

OWNER'S MANUAL 2010

450 SX ATV

505 SX ATV

Art. no. 3211488en



KTM

DEAR KTM CUSTOMER

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

We wish you great pleasure riding the vehicle!

Enter the serial numbers of your vehicle below.

Chassis number (☛ p. 16)	Dealer's stamp
Engine number (☛ p. 17)	
Key number	

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 can however not be completely excluded.

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KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

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Symbols used

The symbols used are explained in the following.



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



Indicates an unexpected reaction (e.g. of a work step or a function).



All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs performed at an authorized KTM workshop! There, your vehicle 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 brand in merchandise traffic.

Use definition

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



Warning

Danger of accidents Incorrect assessment of riding situations.

- The vehicle may only be ridden by persons over the age of 16.



Info

The ATV must be used only on secluded property remote from public road traffic.

The ATV is designed for off-road sport endurance competition (Enduro) and not predominantly for motocross use.

Maintenance

A prerequisite for trouble-free operation and prevention of wear is that the engine and chassis maintenance and adjustment work described in the owner's manual are properly carried out. 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, inspection and maintenance intervals. If you observe these exactly, you will ensure a much longer service life for your 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 accessories 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.

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

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

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

Transport

Note

Danger of damage Danger of damage from accidental rolling of vehicle.

- Park the vehicle on a surface that is as horizontal as possible and activate the parking brake.

Note

Fire hazard Some vehicle components get very hot when the machine is driven.

- Do not place the vehicle where there are flammable or explosive substances. Do not place objects over the vehicle while it is still warm from being run. Always let the vehicle cool first.

- Switch off the engine.

- Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 301779-10☛ p. 24)

- Use straps or other suitable devices to secure the vehicle against accidents or falling over.

- Pull the hand brake lever, push the locking pawl ❷ down and release the hand brake lever. (Figure 301776-10☛ p. 20)

Work rules

Special tools are needed for certain tasks. They are not included with the vehicle but can be ordered under the number in parentheses.

E.g.: valve spring mounter (59029019000)

When assembling the equipment, non-reusable parts (e.g. self-locking screws and nuts, seals, seal rings, O-rings, pins, lock washers) must be replaced with new parts.

If a thread locker (e.g. **Loctite**[®]) is used for screw connections, follow the instructions for use from the manufacturer. Parts that are to be reused after being disassembled should be cleaned and checked for damage and wear. Replace damaged or worn parts.

After finishing the repair and maintenance work, ensure that the vehicle is roadworthy.

Environment

Off-road riding is a wonderful sport and we naturally hope that you will be able to enjoy it to the fullest. However, it is a potential problem for the environment and can lead to conflicts with other persons. But if you use your vehicle responsibly, you can ensure that such problems and conflicts do not have to occur. To protect the future of off-road sport, make sure that you use your ATV legally, display environmental consciousness, and respect the rights of others.

Rider training

If you have never ridden an ATV before, it is important that you participate in a driver training course before you ride the vehicle for the first time.

A professional trainer will show you how to handle your ATV safely in various riding situations and on different terrain.

Your KTM dealer will be glad to advise you.

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 dangers 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.

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 a lot of information and tips to help you operate and handle your vehicle. Only then will you find out how to customize the vehicle ideally for your own use and how you can protect yourself from injury. The owner's manual also contains important information on servicing the vehicle.
- The owner's manual is an important component of the vehicle and should be handed over to the new owner if the vehicle is sold.

View of the vehicle from the left front (example)



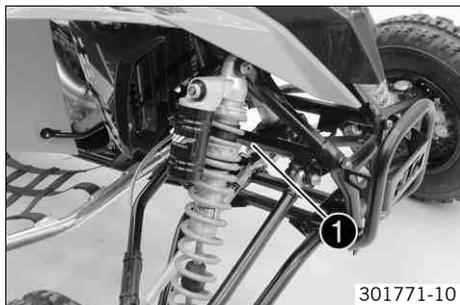
1	Hand brake lever
2	Fuse box
3	Shock absorber compression adjustment
4	Front shock absorber
5	Shock absorber rebound adjustment
6	Heel protector
7	Shift lever
8	Kill switch/emergency OFF switch with rip cord
9	Clutch lever
10	Hot start lever

View of the vehicle from the right rear (example)



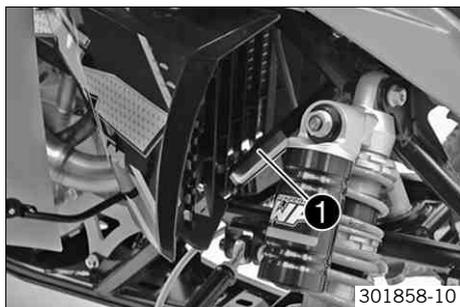
1	Filler cap
2	Main silencer
3	Seat release
4	Shock absorber rebound adjustment
5	Rear sprocket with chain
6	Rear wheel eccentric element
7	Rear brake
8	Foot brake pedal
9	Handlebar bridge
10	Throttle lever
11	Handlebar cushion

Chassis number



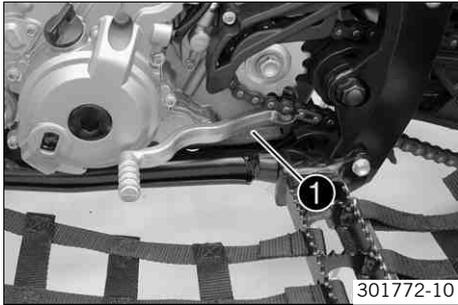
The chassis number ❶ is stamped on the right side of the frame in the vicinity of the upper control arm.

Type label



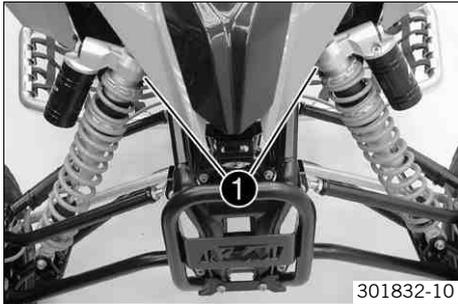
The type label ❶ is located on the frame tube on the right and left in front of the radiator.

Engine number



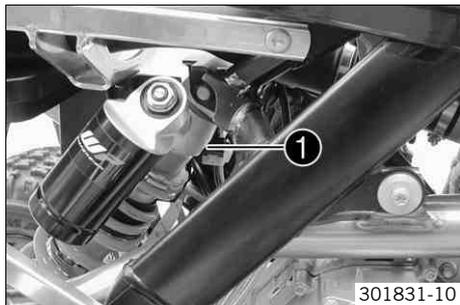
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

Shock absorber part number, front



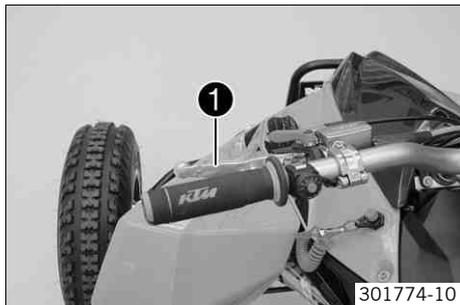
The shock absorber part number ❶ is stamped on the upper part of the shock absorber.

Shock absorber part number, rear



The shock absorber part number ❶ is stamped on the upper part of the shock absorber.

Clutch lever



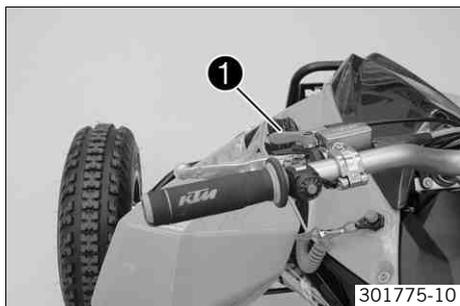
The clutch lever ❶ is fitted on the left side of the handlebar.

Possible states

- Clutch lever in neutral position – In this position, the engine is force-locked with the gear and the starting circuit is interrupted. The electric starter does not turn over when the electric starter button is pressed.
- Clutch lever pulled – In this position, the force lock between the engine and the gear is broken and the starting circuit is closed. The electric starter turns over when the electric starter button is pressed.

The clutch is hydraulically operated and self-adjusting.

Hot start lever



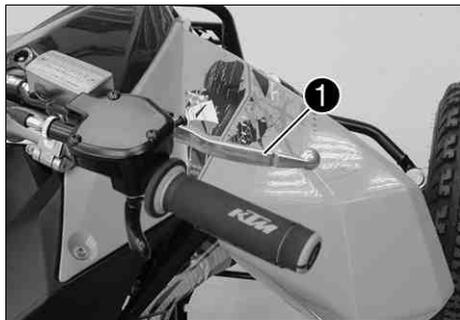
Hot start lever ❶ is fitted on the left side of the handlebar.

If you pull the hot start lever to the handlebar when starting the engine, an opening is exposed in the carburetor through which the engine can draw additional air. This gives a leaner fuel-air mixture, which is needed for a hot start.

Possible states

- Hot start function is activated – The hot start lever has been pulled all the way out.
- Hot start function is deactivated – The hot start lever has been pushed all the way in.

Hand brake lever, parking brake



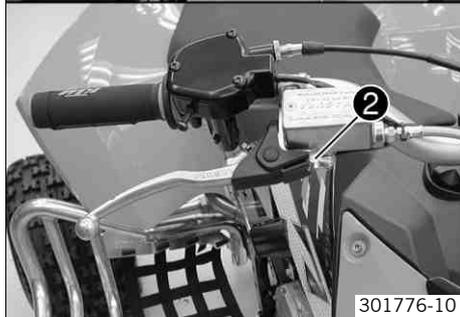
The hand brake lever ❶ is located on the right side of the handlebar and operates the front brakes.

The hand brake lever is combined with the parking brake, which blocks the front wheels to prevent the vehicle from rolling away.

To activate the parking brake, pull the hand brake lever, push the locking pawl ❷ down and release the hand brake lever.

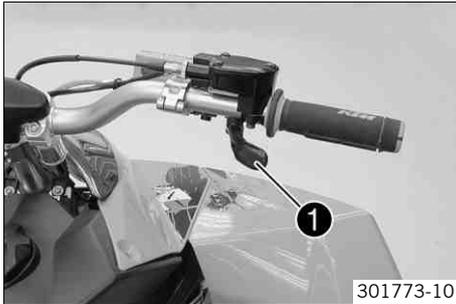
Possible states

- Hand brake lever in basic position – Front wheels are not locked.
- Hand brake lever pulled and locked in position – Front wheels are locked.



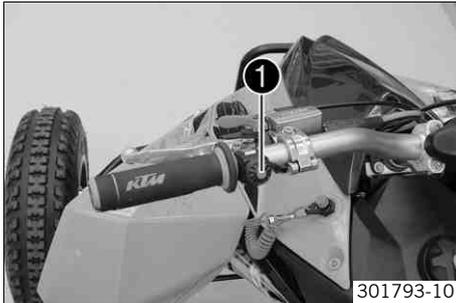
301776-10

Throttle lever



The throttle lever ❶ is fitted on the right side of the handlebar.
The throttle lever is used to control the engine speed.

Electric starter button

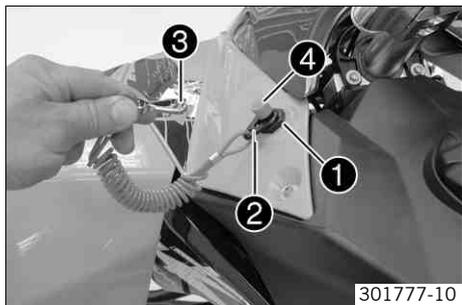


Electric starter button ❶ is fitted on the left side of the handlebar.

Possible states

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

Kill switch/emergency OFF switch with rip cord

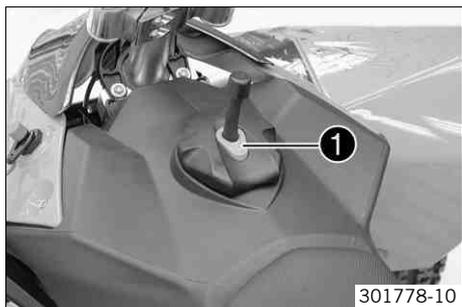


The kill switch/emergency OFF switch ❶ is mounted on the left in front of the fuel tank. Kill switch ❷ is used to switch off the engine under normal circumstances. The emergency OFF switch shuts the engine off if the rider falls off the vehicle. A rip cord is attached to clip ❸. It can be attached to the clothing of the rider by means of carabiner ❹.

Possible states

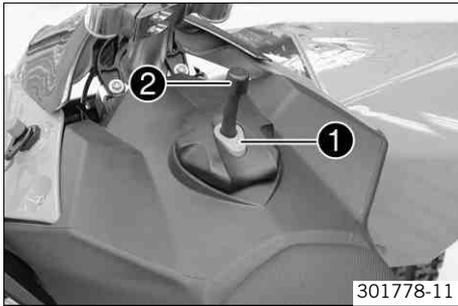
- Clip is pulled off – The ignition circuit is interrupted, a running engine stops and a non-running engine will not start.
- Clip is mounted – The ignition circuit is closed and the engine can be started.
- Clip mounted and kill switch pressed – The ignition circuit is interrupted, a running engine stops and a non-running engine will not start.

Opening filler cap



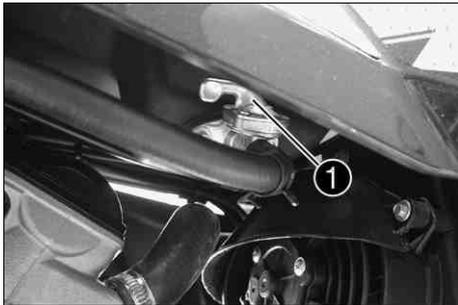
- Press release button ❶, turn filler cap counterclockwise and lift it free.

Closing filler cap



- Replace the filler cap and turn clockwise until the release button **1** locks in place.
- Check the fuel tank breather **2** to ensure it is properly seated.
 - » If the fuel tank breather is at an angle or loose:
 - Correctly mount the fuel tank breather.

Fuel tap



The fuel tap is located on the right side of the fuel tank. With 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.

OFF

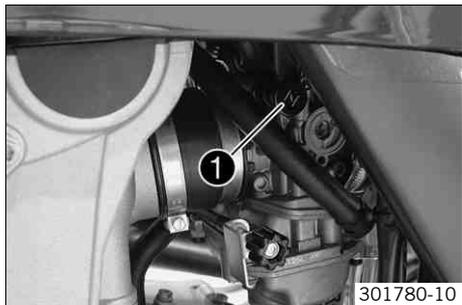


ON



301779-10

Choke



The 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.



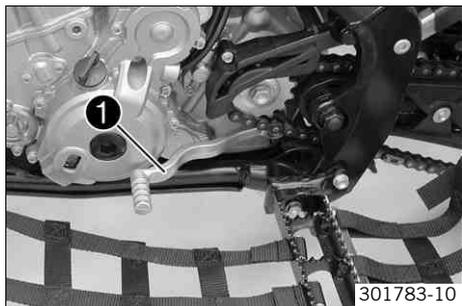
Info

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

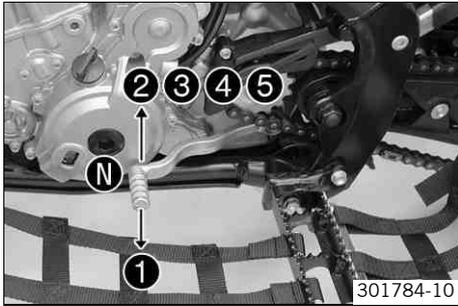
Possible states

- 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

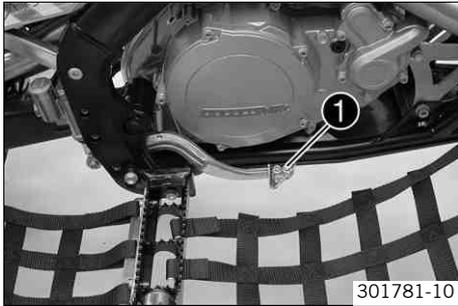


The shift lever ❶ is mounted on the left side of the engine.



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

Foot brake pedal



The foot brake pedal ❶ is located in front of the right footrest and operates the rear wheel brake.

advice on first use



Danger

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

- Do not use the vehicle if you are inexperienced or if you have consumed alcohol or drugs.



Warning

Danger of accidents Incorrect assessment of riding situations.

- The vehicle may only be ridden by persons over the age of 16.



Warning

Danger of accidents Unaccustomed handling of the ATV.

- If you have never ridden an ATV before, it is important that you participate in a driver training course before you ride the vehicle for the first time.
- A professional trainer will show you how to handle your ATV safely in various riding situations and on different terrain. Your KTM dealer will be glad to advise you.



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 handling characteristic due to inappropriate riding style.

- 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 Brake system failure.

- If the foot brake pedal is not released, the brake linings drag permanently. The rear brake can fail due to overheating. Take your foot off the foot brake pedal if you do not want to brake.

**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 unattended while the engine is running. Secure the vehicle against use by unauthorized persons. Always remove the ignition key.

**Warning**

Danger of accidents Instable handling from loaded luggage.

- The vehicle is not designed to carry luggage. Do not attach luggage to the vehicle.

**Warning**

Danger of accidents Poor recognizability of vehicle on hilly terrain and/or sand dunes.

- Attach a safety flag to the vehicle.

**Info**

When using your vehicle, 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 owner's manual thoroughly.
- Get to know the controls.
- Adjust the basic position of the clutch lever. (☛ p. 133)
- Adjust the basic position of hand brake lever. (☛ p. 89)
- Adjust the basic position of the foot brake lever. ☛ (☛ p. 98)
- Become accustomed to handling the vehicle on a suitable piece of land before making a longer trip.



Info

Off-road, you should be accompanied by another person on another machine so that you can help each other.

- Do not ride in terrain that demands skills beyond 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	293 kg (646 lb.)
Maximum allowable axle load	
Front	144 kg (317 lb.)
Rear	149 kg (328 lb.)

- Run the engine in.

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 3 service hours	7,000 rpm
Maximum engine performance	
During the first 3 service hours	≤ 50 %
During the next 12 service hours	≤ 75 %

- Avoid fully opening the throttle!

Checks before putting into operation



Info

Make sure that the vehicle is roadworthy before use.



Info

In the interests of riding safety, make a habit of making a general check before you ride.

- Check the engine oil level. (☛ p. 143)
- Check the engine for oil loss.
- Check the fuel supply.
- Check the chain tension. (☛ p. 82)
- Check the chain dirt accumulation. (☛ p. 81)
- Check the tire condition. (☛ p. 110)
- Check the tire air pressure. (☛ p. 110)
- Check the front brake fluid level. (☛ p. 89)
- Check the rear brake fluid level. (☛ p. 99)
- Check the front brake linings. (☛ p. 92)
- Check the rear brake linings. (☛ p. 102)
- Check brake system function.
- Check that the rear hubs are tight.
- Check that the footrests are tight.
- Check the handlebar bridge bearing for excessive play.
- Check the handlebar for smooth operation and play.
- Check the coolant level. (☛ p. 136)
- Check the cooling system for leakage.

- Check that all controls are correctly adjusted and free to move.

Starting



Danger

Danger of poisoning Exhaust gases are poisonous and can 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 a closed space.

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 engine is unwilling to start, the cause can be old fuel in the float chamber. The flammable elements of the fuel evaporate after standing for an extended period.

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.

Condition

Vehicle has not been operated: ≥ 1 week

- Drain the carburetor float chamber.  ( p. 142)
- Turn handle ❶ of the fuel tap to the **ON** position. (Figure 301779-10  p. 24)
- ✓ Fuel can flow from the tank to the carburetor.
- Mount the vehicle.
- Insert the clip ❷ into the emergency OFF switch and fasten the rip cord to the clothing of the rider. (Figure 301777-10  p. 22)
- Shift gear to neutral.

Condition

The engine is cold

- Pull choke lever out as far as possible.

Condition

The engine is hot

- Pull the hot start lever all the way out.
- Pull the clutch lever.
- Press the electric starter button.



Info

When the clutch lever is not pulled, the starting circuit is not closed. The electric starter does not turn over when the electric starter button is pressed.
Do not open the throttle.

- Release the clutch lever.

Condition

The engine is hot and running

- Push the hot start lever all the way in with the engine running.

Starting up



Info

Switch your lights on before leaving. You will then be seen earlier by other motorists.

- Pull the hand brake lever and release it again.
 - ✓ Locking pawl moves into its basic position, parking brake is deactivated.
- Pull the clutch lever, engage 1st gear, release the clutch lever slowly and simultaneously open the throttle carefully.

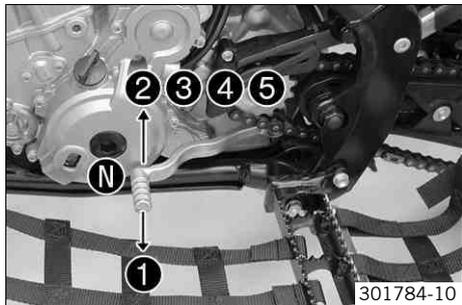
Shifting



Warning

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

- Do not change into a low gear at high engine speed. The engine races and the rear wheels can lock.



Condition

When conditions allow (incline, road situation, etc.), you can shift into a higher gear.

- Release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch and open the throttle.



Info

The position of the 5 forward gears can be seen in the illustration. First gear is used for starting off or for steep inclines.

- To shift down, brake if necessary 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.

Braking



Warning

Danger of accidents If you brake too hard, the wheels can lock. When the front wheels lock, the vehicle can no longer be steered.

