

OWNER'S MANUAL 2008

450 XC ATV

525 XC ATV

ART. NO. 3211251en



KTM

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. 12)	Dealer's stamp
Engine number (☛ P. 12)	
Key number (☛ P. 12)	

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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Issued by: TÜV Management Service

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 done in 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 in the following.

-
- | | |
|--------------------------|--|
| Specific name | Identifies a specific 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 for the predominant motocross use.

Maintenance

A prerequisite for perfect 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 extreme conditions such as very muddy or wet terrain can lead to above-average wear of components such as the transmission train or the brakes. For this reason, it may be necessary to service or replace worn parts before the limit specified in the greasing and service table 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.

Warranty

The maintenance work prescribed in the greasing and service table must be carried out in an authorized KTM workshop and confirmed in the customer's service record, since otherwise no warranty claims will be recognized. No warranty claims can be considered for damage resulting from manipulations and alterations to the vehicle.

Fuel, oils, etc.

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

Spare parts, accessories

For your own safety, use only spare parts and accessories approved by KTM. KTM accepts no liability for other products and any resulting damage or loss.

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 components (engine, radiator and exhaust system) get very hot when the engine is running.

- Do not place the vehicle where there are flammable or explosive substances.
- Switch off the engine.
- Turn the handle ❶ of the fuel tap to the **OFF** position. (Figure 100013-10 ◀ P. 16)
- 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 100006-10 ◀ P. 14)

Environment

Offroad 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 offroad 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.

Overview of warning labels

⚠ WARNING

IMPROPER ATV USE can result in SEVERE INJURY or DEATH.



NEVER USE ON PUBLIC ROAD



NEVER CARRY PASSENGERS



NEVER USE WITH DRUGS OR ALCOHOL



ALWAYS USE AN APPROVED HELMET AND PROTECTIVE GEAR

NEVER operate:

- without proper training or instruction
- at speeds too fast for your skills or the conditions
- on public roads
- a collision can occur with another vehicle
- with a passenger
- passengers affect balance and steering and can increase risk of losing control

ALWAYS:

- use proper riding techniques to avoid vehicle overturns on hills, rough terrain and in turns
- avoid paved surfaces pavement may seriously affect handling and control

LOCATE AND READ OWNER'S MANUAL. FOLLOW ALL INSTRUCTIONS AND WARNINGS.

IF OWNER'S MANUAL IS MISSING, PLEASE CONTACT A KTM DEALER FOR A REPLACEMENT.

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⚠ WARNING

- NEVER operate this ATV on HILLS steeper than 25 degrees. To prevent flipover on hilly terrain, when going up or down, use throttle and brakes gradually. 
- REVERSE operation can be dangerous even at low speeds. Steering becomes difficult. To prevent flipover, avoid sudden braking or sharp turns.
- PARKING BRAKE may relax on grades, leave ATV in gear.

⚠ WARNING

This ATV may exceed the performance of other ATVs you may have ridden in the past.

This category S (Sport) ATV is a high performance vehicle for off road use only, in sport type recreation and competitive use by operators with advanced skills and substantial experience.

⚠ WARNING

IMPROPER TIRE PRESSURE or OVERLOADING can cause loss of control resulting in SEVERE INJURY or DEATH.

TIRE PRESSURE in PSI (KPa): FRONT 4 (27,6) REAR 4 (27,6)

MAXIMUM WEIGHT CAPACITY (Gross Vehicle Weight) Including MACHINE, DRIVER and CARGO is 645 LBS (293 KG)

Reduce speed and allow greater distance for braking when carrying cargo. Overloading or carrying tall, off-center or unsecured loads will increase your risk of losing control.

For stability on rough or hilly terrain, reduce speed and cargo.

Read Owner's Manual for more detailed loading information.

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830.03.098.700

⚠ WARNING



NEVER operate this ATV if you are under the age of 16.

Operating this ATV if you are under the age of 16 increases your chance of SEVERE INJURY or DEATH.

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830.03.098.200



⚠ WARNING



NEVER ride as a passenger.

Passengers can cause a loss of control, resulting in SEVERE INJURY or DEATH.

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ACHTUNG
Lesen Sie vor der ersten Inbetriebnahme des Motorrades die gesamte Bedienungsanleitung aufmerksam durch!

IMPORTANT
Before you go for the first ride on your motorbike, read the entire User's Guide carefully!

ATTENZIONE
Prima della prima messa in servizio del motociclo, leggere attentamente L'intero manuale d'uso.

ATTENTION
Il convient de lire attentivement tout le manuel d'utilisation avant la première mise en service!

ATENCIÓN
Leer atentamente todas las instrucciones para el servicio antes de la primera puesta en marcha de la motocicleta!

Notes/warning notes

Pay attention to the specified notes and warnings.



Info

Various notes and warning labels are attached to the vehicle. Do not remove any notes or warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

Grades of risks



Danger

Danger that leads immediately and certainly to severe and permanent injury or death.



Warning

Danger that will probably lead to severe and permanent injury or death.

Note

Danger of serious damage to machine or material.



Warning

Risk of environmental damage.

OWNER'S MANUAL

- 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.

Vehicle view, front left



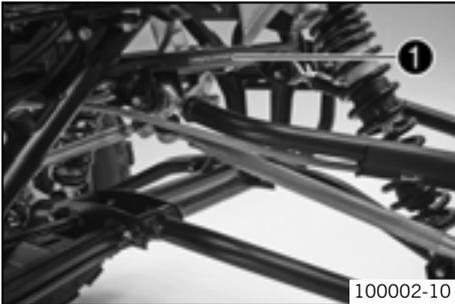
1	Hand brake lever
2	Fuse box
3	Headlight
4	Front shock absorber
5	Right-hand brake caliper
6	Steering damper holder (steering damper is optional)
7	Front left shock absorber
8	Outside brake disk guard
9	Shift lever
10	Left footrest
11	Heel protector
12	Emergency OFF switch with rip cord
13	Clutch lever

View of vehicle, rear right



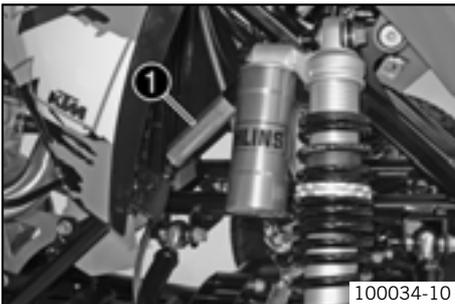
- | | |
|----|--|
| 1 | Light switch, electric starter button, ENG. STOP switch |
| 2 | Filler cap |
| 3 | Main silencer |
| 4 | Rear shock absorber |
| 5 | Rear sprocket with chain |
| 6 | Rear wheel eccentric element |
| 7 | Rear brake |
| 8 | Foot brake pedal |
| 9 | Compensating tank for coolant |
| 10 | Manifold |
| 11 | Top A-arm |
| 12 | Front right fender |
| 13 | Throttle lever |
| 14 | Ignition switch |

Chassis number



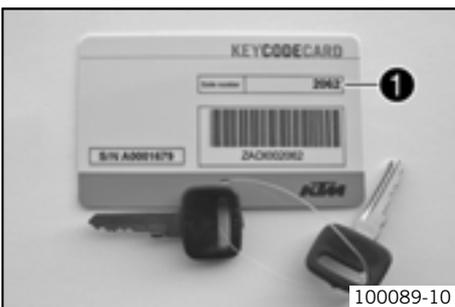
The chassis number ❶ is stamped on the right side of the frame in the vicinity of the upper control arm.

Type label



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

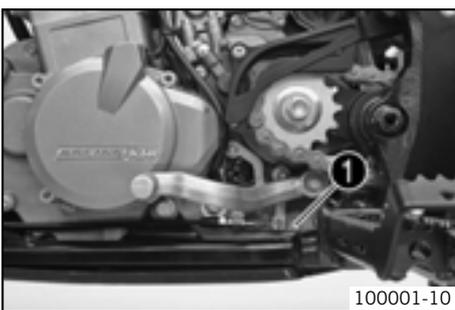
Key number



The key number ❶ is indicated on the **KEYCODECARD**.

i Info
You need the key number to order a replacement key. Keep the **KEYCODECARD** in a safe place.

Engine number



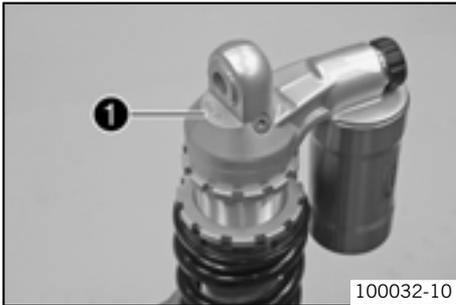
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

Setting number, front shock absorber



The setting number ❶ is stamped into the top of the shock absorber.

Setting number, rear shock absorber



The setting number ❶ is stamped into the top of the shock absorber.

100032-10

Clutch lever



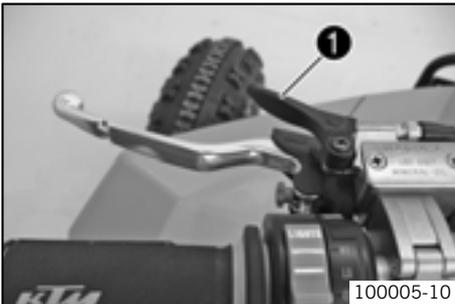
The clutch lever ❶ is fitted on the left side of the handlebar.

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.

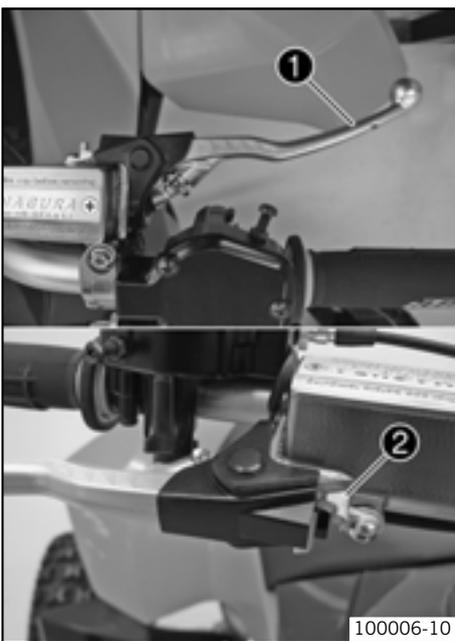
Reverse gear release lever



The reverse gear release lever ❶ is fitted on the left side of the handlebar.

Reverse gear can only be engaged when the reverse gear release lever is activated while the vehicle is at a standstill.

Hand brake lever, parking brake



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

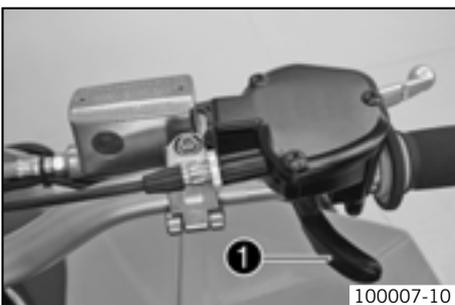
The hand brake lever is combined with the parking brake, which blocks the front wheels to prevent the vehicle from rolling away.

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 blocked.
- Hand brake lever pulled and locked in position – Front wheels are blocked.

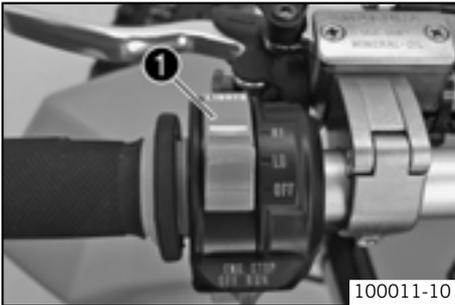
Throttle lever



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

The throttle lever is used to control the engine speed.

Light switch



100011-10

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

Possible states

- High beam on **HI** – Light switch is turned upwards. In this position, the high beam and the tail light are switched on.
- Low beam on **LO** – Light switch is at the middle setting. In this position, the low beam and tail lights are switched on.
- Lights off **OFF** – Light switch has been swiveled down. In this position, all lights are switched off.

ENG. STOP Switch



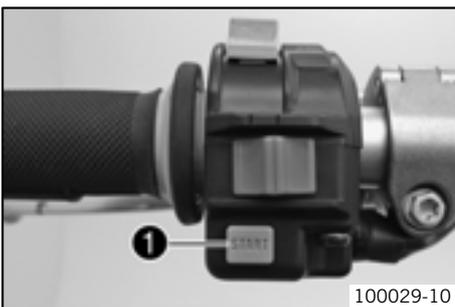
100030-10

The **ENG. STOP** switch ❶ is fitted on the left side of the handlebar.

Possible states

- Ignition off **OFF** – In this position, the ignition circuit is interrupted, a running engine stops, and the engine cannot be started.
- Ignition on **RUN** – In this position, the ignition circuit is closed and the engine can be started.

Electric starter button



100029-10

The **START** ❶ electric starter button is fitted on the left side of the handlebar.

Possible states

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

Ignition switch



100031-10

The ignition switch ❶ is located on the instrument support.

Possible states

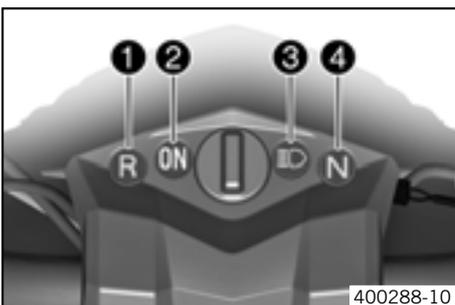


Ignition off – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.



Ignition on – In this position, the ignition circuit is closed and the engine can be started.

Indicator lamp overview



400288-10

Possible states



Reverse gear indicator lamp ❶ lights up red – Reverse gear is engaged.



Ignition indicator lamp ❷ lights up yellow – Ignition is switched on.

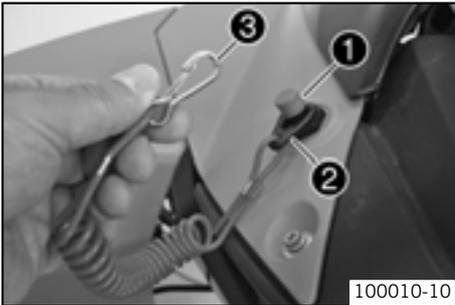


High beam indicator lamp ❸ lights up blue – High beam is switched on.



Idle speed indicator lamp ❹ lights up green – Transmission is switched to idle.

Emergency OFF switch with rip cord



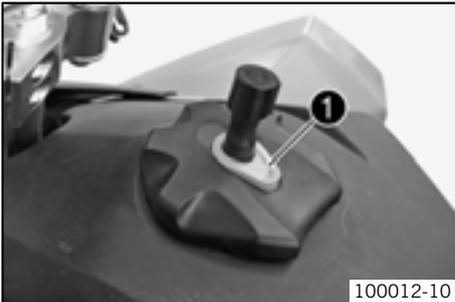
The emergency OFF switch ❶ is mounted on the left in front of the fuel tank. A rip cord is attached to the clip ❷. It can be attached to the clothing of the rider by means of a carabiner ❸.

The emergency OFF switch shuts the engine off if the rider falls off the vehicle.

Possible states

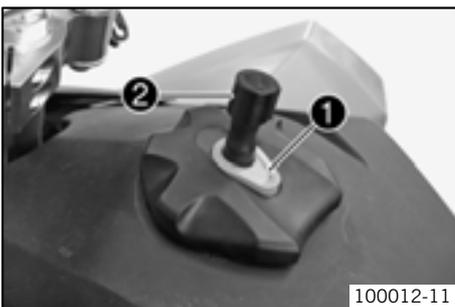
- Clip is pulled off – The ignition circuit is interrupted, a running engine stops and a non-running engine will not start.
- Clip is mounted – The ignition circuit is closed and the engine can be started.

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 ❶ locks in place.
- Check the fuel tank breather ❷ 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

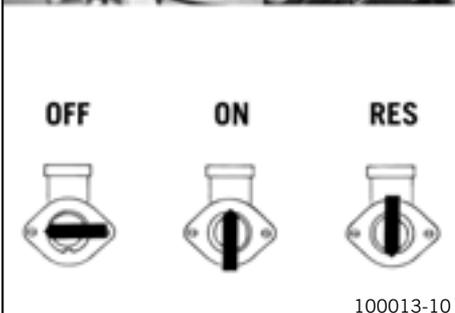


The fuel tap is located on the right side of the fuel tank.

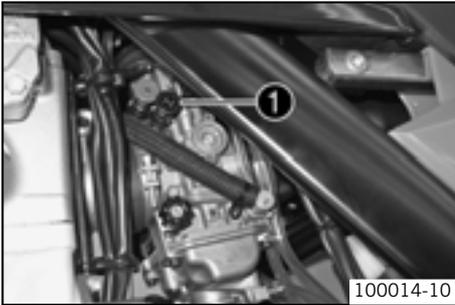
With the tap handle ❶ on the fuel tap, you can open or close the supply of fuel to the carburetor.

Possible states

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



Choke



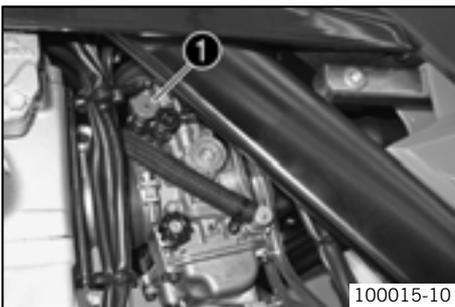
The choke knob ❶ is fitted on the left side of the carburetor. Activating the choke function frees an opening through which the engine can draw extra fuel. This gives a richer fuel-air mixture, which is needed for a cold start.

i 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.

Hot start button



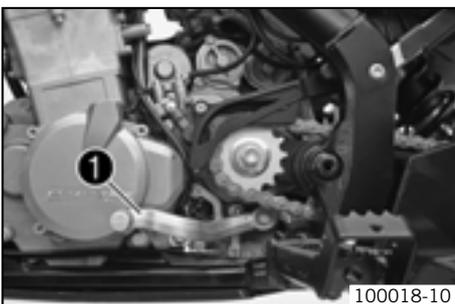
The hot start button (red) ❶ is fitted on the left side of the carburetor. Activating the hot start function frees an opening in the carburetor through which the engine can draw extra air. This gives a leaner fuel-air mixture, which is needed for a hot start.

i Info
If the engine is cold, the hot start function must be deactivated.

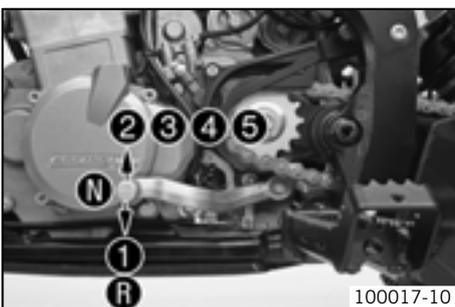
Possible states

- Hot start function activated – The hot start button is pulled out to the stop.
- Hot start function deactivated – The hot start button is pushed in as far as possible.

Shift lever

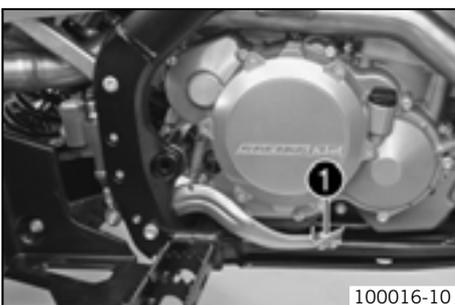


The shift lever ❶ is mounted on the left side of the engine.



The gear positions can be seen in the photograph. The neutral or idle position is between the first and second gears. Reverse gear can only be engaged with the vehicle at a standstill and the lever pulled.

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 from inadequate traffic experience.

- 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 Risk of injury by missing/inadequate protective clothing.

- Wear protective clothing (helmet, boots, gloves, pants and jacket with protectors) every time you ride the motorcycle. Always wear protective clothing, which must be in perfect condition and meet legal requirements.



Warning

Danger of crashing Impairment of riding behavior due to different tire tread patterns on front and rear wheels.

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



Warning

Danger of accidents Critical riding behavior due to inappropriate riding.

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



Warning

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

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



Warning

Danger of accidents 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 permitted 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 operating instructions carefully.

- Get to know the operating elements.
- Adjust the basic position of clutch lever. (☛ P. 66)
- Adjust the basic position of the handbrake lever. (☛ P. 48)
- Adjust the basic position of the footbrake lever. ☛ (☛ P. 52)
- Become accustomed to handling the vehicle on a suitable piece of land before making a longer trip.



