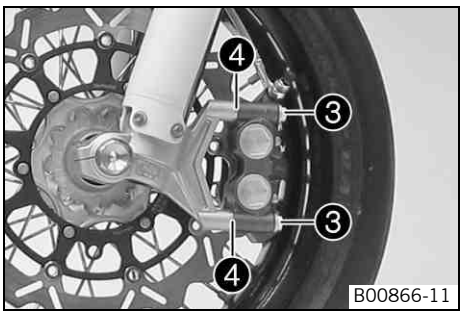
– Insert the spacers.



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

Guideline

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



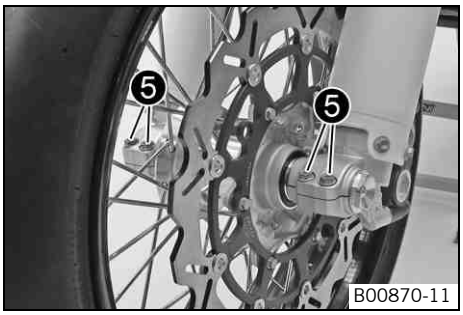
– Position the brake caliper. Mount screws ❸ with washers ❹ but do not tighten yet.
– Operate the hand brake lever repeatedly until the brake linings lie on the brake disc and there is a pressure point. Fix the hand brake lever in the activated position.

✓ The brake caliper straightens.

– Tighten screws ❸.

Guideline

Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	**Loctite® 243™**

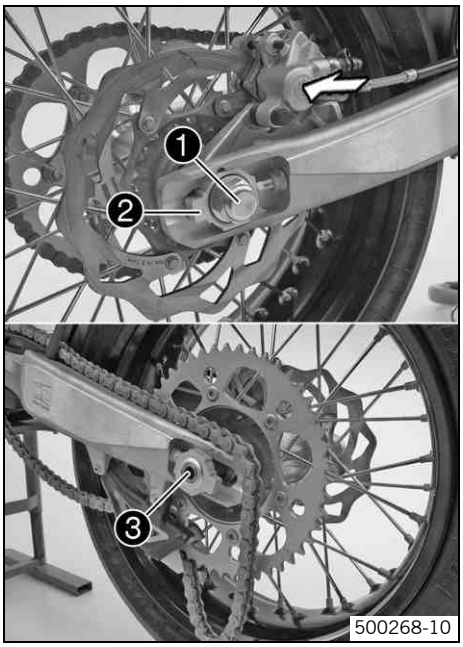


– Remove the fixation of the hand brake lever.
– Remove the motorcycle from the lift stand. (☛ p. 28)
– Pull the front wheel brake and push down hard on the fork several times to align the fork legs.
– Fully tighten screws ❺.

Guideline

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

Removing the rear wheel

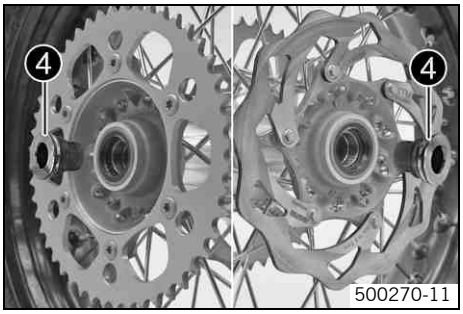


– Raise the motorcycle with the lift stand. (☛ p. 28)
– Press the brake caliper by hand on to the brake disc in order to press back the brake piston.

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

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

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



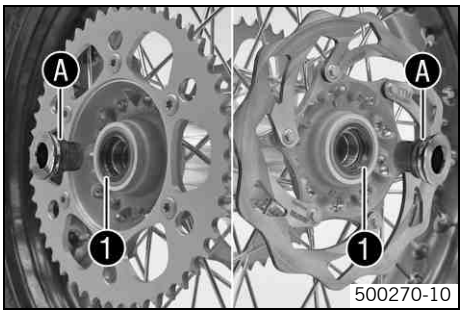
– Remove spacers ❹.

Installing the rear wheel

Warning

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

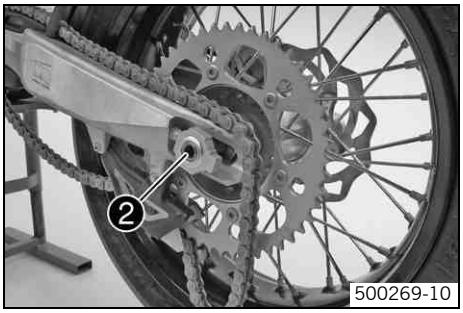
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



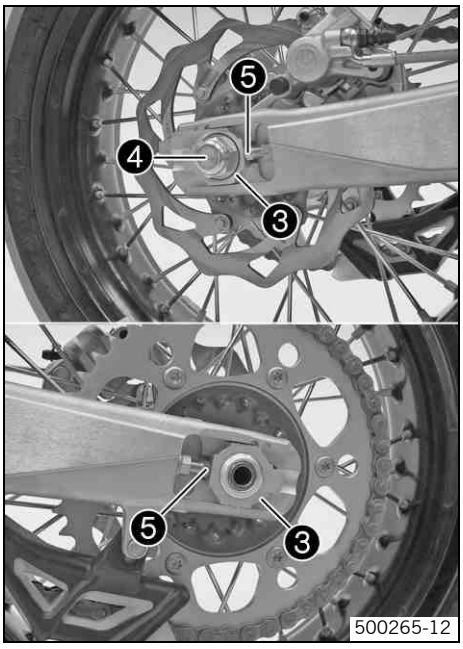
– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the wheel bearing.
– Clean and grease shaft seal rings ❶ and bearing surface Ⓐ of the spacers.

Long-life grease (☛ p. 88)

– Insert the spacers.



– Lift the rear wheel into the swingarm, position it, and insert wheel spindle ❷.
– Attach the chain.



– Position chain adjuster ❸. Mount nut ❹ but do not tighten it yet.
– Make sure that chain adjusters ❸ are fitted correctly on adjusting screws ❺.
– Check the chain tension. (☛ p. 41)
– Tighten nut ❹.

Guideline

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

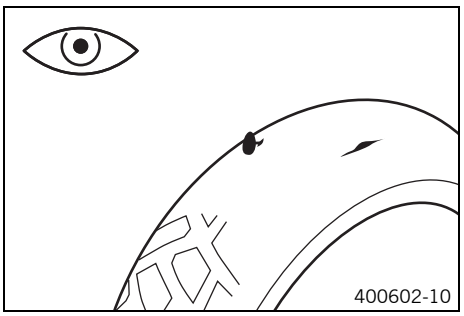
Info

The wide adjustment range of the chain adjusters (32 mm (1.26 in)) enables different secondary ratios with the same chain length.
Chain adjusters ❸ can be turned by 180°.

– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
– Remove the motorcycle from the lift stand. (☛ p. 28)

Checking the tire condition

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



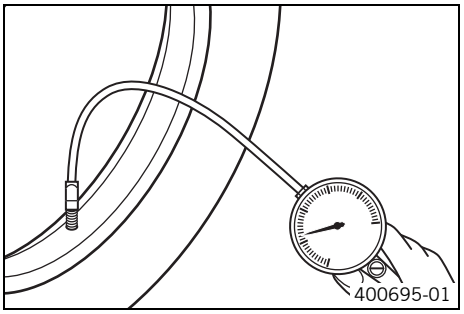
– Examine the front and rear tires for cuts, foreign bodies and other damage.
  » If you find cuts, foreign bodies or other damage on a tire:
    – Change the tire.
– Check the tire age.

Info
The tire manufacture date is usually included in the tire identification number and comprises the last four digits of the **DOT** code. 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 tire is older than five years:
    – Change the tire.

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 dust cap.
– Check tire air pressure when tires are cold.

Tire air pressure	
Front	1.6 bar (23 psi)
Rear	1.6 bar (23 psi)

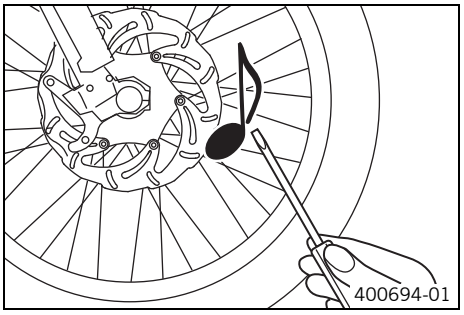
  » If the tire pressure does not meet specifications:
    – Correct the tire pressure.
– Mount the dust cap.

