OWNER'S MANUAL 2010

450 SX-F EU
450 SX-F USA

Art. no. 3211482en

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 great pleasure riding the vehicle!

Enter the serial numbers of your vehicle below.

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

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

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

KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

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Symbols used

The symbols used are explained in the following.

	Indicates an expected reaction (e.g. of a work step or a function).
	Indicates an unexpected reaction (e.g. of a work step or a function).
	All work marked with this symbol requires specialist knowledge and technical understanding. In the interest of your own safety, have these jobs done in an authorized KTM workshop! There, your motorcycle will be serviced optimally by specially trained experts using the specialist tools required.
	Identifies a page reference (more information is provided on the specified page).

Formats used

The typographical and other formats used are explained in the following.

Specific name	Identifies a specific name.
Name®	Identifies a protected name.
Brand™	Identifies a brand in merchandise traffic.

Use definition

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

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

Maintenance

A prerequisite for trouble free operation and avoiding premature wear is that the engine and suspension are maintained and adjusted as described in this manual. Poor adjustment and tuning of the engine and suspension can lead to damage and breakage of components.
Using a motorcycle in difficult conditions such as on sand or very wet and muddy ground 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.
Pay careful attention to the prescribed running-in period, inspection and maintenance intervals. Observing these rules will vastly increase the service life of 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; otherwise, all warranty claims will be void. No warranty claim can be honored for damage resulting from manipulation and/or other changes to the vehicle.

Fuel, oils, etc.

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

Spare parts, accessories

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

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

Work rules

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

Transport

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

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

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

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

– Switch off the engine.
– Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10☛ p. 11)
– 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.

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.

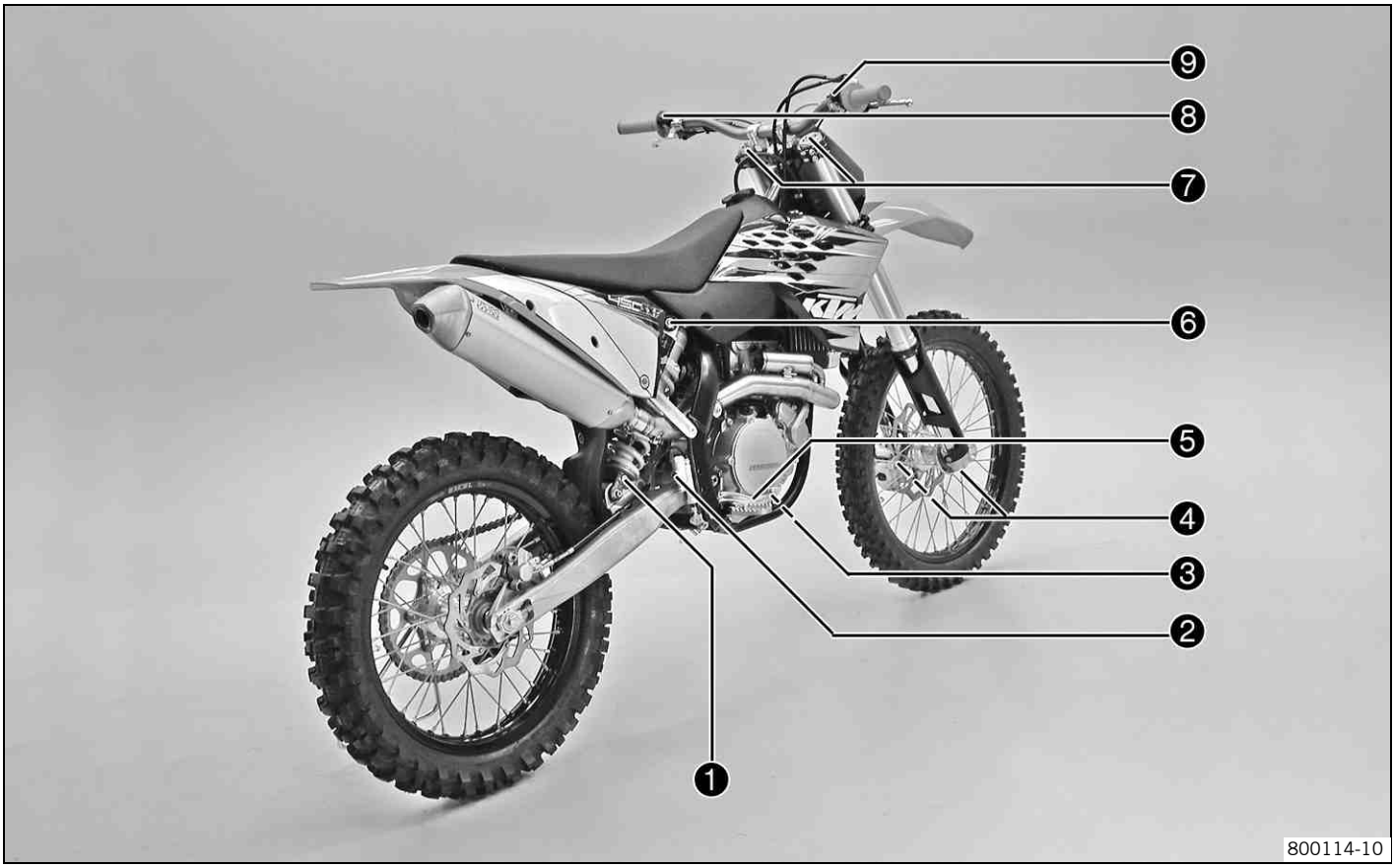
Owner's manual

– 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 find out how to best customize the motorcycle for your own use and how you can 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 the vehicle from the left front (example)

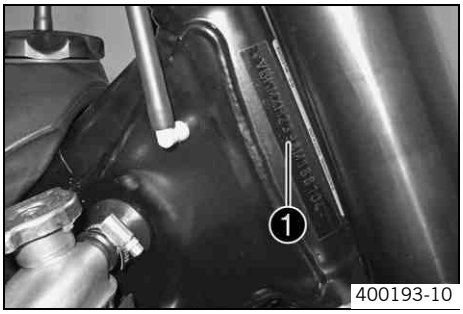
1	Hand brake lever
2	Filler cap
3	Clutch lever
4	Air filter box lid
5	Fuel tap
6	Choke button
7	Chain guide
8	Shift lever

View of the vehicle from the right rear (example)



1	Shock absorber rebound adjustment
2	Level viewer for brake fluid, rear
3	Level viewer for engine oil
4	Fork rebound adjustment
5	Foot brake pedal
6	Shock absorber compression adjustment
7	Fork compression adjustment
8	Short circuit button
9	Electric starter button

Chassis number

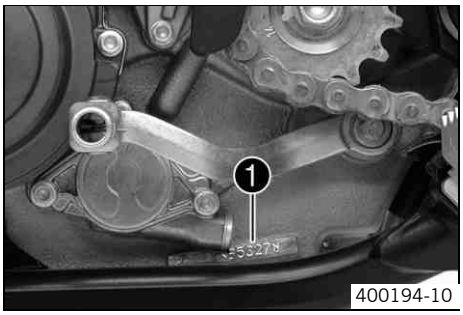


The chassis number ❶ is stamped on the steering head on the right.

Type label

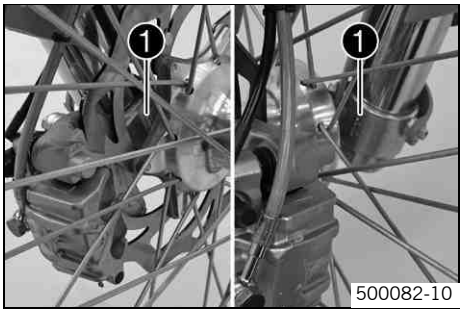
The type label ❶ is fixed to the front of the steering head.

Engine number



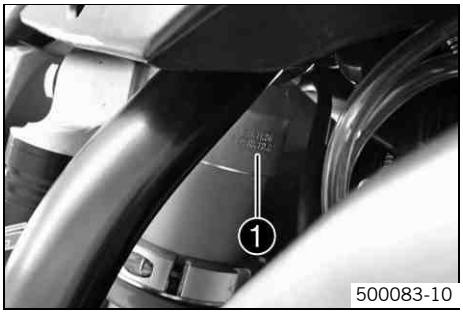
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

Fork part number



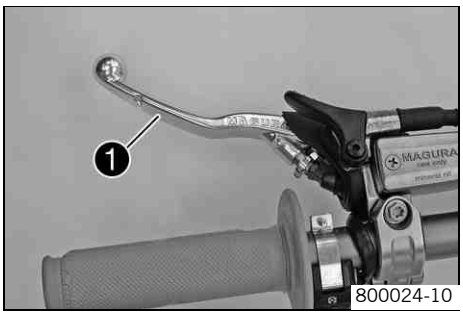
The fork part number ❶ is stamped on the inner side of the fork stub.

Shock absorber part number



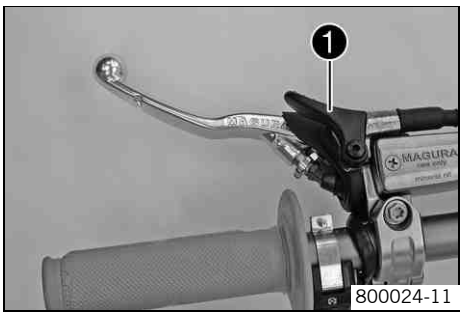
The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring on the engine side.

Clutch lever



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

Hot start lever

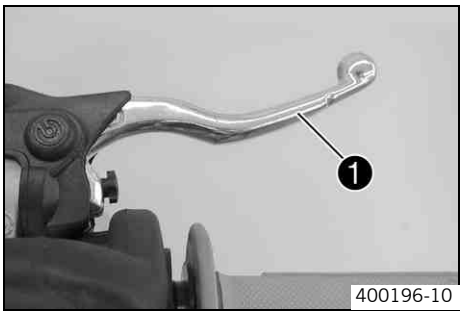


The hot start lever ❶ is fitted on the left side of the handlebar.
If you pull the hot start lever to the handlebar during the start procedure, a bore is opened in the carburetor through which the engine can draw in extra air. This gives a leaner fuel-air mixture, which is needed for a hot start.

Possible states

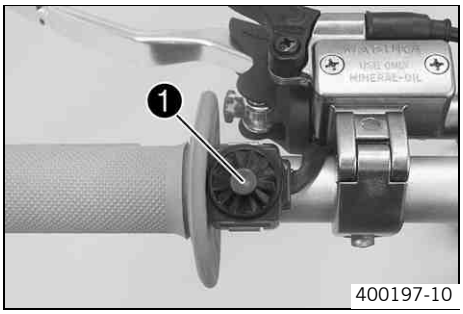
- Hot start function activated – Hot start lever is pulled out to the stop.
- Hot start function deactivated – Hot start lever is pushed back to the stop.

Hand brake lever



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

Short circuit button

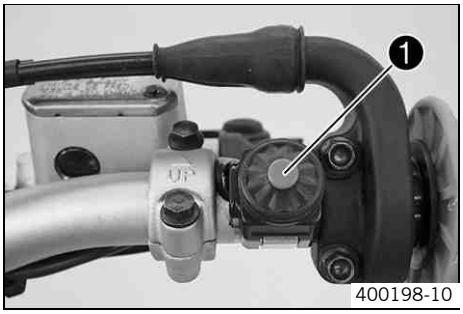


Short circuit button ❶ is fitted on the left side of the handlebar.

Possible states

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

Electric starter button

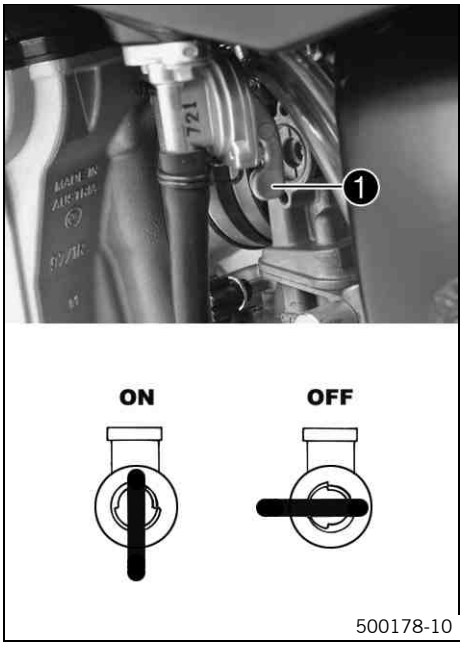


Electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

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

Fuel tap

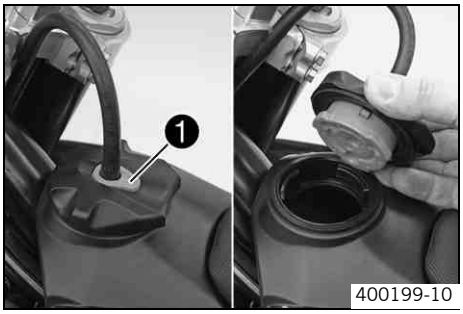


The fuel tap is on the left side of the fuel tank.
Using tap handle ❶ on the fuel tap, you can open or close the supply of fuel to the carburetor.

Possible states

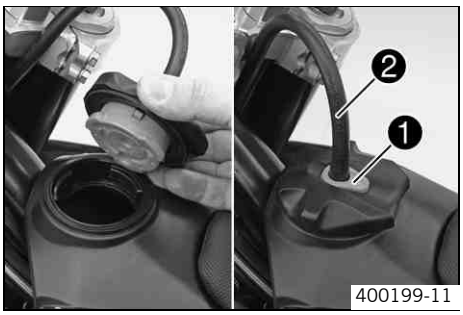
- Fuel supply closed **OFF** – No fuel can flow from the tank to the carburetor.
- Fuel supply open **ON** – Fuel can flow from the tank to the carburetor. The fuel tank empties completely.

Opening filler cap



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

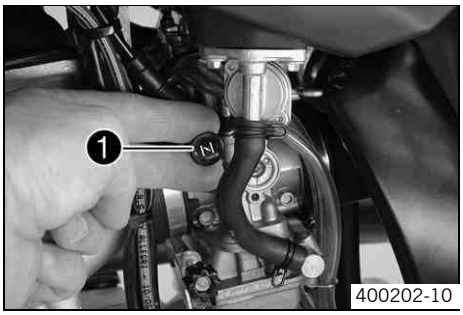
Closing filler cap



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

Info
Route the fuel tank breather hose ❷ without kinking.

Choke



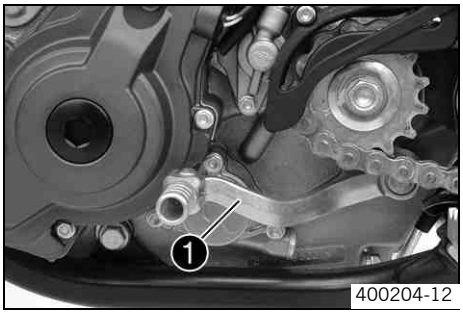
Choke ❶ is fitted on the left side of the carburetor.
Activating the choke function frees an opening through which the engine can draw extra fuel. This gives a richer fuel-air mixture, which is needed for a cold start.

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

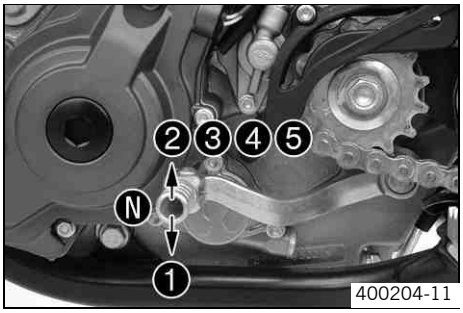
Possible states

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

Shift lever

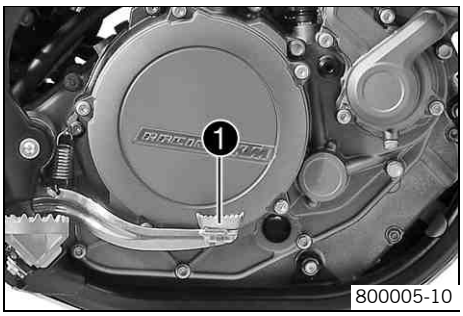


Shift lever ❶ is mounted on the left side of the engine.



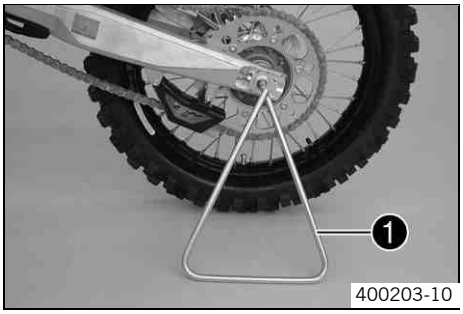
The gear positions can be seen in the photograph.
The neutral or idle position is between the first and second gears.

Foot brake pedal



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

Plug-in stand



Note

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

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

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

Info

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

Advice on first use

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

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

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

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

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

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

Warning
Danger of accidents Critical handling characteristic due to inappropriate riding style.

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

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

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

Warning
Danger of accidents Failure of brake system.

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

Warning
Danger of accidents Unstable riding behavior.

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

Warning
Risk of misappropriation Usage by unauthorized persons.

– Never leave the vehicle 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 clutch lever. (☛ p. 64)
– adjust the basic position of handbrake lever. (☛ p. 43)
– Adjust the basic position of the foot brake lever. 🔧 (☛ p. 47)
– Get used to handling the motorcycle on a suitable piece of land before making a longer trip.

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

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

– Check the spoke tension. (☛ p. 54)

Info
The spoke tension must be checked after half an hour of operation.

– Run the engine in.

Running-in the engine

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

Guideline

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

– Avoid fully opening the throttle!

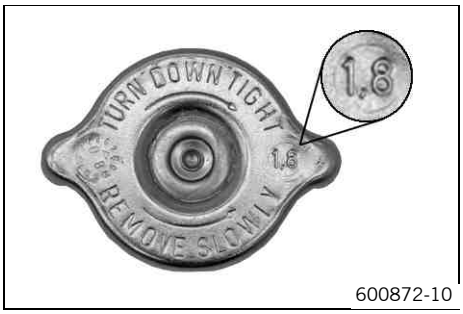
Preparing vehicle for arduous riding conditions

– Using a motorcycle in arduous 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.

Arduous riding conditions are:

– Riding on dry sand. (☛ p. 14)
– Riding on wet sand. (☛ p. 15)
– Riding 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 riding on dry sand



600872-10

– Check the radiator cap.

Value on radiator cap	1.8 bar (26 psi)

» If the displayed value does not correspond to specifications:

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.

– Change the radiator cap.

– Seal the air filter box.

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

– Clean the air filter. (☛ p. 64)

Info
Check the air filter approx. every 30 minutes.

600869-01

– Fit a dust protection device on the air filter.

Dust protection device for air filter (59006019000)

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

600871-01

– Fit a sand screen device on the air filter.

Sand protection device for air filter (59006022000)

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

– Adjust the carburetor jetting and settings.

Info
Your authorized KTM workshop has the recommended carburetor tuning settings.


600868-01

– Clean the chain.

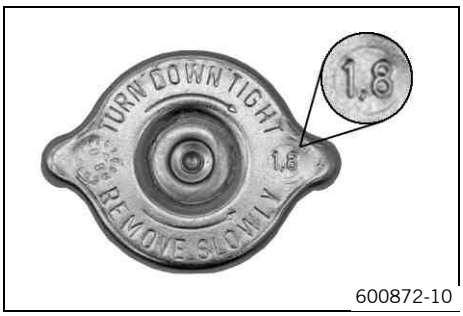
Chain cleaner (☛ p. 88)

– Fit the steel sprocket.

Tip
Do not grease the chain.

– Clean radiator fins.
– Straighten bent radiator fins carefully.

Preparing for riding on wet sand



600872-10

– Check the radiator cap.

Value on radiator cap	1.8 bar (26 psi)

» If the displayed value does not correspond to specifications:

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.

– Change the radiator cap.

– Seal the air filter box.

