OWNER'S MANUAL 2012

350 SX-F EU
350 SX-F USA
350 XC-F USA

Art. no. 3211716en



DEAR KTM CUSTOMER

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

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

Enter the serial numbers of your vehicle below.

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

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

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5230 Mattighofen, Austria

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Symbols used

The symbols used are explained in the following.



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



Identifies an unexpected reaction (e.g. to a work step or a function).



All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs done in an authorized KTM workshop! There, your motorcycle will be serviced optimally by specially trained experts using the specialist tools required.



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

Formats used

The following typographical formats are used.

Specific name	Identifies a proprietary name.
Name®	Identifies a protected name.
Brand™	Identifies a brand available on the open market.

Use definition

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

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

Service

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

Warranty

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

Fuel, oils, etc.

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

Spare parts, accessories

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

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

Work rules

Special tools are required for some work. These are not part of the vehicle standard equipment, but they can be ordered with the item number stated in parentheses. Ex.: bearing puller (15112017000)
When the vehicle is assembled, non-reusable parts (e.g., self-locking screws and nuts, gaskets, seal rings, O-rings, splints, lock washers) must be replaced with new parts.
Where thread lockers are used on screw connections (e.g., **Loctite®**), follow the instructions for use from the manufacturer.
After disassembly, clean the parts that are to be reused and check them for damage and wear. Replace damaged or worn parts.
After you complete the repair or maintenance work, check the roadworthiness of the vehicle.

Transport

Note

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

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

Note

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

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

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

Environment

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

Notes/warnings

Pay close attention to the notes/warnings.

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

Grades of risks

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

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

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

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

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

Owner's manual

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

View of vehicle, front left (example)



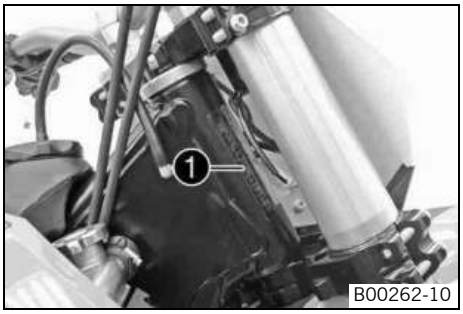
1	Hand brake lever (☛ p. 10)
2	Clutch lever (☛ p. 10)
3	Filler cap
4	Plug-in stand (☛ p. 13)
5	Air filter box lid
6	Engine number (☛ p. 9)
7	Shift lever (☛ p. 12)
8	Idle speed adjusting screw (☛ p. 12)

View of vehicle, rear right (example)



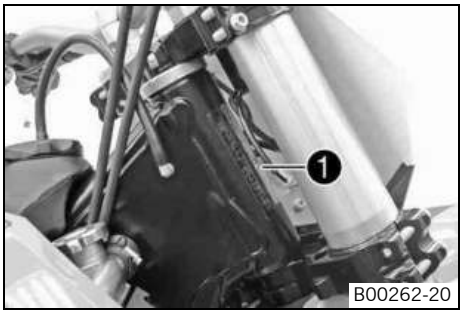
1	Kill switch (☛ p. 10)
2	Electric starter button (☛ p. 10)
3	Fork compression adjustment
4	Fork rebound adjustment
5	Foot brake lever (☛ p. 13)
6	Level viewer, engine oil
7	Shock absorber compression adjustment
8	Level viewer for brake fluid, rear
9	Shock absorber rebound adjustment

Chassis number



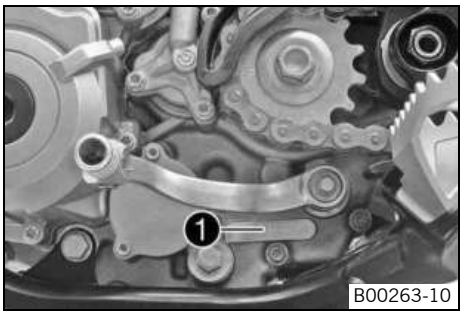
The chassis number ❶ is stamped on the right side of the steering head.

Type label



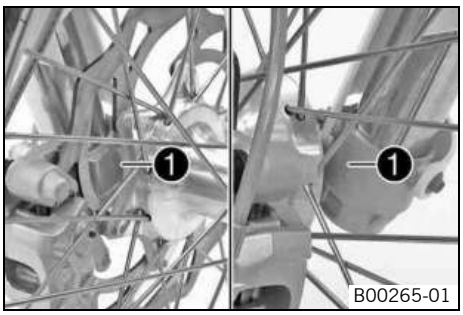
The type label ❶ is fixed to the front of the steering head.

Engine number



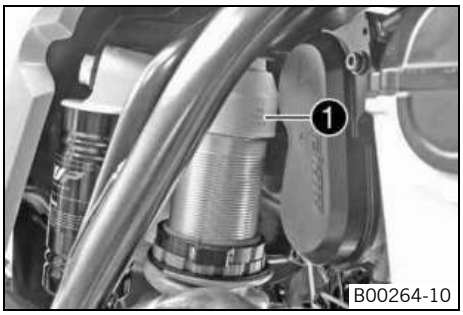
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

Fork part number



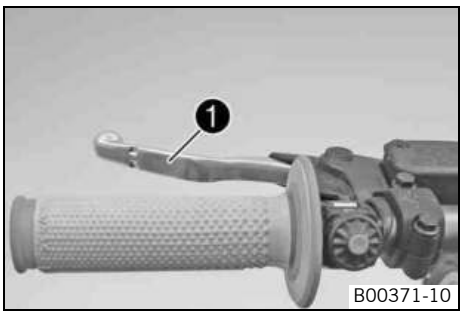
The fork part number ❶ is stamped on the inner side of the axle clamp.

Shock absorber part number



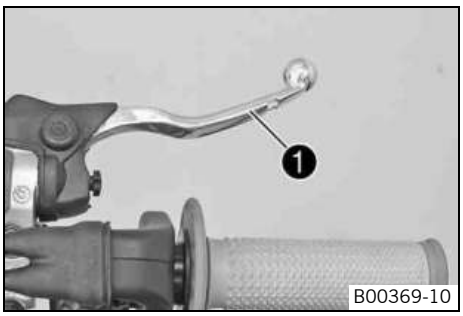
The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring on the engine side.

Clutch lever



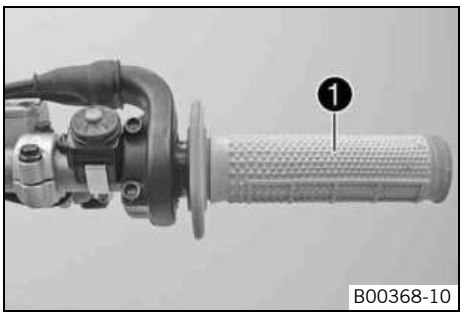
The clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is hydraulically operated and self-adjusting.

Hand brake lever



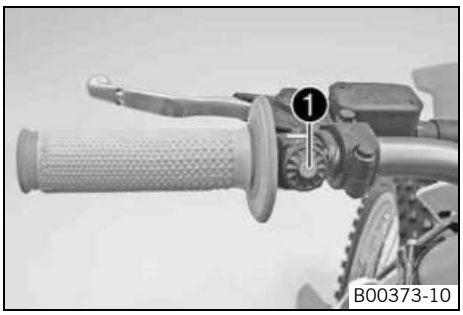
Hand brake lever ❶ is located on the right side of the handlebar.
The hand brake lever is used to activate the front brake.

Throttle grip



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

Kill switch

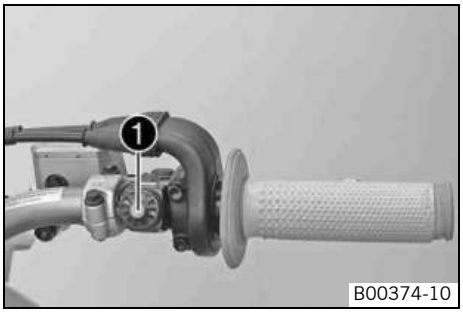


Kill switch ❶ is fitted on the left side of the handlebar.

Possible states

- Kill switch ⊠ in basic position – In this position, the ignition circuit is closed and the engine can be started.
- Kill switch ⊠ pressed – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.

Electric starter button

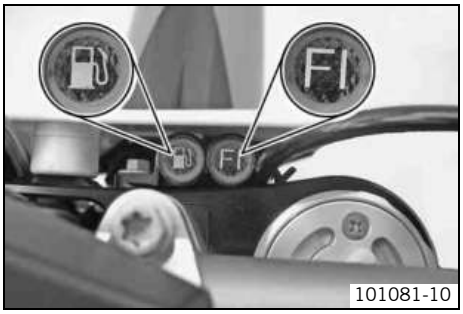


Electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

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

Overview of indicator lamps



Possible states

FI	**FI** warning lamp (**MIL**) lights up/flashes orange – The OBD (on-board diagnosis) has detected an emission- or safety-critical error.

(XC-F)

	The fuel level warning lamp lights up orange – The fuel level has reached the reserve mark.

Opening the filler cap

Danger

Fire hazard Fuel is highly flammable.

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

Warning

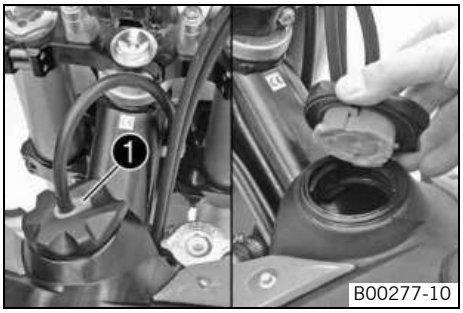
Danger of poisoning Fuel is poisonous and a health hazard.

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

Warning

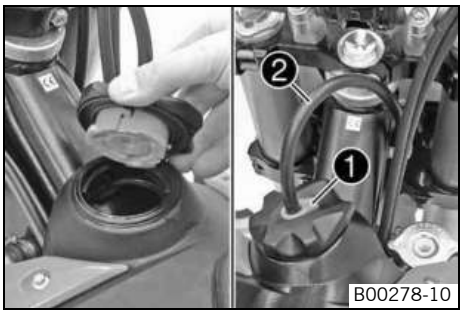
Environmental hazard Improper handling of fuel is a danger to the environment.

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



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

Closing the filler cap

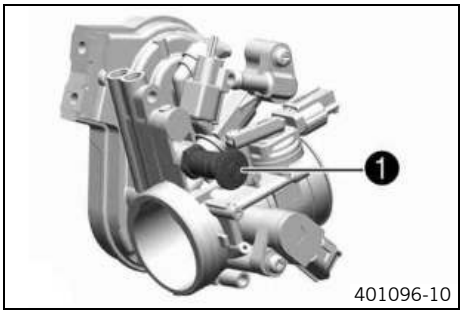


- Replace the filler cap and turn clockwise until the release button ❶ locks in place.

Info

Run the fuel tank breather hose ❷ without kinks.

Idle speed adjusting screw

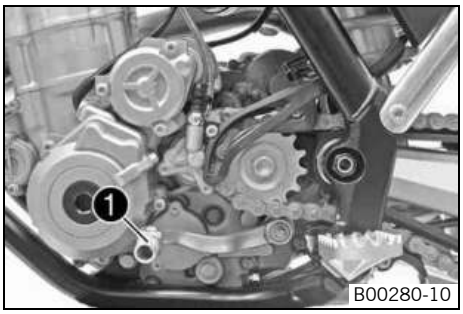


Idle speed adjusting screw ❶ is located on the throttle valve body at the top left.
The idle speed adjusting screw has two functions.
Turning it controls the idle speed.
Pulling it out all the way raises the idle speed during a cold start.

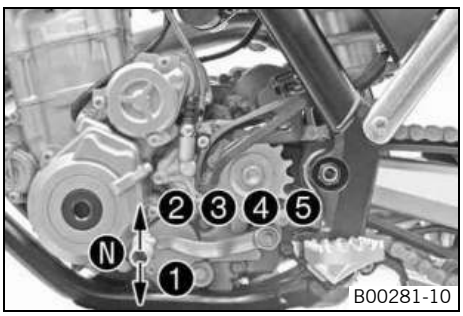
Possible states

- RPM increase activated – Idle speed adjusting screw is pulled out all the way.
- RPM increase deactivated – Idle speed adjusting screw is pushed in all the way.

Shift lever

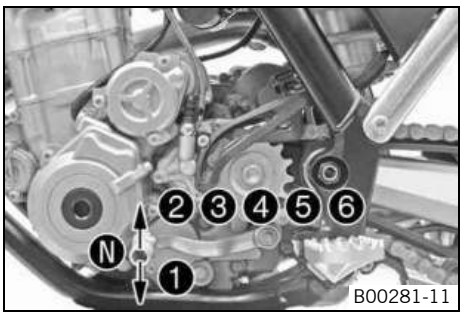


Shift lever ❶ is mounted on the left side of the engine.



(All SX-F models)

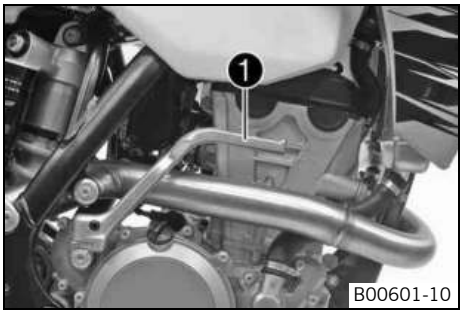
The gear positions can be seen in the photograph.
The neutral or idle position is between the first and second gears.



(XC-F)

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

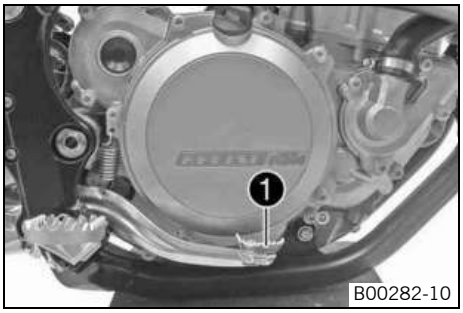
Kick starter (XC-F)



The kick starter ❶ is fitted on the right side of the engine.
The upper part of the kick starter can be folded in.

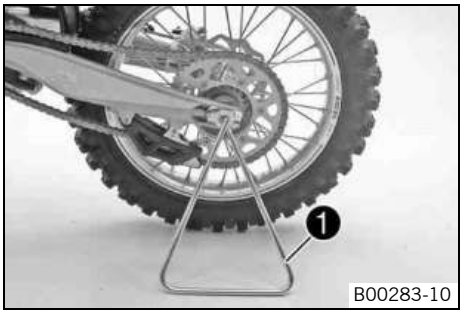
Info
Before riding, fold the upper part of the kick starter toward the engine.

Foot brake lever



Foot brake lever ❶ is located in front of the right footrest.
The foot brake lever is used to activate the rear brake.

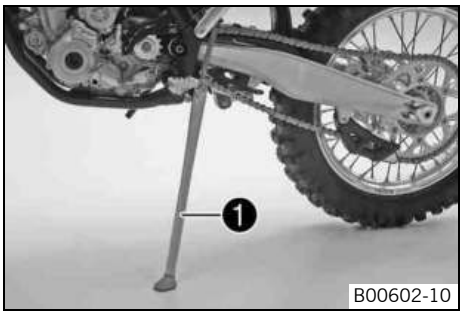
Plug-in stand (All SX-F models)



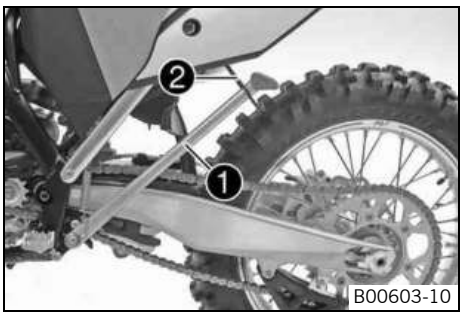
The holder for the plug-in stand ❶ is the left side of the wheel spindle.
The plug-in stand is used to park the motorcycle.

Info
Remove the plug-in stand before starting on a trip.

Side stand (XC-F)



The side stand ❶ is on the left side of the vehicle.



The side stand is used to park the motorcycle.

Info
When you are riding, side stand ❶ must be folded up and secured with rubber band ❷.

Advice on first use

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

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

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

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

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

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

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

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

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

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

Warning
Danger of accidents Unstable riding behavior.

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

Warning
Risk of misappropriation Usage by unauthorized persons.

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

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

– Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
  ✓ You receive a delivery certificate and the service record at vehicle handover.
– Before your first trip, read the entire operating instructions carefully.
– Get to know the controls.
– Adjust the basic position of the clutch lever. (☛ p. 49)
– Adjust the basic position of the hand brake lever. (☛ p. 51)
– Adjust the basic position of the foot brake lever. 🔧 (☛ p. 55)
– Get used to handling the motorcycle on a suitable piece of land before making a longer trip.

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

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

(All SX-F models)
– Do not transport luggage.

(XC-F)
– If you carry any baggage, make sure it is fixed firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.

Info
Motorcycles react sensitively to any changes of weight distribution.

– Do not exceed the overall maximum permitted weight and the axle loads.

Guideline

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

– Run in the engine. (☛ p. 15)

Running in the engine

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

Guideline

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

– Avoid fully opening the throttle!

Preparing vehicle for difficult riding conditions

Info
Using a motorcycle in difficult conditions can lead to excessive wear of components such as the power train or brakes. For this reason, it may be necessary to service or replace worn parts before the limit specified in the service schedule is reached.

– KTM recommends that you use the specified engine oil for difficult riding conditions and to increase performance.

Engine oil (SAE 10W/60) (00062010035) (☛ p. 90)

– Seal the air filter box.

Tip
Seal the air filter box at the edges against dirt.

– Clean the air filter and air filter box. (☛ p. 41)

Info
Check the air filter approx. every 30 minutes.

– Additionally secure the rubber grip. (☛ p. 49)
– Check the electrical connector for humidity and corrosion and to ensure it is firmly seated.
  » If humidity, corrosion or damage is found:
    – Clean and dry the connector, or change it if necessary.

Difficult riding conditions are:

– Rides on dry sand. (☛ p. 15)
– Rides on wet sand. (☛ p. 16)
– Rides on wet and muddy surfaces. (☛ p. 16)
– Rides at high temperature and slow speed. (☛ p. 17)
– Rides at low temperatures or in snow. (☛ p. 17)

Preparing for rides on dry sand



– Fit a dust protection device on the air filter.

Dust protection device for air filter (77206920000)

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



B00436-01

– Fit a sand protection device on the air filter.

Sand protection device for air filter (77206922000)

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


600868-01

– Clean the chain.

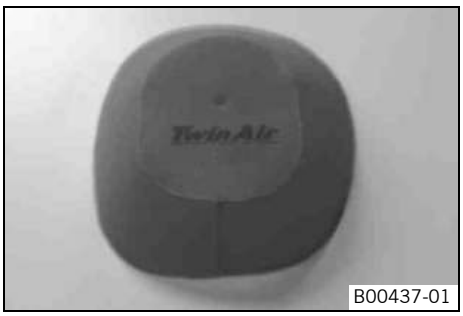
Chain cleaner (☛ p. 92)

– Fit the steel sprocket.

Tip
Do not grease the chain.

– Clean radiator fins.
– Straighten bent radiator fins carefully.
– If used in sand regularly, replace the piston every 20 operating hours.

Preparing for rides on wet sand



B00437-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (77206921000)

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


600868-01

– Clean the chain.

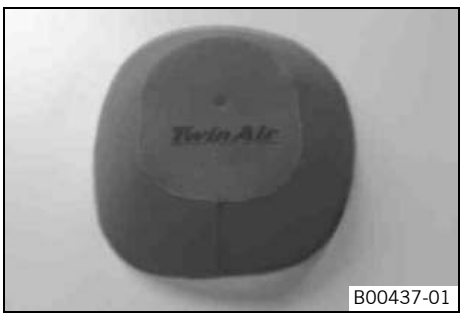
Chain cleaner (☛ p. 92)

– Fit the steel sprocket.

Tip
Do not grease the chain.

– Clean radiator fins.
– Straighten bent radiator fins carefully.
– If used in sand regularly, replace the piston every 20 operating hours.

Preparing for rides on wet and muddy surfaces



B00437-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (77206921000)

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


600868-01

– Fit the steel sprocket.
– Clean the motorcycle. (☛ p. 74)
– Straighten bent radiator fins carefully.

Preparing for rides at high temperature and slow speed


600868-01

– Adjust the secondary drive to the road conditions.

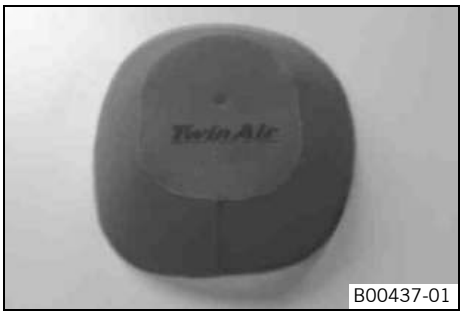
Info
The engine oil quickly gets hot if the clutch has to be operated very often due to an excessively high secondary drive.

– Clean the chain.

Chain cleaner (☛ p. 92)

– Clean radiator fins.
– Straighten bent radiator fins carefully.
– Check the coolant level. (☛ p. 66)

Preparing for rides at low temperatures or in snow



B00437-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (77206921000)

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

Checks and maintenance work when preparing for use

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

- Check the engine oil level. (☛ p. 71)
- Check the front brake fluid level. (☛ p. 52)
- Check the rear brake fluid level. (☛ p. 56)
- Check the front brake linings. (☛ p. 53)
- Check the rear brake linings. (☛ p. 57)
- Check that the brake system is functioning properly.
- Check the coolant level. (☛ p. 66)
- Check for chain dirt accumulation. (☛ p. 44)
- Check the chain, rear sprocket, engine sprocket and chain guide. (☛ p. 46)
- Check the chain tension. (☛ p. 45)
- Check the tire condition. (☛ p. 61)
- Check the tire air pressure. (☛ p. 62)
- Check the spoke tension. (☛ p. 62)
- Clean the dust boots of the fork legs. (☛ p. 32)
- Bleed the fork legs. (☛ p. 31)
- Check the air filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts and hose clamps regularly for tightness.
- Check the fuel supply.