Checking spoke tension

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

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

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



– Tap each spoke with a screwdriver.

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

You should hear a high note.

» If the spoke tension varies:
  – Correct the spoke tension.

– Check the spoke torque.

Guideline

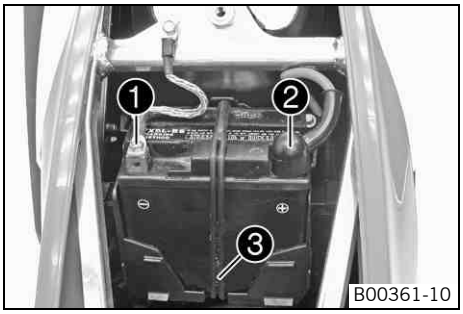
Spoke nipple, front wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)
Spoke nipple, rear wheel	M5	5... 6 Nm (3.7... 4.4 lbf ft)

Torque wrench with various accessories in set (58429094000)

Removing the battery

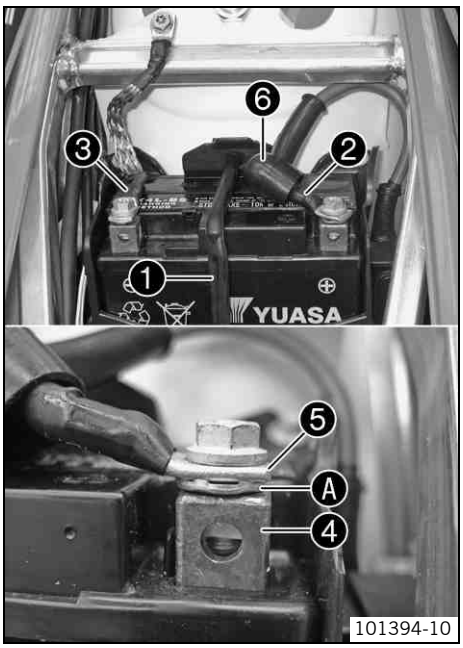
Warning
Risk of injury Battery acid and battery gases cause serious chemical burns.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open flames. Charge only in well-ventilated areas.
- In the event of skin contact, rinse with large amounts of water. If battery acid gets in the eyes, rinse with water for at least 15 minutes and contact a physician.



- Switch off all power consumers and switch off the engine.
- Remove the seat. (☛ p. 35)
- Disconnect the negative (minus) cable ❶ of the battery.
- Pull back the positive terminal cover ❷ and disconnect the positive (plus) cable of the battery.
- Detach rubber band ❸ at the bottom.
- Lift the battery up and out.

Installing the battery



- Insert the battery into the battery compartment with the terminals facing to the front.

Condition
External temperature: ≥ 10 °C (≥ 50 °F)

3Ah battery (YTX4L-BS) (☛ p. 81)

Condition
External temperature: ≤ 10 °C (≤ 50 °F)

Battery (YTX5L-BS) (☛ p. 81)

- Attach rubber band ❶.
- Connect the positive cable ❷ and negative cable ❸.

Guideline

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

Info
Contact disks Ⓐ must be mounted between battery terminals ❹ and cable sockets ❺ with the claws facing up.

- Slide positive terminal cover ❻ over the positive terminal.
- Mount the seat. (☛ p. 36)

Recharging the battery

Warning
Risk of injury Battery acid and battery gases cause serious chemical burns.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open flames. Charge only in well-ventilated areas.
- In the event of skin contact, rinse with large amounts of water. If battery acid gets in the eyes, rinse with water for at least 15 minutes and contact a physician.

Warning

Environmental hazard The battery contains elements that are harmful to the environment.

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

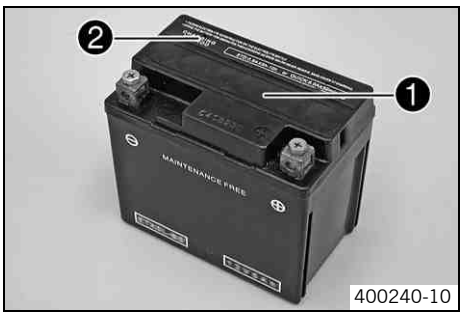
Warning

Environmental hazard Hazardous substances cause environmental damage.

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

Info

Even when there is no load on the battery, it still loses power steadily.
The charge state and the type of charge are very important for the service life of the battery.
Rapid recharging with a high charging current shortens the battery's service life.
If the charging current, charging voltage and charging time are exceeded, electrolyte escapes through the safety valves. This reduces the battery capacity.
If the battery is depleted from starting the vehicle repeatedly, the battery must be charged immediately.
If the battery is left in a discharged state for an extended period, it will become over-discharged and sulfate, destroying the battery.
The battery is maintenance-free, which means that the acid level does not need to be checked.



– Switch off all power consumers and switch off the engine.
– Remove the seat. (☛ p. 35)
– Disconnect the negative cable of the battery to avoid damage to the onboard electronics.
– Connect the battery charger to the battery. Switch on the battery charger.

Battery charger (58429074000)

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

Info

Never remove lid ❶.
Charge the battery with a maximum of 10% of the capacity specified on battery housing ❷.

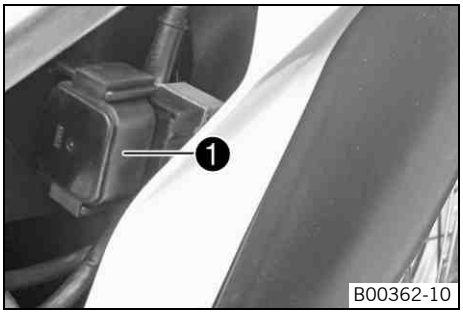
– Switch off the battery charger after charging. Disconnect the battery.

Guideline

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

– Mount the seat. (☛ p. 36)

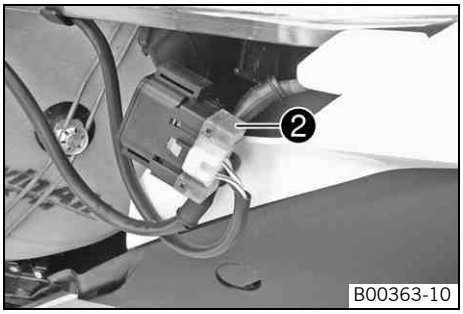
Removing the main fuse



– Switch off all power consumers and switch off the engine.
– Remove the air filter box lid. (☛ p. 36)
– Pull starter relay ❶ off of the holder.

Info

The main fuse is located in the starter relay under the air filter box lid.

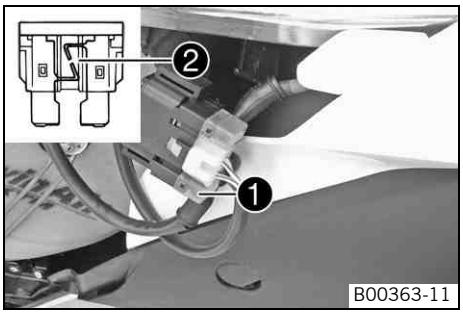


– Remove protective cover ❷.
– Remove main fuse.

Installing the main fuse

Warning
Fire hazard The electrical system can be overloaded if the wrong fuses are used.

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



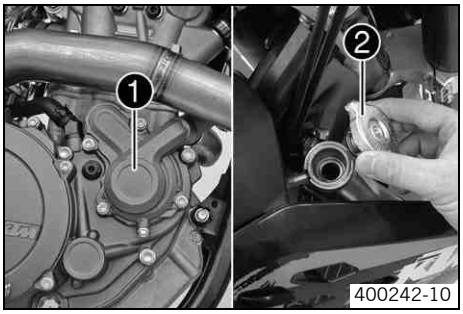
– Insert the main fuse.

Fuse (58011109110) (☛ p. 81)

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

– Replace the protective cover.
– Mount the starter relay on the holder.
– Install the air filter box lid. (☛ p. 36)

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.