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

– Clean the air filter. (☛ p. 64)

Info
Check the air filter approx. every 30 minutes.


600870-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (59006021000)

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

– Adjust the carburetor jetting and settings.

Info
Your authorized KTM workshop has the recommended carburetor tuning settings.


600868-01

– Clean the chain.

Chain cleaner (p. 88)

– Fit the steel sprocket.

Tip
Do not grease the chain.

– Clean radiator fins.
– Straighten bent radiator fins carefully.

Preparing for riding on wet and muddy surfaces

– Seal the air filter box.

Tip
Seal the air filter box along the edges to prevent the ingress of dirt.

– Clean the air filter. (p. 64)

Info
Check the air filter approx. every 30 minutes.


600870-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (59006021000)

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

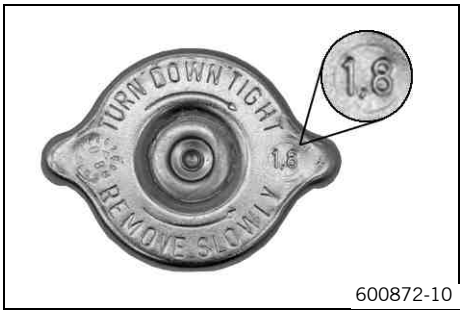
– Adjust the carburetor jetting and settings.

Info
Your authorized KTM workshop has the recommended carburetor tuning settings.


600868-01

– Fit the steel sprocket.
– Clean the motorcycle. (p. 73)
– Straighten bent radiator fins carefully.

Preparing for rides at high temperature and slow speed



600872-10

– Check the radiator cap.

Value on radiator cap	1.8 bar (26 psi)

» If the displayed value does not correspond to specifications:

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.

– Change the radiator cap.

– Seal the air filter box.

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

– Clean the air filter. (☛ p. 64)

Info
Check the air filter approx. every 30 minutes.


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. 88)

– Clean radiator fins.
– Straighten bent radiator fins carefully.
– Check the coolant level. (☛ p. 60)

Preparing for rides at low temperatures or in snow

– Seal the air filter box.

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

– Clean the air filter. (☛ p. 64)

Info
Check the air filter approx. every 30 minutes.


600870-01

– Fit a waterproofing device on the air filter.

Waterproofing device for air filter (59006021000)

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

– Adjust the carburetor jetting and settings.

Info
Your authorized KTM workshop has the recommended carburetor tuning settings.

Checks before putting into operation

Info
Make sure that the motorcycle is in a perfect technical condition before use.

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

- Check the engine oil level. (☛ p. 67)
- Check the fuel reserves.
- Check the chain tension. (☛ p. 38)
- Check for chain dirt accumulation. (☛ p. 37)
- Check the tire condition. (☛ p. 53)
- Check the tire air pressure. (☛ p. 54)
- Check the brake fluid level of the front brake. (☛ p. 43)
- Check the rear brake fluid level. (☛ p. 47)
- Check the front brake linings. (☛ p. 44)
- Check the rear brake linings. (☛ p. 48)
- Check the brake system function.
- Check the coolant level. (☛ p. 60)
- Check the settings of all controls and ensure that they can be operated smoothly.

Starting

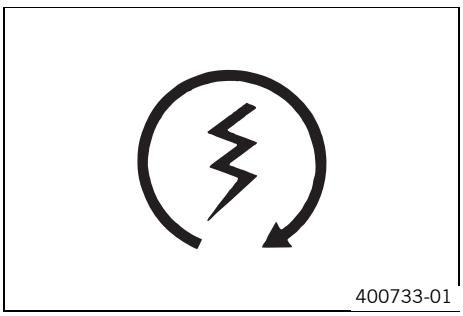
Danger
Danger of poisoning Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

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

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

- Always warm up the engine at low engine speeds.

Info
If the motorcycle is unwilling to start, the cause can be old fuel in the float chamber. The flammable elements of the fuel evaporate after a long time of standing.
If the float chamber is filled with fresh fuel, the engine starts immediately.
Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds until trying again.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Engine has been out of use for more than 1 week
- Empty the carburetor float chamber. 🔧 (☛ p. 67)
- Turn handle ❶ of the fuel tap to the **ON** position. (Figure 500178-10☛ p. 11)

  ✓ Fuel can flow from the fuel tank to the carburetor.
- Remove the motorcycle from the stand.
- Shift transmission to neutral.

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

The engine is hot
- Pull the hot start lever out to the stop.
- Press the electric starter button ⓢ.

Info
Do not open the throttle.

The engine is hot and running
- Push back the hot start lever to the stop with the engine running.

Starting up

– 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 overspeeds and the rear wheel can block.

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

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

Guideline

≥ 2 min

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

Braking

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

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

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

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

Warning
Danger of accidents Reduced braking 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 get very hot when the vehicle is in use.

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

Note

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

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

Note

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

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

– Brake the motorcycle.
– Shift transmission to neutral.
– Press the Press and hold the short circuit button ⊠ while the engine is idling until the engine stops.
– Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10☛ p. 11)
– Park the motorcycle on firm ground.

Refueling

Danger

Fire hazard Fuel is highly flammable.

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

Warning

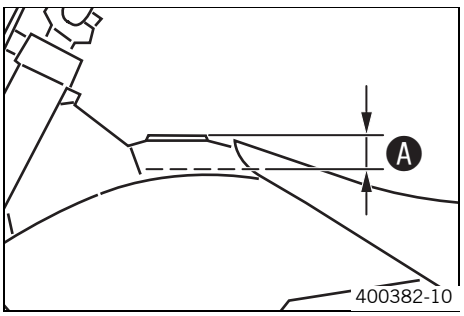
Danger of poisoning Fuel is poisonous and a health hazard.

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

Warning

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

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



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

Guideline

Measurement of Ⓐ		35 mm (1.38 in)
Total fuel tank capacity, approx.	8 l (2.1 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 87)

– Close the filler cap. (☛ p. 11)

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

		S3N	S10A	S30A
Engine	Change the engine oil and oil filter, and clean the oil screen. 🔧 (☛ p. 68)	•	•	•
	Replace spark plug.			•
	Check and adjust valve clearance. 🔧	•	•	•
	Check engine mounting screws for tightness.	•	•	•
	Clean spark plug connectors and check for tightness.	•	•	•
	Check screw of shift lever for tightness.	•	•	•
Carburetor	Check carburetor connection boots for cracks and leakage.		•	•
	Check vent hoses for damage and routing without sharp bends.	•	•	•
	Check idle.	•	•	•
Attachments	Check the cooling system for leakage.	•	•	•
	Check the anti-freeze and coolant level. (☛ p. 59)	•	•	•
	Check the exhaust system for leakage and looseness.		•	•
	Check Bowden cables for damage, smooth operation and routing without sharp bends.	•	•	•
	Check the fluid level of the hydraulic clutch. (☛ p. 65)	•	•	•
	Clean the air filter. 🔧 (☛ p. 64)	•	•	•
	Check cables for damage and routing without sharp bends.		•	•
Brakes	Check the front brake linings. (☛ p. 44)	•	•	•
	Check the rear brake linings. (☛ p. 48)	•	•	•
	Check the brake discs. (☛ p. 42)	•	•	•
	Check the brake fluid level of the front brake. (☛ p. 43)	•	•	•
	Check the rear brake fluid level. (☛ p. 47)	•	•	•
	Check brake lines for damage and leakage.	•	•	•
	Check the free travel on the hand brake lever. (☛ p. 42)	•	•	•
	Check the free play of the foot brake lever. (☛ p. 46)	•	•	•
	Check brake system function.	•	•	•
	Check screws and guide bolts of brake system for tightness.	•	•	•
Chassis	Check shock absorber and fork for leakage and functioning.	•	•	•
	Clean the dust boots of the fork legs. (☛ p. 30)		•	•
	Bleed fork legs. (☛ p. 30)		•	•
	Check the frame and swingarm for damage.		•	•
	Check swingarm bearing.		•	•
	Check the steering head bearing play. (☛ p. 31)	•	•	•
	Check all screws to see if they are tight.	•	•	•
Wheels	Check the spoke tension. (☛ p. 54)	•	•	•
	Check the wheel hubs for damage.		•	•
	Check rim run-out.	•	•	•
	Check the tire condition. (☛ p. 53)	•	•	•
	Check the tire air pressure. (☛ p. 54)	•	•	•
	Check the chain wear. (☛ p. 39)	•	•	•
	Check the chain tension. (☛ p. 38)	•	•	•
	Clean the chain. (☛ p. 38)	•	•	•
	Check wheel bearing for play.	•	•	•
	Clean and grease adjusting screws of chain adjuster.	•	•	•

S3N: Once after 3 service hours - corresponds to about 21 liters of fuel (5.55 US gal)
S10A: Every 10 service hours - corresponds to about 70 liters of fuel (18.5 US gal) / after every race
S30A: Every 30 service hours - corresponds to about 210 liters of fuel (55.5 US gal)

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

	S10A	S20N	S20A	S30A	S40A	J1A
Conduct a major fork service.				•		
Conduct a minor fork service.	•		•	•	•	
Perform a shock absorber service.		•			•	
Grease the steering head bearing. (☛ p. 35)						•
Treat electric contacts with contact spray.						•
Change the hydraulic clutch fluid. (☛ p. 65)						•
Change the front brake fluid.						•
Change the rear brake fluid.						•
Check the clutch.			•		•	
Check/measure the cylinder.					•	
Change the piston.					•	
Check the camshafts.					•	
Check the valve spring seat.					•	
Check the cylinder head.					•	
Change the valves.					•	
Change the valve springs.					•	
Check the timing-chain tensioner function.					•	
Check the crankshaft run-out at the bearing pin.					•	
Change the connecting rod, conrod bearing and crank pin.					•	
Check the seating of the piston pin.					•	
Change the crankshaft main bearing.					•	
Check the transmission.					•	
Check the shift mechanism.					•	
Check the spring length of the oil pressure regulator valve.					•	
Change glass fiber yarn filling of main silencer. (☛ p. 63)	•		•	•	•	
Change the foot brake cylinder seals.			•		•	
Check/set the carburetor components.					•	•

S10A: Every 10 service hours - corresponds to about 70 liters of fuel (18.5 US gal)
S20N: Once after 20 service hours - corresponds to about 140 liters of fuel (37 US gal)
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)
S40A: Every 40 service hours - corresponds to about 280 liters of fuel (74 US gal)
J1A: annually

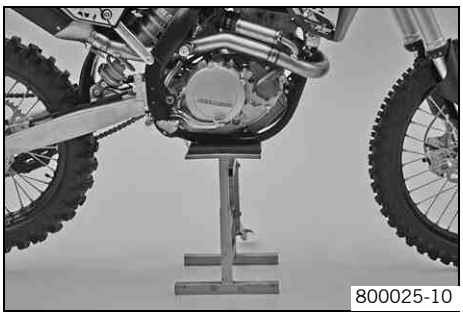
Important checks and maintenance work to be carried out by the rider.

	NB1A
Check the engine oil level. (☛ p. 67)	•
Check the brake fluid level of the front brake. (☛ p. 43)	•
Check the rear brake fluid level. (☛ p. 47)	•
Check the front brake linings. (☛ p. 44)	•
Check the rear brake linings. (☛ p. 48)	•
Check and adjust Bowden cables.	•
Bleed fork legs. (☛ p. 30)	•
Clean the dust boots of the fork legs. (☛ p. 30)	•
Clean the chain. (☛ p. 38)	•
Check the chain tension. (☛ p. 38)	•
Check the chain wear. (☛ p. 39)	•
Check rear sprocket/engine sprocket for wear. (☛ p. 39)	•
Clean the air filter. (☛ p. 64)	•
Check the tire air pressure. (☛ p. 54)	•

	NB1A
Check the tire condition. (☛ p. 53)	•
Check the coolant level. (☛ p. 60)	•
Empty the carburetor float chamber. 🔧 (☛ p. 67)	•
Check that all operating elements for smooth operation.	•
Check braking.	•
Check all screws, nuts and hose clamps regularly for tightness.	•

NB1A: Depending on conditions of use according to requirements.

Jacking up the motorcycle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Note

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

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

– Jack up the motorcycle underneath the engine. The wheels should no longer touch the ground.

Work stand (54829055000)

– Secure the motorcycle against falling over.

Removing the motorcycle from the work stand

Note

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

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

– Remove the motorcycle from the work stand.
– Remove the work stand.

Checking the basic suspension setting with the rider's weight

Info

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

– For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, swing arm and frame, the basic settings of the suspension components must match your body weight.
– As delivered, KTM off-road motorcycles are adjusted for a standard rider weight (with full protective clothing).

Guideline

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

– If your weight is above or below the standard range, you have to adjust the basic setting of the suspension components accordingly.
– Small weight differences can be compensated by adjusting the spring preload, but in the case of large weight differences, the springs must be replaced.

Compression damping of shock absorber

The shock absorber can regulate compression damping in low- and high-speed range separately (Dual Compression Control).
The term low and high speed refers to the movement of the shock absorber during compression and not the riding speed of the motorcycle.
Changes in the settings in the low-speed range have an impact on the high-speed range and vice versa.

Adjusting high-speed compression damping of the shock absorber

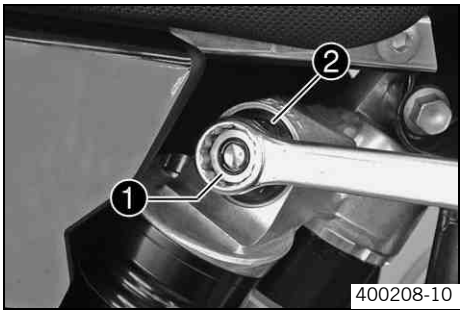
Danger

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

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

Info

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



– Turn adjusting screw ❶ clockwise with a ring wrench until it stops.

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 (450 SX-F EU)	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Compression damping, high-speed (450 SX-F USA)	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn

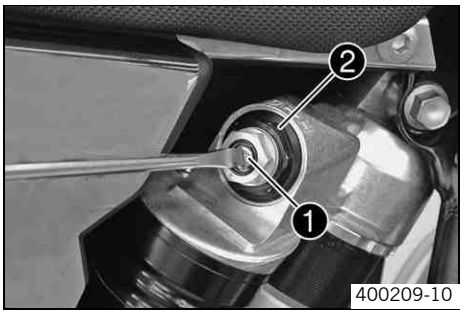
Info
Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Adjusting the low-speed compression damping of the shock absorber

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

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

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



– 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 (450 SX-F EU)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, low-speed (450 SX-F USA)	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks

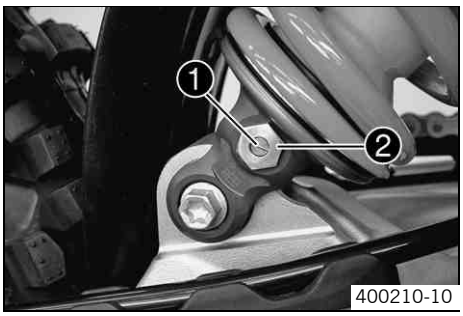
Info
Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Adjusting the rebound damping of the shock absorber

Danger

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

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



– Turn adjusting screw ❶ clockwise 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.

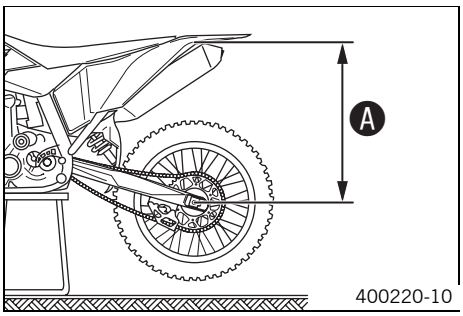
Guideline

Rebound damping (450 SX-F EU)	
Comfort	24 clicks
Standard	22 clicks
Sport	22 clicks
Rebound damping (450 SX-F USA)	
Comfort	24 clicks
Standard	22 clicks
Sport	22 clicks

Info

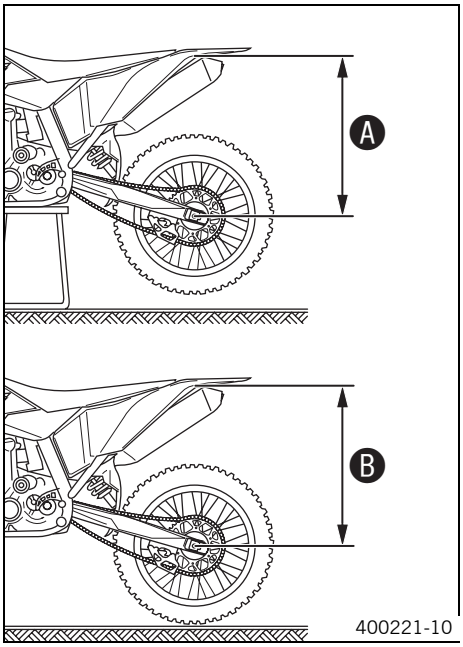
Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Measuring rear wheel sag unloaded



– Jack up the motorcycle. (☛ p. 24)
– Measure the distance – as vertical as possible – between the rear axle and a fixed point, for example, a mark on the side cover.
– Make a note of the value as measurement Ⓐ.
– Remove the motorcycle from the work stand. (☛ p. 24)

Checking static sag of shock absorber



– Measure distance ❹ of rear wheel unloaded. (☛ p. 26)
– Ask someone to help you by holding the motorcycle upright.
– Measure the distance between the rear axle and the fixed point again.
– Make a note of the value as measurement ❺.

Info
The static sag is the difference between measurements ❹ and ❺.

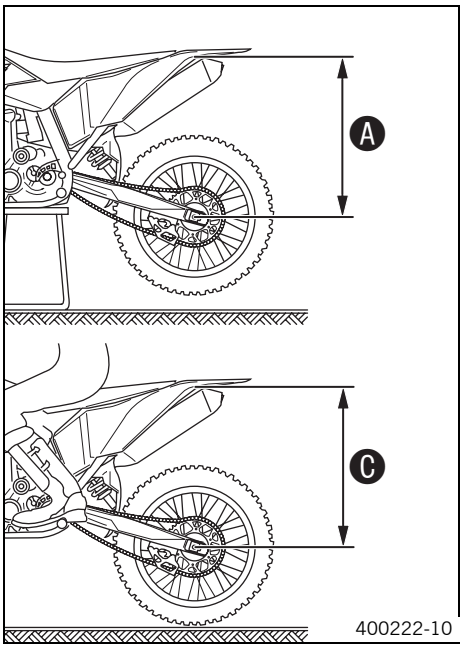
– Check the static sag.

Static sag (450 SX-F EU)	33 mm (1.3 in)

Static sag (450 SX-F USA)	33 mm (1.3 in)

» If the static sag is less or more than the specified value:
– Adjust the spring preload of the shock absorber. 🔧 (☛ p. 27)

Checking riding sag of shock absorber



– Measure distance ❹ of rear wheel unloaded. (☛ p. 26)
– With the help of another person holding the motorcycle, the rider, wearing complete clothing, sits on the motorcycle in a normal position (feet on footrests) and rocks up and down a few times so that the rear wheel suspension levels out.
– The other person now has to measure the distance between the rear axle and a fixed point.
– Make a note of the value as measurement ❻.

Info
The riding sag is the difference between measurements ❹ and ❻.

– Check the riding sag.