- 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 due to wet or dirty brakes.

- Clean/dry off dirty or wet brakes by careful application of the brakes.
-



Info

Use the hand brake lever to activate the front brakes and the foot brake pedal to activate the rear brakes.

- When braking, release the throttle and apply the front and rear brakes at the same time.
- Shift the transmission to lower gears according to the vehicle's speed.
- Braking should always be completed before you go into a bend.
- 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 will need to apply the brakes less often and the brakes will not overheat.

Riding



Info

If you hear unusual noises while riding, stop immediately, switch off the engine and contact an authorized KTM workshop. If the vehicle goes out of control and you fall off the vehicle, the clip of the emergency OFF switch is pulled off by the rip cord attached to your clothing. This short-circuits the ignition circuit and the engine switches off.

- During normal operation, you sit erect on the vehicle with both hands on the handlebar and both feet on the footrests.
- If the choke function was activated, deactivate it after the engine has warmed up.
- After reaching maximum speed by fully opening the throttle, close the throttle so it is 3/4 open.
 - ✓ This barely reduces vehicle speed but lowers fuel consumption considerably.
- Always open the throttle only as much as the engine can handle – abrupt pressure on the throttle increases fuel consumption.
- Switch off the engine if you expect to be standing for a long time.

Guideline

≥ 2 min

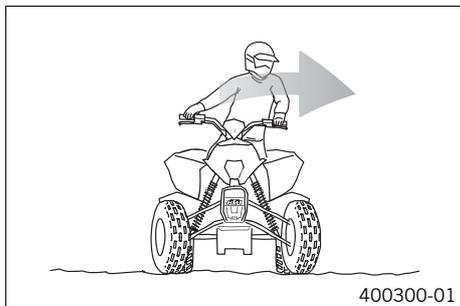
- Avoid slipping the clutch frequently and for prolonged periods. This heats the engine oil, the engine and the cooling system.
- Ride with a lower engine speed instead of with a high engine speed and a slipping clutch.

Riding in bends



Info

When riding in bends, the outer wheels cover a greater distance than the inner wheels. Because the rear axle of the ATV is rigid in design, the rear wheels turn at the same speed. The difference in distance is compensated by slippage of the tires.



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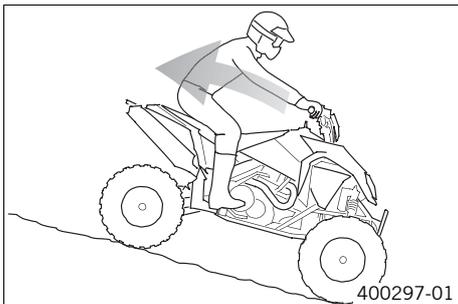


Warning

Danger of accidents Excessive speed and turning at sharp angles can cause the vehicle to roll over.

- Decrease your speed before entering into bends.
-
- Handling of the ATV is strongly influenced by shifts in the position of your body weight. Always shift your body weight toward the inside of the bend and forward.
 - The faster you ride and the tighter the bend, the more you need to shift your body weight.
 - Always exert pressure on the footrest on the inside of the bend.
 - Look in the direction of the bend while you are riding.
 - The farther back you are sitting, the more the vehicle has the tendency to move straight ahead. The farther forward you shift your weight, the more pressure is applied to the front axle and the more easily the vehicle can take the bend.

Riding downhill



Warning

Danger of accidents Danger of accidents when riding on slopes.

- Always check the terrain before riding onto a slope.
- Never ride on a slope with an inclination of more than 25°.
- Never ride on a slope that exceeds your driving skills.
- Never ride down a slope backward. If you activate the rear brake, the vehicle will roll over.
- When you come to a standstill, always dismount from the vehicle and turn it.
- Never ride on a slope with a slippery surface. The vehicle can easily go out of control and roll over.

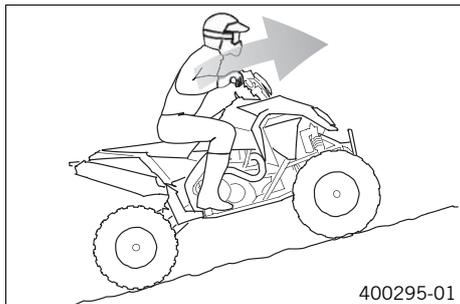
Note

Material damage Damage to vehicle after fall or rollover.

- Perform a vehicle check as is done everytime before you start to ride.

-
- Always ride straight down a slope and never at a slant.
 - Engage a gear with which you can ride all the way down the slope.
 - Shift your body weight to the rear and ride cautiously without opening the throttle.
 - Keep your vehicle speed and engine speed as constant as possible.
 - Always be prepared to jump sideways off the vehicle should it go out of control.
 - Brake by mainly applying the rear brake; the rear wheels should not become locked.

Riding uphill

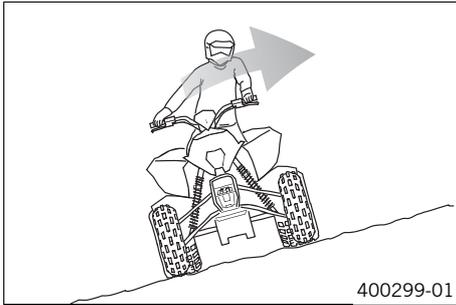


Warning

Danger of accidents Danger of accidents when riding on slopes.

- Always check the terrain before riding onto a slope.
 - Never ride on a slope with an inclination of more than 25°.
 - Never ride on a slope that exceeds your driving skills.
 - Never ride down a slope backward. If you activate the rear brake, the vehicle will roll over.
 - When you come to a standstill, always dismount from the vehicle and turn it.
 - Never ride on a slope with a slippery surface. The vehicle can easily go out of control and roll over.
-
- Always ride straight up or down a slope and never at a slant.
 - Engage a gear with which you can ride all the way up the slope. Shifting on the slope can cause the vehicle to roll over.
 - Shift your body weight to the front and ride cautiously.
 - Keep your vehicle speed and engine speed as constant as possible.
 - Always be prepared to jump sideways off the vehicle should it go out of control.
 - Drive slowly over hilltops to give yourself the opportunity to react to obstacles and changes in terrain.
 - If the vehicle comes to a stop, immediately activate both brakes to prevent the vehicle from rolling backward. Dismount from the vehicle and turn it.

Riding perpendicular to the slope



Warning

Danger of accidents When riding perpendicular to a slope, the vehicle can tip easily and roll over.

- Avoid riding perpendicular to the slope if possible.
 - Ride slowly and shift your weight toward the slope.
-
- If the vehicle starts to tip over, steer it downhill and dismount immediately to the uphill side.

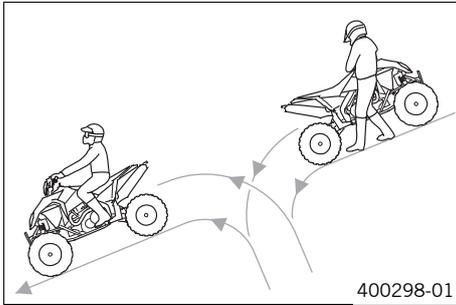
Turning on slopes



Warning

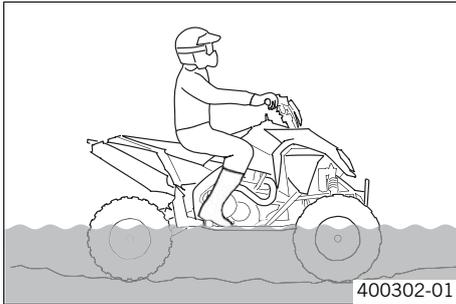
Danger of accidents Danger of accidents from turning the vehicle on a slope.

- Never ride down a slope backward. The vehicle can roll over easily.
- Always position yourself next to the vehicle in a location where you cannot be caught by a wheel.
- When turning on a slope, always stand on the uphill side of the vehicle to avoid injury should the vehicle tip.
- If the slope is too steep or slippery to turn the vehicle, you should leave it where it is and get assistance in retrieving it.



- If you come to a stop on a slope with your vehicle, dismount from the vehicle and turn it.
- Switch off the engine and activate the parking brake.
- Dismount from the vehicle on the uphill side.
- Switch the transmission to neutral and stand next to the vehicle.
- Grasp the handlebar with both hands, release the parking brake and carefully release the front brake.
- Let the vehicle roll downhill carefully until you reach a location where you can turn it. Control its speed using the front brake.
- To turn the vehicle, steer it to the side. When doing so, you should always stand on the uphill side and apply pressure to the footrest on the uphill side.
- When the vehicle is standing perpendicular to the slope or slightly downhill, activate the parking brake.
- Mount the vehicle, start the engine, pull the clutch lever and engage 1st gear. Cautiously release the parking brake and ride down the hill in 1st gear.
- Ride downhill. (☛ p. 37)
- If you lose control over the vehicle, you should get away from the vehicle as fast as possible.

Riding through water



Warning

Danger of accidents The vehicle can roll over when riding through deep water with a strong current.

- Avoid riding through deep water with a strong current.



Warning

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

- Clean/dry off dirty or wet brakes by careful application of the brakes.

Note

Engine failure When riding through deep water, water can enter into the engine through the air filter and cause engine damage.

- Only ride through water if it reaches no higher than the upper edge of the footrest.
-
- Before riding through water, determine the depth and current of the water.
 - Ride slowly and negotiate around obstacles.
 - After riding through water, dry the brakes by lightly activating both brakes until normal braking power is available again.
 - If the vehicle became submerged, an authorized KTM workshop must perform a thorough check and comprehensive service. Do not start the engine.

Switching off the engine



Info

There are two ways to switch off the engine.

Alternative 1

Switch off the engine using the kill switch.

- Press kill switch ④ at engine idle speed until the engine stops. (Figure 301777-10 p. 22)

Alternative 2

Switch off the engine using the emergency OFF switch with a rip cord.

- Pull off clip ②. (Figure 301777-10 p. 22)

Stopping, parking



Warning

Danger of burns Some vehicle components get very hot when the vehicle is in use.

- 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

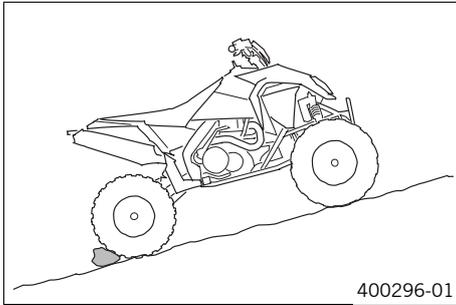
Danger of damage Danger of damage from accidental rolling of vehicle.

- Park the vehicle on a surface that is as horizontal as possible and activate the parking brake.

Note

Fire hazard Some vehicle components get very hot when the machine is driven.

- Do not place the vehicle where there are flammable or explosive substances. Do not place objects over the vehicle while it is still warm from being run. Always let the vehicle cool first.



- Stop the vehicle and park it on a surface that is as horizontal as possible.
- Shift gear to neutral.
- Switch off the engine. (☛ p. 41)
- Remove the ignition key and the clip from the emergency OFF switch.
- Pull the hand brake lever, push the locking pawl ② down and release the hand brake lever. (Figure 301776-10☛ p. 20)
 - ✓ The front wheels are blocked.
- Turn handle ① of the fuel tap to the **OFF** position. (Figure 301779-10☛ p. 24)
 - ✓ No more fuel flows from the tank to the carburetor.
- If the vehicle must be parked on an incline, additionally secure the rear wheels against rolling (see illustration).

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.

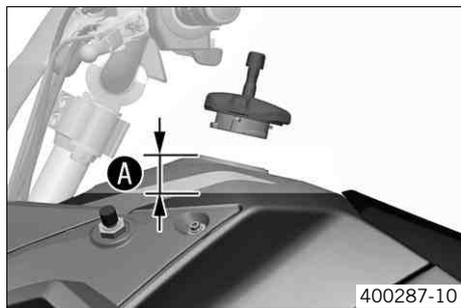
- Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come 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 the engine.
- Open the filler cap. (☛ p. 22)
- Fill the fuel tank with fuel up to measurement **A**.

Guideline

Measurement of A	35 mm (1.38 in)	
Total fuel tank capacity approx.	10.3 l (2.72 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 178)

- Close the filler cap. (☛ p. 23)

Important maintenance work to be carried out by an authorized KTM workshop

		S3N	S10A	S30A
Engine	Change the engine oil and oil filter, clean the oil screen.  (🔧 p. 145)	•	•	•
	Replace spark plug.			•
	Check the valve clearance and adjust if necessary.	•	•	•
	Check engine mounting screws for tightness.	•	•	•
	Clean spark plug connectors and check for tightness.	•	•	•
	Check shift lever screw for tightness.	•	•	•
carburetor	Check carburetor connection boots for cracks and leakage.		•	•
	Check vent hoses for damage and routing without sharp bends.	•	•	•
	Check idle.	•	•	•
Attachments	Check the cooling system for leaks.	•	•	•
	Check the antifreeze and coolant level. (🔧 p. 135)	•	•	•
	Check the exhaust system for leakage and faulty attachment.		•	•
	Check control cables for damage, smooth operation and routing without sharp bends.	•	•	•
	Check the fluid level of the hydraulic clutch. (🔧 p. 133)	•	•	•
	Clean the air filter.  (🔧 p. 132)	•	•	•
Brakes	Check cables for damage and kink-free routing.		•	•
	Check the front brake linings. (🔧 p. 92)	•	•	•
	Check the rear brake linings. (🔧 p. 102)	•	•	•
	Check the brake discs. (🔧 p. 87)	•	•	•
	Check the front brake fluid level. (🔧 p. 89)	•	•	•
	Check the rear brake fluid level. (🔧 p. 99)	•	•	•
Check that brake lines are undamaged and free of leaks.	•	•	•	

		S3N	S10A	S30A
Brakes	Check the free travel of the hand brake lever. (☞ p. 88)	•	•	•
	Check the free travel of the foot brake lever. (☞ p. 97)	•	•	•
	Check the brake system.	•	•	•
	Check screws and guide pins of the brake system for tightness.	•	•	•
Chassis	Check shock absorbers for cracks and proper functioning.	•	•	•
	Check the steering column bearing for wear and smooth operation.	•	•	•
	Clean and grease bearing and sealing elements of steering column.	•	•	•
	Check the handlebar for smooth operation and play.	•	•	•
	Check the handlebar bridge bearing for excessive play.	•	•	•
	Check tie rods and tie rod ends for damage and play.	•	•	•
	Check front wheel suspension for wear and tightness.	•	•	•
	Check that front and rear wheel hubs are tight.	•	•	•
	Check the swingarm bearing.		•	•
	Check the bearing of the rear axle for play.	•	•	•
	Grease the rear wheel eccentric element. (☞ p. 87)		•	•
Check all screws to make sure they are tight.	•	•	•	
Wheels	Check rim run-out.	•	•	•
	Check the tire condition. (☞ p. 110)	•	•	•
	Check the tire air pressure. (☞ p. 110)	•	•	•
	Check the chain wear. (☞ p. 84)	•	•	•
	Check the chain tension. (☞ p. 82)	•	•	•
	Clean the chain. (☞ p. 82)	•	•	•
	Check front wheel bearing for play.	•	•	•

S3N: Once every 3 service hours - corresponds to about 21 liters of fuel

S10A: Every 10 service hours - corresponds to about 70 liters of fuel (18.5 US gal) / after every race

S30A: Every 30 service hours - corresponds to about 210 liters of fuel (55.5 US gal)

Important maintenance work to be carried out by an authorized KTM workshop (as an additional order)

	S10A	S20A	S40A	S80A	J1A	J2A
Change the oil in the front shock absorber. 🛠️			•	•		
Service the front shock absorber. 🛠️				•		•
Change the oil in the rear shock absorber. 🛠️		•	•	•		
Service the rear shock absorber. 🛠️			•	•		•
Treat electric contacts with contact spray.					•	•
Change hydraulic clutch fluid.					•	•
Change brake fluid.					•	•
Check wear of clutch discs. 🛠️		•	•	•		
Check long clutch springs. 🛠️		•	•	•		
Check clutch slave cylinder for dents. 🛠️		•	•	•		
Check outer clutch hub for dents. 🛠️		•	•	•		
Check/measure the cylinder. 🛠️			•	•		
Replace piston. 🛠️			•	•		
Check the camshafts. 🛠️			•	•		
Check wear of valve spring seat. 🛠️			•	•		
Check wear of valve guides. 🛠️			•	•		
Change the valves. 🛠️			•	•		
Change the valve springs. 🛠️			•	•		
Check the timing-chain tensioner function. 🛠️			•	•		

	S10A	S20A	S40A	S80A	J1A	J2A
Check the crankshaft run-out at the bearing pin. 🛠️			•	•		
Change the conrod bearing. 🛠️			•	•		
Check the seating of the piston pin. 🛠️			•	•		
Change the crankshaft main bearing. 🛠️			•	•		
Fully check the transmission. 🛠️			•	•		
Check the shift mechanism. 🛠️			•	•		
Check the spring length of the oil pressure regulator valve. 🛠️			•	•		
Change glass fiber yarn filling of main silencer. 🛠️	•	•	•	•		
Replace foot brake cylinder seals. 🛠️		•	•	•		
Check/set the carburetor components. 🛠️			•	•	•	•

S10A: Every 10 service hours - corresponds to about 70 liters of fuel (18.5 US gal) / after every race

S20A: Every 20 service hours - corresponds to about 140 liters of fuel (37 US gal)

S40A: Every 40 service hours - corresponds to about 280 liters of fuel (74 US gal)

S80A: Every 80 service hours - corresponds to about 560 liters of fuel (148 US gal)

J1A: annually

J2A: every 2 years

Important checks and maintenance work to be carried out by the rider

	NB1A
Check the engine oil level. (🔧 p. 143)	•
Check the front brake fluid level. (🔧 p. 89)	•
Check the rear brake fluid level. (🔧 p. 99)	•
Check the front brake linings. (🔧 p. 92)	•
Check the rear brake linings. (🔧 p. 102)	•

	NB1A
Check and adjust control cables.	•
Clean the chain. (☞ p. 82)	•
Check the chain tension. (☞ p. 82)	•
Check the chain wear. (☞ p. 84)	•
Check rear sprocket / engine sprocket for wear. (☞ p. 83)	•
Clean the air filter. 🗑️ (☞ p. 132)	•
Check the tire air pressure. (☞ p. 110)	•
Check the tire condition. (☞ p. 110)	•
Check the coolant level. (☞ p. 136)	•
Check that all controls for smooth operation.	•
Check braking force (incl. parking brake).	•
Check all screws, nuts and hose clamps regularly for tightness.	•

NB1A: Depending on conditions of use according to requirements.

Jacking up the vehicle



Note

Danger of damage Danger of damage from tipping of vehicle.

- Jack up the vehicle on a firm and horizontal surface. Use a flex-free work stand.
- Jack up the vehicle on the frame underneath the engine. The wheels must no longer touch the ground.
- Secure the vehicle.

Removing the vehicle from the work stand

Note

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

- Always place the vehicle on a firm and even surface.
- Lower the vehicle.
- Remove the work stand.

Basic information on changing the chassis settings

The standard setting of the chassis is the result of many fine tuning tests. It is laid out for the weight of the average rider (with a full set of protective clothing) and for a sporty driving style.

Average rider weight	70... 80 kg (154... 176 lb.)
----------------------	------------------------------

By making a variety of adjustments to the chassis, you can set it to better match your body weight and riding style.

The left and right front shock absorbers should have the same settings.

If your weight is above or below the average, you have to adjust the standard setting of the suspension components 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.



Tip

When changing the chassis settings, always start with the standard setting.

Between test rides, always change only one setting. This will enable you to better assess the effect of the setting on vehicle handling.

Do not make radical changes to the settings; proceed in small steps instead. Even small changes can have a large impact on vehicle handling.

Compression damping of the shock absorber

The shock absorber is able to regulate the compression damping separately in the low speed and high speed ranges (Dual Compression Control).

The terms "low speed" and "high speed" refer to the motion of the shock absorber during compression and not to the road speed of the vehicle.

Modifications to the "low speed" setting also affects the "high speed" setting and vice versa.

Front shock absorber - Adjusting the high-speed compression damping



Danger

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.)



Warning

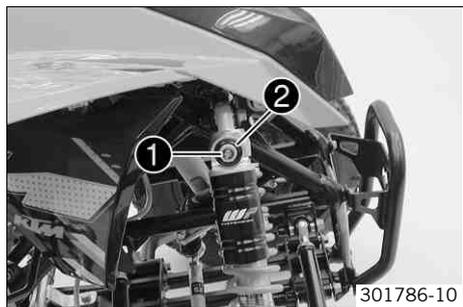
Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Only make adjustments within the recommended range.



Info

The high-speed setting can be seen during the fast compression of the shock absorber.
The left and right shock absorbers should have the same settings.



- Turn adjusting screw ❶ all the way clockwise with a ring 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	1.5 turns
Standard	1 turn
Sport	1 turn



Info

Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Front shock absorber - Adjusting the low-speed compression damping



Danger

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.)



Warning

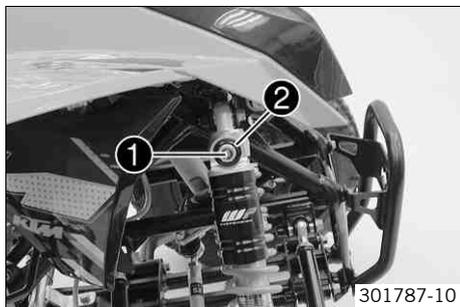
Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Only make adjustments within the recommended range.