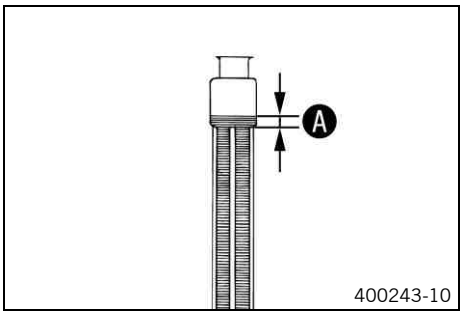
Checking the anti-freeze and coolant level

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

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

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

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.



Condition
Engine is cold.

– Stand the motorcycle upright on a horizontal surface.
– Remove radiator cap.
– Check the anti-freeze of the coolant.

−25... −45 °C (−13... −49 °F)

» If the anti-freeze of the coolant does not meet specifications:
– Correct the anti-freeze of the coolant.

– Check the coolant level in the radiator.

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

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

Alternative 1

Coolant (☛ p. 86)

Alternative 2

Coolant (mixed ready to use) (☛ p. 86)

– Refit the radiator cap.

Checking the coolant level

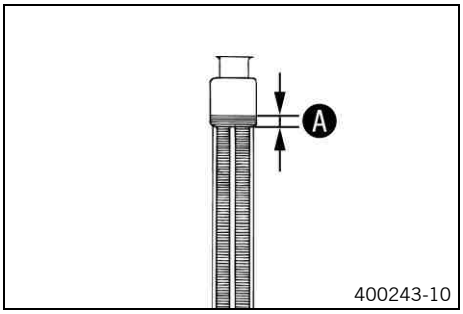
Warning
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

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

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

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.

Condition
The engine is cold.



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

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

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

Alternative 1

Coolant (☛ p. 86)

Alternative 2

Coolant (mixed ready to use) (☛ p. 86)

– Mount the radiator cap.

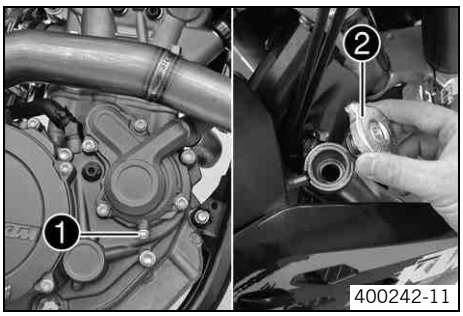
Draining the coolant

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

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

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

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.



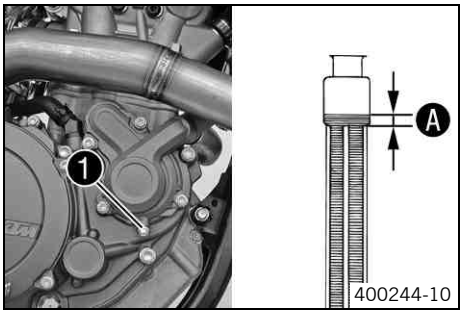
– Stand the motorcycle upright.
– Place a suitable container under the water pump cover.
– Remove screw ❶. Remove the radiator cap ❷.
– Completely drain the coolant.
– Mount and tighten screw ❶ with a new seal ring.
Guideline

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

Refilling coolant

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

– Avoid contact between coolant and skin, eyes and clothing. If it gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with coolants. Keep coolant out of the reach of children.



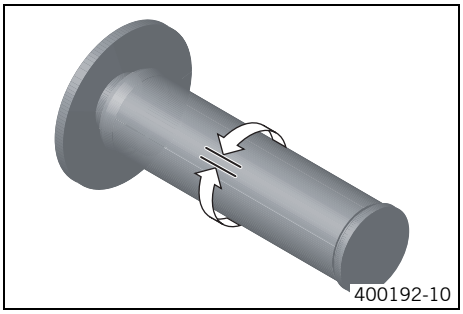
– Make sure that the screw ❶ is tightened.
– Stand the vehicle upright.
– Pour coolant in up to measurement ❹ above the radiator fins.
Guideline

10 mm (0.39 in)

Coolant	1.2 l (1.3 qt.)	Coolant (☛ p. 86)
		Coolant (mixed ready to use) (☛ p. 86)

– Refit the radiator cap.
– Make a short test ride.
– Check the coolant level. (☛ p. 62)

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 the play in the throttle cable.

Play in throttle cable	3... 5 mm (0.12... 0.2 in)

» If the throttle cable play does not meet specifications:
– Adjust the play in the throttle cable. (☛ p. 64)

Danger

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

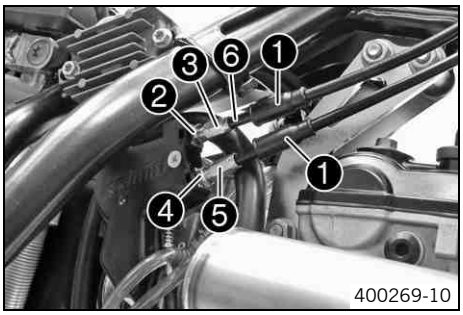
– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

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

The idle speed must not change.

» If the idle speed changes:
– Adjust the play in the throttle cable. (☛ p. 64)

Adjusting the play in the throttle cable



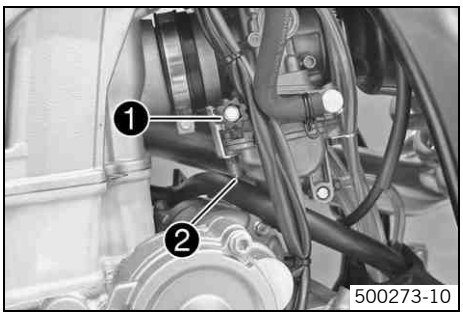
– Remove the fuel tank. (☛ p. 39)
– Check the throttle cable routing. (☛ p. 45)
– Move the handlebar to the straight-ahead position.
– Push back sleeves ❶.
– Loosen nut ❷. Turn adjusting screw ❸ in as far as possible.
– Loosen nut ❹. Turn adjusting screw ❺ so that there is play in the throttle cable at the throttle grip.

Guideline

Play in throttle cable	3... 5 mm (0.12... 0.2 in)

– Tighten nut ❹.
– Press and hold the throttle grip in the closed setting. Turn adjusting screw ❸ out until there is no play in the throttle cable ❻.
– Tighten nut ❷.
– Push sleeves ❶ on. Check the throttle grip for smooth operation.
– Install the fuel tank. (☛ p. 39)
– Check the play in the throttle cable. (☛ p. 64)

Carburetor - idle



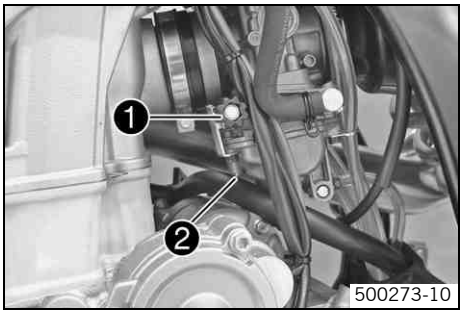
The idle setting of the carburetor has a big influence on the starting behavior, stable idling, and the response to throttle opening. That means that an engine with a correctly set idle speed is easier to start than if the idle is set wrongly.

Info

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

The idle speed is adjusted with adjusting screw ❶.
The idle mixture is adjusted with the idle mixture adjusting screw ❷.

Carburetor - adjusting the idle speed



– Screw in idle mixture adjusting screw ❷ all the way and then turn it to the prescribed basic setting.

Guideline

Idle mixture adjusting screw	
Open	1.5 turns

Adjustment tool for mixture control screw (77329034000)

– Run the engine until warm.

Guideline

Warm-up time	≥ 5 min

– Adjust the idle speed with adjusting screw ❶.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 12)	
Idle speed	1,550… 1,650 rpm

– Turn idle mixture adjusting screw ❷ slowly clockwise until the idle speed begins to fall.
– Note the position and turn the idle mixture adjusting screw slowly counterclockwise until the idle speed falls.
– Adjust to the point between these two positions with the highest idle speed.