Info

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

- Do not make any offroad trips that over-stress your ability and experience.
- Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
- Do not make any changes to the vehicle and use only KTM approved parts.
- Do not exceed the overall maximum permitted weight and the axle loads.

Specification

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.

Specification

Maximum engine speed	
During the first 3 service hours	7,000 rpm
Maximum engine performance during the running-in period	
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 in a perfect technical condition 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. 72)
- Check the engine for oil loss.
- Check the fuel supply.
- Check the chain tension. (☛ P. 45)
- Check the chain dirt accumulation. (☛ P. 45)
- Check the tire condition. (☛ P. 57)
- Checking the tire air pressure. (☛ P. 57)
- Check the front brake fluid level. (☛ P. 48)
- Check the rear brake fluid level. (☛ P. 52)
- Check the front brake linings. (☛ P. 49)
- Check the rear brake linings. (☛ P. 54)
- 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. 68)
- Check the cooling system for leakage.
- Check that all operating elements are correctly adjusted and free to move.
- Check that the electrical equipment is functioning properly.

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 a long time of standing.

If the float chamber is filled with fresh fuel, the engine starts immediately.

Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds until trying again.

Conditions

Vehicle has not been operated: ≥ 1 week

- Empty the carburetor float chamber. ☛ (☛ P. 72)
- Turn the handle ① of the fuel tap to the **ON** position. (Figure 100013-10 ☛ P. 16)
 - ✓ Fuel can flow from the tank to the carburetor.
- Mount the vehicle.
- Insert the clip ② into the emergency OFF switch and fasten the rip cord to the clothing of the rider. (Figure 100010-10 ☛ P. 16)
- Press the **ENG. STOP** switch into the **RUN** position.

- Turn the key in the ignition switch to the position .
- ✓ The yellow ignition indicator lamp **ON** lights up.

i Info

Under no circumstances should you open the throttle when switching on the ignition! The vehicle is equipped with a safety system that switches off the engine in case of a malfunction in the throttle lever, Bowden cable or carburetor. When the ignition is switched on, a system check is performed during which the throttle lever must be in its basic position. If not, the safety system detects a malfunction and blocks the ignition current. 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.

- Shift gear to neutral.
- ✓ The green idling speed indicator lamp **N** light up.

Conditions

Engine cold

- Pull choke lever out as far as possible.

Conditions

Engine is hot

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

i 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. Don't open the throttle.

- Release the clutch lever.

Conditions

Engine hot and running

- Push the hot start button in as far as possible when the engine is running.

Starting up

i Info

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

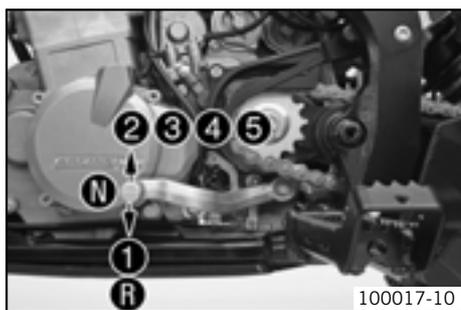
- Pull the hand brake lever and release it again.
- ✓ Locking pawl moves into its basic position, parking brake is deactivated.
- Pull the clutch lever, engage 1st gear, release the clutch lever slowly and simultaneously open the throttle carefully.

Shifting

⚠ Warning

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

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



Conditions

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.

i 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.

shifting to reverse gear

-  **Warning**
Danger of accidents Danger of accidents from blocked rear wheels if reverse gear is engaged while the vehicle is rolling.
- To engage reverse gear, it is important to stop the vehicle first and have the engine at idle speed.

- Note**
Transmission damage Danger of transmission damage when engaging reverse gear while the vehicle is rolling.
- To engage reverse gear, it is important to stop the vehicle first and have the engine at idle speed.
-
- Stop the vehicle and run the engine at idling speed.
 - Activate the clutch and engage 1st gear.
 - Apply light pressure to the shift lever and activate the reverse gear release lever. Press the shift lever all the way down with your foot to engage reverse gear.
 - Release the reverse gear release lever.
 - Look toward the rear and slowly release the clutch lever while depressing the accelerator carefully.

-  **Info**
 The engine speed is limited when reverse gear is engaged.

Disengaging reverse gear

-  **Warning**
Danger of rollovers The vehicle can roll over if the clutch lever is released with the forward gear engaged while the vehicle is rolling backward.
- To disengage reverse gear, it is important that you stop the vehicle first.

-  **Warning**
Danger of accidents Danger of accidents from blocked rear wheels if reverse gear is disengaged while the vehicle is rolling.
- To disengage reverse gear, it is important that you stop the vehicle first.

- Note**
Transmission damage Danger of transmission damage when disengaging reverse gear while the vehicle is rolling.
- To disengage reverse gear, it is important that you stop the vehicle first.

- Activate the clutch, stop the vehicle and let the engine run at idling speed.
- Press the shift lever up until 1st gear engages.

-  **Info**
 The reverse gear release lever no longer needs to be activated.

- Slowly release the clutch lever while carefully depressing the accelerator or shifting into neutral.

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 caused by spongy pressure point of front or rear brake.
- Have the brake system checked in an authorized KTM workshop, and do not ride any further.

-  **Warning**
Danger of accidents Reduced braking due to wet or dirty brakes.
- Clean or dry dirty or wet brakes by riding and braking gently.

- 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 have to brake far less and the brakes do not overheat.

Riding

i 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.

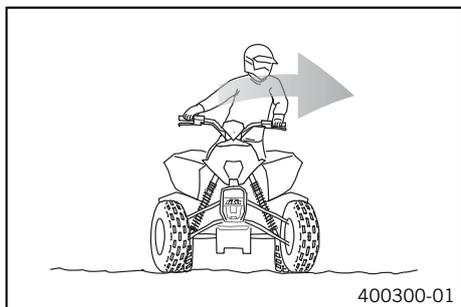
Specification

≥ 2 min

- Avoid frequent and longer slipping of the clutch. 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

i 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.

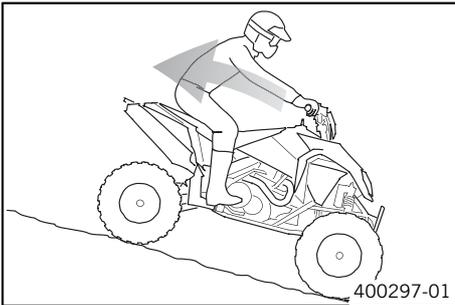


! Warning
Danger of accidents Excessive speed and turning at sharp angles can cause the vehicle to roll over.

- 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.

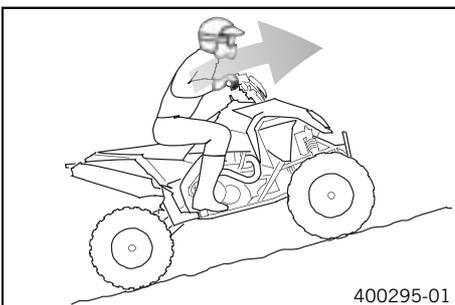
Note

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 up or 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 blocked.

Riding uphill



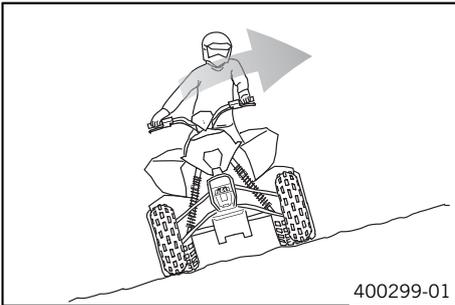
Warning

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.

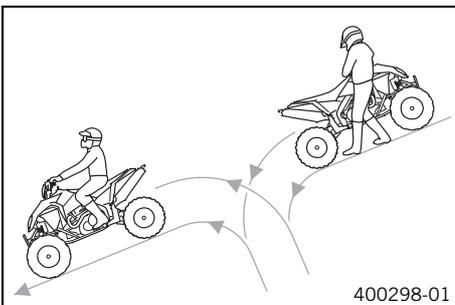
Turning on slopes



Warning

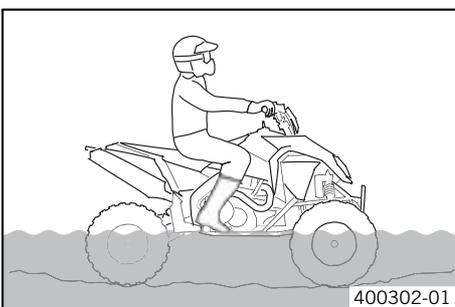
Danger of accidents Danger of accidents from turning the vehicle on a slope.

- 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.
- Riding downhill. (☛ P. 24)
- 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 or dry dirty or wet brakes by riding and braking gently.

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 becomes 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 three ways to switch off the engine.

Alternative 1

Switch off the engine using the ignition key.

- Turn the key in the ignition switch to the position ☒.



Info

All power-consuming components are switched off.

Alternative 2

Switch off the engine using the **ENG. STOP** switch.

- Press the **ENG. STOP** switch into the **OFF** position.



Info

All power-consuming components are switched off.

Alternative 3

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

- Pull off the clip ②. (Figure 100010-10 ↖ P. 16)



Info

When the engine is switched off using the emergency OFF switch, the power-consuming components are not switched off. All power-consuming components that are switched on (head lights, tail light, CDI, etc.) continue consuming electricity. This uses battery power and causes it to discharge.

Stopping, parking



Warning

Danger of burns Some vehicle components get very hot when the machine is driven.

- 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

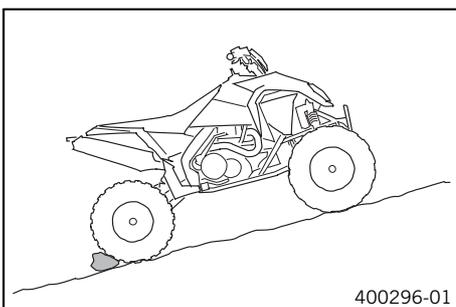
Danger of damage Danger of damage from accidental rolling of vehicle.

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

Note

Fire hazard Some components (engine, radiator and exhaust system) get very hot when the engine is running.

- Do not place the vehicle where there are flammable or explosive substances.



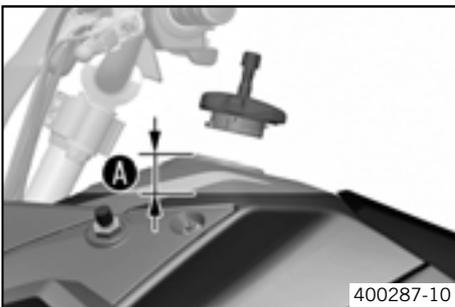
- Stop the vehicle and park it on a surface that is as horizontal as possible.
- Shift gear to neutral.
 - ✓ The green idling speed indicator lamp **N** lights up.
- Switch off the engine. (↖ P. 26)
- Remove the ignition key and the clip from the emergency OFF switch.
- Pull the hand brake lever, push the locking pawl ② down and release the hand brake lever. (Figure 100006-10 ↖ P. 14)
 - ✓ The front wheels are blocked.
- Turn the handle ① of the fuel tap to the **OFF** position. (Figure 100013-10 ↖ P. 16)
 - ✓ 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 can easily catch fire.
- Never fill up 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 specifications on filling up with fuel.

- 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.

- 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.



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

Specification

Measurement of A	35 mm (1.38 in)	
Tank capacity	13.4 l (3.54 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ P. 95)

- Close the filler cap. (☛ P. 16)

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

		S3N	S15A	S30A
Engine	Change the engine oil and oil filter, clean the oil screens. 🛠️ (📖 P. 73)	•	•	•
	Replace spark plug.			•
	Check and adjust valve clearance.	•	•	•
	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 leakage.	•	•	•
	Check the antifreeze and coolant level. (📖 P. 67)	•	•	•
	Check the exhaust system for leakage and looseness.		•	•
	Check Bowden cables for damage, smooth operation and routing without sharp bends.	•	•	•
	Check the fluid level of the hydraulic clutch. (📖 P. 66)	•	•	•
	Clean the air filter. 🛠️ (📖 P. 66)	•	•	•
	Check cables for damage and routing without sharp bends.		•	•
	Check that the electrical equipment is functioning properly.	•	•	•
	Check the headlamp setting.		•	•
	Check speed limitation in reverse gear.	•	•	•
Brakes	Check the front brake linings. (📖 P. 49)	•	•	•
	Check the rear brake linings. (📖 P. 54)	•	•	•
	Check the brake discs. (📖 P. 47)	•	•	•
	Check the front brake fluid level. (📖 P. 48)	•	•	•
	Check the rear brake fluid level. (📖 P. 52)	•	•	•
	Check brake lines for damage and leakage.	•	•	•
	Check the free play of the hand brake lever. (📖 P. 48)	•	•	•
	Check the free play of the foot brake lever. (📖 P. 52)	•	•	•
	Check brake system function.	•	•	•
	Check screws and guide bolts of 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 steering for smooth operation and play.	•	•	•
	Check the bearing of the handlebar bridge of 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 swingarm bearing.		•	•
	Check the bearing of the rear axle for play.	•	•	•
	Grease the rear wheel eccentric element. (📖 P. 47)		•	•
	Check all screws to see if they are tight.	•	•	•
Wheels	Check rim run-out.	•	•	•
	Check the tire condition. (📖 P. 57)	•	•	•
	Checking the tire air pressure. (📖 P. 57)	•	•	•
	Check the chain wear. (📖 P. 46)	•	•	•
	Check the chain tension. (📖 P. 45)	•	•	•
	Clean the chain. (📖 P. 45)	•	•	•
	Check front wheel bearing for play.	•	•	•

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

S15A: Every 15 service hours - corresponds to about 105 liters of fuel / after every race

S30A: Every 30 service hours - corresponds to about 210 liters of fuel

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

	Competition use			Hobby use			J1A	J2A
	S15A	S30A	S45A	S30A	S60A	S90A		
Carry out a complete shock absorber service.								•
Clean and adjust carburetor.							•	•
Treat electric contacts with contact spray.							•	•
Change hydraulic clutch fluid.							•	•
Change brake fluid.							•	•
Clean spark arrestor.							•	•
Check wear of clutch discs.	•	•	•	•	•	•		
Check long clutch springs.		•			•			
Check clutch slave cylinder for dents.		•			•			
Check outer clutch hub for dents.		•			•			
Check cylinder and piston wear.			•			•		
Check camshaft wear. (visual check)			•			•		
Change the camshaft bearing support.			•			•		
Check wear of valve spring seat.			•			•		
Check wear of valve guides.			•			•		
Check valves.			•			•		
Check valve springs.			•			•		
Check the radial clearance of the rocker arm rollers.			•			•		
Measure length of timing chain.			•			•		
Check the timing-chain tensioner function.			•			•		
Check crankshaft and crankshaft journal for run-out.			•			•		
Change conrod bearing.			•			•		
Change the crankshaft main bearing.			•			•		
Change the balancer bearing.			•			•		
Check wear of all transmission components including shafts and bearings.			•			•		
Check long bypass valve spring.			•			•		
Change glass fiber yarn filling of main silencer.		•			•			
Replace foot brake cylinder seals.		•			•			
Check carburetor components.		•			•			

S15A: Every 15 service hours - corresponds to about 105 liters of fuel / after every race

S30A: Every 30 service hours - corresponds to about 210 liters of fuel

S45A: Every 45 service hours - corresponds to about 315 liters of fuel

S60A: Every 60 service hours - corresponds to about 420 liters of fuel

S90A: Every 90 service hours - corresponds to about 630 liters of fuel

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. 72)	•
Check the front brake fluid level. (☞ P. 48)	•
Check the rear brake fluid level. (☞ P. 52)	•
Check the front brake linings. (☞ P. 49)	•
Check the rear brake linings. (☞ P. 54)	•
Check and adjust Bowden cables.	•
Clean the chain. (☞ P. 45)	•
Check the chain tension. (☞ P. 45)	•

	NB1A
Check the chain wear. (☞ P. 46)	•
Check rear sprocket / engine sprocket for wear. (☞ P. 45)	•
Clean the air filter. 🗑️ (☞ P. 66)	•
Checking the tire air pressure. (☞ P. 57)	•
Check the tire condition. (☞ P. 57)	•
Check the coolant level. (☞ P. 68)	•
Check that all operating elements 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 Danger of damage by the vehicle running away or falling 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.

Standard 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 range, 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.

i 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.

Adjusting front shock absorber compression damping

! Danger

Danger of accidents The shock absorber is under high pressure.

- The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.

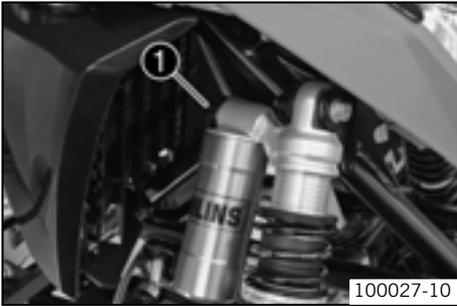
! Warning

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

- Only make adjustments within the recommended range.

i Info

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



- Turn the adjusting wheel ❶ clockwise until it stops.
- Turn back counterclockwise the number of clicks corresponding to the shock absorber type.

Specification

Compression damping	
Standard	14 clicks
Maximum deviation from standard value	-5... 5 clicks

Tip
Experience has shown that settings outside of this range are detrimental to vehicle handling. When changing the chassis settings, always start with the standard setting.

Info
Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.
The left and right shock absorbers should have the same settings.

Adjusting front shock absorber rebound damping

Danger
Danger of accidents The shock absorber is under high pressure.

- The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.

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 the adjusting screw ❶ clockwise until it stops.
- Turn back counterclockwise the number of clicks corresponding to the shock absorber type.

Specification

Rebound damping	
Standard	20 clicks
Maximum deviation from standard value	-5... 5 clicks

Tip
Experience has shown that settings outside of this range are detrimental to vehicle handling. When changing the chassis settings, always start with the standard setting.

Info
Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.
The left and right shock absorbers should have the same settings.

Adjusting front shock absorber cross over



Danger

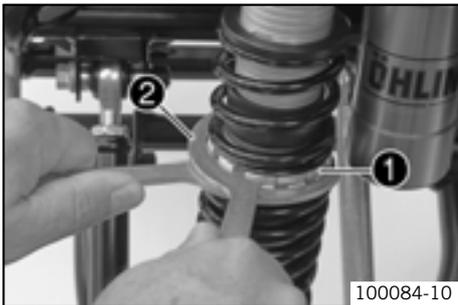
Danger of accidents The shock absorber is under high pressure.

- The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.



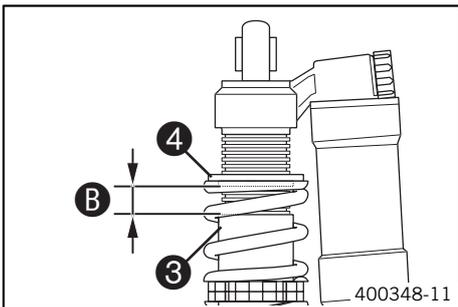
Info

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. 31)
- Clean the shock absorber thoroughly.
- Loosen the adjusting ring ①. Suitable tools ② are available from an authorized KTM workshop.

Hook wrench, Öhlins (83019001000)



- The cross over setting B is measured between the sliding bushing ③ and the collar of the spring retainer ④.

Specification

Cross over	17±1.5 mm (0.67±0.059 in)
------------	---------------------------

- Change the settings accordingly and lock the adjusting ring.



Info

The sliding bushing is made of plastic. Therefore, do not lock it too tightly to avoid damaging the thread. The left and right shock absorbers should have the same settings.

- Remove the vehicle from the work stand. (☛ P. 31)

Adjusting front shock absorber spring preload



Danger

Danger of accidents The shock absorber is under high pressure.

- The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.



Warning

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

- Make adjustments in small steps only.



Info

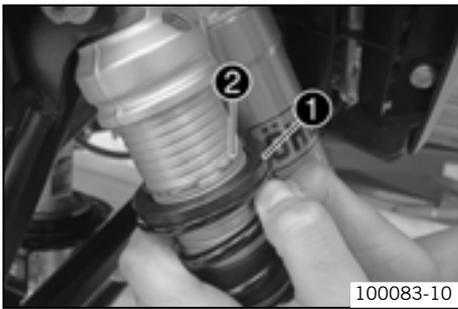
Increasing the spring preload raises the center of gravity of the vehicle. This can have a large impact on vehicle handling.