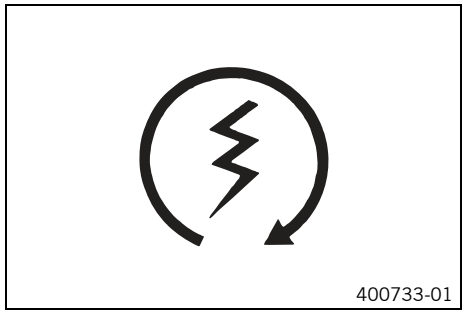
Starting

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

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

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

- Always warm up the engine at low engine speeds.


400733-01

(All SX-F models)
- Remove the plug-in stand.

(XC-F)
- Raise the motorcycle off of the stand and secure the stand with the rubber band.

- Shift gear to neutral.

Condition
Ambient temperature: < 20 °C (< 68 °F)

- Pull the idle speed adjusting screw all the way out.

- Press the electric starter button or press the kick starter robustly through its full range.

Info
Press the electric starter button for at most 5 seconds. Wait for a least 5 seconds before trying again.
Warning lamp **FI** lights up briefly as a functional control when starting.

Starting off

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

Shifting, riding

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

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

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

– When conditions allow (incline, road situation, etc.), you can shift into a higher gear. To do so, release the throttle while simultaneously pulling the clutch lever, shift into the next gear, release the clutch and open the throttle.
– If you raised the idle speed to start the vehicle, push the idle speed adjusting screw in all the way after the engine warms up.
– After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is ¾ open. This will barely reduce the speed but fuel consumption will be considerably lower.
– Always open the throttle only as much as the engine can handle – abrupt throttle opening increases fuel consumption.
– To shift down, brake and close the throttle at the same time.
– Pull the clutch lever and shift into a lower gear, release the clutch lever slowly and open the throttle or shift again.
– Switch off the engine if you expect to be standing for a long time.

Guideline

≥ 1 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.

Applying the brakes

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

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

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

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

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

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

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

Stopping, parking

Warning
Risk of misappropriation Usage by unauthorized persons.

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

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

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

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

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

Note

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

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

– Brake the motorcycle.
– Shift gear to neutral.
– Press and hold the kill switch ⊠ while the engine is idling until the engine stops.
– Park the motorcycle on firm ground.

Refueling

Danger

Fire hazard Fuel is highly flammable.

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

Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

Note

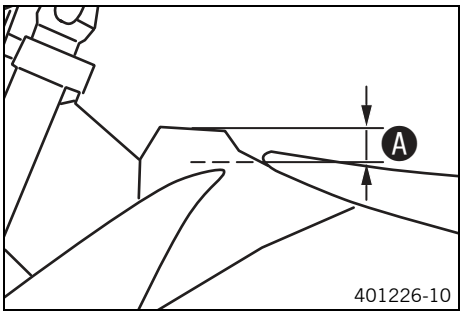
Material damage Premature clogging of the fuel filter.

– In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system. (Your authorized KTM workshop will be glad to help.)
– Only refuel with clean fuel that meets the specified standards.

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

Guideline

Measurement of Ⓐ		35 mm (1.38 in)
Total fuel tank capacity, approx. (All SX-F models)	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 91)
Total fuel tank capacity, approx. (XC-F)	9.5 l (2.51 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 91)

– Close the filler cap. (☛ p. 11)

Service schedule

	S1N	S10A	S20A	S30A
Read out the fault memory using the KTM diagnostics tool. 🔧	•	•	•	•
Check and charge the battery. 🔧		•	•	•
Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 71)	•	•	•	•
Check the front brake linings. (☛ p. 53)		•	•	•
Check the rear brake linings. (☛ p. 57)		•	•	•
Check the brake discs. (☛ p. 51)		•	•	•
Check the brake lines for damage and leakage.		•	•	•
Check the rear brake fluid level. (☛ p. 56)		•	•	•
Check the free travel of the foot brake lever. (☛ p. 55)		•	•	•
Check the frame and swingarm. 🔧		•	•	•
Check the swingarm bearing. 🔧			•	
Check the shock absorber linkage. 🔧		•	•	•
Conduct a minor fork service. 🔧		•	•	•
Conduct a major fork service. 🔧				•
Check the tire condition. (☛ p. 61)	•	•	•	•
Check the tire air pressure. (☛ p. 62)	•	•	•	•
Check the wheel bearing for play. 🔧		•	•	•
Check the wheel hubs. 🔧		•	•	•
Check the rim run-out. 🔧	•	•	•	•
Check the spoke tension. (☛ p. 62)	•	•	•	•
Check the chain, rear sprocket, engine sprocket and chain guide. (☛ p. 46)		•	•	•
Check the chain tension. (☛ p. 45)	•	•	•	•
Grease all moving parts (e.g., hand lever, chain, ...) and check for smooth operation. 🔧		•	•	•
Check the fluid level of the hydraulic clutch. (☛ p. 49)		•	•	•
Check the front brake fluid level. (☛ p. 52)		•	•	•
Check the free travel of the hand brake lever. (☛ p. 51)		•	•	•
Check the steering head bearing play. (☛ p. 36)	•	•	•	•
Check the valve clearance. 🔧	•		•	
Check the clutch. 🔧			•	
Change the shaft seal rings of the water pump. 🔧				•
Check the fuel pressure. 🔧		•	•	•
Check all hoses (e. g. fuel, cooling, bleeding, drainage) and sleeves for tearing, leaks and incorrect routing. 🔧	•	•	•	•
Check the antifreeze and coolant level. (☛ p. 66)	•	•	•	•
Check the cables for damage and routing without sharp bends. 🔧		•	•	•
Check that the cables are undamaged, routed without sharp bends and set correctly.	•	•	•	•
Clean the air filter and air filter box. 🔧 (☛ p. 41)		•	•	•
Change the glass fiber yarn filling of the main silencer. 🔧 (☛ p. 42)		•	•	•
Check the screws and nuts for tightness. 🔧	•	•	•	•
Check idle.	•	•	•	•
Final check: Check the vehicle for safe operation and take a test ride.	•	•	•	•
Read out the fault memory using the KTM diagnostics tool after a test ride. 🔧	•	•	•	•
Make the service entry in **KTM DEALER.NET** and in the service record. 🔧	•	•	•	•

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

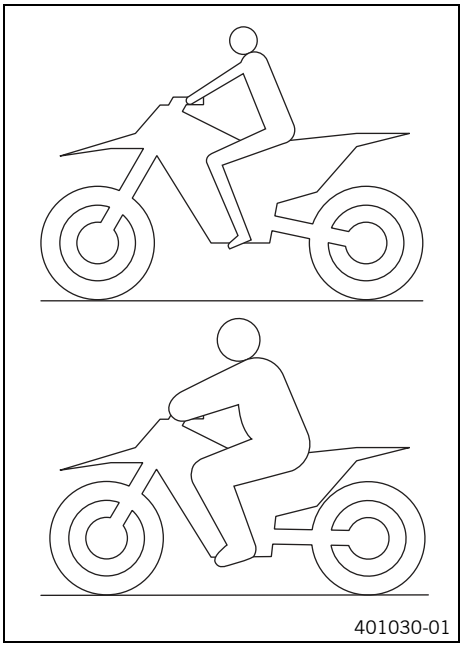
Service work (as additional order)

	S20N	S40A	S50A	S100A	J1A
Change the front brake fluid.					•
Change the rear brake fluid.					•
Change the hydraulic clutch fluid. (p. 50)					•
Grease the steering head bearing. (p. 37)					•
Service the shock absorber.	•	•			
Change the suction flange.			•	•	
Change the spark plug and spark plug connector.				•	
Change the piston.			•	•	
Check/measure the cylinder.			•	•	
Check the cylinder head.			•	•	
Change the valves, valve springs and valve spring seats.				•	
Check the camshaft and cam lever.			•	•	
Change the connecting rod, conrod bearing and crank pin.			•	•	
Check the transmission and shift mechanism.			•	•	
Check the oil pressure regulator valve.			•	•	
Change the suction oil pump.				•	
Check the oil pumps and lubrication system.			•	•	
Replace the timing chain.				•	
Check the timing assembly.			•	•	
Change all engine bearings.				•	

S20N: Once after 20 service hours - corresponds to about 140 liters of fuel (37 US gal)
S40A: Every 40 service hours - corresponds to about 280 liters of fuel (74 US gal)
S50A: Every 50 service hours - corresponds to about 350 liters of fuel (92.5 US gal)
S100A: Every 100 service hours - corresponds to about 700 liters of fuel (185 US gal)
J1A: Annually

Checking the basic chassis setting with the rider's weight

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


401030-01

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

Guideline

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

– If the rider's weight is above or below this range, the basic setting of the suspension components must be adjusted accordingly.
– Small weight differences can be compensated by adjusting the spring preload, but in the case of large weight differences, the springs must be replaced.

Compression damping of the shock absorber

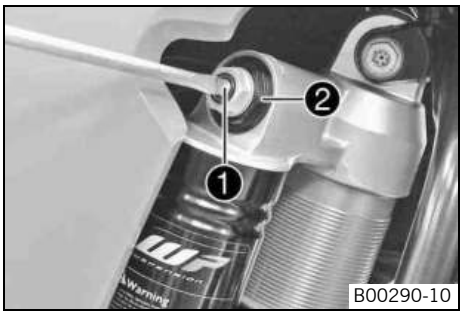
The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed.
High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.
The high-speed setting, for example, has an effect on the landing after a jump: the rear wheel suspension compresses more quickly.
The low-speed setting, for example, has an effect when riding over long ground swells: the rear wheel suspension compresses more slowly.
These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, changes in the high-speed range affect the compression damping in the low-speed range and vice versa.

Adjusting the low-speed compression damping of the shock absorber

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

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

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



B00290-10

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

Info
Do not loosen nut ❷!

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

Guideline

Compression damping, low-speed (SX-F EU)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, low-speed (SX-F USA)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, low-speed (XC-F)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks

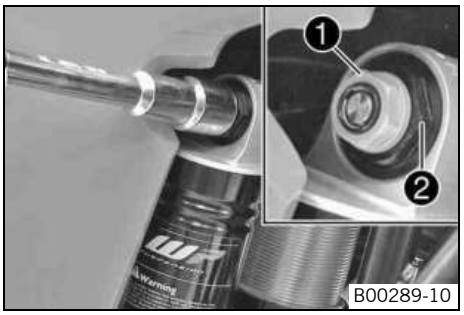
Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

Adjusting the high-speed compression damping of the shock absorber

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

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

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



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

Info
Do not loosen nut ❷!

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

Guideline

Compression damping, high-speed (SX-F EU)	
Comfort	2.5 turns
Standard	2 turns
Sport	1.5 turns
Compression damping, high-speed (SX-F USA)	
Comfort	2.5 turns
Standard	2 turns
Sport	1.5 turns
Compression damping, high-speed (XC-F)	
Comfort	2.5 turns
Standard	2 turns
Sport	1.5 turns

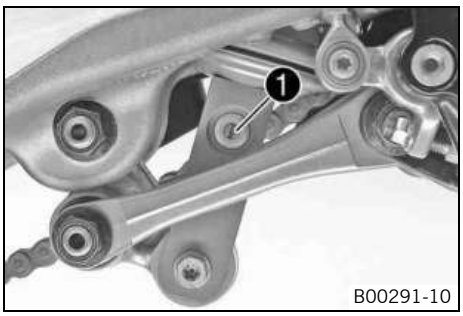
Info
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

Adjusting the rebound damping of the shock absorber

Caution

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

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



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

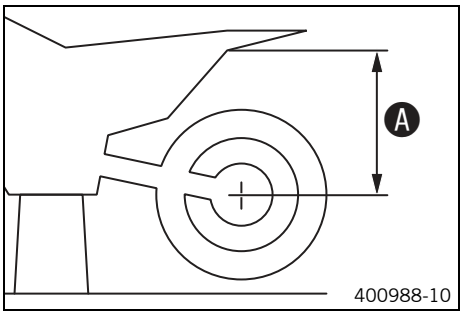
Guideline

Rebound damping (SX-F EU)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Rebound damping (SX-F USA)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Rebound damping (XC-F)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks

Info

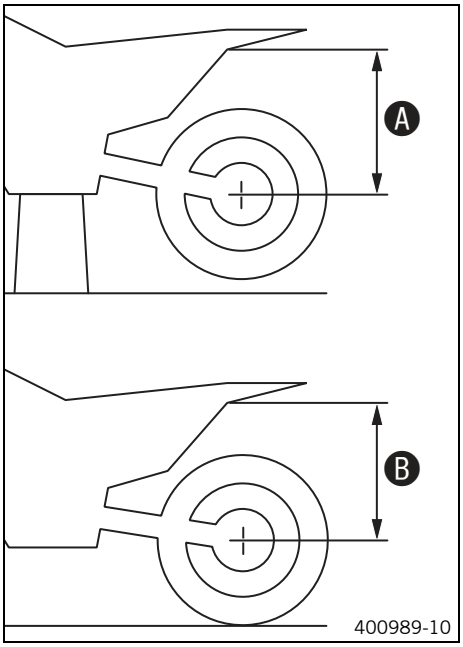
Turn clockwise to increase damping; turn counterclockwise to reduce damping.

Measuring rear wheel sag unloaded



– Raise the motorcycle with the lift stand. (☛ p. 31)
– Measure the vertical distance between the rear axle and a fixed point such as a marking on the side cover.
– Note down the value as dimension ❹.
– Remove the motorcycle from the lift stand. (☛ p. 31)

Checking the static sag of the shock absorber



– Measure distance Ⓐ of rear wheel unloaded. (☛ p. 25)
– Hold the motorcycle upright with the aid of an assistant.
– Measure the distance between the rear axle and the fixed point again.
– Note down the value as dimension Ⓑ.

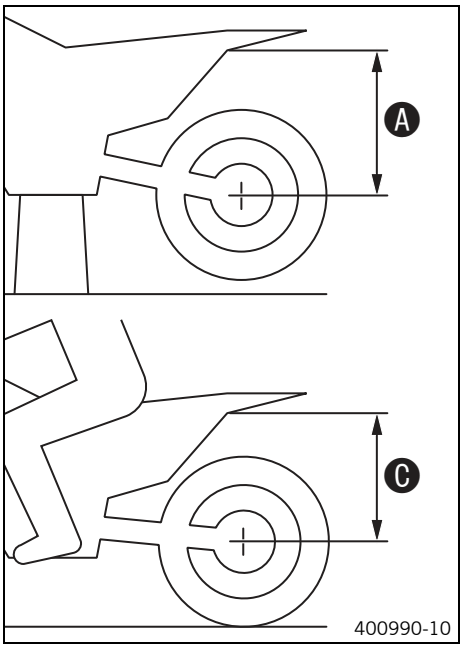
Info
The static sag is the difference between measurements Ⓐ and Ⓑ.

– Check the static sag.

Static sag (SX-F EU)	30 mm (1.18 in)
Static sag (SX-F USA)	34 mm (1.34 in)
Static sag (XC-F)	34 mm (1.34 in)

» If the static sag is less or more than the specified value:
– Adjust the spring preload of the shock absorber. 🔧 (☛ p. 26)

Checking the riding sag of the shock absorber



– Measure distance Ⓐ of rear wheel unloaded. (☛ p. 25)
– With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
✓ The rear wheel suspension levels out.
– Another person now measures the distance between the rear axle and a fixed point.
– Note down the value as dimension Ⓒ.

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

– Check the riding sag.

Riding sag (SX-F EU)	90 mm (3.54 in)
Riding sag (SX-F USA)	100 mm (3.94 in)
Riding sag (XC-F)	100 mm (3.94 in)

» If the riding sag differs from the specified measurement:
– Adjust the riding sag. 🔧 (☛ p. 27)

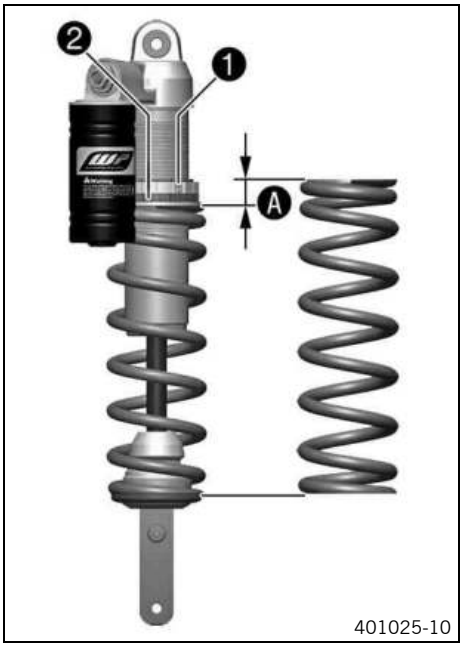
Adjusting the spring preload of the shock absorber 🔧

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

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

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

– Remove the shock absorber. 🔧 (☛ p. 38)
– After removing the shock absorber, clean it thoroughly.



– Loosen screw ❶.
– Turn adjusting ring ❷ until the spring is no longer under tension.

Hook wrench (T106S)

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

Guideline

Spring preload (SX-F EU)	15 mm (0.59 in)
Spring preload (SX-F USA)	12 mm (0.47 in)
Spring preload (XC-F)	12 mm (0.47 in)

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

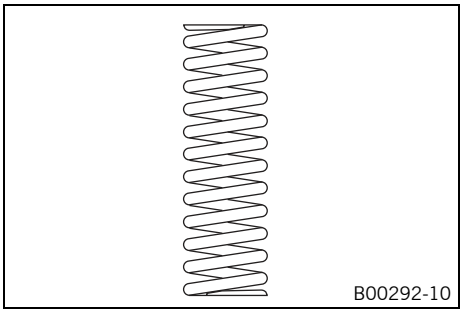
– Tighten screw ❶.

Guideline

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

– Install the shock absorber. (☛ p. 38)

Adjusting the riding sag



– Remove the shock absorber. (☛ p. 38)
– After removing the shock absorber, clean it thoroughly.
– Choose and mount a suitable spring.

Guideline

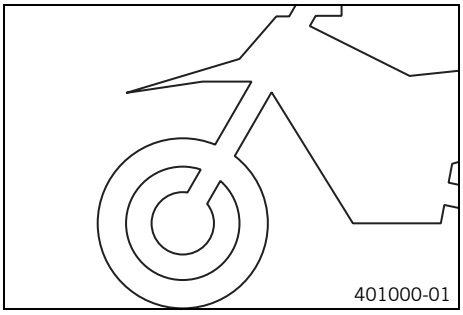
Spring rate (SX-F EU)	
Weight of rider: 65… 75 kg (143… 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75… 85 kg (165… 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85… 95 kg (187… 209 lb.)	57 N/mm (325 lb/in)
Spring rate (SX-F USA)	
Weight of rider: 65… 75 kg (143… 165 lb.)	54 N/mm (308 lb/in)
Weight of rider: 75… 85 kg (165… 187 lb.)	57 N/mm (325 lb/in)
Weight of rider: 85… 95 kg (187… 209 lb.)	60 N/mm (343 lb/in)
Spring rate (XC-F)	
Weight of rider: 65… 75 kg (143… 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75… 85 kg (165… 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85… 95 kg (187… 209 lb.)	57 N/mm (325 lb/in)

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

– Install the shock absorber. (☛ p. 38)
– Raise the motorcycle with the lift stand. (☛ p. 31)
– Check the riding sag of the shock absorber. (☛ p. 26)
– Adjust the rebound damping of the shock absorber. (☛ p. 25)

Checking the basic setting of the fork

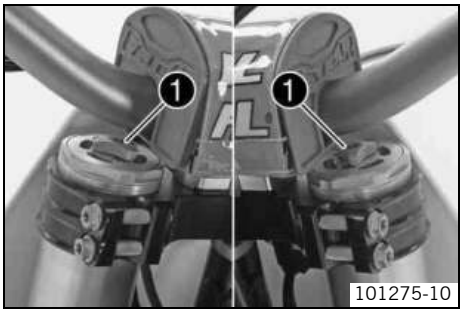
Info
For various reasons, no exact riding sag can be determined for the forks.



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

Adjusting the compression damping of the fork

Info
The hydraulic compression damping determines the fork suspension behavior.



– Turn adjusting screws ❶ clockwise all the way.

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

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

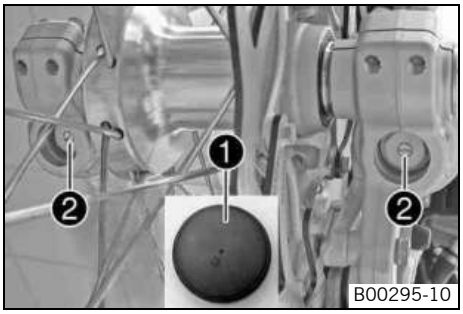
Guideline

Compression damping (SX-F EU)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Compression damping (SX-F USA)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Compression damping (XC-F)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks

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

Adjusting the rebound damping of the fork

Info
The hydraulic rebound damping determines the fork suspension behavior.



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

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

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

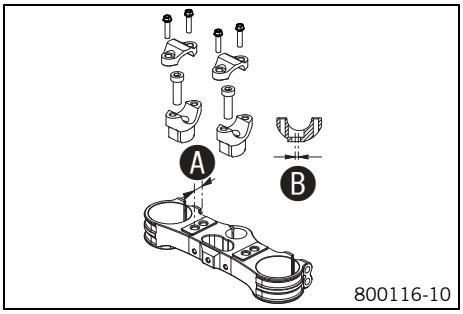
Guideline

Rebound damping (SX-F EU)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping (SX-F USA)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping (XC-F)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks

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

– Mount protection covers ❶.

