OWNER'S MANUAL 2009

450 SX ATV

505 SX ATV

ART. NO. 3211378en

DEAR KTM CUSTOMER

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

We wish you great pleasure riding the vehicle!

Enter the serial numbers of your vehicle below.

Chassis number (☛ p. 26)	Dealer's stamp
Engine number (☛ p. 27)	
Key number (☛ p. 27)	

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.

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

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

KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

CONTENTS

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 private 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 service schedule is reached.
Pay careful attention to the prescribed running-in period, inspection and maintenance intervals. If you observe these exactly, you will ensure a much longer service life for your vehicle.

Fuel, oils, etc.

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

Spare parts, accessories

For your own safety, only use spare parts and accessories that have been approved and/or recommended by KTM and have them installed by an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage or loss.

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

Transport

Note

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

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

Note

Fire hazard Some 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 handle ❶ of the fuel tap to the **OFF** position. (Figure 800052-10☛ p. 37)
– Use straps or other suitable devices to secure the vehicle against accidents or falling over.
– Pull handbrake lever, push the locking pawl ❷ downwards, and release the handbrake lever. (Figure 100006-10☛ p. 30)

Work rules

When assembling the equipment, non-reusable parts (e.g. self-locking screws and nuts, seals, seal rings, O-rings, pins, lock washers) must be replaced with new parts.
If a thread locker (e.g. **Loctite®**) is used for screw connections, follow the instructions for use from the manufacturer.
Parts that are to be reused after being disassembled should be cleaned and checked for damage and wear. Replace damaged or worn parts.
After finishing the repair and maintenance work, ensure that the vehicle is roadworthy.

Environment

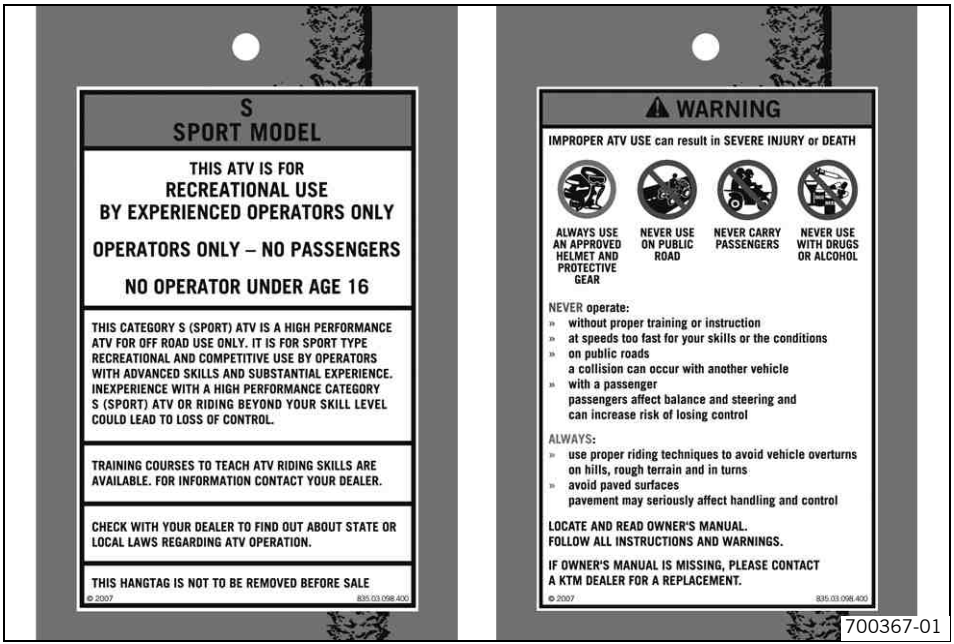
Offroad riding is a wonderful sport and we naturally hope that you will be able to enjoy it to the fullest. However, it is a potential problem for the environment and can lead to conflicts with other persons. But if you use your vehicle responsibly, you can ensure that such problems and conflicts do 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

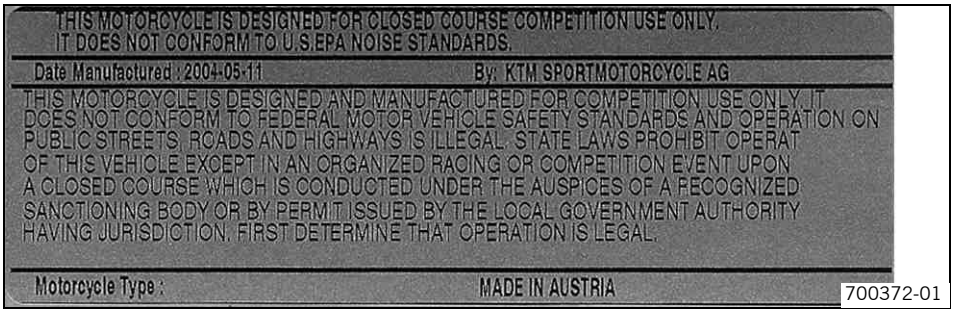
If you have never ridden an ATV before, it is important that you participate in a driver training course before you ride the vehicle for the first time.
A professional trainer will show you how to handle your ATV safely in various riding situations and on different terrain.
Your KTM dealer will be glad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

Overview of labels

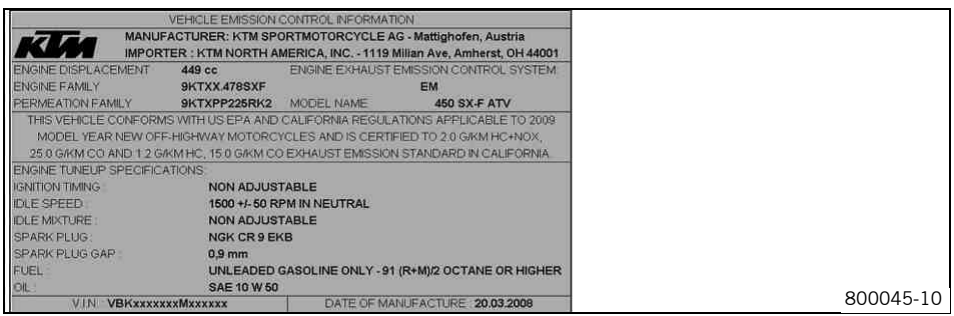
1	Hangtag
2	Information on use
3	Emission control 450 SX ATV
3	Emission control 505 SX ATV
4	Warning label
5	Information on not riding as a passenger
6	Information on putting into operation
7	Information on chain tension


S
SPORT MODEL
THIS ATV IS FOR
RECREATIONAL USE
BY EXPERIENCED OPERATORS ONLY
OPERATORS ONLY – NO PASSENGERS
NO OPERATOR UNDER AGE 16
THIS CATEGORY S (SPORT) ATV IS A HIGH PERFORMANCE ATV FOR OFF ROAD USE ONLY. IT IS FOR SPORT TYPE RECREATIONAL AND COMPETITIVE USE BY OPERATORS WITH ADVANCED SKILLS AND SUBSTANTIAL EXPERIENCE. INEXPERIENCE WITH A HIGH PERFORMANCE CATEGORY S (SPORT) ATV OR RIDING BEYOND YOUR SKILL LEVEL COULD LEAD TO LOSS OF CONTROL.
TRAINING COURSES TO TEACH ATV RIDING SKILLS ARE AVAILABLE. FOR INFORMATION CONTACT YOUR DEALER.
CHECK WITH YOUR DEALER TO FIND OUT ABOUT STATE OR LOCAL LAWS REGARDING ATV OPERATION.
THIS HANGTAG IS NOT TO BE REMOVED BEFORE SALE
© 2007
835.03.098.400
WARNING
IMPROPER ATV USE can result in SEVERE INJURY or DEATH
ALWAYS USE AN APPROVED HELMET AND PROTECTIVE GEAR
NEVER USE ON PUBLIC ROAD
NEVER CARRY PASSENGERS
NEVER USE WITH DRUGS OR ALCOHOL
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.
© 2007
835.03.098.400
700367-01

Hangtag



Information on use

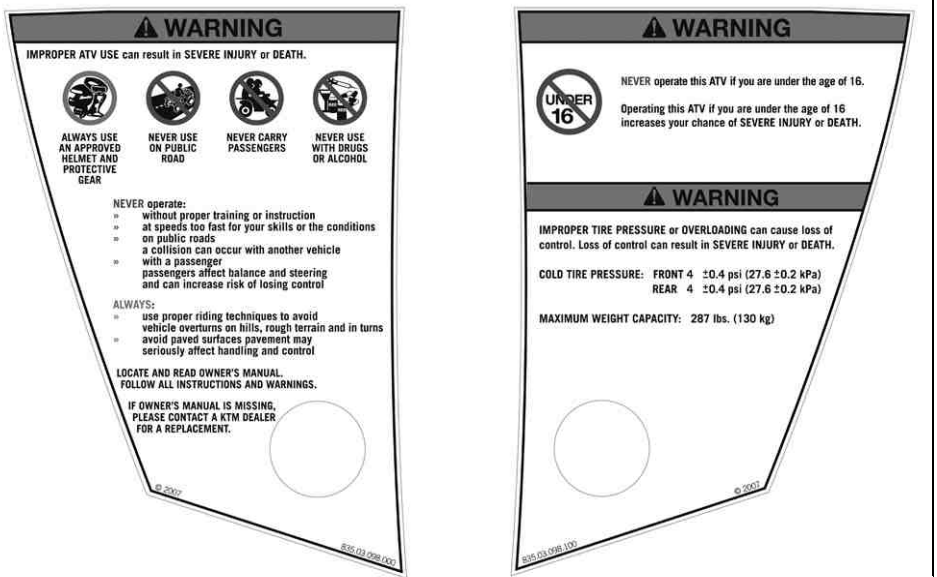


Emission control 450 SX ATV

VEHICLE EMISSION CONTROL INFORMATION			
KTM	MANUFACTURER: KTM SPORTMOTORCYCLE AG - Mattighofen, Austria IMPORTER : KTM NORTH AMERICA, INC. - 1119 Milian Ave, Amherst, OH 44001		
ENGINE DISPLACEMENT	479 cc	ENGINE EXHAUST EMISSION CONTROL SYSTEM:	
ENGINE FAMILY	9KTXX.478SXF		EM
PERMEATION FAMILY	9KTXPP225RK2	MODEL NAME	505 SX-F ATV
THIS VEHICLE CONFORMS WITH US EPA AND CALIFORNIA REGULATIONS APPLICABLE TO 2009 MODEL YEAR NEW OFF-HIGHWAY MOTORCYCLES AND IS CERTIFIED TO 2.0 G/KM HC+NOX, 25.0 G/KM CO AND 1.2 G/KM HC, 15.0 G/KM CO EXHAUST EMISSION STANDARD IN CALIFORNIA.			
ENGINE TUNEUP SPECIFICATIONS:			
IGNITION TIMING :	NON ADJUSTABLE		
IDLE SPEED :	1500 +/- 50 RPM IN NEUTRAL		
IDLE MIXTURE :	NON ADJUSTABLE		
SPARK PLUG :	NGK CR 9 EKB		
SPARK PLUG GAP :	0,9 mm		
FUEL :	UNLEADED GASOLINE ONLY - 91 (R+M)/2 OCTANE OR HIGHER		
OIL :	SAE 10 W 50		
V.I.N. : VBKxxxxxxxMxxxxxx		DATE OF MANUFACTURE : 20.03.2008	

800044-10

Emission control 505 SX ATV



700368-01

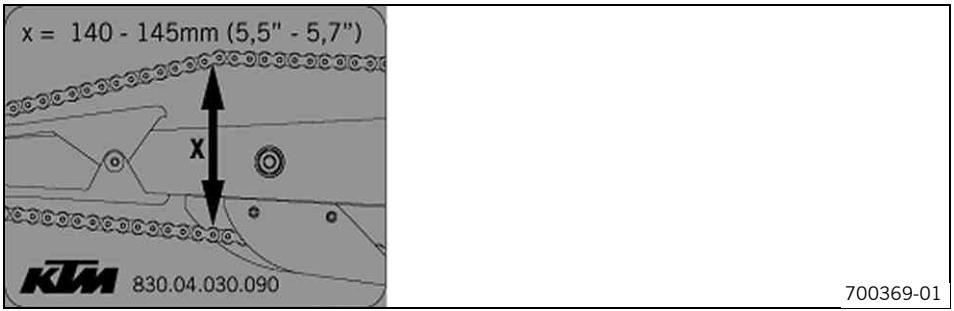
Warning label

700370-01

Information on not riding as a passenger

700371-01

Information on putting into operation



Information on chain tension

Notes/warnings

Be sure to pay attention to the notes and warnings given here.

Info

Various notes and warning stickers are attached to the vehicle. Do not remove any notes and warning stickers. 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.

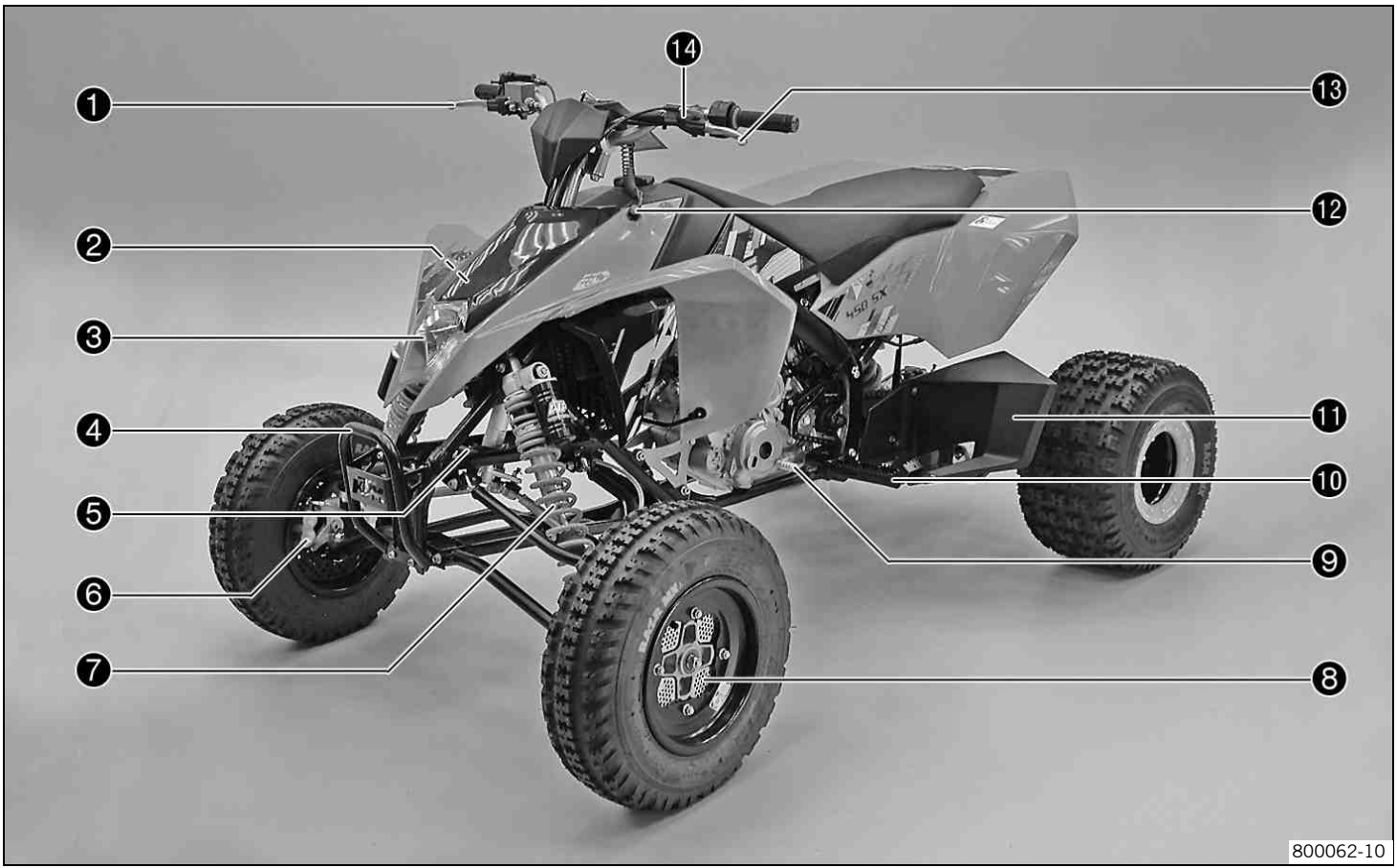
Note
Danger of serious damage to machine or material.

Warning
Risk of environmental damage.

Owner's manual

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

View of the vehicle from the left front (example)

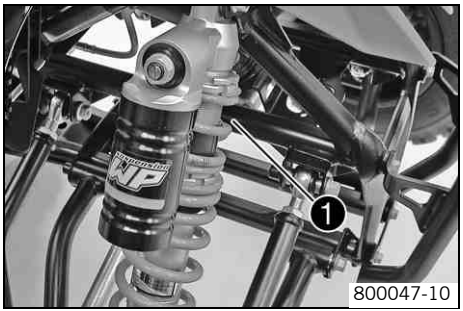


1	Hand brake lever
2	Fuse box
3	Headlight
4	Front shock absorber
5	Steering damper holder (steering damper is optional)
6	Right-hand brake caliper
7	Front left shock absorber
8	Outside brake disk guard
9	Shift lever
10	Left footrest
11	Heel protector
12	Emergency OFF switch with rip cord
13	Clutch lever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

View of the vehicle from the right rear (example)

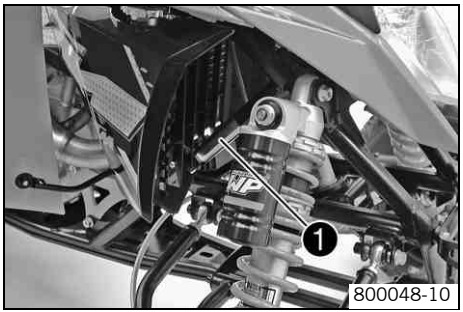
1	Light switch, electric starter button, **ENG. STOP** switch
2	Filler cap
3	Main silencer
4	Rear shock absorber
5	Rear sprocket with chain
6	Rear wheel eccentric element
7	Rear brake
8	Foot brake pedal
9	Manifold
10	Top A-arm
11	Front right fender
12	Throttle lever
13	Ignition switch

Chassis number



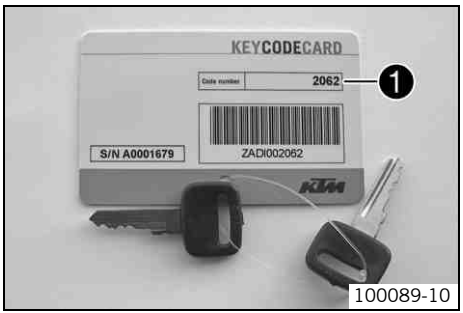
The chassis number ❶ is stamped on the right side of the frame in the vicinity of the upper control arm.

Type label



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

Key number

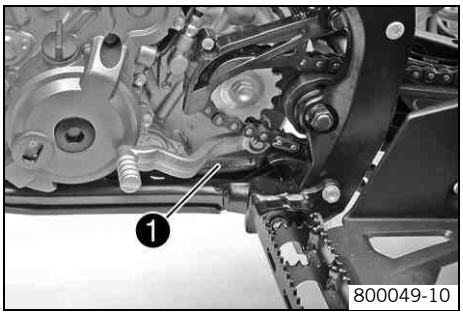


The key number ❶ is indicated on the **KEYCODECARD**.

Info

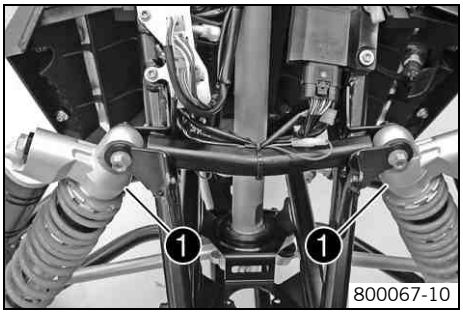
You need the key number to order a replacement key. Keep the **KEYCODECARD** in a safe place.