Info

If there is a big engine speed rise, reduce the idle speed to a normal level and repeat the above steps.
The extreme sport motorcyclist will set the mixture about 1/4 of a turn back from this ideal value (leaner, in a clockwise direction) since the engine becomes hotter in sporting use.
If the procedure described here does not lead to satisfactory results, the cause may be a wrongly dimensioned idling jet.
If you can turn the idle mixture adjusting screw to the end without any change of engine speed, you have to fit a smaller idling jet.
The idle mixture adjusting screw must not be opened more than two turns.
If more than two turns are necessary (rich mixture), use a larger idling jet.
After changing the idling jet, start from the beginning with the adjusting steps.

– Adjust the idle speed with adjusting screw ❶.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 12)	
Idle speed	1,550… 1,650 rpm

Info

Following extreme air temperature or altitude changes, adjust the idle speed again.

Emptying the carburetor float chamber

Danger

Fire hazard Fuel is highly flammable.

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

Warning

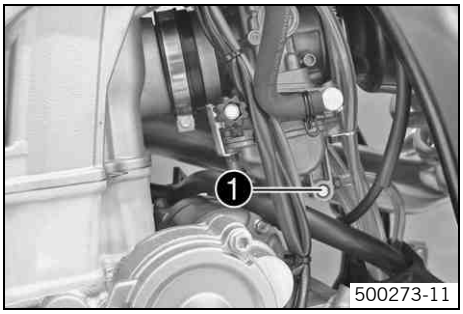
Danger of poisoning Fuel is poisonous and a health hazard.

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

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

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

Info
Carry out this work with a cold engine.

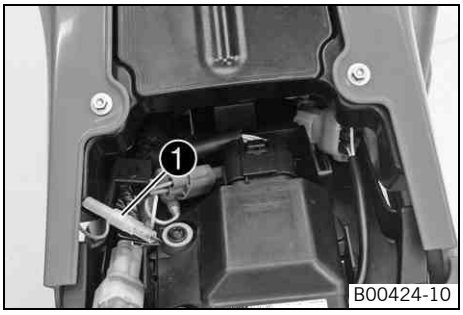


– Turn the handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10☛ p. 12)
✓ No more fuel flows from the tank to the carburetor.
– Guide the hose coming down behind the engine into a suitable container.

Info
Water in the float chamber results in malfunctioning.

– Undo the screw ❶ (turn it counterclockwise) a few turns and drain the fuel from the float chamber.
– Tighten screw ❶.

Ignition curve plug connection



The plug connection ❶ is located under the seat near the upper shock absorber fixation.

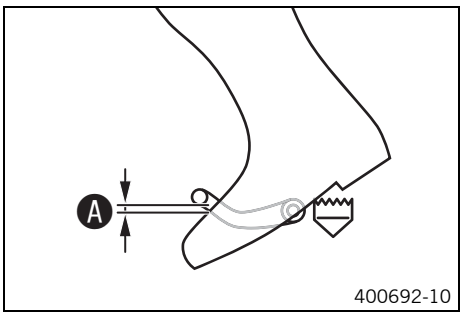
Possible states
- Soft – The plug connection is disconnected to achieve better driveability.
- Performance – The plug connection is connected to achieve higher performance.

Changing the ignition curve

Change the ignition curve from Performance to Soft.
– Disconnect plug connection ❶. (Figure B00424-10☛ p. 66)
✓ Soft – better driveability

Change the ignition curve from Soft to Performance.
– Connect plug connection ❶. (Figure B00424-10☛ p. 66)
✓ Performance – higher performance

Checking the basic position of the shift lever

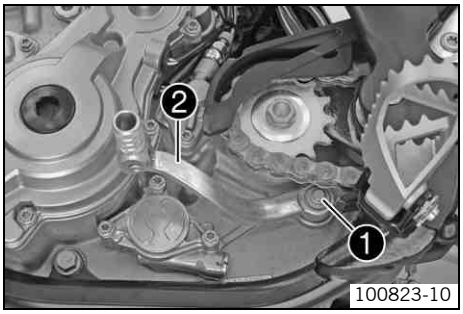


– Sit on the vehicle in the riding position and determine the distance Ⓐ between the upper edge of your boot and the shift lever.

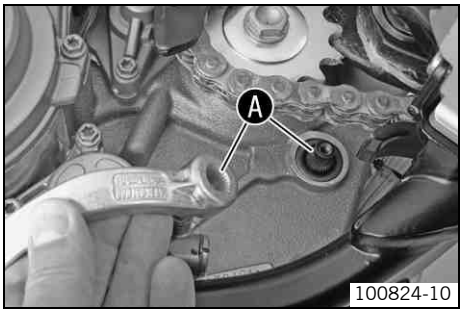
Gap between the shift lever and the top of the boot	10... 20 mm (0.39... 0.79 in)

» If the distance does not meet the specifications:
– Adjust the basic position of the shift lever. 🔧 (☛ p. 67)

Adjusting the basic position of the shift lever



– Remove screw ❶ and take off shift lever ❷.



– Clean gear teeth Ⓐ of the shift lever and shift shaft.
– Mount the shift lever on the shift shaft in the required position and engage the gearing.

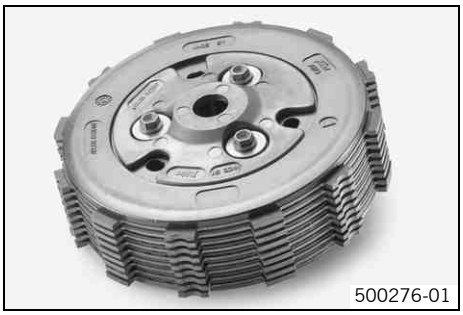
Info
The range of adjustment is limited.
The shift lever must not come into contact with any other vehicle components during the shift procedure.

– Mount and tighten screw.

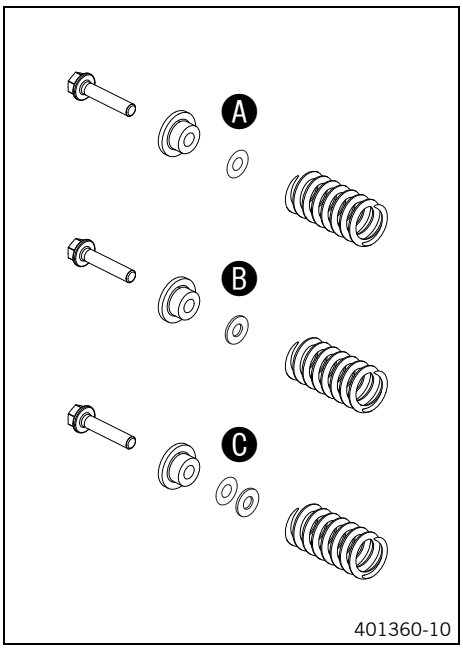
Guideline

Screw, shift lever	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**

Antihopping clutch



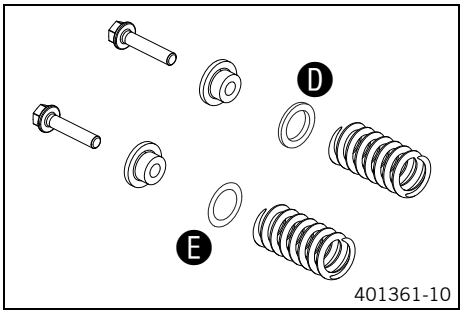
The antihopping system reduces the force required to activate the clutch and improves clutch handling; in addition, it increases riding stability by reducing slippage of the rear wheel by means of engine braking action during downshifting.



The antihopping system uses a two-part inner clutch hub that is connected to a helical gear.
The clutch spring preload can be adjusted if necessary.
The top illustration shows the largest and the bottom illustration the smallest preload of the clutch springs.

Hard spring:	
With small shim Ⓐ	−0.5 mm (−0.02 in)
With small shim Ⓑ (condition at delivery)	−1.0 mm (−0.039 in)
With two small shims Ⓒ	−0.5… −1.0 mm (−0.02… −0.039 in)

Info
The soft springs are contained in the separate enclosure.



Soft spring:	
With large thick shim ❶	1.5 mm (0.059 in)
With large thin shim Ⓔ	1.0 mm (0.039 in)

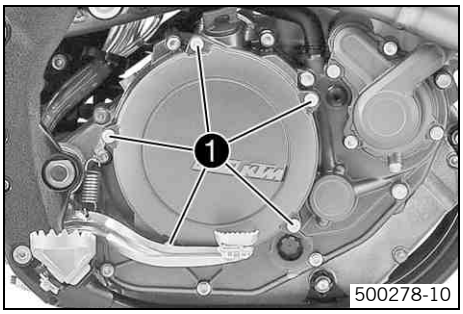
Info
The use of soft springs can increase clutch wear.