Handlebar position



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

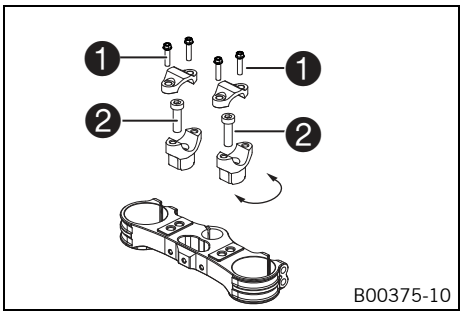
Hole distance A	15 mm (0.59 in)

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

Hole distance B	3.5 mm (0.138 in)

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

Adjusting the handlebar position



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

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

– Remove screws ❷. Remove the handlebar support.
– Place the handlebar support in the required position. Mount and tighten screws ❷.

Guideline

Screw, handlebar support	M10	40 Nm (29.5 lbf ft)	**Loctite® 243™**

Info
Position the left and right handlebar supports evenly.

– Position the handlebar.

Info
Make sure cables and wiring are positioned correctly.

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

Guideline

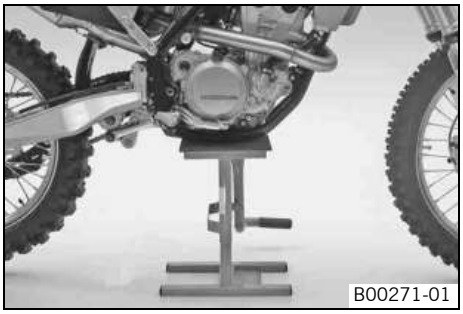
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)

Raising the motorcycle with the lift stand

Note

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

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


B00271-01

– Raise the motorcycle at the frame underneath the engine.
  ✓ The wheels must no longer touch the ground.
– Secure the motorcycle against falling over.

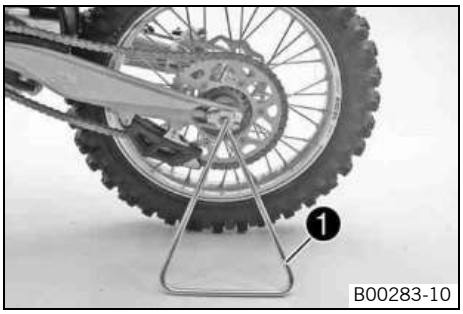
Lift stand (54829055000)

Removing the motorcycle from the lift stand

Note

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

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

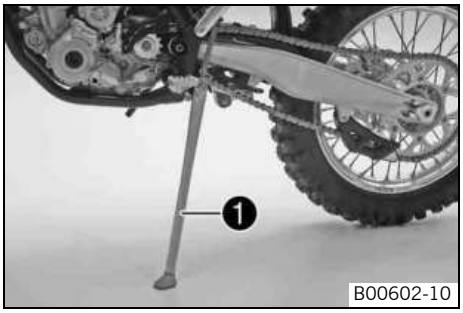


B00283-10

(All SX-F models)

– Remove the motorcycle from the lift stand.
– Remove the lift stand.
– To park the motorcycle, insert plug-in stand ❶ into the left side of the wheel spindle.

Info
Remove the plug-in stand before riding.



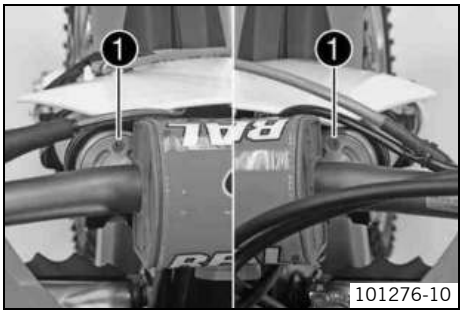
B00602-10

(XC-F)

– Remove the motorcycle from the lift stand.
– Remove the lift stand.
– To park the motorcycle, press side stand ❶ to the ground with your foot and lean the motorcycle on it.

Info
When you are riding, the side stand must be folded up and secured with the rubber band.

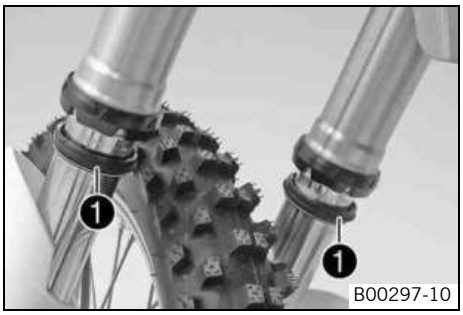
Bleeding the fork legs



101276-10

– Raise the motorcycle with the lift stand. (☛ p. 31)
– Remove bleeder screws ❶ briefly.
  ✓ Any excess pressure escapes from the interior of the fork.
– Mount and tighten bleeder screws.
– Remove the motorcycle from the lift stand. (☛ p. 31)

Cleaning the dust boots of the fork legs



– Raise the motorcycle with the lift stand. (☛ p. 31)
– Loosen the fork protection. (☛ p. 32)
– Push dust boots ❶ of both fork legs downwards.

Info
The dust boots should remove dust and coarse dirt particles from the fork tubes. Over time, dirt can penetrate behind the dust boots. If this dirt is not removed, the oil seals behind can start to leak.

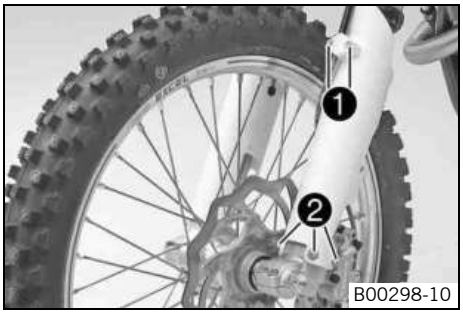
Warning
Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

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

Universal oil spray (☛ p. 93)

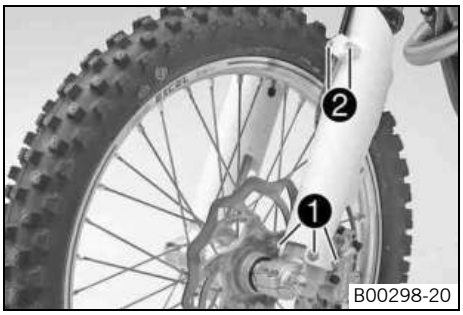
– Press the dust boots back into their normal position.
– Remove excess oil.
– Position the fork protection. (☛ p. 32)
– Remove the motorcycle from the lift stand. (☛ p. 31)

Loosening the fork protection



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

Positioning the fork protection



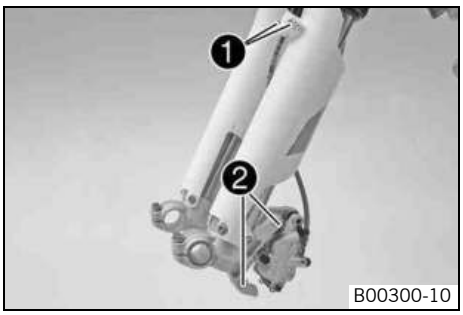
– Position the fork protection on the left fork leg. Mount and tighten screws ❶.
Guideline

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

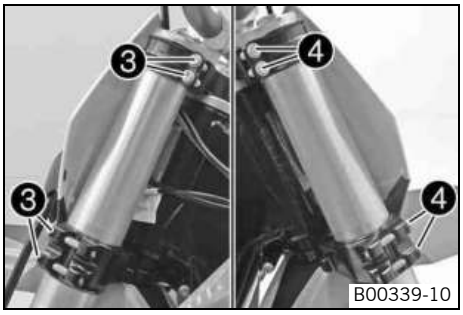
– Position the brake line and clamp. Mount and tighten screws ❷.
– Position the fork protection on the right fork leg. Mount and tighten the screws.
Guideline

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

Removing the fork legs

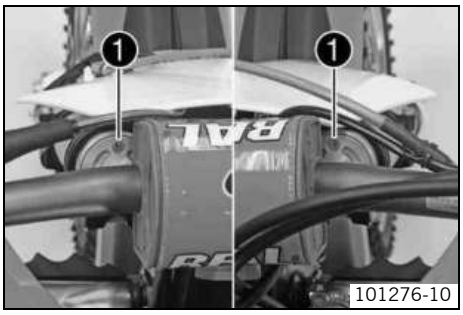


– Remove the front wheel. (☛ p. 59)
– Remove screws ❶ and take off the clamp.
– Remove screws ❷ and take off the brake caliper.
– Allow the brake caliper and brake line to hang tension-free to the side.



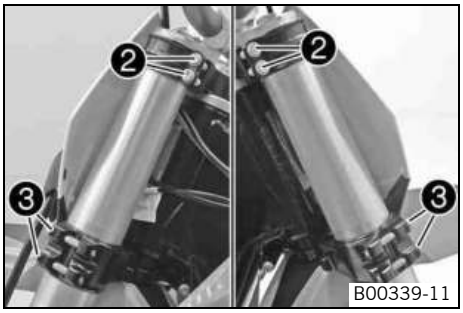
– Loosen screws ❸. Take out the left fork leg.
– Unscrew screws ❹. Take out the right fork leg.

Installing the fork legs



– Position the fork legs.

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

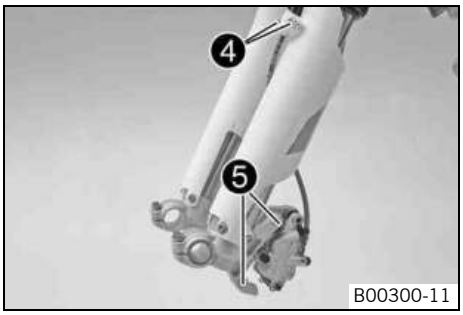


– Tighten screws ❷.
Guideline

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

– Tighten screws ❸.
Guideline

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

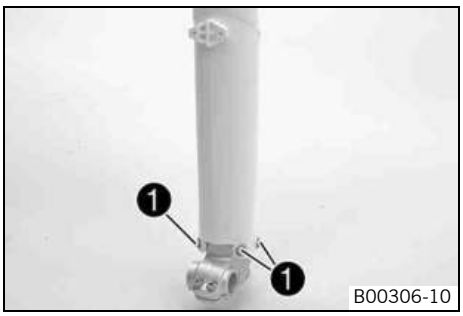


– Position the brake caliper. Mount and tighten screws ❺.
Guideline

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

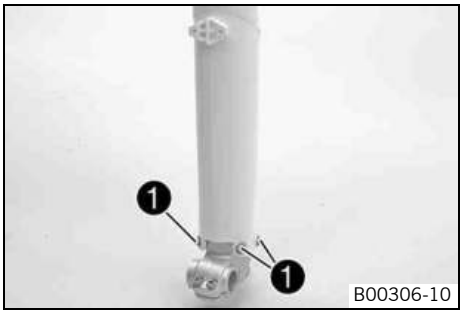
– Position the brake line and clamp. Mount and tighten screws ❹.
– Install the front wheel. (☛ p. 59)

Removing the fork protector



– Remove the fork legs. (☛ p. 32)
– Remove screws ❶ on the left fork leg. Remove the fork protector from above.
– Remove the screws on the right fork leg. Remove the fork protector from above.

Installing the fork protector



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

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

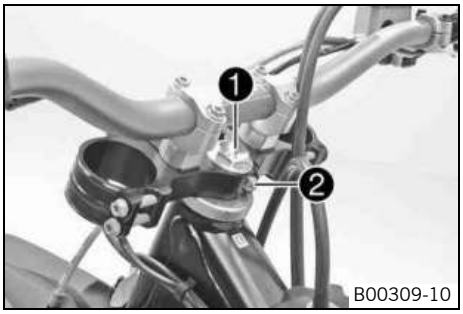
– Position the fork protection on the right fork leg. Mount and tighten the screws.
Guideline

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

– Install the fork legs. (☛ p. 33)

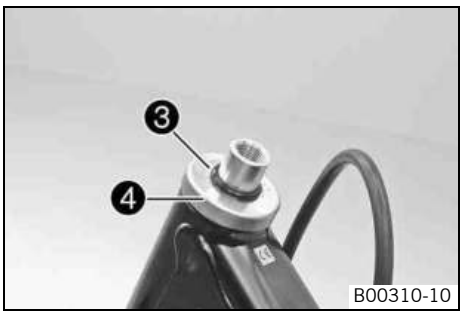
Removing the lower triple clamp

– Remove the fork legs. (☛ p. 32)
– Remove the start number plate. (☛ p. 37)
– Remove the front fender. (☛ p. 37)
– Remove the handlebar cushion.



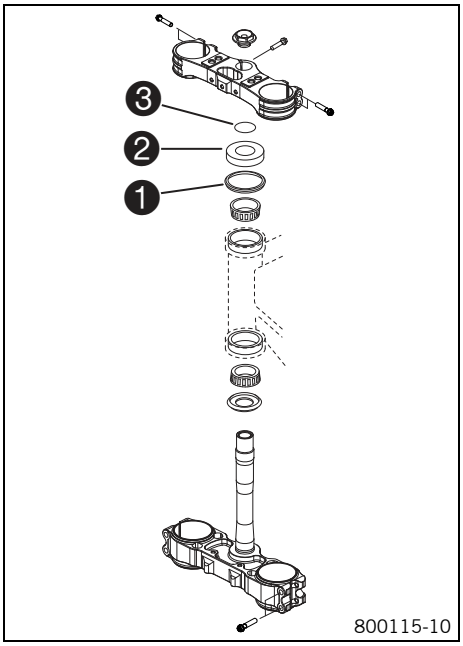
– Remove screw ❶.
– Remove screw ❷.
– Take off the top triple clamp with the handlebar and set it aside.

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



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

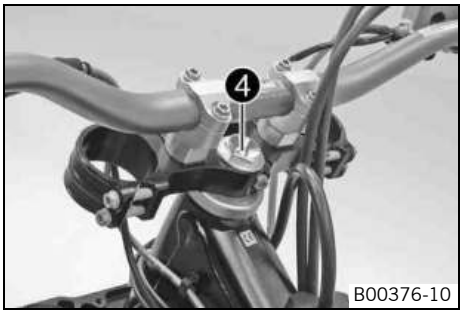
Installing the lower triple clamp



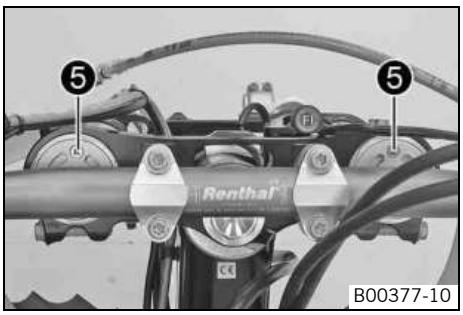
– Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (☛ p. 92)

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

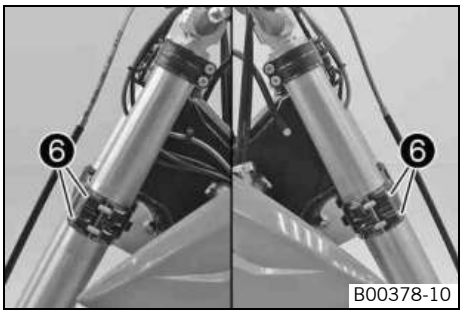


– Position the upper triple clamp with the steering.
– Mount screw ❹ but do not tighten yet.



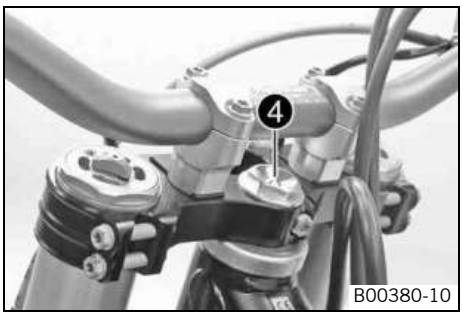
– Position the fork legs.

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



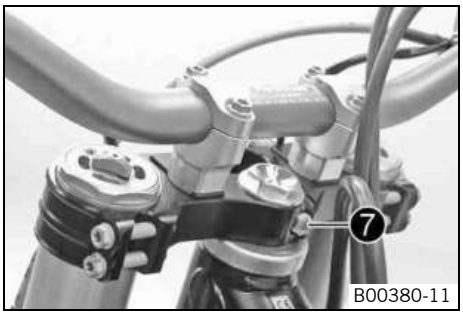
– Fully tighten screws ❻.
Guideline

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



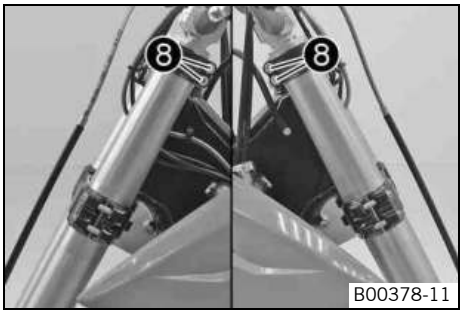
– Tighten screw ❹.
Guideline

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



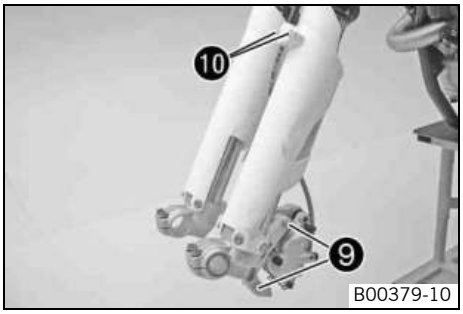
– Mount and tighten screw ❼.
Guideline

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



– Fully tighten screws ❽.
Guideline

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



– Position the brake caliper. Mount and tighten screws ❾.

Guideline

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

– Position the brake line and clamp. Mount and tighten screws ❿.
– Install the front fender. (☛ p. 37)
– Mount the handlebar cushion.
– Install the start number plate. (☛ p. 37)
– Check that the wiring harness, cables, and brake and clutch lines can move freely and are routed correctly.
– Install the front wheel. 🔧 (☛ p. 59)
– Check the steering head bearing play. (☛ p. 36)

Checking the steering head bearing play

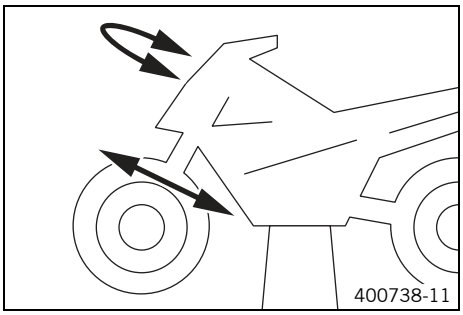
Warning

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

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

Info

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



– Raise the motorcycle with the lift stand. (☛ p. 31)
– Move the handlebar to the straight-ahead position. Move the fork legs to and fro in the direction of travel.

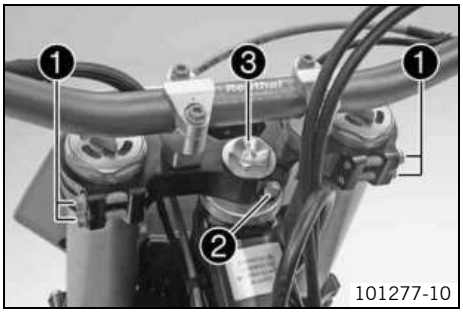
No play should be noticeable in the steering head bearing.

» If there is noticeable play present:
  – Adjust the play of the steering head bearing. 🔧 (☛ p. 36)
– Move the handlebar to and fro over the entire steering range.

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

» If click positions are noticeable:
  – Adjust the play of the steering head bearing. 🔧 (☛ p. 36)
  – Check the steering head bearing and change if necessary.
– Remove the motorcycle from the lift stand. (☛ p. 31)

Adjusting the play of the steering head bearing 🔧



– Raise the motorcycle with the lift stand. (☛ p. 31)
– Remove the handlebar cushion.
– Loosen screw ❶. Remove screw ❷.
– Loosen and retighten screw ❸.

Guideline

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

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

Guideline

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

– Mount and tighten screw ❷.

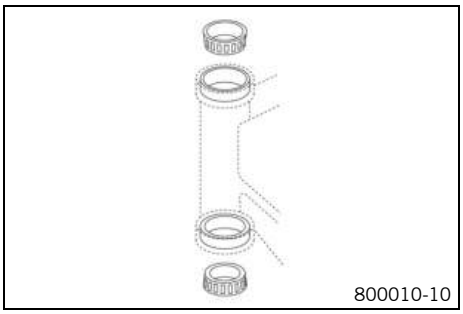
Guideline

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

– Check the steering head bearing play. (☛ p. 36)

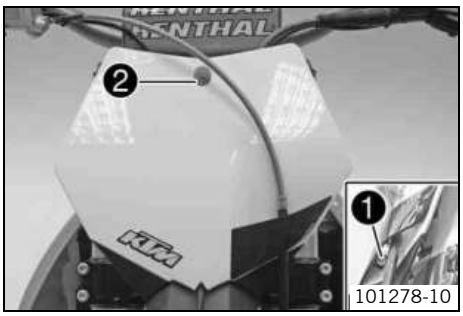
– Mount the handlebar cushion.

Greasing the steering head bearing


800010-10

– Remove the lower triple clamp. (p. 34)
– Install the lower triple clamp. (p. 34)

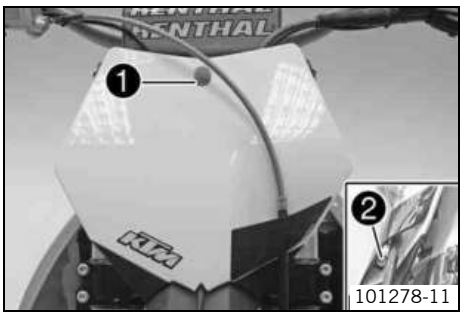
Removing the start number plate



101278-10

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

Installing the start number plate



101278-11

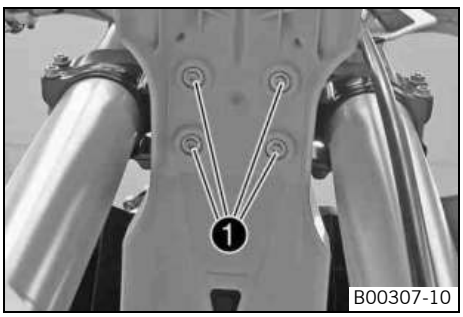
– Position the start number plate. Mount and tighten screw ❶.
Guideline

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

Info
Make sure that the holding lugs engage in the fender.

