OWNER'S MANUAL 2009

690 DUKE EU

690 DUKE AUS/UK

690 DUKE JP

ART. NO. 3211370en

DEAR KTM CUSTOMER

Congratulations on your decision to buy 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/type label (☛ p. 16)	Dealer's stamp
Engine number (☛ p. 17)	
Key number (☛ p. 16)	

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 cannot however be completely excluded.

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

ISO 9001(12 100 6061)
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Issued by: TÜV Management Service

KTM-Sportmotorcycle AG
5230 Mattighofen, Austria

CONTENTS

Symbols used

The meaning of specific symbols is described below.

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 proprietary name.
Name®	Identifies a protected name.
Brand™	Identifies a trademark.

Use definition

KTM sport motorcycles are designed and constructed to meet the normal demands of regular road operation but not for use on race courses or offroad.

Info

The motorcycle is authorized for public road traffic in the homologous version only.

Maintenance

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

Warranty

The work prescribed in the service plan must only be carried out in an authorized KTM workshop and confirmed in the service record; otherwise all warranty claims will be disregarded. No warranty claim can be met 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

In the interests of your own safety, use only spare parts and accessories approved and/or recommended by KTM, and have these fitted in an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage.

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

Work rules

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 a thread lock (e.g. **Loctite®**) is used for screw connections, be sure to comply with the manufacturer's specific advice 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 get very hot when the machine is driven.

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

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

Environment

Offroad motorcycling is a wonderful sport and we naturally hope that you will be able to enjoy it to the fullest. However, it is a potential problem for the environment and can lead to conflicts with other persons. But if you use your 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/warning.

Info

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

Grades of risks

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

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

Caution
Identifies a danger that will possibly lead to light 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 tips to help you operate and handle your motorcycle. Only then will you find out how to customize the motorcycle ideally 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.

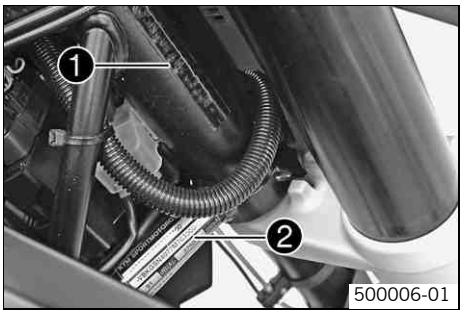
View of vehicle, front left side

1	Combination instrument
2	Rear mirror
3	Clutch lever
4	Seat
5	Handrail
6	Front brake caliper
7	Left fuel tap
8	Shift lever
9	Engine number
10	Side stand

View of vehicle, rear right

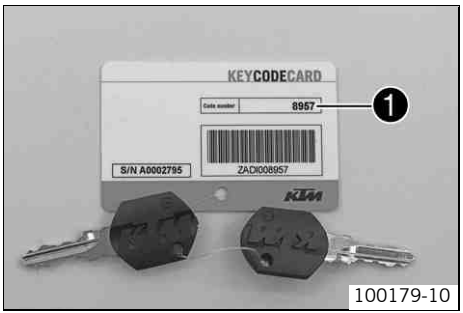
1	Seat lock
2	Light switch, headlight flasher switch, indicator switch, horn button
3	Filler cap
4	Emergency OFF switch, electric starter button
5	Hand brake lever
6	Chassis number, type label
7	Rear brake caliper
8	Passenger footrests
9	**Map-Select** switch
10	Foot brake pedal
11	Level viewer, engine oil
12	Right fuel tap

Chassis number/type label



The chassis number ❶ is stamped on the right of the steering head.
The type label ❷ is on the right of the frame behind the steering head.

Key number

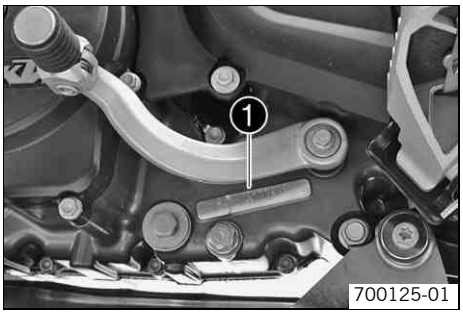


The key number ❶ can be found on the **KEYCODECARD**.

Info

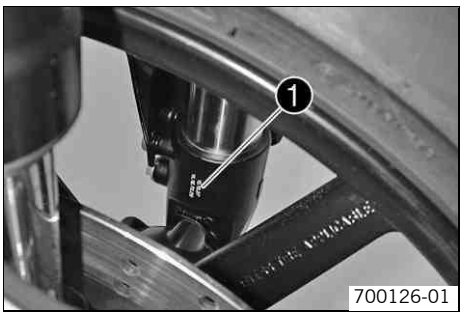
You need the key number to order a spare key. Keep the **KEYCODECARD** in a safe place.

Engine number



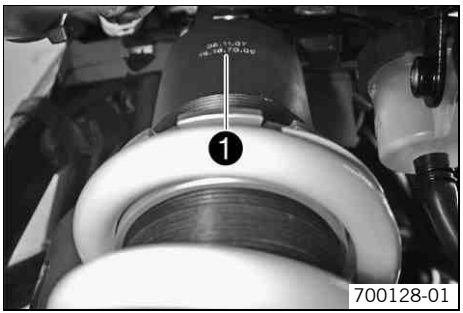
The engine number ❶ is stamped on the left side of the engine under the engine sprocket.

Fork part number



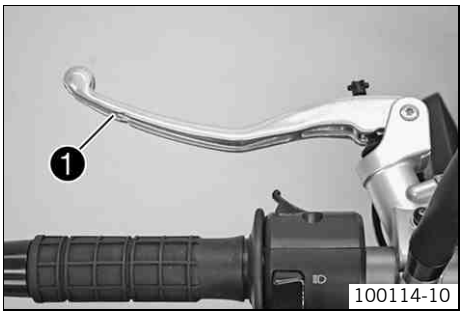
The fork part number ❶ is stamped on the inner side of the fork stub.

Shock absorber part number



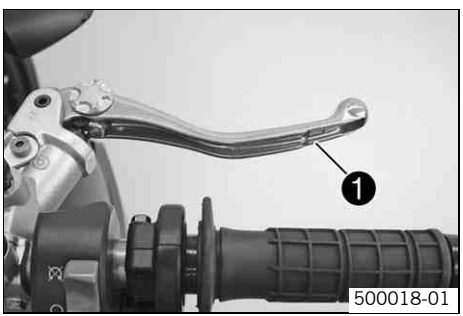
The shock absorber part number ❶ is stamped on the top of the shock absorber above the adjusting ring toward the rear.

Clutch lever



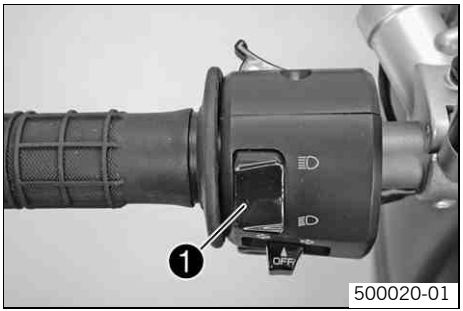
The clutch lever ❶ is fitted on the left side of the handlebar.
The clutch is hydraulically operated and self-adjusting.

Hand brake lever



The hand brake lever ❶ is fitted on the right side of the handlebar.
The front brake is engaged using the hand brake lever.

Light switch



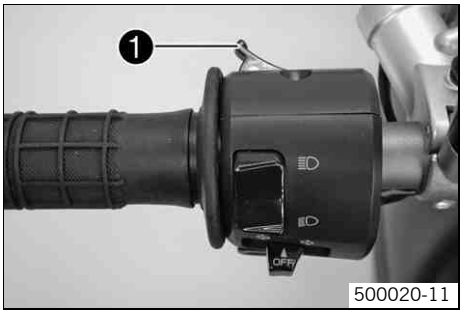
500020-01

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

Possible states

	Low beam on – Light switch is turned downwards. In this position, the low beam and tail light are switched on.
	High beam on – Light switch is turned upwards. In this position, the high beam and the tail light are switched on.

Headlight flasher switch



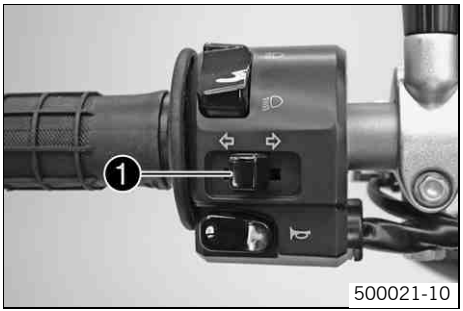
500020-11

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

Possible states

- Headlight flasher switch in neutral position
- Headlight flasher switch pressed – In this position, the headlight flasher (high beam) is actuated.

Flasher switch



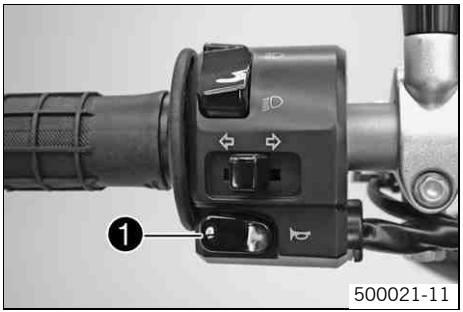
The flasher switch ❶ is fitted on the left side of the handlebar.

Possible states

	Flasher light off
⇦	Flasher light, left, on – Flasher switch pressed to the right. The flasher switch returns automatically to the central position after use.
⇨	Flasher light, right, on – Flasher switch pressed to the right. The flasher switch returns automatically to the central position after use.

To switch off the flasher light, press the flasher switch towards the switch case.

Horn button

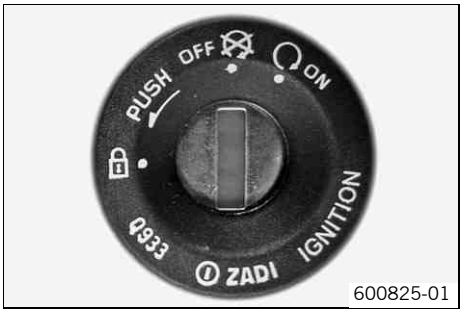


The horn button ❶ is fitted on the left side of the handlebar.

Possible states

- Horn button ⍨ in neutral position
- Horn button ⍨ pressed – The horn is operated in this position.

Ignition/steering lock

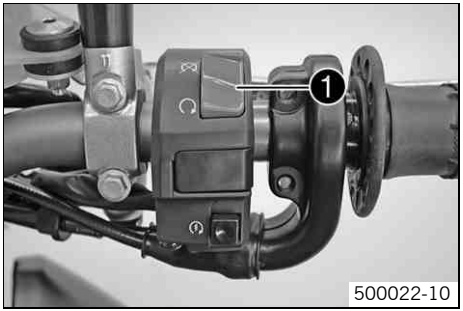


The ignition/steering lock ❶ is in front of the upper triple clamp.

Possible states

	Ignition **OFF** – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start. The ignition key can be removed.
	Ignition **ON** – In this position, the ignition circuit is closed and the engine can be started.
	Steering locked – In this position, the ignition circuit is interrupted and the steering locked. The ignition key can be removed.

Emergency OFF switch

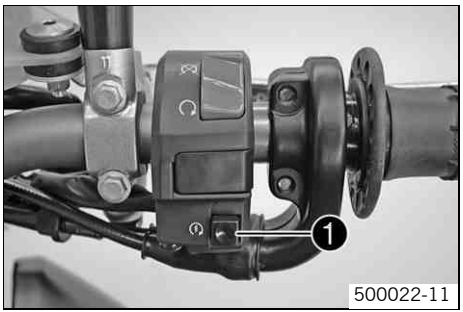


The emergency OFF switch ❶ is fitted on the left side of the handlebar.

Possible states

	Emergency OFF switch off – In this position, the ignition circuit is interrupted, a running engine stops, and the engine cannot be started.
	Emergency OFF switch on – This position is necessary for operation as the ignition circuit is closed.

Electric starter button

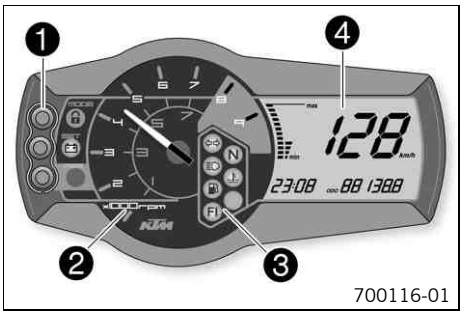


The electric starter button ❶ is fitted on the right side of the handlebar.

Possible states

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

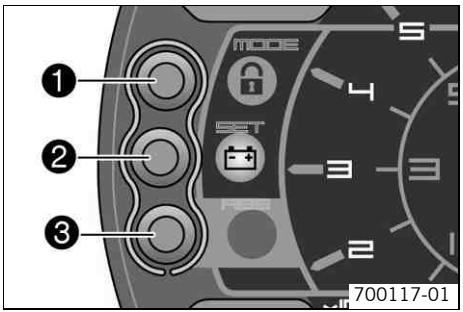
Combination instrument



The combination instrument is installed in front of the handlebar.
The combination instrument is divided into 4 function areas.

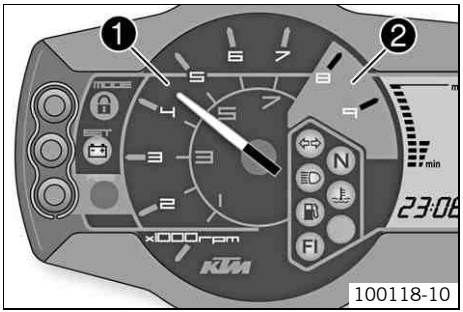
❶ Function buttons
❷ Tachometer
❸ Indicator lights
❹ Display

Combination instrument - function buttons



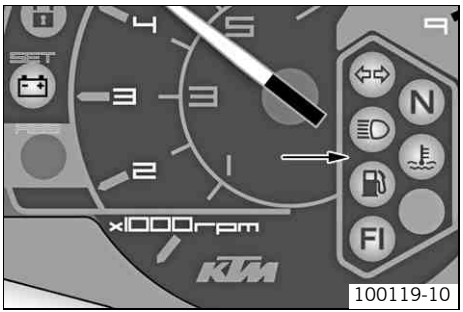
You can change the display mode with the **MODE** button ❶.
Possible display modes are distance traveled (**ODO**), trip master 1 (**TRIP 1**) and trip master 2 (**TRIP 2**).
Press the **SET** button ❷ to reset the trip master 1 function (**TRIP 1**) and trip master 2 function (**TRIP 2**) to **0.0**.
Button ❸ has no function.

Combination instrument - tachometer



The tachometer ❶ shows the engine speed in revolutions per minute.
The red marking ❷ shows the excess speed range of the engine.

Combination instrument - indicator lamps

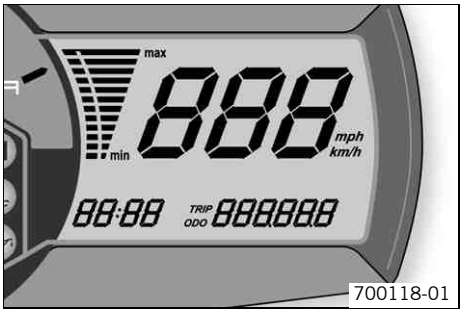


The indicator lamps offer additional information about the operating state of the motorcycle.

Possible states

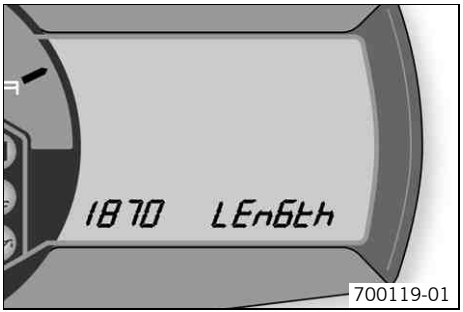
	The flasher indicator lamp flashes green simultaneously with the flashers – Flasher light is switched on.
N	The idle speed indicator lamp lights up green – The transmission is switched to idle.
	High beam indicator lamp lights up blue – High beam is switched on.
	Temperature warning lamp lights up red – Coolant has reached a critical value.
	Fuel level warning lamp lights up orange – Fuel level has reached the reserve mark. Display switched to **TRIP F**.
FI	**FI** warning lamp (**MIL**) lights up/flashes orange – The OBD has detected an emission- or safety-critical fault.
	Battery warning lamp lights up red – Voltage in vehicle system too low.

Combination instrument - display



700118-01

When you switch on the ignition, all display segments light up for a second as a function test.



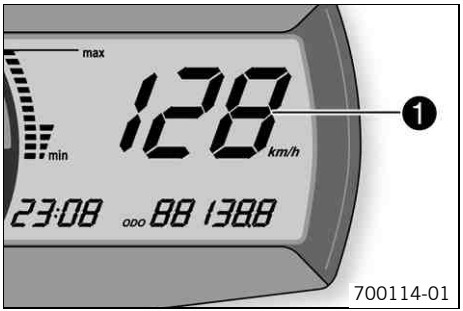
700119-01

LEnGTth
Following the display function test, the wheel circumference **LEnGth** is shown for one second.

Info
1870 mm corresponds to the circumference of the 17" front wheel with a series production tire.

The display then changes to the last selected mode.

Combination instrument - speedometer



The speed ❶ is shown in kilometers per hour **km/h** or in miles per hour **Mph**.

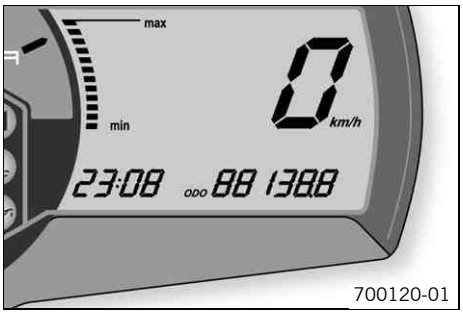
Setting kilometers or miles

Info

If you change the unit, the value **ODO** is retained and converted accordingly.
Making the setting according to the country.

Condition

The motorcycle is standing.



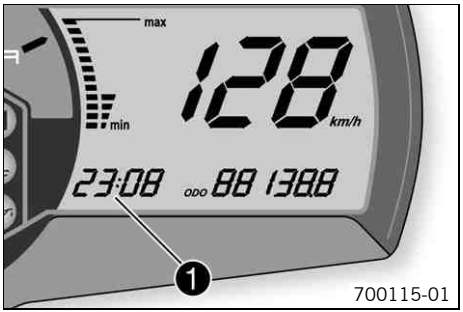
700120-01

– Switch on the ignition by turning the ignition key to the position ❍.
– Press the **MODE** button repeatedly until the **ODO** mode is active.
– Keep the **MODE** button pressed until the display mode changes from **Km/h** to **Mph** or from **Mph** to **Km/h**.

Guideline

Activation duration of **MODE** button	10 s

Combination instrument - time



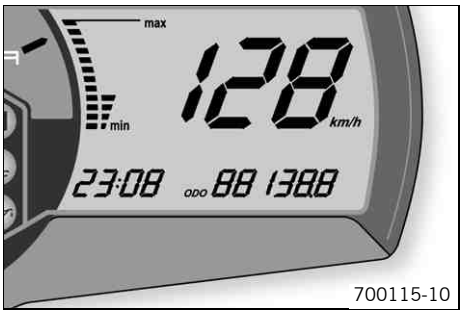
700115-01

The time is shown in area ❶ of the display.

Info
The time has to be reset after the battery is reconnected or when the fuse is changed.

Setting the clock

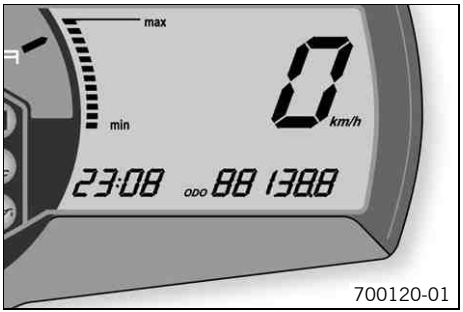
Condition
The motorcycle is standing.



700115-10

– Switch on the ignition by turning the ignition key to the position ○.
– Press the **MODE** button repeatedly until the **ODO** mode is active.
– Keep the **MODE** button and the **SET** button pressed simultaneously.
  ✔ The time display begins to flash.
– Press the **MODE** button to set the hour.
– Press the **SET** button to set the minute.
– Keep the **MODE** button and the **SET** button pressed simultaneously.
  ✔ The time is set.

Combination instrument - display ODO



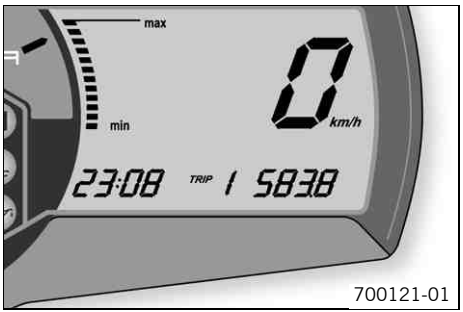
700120-01

In the **ODO** display mode, the total distance traveled is shown in kilometers or miles.

Info
This value is retained, even if the battery is disconnected and/or the fuse blows.

Combination instrument - setting/resetting TRIP 1

Info
The **TRIP 1** trip counter is always running and counts up to **999.9**.
The trip counter can be used to measure the distance covered during trips or between two refueling stops. After the value **999.9** is reached, the trip counter starts at **0.0** again.