Riding sag (450 SX-F EU)	105 mm (4.13 in)

Riding sag (450 SX-F USA)	105 mm (4.13 in)

» If the riding sag differs from the specified measurement:
– Adjust the riding sag. 🔧 (☛ p. 28)

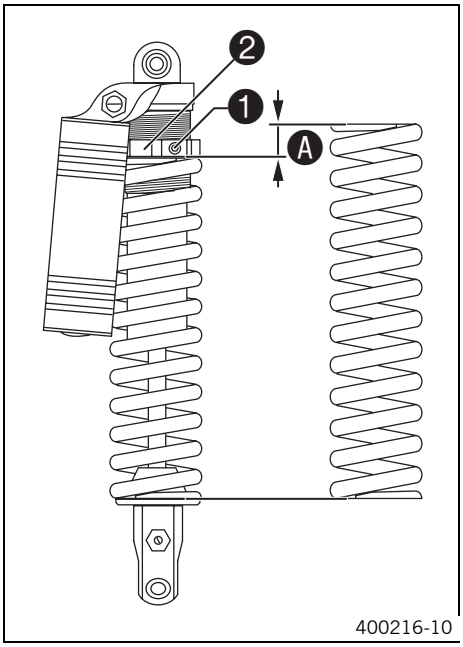
Adjusting the spring preload of the shock absorber 🔧

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

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

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

– Remove shock absorber. 🔧 (☛ p. 28)
– After removing the shock absorber, clean it thoroughly.



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

Combination wrench (50329080000)
Hook wrench (T106S)

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

Guideline

Spring preload (450 SX-F EU)	7 mm (0.28 in)
Spring preload (450 SX-F USA)	7 mm (0.28 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	M6	5 Nm (3.7 lbf ft)

– Install the shock absorber. (☛ p. 29)

Adjusting the riding sag

– Remove shock absorber. (☛ p. 28)
– After removing the shock absorber, clean it thoroughly.
– Choose and mount a suitable spring.

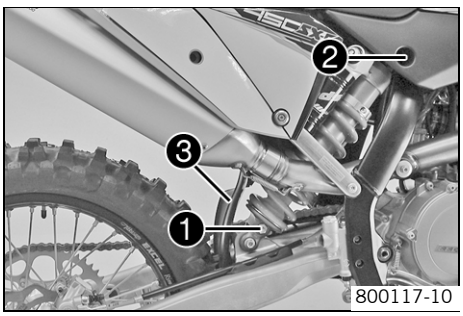
Guideline

Spring rate (450 SX-F EU)	
Weight of rider: 65... 75 kg (143... 165 lb.)	69 N/mm (394 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	72 N/mm (411 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	76 N/mm (434 lb/in)
Spring rate (450 SX-F USA)	
Weight of rider: 65... 75 kg (143... 165 lb.)	69 N/mm (394 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	72 N/mm (411 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	76 N/mm (434 lb/in)

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

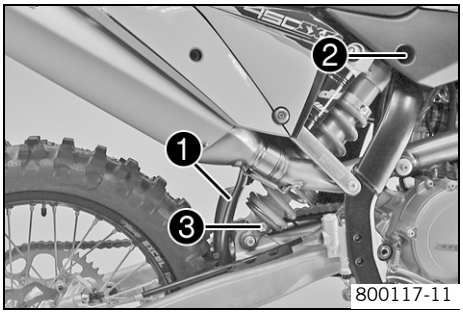
– Install the shock absorber. (☛ p. 29)
– Check the static sag of the shock absorber. (☛ p. 27)
– Check the riding sag of the shock absorber. (☛ p. 27)
– Adjust the rebound damping of the shock absorber. (☛ p. 26)

Removing the shock absorber



– Jack up the motorcycle. (☛ p. 24)
– Remove screw ❶ and lower the rear wheel with the swing arm as far as possible without blocking the rear wheel. Fix the rear wheel in this position.
– Remove screw ❷, push splash protector ❸ to the side, and remove the shock absorber.

Installing the shock absorber



– Push splash protector ❶ to the side and position the shock absorber. Mount and tighten screw ❷.

Guideline

Screw, top shock absorber	M12	80 Nm (59 lbf ft)	**Loctite® 243™**

– Mount and tighten screw ❸.

Guideline

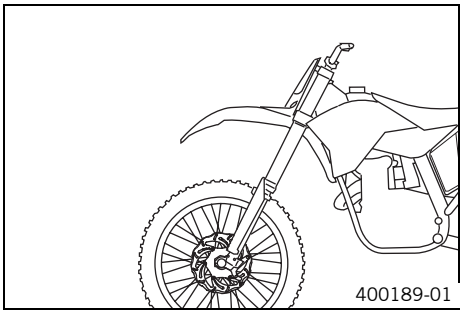
Screw, bottom shock absorber	M12	80 Nm (59 lbf ft)	**Loctite® 243™**

Info
The heim joint for the shock absorber at the swing arm is Teflon coated. It must not be greased with grease or with other lubricants. Lubricants dissolve the Teflon coating, thereby drastically reducing the service life.

– Remove the motorcycle from the work stand. (☛ p. 24)

Checking basic setting of fork

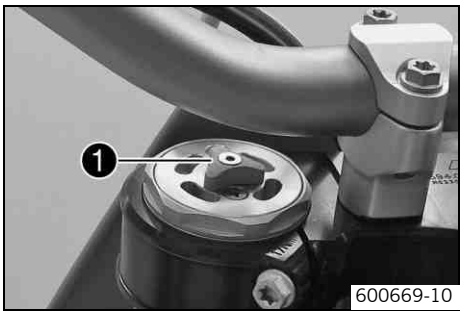
Info
For various reasons, no exact riding sag can be determined for the forks.



– As with the shock absorber, smaller weight differences can be compensated by the spring preload.
– However, if your fork is often overloaded (hits the bump stops on compression), it is recommended to fit stiffer springs 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 until they stop.

Info
The 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.

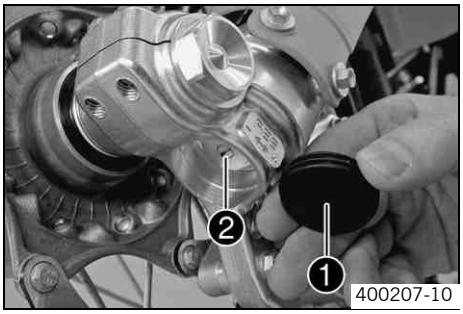
Guideline

Compression damping (450 SX-F EU)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Compression damping (450 SX-F USA)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks

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

Adjusting the rebound damping of fork

Info
The hydraulic rebound damping determines the fork suspension behavior.



– Remove protection covers ❶.
– Turn adjusting screws ❷ clockwise until they stop.

Info
The 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.

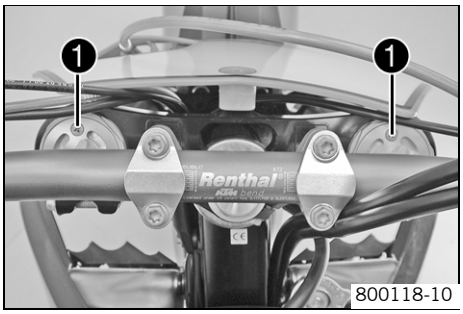
Guideline

Rebound damping (450 SX-F EU)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks
Rebound damping (450 SX-F USA)	
Comfort	14 clicks
Standard	12 clicks
Sport	10 clicks

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

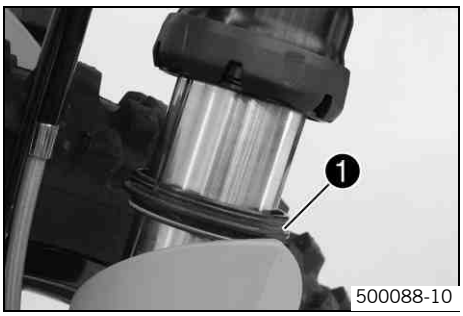
– Mount protection covers ❶.

Bleeding fork legs



– Jack up the motorcycle. (☛ p. 24)
– 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 work stand. (☛ p. 24)

Cleaning the dust boots of the fork legs



– Jack up the motorcycle. (☛ p. 24)
– Loosen the fork protector. (☛ p. 31)
– Push dust boots ❶ of both fork legs downwards.

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

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

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

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

Universal oil spray (☛ p. 89)

– Press the dust boots back into their normal position.
– Remove excess oil.
– Position the fork protection. (☛ p. 31)
– Remove the motorcycle from the work stand. (☛ p. 24)

Loosening the fork protector

– Remove screws ❶ and remove the clamp.
– Remove screws ❷ on the left fork leg. Push the fork protector downwards.
– Remove the screws on the right fork leg. Push the fork protector 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)

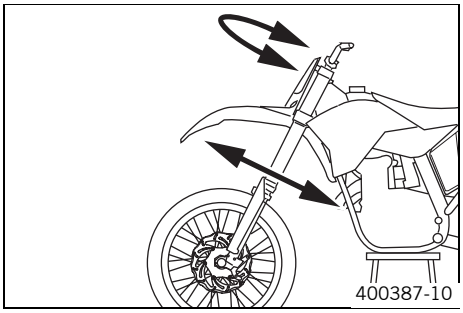
– Position brake line. Put the clamp on, mount and tighten screws ❷.
– Position the fork protection on the right fork leg. Mount and tighten screws.
Guideline

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

Checking steering head bearing play

Warning
Danger of accidents Unstable vehicle handling from incorrect steering head bearing play.
– Adjust the steering head bearing play without delay. (Your authorized KTM workshop will be glad to help.)

Info
If the bike is ridden for a longer time with play in the steering head bearing, the bearing and the bearing seats in the frame can be damaged after time.



– Jack up the motorcycle. (☛ p. 24)
– Move the handlebar to the straight-ahead position. Move the fork legs to and fro in the direction of travel.

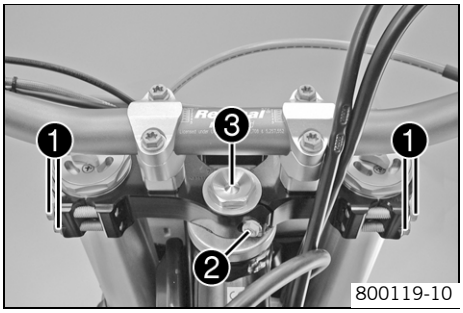
No play should be noticeable in the steering head bearing.

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

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

» If click positions are noticeable:
– Adjust play of the steering head bearing 🔧 (☛ p. 32)
– Check the steering head bearing and replace if required.
– Remove the motorcycle from the work stand. (☛ p. 24)

Adjusting play of steering head bearing



800119-10

– Jack up the motorcycle. (☛ p. 24)
– Loosen screw ❶. Remove screw ❷.
– Loosen and retighten screw ❸.

Guideline

Screw, top steering head	M20x1.5	10 Nm (7.4 lbf ft)

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

Guideline

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

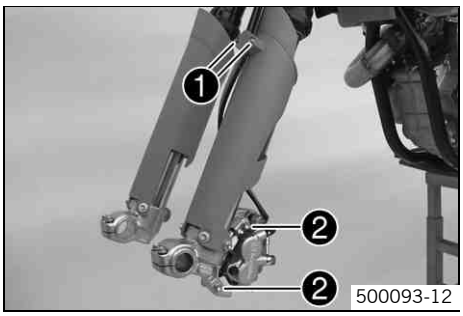
– Mount and tighten screw ❷.

Guideline

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

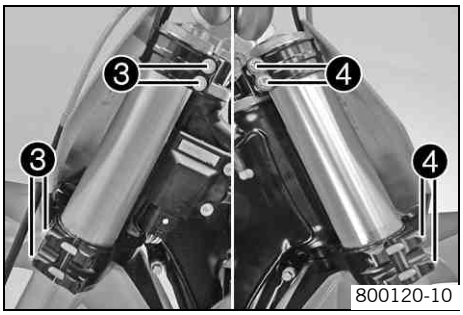
– Check the steering head bearing play. (☛ p. 31)

Removing the fork legs



500093-12

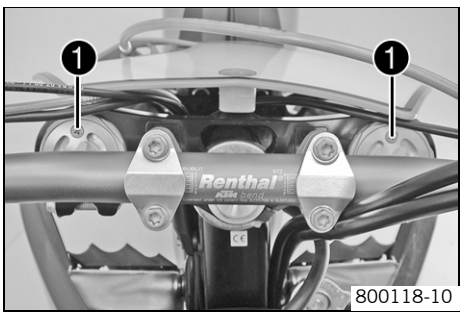
– Remove front wheel. (☛ p. 50)
– Remove screws ❶ and take off clamp.
– Remove screws ❷ and take off brake caliper.
– Hang the brake caliper and the brake line loosely to the side.



800120-10

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

Installing the fork legs

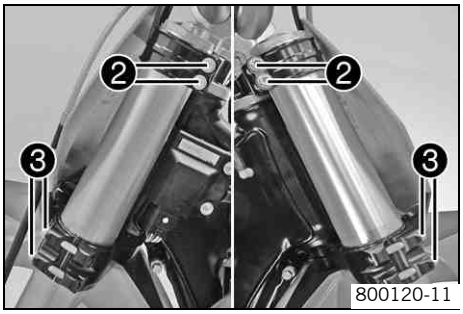


800118-10

– Position the fork legs.

Info

The topmost sunk nut in the fork leg must be flush to the upper edge of the upper triple clamp.
Position the bleeder screw ❶ to the front.



– Fully tighten screw ❷.

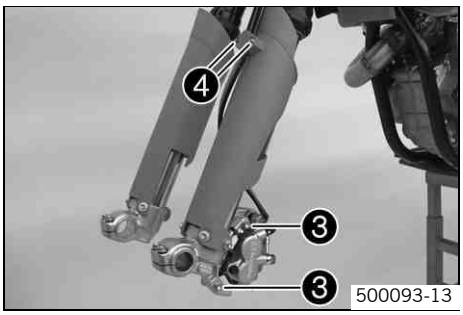
Guideline

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

– Fully tighten screw ❸.

Guideline

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



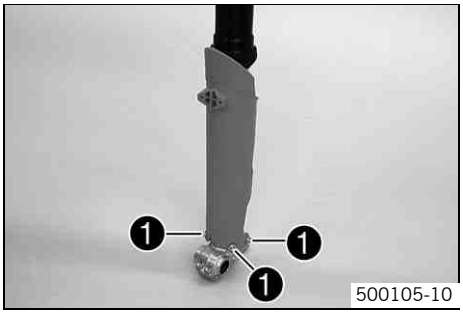
– Position brake caliper, mount and tighten screws ❸.

Guideline

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

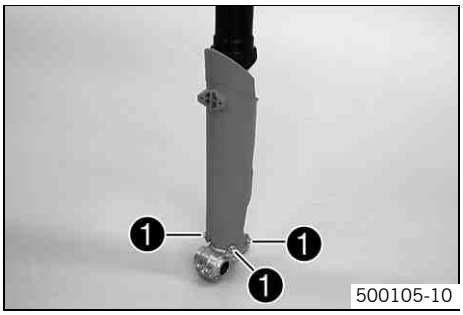
– Position the brake line. Put the clamp on, and mount and tighten screws ❹.
– Fit front wheel. (☛ p. 51)

Removing the fork protector



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

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.

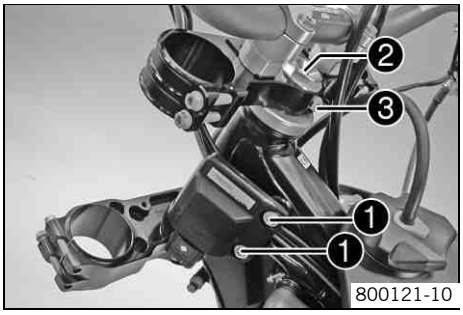
Guideline

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

– Install the fork legs. (☛ p. 32)

Removing the lower triple clamp

– Remove the fork legs. (☛ p. 32)
– Dismount the start number plate (☛ p. 35)
– Remove the front fender. (☛ p. 35)

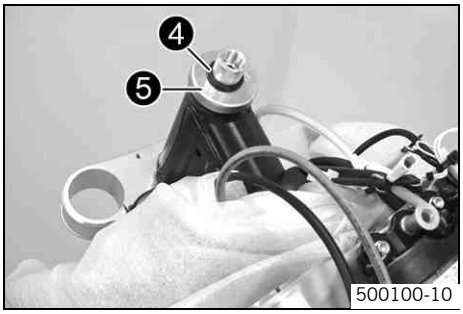


– Remove screws ❶ and hang the CDI control unit to the side.

Info
Do not unplug the CDI control unit.

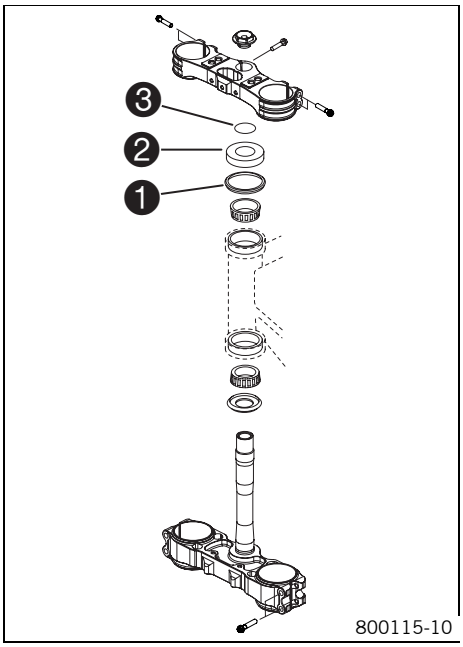
– Remove screw ❷. Remove screw ❸, take off top triple clamp with the handlebar and place it on one side.

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



– Remove o-ring ❹. Remove protector ring ❺.
– Remove the lower triple clamp with the steering stem.
– Remove the upper steering head bearing.

Installing the lower triple clamp



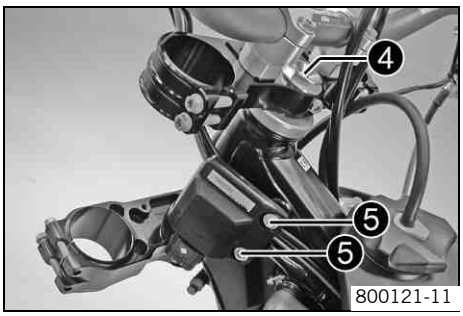
– Clean the bearing and sealing elements, check for damage, and grease.

Long-life grease (☛ p. 88)

– Insert the lower triple clamp with the steering stem. Mount the upper steering head bearing.

Info
Check whether the top steering head seal ❶ is correctly positioned.

– Push up protective ring ❷ and O-ring ❸.



– Position the upper triple clamp with the steering.
– Mount and tighten screw ❹.

Guideline

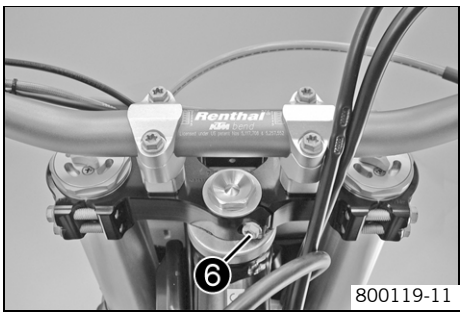
Screw, top steering head	M20x1.5	10 Nm (7.4 lbf ft)

– Position the clutch line, wiring harness and CDI control unit. Mount and tighten screws ❺.

Guideline

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

– Install the front fender. (☛ p. 35)
– Install the start number plate. (☛ p. 35)
– Install the fork legs. (☛ p. 32)



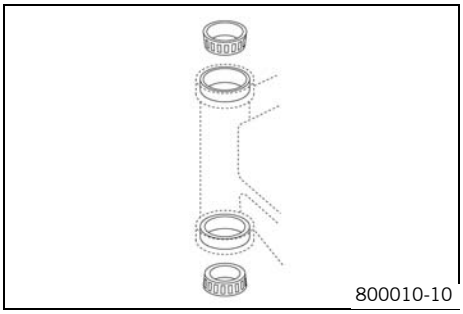
– Mount and tighten screw ❻.

