KTM
SPORTMOTORCYCLES

BEDIENUNGSANLEITUNG

OWNERS HANDBOOK
MANUALE D'USO
MANUEL D'UTILISATION
MANUAL DE INSTRUCCIONES

2002

Art.Nr. 3.210.22 10/2001

IMPORTANT

WE STRONGLY SUGGEST THAT YOU READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE GOING ON YOUR FIRST RIDE. IT CONTAINS A GREAT DEAL OF INFORMATION AND ADVICE WHICH WILL HELP YOU USE AND HANDLE YOUR BIKE PROPERLY. IN YOUR OWN INTEREST, PLEASE PAY PARTICULAR ATTENTION TO NOTICES THAT ARE MARKED AS FOLLOWS:

⚠ WARNING ⚠

IGNORING THESE INSTRUCTIONS, CAN ENDANGER YOUR BODY AND YOUR LIFE.

! CAUTION !

IGNORING THESE INSTRUCTIONS COULD CAUSE DAMAGE TO PARTS OF YOUR MOTORCYCLE OR THAT THE MOTOR-CYCLE IS NOT ROAD-SAFE ANYMORE.

Please insert the series numbers of your motorcycle in the boxes below

Chassis number

Engine number

Stamp of dealer

CONSUMER INFORMATION FOR AUSTRALIA ONLY

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

Owners are warned that the law may prohibit:

(a) The removal or rendering inoperative by any person other than for purposes of maintenance, repair or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use; and

(b) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Introduction

We would like to congratulate you on your purchase of a KTM motorcycle.

You are now the owner of a state-of-the-art sports motorcycle that guarantees to bring you lots of fun and enjoyment, provided that you clean and maintain it appropriately. **Before you go for your first ride, be sure to read this manual carefully and thoroughly in order to familiarize yourself with how to operate your new motorcycle and with its characteristics, even if this means that you have to dedicate some of your valuable time to this task. Only by doing so will you learn how to tune your motorbike to your specific needs and how to protect yourself against injury. Besides, this manual contains important information on motorcycle maintenance.** At the time this manual was typeset, it was up-to-date with the latest state of this production series. It cannot be completely ruled out, however, that there may exist minor discrepancies resulting from further design upgrades of these motorcycles.
This manual is an important part of your motorbike and should be passed on to any subsequent owner in case you decide to sell it.

Many motorcyclists have a good working knowledge of motorcycle mechanics; if this is true in your case, you will be able to use this manual to carry out most of the maintenance steps yourself. If, on the other hand, you are not very familiar with motorcycles, it might be better to have a professional KTM dealer perform those steps marked * described in the chapter entitled "Maintenance Work on Chassis and Engine" of this manual.

For your own safety use only KTM-approved parts and accessories. KTM is not liable for damage that arises in connection with the use of other products.

Take special care to follow the recommended run in, inspection, and maintenance intervals. Heeding these guidelines will significantly increase the life of your motorcycle. Have services carried out by a KTM dealer so that your warranty claim remains intact.
Contact a specialized KTM workshop supported by the KTM importer if you have any special wishes. Please remember to wear a helmet, protective glasses and protective clothing while driving. KTM drivers are considerate drivers.

We wish you a lot of fun when driving !

TÜV MANAGEMENT SERVICE ISO 9001
REG.NO. 12 100 6061

KTM Austria's certificate of achievement for its Quality System ISO 9001 is the beginning of an on-going total re-engineering quality plan for a brighter tomorrow.

KTM SPORTMOTORCYCLE AG
5230 MATTIGHOFEN, AUSTRIA

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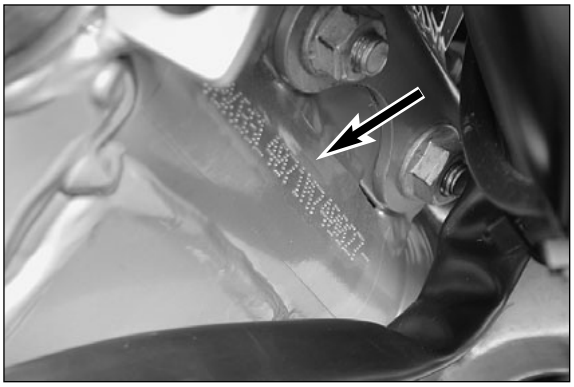
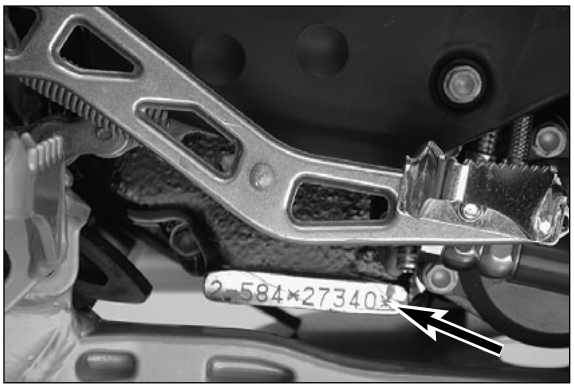