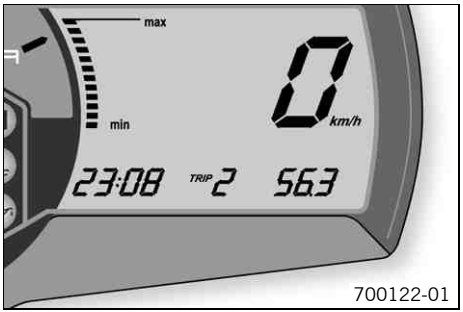


700121-01

– Switch on the ignition by turning the ignition key to the position ⚆.
– Press the **MODE** button repeatedly until the **TRIP 1** mode is active.
– Keep the **SET** button pressed.
  ✔ The **TRIP 1** display is set to **0.0**.

Combination instrument - setting/resetting TRIP 2

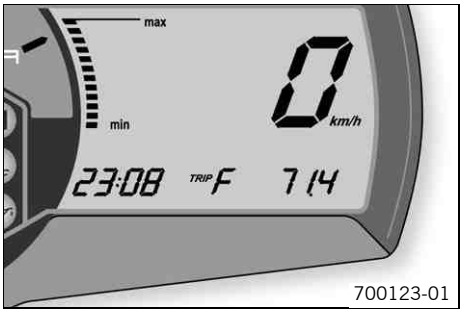
Info
The **TRIP 2** trip counter is always running and counts up to **999.9**.
The trip counter can be used to measure the distance covered during trips or between two refueling stops. After the value **999.9** is reached, the trip counter starts at **0.0** again.



700122-01

– Switch on the ignition by turning the ignition key to the position ⚆.
– Press the **MODE** button repeatedly until the **TRIP 2** mode is active.
– Keep the **SET** button pressed.
  ✔ The **TRIP 2** display is set to **0.0**.

Combination instrument - TRIP F display

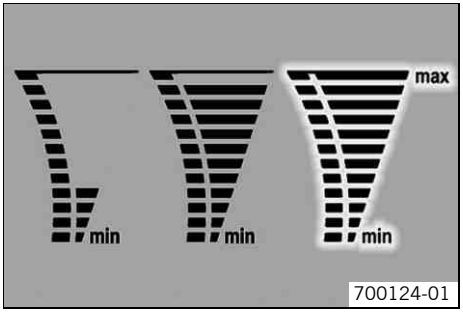


If the fuel level drops to the reserve mark, the display automatically changes to **TRIP F** and starts to count from **0.0**, regardless of the previous display mode.

Info

Parallel to the **TRIP F** display, the fuel warning light switches on.

Combination instrument - coolant temperature indicator



The temperature display consists of 12 bars. The more bars showing, the hotter the coolant. When the top bar lights up, all bars begin to flash and the temperature warning light starts to show.

Possible states

- Engine cold – Up to four bars light up.
- Engine at operating temperature – Five to eleven bars light up.
- Engine hot – All twelve bars flash.

Opening filler cap

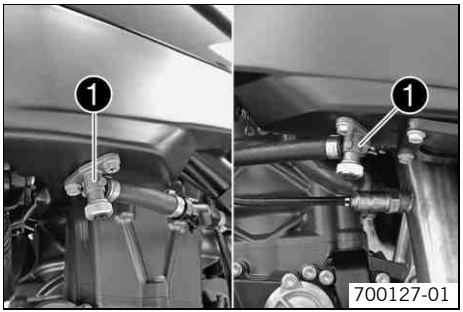
– Lift the cover of the filler cap ❶ and insert the ignition key.
– Turn the ignition key 90° counterclockwise and remove the filler cap.

Info
The filler cap has a tank air vent system.

Closing filler cap

– Put the filler cap back on and turn the ignition key 90° clockwise.
– Remove the ignition key and fold down the cover.

Fuel taps



The fuel taps ❶ are located on the left/right under the fuel tank.

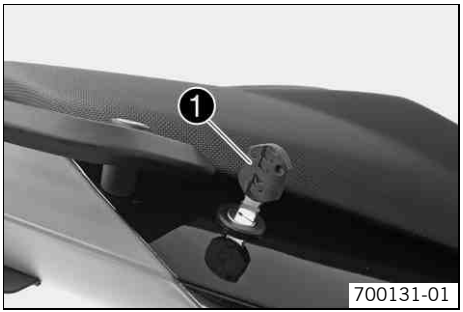
Possible states

- Fuel supply closed – The knurled screws are turned clockwise as far as possible. The level cannot be compensated and no fuel can flow out of the fuel tank.
- Fuel tap open – The knurled screws are turned counterclockwise as far as possible. The level can be compensated and the fuel can flow out of the fuel tank.

Handrails

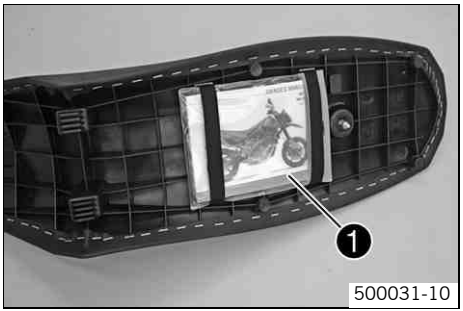
The handrails ❶ are used for moving the motorcycle around.
When you have a passenger, the passenger can hold on the handrails during the journey.

Seat lock



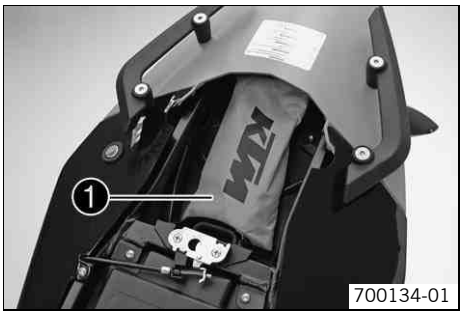
The seat lock ❶ is located to the right of the seat.
You can lock it with the ignition key.

Owner's manual



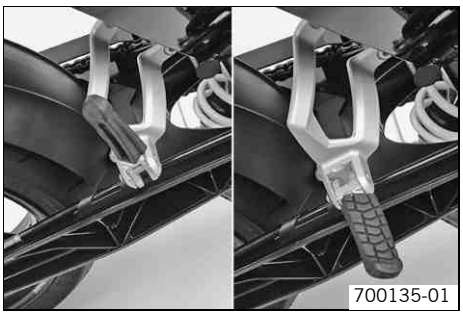
You can find the owner's manual ❶ in its protective case on the underside of the seat.

Tool set



The tool set ❶ is located in the storage compartment under the seat.

Passenger footrests

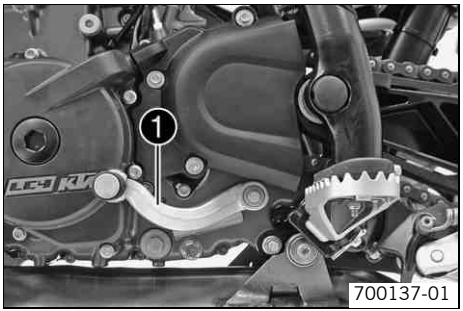


The passenger footrests can be folded up and down.

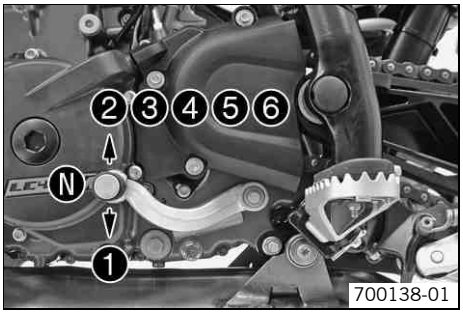
Possible states

- Passenger footrests folded up – For operation without a passenger.
- Passenger footrests folded down – For operation with a passenger.

Shift lever

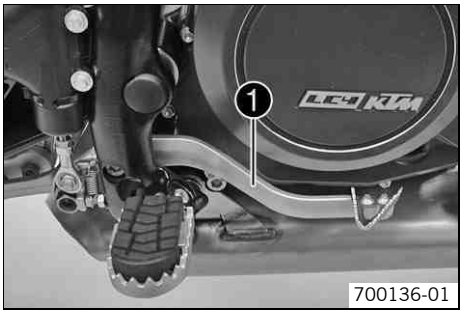


The shift lever ❶ is mounted on the left side of the engine.



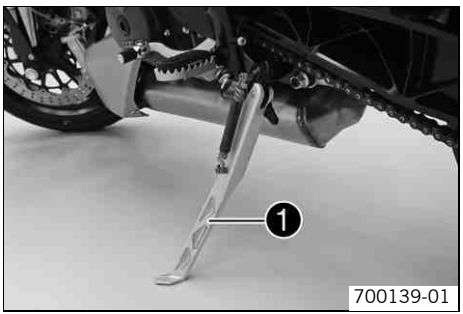
The gear positions can be seen in the photograph.
The neutral or idle position is between the first and second gears.

Foot brake pedal



The footbrake pedal ❶ is located in front of the right footrest.
The footbrake pedal operates the rear brake.

Side stand



The side stand ❶ is coupled with the safety electric starter system - see the riding instructions.

Possible states

- Side stand folded out – The vehicle can be supported on the side stand. The safety electric starter system is active.
- Side stand folded in – This position is mandatory for all journeys. The safety electric starter system is inactive.

Advice on first use

Danger

Danger of accidents Danger from insufficient traffic competence.

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

Warning

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

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

Warning

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

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

Warning

Danger of accidents Uncontrollable handling characteristics due to non-approved and/or non-recommended tires/wheels.

– Only tires/wheels approved by KTM and with the corresponding speed index should be used.

Warning

Danger of accidents Reduced road grip with new tires.

– New tires have a smooth roll surface and therefore cannot provide full road grip. The entire roll surface must be roughened in the first 200 kilometers (124.3 miles) by moderate driving at alternating angles. The full grip is not reached until the vehicle has been run in.

Warning

Danger of accidents Brake system failure.

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

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

– Make sure that the pre-delivery inspection work has been carried out by an authorized KTM workshop.
  You receive a delivery certificate and the service record at vehicle handover.
– Before your first trip, read the entire operating instructions carefully.
– Get to know the controls.
– Adjust the basic position of clutch lever. (☛ p. 122)
– Adjust the basic position of handbrake lever. (☛ p. 71)
– Adjust the basic position of the footbrake lever.
– Get used to handling the vehicle on a car park before making a longer trip. Try also to ride as slowly as possible and in a standing position to get a better feeling for the vehicle.
– Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
– 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: 1,000 km (621.4 mi)	6,000 rpm
After the first: 1,000 km (621.4 mi)	7,800 rpm

– Avoid fully opening the throttle!

Loading the vehicle

Warning
Danger of accidents Unstable riding behavior.

– Do not exceed the maximum permitted weight and axle loads. The overall weight consists of: motorcycle operational and with a full tank, driver and passenger with protective clothing and helmet, baggage.

Warning
Danger of accidents Unstable handling characteristics due to incorrect mounting of suitcase and/or tank rucksack.

– Mount and secure suitcase and tank rucksack according to the manufacturer's instructions.

Warning
Danger of accidents Unstable handling characteristics at high speed.

– Adapt your speed according to your payload. Ride more slowly if your motorcycle is loaded with cases or other baggage.

Maximum speed with baggage	130 km/h (80.8 mph)

Warning
Danger of accidents Risk of breakage of suitcase system.

– If you have fitted suitcases on your motorcycle, read the manufacturer's specifications concerning the maximum payload.

Warning
Danger of accidents Poor visibility for other road users due to slipped baggage.

– If the tail light is covered, you are less visible to traffic behind you, especially in the dark. Check that your baggage is fixed properly at regular intervals.

Warning
Danger of accidents Changed handling characteristics and longer stopping distance with excessive payload.

– Adapt your speed according to your payload.

Warning

Danger of accidents Unstable handling characteristics due to slipped baggage.

– Check the way your baggage is fixed regularly.

Warning

Danger of burns A hot exhaust system can burn baggage.

– Fasten your baggage in such a way that it cannot be burned or singed by the hot exhaust system.

– If you carry any baggage, make sure it is fixed firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.
– Do not exceed the overall maximum permitted weight and the axle loads.

Guideline

Maximum permissible overall weight	350 kg (772 lb.)
Maximum permissible front axle load	150 kg (331 lb.)
Maximum permissible rear axle load	200 kg (441 lb.)

Checks before putting into operation

Info

Make sure that the motorcycle is in a perfect technical condition before use.
In the interests of riding safety, make a habit of making a general check before you ride.

- Check the engine oil level. (☛ p. 125)
- Check the engine for loss of oil.
- Check the fuel level.
- Bleed the fork legs. (☛ p. 63)

  Guideline

All	1,000 km (621.4 mi)

- Check the chain tension. (☛ p. 65)
- Clean the chain. (☛ p. 64)
- Check the tire condition. (☛ p. 84)
- Check the tire air pressure. (☛ p. 85)
- Check the front brake fluid level. (☛ p. 71)
- Check the rear brake fluid level. (☛ p. 75)
- Check the front brake linings. (☛ p. 73)
- Check the rear brake linings. (☛ p. 77)
- Check brake system function.
- Check the coolant level. (☛ p. 118)
- Check that all operating elements are correctly adjusted and free to move.
- Check the functioning of the electrical equipment.
- Check that baggage is correctly secured.
- Sit on the motorcycle and check the rear mirror setting.

Starting

Danger

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

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

Caution

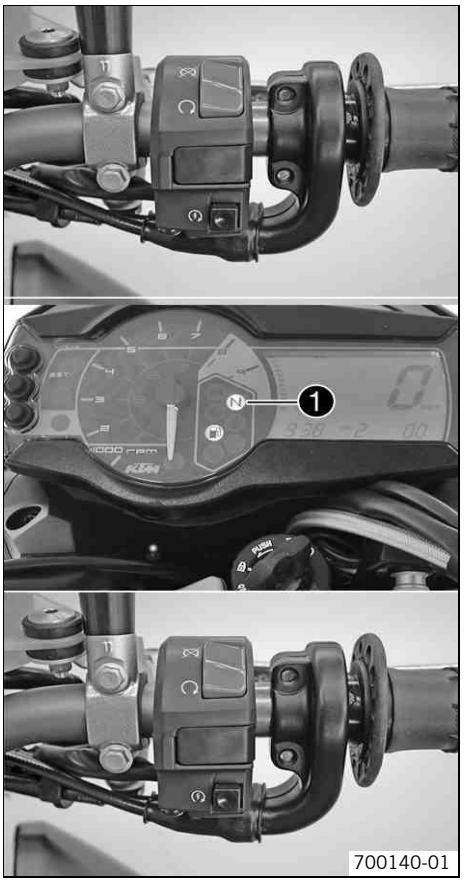
Danger of accidents If the vehicle is operated with a discharged battery or without a battery, electronic components and safety equipment may be damaged.

– Never operate the vehicle with a discharged battery or without a battery.

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.



– Turn the emergency OFF switch to the position ○.
– Switch on the ignition by turning the ignition key to the position ○.

✔ After you switch on the ignition, you can hear the fuel pump working for about 2 seconds. At the same time, the function test of the combination instrument is run.

– Shift gear to neutral.

✔ The green idling speed indicator lamp **N** ❶ lights up.

– Press the electric starter button ⓢ.

Info

Do not press the electric starter button until the function test of the combination instrument is finished.
When starting, **DO NOT** open the throttle. If you open the throttle during the starting procedure, fuel is not injected by the engine management system and the engine cannot start.
Press the starter for a maximum of 5 seconds. Wait for a least 5 seconds before trying again.
This motorcycle is equipped with a safety start system. You can only start the engine if the gearbox is in neutral or if the clutch is pulled when a gear is engaged. If the sidestand is folded out and you shift into gear and release the clutch, the engine stops.

– Take the weight off the side stand and swing it back up with your foot as far as it will go.

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 An abrupt load alterations can cause the vehicle to get out of control.

– Avoid abrupt load alterations and sudden braking actions, and adapt your speed to the road conditions.

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

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

Warning
Danger of accidents Malfunctions caused by incorrect ignition key position.

– Do not change the ignition key position during a journey.

Warning
Danger of accidents Distraction from traffic activity by adjustments to the vehicle.

– Make all adjustments when the vehicle is at a standstill.

Warning
Risk of injury The passenger must be capable of sitting correctly on the passenger seat.

– The passenger must hold on to the rider or the handrails and place his feet on the passenger footrests. Note the regulations governing the minimum age of passengers in your country.

Warning
Danger of accidents Danger of accidents caused by dangerous driving.

– Observe the traffic regulations and ride defensively and with foresight in order to recognize danger as early as possible.

Warning
Danger of accidents Reduced road grip with cold tires.

– On every journey, take the first miles carefully at moderate speed until the tires reach operating temperature and optimal road grip is ensured.

Warning
Danger of accidents Reduced road grip with new tires.

– New tires have a smooth roll surface and therefore cannot provide full road grip. The entire roll surface must be roughened in the first 200 kilometers (124.3 miles) by moderate driving at alternating angles. The full grip is not reached until the vehicle has been run in.

Warning
Danger of accidents Unstable riding behavior.

– Do not exceed the maximum permitted weight and axle loads. The overall weight consists of: motorcycle operational and with a full tank, driver and passenger with protective clothing and helmet, baggage.

Warning
Danger of accidents Unstable handling characteristics due to slipped baggage.

– Check the way your baggage is fixed regularly.

Warning
Danger of accidents After a fall, check the vehicle.

– After a fall, check the vehicle as usual before putting it into operation.

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.

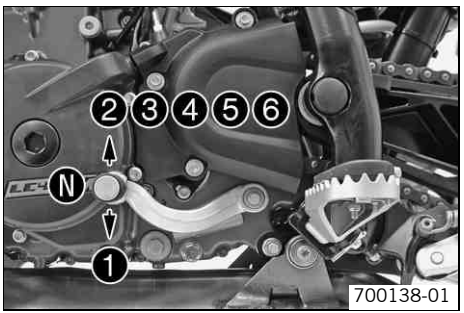
Note

Engine failure Overheating of engine.

– If the coolant temperature warning lamp lights up, stop and switch off the engine. Allow the engine to cool down and check the coolant level in the radiator, and top up if necessary. If you continue with the coolant temperature warning lamp alight, you may have engine failure.

Info

If you hear unusual noises while riding, stop immediately, switch off the engine and contact an authorized KTM workshop.



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

Info

You can see the positions of the 6 forward gears in the figure. The neutral or idle position is between the first and second gears. First gear is used for starting off or for steep inclines.
The operating temperature is reached when 5 bars of the temperature indicator light up.

– After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is ¾ open. This will barely reduce the speed but fuel consumption will be considerably lower.
– Accelerate only up to a speed suitable for the road surface and weather conditions. Particularly in bends, do not shift, and accelerate very carefully.
– To shift down, brake if necessary and close the throttle at the same time.
– Pull the clutch lever and shift into a lower gear, release the clutch lever slowly and open the throttle or shift again.

– If the engine stalls (e.g. at a crossroads), just pull the clutch lever and press the starter button. You do not need to shift into neutral.
– Switch off the engine if you expect to be standing for a long time.
– If the **FI** warning lamp (**MIL**) lights up during a journey, stop immediately. When you shift to neutral, the **FI** warning lamp (**MIL**) starts to flash.

Info
From the flashing rhythm, you can derive a two-digit number, the so-called flashing code. The flashing code tells you which component has a fault.

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 due to wet or dirty brakes.

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

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

– Have the brake system checked in an authorized KTM workshop, and do not ride any further.

Warning
Danger of accidents Brake system failure.

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

Warning

Danger of accidents Longer stopping distance due to higher overall weight.

– Take the longer stopping distance into account when carrying a passenger and baggage.

Warning

Danger of accidents Delayed brake action on salted roads.

– Salt can be deposited on the brake discs. To achieve the normal braking effect, the brake discs must first be cleaned by braking.

– To brake, release the throttle and operate the front and rear brakes simultaneously.
– 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. If you leave the vehicle, lock the steering and remove the ignition key.

Warning

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

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

Note

Danger of damage 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 get very hot when the machine is driven.

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

Note

Material damage Damage and destruction of components by excessive load.

– The side stand is designed for the weight of the motorcycle only. Do not sit on the motorcycle when it is supported by the side stand only. The side stand and/or the frame could be damaged and the motorcycle could fall over.

– Brake the motorcycle.
– Shift gear to neutral.
– Switch off the ignition by turning the ignition key to the position ⊠.

Info

If the engine is switched off with the emergency OFF switch and the ignition remains switched on at the ignition lock, power continues to flow to most power consumers and the battery will discharge. You should therefore always switch off the engine with the ignition key - the emergency OFF switch is intended for emergencies only.

– Park the motorcycle on a hard surface.
– Swing the side stand forward with your foot as far as it will go and lean the vehicle on it.
– Lock the steering by turning the handlebar fully to the left, pressing down the ignition key to position ⊠ and turning it to position 🔒. To make the steering lock engage more easily, move the handlebar a little to the left and right. Remove the ignition key.

Refueling

Danger

Fire hazard Fuel can easily catch fire.

– Never fill up the vehicle near open flames or burning cigarettes, and always switch off the engine first. Be careful that no fuel is spilt, especially on hot vehicle components. Clean up spilt fuel immediately.

– Fuel in the fuel tank expands when warm and can escape if the tank is overfilled. See specifications on filling up with fuel.