Info

The low-speed setting can be seen during the slow to normal compression of the shock absorber. The left and right shock absorbers should have the same settings.



- Turn adjusting screw **1** clockwise with a screwdriver up to the last perceptible click.



Info

Do not loosen nut **2**!

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

Guideline

Compression damping, low-speed	
Comfort	20 clicks
Standard	15 clicks
Sport	12 clicks



Info

Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Front shock absorber - adjusting the rebound damping



Danger

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.)



Warning

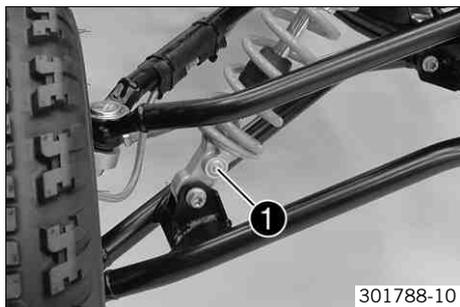
Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Only make adjustments within the recommended range.



Info

The rebound damping setting has an impact on the compression of the shock absorber. The left and right shock absorbers should have the same settings.



301788-10

- 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	20 clicks
Standard	15 clicks
Sport	12 clicks



Info

Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Front shock absorber - adjusting the cross over



Danger

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

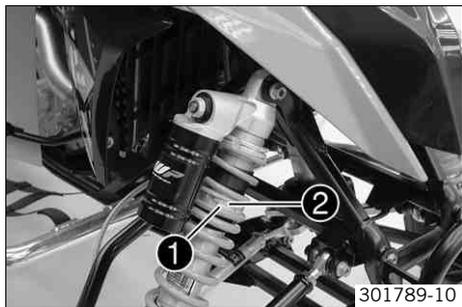
The cross over setting is used to adjust the suspension travel of the short (soft) spring.

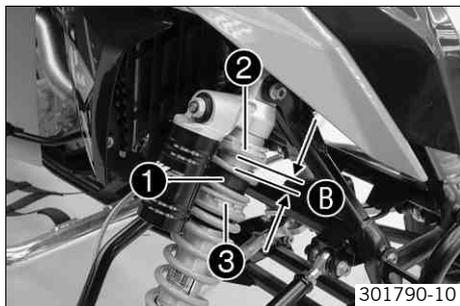
Greater cross over makes the spring action at the front softer and the front of the vehicle lies lower. The suspension travel and the progressive part of the long (hard) spring is not fully utilized.

Less cross over makes the spring action at the front harder and the front of the vehicle lies higher.

- Jack up the vehicle. (☛ p. 50)
- Clean the shock absorber thoroughly.
- Loosen adjusting rings ❶ and ❷. Suitable tools are available from an authorized KTM workshop.

Hook wrench (83019001000)





- Cross over setting **B** is measured between sliding bushing **1** and the collar of adjusting ring **2**.

Guideline

Cross over	19±1.5 mm (0.75±0.059 in)
<div style="display: flex; align-items: center;"> <div style="font-size: 2em; margin-right: 5px;">i</div> <div> <p>Info</p> <p>Measured with no preload on the main spring.</p> </div> </div>	

- Tighten the spring by turning adjusting ring **3** to setting **B**.

i

Info

The left and right shock absorbers should have the same settings.

- Tighten the adjusting ring.
- Remove the vehicle from the work stand. (🔧 p. 50)

Front shock absorber - adjusting the spring preload



Danger

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.)



Warning

Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Make adjustments in small steps only.

i Info

Increasing the spring preload raises the center of gravity of the vehicle. This can have a large impact on vehicle handling.

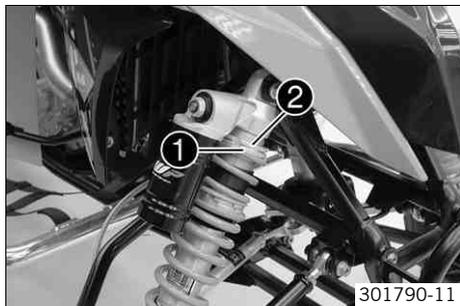
i Tip

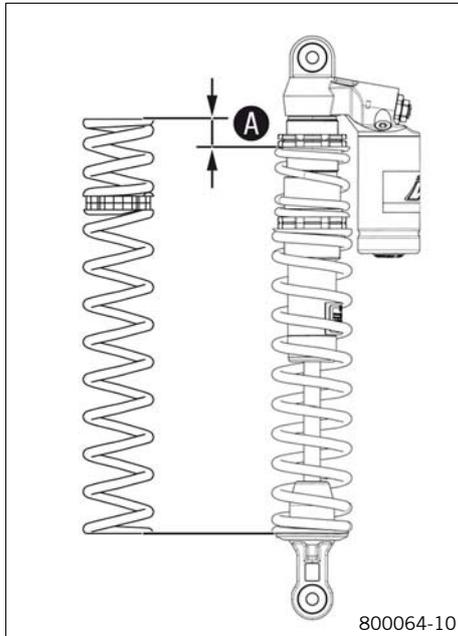
Before changing the spring preload, make a note of the present setting, e.g., by measuring the length of the spring.

- Jack up the vehicle. (🔧 p. 50)
- Clean the shock absorber thoroughly.
- Loosen lock ring ❶.

Hook wrench (83019001000)

- Turn adjusting ring ❷ until the spring pack is fully unloaded.
- Measure the entire spring pack when it is unloaded.





- Tighten the spring pack by turning adjusting ring ② to the specified setting ①.

Guideline

Spring preload	
Comfort	3 mm
Standard	5 mm
Sport	8 mm

i Info

Spring preload ① is the difference in length between the spring pack when it is unloaded and when it is installed.

The spring pack should never be installed loosely (without preload). The standard setting is the lowest permissible spring preload. Therefore, you can only increase the spring preload.

If you increase the spring preload, you should also slightly increase the rebound damping.

The left and right shock absorbers should have the same settings.

- Tighten the lock ring and the adjusting ring.
- Remove the vehicle from the work stand. (🔧 p. 50)

Rear shock absorber - adjusting the high speed compression damping



Danger

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.)



Warning

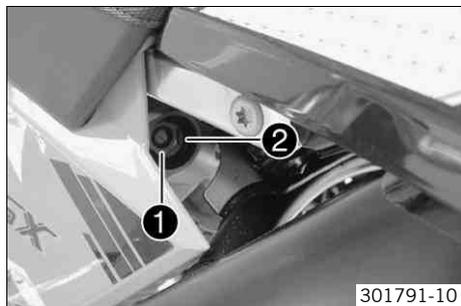
Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Only make adjustments within the recommended range.



Info

The high-speed setting takes effect during the fast compression of the shock absorber.



- Turn adjusting screw ❶ clockwise all the way using a ring wrench.



Info

Do not loosen screw connection ❷!

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

Guideline

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



Info

Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Rear shock absorber - adjusting the low-speed compression damping



Danger

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.)



Warning

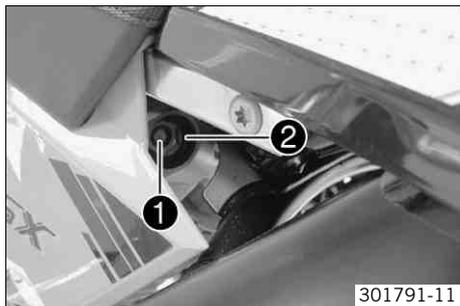
Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Only make adjustments within the recommended range.



Info

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



- Turn adjusting screw ❶ clockwise to the last perceptible click using a screwdriver.



Info

Do not loosen screw connection ❷!

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

Guideline

Compression damping, low-speed	
Comfort	20 clicks
Standard	15 clicks
Sport	15 clicks

**Info**

Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Rear shock absorber - adjusting the rebound damping

**Danger**

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.)

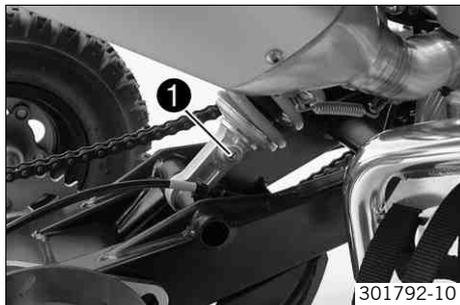
**Warning**

Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Only make adjustments within the recommended range.
-

**Info**

The rebound damping setting has an impact on the compression of the shock absorber.



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

Guideline

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	15 clicks



Info

Turning to the right increases damping, while turning to the left lessens damping.

Rear shock absorber - adjusting the spring preload



Danger

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.)



Warning

Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

- Make adjustments in small steps only.



Info

Increasing the spring preload raises the center of gravity of the vehicle. This can have a large impact on vehicle handling.



Tip

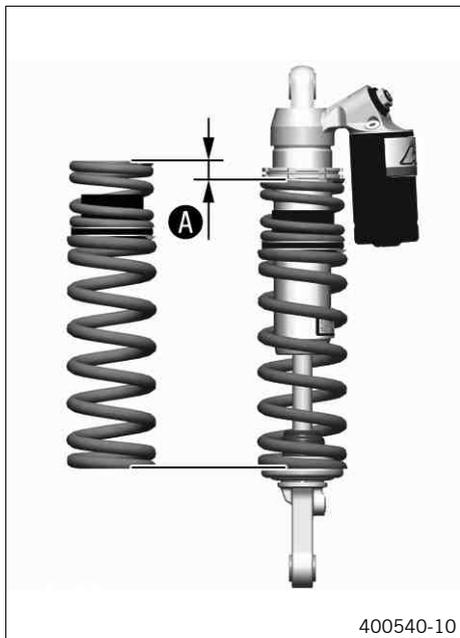
Before changing the spring preload, make a note of the present setting, e.g., by measuring the length of the spring.



- Remove the rear shock absorber. 🛠️ (📖 p. 64)
- After removing the shock absorber, clean it thoroughly.
- Loosen lock ring ❶. Hold adjusting ring ❷ while doing so. Suitable tools are available from an authorized KTM workshop.

Hook wrench (83019002000)

- Turn the adjusting ring until the spring pack is fully unloaded.



- Measure the entire spring pack when it is unloaded.

i **Info**

Spring preload **A** is the difference in length between the spring pack when it is unloaded and when it is installed.

- Tighten the spring pack by turning the adjusting ring to the specified setting.

Guideline

Spring preload	
Comfort	3 mm
Standard	5 mm
Sport	5 mm

- Tighten the lock ring and the adjusting ring.

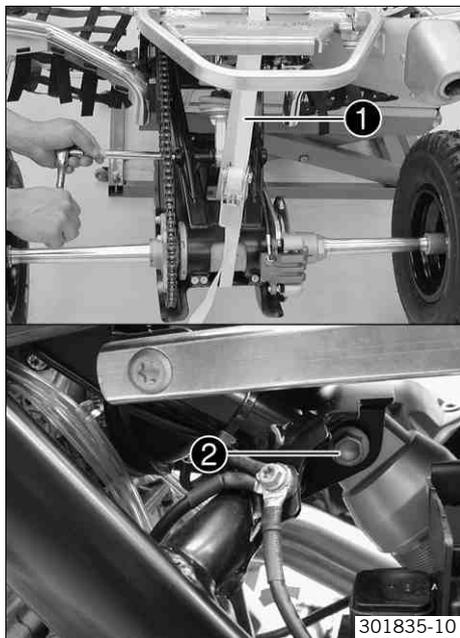
i **Info**

If you increase the spring preload, you should also slightly increase the rebound damping.

- Install the rear shock absorber. 🛠️ (📖 p. 66)

Removing the rear shock absorber 🛠️

- Jack up the vehicle. (📖 p. 50)
- Remove the rear fender. (📖 p. 125)



Note

Danger of damage The chain sliding piece and frame can be damaged from incorrect handling.

- When removing the rear shock absorber, secure the swingarm with a tension belt to prevent it from swinging down further.

-
- Attach the swingarm to the subframe with a tension belt **1** to relieve the shock absorber.
 - Remove the bottom screw of the shock absorber.

i Tip

Press the screw out of the swingarm with a screw driver while moving the tension belt.

-
- Remove the top screw **2** of the shock absorber and carefully remove the shock absorber out of the vehicle toward the rear.

Installing the rear shock absorber



- Position the shock absorber in the vehicle with the reservoir on the right. Mount and tighten the top screw .

Guideline

Screw, rear top shock absorber	M12	60 Nm (44.3 lbf ft)
--------------------------------	-----	------------------------

- Position the shock absorber in the swingarm. Mount and tighten the bottom screw.

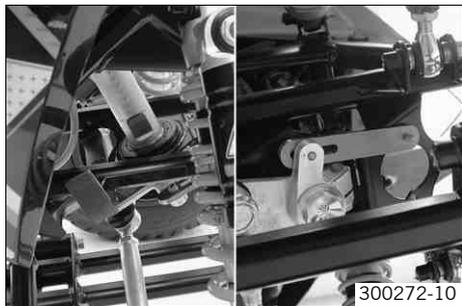
Guideline

Screw, rear bottom shock absorber	M12	70 Nm (51.6 lbf ft)
-----------------------------------	-----	------------------------

- Remove the tension belt.
- Install the rear fender. ( p. 127)
- Remove the vehicle from the work stand. ( p. 50)

Checking the toe

- Park the vehicle on a horizontal surface.
- Check the tire condition. ( p. 110)
- Check the tire air pressure. ( p. 110)
- Check the chassis parts for damage, play and wear.



- Load the vehicle with the specified weight.

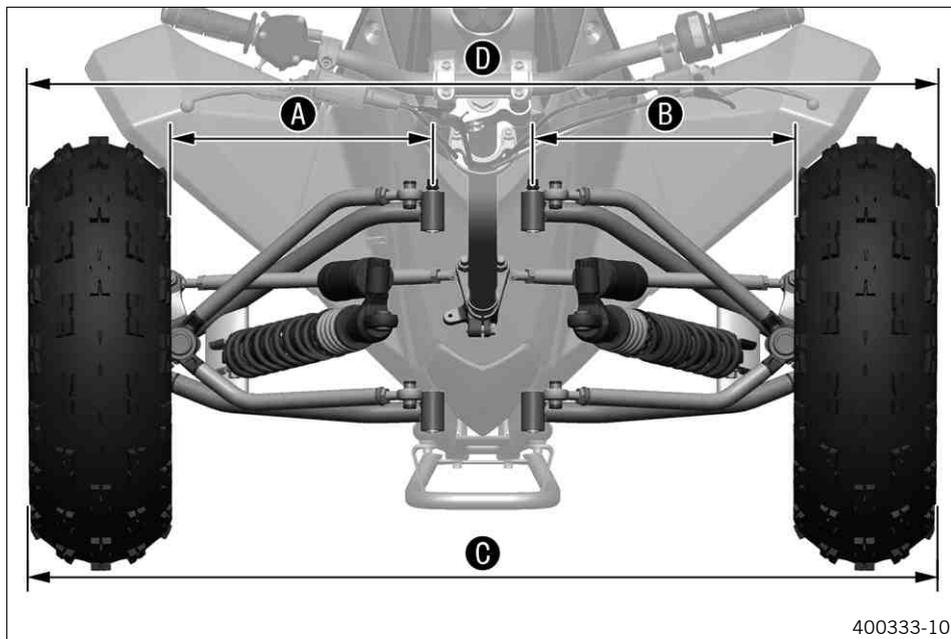
Guideline

Average rider weight

70... 80 kg (154... 176 lb.)

- Move the handlebar into the straight-ahead position and fix it.

Handlebar fixation for straight-ahead position (83019015100)
--



- Measure distances **A** and **B**.
 - » If distances **A** and **B** are not equal:
 - Adjust the toe. 🛠️ (📄 p. 69)
- Measure distances **C** and **D**.

Guideline

Toe	
Front	0 mm (0 in)

i Info

The toe is the difference in length between distances ① and ② by which the wheels are spaced at the front or rear when driving straight ahead. The distance is measured at the height of the wheel center from rim flange to rim flange.

- » If the toe does not meet specifications:
 - Adjust the toe. 🛠️ (👉 p. 69)

Adjusting the toe 🛠️

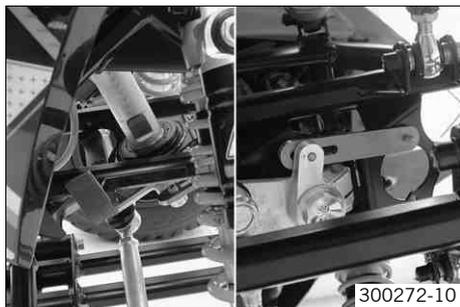
- Park the vehicle on a horizontal surface.
- Check the tire condition. (👉 p. 110)
- Check the tire air pressure. (👉 p. 110)
- Check the chassis parts for damage, play and wear. Replace damaged or worn parts.
- Load the vehicle with the specified weight.

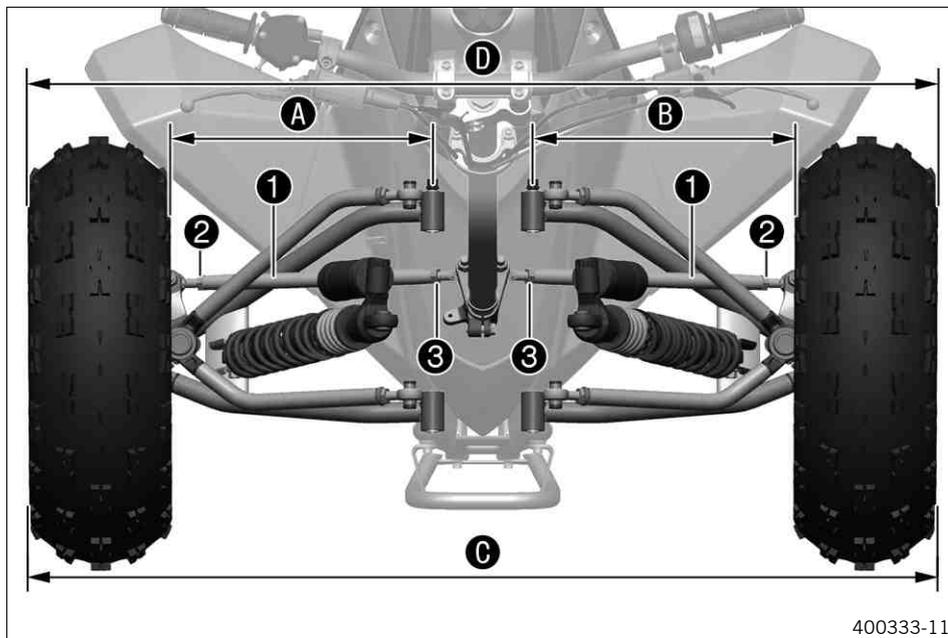
Guideline

Average rider weight	70... 80 kg (154... 176 lb.)
----------------------	------------------------------

- Move the handlebar into the straight-ahead position and fix it.

Handlebar fixation for straight-ahead position (83019015100)
--





- Loosen nuts ② and ③.
- Adjust the distances ① and ② to the same value by rotating the tie rods ①.
- Adjust the distances ③ and ④ to the specified value by evenly rotating the tie rods ①.

Guideline

Toe	
Front	0 mm (0 in)



Info

The toe is the difference in length between distances ① and ② by which the wheels are spaced at the front or rear when driving straight ahead. The distance is measured at the height of the wheel center from rim flange to rim flange.

- Tighten nuts ② and ③.

Guideline

Lock nut, tie rod, outside	M12x1.25	20 Nm (14.8 lbf ft)
Lock nut, tie rod, inside	M12LHx1.25	20 Nm (14.8 lbf ft)



Info

The tie rods ① must still be freely movable.

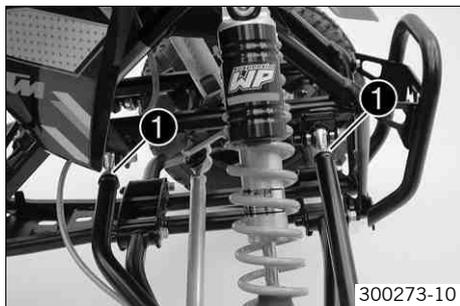
Checking/adjusting the camber 🛠



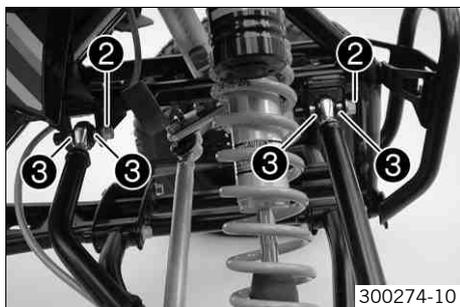
Info

The left and right camber should have the same settings.
The operations are the same on the left and right.

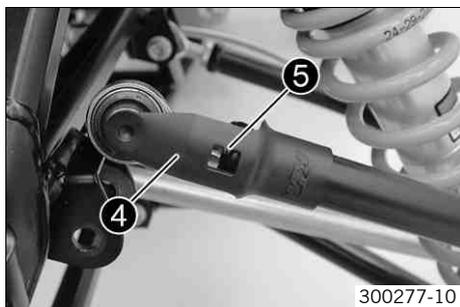
- Jack up the vehicle. (🔧 p. 50)



- Loosen nuts **1**.



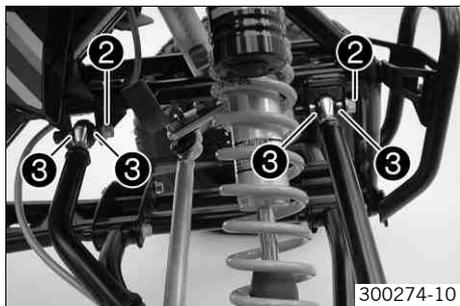
- Remove screws **2** with bushings **3**.