SERIAL NUMBER LOCATIONS

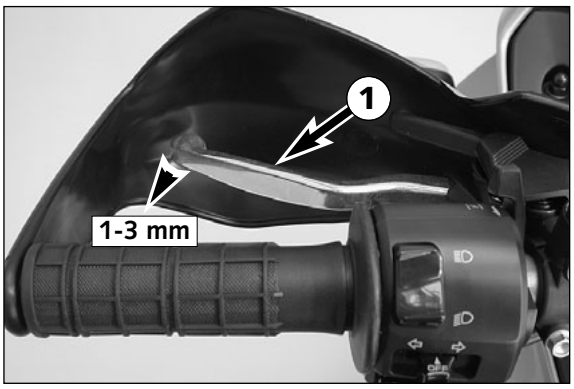
Chassis number

The chassis number is stamped on the right side of the steering head tube. Write this number into the relevant area on page 1.



Engine number, engine type

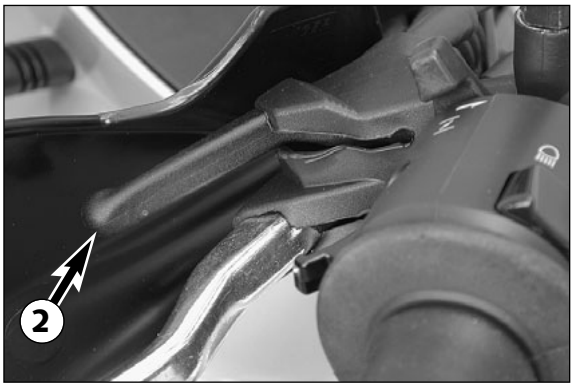
The engine number and engine type are stamped on the right hand side of the engine below the chain sprocket. Write this number into the relevant area on page 1.



OPERATION INSTRUMENTS

Clutch lever

The clutch lever ❶ is fitted on the left hand side of the handle bar. When engine is cold, there should allways be a play of 1–3 mm (0,04–0,1 in) at this lever (measured at outer edge).

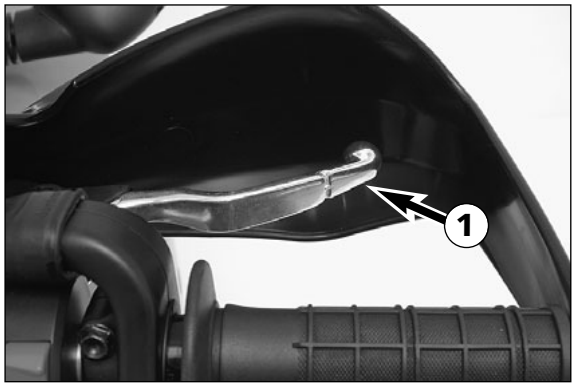


Hand decompression lever

The hand decompression lever ❷ is only used in two special cases:

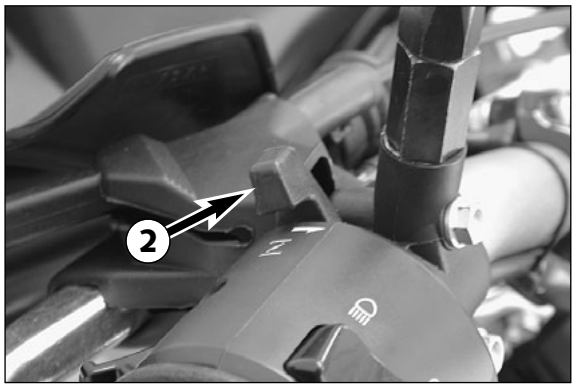
a) When the engine stalled.
It is possible that the starter motor is not able to crank the engine on the next attempt. This is due to the fact that the automatic decompressor doesn't work properly. If this happens, pull the manual decompression lever and start again. Afterwards normal starting will be possible.

b) When you want to push the motorcycle.
While pushing, pull the hand decompression lever to make it easier to get the engine going.