Guideline

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

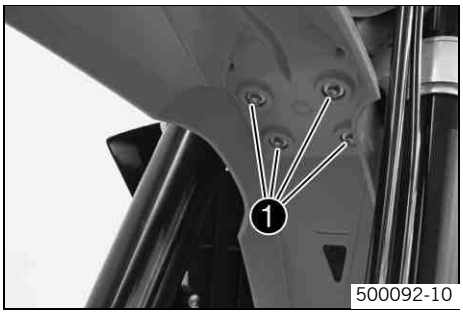
– Check the cable harness, cable, brake and clutch line for free movement and free laying.
– Check the steering head bearing play. (☛ p. 31)

Greasing the steering head bearing


800010-10

– Remove the lower triple clamp. (☛ p. 33)
– Install the lower triple clamp. (☛ p. 34)

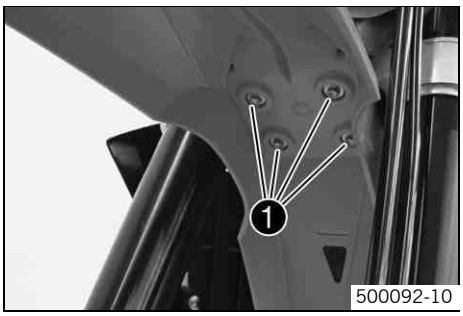
Removing the front fender



500092-10

– Remove screws ❶. Remove the front fender.
– Pay attention to the location of the distance bushings.

Installing the front fender



500092-10

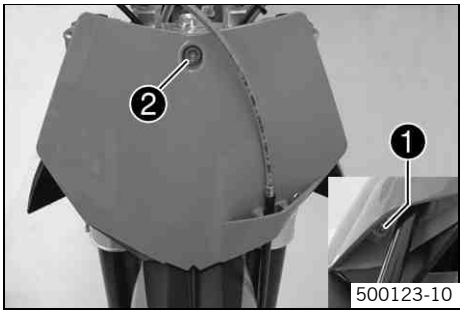
– Ensure that the spacing sleeves are mounted in the fender.
– Position the front fender. Mount and tighten screws ❶.

Guideline

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

Info
Take care with the contact between the holding lugs and the start number plate.

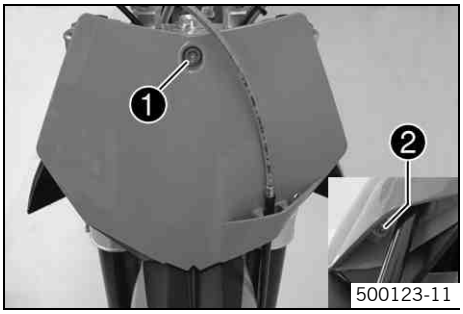
Dismount the start number plate



500123-10

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

Installing the start number plate



500123-11

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

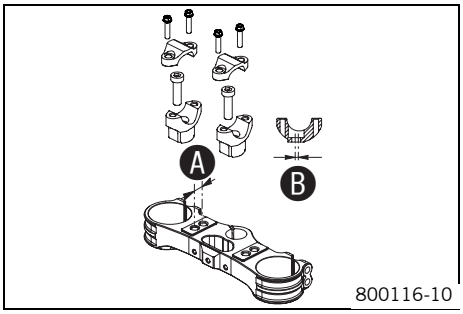
Guideline

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

Info
Take care with the contact of the holding lug at the fender.

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

Handlebar position



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

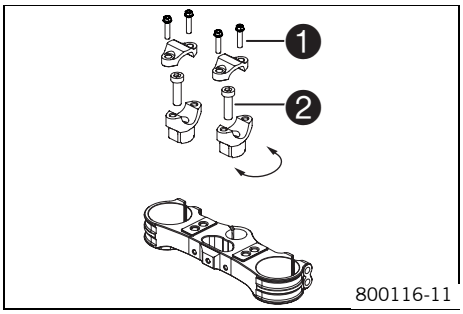
Hole distance A	15 mm (0.59 in)

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

Hole distance B	3.5 mm (0.138 in)

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

Adjusting handlebar position



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

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

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

Guideline

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

Info
Position the left and right handlebar supports evenly.

– Position the handlebar.

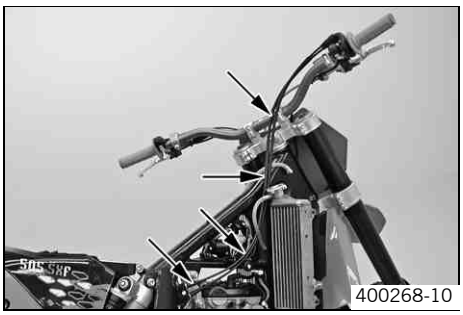
Info
Make sure cables and wiring are positioned correctly.

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

Guideline

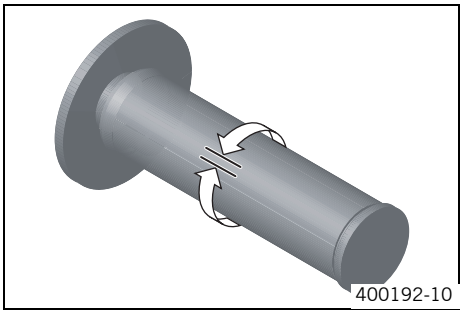
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)

Checking throttle cable route



– The two throttle cables must run parallel behind the handlebar down to the frame. They must be routed directly to the right of the frame above the tank bracket towards the carburetor.

Checking the play in the throttle cable


400192-10

– 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. 37)

Danger

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

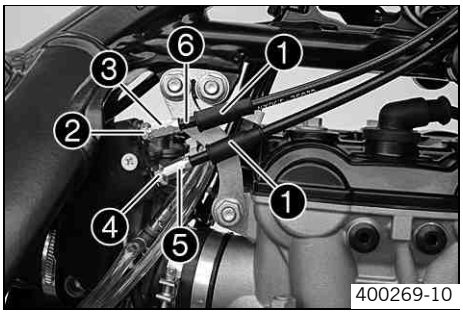
– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in an enclosed space without an effective exhaust extraction system.

– 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. 37)

Adjusting the play in the throttle cable 🔧



400269-10

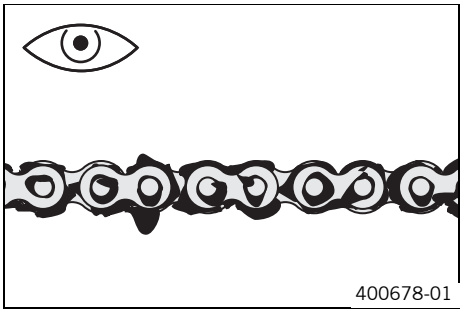
– Remove the fuel tank. 🔧 (☛ p. 57)
– Check throttle cable route. (☛ p. 36)
– Move the handlebar to the straight-ahead position.
– Push back bellows ❶.
– Loosen nut ❷. Turn adjusting screw ❸ in as far as possible.
– Loosen nut ❹. Turn adjusting screw ❺ so that there is play in the gas throttle cable 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 bellows ❶ on. Check the throttle grip for smooth operation.
– Install the fuel tank. 🔧 (☛ p. 58)
– Check the play in the throttle cable. (☛ p. 37)

Checking for chain dirt accumulation


400678-01

– Check the chain for coarse dirt accumulation.
» If the chain is very dirty:
– Clean the chain. (☛ p. 38)

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.

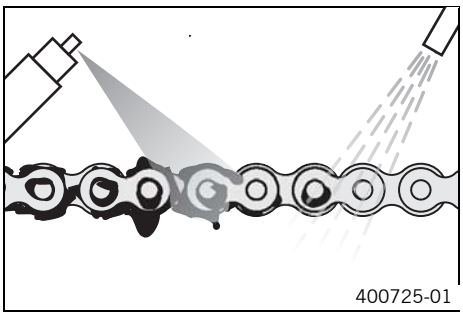
Warning
Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

– 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.


400725-01

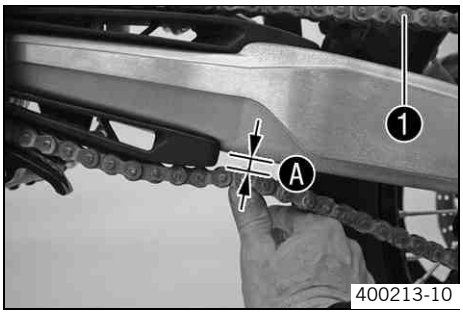
– Clean the chain regularly and then treat with chain spray.

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

Checking the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

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



400213-10

– Jack up the motorcycle. (☛ p. 24)
– Push the chain up at the rear edge of the chain guide to measure the chain tension Ⓐ.

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

Chain tension	8... 10 mm (0.31... 0.39 in)

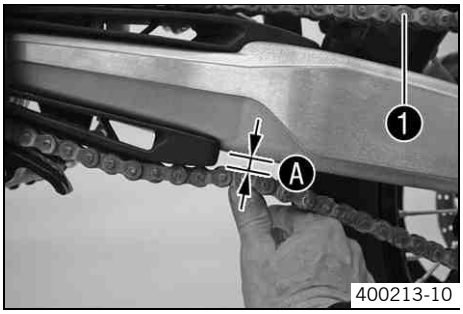
» If the chain tension does not meet specifications:
  – Adjusting chain tension - after checking. (☛ p. 41)
– Remove the motorcycle from the work stand. (☛ p. 24)

Checking chain tension when fitting rear wheel

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.



400213-10

– Make sure that the chain adjusters are fitted correctly on the adjusting screws.
– Push the chain up at the rear edge of the chain guide to measure the chain tension Ⓐ.

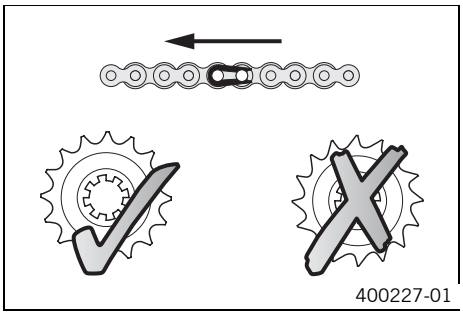
Info

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

Chain tension	8... 10 mm (0.31... 0.39 in)

» If the chain tension does not meet specifications:
– Adjust the chain tension when fitting rear wheel. (☛ p. 41)

Checking the rear sprocket/engine sprocket for wear


400227-01

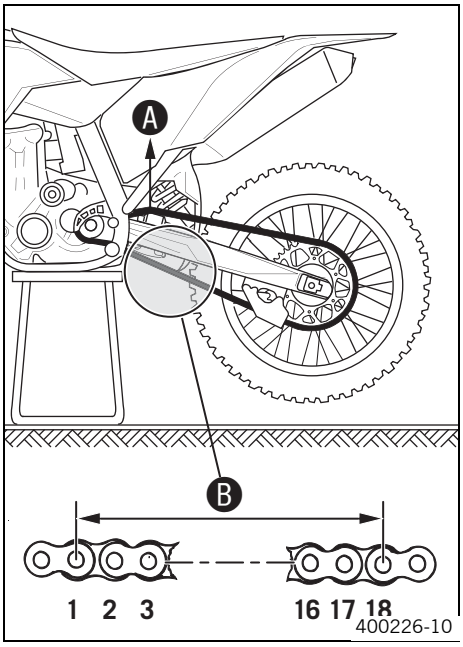
– Check rear sprocket/engine sprocket for wear.
» If the rear sprocket / engine sprocket are worn:
– Replace the rear sprocket/engine sprocket.

Info

When fitting the split link, always make sure that the closed side of the locking clip faces forward (riding direction).
The engine sprocket, rear sprocket and chain should always be replaced together.

– Check the chain guide for tightness and wear.

Checking chain wear



400226-10

– Jack up the motorcycle. (☛ p. 24)
– Shift transmission to neutral.
– Pull on the upper part of the chain with the specified weight Ⓐ.

Guideline

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

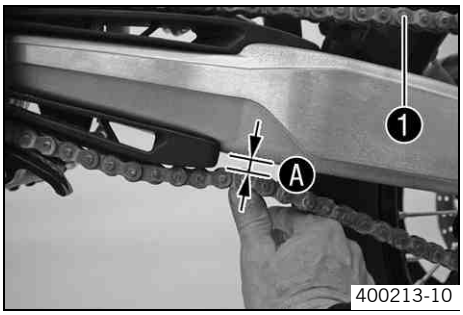
– Remove the motorcycle from the work stand. (☛ p. 24)

Adjusting chain tension

Warning

Danger of accidents Danger caused by incorrect chain tension.

– If the chain tension is too high, the components of the secondary power train (chain, engine sprocket, rear sprocket, bearings in transmission and rear wheel) 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.

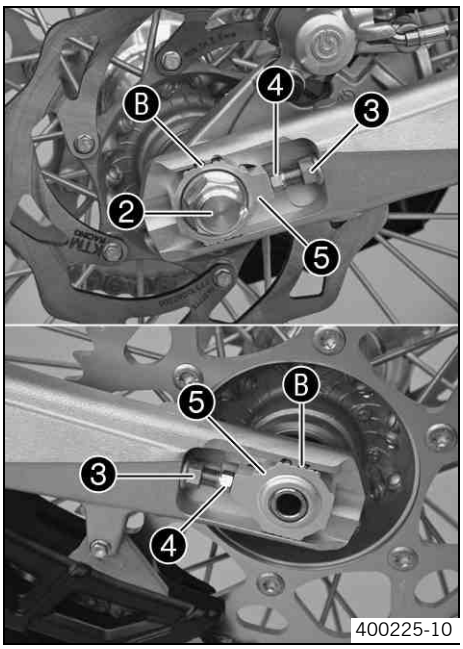


400213-10

– Jack up the motorcycle. (☛ p. 24)
– Push the chain up at the rear edge of the chain guide to measure the chain tension ❹.

Info

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



400225-10

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

Guideline

Chain tension	8... 10 mm (0.31... 0.39 in)
Turn adjusting screws ❹ on the left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks ❸. The rear wheel is then correctly aligned.	

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

Guideline

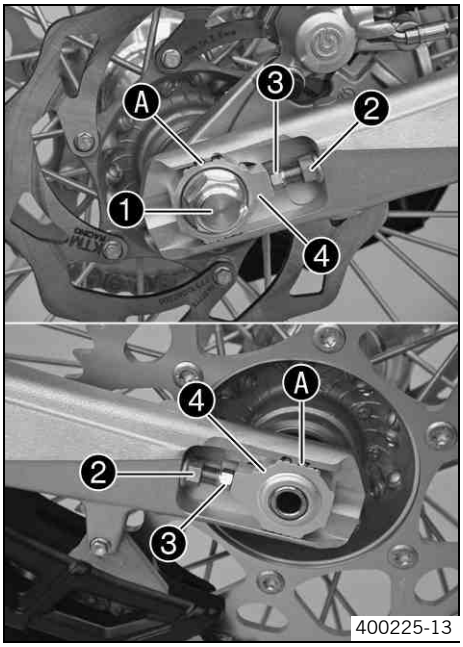
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)

Info

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

– Remove the motorcycle from the work stand. (☛ p. 24)

Adjusting chain tension - after checking



400225-13

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

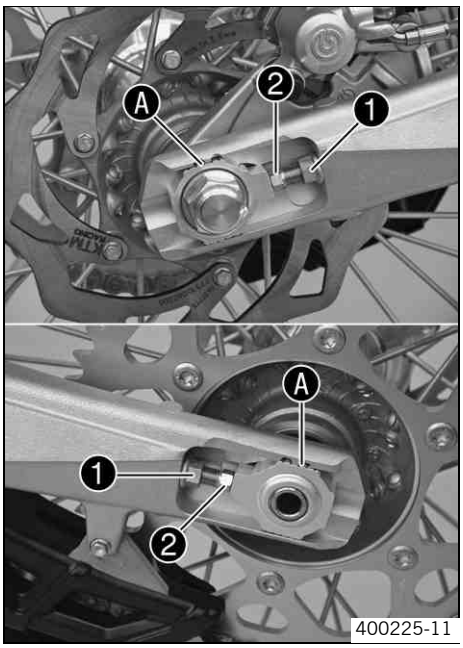
Chain tension	8... 10 mm (0.31... 0.39 in)
Turn the adjusting screws ❸ left and right so that the markings on the left and right chain adjusters are in the same position relative to the reference marks Ⓐ. The rear wheel is then correctly aligned.	

– Tighten nuts ❷.
– Make sure that the chain adjusters ❹ are fitted correctly on the 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) enables different secondary transmissions with the same chain length.
The chain adjusters ❹ can be turned by 180°.

Adjusting chain tension - fitting rear wheel



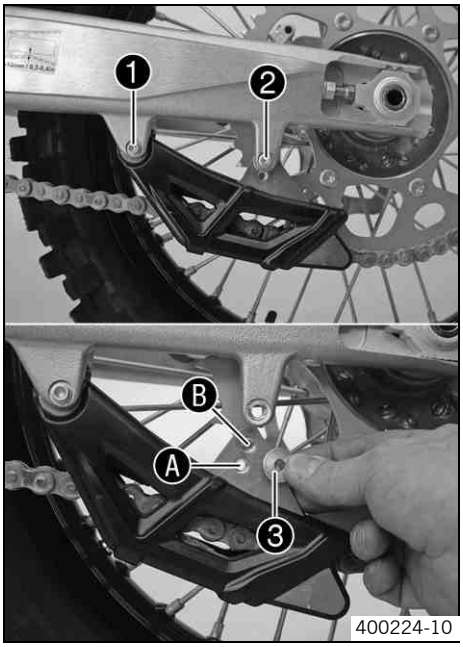
400225-11

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

Chain tension	8... 10 mm (0.31... 0.39 in)
Turn the adjusting screws ❷ 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 ❶.

Adjusting the chain guide



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

Condition

Number of teeth: ≤ 44 teeth

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

Guideline

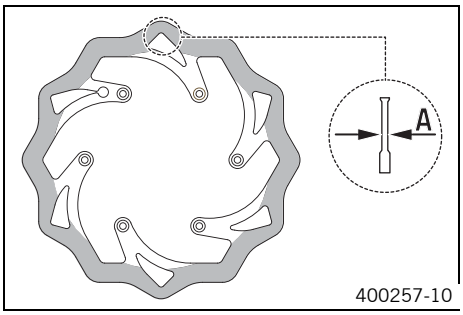
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)

Checking brake discs

Warning

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

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



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

Info

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

Brake discs - wear limit	
Front	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.

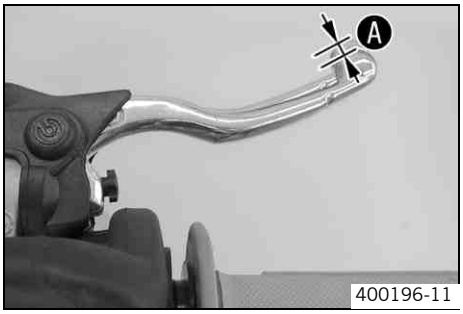
» If the brake disc shows signs of damage, cracking or deformation:
– Change the brake disc.

Checking free travel on hand brake lever

Warning

Danger of accidents Brake system failure.

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

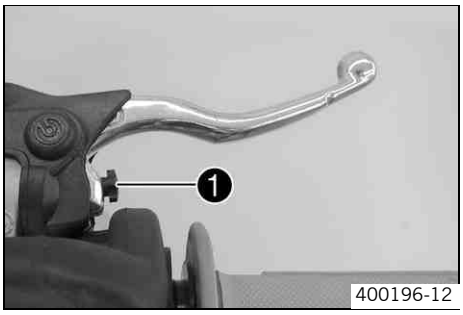


– Push the handbrake lever forwards and check the free travel Ⓐ.

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

» If the free travel does not meet specifications:
– adjust the basic position of handbrake lever. (☛ p. 43)

Adjusting basic position of handbrake lever



– Check the free travel on the hand brake lever. (☛ p. 42)
– Adjust the basic setting of the handbrake lever to your hand size by turning adjusting screw ❶.

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

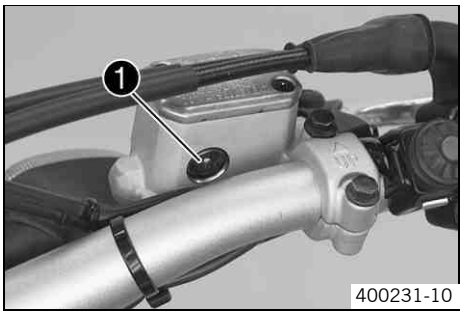
Checking the brake fluid level of the front brake

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 brakes according to the service schedule. (Your authorized KTM workshop will be glad to help.)