Warning

Danger of poisoning Fuel is poisonous and a health hazard.

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

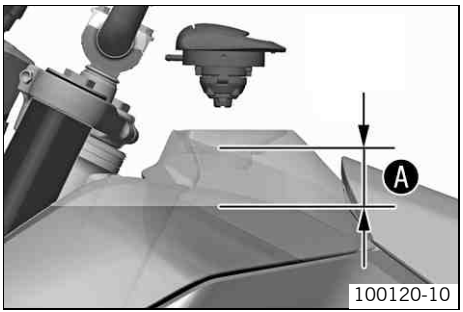
Warning

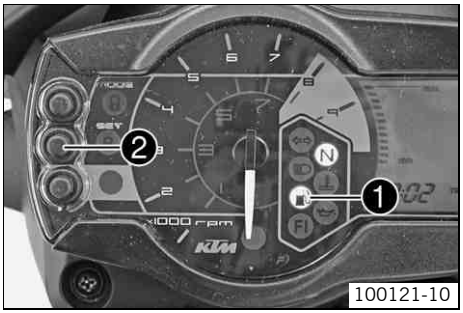
Environmental hazard Improper handling of fuel is a danger to the environment.

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

Info

This motorcycle is equipped with a regulated catalyst. Leaded fuel will destroy the catalyst. You should therefore use unleaded fuel only.





– Switch off the engine.
– Open the filler cap. (☛ p. 32)
– Fill the fuel tank with fuel up to measurement Ⓐ.

Guideline

Level Ⓐ		50 mm (1.97 in)
Total fuel tank capacity, approx.	13.5 l (3.57 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 165)

– Close the filler cap. (☛ p. 32)
– Press the **SET** button ❷ for two seconds.

✓ The fuel level warning lamp ❶ switches off. **TRIP F** is set to 0 and appears in the previous display mode.

Info

If you do not press the **SET** ❷ button, the reset takes place automatically after about 3 minutes.

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

		K10N	K50A	K100A	J1A	J2A
Engine	Change the engine oil and filter, clean the oil screens. (p. 126)	•	•	•	•	•
	Check and adjust valve clearance.			•		•
	Check engine mounting screws for tightness.	•	•	•	•	•
	Replace spark plug.			•		
	Check engine bolts accessible from outside for tightness.	•	•	•	•	•
Fuel injection	Check connection boots for cracks and leakage.	•		•		•
	Read out the error memory with a KTM diagnostic tool.	•	•	•	•	•
	Check fuel hoses, SLS hoses and vent hoses for damage, correct fitting and leaks.	•	•	•	•	•
	Clean, check and grease the O-ring of the fuel hose connection.		•	•	•	•
	Check the cable harness of the throttle valve body for damage and correct positioning.	•		•		•
Attachments	Check the cooling system for leakage.	•	•	•	•	•
	Check the antifreeze and coolant level. (p. 115)	•	•	•	•	•
	Check the functioning of the radiator fan.	•	•	•	•	•
	Check the exhaust system for leaks and correct fitting and check that the exhaust holders are tight.	•	•	•	•	•
	Check Bowden cables for damage, smooth operation, routing without sharp bends and setting.	•	•	•	•	•
	Check/rectify the fluid level of the hydraulic clutch. (p. 123)		•	•	•	•
	Check air filter and change if necessary. Clean the air filter box.		•	•	•	•
	Check fuel tank for tightness.	•	•	•	•	•
	Check cables for damage and routing without sharp bends.	•	•	•	•	•

		K10N	K50A	K100A	J1A	J2A
Attachments	Check the headlamp setting.	•	•	•	•	•
	Check the functioning of the electrical equipment.	•	•	•	•	•
	Check screws and nuts for tightness.	•	•	•	•	•
Brakes	Check the front brake linings. (☛ p. 73)	•	•	•	•	•
	Check the rear brake linings. (☛ p. 77)	•	•	•	•	•
	Check the brake discs. (☛ p. 70)	•	•	•	•	•
	Check the front brake fluid level. (☛ p. 71)	•	•	•	•	•
	Check the rear brake fluid level. (☛ p. 75)	•	•	•	•	•
	Change brake fluid. 🔧					•
	Check brake lines for damage and leakage.	•	•	•	•	•
	Check the free play of the foot brake lever. (☛ p. 74)	•	•	•	•	•
	Check braking.	•	•	•	•	•
	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.		•	•	•	•
	Bleed the fork legs. (☛ p. 63)	•	•	•	•	•
	Check swingarm bearing. 🔧	•	•	•	•	•
	Check the steering head bearing play. 🔧	•	•	•	•	•
	Check all screws to see if they are tight.	•	•	•	•	•
	Grease **Pro-Lever** deflector. 🔧					•
Wheels	Check rim run-out. 🔧	•	•	•	•	•
	Check the tire condition. (☛ p. 84)	•	•	•	•	•
	Check the tire air pressure. (☛ p. 85)	•	•	•	•	•

		K10N	K50A	K100A	J1A	J2A
Wheels	Check the chain wear. (☛ p. 69)	•	•	•	•	•
	Check rear sprocket / engine sprocket for tightness.	•	•	•	•	•
	Check rear sprocket / engine sprocket for wear. (☛ p. 68)	•	•	•	•	•
	Check the chain tension. (☛ p. 65)	•	•	•	•	•
	Clean the chain. (☛ p. 64)	•	•	•	•	•
	Check wheel bearing for play. 🔧		•	•	•	•
	Check the rear hub rubber dampers. 🔧 (☛ p. 83)		•	•	•	•

K10N: after 1,000 km (621.4 mi)
K50A: every 5,000 km (3,107 mi) / after every race
K100A: every 10,000 km (6,214 mi)
J1A: annually
J2A: every 2 years

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

	K100A	J1A	J2A
Carry out a complete fork service. 🔧	•		•
Carry out a complete shock absorber service. 🔧	•		•
Clean and grease steering head bearing and sealing elements. 🔧			•
Treat electric contacts with contact spray.		•	•
Clean the battery terminals and treat them with contact grease.		•	•
Change coolant. 🔧			•

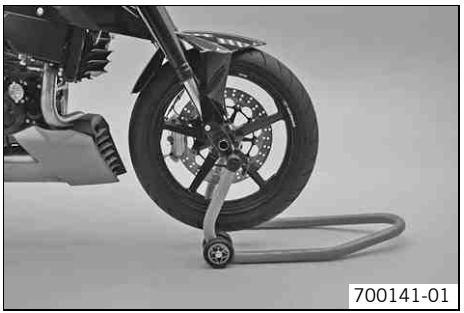
K100A: every 10,000 km (6,214 mi)
J1A: annually
J2A: every 2 years

Jacking up front of motorcycle

Note

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

– Always place the vehicle on a firm and even surface.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– Jack up the rear of the motorcycle. (☛ p. 57)
– Move the handlebar to the straight-ahead position. Align the work stand to the front with the adapters to the fork legs.

Work stand front (61029055300)

Info
Always jack up the rear of the motorcycle first.

– Jack up the front of the motorcycle.

Taking front from 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.

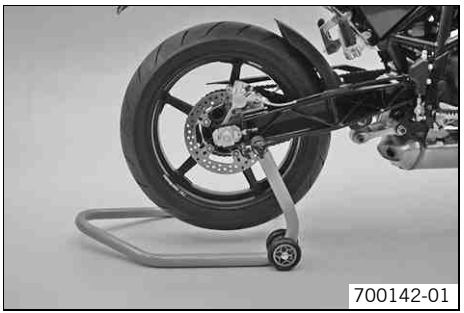
– Secure the motorcycle against falling over.
– Remove the work stand at the front.

Jacking up rear of motorcycle

Note

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

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



– Insert the work stand adapter in the work stand and screw it into the link forks.

Work stand adapter (61029055110)
Work stand rear (61029055100)

– Stand the motorcycle upright, align the work stand to the rear, and jack up the motorcycle.

Taking the rear from the workstand

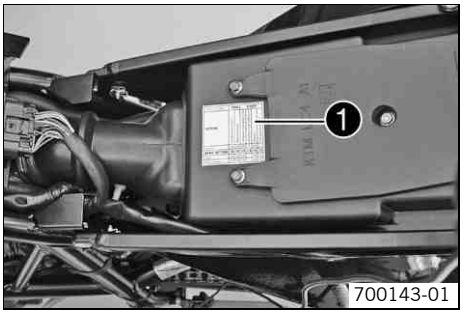
Note

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

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

– Secure the motorcycle against falling over.
– Remove the work stand from the rear and lean the vehicle on the side stand.

Fork/shock absorber



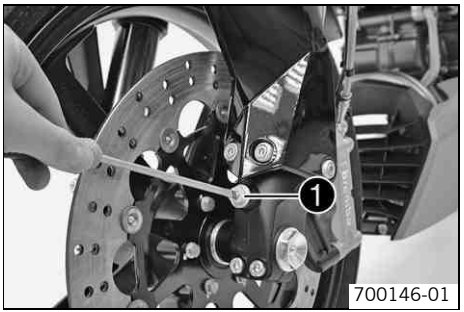
The fork and the shock absorber offer many options of adapting the chassis to your riding style and the payload.

Info
To help you adapt the vehicle, we have summarized our findings in Table ❶. You can find the table on the air filter box under the seat.

These adjustments should be understood as a guideline and should always be the basis of your own personal chassis adaptation. Do not change the adjustments at random or by more than ± 40%, since otherwise the riding characteristics could deteriorate, particularly at high speeds.

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 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.

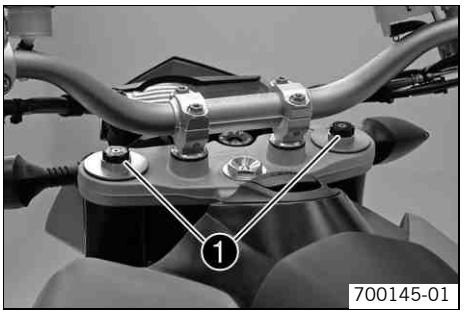
Guideline

Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

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

Adjusting the rebound damping of the fork

Info
The hydraulic rebound damping determines the fork rebound behavior.



– Turn adjusting screws ❶ clockwise until they stop.

Info
The adjusting screws 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

Rebound damping	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks

Info

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

Compression damping of the shock absorber

The shock absorber can regulate compression damping in low- and high-speed range separately (Dual Compression Control).
The term low speed and high speed refer 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.

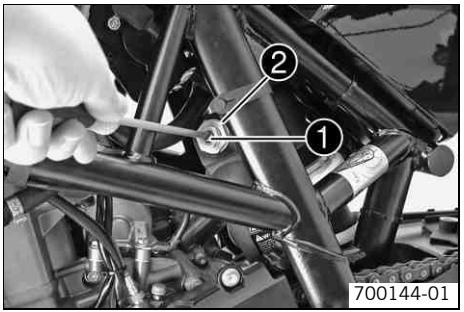
Adjusting the low-speed compression damping of the shock absorber

Danger

Danger of accidents The shock absorber is under high pressure.

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

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



– Turn adjusting screw ❶ clockwise with a screwdriver as far as 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	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks

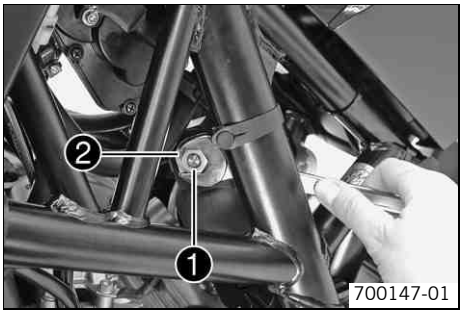
Info
Turn clockwise to increase damping, turn counterclockwise to reduce suspension damping.

Adjusting the high-speed compression damping of the shock absorber

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

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

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



– Turn adjusting screw ❶ clockwise as far as it will go using an open end wrench.

Info
Do not loosen nut ❷!

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

Guideline

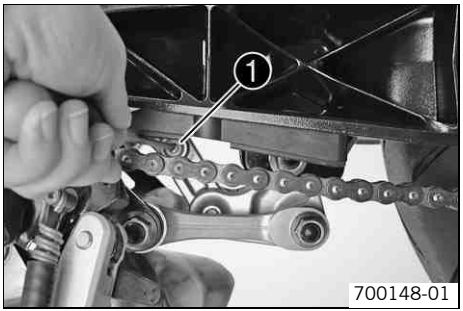
Compression damping, high-speed	
Comfort	2.5 turns
Standard	2.0 turns
Sport	1.5 turns
Full payload	1.5 turns

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

Adjusting the rebound damping of the shock absorber

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

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



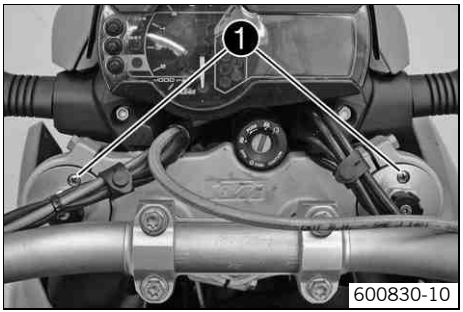
– Turn adjusting screw ❶ clockwise to the last perceptible click.
– Turn back counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks

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

Bleeding the fork legs



– Lean the motorcycle on the side stand.
– Remove bleeder screws ❶ briefly.
✓ Any excess pressure escapes from the interior of the fork.
– Mount and tighten bleeder screws.

Info
Carry out this action on both fork legs.

Checking chain dirt

– Check the chain for coarse dirt accumulation.
  » If the chain is very dirty:
    – Clean the chain. (☛ p. 64)

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 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 Problem materials cause environmental damage.

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

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

– Clean the chain regularly.
– Rinse off loose dirt with a soft jet of water.
– Remove old grease remains with chain cleaner.

Chain cleaner (☛ p. 166)

– After drying, apply chain spray.

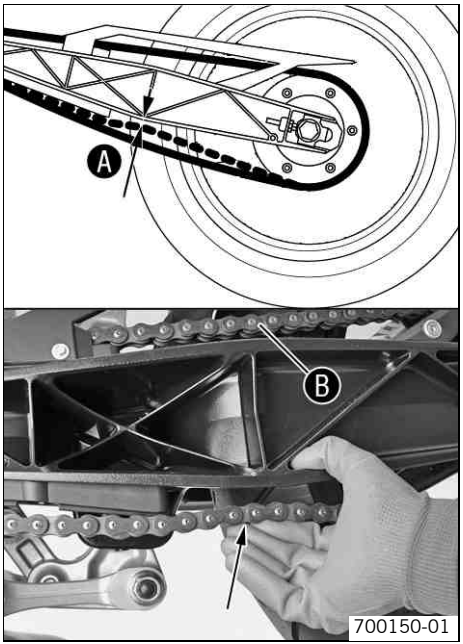
Onroad chain spray (☛ p. 167)

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 for correct chain tension and adjust if necessary.



– Lean the motorcycle on the side stand.
– Shift gear to neutral.
– Push the chain upwards near the vertical rib of the swingarm and measure the chain tension Ⓐ.

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

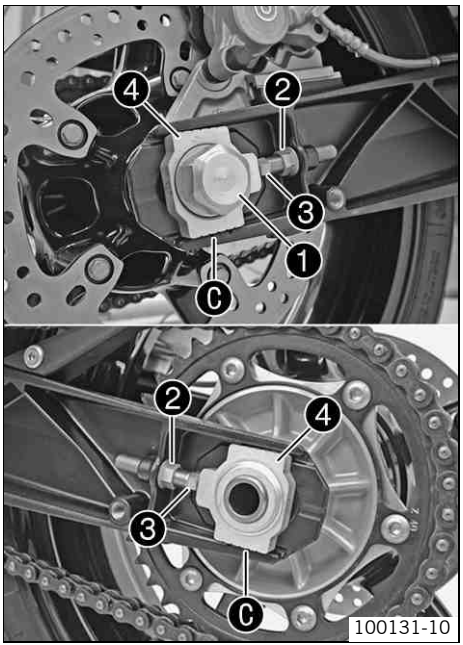
Chain tension	5 mm (0.2 in)

» If the chain tension does not meet specifications:
– Adjust the chain tension. (☛ p. 66)

Adjusting the chain tension

Warning
Danger of accidents Danger caused by incorrect chain tension.

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



– Check the chain tension. (☛ p. 65)
– Loosen nut ❶.
– Loosen nuts ❷.
– Adjust the chain tension by turning adjusting screws ❸ on the left and right.

Guideline

Chain tension	5 mm (0.2 in)
Turn the left and right adjusting screws ❸ so that the markings on the left and right chain adjusters ❹ are in the same position relative to the reference marks Ⓒ. The rear wheel is then correctly aligned.	

Info

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

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

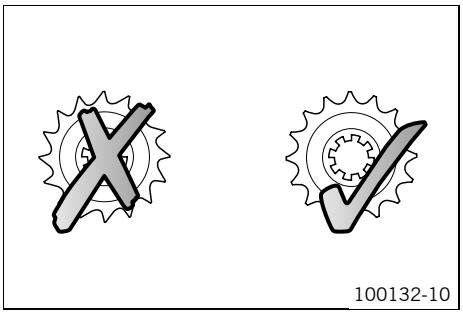
Guideline

Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)

Info

The wide adjustment range of the chain adjusters (30 mm (1.18 in)) enables different secondary transmissions with the same chain length.
The chain adjusters ❹ can be turned through 180°.

Checking rear sprocket / engine sprocket for wear



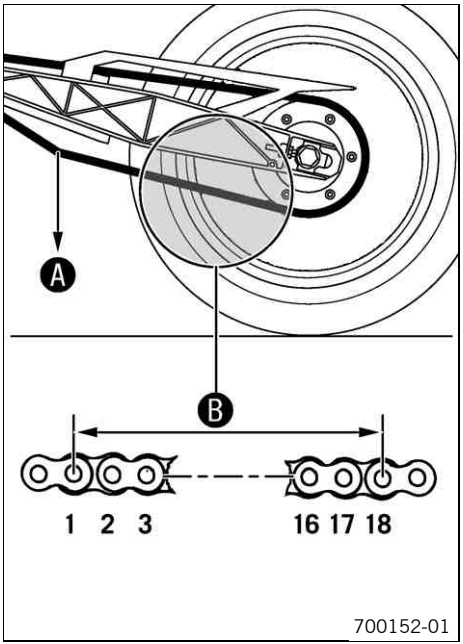
– Check rear sprocket / engine sprocket for wear.
  » If the rear sprocket / engine sprocket are worn:
    – Replace rear sprocket / engine sprocket.

Info

The engine sprocket, rear sprocket and chain should always be replaced together.
For safety reasons, the chain has no chain joint. Always have the chain replaced in an authorized KTM workshop, where the necessary chain rivet tool is available.

– Check chain guides for tightness and wear.

Checking chain wear



– Shift into neutral, and pull the lower chain section with the specified weight Ⓐ.

Guideline

Weight of chain wear measurement	15 kg (33 lb.)

– Measure distance Ⓑ of 18 chain segments of 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 section of the chain	272 mm (10.71 in)

» If distance Ⓑ is greater than the specified measurement:

– Have the chain changed.

Info

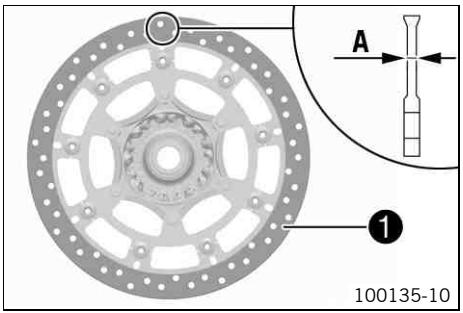
When the chain is replaced, the rear sprocket and engine sprocket should be replaced at the same time.
A new chain will wear faster on an old, worn rear sprocket or engine sprocket.
For safety reasons, the chain has no chain joint. Always have the chain changed in an authorized KTM workshop, where they have the necessary special tools.

Checking brake discs

Warning

Danger of accidents Reduced braking due to worn brake discs.

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



– Check the thickness of the front and rear brake discs in several places to ensure that it conforms to measurement Ⓐ.

Info

Wear reduces the thickness of the brake disc in the area ❶ of the brake disc.

Brake discs - wear limit	
Front	3.6 mm (0.142 in)
Rear	4.5 mm (0.177 in)

» If the brake disc thickness is less than the specified value:

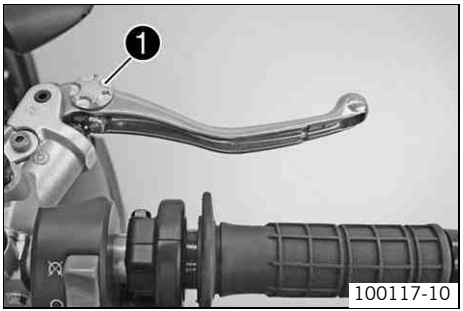
– Replace the brake disc.

– Check the front and rear brake discs for damage, cracks, and deformation.

» If damage, cracks, or deformation are visible on the brake disc:

– Replace the brake disc.

Adjusting basic position of handbrake lever



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

Info
Pull the brake lever forwards and turn the adjusting wheel.
Do not make any adjustments while riding!

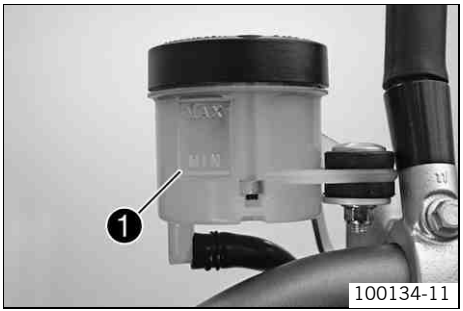
Checking the front brake fluid level

Warning
Danger of accidents Brake system failure.