Engine number



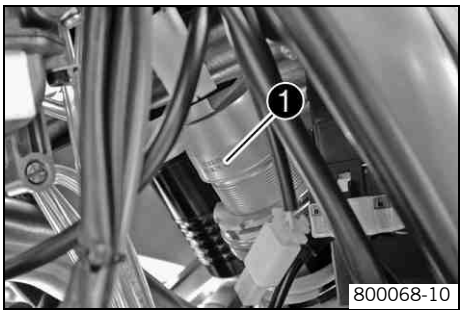
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

Shock absorber part number, front



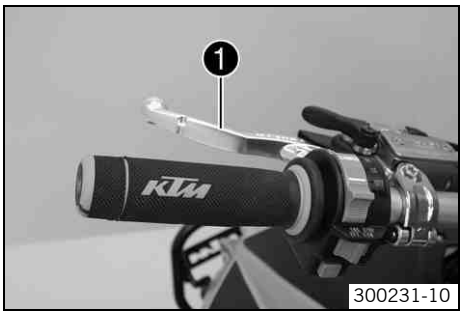
The shock absorber part number ❶ is stamped on the upper part of the shock absorber.

Shock absorber part number, rear



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

Clutch lever



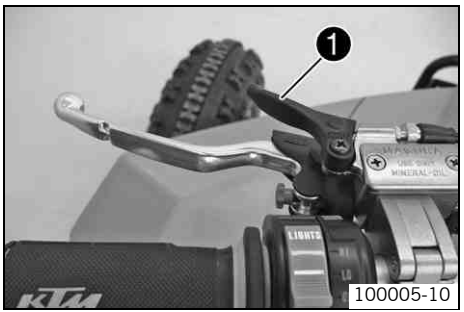
The clutch lever ❶ is fitted on the left side of the handlebar.

Possible states

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

The clutch is hydraulically operated and self-adjusting.

Hot start lever

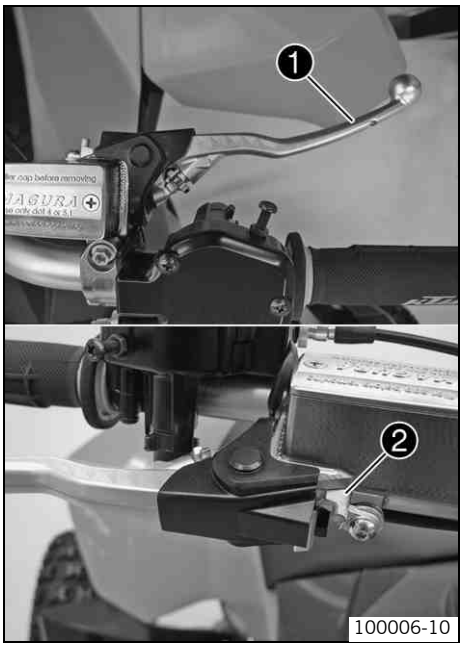


Hot start lever ❶ is fitted on the left side of the handlebar.
If you pull the hot start lever to the handlebar when starting the engine, an opening is exposed in the carburetor through which the engine can draw additional air. This gives a leaner fuel-air mixture, which is needed for a hot start.

Possible states

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

Handbrake lever, parking brake

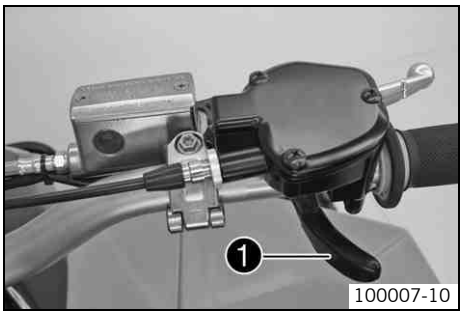


The hand brake lever ❶ is located on the right side of the handlebar and operates the front wheel brakes.
The parking brake is combined with the handbrake lever so that the front wheels can be blocked to prevent the vehicle from rolling.
To actuate the parking brake, pull the handbrake lever, push the locking pawl ❷ downwards, and release the handbrake lever.

Possible states

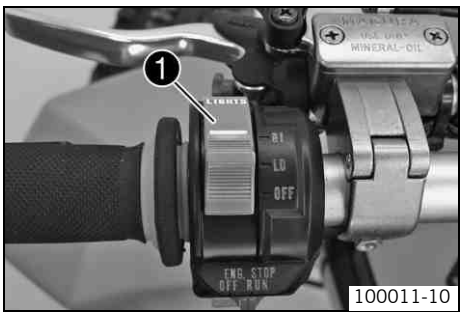
- Handbrake lever in basic position – Front wheels not blocked.
- Handbrake lever pulled and latched – Front wheels blocked.

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

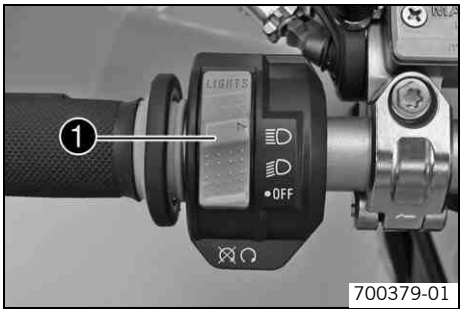


The light switch ❶ is fitted on the left side of the handlebar.

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 is turned downwards. In this position, all lights are switched off.

Light switch



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

Possible states

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

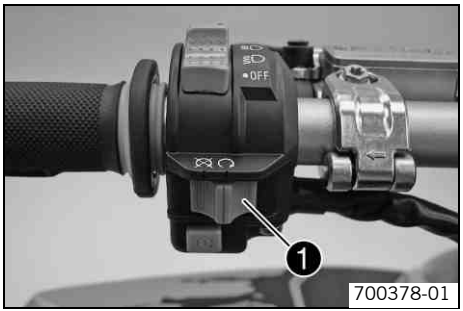
ENG. STOP switch

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.

ENG. STOP switch

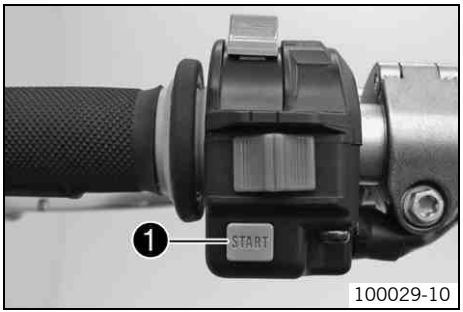


The **ENG. STOP** switch ❶ is fitted on the left side of the handlebar.

Possible states

	**ENG. STOP** switch off – In this position, the ignition circuit is interrupted, a running engine stops, and the engine cannot be started.
	**ENG. STOP** switch on – The switch must be in this position to operate the vehicle; the ignition circuit is closed.

Electric starter button



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.

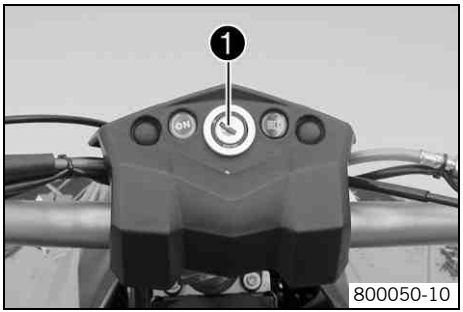
Electric starter button

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

Possible states

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

Ignition switch

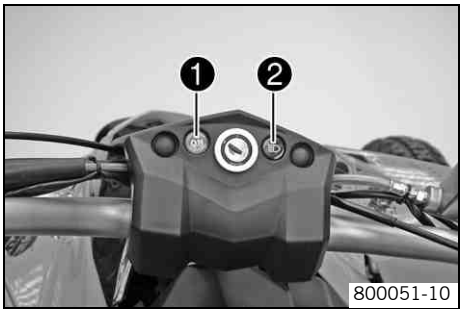


The ignition switch ❶ is located in the instrument support.

Possible states

	Ignition off – In this position, the ignition circuit is interrupted, a running engine stops, and a standing engine will not start.
	Ignition on – In this position, the ignition circuit is closed and the engine can be started.

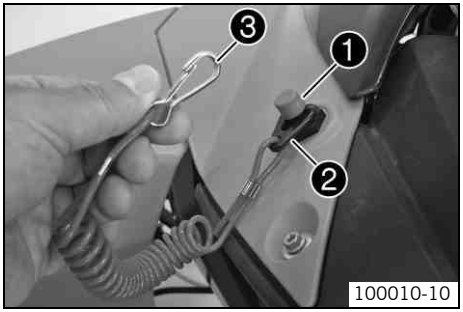
Indicator lamp overview



Possible states

ON	Ignition indicator lamp ❶ lights up yellow – Ignition is switched on.
≡D	High beam indicator lamp ❷ lights up blue – High beam is switched on.

Emergency OFF switch with rip cord

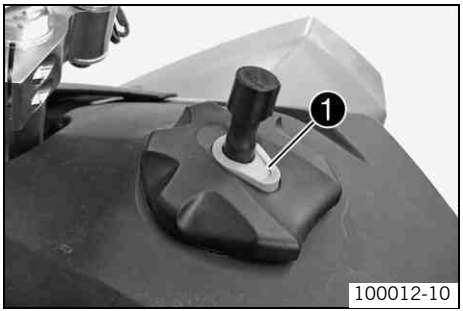


The emergency OFF switch ❶ is mounted on the left in front of the fuel tank. A rip cord is attached to clip ❷. It can be attached to the clothing of the rider by means of carabiner ❸. The emergency OFF switch shuts the engine off if the rider falls off the vehicle.

Possible states

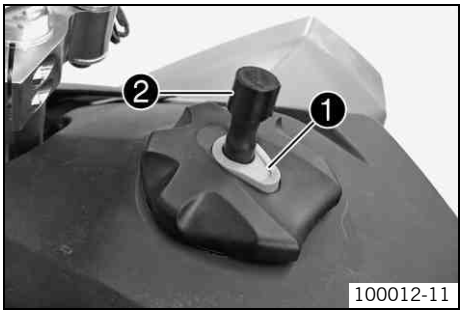
- Clip is pulled off – The ignition circuit is interrupted, a running engine stops and a non-running engine will not start.
- Clip is mounted – The ignition circuit is closed and the engine can be started.

Opening filler cap



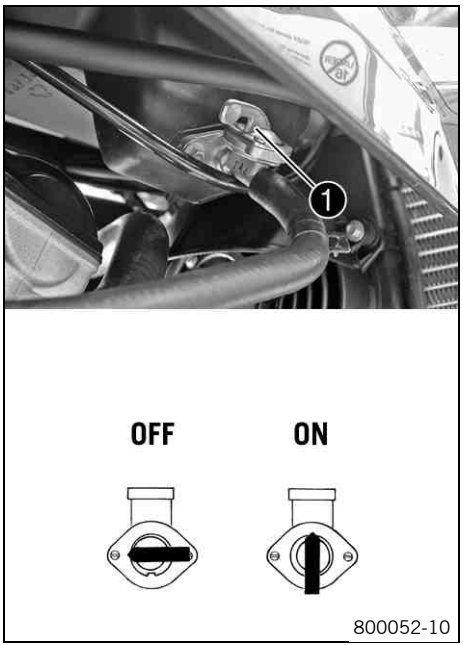
– Press release button ❶, turn filler cap counterclockwise and lift it free.

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

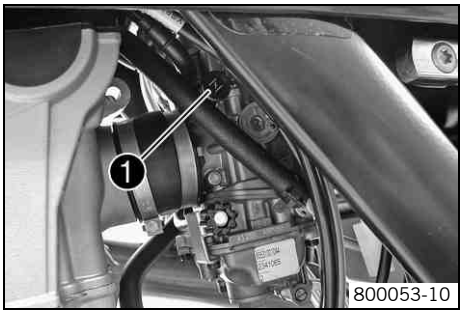


The fuel tap is located on the right side of the fuel tank.
With tap handle ❶ on the fuel tap, you can open or close the supply of fuel to the carburetor.

Possible states

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

Choke

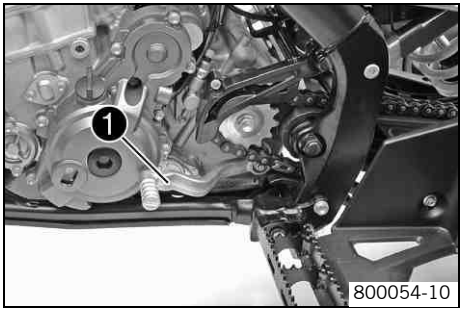


The choke ❶ is fitted on the left side of the carburetor.
Activating the choke function frees an opening through which the engine can draw extra fuel. This gives a richer fuel-air mixture, which is needed for a cold start.

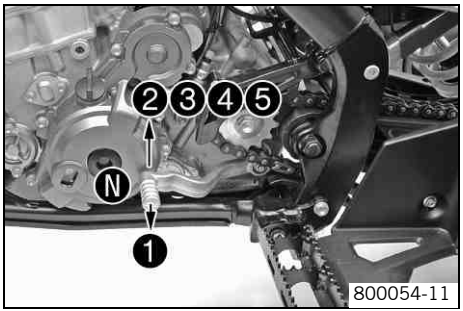
Info
If the engine is warm, the choke function must be deactivated.

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

Shift lever

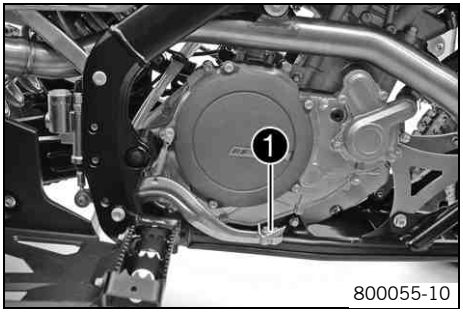


The shift lever ❶ is mounted on the left side of the engine.



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

Foot brake pedal



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

Advice on first use

Danger

Danger of accidents Danger from insufficient traffic competence.

– Do not use the vehicle if you are not fit to deal with traffic or if you have consumed alcohol and/or medicaments or drugs.

Warning

Danger of accidents Incorrect assessment of riding situations.

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

Warning

Danger of accidents Unaccustomed handling of the ATV.

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

– A professional trainer will show you how to handle your ATV safely in various riding situations and on different terrain. Your KTM dealer will be glad to advise you.

Warning

Risk of injury Missing or insufficient protective clothing increases the risk of injury.

– Wear protective clothing (helmet, boots, gloves, pants and jacket with protectors) every time you ride the vehicle. 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 controls.
– Adjust the basic position of the clutch lever. (☛ p. 147)
– adjust the basic position of handbrake lever. (☛ p. 104)
– Adjust the basic position of the footbrake lever. 🔧 (☛ p. 113)
– Become accustomed to handling the vehicle on a suitable piece of land before making a longer trip.

Info
When traveling 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 exceed the overall maximum permitted weight and the axle loads.
  Guideline

Maximum permissible overall weight	293 kg (646 lb.)
Maximum allowable axle load	
Front	144 kg (317 lb.)
Rear	149 kg (328 lb.)

– Run the engine in.

Running in the engine

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

Guideline

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

– Avoid fully opening the throttle!

Checks before putting into operation

Info
Make sure that the vehicle is 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. 158)
- Check the engine for oil loss.
- Check the fuel supply.
- Check the chain tension. (☛ p. 97)
- Check the chain dirt accumulation. (☛ p. 96)
- Check the tire condition. (☛ p. 125)
- Check the tire air pressure. (☛ p. 125)
- Check the front brake fluid level. (☛ p. 105)
- Check the rear brake fluid level. (☛ p. 114)
- Check the front brake linings. (☛ p. 107)
- Check the rear brake linings. (☛ p. 117)
- 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. 150)
- 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 standing for an extended period.
If the float chamber is filled with fresh fuel, the engine starts immediately.
Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds before trying again.

Condition

Vehicle has not been operated: ≥ 1 week

– Empty the carburetor float chamber. (☛ p. 157)

– Turn handle ❶ of the fuel tap to the **ON** position. (Figure 800052-10☛ p. 37)

✓ Fuel can flow from the tank to the carburetor.

– Mount the vehicle.
– Insert the clip ❷ into the emergency OFF switch and fasten the rip cord to the clothing of the rider. (Figure 100010-10☛ p. 35)
– Press the **ENG. STOP** switch into the position ○ or press **RUN**.

– Turn the key in the ignition switch to the position ○.

✓ The yellow ignition indicator lamp **ON** lights up.

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.

Condition

The engine is cold

– Pull choke lever out as far as possible.

Condition

The engine is hot

– Pull the hot start lever all the way out.

– Pull the clutch lever.

– Press the electric starter button.

Info

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

– Release the clutch lever.

Condition

The engine is hot and running

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

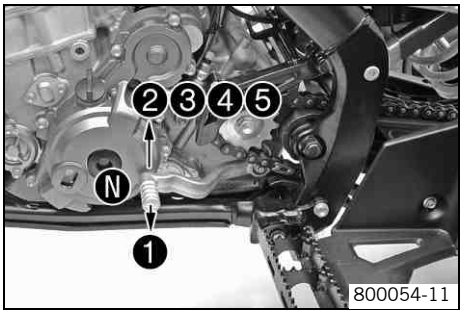
Starting up

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

– Pull and release the handbrake lever.
  ✓ 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.



Condition
When conditions allow (incline, road situation, etc.), you can shift into a higher gear.
– Release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch and open the throttle.

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

– To shift down, brake if necessary and close the throttle at the same time.
– Pull the clutch lever and shift into a lower gear, release the clutch lever slowly and open the throttle or shift again.

Braking

Warning

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

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

Warning

Danger of accidents Reduced braking 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.

Info

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

– When braking, release the throttle and apply the front and rear brakes at the same time.
– Shift the transmission to lower gears according to the vehicle's speed.
– Braking should always be completed before you go into a bend.
– On long downhill stretches, use the braking effect of the engine. Change down one or two gears, but do not overstress the engine. In this way, you have to brake far less and the brakes do not overheat.

Riding

Info

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

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

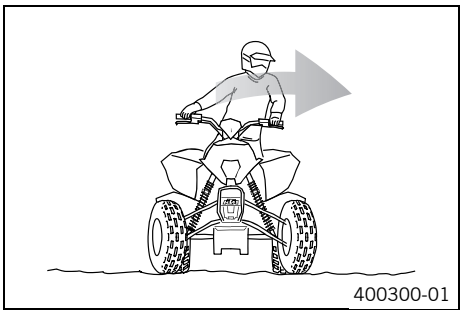
≥ 2 min

- Avoid 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

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.


400300-01

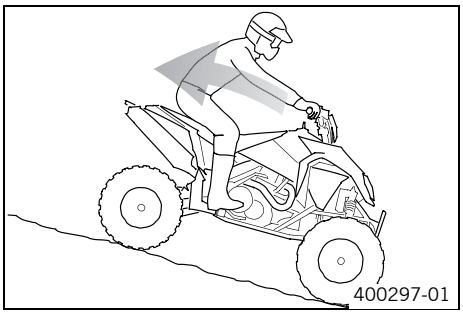
Warning

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.