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in viewer ❶.
» If the brake fluid is below the **MIN** mark:
– Top up the brake fluid of the front brake. 🔧 (☛ p. 43)

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

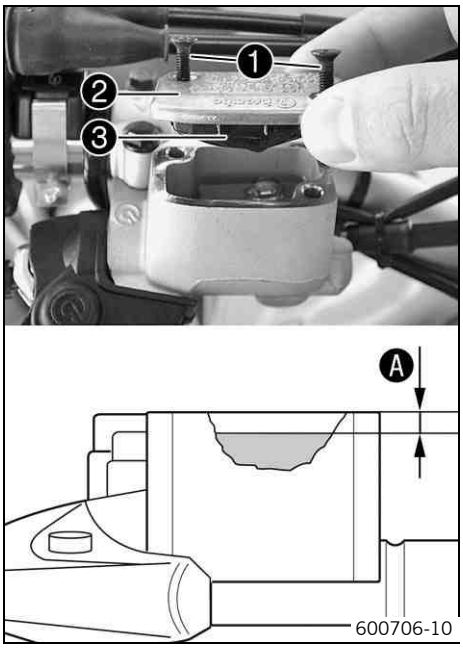
Warning
Danger of accidents Reduced braking effect caused by old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never user DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid is corrosive!
Use only clean brake fluid from a sealed container!



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

Measurement of Ⓐ	5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (☛ p. 86)

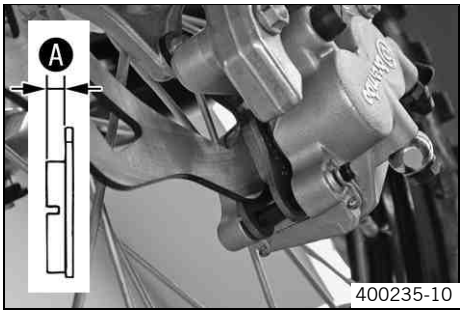
– Position the cover with the membrane. Mount and tighten the screws.

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 Ⓐ.

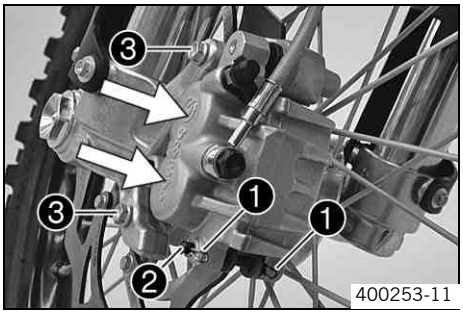
Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the front brake linings. 🔧 (☛ p. 46)
– Check the brake linings for damage and cracking.
» If damage or cracking is visible:
– Change the front brake linings. 🔧 (☛ p. 46)

Removing front brake linings

Warning
Danger of accident Brake system failure.

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



– Press the brake caliper by hand on to the brake disc in order to press 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 the locking split pins ❶, withdraw the bolt ❷, and take out the brake pads.
– Remove screws ❸ and take off brake caliper.
– Clean brake caliper and brake caliper support.

Installing the front brake linings

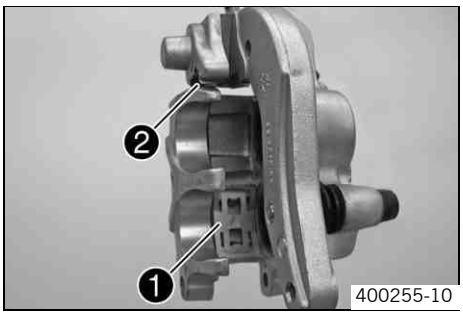
Warning
Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

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

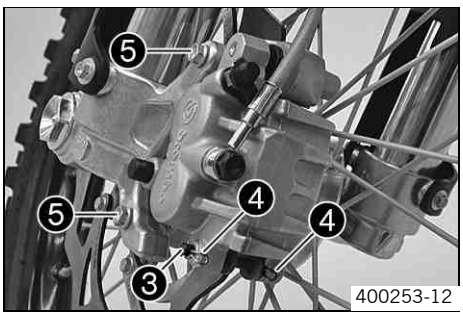
Warning
Danger of accidents Reduced braking efficiency due to use of non-approved brake linings.

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

– Check the brake discs. (☛ p. 42)
– Check that leaf spring ❶ in the brake caliper and sliding plate ❷ in the brake caliper support are seated correctly.



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



– Fit the brake pads, insert bolt ❸, and mount locking split pins ❹.
– Position brake caliper, mount and tighten screws ❺.

Guideline

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

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

Changing the front brake linings

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

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

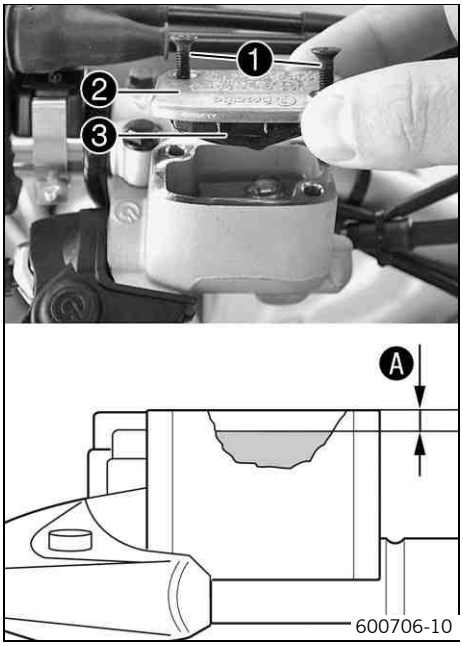
Warning
Danger of accidents Reduced braking effect caused by old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never user DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint!
Use only clean brake fluid from a sealed container!



- Remove the front brake linings. (p. 45)
- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws ❶.
- Remove cover ❷ with membrane ❸.
- Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
- Install the front brake linings. (p. 45)
- Add brake fluid to level Ⓐ.

Guideline

Measurement of Ⓐ	5 mm (0.2 in)

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

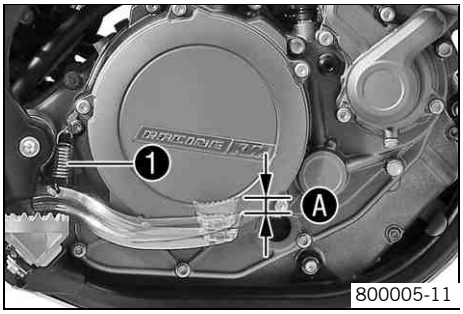
- Position the cover with the membrane. Mount and tighten the screws.

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

Checking free play of foot brake lever

Warning
Danger of accidents Brake system failure.

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



- Disconnect spring ❶.
- Move the foot brake lever up and down between the end stop and the foot brake cylinder piston bracket and check free travel Ⓐ.

Guideline

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

» If the free travel does not meet specifications:

– Adjust the basic position of the foot brake lever. 🔧 (☛ p. 47)

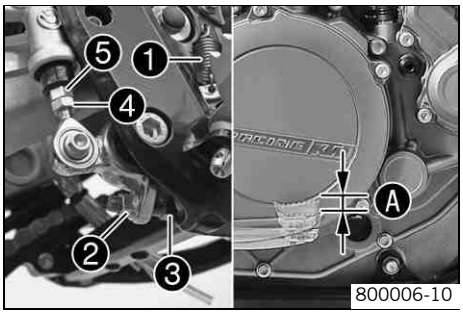
– Reconnect spring ❶.

Adjusting basic position of foot brake lever 🔧

Warning

Danger of accidents Brake system failure.

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



800006-10

– Detach 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 there is free travel Ⓐ. If necessary, adjust the basic position of the foot brake lever.

Guideline

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

– Hold screw ❸ and tighten nut ❷.

Guideline

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

– Hold push rod ❺ and tighten nut ❹.

Guideline

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

– Attach spring ❶.

Checking rear brake fluid level

Warning

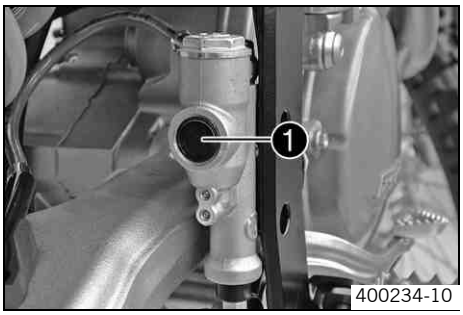
Danger of accidents Failure of the brake system.

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

Warning

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

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



400234-10

– Stand the vehicle upright.

– Check the brake fluid level in the sight glass ❶.

» If there is an air bubble in the sight glass ❶ visible:

– Add brake fluid to the rear brake circuit. 🔧 (☛ p. 48)

Adding brake fluid to the rear brake circuit

Warning
Danger of accidents Failure of the brake system.

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

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

– Avoid contact with skin and eyes, and keep out of the reach of children.
– Wear suitable protective clothing and goggles.
– If brake fluid gets into your eyes, rinse thoroughly with water and contact a doctor immediately.

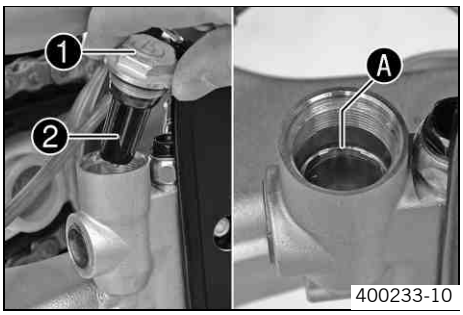
Warning
Danger of accidents Reduced braking effect caused by old brake fluid.

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

Warning
Environmental hazard Hazardous substances cause environmental damage.

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

Info
Never user DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid is corrosive!
Use only clean brake fluid from a sealed container!



400233-10

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

Brake fluid DOT 4 / DOT 5.1 (☛ p. 86)

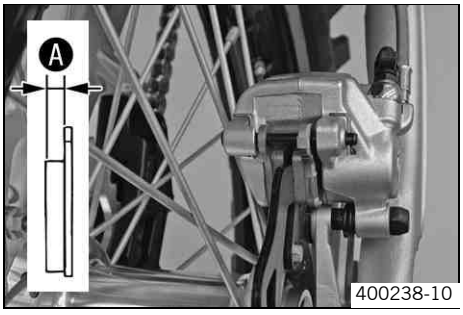
– Mount the screw cap with the membrane and the O-ring.

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

Checking rear brake linings

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

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



400238-10

– Check the brake linings for minimum thickness Ⓐ.

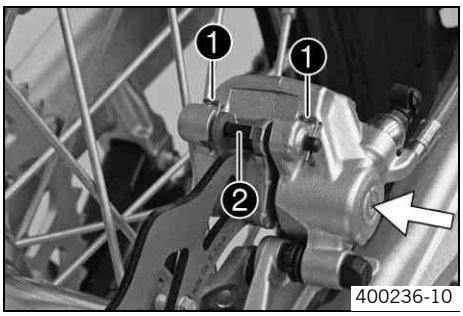
Minimum thickness Ⓐ	≥ 1 mm (≥ 0.04 in)

» If the minimum thickness is less than specified:
– Change the rear brake linings. (☛ p. 50)
– Check the brake linings for damage and cracking.
» If damage or cracking is visible:
– Change the rear brake linings. (☛ p. 50)

Removing rear brake linings

Warning
Danger of accident Brake system failure.

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



– Press the brake caliper by hand onto the brake disc in order to retract the brake piston.

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

– Remove locking split pins ❶, withdraw bolt ❷, and take out the brake pads.
– Clean brake caliper and brake caliper support.

Mounting rear brake linings

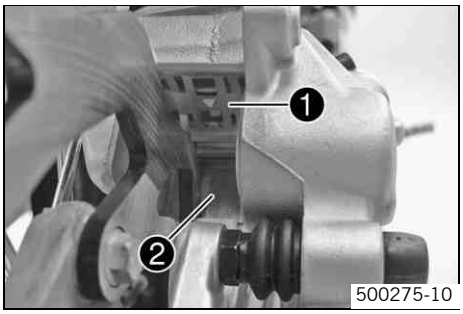
Warning
Danger of accidents Reduced braking efficiency due to oil or grease on the brake discs.

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

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

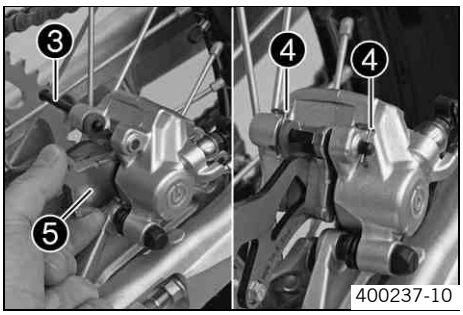
– Brake linings available from accessory suppliers are often not tested and approved for use on KTM vehicles. The construction and friction factor of the brake linings and therefore the brake power can differ considerably from the original KTM brake linings. If brake linings are used that differ from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

– Check the brake discs. (☛ p. 42)
– Check that leaf spring ❶ in the brake caliper and sliding plate ❷ in the brake caliper support are seated correctly.



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

– Fit the brake pads, insert bolt ❸, and mount locking split pins ❹.



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

– Operate the foot brake lever repeatedly until the brake linings press up against the brake disc and there is a pressure point.

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

Warning

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

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

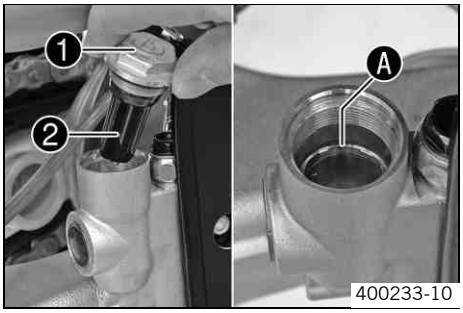
Warning

Environmental hazard Hazardous substances cause environmental damage.

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

Info

Never user DOT 5 brake fluid! This is based on silicone oil and is colored purple. Oil seals and brake lines are not designed for DOT 5 brake fluid.
Avoid contact between brake fluid and painted parts. Brake fluid attacks paint!
Use only clean brake fluid from a sealed container!



- Remove the rear brake linings. (p. 49)
- Stand the vehicle upright.
- Remove screw cap ❶ with membrane ❷ and the O-ring.
- Press the brake piston back to its basic position and make sure that no brake fluid overflows from the brake fluid reservoir.
- Mount the rear brake linings. (p. 49)
- Add brake fluid to level Ⓐ.

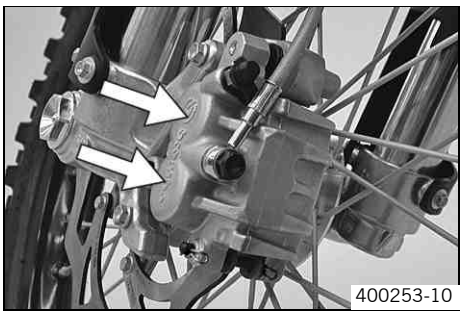
Brake fluid DOT 4 / DOT 5.1 (p. 86)

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

Info

Clean up overflowed or spilt brake fluid immediately with water.

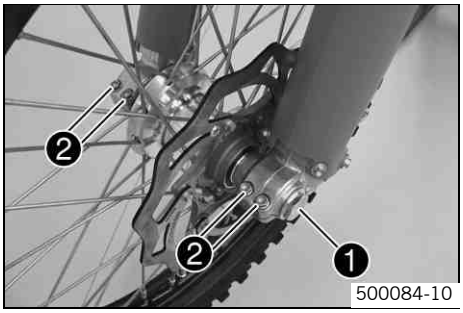
Removing front wheel



- Jack up the motorcycle. (p. 24)
- Press the brake caliper by hand on to the brake disc in order to press back the brake pistons.

Info

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

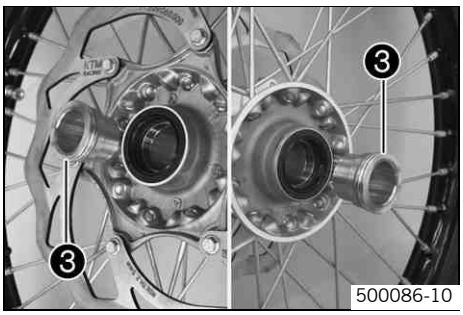


- Remove screw ❶.
- Loosen screw ❷.


500085-10

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

Info
Do not operate 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.

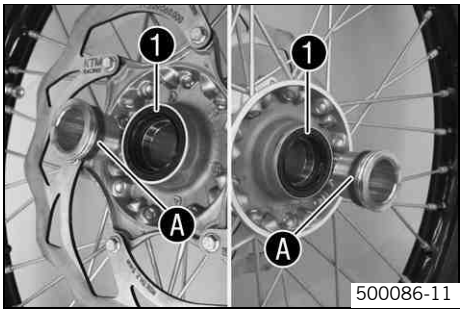


500086-10

– Remove spacers ❸.

Fitting 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.

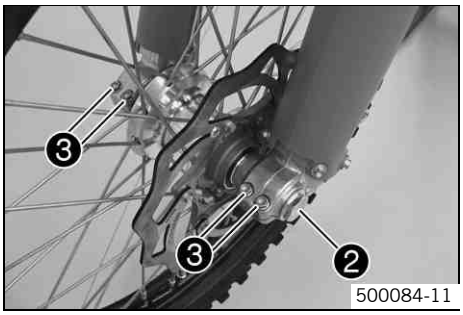


500086-11

– Clean and grease shaft seal rings ❶ and bearing surface Ⓐ of the spacing sleeves.

Long-life grease (☛ p. 88)

– Insert the spacing sleeves.



500084-11

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

Guideline

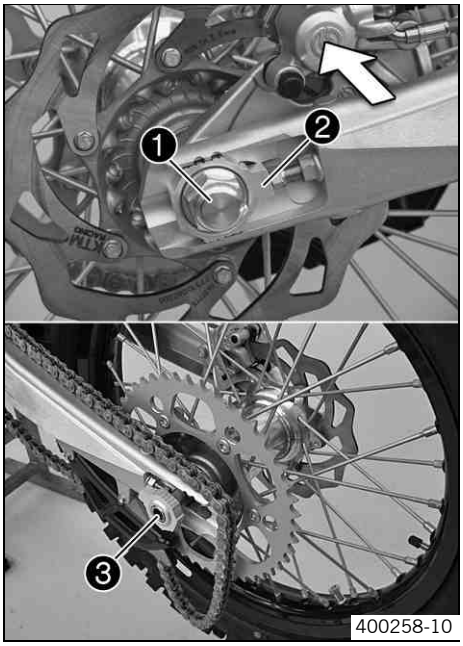
Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)

– Operate the hand brake lever several times until the brake pads are resting correctly on the brake disc.
– Remove the motorcycle from the work stand. (☛ p. 24)
– Apply the front brake and push down hard on the fork several times to align the fork legs.
– Fully tighten screw ❸.

Guideline

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

Removing the rear wheel



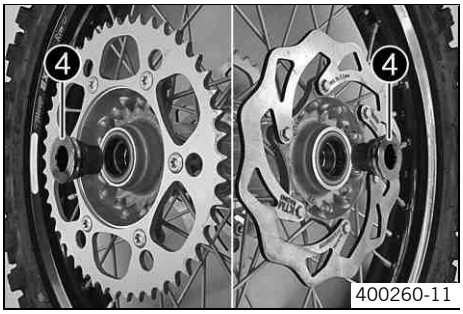
400258-10

– Jack up the motorcycle. (☛ p. 24)
– Press the brake caliper by hand onto the brake disc in order to retract the brake piston.

Info
Make sure when retracting 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.

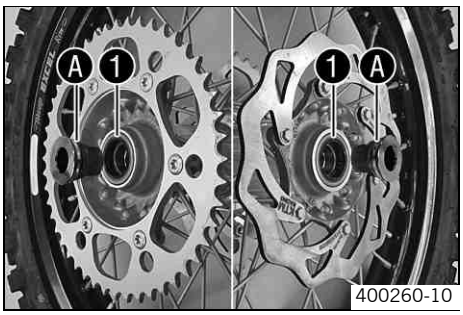


400260-11

– Remove spacing sleeves ❹.