- Insert tool **4** in the heim joint and clip onto the A-arm.

Camber gauge (83019014000)

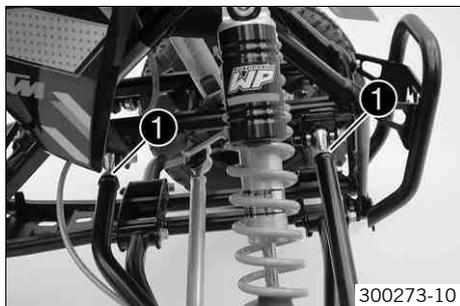
- Check the camber on both heim joints.
 - » If marking **5** is not aligned with the top edge of the A-arm:
 - Turn tool **4** with the heim joint in steps of 180° until the marking is in line with the top edge of the A-arm.
- Remove tool **4**.



- Position the A-arm with bushings ③. Mount and tighten screws ②.

Guideline

Screw, A-arm top	M10x52	45 Nm (33.2 lbf ft)
------------------	--------	------------------------



- Align the heim joint at right angles to screws ② and tighten nut ①.

Guideline

Nut, A-arm top	M12x1.25	30 Nm (22.1 lbf ft)
----------------	----------	------------------------

i Info

All four heim joints must be checked and adjusted if necessary.

- Remove the vehicle from the work stand. (🔧 p. 50)

Fork offset

The fork offset has an impact on the handling of the vehicle.

The fork offset can optionally be adjusted.

Fork offset is defined as the slanted position of the swivel axis in the direction of the longitudinal axis of the vehicle in relation to a vertical line to the driving surface.

When both sleeves are installed in front of the A-arms, the fork offset increases. This enhances driving stability on fast raceways.

When both bushings are installed behind the A-arms, the fork offset decreases. This improves handling in bends.

Upon delivery one bushing is installed in front of the A-arm and one behind it.

Adjusting the fork offset

Info

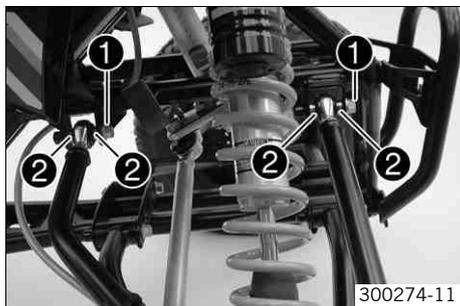
The left and right fork offset should have the same settings.
The operations are the same on the left and right.

- Jack up the vehicle. ( p. 50)
- Remove screws **1** with bushings **2**.
- Place the A-arm with bushings **2** in the desired position. Mount and tighten screws **1**.

Guideline

Screw, A-arm top	M10x52	45 Nm (33.2 lbf ft)
------------------	--------	------------------------

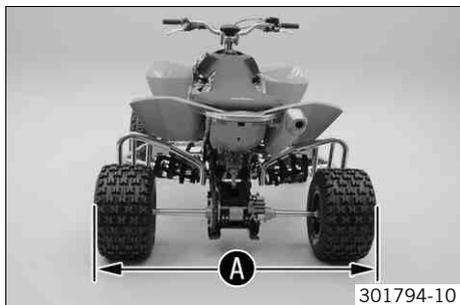
- Remove the vehicle from the work stand. ( p. 50)



Toe width of rear axle

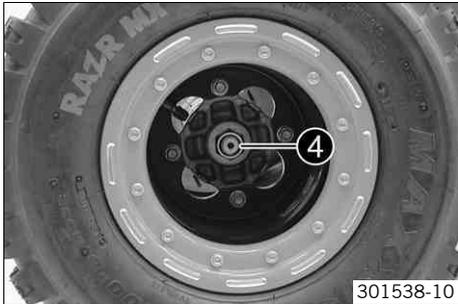
The toe width **A** can be adjusted by installed the spacer in various ways.

Difference between narrow/wide toe	76 mm (2.99 in)
------------------------------------	-----------------

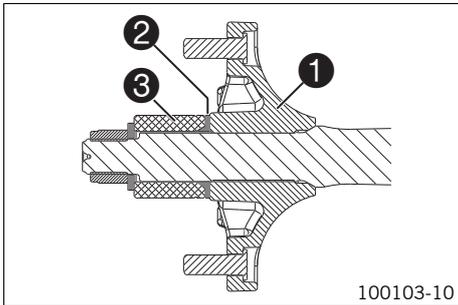


Adjusting the toe width of rear axle ↩

- Warning**
Danger of accidents Modifications to the suspension settings can seriously alter the vehicle's ride behavior.
- Following modifications, ride slowly at first to get the feel of the new ride behavior.

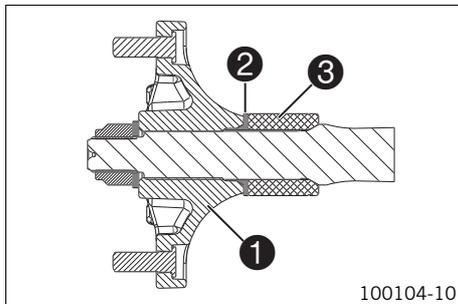


- Engage 1st gear.
- Loosen nuts ④ of the wheel hubs on both sides.
- Jack up the vehicle. (↩ p. 50)
- Remove the nuts ④ on both sides and take all parts off of the rear axle.



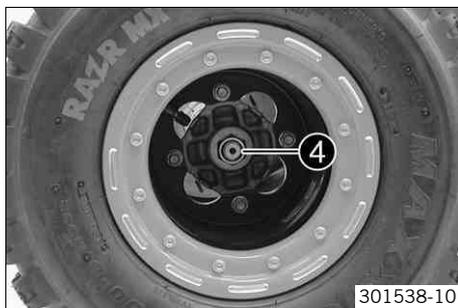
Setting a narrow toe width:

- Mount the wheel hub ①.
- Mount the conical ring ② with the cone facing outward.
- Mount the spacer ③ with the cone facing inward.
- Mount the washer and the new self-locking nut.



Setting a wide toe width:

- Mount the spacer ③ with the cone facing inward.
- Mount the conical ring ② with the cone facing outward.
- Mount the wheel hub ①.
- Mount the washer and the new self-locking nut.



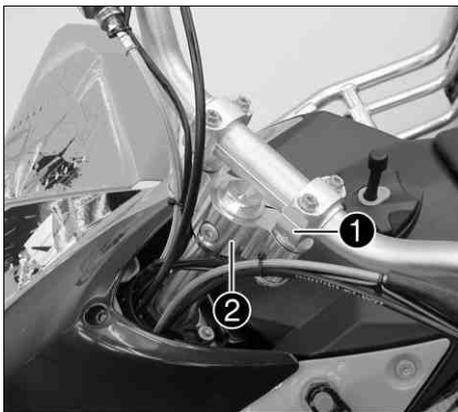
- Remove the vehicle from the work stand. (☛ p. 50)
- Tighten nuts ④ on both sides.

Guideline

Nut, rear wheel hub	M18x1.5	130 Nm (95.9 lbf ft)
---------------------	---------	-------------------------

- Shift gear to neutral.

Handlebar position



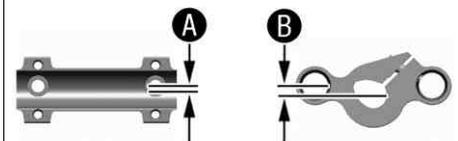
The handlebar position can be adjusted 4-fold by turning the handlebar support **1** and the handlebar support **2**.

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

Distance A between holes	3.5 mm (0.138 in)
---------------------------------	-------------------

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

Distance B between holes	7.5 mm (0.295 in)
---------------------------------	-------------------



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Adjusting handlebar position

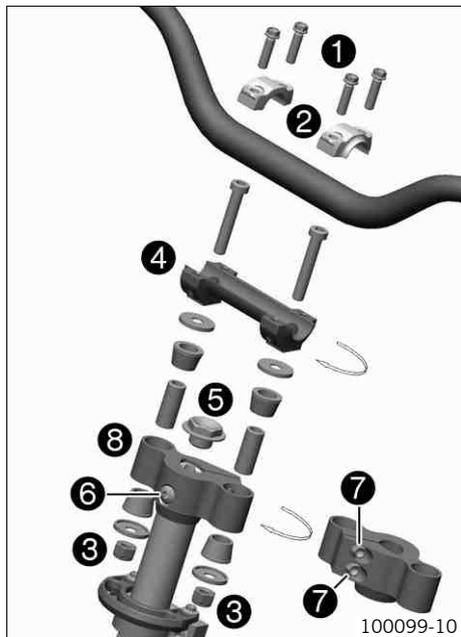


- Remove the handlebar cushion.



Info

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



- Remove the four screws **1**. Remove the handlebar clamps **2**, swing the handlebar forward and set it down.
- Remove the nuts **3** and remove the handlebar support **4** with the screws.
- Remove screws **5** and **6**.
- Remove screws **7**. Remove the handlebar bridge **8**.
- Place the handlebar bridge **8** onto the steering column in the desired position. Mount and tighten screw **6**.

Guideline

Screw, steering bridge	M8	20 Nm (14.8 lbf ft)
------------------------	----	------------------------

- Mount and tighten screw **5**.

Guideline

Screw, steering column, top	M20x1.5	25 Nm (18.4 lbf ft)
-----------------------------	---------	------------------------

- Mount and tighten screws **7**.

Guideline

Screw, steering bridge	M8	20 Nm (14.8 lbf ft)
------------------------	----	------------------------

- Mount the handlebar support **4** in the desired position using the screws. Mount new self-locking nuts **3** and tighten.

Guideline

Nut, handlebar support	M10	45 Nm (33.2 lbf ft)
------------------------	-----	------------------------

- Position the handlebar and fix it with the handlebar clamps **2**. Mount and tighten screws **1**.

Guideline

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

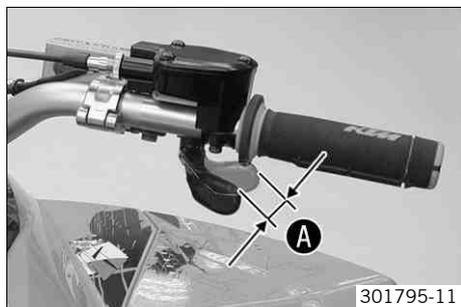


Info

Make sure cables and wiring are positioned correctly.

- Mount the handlebar cushion.

Checking the play in the throttle cable



- Move the handlebar to the straight-ahead position. Move the throttle lever back and forth slightly to ascertain the play in the throttle cable **A**.

Guideline

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. 81)



Danger

Danger of poisoning Exhaust gases are poisonous and can result in unconsciousness and/or death.

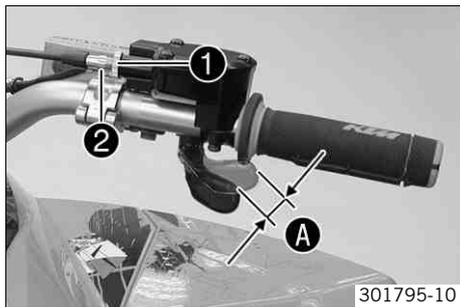
- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space.
- Start the engine and let it run idle. Move the handlebar to and fro over the entire steering range.

The idle speed must not change.

- » If the idle speed changes:

- Adjust the play in the throttle cable. (☛ p. 81)

Adjusting play in throttle cable



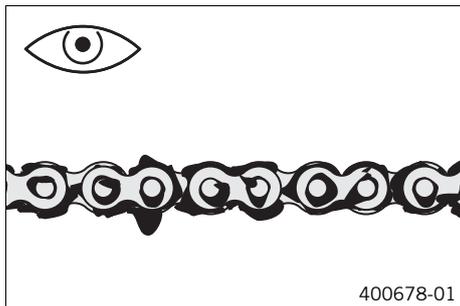
- Check throttle cable route.
- Move the handlebar to the straight-ahead position.
- Loosen the nut ① and use the screw ② to adjust the play in the throttle cable A.

Guideline

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

- Tighten nut ①.

Checking chain dirt



- Check the chain for heavy soiling.
 - » If the chain is very dirty:
 - Clean the chain. (☛ p. 82)

Cleaning the chain



Warning

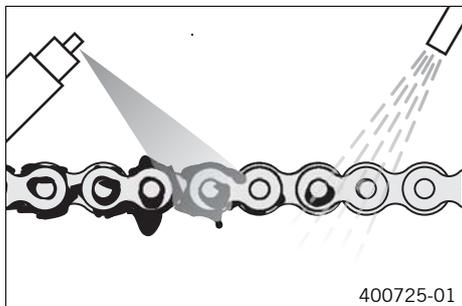
Environmental hazard Hazardous substances cause environmental damage.

- 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. 179)

Off-road chain spray (☛ p. 180)

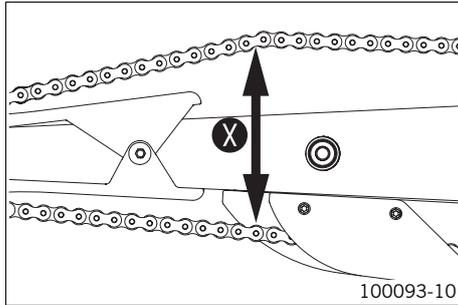
Checking the chain tension



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 eccentric element) are under additional load. Apart from premature wear, in extreme transmission output shaft or the drive chain may snap. Conversely, if the chain is too loose it may jump off the engine and rear sprockets, causing the rear wheel to lock up or even leading to engine damage. Check for correct chain tension and adjust if necessary.



- Park the vehicle on a horizontal surface and shift gears to neutral.
- Push the upper chain section at the end of the chain sliding component upwards to measure the chain tension **X**.

i **Info**

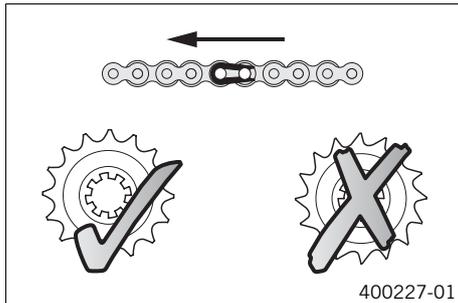
The lower chain section must be taut.

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

Chain tension	140... 145 mm (5.51... 5.71 in)
---------------	---------------------------------

- » If the chain tension does not meet specifications:
 - Adjust the chain tension. (👉 p. 85)

Checking rear sprocket / engine sprocket for wear



- Check rear sprocket / engine sprocket for wear.
 - » If the rear sprocket / engine sprocket are worn:
 - Replace the rear sprocket / engine sprocket.

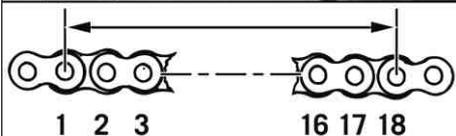
i **Info**

When fitting the chain joint, always make sure that the closed side of the joint faces forward (riding direction).

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

- Check that the chain guides are tight.

Checking chain wear



301796-10

- Park the vehicle on a horizontal surface and shift gears to neutral.
- Pull on the lower part of the chain with the specified weight **A**.

Guideline

Chain-wear measuring weight	10... 15 kg (22... 33 lb.)
-----------------------------	----------------------------

- Measure the distance **B** of 18 chain links in the upper chain section.

i Info

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

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

- » If the distance **B** is greater than the specified measurement:
 - Replace the chain.

i Info

When you replace the chain, you should also replace the rear sprocket and engine sprocket.

New chains wear out faster on old, worn sprockets.

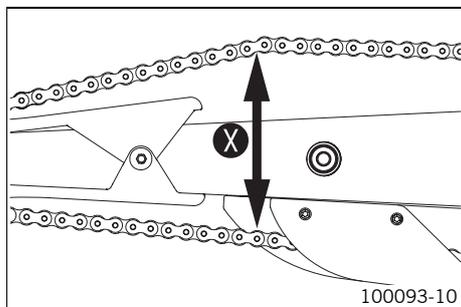
Adjusting chain tension



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 eccentric element) are under additional load. Apart from premature wear, in extreme transmission output shaft or the drive chain may snap. Conversely, if the chain is too loose it may jump off the engine and rear sprockets, causing the rear wheel to lock up or even leading to engine damage. Check for correct chain tension and adjust if necessary.



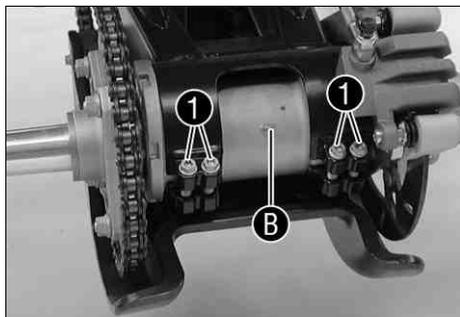
- Park the vehicle on a horizontal surface and shift gears to neutral.
- Push the upper chain section at the end of the chain sliding component upwards to measure the chain tension **X**.



Info

The lower chain section must be taut.

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



- Loosen the screws ❶ by four turns.

Alternative 1

- Insert the tool ❷ from the tool set into the hole ❶ of the rear wheel eccentric element.

Alternative 2

- Position the special tool at the rear wheel eccentric element.

Hook wrench (83019011000)

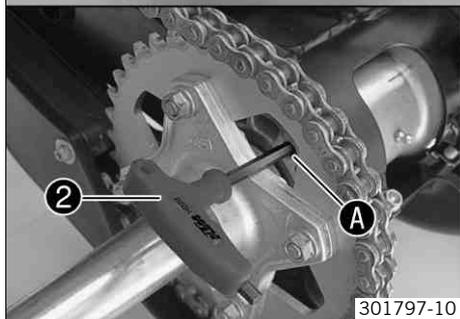
- To adjust the chain tension ❸, slowly turn at the rear wheel or the special tool to rotate the rear wheel eccentric element forward or backward.

Guideline

Chain tension	140... 145 mm (5.51... 5.71 in)
---------------	---------------------------------

i Info

Rotating the rear wheel eccentric element forward increases chain tension. Rotating the rear wheel eccentric element backward reduces chain tension. The rear wheel eccentric element should always be positioned such that the grease nipple ❷ is visible. This ensures that the vehicle has the greatest ground clearance.



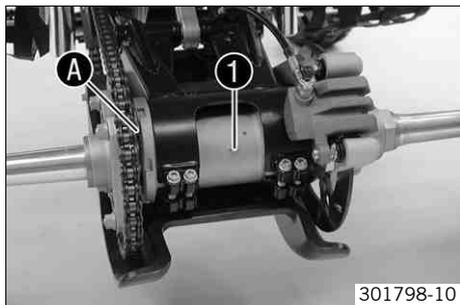
- Fully tighten screws ❶.

Guideline

Screw, rear wheel eccentric element	M8	20 Nm (14.8 lbf ft)
-------------------------------------	----	------------------------

- Remove the tool ❷.

Greasing the rear wheel eccentric element



301798-10

- Use a grease gun to fill the rear wheel eccentric element via the grease nipple ❶ until grease emerges from the left shaft seal ring ❷.

Long-life grease (➔ p. 177)

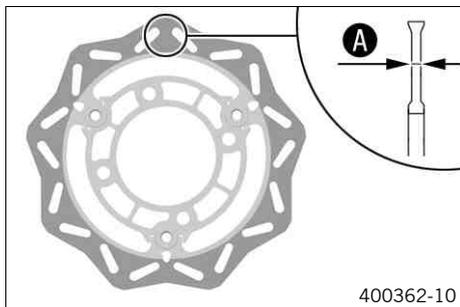
Checking brake discs



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.)



400362-10

- Check the thickness of the front and rear brake discs at several places on the disc to see if it conforms to measurement ❷.



Info

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

Brake discs - wear limit

Front	3.5 mm (0.138 in)
Rear	3.5 mm (0.138 in)

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

Checking the free travel of the hand brake lever



Warning

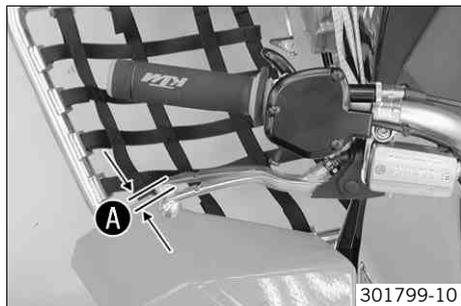
Danger of accidents Brake system failure.

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

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

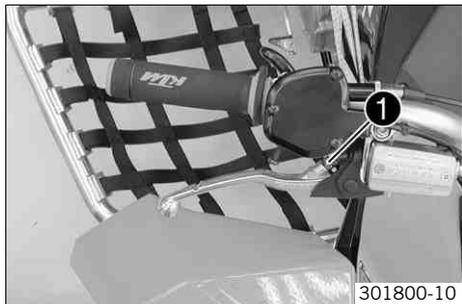
Free play of hand brake lever	$\geq 3 \text{ mm } (\geq 0.12 \text{ in})$
-------------------------------	---

- » If the free travel does not meet specifications:
 - Adjust the basic position of hand brake lever. (🔧 p. 89)



301799-10

Adjusting basic position of hand brake lever



- Check the free travel of the hand brake lever. (☛ p. 88)
- Adjust the basic setting of the hand brake lever to your hand size by turning adjusting screw ❶.

i Info

Pull the brake lever forward and turn the adjusting screw.
Turn the adjusting screw clockwise to increase the distance between the hand brake lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the hand brake 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 front brake fluid level



Warning

Danger of accidents Brake system failure.