– Position the brake line and clamp. Mount and tighten screw ❷.

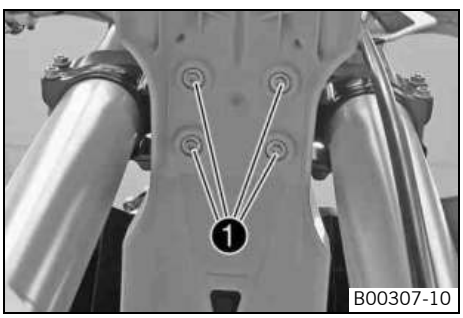
Removing the front fender



B00307-10

– Remove screws ❶. Remove the front fender.
– Ensure that the spacers remain in place.

Installing the front fender



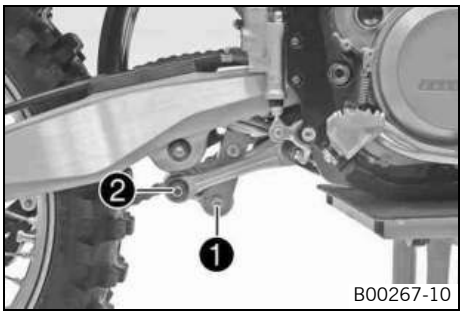
B00307-10

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

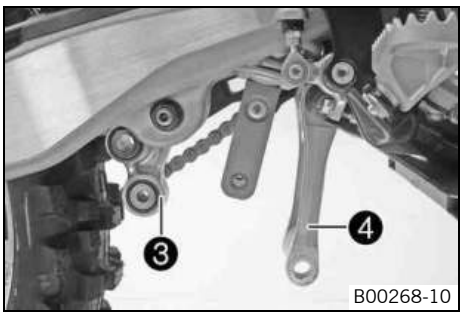
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

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

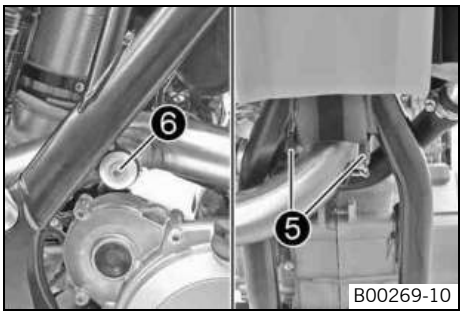
Removing the shock absorber



- Raise the motorcycle with the lift stand. (☛ p. 31)
- Remove the main silencer. (☛ p. 41)
- Remove screw ❶.
- Remove screw cap ❷.



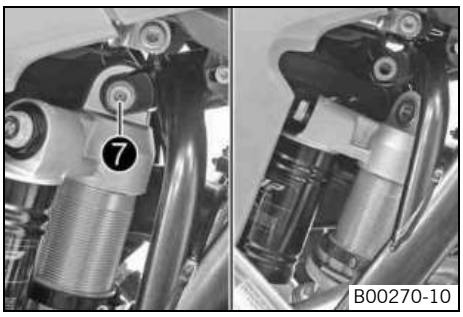
- Press angle lever ❸ toward the rear.
- Press linkage lever ❹ downward.



- Detach springs ❺.

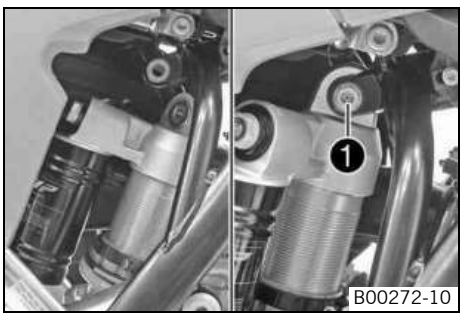
Spring hooks (50305017000)

- Remove screw ❻.



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

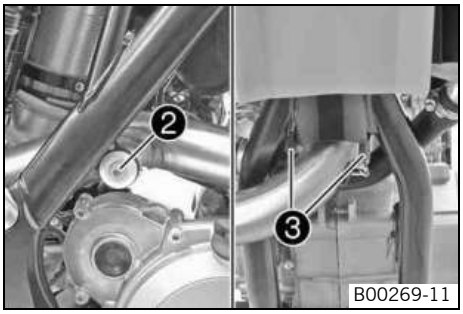
Installing the shock absorber



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

Guideline

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



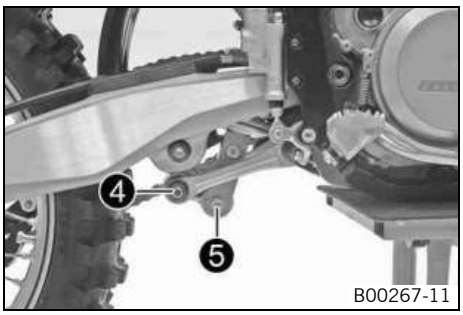
– Mount and tighten screw ❷.

Guideline

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

– Attach springs ❸.

Spring hooks (50305017000)



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

Guideline

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

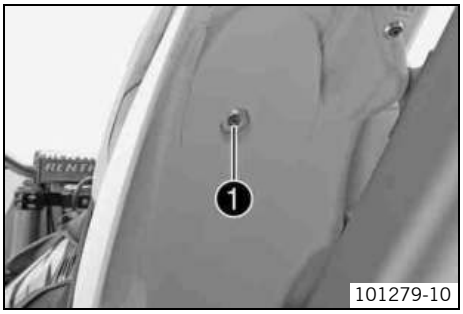
– Mount and tighten screw ❺.

Guideline

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

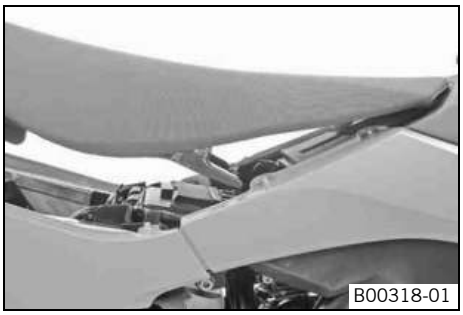
– Install the main silencer. (☛ p. 41)
– Remove the motorcycle from the lift stand. (☛ p. 31)

Removing the seat



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

Mounting the seat

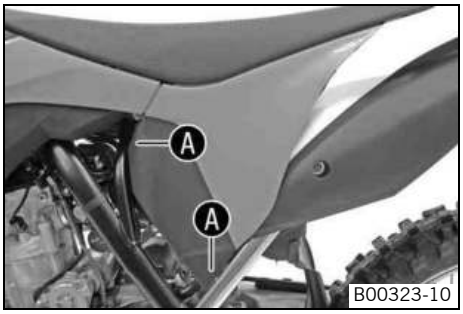


– Hook in the front of the seat at the collar bushing of the fuel tank, lower it at the rear and simultaneously it push forward.
– Make sure that the seat is correctly locked in.
– Mount and tighten the screw of the seat fixing.

Guideline

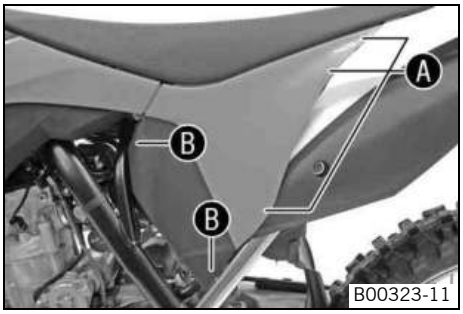
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

Removing the air filter box lid



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

Installing the air filter box lid



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

Removing the air filter

Note

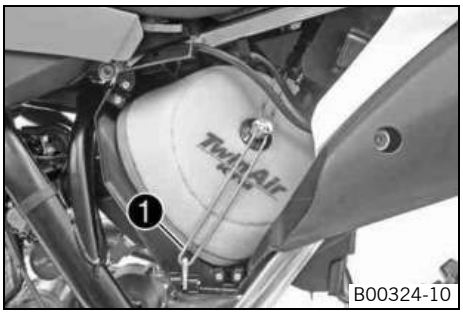
Engine failure Unfiltered intake air has a negative effect on the service life of the engine.

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

Warning

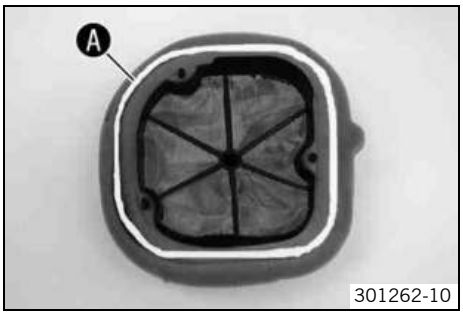
Environmental hazard Hazardous substances cause environmental damage.

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



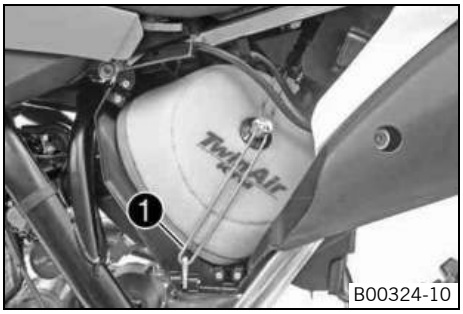
– Remove the air filter box lid. (☛ p. 39)
– Detach air filter holder ❶ at the bottom and swing it to one side. Remove the air filter with the air filter support.
– Remove the air filter from the air filter support.

Installing the air filter



– Mount the clean air filter onto the air filter support.
– Apply grease to the air filter around area ❹.

Long-life grease (☛ p. 92)



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

Info

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

– Install the air filter box lid. (☛ p. 40)

Cleaning the air filter and air filter box

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

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



– Remove the air filter. (☛ p. 40)
– Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner (☛ p. 92)

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

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

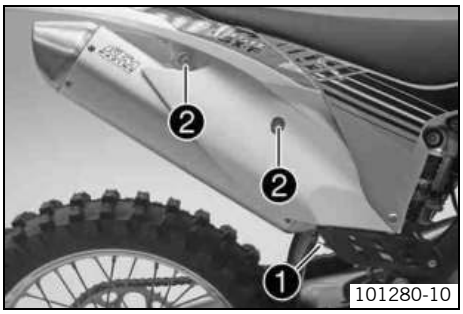
Oil for foam air filter (☛ p. 92)

– Clean the air filter box.
– Clean the intake flange and check it for damage and tightness.
– Install the air filter. (☛ p. 40)

Removing the main silencer

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

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

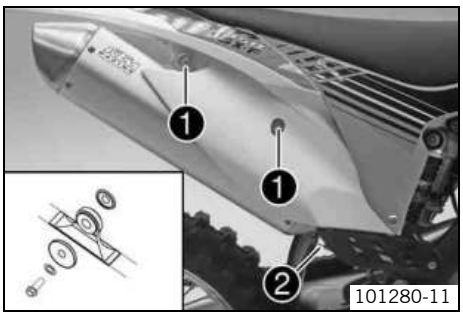


– Disconnect spring ❶.

Spring hooks (50305017000)

– Remove screws ❷ and take off the main silencer.

Installing the main silencer



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

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

– Reconnect spring ❷.

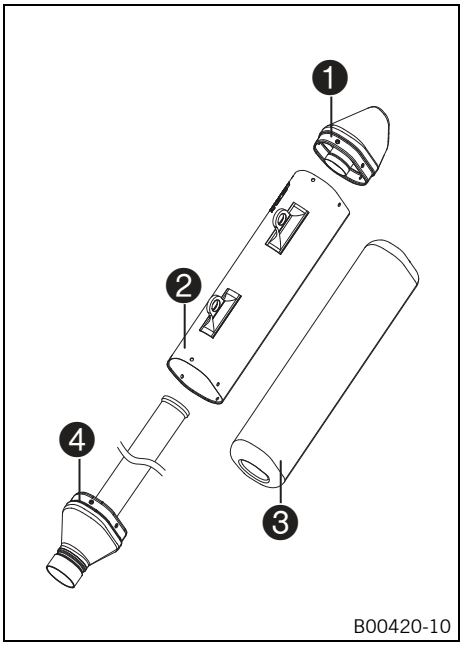
Spring hooks (50305017000)

Changing the glass fiber yarn filling of the main silencer

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

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

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



– Remove the main silencer. (☛ p. 41)
– Remove all screws from the main silencer. Remove locking cap ❶ and outer tube ❷.
– Pull the glass fiber yarn filling ❸ from the inner tube ❹.
– Clean the parts that are to be reinstalled.
– Mount the new glass fiber yarn filling ❸ on the inner tube.
– Slide the outer tube ❷ over the glass fiber yarn filling.
– Insert locking cap ❶ into the outer tube.
– Mount and tighten all screws.
– Install the main silencer. (☛ p. 41)

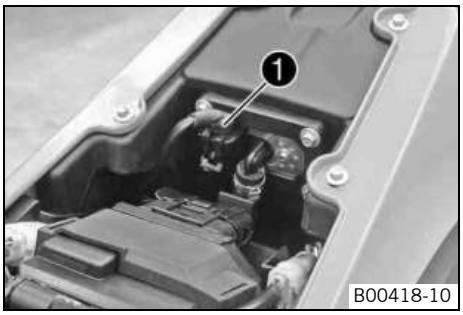
Removing the fuel tank

Danger
Fire hazard Fuel is highly flammable.

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

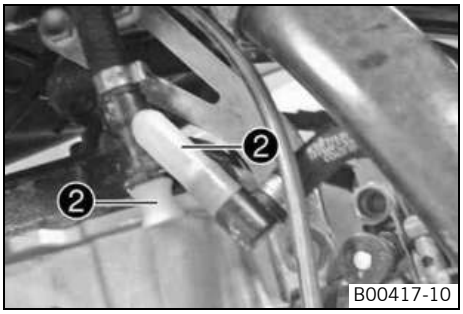
Warning
Danger of poisoning Fuel is poisonous and a health hazard.

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



– Remove the seat. (☛ p. 39)
– Disconnect electric plug-in connection ❶ of the fuel pump.
– Thoroughly clean the plug-in connection of the fuel line using compressed air.

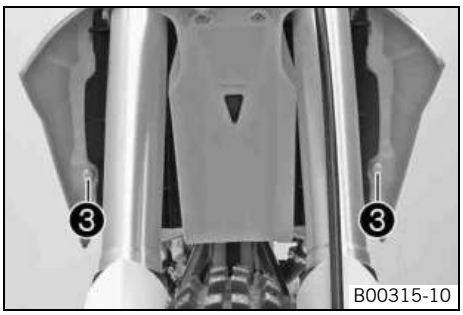
Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line will clog the fuel injection jets.



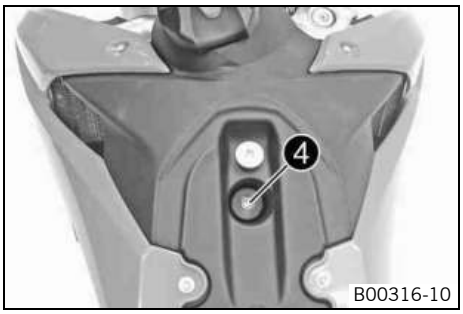
– Disconnect the plug-in connection of the fuel line.
– Mount wash cap set ❷.

Wash cap set (81212016000)

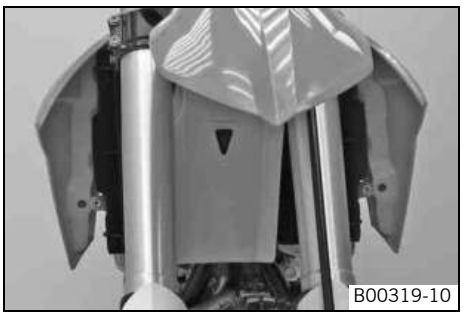
– Remove the tube from the fuel tank breather.



– Remove screws ❸ with the collar bushing.



– Remove screw ❹ with the rubber bushing.



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

Installing the fuel tank

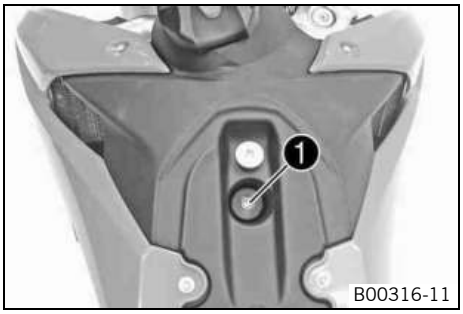
Danger
Fire hazard Fuel is highly flammable.

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

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

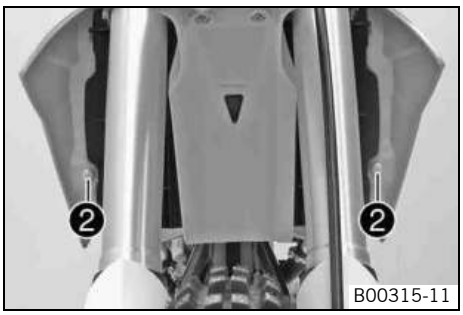
– Avoid contact of the fuel with skin, eyes and clothing. Do not inhale fuel vapors. If fuel gets into your eyes, rinse immediately with water and contact a doctor. Wash affected skin areas immediately with soap and water. If fuel is swallowed, contact a doctor immediately. Change clothing that has come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

– Check the throttle cable routing. (☛ p. 48)



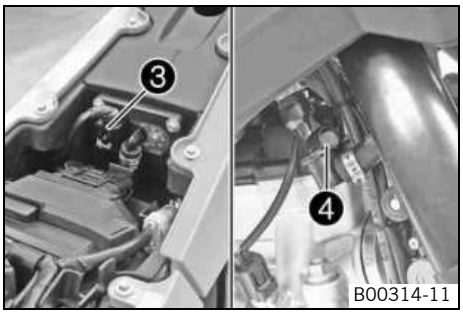
– Position the fuel tank and fit the two spoilers to the sides of the radiator bracket.
– Make sure that no cables are trapped or damaged.
– Mount the fuel tank breather.
– Mount and tighten screw ❶ with the rubber bushing.
Guideline

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



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

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



– Connect the electrical plug-in connection ❸.
– Thoroughly clean the plug-in connection of the fuel line using compressed air.

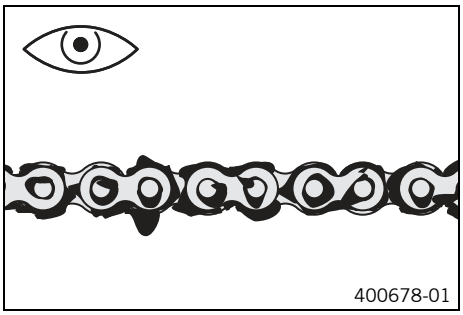
Info
Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line will clog the fuel injection jets.

– Remove the wash cap set. Lubricate the O-ring and connect plug-in connection ❹ of the fuel line.

Info
Route the cable and fuel line at a safe distance from the exhaust system.

– Mount the seat. (☛ p. 39)

Checking for chain dirt accumulation



– Check the chain for coarse dirt accumulation.
» If the chain is very dirty:
– Clean the chain. (☛ p. 44)

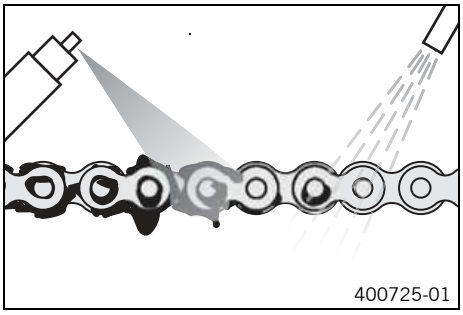
Cleaning the chain

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

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

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

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



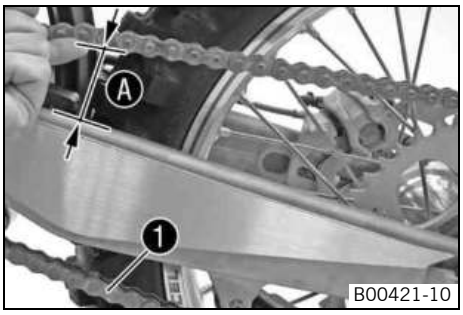
– Clean the chain regularly and then treat with chain spray.

Chain cleaner (☛ p. 92)
Off-road chain spray (☛ p. 92)

Checking the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

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



– Raise the motorcycle with the lift stand. (☛ p. 31)
– Push the chain at the end of the chain sliding component upwards to measure the chain tension Ⓐ.

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

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

» If the chain tension does not meet specifications:
– Adjust the chain tension. (☛ p. 45)

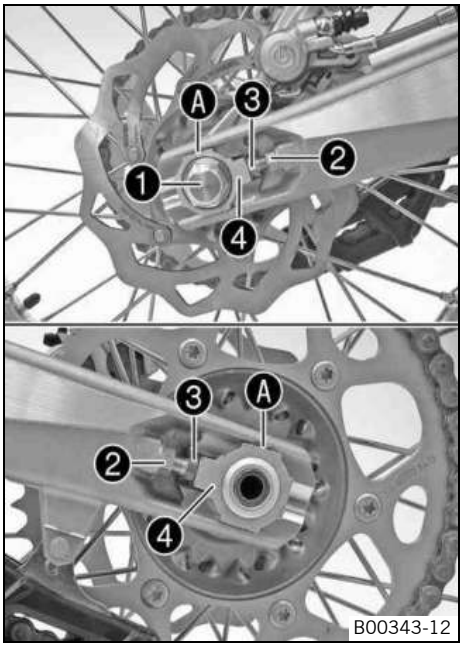
– Remove the motorcycle from the lift stand. (☛ p. 31)

Adjusting the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

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

– Raise the motorcycle with the lift stand. (☛ p. 31)
– Check the chain tension. (☛ p. 45)



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

Chain tension	55... 58 mm (2.17... 2.28 in)
Turn adjusting screws ❸ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks Ⓐ. The rear wheel is then correctly aligned.	