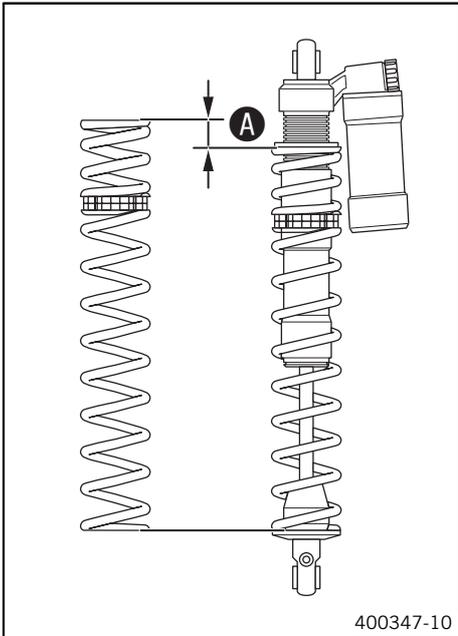
Tip

Before you change the spring preload, make a note of the groove in which the securing clip is positioned. When making adjustments, always start from the standard setting.

- Jack up the vehicle. (☛ P. 31)
- Clean the shock absorber thoroughly.



- Press the spring pack and the spring retainer ❶ down to make the securing clip ❷ accessible.
- Using pliers, position the securing clip in one of the upper grooves. Do not over-strain the securing clip.
- Release the spring pack and measure the length of the unloaded spring pack.



- Press together the spring pack, position the securing clip in the corresponding groove and release the spring pack.

Specification

Clip position, spring preload	
Standard	7 th position from top
Corresponds to a spring preload of	5 mm (0.2 in)

i Info
 The spring preload **A** is the difference in length between the spring pack when it is unloaded and when it is installed.
 The securing clip must be positioned entirely within the cut-out of the spring retainer.
 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.

- Remove the vehicle from the work stand. (☛ P. 31)

Adjusting rear shock absorber compression damping

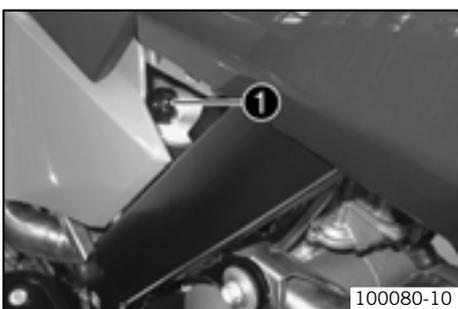
! Danger
Danger of accidents The shock absorber is under high pressure.

- The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.

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

- Only make adjustments within the recommended range.

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



- Turn the adjusting wheel ❶ clockwise until it stops.

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

Specification

Compression damping	
Standard	15 clicks
Maximum deviation from standard value	-5... 5 clicks

i Tip
Experience has shown that settings outside of this range are detrimental to vehicle handling. When changing the chassis settings, always start with the standard setting.

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

Adjusting rear shock absorber rebound damping

! Danger
Danger of accidents The shock absorber is under high pressure.

- The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.

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

- Only make adjustments within the recommended range.

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



100081-10

- Turn the adjusting wheel ❶ to the right until it stops.
- Turn back to the left the number of clicks corresponding to the shock absorber type.

Specification

Rebound damping	
Standard	15 clicks
Maximum deviation from standard value	-5... 5 clicks

i Tip
Experience has shown that settings outside of this range are detrimental to vehicle handling. When changing the chassis settings, always start with the standard setting.

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

Adjusting rear shock absorber spring preload



Danger

Danger of accidents The shock absorber is under high pressure.

- The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.



Warning

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

- Make adjustments in small steps only.



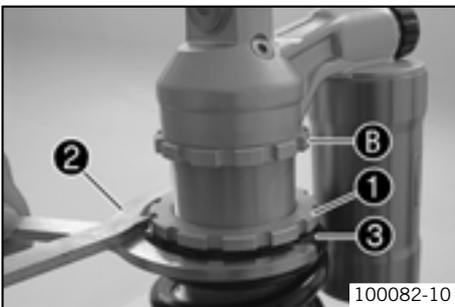
Info

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

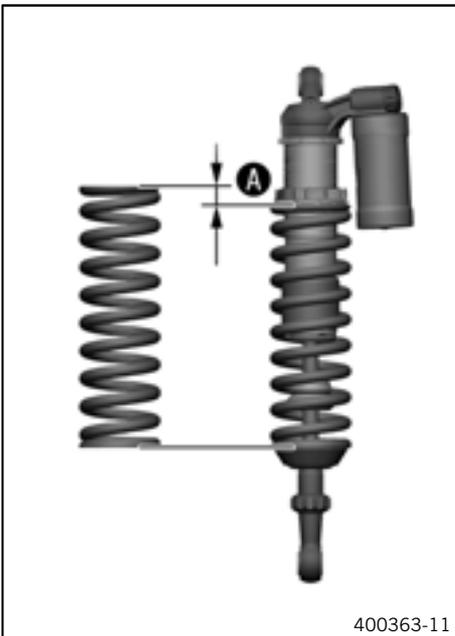


Tip

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



100082-10



400363-11

- Remove the rear shock absorber.  (P. 37)
- After removing the shock absorber, clean it thoroughly.
- Loosen the lock nut ①. Hold adjusting ring ③ while doing so. Suitable tools ② are available from an authorized KTM workshop.

Hook wrench (83019002000)



Info

Do not loosen the lock nut ⑥ at the top of the shock absorber.

- Turn adjusting ring until the spring is no longer under tension.
- Measure the overall spring length when not under tension.



Info

The spring preload A is the difference in length between the spring when it is unloaded and when it is installed.

- Tighten the spring by turning adjusting ring to measurement .

Specification

Spring preload

Standard	3 mm (0.12 in)
----------	----------------

- Tighten the lock nut and the adjusting ring.



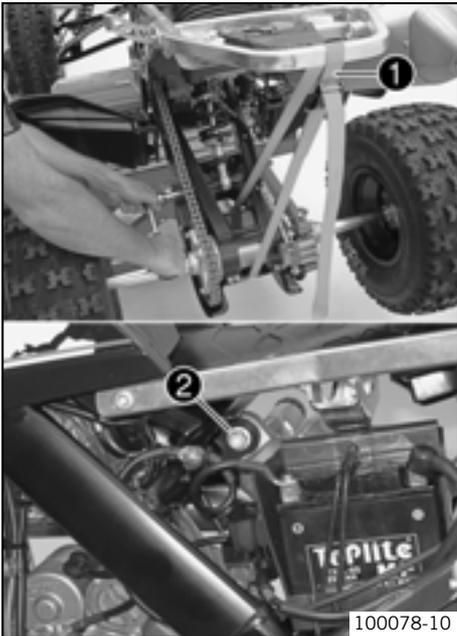
Info

The adjusting ring ③ is made of plastic. Therefore, do not lock the adjusting ring too tightly to avoid damaging the thread.

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

- Install the rear shock absorber.  (P. 37)

Removing the rear shock absorber



100078-10

- Jack up the vehicle. (☞ P. 31)
- Remove the rear fender. (☞ P. 63)

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 ❶ to relieve the shock absorber.
- Remove the bottom screw of the shock absorber.

Tip

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

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

Installing the rear shock absorber



100079-10

- Check parts for damage and wear. Replace damaged or worn parts.
- Position the shock absorber in the vehicle with the reservoir on the right. Mount and tighten the top screw ❶.

Specification

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.

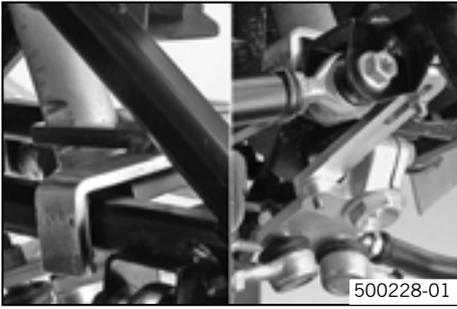
Specification

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

- Remove the tension belt.
- Install the rear fender. (☞ P. 64)
- Remove the vehicle from the work stand. (☞ P. 31)

Toe, checking

- Park the vehicle on a horizontal surface.
- Check the tire condition. (☞ P. 57)
- Checking the tire air pressure. (☞ P. 57)
- Check the chassis parts for damage, play and wear.



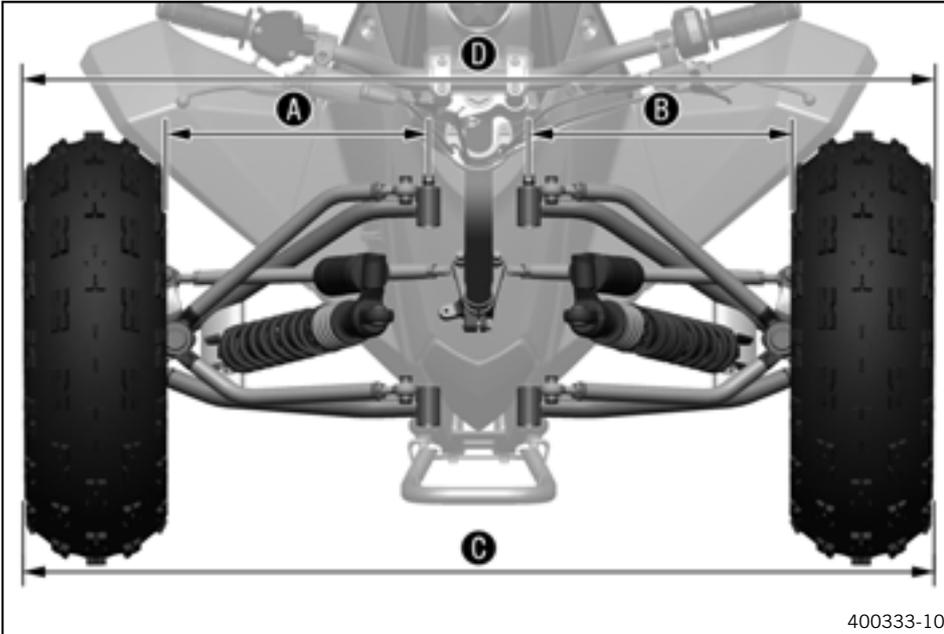
- Load the vehicle with the specified weight.

Specification

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

- Turn the steering to the straight-ahead position and fix it.

Steering fixing for straight-ahead position (83019015000)



- Measure distances **A** and **B**.
 - » If distances **A** and **B** are not equal:
 - Adjust the toe. 🛠️ (P. 38)
- Measure distances **C** and **D**.

Specification

Toe	
Front	0 mm (0 in)



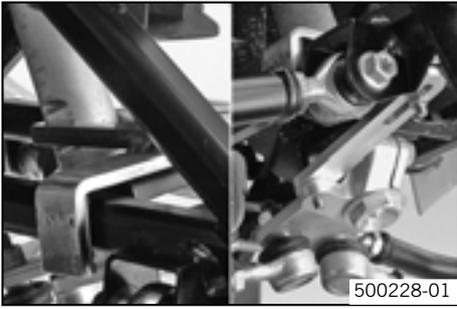
Info

The toe is the difference in length between distances **D** and **C** 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. 38)

Adjusting the toe 🛠️

- Park the vehicle on a horizontal surface.
- Check the tire condition. (🛠️ P. 57)
- Checking the tire air pressure. (🛠️ P. 57)
- Check the chassis parts for damage, play and wear. Replace damaged or worn parts.



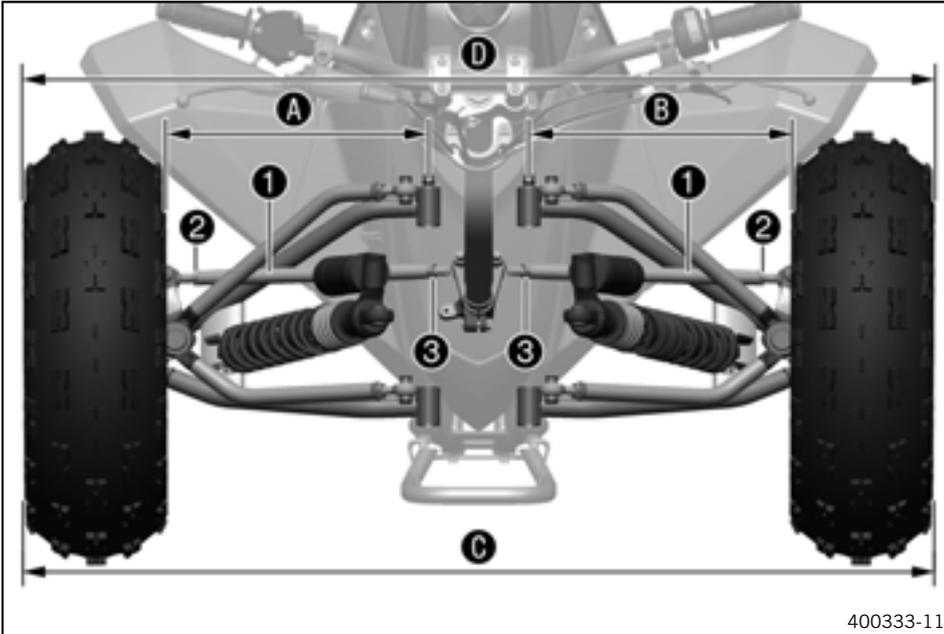
- Load the vehicle with the specified weight.

Specification

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

- Turn the steering to the straight-ahead position and fix it.

Steering fixing for straight-ahead position (83019015000)



- 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.

Specification

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.

- Tighten nuts ② and ③.

Specification

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)

i Info

The tie rods ① must still be freely movable.

Checking/adjusting camber

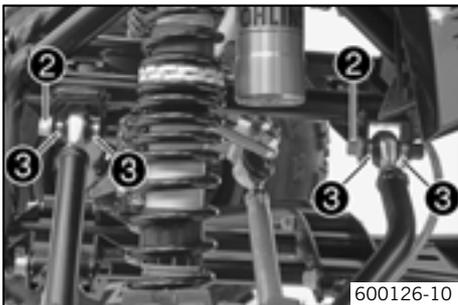


Info

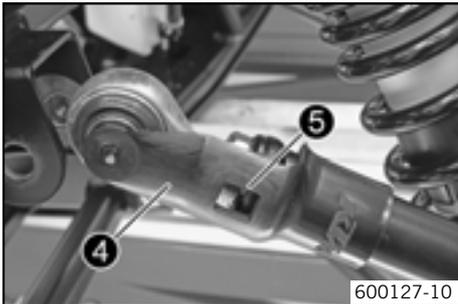
The left and right camber should have the same settings.
The operations are the same on the left and right.



- Jack up the vehicle. ( P. 31)
- Loosen nuts **1**.



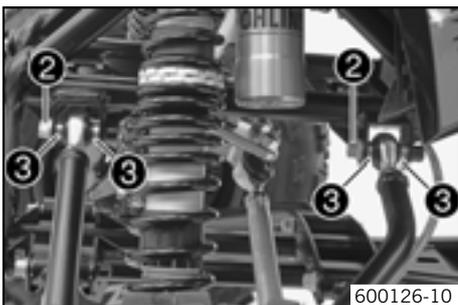
- Remove screws **2** with bushings **3**.
- Check parts for damage and wear. Replace damaged or worn parts.



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

Camber gauge (83019014000)

- Check the camber on both heim joints.
 - » If the marking **5** is not aligned with the top edge of the A-arm:
 - Turn the 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 the tool **4**.



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

Specification

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



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

Specification

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



Info

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

- Remove the vehicle from the work stand. ( P. 31)

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.

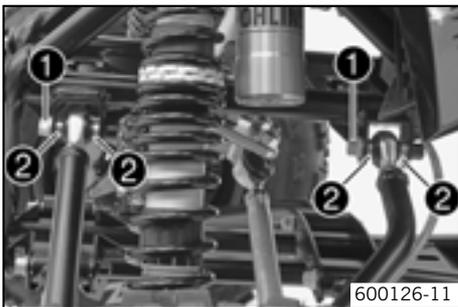
Upon delivery one bushing is installed in front of the A-arm and one behind it.

Adjusting the fork offset ↩

i Info

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

The operations are the same on the left and right.



600126-11

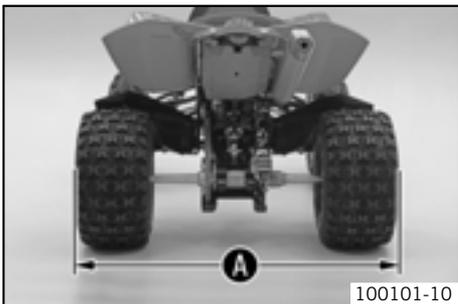
- Jack up the vehicle. (↩ P. 31)
- Remove screws ❶ with bushings ❷.
- Check parts for damage and wear. Replace damaged or worn parts.
- Place the A-arm with the bushings ❷ in the desired position. Mount and tighten screws ❶.

Specification

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

- Remove the vehicle from the work stand. (↩ P. 31)

Toe width of rear axle



100101-10

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

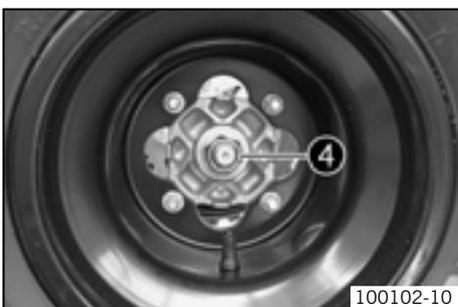
Difference between narrow/wide toe	76 mm (2.99 in)
------------------------------------	-----------------

Adjusting the toe width of rear axle ↩

! Warning

Danger of accidents Changes to the chassis can strongly influence how the vehicle handles.

- After making changes, always ride slowly to allow yourself to respond to vehicle handling.

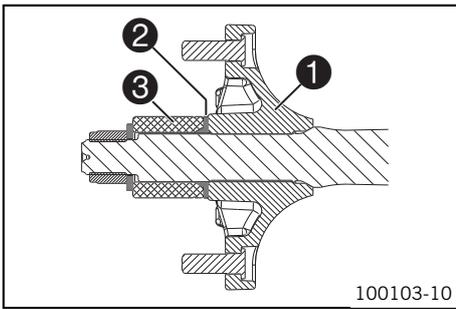


100102-10

- Engage 1st gear.
- Loosen nuts ❹ of the wheel hubs on both sides.
- Jack up the vehicle. (↩ P. 31)
- Remove the nuts ❹ on both sides and take all parts off of the rear axle.
- Check parts for damage and wear. Replace damaged or worn parts.

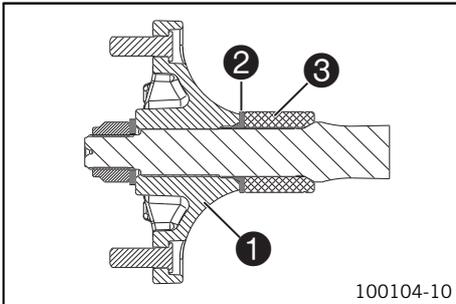
i Info

The left and right toe width should have the same settings.



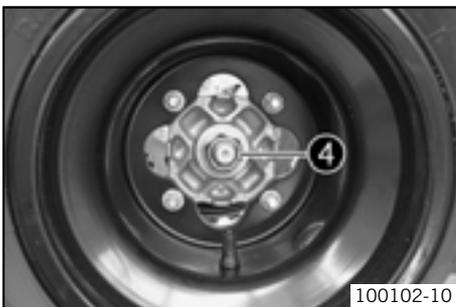
Setting a narrow toe width:

- Mount the wheel hub ❶.
- Mount the conical ring ❷ with the cone facing outward.
- Mount the spacing sleeve ❸ with the cone facing inward.
- Mount the washer and the new self-locking nut.



Setting a wide toe width:

- Mount the spacing sleeve ❸ with the cone facing inward.
- Mount the conical ring ❷ with the cone facing outward.
- Mount the wheel hub ❶.
- Mount the washer and the new self-locking nut.



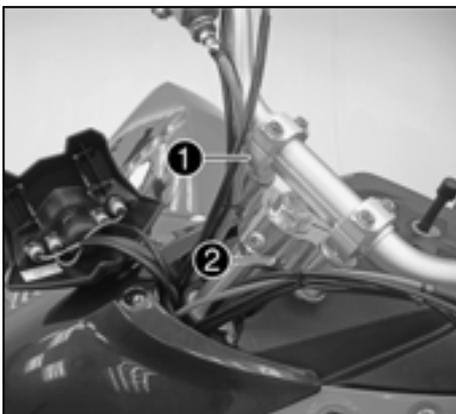
- Remove the vehicle from the work stand. (☛ P. 31)
- Tighten nuts ❷ on both sides.