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

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

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



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Check the brake fluid level in the viewer ❶.
  » If the brake fluid level is below the **MIN** mark:
    – Add front brake fluid. (☛ p. 72)

Adding front brake fluid

Warning
Danger of accidents Brake system failure.

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

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

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

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

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

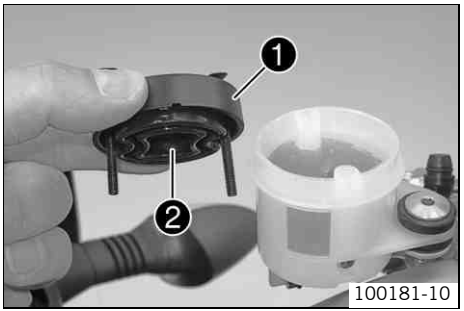
Warning

Environmental hazard Problem materials cause environmental damage.

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

Info

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



– Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
– Loosen screw.
– Remove cover ❶ with membrane ❷.
– Add brake fluid to **MAX** mark.

Brake fluid DOT 4 / DOT 5.1 (☛ p. 162)

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

Info

Clean up overflowed or spilt brake fluid immediately with water.

Checking the front brake linings

Warning

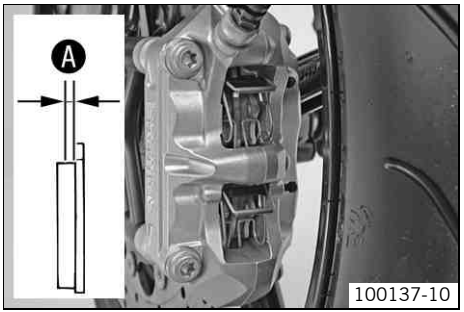
Danger of accidents Reduced braking due to worn brake linings.

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

Note

Danger of accidents Reduced braking due to damaged brake discs.

– If the brake linings are not changed in time, the steel brake lining carriers grind on the brake disc. The braking effect is greatly reduced and the brake discs are destroyed.



– 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.

– Check the brake linings for damage and cracking.

» If there is wear or tearing:

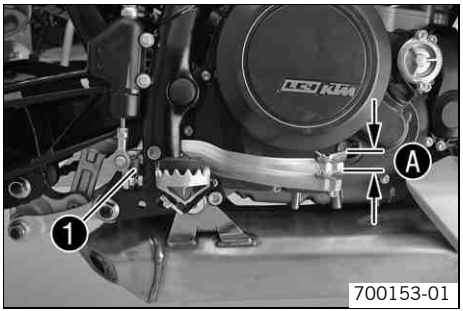
– Change the front brake linings.

Checking free play of foot brake lever

Warning

Danger of accidents Brake system failure.

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



– Disconnect spring ❶.
– Move the foot brake lever backwards and forwards between the end stop and the foot brake cylinder piston bracket and check free play Ⓐ.

  Guideline

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

  » If the free travel does not meet specifications:
    – Have the free travel corrected in an authorized KTM workshop.
– Reconnect spring ❶.

Checking rear brake fluid level

Warning

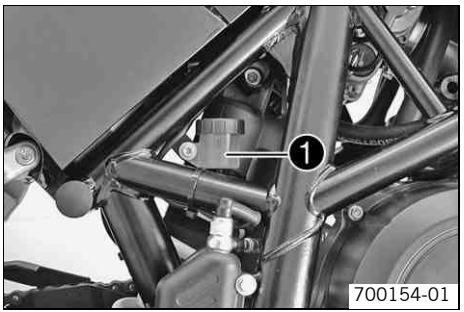
Danger of accidents Brake system failure.

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

Warning

Danger of accidents Reduced braking due to old brake fluid.

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



– Stand the vehicle upright.
– Check the brake fluid level in the brake fluid reservoir.
  » If the fluid level reaches the **MIN** marking ❶:
    – Add rear brake fluid. 🔧 (☛ p. 76)

Adding rear brake fluid 🔧

Warning
Danger of accidents Brake system failure.

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

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

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

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

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

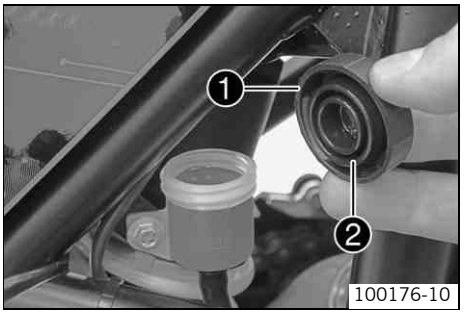
Warning

Environmental hazard Problem materials cause environmental damage.

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

Info

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



– Stand the vehicle upright.
– Remove the screw cap ❶ with the membrane ❷.
– Add brake fluid to **MAX** mark.

Brake fluid DOT 4 / DOT 5.1 (☛ p. 162)

– Mount the screw cap with the membrane.

Info

Clean up overflowed or spilt brake fluid immediately with water.

Checking the rear brake linings

Warning

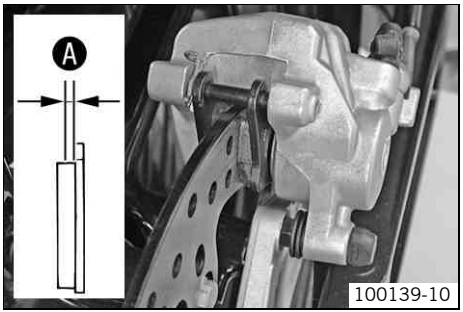
Danger of accidents Reduced braking due to worn brake linings.

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

Note

Danger of accidents Reduced braking due to damaged brake discs.

– If the brake linings are not changed in time, the steel brake lining carriers grind on the brake disc. The braking effect is greatly reduced and the brake discs are destroyed.



– 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.

– Check the brake linings for damage and cracking.

» If there is wear or tearing:

– Change the rear brake linings.

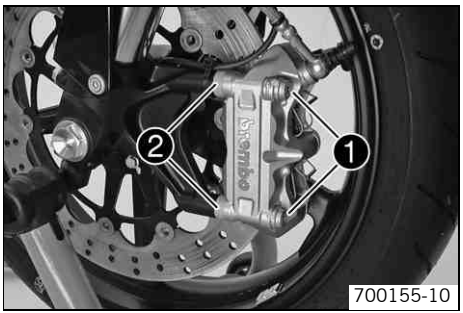
Removing front wheel

– Jack up the rear of the motorcycle. (☛ p. 57)

– Jack up the front of the motorcycle. (☛ p. 56)

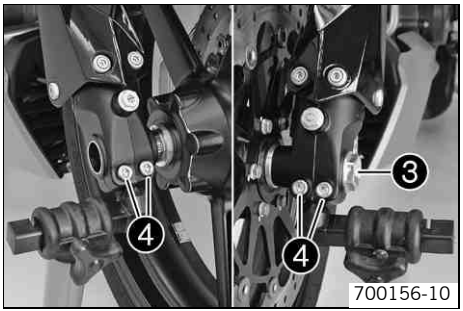
– Remove screw ❶ and spacing sleeve ❷.

– Press back the brake linings with a light lateral tilting of the brake caliper on the brake disc. Pull the brake caliper carefully back from the brake disc and hang it to one side.



Info

Do not pull the handbrake lever when the brake caliper is removed.



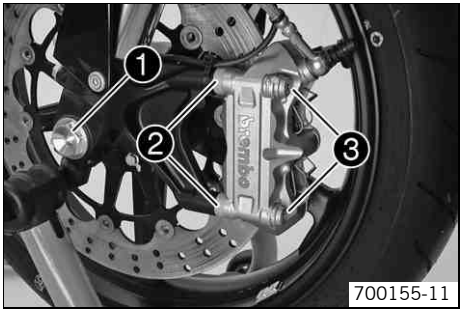
– Loosed screw ❸ and screw ❹.
– Screw out screw ❸ about 6 turns, press your hand on the screw to push the wheel spindle out of the fork stub. Remove screw ❸.

Warning
Danger of accidents Reduced braking due to damaged brake discs.
– Always lay the wheel down in such a way that the brake disc is not damaged.

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

Installing the front wheel

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



– Clean and grease the thread of the wheel spindle and screw ❶.

Long-life grease (☛ p. 167)

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

Guideline

Screw, front wheel spindle	M24x1.5	40 Nm (29.5 lbf ft)

– Position the brake caliper and check that the brake linings are seated correctly.
– Position the spacing sleeves ❷. Mount screws ❸.

– Operate the hand brake lever several times until the brake pads are lying correctly on the brake disc.

Info
This will cause the brake caliper to align with the brake disc.

– Fully tighten screws ❸.

Guideline

Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	**Loctite® 243™**

– Take the front from the work stand. (☛ p. 56)
– Pull the front wheel brake and push down hard on the fork several times to align the fork legs.
– Fully tighten screws ❹.

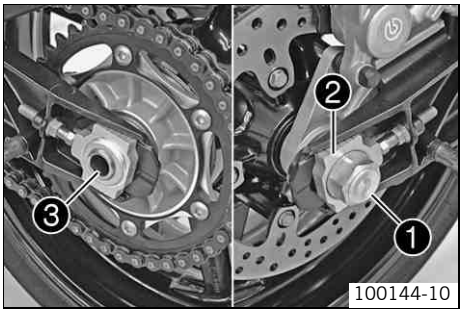
Guideline

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

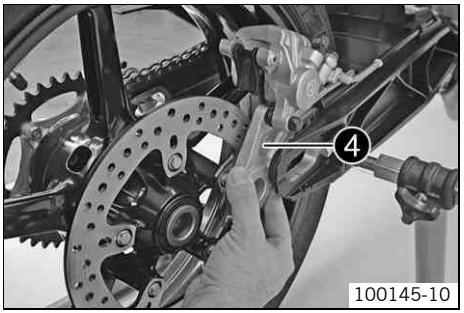
– Taking rear from work stand. (☛ p. 57)

Removing rear wheel

– Jack up the rear of the motorcycle. (☛ p. 57)



– Remove nut ❶. Remove chain adjuster ❷. Holding the rear wheel, withdraw the wheel spindle ❸.
– Push the rear wheel forwards as far as possible and take the chain off the rear sprocket.



– Pull the rear wheel and brake caliper support ❹ together to the rear until you can swing the brake caliper support to the side.

Warning
Danger of accidents Reduced braking due to damaged brake discs.
– Always lay the wheel down in such a way that the brake disc is not damaged.

– Take the rear wheel out of the swing arm.

Info
Do not operate the foot brake when the rear wheel is removed.

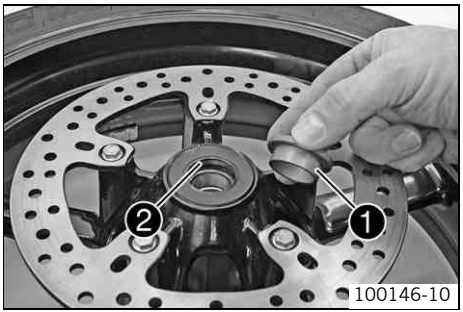
Installing the rear wheel

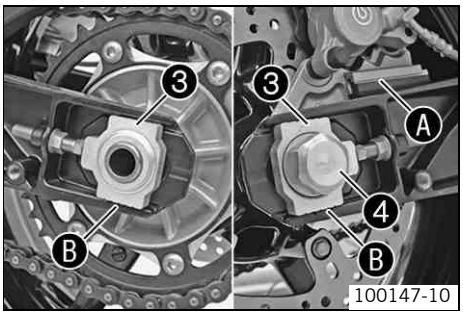
Warning
Danger of accidents Reduced braking due to oil or grease on the brake discs.
– Always keep the brake discs free of oil and grease, and clean them with brake cleaner when necessary.

Warning

Danger of accidents No braking effect when operating the rear brake.

– After installing the rear wheel, always operate the footbrake until the pressure point is reached.





– Check the rear hub rubber dampers. (☛ p. 83)

– Remove the bushing ❶. Clean and grease the working surfaces of the bushing and shaft seal ring ❷.

Long-life grease (☛ p. 167)

– Clean and grease the thread of the wheel spindle and nut ❹.

Long-life grease (☛ p. 167)

– Clean the fixing locations on the brake caliper support and swingarm.

– Install the rubber damper and rear sprocket carrier in the rear wheel.

– Stand the rear wheel in the swingarm and mount the brake caliper on the brake disc.

– Push the brake caliper support and the swingarm Ⓐ into the fixing location. Lay the chain on the rear sprocket and mount the wheel spindle.

Info

Mount the left and right chain adjusters ❸ in the same position.

– Push the rear wheel forward so that the chain adjusters are in contact with the adjusting screws, and tighten nut ❹.

Guideline

In order for the rear wheel to be correctly aligned, the markings on the left and right chain adjusters must be in the same position relative to the reference marks Ⓑ.

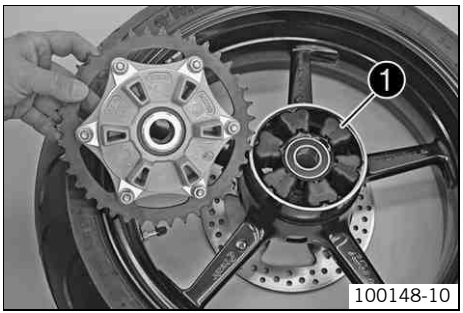
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)

– Operate the foot brake lever repeatedly until the brake linings lie on the brake disc and there is a tight spot.
– Taking rear from work stand. (☛ p. 57)

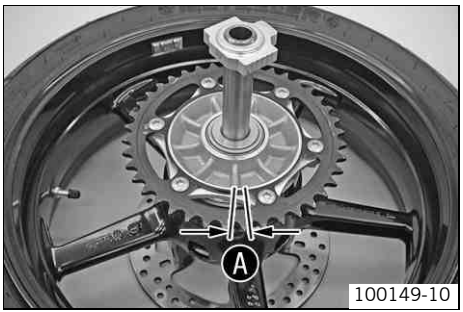
Checking the rear hub rubber dampers

Info

The engine power is transmitted from the rear sprocket to the rear wheel via 6 rubber dampers. They eventually wear out during operation. If the rubber dampers are not changed in time, the rear sprocket carrier and the rear hub will be damaged.



– Remove the rear wheel. (☛ p. 80)
– Check the rubber dampers ❶of the rear hub for damage and wear.
  » If the rubber dampers of the rear hub are damaged or worn:
    – Change all rubber dampers in the rear hub.



– Lay the read wheel on a workbench with the rear sprocket facing upwards and insert the wheel spindle in the hub.
– To check the play Ⓐ, hold the rear wheel tight and try to rotate the rear sprocket.

Info
Measure the play on the outside of the rear sprocket.

Play in rubber dampers, rear wheel	≤ 5 mm (≤ 0.2 in)

» If clearance Ⓐ is larger than the specified value:
– Change all rubber dampers in the rear hub.

– Install the rear wheel. (☛ p. 81)

Checking the tire condition

Warning
Danger of accidents Uncontrollable handling behavior caused by a flat tire.

– For your own safety, have damaged tires changed immediately.

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

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

Warning
Danger of accidents Uncontrollable handling characteristics due to non-approved and/or non-recommended tires/wheels.

– Only tires/wheels approved by KTM and with the corresponding speed index should be used.

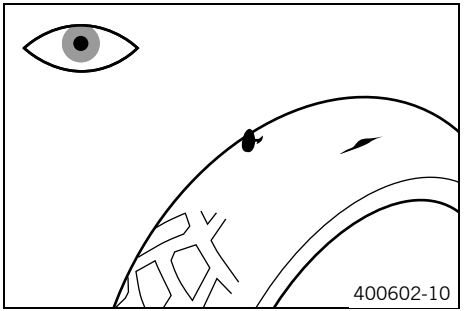
Warning

Danger of accidents Reduced road grip with new tires.

– New tires have a smooth roll surface and therefore cannot provide full road grip. The entire roll surface must be roughened in the first 200 kilometers (124.3 miles) by moderate driving at alternating angles. The full grip is not reached until the vehicle has been run in.

Info

The type, condition and air pressure of the tires all have an important impact on the riding behavior of the motorcycle.
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 the tires exhibit cuts, run-in objects or other damage:
    – Change the tires.
– Check the depth of the tread.

Info

Note local national regulations concerning the minimum tread depth.

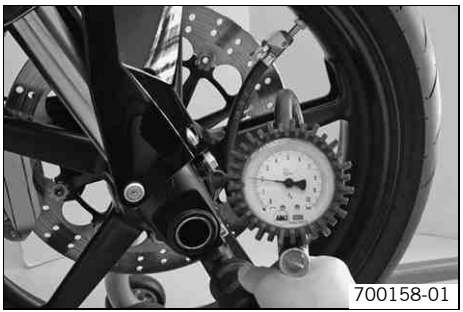
Minimum tread depth	≥ 2 mm (≥ 0.08 in)

  » If the tread depth is less than the minimum permissible depth:
    – Change the tires.

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.

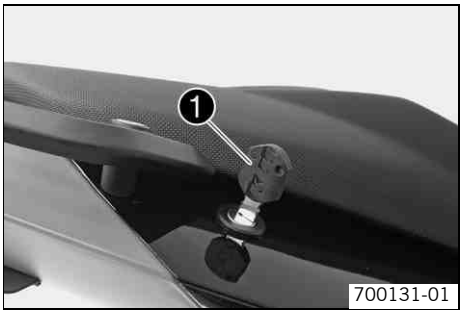


– Remove dust cap.
– Check tire air pressure when tires are cold.

Tire air pressure, Solo	
Front	2.0 bar (29 psi)
Rear	2.0 bar (29 psi)
Tire air pressure with passenger / fully loaded	
Front	2.0 bar (29 psi)
Rear	2.2 bar (32 psi)

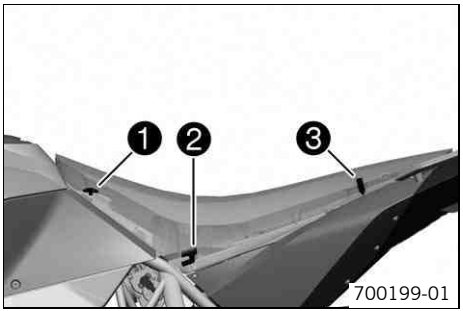
» If the tire pressure does not meet specifications:
  – Correct tire pressure.
– Mount dust cap.

Removing the seat



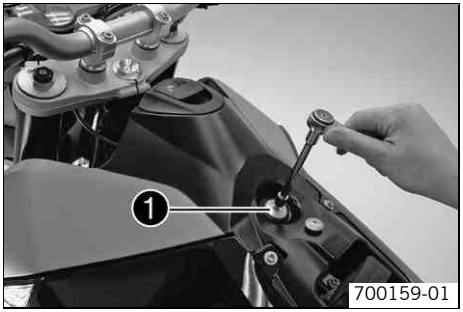
– Insert the ignition key in the seat lock ❶ and turn it 45° counterclockwise.
– Lift up the seat at the rear, pull it back and remove from above.

Mounting the seat



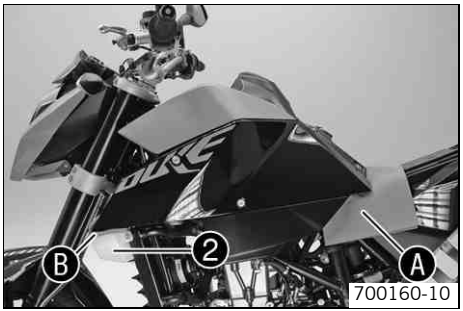
- Suspend the seat on the screw ❶, press the rear downwards and at the same time push it forwards. The two projections ❷ must be inserted into the frame.
- Push the locking pin ❸ into the lock housing and push the back of the seat down until the locking pin locks in place with an audible click.
- Remove the ignition key from the seat lock.
- Finally, check that the seat is correctly mounted.

Reinstalling the fuel tank



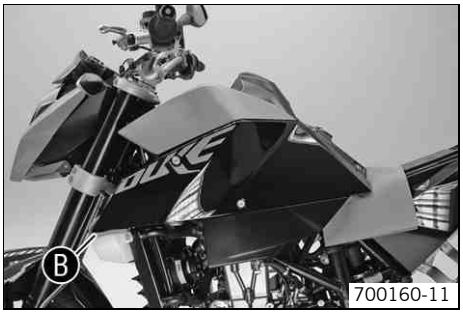
- Remove the seat. (☛ p. 86)
- Remove screw ❶.

Info
The fuel lines do not need to be disconnected.

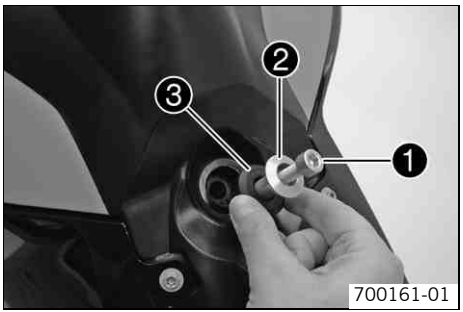


– Lay a cloth ❹ over the subframe and straighten the steering.
– Carefully raise the fuel tank and move it backwards.
– Place the fuel tank on the vehicle so that the left spoiler is still lying on the compensating tank ❷ (see illustration). Place a cloth ❸ between the compensating tank and the spoiler to prevent damage.