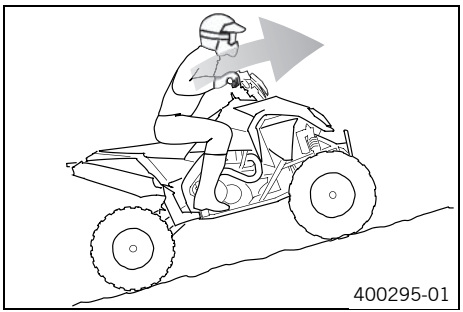
Note

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



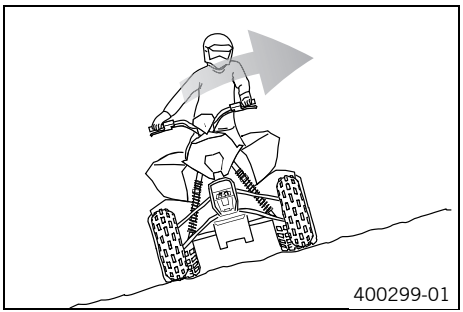
Warning

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 you weight toward the slope.

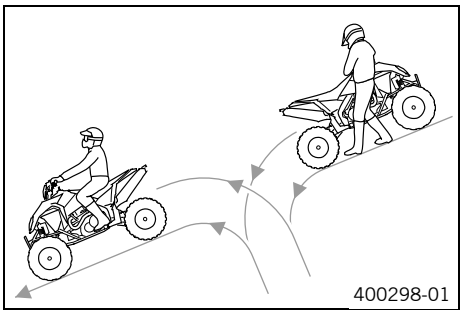
- If the vehicle starts to tip over, steer it downhill and dismount immediately to the uphill side.

Turning on slopes

Warning

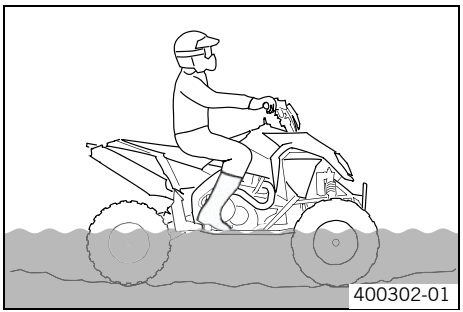
Danger of accidents Danger of accidents from turning the vehicle on a slope.

- 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. 51)
- 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 became submerged, an authorized KTM workshop must perform a thorough check and comprehensive service. Do not start the engine.

Switching off the engine

Info

There are 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 position ⊠ or press **OFF**.

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 clip ❷. (Figure 100010-10☛ p. 35)

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

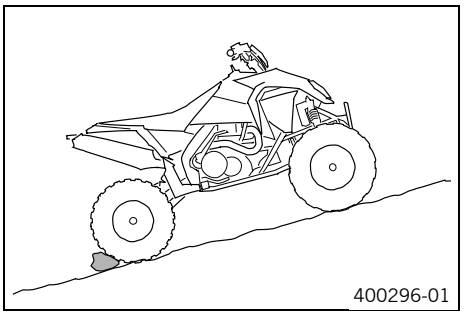
Danger of damage Danger of damage from accidental rolling of vehicle.

– 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.
– Switch off the engine. (☛ p. 55)
– Remove the ignition key and the clip from the emergency OFF switch.
– Pull handbrake lever, push the locking pawl ❷ downwards, and release the handbrake lever. (Figure 100006-10☛ p. 30)

  ✔ The front wheels are blocked.
– Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 800052-10☛ p. 37)

  ✔ Fuel no longer 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

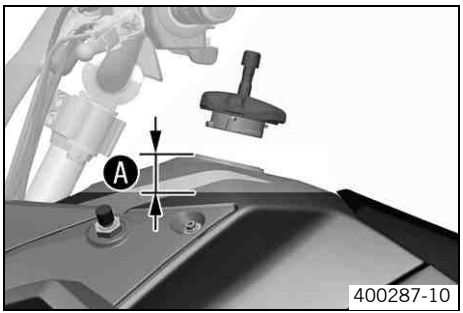
Danger of poisoning Fuel is poisonous and a health hazard.

– 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.



– Switch off the engine.
– Open the filler cap. (☛ p. 36)
– Fill the fuel tank with fuel up to measurement Ⓐ.

Guideline

Measurement of Ⓐ		35 mm (1.38 in)
Total fuel tank capacity approx.	10.3 l (2.72 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 193)

– Close the filler cap. (☛ p. 36)

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

		S3N	S10A	S30A
Engine	Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 159)	•	•	•
	Replace spark plug.			•
	Check the valve clearance and adjust if necessary.	•	•	•
	Check engine mounting screws for tightness.	•	•	•
	Clean spark plug connectors and check for tightness.	•	•	•
	Check shift lever screw for tightness.	•	•	•
Carburetor	Check carburetor connection boots for cracks and leakage.		•	•
	Check vent hoses for damage and routing without sharp bends.	•	•	•
	Check idle.	•	•	•
Attachments	Check the cooling system for leaks.	•	•	•
	Check the antifreeze and coolant level. (☛ p. 149)	•	•	•
	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. 148)	•	•	•
	Clean the air filter. 🔧 (☛ p. 146)	•	•	•
	Check cables for damage and kink-free routing.		•	•
	Check the functioning of the electrical equipment.	•	•	•
	Check the headlight adjustment.		•	•
Brakes	Check the front brake linings. (☛ p. 107)	•	•	•
	Check the rear brake linings. (☛ p. 117)	•	•	•
	Check the brake discs. (☛ p. 102)	•	•	•
	Check the front brake fluid level. (☛ p. 105)	•	•	•

		S3N	S10A	S30A
Brakes	Check the rear brake fluid level. (☛ p. 114)	•	•	•
	Check that brake lines are undamaged and free of leaks.	•	•	•
	Check the free play of the hand brake lever. (☛ p. 103)	•	•	•
	Check the free play of the foot brake lever. (☛ p. 112)	•	•	•
	Check the brake system.	•	•	•
	Check screws and guide pins of the brake system for tightness.	•	•	•
Chassis	Check shock absorbers for cracks and proper functioning.	•	•	•
	Check the steering column bearing for wear and smooth operation.	•	•	•
	Clean and grease bearing and sealing elements of steering column.	•	•	•
	Check the handlebar for smooth operation and play.	•	•	•
	Check the handlebar bridge bearing for excessive play.	•	•	•
	Check tie rods and tie rod ends for damage and play.	•	•	•
	Check front wheel suspension for wear and tightness.	•	•	•
	Check that front and rear wheel hubs are tight.	•	•	•
	Check the swingarm bearing.		•	•
	Check the bearing of the rear axle for play.	•	•	•
	Grease the rear wheel eccentric element. (☛ p. 102)		•	•
	Check all screws to make sure they are tight.	•	•	•
Wheels	Check rim run-out.	•	•	•
	Check the tire condition. (☛ p. 125)	•	•	•
	Check the tire air pressure. (☛ p. 125)	•	•	•
	Check the chain wear. (☛ p. 98)	•	•	•
	Check the chain tension. (☛ p. 97)	•	•	•

		S3N	S10A	S30A
Wheels	Clean the chain. (☛ p. 96)	•	•	•
	Check front wheel bearing for play.	•	•	•

S3N: After 3 service hours - corresponds to about 21 liters of fuel
S10A: Every 10 service hours - corresponds to about 70 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 job)

	S10A	S20A	S40A	J1A	J2A
Carry out a complete shock absorber service.					•
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/measure the cylinder.			•		
Replace piston.			•		
Check the camshafts.			•		
Check wear of valve spring seat.			•		
Check wear of valve guides.			•		
Change the valves.			•		

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

S10A: Every 10 service hours - corresponds to about 70 liters of fuel/after every race
S20A: Every 20 service hours - corresponds to about 140 liters of fuel
S40A: Every 40 service hours - corresponds to about 280 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. 158)	•
Check the front brake fluid level. (☛ p. 105)	•
Check the rear brake fluid level. (☛ p. 114)	•
Check the front brake linings. (☛ p. 107)	•
Check the rear brake linings. (☛ p. 117)	•
Check and adjust Bowden cables.	•
Clean the chain. (☛ p. 96)	•
Check the chain tension. (☛ p. 97)	•
Check the chain wear. (☛ p. 98)	•
Check rear sprocket / engine sprocket for wear. (☛ p. 98)	•
Clean the air filter. 🔧 (☛ p. 146)	•
Check the tire air pressure. (☛ p. 125)	•
Check the tire condition. (☛ p. 125)	•
Check the coolant level. (☛ p. 150)	•
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


800056-10

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.

Tip

When changing the chassis settings, always start with the standard setting.
Between test rides, always change only one setting. This will enable you to better assess the effect of the setting on vehicle handling.
Do not make radical changes to the settings; proceed in small steps instead. Even small changes can have a large impact on vehicle handling.

Compression damping of the shock absorber

The shock absorber is able to regulate the compression damping separately in the low speed and high speed ranges (Dual Compression Control).
The terms "low speed" and "high speed" refer to the motion of the shock absorber during compression and not to the road speed of the vehicle.
Modifications to the "low speed" setting also affects the "high speed" setting and vice versa.

Front shock absorber - adjusting the high-speed compression damping

Danger

Danger of accidents The shock absorber is under high pressure.

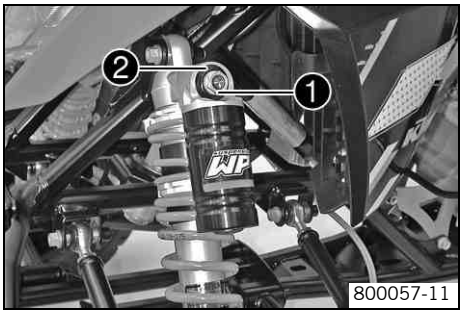
– The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.

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



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

Info
Do not loosen screw connection ❷!

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

Guideline

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

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

Front shock absorber - adjusting the low-speed compression damping

Danger
Danger of accidents 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.

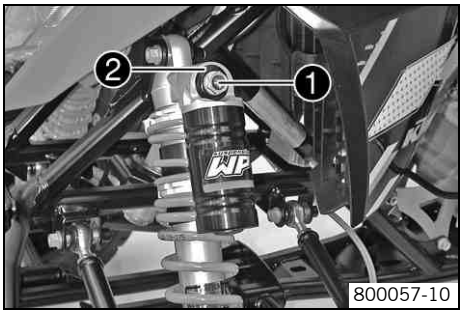
Warning

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



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

Info

Do not loosen screw connection ❷!

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

Guideline

Compression damping, low-speed	
Comfort	24 clicks
Standard	22 clicks
Sport	24 clicks

Info

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

Front shock absorber - adjusting the 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.

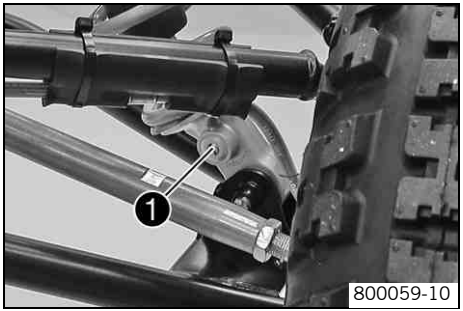
Warning

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 adjusting screw ❶ clockwise to the last perceptible click.

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

Guideline

Rebound damping	
Comfort	23 clicks
Standard	21 clicks
Sport	19 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.

Front shock absorber - adjusting the cross over

Danger

Danger of accidents The shock absorber is under high pressure.

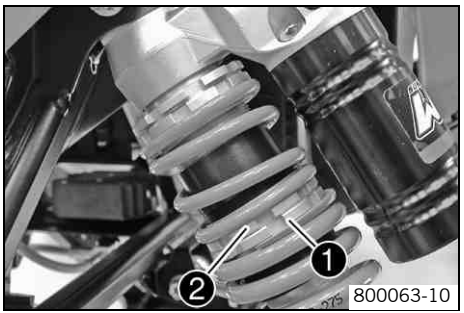
– The shock absorber is filled with highly compressed nitrogen, so never dismantle the shock absorber or carry out any maintenance on it yourself.

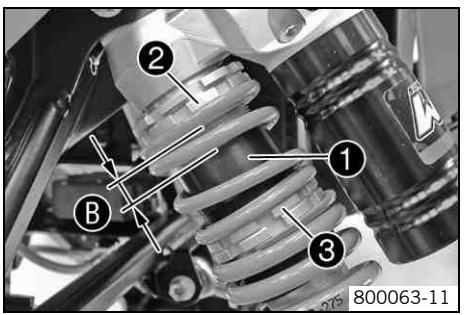
Info

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. 64)
– Clean the shock absorber thoroughly.
– Loosen adjusting rings ❶ and ❷. Suitable tools are available from an authorized KTM workshop.

Hook wrench (83019001000)





– Cross over setting Ⓑ is measured between sliding bushing ❶ and the collar of adjusting ring ❷.

Guideline

Cross over	19±1.5 mm (0.75±0.059 in) **Info** Measured with no preload on the main spring.

– Tighten the spring by turning adjusting ring ❸ to setting ❽.

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

– Tighten the adjusting ring.
– Remove the vehicle from the work stand. (☛ p. 64)

Front shock absorber - adjusting the 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.

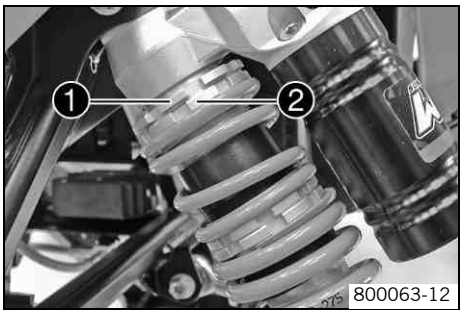
Warning
Danger of accidents Do not make any radical changes to the adjustment of the shock absorbers.

– 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.

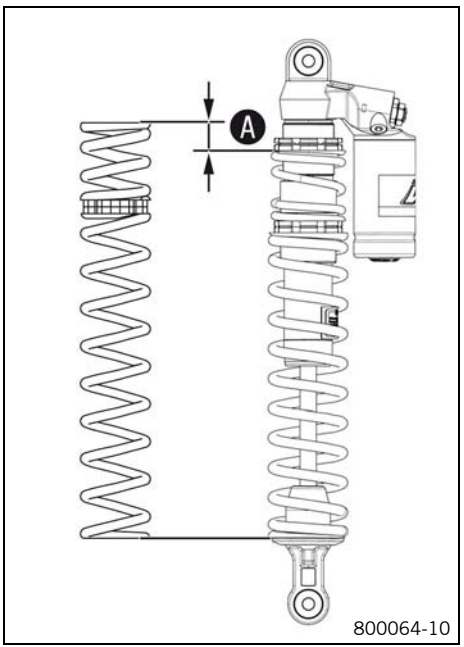
– Jack up the vehicle. (☛ p. 64)
– Clean the shock absorber thoroughly.



– Loosen lock ring ❶.

Hook wrench (83019001000)

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



– Tighten the spring pack by turning adjusting ring ❷ to the specified setting Ⓐ.

Guideline

Spring preload	5 mm (0.2 in)

Info

Spring preload Ⓐ is the difference in length between the spring pack when it is unloaded and when it is installed.
The spring pack should never be installed loosely (without preload). The standard setting is the lowest permissible spring preload. Therefore, you can only increase the spring preload.
If you increase the spring preload, you should also slightly increase the rebound damping.
The left and right shock absorbers should have the same settings.

– Tighten the lock ring and the adjusting ring.
– Remove the vehicle from the work stand. (☛ p. 64)

Rear shock absorber - adjusting the high speed 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.

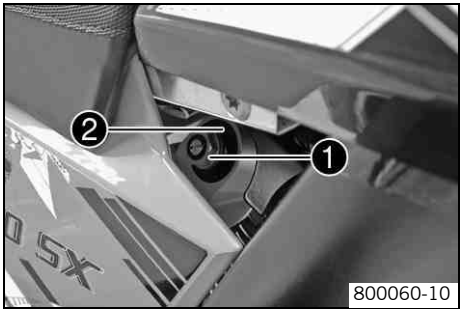
Warning

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

– Only make adjustments within the recommended range.

Info

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



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

Info

Do not loosen screw connection ❷!

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

Guideline

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

Info

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

Rear shock absorber - adjusting the low-speed compression damping

Danger

Danger of accidents 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.

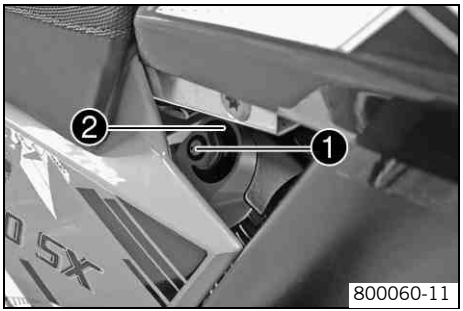
Warning

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



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

Info
Do not loosen screw connection ❷!

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

Guideline

Compression damping, low-speed	
Comfort	22 clicks
Standard	20 clicks
Sport	18 clicks

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

Rear shock absorber - adjusting the rebound damping

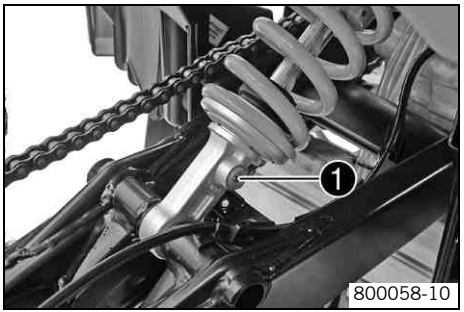
Danger
Danger of accidents The shock absorber is under high pressure.

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

Guideline

Rebound damping	
Comfort	18 clicks
Standard	16 clicks
Sport	14 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
Turning to the right increases damping, while turning to the left lessens damping.

Rear shock absorber - adjusting the 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.

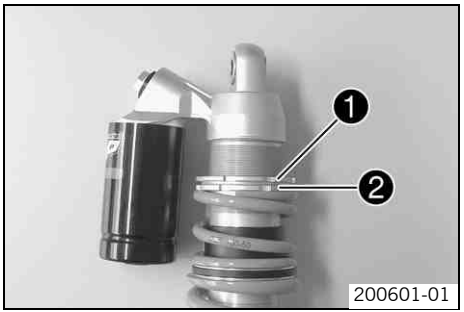
– Make adjustments in small steps only.

Info

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

Tip

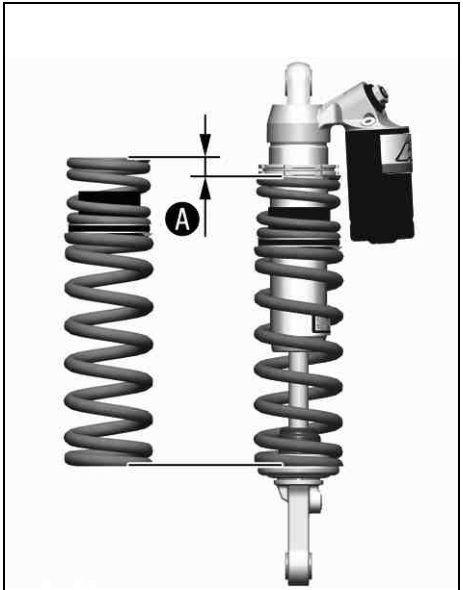
Before changing the spring preload, make a note of the present setting, e.g., by measuring the length of the spring.



– Remove the rear shock absorber. (p. 78)
– After removing the shock absorber, clean it thoroughly.
– Loosen lock ring ❶. Hold adjusting ring ❷ while doing so. Suitable tools are available from an authorized KTM workshop.

Hook wrench (83019002000)

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



400540-10

– Measure the entire spring pack when it is unloaded.

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

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

Guideline

Spring preload	
Comfort	3 mm
Standard	5 mm
Sport	5 mm

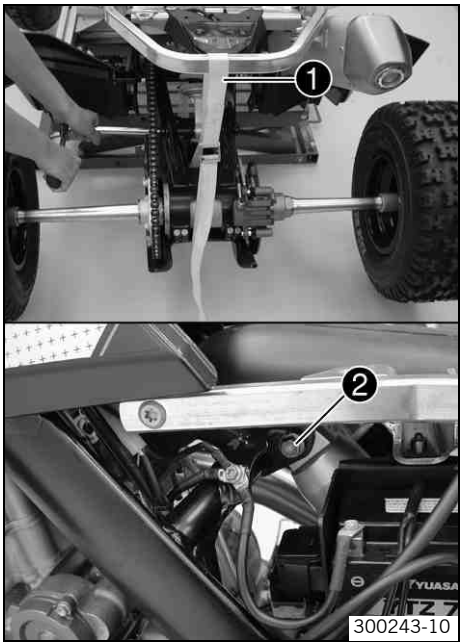
– Tighten the lock ring and the adjusting ring.