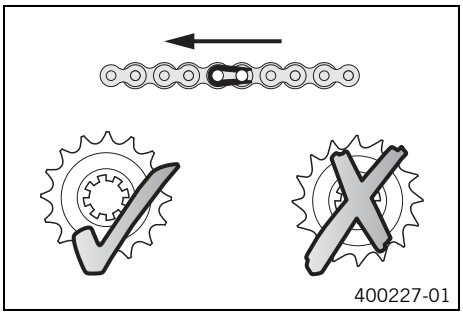
– Tighten nuts ❷.
– Make sure that chain adjusters ❹ are fitted correctly on adjusting screws ❸.
– Tighten nut ❶.
Guideline

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

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

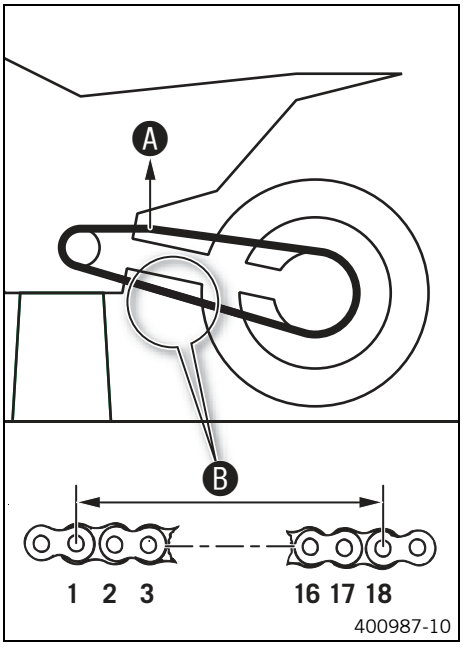
– Remove the motorcycle from the lift stand. (☛ p. 31)

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



– Raise the motorcycle with the lift stand. (☛ p. 31)
– Shift gear to neutral.
– Check the rear sprocket and engine sprocket for wear.
» If the rear sprocket and engine sprocket are worn:
– Replace the rear sprocket or engine sprocket.

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



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

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

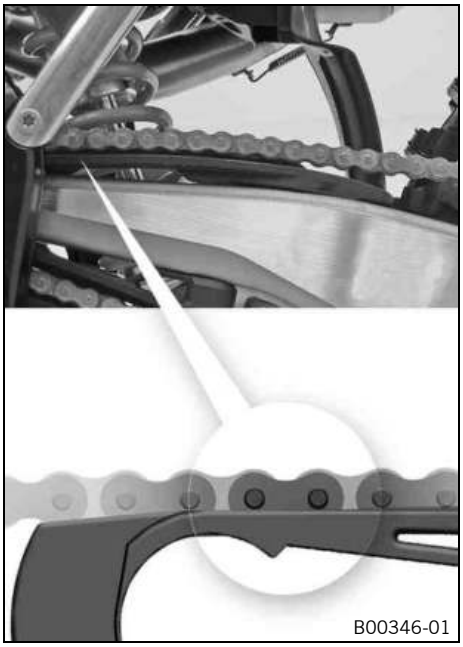
– Measure the distance Ⓑ of 18 chain links in the lower chain section.

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

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

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

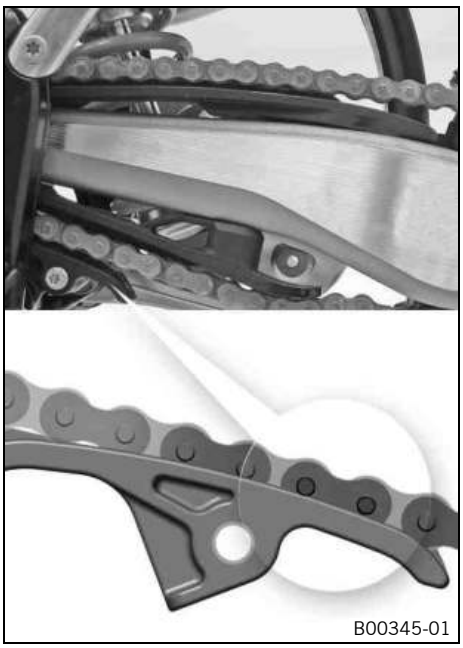
Info
When the chain is replaced, the rear sprocket and engine sprocket should also be changed.
New chains wear out faster on old, worn sprockets.


B00346-01

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

    Guideline

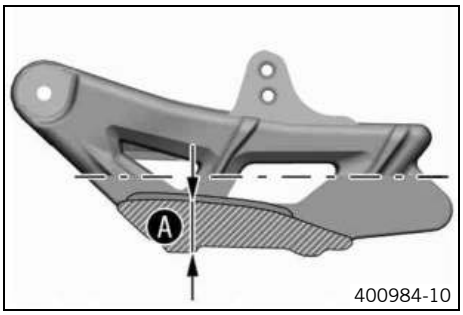
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**


B00345-01

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

    Guideline

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

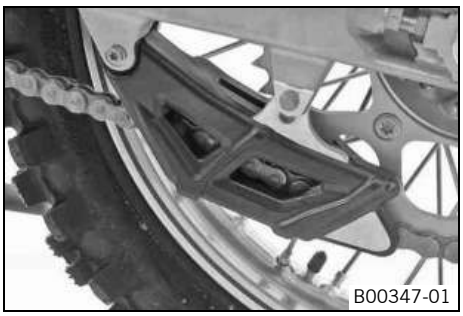


400984-10

– Measure material thickness Ⓐ at the bottom of the chain guide.

Minimum distance Ⓐ at the lowest point	12 mm (0.47 in)

  » If distance Ⓐ is less than the specified measurement:
    – Change the chain guide.


B00347-01

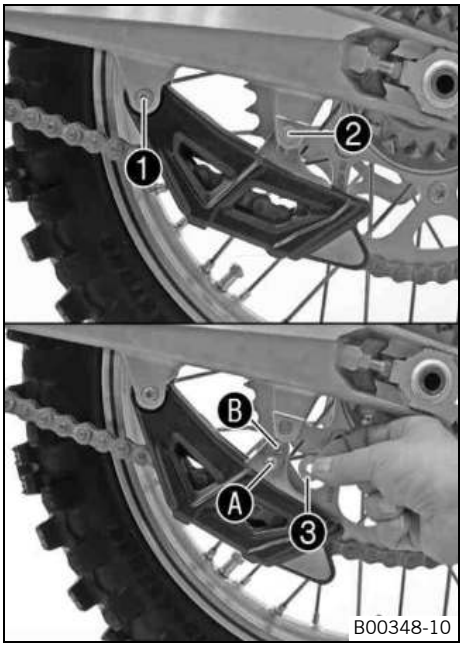
– Check that the chain guide is firmly seated.
  » If the chain guide is loose:
    – Tighten the chain guide.

    Guideline

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

– Remove the motorcycle from the lift stand. (☛ p. 31)

Adjusting the chain guide



– Loosen screw ❶. Remove screw ❷. Swing the chain guide down.

Condition

Number of teeth: ≤ 44 teeth

– Insert collar bushing ❸ in hole Ⓐ. Position the chain guide.
– Mount and tighten screw ❷. Tighten screw ❶.

Guideline

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

Condition

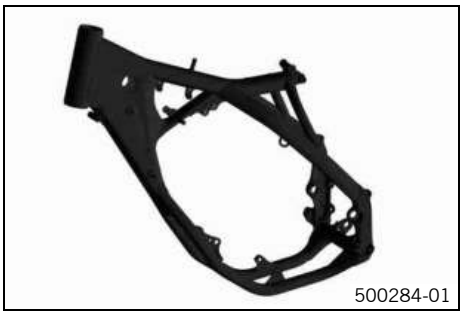
Number of teeth: ≥ 45 teeth

– Insert collar bushing ❸ in hole Ⓑ. Position the chain guide.
– Mount and tighten screw ❷. Tighten screw ❶.

Guideline

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

Checking the frame



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

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

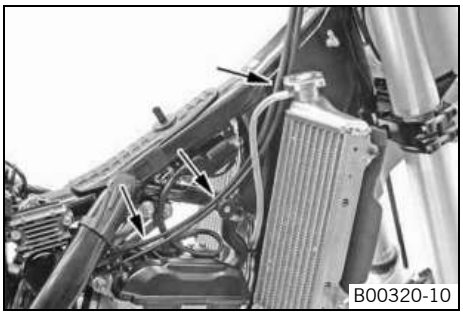
Checking the swingarm



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

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

Checking the throttle cable routing

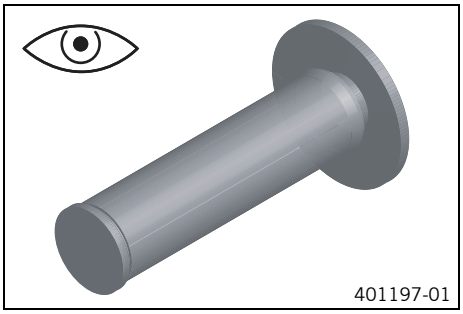


– Remove the fuel tank. (p. 42)
– Check the throttle cable routing.

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

» If the throttle cable is not routed as specified:
– Correct the throttle cable routing.
– Install the fuel tank. (p. 43)

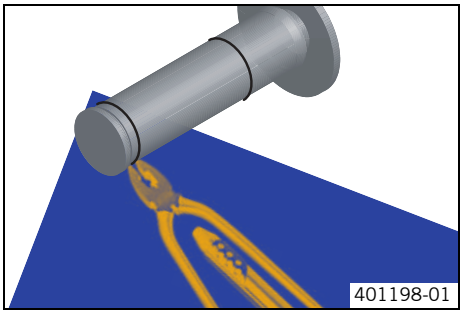
Checking the rubber grip


401197-01

– Check the rubber grips on the handlebar for damage and wear and to ensure they are firmly seated.
  » If a rubber grip is damaged, worn or loose:
    – Change and secure the rubber grip.

Rubber grip adhesive (00062030051) (☛ p. 93)

Additionally securing the rubber grip

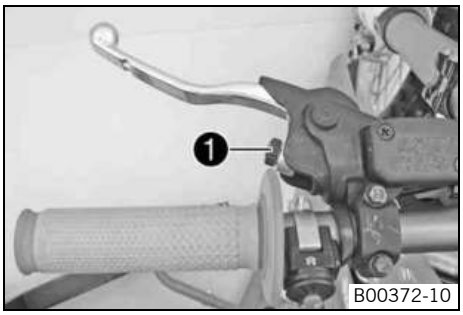

401198-01

– Check the rubber grip. (☛ p. 49)
– Secure the rubber grip at two points using the securing wire.

Securing wire (54812016000)
Wire twister forceps (U6907854)

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

Adjusting the basic position of the clutch lever



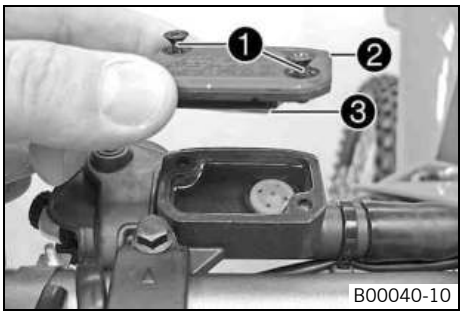
B00372-10

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

Info
Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.
Turn the adjusting screw clockwise to increase 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 increased wear of the clutch lining discs.



B00040-10

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

Fluid level below container rim	4 mm (0.16 in)

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

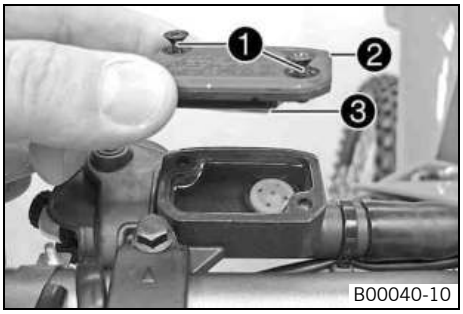
Brake fluid DOT 4 / DOT 5.1 (☛ p. 90)

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

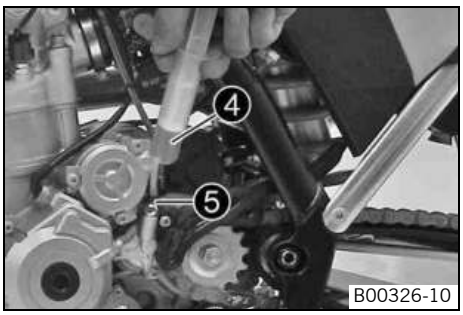
Changing the hydraulic clutch fluid

Warning
Environmental hazard Hazardous substances cause environmental damage.

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



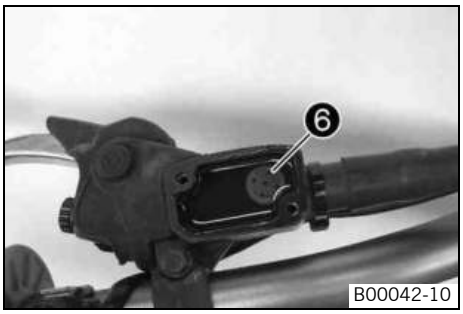
– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.



– Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

Bleed syringe (50329050000)
Brake fluid DOT 4 / DOT 5.1 (☛ p. 90)

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



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

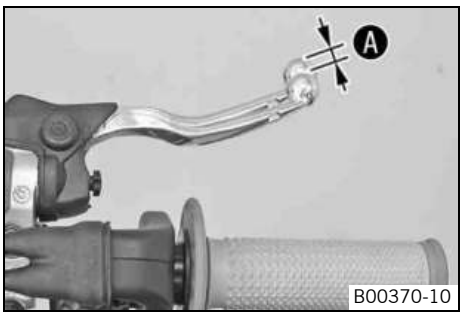
Fluid level below container rim	4 mm (0.16 in)

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

Checking the free travel of the hand brake lever

Warning
Danger of accidents Brake system failure.

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

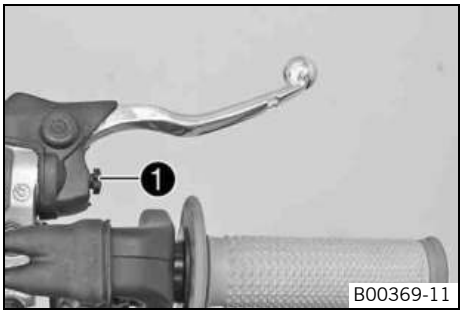


– Push the hand brake lever forward and check free travel ❹.

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

» If the free travel does not meet specifications:
– Adjust the basic position of the hand brake lever. (☛ p. 51)

Adjusting the basic position of the hand brake lever



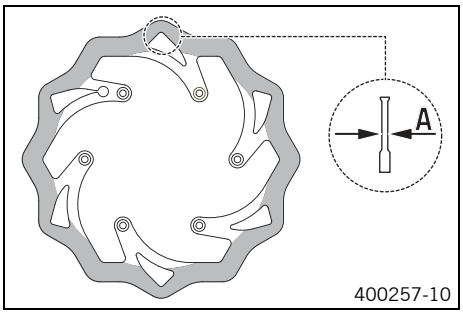
– Check the free travel of the hand brake lever. (☛ p. 51)
– Adjust the basic setting of the hand brake lever to your hand size by turning adjusting screw ❶.

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

Checking the brake discs

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

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



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

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

Brake discs - wear limit	
Front	2.5 mm (0.098 in)
Rear	3.5 mm (0.138 in)

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

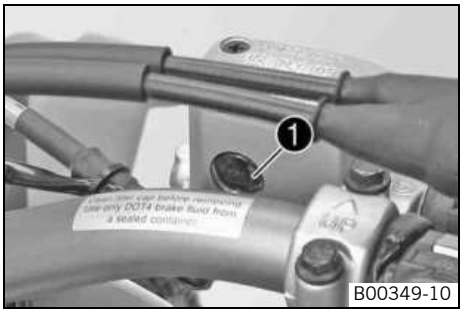
Checking the front brake fluid level

Warning
Danger of accidents Failure of the brake system.

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

Warning
Danger of accidents Reduced braking effect caused by old brake fluid.

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



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in the viewer ❶.
  » If the brake fluid is below the **MIN** marking:
    – Add front brake fluid. 🔧 (☛ p. 52)

Adding front brake fluid 🔧

Warning
Danger of accidents Failure of the brake system.

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

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

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

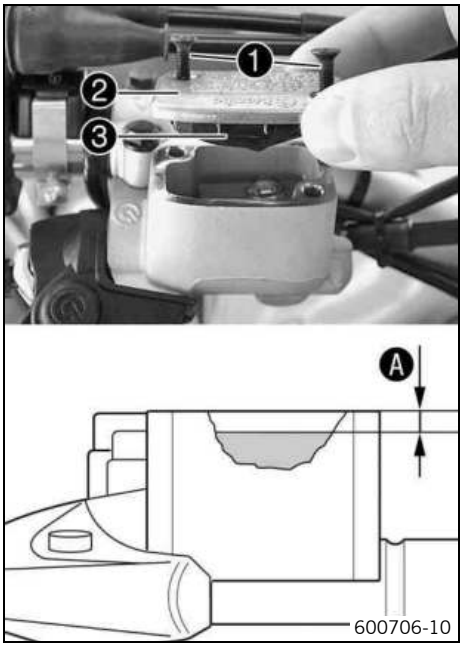
Warning
Danger of accidents Reduced braking effect caused by old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

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



– 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

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

Brake fluid DOT 4 / DOT 5.1 (☛ p. 90)

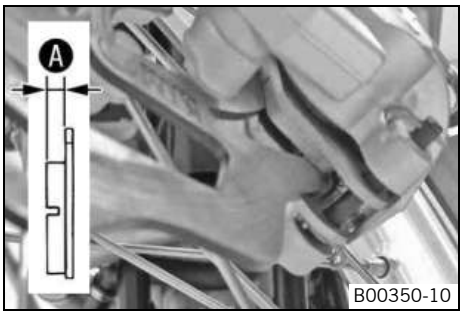
– Position the cover with the membrane. Mount and tighten the screws.

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

Checking the front brake linings

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

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



– Check the brake linings for minimum thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
  – Change the front brake linings. 🔧 (☛ p. 53)
– Check the brake linings for damage and cracking.
» If damage or cracking is visible:
  – Change the front brake linings. 🔧 (☛ p. 53)

Changing the front brake linings 🔧

Warning
Danger of accident Brake system failure.

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

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

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

Warning
Danger of accidents Reduced braking effect caused by old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

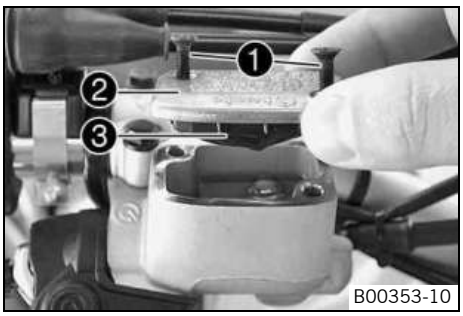
Warning

Environmental hazard Hazardous substances cause environmental damage.

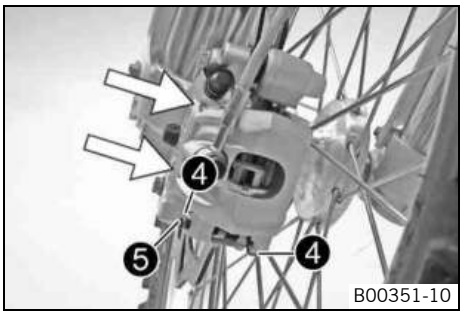
– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

Info

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



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

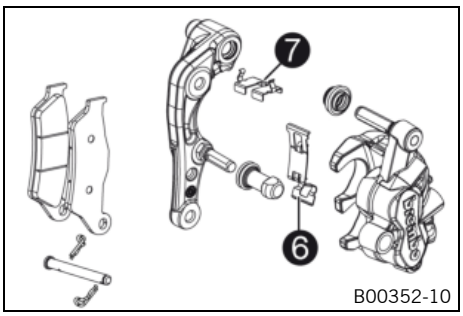


– Press the brake caliper toward the brake disc to push back the brake pistons and ensure that no brake fluid runs out of the brake fluid reservoir, sucking it off if it does.

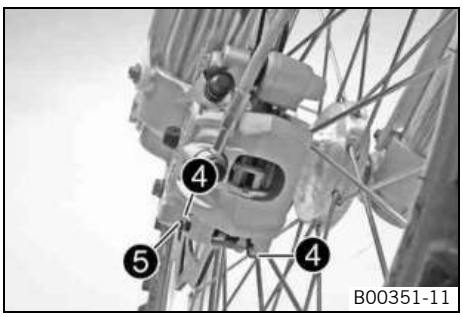
Info

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

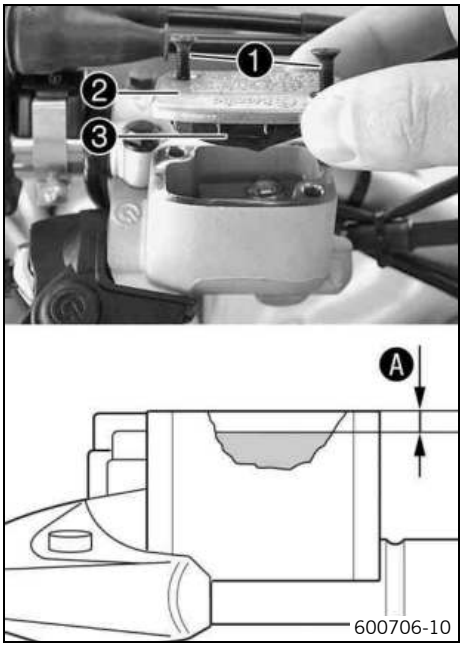
– Remove the locking split pins ❹, pull out the pin ❺ and remove the brake linings.
– Clean the brake caliper and brake caliper support.



– Check that leaf spring ❻ in the brake caliper and sliding plate ❼ in the brake caliper support are seated correctly.



– Insert the brake linings, insert pin ❺, and mount locking split pins ❹.
– Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.