When the engine load is high (large engine torque), the turning action presses the two parts of the inner clutch hub against each other, corresponding to the helical gearing, thereby pressing the clutch facings against each other in addition to the clutch springs. This additional press force means that the clutch springs require less preloading; as a result, when downshifting, slippage arises briefly at the clutch and prevents rear wheel hopping.

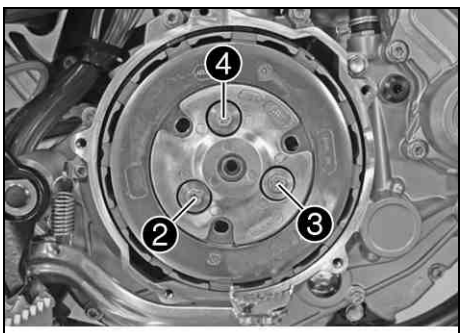
Adjusting the antihopping clutch

Info
The characteristic can be influenced by the spring preload force but is strongly dependent on how the vehicle is used and on the riding style of the rider.
Increasing the spring preload force causes the clutch to open later when braking (more engine braking force). The clutch also engages differently when starting, but the differences are considerably less pronounced than when braking. The clutch behaves somewhat more aggressively.

– Rest the vehicle on the plug-in stand.



– Remove screws ❶. Remove the outer clutch cover.



– Remove screw ❷ together with the spring retainer and the clutch spring.

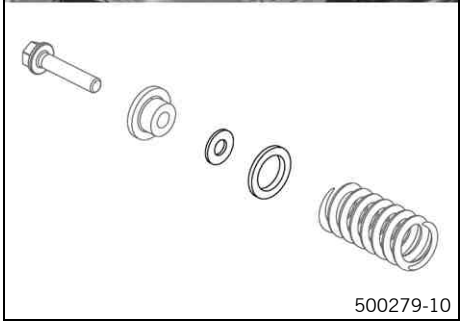
Info
Do not remove all screws at once!

– Remove or add the desired washer. Mount and tighten screw ❷ together with the spring retainer and the clutch spring.

Guideline

Screw, clutch spring	M5	6.5 Nm (4.79 lbf ft)

– Remove screw ❸ together with the spring retainer and the clutch spring.



– Remove or add the desired washer. Mount and tighten screw ❸ together with the spring retainer and the clutch spring.

Guideline

Screw, clutch spring	M5	6.5 Nm (4.79 lbf ft)

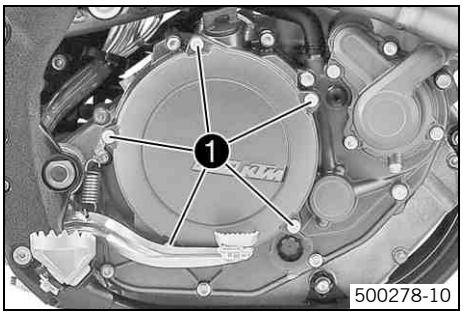
Info
The number and thickness of washers must be the same on all screws.

– Remove screw ❹ together with the spring retainer and the clutch spring.
– Remove or add the desired washer. Mount and tighten screw ❹ together with the spring retainer and the clutch spring.

Guideline

Screw, clutch spring	M5	6.5 Nm (4.79 lbf ft)

Info
The number and thickness of washers must be the same on all screws.



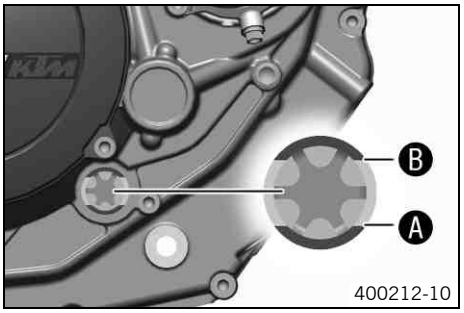
– Position the outer clutch cover. Mount and tighten screws ❶.

Guideline

Screw, clutch cover	M6	10 Nm (7.4 lbf ft)

Checking engine oil level

Info
The engine oil level can be checked when the engine is cold or warm.



– Stand the motorcycle upright on a horizontal surface.

Condition
Engine is cold.

– Check the engine oil level.

The engine oil level is up to the bottom edge ❹ of the level viewer.

» If the engine oil is not up to the bottom edge of the level viewer:
– Add engine oil. (☛ p. 72)

Condition
The engine is at normal operating temperature.

– Check the engine oil level.

Info
After switching off the engine, wait a minute and then check.

The engine oil level is up to the top edge of the level viewer ❸.

» If the engine oil is not up to the top edge of the level viewer:
– Add engine oil. (☛ p. 72)

Changing the engine oil and oil filter, cleaning the oil screen

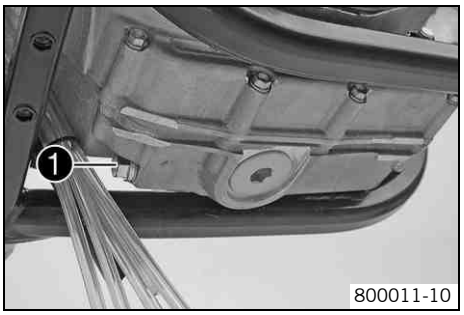
Warning
Danger of scalding Engine oil and gear oil get very hot when the motorcycle is ridden.

– Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.

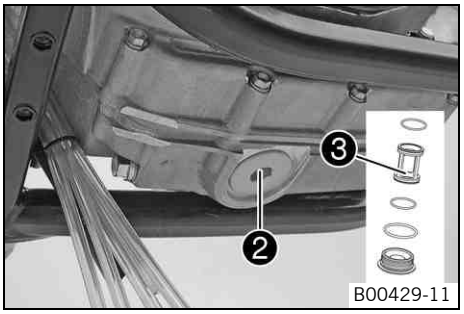
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Drain the engine oil only when the engine is warm.

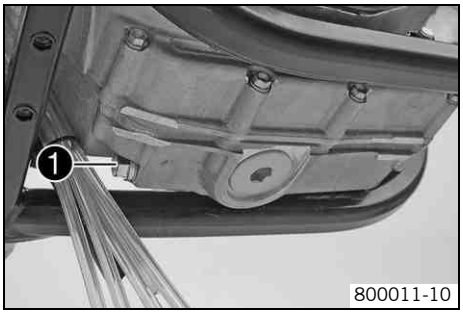


– Park the motorcycle on a level surface.
– Place a suitable container under the engine.
– Remove oil drain plug ❶ with the seal ring.



– Loosen screw plug ❷ by striking it lightly with a hammer a few times.
– Remove plug ❷ with oil screen ❸ and the O-rings.
– Completely drain the engine oil.
– Thoroughly clean the parts and sealing surfaces.
– Mount and tighten screw plug ❷ with oil screen ❸ and the O-rings.
Guideline

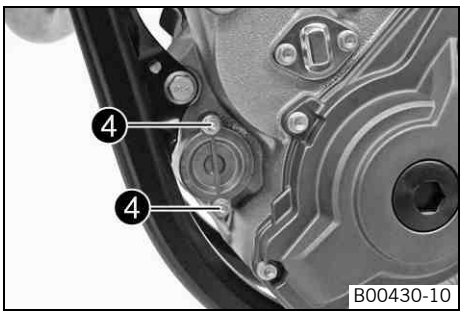
Plug, oil screen	M32x1.5	30 Nm (22.1 lbf ft)	Lubricated with engine oil



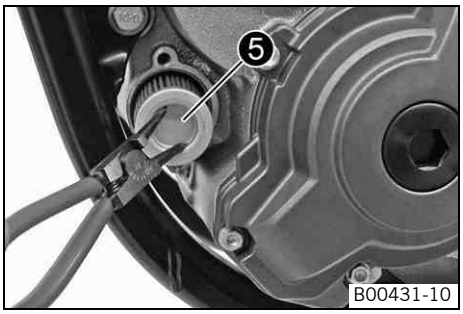
– Mount and tighten oil drain plug ❶ with the seal ring.