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

– Install the rear shock absorber. (☛ p. 80)

Removing the rear shock absorber

– Jack up the vehicle. (☛ p. 64)
– Remove the rear fender. (☛ p. 140)



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

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

Guideline

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

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

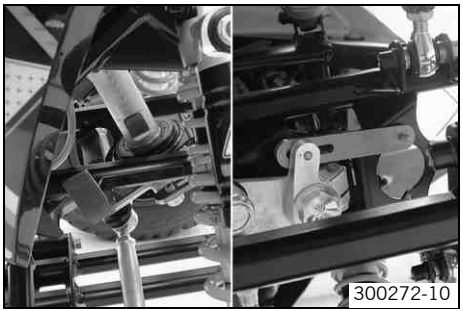
Guideline

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

– Remove the tension belt.
– Install the rear fender. (☛ p. 142)
– Remove the vehicle from the work stand. (☛ p. 64)

Checking the toe

– Park the vehicle on a horizontal surface.
– Check the tire condition. (☛ p. 125)
– Check the tire air pressure. (☛ p. 125)
– Check the chassis parts for damage, play and wear.



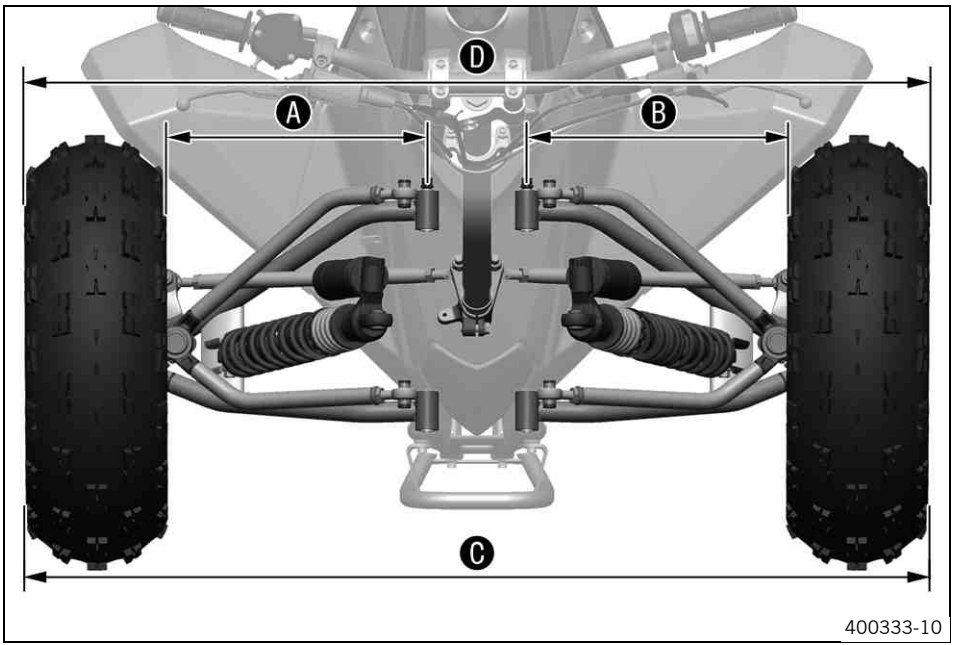
– Load the vehicle with the specified weight.

Guideline

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

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

Handlebar fixation for straight-ahead position (83019015100)



– Measure distances Ⓐ and Ⓑ.
  » If distances Ⓐ and Ⓑ are not equal:
    – Adjust the toe. (☛ p. 83)

– Measure distances ⓒ and ⓓ.

Guideline

Toe	
Front	0 mm (0 in)

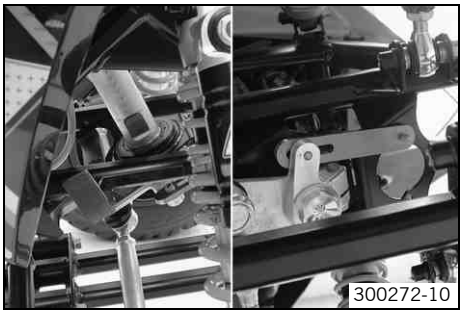
Info

The toe is the difference in length between distances ⓓ and ⓒ 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. 83)

Adjusting the toe



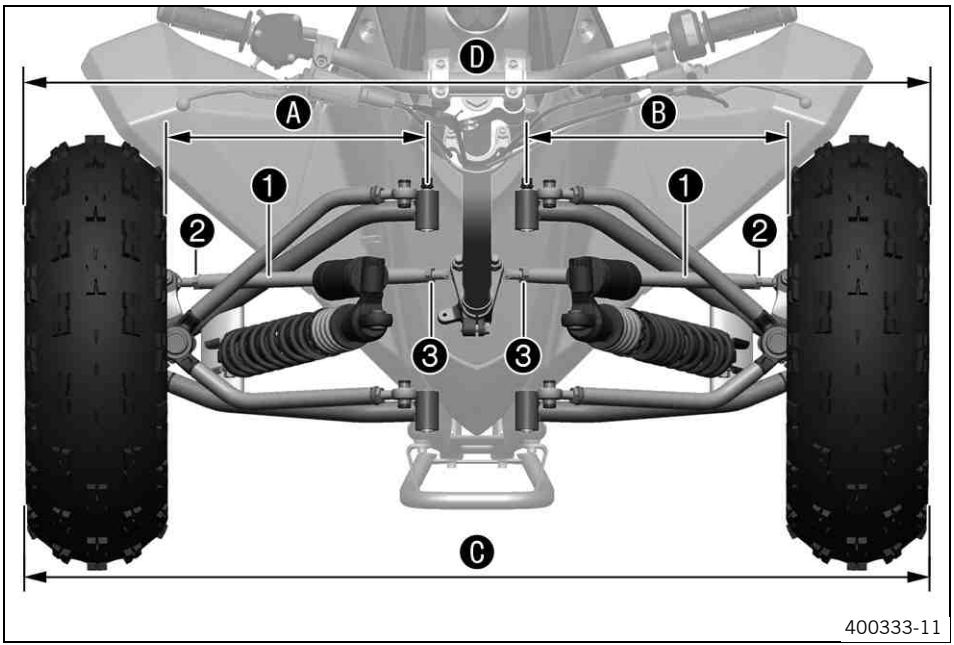
– Park the vehicle on a horizontal surface.
– Check the tire condition. (☛ p. 125)
– Check the tire air pressure. (☛ p. 125)
– Check the chassis parts for damage, play and wear. Replace damaged or worn parts.
– Load the vehicle with the specified weight.

Guideline

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

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

Handlebar fixation for straight-ahead position (83019015100)



– Loosen nuts ❷ and ❸.
– Adjust the distances Ⓐ and Ⓑ to the same value by rotating the tie rods ❶.

– Adjust the distances ⓒ and ⓓ to the specified value by evenly rotating the tie rods ❶.

Guideline

Toe	
Front	0 mm (0 in)

Info
The toe is the difference in length between distances ⓓ and ⓒ 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 ❷ and ❸.

Guideline

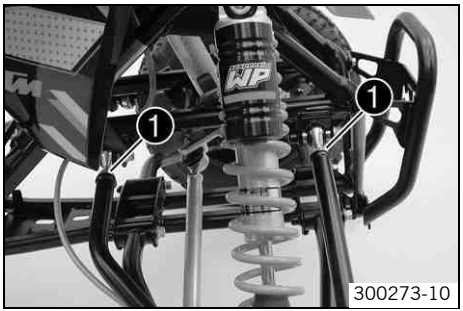
Lock nut, tie rod, outside	M12x1.25	20 Nm (14.8 lbf ft)
Lock nut, tie rod, inside	M12LHx1.25	20 Nm (14.8 lbf ft)

Info
The tie rods ❶ must still be freely movable.

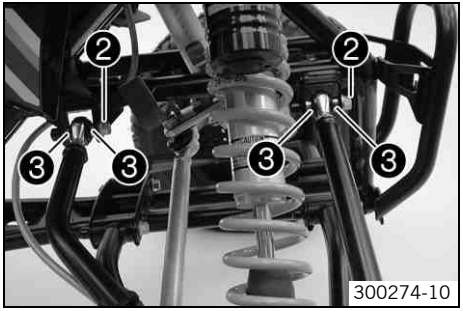
Checking/adjusting the camber

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

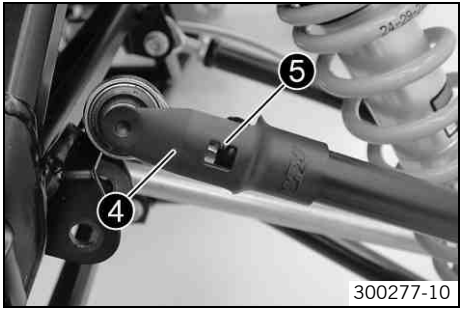
– Jack up the vehicle. (☛ p. 64)



– Loosen nuts ❶.



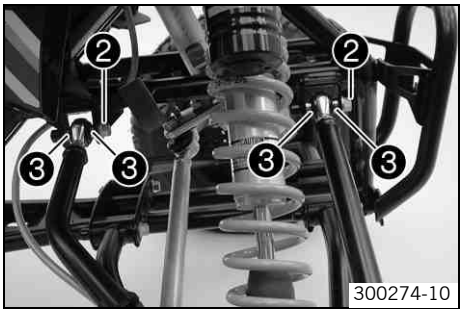
– Remove screws ❷ with bushings ❸.



– Insert tool ❹ in the heim joint and clip onto the A-arm.

Camber gauge (83019014000)

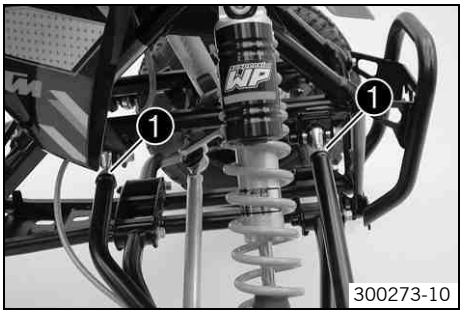
– Check the camber on both heim joints.
  » If marking ❺ is not aligned with the top edge of the A-arm:
    – Turn tool ❹ with the heim joint in steps of 180° until the marking is in line with the top edge of the A-arm.
– Remove tool ❹.



– Position the A-arm with bushings ❸. Mount and tighten screws ❷.

Guideline

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



– Align the heim joint at right angles to screws ❷ and tighten nut ❶.

Guideline

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

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

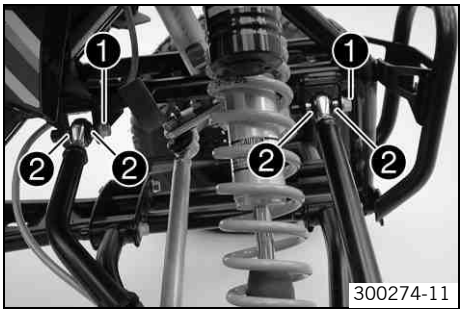
– Remove the vehicle from the work stand. (☛ p. 64)

Fork offset

The fork offset has an impact on the handling of the vehicle.
The fork offset can optionally be adjusted.
Fork offset is defined as the slanted position of the swivel axis in the direction of the longitudinal axis of the vehicle in relation to a vertical line to the driving surface.
When both sleeves are installed in front of the A-arms, the fork offset increases. This enhances driving stability on fast raceways.
When both bushings are installed behind the A-arms, the fork offset decreases. This improves handling in bends.
Upon delivery one bushing is installed in front of the A-arm and one behind it.

Adjusting the fork offset

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

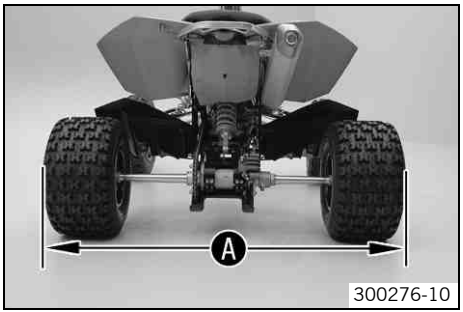


– Jack up the vehicle. (☛ p. 64)
– Remove screws ❶ with bushings ❷.
– Place the A-arm with bushings ❷ in the desired position. Mount and tighten screws ❶.
Guideline

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

– Remove the vehicle from the work stand. (☛ p. 64)

Toe width of rear axle



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

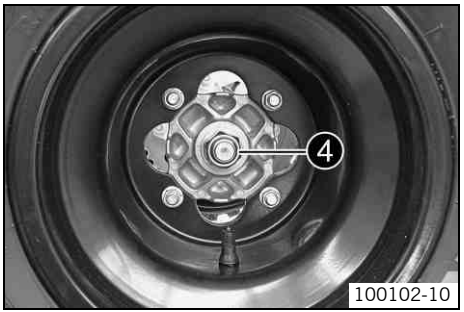
Difference between narrow/wide toe	76 mm (2.99 in)

Adjusting the toe width of the rear axle

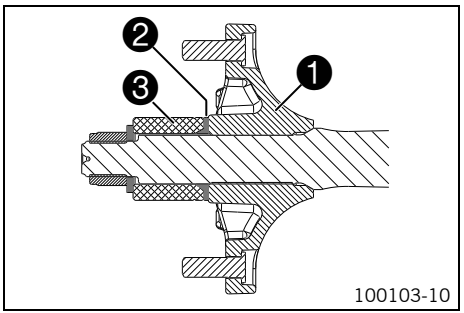
Warning

Danger of accidents Modifications to the chassis can seriously alter the vehicle's handling characteristics.

– Following modifications, ride slowly at first to get the feel of the new handling characteristics.

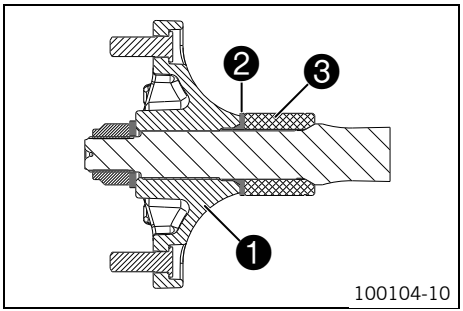


– Engage 1st gear.
– Loosen nuts ❹ of the wheel hubs on both sides.
– Jack up the vehicle. (☛ p. 64)
– Remove nuts ❹ on both sides and take all parts off of the rear axle.



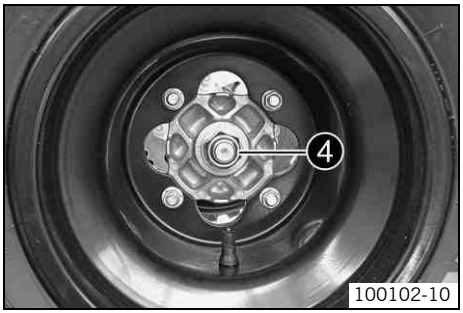
Setting a narrow toe width:

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



Setting a wide toe width:

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



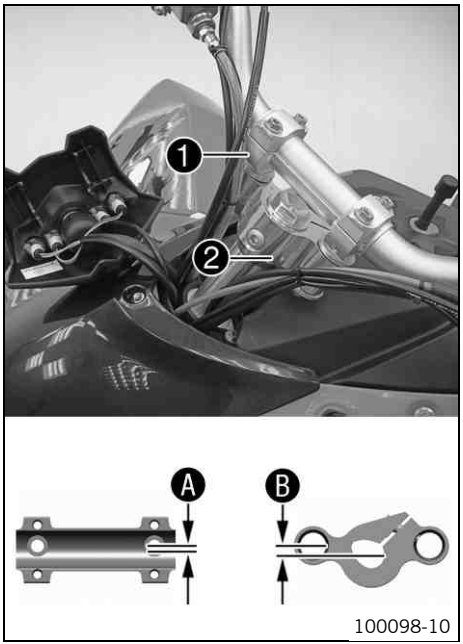
- Remove the vehicle from the work stand. (☛ p. 64)
- Tighten nuts ❹ on both sides.

  Guideline

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

- Shift gear to neutral.

Handlebar position



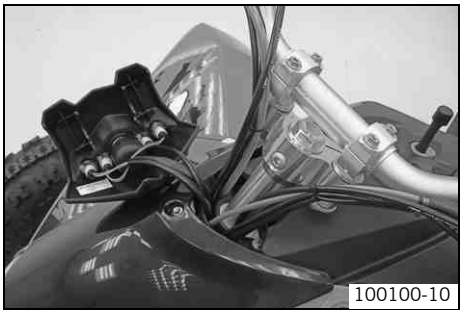
The handlebar position can be adjusted 4-fold by turning the handlebar support ❶ and the handlebar support ❷.
The holes on the handlebar support are placed at a distance of Ⓐ from the center.

Distance Ⓐ between holes	3.5 mm (0.138 in)

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

Distance Ⓑ between holes	7.5 mm (0.295 in)

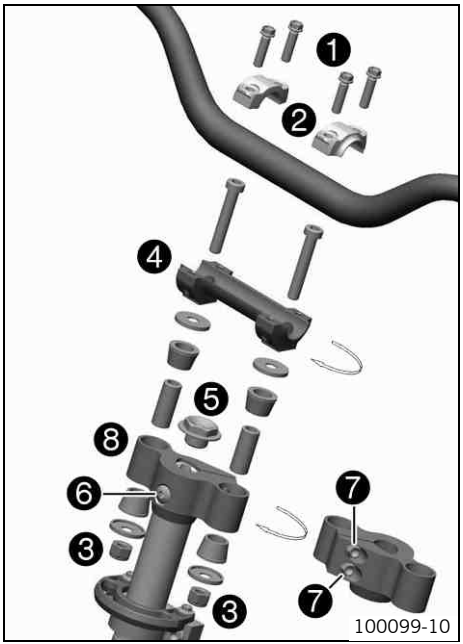
Adjusting the handlebar position


100100-10

– 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 ❶. Remove handlebar clamps ❷, swing the handlebar forward and set it down.
– Remove nuts ❸ and remove handlebar support ❹ with the screws.
– Remove screws ❺ and ❻.
– Remove screws ❼. Remove handlebar bridge ❽.
– Place handlebar bridge ❽ onto the steering column in the desired position. Mount and tighten screw ❻.

Guideline

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

– Mount and tighten screw ❺.

Guideline

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

– Mount and tighten screws ❼.

Guideline

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

– Mount handlebar support ❹ in the desired position using the screws. Mount new self-locking nuts ❸ and tighten.

Guideline

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

– Position the handlebar and fix it with handlebar clamps ❷. Mount and tighten screws ❶.

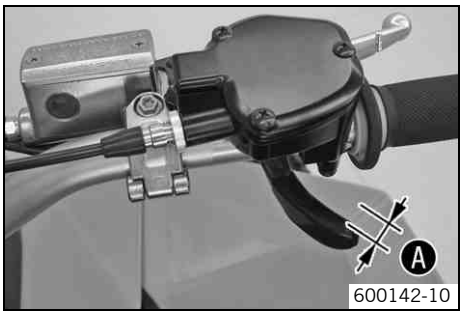
Guideline

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



– 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 Ⓐ.

Guideline

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. 95)

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.