Specification

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

- Shift gear to neutral.

Handlebar position



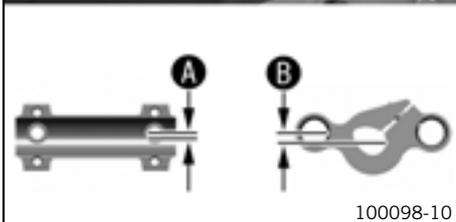
The handlebar position can be adjusted 4-fold by turning the handlebar support ❶ and the handlebar support ❷.

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

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

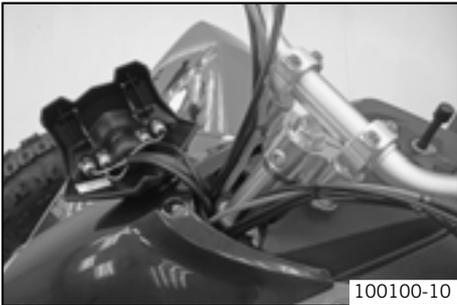
The holes on the handlebar bridge are placed at a distance of ❷ from the center.

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

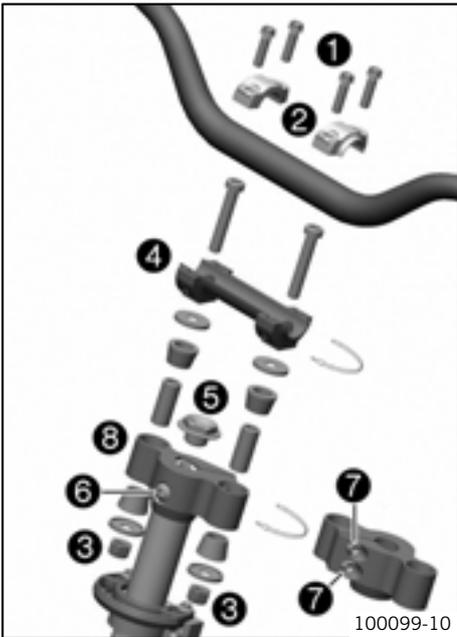


100098-10

Adjusting handlebar position



100100-10



100099-10

- Pull the instrument support off the handlebar and swing it to the side.



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.
- Check parts for damage and wear. Replace damaged or worn parts.
- Place the handlebar bridge ⑧ onto the steering column in the desired position. Mount and tighten screw ⑥.

Specification

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

- Mount and tighten screw ⑤.

Specification

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

- Mount and tighten screws ⑦.

Specification

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.

Specification

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.

Specification

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

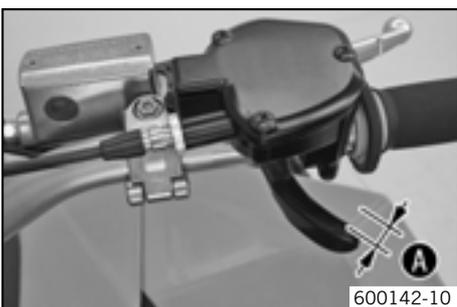


Info

Make sure cables and wiring are positioned correctly.

- Position the instrument support on the handlebar.

Checking play in gas Bowden cable



600142-10

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

Specification

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

- » If the gas Bowden cable play does not meet specifications:
 - Adjust the play in the gas Bowden cable. (P. 44)



Danger

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

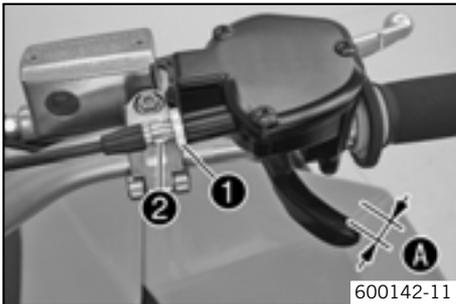
- When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space.

- 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 gas Bowden cable. (☛ P. 44)

Adjusting play in gas Bowden cable



- Check gas Bowden 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 gas Bowden cable A.

Specification

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

- Tighten nut ①.

Checking the play in the Bowden cable using the reverse gear release lever



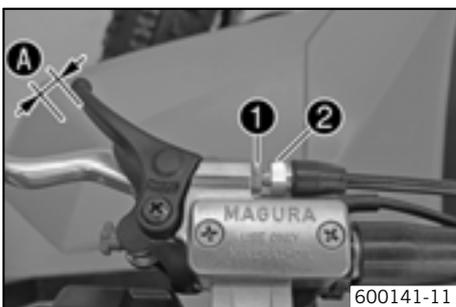
- Move the handlebar to the straight-ahead position. Move the reverse gear release lever back and forth slightly to ascertain the play in the Bowden cable A.

Specification

Play in the Bowden cable on the reverse gear release lever	10 mm (0.39 in)
--	-----------------

- » If the Bowden cable play on the reverse gear release lever does not agree with the specifications:
 - Adjust the play in the Bowden cable using the reverse gear release lever. (☛ P. 44)

Adjusting the play in the Bowden cable using the reverse gear release lever



- Check that the Bowden cable is correctly laid from the reverse gear release lever.
- Move the handlebar to the straight-ahead position.
- Release the nut ① and using the screw ②, adjust the play of the Bowden cable A on the reverse gear release lever.

Specification

Play in the Bowden cable on the reverse gear release lever	10 mm (0.39 in)
--	-----------------

- Tighten nut ①.

Checking chain dirt

- Check the chain for coarse dirt accumulation.
 - » If the chain is very dirty:
 - Clean the chain. (☛ P. 45)

Cleaning the chain



Warning

Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to 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. 97)

Offroad chain spray (☛ P. 97)

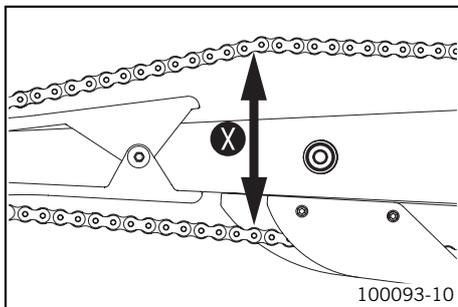
Checking the chain tension



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 cases the chain can rupture or the countershaft of the transmission can break. On the other hand, if the chain is loose, it can fall off the engine sprocket or the rear sprocket and block the rear wheels or damage the engine. 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

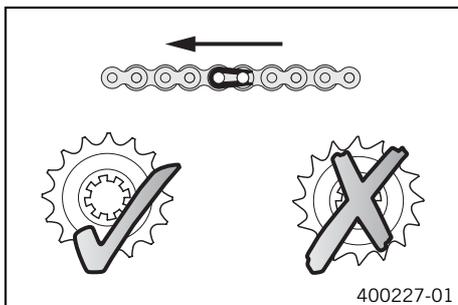
The lower chain section must be taut.

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

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

- » If the chain tension does not meet specifications:
 - Adjust the chain tension. (☛ P. 46)

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.



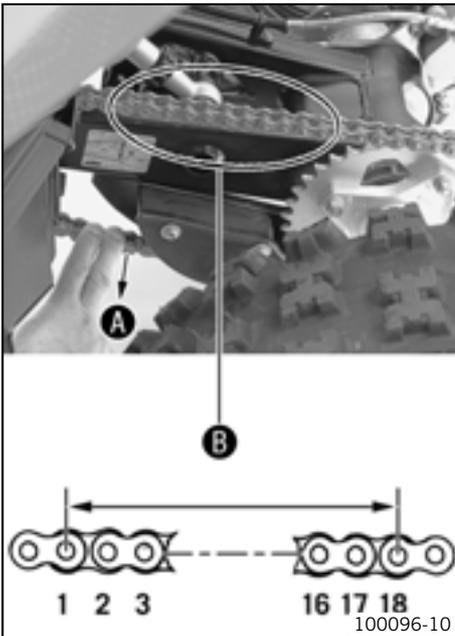
Info

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



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

Specification

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.

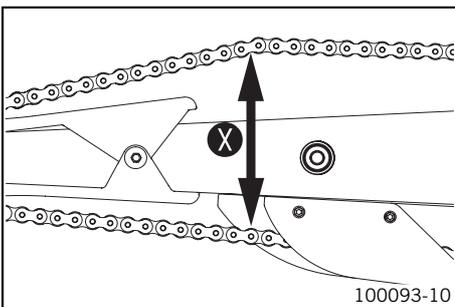
Adjusting chain tension



Warning

Danger of accidents Danger caused by incorrect chain tension.

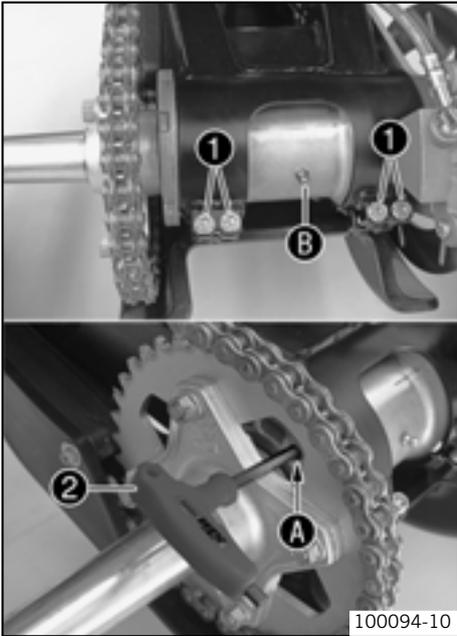
- If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel eccentric element) are under additional load. Apart from premature wear, in extreme cases the chain can rupture or the countershaft of the transmission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



- Loosen the screws 1 by four turns.

Alternative 1

- Insert the tool 2 from the tool set into the hole A of the rear wheel eccentric element.

Alternative 2

- Use a special tool on the rear wheel eccentric.

Hook wrench (83019011000)

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

Specification

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 B is visible. This ensures that the vehicle has the greatest ground clearance.

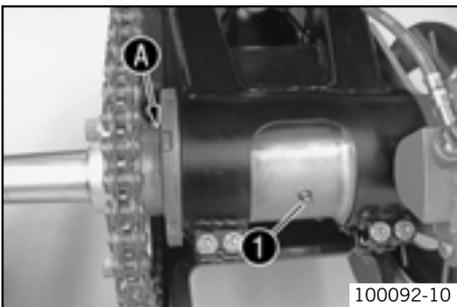
- Fully tighten screws 1.

Specification

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

- Remove tool 2.

Greasing the rear wheel eccentric element



- Use a grease gun to fill the rear wheel eccentric element via the grease nipple 1 until grease emerges from the left shaft seal ring A.

Long-life grease (P. 95)

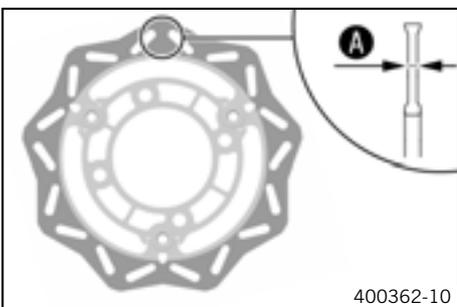
Checking brake discs



Warning

Danger of accidents Reduced braking due to worn brake discs.

- Worn brake discs should be replaced immediately in an authorized KTM workshop.



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

i Info

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

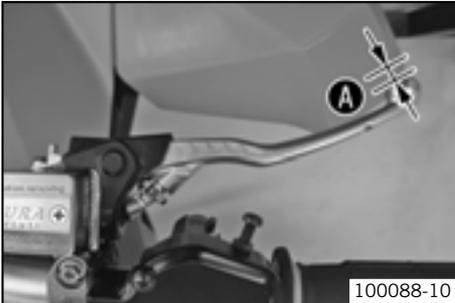
Wear limit of brake discs	
Front	3.5 mm (0.138 in)
Rear	3.5 mm (0.138 in)

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

Checking free play of 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.

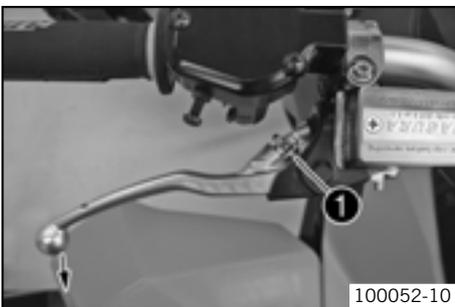


- Push the hand brake lever forwards and check free play. **A**.

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

- » If the free travel does not meet the specifications:
 - Adjust the basic position of the handbrake lever. (☛ P. 48)

Adjusting basic position of handbrake lever



- Adjust the basic setting of the handbrake lever to your hand size by turning adjusting screw **1**.

i Info
 Pull the brake lever forward and turn the adjusting screw.
 Turn the adjusting screw clockwise to increase the distance between the handbrake lever and the handlebar.
 Turn the adjusting screw counterclockwise to decrease the distance between the handbrake 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!

- Check the free play of the hand brake lever. (☛ P. 48)

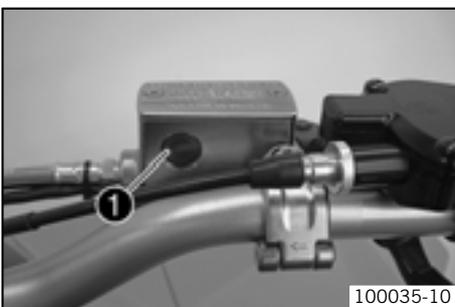
Checking front brake fluid level

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.

- Have the front and rear brake fluid replaced according to the service plan in an authorized KTM workshop.



- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in the viewer **1**.
 - » When the brake fluid level has dropped below the bottom of the viewer:
 - Top up the brake fluid of the front brake. ☛ (☛ P. 49)

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 irritations Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- If brake fluid gets into your eyes, rinse thoroughly with water and contact a doctor immediately.

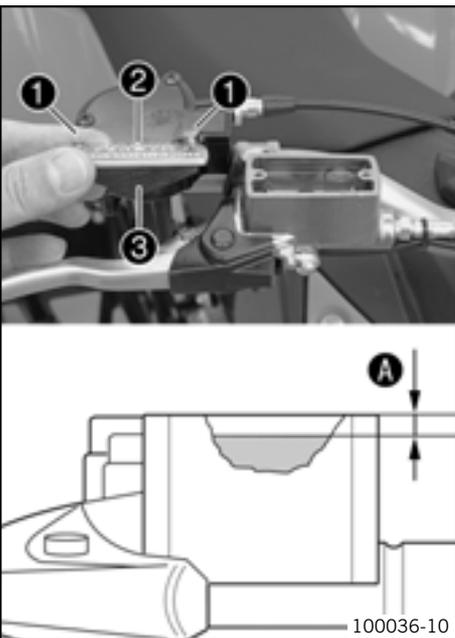
Warning
Danger of accidents Reduced braking due to old brake fluid.

- Have the front and rear brake fluid replaced according to the service plan in an authorized KTM workshop.

Warning
Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to 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 attacks paint!
 Use only clean brake fluid from a sealed container!



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

Specification

Measurement of A	5 mm (0.2 in)
Brake fluid DOT 4 / DOT 5.1 (☞ P. 95)	

- Check parts for damage and wear. Replace damaged or worn parts.
- Position the cover with the membrane. Mount and tighten screws.

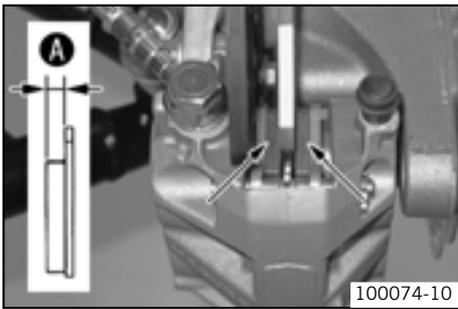
Info
 Clean up overflowed or spilt brake fluid immediately with water.

Checking the front brake linings

Warning
Danger of accidents Reduced braking due to worn brake linings.

- Worn brake linings should be replaced immediately in an authorized KTM workshop.

- Remove the wheel/wheels. (☞ P. 56)



- 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. 51)
- Mount the wheel/wheels. (🔧 P. 56)

Removing front brake linings 🛠️



Warning

Danger of accidents Improper brake maintenance and repair.

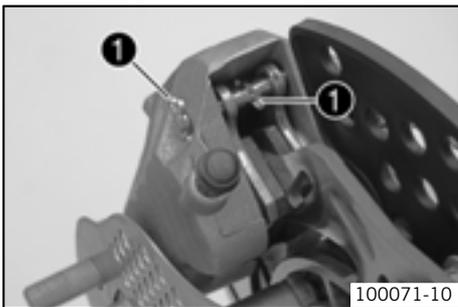
- Always have your brake system maintained and repaired in an authorized KTM workshop.



Info

The operations are the same on the left and right.

- Remove the wheel/wheels. (🔧 P. 56)
- 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 **1**, withdraw the bolt, and take out the brake pads.
- Clean the brake caliper and bolts.



Mounting front brake linings 🛠️



Warning

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

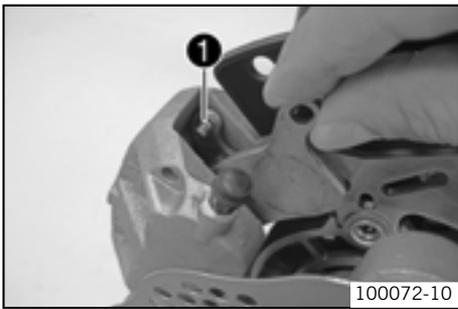
- Brake linings available from accessory suppliers are often not tested and approved for use on KTM vehicles. The construction and friction factor of the brake linings and therefore the brake power can differ considerably from the original KTM brake linings. If brake linings are used that differ from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

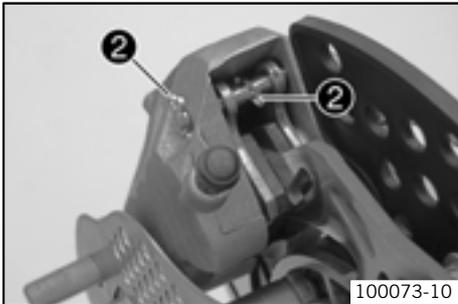
The operations are the same on the left and right.

- Check the brake discs. (🔧 P. 47)



100072-10

- Check parts for damage and wear. Replace damaged or worn parts.
- Insert the inside brake lining into the brake caliper and fix with bolt ①.
- Insert the external brake lining into the brake caliper and slide the bolts in all the way.



100073-10

- Mount the locking split pins ②.
- Operate the hand brake lever repeatedly until the brake linings lie on the brake disc and there is a tight spot.
- Mount the wheel/wheels. (↖ P. 56)

Changing the front brake linings 🛠️



Warning

Skin irritations Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- 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.

- Have the front and rear brake fluid replaced according to the service plan in an authorized KTM workshop.



Warning

Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.

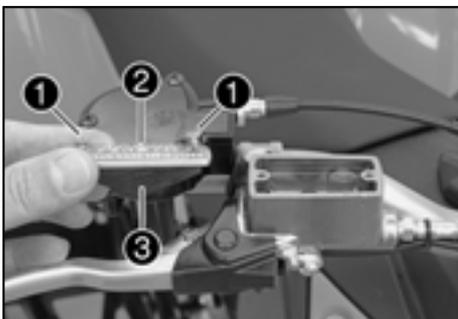


Info

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 attacks paint!

Use only clean brake fluid from a sealed container!



100036-10

- Remove the front brake linings. 🛠️ (↖ P. 50)
- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ①.
- Remove cover ② with membrane ③.
- Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
- Mount the front brake linings. 🛠️ (↖ P. 50)
- Top up brake fluid to level A.

Specification

Measurement of A	5 mm (0.2 in)
------------------	---------------

Brake fluid DOT 4 / DOT 5.1 (↖ P. 95)

- Check parts for damage and wear. Replace damaged or worn parts.
- Position the cover with the membrane. Mount and tighten screws.



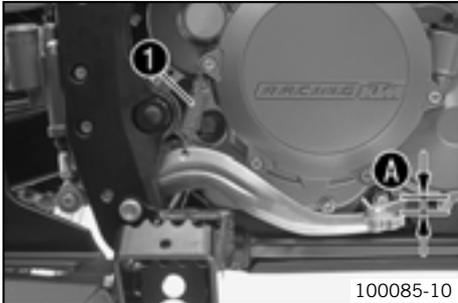
Info

Clean up overflowed or spilt brake fluid immediately with water.