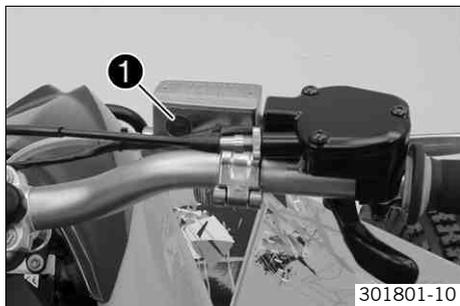
- If the brake fluid level falls below the bottom of the viewer, this indicates a leakage in the brake system or worn-out brake linings. Have the brake system checked in an authorized KTM workshop, and do not ride any further.



Warning

Danger of accidents Reduced braking due to old brake fluid.

- Change the brake fluid of the front and rear brakes 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 viewer ❶.
 - » When the brake fluid level has dropped below the bottom of the viewer:
 - Add front brake fluid. 🛠️ (👉 p. 90)

Topping up the front brake fluid 🛠️



Warning

Danger of accidents Brake system failure.

- If the brake fluid level falls below the bottom of the viewer, this indicates a leakage in the brake system or worn-out brake linings. Have the brake system checked in an authorized KTM workshop, and do not ride any further.



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 gets into your eyes, rinse thoroughly with water and contact a doctor immediately.



Warning

Danger of accidents Reduced braking due to old brake fluid.

- Change the brake fluid of the front and rear brakes 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.
-

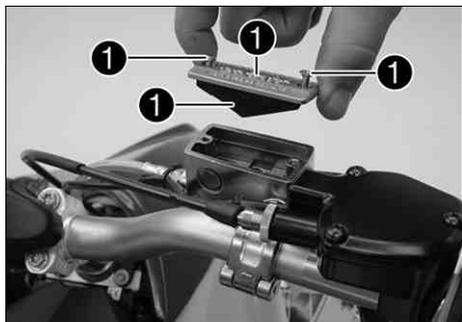


Info

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 and may damage painted surfaces!

Use only clean brake fluid from a sealed container!



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

Guideline

Dimension ❹ (brake fluid level below top edge of container)	5 mm (0.2 in)
---	---------------

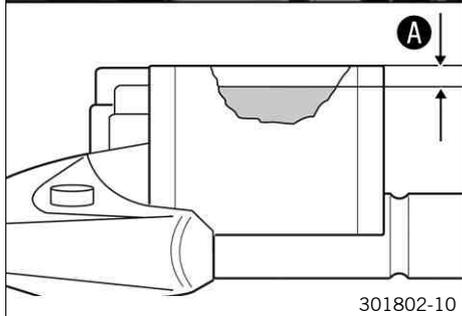
Brake fluid DOT 4 / DOT 5.1 (☞ p. 175)

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



Info

Clean up overflowed or spilt brake fluid immediately with water.



Checking the front brake linings

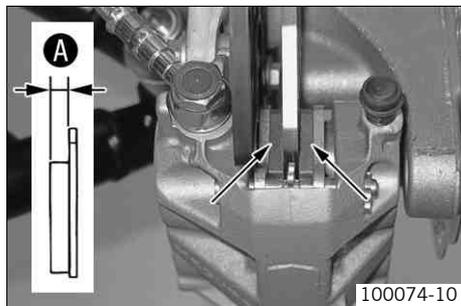


Warning

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.)

- Remove the wheel/wheels. (☞ p. 107)



- Check the brake linings of both front brake calipers for minimum thickness **A**.

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

- » If the minimum thickness is less than specified:
 - Change the front brake linings. (🔧 p. 95)
- Check the brake linings for damage and cracking.
 - » If damage or cracking is visible:
 - Change the front brake linings. (🔧 p. 95)
- Install the wheel/wheels. (🔧 p. 108)

Removing front brake linings 🛠️



Warning

Danger of accident Brake system failure.

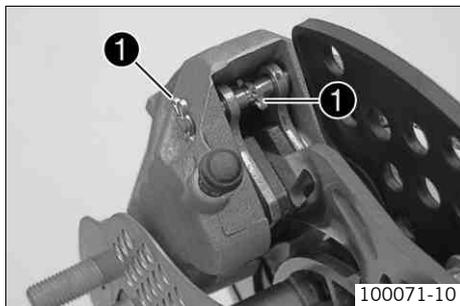
- Maintenance work and repairs must be carried out professionally. (Your authorized KTM workshop will be glad to help.)



Info

The operations are the same on the left and right.

- Remove the wheel/wheels. (🔧 p. 107)
- Pull the hand brake lever and release it again.
 - ✓ Locking pawl moves into its basic position, parking brake is deactivated.



- Push the brake piston back to release pressure on the brake linings.
- Remove the locking split pins ❶, withdraw the bolt, and take out the brake pads.
- Clean the brake caliper and bolts.

Installing the front brake linings 🛠️



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.

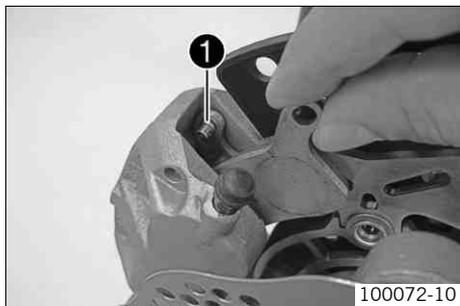
- Brake linings available from accessory suppliers are often not tested and approved for use on KTM vehicles. The construction and friction factor of the brake linings and therefore the brake power can differ considerably from the original KTM brake linings. If brake linings are used that differ from 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.



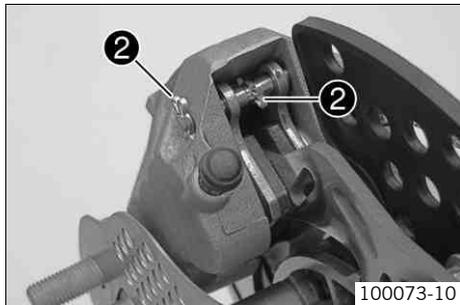
Info

The operations are the same on the left and right.

- Check the brake discs. (🔧 p. 87)



- Insert the inside brake lining into the brake caliper and fix with bolt ❶.
- Insert the external brake lining into the brake caliper and slide the bolts in all the way.



- Mount locking split pins ❷.
- Operate the hand brake lever repeatedly until the brake linings lie on the brake disc and there is a tight spot.
- Install the wheel/wheels. (👉 p. 108)

Changing the front 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 gets into your eyes, rinse thoroughly with water and contact a doctor immediately.



Warning

Danger of accidents Reduced braking due to old brake fluid.

- Change the brake fluid of the front and rear brakes 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.

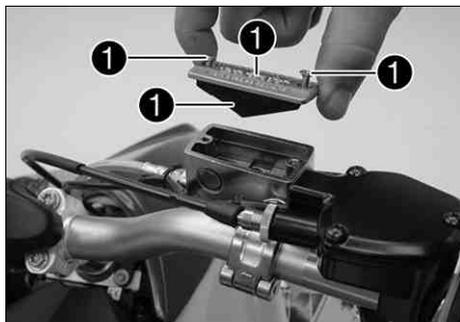


Info

Never use DOT 5 brake fluid! This is based on silicone oil and is colored purple. 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 and may damage painted surfaces!

Use only clean brake fluid from a sealed container!



- Remove the front brake linings. 🛠️ (☞ p. 93)
- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ❶.
- Remove cover ❷ with membrane ❸.
- Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
- Install the front brake linings. 🛠️ (☞ p. 94)
- Correct brake fluid level to ❸.

Guideline

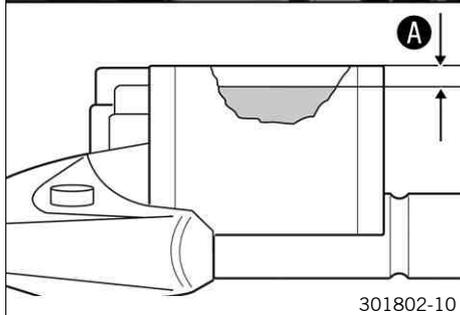
Dimension ❸ (brake fluid level below top edge of container)	5 mm (0.2 in)
---	---------------

Brake fluid DOT 4 / DOT 5.1 (☞ p. 175)
--

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

i Info

Clean up overflowed or spilt brake fluid immediately with water.



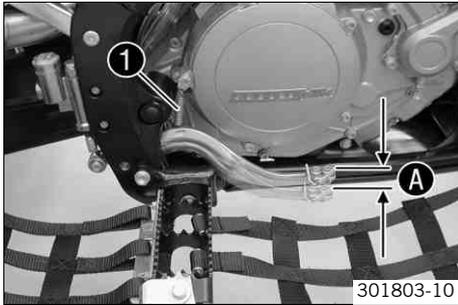
Checking free travel of foot brake lever



Warning

Danger of accidents Brake system failure.

- If there is no free travel on the foot brake pedal, pressure builds up on the rear brake in the brake system. The rear brake can fail due to overheating. Adjust free travel on foot brake pedal 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 play ❸.

Guideline

Free play 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. 98)
- Reconnect spring ❶.

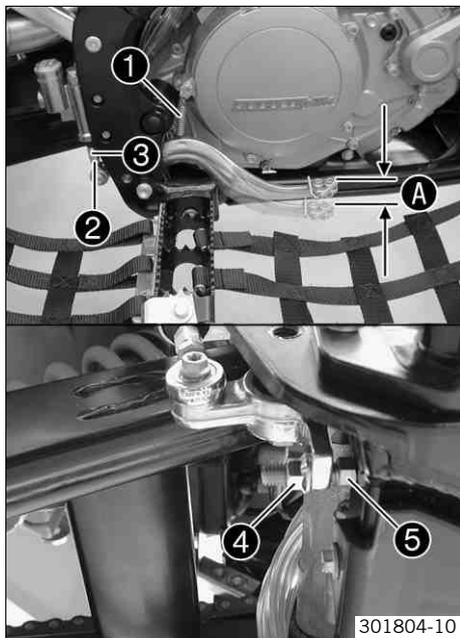
Adjusting basic position of foot brake lever 🛠️



Warning

Danger of accidents Brake system failure.

- If there is no free travel on the foot brake pedal, pressure builds up on the rear brake in the brake system. The rear brake can fail due to overheating. Adjust free travel on foot brake pedal according to specifications.



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



Info

The range of adjustment is limited.

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

Guideline

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

- Hold screw ❺ and tighten nut ❹.

Guideline

Remaining nuts, chassis	M8	30 Nm (22.1 lbf ft)
-------------------------	----	------------------------

- Hold push rod ❸ and tighten nut ❷.

Guideline

Remaining nuts, chassis	M6	15 Nm (11.1 lbf ft)
-------------------------	----	------------------------

- Reconnect spring ❶.

Checking rear brake fluid level



Warning

Danger of accidents Brake system failure.

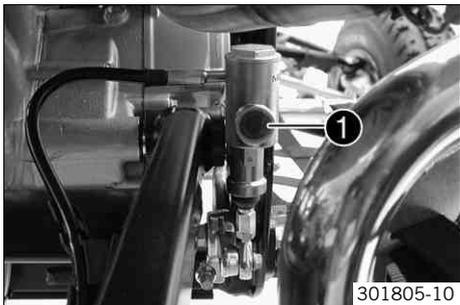
- If the brake fluid level falls below the bottom of the viewer, this indicates a leakage in the brake system or worn-out brake linings. Have the brake system checked in an authorized KTM workshop, and do not ride any further.



Warning

Danger of accidents Reduced braking due to old brake fluid.

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



- Park the vehicle on a horizontal surface.
- Check the brake fluid level in the viewer **1**.
 - » When the brake fluid level has dropped to the bottom of the viewer **1**:
 - Add rear brake fluid. 🛠️ (👉 p. 100)

Adding rear brake fluid 🛠️



Warning

Danger of accidents Brake system failure.

- If the brake fluid level falls below the bottom of the viewer, this indicates a leakage in the brake system or worn-out brake linings. Have the brake system checked in an authorized KTM workshop, and do not ride any further.



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 gets into your eyes, rinse thoroughly with water and contact a doctor immediately.



Warning

Danger of accidents Reduced braking due to old brake fluid.

- Change the brake fluid of the front and rear brakes 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.

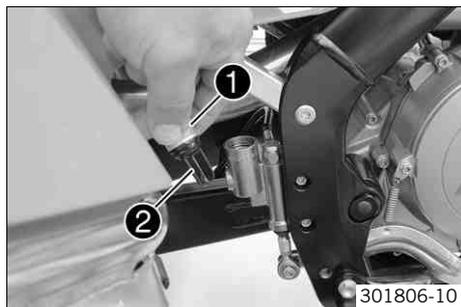


Info

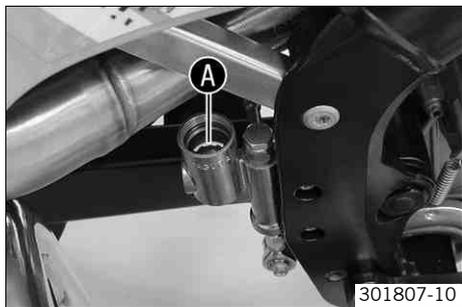
Never use DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.

Avoid contact between brake fluid and painted parts. Brake fluid is corrosive and may damage painted surfaces!

Use only clean brake fluid from a sealed container!



- Remove screw ❶ with membrane ❷.



301807-10

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

Brake fluid DOT 4 / DOT 5.1 (👉 p. 175)
--

- Refit screw **1** with membrane **2**.

i **Info**

Clean up overflowed or spilt brake fluid immediately with water.

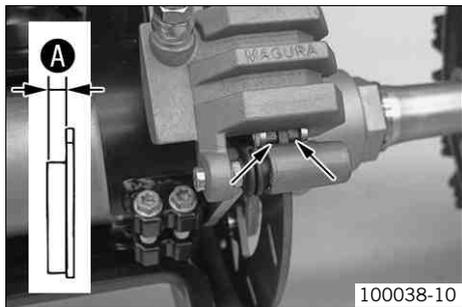
Checking rear brake linings



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.)



100038-10

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

Minimum thickness A	≥ 1 mm (≥ 0.04 in)
----------------------------	--------------------

- » If the minimum thickness is less than specified:
 - Change the rear brake linings. 🛠️ (👉 p. 106)
- Check the brake linings for damage and cracking.
 - » If damage or cracking is visible:
 - Change the rear brake linings. 🛠️ (👉 p. 106)

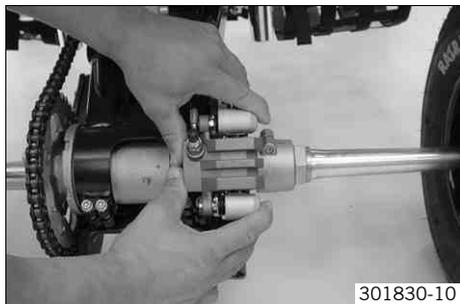
Removing rear brake linings



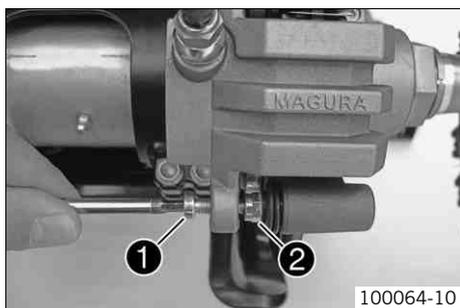
Warning

Danger of accident Brake system failure.

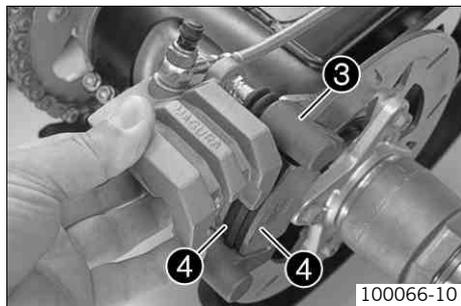
- Maintenance work and repairs must be carried out professionally. (Your authorized KTM workshop will be glad to help.)



- Press the brake caliper by hand on to the brake disc in order to press back the brake piston.



- Loosen the screw **1** while holding the hexagonal head **2** of the bearing bolt. Unscrew the screw by approx. 10 turns and use the screw to press the bearing bolt out of the brake caliper. Remove screw.



Note

Danger of damage Kinking of brake line.

- Position and handle the brake line without straining it. The brake line must be replaced if it is kinked.
-
- Swing the brake caliper up, unhook it from the brake caliper support ③ and set it down.
 - Remove the brake linings ④.
 - Clean brake caliper and brake caliper support.

Installing the rear brake linings 🛠️



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.

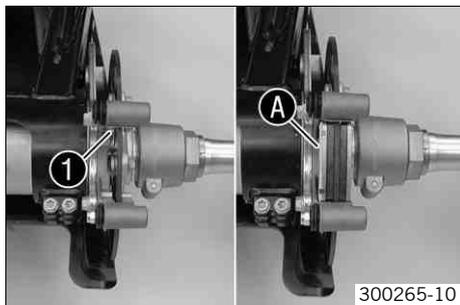


Warning

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.

- Check the brake discs. (🔧 p. 87)

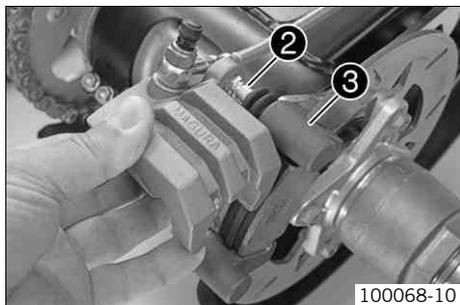


300265-10

- Check that sliding plate ❶ is seated correctly in the brake caliper support and insert the brake linings.

i Info

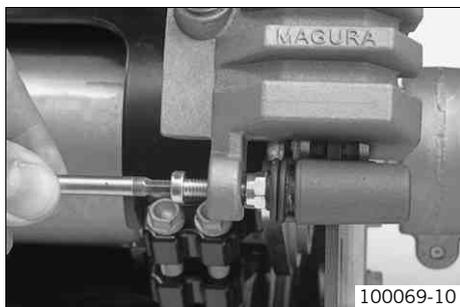
Make sure that decoupling plate A is mounted on the piston side of the brake pad.



100068-10

- Grease bearing bolt ❷ and insert the brake caliper with the bearing bolt into brake caliper support ❸.

Lubricant (T625) (☛ p. 180)



100069-10

- Swing the brake caliper downward. Mount and tighten the screw.

Guideline

Screw, rear brake caliper	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
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- Operate the foot brake lever repeatedly until the brake linings lie on the brake disc and there is a tight spot.

Changing 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 gets into your eyes, rinse thoroughly with water and contact a doctor immediately.



Warning

Danger of accidents Reduced braking due to old brake fluid.

- Change the brake fluid of the front and rear brakes 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.

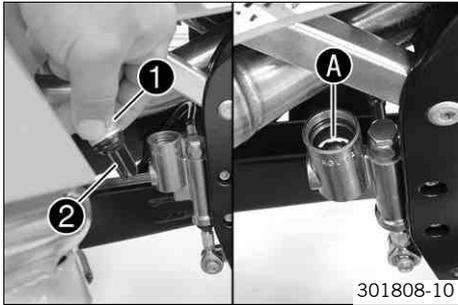


Info

Never use DOT 5 brake fluid! This is based on silicone oil and is colored purple. 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 and may damage painted surfaces!

Use only clean brake fluid from a sealed container!



- Remove the rear brake linings. 🛠️ (👉 p. 103)
 - Remove screw ❶ with membrane ❷.
 - Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
 - Install the rear brake linings. 🛠️ (👉 p. 104)
 - Add brake fluid to level A.
- Brake fluid DOT 4 / DOT 5.1 (👉 p. 175)
- Refit screw ❶ with membrane ❷.



Info

Clean up overflowed or spilled brake fluid immediately with water.

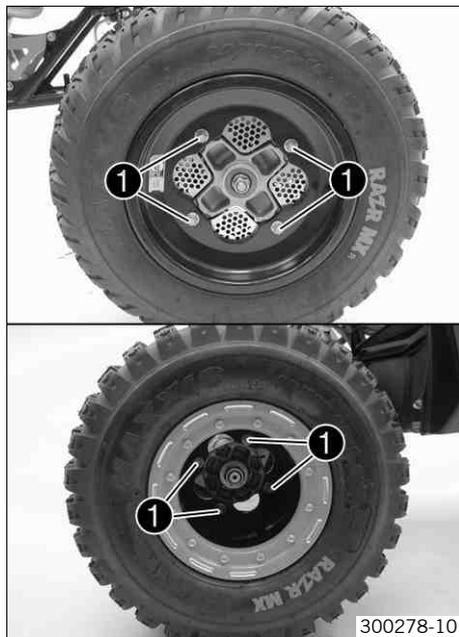
Removing wheel/wheels



Info

Proceed in the same way on the other wheels if necessary.

- Pull the hand brake lever, push the locking pawl ❷ down and release the hand brake lever. (Figure 301776-10👉 p. 20)



- Loosen the wheel nuts ❶.
- Jack up the vehicle. (🔧 p. 50)
- Remove the wheel nuts. Remove the wheel.



Info

Carefully remove the wheel, making sure it does not become jammed with the threads of the screws.