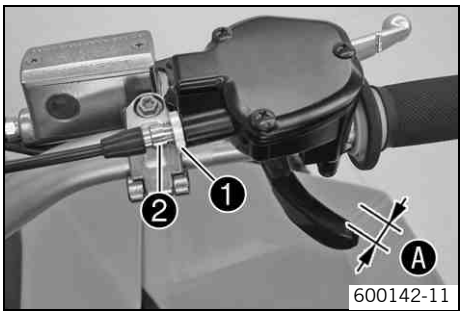
– Start the engine and let it run idle. Move the handlebar to and fro over the entire steering range.

The idle speed must not change.

» If the idle speed changes:

– Adjust the play in the gas Bowden cable. (☛ p. 95)

Adjusting play in gas Bowden cable



– Check gas Bowden cable route.
– Move the handlebar to the straight-ahead position.
– Loosen the nut ❶ and use the screw ❷ to adjust the play in the gas Bowden cable Ⓐ.

Guideline

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

– Tighten nut ❶.

Checking chain dirt

– Check the chain for coarse dirt accumulation.
  » If the chain is very dirty:
    – Clean the chain. (☛ p. 96)

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.

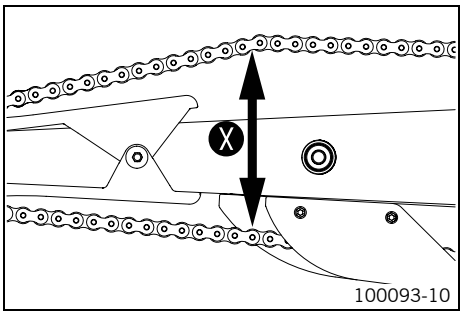
Chain cleaner (☛ p. 194)
Offroad chain spray (☛ p. 195)

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 Ⓧ.

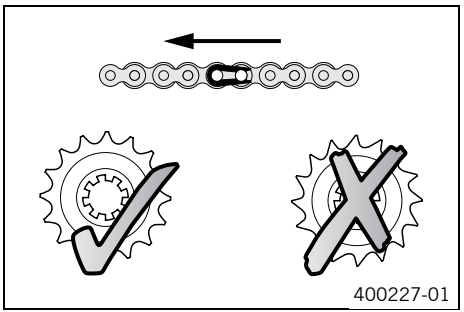
Info

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. 100)

Checking rear sprocket / engine sprocket for wear


400227-01

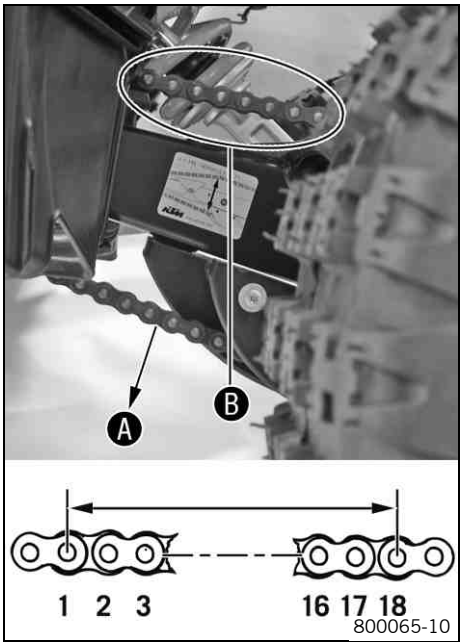
– Check rear sprocket / engine sprocket for wear.
  » If the rear sprocket / engine sprocket are worn:
    – Replace the rear sprocket / engine sprocket.

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 Ⓐ.

Guideline

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

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

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

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

» If the distance Ⓑ is greater than the specified measurement:

– Replace the chain.

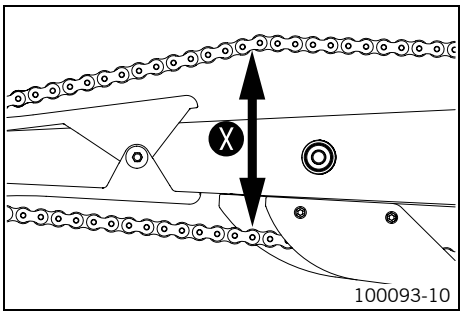
Info
When you replace the chain, you should also replace the rear sprocket and engine sprocket.
New chains wear out faster on old, worn sprockets.

Adjusting chain tension

Warning

Danger of accidents Danger caused by incorrect chain tension.

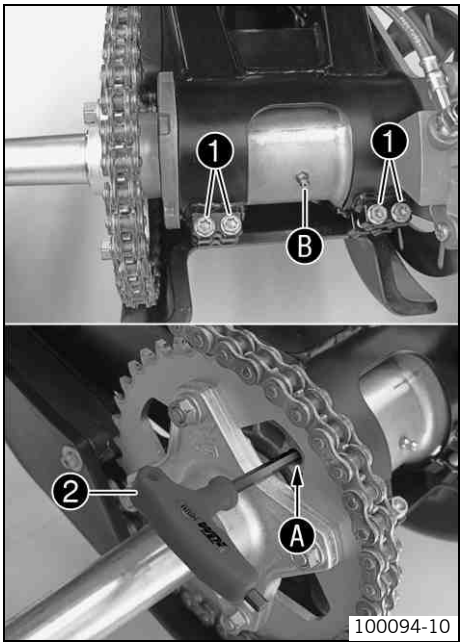
– If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel eccentric element) are under additional load. Apart from premature wear, in extreme cases the chain can rupture or the countershaft of the transmission 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 Ⓧ.

Info

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



– Loosen the screws ❶ by four turns.

Alternative 1

– Insert the tool ❷ from the tool set into the hole Ⓐ 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 Ⓧ, use the special tool to slowly turn at the rear wheel to rotate the rear wheel eccentric element forward or backward.

Guideline

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

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

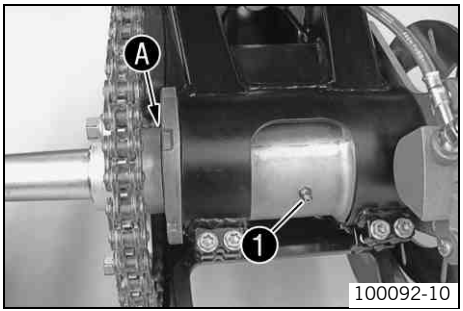
– Fully tighten screws ❶.

Guideline

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

– Remove tool ❷.

Greasing the rear wheel eccentric element



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

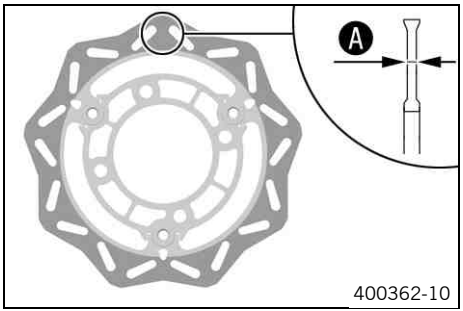
Long-life grease (☛ p. 192)

Checking the 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 ❶.

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

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

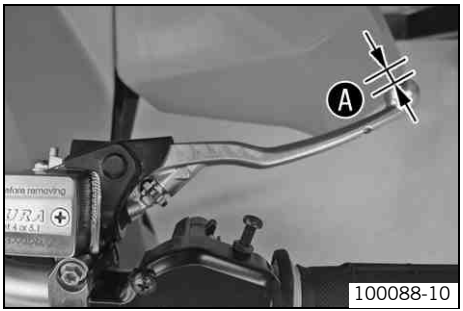
» If the brake disc thickness is less than the specified value.
– Change the brake disc.

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

Checking the free play of the hand brake lever

Warning
Danger of accidents Brake system failure.

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

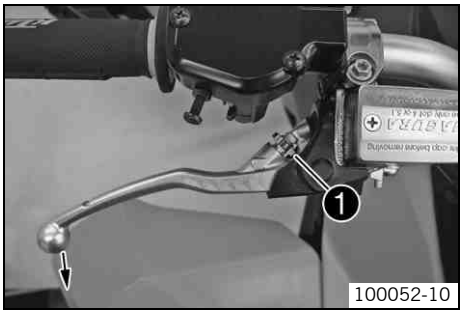


– Push the hand brake lever forward and check free play. Ⓐ.

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

» If the free travel does not meet specifications:
– adjust the basic position of handbrake lever. (☛ p. 104)

Adjusting basic position of handbrake lever



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

Info

Pull the brake lever forward and turn the adjusting screw.
Turn the adjusting screw clockwise to increase the distance between the hand-brake lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the 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. 103)

Checking front brake fluid level

Warning

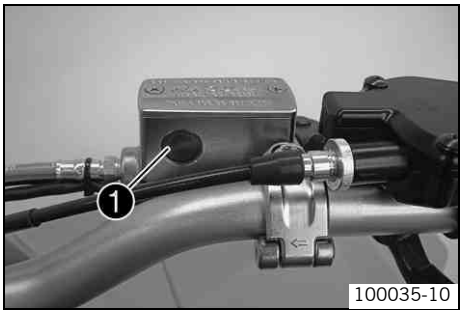
Danger of accidents Brake system failure.

– 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 ❶.
  » When the brake fluid level has dropped below the bottom of the viewer:
    – Add front brake fluid. 🔧 (☛ p. 105)

Adding 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.

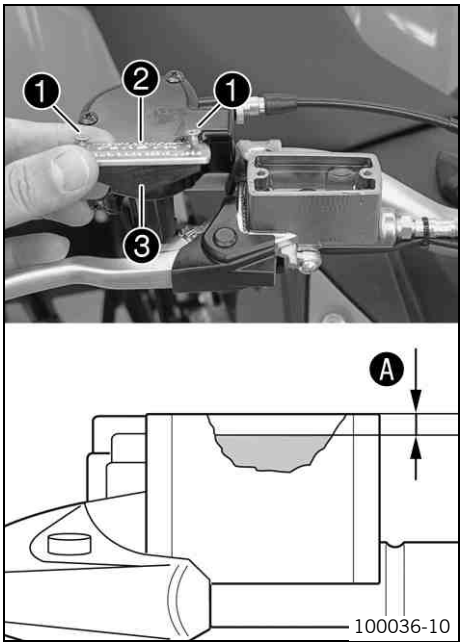
Warning

Environmental hazard Problem materials cause environmental damage.

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

Info

Never user 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 ❶.
– Remove cover ❷ with membrane ❸.
– Add brake fluid to level Ⓐ.

Guideline

Measurement of Ⓐ	5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (☛ p. 190)

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

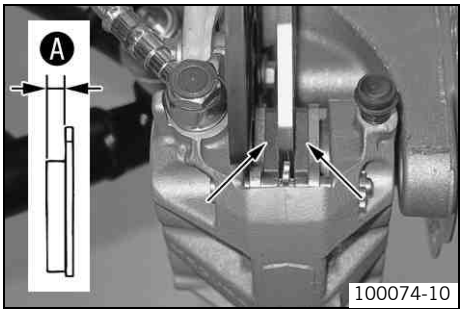
Info
Clean up overflowed or spilt brake fluid immediately with water.

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. 122)



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

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the front brake linings. (☛ p. 110)

– Install the wheel/wheels. (☛ p. 123)

Removing front brake linings

Warning

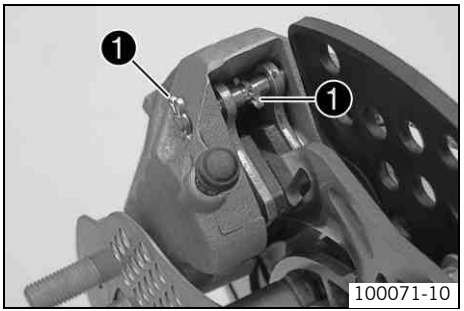
Danger of accidents Improper brake maintenance and repair.

– 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. 122)
– Pull and release the handbrake lever.
✓ Locking pawl moves into its basic position, parking brake is deactivated.



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

Installing the front brake linings

Warning

Danger of accidents Reduced braking 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

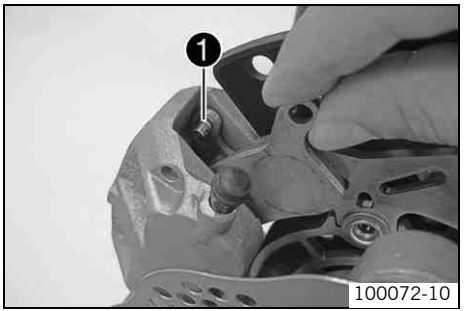
Danger of accidents Reduced braking due to use of non-approved brake linings.

– 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.

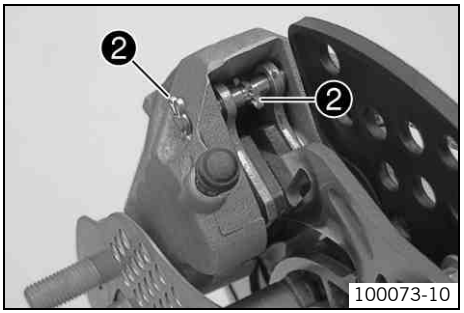
Info

The operations are the same on the left and right.

– Check the brake discs. (☛ p. 102)



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



– Mount locking split pins ❷.
– Operate the hand brake lever repeatedly until the brake linings lie on the brake disc and there is a tight spot.
– Install the wheel/wheels. (☛ p. 123)

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.

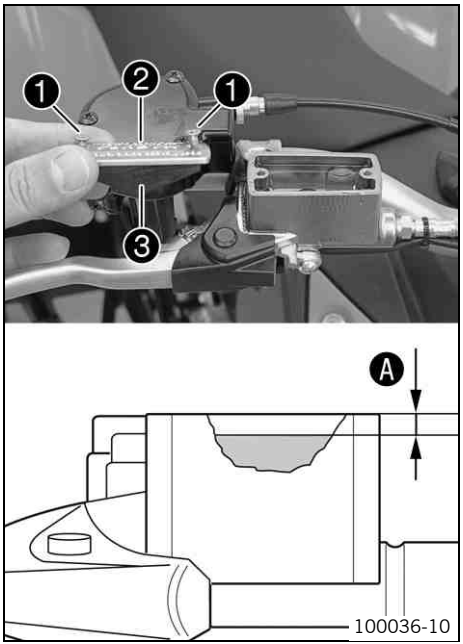
Warning

Environmental hazard Problem materials cause environmental damage.

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

Info

Never user 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 the front brake linings. 🔧 (☛ p. 108)
– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
– Install the front brake linings. 🔧 (☛ p. 109)
– Add brake fluid to level Ⓐ.

Guideline

Measurement of Ⓐ	5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (☛ p. 190)

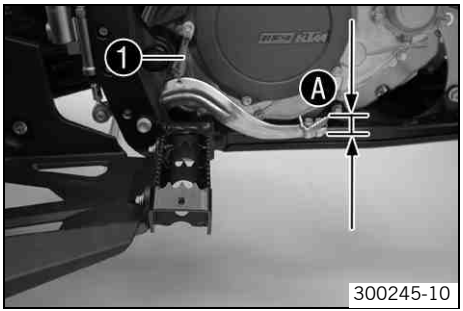
– Position the cover with the membrane. Mount and tighten the screws.

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 Ⓐ.

  Guideline

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

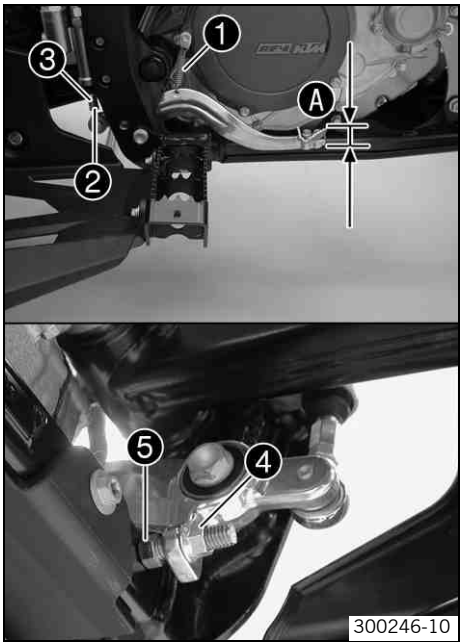
  » If the free travel does not meet specifications:
    – Adjust the basic position of the footbrake lever. 🔧 (☛ p. 113)
– Reconnect spring ❶.

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.

Info
The range of adjustment is limited.

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

Guideline

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

– Hold screw ❺ and tighten nut ❹.

Guideline

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

– Hold push rod ❸ and tighten nut ❷.

Guideline

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

– Reconnect spring ❶.

Checking rear brake fluid level

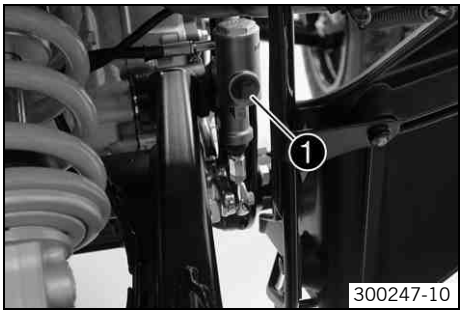
Warning
Danger of accidents Brake system failure.

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

Warning

Danger of accidents Reduced braking due to old brake fluid.

– 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:
    – Add rear brake fluid. (☛ p. 115)

Adding rear brake fluid

Warning

Danger of accidents Brake system failure.

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

Warning

Skin 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.

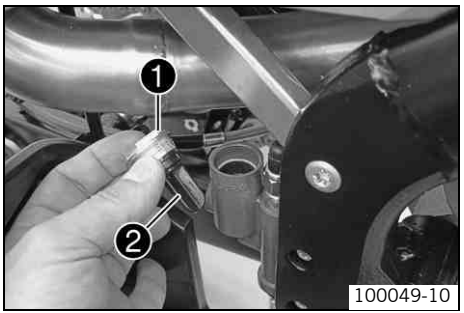
Warning

Environmental hazard Problem materials cause environmental damage.

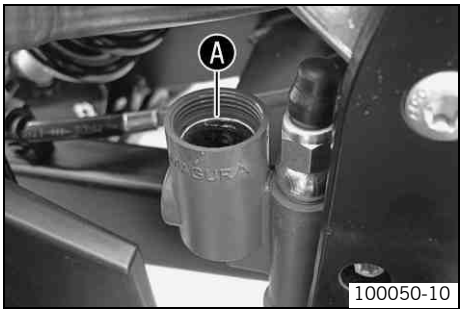
– Dispose of oil, grease, filters, fuel, cleaning substances, brake fluid, batteries, etc. according to regulations.

Info

Never user 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.



– Add brake fluid to level ❹.

Brake fluid DOT 4 / DOT 5.1 (☛ p. 190)

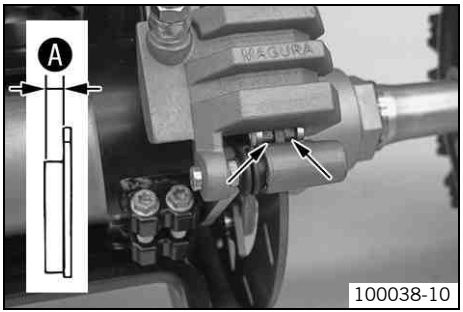
– Mount screw ❶ with membrane ❷.

Info
Clean up overflowed or spilt 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.



– Check the brake linings for minimum thickness ❹.

Minimum thickness ❹	≥ 1 mm (≥ 0.04 in)

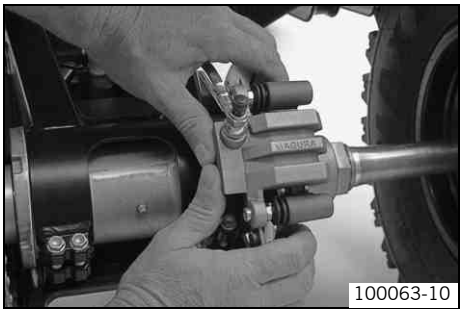
» If the minimum thickness is less than specified:
– Change the rear brake linings. 🔧 (☛ p. 121)

Removing rear brake linings

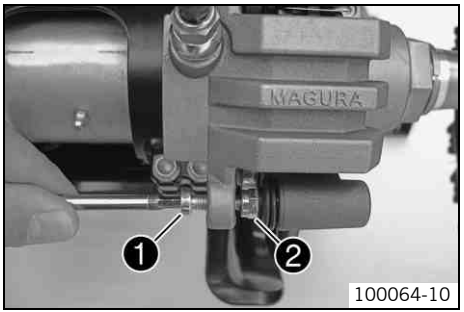
Warning

Danger of accidents Improper brake maintenance and repair.