Checking free play 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 ❷.

Specification

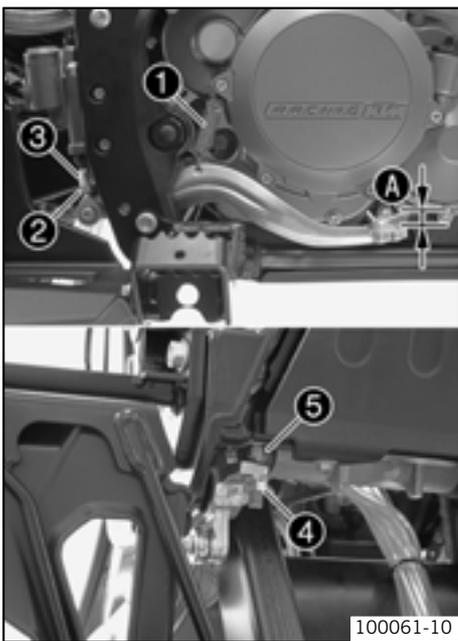
Free play at foot brake lever	3... 5 mm (0.12... 0.2 in)
-------------------------------	----------------------------

- » If the free travel does not meet specifications:
 - Adjust the basic position of the footbrake lever. ↪ (P. 52)
- Reconnect spring ❶.

Adjusting basic position of footbrake 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 footbrake lever individually, loosen nut ❹ and turn screw ❺ accordingly.

i Info
 The range of adjustment is limited.

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

Specification

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

- Hold screw ❺ and tighten nut ❹.

Specification

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

- Hold push rod ❸ and tighten nut ❷.

Specification

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

- Reconnect spring ❶.

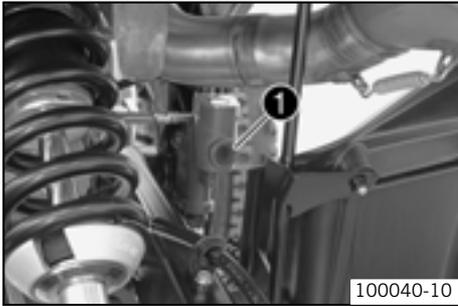
Checking rear brake fluid level

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.

- Have the front and rear brake fluid replaced according to the service plan in an authorized KTM workshop.



- Park the vehicle on a horizontal surface.
- Check the brake fluid level in the viewer ❶.
 - » When the brake fluid level has dropped to the bottom of the viewer ❶:
 - Top up the brake fluid of the rear brake. 🛠️ (📖 P. 53)

Topping up brake fluid of front brake 🛠️

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 irritations Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- If brake fluid gets into your eyes, rinse thoroughly with water and contact a doctor immediately.

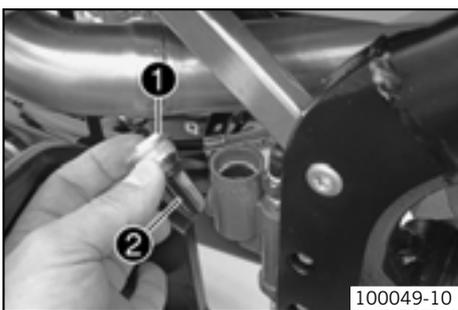
Warning
Danger of accidents Reduced braking due to old brake fluid.

- Have the front and rear brake fluid replaced according to the service plan in an authorized KTM workshop.

Warning
Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.

i 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 attacks paint!
 Use only clean brake fluid from a sealed container!



- Remove screw ❶ with membrane ❷.



- Top up the brake fluid to level ❶.
- Brake fluid DOT 4 / DOT 5.1 (📖 P. 95)
- Check parts for damage and wear. Replace damaged or worn parts.
 - Refit screw ❶ with membrane ❷.

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

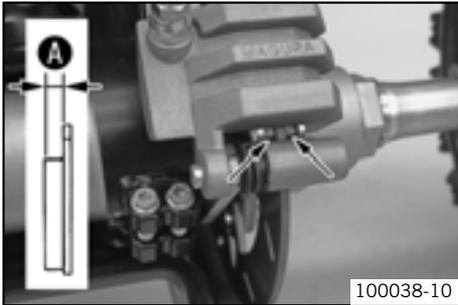
Checking rear brake linings



Warning

Danger of accidents Reduced braking due to worn brake linings.

- Worn brake linings should be replaced immediately in an authorized KTM workshop.



100038-10

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

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

- » If the minimum thickness is less than specified:
 - Change the rear brake linings. (P. 55)

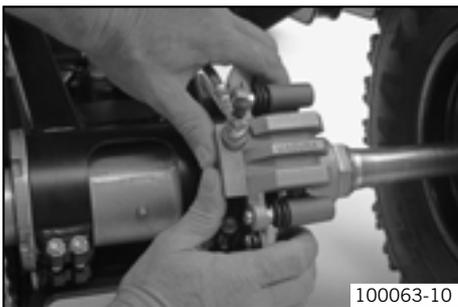
Removing rear brake linings



Warning

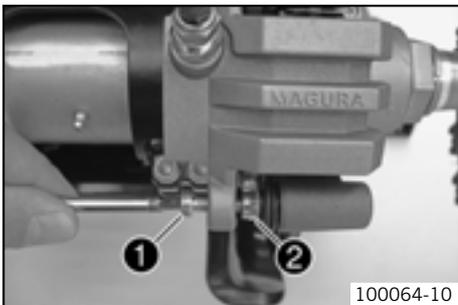
Danger of accidents Improper brake maintenance and repair.

- Always have your brake system maintained and repaired in an authorized KTM workshop.



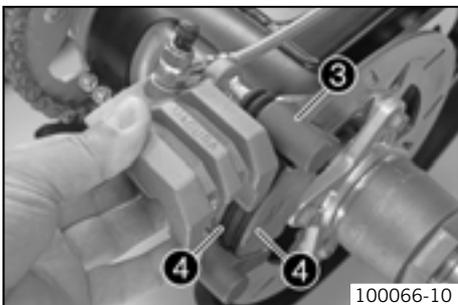
100063-10

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



100064-10

- 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.



100066-10

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.

Mounting rear brake linings



Warning

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

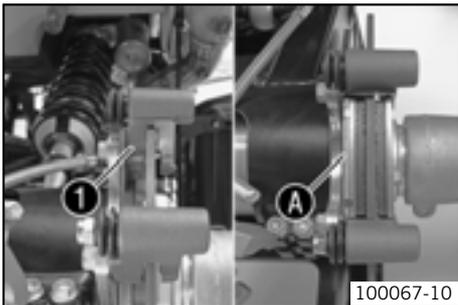
- Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



Warning

Danger of accidents Reduced braking 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.

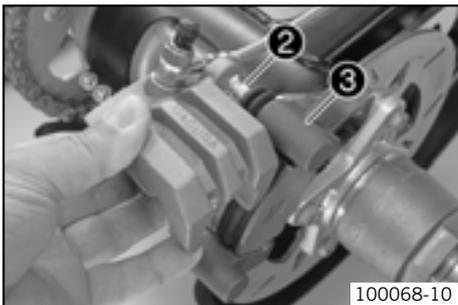


- Check the brake discs. ( P. 47)
- Check parts for damage and wear. Replace damaged or worn parts.
- Check that the sliding plate **1** is seated correctly in the brake caliper support and insert the brake linings.

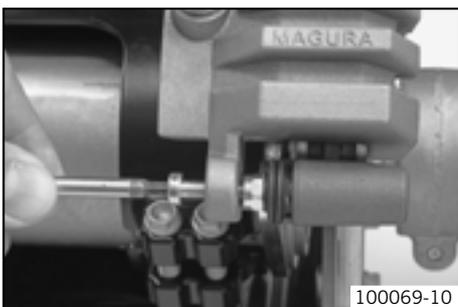


Info

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



- Grease the bearing bolt **2** and insert the brake caliper with the bearing bolt into the brake caliper support **3**.



- Swing the brake caliper downwards. Mount and tighten screw .
Specification

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 irritations Brake fluid can cause skin irritation on contact.

- Avoid contact with skin and eyes, and keep out of the reach of children.
- 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.

- Have the front and rear brake fluid replaced according to the service plan in an authorized KTM workshop.



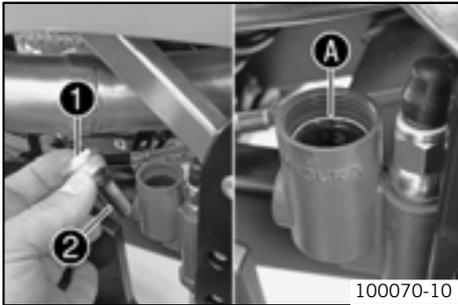
Warning

Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.

i 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 attacks paint!
 Use only clean brake fluid from a sealed container!



100070-10

- Remove the rear brake linings. (P. 54)
- Remove screw ① with membrane ②.
- Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
- Mount the rear brake linings. (P. 55)
- Top up the brake fluid to level A.

Brake fluid DOT 4 / DOT 5.1 (P. 95)

- Check parts for damage and wear. Replace damaged or worn parts.
- Refit screw ① with membrane ②.

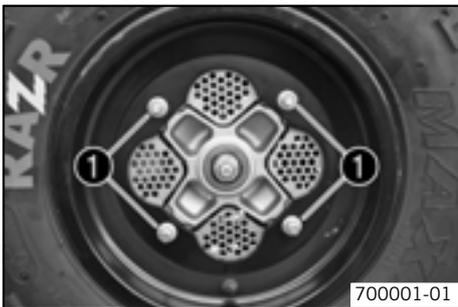
i Info

Clean up overflowed or spilt brake fluid immediately with water.

Removing wheel/wheels

i Info

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



700001-01

- Pull the hand brake lever, push the locking pawl ② down and release the hand brake lever. (Figure 100006-10 P. 14)
- Loosen the wheel nuts ①.
- Jack up the vehicle. (P. 31)
- Remove the wheel nuts. Remove the wheel.

i Info

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

Mounting wheel/wheels

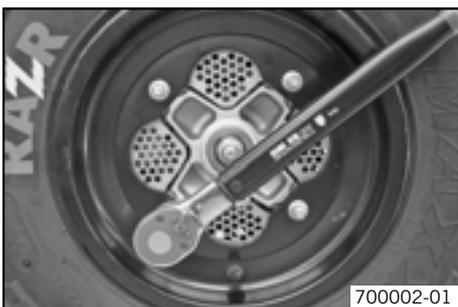
Note

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.

i Info

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



700002-01

- Position the wheel on the hub.

i Info

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

- Mount the wheel nuts but do not tighten.
- Remove the vehicle from the work stand. (P. 31)
- Pull the hand brake lever, push the locking pawl ② down and release the hand brake lever. (Figure 100006-10 P. 14)

- Tighten the wheel nuts crosswise.

Specification

Wheel nut	M10x1,25	45 Nm (33.2 lbf ft)
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Tire condition checking

i Info

Fit only tires approved 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 depth of the tread.

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

- » If the minimum tread depth is insufficient:
 - Change the tire.

Checking tire air pressure

i Info

Low tire air pressure leads to abnormal wear and overheating of the tire.
Correct tire air pressure ensures optimal riding comfort and maximum tire service life.
The tire pressure must be checked and corrected on all wheels.



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

Tire air pressure off road	0.3 bar (4 psi)
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- » If the tire pressure does not meet specifications:
 - Correct tire pressure.
- Mount dust cap.

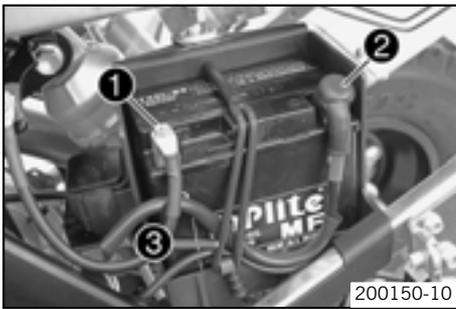
Removing the battery

! Warning

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

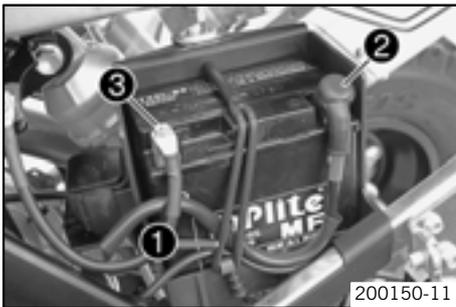
- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open fire. Charge only in well ventilated rooms.
- In the event of skin contact, rinse with large amounts of water.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

- Switch off all power-consuming components and switch off the engine.
- Remove the rear fender. (🔧 P. 63)



- Disconnect the negative (minus) cable ① of the battery.
- Pull back the plus pole cover and disconnect the positive (plus) cable ② of the battery.
- Loosen the rubber band ③.
- Remove the battery.

Installing the battery



- Check parts for damage and wear. Replace damaged or worn parts.
- Place the battery in the battery holder.

4Ah battery (YTX5L-BS) (☛ P. 86)

- Reconnect the rubber band ①.
- Attach the plus cable and replace the plus pole cover ②.
- Connect the negative (minus) cable ③ of the battery.
- Install the rear fender. (☛ P. 64)

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 Components and battery acid are a danger to the environment.

- Do not dispose of batteries in normal household waste. Take defective or used batteries to a battery recycling operator.



Warning

Environmental hazard Problem materials cause environmental damage.

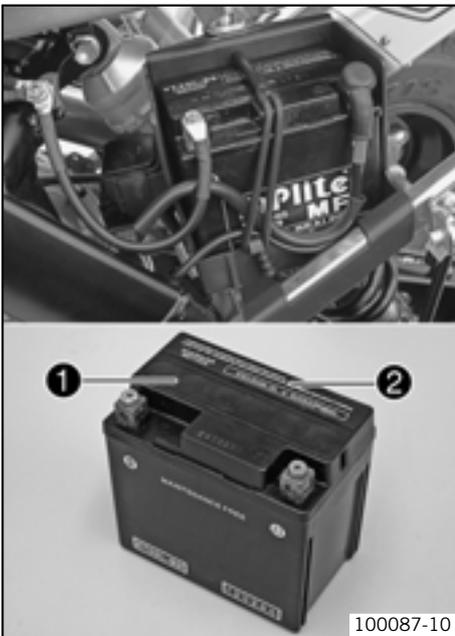
- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.



Info

Even if there is no load on the battery, it loses power every day. The charge state and the type of charge are very important for the service life of the battery. Fast recharging with a high charge current shortens the battery's service life. If the charge current, the charge voltage and the charge time are exceeded, electrolyte escapes through the breathing holes. The battery capacity is then reduced. If the battery is discharged from starting, it must be recharged immediately. If it stands for a long time in a discharged state, the battery becomes over-discharged and sulfated, and then it is destroyed. The battery is maintenance-free, i.e., the acid level does not have to be checked.

- Switch off all power-consuming components and switch off the engine.
- Remove the rear fender. (☛ P. 63)
- 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 generator. With this device, you cannot overcharge the battery.



Info

Never remove the lid ❶.
Charge the battery according to the instructions ❷ on the battery casing.

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

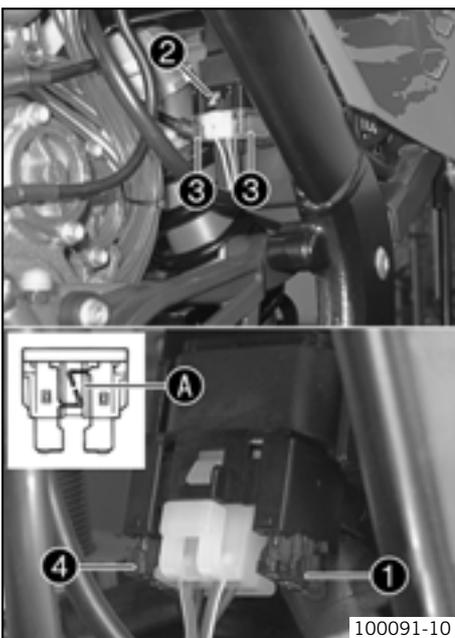
Specification

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. 64)

changing main fuse



- Switch off all power-consuming components and switch off the engine.
- 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.



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 a new fuse.

Fuse (58011109120)



Info

If the new fuse burns out, contact an authorized KTM workshop.



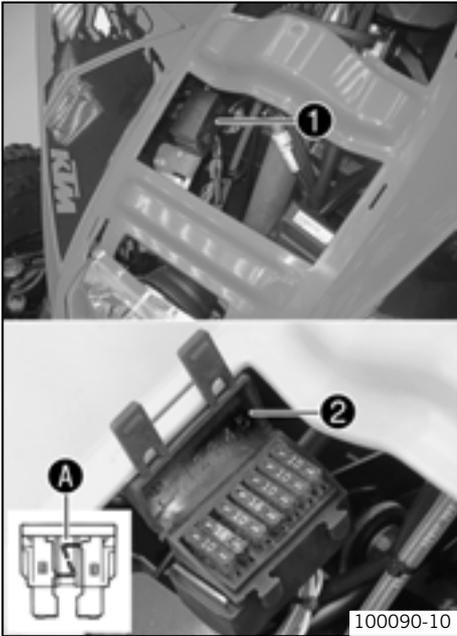
Tip

The spare fuse ❹ should always be present in the starter relay so that it is available if needed.

- Replace the protection covers.

Changing the fuses of individual power-consuming components

- Remove the front cover. (🔧 P. 62)
- Switch off all power-consuming components 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.

Specification

Fuse 1 - 10A - ignition, CDI controller, indicator lamps ON, N, R
Fuse 2 - 15A - high beam, low beam, parking light, tail light, brake light, high beam indicator lamp
Fuse 3 - 10A - radiator fan
Fuse 4 - 10A - for auxiliary devices (permanent positive)
Fuse 5 - 10A - for auxiliary devices (plus switched on with ignition switch)
Fuse res. - 10A/15A - replacement fuses



Info

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



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 new fuse of suitable specification.

Fuse (58011109110)
Fuse (58011109115)



Info

If the new fuse burns out, contact an authorized KTM workshop.

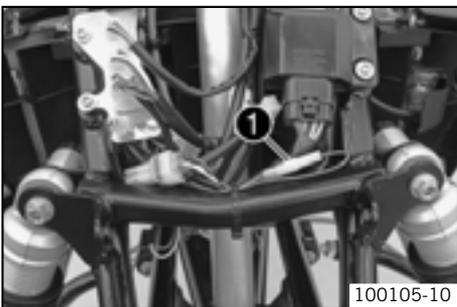


Tip

The spare fuses should always be present in the fuse box so that they are available if needed.

- Close the cover of the fuse box.
- Install the front cover. (☛ P. 62)

Ignition curve plug connection



The plug-in connector ① is located under the trim at the front on the frame tube.

Possible states

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

Changing ignition curve

- Remove the front trim. (☛ P. 63)

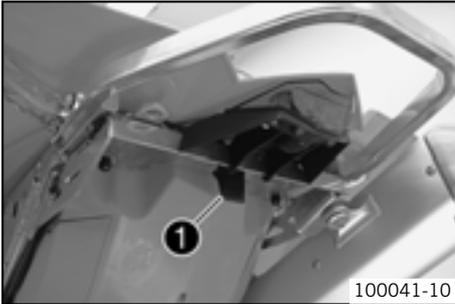
Changing the ignition curve from Performance to Soft.

- Connect the plug-in connector ❶. (Figure 100105-10 ☛ P. 60)
 - ✓ Soft – The plug-in connector is connected for better driveability. (☛ P. 60)

Change the ignition curve from Performance to Soft.

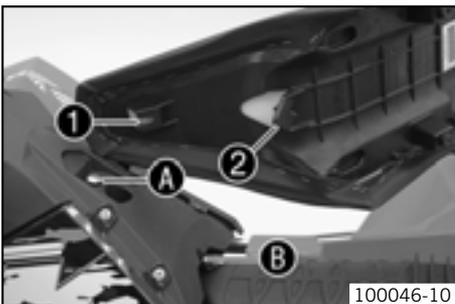
- Disconnect the plug-in connector ❶. (Figure 100105-10 ☛ P. 60)
 - ✓ Performance – The plug-in connector is disconnected for better performance. (☛ P. 60)
- Install the front trim. (☛ P. 63)

Removing the seat

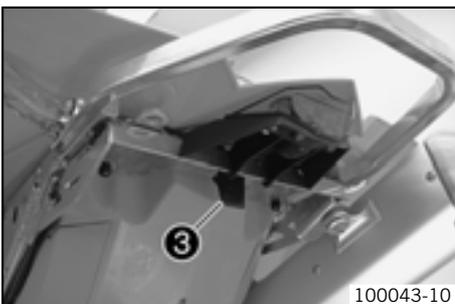


- Pull the release hook ❶ back. Lift up the seat at the rear, pull it back and then remove from above.