– Add brake fluid to level ❹.

Guideline

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

Brake fluid DOT 4 / DOT 5.1 (☛ p. 90)

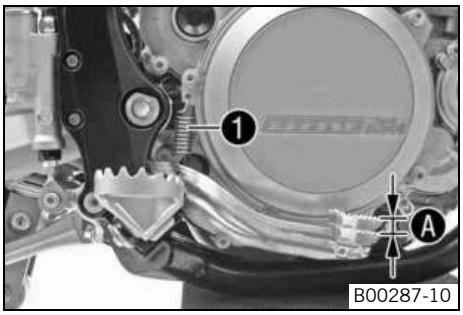
– Position cover ❷ with membrane ❸.
– Mount and tighten screws ❶.

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

Checking the free travel of foot brake lever

Warning
Danger of accidents Brake system failure.

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



– Disconnect spring ❶.
– Move the foot brake lever back and forth between the end stop and the contact to the foot brake cylinder piston and check free travel ❹.

Guideline

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

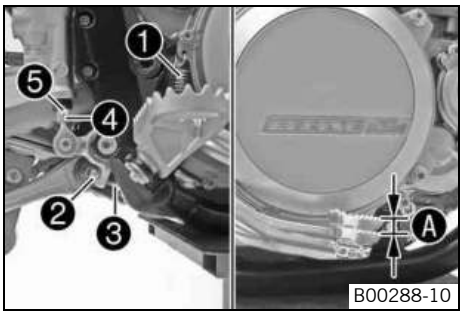
» If the free travel does not meet specifications:
– Adjust the basic position of the foot brake lever. 🔧 (☛ p. 55)

– Reconnect spring ❶.

Adjusting the basic position of the foot brake lever 🔧

Warning
Danger of accidents Brake system failure.

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



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

Info
The range of adjustment is limited.

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

Guideline

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

– Hold screw ❸ and tighten nut ❷.

Guideline

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

– Hold push rod ❺ and tighten nut ❹.

Guideline

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

– Reconnect spring ❶.

Checking the rear brake fluid level

Warning

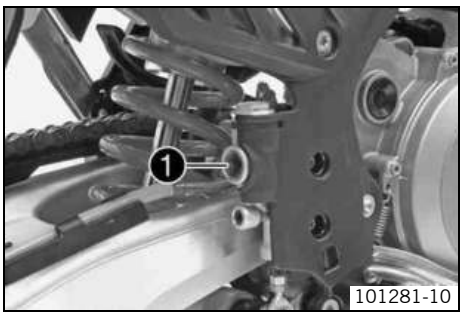
Danger of accidents Failure of the brake system.

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

Warning

Danger of accidents Reduced braking effect caused by old brake fluid.

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



– Stand the vehicle upright.
– Check the brake fluid level in the viewer ❶.
  » When in the viewer ❶ an air bubble is visible:
    – Add rear brake fluid. 🔧 (☛ p. 56)

Adding rear brake fluid 🔧

Warning

Danger of accidents Failure of the brake system.

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

Warning

Skin irritation Brake fluid can cause skin irritation on contact.

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

Warning

Danger of accidents Reduced braking effect caused by old brake fluid.

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

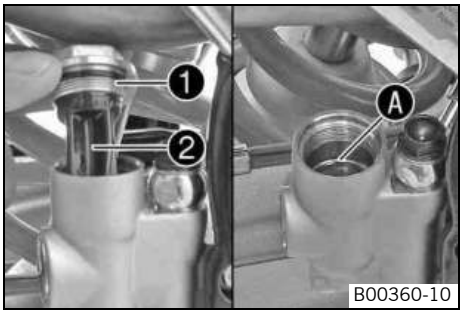
Warning

Environmental hazard Hazardous substances cause environmental damage.

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

Info

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



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

Brake fluid DOT 4 / DOT 5.1 (☛ p. 90)

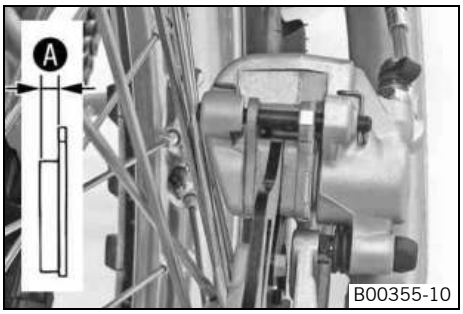
– Mount and tighten the screw cap with the membrane and O-ring.

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

Checking the rear brake linings

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

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



– Check the brake linings for minimum thickness Ⓐ.

Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the rear brake linings. 🔧 (☛ p. 57)

– Check the brake linings for damage and cracking.
» If damage or cracking is visible:
– Change the rear brake linings. 🔧 (☛ p. 57)

Changing the rear brake linings 🔧

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

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

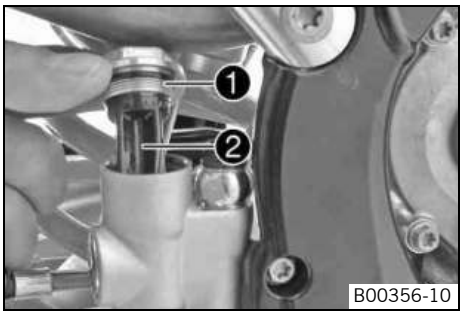
Warning
Danger of accidents Reduced braking effect caused by old brake fluid.

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

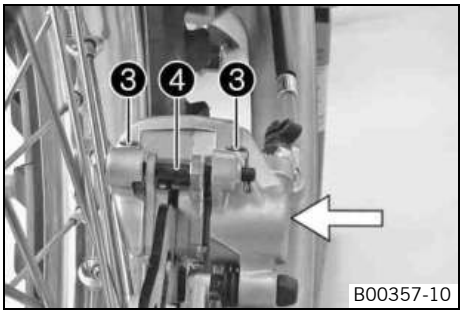
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

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



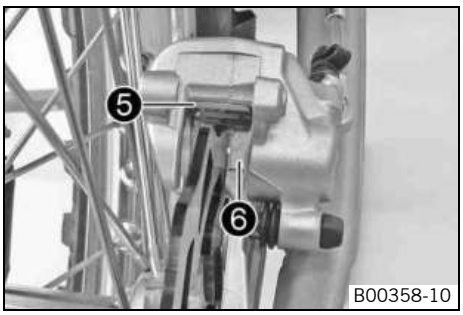
– Stand the vehicle upright.
– Remove screw cap ❶ with membrane ❷ and the O-ring.



– Press the brake caliper toward the brake disc to push back the brake piston and ensure that no brake fluid runs out of the brake fluid reservoir, sucking it off if it does.

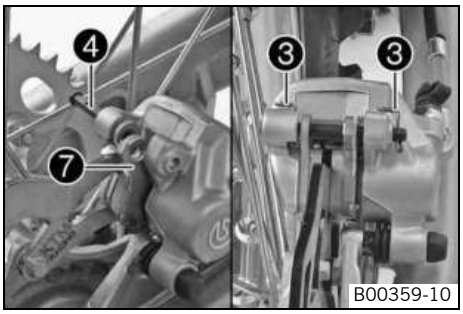
Info
Make sure when pushing back the brake piston that you do not press the brake caliper against the spokes.

– Remove locking split pins ❸, withdraw pin ❹, and take out the brake linings.
– Clean the brake caliper and brake caliper support.



– Check that leaf spring ❺ in the brake caliper and sliding plate ❻ in the brake caliper support are seated correctly.

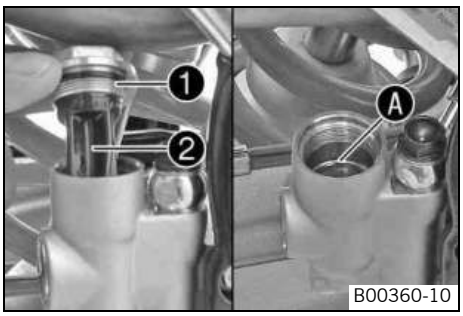
Info
The arrow on the leaf spring points in the rotation direction of the brake disc.



– Insert the brake linings, insert pin ❹, and mount locking split pins ❸.

Info
Make sure that the decoupling plate ❼ is mounted on the piston side of the brake lining.

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



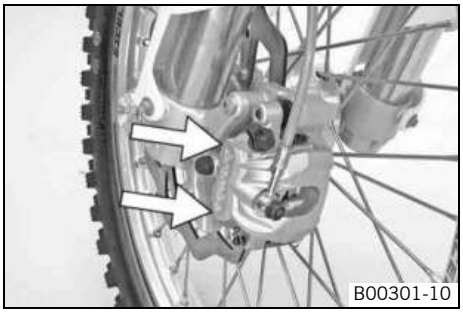
– Add brake fluid to level Ⓐ.

Brake fluid DOT 4 / DOT 5.1 (☛ p. 90)

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

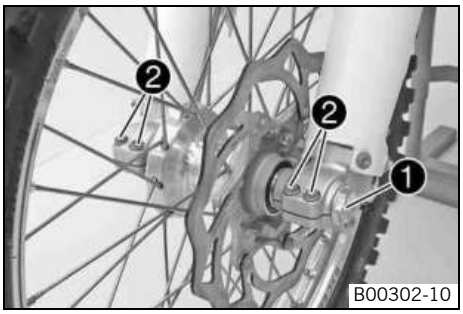
Info
Clean up overflowed or spilt brake fluid immediately with water.

Removing the front wheel

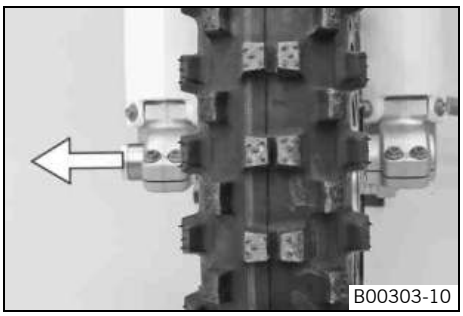


– Raise the motorcycle with the lift stand. (☛ p. 31)
– Press the brake caliper onto the brake disc by hand in order to push back the brake pistons.

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

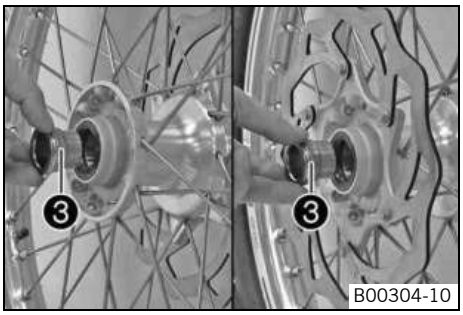


– Remove screw ❶.
– Loosen screws ❷.



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

Info
Do not pull the hand brake lever when the front wheel is removed.
Always lay the wheel down in such a way that the brake disc is not damaged.

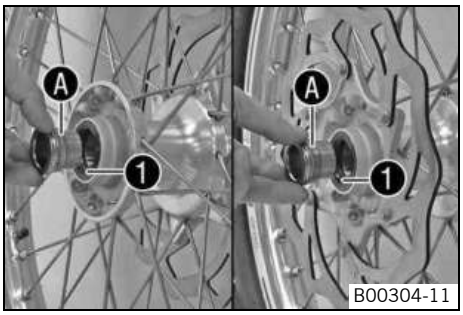


– Remove spacers ❸.

Installing the front wheel

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

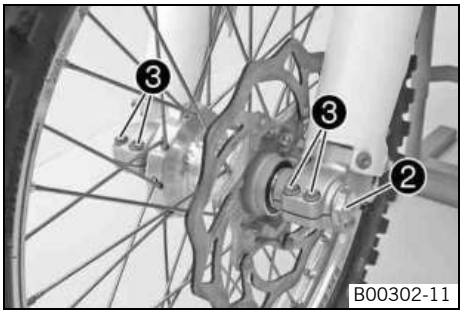
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



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

Long-life grease (☛ p. 92)

– Insert the spacers.
– Lift the front wheel into the fork, position it, and insert the wheel spindle.



– Mount and tighten screw ❷.

Guideline

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

– Activate the hand brake lever multiple times until the brake linings are in contact with the brake disc.
– Remove the motorcycle from the lift stand. (☛ p. 31)
– Pull the front brake and compress the fork powerfully a few times.

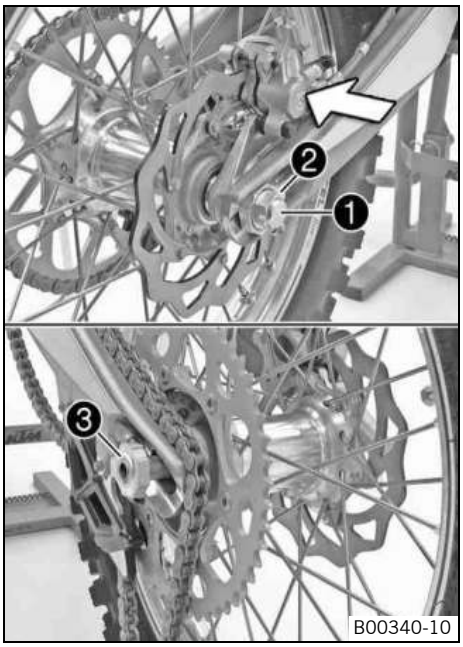
✓ The fork legs straighten.

– Tighten screws ❸.

Guideline

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

Removing the rear wheel

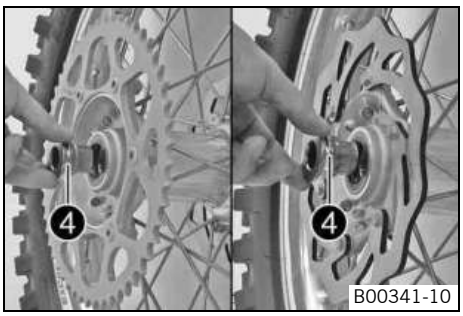


– Raise the motorcycle with the lift stand. (☛ p. 31)
– Press the brake caliper onto the brake disc by hand in order to push back the brake piston.

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

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

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

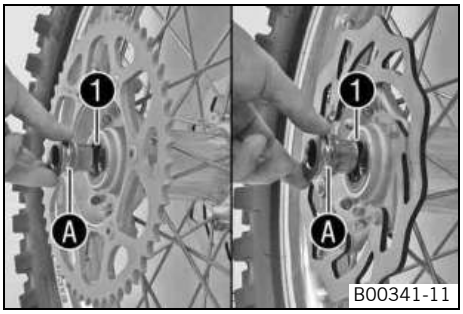


– Remove spacers ❹.

Installing the rear wheel

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

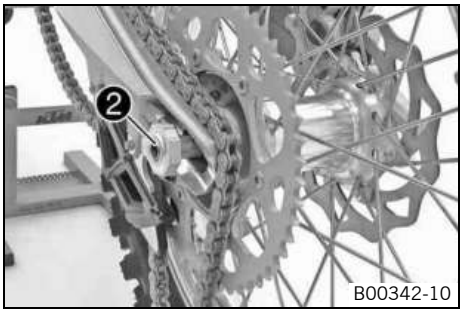
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.



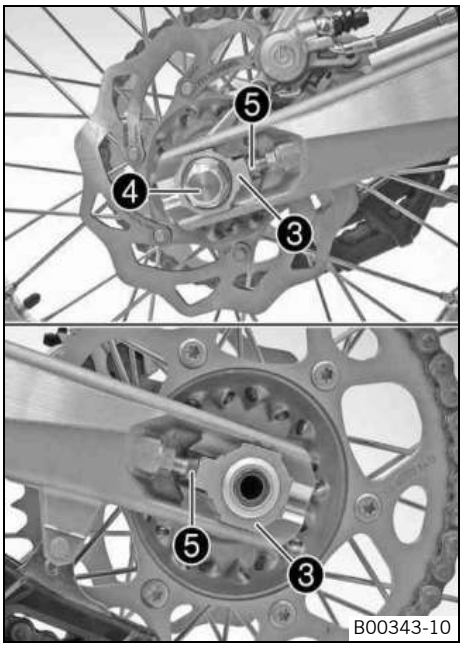
– Check the wheel bearing for damage and wear.
  » If the wheel bearing is damaged or worn:
    – Change the wheel bearing.
– Clean and grease the shaft seal rings ❶ and contact surface Ⓐ of the spacers.

Long-life grease (☛ p. 92)

– Insert the spacers.



– Lift the rear wheel into the swing arm, position it, and insert the wheel spindle ❷.
– Put the chain on.



– Position chain adjuster ❸. Mount nut ❹, but do not tighten it yet.
– Make sure that chain adjusters ❸ are fitted correctly on adjusting screws ❺.
– Check the chain tension. (☛ p. 45)
– Tighten nut ❹.

Guideline

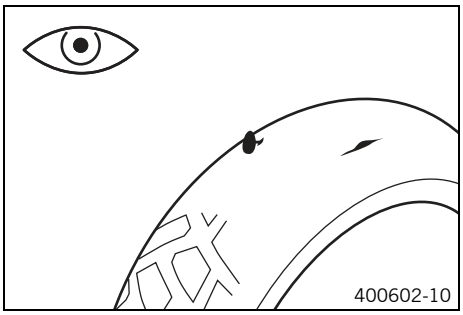
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)

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

– Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
– Remove the motorcycle from the lift stand. (☛ p. 31)

Checking the tire condition

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



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

Info
Note local national regulations concerning the minimum tread depth.

Minimum tread depth	≥ 2 mm (≥ 0.08 in)

  » If the tread depth is less than the minimum permissible depth:

– Change the tire.

– Check the tire age.

Info

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

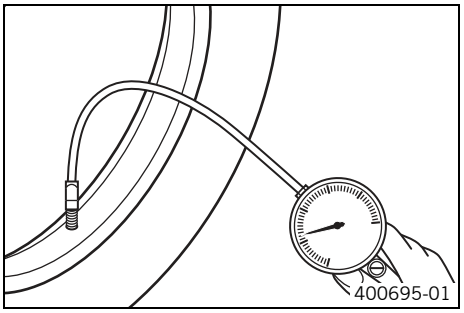
» If the tire is older than five years:

– Change the tire.

Checking the tire air pressure

Info

Low tire air pressure leads to abnormal wear and overheating of the tire.
Correct tire air pressure ensures optimal riding comfort and maximum tire service life.



– Remove the dust cap.

– Check the tire air pressure when the tires are cold.

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

» If the tire pressure does not meet specifications:

– Correct the tire pressure.

– Mount the dust cap.

Checking the spoke tension

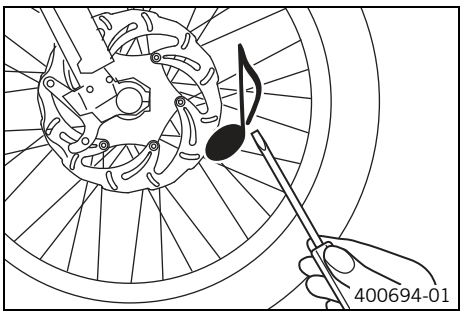
Warning

Danger of accidents Instable handling due to incorrect spoke tension.

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

Info

A loose spoke causes wheel imbalance and rapidly leads to more loose spokes.
If the spokes are too tight, they can break due to local overload.
Check the spoke tension regularly, especially on a new motorcycle.



– Briefly strike each spoke with the tip of a screwdriver.

Info

The tone frequency depends on the length of the spoke and the spoke diameter.
If you hear different tone frequencies from different spokes of equal length and diameter, this is an indication of different spoke tensions.

You should hear a high note.

» If the spoke tension varies:

– Correct the spoke tension.

– Check the spoke torque.

Guideline

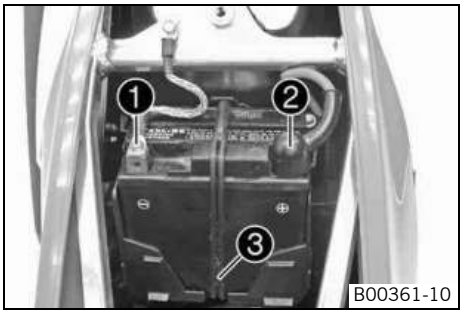
Spoke nipple, front wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)
Spoke nipple, rear wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)

Torque wrench with various accessories in set (58429094000)

Removing the battery

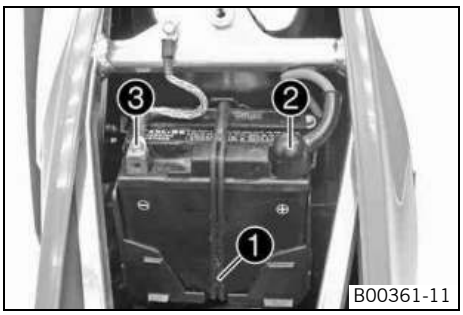
Warning
Risk of injury Battery acid and battery gases cause serious chemical burns.

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



- Switch off all power consumers and switch off the engine.
- Remove the seat. (☛ p. 39)
- Disconnect the negative (minus) cable ❶ of the battery.
- Pull back the positive terminal cover ❷ and disconnect the positive (plus) cable of the battery.
- Detach rubber band ❸ at the bottom.
- Lift the battery up and out.

Installing the battery



- Place the battery in the battery holder.

(All SX-F models) Battery (YTX4L-BS) (☛ p. 83)
(XC-F) Battery (YTX5L-BS) (☛ p. 83)

- Reconnect rubber band ❶.
- Attach the positive cable and replace the positive terminal cover ❷.
- Attach negative cable ❸.
- Mount the seat. (☛ p. 39)

Charging the battery

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

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

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

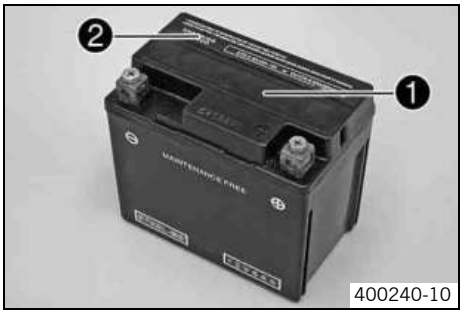
- Do not discard batteries with the household trash. Dispose of a defective battery in an environmentally compatible manner. Give the battery to your KTM dealer or to a recycling center that accepts used batteries.