Positioning the fuel tank



– Remove the cloth ❸ from between the compensating tank and the spoiler.



– Carefully move the fuel tank forwards and lower it.
– Mount and tighten screw ❶ with bearing sleeve ❷ and rubber bushing ❸. Check fuel tank for tight fitting.

  Guideline

Screw, fuel tank bracket	M8	15 Nm (11.1 lbf ft)

– Check the routing of the fuel hoses.
– Mount the seat. (☛ p. 87)

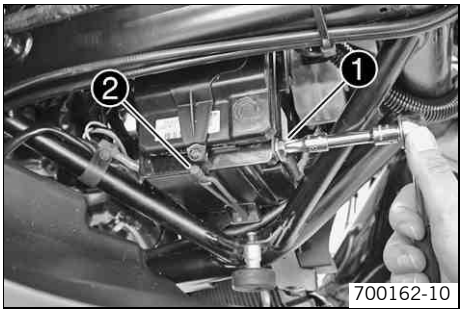
Removing the battery

Warning

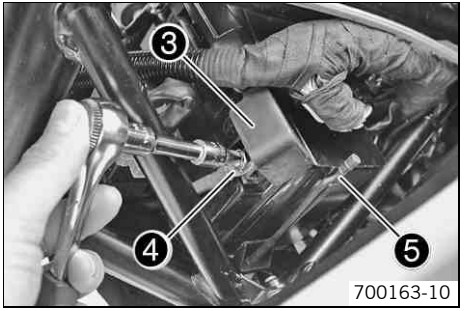
Risk of injury Battery acid and battery gases cause serious chemical burns.

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

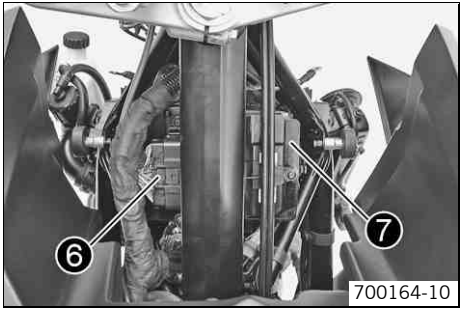
– Remove the seat. (☛ p. 86)
– Reinstall the fuel tank. (☛ p. 87)



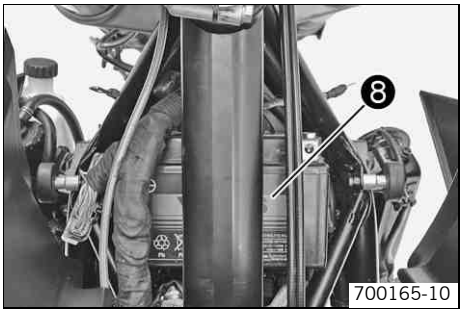
– Disconnect the negative (minus) cable ❶ of the battery.
– Detach rubber band ❷.



– Fold up positive terminal cover ❸.
– Disconnect the positive (plus) cable ❹ of the battery.
– Detach rubber band ❺.



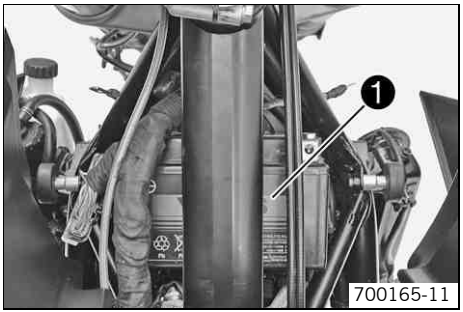
– Disconnect plug-in connector ❻.
– Remove cover ❼.



– Pull battery ❽ up and out of the battery rack. Take the battery out of the frame toward the right.

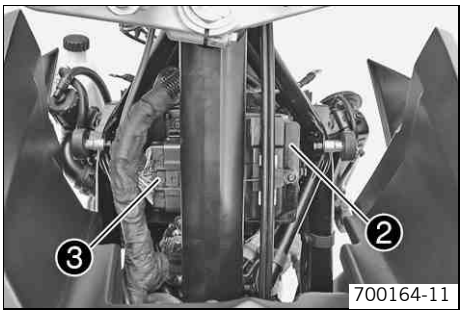
Info
Never operate the motorcycle with a discharged battery or without a battery. In both cases, electrical components and safety devices can be damaged. The vehicle is therefore no longer roadworthy.

Installing the battery

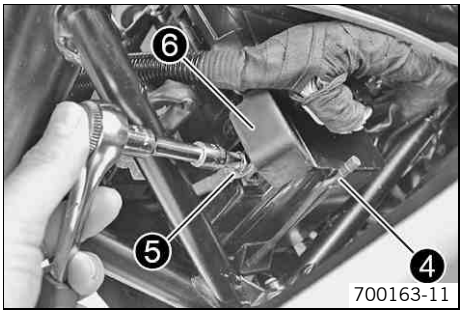


– Push battery ❶ from the right into the frame. Position the battery in the battery rack.

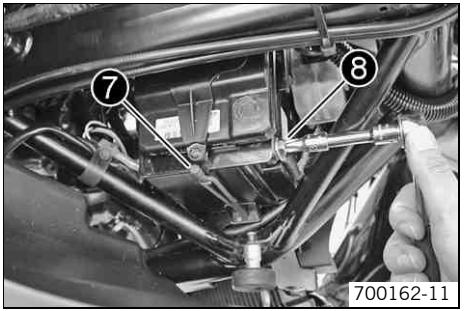
Info
The battery terminals must be at the front.



– Position cover ❷.
– Connect plug-in connector ❸.



– Secure the cover with rubber band ❹.
– Connect positive cable ❺. Position positive terminal cover ❻.



– Secure the cover with rubber band ❼.
– Attach the minus cable ❽.
– Position the fuel tank. (☛ p. 88)
– Mount the seat. (☛ p. 87)
– Set the clock. (☛ p. 28)

Recharging the battery

Warning

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

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

Warning

Environmental hazard Components and battery acid are a danger to the environment.

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

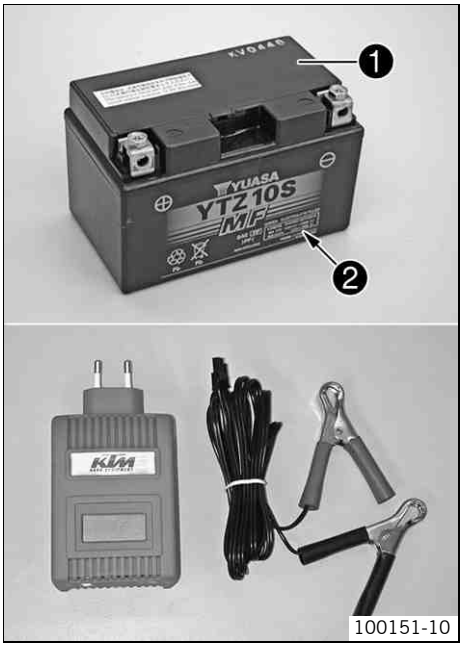
Warning

Environmental hazard Problem materials cause environmental damage.

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

Info

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



– Switch off all power consumers and switch off the engine.
– Reinstall the fuel tank. (☛ p. 87)
– Disconnect the minus (negative) cable of the battery to avoid damage to the motorcycle's electronics.
– Connect the battery charger to the battery. Switch on the battery charger.

Battery charger (58429074000)

You can also use the battery charger to test rest potential and start potential of the battery, and to test the generator. With this device, you cannot overcharge the battery.

Info

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

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

Guideline

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

– Position the fuel tank. (☛ p. 88)
– Mount the seat. (☛ p. 87)
– Set the clock. (☛ p. 28)

Changing the main fuse

Warning

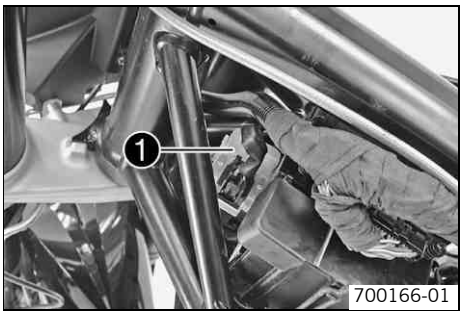
Fire hazard The electrical system can be overloaded by the use of incorrect fuses.

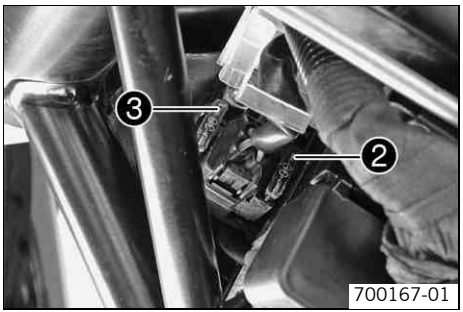
– Use only fuses with the prescribed amperage. Never by-pass or repair fuses.

Info

The main fuse protects all power consumers in the vehicle. It is located in the starter relay housing next to the battery.

– Switch off all power consumers and switch off the engine.
– Remove the seat. (☛ p. 86)
– Reinstall the fuel tank. (☛ p. 87)
– Remove protective cover ❶.





– Use a needle nose plier to remove a defective main fuse ❷.
– Check parts for damage and wear. Replace damaged or worn parts.

Info
A reserve fuse ❸ is located in the starter relay.

– Insert the new main fuse.

Fuse (58011109130) (☛ p. 153)

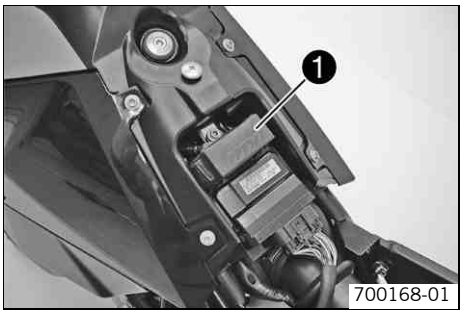
Info
If the new fuse burns out, contact an authorized KTM workshop.

– Replace protective cover ❶.
– Position the fuel tank. (☛ p. 88)
– Mount the seat. (☛ p. 87)
– Set the clock. (☛ p. 28)

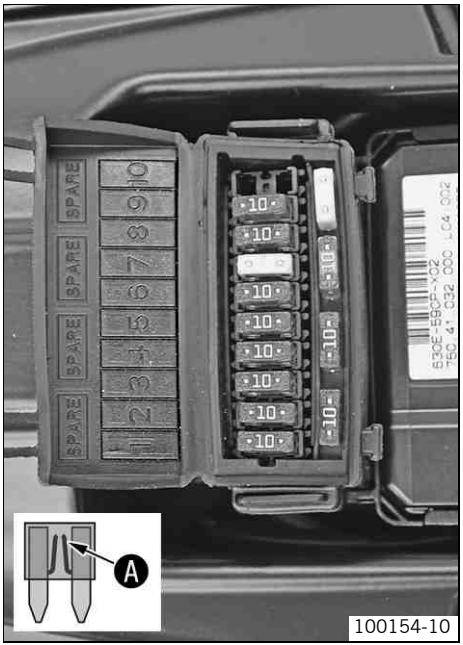
Changing the fuses of power consumers

Info
The fuse box containing the fuses of the individual power consumers is located under the seat.

– Switch off all power consumers and switch off the engine.
– Remove the seat. (☛ p. 86)



– Open fuse box cover ❶.



– Remove the defective fuse.

Guideline

Fuse **1** - 10A - ignition, combination instrument, alarm system (optional)
Fuse **2** - 10A - clock, ignition (EFI control unit)
Fuse **3** - 10A - throttle valve control unit
Fuse **4** - 10A - fuel pump
Fuse **5** - 10A - radiator fan
Fuse **6** - 10A - horn, brake light, flasher light, alarm system (optional)
Fuse **7** - 15A - high beam, low beam, parking light, tail light, license plate lamp
Fuse **8** - 10A - for accessories (in circuit with positive of ignition switch)
Fuse **9** - 10A - for accessories (permanent positive)
Fuse **10** - Not assigned
SPARE - 10A/15A - spare fuses

Info

You can recognize a defective fuse by the burned-out fuse wire ❹.

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.

– Replace with a spare fuse of the right rating.

Fuse (75011088010) (☛ p. 153)
Fuse (75011088015) (☛ p. 153)

Info

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

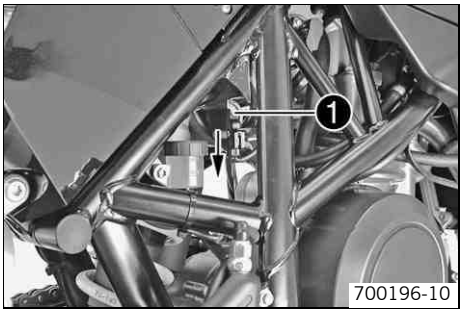
Tip

Put a new spare fuse in the fuse box for future use if needed.

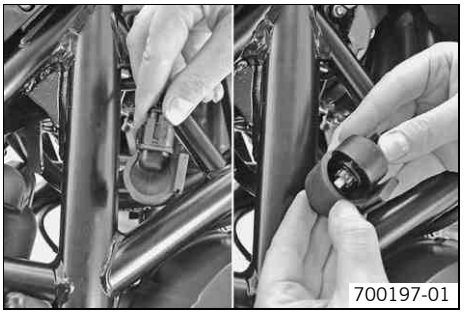
– Checking the function of power consumers.
– Close the fuse box cover.
– Mount the seat. (☛ p. 87)

Adjusting the engine characteristic

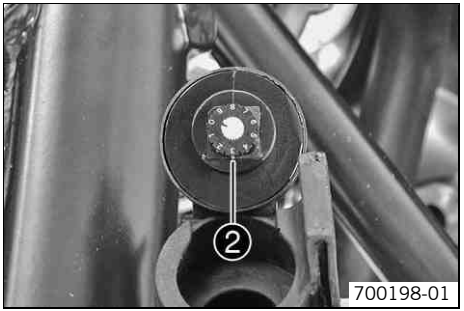
– Switch off the ignition by turning the ignition key to the position ⊠.



– Pull the **Map-Select** switch with holder ❶ downward off of the retaining bracket.



– Position the **Map-Select** switch on the outside of the frame.
– Pull the **Map-Select** switch out of the holder.



– Turn the adjusting wheel until the desired digit is next to marking ❷.

Info
Position **0** has no function.

Set the Map-Select switch to Soft.

– Set the adjusting wheel to position **1**.

✓ Soft – reduced homologated peak performance for better driveability

Set the Map-Select switch to Advanced.

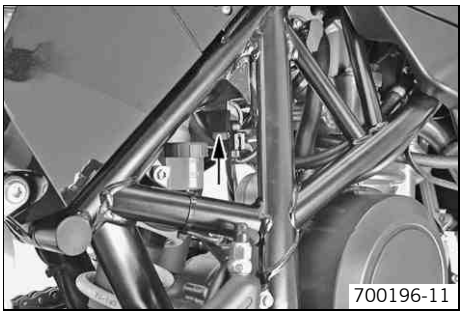
– Set the adjusting wheel to position **2**.

✓ Advanced – homologated performance with extremely direct responsiveness

Set the Map-Select switch to Standard.

– Set the adjusting wheel to position **3**, **4**, **5**, **6**, **7**, **8** or **9**.

✓ Standard – homologated performance with balanced responsiveness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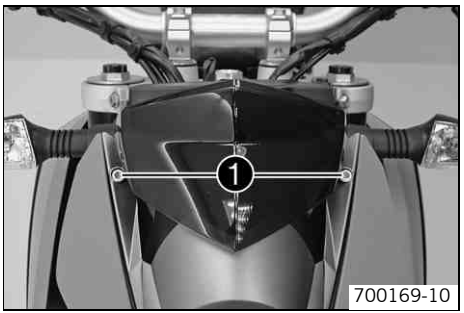
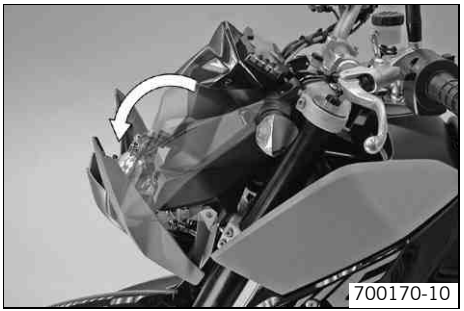
– Position the **Map-Select** switch in the holder.
– Push the **Map-Select** switch with the holder upward onto the retaining bracket.

Removing headlight mask with headlight

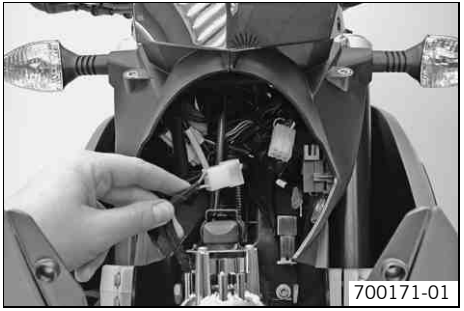


700169-10

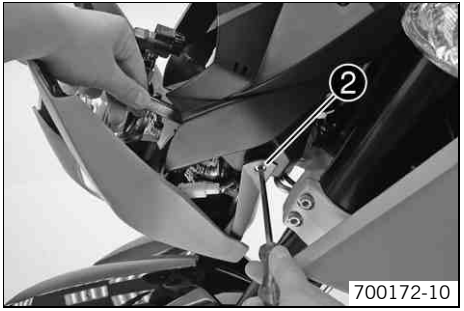
– Remove screws ❶.


700170-10

– Swing the headlight mask forward.


700171-01

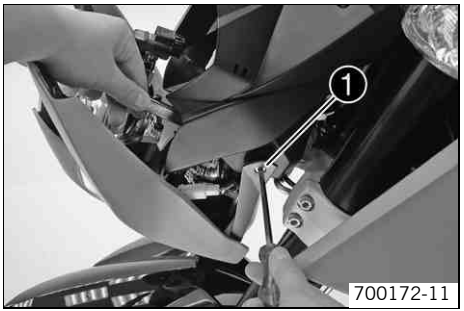
– Disconnect plug-in connector.



700172-10

– Remove the screw fitting ❷ on both sides.
– Place the headlight mask to one side.

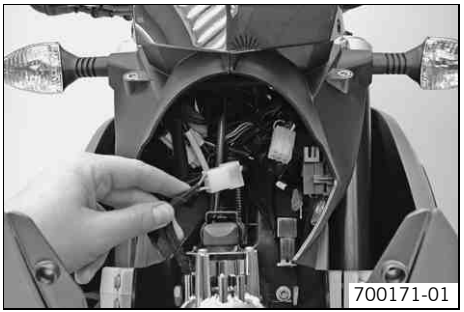
Installing the headlight mask with the headlight



– Position the headlight mask. Mount and tighten screws ❶ on both sides.

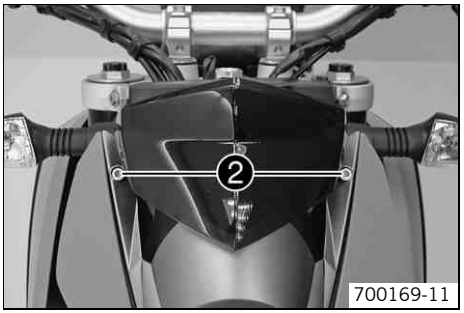
Guideline

Screw, headlight mask	M6	5 Nm (3.7 lbf ft)



– Connect the plug-in connector.

– Fold the headlight mask up.



– Position the headlight mask. Mount and tighten screws ❷.
Guideline

Screw, headlight mask	M6	5 Nm (3.7 lbf ft)

– Check the lighting function.

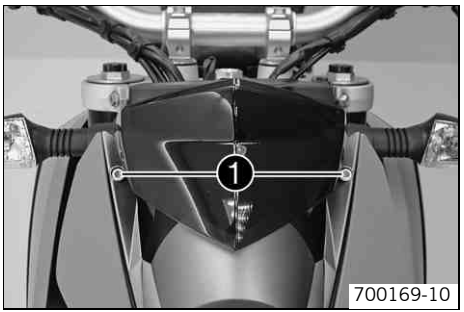
Changing the low beam bulb

Note

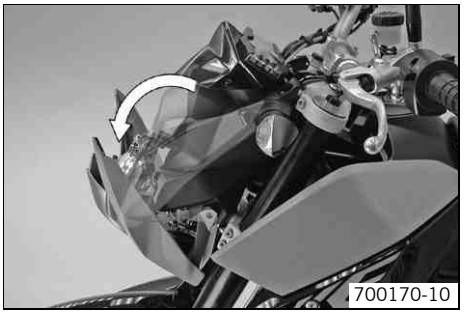
Damage to reflector Keep the glass of the bulb free of grease.

– Clean the glass bulb with a clean cloth before mounting. Any grease on the glass will evaporate due to the heat and be deposited on the reflector.

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



– Remove screws ❶.

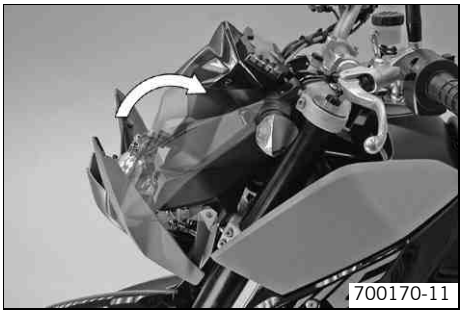


– Fold the headlight mask forward.