Fitting 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.

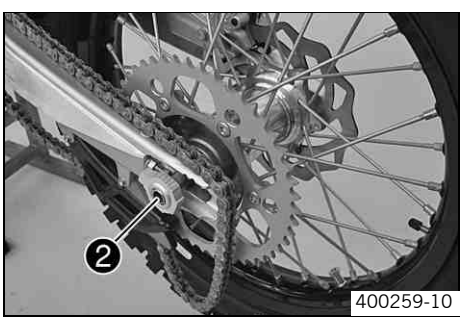


400260-10

– Clean and grease shaft seal rings ❶ and bearing surface Ⓐ of the spacing sleeves.

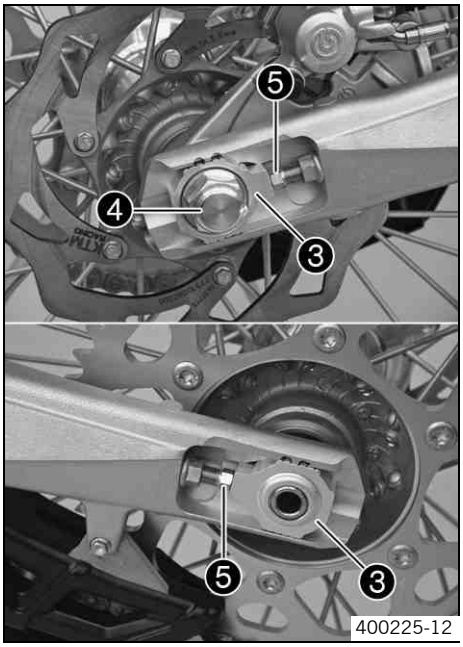
Long-life grease (☛ p. 88)

– Insert the spacing sleeves.



400259-10

– 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.
– Check chain tension when fitting rear wheel. (☛ p. 39)
– Make sure that chain adjusters ❸ are fitted correctly on adjusting screws ❺.
– Tighten nut ❹.

Guideline

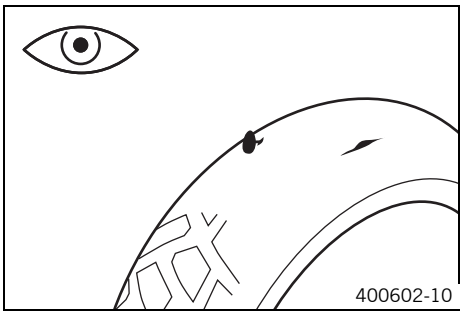
Nut, rear wheel spindle	M20x1.5	80 Nm (59 lbf ft)

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

– Operate the foot brake lever repeatedly until the brake linings lie on the brake disc and there is a noticeable pressure point.
– Remove the motorcycle from the work stand. (☛ p. 24)

Checking the tire condition

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



– Check the front and rear tires for cuts, run-in objects and other damage.
  » If tires show signs of damage, such as cuts or foreign bodies embedded in the carcass:
    – 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)

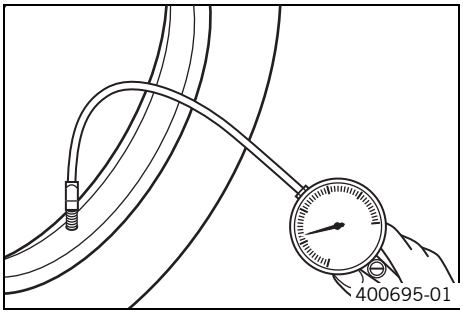
  » If the tread depth is less than the minimum permissible depth:
    – Change the tire.
– Check the age of the tires.

Info
The tire's date of the 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 are changed regardless of the actual wear, at the latest after 5 years.

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

Checking tire air pressure

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



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

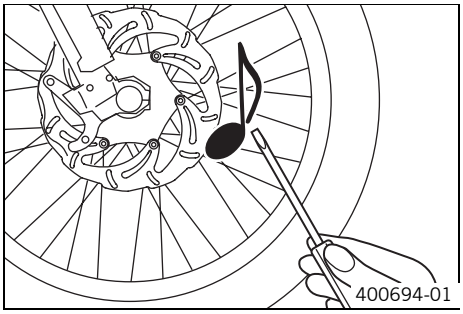
Tire air pressure off road	
Front	1.0 bar (15 psi)
Rear	1.0 bar (15 psi)

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

Checking spoke tension

Warning
Danger of accidents Instable handling due to incorrect spoke tension.
– Ensure that the spoke tension is correct. (Your authorized KTM workshop will be glad to help.)

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



– Tap each spoke with a screwdriver.

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

You should hear a high note.

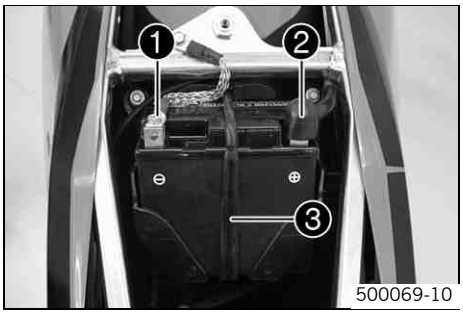
» If the spoke tension varies:
  – Correct the spoke tension.
– Check the spoke torque.
Guideline

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

Torque wrench with various accessories in set (58429094000)

Removing the battery

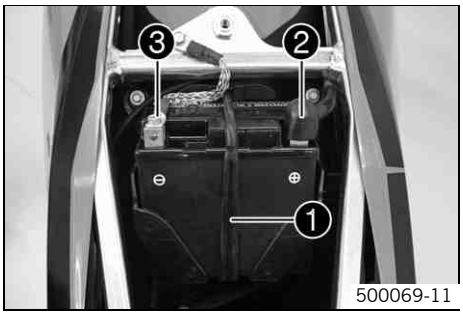
Warning
Risk of injury Battery acid and battery gases cause serious cauterization.
– Keep batteries out of the reach of children.
– Wear suitable protective clothing and goggles.
– Avoid contact with battery acid and battery gases.
– Keep the battery away from sparks or open fire. Charge only in well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



500069-10

- Switch off all power-consuming components and switch off the engine.
- Remove the seat. (☛ p. 57)
- Disconnect the negative (minus) cable ❶ of the battery.
- Pull back the plus pole cover ❷ and disconnect the positive (plus) cable of the battery.
- Hang the rubber band ❸ out to the bottom.
- Lift the battery up.

Installing the battery



500069-11

- Place the battery in the battery holder.

External temperature	≥ 10 °C (≥ 50 °F)
3Ah battery (YTX4L-BS) (☛ p. 79)	
External temperature	≤ 10 °C (≤ 50 °F)
4Ah battery (YTX5L-BS) (☛ p. 79)	

- Reconnect the rubber band ❶.
- Attach the plus cable and replace the plus pole cover ❷.
- Attach the minus cable ❸.
- Mount the seat. (☛ p. 57)

Recharging the battery

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

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

Warning
Environmental hazard Battery parts and acid are harmful to the environment.

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

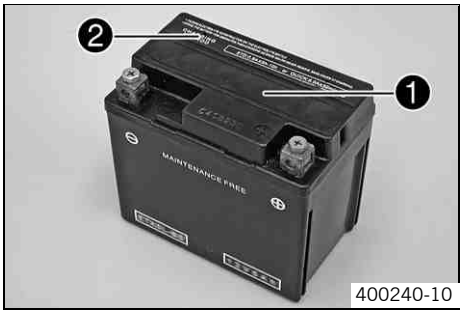
Warning
Environmental hazard Hazardous substances cause environmental damage.

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

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

- Switch off all consumers and the engine.
- Remove the seat. (☛ p. 57)

– Disconnect the minus (negative) cable of the battery to avoid damage to the motorcycle's electronics.



400240-10

– 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 cranking power of the battery, and to test the generator. With this device, you cannot overcharge the battery.

Info
Never remove the lid ❶.
Charge the battery with at most 10% of the capacity specified on the battery ❷.

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

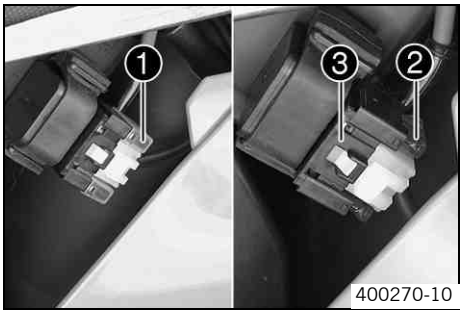
Guideline

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

– Mount the seat. (☛ p. 57)

Removing a fuse

– Switch off all consumers and the engine.
– Remove the air filter box lid. (☛ p. 63)



400270-10

– Remove protective cover ❶.

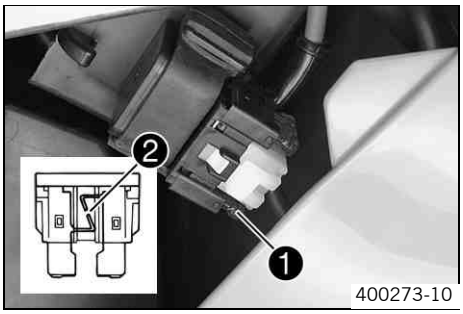
Info
The fuse ❷ is located in the starter relay ❸ under the filter box cover.

– Remove the fuse ❷.

Installing the fuse

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

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



400273-10

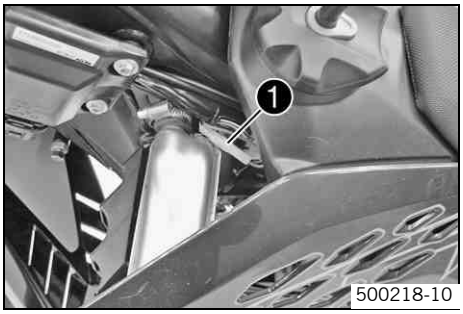
– Insert the fuse.

Fuse (58011109110)

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

– Replace the protection cover.
– Install the air filter box lid. (☛ p. 63)

Ignition curve plug connection



Plug connection ❶ is located in front of the fuel tank on the left side of the frame.

Possible states

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

Changing the ignition curve

Change the ignition curve from Performance to Soft.

– Disconnect plug connection ❶. (Figure 500218-10☛ p. 57)

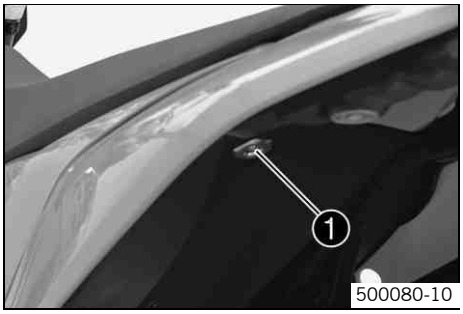
✓ Soft – better driveability

Change the ignition curve from Soft to Performance.

– Connect plug connection ❶. (Figure 500218-10☛ p. 57)

✓ Performance – higher performance

Removing the seat



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

Mounting the seat

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

Guideline

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

Removing the fuel tank

Danger

Fire hazard Fuel is highly flammable.

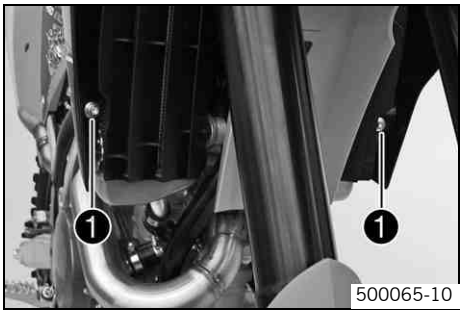
– Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
– Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the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

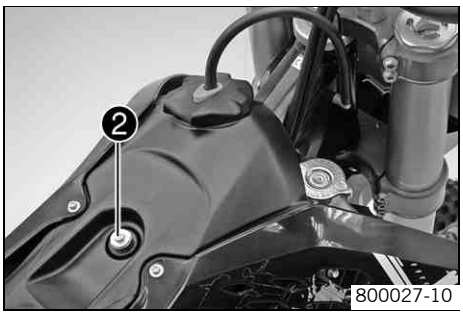
– Remove the seat. (☛ p. 57)



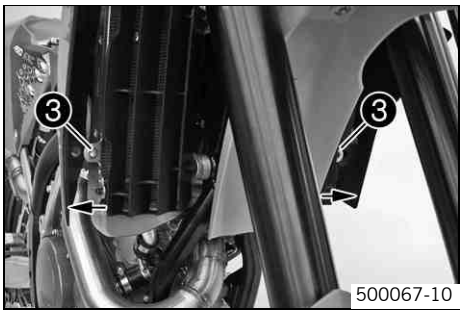
– Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10☛ p. 11)
– Pull off the fuel hose.

Info
Remaining fuel may flow out of the fuel hose.

– Remove screws ❶ with the collar sleeve.



– Remove screw ❷ with the collar sleeve.
– Remove the tube from the fuel tank vent line.



– Pull both spoilers to the side of the radiator bracket ❸ and take the fuel tank away upward.

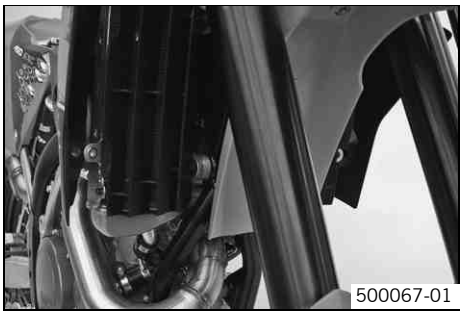
Installing the fuel tank

Danger
Fire hazard Fuel is highly flammable.

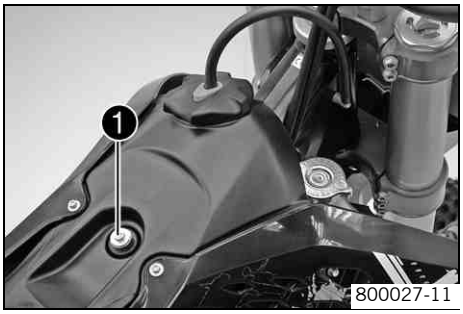
– Never refuel the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.
– Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See the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

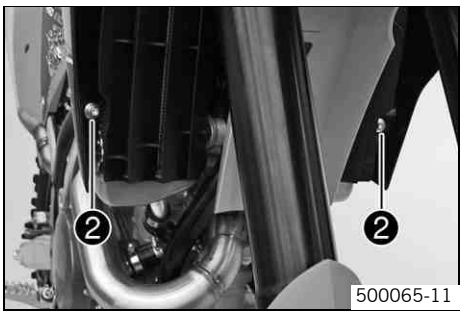


– Position the fuel tank and mount the two spoilers to the side of the radiator fixing.
– Make sure that no cables or Bowden cables are trapped or damaged.



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

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

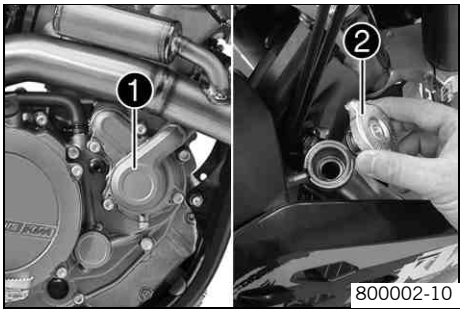


– Mount and tighten screws ❷ with the collar sleeve.
Guideline

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

– Connect the fuel hose.
– Mount the seat. (☛ p. 57)

Cooling system



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

120 °C (248 °F)

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

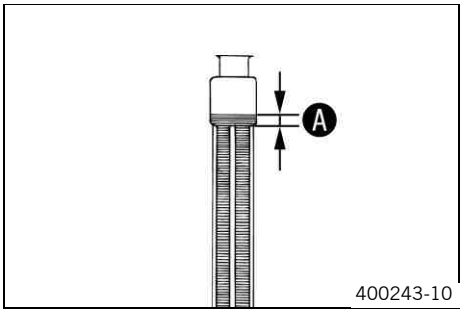
Checking the anti-freeze and coolant level

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

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

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

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



Condition
Engine is cold.

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

−25... −45 °C (−13... −49 °F)

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

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

» If the level of the coolant does not meet specifications:

– Correct the coolant level.

Alternative 1

Coolant (☛ p. 86)

Alternative 2

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

– Refit the radiator cap.

Checking the coolant level

Warning

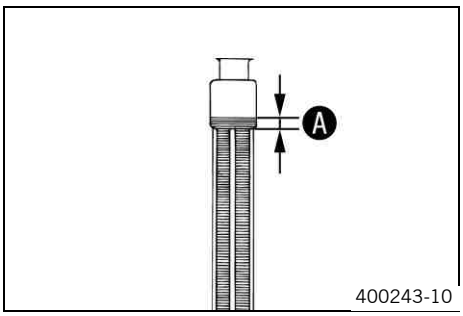
Danger of scalding During motorcycle operation, the coolant gets very hot and is under pressure.

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

Warning

Danger of poisoning Coolant is poisonous and a health hazard.

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



Condition

The engine is cold.

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

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

» If the coolant level does not meet specifications:

– Correct the coolant level.

Alternative 1

Coolant (☛ p. 86)

Alternative 2

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

– Mount the radiator cap.

Draining the coolant

Warning

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

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

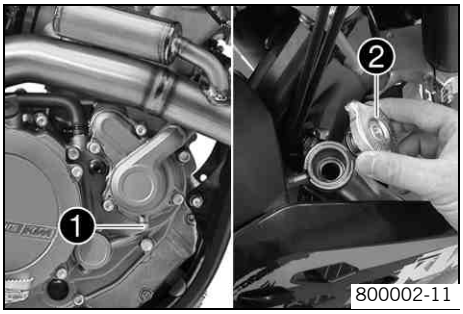
Warning

Danger of poisoning Coolant is poisonous and a health hazard.

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

Condition

Engine is cold.



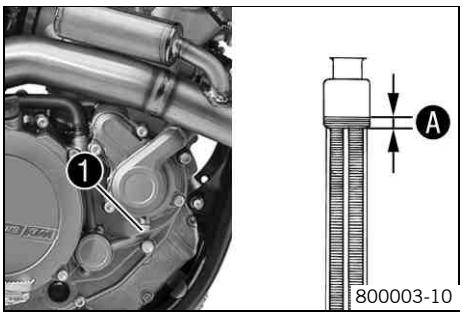
– Stand the vehicle upright.
– Place a suitable container under the water pump cover.
– Remove screw ❶. Remove radiator cap ❷.
– Completely drain the coolant.
– Mount and tighten screw ❶ with a new seal ring.
Guideline

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

Refilling coolant

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

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



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

10 mm (0.39 in)

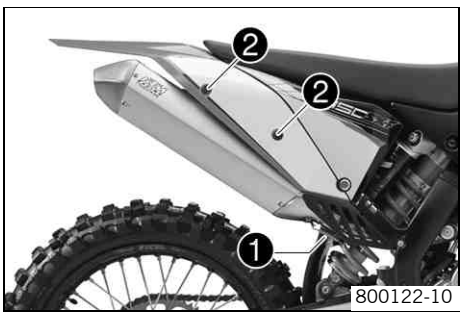
Coolant	1.2 l (1.3 qt.)	Coolant (☛ p. 86)
		Coolant (mixed ready to use) (☛ p. 86)

– Refit the radiator cap.
– Make a short test ride.
– Check the coolant level. (☛ p. 60)

Removing main silencer

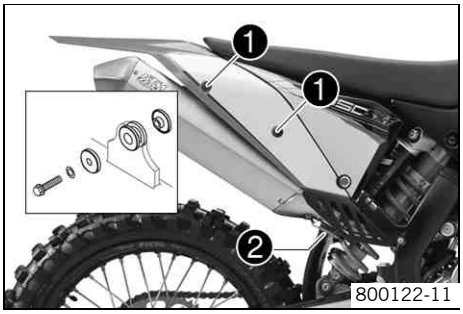
Warning
Danger of burns The exhaust system gets very hot when the vehicle is driven.