Installing the wheel/wheels

Note

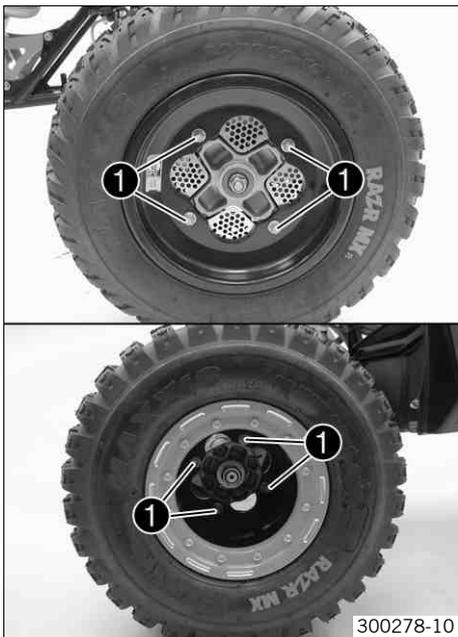
Material damage Damage and destruction of components from incorrect positioning and mounting.

- Do not swap the wheels; the tire valves must always be on the outside when the wheels are positioned and mounted.



Info

Proceed in the same way on the other wheels if necessary.



- Position the wheel on the hub.



Info

Note the direction of travel of the front wheels.

Carefully position the wheel on the hub, being careful not to damage the threads of the screws.

- Mount wheel nuts ❶ but do not tighten.
- Remove the vehicle from the work stand. (☛ p. 50)
- Pull the hand brake lever, push the locking pawl ❷ down and release the hand brake lever. (Figure 301776-10☛ p. 20)
- Tighten the wheel nuts crosswise.

Guideline

Wheel nut	M10x1.25	45 Nm (33.2 lbf ft)
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Checking the tire condition

Info

Only mount tires that have been approved and/or recommended by KTM.
Other tires could have a negative effect on riding behavior.
The type, condition and air pressure of the tires all have an important impact on the riding behavior of the vehicle.
The front and rear wheels must be fitted with tires with similar profiles.
Worn tires have a negative effect on riding behavior, especially on wet surfaces.

- Examine the tires for cuts, foreign bodies and other damage.
- Check the tire age.

Info

The tire's date of manufacture is usually part of the tire markings and is indicated by the last four digits of the **DOT** marking.
The first two digits indicate the week of manufacture and the last two digits the year of manufacture.
KTM recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

- » If the tires are older than five years:
 - Change the tires.

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.
Check the tire pressure on all wheels and correct it if necessary.



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

Tire pressure gauge (83519001000)

Tire air pressure off road	0.3 bar (4 psi)
----------------------------	-----------------

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

Removing the battery

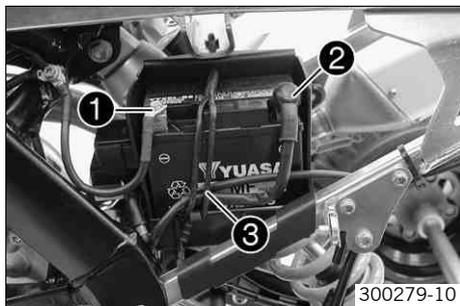


Warning

Risk of injury Battery acid and battery gases cause serious cauterization.

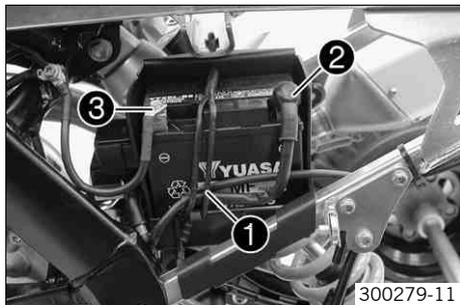
- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open fire. Charge only in well ventilated rooms.
- In the event of skin contact, rinse with large amounts of water.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

- Switch off all power consumers and switch off the engine.
- Remove the rear fender. (🔧 p. 125)



- Disconnect the negative (minus) cable ❶ of the battery.
- Pull back the plus pole cover and disconnect the positive (plus) cable ❷ of the battery.
- Loosen the rubber band ❸.
- Remove the battery.

Installing the battery



- Place the battery in the battery holder.
- 4Ah battery (YTX5L-BS) (☛ p. 168)
- Reconnect rubber band ❶.
 - Attach the positive (plus) cable and replace the plus pole cover ❷.
 - Connect the negative (minus) cable ❸ of the battery.
 - Install the rear fender. (☛ p. 127)

Recharging the battery



Warning

Risk of injury Battery acid and battery gases cause serious cauterization.

- 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 fire. Charge only in well ventilated rooms.
- 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 doctor.



Warning

Environmental hazard Battery parts and acid 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 if 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 charging with a high charging current has a negative impact on the service life.

If the charging current, charging voltage and charging time are exceeded, electrolyte escapes via the safety valves. This reduces the battery capacity.

If the vehicle is started repeatedly until the battery is depleted, the battery must be charged immediately.

If the battery is left in a discharged state for an extended period, it will drain completely 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 rear fender. (🔧 p. 125)
 - Disconnect the minus (negative) cable of the battery to avoid damage to the vehicle's 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 rest potential and start potential of the battery, and to test the alternator. With this device, you cannot overcharge the battery.



Info

Never remove the lid ❶.

Charge the battery to a maximum of 10% of the capacity specified on the battery housing ❷.

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

Guideline

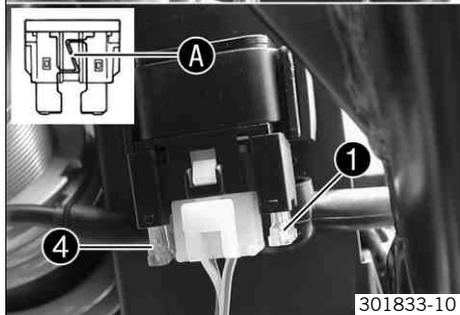
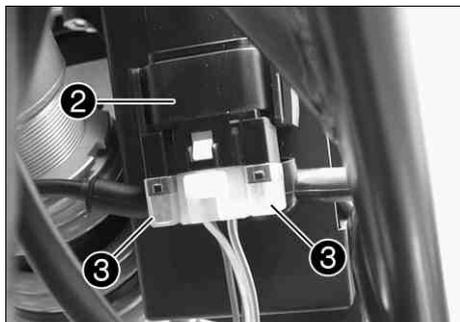
The charge current, charge voltage and charge time must not be exceeded.	
--	--

Charge the battery regularly when the vehicle is not in use	3 months
---	----------

- Install the rear fender. (👉 p. 127)

Changing the main fuse

- Switch off all power consumers and switch off the engine.



301833-10

- The main fuse ❶ is located in the starter relay ❷ in front of the battery.
- Remove protection covers ❸.
- Remove the faulty main fuse.

i Info
You can recognize a blown fuse by its broken filament ❶.

⚠ Warning
Fire hazard The electrical system can be overloaded by the use of incorrect fuses.

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

- Insert the new fuse.

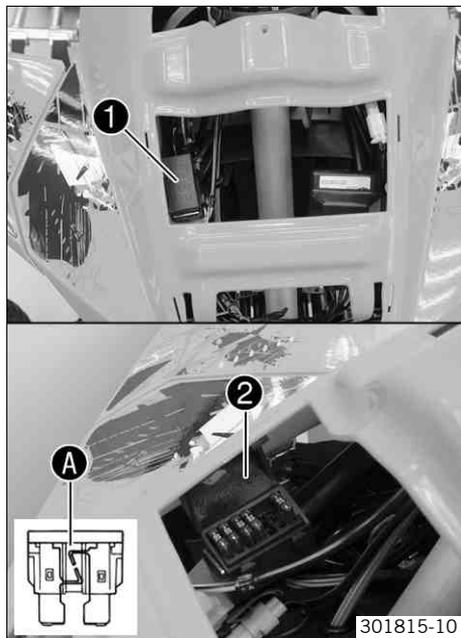
Fuse (58011109120)

i Tip
Replacement fuse ❷ should always be present in the starter relay to make sure it is available when needed.

- Replace the protection covers.

Changing the fuses of individual power consumers

- Remove the front cover. (👉 p. 122)
- Switch off all power consumers and switch off the engine.



- Open the cover ② of the fuse box ①.



Info

The designation of the fuses is located on the inside cover of the fuse box ②.

- Remove the faulty fuse.

Guideline

Fuse 1 - 10A - CDI controller

Fuse 2 - 10A - radiator fan

Fuse 3 - not used

Fuse 4 - not used

Fuse 5 - power supply for auxiliary equipment

Fuse res. - 10A - spare fuses



Info

You can recognize a blown fuse by its broken filament ①.



Warning

Fire hazard The electrical system can be overloaded by the use of incorrect fuses.

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

- Insert a new fuse of the appropriate strength.

Fuse (58011109110)

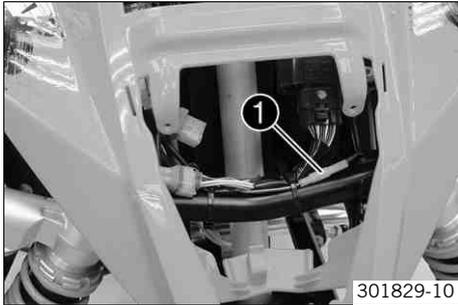


Tip

The replacement fuses should always be present in the fuse box to make sure they are available when needed.

- Close the cover of the fuse box.
- Install the front cover. (☞ p. 123)

Ignition curve plug connection



Plug-in connector ❶ is located under the trim at the front on the frame tube.

Possible states

- Performance – The plug-in connector is connected to achieve better performance.
- Soft – The plug-in connector is disconnected for better driveability.

Changing the ignition curve

- Remove the front trim. (☞ p. 123)

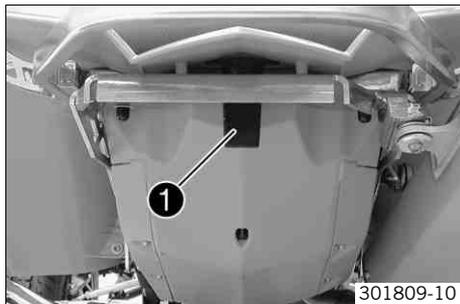
Changing the ignition curve from Performance to Soft.

- Disconnect plug-in connector ❶. (Figure 301829-10 ☞ p. 118)
 - ✓ Soft – The plug-in connector is disconnected for better driveability. (☞ p. 118)

Changing the ignition curve from Soft to Performance.

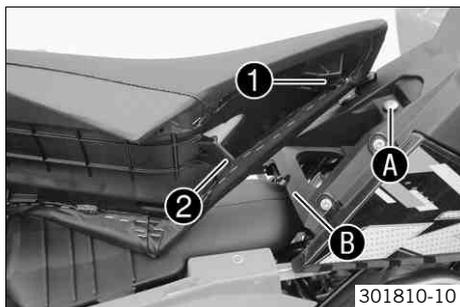
- Connect the plug-in connector ❶. (Figure 301829-10 ☞ p. 118)
 - ✓ Performance – The plug-in connector is connected to achieve better performance. (☞ p. 118)
- Install the front trim. (☞ p. 125)

Removing the seat

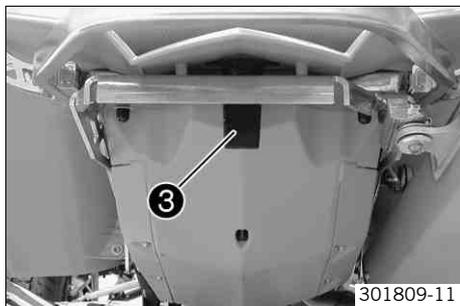


- Pull the release hook **1** back. Lift up the seat at the rear, pull it back and then remove from above.

Mounting the seat



- Hook slot **1** on the seat into collar sleeve **A** of the fuel tank, lower the rear of the seat and slide tab **2** under fuel tank **B**.



- Push down the rear of the seat until release hook ③ engages.
- Make sure that the seat is correctly locked in.

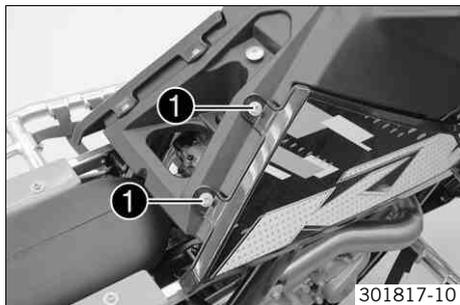
Removing the radiator spoiler

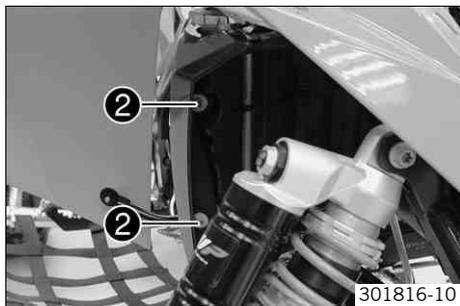


Info

The operations are the same on the left and right.

- Remove the seat (☛ p. 119)
- Remove the screws ① on the fuel tank.





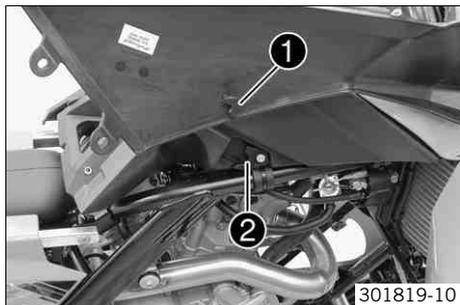
- Remove the screws ② on the radiator.
- Detach the radiator spoiler and remove it.

Installing the radiator spoiler

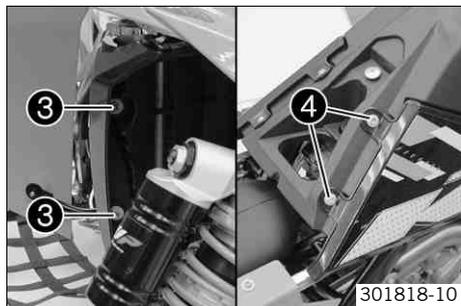


Info

The operations are the same on the left and right.



- Hook catch ① of the radiator spoiler into holder ② of the fuel tank and position it on the radiator.



- Mount and tighten screws ③ on the radiator.

Guideline

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

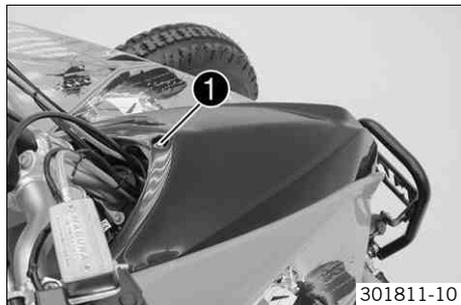
- Mount and tighten screws ④ on the fuel tank.

Guideline

Screw on fuel tank	M6	6 Nm (4.4 lbf ft)
--------------------	----	-------------------

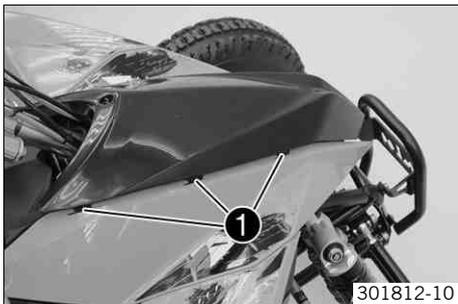
- Mount the seat. (👉 p. 119)

Removing the front cover



- Remove screw ①.
- Slide the front cover up and remove it.

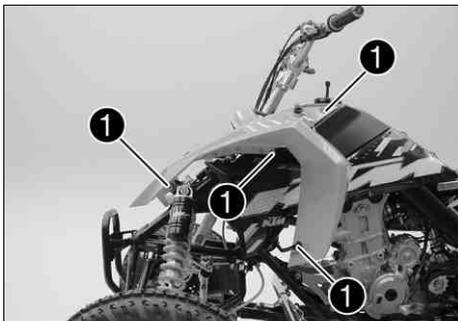
Installing the front cover



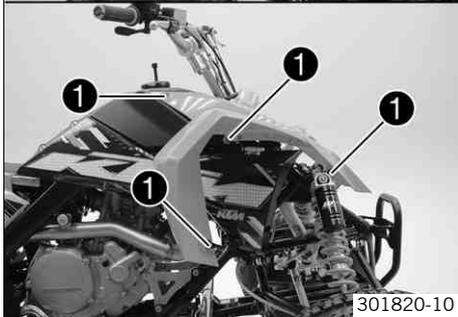
- Position the front cover in slots **1** on both sides of the front trim.
- Mount and tighten the screw.

Removing the front trim

- Remove the front cover. (☛ p. 122)

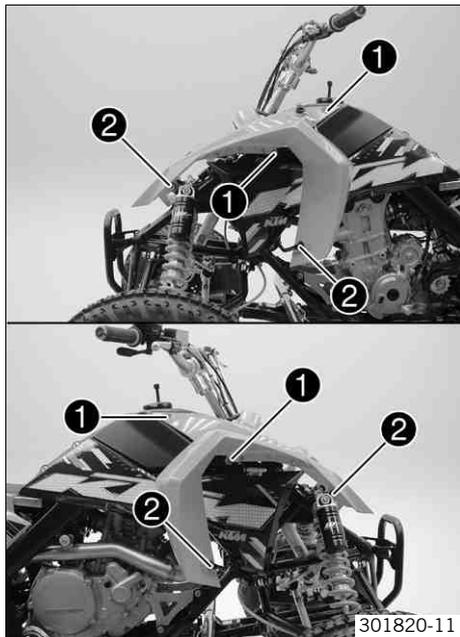


- Remove screws ❶.
- Raise the front trim and disconnect the plug-in connector from the emergency OFF switch with the rip cord.
- Remove the front trim.



301820-10

Installing the front trim



- Connect the plug-in connector of the emergency OFF switch with the rip cord and position the front trim.
- Mount all screws.
- Fully tighten screws ❶.

Guideline

Screw on fuel tank	M6	6 Nm (4.4 lbf ft)
--------------------	----	-------------------

- Fully tighten screws ❷.

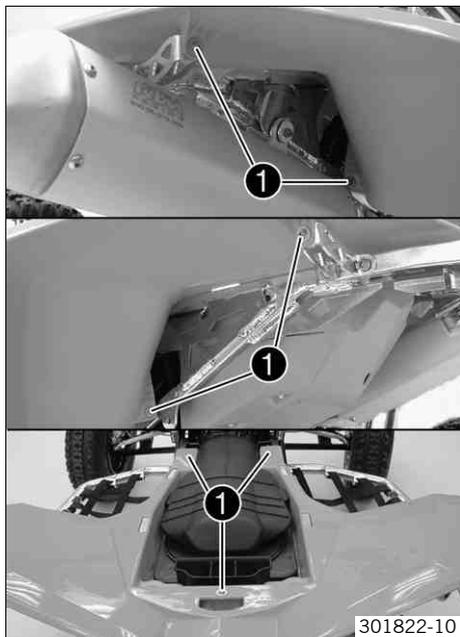
Guideline

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

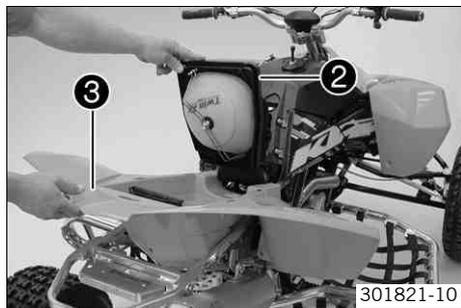
- Install the front cover. (☛ p. 123)

Removing the rear fender

- Remove the seat (☛ p. 119)

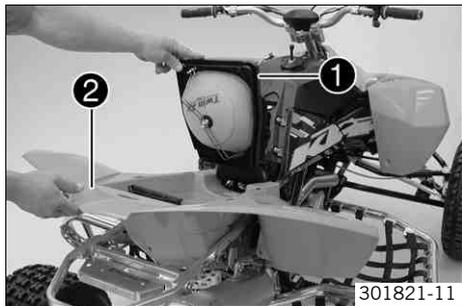


- Remove screws ❶.



- Raise the rear of the air filter box lid ❷. At the same time, use your other hand to press on the carburetor connection boot to kink it at that location. This prevents the carburetor connection boot from disconnecting from the carburetor.
- Raise fender ❸ at the rear and remove it.

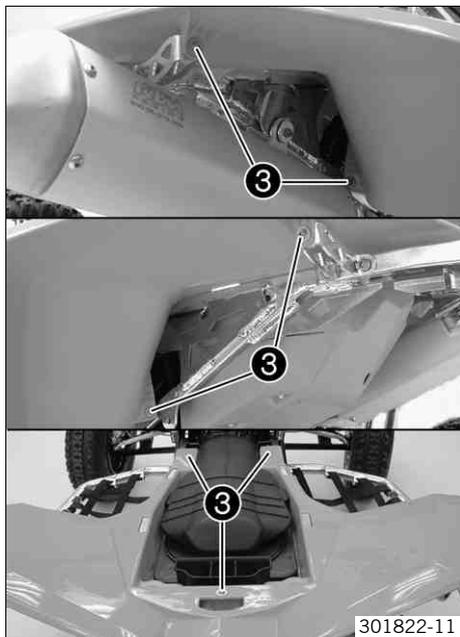
Installing the rear fender



- Raise the rear of air filter box lid ❶. At the same time, use your other hand to press on the carburetor connection boot to kink it at that location. This prevents the carburetor connection boot from disconnecting from the carburetor.
- Position front fender ❷.
- Fix the air filter box lid in the fender.

i Info

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



- Mount and tighten screws ③.

Guideline

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

- Mount the seat. (☛ p. 119)

Removing the engine guard



- Remove screws ❶ and ❷. Remove the engine guard.