Mounting the seat



- Check parts for damage and wear. Replace damaged or worn parts.
- Hook the slot ❶ on the seat into the collar sleeve A of the fuel tank, lower the rear of the seat and slide the tab ❷ under the fuel tank B.



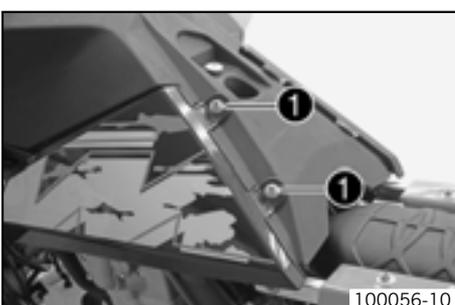
- Push down the rear of the seat until the release hook ❸ engages.
- Make sure that the seat is correctly locked in.

Removing the radiator spoiler

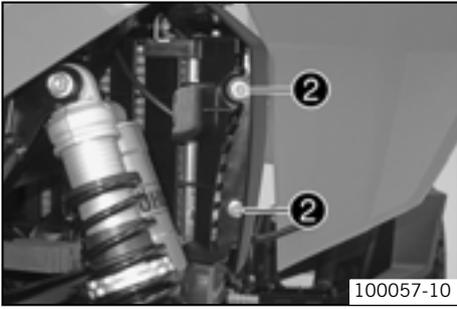


Info

The operations are the same on the left and right.



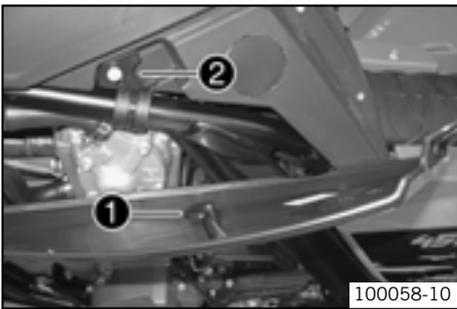
- Remove the seat (☛ P. 61)
- Remove the screws ❶ on the fuel tank.



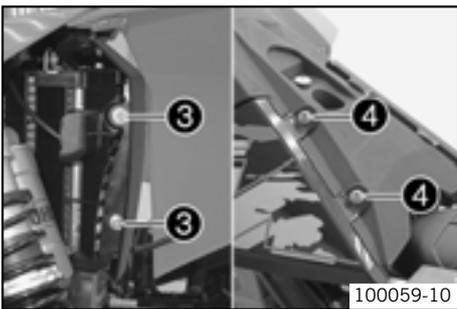
- Remove the screws ② on the radiator.
- Unhinge and remove the radiator spoiler and the fuel tank.

Installing the radiator spoiler

i Info
The operations are the same on the left and right.



- Check parts for damage and wear. Replace damaged or worn parts.
- Hook the catch ① of the radiator spoiler into the holder ② of the fuel tank and position it on the radiator.



- Fit and tighten screws ③ on the radiator.

Specification

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
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- Fit and tighten screws ④ on the fuel tank.

Specification

Screw on fuel tank	M6	6 Nm (4.4 lbf ft)
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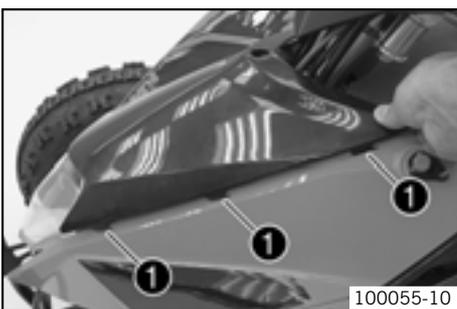
- Mount the seat (☛ P. 61)

Removing the front cover



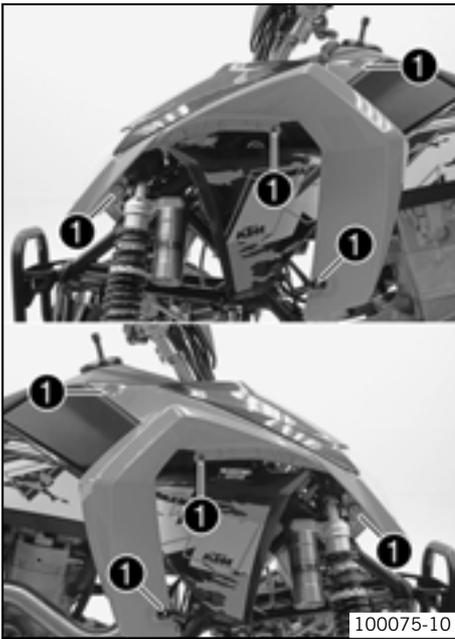
- Remove screw ①.
- Slide the front cover up and remove it.

Installing the front cover



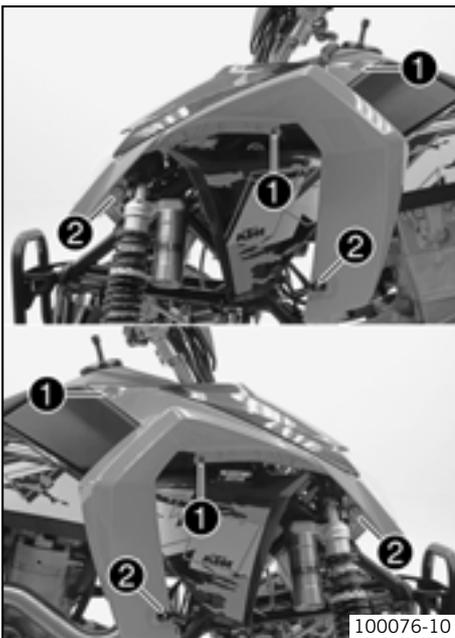
- Check parts for damage and wear. Replace damaged or worn parts.
- Position the front cover in the slots ① on both sides of the front trim.
- Mount and tighten screw .

Removing the front trim



- Remove the front cover. (☛ P. 62)
- Remove screws ❶.
- Raise the front trim and disconnect the plug-in connectors from the head light and the emergency OFF switch with the rip cord.
- Remove the front trim.

Installing the front trim



- Check parts for damage and wear. Replace damaged or worn parts.
- Connect the plug-in connectors of the head light and the emergency OFF switch with the rip cord and position the front trim.
- Mount all screws.
- Fully tighten screws ❶.

Specification

Screw on fuel tank	M6	6 Nm (4.4 lbf ft)
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- Fully tighten screws ❷.

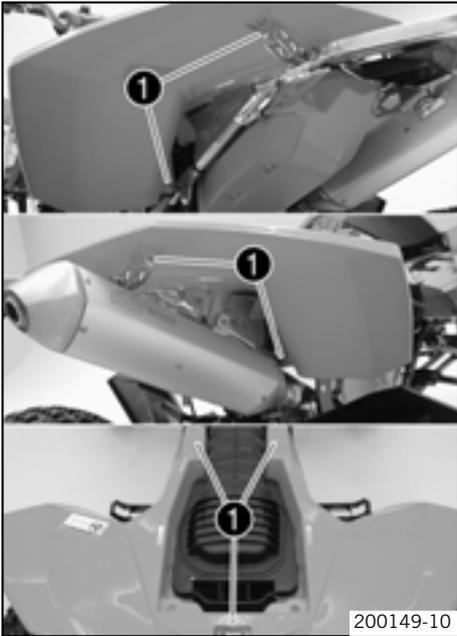
Specification

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
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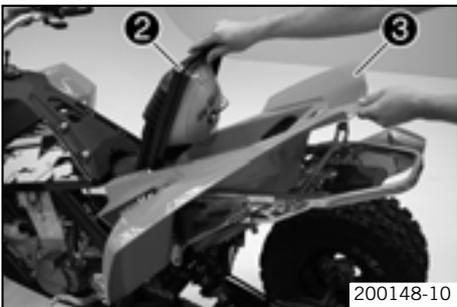
- Install the front cover. (☛ P. 62)

Removing the rear fender

- Remove the seat (☛ P. 61)

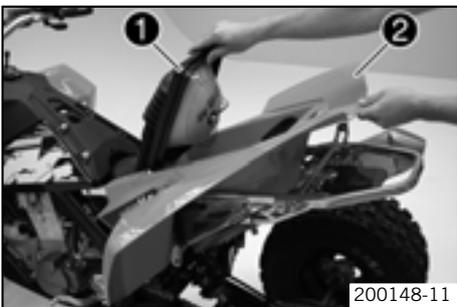


- Remove screws ❶. Remove the collar sleeves.

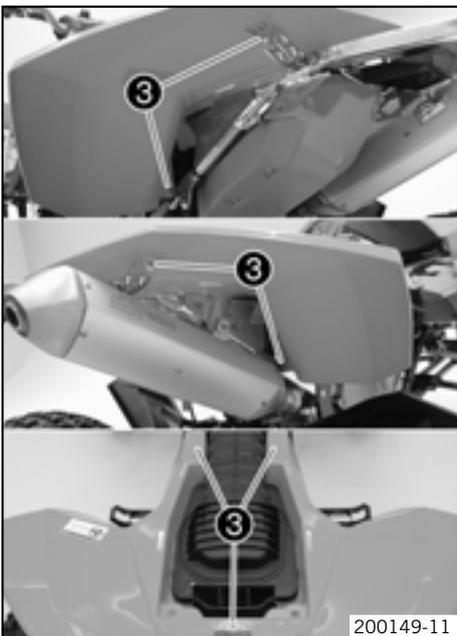


- Raise the rear of the air filter box lid ❷. At the same time, use your other hand to press on the carburetor connection boot to kink it at that location. This prevents the carburetor connection boot from disconnecting from the carburetor.
- Raise the fender ❸ at the rear and remove it.

Installing the rear fender



- Check parts for damage and wear. Replace damaged or worn parts.
- Raise the rear of the 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 the front fender ❷.
- Fix the air filter box lid in the fender.



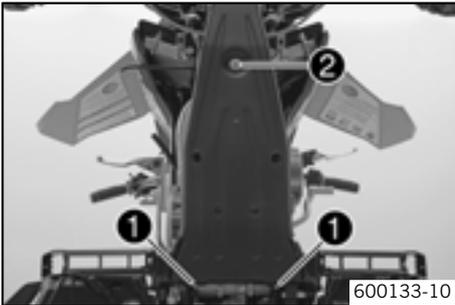
- Fit and tighten screws ❸ with collar sleeves.

Specification

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

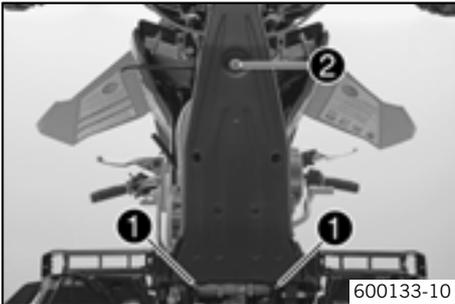
- Mount the seat (P. 61)

Removing the engine guard



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

Installing the engine guard



- Check parts for damage and wear. Replace damaged or worn parts.
- Position the engine guard on the frame bearer. Mount and tighten screws ❶ and ❷.

Specification

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.

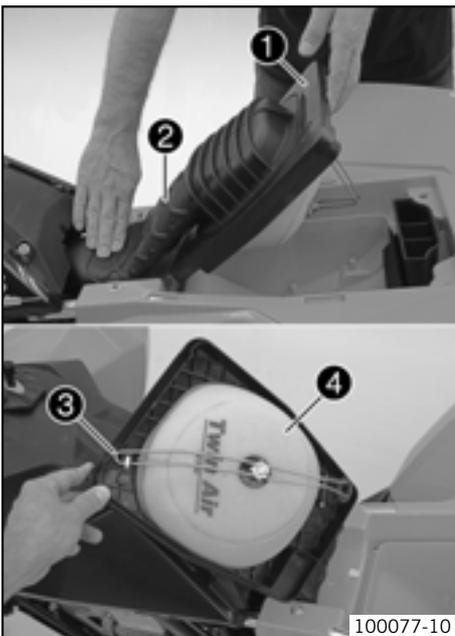
- Never ride the vehicle without an air filter since dust and dirt can get into the engine and result in increased wear.



Warning

Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.



- Remove the seat (P. 61)
- Raise the rear of the air filter box lid ❶. At the same time, use your other hand to press on the carburetor connection boot ❷ to kink it at that location. This prevents the carburetor connection boot from disconnecting from the carburetor.
- Unhook the air filter holder ❸ and swing it to the side. Remove the air filter ❹ with the air filter support.
- Remove the air filter from the air filter support.

Installing the air filter



- Check parts for damage and wear. Replace damaged or worn parts.
- Mount the clean air filter onto the air filter support.
- 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.
- Mount the seat ( P. 61)

Cleaning air filter



Warning

Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.



Info

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

- Remove the air filter.  ( P. 65)
- Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner ( P. 97)



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. 97)

- Clean the air filter box.
- Check carburetor connection boot for damage and tightness.
- Install the air filter  ( P. 66)

Adjusting basic position of clutch lever



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



Info

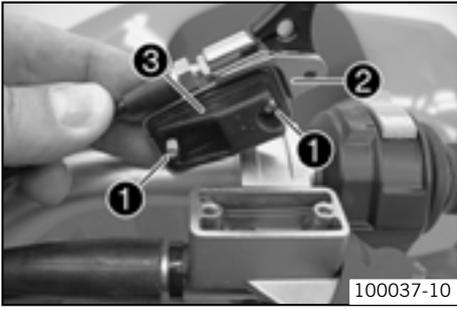
Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and do not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

Checking fluid level of hydraulic clutch



Info

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



100037-10

- 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 level of the cooling liquid does not meet specifications:
 - Correct the fluid level of the hydraulic clutch.

Hydraulic fluid (15) (☛ P. 95)

- Check parts for damage and wear. Replace damaged or worn parts.
- Position the cover with the membrane. Mount and tighten screws.

Cooling system



600130-10

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



600117-10

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)

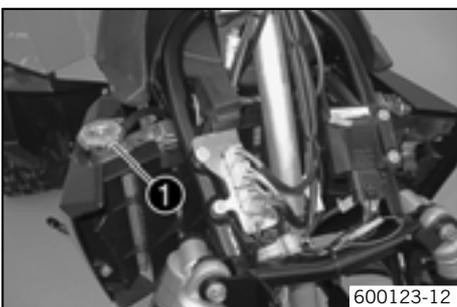
Checking antifreeze and coolant level

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

- Do not open the radiator, 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 cold 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.



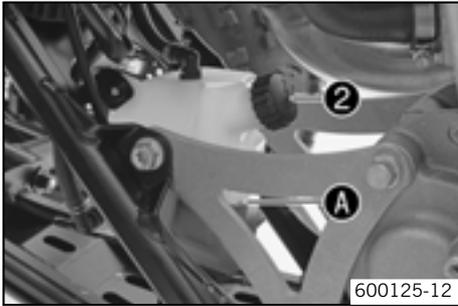
600123-12

- Remove the front trim. (☛ P. 63)
- Remove the radiator cap ❶.
- Check antifreeze of coolant.

-25... -45 °C (-13... -49 °F)

- » If the antifreeze of the cooling liquid does not meet specifications:
 - Correct antifreeze of coolant.

- Completely fill the radiator with coolant and close the ❶ radiator cap.



- Open the compensating tank cover ②.
- Check antifreeze of coolant.

-25... -45 °C (-13... -49 °F)

- » If the antifreeze of the cooling liquid does not meet specifications:
 - Correct antifreeze of coolant.
- The coolant level ① must be between **MIN** and **MAX**.
 - » If the level of the cooling liquid does not meet specifications:
 - Correct the coolant level.

Alternative 1

Coolant (☞ P. 95)

Alternative 2

Coolant (mixed ready to use) (☞ P. 95)

- Mount the compensating tank cover ②.
- Install the front trim. (☞ P. 63)

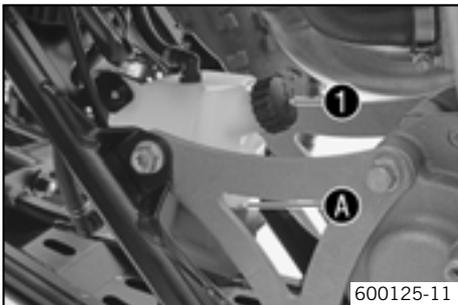
Checking the coolant level

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

- Do not open the radiator, 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 cold 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.



Condition

The radiator must be completely full.

- The coolant level ① must be between **MIN** and **MAX**.
 - » If the level of the cooling liquid does not meet specifications:
 - Open the compensating tank cover ① and correct the coolant level.

Alternative 1

Coolant (☞ P. 95)

Alternative 2

Coolant (mixed ready to use) (☞ P. 95)

- Mount the compensating tank cover ①.

Draining coolant ☞

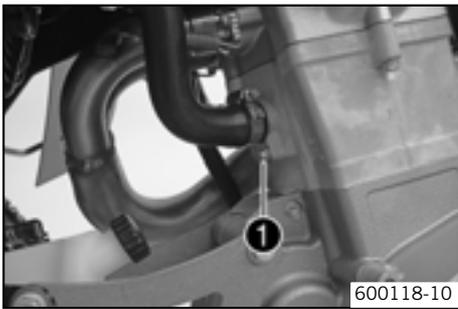
Warning
Danger of scalding The coolant gets very hot and is under high pressure when the vehicle is driven.

- Do not open the radiator, 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 cold 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. 63)
- Place a suitable container under the vehicle.



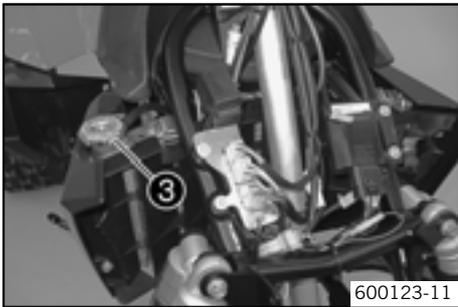
600118-10

- Remove screw ❶.



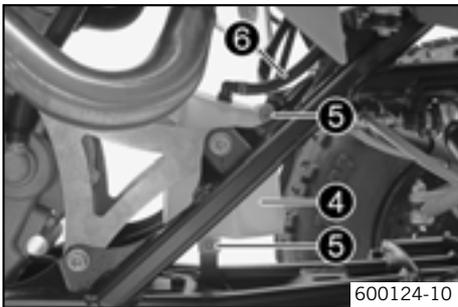
600119-10

- Remove screw ❷.



600123-11

- Remove the radiator cap ❸. Completely drain the coolant.



600124-10

- Open the plug of the compensation tank ❹.
- Remove the screws ❺ and empty the compensating tank ❹.
- Check parts for damage and wear. Replace damaged or worn parts.
- Position the compensating tank ❹. Mount and tighten screws ❺.

Specification

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

- Move the ventilation hose ❻ up.
- Mount and tighten the screws ❶ and ❷ with new seal rings.

Specification

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

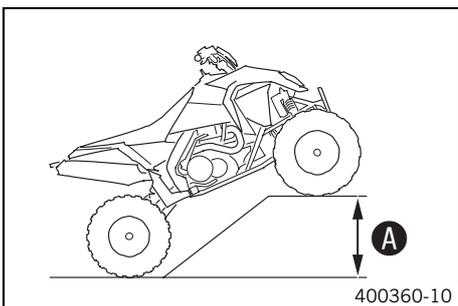
Filling coolant / bleeding cooling system 🛠️



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.



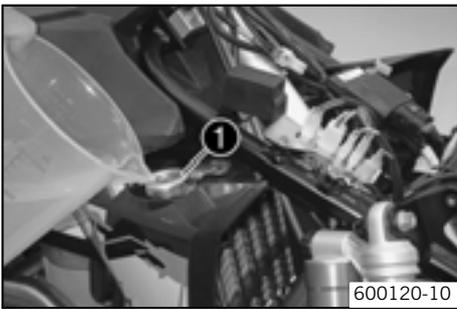
400360-10

- Position the vehicle as shown and secure it against rolling away. The height difference A must be achieved.