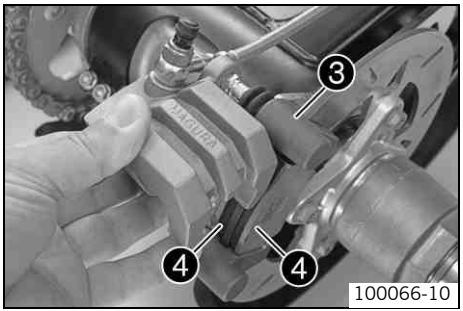
– Always have your brake system maintained and repaired in an authorized KTM workshop.



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



– Loosen the screw ❶ while holding the hexagonal head ❷ of the bearing bolt. Unscrew the screw by approx. 10 turns and use the screw to press the bearing bolt out of the brake caliper. Remove screw.



Note

Danger of damage Kinking of brake line.

– Position and handle the brake line without straining it. The brake line must be replaced if it is kinked.

– Swing the brake caliper up, unhook it from the brake caliper support ❸ and set it down.
– Remove the brake linings ❹.
– Clean brake caliper and brake caliper support.

Installing the rear brake linings

Warning

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

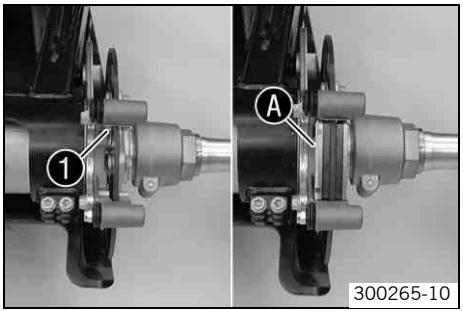
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

Warning

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

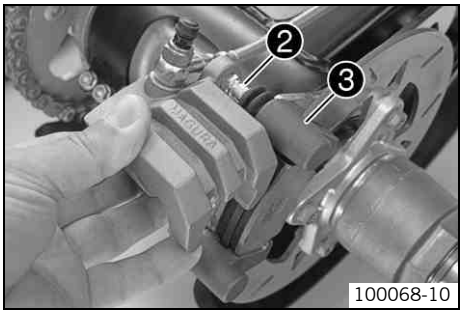
– Brake linings available from accessory suppliers are often not tested and approved for use on KTM vehicles. The construction and friction factor of the brake linings and therefore the brake power can differ considerably from the original KTM brake linings. If brake linings are used that differ from 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. 102)



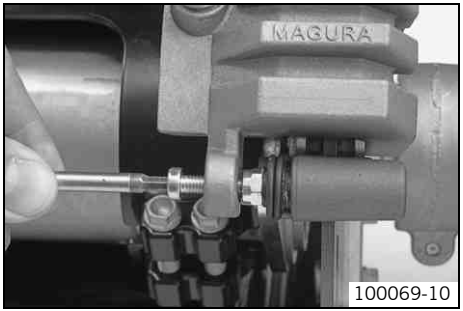
– Check that sliding plate ❶ is seated correctly in the brake caliper support and insert the brake linings.

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



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

Lubricant (T625) (☛ p. 195)



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

Guideline

Screw, rear brake caliper	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**

– Operate the foot brake lever repeatedly until the brake linings lie on the brake disc and there is a tight spot.

Changing the 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.

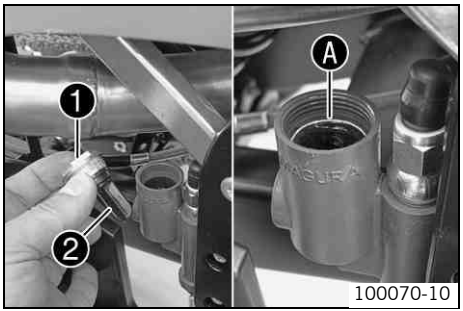
Warning

Environmental hazard Problem materials cause environmental damage.

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

Info

Never user 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 the rear brake linings. 🔧 (☛ p. 118)
– Remove screw ❶ with membrane ❷.
– Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
– Install the rear brake linings. 🔧 (☛ p. 119)
– Add brake fluid to level Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (☛ p. 190)

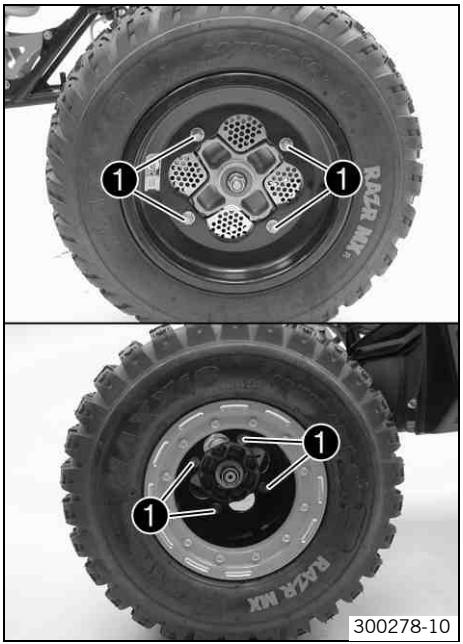
– Mount screw ❶ with membrane ❷.

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

Removing wheel/wheels

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

– Pull handbrake lever, push the locking pawl ❷ downwards, and release the handbrake lever. (Figure 100006-10☛ p. 30)



– Loosen the wheel nuts ❶.
– Jack up the vehicle. (☛ p. 64)
– Remove the wheel nuts. Remove the wheel.

Info

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

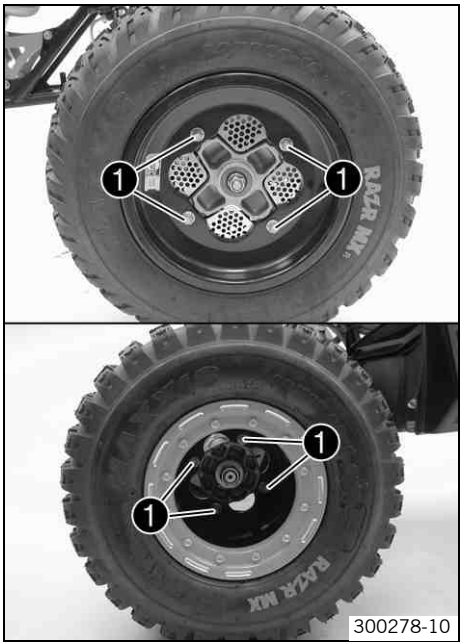
Installing the wheel/wheels

Note

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

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

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



– Position the wheel on the hub.

Info
Note the direction of travel of the front wheels.
Carefully position the wheel on the hub, being careful not to damage the threads of the screws.

– Mount wheel nuts ❶ but do not tighten.
– Remove the vehicle from the work stand. (☛ p. 64)
– Pull handbrake lever, push the locking pawl ❷ downwards, and release the handbrake lever. (Figure 100006-10☛ p. 30)
– Tighten the wheel nuts crosswise.

Guideline

Wheel nut	M10x1.25	45 Nm (33.2 lbf ft)

Checking the tire condition

Info

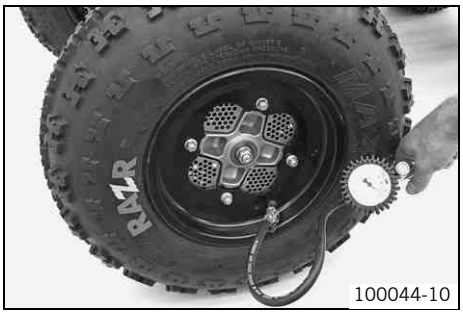
Only mount tires approved and/or recommended by KTM.
Other tires could have a negative effect on riding behavior.
The type, condition and air pressure of the tires all have an important impact on the riding behavior of the vehicle.
The front and rear wheels must be fitted with tires with similar profiles.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

– Examine the tires for cuts, foreign bodies and other damage.

Checking tire air pressure

Info

Low tire air pressure leads to abnormal wear and overheating of the tire.
Correct tire air pressure ensures optimal riding comfort and maximum tire service life.
Check the tire pressure on all wheels and correct it if necessary.



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

Tire pressure gauge (83519001000)	
Tire air pressure off road	0.3 bar (4 psi)

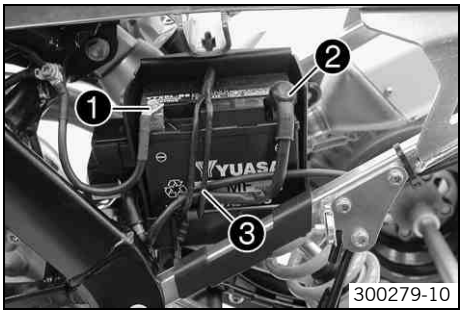
» If the tire pressure does not meet specifications:
  – Correct tire pressure.
– Mount dust cap.

Removing the battery

Warning

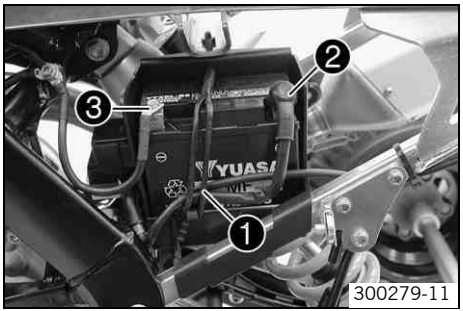
Risk of injury Battery acid and battery gases cause serious chemical burns.

- Keep batteries out of the reach of children.
- Wear suitable protective clothing and goggles.
- Avoid contact with battery acid and battery gases.
- Keep the battery away from sparks or open 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 physician.



- Switch off all power-consuming components and switch off the engine.
- Remove the rear fender. (☛ p. 140)
- Disconnect the negative (minus) cable ❶ of the battery.
- Pull back the plus pole cover and disconnect the positive (plus) cable ❷ of the battery.
- Loosen the rubber band ❸.
- Remove the battery.

Installing the battery



– Place the battery in the battery holder.

4Ah battery (YTX5L-BS) (☛ p. 183)

– Reconnect rubber band ❶.
– Attach the positive (plus) cable and replace the plus pole cover ❷.
– Connect the negative (minus) cable ❸ of the battery.
– Install the rear fender. (☛ p. 142)

Recharging the battery

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

– Keep batteries out of the reach of children.
– Wear suitable protective clothing and goggles.
– Avoid contact with battery acid and battery gases.
– Keep the battery away from sparks or open 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 physician.

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

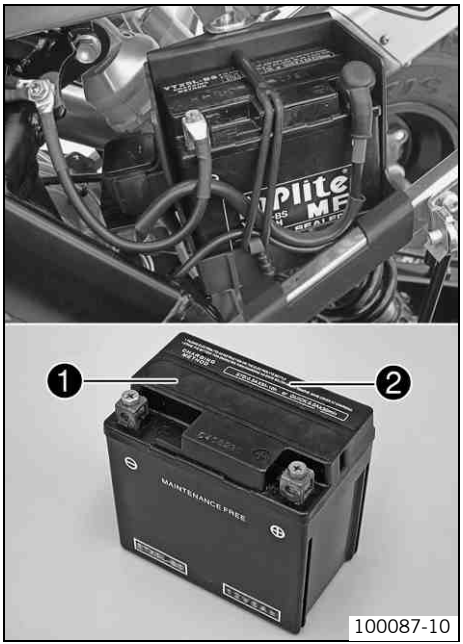
Environmental hazard Problem materials cause environmental damage.

– 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. 140)
– 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.

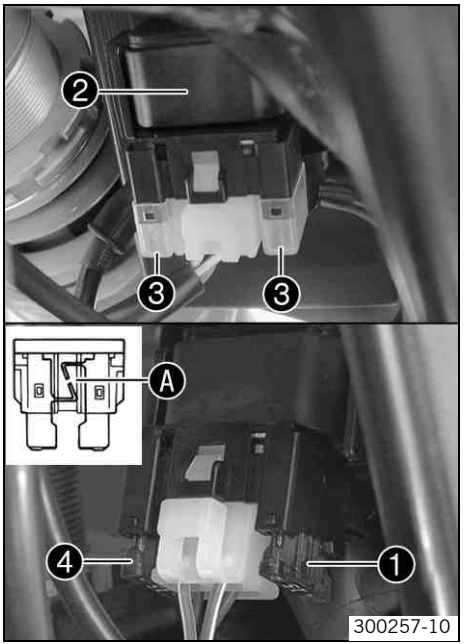
Guideline

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

– Install the rear fender. (☛ p. 142)

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 Ⓐ.

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)

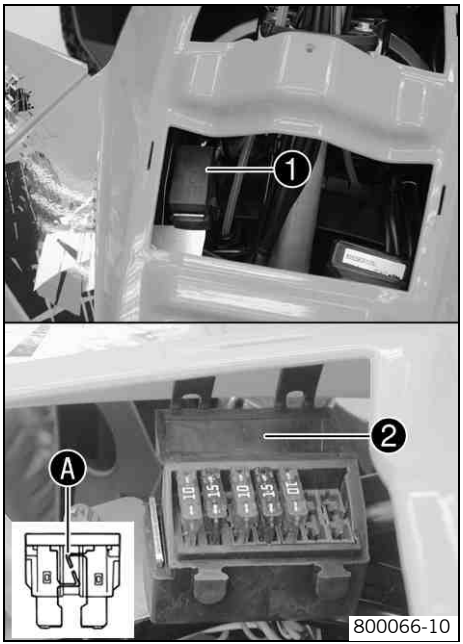
Info
If the new fuse burns out, contact an authorized KTM workshop.

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. 137)
– Switch off all power-consuming components and switch off the engine.



– Open the cover ❷ of the fuse box ❶.

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

– Remove the faulty fuse.

Guideline

Fuse **1** - 10A - ignition, CDI contoller, indicator lamps ON
Fuse **2** - 15A - high beam, low beam, parking light, tail light, brake light, high beam indicator lamp
Fuse **3** - 10A - radiator fan
Fuse **4** - empty
Fuse **5** - empty
Fuse **res.** - 10A/15A - replacement fuses

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

Warning

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

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

– Insert a new fuse of the appropriate strength.

Fuse (58011109110)
Fuse (58011109115)

Info

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

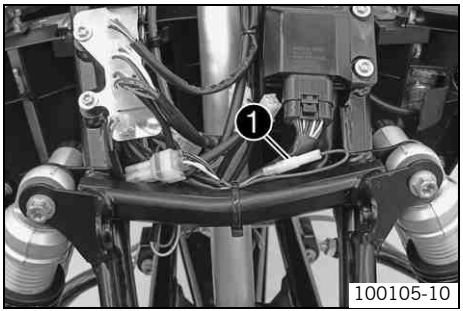
Tip

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

– Close the cover of the fuse box.

– Install the front cover. (☛ p. 138)

Ignition curve plug connection



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

Possible states

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

Changing the ignition curve

– Remove the front trim. (☛ p. 138)

Changing the ignition curve from Performance to Soft.

– Disconnect plug-in connector ❶. (Figure 100105-10☛ p. 133)

✓ Soft – The plug-in connector is disconnected for better driveability. (☛ p. 133)

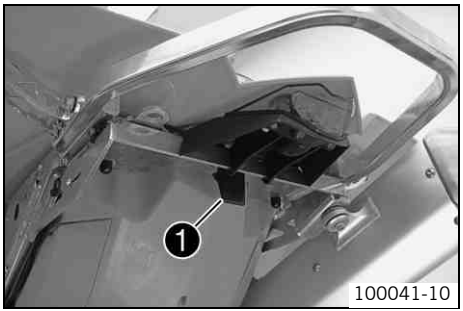
Changing the ignition curve from Soft to Performance.

– Connect the plug-in connector ❶. (Figure 100105-10☛ p. 133)

✓ Performance – The plug-in connector is connected to achieve better performance. (☛ p. 133)

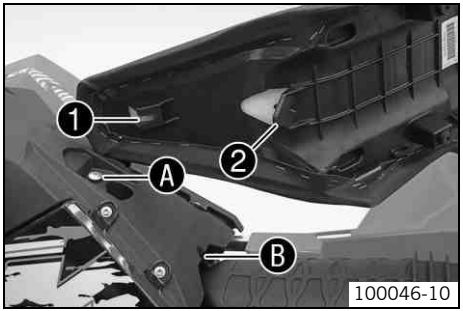
– Install the front trim. (☛ p. 140)

Removing the seat

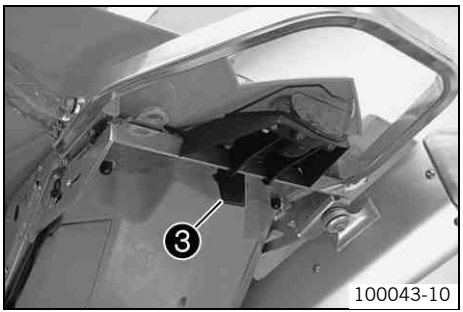


– Pull the release hook ❶ back. Lift up the seat at the rear, pull it back and then remove from above.

Mounting the seat



– Hook slot ❶ on the seat into collar sleeve Ⓐ of the fuel tank, lower the rear of the seat and slide tab ❷ under fuel tank Ⓑ.

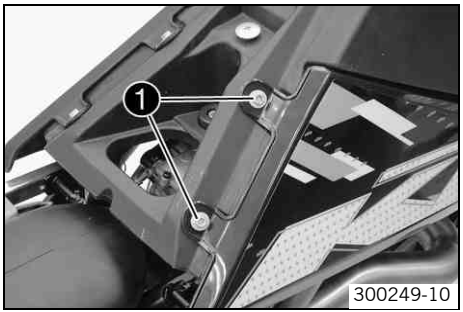


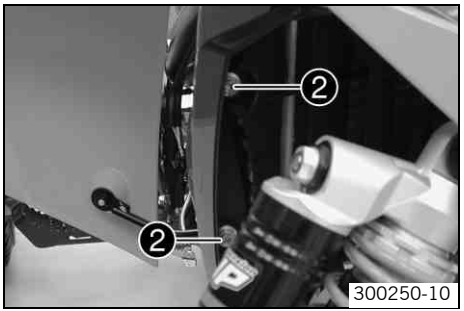
– Push down the rear of the seat until release hook ❸ engages.
– Make sure that the seat is correctly locked in.

Removing the radiator spoiler

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

– Remove the seat (☛ p. 134)
– Remove the screws ❶ on the fuel tank.

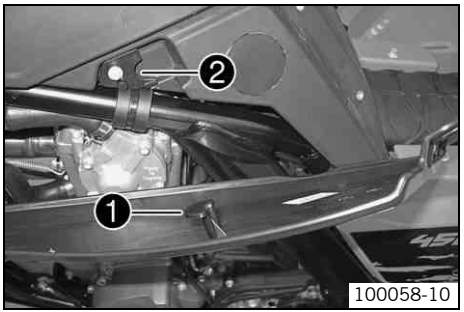




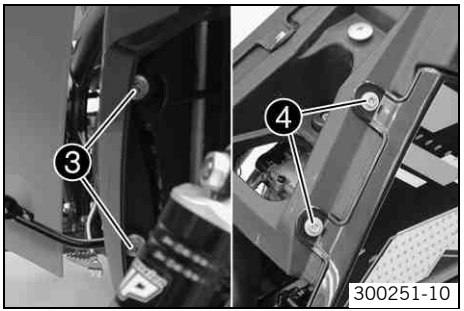
– Remove the screws ❷ on the radiator.
– Unhinge and remove the radiator spoiler and the fuel tank.