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info

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



– Switch off all power consumers and switch off the engine.
– Remove the seat. (☛ p. 39)
– Disconnect the negative cable of the battery to avoid damage to the onboard electronics.
– Connect the battery charger to the battery. Switch on the battery charger.

Battery charger (58429074000)

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

Info

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

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

Guideline

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

– Mount the seat. (☛ p. 39)

Changing the main fuse

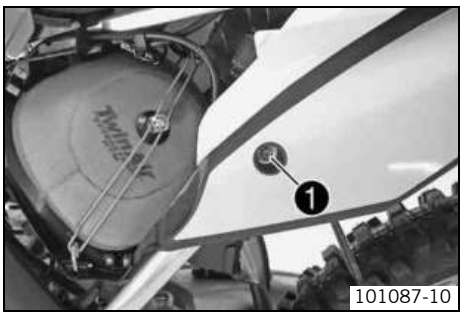
Warning

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

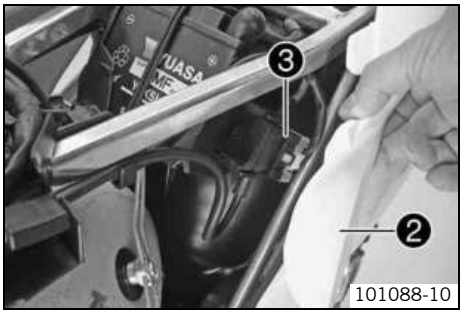
– Use only fuses with the prescribed amperage. Never by-pass or repair fuses.

Info

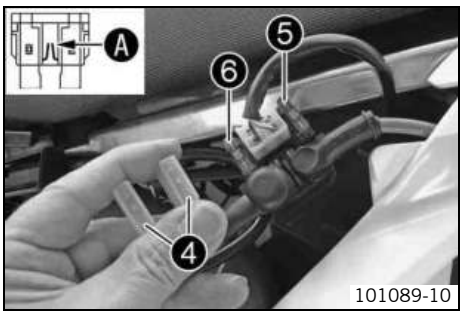
The main fuse protects all power consumers of the vehicle. It is located in the starter relay housing under the filter box cover.



– Switch off all power consumers and switch off the engine.
– Remove the air filter box lid. (☛ p. 39)
– Remove screw ❶.



– Lift rear fairing ❷ slightly and pull starter relay ❸ out of the bracket.



– Remove protection caps ❹.
– Remove the faulty main fuse ❺.

Info
A defective fuse can be identified by the burned-out fuse wire Ⓐ.
A reserve fuse ❻ is located in the starter relay.

– Install a new main fuse.

Fuse (58011109110) (☛ p. 83)

– Check that the electrical equipment is functioning properly.

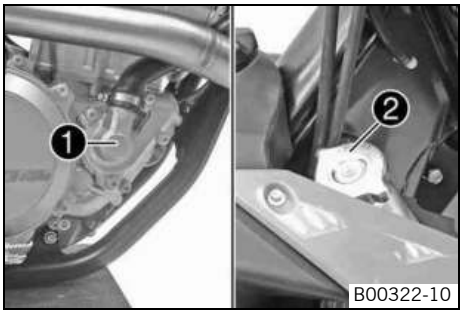
Tip
Insert the spare fuse so that it is available if needed.

– Mount the protection caps.
– Mount the starter relay onto the bracket and lay the cable.
– Position the rear fairing. Mount and tighten the screw.
Guideline

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

– Install the air filter box lid. (☛ p. 40)

Cooling system



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

120 °C (248 °F)

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

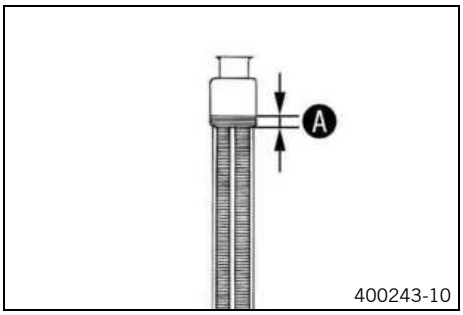
Checking the antifreeze and coolant level

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

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

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

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



Condition
The engine is cold.

– Stand the motorcycle upright on a horizontal surface.
– Remove the radiator cap.
– Check antifreeze of 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 ❹ above radiator fins.	10 mm (0.39 in)

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

Alternative 1

Coolant (☛ p. 90)

Alternative 2

Coolant (mixed ready to use) (☛ p. 90)

– Mount the radiator cap.

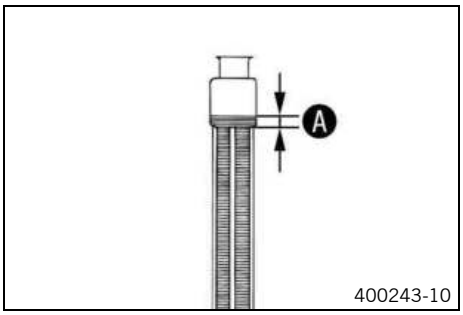
Checking the coolant level

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

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

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

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



Condition
The engine is cold.

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

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

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

Alternative 1

Coolant (☛ p. 90)

Alternative 2

Coolant (mixed ready to use) (☛ p. 90)

– Mount the radiator cap.

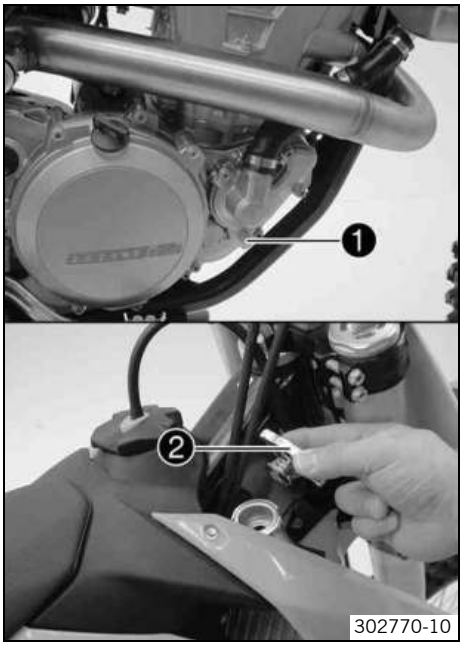
Draining the coolant

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

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

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

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



Condition
The engine is cold.

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

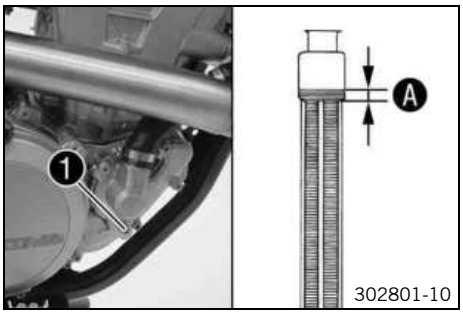
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)

Refilling coolant

Warning

Danger of poisoning Coolant is poisonous and a health hazard.

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



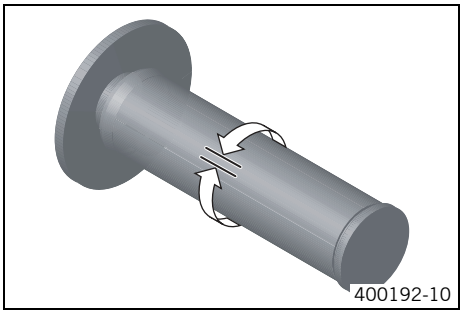
– Make sure that screw ❶ is tightened.
– Position the motorcycle upright.
– Pour coolant in up to measurement Ⓐ above the radiator fins.

Guideline

Dimension Ⓐ over the radiator fins		10 mm (0.39 in)
Coolant	0.95 l (1 qt.)	Coolant (☛ p. 90)
		Coolant (mixed ready to use) (☛ p. 90)

– Mount the radiator cap.
– Take a short test ride.
– Check the coolant level. (☛ p. 66)

Checking the play in the throttle cable


400192-10

– Check the throttle grip for smooth operation.
– Move the handlebar to the straight-ahead position. Move the throttle grip backwards and forwards to ascertain the play in the throttle cable.

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

» If the throttle cable play does not meet specifications:
– Adjust the play in the throttle cable. 🔧 (☛ p. 69)

Danger

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

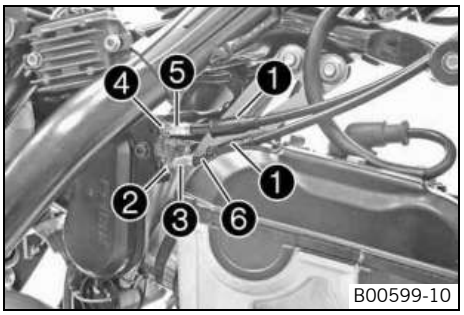
– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

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

The idle speed must not change.

» If the idle speed changes:
– Adjust the play in the throttle cable. 🔧 (☛ p. 69)

Adjusting the play in the throttle cable 🔧



B00599-10

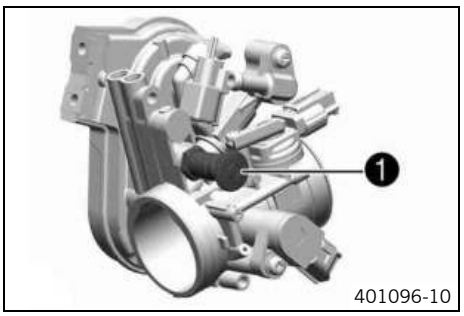
– Check the throttle cable routing. (☛ p. 48)
– Move the handlebar to the straight-ahead position.
– Push back sleeves ❶.
– Loosen nut ❷. Turn adjusting screw ❸ in as far as possible.
– Loosen nut ❹. Turn adjusting screw ❺ so that there is play in the throttle cable at the throttle grip.

Guideline

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

– Tighten nut ❹.
– Press and hold the throttle grip in the closed setting. Turn adjusting screw ❸ out until there is no play in the throttle cable ❻.
– Tighten nut ❷.
– Push sleeves ❶ on. Check the throttle grip for smooth operation.
– Install the fuel tank. 🔧 (☛ p. 43)
– Check the play in the throttle cable. (☛ p. 69)

Adjusting the idle speed 🔧



401096-10

– Run the engine warm and push the idle speed adjusting screw ❶ all the way in.
– Set the desired idle speed by turning the idle speed adjusting screw.

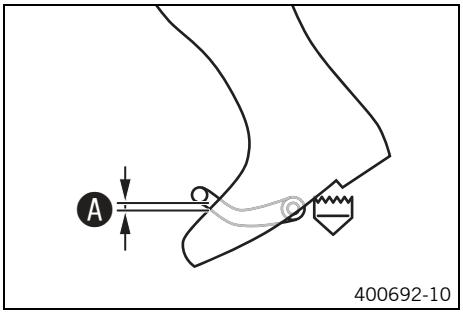
Guideline

Idle speed	2,050... 2,150 rpm

Info

Turn counterclockwise to increase the idle speed.
Turn clockwise to decrease the idle speed.

Checking the basic position of the shift lever

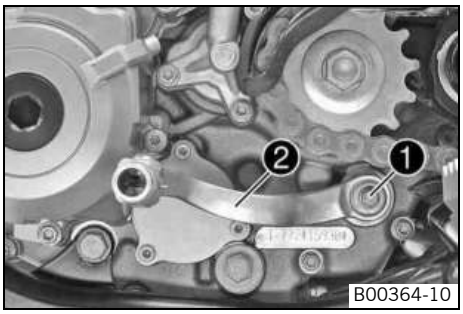


– Sit on the vehicle in the riding position and determine the distance Ⓐ between the upper edge of your boot and the shift lever.

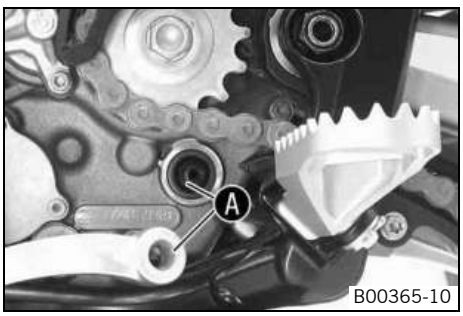
Distance between shift lever and upper edge of boot	10... 20 mm (0.39... 0.79 in)

» If the distance does not meet specifications:
– Adjust the basic position of the shift lever. 🔧 (☛ p. 70)

Adjusting the basic position of the shift lever 🔧



– Remove screw ❶ and take off shift lever ❷.



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

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

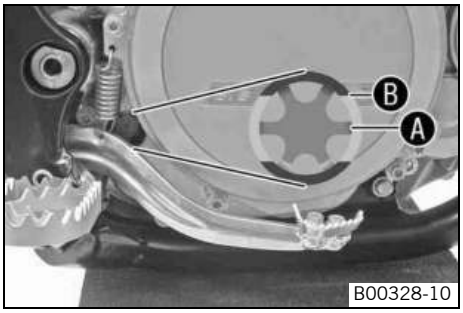
– Mount and tighten the screw.

Guideline

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

Checking the engine oil level

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



– Stand the motorcycle upright on a horizontal surface.

Condition
The engine is cold.

– Check the engine oil level.

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

» If the engine oil is not up to the middle of the level viewer:
– Add engine oil. (☛ p. 73)

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 is at a level between the middle ❹ and upper edge ❺ of the level viewer.

» If the engine oil is not up to the middle ❹ of the level viewer:
– Add engine oil. (☛ p. 73)

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

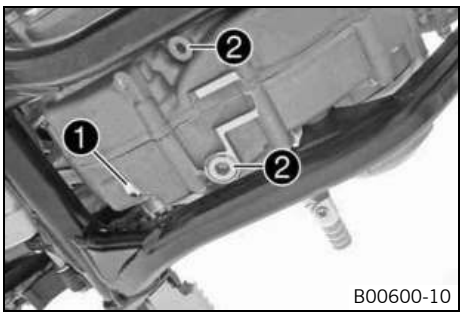
Warning
Danger of scalding Engine oil and gear oil get very hot when the motorcycle is ridden.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

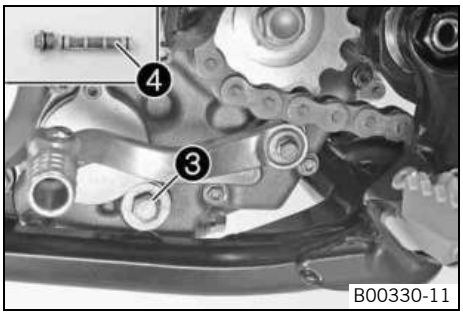
– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.

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



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

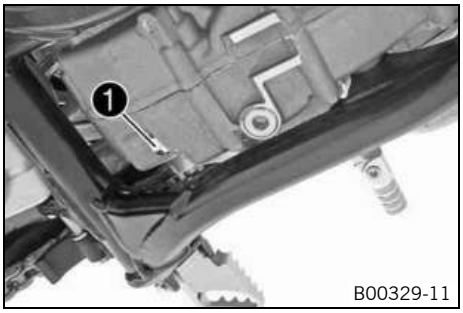
Info
Do not remove screws ❷ on both sides.



– Remove plug ❸ with oil screen ❹ and the O-rings.
– Completely drain the engine oil.
– Thoroughly clean the parts and sealing surfaces.
– Push the oil screen with O-rings onto a pin wrench.
– Push the pin wrench through the opening into the drill hole of the opposite engine case wall and push the oil screen as far as possible into the engine case.
– Mount and tighten screw plug ❸ with the O-ring.

Guideline

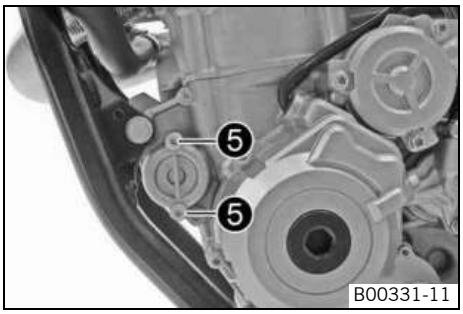
Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)



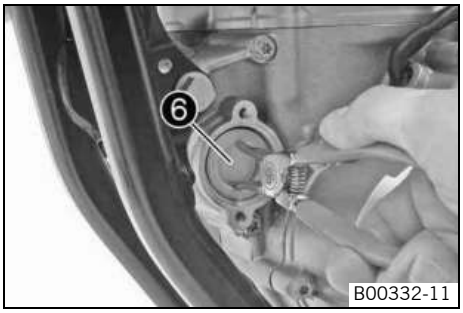
– Mount and tighten the oil drain plug ❶ with the magnet and a new seal ring.

Guideline

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



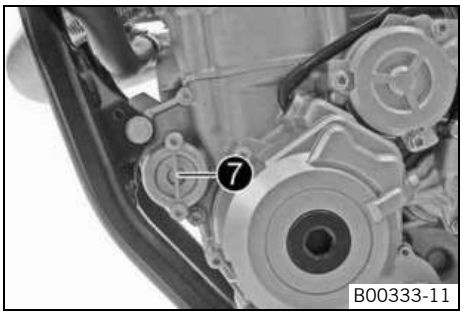
– Remove screws ❺. Remove the oil filter cover with the O-ring.



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

Circlip pliers reverse (51012011000)

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

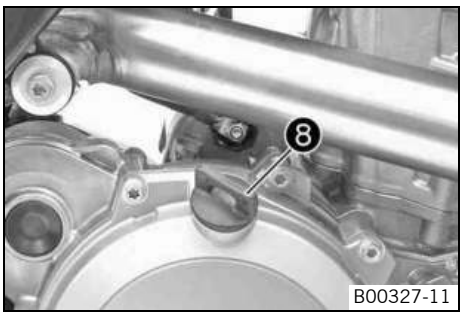


– Lay the motorcycle on its side and fill the oil filter housing to about ⅓ full with engine oil.
– Fill the oil filter with engine oil and place it in the oil filter housing.
– Oil the O-ring of the oil filter cover and mount it with the oil filter cover ❼.
– Mount and tighten the screws.

Guideline

Screw, oil filter cover	M6	10 Nm (7.4 lbf ft)

– Stand the motorcycle upright.



– Remove the oil filler plug ❽ with the O-ring from the clutch cover and fill up with engine oil.

Engine oil	1.10 l (1.16 qt.)	Engine oil (SAE 10W/50) (☛ p. 90)	
		Alternative engine oil for harsh operating conditions and increased performance	Engine oil (SAE 10W/60) (00062010035) (☛ p. 90)

Info

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

– Install and tighten the oil filler plug with O-ring.

Danger

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

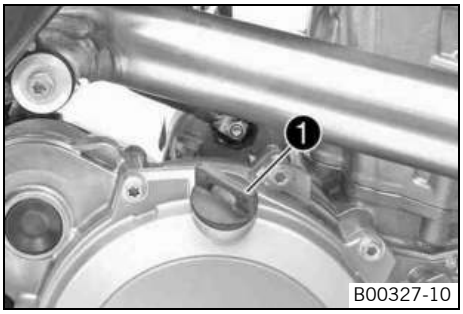
– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

– Start the engine and check that it is oil-tight.
– Check the engine oil level. (☛ p. 71)

Adding engine oil

Info

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



– Remove the oil filler plug ❶ with the O-ring from the clutch cover.
– Add the same engine oil that was used when the motor was changed.

Engine oil (SAE 10W/50) (☛ p. 90)

Alternative 1

Engine oil (SAE 10W/60) (00062010035) (☛ p. 90)

Info

For optimal performance of the engine oil, do not mix different types of engine oil.
If appropriate, change the engine oil.

– Install and tighten the oil filler plug with O-ring.

Danger

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

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

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

Cleaning the motorcycle

Note

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

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

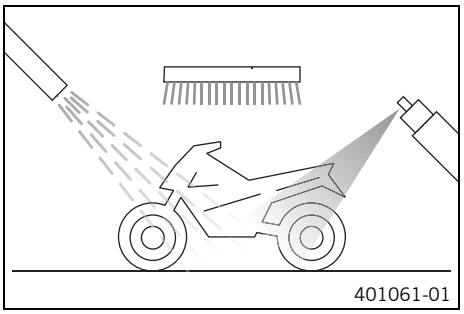
Warning

Environmental hazard Hazardous substances cause environmental damage.

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

Info

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


401061-01

– Close off the exhaust system to prevent water from entering.
– First remove coarse dirt particles with a gentle spray of water.
– Spray very dirty areas with a normal motorcycle cleaner and then clean with a paintbrush.

Motorcycle cleaner (☛ p. 92)

Info

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

– After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.

Warning

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

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

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

Info

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

– Push back the protection caps of the handlebar controls to allow any water that has penetrated to evaporate.
– After the motorcycle has cooled off, lubricate all moving parts and bearings.
– Clean the chain. (☛ p. 44)
– Treat bare metal parts (except for brake discs and exhaust system) with anti-corrosion materials.

Cleaning and preserving materials for metal, rubber and plastic (☛ p. 92)

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

Paint cleaner and polish for high-gloss and matte finishes, bare metal and plastic surfaces (☛ p. 93)

Storage

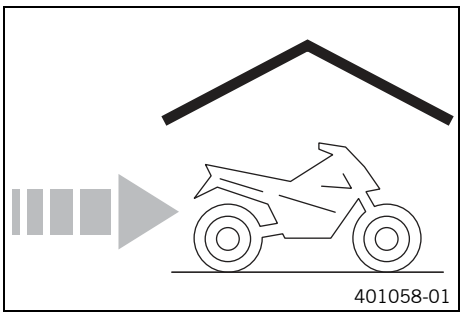
Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

Info

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


401058-01

– Clean the motorcycle. (☛ p. 74)
– Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 71)
– Check the antifreeze and coolant level. (☛ p. 66)
– Drain the fuel from the tanks into a suitable container.
– Check the tire air pressure. (☛ p. 62)
– Remove the battery. 🔧 (☛ p. 63)
– Charge the battery. 🔧 (☛ p. 63)

Guideline

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

– Store the vehicle in a dry location that is not subject to large fluctuations in temperature.