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



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

Installing the main silencer



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

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

– Reconnect spring ❷.

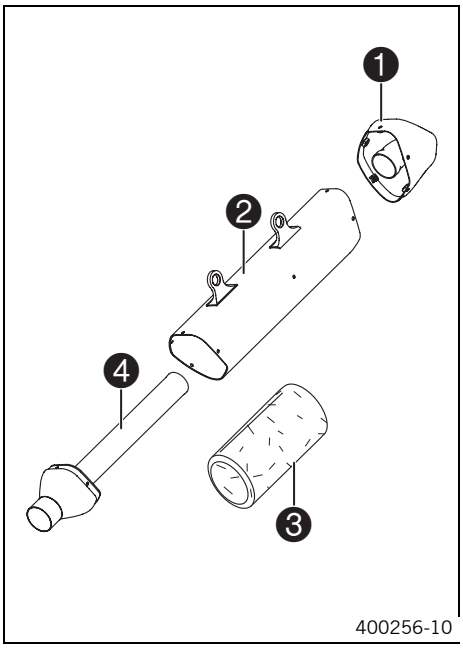
Glass fiber yarn filling of main silencer

The main silencer is filled with glass fiber yarn.
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.

Removing glass fiber yarn filling from the main silencer

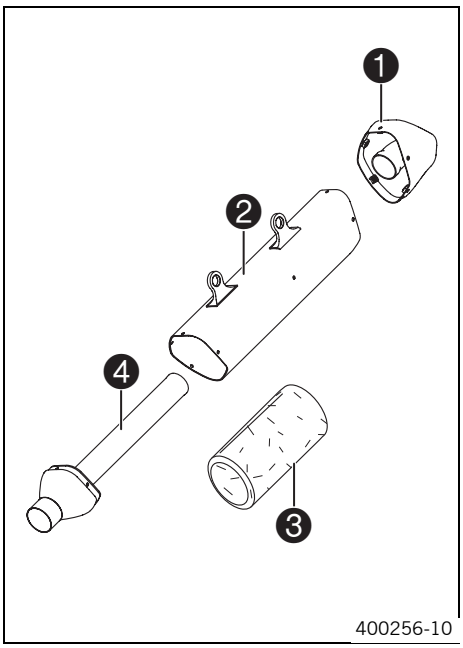
Warning
Danger of burns The exhaust system gets very hot when the vehicle is driven.

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



– Remove the main silencer. (☛ p. 61)
– Remove screws of end cap ❶. Remove end cap and external tube ❷.
– Withdraw glass fiber yarn filling ❸ from inner pipe ❹.
– Clean the parts you want to use again.

Installing the glass fiber yarn filling of the main silencer



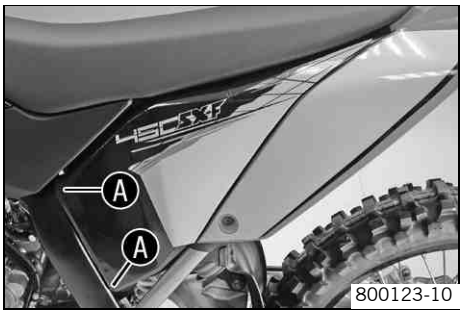
– Slide the glass fiber yarn filling over the inner tube.
– Slide the outer tube over the glass fiber yarn filling.
– Insert the locking cap into the outer tube. Mount and tighten all screws.
– Install the main silencer. (☛ p. 61)

Changing glass fiber yarn filling of main silencer


800124-10

– Remove glass fiber yarn filling from main silencer. (☛ p. 62)
– Install the glass fiber yarn filling of the main silencer. (☛ p. 62)

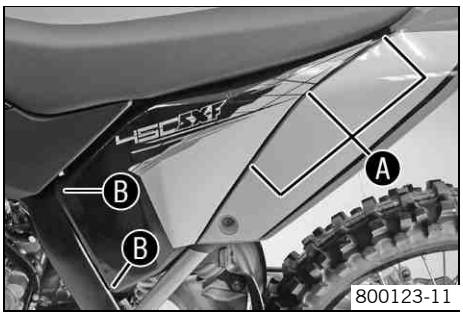
Removing the air filter box lid



800123-10

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

Installing the air filter box lid



800123-11

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

Removing the air filter

Note

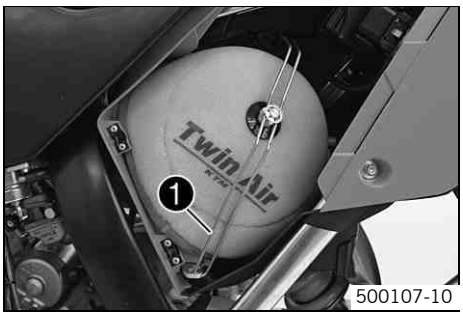
Engine failure Unfiltered intake air has a negative effect on the service life of the engine.

– 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.

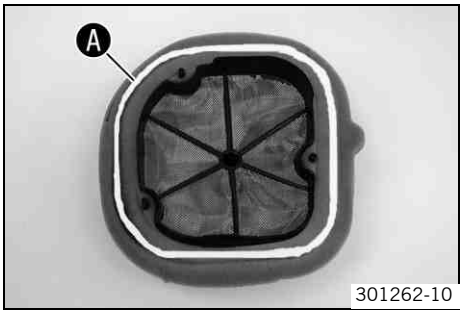
– Oil, grease, filters, fuel, cleaners, brake fluid, etc., should be disposed of as stipulated in applicable regulations.



500107-10

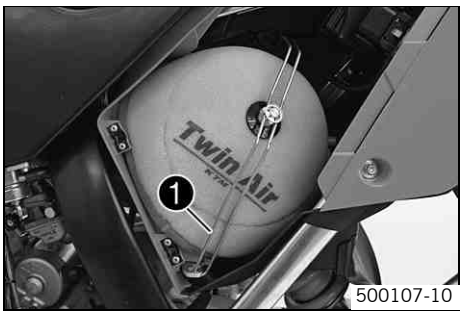
– Remove the air filter box lid. (☛ p. 63)
– Detach air filter holder ❶ at the bottom and swing it to one side. Remove the air filter with the air filter support.
– Remove the air filter from the air filter support.

Installing the air filter



– Mount the clean air filter onto the air filter support.
– Apply grease to the section Ⓐ of the air filter.

Long-life grease (☛ p. 88)



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

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

– Install the air filter box lid. (☛ p. 63)

Cleaning air filter

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

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

– Remove the air filter. (☛ p. 63)
– Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner (☛ p. 88)

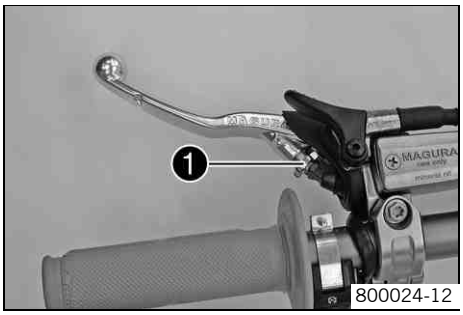
Info
Only squeeze the air filter when drying it out, never wring it out.

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

Oil for foam air filter (☛ p. 88)

– Clean the air filter box.
– Check carburetor connection boot for damage and tightness.
– Install the air filter. (☛ p. 64)

Adjusting basic position of clutch lever

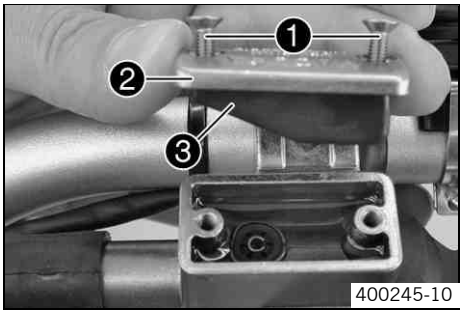


– Adjust the basic setting of the clutch lever to your hand size by turning adjusting screw ❶.

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

Checking fluid level of hydraulic clutch

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



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

Fluid level below container rim	4 mm (0.16 in)

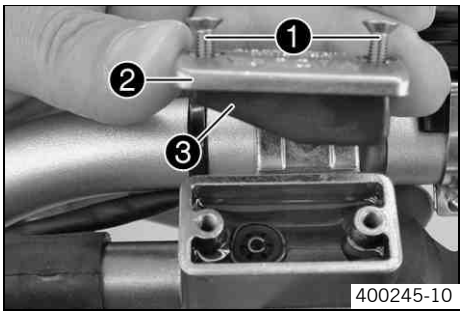
» If the fluid level does not meet specifications:
– Correct the fluid level of the hydraulic clutch.

Hydraulic fluid (15) (☛ p. 86)

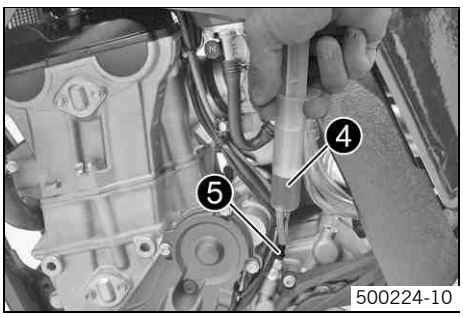
– Position the cover with the membrane. Fit and tighten screws.

Changing the hydraulic clutch fluid

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



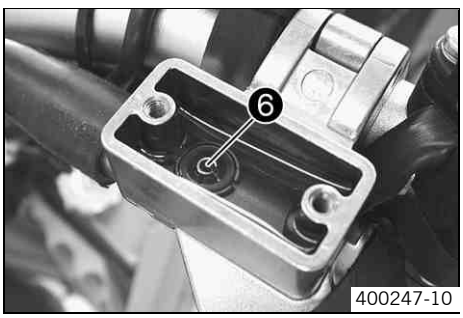
– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Remove screws ❶.
– Remove cover ❷ with membrane ❸.



– Fill bleeding syringe ❹ with the appropriate hydraulic fluid.

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

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

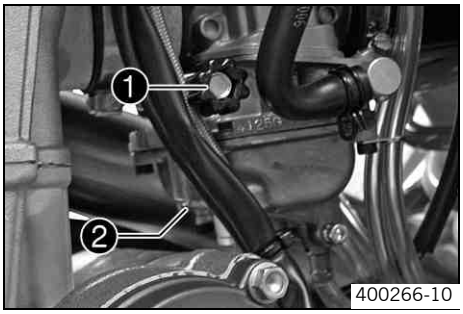


– Inject the liquid into the system until it escapes from bore hole ❻ of the master cylinder without bubbles.
– To prevent overflow, drain fluid occasionally from the master cylinder reservoir.
– Remove the bleeding syringe. Mount and tighten screws bleeder screw.
– Correct the fluid level of the hydraulic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

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

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

Carburetor - idle

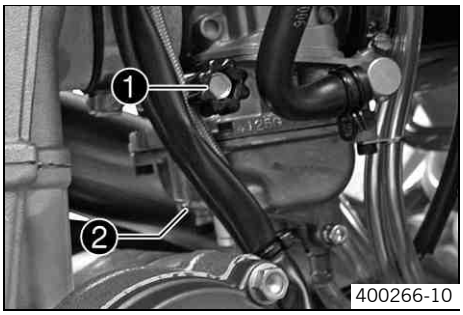


The idle setting of the carburetor has a big influence on the starting behavior, stable idling and the response to throttle opening. That means that an engine with a correctly set idle speed is easier to start than if the idle is set wrongly.

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

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

Carburetor - adjusting idle



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

Guideline

Idle mixture adjusting screw	
Open	1.5 turns

Adjustment tool for mixture control screw (77329034000)

– Run the engine until warm.

Guideline

Warm-up time	≥ 5 min

– Adjust the idle speed with adjusting screw ❶.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 11)	
Idle speed	1,550... 1,650 rpm

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

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

– Adjust the idle speed with adjusting screw ❶.

Guideline

Choke function deactivated – The choke lever is pushed in to the stop. (☛ p. 11)	
Idle speed	1,550... 1,650 rpm

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

Emptying the carburetor float chamber

Danger

Fire hazard Fuel is highly flammable.

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

Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

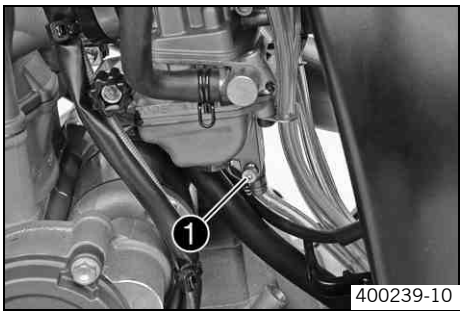
Warning

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

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

Info

Carry out this work with a cold engine.



400239-10

- Turn handle ❶ of the fuel tap to the **OFF** position. (Figure 500178-10☛ p. 11)

  ✓ No more fuel flows from the tank to the carburetor.
- Guide the hose coming down behind the engine into a suitable container.

Info

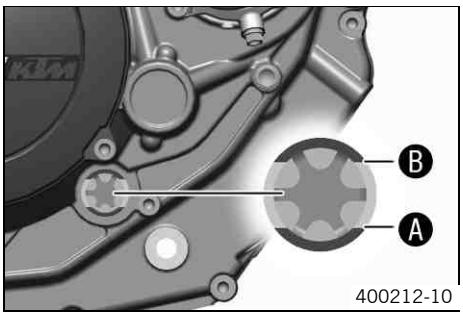
Water in the float chamber results in malfunctioning.

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

Checking engine oil level

Info

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



400212-10

- Stand the motorcycle upright on a horizontal surface.

Condition

The engine is at normal operating temperature.

- Check the engine oil level.

Info

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

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

» If the engine oil is not up to the top edge of the level viewer:

- Top up the engine oil. (☛ p. 70)

Condition

Engine is cold.

- Check the engine oil level.

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

» If the engine oil is not up to the bottom edge of the level viewer:

– Top up the engine oil. (☛ p. 70)

Changing engine oil and oil filter, cleaning oil screen 🔧


301702-10

– Drain the engine oil. 🔧 (☛ p. 68)
– Remove the oil filter. 🔧 (☛ p. 69)
– Install the oil filter. 🔧 (☛ p. 69)
– Fill up with engine oil. 🔧 (☛ p. 70)

Draining the engine oil 🔧

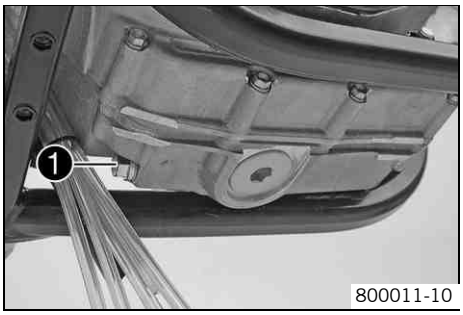
Warning
Danger of scalding Engine oil and gear oil get very hot when the motorcycle is ridden.

– 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.



800011-10

– Stand the motorcycle on its side stand on a horizontal surface.
– Place a suitable container under the engine.
– Remove oil drain plug ❶ with the seal ring.
– Completely drain the engine oil.
– Thoroughly clean the oil drain plug with the magnet.
– Clean the sealing area on the engine.
– Mount and tighten oil drain plug ❶ with the seal ring.
Guideline

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

– Clean the oil screen. 🔧 (☛ p. 68)

Cleaning the oil screen 🔧

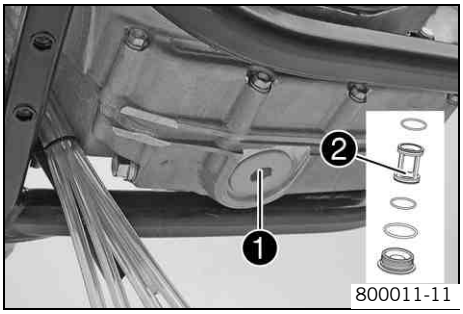
Warning
Danger of scalding Engine oil and gear oil get very hot when the motorcycle is ridden.

– 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.

– Place a suitable container under the engine.



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

Guideline

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

Removing the oil filter

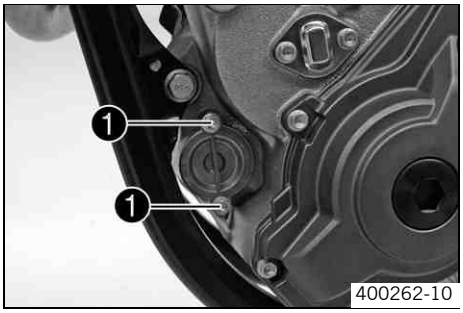
Warning
Danger of scalding Engine oil and gear oil get very hot when the motorcycle is ridden.

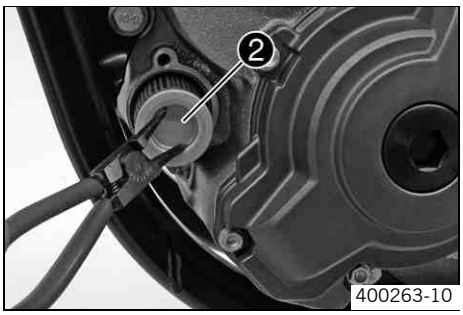
– Wear appropriate protective clothing and safety gloves. In case of burns, rinse immediately with lukewarm water.

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.

– Place a suitable container under the engine.
– Remove screws ❶. Remove oil filter cover with O-ring.



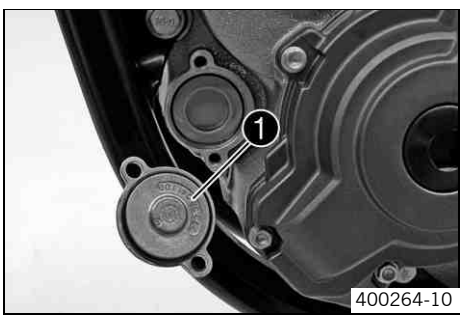


– Pull the oil filter insert ❷ out of the oil filter casing.

Circlip pliers reverse (51012011000)

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

Installing the oil filter



– 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 container.
– Oil the O-ring of the oil filter cover and mount it with oil filter cover ❶.
– Mount and tighten the screws.

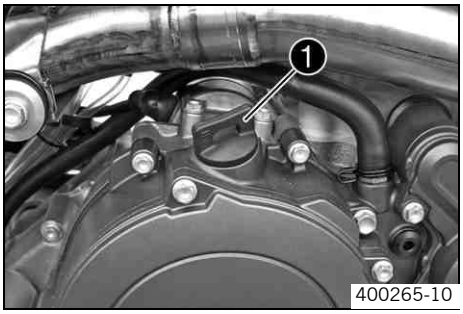
Guideline

Screw, oil filter cover	M5	10 Nm (7.4 lbf ft)

– Stand the motorcycle up.

Filling up with engine oil

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



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

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

– Mount and tighten screw cap ❶.

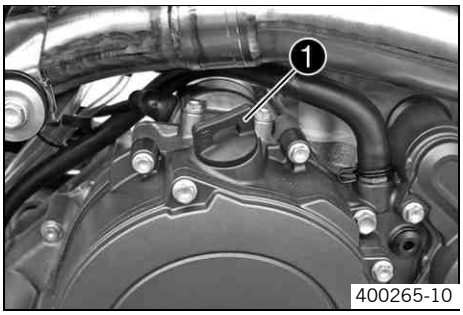
Danger
Danger of poisoning Exhaust gases are poisonous and inhaling them may result in unconsciousness and/or death.

– 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. 67)

Topping up engine oil

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



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

Engine oil (SAE 10W/50) (☛ p. 86)

– Mount and tighten screw cap ❶.

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.