Installing the engine guard



- Position the engine guard on the frame bearer. Mount and tighten screws ❶ and ❷.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)

Removing the air filter

Note

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

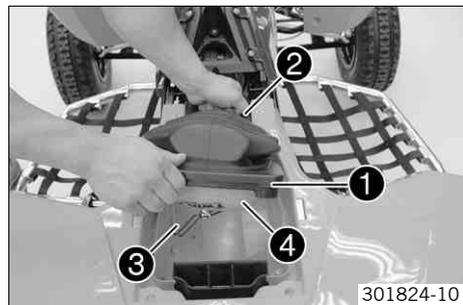
- Never ride the vehicle without an air filter since dust and dirt can get into the engine and result in increased wear.



Warning

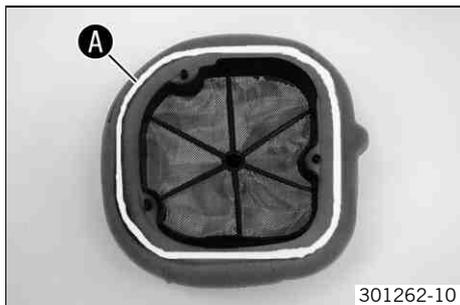
Environmental hazard Hazardous substances cause environmental damage.

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



- Remove the seat ( p. 119)
- Raise the rear of the air filter box lid **1**. At the same time, use your other hand to press on the carburetor connection boot **2** to kink it at that location. This prevents the carburetor connection boot from disconnecting from the carburetor.
- Unhook the air filter holder **3** and swing it to the side. Remove the air filter **4** 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 **A**.

Long-life grease ( p. 180)



- Put in both parts together, position them and fix them with the air filter support **1**.

Info

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

- Mount the air filter box lid.

Info

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

- Mount the seat. ( p. 119)

Cleaning air filter



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. 130)
- Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner ( p. 179)



Info

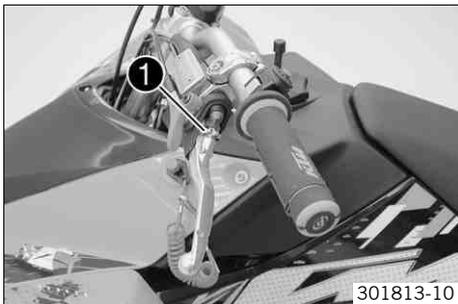
Only press the air filter to dry it, never wring it out.

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

Oil for foam air filter ( p. 181)

- Clean the air filter box.
- Check carburetor connection boot for damage and tightness.
- Install the air filter.  ( p. 131)

Adjusting basic position of clutch lever



301813-10

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

i 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.

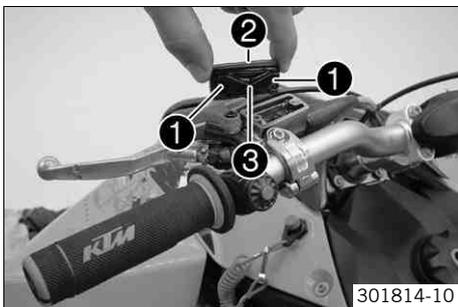
Do not make any adjustments while riding!

Checking fluid level of hydraulic clutch

i Info

The fluid level rises with increasing wear of the clutch lining disc.

Do not use brake fluid.



301814-10

- 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.

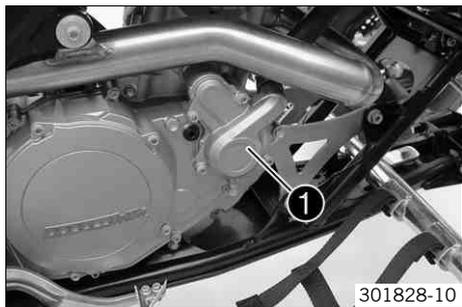
Fluid level under top level of container	4 mm (0.16 in)
--	----------------

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

Hydraulic fluid (15) (☛ p. 177)

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

Cooling system



The water pump ❶ in the engine forces the coolant to flow.

The pressure resulting from the warming of the cooling system is regulated by a valve in the radiator cap . The specified coolant temperature is therefore permissible without danger of function problems.

120 °C (248 °F)

Cooling is effected by the air stream. The radiator fan provides extra cooling.

The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

Radiator fan



The radiator fan ❶ is located on the radiator under the fuel tank.

Working range within which radiator fan is switched on and off.

Thermoswitch	
Switch-off temperature	80 °C (176 °F)
Switch-on temperature	85 °C (185 °F)

Checking antifreeze and coolant level



Warning

Danger of scalding The coolant gets very hot and is under high pressure when the vehicle is operated.

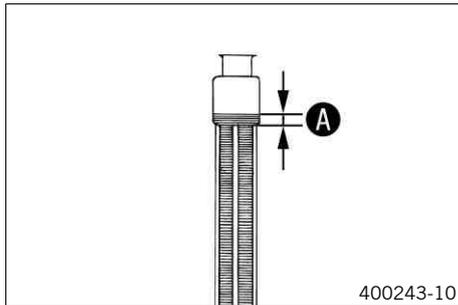
- Do not remove the radiator cap or remove radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. If you scald yourself, hold the affected area under lukewarm water immediately.



Warning

Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel 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 coolants out of the reach of children.



- Remove the front trim. (🔧 p. 123)
- Remove the radiator cap.
- Check antifreeze of coolant.

-25... -45 °C (-13... -49 °F)

» If the coolant antifreeze does not meet specifications:

- Correct the coolant antifreeze.

- Check the coolant level in the radiator.

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

» If the coolant level does not meet specifications:

- Correct the coolant level.

Alternative 1

Coolant (🔧 p. 175)

Alternative 2

Coolant (mixed ready to use) (☞ p. 175)

- Mount the radiator cap.

Checking the coolant level



Warning

Danger of scalding The coolant gets very hot and is under high pressure when the vehicle is operated.

- Do not remove the radiator cap or remove radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. If you scald yourself, hold the affected area under lukewarm water immediately.



Warning

Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel 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 coolants out of the reach of children.

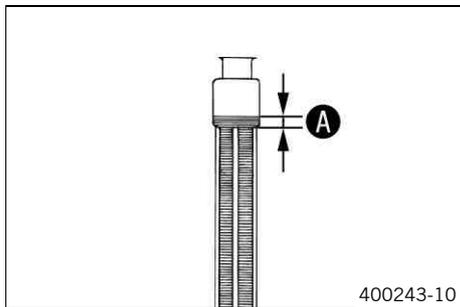
- Remove the front trim. (☞ p. 123)
- Remove the radiator cap.
- Check the coolant level in the radiator.

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

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

Alternative 1

Coolant (☞ p. 175)



Alternative 2

Coolant (mixed ready to use) (☞ p. 175)

- Mount the radiator cap.

Draining coolant ☞



Warning

Danger of scalding The coolant gets very hot and is under high pressure when the vehicle is operated.

- Do not remove the radiator cap or remove radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. If you scald yourself, hold the affected area under lukewarm water immediately.

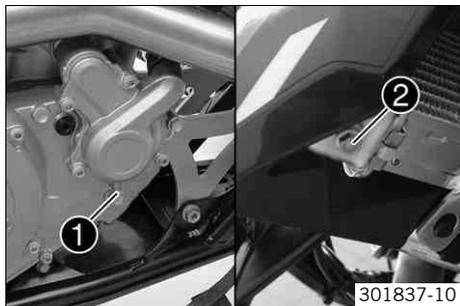


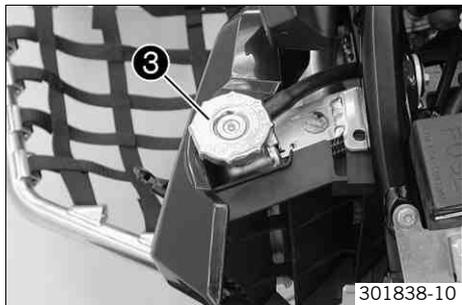
Warning

Danger of poisoning Coolants are poisonous and a health hazard.

- Avoid contact between coolants and skin, eyes and clothing. If fuel 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 coolants out of the reach of children.

- Remove the front trim. (☞ p. 123)
- Place a suitable container under the vehicle.
- Remove screw ①.
- Remove screw ②.





301838-10

- Remove the radiator cap ③. Completely drain the coolant.
- Mount screw ① with a new seal and tighten it.

Guideline

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

- Mount screw ② with a new seal and tighten it.

Guideline

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

Filling coolant/bleeding the cooling system 🛠️

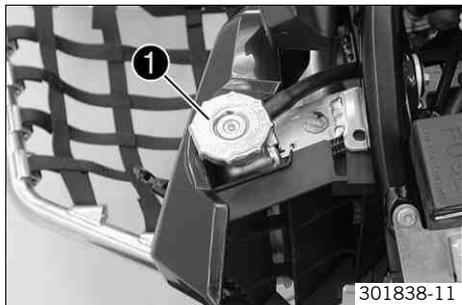


Warning

Danger of poisoning Coolants are poisonous and a health hazard.

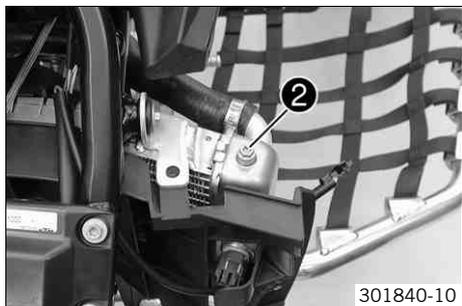
- Avoid contact between coolants and skin, eyes and clothing. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If coolant is swallowed, contact a doctor immediately. Change clothes that have come into contact with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

- Remove the front trim. (🔧 p. 123)
- Remove the radiator spoiler. (🔧 p. 120)



- Remove the radiator cap ❶.
- Fill the coolant into the radiator.

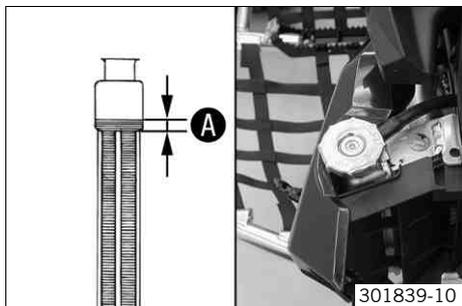
Coolant	1.50 l (1.59 qt.)	Coolant (☛ p. 175)
		Coolant (mixed ready to use) (☛ p. 175)



- Open screw ❷ to bleed the radiator. Tighten the screw when coolant emerges from the opening.

Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
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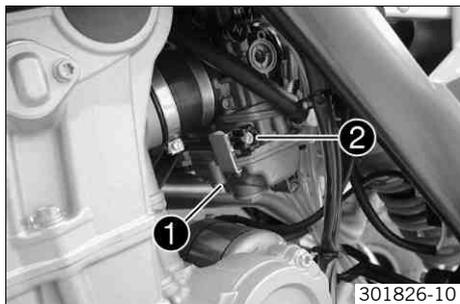
- Add coolant to level ❸ above the radiator fins.

Guideline

10 mm (0.39 in)

- Mount the radiator cap.
- Install the front trim. (☛ p. 125)
- Make a short test ride.
- Check the coolant level. (☛ p. 136)

Carburetor - idle



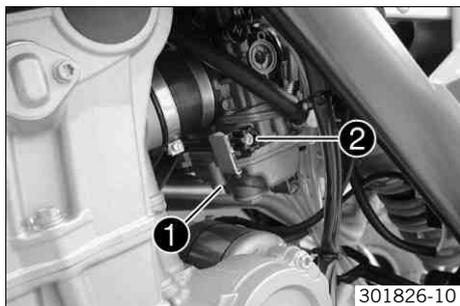
The idle setting of the carburetor has a big influence on the starting behavior, stable idling and the response to throttle opening. That means that an engine with a correctly set idle speed is easier to start than if the idle is set wrongly.

i Info

The carburetor and its components are subject to increased wear caused by engine vibration. Wear can result in malfunctioning. If the idle speed is set significantly higher, the engine does not start. When the electric starter button is activated, the electric starter turns over the engine, but the engine does not start because there is no ignition spark.

The idle speed is adjusted with the adjustment screw ②.
The idle mixture is adjusted with the idle mixture adjustment screw ①.

Carburetor - adjusting idle



- Screw in the idle adjusting screw ① until it stops and then to the prescribed basic setting.

Guideline

Idle mixture adjusting screw	
Open	1.5 turns

Adjustment tool for mixture control screw (59029034000)

- Run the engine until warm.

Guideline

Warm-up time	≥ 5 min
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- Adjust the idle speed with the adjusting screw ②.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 25)	
Idle speed	1,500... 1,600 rpm

Info

If the idle speed is set significantly higher, the engine does not start. When the electric starter button is activated, the electric starter turns over the engine, but the engine does not start because there is no ignition spark.

- Turn the idle adjusting screw ❶ slowly clockwise until the idle speed begins to fall.
- Note the position and turn the idle 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 large increase in the engine speed, reduce the idle speed to a normal level and repeat the above steps.

The extremely sporty rider will set the mixture about 1/4 of a turn back from this ideal value (leaner, clockwise) since the engine has a higher operating temperature 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 adjusting screw to the end without any change of engine speed, you have to fit a smaller idling jet.

The idle 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 the adjusting screw ❷.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 25)	
Idle speed	1,500... 1,600 rpm



Info

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

Draining 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

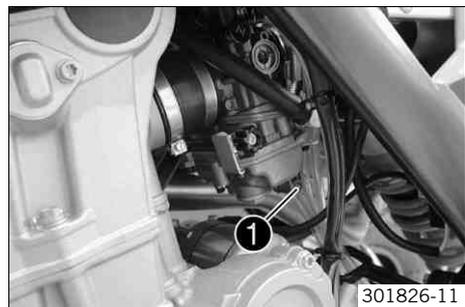
Environmental hazard Improper handling of fuel is a danger to the environment.

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

i Info

Carry out this work with a cold engine.

- Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 301779-10 p. 24)
✓ No more fuel flows from the tank to the carburetor.
- Guide the hose coming down behind the engine into a suitable container.



i Info

Water in the float chamber results in malfunctioning.

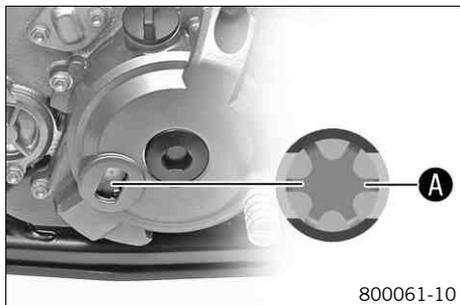
- Undo the screw ❶ (turn it counterclockwise) a few turns and drain the fuel from the float chamber.
- Tighten screw ❶.

Checking the engine oil level

i Info

The engine oil level can be checked on a cold or hot engine.

- Park the vehicle on a horizontal surface.



Condition

The engine is at operating temperature.

- Check the engine oil level.

Info

After switching off the engine, wait one minute before checking the level.

The engine oil reaches the middle of the viewer **A**.

- » When the engine oil does not reach the middle of the viewer **A**:
 - Add engine oil. (🔧 p. 150)

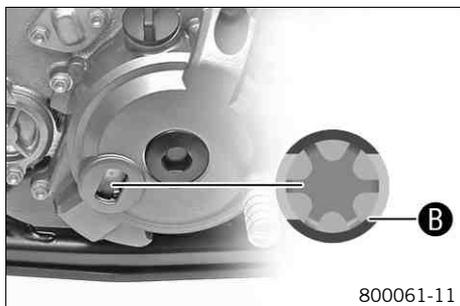
Condition

The engine is cold.

- Check the engine oil level.

The engine oil reaches the bottom of the viewer **B**.

- » When the engine oil does not reach the bottom of the viewer **B**:
 - Add engine oil. (🔧 p. 150)



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



- Drain the engine oil.  (🔧 p. 145)
- Remove the oil filter.  (🔧 p. 147)
- Install the oil filter.  (🔧 p. 149)
- Fill up with engine oil.  (🔧 p. 149)

Draining the engine oil



Warning

Danger of scalding Engine oil and gear oil get very hot when the vehicle is driven.

- Wear suitable protective clothing and gloves. If you scald yourself, hold the affected area under lukewarm water immediately.



Warning

Environmental hazard Hazardous substances cause environmental damage.

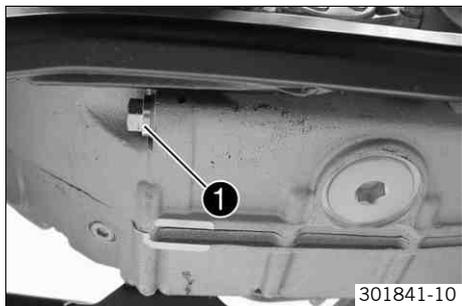
- Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.



Info

Drain the engine oil only when the engine is warm.

- Park the vehicle on a horizontal surface.
- Remove the engine guard. (🔧 p. 129)



- Place a suitable container under the engine.
- Remove oil drain plug ❶ with the seal ring.
- Completely drain the engine oil.
- Thoroughly clean the oil drain plug with the magnet.
- Clean the sealing area on the engine.
- Fit oil drain plug ❶ with seal ring and tighten it.

Guideline

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

- Clean the oil screen. 🛠️ (🔧 p. 146)

Cleaning the oil screen 🛠️



Warning

Danger of scalding Engine oil and gear oil get very hot when the vehicle is driven.

- Wear suitable protective clothing and gloves. If you scald yourself, hold the affected area under lukewarm water immediately.

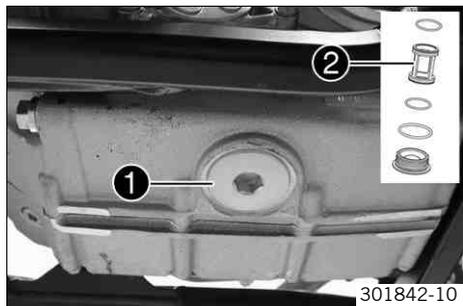


Warning

Environmental hazard Hazardous substances cause environmental damage.

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

- Place a suitable container under the engine.



- Loosen screw plug ❶ by striking it lightly with a hammer a few times.
- Remove screw plug ❶ with oil screen ❷ and the O-rings.
- Drain the remaining engine oil.
- Thoroughly clean parts and sealing area.
- Mount and tighten screw plug ❶ with oil screen ❷ and the O-rings.

Guideline

Plug, oil screen	M32x1.5	30 Nm (22.1 lbf ft)
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Removing the oil filter 🛠️



Warning

Danger of scalding Engine oil and gear oil get very hot when the vehicle is driven.

- Wear suitable protective clothing and gloves. If you scald yourself, hold the affected area under lukewarm water immediately.

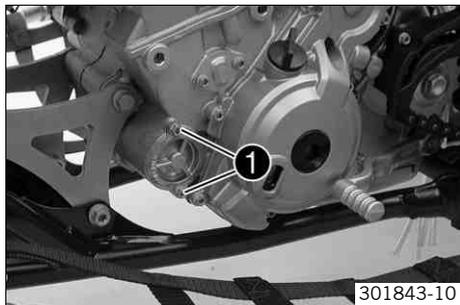


Warning

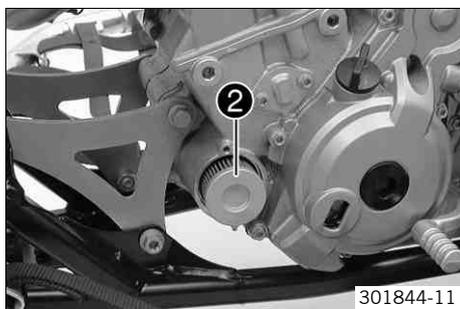
Environmental hazard Hazardous substances cause environmental damage.

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

- Place a suitable container under the engine.



- Remove screws ❶. Take off the oil filter cover with the O-ring.

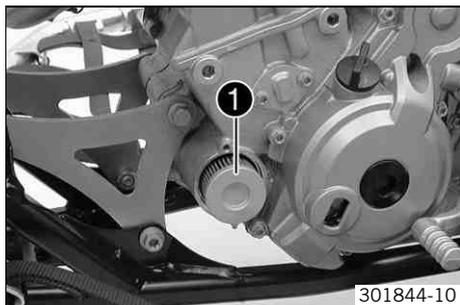


- Pull oil filter element ❷ out of the oil filter case.

Circlip pliers reverse (51012011000)

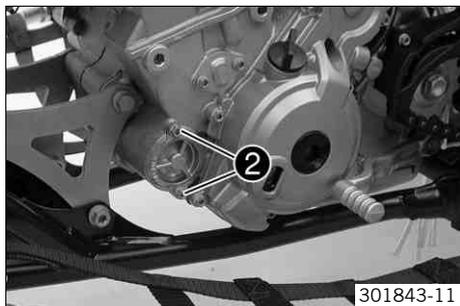
- Completely drain the engine oil.
- Thoroughly clean parts and sealing area.

Installing the oil filter



301844-10

- Fill oil filter ❶ with engine oil and place it in the oil filter housing.



301843-11

- Oil the O-ring of the oil filter cover and install it with the oil filter cover.
- Mount and tighten screws ❷.

Guideline

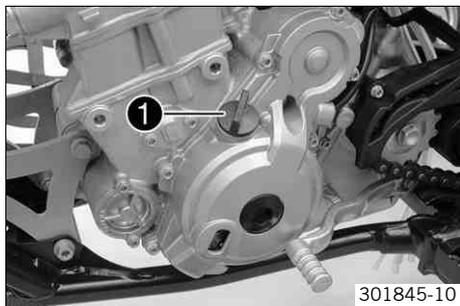
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)
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Filling up with engine oil



Info

A lack of engine oil or poor-quality engine oil results in premature wear to the engine.