Info

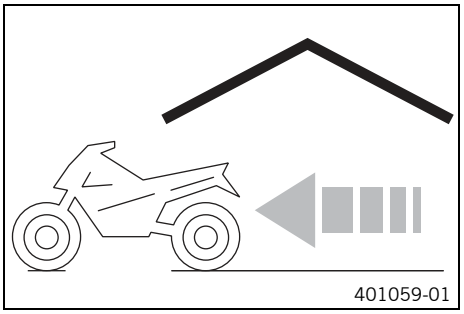
KTM recommends raising the motorcycle.

– Raise the motorcycle with the lift stand. (☛ p. 31)
– Cover the vehicle with a tarp or a cover that is permeable to air.

Info

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

Preparing for use after storage


401059-01

– Remove the motorcycle from the lift stand. (☛ p. 31)
– Install the battery. 🔧 (☛ p. 63)
– Refuel. (☛ p. 20)
– Perform checks and maintenance work when preparing the vehicle for use. (☛ p. 18)
– Make a test ride.

Faults	Possible cause	Action
The engine does not turn when the starter button is pressed	Operating error	– Carry out the start procedure. (☛ p. 18)
	Battery is discharged	– Charge the battery. 🔧 (☛ p. 63) – Check the charging voltage. 🔧 – Check the quiescent current. 🔧 – Check the stator winding of the alternator. 🔧
	Main fuse blown	– Change the main fuse. (☛ p. 64)
	Starter relay defective	– Check the starter relay. 🔧
	Starter motor defective	– Check the starter motor. 🔧
Engine turns but does not start	Coupling of fuel hose connection not joined together	– Join the fuel hose connection.
	Idle speed is not set correctly	– Adjust the idle speed. 🔧 (☛ p. 69)
	Spark plug oily or wet	– Clean and dry the spark plug, or change it if necessary.
	Electrode distance (plug gap) of spark plug too wide	– Adjust the plug gap. Guideline Spark plug electrode gap 0.8 mm (0.031 in)
	Short circuit cable in wiring harness frayed, kill switch defective	– Check the wiring harness. (visual check) – Check the electrical system.
	Plug connector of the EFI control device, ignition pulse generator or ignition coil oxidized	– Clean the plug connection and treat it with contact spray.
	Defect in fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 🔧
Engine does not speed up	Defect in fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 🔧
Engine has too little power	Air filter is very dirty	– Clean the air filter and air filter box. 🔧 (☛ p. 41)
	Fuel filter is very dirty	– Change the fuel filter. 🔧
	Defect in fuel injection system	– Read out the fault memory using the KTM diagnostics tool. 🔧
	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer	– Check exhaust system for damage. – Change the glass fiber yarn filling of the main silencer. 🔧 (☛ p. 42)
	Valve clearance too little	– Adjust the valve clearance. 🔧
Engine dies during the trip	Lack of fuel	– Refuel. (☛ p. 20)
Engine overheats	Too little coolant in cooling system	– Check the cooling system for leakage. – Check the coolant level. (☛ p. 66)
	Too little air stream	– Switch off the engine when standing.
	Radiator fins very dirty	– Clean radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🔧 (☛ p. 67) – Refill the coolant. 🔧 (☛ p. 68)
	Bent radiator hose	– Change the radiator hose. 🔧
FI warning lamp (**MIL**) lights up/flashes	Defect in fuel injection system	– Stop the motorcycle and identify the faulty part using the blink code. – Check the cabling for damage and the electrical plug-in connections for corrosion and damage. – Read out the fault memory using the KTM diagnostics tool. 🔧
High oil consumption	Engine vent hose bent	– Route the vent hose without bends or change it if necessary.
	Engine oil level too high	– Check the engine oil level. (☛ p. 71)
	Engine oil too thin (low viscosity)	– Change the engine oil and oil filter, clean the oil screen. 🔧 (☛ p. 71)

Faults	Possible cause	Action
High oil consumption	Piston and cylinder worn	– Piston/cylinder - determine the mounting clearance.
Battery is discharged	Battery is not charging	– Check the charging voltage. – Check the stator winding of the alternator.
	Unwanted power consumer	– Check the quiescent current.

Blink code FI warning lamp (MIL)	 02 **FI** warning lamp (**MIL**) flashes 2x short
Error level condition	Crankshaft position sensor - circuit fault

Blink code FI warning lamp (MIL)	 06 **FI** warning lamp (**MIL**) flashes 6x short
Error level condition	Throttle position sensor circuit A - input signal too low
	Throttle position sensor circuit A - input signal too high

Blink code FI warning lamp (MIL)	 09 **FI** warning lamp (**MIL**) flashes 9x short
Error level condition	Manifold absolute pressure sensor cylinder 1 - input signal too low
	Manifold absolute pressure sensor cylinder 1 - input signal too high

Blink code FI warning lamp (MIL)	 12 **FI** warning lamp (**MIL**) flashes 1x long, 2x short
Error level condition	Engine coolant temperature sensor - input signal too low
	Engine coolant temperature sensor - input signal too high

Blink code FI warning lamp (MIL)	 13 **FI** warning lamp (**MIL**) flashes 1x long, 3x short
Error level condition	Intake air temperature sensor - input signal to low
	Intake air temperature sensor - input signal too high

Blink code FI warning lamp (MIL)	 15 **FI** warning lamp (**MIL**) flashes 1x long, 5x short
Error level condition	Rollover sensor (A/D type) - input signal too low
	Rollover sensor (A/D type) - input signal too high

Blink code FI warning lamp (MIL)	 33 **FI** warning lamp (**MIL**) flashes 3x long, 3x short
Error level condition	Injector cylinder 1 - circuit fault

Blink code FI warning lamp (MIL)	 37 **FI** warning lamp (**MIL**) flashes 3x long, 7x short
Error level condition	Ignition coil 1, cylinder 1 - circuit fault

Blink code FI warning lamp (MIL)	 41 **FI** warning lamp (**MIL**) flashes 4x long, 1x short
Error level condition	Fuel pump control - short circuit to ground or open circuit
	Fuel pump control - input signal too low

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	349.7 cm³ (21.34 cu in)
Stroke	57.5 mm (2.264 in)
Bore	88 mm (3.46 in)
Compression ratio	13.5:1
Idle speed	2,050... 2,150 rpm
Control	DOHC, four valves controlled via cam lever, drive via timing chain
Valve diameter, intake	36.3 mm (1.429 in)
Valve diameter, exhaust	29.1 mm (1.146 in)
Valve clearance	
Intake at: 20 °C (68 °F)	0.10... 0.15 mm (0.0039... 0.0059 in)
Exhaust at: 20 °C (68 °F)	0.13... 0.18 mm (0.0051... 0.0071 in)
Crankshaft bearing	2 cylinder bearings
Conrod bearing	Needle bearing
Piston pin bearing	Not a bearing bush - DLC-plated piston pins
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with two Eaton pumps
Primary transmission	24:73
Clutch	Multidisc clutch in oil bath/hydraulically activated
Gearbox (All SX-F models)	5-gear, claw shifted
Gearbox (XC-F)	6-gear, claw shifted
Transmission ratio (All SX-F models)	
1st gear	14:28
2nd gear	16:26
3rd gear	18:24
4th gear	21:24
5th gear	22:21
Transmission ratio (XC-F)	
1st gear	15:31
2nd gear	16:25
3rd gear	20:25
4th gear	22:23
5th gear	25:22
6th gear	26:20
Alternator	12 V, 66 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Spark plug	NGK LMAR9AI-8
Spark plug electrode gap	0.8 mm (0.031 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid (All SX-F models)	Electric starter
Starting aid (XC-F)	Kick starter and electric starter

Capacity - engine oil

Engine oil	1.10 l (1.16 qt.)	Engine oil (SAE 10W/50) (☛ p. 90)	
		Alternative engine oil for harsh operating conditions and increased performance	Engine oil (SAE 10W/60) (00062010035) (☛ p. 90)

Capacity - coolant

Coolant	0.95 l (1 qt.)	Coolant (☛ p. 90)
		Coolant (mixed ready to use) (☛ p. 90)

Jet, crank chamber ventilation	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Oil jet for alternator cooling	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Oil jet for balancer shaft lubrication	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Oil jet, conrod lubrication	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Screw, oil jet for piston cooling	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Screw, stator	M4	4 Nm (3 lbf ft)	**Loctite® 648™**
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet for cam lever lubrication	M5	3 Nm (2.2 lbf ft)	**Loctite® 243™**
Oil jet for clutch lubrication	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, piston cooling	M5	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Screw cap, oil channel in alternator cover	M5	3 Nm (2.2 lbf ft)	**Loctite® 243™**
Screw, crankshaft position sensor	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Nut, cylinder head	M6	10 Nm (7.4 lbf ft)	Lubricated with engine oil
Nut, water-pump wheel	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, alternator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch spring	M6	10 Nm (7.4 lbf ft)	–
Screw, cover of torque limiter	M6	10 Nm (7.4 lbf ft)	–
Screw, engine case	M6	10 Nm (7.4 lbf ft)	–
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, kick starter stop (XC-F)	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, oil filter cover	M6	10 Nm (7.4 lbf ft)	–
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift lever	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	–
Screw, timing chain guide rail	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, timing chain securing guide	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, valve cover	M6	8 Nm (5.9 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Stud, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Screw, camshaft bearing bridge	M7x1	14 Nm (10.3 lbf ft)	Lubricated with engine oil
Screw plug, crankshaft location	M8	10 Nm (7.4 lbf ft)	–
Screw, kick starter (XC-F)	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, timing chain tensioning rail	M8	15 Nm (11.1 lbf ft)	**Loctite® 243™**
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**
Plug, oil channel	M10x1	15 Nm (11.1 lbf ft)	**Loctite® 243™**
Rotor screw	M10x1	70 Nm (51.6 lbf ft)	Thread, oiled with engine oil/cone degreased
Screw plug, cam lever axis	M10x1	10 Nm (7.4 lbf ft)	–
Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)	–
Spark plug	M10x1	10... 12 Nm (7.4... 8.9 lbf ft)	–

Nut, cylinder head	M10x1.25	Tightening sequence: Tighten diagonally. 1st tightening stage 10 Nm (7.4 lbf ft) 2nd tightening stage 30 Nm (22.1 lbf ft) 3rd tightening stage 50°	Thread, oiled with engine oil/cone greased
Stud, cylinder head	M10x1.25	20 Nm (14.8 lbf ft)	–
Screw, camshaft drive sprocket	M12x1	80 Nm (59 lbf ft)	**Loctite® 243™**/cone degreased
Engine coolant temperature sensor	M12x1.5	12 Nm (8.9 lbf ft)	–
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)	–
Plug, oil pressure regulator valve	M12x1.5	20 Nm (14.8 lbf ft)	–
Oil drain plug	M14x1.5	15 Nm (11.1 lbf ft)	–
Nut, inner clutch hub	M18x1.5	100 Nm (73.8 lbf ft)	**Loctite® 243™**
Nut, primary gear	M18LHx1.5	100 Nm (73.8 lbf ft)	**Loctite® 243™**
Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)	–
Plug, timing chain tensioner	M24x1.5	25 Nm (18.4 lbf ft)	–
Screw, alternator cover	M24x1.5	18 Nm (13.3 lbf ft)	–

Frame	Central tube frame made of chrome molybdenum steel tubing
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Suspension travel	
Front	300 mm (11.81 in)
Suspension travel (SX-F EU)	
Rear	330 mm (12.99 in)
Suspension travel (SX-F USA, XC-F)	
Rear	317 mm (12.48 in)
Fork offset	22 mm (0.87 in)
Shock absorber	**WP Suspension** 5018 BAVP DCC
Brake system	Disc brakes, brake calipers on floating bearings
Brake discs - diameter	
Front	260 mm (10.24 in)
Rear	220 mm (8.66 in)
Brake discs - wear limit	
Front	2.5 mm (0.098 in)
Rear	3.5 mm (0.138 in)
Tire air pressure off road	
Front	1.0 bar (15 psi)
Rear	1.0 bar (15 psi)
Secondary ratio	14:50
Chain	5/8 x 1/4"
Rear sprockets available	38, 40, 42, 45, 48, 49, 50, 51, 52
Steering head angle	63.5°
Wheelbase	1,495±10 mm (58.86±0.39 in)
Seat height, unloaded	992 mm (39.06 in)
Ground clearance, unloaded	375 mm (14.76 in)
Weight without fuel, approx. (SX-F EU)	105.4 kg (232.4 lb.)
Weight without fuel, approx. (SX-F USA)	106 kg (234 lb.)
Weight without fuel, approx. (XC-F)	107.8 kg (237.7 lb.)
Maximum permissible front axle load	145 kg (320 lb.)
Maximum permissible rear axle load	190 kg (419 lb.)
Maximum permissible overall weight	335 kg (739 lb.)

Battery (All SX-F models)	YTX4L-BS	Battery voltage: 12 V Nominal capacity: 3 Ah Maintenance-free
Battery (XC-F)	YTX5L-BS	Battery voltage: 12 V Nominal capacity: 4 Ah Maintenance-free
Fuse	58011109110	10 A

Lighting equipment

FI warning lamp	LED	
Remaining indicator lamps (XC-F)	W2.3W/socket W2x4.6d	12 V 2.3 W

Tires

Validity	Front tire	Rear tire
(SX-F EU)	**80/100 - 21 M/C 51M TT** Pirelli SCORPION MX Midsoft 32	**110/90 - 19 62M TT** Pirelli SCORPION MX Midsoft 32
(SX-F USA)	**80/100 - 21 51M TT** Dunlop GEOMAX MX51F	**110/90 - 19 62M TT** Dunlop GEOMAX MX51
(XC-F)	**80/100 - 21 51M TT** Dunlop GEOMAX MX51	**110/100 - 18 64M TT** Dunlop GEOMAX MX51
Additional information is available in the Service section under: http://www.ktm.com		

Capacity - fuel

Total fuel tank capacity, approx. (All SX-F models)	7.5 l (1.98 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 91)
Total fuel tank capacity, approx. (XC-F)	9.5 l (2.51 US gal)	Super unleaded (ROZ 95/RON 95/PON 91) (☛ p. 91)

SX-F EU

Fork part number	14.18.7L.07
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Compression damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Spring length with preload spacer(s)	494 mm (19.45 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	4.6 N/mm (26.3 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	4.8 N/mm (27.4 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	5.0 N/mm (28.6 lb/in)
Gas pressure	1.2 bar (17 psi)
Fork length	940 mm (37.01 in)

Oil capacity per cartridge	195 ml (6.59 fl. oz.)	Fork oil (SAE 5) (☛ p. 91)
Oil capacity fork leg without cartridge	390 ml (13.19 fl. oz.)	Fork oil (SAE 5) (☛ p. 91)

SX-F USA

Fork part number	14.18.7L.57
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Compression damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Spring length with preload spacer(s)	494 mm (19.45 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	4.6 N/mm (26.3 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	4.8 N/mm (27.4 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	5.0 N/mm (28.6 lb/in)
Gas pressure	1.2 bar (17 psi)
Fork length	940 mm (37.01 in)

Oil capacity per cartridge	195 ml (6.59 fl. oz.)	Fork oil (SAE 5) (☛ p. 91)
Oil capacity fork leg without cartridge	375 ml (12.68 fl. oz.)	Fork oil (SAE 5) (☛ p. 91)

XC-F

Fork part number	14.18.7L.77
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Compression damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Spring length with preload spacer(s)	492 mm (19.37 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	4.4 N/mm (25.1 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	4.6 N/mm (26.3 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	4.8 N/mm (27.4 lb/in)
Gas pressure	1.2 bar (17 psi)
Fork length	940 mm (37.01 in)

Oil capacity per cartridge	195 ml (6.59 fl. oz.)	Fork oil (SAE 5) (☛ p. 91)
Oil capacity fork leg without cartridge	365 ml (12.34 fl. oz.)	Fork oil (SAE 5) (☛ p. 91)

SX-F EU

Shock absorber part number	18.18.7L.05
Shock absorber	**WP Suspension** 5018 BAVP DCC
Compression damping, low-speed	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, high-speed	
Comfort	2.5 turns
Standard	2 turns
Sport	1.5 turns
Rebound damping	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Spring preload	15 mm (0.59 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	57 N/mm (325 lb/in)
Spring length	260 mm (10.24 in)
Gas pressure	10 bar (145 psi)
Static sag	30 mm (1.18 in)
Riding sag	90 mm (3.54 in)
Fitted length	490 mm (19.29 in)

Shock absorber oil	Shock absorber oil (SAE 2,5) (50180342S1) (☛ p. 91)

SX-F USA

Shock absorber part number	18.18.7L.57
Shock absorber	**WP Suspension** 5018 BAVP DCC
Compression damping, low-speed	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, high-speed	
Comfort	2.5 turns
Standard	2 turns
Sport	1.5 turns
Rebound damping	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Spring preload	12 mm (0.47 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	54 N/mm (308 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	57 N/mm (325 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	60 N/mm (343 lb/in)
Spring length	260 mm (10.24 in)
Gas pressure	10 bar (145 psi)
Static sag	34 mm (1.34 in)
Riding sag	100 mm (3.94 in)

Fitted length	486 mm (19.13 in)

Shock absorber oil	Shock absorber oil (SAE 2,5) (50180342S1) (☛ p. 91)

XC-F

Shock absorber part number	18.18.7L.75
Shock absorber	**WP Suspension** 5018 BAVP DCC
Compression damping, low-speed	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, high-speed	
Comfort	2.5 turns
Standard	2 turns
Sport	1.5 turns
Rebound damping	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Spring preload	12 mm (0.47 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	57 N/mm (325 lb/in)
Spring length	260 mm (10.24 in)
Gas pressure	10 bar (145 psi)
Static sag	34 mm (1.34 in)
Riding sag	100 mm (3.94 in)
Fitted length	486 mm (19.13 in)

Shock absorber oil	Shock absorber oil (SAE 2,5) (50180342S1) (☛ p. 91)

Spoke nipple, front wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)	–
Spoke nipple, rear wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)	–
Screw, intake air temperature sensor	M5	2 Nm (1.5 lbf ft)	–
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)	–
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)	–
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)	–
Screw, ball joint of push rod on foot brake cylinder	M6	10 Nm (7.4 lbf ft)	–
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, front brake disc	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	**Loctite® 243™**
Nut, foot brake lever stop	M8	20 Nm (14.8 lbf ft)	–
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	**Loctite® 2701**
Nut, rim lock	M8	10 Nm (7.4 lbf ft)	–
Remaining nuts, chassis	M8	25 Nm (18.4 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw, bottom triple clamp	M8	12 Nm (8.9 lbf ft)	–
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)	–
Screw, engine brace	M8	33 Nm (24.3 lbf ft)	–
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	–
Screw, front brake caliper	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, side stand attachment (XC-F)	M8	45 Nm (33.2 lbf ft)	**Loctite® 2701**
Screw, subframe	M8	35 Nm (25.8 lbf ft)	**Loctite® 2701**
Screw, top steering stem	M8	17 Nm (12.5 lbf ft)	**Loctite® 243™**
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)	–
Engine carrying screw	M10	60 Nm (44.3 lbf ft)	–
Remaining nuts, chassis	M10	45 Nm (33.2 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw, bottom shock absorber	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**
Screw, handlebar support	M10	40 Nm (29.5 lbf ft)	**Loctite® 243™**
Screw, top shock absorber	M10	60 Nm (44.3 lbf ft)	**Loctite® 2701**
Nut, seat fixing	M12x1	20 Nm (14.8 lbf ft)	–
Nut, frame to linkage lever	M14x1.5	80 Nm (59 lbf ft)	–
Nut, linkage lever on swingarm	M14x1.5	80 Nm (59 lbf ft)	–
Nut, linkage lever to angle lever	M14x1.5	80 Nm (59 lbf ft)	–
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)	–
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)	–
Screw, top steering head	M20x1.5	12 Nm (8.9 lbf ft)	–
Screw-in nozzles, cooling system	M20x1.5	12 Nm (8.9 lbf ft)	**Loctite® 243™**
Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)	–

Brake fluid DOT 4 / DOT 5.1

According to
– DOT

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

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

Motorex®
– **Brake Fluid DOT 5.1**

Coolant

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

Mixture ratio

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

Coolant (mixed ready to use)

Antifreeze	−40 °C (−40 °F)

Supplier
Motorex®
– **Anti Freeze**

Engine oil (SAE 10W/60) (00062010035)

According to
– JASO T903 MA (☛ p. 94)
– SAE (☛ p. 94) (SAE 10W/60)
– KTM LC4 2007+

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®
– **Motorex® KTM Cross Power 4T**

Engine oil (SAE 10W/50)

According to
– JASO T903 MA (☛ p. 94)
– SAE (☛ p. 94) (SAE 10W/50)

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

Synthetic engine oil

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

Fork oil (SAE 5)

According to

– SAE (☛ p. 94) (SAE 5)

Guideline

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

Supplier

Motorex®

– **Racing Fork Oil**

Shock absorber oil (SAE 2,5) (50180342S1)

According to

– SAE (☛ p. 94) (SAE 2,5)

Guideline

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

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

According to

– DIN EN 228 (ROZ 95/RON 95/PON 91)

Guideline

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

Info

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

Air filter cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Twin Air Dirt Bio Remover**

Chain cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chain Clean**

Cleaning and preserving materials for metal, rubber and plastic

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Protect & Shine**

High viscosity grease

Guideline

– KTM recommends **SKF®** products.

Supplier
SKF®

– **LGHB 2**

Long-life grease

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Bike Grease 2000**

Motorcycle cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Moto Clean 900**

Off-road chain spray

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chainlube Offroad**

Oil for foam air filter

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Twin Air Liquid Bio Power**

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

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Clean & Polish**

Rubber grip adhesive (00062030051)

Supplier

KTM-Sportmotorcycle AG

– **GRIP GLUE**

Universal oil spray

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Joker 440 Synthetic**

JASO T903 MA

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

SAE

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

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