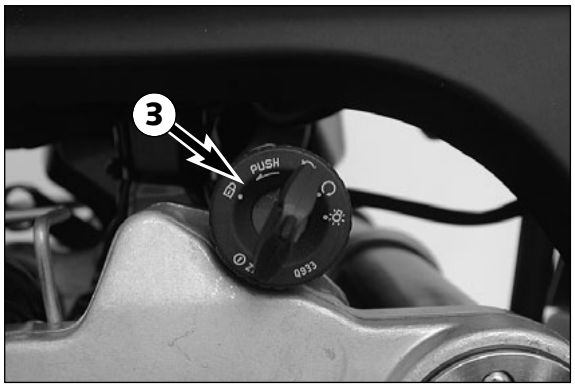
Hand brake lever

The hand brake lever ❶ is mounted on the handlebar on the right and actuates the front wheel brake.



Choke lever

If the choke lever ❷ is pulled backwards, a bore will be opened in the carburetor through which the engine may draw in additional fuel. This produces a „rich“ fuel/air mixture necessary for cold start. If the choke lever is pushed forward up to the stop, the bore will be closed again. In this position the choke cable must have a play of approx. 2 mm.



Ignition lock with 4 switch positions

Switch positions of ignition lock ❸:

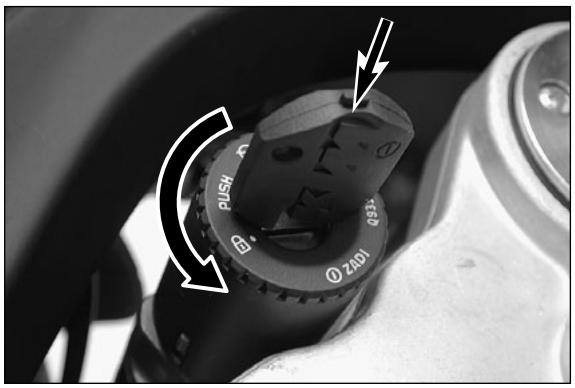
Ignition off, light off (engine can't be started)

Ignition on, light off (engine can be started)

Ignition on, light on (engine can be started)

Ignition off, light off, handlebar blocked
To switch the ignition to position 🔒 turn the ignition key to position ⊠ and firmly press it into the lock. Turn the handlebar all the way to the left, then turn the ignition key to the left.

The ignition key can be withdrawn in position ⊠ and 🔒.



Ignition lock with 3 switch positions

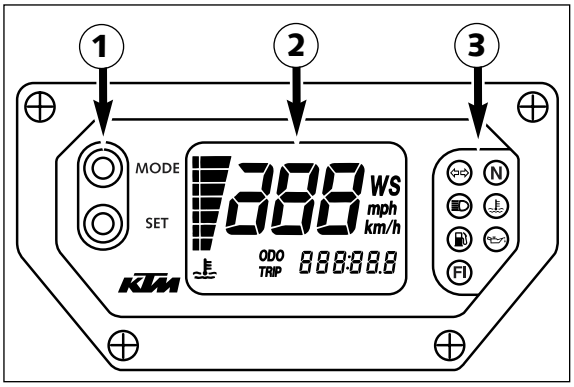
Switch positions of ignition lock ❸:

Ignition off, light off (engine can't be started)

Ignition on, light on (engine can be started)

Ignition off, light off, handlebar blocked
To switch the ignition to position 🔒 turn the ignition key to position ⊠ and firmly press it into the lock. Turn the handlebar all the way to the left, then turn the ignition key to the left.

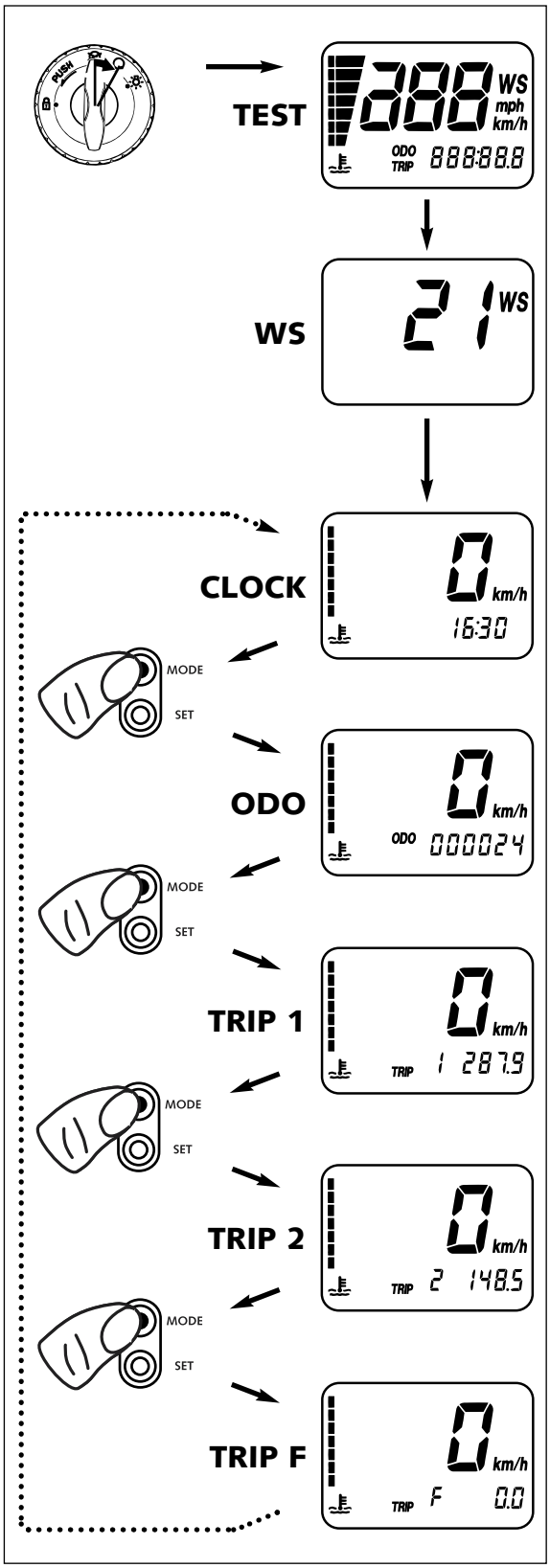
The ignition key can be withdrawn in position ⊠ and 🔒.