- Remove the filler cap ❶ on the clutch cover and fill up with engine oil.

Engine oil	2.00 l (2.11 qt.)	External temperature: ≥ 0 °C (≥ 32 °F)	Engine oil (SAE 10W/50) (☛ p. 176)
		External temperature: < 0 °C (< 32 °F)	Engine oil (SAE 5W/40) (☛ p. 176)

- Mount and tighten filler cap ❶.



Danger

Danger of poisoning Exhaust gases are poisonous and can result in unconsciousness and/or death.

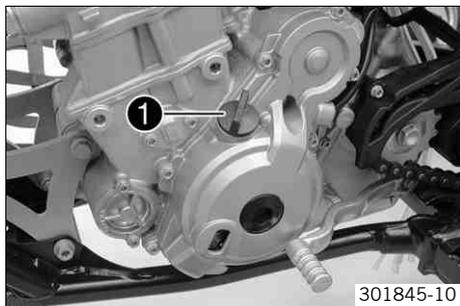
- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space.
-
- Start the engine and check that it is oil-tight.
 - Check the engine oil level. (☛ p. 143)

Adding engine oil



Info

A lack of engine oil or poor-quality engine oil results in premature wear to the engine.



- Check the engine for leakage.
- Remove the filler cap ❶ on the clutch cover and fill up with engine oil.

Condition

External temperature: $\geq 0\text{ }^{\circ}\text{C}$ ($\geq 32\text{ }^{\circ}\text{F}$)

Engine oil (SAE 10W/50) (☛ p. 176)

Condition

External temperature: $< 0\text{ }^{\circ}\text{C}$ ($< 32\text{ }^{\circ}\text{F}$)

Engine oil (SAE 5W/40) (☛ p. 176)

**Info**

To ensure optimal engine oil performance, it is advisable to not use different engine oils.

We recommend making an oil change in this case.

- Mount and tighten filler cap ❶.

Faults	Possible cause	Action
Engine turns but does not start.	Operating error	<ul style="list-style-type: none"> - Follow the instructions on starting the engine. (☛ p. 32)
	Vehicle was out of use for a long time and there is old fuel in the float chamber	<ul style="list-style-type: none"> - Drain the carburetor float chamber. ☛ (☛ p. 142)
	Fuel supply interrupted	<ul style="list-style-type: none"> - Check the fuel tank breather. - Clean the fuel tap. - Check/adjust the carburetor components. ☛
	Spark plug oily or wet	<ul style="list-style-type: none"> - Clean and dry spark plug or replace if necessary.
	Electrode distance (plug gap) of spark plug too wide	<ul style="list-style-type: none"> - Adjust the plug gap. Guideline Spark plug electrode gap 0.7 mm (0.028 in)
	Fault in ignition system	<ul style="list-style-type: none"> - Check the ignition system. ☛
	Socket connector of CDI control device, pulse generator or ignition coil oxidized	<ul style="list-style-type: none"> - Clean the plug-in connector and treat it with contact spray.
	Water in carburetor or jets blocked	<ul style="list-style-type: none"> - Check/adjust the carburetor components. ☛
	Idle speed is set too high	<ul style="list-style-type: none"> - Carburetor - adjust the idle speed. ☛ (☛ p. 140)
	Kill switch/emergency OFF switch with rip cord faulty	<ul style="list-style-type: none"> - Check the wiring harness. (visual check) - Check the electrical system.
Throttle lever activated	<ul style="list-style-type: none"> - Do not activate the throttle lever. - See instructions on starting. 	

Faults	Possible cause	Action
Engine turns but does not start.	Switch for throttle lever faulty	<ul style="list-style-type: none"> - Check the wiring harness. (visual check) - Check the electrical system.
	Throttle valve sensor incorrectly set or faulty	<ul style="list-style-type: none"> - Check the throttle position sensor. 🛠️
	Blown fuse	<ul style="list-style-type: none"> - Change the fuses of individual power consumers. (🔧 p. 116)
The engine cannot be cranked (electric starter).	Operating error	<ul style="list-style-type: none"> - Follow the instructions on starting the engine. (🔧 p. 32)
	Battery discharged	<ul style="list-style-type: none"> - Recharge the battery. 🛠️ (🔧 p. 113) - Check the charging voltage. 🛠️ - Check the quiescent current. 🛠️ - Check the alternator. 🛠️
	Blown fuse	<ul style="list-style-type: none"> - Change the main fuse. (🔧 p. 115)
Engine does not speed up.	Carburetor running over because float needle dirty or worn	<ul style="list-style-type: none"> - Check/adjust the carburetor components. 🛠️
	Loose carburetor jets	<ul style="list-style-type: none"> - Check/adjust the carburetor components. 🛠️
Engine has no idle.	Idling jet blocked	<ul style="list-style-type: none"> - Check/adjust the carburetor components. 🛠️
	Adjusting screws on carburetor distorted	<ul style="list-style-type: none"> - Carburetor - adjust the idle speed. 🛠️ (🔧 p. 140)
	Spark plug defective	<ul style="list-style-type: none"> - Change spark plug.

Faults	Possible cause	Action
Engine has no idle.	Ignition system defective	<ul style="list-style-type: none"> - Check the spark plug connector. 🔧 - Check the ignition coil. 🔧 - Check the ignition pulse generator. 🔧 - Check the alternator. 🔧 - Check the CDI controller. 🔧
Engine stalls or is backfiring into the carburetor.	Lack of fuel	<ul style="list-style-type: none"> - Turn the handle  of the fuel tap to ON. - Fill up with fuel. (🔧 p. 43)
	Intake system air leak	<ul style="list-style-type: none"> - Check rubber sleeves and carburetor for tightness.
	Loose contact or oxidized connector	<ul style="list-style-type: none"> - Check the electrical system. - Clean the plug-in connector and treat it with contact spray.
Engine overheats.	Coolant level low	<ul style="list-style-type: none"> - Check the cooling system for leakage. - Check the coolant level. (🔧 p. 136)
	Radiator fins excessively dirty	<ul style="list-style-type: none"> - Clean radiator fins.
	Foam formation in cooling system	<ul style="list-style-type: none"> - Drain the coolant. 🔧 (🔧 p. 137) - Fill coolant/bleed the cooling system. 🔧 (🔧 p. 138)
	Bent radiator hose	<ul style="list-style-type: none"> - Change the radiator hose. 🔧
	Thermostat defective	<ul style="list-style-type: none"> - Check the thermostat. 🔧
	Radiator fan system faulty	<ul style="list-style-type: none"> - Check the radiator fan system. 🔧
Engine has a lack of power	Fuel supply interrupted	<ul style="list-style-type: none"> - Check the fuel tank breather. - Clean the fuel tap. - Check/adjust the carburetor components. 🔧

Faults	Possible cause	Action
Engine has a lack of power	Air filter excessively dirty	– Clean the air filter. 🛠️ (📖 p. 132)
	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer	– Check exhaust system for damage.
	Valve clearance too little	– Adjust the valve clearance. 🛠️
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. 143)
	Engine oil too thin (low viscosity)	– Change the engine oil and oil filter, clean the oil screen. 🛠️ (📖 p. 145)
	Piston or cylinder worn	– Measure the piston/cylinder mounting clearance. 🛠️
Battery discharged	Battery is not charged by alternator	– Check the charging voltage. 🛠️ – Check the alternator. 🛠️

Cleaning the vehicle

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 vehicle regularly, its value and appearance are maintained over a long period.
Avoid direct sunshine on the vehicle during cleaning.



Info

Do not place the vehicle onto the rear frame bracket to clean it since it could fall over.
Never raise the vehicle on your own, even if a gear is engaged.
Fuel can leak out of the fuel tank.

- Close off the exhaust system to prevent water from entering.
- 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. 180)



Info

Use warm water containing normal motorcycle cleaner and a soft sponge.

- After rinsing the vehicle with a gentle water spray, allow it to dry thoroughly.
- Clean and dry the air filter box.
- Drain the carburetor float chamber. 🛠️ (👉 p. 142)



Warning

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

- Clean/dry off dirty or wet brakes by careful application of the brakes.

- After cleaning, take a short ride 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 protective covers from the handlebar armatures to allow any water that may have entered there to evaporate.
- After the vehicle has cooled off, oil or grease all moving parts and bearings.
- Clean the chain. (👉 p. 82)
- Treat bare metal parts (except for brake discs and exhaust system) with anti-corrosion materials.

Cleaning and polishing materials for metal, rubber and plastic (👉 p. 179)

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

Cleaning and polishing materials for metal, rubber and plastic (👉 p. 179)

- To prevent electrical problems, treat electric contacts and switches with contact spray.

Contact spray (👉 p. 179)

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 store the vehicle for a longer period, take the following actions.



Info

Before storing the vehicle, 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.

- Clean the vehicle. (🔧 p. 156)
- Change the engine oil and oil filter, clean the oil screen. 🛢️ (🔧 p. 145)
- Check the antifreeze and coolant level. (🔧 p. 135)
- Drain the fuel from the tank into a suitable container.
- Drain the carburetor float chamber. 🛢️ (🔧 p. 142)
- Check the tire air pressure. (🔧 p. 110)
- Remove the battery. (🔧 p. 111)
- Recharge the battery. 🛢️ (🔧 p. 113)

Guideline

Storage temperature of battery without direct sunshine.	0... 35 °C (32... 95 °F)
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- Store the vehicle in a dry location that is not subject to large fluctuations in temperature.
- Cover the vehicle with a tarp or cover that is permeable to air.



Info

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

Putting the vehicle into operation after storage

- Install the battery. (🔧 p. 112)
- Fill up with fuel. (🔧 p. 43)
- Checks before putting into operation (🔧 p. 31)
- Make a cautious test ride.

Design	Single cylinder 4-stroke engine, water-cooled
Displacement (450 SX ATV)	449.3 cm ³ (27.418 cu in)
Displacement (505 SX ATV)	477.5 cm ³ (29.139 cu in)
Stroke	60.8 mm (2.394 in)
Bore (450 SX ATV)	97 mm (3.82 in)
Bore (505 SX ATV)	100 mm (3.94 in)
Compression ratio	12.5:1
Idle speed	1,500... 1,600 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	26:78 straight tooth spur gears
Clutch	Multidisc clutch in oil bath/hydraulically activated
Transmission ratio	
1st gear	16:34
2nd gear	19:31

3rd gear	20:26
4th gear	23:25
5th gear	26:24
Alternator	12 V, 200 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment, type Kokusan
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	2.00 l (2.11 qt.)	External temperature: ≥ 0 °C (≥ 32 °F)	Engine oil (SAE 10W/50) (☛ p. 176)
		External temperature: < 0 °C (< 32 °F)	Engine oil (SAE 5W/40) (☛ p. 176)

Capacity - coolant

Coolant	1.50 l (1.59 qt.)	Coolant (☛ p. 175)
		Coolant (mixed ready to use) (☛ p. 175)

TECHNICAL DATA - ENGINE TIGHTENING TORQUES

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™
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, 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™
Oil jet, clutch oil supply	M5x1	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™
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch spring	M6	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6	10 Nm (7.4 lbf ft)	–

TECHNICAL DATA - ENGINE TIGHTENING TORQUES

Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, generator cover	M6	10 Nm (7.4 lbf ft)	–
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	10 Nm (7.4 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)	–
Oil jet, timing chain tensioner	M6x0.6	6 Nm (4.4 lbf ft)	Loctite® 243™
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 housing	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® 243™
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)	–

TECHNICAL DATA - ENGINE TIGHTENING TORQUES

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, engine housing	M12x1.5	20 Nm (14.8 lbf ft)	–
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)	–
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)	–

Carburetor type	KEIHIN FCR-MX 41
Carburetor identification number	4125L
Needle position	3 th position from top
Idle mixture adjusting screw	
Open	1.5 turns
Pump membrane stop	2.15 mm (0.0846 in)
Hot start button	
Bore diameter in carburetor body	2.5 mm (0.098 in)
Main jet	175
Jet needle	OBEKR
Idling jet	42
Idle air jet	100
Cold start jet	85

Frame	Double cradle of chromium molybdenum steel tubes, powder-coated
Wheel suspension	
Front	Single wheel suspension with double transverse control arm
Rear	Rigid axle
Suspension travel	
Front	244 mm (9.61 in)
Rear	258 mm (10.16 in)
Fork offset	
Front	50 mm (1.97 in)
Toe	
Front	0 mm (0 in)
Camber	
Front	0°
Toe width	
Front	1,265 mm (49.8 in)
Rear	1,265 mm (49.8 in)
Wheelbase	1,280±10 mm (50.39±0.39 in)
Turning radius	5,685 mm (223.82 in)
Fording depth	305 mm (12.01 in)
Seat height unloaded	795 mm (31.3 in)
Ground clearance unloaded	265 mm (10.43 in)
Weight	
Fuel tank empty	165 kg (364 lb.)
Fuel tank full	173 kg (381 lb.)

TECHNICAL DATA - CHASSIS

Maximum allowable axle load	
Front	144 kg (317 lb.)
Rear	149 kg (328 lb.)
Maximum permissible overall weight	293 kg (646 lb.)
Vehicle length	1,810 mm (71.26 in)
Vehicle width	1,265 mm (49.8 in)
Vehicle height	1,100 mm (43.31 in)
Brake system	
Front	Disc brakes, brake calipers fixed, 4 brake pistons per brake caliper
Rear	Disc brake, brake caliper floating, 1 brake piston
Brake discs - diameter	
Front	180 mm (7.09 in)
Rear	200 mm (7.87 in)
Brake discs - wear limit	
Front	3.5 mm (0.138 in)
Rear	3.5 mm (0.138 in)
Tire air pressure off road	0.3 bar (4 psi)
Rim	
Front	5x10" DWT Al 6061
Rear	8x8" DWT Al 6061
Rear wheel gearing	14:38
Chain	5/8 x 1/4"
Rear sprockets available	37, 38, 39

4Ah battery	YTX5L-BS	Battery voltage: 12 V Nominal capacity: 4 Ah maintenance-free
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Tires

Front tire	Rear tire
20 x 6.00 - 10 MAXXIS Razr MX-931	18 x 10.00 - 8 MAXXIS Razr MX-932
Additional information is available in the Service section under: http://www.ktm.com	

Capacity - fuel

Total fuel tank capacity approx.	10.3 l (2.72 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 178)
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Shock absorber part number	03.18.7J.16
Shock absorber	WP Suspension 3612 BAVP DCC
Compression damping, high-speed	
Comfort	1.5 turns
Standard	1 turn
Sport	1 turn
Compression damping, low-speed	
Comfort	20 clicks
Standard	15 clicks
Sport	12 clicks
Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	12 clicks
Cross over	19±1.5 mm (0.75±0.059 in)
	<div style="border: 1px solid black; padding: 5px;">  Info Measured with no preload on the main spring. </div>
Spring preload	
Comfort	3 mm
Standard	5 mm
Sport	8 mm
Spring rate, main spring	24... 29 N/mm (137... 166 lb/in)
Spring rate, auxiliary spring	40 N/mm (228 lb/in)

TECHNICAL DATA - FRONT SHOCK ABSORBER

Spring length, main spring	275 mm (10.83 in)
Spring length, auxiliary spring	60 mm (2.36 in)
Fitted length	463 mm (18.23 in)
Gas pressure	10 bar (145 psi)
Shock absorber oil	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 177)

TECHNICAL DATA - REAR SHOCK ABSORBER

Shock absorber part number	15.18.7J.16
Shock absorber	WP Suspension PDS 4618 BAVP DCC
Compression damping, high-speed	
Comfort	1.5 turns
Standard	1 turn
Sport	1 turn
Compression damping, low-speed	
Comfort	20 clicks
Standard	15 clicks
Sport	15 clicks
Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	15 clicks
Cross over	19±1.5 mm (0.75±0.059 in)
	 Info Measured at the tension-free main spring.
Spring preload	
Comfort	3 mm
Standard	5 mm
Sport	5 mm
Spring rate, main spring	82 N/mm (468 lb/in)
Spring rate, auxiliary spring	100 N/mm (571 lb/in)

TECHNICAL DATA - REAR SHOCK ABSORBER

Spring length, main spring	200 mm (7.87 in)
Spring length, auxiliary spring	55 mm (2.17 in)
Fitted length	440.5 mm (17.342 in)
Gas pressure	10 bar (145 psi)
Shock absorber oil	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 177)

TECHNICAL DATA - TIGHTENING TORQUES FOR CHASSIS

Remaining nuts, chassis	M6	15 Nm (11.1 lbf ft)	–
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)	–
Screw on fuel tank	M6	6 Nm (4.4 lbf ft)	–
Screw, clamping nut, rear axle	M6	10 Nm (7.4 lbf ft)	–
Screw, foot brake cylinder	M6	7 Nm (5.2 lbf ft)	Loctite® 243™
Remaining nuts, chassis	M8	30 Nm (22.1 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw, bearing support, steering	M8	25 Nm (18.4 lbf ft)	–
Screw, front brake caliper	M8	20 Nm (14.8 lbf ft)	Loctite® 243™
Screw, front brake disc	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, rear brake caliper	M8	20 Nm (14.8 lbf ft)	Loctite® 243™
Screw, rear brake disc	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, rear wheel eccentric element	M8	20 Nm (14.8 lbf ft)	–
Screw, steering bridge	M8	20 Nm (14.8 lbf ft)	–
Screw, subframe	M8	35 Nm (25.8 lbf ft)	Loctite® 243™
Engine bracket screw	M10	60 Nm (44.3 lbf ft)	–
Engine mounting bolt	M10	60 Nm (44.3 lbf ft)	–
Nut, handlebar support	M10	45 Nm (33.2 lbf ft)	–
Remaining nuts, chassis	M10	50 Nm (36.9 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw, A-arm bottom	M10x70	45 Nm (33.2 lbf ft)	–
Screw, A-arm top	M10x52	45 Nm (33.2 lbf ft)	–
Screw, footrest	M10	45 Nm (33.2 lbf ft)	–

TECHNICAL DATA - TIGHTENING TORQUES FOR CHASSIS

Screw, front shock absorber	M10	45 Nm (33.2 lbf ft)	–
Screw, steering column at bottom of steering lever	M10	25 Nm (18.4 lbf ft)	–
Nut, ball head, A-arm top	M10x1.25	35 Nm (25.8 lbf ft)	–
Nut, rear sprocket screw	M10x1.25	45 Nm (33.2 lbf ft)	Loctite® 243™
Nut, tie rod end	M10x1.25	45 Nm (33.2 lbf ft)	–
Wheel nut	M10x1.25	45 Nm (33.2 lbf ft)	–
Nut, front wheel hub	M12	70 Nm (51.6 lbf ft)	–
Screw, rear bottom shock absorber	M12	70 Nm (51.6 lbf ft)	–
Screw, rear top shock absorber	M12	60 Nm (44.3 lbf ft)	–
Lock nut, tie rod, inside	M12LHx1.25	20 Nm (14.8 lbf ft)	–
Lock nut, tie rod, outside	M12x1.25	20 Nm (14.8 lbf ft)	–
Nut, A-arm top	M12x1.25	30 Nm (22.1 lbf ft)	–
Nut, ball head, A-arm bottom	M12x1.5	40 Nm (29.5 lbf ft)	–
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)	–
Nut, rear wheel hub	M18x1.5	130 Nm (95.9 lbf ft)	–
Screw, steering column, bottom	M20x1.5	40 Nm (29.5 lbf ft)	–
Screw, steering column, top	M20x1.5	25 Nm (18.4 lbf ft)	–
Clamping nut, rear axle	2"-10UNS-2B-LH	25 Nm (18.4 lbf ft)	Only applies when using: Open-end wrench accessory 46mm (83019010461)

Brake fluid DOT 4 / DOT 5.1

According to

- DOT

Guideline

- Use only brake fluid that complies with the specified standards (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
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Coolant (mixed ready to use)

Antifreeze	-40 °C (-40 °F)
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Supplier

Motorex®

- **Anti Freeze**

Engine oil (SAE 10W/50)

According to

- JASO T903 MA (☛ p. 182)
- SAE (☛ p. 182) (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**

Engine oil (SAE 5W/40)

According to

- JASO T903 MA (☛ p. 182)
- SAE (☛ p. 182) (SAE 5W/40)

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[®]

- **Power Synt 4T**

Hydraulic fluid (15)

According to

- ISO VG (15)

Guideline

- Use only hydraulic fluid that complies with the specified standards (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Motorex®** products.

Supplier

Motorex®

- Hydraulic Fluid 75

Long-life grease

According to

- NLGI

Guideline

- Use only grease that complies with the specified standards (see specifications on the container) and that possesses the corresponding properties. KTM recommends **Motorex®** products.

Supplier

Motorex®

- Fett 2000

Shock absorber oil (SAE 2.5) (50180342S1)

According to

- SAE (☛ p. 182) (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)

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 611**

Cleaning and polishing materials for metal, rubber and plastic

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Protect & Shine 645**

Contact spray

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Accu Contact**

Long-life grease

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Fett 2000**

Lubricant (T625)

Guideline

- KTM recommends **Molykote®** products.

Supplier

Molykote®

- **33 Medium**

Motorcycle cleaner

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Clean 900**

Off-road chain spray

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chain Lube 622**

Oil for foam air filter

Guideline

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Twin Air Liquid Bio Power**

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>