Guideline

Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)



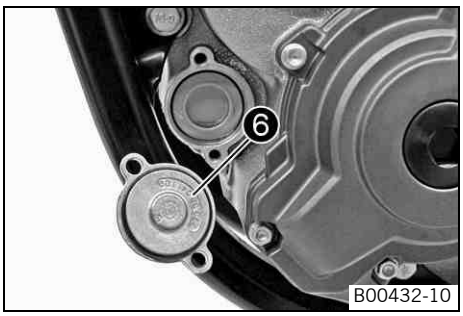
– Remove screws ❹. Remove the oil filter cover with the O-ring.



– Pull oil filter ❺ out of the oil filter housing.

Circlip pliers reverse (51012011000)

– Completely drain the engine oil.
– Thoroughly clean the parts and sealing area.

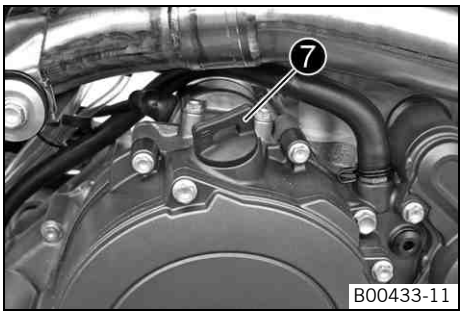


– Lay the motorcycle on its side and fill the oil filter housing about ⅓ full with engine oil.
– Fill the oil filter with engine oil and place in the oil filter housing.
– Oil the O-ring of the oil filter cover and mount it with the oil filter cover ❻.
– Mount and tighten the screws.

Guideline

Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)

– Stand the motorcycle upright.



– Remove the oil filler plug ❼ on the clutch cover and fill up with engine oil.

Engine oil	1.35 l (1.43 qt.)	Engine oil (SAE 10W/50) (☛ p. 86)

Info

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

– Mount and tighten the oil filler plug.

Danger

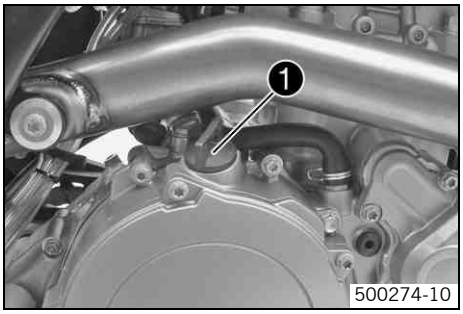
Danger of poisoning Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

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

– Start the engine and check that it is oil-tight.
– Check the engine oil level. (☛ p. 70)

Adding engine oil

Info
Too little engine oil or poor-quality engine oil results in premature wear to the engine.



– Remove the oil filler plug ❶ on the clutch cover and fill up with engine oil.

Engine oil (SAE 10W/50) (☛ p. 86)

– Mount and tighten the oil filler plug.

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

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

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

Cleaning motorcycle

Note

Material damage Damage and destruction of components by high-pressure cleaning equipment.

– Never clean the vehicle with high-pressure cleaning equipment or a strong water-jet. The excessive pressure can penetrate electrical components, socket connects, throttle cables, and bearings, etc., and can damage or destroy these parts.

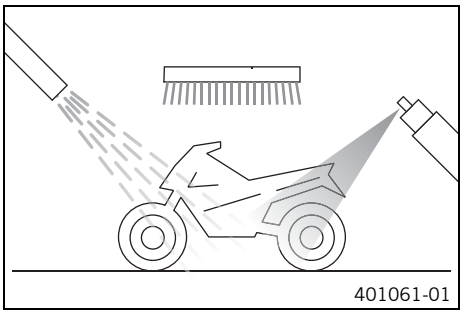
Warning

Environmental hazard Hazardous substances cause environmental damage.

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

Info

If you clean the motorcycle regularly, its value and appearance will be maintained over a long period.
Avoid direct sunshine on the motorcycle during cleaning.


401061-01

– Seal the exhaust system to keep water out.
– First remove coarse dirt particles with a gentle water spray.
– Spray very dirty areas with a normal motorcycle cleaner and then clean with a paintbrush.

Motorcycle cleaner (☛ p. 88)

Info

Clean the vehicle with warm water containing normal motorcycle cleaner and a soft sponge.

– After rinsing the motorcycle with a gentle water spray, allow it to dry thoroughly.
– Empty the carburetor float chamber. 🔧 (☛ p. 65)

Warning

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

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

– After cleaning, ride a short distance until the engine reaches operating temperature.

Info

The heat produced causes water at inaccessible positions in the engine and the brakes to evaporate.

– Push back the protection covers of the handlebar grips to allow any water that has penetrated to evaporate.
– After the motorcycle has cooled off, lubricate all moving parts and bearings.
– Clean the chain. (☛ p. 40)
– Treat bare metal parts (except for brake discs and exhaust system) with anti-corrosion materials.

Cleaning and preserving materials for metal, rubber and plastic (☛ p. 88)

– Treat all plastic parts and powder-coated parts with a mild cleaning and care products.

Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces (☛ p. 89)

Storage

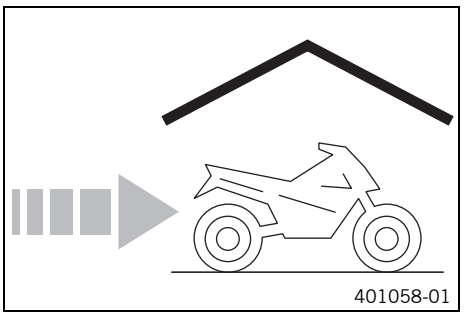
Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

Info

If you want to garage the motorcycle for a longer period, take the following actions.
Before storing the motorcycle, check all parts for function and wear. If service, repairs or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.


401058-01

– Clean the motorcycle. (☛ p. 73)
– Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 70)
– Check the anti-freeze and coolant level. (☛ p. 62)
– Drain the fuel from the tanks into a suitable container.
– Empty the carburetor float chamber. 🔧 (☛ p. 65)
– Check the tire air pressure. (☛ p. 57)
– Remove the battery. 🔧 (☛ p. 59)
– Recharge the battery. 🔧 (☛ p. 59)

Guideline

Storage temperature of battery without direct sunlight.	0... 35 °C (32... 95 °F)

– Place the vehicle on a dry storage place that is not subject to large temperature variations.

Info

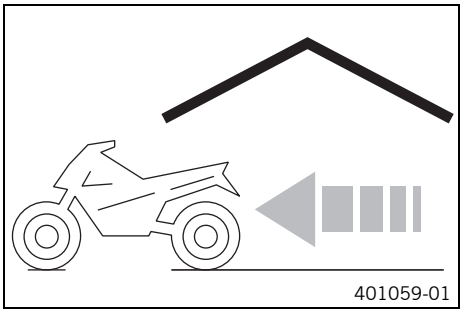
KTM recommends raising the motorcycle.

– Raise the motorcycle with the lift stand. (☛ p. 28)
– Cover the vehicle with an air-permeable cover or blanket.

Info

Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion.
Avoid running the engine for a short time only. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and exhaust system to rust.

Preparing for use after storage


401059-01

– Remove the motorcycle from the lift stand. (☛ p. 28)
– Install the battery. 🔧 (☛ p. 59)
– Refuel. (☛ p. 18)
– Perform checks and maintenance steps to prepare for use. (☛ p. 16)
– Take a test ride.