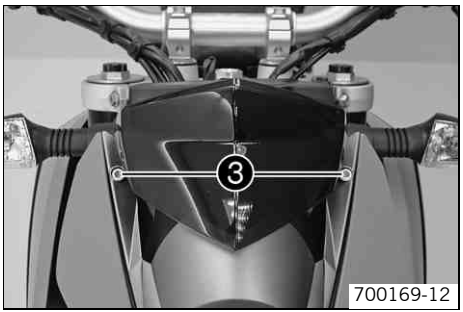
– Turn headlight lamp ❷ counterclockwise and remove it. Detach the connector.
– Position the new headlight bulb in the headlight housing. Connect the connector.

Low beam/high beam (HB3/P20d) (☛ p. 153)

Info
Insert the headlight bulb so that the bayonet lugs latch into the slots.



– Fold the headlight mask up.



– Position the headlight mask. Mount and tighten screws ❸.

Guideline

Screw, headlight mask	M6	5 Nm (3.7 lbf ft)

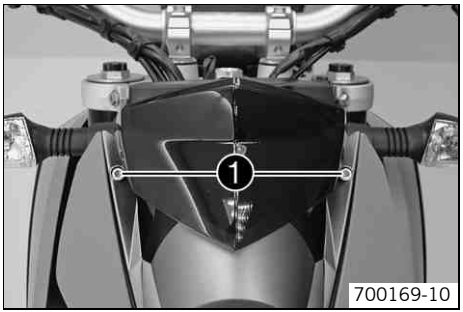
– Check lighting function.

Change the high beam bulb

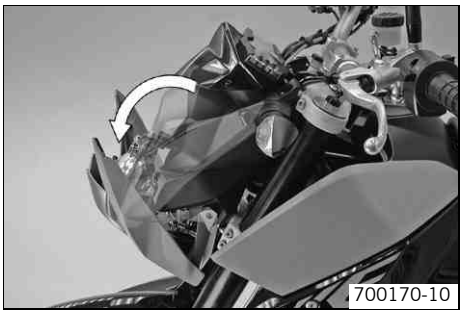
Note

Damage to reflector Keep the glass of the bulb free of grease.

– Clean the glass bulb with a clean cloth before mounting. Any grease on the glass will evaporate due to the heat and be deposited on the reflector.



– Switch off all power consumers and switch off the engine.
– Remove screws ❶.


700170-10

– Fold the headlight mask forward.

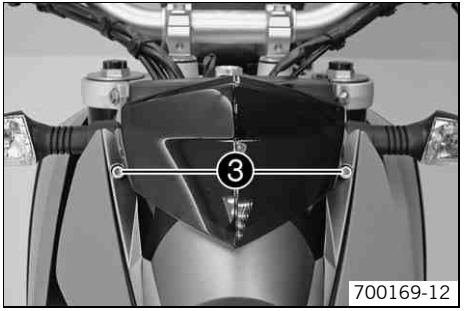
– Turn headlight lamp ❷ counterclockwise and remove it. Detach the connector.
– Position the new headlight bulb in the headlight housing. Connect the connector.

Low beam/high beam (HB3/P20d) (☛ p. 153)

Info
Insert the headlight bulb so that the bayonet lugs latch into the slots.


700170-11

– Fold the headlight mask up.



700169-12

– Position the headlight mask. Mount and tighten screws ❸.
Guideline

Screw, headlight mask	M6	5 Nm (3.7 lbf ft)

– Check lighting function.

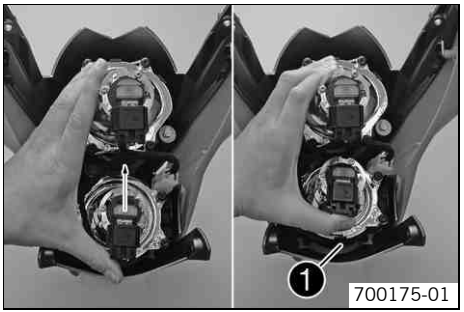
Changing the parking light bulb

Note

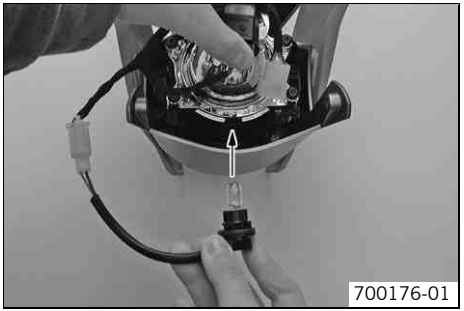
Damage to reflector Keep the glass of the bulb free of grease.

– Clean the glass bulb with a clean cloth before mounting. Any grease on the glass will evaporate due to the heat and be deposited on the reflector.

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



– Remove the headlight mask with the headlight. (☛ p. 100)
– Set down the headlight mask in front of you as shown in the illustration and carefully tilt the high beam headlight in the direction of the low beam headlight.
– Turn the bulb holder ❶ about 30° counterclockwise and remove it.



– Pull the parking light bulb out of the holder.
– Insert a new parking light bulb in the holder.

Parking light (W2.1x9.5d) (☛ p. 153)

– Position the bulb holder and turn it clockwise as far as it will go.
– Install the headlight mask with the headlight. (☛ p. 102)

Changing the flasher bulb

Note

Damage to reflector Keep the glass of the bulb free of grease.

– Clean the glass bulb with a clean cloth before mounting. Any grease on the glass will evaporate due to the heat and be deposited on the reflector.

– Remove the screw from the rear of the flasher housing.
– Tilt headlamp diffuser ❶ forward carefully and take it off.
– Press the flasher bulb carefully into the socket, turn it counterclockwise by about 30°, and take it out of the socket.

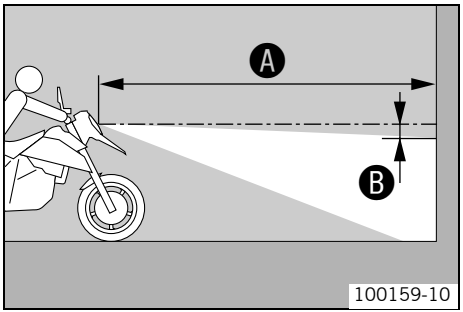
Info
Do not touch the reflector with your fingers, and keep it free from grease.

– Press the new flasher bulb carefully into the socket and turn it clockwise until it stops.

Flasher light (BAU15s) (☛ p. 153)

– Position the diffuser.
– Insert the screw and turn it counterclockwise first until it engages in the thread. Tighten the screw slightly.
– Check the flasher system function.

Checking the low beam headlight adjustment



– On a light-colored wall behind a horizontal area, make a mark as high as the center of the low beam headlight.
– Make another mark at a distance of Ⓑ under the first mark.
Guideline

Distance Ⓑ	5 cm (2 in)

– Stand the motorcycle at a distance of Ⓐ in front of the wall and switch on the ignition.
Guideline

Distance Ⓐ	5 m (16 ft)

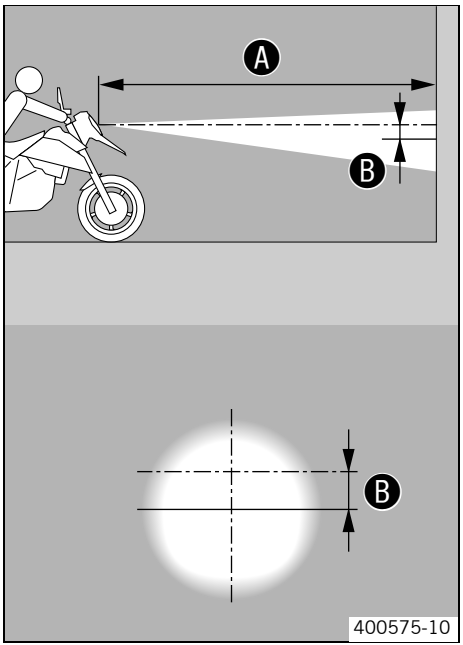
– Check the low beam headlight adjustment.

The boundary between light and dark must be exactly on the lower mark for a motorcycle with driver.

» If the boundary between light and dark does not meet specifications:

– Adjust the light range of the low beam headlight. (☛ p. 112)

Checking the high beam headlight adjustment



– On a light-colored wall behind a horizontal area, make a mark as high as the center of the high beam headlight.

– Make another mark at a distance of ❶ under the first mark.

Guideline

Distance ❶	5 cm (2 in)

– Stand the motorcycle at a distance of ❶ in front of the wall and switch on the high beam.

Guideline

Distance ❶	5 m (16 ft)

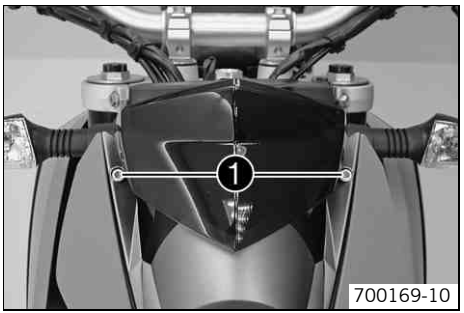
– Check the high beam headlight adjustment.

The center of the light cone must be exactly at the lower mark when the motorcycle is operational and complete with a rider.

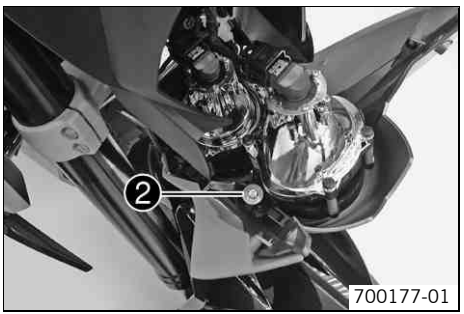
» If the center of the light cone is not located where specified:

– Adjust the light range of the high beam headlight. (☛ p. 113)

Adjusting the light range of the low beam headlight



– Adjust the light range of the low beam headlight. (☛ p. 112)
– Remove screws ❶.
– Fold the headlight mask forward.



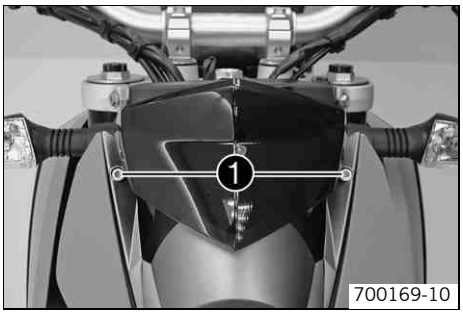
– Adjust the beam distance of the headlight by turning screw ❷.

Guideline

For a motorcycle with rider, the light/dark boundary must be exactly on the lower mark (the mark is created in: Checking headlight adjustment).

Info

Turn clockwise to increase the headlight range; turn counterclockwise to reduce the headlight range.
If you have a heavy payload, you will need to correct the headlight range.

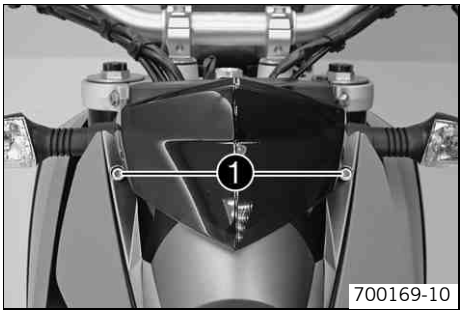


– Fold the headlight mask up.
– Position the headlight mask. Mount and tighten screws ❶.
  Guideline

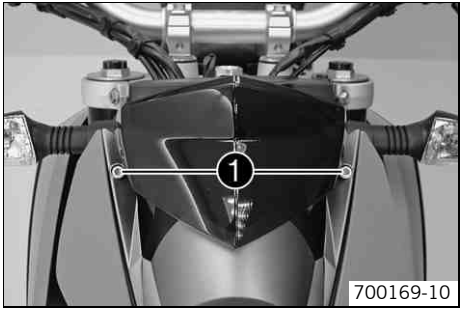
Screw, headlight mask	M6	5 Nm (3.7 lbf ft)

– Check the low beam headlight adjustment. (☛ p. 110)
  » If the boundary between light and dark does not meet specifications:
    – Adjust the light range of the low beam headlight. (☛ p. 112)

Adjusting the light range of the high beam headlight



– Adjust the light range of the high beam headlight. (☛ p. 113)
– Remove screws ❶.
– Fold the headlight mask forward.



– Adjust the beam distance of the headlight by turning screw ❷.

Guideline

For a motorcycle with rider, the light/dark boundary must be exactly on the lower mark (the mark is created in: Checking headlight adjustment).

Info

Turn clockwise to increase the beam width; turn counterclockwise to reduce the beam width.
If you have a heavy payload, you will need to correct the headlight range.

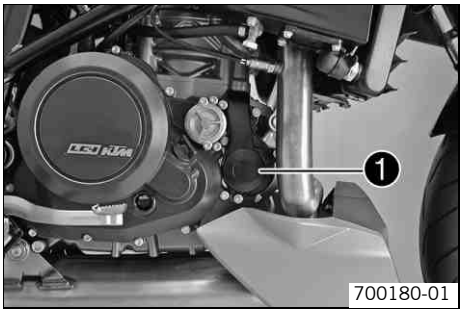
– Fold the headlight mask up.
– Position the headlight mask. Mount and tighten screws ❶.

Guideline

Screw, headlight mask	M6	5 Nm (3.7 lbf ft)

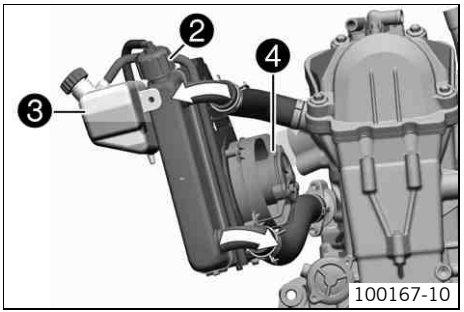
– Check the high beam headlight adjustment. (☛ p. 111)
  » If the boundary between light and dark does not meet specifications:
    – Adjust the light range of the high beam headlight. (☛ p. 113)

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. Heat expansion causes excess coolant to flow into the compensating tank ❸. If the temperature falls, the excess coolant is sucked back into the cooling system. The specified coolant temperature is therefore permissible without danger of function problems.

125 °C (257 °F)



The coolant is cooled by the air stream and a radiator fan ❹, which is controlled by a thermoswitch.
The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

Checking antifreeze and coolant level

Warning

Scalding hazard During motorcycle operation, the coolant gets very hot and is under pressure.

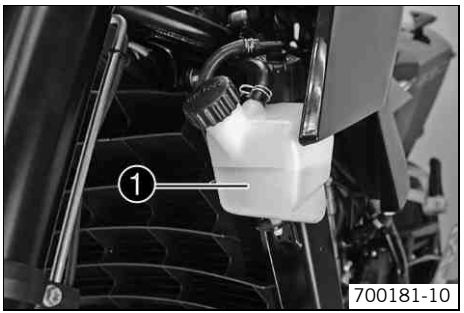
– Do not open the radiator, the radiator hoses or other components of the cooling system when the engine is hot. Allow the engine and radiator to cool down. If you are scalded, hold the affected part under cold water immediately.

Warning

Danger of poisoning Coolants are poisonous and a health hazard.

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

– Remove the seat. (☛ p. 86)
– Reinstall the fuel tank. (☛ p. 87)



Condition

Engine is cold.

– Stand the motorcycle upright on a horizontal surface.
– Remove the cap of the compensating tank ❶.
– Check antifreeze of coolant.

−25... −45 °C (−13... −49 °F)

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

– Check the coolant level in the compensating tank.

The coolant level must be between **MIN** and **MAX**.

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

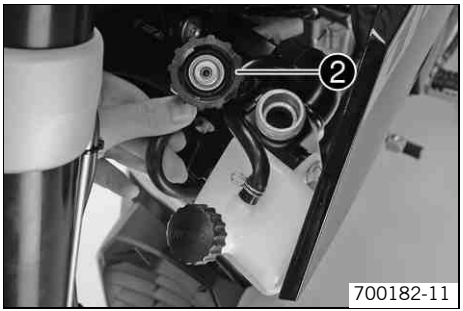
Alternative 1

Coolant (☛ p. 162)

Alternative 2

Coolant (mixed ready to use) (☛ p. 162)

– Mount the cap of the compensating tank.



– Screw off the radiator cap ❷.
– Check antifreeze of coolant.

−25... −45 °C (−13... −49 °F)

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

– Check the coolant level in the radiator.

The radiator must be completely filled.

» If the coolant level does not meet specifications:
– Rectify the coolant level and find out the cause of the loss.

Alternative 1

Coolant (☛ p. 162)

Alternative 2

Coolant (mixed ready to use) (☛ p. 162)

» If you had to add more coolant than the specified amount:
> 0.50 l (> 0.53 qt.)
– Fill/bleed the cooling system. 🔧 (☛ p. 120)

– Mount the radiator cap.

– Position the fuel tank. (☛ p. 88)
– Mount the seat. (☛ p. 87)

Checking the coolant level

Warning

Scalding hazard During motorcycle operation, the coolant gets very hot and is under pressure.

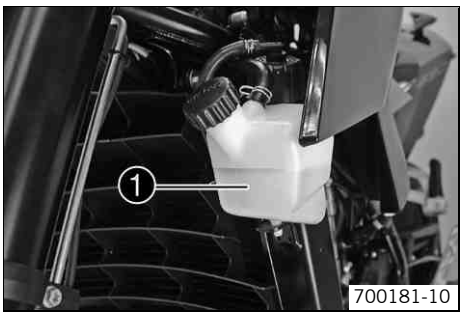
– Do not open the radiator, the radiator hoses or other components of the cooling system when the engine is hot. Allow the engine and radiator to cool down. If you are scalded, hold the affected part under cold water immediately.

Warning

Danger of poisoning Coolants are poisonous and a health hazard.

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

– Remove the seat. (☛ p. 86)
– Reinstall the fuel tank. (☛ p. 87)



Condition

Engine is cold.

– Stand the motorcycle upright on a horizontal surface.
– Check the coolant level in the compensating tank ❶.

The coolant level must be between **MIN** and **MAX**.

» If the coolant level does not meet specifications:

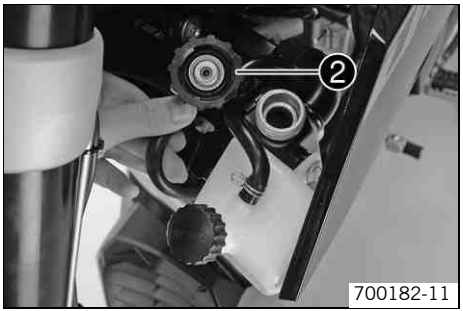
– Correct the coolant level.

Alternative 1

Coolant (☛ p. 162)

Alternative 2

Coolant (mixed ready to use) (☛ p. 162)



– Screw off the radiator cap ❷ and check the coolant level in the radiator.

The radiator must be completely filled.

» If the coolant level does not meet specifications:

– Rectify the coolant level and find out the cause of the loss.

Alternative 1

Coolant (☛ p. 162)

Alternative 2

Coolant (mixed ready to use) (☛ p. 162)

» If you had to add more coolant than the specified amount:
> 0.50 l (> 0.53 qt.)

– Fill/bleed the cooling system. 🔧 (☛ p. 120)

– Mount the radiator cap.

– Position the fuel tank. (☛ p. 88)

– Mount the seat. (☛ p. 87)

Draining the coolant 🔧

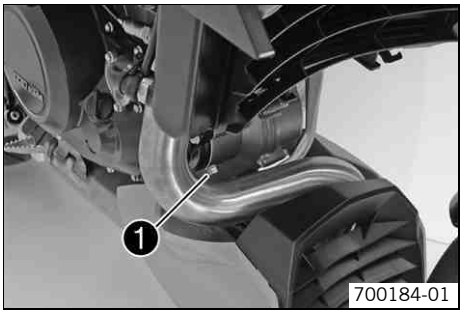
Warning

Scalding hazard During motorcycle operation, the coolant gets very hot and is under pressure.

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

Warning
Danger of poisoning Coolants are poisonous and a health hazard.

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



– Remove the seat. (☛ p. 86)
– Reinstall the fuel tank. (☛ p. 87)
– Stand the motorcycle upright.
– Place a suitable container under the engine.
– Remove screw ❶. Remove the radiator cap.
– Completely drain the coolant.
– Mount screw ❶ with a new seal ring and tighten it.
Guideline

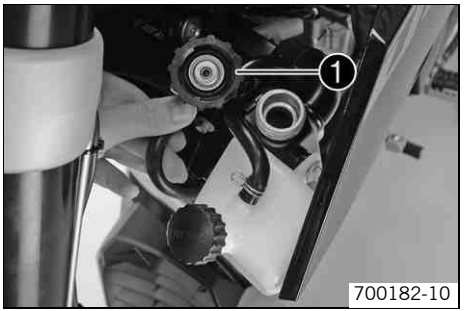
Plug, drain hole of water pump	M10x1	15 Nm (11.1 lbf ft)

Filling/bleeding the cooling system

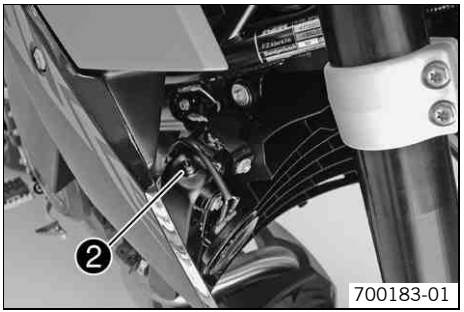
Warning
Danger of poisoning Coolants are poisonous and a health hazard.