Installing the radiator spoiler

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



– Hook catch ❶ of the radiator spoiler into holder ❷ of the fuel tank and position it on the radiator.



– Mount and tighten screws ❸ on the radiator.

Guideline

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

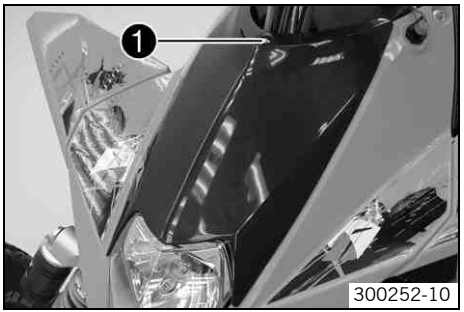
– Mount and tighten screws ❹ on the fuel tank.

Guideline

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

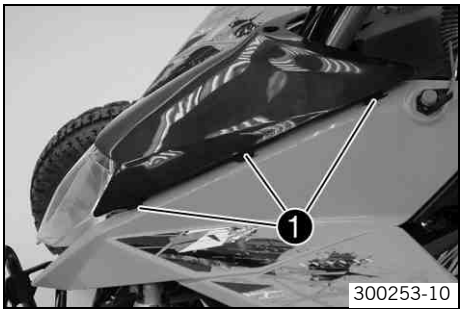
– Mount the seat. (☛ p. 134)

Removing the front cover



– Remove screw ❶.
– Slide the front cover up and remove it.

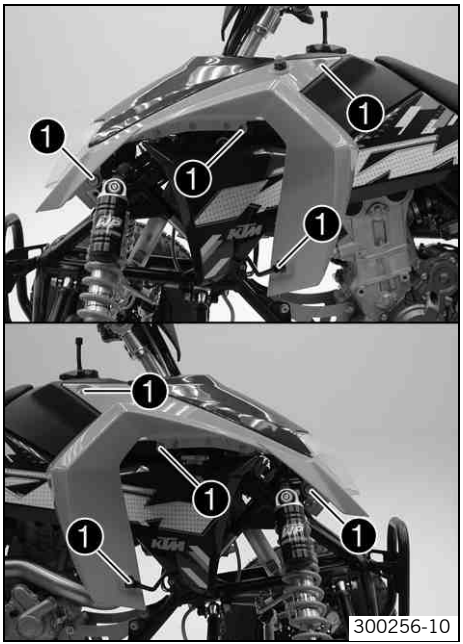
Installing the front cover



– Position the front cover in slots ❶ on both sides of the front trim.
– Mount and tighten the screw.

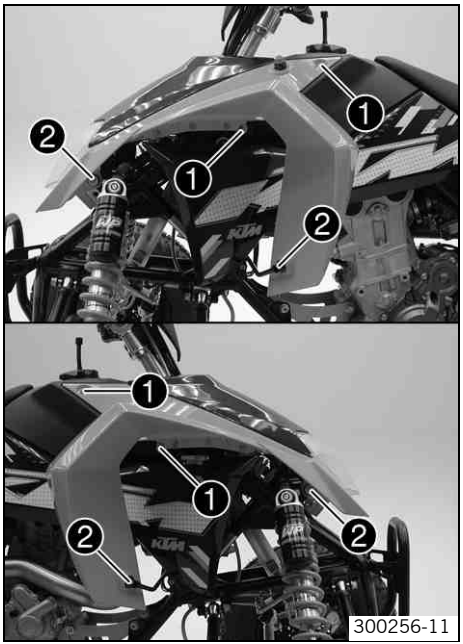
Removing the front trim

– Remove the front cover. (☛ p. 137)



– 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



– 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.

Guideline

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

– Fully tighten screws ❷.

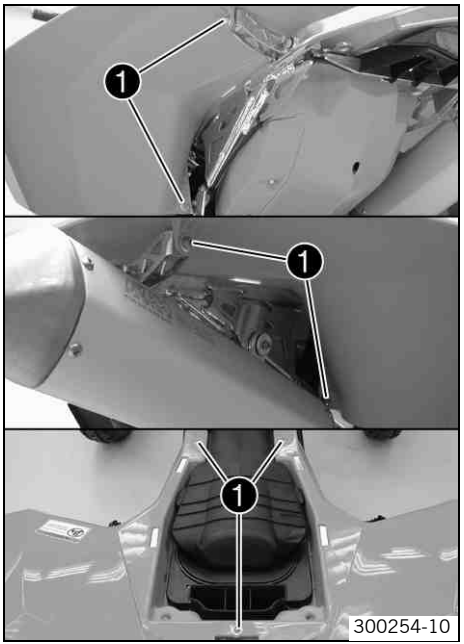
Guideline

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

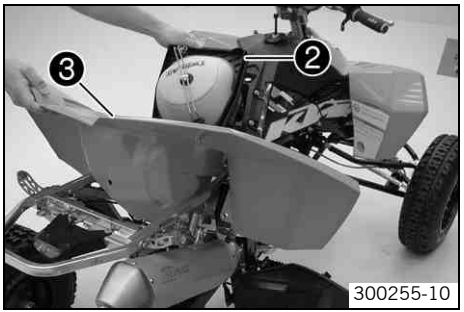
– Install the front cover. (☛ p. 138)

Removing the rear fender

– Remove the seat (☛ p. 134)

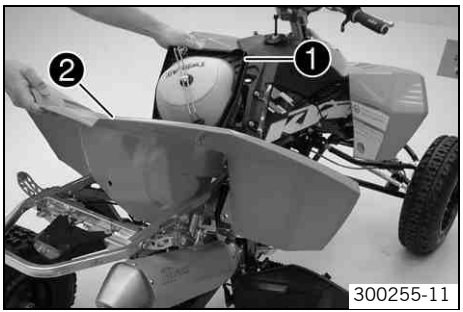


– Remove screws ❶.



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

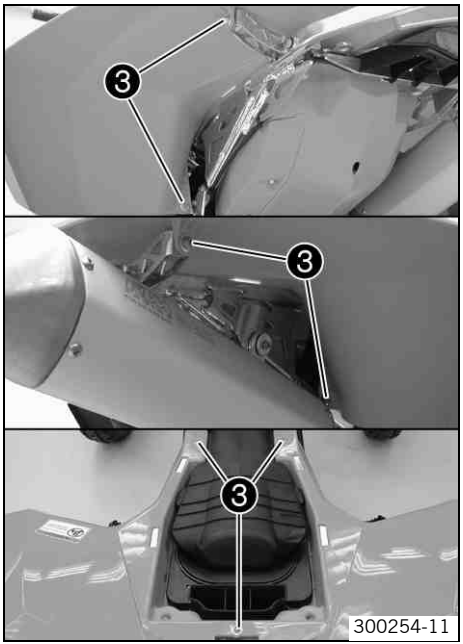
Installing the rear fender



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

Info

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

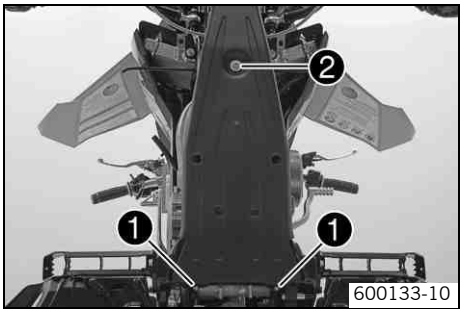


– Mount and tighten screws ❸.
  Guideline

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

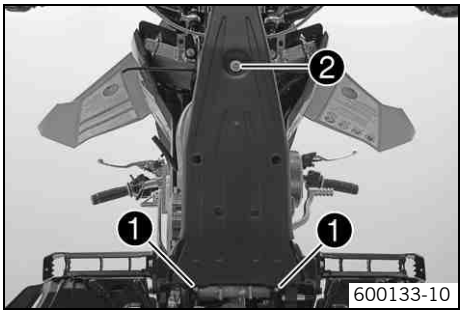
– Mount the seat. (☛ p. 134)

Removing the engine guard



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

Installing the engine guard



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

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

Removing the air filter

Note

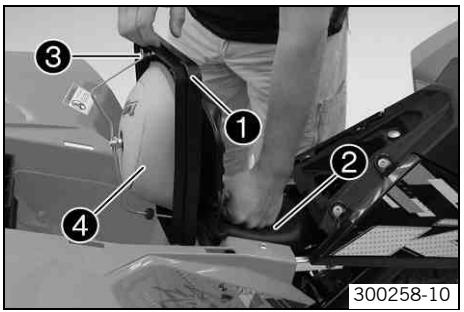
Engine failure Unfiltered intake air has a negative effect on the service life of the engine.

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

Warning

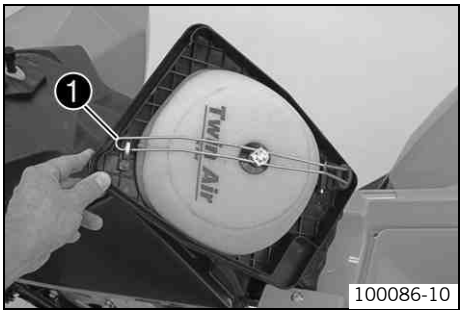
Environmental hazard Problem materials cause environmental damage.

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



– Remove the seat (☛ p. 134)
– 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



– 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 ❶.

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

– Mount the air filter box lid.

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

– Mount the seat. (☛ p. 134)

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. 145)

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

Air filter cleaner (☛ p. 194)

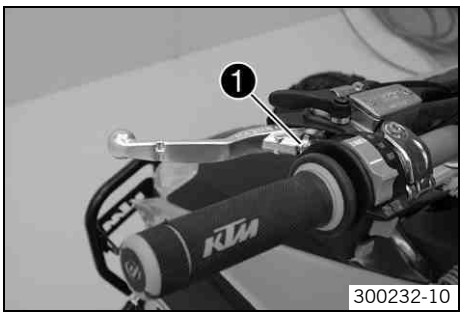
Info
Only press the air filter to dry it, never wring it out.

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

Oil for foam air filter (☛ p. 196)

– Clean the air filter box.
– Check carburetor connection boot for damage and tightness.
– Install the air filter. 🔧 (☛ p. 146)

Adjusting basic position of clutch lever

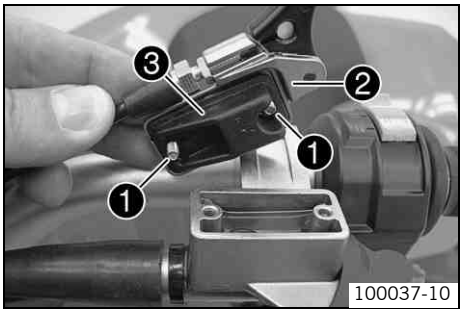


– Adjust the basic setting of the clutch lever to your hand size by turning adjusting screw ❶.

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

Checking the fluid level of the hydraulic clutch

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



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

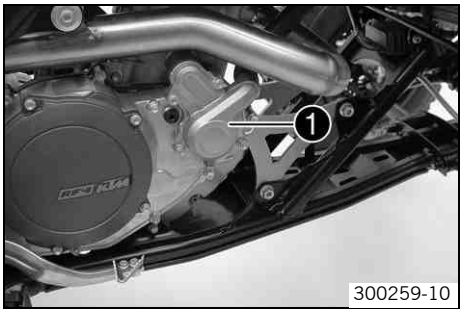
Fluid level under top level of container.	4 mm (0.16 in)

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

Hydraulic fluid (15) (☛ p. 192)

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

Cooling system

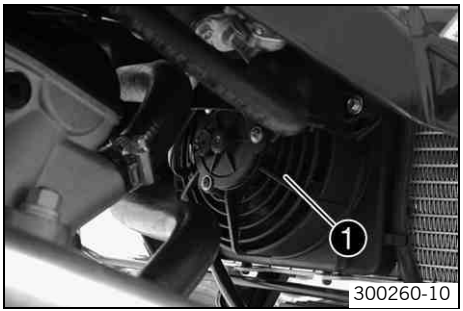


The water pump ❶ in the engine forces the coolant to flow.
The pressure resulting from the warming of the cooling system is regulated by a valve in the radiator cap . The specified coolant temperature is therefore permissible without danger of function problems.

120 °C (248 °F)

Cooling is effected by the air stream. The radiator fan provides extra cooling.
The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

Radiator fan



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

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

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

Checking the antifreeze and coolant level

Warning

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

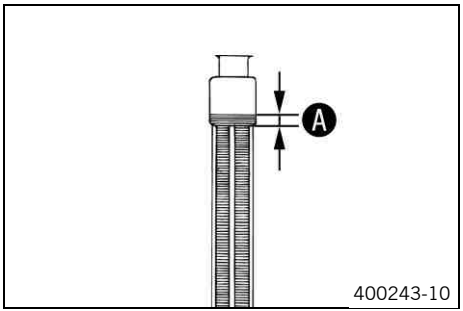
– Do not open the radiator, radiator hoses or other cooling system components when the engine is hot. Allow the engine and cooling system to cool down. If you scald yourself, hold the affected area under cold water immediately.

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.

– Remove the front trim. (☛ p. 138)



– Remove the radiator cap .
– Check the antifreeze of the coolant.

−25... −45 °C (−13... −49 °F)

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

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

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

Alternative 1

Coolant (☛ p. 190)

Alternative 2

Coolant (mixed ready to use) (☛ p. 190)

– Mount the radiator cap.

Checking the coolant level

Warning

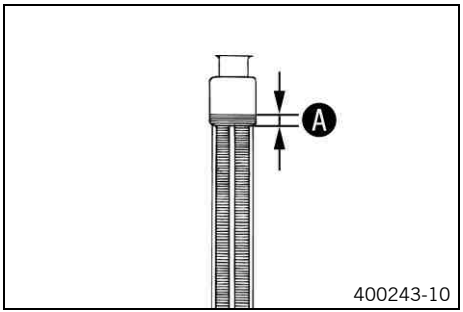
Danger of scalding The coolant gets very hot and is under high pressure when the vehicle is driven.

– 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. 138)
– Remove the radiator cap .
– Check the coolant level in the radiator.

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

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

Alternative 1

Coolant (☛ p. 190)

Alternative 2

Coolant (mixed ready to use) (☛ p. 190)

– Mount the radiator cap.

Draining coolant

Warning

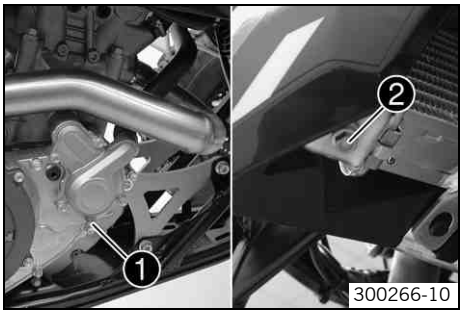
Danger of scalding The coolant gets very hot and is under high pressure when the vehicle is driven.

– 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.

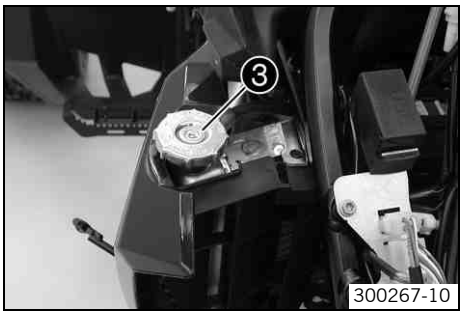
Warning

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. 138)
– Place a suitable container under the vehicle.
– Remove screw ❶.
– Remove screw ❷.



– Remove the radiator cap ❸. Completely drain the coolant.
– Mount screw ❶ with a new seal and tighten it.

Guideline

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

– Mount screw ❷ with a new seal and tighten it.

Guideline

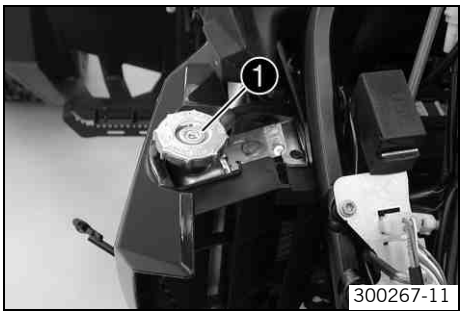
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

Filling coolant/bleeding the cooling system

Warning

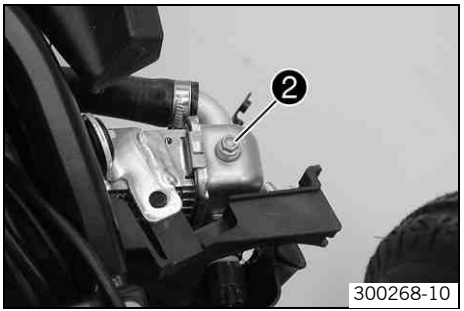
Danger of poisoning Coolants are poisonous and a health hazard.

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



– Remove the front trim. (☛ p. 138)
– Remove the radiator spoiler. (☛ p. 135)
– Remove the radiator cap ❶.
– Fill the coolant into the radiator.

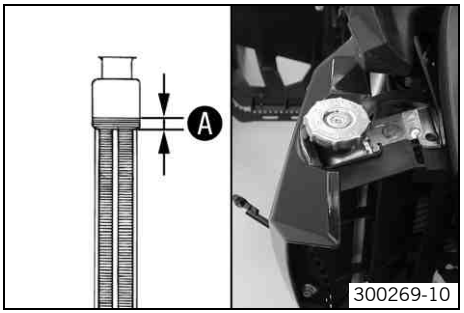
Coolant	1.50 l (1.59 qt.)	Coolant (☛ p. 190)
		Coolant (mixed ready to use) (☛ p. 190)



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

Guideline

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



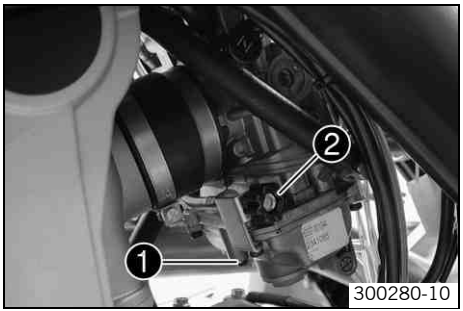
– Add coolant to level Ⓐ above the radiator fins.

Guideline

10 mm (0.39 in)

– Mount the radiator cap.
– Install the front trim. (☛ p. 140)
– Make a short test ride.
– Check the coolant level. (☛ p. 150)

Carburetor - idle



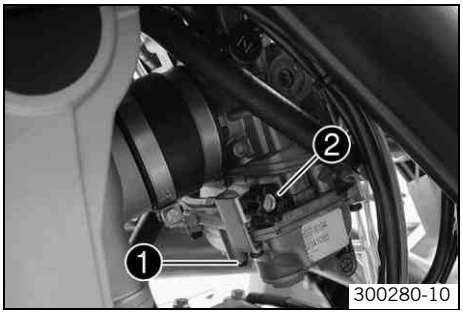
The idle setting of the carburetor has a big influence on the starting behavior, stable idling and the response to throttle opening. That means that an engine with a correctly set idle speed is easier to start than if the idle is set wrongly.

Info

The carburetor and its components are subject to increased wear caused by engine vibration. Wear can result in malfunctioning.
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 ❷.
The idle mixture is adjusted with the idle mixture adjustment screw ❶.

Carburetor - adjusting the idle speed



– Screw in idle adjusting screw ❶ until it stops and then to the prescribed basic setting.
Guideline

Idle mixture adjusting screw	
Open	1.5 turns

Adjustment tool for mixture control screw (59029034000)

– Run the engine until warm.
Guideline

Warm-up time	≥ 5 min

– Adjust the idle speed with adjusting screw ❷.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 38)	
Idle speed	1,500... 1,600 rpm

Info

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

– Turn idle adjusting screw ❶ 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.