Faults	Possible cause	Action
The engine cannot be cranked (electric starter)	Operating error	– Go through the steps of starting the engine. (☛ p. 16)
	Battery discharged	– Recharge the battery. 🔧 (☛ p. 59) – Check the charging voltage. 🔧 – Check the closed current. 🔧 – Check the stator winding of the alternator. 🔧
	Main fuse blown	– Remove the main fuse. (☛ p. 60) – Install the main fuse. (☛ p. 61)
	Low external temperature	– Use the battery supplied in the accessories package. Battery (YTX5L-BS) (☛ p. 81)
	Starter relay defective	– Check the starter relay. 🔧
	Starter motor defective	– Check the starter motor. 🔧
Engine turns but does not start	Operating error	– Go through the steps of starting the engine. (☛ p. 16)
	Motorcycle was out of use for a long time and there is old fuel in the float chamber	– Empty the carburetor float chamber. 🔧 (☛ p. 65)
	Fuel feed interrupted	– Check the fuel tank breather. – Clean the fuel tap. – Check/adjust the carburetor components. 🔧
	Spark plug oily or wet	– Clean and dry the spark plug or replace if necessary.
	Electrode distance (plug gap) of spark plug too wide	– Adjust the plug gap. Guideline Spark plug electrode gap 0.7 mm (0.028 in)
	Ignition system defective	– Check the ignition system. 🔧
	Kill switch cable in wiring harness frayed, kill switch faulty	– Check the wiring harness. (visual check) – Check the electrical system.
	Plug connector of CDI control device, pulse generator or ignition coil oxidized.	– Clean the plug connector and treat it with contact spray.
	Water in carburetor or jets clogged	– Check/adjust the carburetor components. 🔧
Engine has no idle	Idling jet clogged	– Check/adjust the carburetor components. 🔧
	Adjusting screws on carburetor distorted	– Carburetor - adjust the idle speed. 🔧 (☛ p. 65)
	Spark plug defective	– Change spark plug.
	Ignition system defective	– Check the ignition system. 🔧
Engine does not speed up	Carburetor running over because float needle dirty or worn	– Check/adjust the carburetor components. 🔧
	Loose carburetor jets	– Check/adjust the carburetor components. 🔧
	Ignition system defective	– Check the ignition system. 🔧
Engine has a lack of power	Fuel feed interrupted	– Check the fuel tank breather. – Clean the fuel tap. – Check/adjust the carburetor components. 🔧
	Air filter heavily contaminated	– Clean the air filter and air filter box. 🔧 (☛ p. 37)
	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. 38)
	Valve clearance too little	– Set the valve clearance. 🔧
	Ignition system defective	– Check the ignition system. 🔧

Faults	Possible cause	Action
Engine stalls or pops back into the carburetor	Lack of fuel	– Turn the handle ❶ of the fuel tap to the **ON** position. (Figure 500178-10☛ p. 12) – Refuel. (☛ p. 18)
	The intake system has an air leak	– Check rubber sleeves and carburetor for tightness.
Engine overheats	Too little coolant in cooling system	– Check the cooling system for leakage. – Check the coolant level. (☛ p. 62)
	Insufficient airflow	– Switch off engine when stationary.
	Radiator fins very dirty	– Clean radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🔧 (☛ p. 63) – Refill the coolant. 🔧 (☛ p. 63)
	Bent radiator hose	– Change the radiator hose. 🔧
High oil consumption	Engine vent hose bent	– Route the vent hose without bends or replace it if necessary.
	Engine oil level too high	– Check the engine oil level. (☛ p. 70)
	Engine oil too thin (low viscosity)	– Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 70)
	Piston and cylinder worn	– Piston/cylinder - determine the mounting clearance 🔧
Battery discharged	Battery is not charged by alternator	– Check the charging voltage. 🔧 – Check the stator winding of the alternator. 🔧
	Unwanted power consumer	– Check the closed current. 🔧

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	449.3 cm³ (27.418 cu in)
Stroke	60.8 mm (2.394 in)
Bore	97 mm (3.82 in)
Compression ratio	12.5:1
Idle speed	1,550... 1,650 rpm
Control	DOHC, four valves controlled via cam lever, drive via helical gear pair and tooth-wheel chain
Valve diameter, intake	40.4 mm (1.591 in)
Valve diameter, exhaust	31.7 mm (1.248 in)
Valve clearance, cold, intake	0.07... 0.13 mm (0.0028... 0.0051 in)
Valve clearance, cold, exhaust	0.12... 0.18 mm (0.0047... 0.0071 in)
Crankshaft bearing	2 cylinder roller bearing
Conrod bearing	Needle bearing
Piston pin bearing	Bronze bush
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with 3 rotor pumps
Primary transmission	29:74
Clutch	**APTC™** Antihopping clutch in oil bath/hydraulically activated
Transmission	5-gear, claw shifted
Transmission ratio	
1st gear	18:31
2nd gear	20:29
3rd gear	22:27
4th gear	24:25
5th gear	26:23
Alternator	12 V, 42 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Spark plug	NGK CR 9 EKB
Spark plug electrode gap	0.7 mm (0.028 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid	Electric starter

Capacity - engine oil

Engine oil	1.35 l (1.43 qt.)	Engine oil (SAE 10W/50) (☛ p. 86)

Capacity - coolant

Coolant	1.2 l (1.3 qt.)	Coolant (☛ p. 86)
		Coolant (mixed ready to use) (☛ p. 86)

Jet, engine case breather	M4	On block	**Loctite® 243™**
Oil jet, cam lever lubrication	M4	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, piston cooling	M4	4 Nm (3 lbf ft)	**Loctite® 243™**
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, clutch oil supply	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, bearing bolt of oil pump idler shaft	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, camshaft bearing retaining bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, clutch spring	M5	6 Nm (4.4 lbf ft)	–
Screw, ignition pulse generator	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, ignition pulse generator adapter	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)	–
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, stator bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, stator cable holder	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, timing train axle retaining bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Nut, cylinder head	M6	10 Nm (7.4 lbf ft)	Lubricated with engine oil
Nut, water-pump wheel	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, timing chain tensioner	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, alternator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	–
Screw, engine case	M6	10 Nm (7.4 lbf ft)	–
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, ignition pulse generator cable holder	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, oil pump casing	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift lever	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	–
Screw, valve cover	M6	8 Nm (5.9 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Stud, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Screw, camshaft bearing bridge	M7x1	14 Nm (10.3 lbf ft)	Lubricated with engine oil
Screw, clutch cover	M7x1	14 Nm (10.3 lbf ft)	–
Screw, engine case	M7x1	14 Nm (10.3 lbf ft)	–
Plug, crankshaft location	M8	20 Nm (14.8 lbf ft)	–
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**
Spark plug	M10	10... 12 Nm (7.4... 8.9 lbf ft)	–
Plug, cam lever axle	M10x1	10 Nm (7.4 lbf ft)	–
Plug, oil channel	M10x1	10 Nm (7.4 lbf ft)	–
Screw, camshaft gear	M10x1	50 Nm (36.9 lbf ft)	Lubricated with engine oil
Screw, rotor	M10x1	80 Nm (59 lbf ft)	Lubricated with engine oil
Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)	–

Nut, cylinder head	M10x1.25	Tightening sequence: Tighten in diagonal sequence. Tightening stage 1 10 Nm (7.4 lbf ft) Tightening stage 2 30 Nm (22.1 lbf ft) Tightening stage 3 50°	Lubricated with engine oil
Stud, cylinder head	M10x1.25	20 Nm (14.8 lbf ft)	–
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)	–
Screw-in fitting, clutch cover	M12x1.5	20 Nm (14.8 lbf ft)	**Loctite® 243™**
Axle guide rail for timing chain	M14x1	15 Nm (11.1 lbf ft)	–
Axle tension rail for timing chain	M14x1	15 Nm (11.1 lbf ft)	–
Nut, compensating sprocket	M14x1	20 Nm (14.8 lbf ft)	**Loctite® 243™**
Oil suction pipe	M14x1	15 Nm (11.1 lbf ft)	**Loctite® 243™**
Oil pressure regulator valve plug	M14x1.5	18 Nm (13.3 lbf ft)	–
Nut, inner clutch hub	M18x1.5	80 Nm (59 lbf ft)	**Loctite® 243™**
Plug, timing chain tensioner	M24x1.5	25 Nm (18.4 lbf ft)	–
Screw, alternator cover	M24x1.5	8 Nm (5.9 lbf ft)	–
Nut, freewheel hub	M27x1	80 Nm (59 lbf ft)	**Loctite® 243™**
Nut, primary gear	M27x1	80 Nm (59 lbf ft)	**Loctite® 243™**
Plug, oil screen	M32x1.5	30 Nm (22.1 lbf ft)	Lubricated with engine oil

Carburetor type	KEIHIN FCR-MX 41
Carburetor identification number	4125M
Needle position	6th position from top
Idle mixture adjusting screw	
Open	1.5 turns
Pump membrane stop	2.15 mm (0.0846 in)
Hot start button	
Diameter of bore in carburetor body	2.5 mm (0.098 in)
Main jet	185
Jet needle	OBDTQ
Idling jet	42
Idle air jet	100
Cold start jet	85