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

Condition
Fuel tank is reset or removed.



– Remove radiator cap ❶.



– Remove bleeder screw ❷.
– Tilt the vehicle slightly to the right.
– Pour in coolant until it emerges without bubbles at the vent hole, and then mount and tighten the bleeder screw immediately.

Alternative 1

Coolant (☛ p. 162)

Alternative 2

Coolant (mixed ready to use) (☛ p. 162)

– Fill the radiator completely with coolant. Mount the radiator cap.
– Rest the vehicle on the sidestand.

Fuel tank is reset.

– Move the fuel tank forward.

The fuel tank is removed.

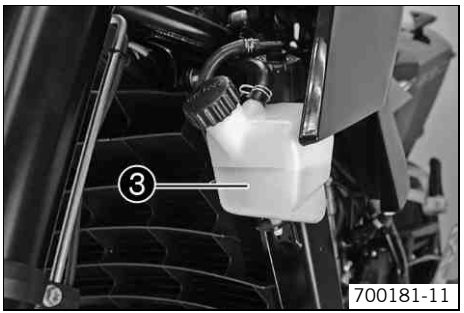
– Connect and position the fuel tank.

Danger

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

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

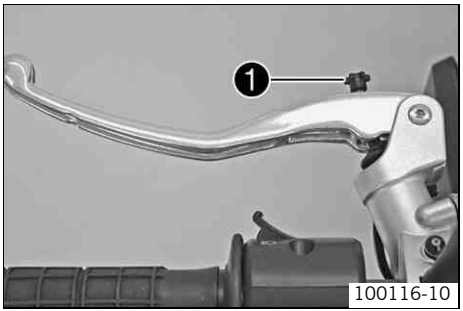
– Start the engine and run it until the 5th bar of the temperature indicator lights up.
– Stop the engine and allow it to cool down.
– When the engine is cool, check the coolant level in the radiator and, if necessary, add coolant.
– Remove the cap of the compensating tank ❸ and add coolant until the coolant level is up to the **MAX** mark.
– Mount the cap of the compensating tank.



Adjusting basic position of clutch lever

Info

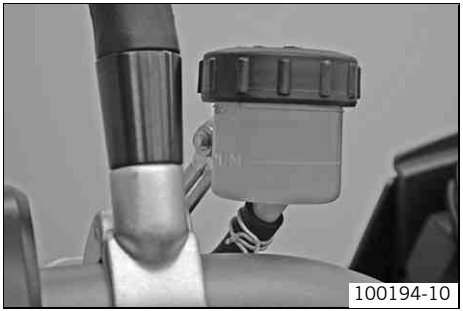
Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar.
Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.
The range of adjustment is limited.
Turn the adjusting screw by hand only, and do not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



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

Checking/rectifying the fluid level of the hydraulic clutch

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



– Move the clutch fluid reservoir mounted on the handlebar to a horizontal position.
– Check the fluid level.

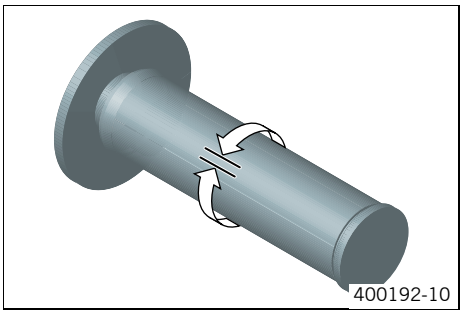
The fuel level must be between **MIN** and **MAX**.

» If the level of the coolant does not meet specifications:
– Remove the screw cap with the membrane.
– Correct the fluid level of the hydraulic clutch.

Hydraulic fluid (15) (☛ p. 164)

– Mount the screw cap with the membrane.

Checking play in gas Bowden cable



– Move the handlebar to the straight-ahead position. Move the throttle grip backwards and forwards to ascertain the play in the gas Bowden cable.

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

» If the gas Bowden cable play does not meet specifications:

– Adjust the play in the gas Bowden cable. (☛ p. 125)

Danger

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

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

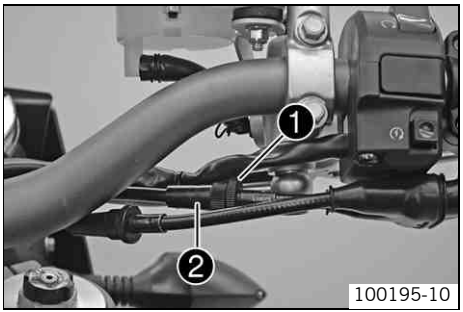
– Start the engine and let it run idle. Move the handlebar to and fro over the entire steering range.

The idle speed must not change.

» If the idle speed changes:

– Adjust the play in the gas Bowden cable. (☛ p. 125)

Adjusting the play in the gas Bowden cable



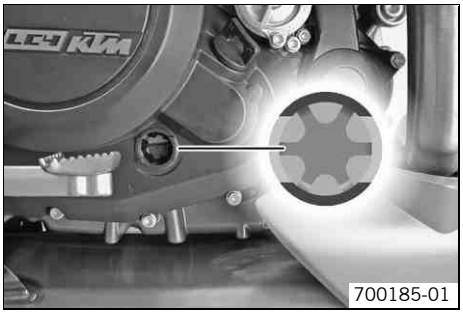
– Move the handlebar to the straight-ahead position.
– Use the KTM diagnostics tool to set the throttle stepper motor to the neutral position.
– Loosen counter nut ❶.
– Set the play in the gas Bowden cable by turning the adjusting screw ❷.
Guideline

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

– Tighten counter nut ❶.

Checking engine oil level

Info
The engine oil level must be checked when the engine is at operating temperature.



– Stand the motorcycle upright on a horizontal surface.

Condition
The engine is at operating temperature.

– Check the engine oil level.

Info
After switching off the engine, wait for one minute and then check.

The engine oil must be between the lower and upper edge of the oil level viewer.

» If the engine oil level is not at the specified level:
– Add the engine oil. (☛ p. 132)

Changing the engine oil and filter, cleaning the oil screens

- Drain the engine oil. (p. 126)
- Remove the oil filter. (p. 127)
- Clean the oil screens. (p. 129)
- Install the oil filter. (p. 129)
- Fill up with engine oil. (p. 131)

Draining the engine oil

Warning

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

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

Warning

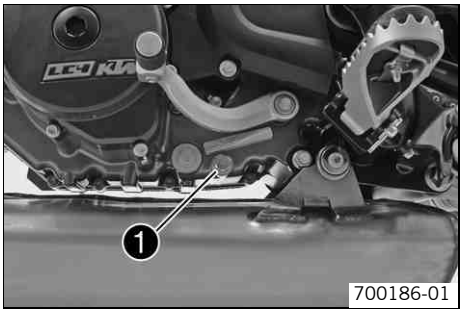
Environmental hazard Problem materials cause environmental damage.

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

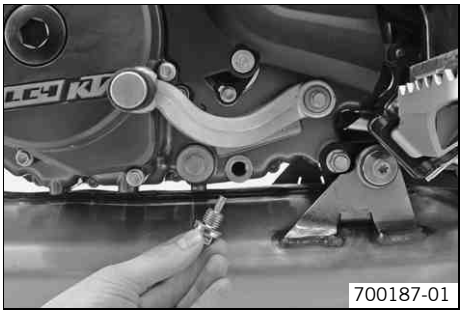
Info

Drain the engine oil only when the engine is warm.

- Stand the motorcycle on its side stand on a horizontal surface.



– Place a suitable container under the engine.
– Remove the oil drain plug ❶ with the magnet and seal ring.
– Completely drain the engine oil.



– Thoroughly clean the oil drain plug with a magnet.
– Mount the oil drain plug with the magnet and seal ring and tighten it.
Guideline

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

Removing the oil filter

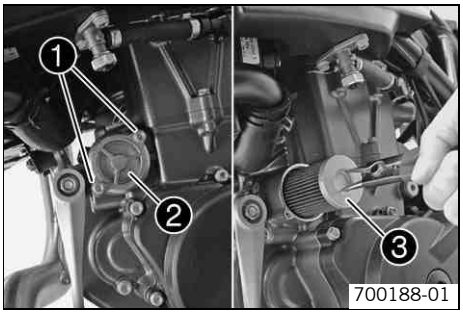
Warning
Danger of scalding Engine oil and gear oil get very hot when the motocycle is driven.

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

Warning

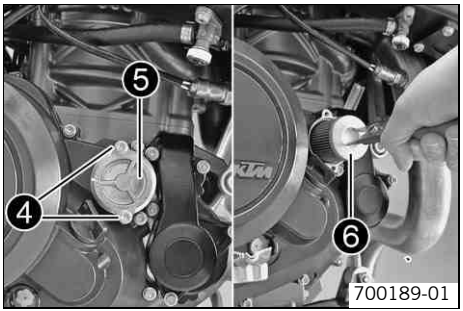
Environmental hazard Problem materials cause environmental damage.

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



– Place a suitable container under the engine.
– Remove screws ❶. Remove the oil filter cover ❷ with the O-ring.
– Pull oil filter ❸ out of the oil filter housing.

Circlip pliers reverse (51012011000)

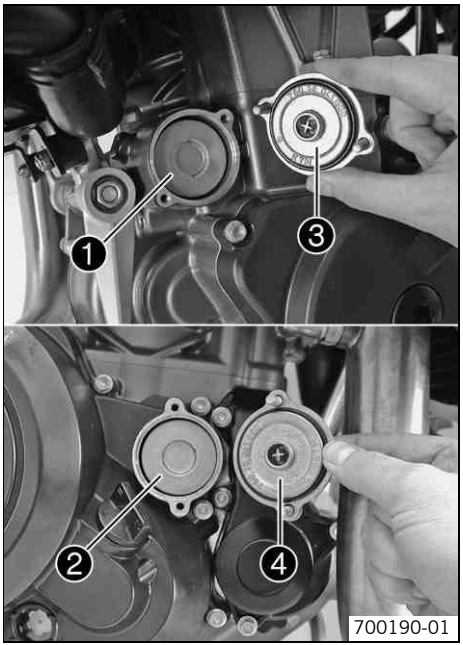


– Remove screws ❹. Remove oil filter ❺ with the O-ring.
– Pull oil filter ❻ out of the oil filter housing.

Circlip pliers reverse (51012011000)

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

Installing the oil filter



– Insert oil filters ❶ and ❷.
– Oil the O-rings of the oil filter cover. Mount oil filter covers ❸ and ❹.
– Mount and tighten the screws.
  Guideline

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

Cleaning the oil screens

Warning

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

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

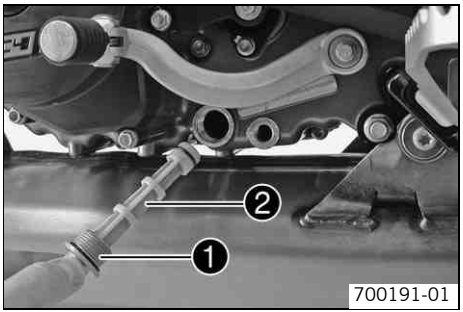
Warning

Environmental hazard Problem materials cause environmental damage.

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

– Place a suitable container under the engine.

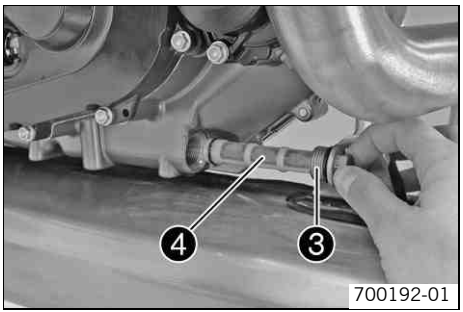
– Remove plug ❶ with oil screen ❷ and the O-rings.

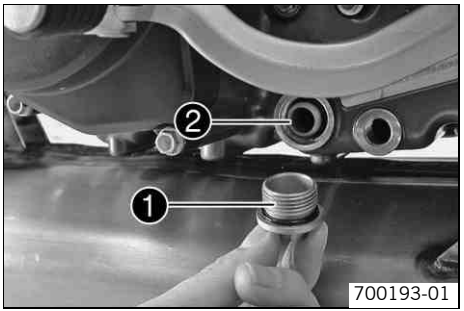


– Remove plug ❸ with oil screen ❹ and the O-rings.

– Completely drain the remaining engine oil.

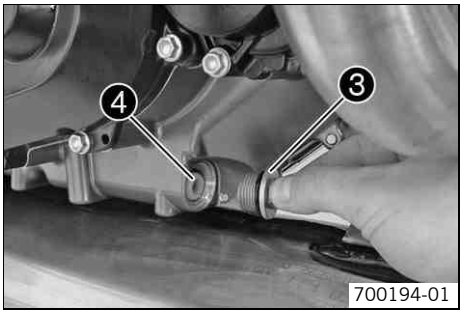
– Thoroughly clean the parts and sealing area.





– Position oil screen ❷ with the O-rings.
– Mount and tighten plug ❶ with the O-ring.
Guideline

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

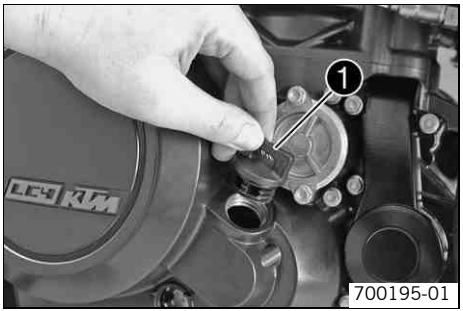


– Position oil screen ❹ with the O-rings.
– Mount and tighten plug ❸ with the O-ring.
Guideline

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

Filling up with engine oil

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



– Remove filler plug with O-ring ❶ from the clutch cover and add engine oil.

Engine oil	1.70 l (1.8 qt.)	Engine oil (SAE 10W/60) (00062010035) (☛ p. 163)	
		Alternative engine oil	Engine oil (SAE 10W/50) (☛ p. 163)

– Refit plug with O-ring ❶ and tighten it.

Danger

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

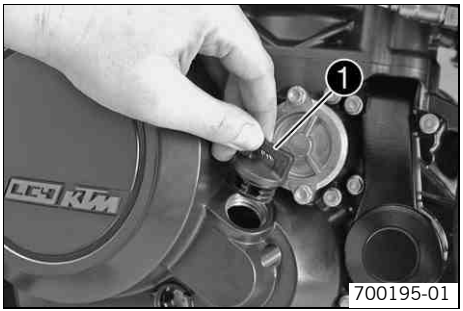
– When running the engine, always make sure there is sufficient ventilation, and do not start or run the engine in a closed space without an effective exhaust extraction system.

– Start the engine and check that it is oil-tight.
– Check the engine oil level. (☛ p. 125)

Adding engine oil

Info

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



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

Engine oil (SAE 10W/60) (00062010035) (☛ p. 163)
Engine oil (SAE 10W/50) (☛ p. 163)

Info

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

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

Danger

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

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

– Start the engine and check that it is oil-tight.
– Check the engine oil level. (☛ p. 125)

Faults	Possible cause	Action
The engine does not turn when the starter button is pressed	Operating error	– Carry out the start procedure. (☛ p. 43)
	Battery discharged	– Recharge the battery. 🔧 (☛ p. 93) – Check the cause of discharging.
	Fuse **1**, **2**, **3**, or **4** blown	– Change the fuses of power consumers. (☛ p. 96)
	Main fuse burned out	– Change the main fuse. (☛ p. 95)
	Ignition/steering lock or emergency OFF switch defective	– Have ignition/steering lock or emergency OFF switch checked.
	Defect in safety start system	– Have the safety start system checked.
	No ground connection present.	– Check the ground connection.
Engine turns only if the clutch lever is drawn	The vehicle is in gear	– Shift gear to neutral.
	The vehicle is in gear and the side stand is folded out	– Shift gear to neutral.
	Defect in safety start system	– Have the safety start system checked.
Engine turns although a gear is engaged	Defect in safety start system	– Have the safety start system checked.
Engine turns but does not start.	Operating error	– Carry out the start procedure. (☛ p. 43)
	Fuse **4** blown	– Change the fuses of power consumers. (☛ p. 96)
	Coupling of fuel hose connection not connected	– Reconnect coupling of fuel hose connection.
	Socket connector of cable harness oxidized	– Clean socket connector and treat it with contact spray.
	Defect in fuel injection system	– Read the error memory with the KTM diagnostics tool and correct the fault.
Engine has too little power.	Air filter very dirty	– Have the air filter changed.
	Fuel filter very dirty	– Have the fuel filter changed.

Faults	Possible cause	Action
Engine has too little power.	Defect in fuel injection system	– Read the error memory with the KTM diagnostics tool and correct the fault.
Engine overheats.	Too little coolant in cooling system	– Check the cooling system for leakage. – Check the coolant level. (☛ p. 118)
	Radiator fins very dirty	– Clean radiator fins.
	Foam formation in cooling system	– Drain the coolant. 🔧 (☛ p. 119) – Fill/bleed the cooling system. 🔧 (☛ p. 120)
	Buckled or damaged radiator hose	– Have the radiator hose changed.
	Thermostat defective	– Have thermostat checked.
	Fuse **5** blown	– Change the fuses of power consumers. (☛ p. 96)
	Defect in radiator fan system	– Have the radiator fan system checked.
	Air in cooling system	– Fill/bleed the cooling system. 🔧 (☛ p. 120)
FI warning lamp (**MIL**) lights/flashes	Defect in fuel injection system	– Read the error memory with the KTM diagnostics tool and correct the fault.
Engine dies during the journey	Lack of fuel	– Refuel. (☛ p. 51)
	Fuse **1**, **2** or **4** blown	– Change the fuses of power consumers. (☛ p. 96)
High oil consumption	Engine vent hose bent	– Route the vent hose without bends or change it if necessary.
	Engine oil level too high	– Check the engine oil level. (☛ p. 125)
	Engine oil too thin (low viscosity)	– Change the engine oil and filter, clean the oil screens. 🔧 (☛ p. 126)
Headlight and parking light not functioning	Fuse **7** blown	– Change the fuses of power consumers. (☛ p. 96)
Flasher light, brake light and horn not functioning	Fuse **6** blown	– Change the fuses of power consumers. (☛ p. 96)

Faults	Possible cause	Action
Time is not (correctly) displayed	Fuse **2** blown	– Change the fuses of power consumers. (☛ p. 96) – Set the clock. (☛ p. 28)
Battery discharged	Ignition not switched off when vehicle was parked	– Recharge the battery. 🔧 (☛ p. 93)
	Battery is not charged by generator	– Check charging voltage.
Combination instrument shows nothing in the display	Fuse **1** blown	– Change the fuses of power consumers. (☛ p. 96)
Speedometer in combination instrument not functioning	Speedometer cable harness damaged or plug oxidized	– Have the cable harness and plug checked.

Flashing code FI of warning lamp (MIL)	02 **FI** warning lamp (**MIL**) flashes briefly 2x
Possible cause	Malfunction in ignition pulse generator circuit

Flashing code FI of warning lamp (MIL)	06 **FI** warning lamp (**MIL**) flashes briefly 6x
Possible cause	Input signal of throttle valve sensor circuit A too low
	Input signal of throttle valve sensor circuit A too high

Flashing code FI of warning lamp (MIL)	08 **FI** warning lamp (**MIL**) flashes briefly 8x
Possible cause	Input signal from throttle grip sensor too low
	Input signal from throttle grip sensor too high

Flashing code FI of warning lamp (MIL)	09 **FI** warning lamp (**MIL**) flashes briefly 9x
Possible cause	Input signal from pressure sensor, induction manifold (cylinder 1) too low
	Input signal from pressure sensor, induction manifold (cylinder 1) too high

Flashing code FI of warning lamp (MIL)	12 **FI** warning lamp (**MIL**) flashes 1x long, 2x short
Possible cause	Input signal from coolant temperature sensor too low
	Input signal from coolant temperature sensor too high

Flashing code FI of warning lamp (MIL)	13 **FI** warning lamp (**MIL**) flashes 1x long, 3x short
Possible cause	Input signal from intake air temperature sensor too low
	Input signal from intake air temperature sensor too high

Flashing code FI of warning lamp (MIL)	14 **FI** warning lamp (**MIL**) flashes 1x long, 4x short
Possible cause	Input signal of pressure sensor ambient air too low
	Input signal of pressure sensor ambient air too high

Flashing code FI of warning lamp (MIL)	15 **FI** warning lamp (**MIL**) flashes 1x long, 5x short
Possible cause	Input signal from rollover sensor too low
	Input signal from rollover sensor too high

Flashing code FI of warning lamp (MIL)	17 **FI** warning lamp (**MIL**) flashes 1x long, 7x short
Possible cause	Malfunction in lambda probe circuit (cylinder 1)

Flashing code FI of warning lamp (MIL)	24 **FI** warning lamp (**MIL**) flashes 2x long, 4x short
Possible cause	Malfunction in circuit of EFI control unit or EPT control unit voltage supply

Flashing code FI of warning lamp (MIL)	25 **FI** warning lamp (**MIL**) flashes 2x long, 5x short
Possible cause	Malfunction in sidestand switch circuit

Flashing code FI of warning lamp (MIL)	26 **FI** warning lamp (**MIL**) flashes 2x long, 6x short
Possible cause	Malfunction in circuit of Hall sensor throttle valve control

Flashing code FI of warning lamp (MIL)	27 **FI** warning lamp (**MIL**) flashes 2x long, 7x short
Possible cause	Malfunction in the EPT control unit power supply circuit

Flashing code FI of warning lamp (MIL)	33 **FI** warning lamp (**MIL**) flashes 3x long, 3x short
Possible cause	Malfunction in injection valve circuit (cylinder 1)

Flashing code FI of warning lamp (MIL)	37 **FI** warning lamp (**MIL**) flashes 3x long, 7x short
Possible cause	Malfunction in ignition coil circuit (cylinder 1)

Flashing code FI of warning lamp (MIL)	41 **FI** warning lamp (**MIL**) flashes 4x long, 1x short
Possible cause	Interruption/short-circuit to ground in fuel pump control circuit

Flashing code FI of warning lamp (MIL)	45 **FI** warning lamp (**MIL**) flashes 4x long, 5x short
Possible cause	Malfunction or short circuit to ground in lambda probe heating circuit (cylinder 1)

Flashing code FI of warning lamp (MIL)	54 **FI** warning lamp (**MIL**) flashes 5x long, 4x short
Possible cause	Interruption/short-circuit to ground in secondary air valve circuit

Flashing code FI of warning lamp (MIL)	58 **FI** warning lamp (**MIL**) flashes 5x long, 8x short
Possible cause	Malfunction of release of throttle stepper motor in **EPT** mode

Flashing code FI of warning lamp (MIL)	60 **FI** warning lamp (**MIL**) flashes 6x long
Possible cause	Malfunction in throttle stepper motor circuit

Flashing code FI of warning lamp (MIL)	68 **FI** warning lamp (**MIL**) flashes 6x long, 8x short
Possible cause	The connection of the manifold absolute pressure sensor (cylinder 1) is not airtight

Flashing code FI of warning lamp (MIL)	90 **FI** warning lamp (**MIL**) flashes 9x long
Possible cause	Throttle value position not plausible

Flashing code FI of warning lamp (MIL)	91 **FI** warning lamp (**MIL**) flashes 9x long, 1x short
Possible cause	Malfunction in CAN bus communication

Flashing code FI of warning lamp (MIL)	92 **FI** warning lamp (**MIL**) flashes 9x long, 2x short
Possible cause	Malfunction in voltage supply circuit of EPT control unit (internal)

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

Warning

Environmental hazard Problem materials cause environmental damage.