Specification

Height difference A	50 cm (19.7 in)
---------------------	-----------------

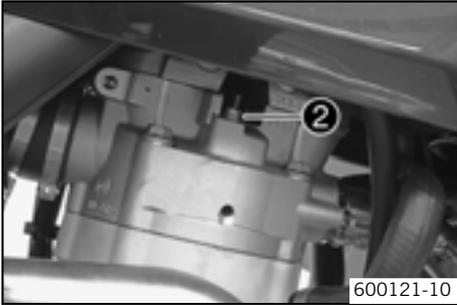
- Pull the hand brake lever, push the locking pawl ❷ down and release the hand brake lever. (Figure 100006-10 📄 P. 14)
- ✓ The front wheels are blocked.



600120-10

- Fill the coolant into the radiator ❶.

Coolant		
With compensating tank	1.50 l (1.59 qt.)	Coolant (☛ P. 95)
		Coolant (mixed ready to use) (☛ P. 95)
Without compensating tank	1.30 l (1.37 qt.)	Coolant (☛ P. 95)
		Coolant (mixed ready to use) (☛ P. 95)



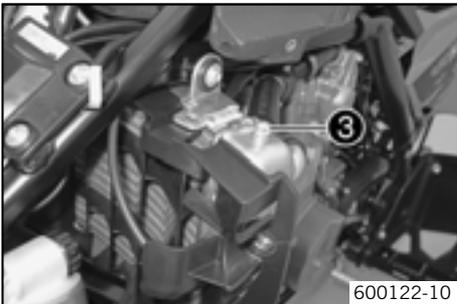
600121-10

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

Specification

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

i Info
Ensure that the radiator is always filled with a sufficient amount of coolant.

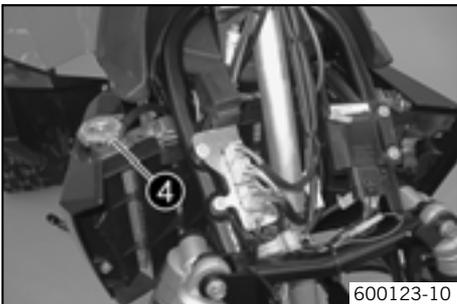


600122-10

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

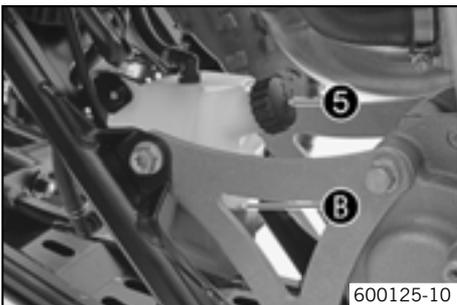
Specification

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



600123-10

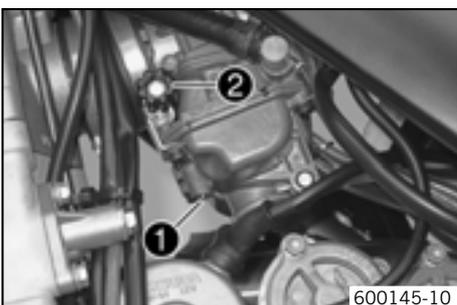
- Completely fill the radiator and close the radiator cap ❹.



600125-10

- Top up the compensating tank to level B. Mount the cap ❺.
- Install the front trim. (☛ P. 63)
- Make a short test ride.
- Check the coolant level. (☛ P. 68)

Carburetor - idle



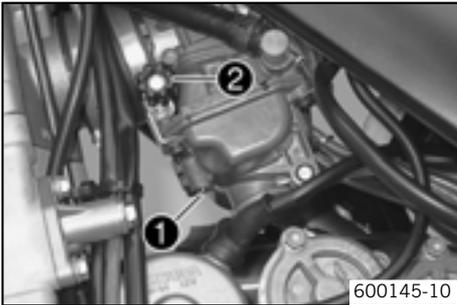
600145-10

The idle setting of the carburetor has a big influence on the starting behavior, stable idling and the response to throttle opening. 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.

Specification

Idle mixture adjusting screw	
Open	1.0 turn

Adjustment tool for mixture control screw (59029034000)

- Run the engine until warm.

Specification

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

- Adjust the idle speed with the adjusting screw ②.

Specification

Choke function deactivated – The choke lever is pushed in to the stop. (↖ P. 17)	
Idle speed	1,500... 1,600 rpm

i 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 ① slowly 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.

i Info
 If there is a big engine speed rise, 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, in a clockwise direction) since the engine becomes hotter in sporting use.
 If the procedure described here does not lead to satisfactory results, the cause may be a wrongly dimensioned idling jet.
 If you can turn the idle 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 ②.

Specification

Choke function deactivated – The choke lever is pushed in to the stop. (↖ P. 17)	
Idle speed	1,500... 1,600 rpm

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

Emptying the carburetor float chamber ↩

- Danger**
Fire hazard Fuel can easily catch fire.
- Never fill up 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 specifications on filling up with fuel.

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

- Warning**
Environmental hazard Improper handling of fuel is a danger to the environment.
- Do not allow fuel to get into the ground water, the ground, or the sewage system.

Info
 Carry out this work with a cold engine.



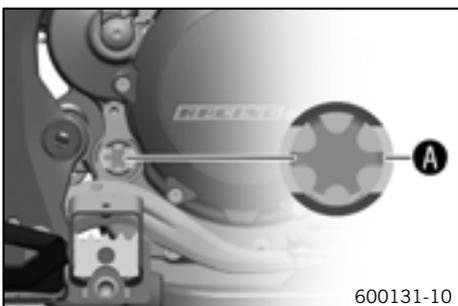
- Turn the handle ❶ of the fuel tap to the **OFF** position. (Figure 100013-10 ↩ P. 16)
- ✓ No more fuel flows from the tank to the carburetor.
- Guide the hose coming down behind the engine into a suitable container.

Info
 Water in the float chamber results in malfunctioning.

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

Checking engine oil level

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



- Park the vehicle on a horizontal surface.

Condition

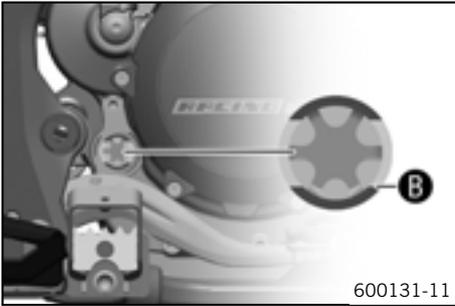
The engine is at operating temperature.

- 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**:
 - Top up the engine oil. (↩ P. 76)



Condition

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**:
 - Top up the engine oil. (☞ P. 76)

Changing engine oil and oil filter, cleaning oil screens 🛠️

- Drain engine oil, clean oil screens. 🛠️ (☞ P. 73)
- Remove the oil filter. 🛠️ (☞ P. 74)
- Mount the oil filter. 🛠️ (☞ P. 75)
- Fill up with engine oil. 🛠️ (☞ P. 75)

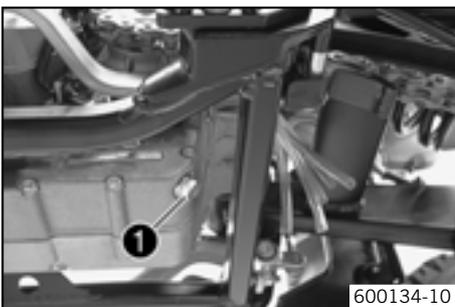
Draining engine oil, cleaning oil screens 🛠️

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 cold water immediately.

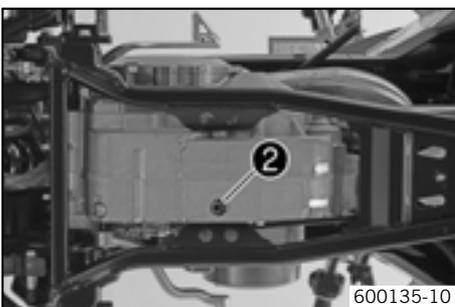
Warning
Environmental hazard Problem materials cause environmental damage.
 - Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.

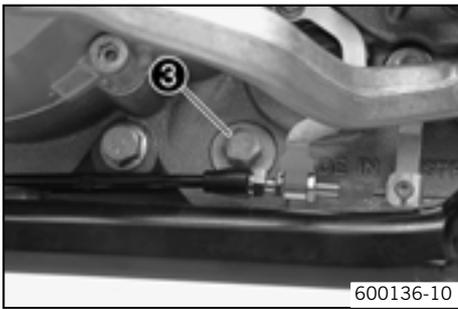
Info
 Drain the engine oil only when the engine is warm.

- Park the vehicle on a horizontal surface.
- Remove the engine guard. (☞ P. 65)
- Place a suitable container under the engine.
- Remove the oil drain plug **1**.

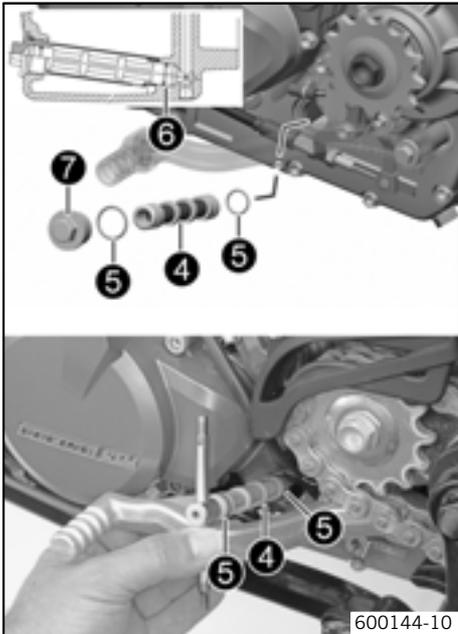


- Remove the plug screw **2** and small oil screen with both O-rings.





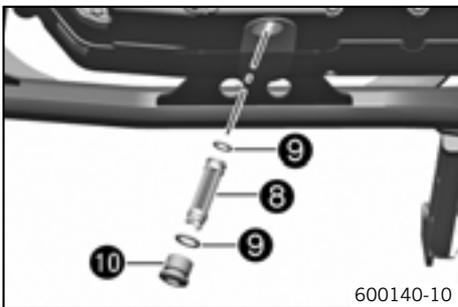
- Remove the plug screw 3 and large oil screen with both O-rings.
- Completely drain the engine oil.



- Check parts for damage and wear. Replace damaged or worn parts.
- Thoroughly clean parts and sealing area.
- Oil the O-rings 5, mount them on the oil screen 4 and using a long hexagon key insert them until the O-ring is seated in the housing 6 with the oil screen.
- Fit the plug screw 7 with seal ring and tighten it.

Specification

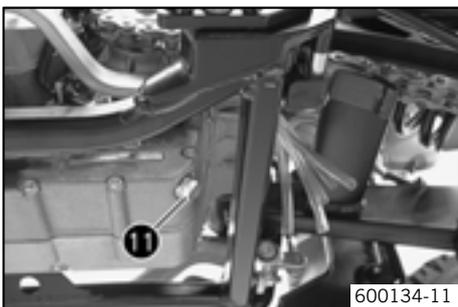
Locking screw, oil sieve, long	M20x1,5	15 Nm (11.1 lbf ft)
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- Insert the oil screen 8 with the O-rings 9 into the plug screw 10 and tighten.

Specification

Locking screw, oil sieve, short	M16x1,5	10 Nm (7.4 lbf ft)	Engine oil (any)
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- Fit oil drain plug 11 with seal ring and tighten it.

Specification

Oil drain plug with magnet	M12x1,5	20 Nm (14.8 lbf ft)
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- Install the engine guard. (☛ P. 65)

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 cold water immediately.

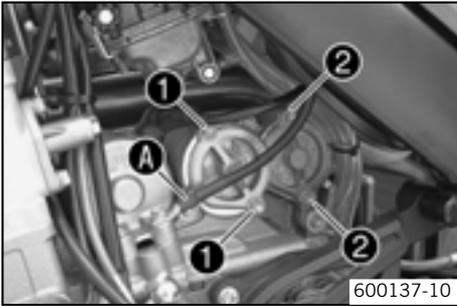


Warning

Environmental hazard Problem materials cause environmental damage.

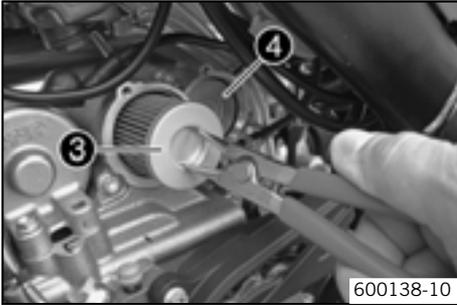
- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.

- Place a suitable container under the engine.



600137-10

- Disconnect the ground cable **A** from the engine.
- Remove screws **1** and **2**. Take off the oil filter cover with the O-ring.



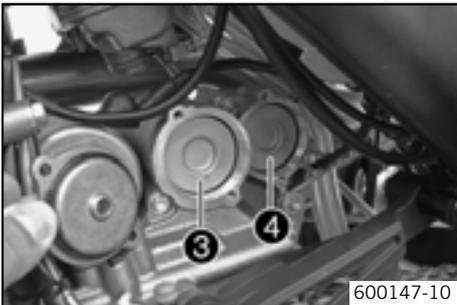
600138-10

- Pull the oil filters **3** and **4** out of the engine housing.

Circlip pliers reverse (51012011000)

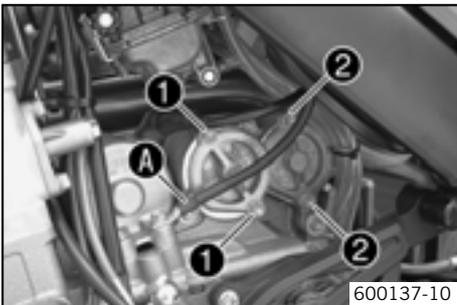
- Completely drain the engine oil.
- Thoroughly clean parts and sealing area.

Mounting oil filter ↩



600147-10

- Check parts for damage and wear. Replace damaged or worn parts.
- Fill the oil filters **3** and **4** with engine oil and place in the oil filter container.



600137-10

- Oil the O-rings of the oil filter covers and mount them with the oil filter covers. Mount and tighten screws **1** and **2**.

Specification

Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)
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- Connect the ground cable **A** on the engine and tighten the screw.

Specification

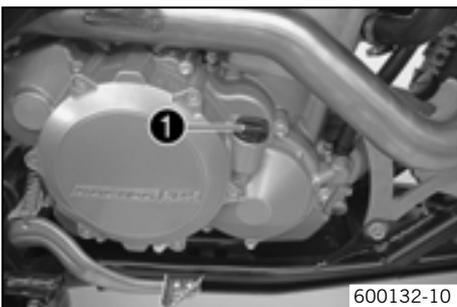
Screw, starter engine	M6	10 Nm (7.4 lbf ft)
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Filling up with engine oil ↩



Info

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



600132-10

- Remove the screw cap **1** on the clutch cover and fill up with engine oil.

Engine oil	2.00 l (2.11 qt.)	External temperature: $\geq 0\text{ }^{\circ}\text{C}$ ($\geq 32\text{ }^{\circ}\text{F}$)	Engine oil (SAE 10W/50) (☛ P. 95)
		External temperature: $< 0\text{ }^{\circ}\text{C}$ ($< 32\text{ }^{\circ}\text{F}$)	Engine oil (SAE 5W/40) (☛ P. 96)

- Mount and tighten screw cap **1**.



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.

Specification

Switch off the engine when the radiator fan switches on.

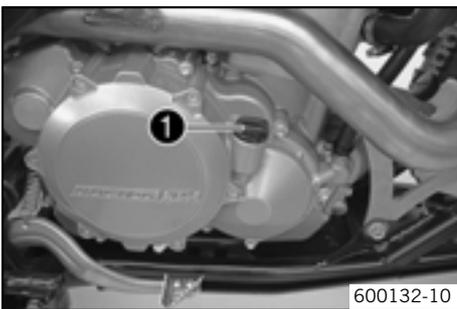
- Check the engine oil level. (☛ P. 72)

Topping up engine oil



Info

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



- Check the engine for leakage.
- Remove the screw 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. 95)

Condition

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

Engine oil (SAE 5W/40) (☛ P. 96)



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 screw cap ❶.

Faults	Possible cause	Measure
Engine turns but does not start.	Operating error	<ul style="list-style-type: none"> – Follow the instructions on starting the engine. (☛ P. 20)
	Vehicle was out of use for a long time and there is old fuel in the float chamber	<ul style="list-style-type: none"> – Empty the carburetor float chamber. (☛ P. 72)
	Fuel feed interrupted	<ul style="list-style-type: none"> – Check the tank breather. – Clean fuel tap. – Clean carburetor.
	Engine flooded	<ul style="list-style-type: none"> – Clean and dry spark plug or replace if necessary.
	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 plug gap. Specification Spark plug electrode gap 0.6 mm (0.024 in)
	Spark plug connector or spark plug defective	<div style="border: 1px solid black; padding: 5px;"> <p> Warning Risk of injury The ignition system is under high voltage.</p> <ul style="list-style-type: none"> – Do not touch parts of the ignition system. Have work on the ignition system carried out in an authorized KTM workshop. </div> <ul style="list-style-type: none"> – Remove spark plug, connect ignition cable, hold spark plug to ground (bare metal area on engine), and try to start the engine. Specification You should see a strong spark on the spark plug. – If there is no spark, change the spark plug. – If there is still no spark, remove the spark plug cap from the ignition cable, hold it at the specified distance from the ground contact, and try to start the engine. Specification 5 mm (0.2 in) – If you now have a spark, replace the spark plug connector. – If there is no spark, have the ignition system checked.
	Socket connector of CDI control device, pulse generator or ignition coil oxidized	<ul style="list-style-type: none"> – Clean socket connector and treat it with contact spray.
	Water in carburetor or jets blocked	<ul style="list-style-type: none"> – Clean carburetor.
	Idle speed is set too high	<ul style="list-style-type: none"> – Carburetor - adjust the idle speed. (☛ P. 71)
	Emergency OFF switch with rip cord faulty	<ul style="list-style-type: none"> – Check wiring harness. (visual check) – Check electrical system.
	Throttle lever activated	<ul style="list-style-type: none"> – Do not activate the throttle lever. – See instructions on starting.
	Switch for throttle lever faulty	<ul style="list-style-type: none"> – Check wiring harness. (visual check) – Check electrical system.
Throttle valve sensor TPS incorrectly set or faulty	<ul style="list-style-type: none"> – Have the throttle valve sensor TPS checked or adjusted. 	

Faults	Possible cause	Measure
The engine cannot be cranked (electric starter).	Operating error	– Follow the instructions on starting the engine. (☛ P. 20)
	Battery discharged	– Recharge the battery. 🛠️ (☛ P. 58) – Check the cause of discharging.
	Main fuse burned out	– Change the main fuse. (☛ P. 59) – Check electrical system.
	Low external temperature	– Recharge the battery. Establish the reason for discharging or have it checked in a KTM workshop.
Engine does not speed up.	Carburetor running over because float needle dirty or worn	– Have carburetor checked.
	Loose carburetor jets	– Have carburetor checked.
	Electronic ignition adjustment defective	– Have ignition system checked.
Engine has no idle.	Idling jet blocked	– Clean carburetor.
	Adjusting screws on carburetor distorted	– Have the carburetor adjusted.
	Spark plug defective	– Change spark plug.
	Ignition system defective	– Have ignition system checked.
Engine stalls or is popping into the carburetor.	Lack of fuel	– Clean and check the fuel system and carburetor.
	Engine takes in bad air	– Check rubber sleeves and carburetor for tightness.
	Loose contact or oxidized connector	– Check electrical system. – Clean socket connector and treat it with contact spray.
Engine overheats.	Too little coolant in cooling system	– Check the cooling system for leakage. – Check the coolant level. (☛ P. 68)
	Radiator fins very dirty	– Clean radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🛠️ (☛ P. 68) – Fill coolant / bleed cooling system. 🛠️ (☛ P. 69)
	Bent radiator hose	– Replace the radiator hose.
	Thermostat defective	– Have thermostat removed and checked. Specification Opening temperature: 70 °C (158 °F)
	Defect in radiator fan system	– Have the radiator fan system checked.
Engine has too little power.	Fuel feed interrupted	– Check the tank breather. – Clean fuel tap. – Clean carburetor.
	Air filter very dirty	– Clean the air filter. 🛠️ (☛ P. 66)
	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer.	– Check exhaust system for damage.
	Valve clearance too little	– Have valve clearance adjusted.
	Electronic ignition adjustment defective	– Have ignition system checked.
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. 72)
	Engine oil too thin (low viscosity)	– Change the engine oil and oil filter, clean the oil screens. 🛠️ (☛ P. 73)
Parts of the electrical system are not functional.	Fault in the electrical system	– Change the fuses of individual power-consuming components. (☛ P. 59) – Check electrical system.
Battery discharged	Battery is not charged by generator	– Check electrical system.