Frame	Central tube frame made of chrome molybdenum steel tubing
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Suspension travel	
Front	280 mm (11.02 in)
Rear	310 mm (12.2 in)
Fork offset	
Front marking	14 mm (0.55 in)
Rear marking	16 mm (0.63 in)
Shock absorber	**WP Suspension** 5018 BAVP DCC
Brake system	
Front	Single disc brake with radially screwed four-piston fixed caliper, floating brake disc
Rear	Single disc brake with single-piston floating caliper, fixed brake disc
Brake discs - diameter	
Front	310 mm (12.2 in)
Rear	220 mm (8.66 in)
Brake discs - wear limit	
Front	4.5 mm (0.177 in)
Rear	3.5 mm (0.138 in)
Tire air pressure off road	
Front	1.6 bar (23 psi)
Rear	1.6 bar (23 psi)
Final drive	14:48
Chain	5/8 x 1/4"
Rear sprockets available	38, 40, 42, 45, 48, 49, 50, 51, 52
Steering head angle	63.5°
Wheelbase	1,495±10 mm (58.86±0.39 in)
Seat height unloaded	927 mm (36.5 in)
Ground clearance unloaded	310 mm (12.2 in)
Weight without fuel, approx.	111.5 kg (245.8 lb.)
Maximum permissible front axle load	145 kg (320 lb.)
Maximum permissible rear axle load	190 kg (419 lb.)
Maximum permissible overall weight	335 kg (739 lb.)

3Ah battery	YTX4L-BS	Battery voltage: 12 V Nominal capacity: 3 Ah Maintenance-free
Battery	YTX5L-BS	Battery voltage: 12 V Nominal capacity: 4 Ah Maintenance-free
Fuse	58011109110	10 A

Tires

Front tire	Rear tire
125/80 R 420 TL Dunlop KR106	**170/55 R 17 TL** Dunlop KR108
Additional information is available in the Service section under: http://www.ktm.com	

Capacity - fuel

Total fuel tank capacity, approx.	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 87)

Fork part number	14.18.7L.08
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Compression damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Spring length with preload spacer(s)	484 mm (19.06 in)
Spring rate	
Weight of rider: 75... 85 kg (165... 187 lb.)	4.6 N/mm (26.3 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	4.8 N/mm (27.4 lb/in)
Gas pressure	1.2 bar (17 psi)
Fork length	920 mm (36.22 in)

Capacity - fork oil

Oil capacity per cartridge	195 ml (6.59 fl. oz.)	Fork oil (SAE 5) (☛ p. 86)
Oil capacity fork leg without cartridge	400 ml (13.52 fl. oz.)	Fork oil (SAE 5) (☛ p. 86)

Shock absorber part number	18.18.7L.08
Shock absorber	**WP Suspension** 5018 BAVP DCC
Compression damping, low-speed	
Comfort	21 clicks
Standard	18 clicks
Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Rebound damping	
Comfort	14 clicks
Standard	12 clicks
Spring preload	19 mm (0.75 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	54 N/mm (308 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	57 N/mm (325 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	60 N/mm (343 lb/in)
Spring length	260 mm (10.24 in)
Gas pressure	10 bar (145 psi)
Static sag	20 mm (0.79 in)
Riding sag	75 mm (2.95 in)
Fitted length	483 mm (19.02 in)

Shock absorber oil	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 87)

Spoke nipple, front wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)	–
Screw, battery terminal	M5	2.5 Nm (1.84 lbf ft)	–
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)	–
Spoke nipple, rear wheel	M5	5... 6 Nm (3.7... 4.4 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)	**Loctite® 243™**
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, front brake disc	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Nut, foot brake lever stop	M8	20 Nm (14.8 lbf ft)	–
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	**Loctite® 2701**
Nut, rim lock	M8	10 Nm (7.4 lbf ft)	–
Remaining nuts, chassis	M8	25 Nm (18.4 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	–
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)	–
Screw, engine brace	M8	33 Nm (24.3 lbf ft)	–
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	–
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, subframe	M8	35 Nm (25.8 lbf ft)	**Loctite® 2701**
Screw, top steering stem	M8	17 Nm (12.5 lbf ft)	**Loctite® 243™**
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)	–
Engine attachment bolt	M10	60 Nm (44.3 lbf ft)	–
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw, bottom shock absorber	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**
Screw, handlebar support	M10	40 Nm (29.5 lbf ft)	**Loctite® 243™**
Screw, top shock absorber	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**
Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Nut, seat fixing	M12x1	20 Nm (14.8 lbf ft)	–
Nut, frame on linkage lever	M14x1.5	80 Nm (59 lbf ft)	–
Nut, linkage lever on swingarm	M14x1.5	80 Nm (59 lbf ft)	–
Nut, linkage lever to angle lever	M14x1.5	80 Nm (59 lbf ft)	–
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)	–
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)	–
Screw, bottom steering head	M20x1.5	60 Nm (44.3 lbf ft)	**Loctite® 243™**
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)	–
Screw-in nozzles, cooling system	M20x1.5	12 Nm (8.9 lbf ft)	**Loctite® 243™**
Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)	–

Brake fluid DOT 4 / DOT 5.1

According to
– DOT

Guideline
– Use only brake fluid that complies with the specified standard (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Castrol** and **Motorex®** products.

Supplier
Castrol
– **RESPONSE BRAKE FLUID SUPER DOT 4**

Motorex®
– **Brake Fluid DOT 5.1**

Coolant

Guideline
– Use only suitable coolant (also in countries with high temperatures). Use of low-quality antifreeze can lead to corrosion and foaming. KTM recommends **Motorex®** products.

Mixture ratio

Antifreeze protection: −25… −45 °C (−13… −49 °F)	50 % corrosion inhibitor/antifreeze 50 % distilled water

Coolant (mixed ready to use)

Antifreeze	−40 °C (−40 °F)

Supplier
Motorex®
– **Anti Freeze**

Engine oil (SAE 10W/50)

According to
– JASO T903 MA (☛ p. 90)
– SAE (☛ p. 90) (SAE 10W/50)

Guideline
– Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

Synthetic engine oil

Supplier
Motorex®
– **Cross Power 4T**

Fork oil (SAE 5)

According to
– SAE (☛ p. 90) (SAE 5)

Guideline
– Use only oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties. KTM recommends **Motorex®** products.

Supplier
Motorex®
– **Racing Fork Oil**

Hydraulic fluid (15)

According to
– ISO VG (15)

Guideline
– Use only hydraulic oil that complies with the specified standard (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Motorex®** products.

Supplier
Motorex®
– **Hydraulic Fluid 75**

Shock absorber oil (SAE 2.5) (50180342S1)

According to

– SAE (☛ p. 90) (SAE 2.5)

Guideline

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

Super unleaded (ROZ 95/RON 95/PON 91)

According to

– DIN EN 228 (ROZ 95/RON 95/PON 91)

Guideline

– Only use unleaded super fuel that matches or is equivalent to the specified fuel grade.
– Fuel with an ethanol content of up to 10 % (E10 fuel) is safe to use.

Info

Do **not** use fuel containing methanol (e. g. M15, M85, M100) or more than 10 % ethanol (e. g. E15, E25, E85, E100).

Air filter cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Twin Air Dirt Bio Remover**

Chain cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Chain Clean**

Cleaning and preserving materials for metal, rubber and plastic

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Protect & Shine**

Grip rubber adhesive (00062030051)

Supplier

KTM-Sportmotorcycle AG / Division HUSABERG

– **GRIP GLUE**

High viscosity grease

Guideline

– KTM recommends **SKF®** products.

Supplier

SKF®

– **LGHB 2**

Long-life grease

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Bike Grease 2000**

Motorcycle cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Moto Clean 900**

Off-road chain spray

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Chainlube Offroad**

Oil for foam air filter

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Twin Air Liquid Bio Power**

Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Clean & Polish**

Universal oil spray

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Joker 440 Synthetic**

JASO T903 MA

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

SAE

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

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KTM-Sportmotorcycle AG
5230 Mattighofen/Austria
http://www.ktm.com