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

Info

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

– Before you clean the motocycle, seal the exhaust system to prevent penetration by water.
– First remove coarse dirt particles with a gentle water spray.
– Spray very dirty areas with a normal motorcycle cleaner and then clean with a paintbrush.

Motorcycle cleaner (☛ p. 167)

Info

Use warm water containing normal motorcycle cleaner and a soft sponge.
If you have ridden the vehicle on salted roads, clean it with cold water. Warm water would reinforce the effect of the salt.

– After rinsing the motorcycle thoroughly with a soft jet of water, dry it with compressed air and a cloth.

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

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

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

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

– Push back the protection covers on the handlebar instruments to allow water to evaporate.
– After the motorcycle has cooled off, oil or grease all moving parts and bearings.
– Clean the chain. (☛ p. 64)
– 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. 166)

– Treat all painted parts with a mild paint polish.

High-luster polish for paint (☛ p. 166)

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

Contact spray (☛ p. 166)

– Oil the ignition/steering lock.

Universal oil spray (☛ p. 167)

Conservation for winter operation

Info

If you use the motorcycle in winter, you must expect salt on the roads. You should therefore take precautions against aggressive road salt.
If you have ridden the vehicle on salted roads, clean it with cold water. Warm water would reinforce the effect of the salt.

– Clean the motorcycle. (☛ p. 142)
– Treat the engine, the swingarm, and all other bare or galvanized parts (except brake discs) with a wax-based anti-corrosion substance.

Info

To prevent serious reduction of the braking efficiency, make sure no anti-corrosion substance gets on to the brake discs.
After use on salted roads, clean the motorcycle thoroughly with cold water and dry it properly.

– Clean the chain. (☛ p. 64)

Storage

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.

- Make sure the tank is as empty as possible so that you can fill up with fresh fuel when you put the motorcycle back into operation.
- Clean the motorcycle. (☛ p. 142)
- Change the engine oil and filter, clean the oil screens. 🔧 (☛ p. 126)
- Check the antifreeze and coolant level. (☛ p. 115)
- Check the tire air pressure. (☛ p. 85)
- Remove the battery. 🔧 (☛ p. 89)
- Recharge the battery. 🔧 (☛ p. 93)

  Guideline

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

- The storage place should be dry and not subject to large temperature differences.

Info
KTM recommends jacking up the motorcycle.

- Jack up the rear of the motorcycle. (☛ p. 57)
- Jack up the front of the motorcycle. (☛ p. 56)

– Cover the motorcycle with a porous sheet 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

– Take the front from the work stand. (☛ p. 56)
– Taking rear from work stand. (☛ p. 57)
– Recharge the battery. 🔧 (☛ p. 93)
– Install the battery. 🔧 (☛ p. 91)
– Set the clock. (☛ p. 28)
– Refuel. (☛ p. 51)
– Carry out checks before putting into operation. (☛ p. 42)
– Make a test ride.

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	654 cm³ (39.91 cu in)
Stroke	80 mm (3.15 in)
Bore	102 mm (4.02 in)
Compression ratio	11.8:1
Control	OHC, 4 valves controlled via rocker arm, chain drive
Valve diameter, intake	40 mm (1.57 in)
Valve diameter, exhaust	34 mm (1.34 in)
Valve play, cold	0.07... 0.13 mm (0.0028... 0.0051 in)
Crankshaft bearing	2 roller bearings
Conrod bearing	Needle bearing
Piston pin bearing	Bronze bush
Pistons	Forged light alloy
Piston rings	1 L-ring, 1 tapered compression piston ring, 1 oil scraper ring
Engine lubrication	Semi-dry sump lubrication with two rotor pumps
Primary transmission	36:79
Clutch	**APTC™** Antihopping clutch in oil bath / hydraulically operated
Gearbox	6-gears, claw-shifted
Transmission ratio	
1st gear	14:35
2nd gear	16:28
3rd gear	21:28
4th gear	21:23
5th gear	23:22
6th gear	23:20

Mixture preparation	Electronic fuel injection
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Generator	12 V, 224 W
Spark plug	NGK LKAR 8AI - 9
Spark plug electrode gap	0.9 mm (0.035 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid	Electric starter, automatic decompressor

Capacity - engine oil

Engine oil	1.70 l (1.8 qt.)	Engine oil (SAE 10W/60) (00062010035) (☛ p. 163)	
		Alternative engine oil	Engine oil (SAE 10W/50) (☛ p. 163)

Capacity - coolant

Coolant	1.20 l (1.27 qt.)	Coolant (☛ p. 162)
		Coolant (mixed ready to use) (☛ p. 162)

Oil hole plug	self-tapping	9 Nm (6.6 lbf ft)	**Loctite® 243™**
Screw, membrane fixation	M3	2.5 Nm (1.84 lbf ft)	**Loctite® 243™**
Hose clamp, intake flange	M4	1.5 Nm (1.11 lbf ft)	–
Oil jet, conrod lubrication	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Locking screw for bearing	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, breather cover on valve cover	M5	3 Nm (2.2 lbf ft)	**Loctite® 243™**
Screw, clutch spring	M5	6 Nm (4.4 lbf ft)	–
Screw, cover plate for oil return line	M5	6 Nm (4.4 lbf ft)	–
Screw, gear sensor	M5	5 Nm (3.7 lbf ft)	**Loctite® 243™**
Screw, oil filter cover	M5	6 Nm (4.4 lbf ft)	–
Screw, oil pump cover	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Plug, vacuum connection	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, Autodecompression	M6	3... 4 Nm (2.2... 3 lbf ft)	**Loctite® 243™**
Screw, axial lock of camshaft	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, clutch cover	M6	10 Nm (7.4 lbf ft)	–
Screw, clutch slave cylinder	M6x20	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, clutch slave cylinder	M6x35	10 Nm (7.4 lbf ft)	–
Screw, cylinder	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, cylinder head	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, engine housing	M6	10 Nm (7.4 lbf ft)	–
Screw, generator cover	M6	10 Nm (7.4 lbf ft)	–
Screw, generator cover (chain shaft through-hole)	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, ignition pulse generator	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**

Screw, locking lever	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, rocker arm shaft	M6	12 Nm (8.9 lbf ft)	–
Screw, shift drum locating	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, shift lever	M6	10 Nm (7.4 lbf ft)	**Loctite® 222**
Screw, starter motor	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, stator bracket	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, thermostat housing	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, timing chain guide rail	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, timing chain tensioning rail	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, valve cover	M6	10 Nm (7.4 lbf ft)	–
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)	–
Screw, water pump wheel	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Oil jet, piston cooling	M6x0.75	4 Nm (3 lbf ft)	**Loctite® 243™**
Plug, crankshaft location	M8	20 Nm (14.8 lbf ft)	–
Stud, exhaust flange	M8	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Cylinder head screw	M10	Tightening sequence: Tighten diagonally, beginning with the rear screw on the chain shaft. Step 1 15 Nm (11.1 lbf ft) Step 2 30 Nm (22.1 lbf ft) Step 3 45 Nm (33.2 lbf ft) Step 4 60 Nm (44.3 lbf ft)	lubricated with engine oil

Oil hole plug	M10x1	15 Nm (11.1 lbf ft)	**Loctite® 243™**
Plug, drain hole of water pump	M10x1	15 Nm (11.1 lbf ft)	–
Plug, oil bore for oil radiator	M10x1	15 Nm (11.1 lbf ft)	–
Screw, unlocking of timing chain tensioner	M10x1	10 Nm (7.4 lbf ft)	–
Spark plug	M12x1.25	17 Nm (12.5 lbf ft)	–
Coolant temperature sensor on cylinder head	M12x1.5	12 Nm (8.9 lbf ft)	–
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)	–
Oil pressure regulator valve plug	M12x1.5	20 Nm (14.8 lbf ft)	–
Plug, oil bore	M14x1.5	15 Nm (11.1 lbf ft)	**Loctite® 243™**
Engine case stud	M16x1.5	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Rotor nut	M18x1.5	100 Nm (73.8 lbf ft)	–
Nut, engine sprocket	M20x1.5	60 Nm (44.3 lbf ft)	**Loctite® 243™**
Nut, inner clutch hub	M20x1.5	100 Nm (73.8 lbf ft)	**Loctite® 243™**
Nut, primary gear	M20LHx1.5	90 Nm (66.4 lbf ft)	**Loctite® 243™**
Plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)	–
Plug, timing chain tensioner	M20x1.5	25 Nm (18.4 lbf ft)	–
Plug, oil thermostat	M24x1.5	15 Nm (11.1 lbf ft)	–
Screw in generator cover	M24x1.5	8 Nm (5.9 lbf ft)	–

Frame	Lattice frame made of chrome molybdenum steel tubing, powder-coated
Fork	**WP Suspension** Up Side Down 4860 ROMA
Shock absorber	**WP Suspension** 4618 with **Pro-Lever** deflector
Suspension travel	
Front	140 mm (5.51 in)
Rear	140 mm (5.51 in)
Brake system	
Front	Disc brake with radially screwed four-piston brake caliper, floating brake disc
Rear	Disc brake with single-piston brake caliper, floating
Brake discs - diameter	
Front	320 mm (12.6 in)
Rear	240 mm (9.45 in)
Brake discs - wear limit	
Front	3.6 mm (0.142 in)
Rear	4.5 mm (0.177 in)
Tire air pressure, Solo	
Front	2.0 bar (29 psi)
Rear	2.0 bar (29 psi)
Tire air pressure with passenger / fully loaded	
Front	2.0 bar (29 psi)
Rear	2.2 bar (32 psi)
Secondary drive ratio	16:40
Chain	5/8 x 1/4” X-ring

Steering head angle	63.5°
Wheelbase	1,472±15 mm (57.95±0.59 in)
Seat height unloaded	865 mm (34.06 in)
Ground clearance unloaded	155 mm (6.1 in)
Weight without fuel approx.	148.5 kg (327.4 lb.)
Maximum permissible front axle load	150 kg (331 lb.)
Maximum permissible rear axle load	200 kg (441 lb.)
Maximum permissible overall weight	350 kg (772 lb.)

Battery	YTZ10S	Battery voltage: 12 V Nominal capacity: 8.6 Ah maintenance-free
Fuse	58011109130	30 A
Fuse	75011088015	15 A
Fuse	75011088010	10 A

Lighting equipment

Low beam/high beam	HB3/P20d	12 V 60 W
Parking light	W2.1x9.5d	12 V 5 W
Instrument lights and indicator lamps	LED	
Flasher light	BAU15s	12 V 10 W
Brake/tail light	LED	

License plate lamp	W2.1x9.5d	12 V 5 W

Front tire	Rear tire
120/70 R 17 M/C 58H TL Dunlop Sportmax GPR Alpha 10	**160/60 R 17 M/C 69H TL** Dunlop Sportmax GPR Alpha 10
Additional information is available in the Service section under: http://www.ktm.com	

Capacity - fuel

Total fuel tank capacity, approx.	13.5 l (3.57 US gal)	Super unleaded (ROZ 95 / RON 95 / PON 91) (☛ p. 165)

Fuel reserve, approx.	2.5 l (2.6 qt.)

Fork part number	14.18.7E.09
Fork	**WP Suspension** Up Side Down 4860 ROMA
Compression damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks
Rebound damping	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks
Spring length with preload spacer(s)	352 mm (13.86 in)
Spring rate	
Weight of rider: 75... 85 kg (165... 187 lb.)	7.5 N/mm (42.8 lb/in)
Air chamber length	120^{+10}_{-30} mm ($4.72^{+0.39}_{-1.18}$ in)
Fork length	850 mm (33.46 in)

Fork oil	760 ml (25.7 fl. oz.)	Fork oil (SAE 5) (☛ p. 164)

Shock absorber part number	15.18.7E.09
Shock absorber	**WP Suspension** 4618 with **Pro-Lever** deflector
Compression damping, high-speed	
Comfort	2.5 turns
Standard	2.0 turns
Sport	1.5 turns
Full payload	1.5 turns
Compression damping, low-speed	
Comfort	25 clicks
Standard	20 clicks
Sport	15 clicks
Full payload	15 clicks
Rebound damping	
Comfort	20 clicks
Standard	15 clicks
Sport	10 clicks
Full payload	10 clicks
Spring preload	
Comfort	12 mm
Standard	12 mm
Sport	12 mm
Full payload	15 mm
Spring rate	
Weight of rider: 75... 85 kg (165... 187 lb.)	70 N/mm (400 lb/in)
Spring length	185 mm (7.28 in)

Gas pressure	10 bar (145 psi)
Static sag	25 mm (0.98 in)
Riding sag	60... 65 mm (2.36... 2.56 in)
Fitted length	376 mm (14.8 in)

Shock absorber fluid	Shock absorber oil (SAE 2.5) (50180342S1) (☛ p. 164)

Screw, combination instrument		1 Nm (0.7 lbf ft)	–
Screw, combination instrument holder		1 Nm (0.7 lbf ft)	–
Remaining screws, chassis	M4	4 Nm (3 lbf ft)	–
Screw, side stand switch	M4	2 Nm (1.5 lbf ft)	**Loctite® 243™**
Remaining screws, chassis	M5	4 Nm (3 lbf ft)	–
Screw, footbrake pedal foothold	M5	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, fuel level indicator	M5	3 Nm (2.2 lbf ft)	–
Screw, fuel pump	M5	4 Nm (3 lbf ft)	–
Screw, plastic clamp of brake line on fork leg	M5	2 Nm (1.5 lbf ft)	–
Screw, pressure regulator	M5	4 Nm (3 lbf ft)	–
Screw, seat lock	M5	3 Nm (2.2 lbf ft)	**Loctite® 222**
Screw, side cover	M5	2 Nm (1.5 lbf ft)	–
Screw, starter cable on starter	M5	3 Nm (2.2 lbf ft)	–
Lower radiator bracket nut	M6	5 Nm (3.7 lbf ft)	–
Remaining nuts, chassis	M6	15 Nm (11.1 lbf ft)	–
Remaining screws on fuel tank	M6	6 Nm (4.4 lbf ft)	–
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)	–
Screw, ball joint of push rod on foot-brake cylinder	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, battery holder	M6	3 Nm (2.2 lbf ft)	–
Screw, brake fluid reservoir of rear brake	M6	5 Nm (3.7 lbf ft)	–
Screw, bug spoiler	M6	7 Nm (5.2 lbf ft)	–
Screw, control unit holder	M6	3 Nm (2.2 lbf ft)	–
Screw, footbrake cylinder	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**

Screw, fuel tap	M6	Tightening sequence: tighten in parallel 6 Nm (4.4 lbf ft)	–
Screw, headlight mask	M6	5 Nm (3.7 lbf ft)	–
Screw, horn	M6	6 Nm (4.4 lbf ft)	**Loctite® 243™**
Screw, license plate holder	M6	8 Nm (5.9 lbf ft)	–
Screw, lower radiator bracket	M6	5 Nm (3.7 lbf ft)	–
Screw, magnetic holder on side stand	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, side stand bracket	M6	10 Nm (7.4 lbf ft)	**Loctite® 243™**
Screw, SLS valve	M6	6 Nm (4.4 lbf ft)	–
Screw, voltage regulator/rectifier	M6	8 Nm (5.9 lbf ft)	–
Nut, manifold on cylinder head	M8	25 Nm (18.4 lbf ft)	Copper paste
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Remaining nuts, chassis	M8	30 Nm (22.1 lbf ft)	–
Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	–
Screw, bottom triple clamp	M8	15 Nm (11.1 lbf ft)	–
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	–
Screw, front brake disc	M8	30 Nm (22.1 lbf ft)	**Loctite® 243™**
Screw, fuel tank bracket	M8	15 Nm (11.1 lbf ft)	–
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	–
Screw, handrail	M8	6 Nm (4.4 lbf ft)	–
Screw, ignition lock	M8		**Loctite® 243™**
Screw, linkage bracket, front engine bracket	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, main silencer fixation	M8	25 Nm (18.4 lbf ft)	–

Screw, manifold on main silencer	M8	25 Nm (18.4 lbf ft)	Copper paste
Screw, rear brake disc	M8	30 Nm (22.1 lbf ft)	**Loctite® 243™**
Screw, rear footrest bracket	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, side stand bracket	M8	25 Nm (18.4 lbf ft)	**Loctite® 243™**
Screw, spring holder on side stand bracket	M8	15 Nm (11.1 lbf ft)	**Loctite® 243™**
Screw, steering stem	M8	20 Nm (14.8 lbf ft)	–
Screw, top triple clamp	M8	12 Nm (8.9 lbf ft)	–
Screw, upper subframe	M8	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Engine carrying screw	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Remaining nuts, chassis	M10	50 Nm (36.9 lbf ft)	–
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	–
Screw, bottom shock absorber	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Screw, foot brake pedal	M10	25 Nm (18.4 lbf ft)	–
Screw, handlebar support	M10	20 Nm (14.8 lbf ft)	–
Screw, side stand	M10	35 Nm (25.8 lbf ft)	**Loctite® 243™**
Screw, top shock absorber	M10	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Screw, front brake caliper	M10x1.25	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Screw, lower subframe	M10x1.25	45 Nm (33.2 lbf ft)	**Loctite® 243™**
Lambda probe	M12x1.25	24.5 Nm (18.07 lbf ft)	–
Nut, frame to linkage lever	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, linkage lever on swingarm	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, linkage lever to rocker arm	M14x1.5	100 Nm (73.8 lbf ft)	–
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)	–

Screw, steering head	M20x1.5	12 Nm (8.9 lbf ft)	–
Adjusting ring of swingarm bearing	M24x1.5	25 Nm (18.4 lbf ft)	–
Screw, front wheel spindle	M24x1.5	40 Nm (29.5 lbf ft)	–
Nut, rear wheel spindle	M25x1.5	90 Nm (66.4 lbf ft)	–

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 (in countries with high temperatures also). 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/antifreeze 50 % Distilled water

Coolant (mixed ready to use)

Antifreeze	−40 °C (−40 °F)

Supplier
Motorex®
– **Anti Freeze**

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

According to

- JASO T903 MA (☛ p. 168)
- SAE (☛ p. 168) (SAE 10W/60)
- KTM LC4 2007+

Guideline

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

Synthetic engine oil

Supplier
Motorex®

- **Motorex® KTM Cross Power 4T**

Engine oil (SAE 10W/50)

According to

- JASO T903 MA (☛ p. 168)
- SAE (☛ p. 168) (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.

Fully synthetic engine oil

Supplier
Motorex®

- **Power Synt 4T**

Fork oil (SAE 5)

According to

– SAE (☛ p. 168) (SAE 5)

Guideline

– Use only oils that comply with the specified standards (see specifications on the container) and that possesses 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. 168) (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)

Chain cleaner

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chain Clean 611**

Cleaning and polishing materials for metal, rubber and plastic

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Protect & Shine 645**

Contact spray

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Accu Contact**

High-luster polish for paint

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Moto Polish**

Long-life grease

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Fett 2000**

Motorcycle cleaner

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Moto Clean 900**

Onroad chain spray

Specification

– KTM recommends **Motorex®** products.

Supplier
Motorex®

– **Chain Lube 622 Strong**

Universal oil spray

Specification

– 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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10/2008 Photo: Mitterbauer

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