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, connects, Bowden cables, and bearings, etc., and can damage or destroy these parts.



Warning

Environmental hazard Problem materials cause environmental damage.

- Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to 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.

- Before you clean the vehicle, seal the exhaust system to prevent penetration by water.
- 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. 97)



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.
- Empty the carburetor float chamber. 🛠️ (☛ P. 72)



Warning

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

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

- After cleaning, ride the vehicle a short distance until the engine warms up, and then apply the brakes.



Info

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

- Push back the protection covers on the handlebar instruments to allow water to evaporate.
- After the vehicle has cooled off, oil or grease all moving parts and bearings.
- Clean the chain. (☛ P. 45)
- 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. 97)

- Treat all painted parts with a mild paint polish.

High-luster polish for paint (☛ P. 97)

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

Contact spray (☛ P. 97)

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. 79)
- Change the engine oil and oil filter, clean the oil screens. 🛢️ (🔧 P. 73)
- Check the antifreeze and coolant level. (🔧 P. 67)
- Drain the fuel from the tank into a suitable container.
- Empty the carburetor float chamber. 🛢️ (🔧 P. 72)
- Checking the tire air pressure. (🔧 P. 57)
- Remove the battery. (🔧 P. 57)
- Recharge the battery. 🛢️ (🔧 P. 58)

Specification

Storage temperature of battery without direct sunshine.	0... 35 °C (32... 95 °F)
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- The storage place should be dry and not subject to large temperature differences.
- Cover the vehicle with a porous sheet or blanket. Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion.

-  **Info**
 Avoid running the engine of a vehicle in storage for a short time only. Since the engine cannot warm up properly, the water vapor produced during combustion condenses and causes valves and exhaust system to rust.

Putting the vehicle into operation after storage

- Install the battery. (🔧 P. 58)
- Fill up with fuel. (🔧 P. 27)
- Checks before putting into operation (🔧 P. 20)
- Make a cautious test ride.

Design	1-cylinder 4-stroke engine with balancer, water-cooled		
Displacement (450 XC ATV)	448 cm ³ (27.34 cu in)		
Displacement (525 XC ATV)	510 cm ³ (31.12 cu in)		
Stroke	72 mm (2.83 in)		
Bore (450 XC ATV)	89 mm (3.5 in)		
Bore (525 XC ATV)	95 mm (3.74 in)		
Compression ratio	11:1		
Idle speed	1,500... 1,600 rpm		
Control	4 valves controlled via rocker arm and overhead camshaft, camshaft drive via simplex chain		
Valve diameter, intake	35 mm (1.38 in)		
Valve diameter, exhaust	30 mm (1.18 in)		
Valve clearance, cold, intake	0.10... 0.15 mm (0.0039... 0.0059 in)		
Valve clearance, cold, exhaust	0.10... 0.15 mm (0.0039... 0.0059 in)		
Crankshaft bearing	2 cylinder roller bearing		
Conrod bearing	Needle bearing		
Piston pin bearing	Bronze bush		
Pistons (450 XC ATV)	Cast light alloy		
Pistons (525 XC ATV)	Forged light alloy		
Piston rings	1 compression ring, 1 oil scraper ring		
Engine lubrication	Pressure circulation lubrication with 2 rotor pumps		
Primary transmission	31:78 straight tooth spur gears		
Clutch	Multidisc clutch in oil bath / hydraulically activated		
Transmission ratio			
1st gear	14:35		
2nd gear	17:33		
3rd gear	19:30		
4th gear	21:28		
5th gear	23:26		
Reverse gear	14:19:34		
Generator	12 V, 200 W		
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment, type Kokusan		
Spark plug	NGK DCPR 8 E		
Spark plug electrode gap	0.6 mm (0.024 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. 95)
		External temperature: < 0 °C (< 32 °F)	Engine oil (SAE 5W/40) (☛ P. 96)

Capacity - cooling liquid

Coolant		
With compensating tank	1.50 l (1.59 qt.)	Coolant (☛ P. 95)
		Coolant (mixed ready to use) (☛ P. 95)
Without compensating tank	1.30 l (1.37 qt.)	Coolant (☛ P. 95)
		Coolant (mixed ready to use) (☛ P. 95)

Screw, cable holder in generator cover	M4		Loctite® 243™
Screw, timing chain securing guide	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, ignition pulse generator	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, gear sensor	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, rocker arm shaft	M5	6 Nm (4.4 lbf ft)	–
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	Loctite® 222
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)	–
Screw, locking shaft lever	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, stator bracket	M5	6 Nm (4.4 lbf ft)	Loctite® 243™
Nut, adjusting screw, valve clearance	M6x0,75	11 Nm (8.1 lbf ft)	–
Oil jet, piston cooling	M6x0,75	4 Nm (3 lbf ft)	Loctite® 243™
Screw, drive wheel for balancer	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, vent hose bracket	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, timing chain guide rail	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch spring	M6	8 Nm (5.9 lbf ft)	Loctite® 243™
Screw, bearing stud, starter engine	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, engine housing	M6x30	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6x45	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6x60	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6x65	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6x75	10 Nm (7.4 lbf ft)	–
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, timing chain tensioning rail	M6	6 Nm (4.4 lbf ft)	Loctite® 243™
Screw, starter engine	M6	10 Nm (7.4 lbf ft)	–
Screw, timing-chain tensioner	M6	10 Nm (7.4 lbf ft)	–
Plug, timing chain tensioner	M8	10 Nm (7.4 lbf ft)	–
Screw, cylinder head top section	M6x30	10 Nm (7.4 lbf ft)	–
Screw on cylinder head top section	M6x45	10 Nm (7.4 lbf ft)	–
Screw on cylinder head top section	M6x50	10 Nm (7.4 lbf ft)	–
Screw on cylinder head top section	M6x55 – 10.9	10 Nm (7.4 lbf ft)	–
Screw on cylinder head top section	M6x75	10 Nm (7.4 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Screw, valve cover	M6	10 Nm (7.4 lbf ft)	–
Jet screw, oil line	M8	10 Nm (7.4 lbf ft)	–
Banjo bolt, oil line	M8	10 Nm (7.4 lbf ft)	–
Screw, generator cover	M8	10 Nm (7.4 lbf ft)	–
Plug, crankshaft location	M8	10 Nm (7.4 lbf ft)	–
Screw, camshaft gear	M8	28 Nm (20.7 lbf ft)	Loctite® 243™
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)	Loctite® 243™
Screw, cylinder head	M10	Step 1 40 Nm (29.5 lbf ft) Step 2 50 Nm (36.9 lbf ft)	–
Ignition rotor nut	M12x1	60 Nm (44.3 lbf ft)	–
Spark plug	M12x1,25	17 Nm (12.5 lbf ft)	–
Bleeder flange, engine case	M12x1,5		Loctite® 243™

Oil drain plug with magnet	M12x1,5	20 Nm (14.8 lbf ft)	–
Plug, oil pressure regulator valve	M12x1.5	20 Nm (14.8 lbf ft)	–
Locking screw, oil sieve, short	M16x1,5	10 Nm (7.4 lbf ft)	Engine oil (any)
Nut, inner clutch hub	M18x1,5	120 Nm (88.5 lbf ft)	Loctite® 243™
Nut, primary gear	M20LHx1,5	150 Nm (110.6 lbf ft)	Loctite® 243™
Screw-in fitting, cooling system in cylinder head top	M20x1,5		Loctite® 577
Locking screw, oil sieve, long	M20x1,5	15 Nm (11.1 lbf ft)	–

450/525 XC ATV

Carburetor type	KEIHIN FCR-MX 39
Carburetor identification number	3925H
Needle position (450 XC ATV)	2nd position from top
Needle position (525 XC ATV)	3rd position from top
Idle mixture adjusting screw	
Open	1.0 turn
Pump membrane stop	2.15 mm (0.0846 in)
Main jet	170
Jet needle	OBEKR
Idling jet (450 XC ATV)	40
Idling jet (525 XC ATV)	42
Main air jet	200
Idle air jet	100
Cold start jet	85
Throttle slide	15

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	257 mm (10.12 in)	
Rear	265 mm (10.43 in)	
Fork offset		
Front	46 mm (1.81 in)	
Toe		
Front	0 mm (0 in)	
Camber		
Front	0°	
Toe width		
Front	1,115 mm (43.9 in)	
Rear	1,148 mm (45.2 in)	
Wheelbase	1,280±10 mm (50.39±0.39 in)	
Turning radius	5,625 mm (221.46 in)	
Fording depth	330 mm (12.99 in)	
Seat height unloaded	820 mm (32.28 in)	
Ground clearance unloaded	290 mm (11.42 in)	
Weight		
fuel tank empty	163 kg (359 lb.)	
fuel tank full	173 kg (381 lb.)	
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	1,148 mm (45.2 in)	
Vehicle height	1,125 mm (44.29 in)	
Brake system		
Front	Disc brakes, brake calipers fixed, 4 brake pistons per brake caliper	
Rear	Disc brake, brake caliper floating, 1 brake piston	
Diameter of brake discs		
Front	180 mm (7.09 in)	
Rear	200 mm (7.87 in)	
Wear limit of brake discs		
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	8x9" DWT Al 6601	
Rear wheel gearing	14:38	
Chain	5/8 x 1/4"	
Rear sprockets available	36, 37, 38, 39	
4Ah battery	YTX5L-BS	Battery voltage: 12 V Nominal capacity: 4 Ah maintenance-free

Lighting equipment

Headlight	BA20d	12 V 35/35 W
Parking light	W2, 1x9,5d	12 V 5 W
Indicator lights	W2x4,6d	12 V 1.2 W
Brake / tail light	LED	

Tires

Front tire	Rear tire
21 x 7.00 - 10 MAXXIS Razr M-931	20 x 11.00 - 9 MAXXIS Razr M-932
For further information, see the Service section under: http://www.ktm.com	

Capacity - fuel

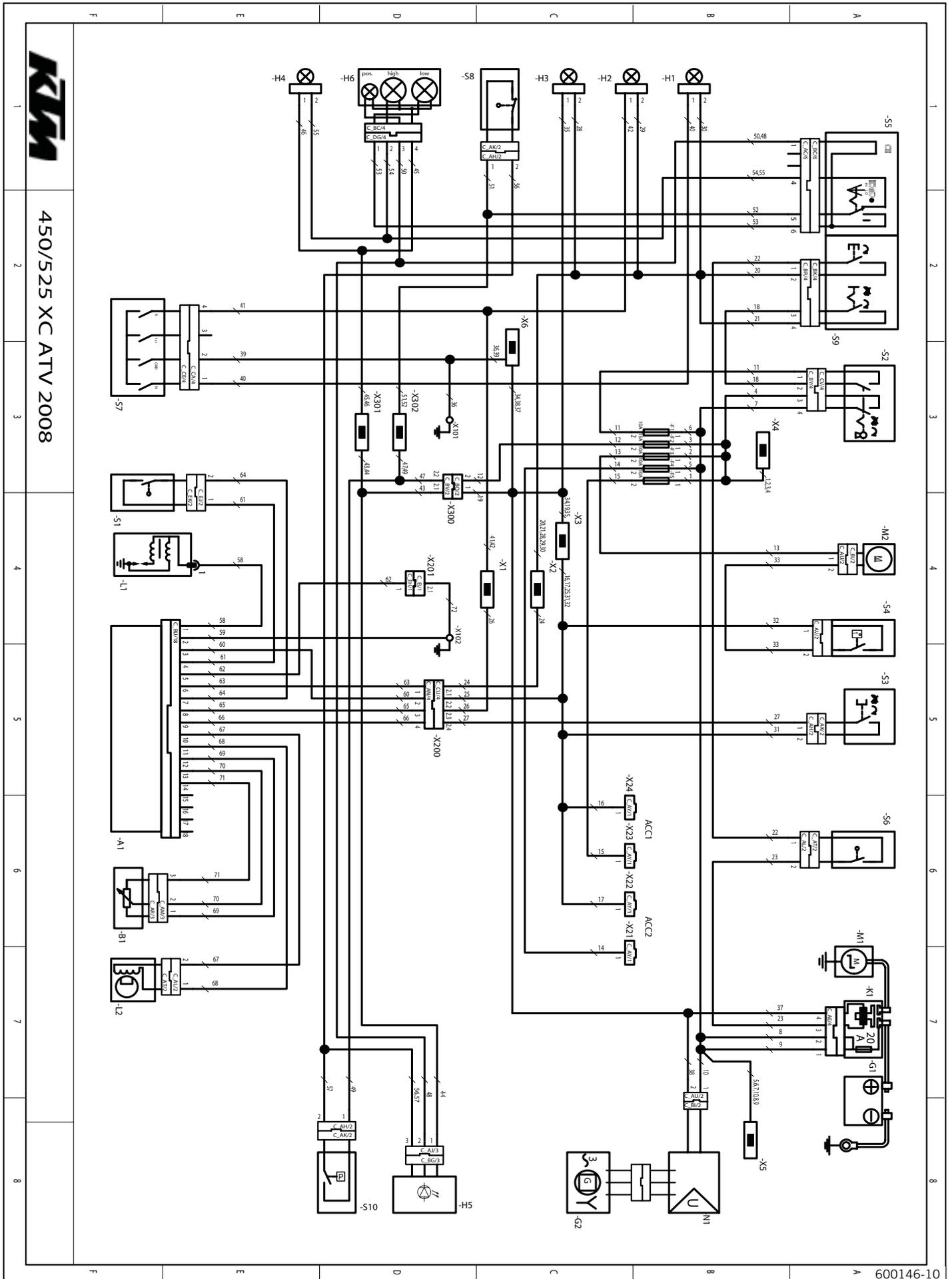
Tank capacity	13.4 l (3.54 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ P. 95)
Fuel reserve	3 l (3 qt.)	

Shock absorber type	36PRC
Setting number	KT 7702
Compression damping	
Standard	14 clicks
Maximum deviation from standard value	-5... 5 clicks
Rebound damping	
Standard	20 clicks
Maximum deviation from standard value	-5... 5 clicks
Cross over	17±1.5 mm (0.67±0.059 in)
Clip position, spring preload	
Standard	7 th position from top
Corresponds to a spring preload of	5 mm (0.2 in)
Spring preload	5 mm (0.2 in)
Spring rate, main spring	21... 30 N/mm (120... 171 lb/in)
Spring rate, auxiliary spring	30 N/mm (171 lb/in)
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)

Shock absorber type	46PRCQ
Setting number	KT 7710
Compression damping	
Standard	15 clicks
Maximum deviation from standard value	-5... 5 clicks
Rebound damping	
Standard	15 clicks
Maximum deviation from standard value	-5... 5 clicks
Spring preload	
Standard	3 mm (0.12 in)
Spring rate	62 N/mm (354 lb/in)
Spring length	250 mm (9.84 in)
Fitted length	457 mm (17.99 in)

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, rear brake caliper	M6	10 Nm (7.4 lbf ft)	Loctite® 243™
Screw, foot brake cylinder	M6	7 Nm (5.2 lbf ft)	Loctite® 243™
Screw, clamping nut, rear axle	M6	10 Nm (7.4 lbf ft)	–
Remaining nuts, chassis	M8	30 Nm (22.1 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw, front brake disc	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, rear brake disc	M8	25 Nm (18.4 lbf ft)	Loctite® 243™
Screw, front brake caliper	M8	20 Nm (14.8 lbf ft)	Loctite® 243™
Screw, rear brake caliper	M8	20 Nm (14.8 lbf ft)	Loctite® 243™
Screw, bearing support, steering	M8	25 Nm (18.4 lbf ft)	–
Screw, steering bridge	M8	20 Nm (14.8 lbf ft)	–
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, subframe	M8	35 Nm (25.8 lbf ft)	Loctite® 243™
Screw, rear wheel eccentric element	M8	20 Nm (14.8 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, 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)	–
Engine carrying screw	M10	60 Nm (44.3 lbf ft)	–
Screw, A-arm top	M10x52	45 Nm (33.2 lbf ft)	–
Screw, A-arm bottom	M10x70	45 Nm (33.2 lbf ft)	–
Screw, front shock absorber	M10	45 Nm (33.2 lbf ft)	–
Screw, footrest	M10	45 Nm (33.2 lbf ft)	–
Screw, steering column at bottom of steering lever	M10	25 Nm (18.4 lbf ft)	–
Engine bracket screw	M10	60 Nm (44.3 lbf ft)	–
Nut, A-arm top	M12x1,25	30 Nm (22.1 lbf ft)	–
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)	–
Nut, ball head, A-arm bottom	M12x1,5	40 Nm (29.5 lbf ft)	–
Nut, front wheel hub	M12	70 Nm (51.6 lbf ft)	–
Screw, rear top shock absorber	M12	60 Nm (44.3 lbf ft)	–
Screw, rear bottom shock absorber	M12	70 Nm (51.6 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, top	M20x1,5	25 Nm (18.4 lbf ft)	–
Screw, steering column, bottom	M20x1,5	40 Nm (29.5 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)

450/525 XC ATV



Components

A1	CDI controller
ACC1	Socket connector for auxiliary devices (switching on with ignition)
ACC2	Socket connector for auxiliary devices (permanent positive)
B1	Throttle valve sensor TPS
G1	Battery
G2	Generator
H1	Idling speed indicator lamp
H2	Reverse gear indicator lamp
H3	Ignition indicator lamp
H4	High beam indicator light
H5	Brake / tail light
H6	Headlight
K1	Starter relay with fuse
L1	Ignition coil
L2	Pulse generator
M1	Starter motor
M2	Radiator fan
N1	Voltage regulator/rectifier
S1	Switch for throttle lever
S2	Ignition switch
S3	Emergency OFF switch with rip cord
S4	Temperature switch for radiator fan
S5	Light switch
S6	Clutch switch
S7	Gear sensor switch
S8	Front brake light switch
S9	Electric starter button, ENG. STOP switch
S10	Rear brake light switch
X201	Ignition curve plug connection

Cable colors

1	green
2	green
3	green
4	green
5	white-red
6	white-red
7	white-red
8	white-red
9	white-red
10	white-red
11	red
12	yellow
13	white-black
14	yellow-red
15	black-red
16	brown
17	brown
18	yellow-red
19	brown
20	orange
21	orange

22	yellow
23	blue-red
24	orange
25	brown
26	yellow-green
27	black-yellow
28	orange
29	orange
30	orange
31	brown
32	brown
33	black
34	brown
35	brown
36	brown
37	brown
38	brown
39	brown
40	black-green
41	yellow-green
42	yellow-green
43	brown
44	brown
45	brown
46	brown
47	yellow
48	white
49	yellow
50	white
51	yellow
52	yellow
53	green
54	blue
55	blue
56	white-green
57	white-green
58	white-blue
59	brown
60	white
61	blue-red
62	green
63	white-red
64	white-black
65	yellow-green
66	black-yellow
67	red
68	green
69	blue
70	yellow
71	black

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

according to

- DIN EN 228 (ROZ 95 / RON 95 / PON 91)

Long-life grease

according to

- NLGI

Specification

- 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®

- Long Therm 2000

Brake fluid DOT 4 / DOT 5.1

according to

- DOT

Specification

- 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

Hydraulic fluid (15)

according to

- ISO VG (15)

Specification

- 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

Coolant

Specification

- Use only suitable coolant (even in countries with high temperatures). Using inferior antifreeze can result in corrosion and foaming. KTM recommends **Motorex®** products.

Mixture ratio

Antifreeze: -25... -45 °C (-13... -49 °F)	50 % Anti-corrosion/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. 98)
- SAE (☛ P. 98) (SAE 10W/50)

Specification

- 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. 98)
- SAE (☛ P. 98) (SAE 5W/40)

Specification

- 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**

Chain cleaner

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chain Clean 611**

Offroad chain spray

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Chain Lube 622**

Air filter cleaner

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Twin Air Dirt Bio Remover**

Oil for foam air filter

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Twin Air Liquid Power**

Motorcycle cleaner

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Clean 900**

Cleaning and polishing materials for metal, rubber and plastic

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Protect & Shine 645**

High-luster polish for paint

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Moto Polish**

Contact spray

Specification

- KTM recommends **Motorex®** products.

Supplier

Motorex®

- **Accu Contact**

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 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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12/2007 Photo Mitterbauer



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