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 adjusting screw ❷.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 38)	
Idle speed	1,500... 1,600 rpm

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.

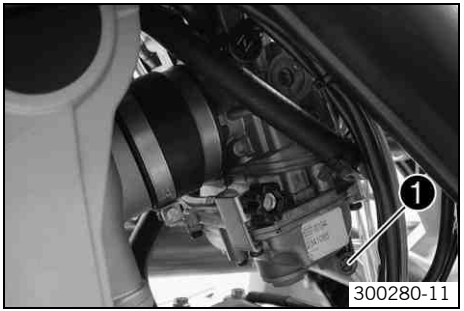
– Avoid contact between fuel and skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come 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 handle ❶ of the fuel tap to the **OFF** position. (Figure 800052-10☛ p. 37)
✓ Fuel no longer flows from the tank to the carburetor.
– Guide the hose coming down behind the engine into a suitable container.

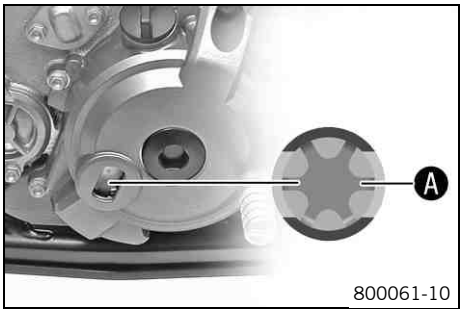
Info
Water in the float chamber results in malfunctioning.

– 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.

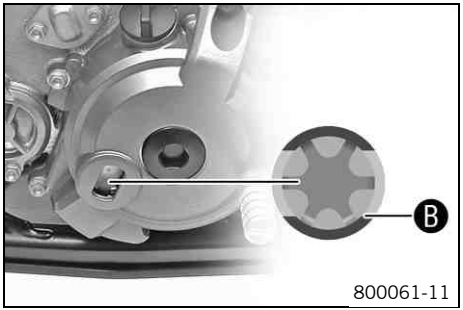
Info

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

The engine oil reaches the middle of the viewer Ⓐ.

» When the engine oil does not reach the middle of the viewer Ⓐ:

– Top up the engine oil. (☛ p. 164)



Condition

Engine is cold.

– Check the engine oil level.

The engine oil reaches the bottom of the viewer Ⓑ.

» When the engine oil does not reach the bottom of the viewer Ⓑ:

– Top up the engine oil. (☛ p. 164)

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

– Drain the engine oil. 🔧 (☛ p. 160)
– Remove the oil filter. 🔧 (☛ p. 161)
– Install the oil filter. 🔧 (☛ p. 163)
– Fill up with engine oil. 🔧 (☛ p. 163)

Draining the engine oil

Warning

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

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

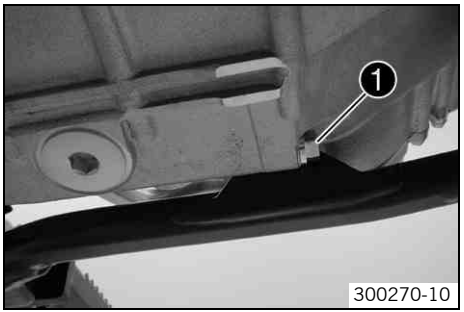
Warning

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. 144)
– Place a suitable container under the engine.
– Remove oil drain plug ❶ with the seal ring.
– Completely drain the engine oil.
– Thoroughly clean the oil drain plug with the magnet.
– Clean the sealing area on the engine.
– Fit oil drain plug ❶ with seal ring and tighten it.
  Guideline

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

– Clean the oil screen. (☛ p. 161)

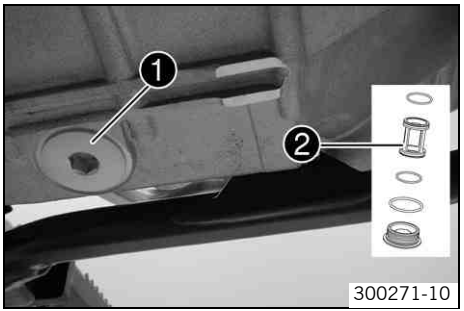
Cleaning the oil screen

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

– Wear suitable protective clothing and gloves. If you scald yourself, hold the affected area under 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.
– Loosen screw plug ❶ by striking it lightly with a hammer a few times.
– Remove screw plug ❶ with oil screen ❷ and the O-rings.
– Drain the remaining engine oil.
– Thoroughly clean parts and sealing area.
– Mount and tighten screw plug ❶ with oil screen ❷ and the O-rings.
Guideline

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

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.

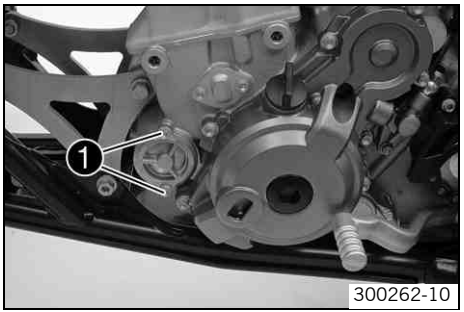
Warning

Environmental hazard Problem materials cause environmental damage.

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

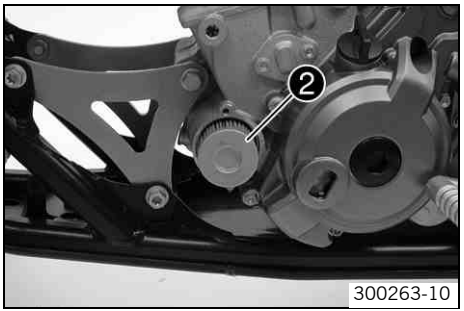
– Place a suitable container under the engine.

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



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

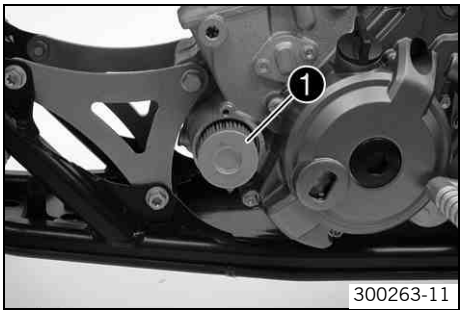
Circlip pliers reverse (51012011000)



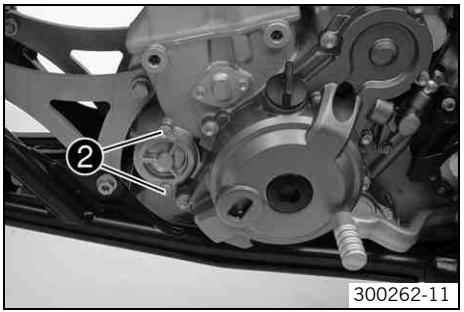
– Completely drain the engine oil.

– Thoroughly clean parts and sealing area.

Installing the oil filter



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



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

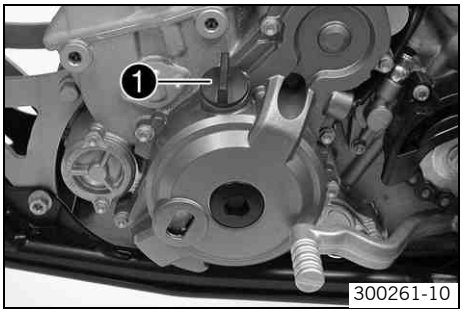
Guideline

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

Filling up with engine oil

Info

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



– Remove screw cap ❶ on the clutch cover and fill up with engine oil.

Engine oil	2.00 l (2.11 qt.)	External temperature: ≥ 0 °C (≥ 32 °F)	Engine oil (SAE 10W/50) (☛ p. 191)
		External temperature: < 0 °C (< 32 °F)	Engine oil (SAE 5W/40) (☛ p. 191)

– Mount and tighten screw cap ❶.

Danger

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

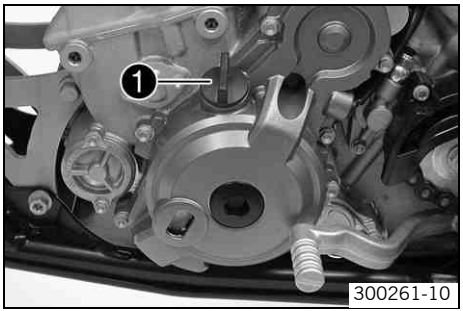
– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space.

– Start the engine and check that it is oil-tight.
– Check the engine oil level. (☛ p. 158)

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: ≥ 0 °C (≥ 32 °F)

Engine oil (SAE 10W/50) (☛ p. 191)

Condition

External temperature: < 0 °C (< 32 °F)

Engine oil (SAE 5W/40) (☛ p. 191)

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	Action
Engine turns but does not start.	Operating error	– Follow the instructions on starting the engine. (☛ p. 45)
	Vehicle was out of use for a long time and there is old fuel in the float chamber	– Empty the carburetor float chamber. 🔧 (☛ p. 157)
	Fuel feed interrupted	– Check the tank breather. – Clean fuel tap. – Clean carburetor.
	Engine flooded	– Clean and dry spark plug or replace if necessary.
	Spark plug oily or wet	– Clean and dry spark plug or replace if necessary.
	Electrode distance (plug gap) of spark plug too wide	– Adjust the plug gap. Guideline Spark plug electrode gap 0.7 mm (0.028 in)

Faults	Possible cause	Action
Engine turns but does not start.	Spark plug connector or spark plug defective	**Warning** **Risk of injury** The ignition system is under high voltage. – Do not touch parts of the ignition system. Have work on the ignition system carried out in an authorized KTM workshop. – Remove spark plug, connect ignition cable, hold spark plug to ground (bare metal area on engine), and try to start the engine. Guideline 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. Guideline 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	– Clean socket connector and treat it with contact spray.

Faults	Possible cause	Action
Engine turns but does not start.	Water in carburetor or jets blocked	– Clean carburetor.
	Idle speed is set too high	– Carburetor - adjust the idle speed. (☛ p. 155)
	Emergency OFF switch with rip cord faulty	– Check wiring harness. (visual check) – Check electrical system.
	Throttle lever activated	– Do not activate the throttle lever. – See instructions on starting.
	Switch for throttle lever faulty	– Check wiring harness. (visual check) – Check electrical system.
	Throttle valve sensor **TPS** incorrectly set or faulty	– Have the throttle valve sensor **TPS** checked or adjusted.
The engine cannot be cranked (electric starter).	Operating error	– Follow the instructions on starting the engine. (☛ p. 45)
	Battery discharged	– Recharge the battery. (☛ p. 127) – Check the cause of discharging.
	Main fuse burned out	– Change the main fuse. (☛ p. 129) – 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.

Faults	Possible cause	Action
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. 150)
	Radiator fins very dirty	– Clean radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🔧 (☛ p. 151) – Fill coolant/bleed the cooling system. 🔧 (☛ p. 153)
	Bent radiator hose	– Replace the radiator hose.
	Thermostat defective	– Have thermostat removed and checked. Guideline 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.

Faults	Possible cause	Action
Engine has too little power.	Air filter very dirty	– Clean the air filter. 🔧 (☛ p. 146)
	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. 158)
	Engine oil too thin (low viscosity)	– Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 159)
Parts of the electrical system are not functional.	Fault in the electrical system	– Change the fuses of individual power-consuming components. (☛ p. 130) – 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. 195)

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. 157)

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. 96)
– 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. 194)

– Treat all painted parts with a mild paint polish.

High-luster polish for paint (☛ p. 195)

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

Contact spray (☛ p. 194)

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. 171)
– Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 159)
– Check the antifreeze and coolant level. (☛ p. 149)
– Drain the fuel from the tank into a suitable container.
– Empty the carburetor float chamber. 🔧 (☛ p. 157)
– Check the tire air pressure. (☛ p. 125)
– Remove the battery. (☛ p. 126)

– Recharge the battery. (☛ p. 127)

Guideline

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

– 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. 127)
– Fill up with fuel. (☛ p. 57)
– Checks before putting into operation (☛ p. 44)
– Make a cautious test ride.

Design	1-cylinder 4-stroke engine, water-cooled
Displacement (450 SX ATV)	449.3 cm³ (27.418 cu in)
Displacement (505 SX ATV)	477.5 cm³ (29.139 cu in)
Stroke	60.8 mm (2.394 in)
Bore (450 SX ATV)	97 mm (3.82 in)
Bore (505 SX ATV)	100 mm (3.94 in)
Compression ratio	12.5:1
Idle speed	1,500... 1,600 rpm
Control	DOHC, four valves controlled via cam lever, drive via helical gear pair and tooth-wheel chain
Valve diameter, intake	40.4 mm (1.591 in)
Valve diameter, exhaust	31.7 mm (1.248 in)
Valve clearance, cold, intake	0.07... 0.13 mm (0.0028... 0.0051 in)
Valve clearance, cold, exhaust	0.12... 0.18 mm (0.0047... 0.0071 in)
Crankshaft bearing	2 cylinder roller bearing
Conrod bearing	Needle bearing
Piston pin bearing	Bronze bush
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with 3 rotor pumps
Primary transmission	26:78 straight tooth spur gears
Clutch	Multidisc clutch in oil bath/hydraulically activated
Transmission ratio	
1st gear	16:34
2nd gear	19:31

3rd gear	20:26
4th gear	23:25
5th gear	26:24
Generator	12 V, 200 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment, type Kokusan
Spark plug	NGK CR 9 EKB
Spark plug electrode gap	0.7 mm (0.028 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid	Electric starter

Capacity - engine oil

Engine oil	2.00 l (2.11 qt.)	External temperature: ≥ 0 °C (≥ 32 °F)	Engine oil (SAE 10W/50) (☛ p. 191)
		External temperature: < 0 °C (< 32 °F)	Engine oil (SAE 5W/40) (☛ p. 191)

Capacity - coolant

Coolant	1.50 l (1.59 qt.)	Coolant (☛ p. 190)
		Coolant (mixed ready to use) (☛ p. 190)

Engine housing vent jet	M4		**Loctite® 243™**
Oil jet, cam lever lubrication	M4	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, piston cooling	M4	4 Nm (3 lbf ft)	**Loctite® 243™**
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, bearing bolt of oil pump idler shaft	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, camshaft bearing retaining bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, ignition pulse generator	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, ignition pulse generator adapter	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)	–
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, stator bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, stator cable holder	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, timing train axle retaining bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, clutch oil supply	M5x1	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Nut, cylinder head	M6	10 Nm (7.4 lbf ft)	lubricated with engine oil
Nut, water-pump wheel	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch spring	M6	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6	10 Nm (7.4 lbf ft)	–
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**

Screw, generator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, ignition pulse generator cable holder	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, oil pump casing	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift lever	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	–
Screw, valve cover	M6	8 Nm (5.9 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Stud, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Oil jet, timing chain tensioner	M6x0.6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, camshaft bearing bridge	M7x1	14 Nm (10.3 lbf ft)	lubricated with engine oil
Screw, clutch cover	M7x1	14 Nm (10.3 lbf ft)	–
Screw, engine housing	M7x1	14 Nm (10.3 lbf ft)	–
Plug, crankshaft location	M8	20 Nm (14.8 lbf ft)	–
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)	**Loctite® 243™**
Spark plug	M10	10... 12 Nm (7.4... 8.9 lbf ft)	–
Plug, cam lever axle	M10x1	10 Nm (7.4 lbf ft)	–
Plug, oil channel	M10x1	10 Nm (7.4 lbf ft)	–
Screw, camshaft gear	M10x1	50 Nm (36.9 lbf ft)	lubricated with engine oil
Screw, rotor	M10x1	80 Nm (59 lbf ft)	lubricated with engine oil
Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)	–

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

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

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

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

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

Lighting equipment

Headlight	BA20d	12 V 35/35 W
Parking light	W2,1x9,5d	12 V 5 W
Indicator lights	W2,1x4,6d	12 V 1.2 W
Brake / tail light	LED	

Tires

Front tire	Rear tire
20 x 6.00 - 10 MAXXIS Razr MX-931	**18 x 10.00 - 8** MAXXIS Razr MX-932
For further information, see the Service section under: http://www.ktm.com	

Capacity - fuel

Total fuel tank capacity approx.	10.3 l (2.72 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 193)

Shock absorber part number	03.18.7E.16
Shock absorber	**WP Suspension** 3612 BAVP DCC
Compression damping, high-speed	
Comfort	2 turns
Standard	2 turns
Sport	1.5 turns
Compression damping, low-speed	
Comfort	24 clicks
Standard	22 clicks
Sport	24 clicks
Rebound damping	
Comfort	23 clicks
Standard	21 clicks
Sport	19 clicks
Cross over	19±1.5 mm (0.75±0.059 in) **Info** Measured with no preload on the main spring.
Spring preload	5 mm (0.2 in)
Spring rate, main spring	24... 29 N/mm (137... 166 lb/in)
Spring rate, auxiliary spring	40 N/mm (228 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)

Gas pressure	10 bar (145 psi)

Shock absorber oil	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 192)

Shock absorber part number	15.18.7E.16
Shock absorber	**WP Suspension** PDS 4618 BAVP DCC
Compression damping, high-speed	
Comfort	2 turns
Standard	2 turns
Sport	1.5 turns
Compression damping, low-speed	
Comfort	22 clicks
Standard	20 clicks
Sport	18 clicks
Rebound damping	
Comfort	18 clicks
Standard	16 clicks
Sport	14 clicks
Cross over	19±1.5 mm (0.75±0.059 in) **Info** Measured with no preload on the main spring.
Spring preload	
Comfort	3 mm
Standard	5 mm
Sport	5 mm
Spring rate, main spring	82 N/mm (468 lb/in)
Spring rate, auxiliary spring	100 N/mm (571 lb/in)

Spring length, main spring	200 mm (7.87 in)
Spring length, auxiliary spring	55 mm (2.17 in)
Fitted length	440.5 mm (17.342 in)
Gas pressure	10 bar (145 psi)

Shock absorber oil	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 192)

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

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

Brake fluid DOT 4 / DOT 5.1

According to
– DOT

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

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

Motorex®
– **Brake Fluid DOT 5.1**

Coolant

Guideline
– Use only suitable coolant (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

Coolant (mixed ready to use)

Antifreeze	−40 °C (−40 °F)

Supplier
Motorex®
– **Anti Freeze**

Engine oil (SAE 10W/50)

According to

– JASO T903 MA (☛ p. 197)

– SAE (☛ p. 197) (SAE 10W/50)

Guideline

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

Synthetic engine oil

Supplier
Motorex®

– **Cross Power 4T**

Engine oil (SAE 5W/40)

According to

– JASO T903 MA (☛ p. 197)

– SAE (☛ p. 197) (SAE 5W/40)

Guideline

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

Synthetic engine oil

Supplier
Motorex®

– **Power Synt 4T**

Hydraulic fluid (15)

According to
– ISO VG (15)

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

Supplier
Motorex®
– **Hydraulic Fluid 75**

Long-life grease

According to
– NLGI

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

Supplier
Motorex®
– **Fett 2000**

Shock absorber oil (SAE 2.5) (50180342S1)

According to
– SAE (☛ p. 197) (SAE 2.5)

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

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

According to

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

Air filter cleaner

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Twin Air Dirt Bio Remover**

Chain cleaner

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chain Clean 611**

Cleaning and polishing materials for metal, rubber and plastic

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Protect & Shine 645**

Contact spray

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Accu Contact**

High-luster polish for paint

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Moto Polish**

Lubricant (T625)

Specification

– KTM recommends **Molykote®** products.

Supplier
Molykote®

– **33 Medium**

Motorcycle cleaner

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Moto Clean 900**

Offroad chain spray

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chain Lube 622**

Oil for foam air filter

Specification

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Twin Air Liquid Bio Power**

JASO T903 MA

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

SAE

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

R

S

T

3211378en

06/2008 Photo: Mitterbauer

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