Faults	Possible cause	Action
The engine cannot be cranked (electric starter)	Operating error	– Go through the steps of starting the engine. (☛ p. 18)
	Battery discharged	– Recharge the battery. 🔧 (☛ p. 55) – Check the charging voltage. 🔧 – Check the closed current. 🔧 – Check the generator. 🔧
	Fuse blown	– Remove the fuse. (☛ p. 56) – Install the fuse. (☛ p. 56)
	Low external temperature	– Use the battery supplied in the accessory package. 4Ah battery (YTX5L-BS) (☛ p. 79)
	Starter relay defective	– Check the starter relay. 🔧
	Starter motor defective	– Check the starter motor. 🔧
Engine turns but does not start	Operating error	– Go through the steps of starting the engine. (☛ p. 18)
	Motorcycle was out of use for a long time and there is old fuel in the float chamber	– Empty the carburetor float chamber. 🔧 (☛ p. 67)
	Fuel feed interrupted	– Check the fuel tank breather. – Clean the fuel tap. – Check/set the carburetor components. 🔧
	Engine flooded	– Clean and dry the spark plug or replace if necessary.
	Spark plug oily or wet	– Clean and dry the spark plug or replace if necessary.
	Electrode distance (plug gap) of spark plug too wide	– Adjust the plug gap. Guideline Spark plug electrode gap 0.7 mm (0.028 in)
	Fault in ignition system	– Check the ignition system. 🔧
	Short-circuit cable in cable harness frayed, short-circuit button defective	– Check the wiring harness. (visual check). – Check the electrical system.
	Plug connector of CDI control device, pulse generator or ignition coil oxidized.	– Clean the plug connector and treat it with contact spray.
	Water in carburetor or jets blocked	– Check/set the carburetor components. 🔧
Engine has no idle	Idling jet blocked	– Check/set the carburetor components. 🔧
	Adjusting screws on carburetor distorted	– Carburetor - adjust the idle speed. 🔧 (☛ p. 66)
	Spark plug defective	– Change spark plug.
	Ignition system defective	– Check the ignition coil. 🔧 – Check the CDI controller. 🔧 – Check the spark plug connector. 🔧 – Check the ignition pulse generator. 🔧 – Check the generator. 🔧
Engine does not speed up.	Carburetor running over because float needle dirty or worn.	– Check/set the carburetor components. 🔧
	Loose carburetor jets	– Check/set the carburetor components. 🔧
	Ignition system defective	– Check the ignition coil. 🔧 – Check the CDI controller. 🔧 – Check the spark plug connector. 🔧 – Check the ignition pulse generator. 🔧 – Check the generator. 🔧

Faults	Possible cause	Action
Engine has too little power.	Fuel feed interrupted	– Check the fuel tank breather. – Clean the fuel tap. – Check/set the carburetor components. 🔧
	Air filter severly contaminated	– Clean the air filter. 🔧 (☛ p. 64)
	Exhaust system leaky, deformed or too little glass fiber yarn filling in main silencer	– Check exhaust system for damage. – Change glass fiber yarn filling of main silencer. 🔧 (☛ p. 63)
	Valve clearance too little	– Set the valve clearance. 🔧
	Ignition system defective	– Check the ignition coil. 🔧 – Check the CDI controller. 🔧 – Check the spark plug connector. 🔧 – Check the ignition pulse generator. 🔧 – Check the generator. 🔧
Engine stalls or pops back into the carburetor	Lack of fuel	– Turn handle ❶ of the fuel tap to the **ON** position. (Figure 500178-10☛ p. 11) – Refuel. (☛ p. 20)
	The intake system has an air leak	– Check rubber sleeves and carburetor for tightness.
Engine overheats.	Too little coolant in cooling system	– Check the cooling system for leakage. – Check the coolant level. (☛ p. 60)
	Insufficient airflow	– Switch off engine when stationary.
	Radiator fins very dirty	– Clean radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🔧 (☛ p. 60) – Refill the coolant. 🔧 (☛ p. 61)
	Bent radiator hose	– Change the radiator hose. 🔧
High oil consumption	Engine vent hose bent	– Route the vent hose without bends or replace it if necessary.
	Engine oil level too high	– Check the engine oil level. (☛ p. 67)
	Engine oil too thin (low viscosity)	– Change the engine oil and oil filter, and clean the oil screen. 🔧 (☛ p. 68)
	Piston and cylinder worn	– Measure the piston/cylinder mounting clearance. 🔧
Battery discharged	Battery is not charged by generator	– Check the charging voltage. 🔧 – Check the generator. 🔧
	Unwanted power consumer	– Check the closed current. 🔧

Cleaning motorcycle

Note

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

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

Warning

Environmental hazard Hazardous substances cause environmental damage.

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

Info

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

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

Motorcycle cleaner (☛ p. 88)

Info

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

– After rinsing the motorcycle with a gentle water spray, allow it to dry thoroughly.
– Empty the carburetor float chamber. 🔧 (☛ p. 67)

Warning

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

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

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

Info

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

– Push back the protection covers of the handlebar grips to allow any water that has penetrated to evaporate.
– After the motorcycle has cooled off, oil or grease all moving parts and bearings.
– Clean the chain. (☛ p. 38)
– Treat bare metal parts (except for brake discs and exhaust system) with anti-corrosion materials.

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

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

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

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

Contact spray (☛ p. 88)

Storage

Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

Info

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

– Clean the motorcycle. (☛ p. 73)
– Change the engine oil and oil filter, and clean the oil screen. 🔧 (☛ p. 68)
– Check the anti-freeze and coolant level. (☛ p. 59)
– Drain the fuel from the tanks into a suitable container.
– Empty the carburetor float chamber. 🔧 (☛ p. 67)
– Check the tire air pressure. (☛ p. 54)
– Remove the battery. 🔧 (☛ p. 54)
– Recharge the battery. 🔧 (☛ p. 55)

Guideline

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

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

Info

KTM recommends jacking up the motorcycle.

– Jack up the motorcycle. (☛ p. 24)
– Cover the vehicle with an air-permeable cover or blanket.

Info

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

Putting into operation after storage

– Remove the motorcycle from the work stand. (☛ p. 24)
– Install the battery. 🔧 (☛ p. 55)
– Refuel. (☛ p. 20)
– Make checks before putting into operation. (☛ p. 18)
– Take a test ride.

Design	1-cyliner 4-stroke engine, water-cooled
Displacement	449.3 cm³ (27.418 cu in)
Stroke	60.8 mm (2.394 in)
Bore	97 mm (3.82 in)
Compression ratio	12,5:1
Idle speed	1,550... 1,650 rpm
Control	DOHC, four valves controlled via cam lever, drive via helical gear pair and tooth-wheel chain
Valve diameter, intake	40.4 mm (1.591 in)
Valve diameter, exhaust	31.7 mm (1.248 in)
Valve clearance, cold, intake	0.07... 0.13 mm (0.0028... 0.0051 in)
Valve clearance, cold, exhaust	0.12... 0.18 mm (0.0047... 0.0071 in)
Crankshaft bearing	2 cylinder roller bearing
Conrod bearing	Needle bearing
Piston pin bearing	Bronze bush
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with 3 rotor pumps
Primary transmission	29:74
Clutch	Multidisc clutch in oil bath/hydraulically activated
Transmission ratio	
1st gear	16:34
2nd gear	19:31
3rd gear	20:26
4th gear	23:25
5th gear	26:24
Generator	12 V, 42 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Spark plug	NGK CR 9 EKB
Spark plug electrode gap	0.7 mm (0.028 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid	Electric starter

Capacity - engine oil

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

Capacity - coolant

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

Jet, engine case breather	M4	On block	**Loctite® 243™**
Oil jet, cam lever lubrication	M4	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, piston cooling	M4	4 Nm (3 lbf ft)	**Loctite® 243™**
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, bearing bolt of oil pump idler shaft	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, camshaft bearing retaining bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, ignition pulse generator	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, ignition pulse generator adapter	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, locking lever	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, oil filter cover	M5	10 Nm (7.4 lbf ft)	–
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, stator bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, stator cable holder	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, timing train axle retaining bracket	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Oil jet, clutch oil supply	M5x1	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Nut, cylinder head	M6	10 Nm (7.4 lbf ft)	lubricated with engine oil
Nut, water-pump wheel	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch slave cylinder	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch spring	M6	10 Nm (7.4 lbf ft)	–
Screw, engine housing	M6	10 Nm (7.4 lbf ft)	–
Screw, exhaust flange	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, generator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, ignition pulse generator cable holder	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, oil pump casing	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift lever	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	–
Screw, valve cover	M6	8 Nm (5.9 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Stud, cylinder head	M6	10 Nm (7.4 lbf ft)	–
Oil jet, timing chain tensioner	M6x0.6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, camshaft bearing bridge	M7x1	14 Nm (10.3 lbf ft)	lubricated with engine oil
Screw, clutch cover	M7x1	14 Nm (10.3 lbf ft)	–
Screw, engine housing	M7x1	14 Nm (10.3 lbf ft)	–
Plug, crankshaft location	M8	20 Nm (14.8 lbf ft)	–
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)	**Loctite® 243™**
Spark plug	M10	10... 12 Nm (7.4... 8.9 lbf ft)	–
Plug, cam lever axle	M10x1	10 Nm (7.4 lbf ft)	–
Plug, oil channel	M10x1	10 Nm (7.4 lbf ft)	–
Screw, camshaft gear	M10x1	50 Nm (36.9 lbf ft)	lubricated with engine oil
Screw, rotor	M10x1	80 Nm (59 lbf ft)	lubricated with engine oil
Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)	–

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

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

Frame	Central tube frame made of chrome molybdenum steel tubing
Fork	**WP Suspension** Up Side Down 4860 MXMA CC
Suspension travel	
Front	300 mm (11.81 in)
Rear	335 mm (13.19 in)
Fork offset	22 mm (0.87 in)
Shock absorber	**WP Suspension** PDS 5018 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)
Final drive	14:52
Chain	5/8 x 1/4"
Rear sprockets available	38, 40, 42, 45, 48, 49, 50, 51, 52
Steering head angle	63.5°
Wheelbase	1,475±10 mm (58.07±0.39 in)
Seat height unloaded	985 mm (38.78 in)
Ground clearance unloaded	380 mm (14.96 in)
Weight without fuel, approx.	104.6 kg (230.6 lb.)
Maximum permissible front axle load	145 kg (320 lb.)
Maximum permissible rear axle load	190 kg (419 lb.)
Maximum permissible overall weight	335 kg (739 lb.)

3Ah battery	YTX4L-BS	Battery voltage: 12 V Nominal capacity: 3 Ah maintenance-free
4Ah battery	YTX5L-BS	Battery voltage: 12 V Nominal capacity: 4 Ah maintenance-free

Front tire	**Rear tire**
80/100 - 21 51M TT Bridgestone M59	**110/90 - 19 62M TT** Bridgestone M70
Additional information is available in the Service section under: http://www.ktm.com	

Capacity - fuel

Total fuel tank capacity, approx.	8 l (2.1 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 87)

450 SX-F EU

Fork part number	14.18.7J.05
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.)	4.6 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. 86)
Oil capacity fork leg without cartridge	380 ml (12.85 fl. oz.)	Fork oil (SAE 5) (☛ p. 86)

450 SX-F USA

Fork part number	14.18.7J.23
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)	497 mm (19.57 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	4.8 N/mm (27.4 lb/in)
Weight of rider: 75... 85 kg (165... 187 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. 86)
Oil capacity fork leg without cartridge	390 ml (13.19 fl. oz.)	Fork oil (SAE 5) (☛ p. 86)

450 SX-F EU

Shock absorber part number	12.18.7J.05
Shock absorber	**WP Suspension** PDS 5018 DCC
Compression damping, low-speed	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Rebound damping	
Comfort	24 clicks
Standard	22 clicks
Sport	22 clicks
Spring preload	7 mm (0.28 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	69 N/mm (394 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	72 N/mm (411 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	76 N/mm (434 lb/in)
Spring length	250 mm (9.84 in)
Gas pressure	10 bar (145 psi)
Static sag	33 mm (1.3 in)
Riding sag	105 mm (4.13 in)
Fitted length	411 mm (16.18 in)

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

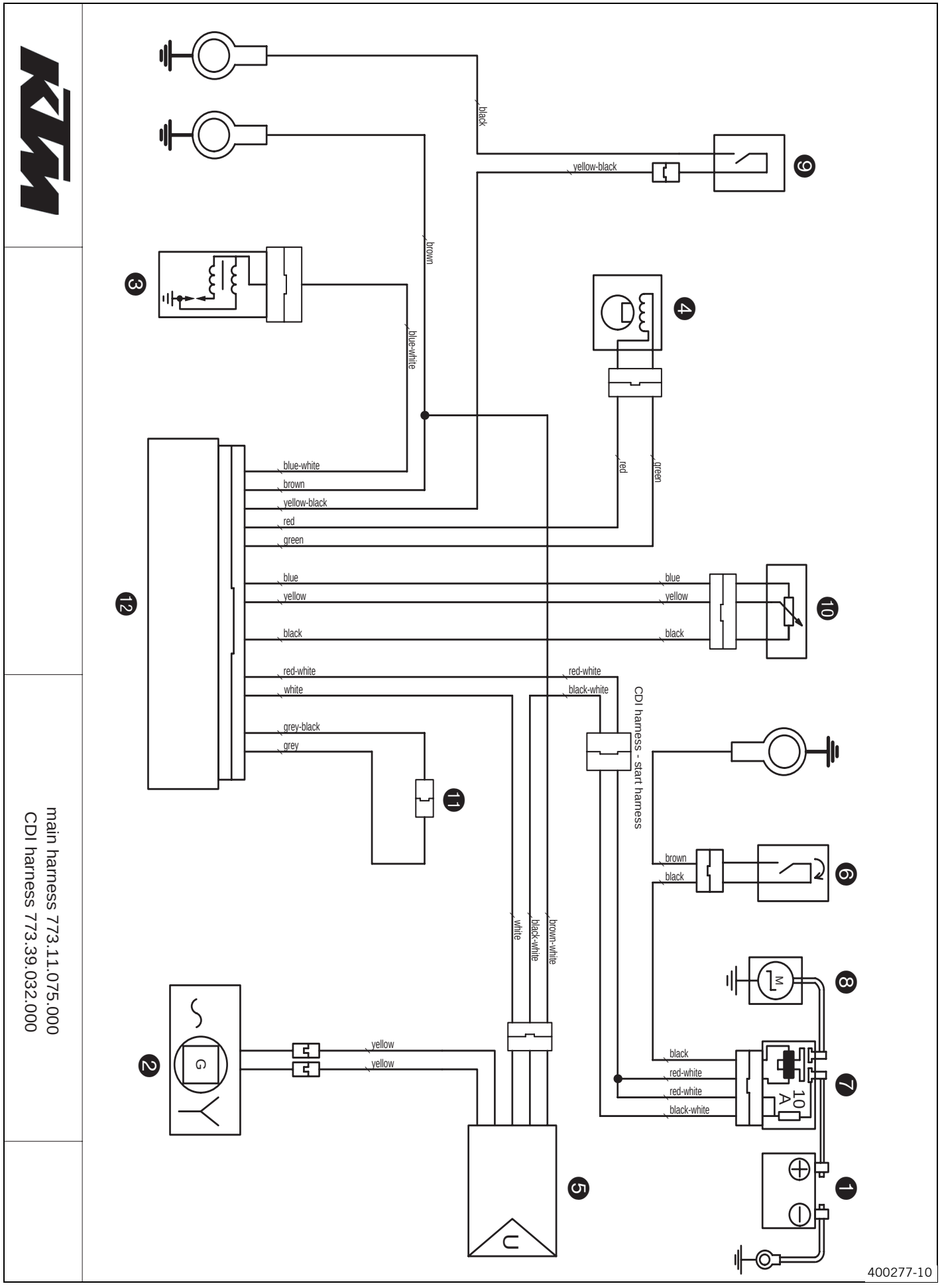
450 SX-F USA

Shock absorber part number	12.18.7J.23
Shock absorber	**WP Suspension** PDS 5018 DCC
Compression damping, low-speed	
Comfort	17 clicks
Standard	15 clicks
Sport	13 clicks
Compression damping, high-speed	
Comfort	2 turns
Standard	1.5 turns
Sport	1 turn
Rebound damping	
Comfort	24 clicks
Standard	22 clicks
Sport	22 clicks
Spring preload	7 mm (0.28 in)
Spring rate	
Weight of rider: 65... 75 kg (143... 165 lb.)	69 N/mm (394 lb/in)
Weight of rider: 75... 85 kg (165... 187 lb.)	72 N/mm (411 lb/in)
Weight of rider: 85... 95 kg (187... 209 lb.)	76 N/mm (434 lb/in)
Spring length	250 mm (9.84 in)
Gas pressure	10 bar (145 psi)
Static sag	33 mm (1.3 in)
Riding sag	105 mm (4.13 in)

Fitted length	407 mm (16.02 in)
Shock absorber oil	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 87)

Spoke nipple, front wheel	M4.5	5... 6 Nm (3.7... 4.4 lbf ft)	–
Spoke nipple, rear wheel	M5	5... 6 Nm (3.7... 4.4 lbf ft)	–
Remaining nuts, chassis	M6	15 Nm (11.1 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, front brake disc	M6	14 Nm (10.3 lbf ft)	–
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft)	–
Screw, shock absorber adjusting ring	M6	5 Nm (3.7 lbf ft)	–
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Nut, rim lock	M8	10 Nm (7.4 lbf ft)	–
Remaining nuts, chassis	M8	30 Nm (22.1 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw, bottom triple clamp	M8	12 Nm (8.9 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, subframe	M8	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Screw, top steering stem	M8	17 Nm (12.5 lbf ft)	**Loctite® 243™**
Screw, top triple clamp	M8	17 Nm (12.5 lbf ft)	–
Engine attachment bolt	M10	60 Nm (44.3 lbf ft)	–
Remaining nuts, chassis	M10	50 Nm (36.9 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw, handlebar support	M10	40 Nm (29.5 lbf ft)	**Loctite® 243™**
Screw, bottom shock absorber	M12	80 Nm (59 lbf ft)	**Loctite® 243™**
Screw, top shock absorber	M12	80 Nm (59 lbf ft)	**Loctite® 243™**
Nut, seat fixing	M12x1	20 Nm (14.8 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	10 Nm (7.4 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)	–

Wiring diagram



Components	
1	Battery
2	Generator
3	Ignition coil
4	Pulse generator
5	Voltage regulator/rectifier
6	Electric starter button
7	Starter relay
8	Starter motor
9	Short circuit button
10	Throttle position sensor
11	Ignition curve plug connection
12	CDI controller

Cable colors	
black	Black
black-white	Black-white
brown	Brown
brown-white	Brown-white
blue	Blue
blue-white	Blue-white
green	Green
grey	Gray
grey-black	Gray-black
red	Red
red-white	Red-white
white	White
yellow	Yellow
yellow-black	Yellow-black

Brake fluid DOT 4 / DOT 5.1

according to
– DOT

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

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

Motorex®
– **Brake Fluid DOT 5.1**

Coolant

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

Mixture ratio

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

Coolant (mixed ready to use)

Antifreeze	−40 °C (−40 °F)

Supplier
Motorex®
– **Anti Freeze**

Engine oil (SAE 10W/50)

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

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

Synthetic engine oil

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

Fork oil (SAE 5)

according to
– SAE (☛ p. 90) (SAE 5)

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

Supplier
Motorex®
– **Racing Fork Oil**

Hydraulic fluid (15)

according to
– ISO VG (15)

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

Supplier
Motorex®
– **Hydraulic Fluid 75**

Shock absorber oil (SAE 2.5) (50180342S1)

according to
– SAE (☛ p. 90) (SAE 2.5)

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

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

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

Air filter cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Twin Air Dirt Bio Remover**

Chain cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chain Clean 611**

Cleaning and polishing materials for metal, rubber and plastic

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Protect & Shine 645**

Contact spray

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Accu Contact**

Long-life grease

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Fett 2000**

Motorcycle cleaner

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Moto Clean 900**

Off-road chain spray

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chain Lube 622**

Oil for foam air filter

Guideline

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Twin Air Liquid Bio Power**

Universal oil spray

Guideline

– KTM recommends **Motorex®** products.

Supplier

Motorex®

– **Joker 440 Universal**

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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