Multi-functional digital speedometer

The universal instrument is divided into 3 parts.
Use the MODE and SET ❶ button to change the display and the basic settings in the display.
Display ❷ shows all of the information that may be of interest to you. 5 display modes can be selected with the MODE button.

The indicator lamps ❸ provide additional information on the motorcycle's running condition.



Display

TEST
When you switch on the ignition, all of the display elements will light up for 1 second for the function test.

WS (wheel size)
The display will change and show the diameter of the front wheel in inches for 1 second (WS = wheel size).
Then the CLOCK mode will be displayed, or the mode that was active when the ignition was switched off.

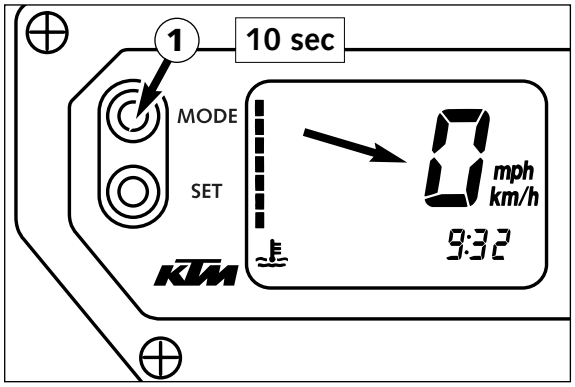
CLOCK
You will recognize the CLOCK display by the blinking dots between the hours and minutes. It displays the speed, temperature of the cooling liquid and the clock.
To switch to the next display mode, press the MODE button.

ODO
The speed, temperature of the cooling liquid and the total kilometers or miles traveled are shown in the ODO mode.
To switch to the next display mode, press the MODE button.

TRIP 1
The TRIP 1 mode shows the speed, the temperature of the cooling liquid and the trip odometer 1.
To switch to the next display mode, press the MODE button.

TRIP 2
The TRIP 2 mode shows the speed, the temperature of the cooling liquid and the trip odometer 2.
To switch to the next display mode, press the MODE button.

TRIP F
The TRIP F (fuel) mode shows the speed, the temperature of the cooling liquid and the distance traveled since reaching the low-fuel mark (the low-fuel indicator lamp will blink).
To return to the UHR mode, press the MODE button.



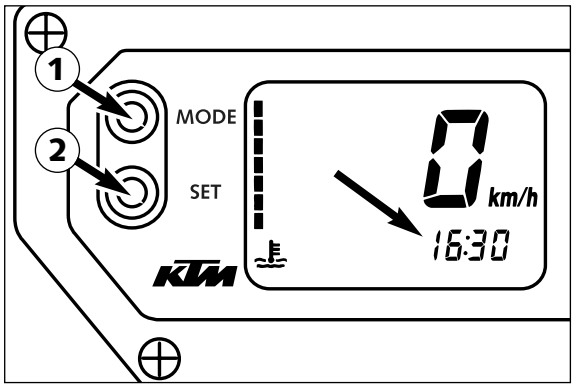
Setting options in the display

KILOMETERS OR MILES.

You can have the speed and distance shown in kilometers or miles in the display. The display can be adapted to the respective country on long-distance trips.

To switch from kilometers to miles, switch on the ignition and press the MODE ❶ button for approx. 10 seconds. The **km/h** display will switch to **mph**. The speed and the stored distances will be converted and displayed in miles.

To return to kilometers, proceed as described above.



CLOCK

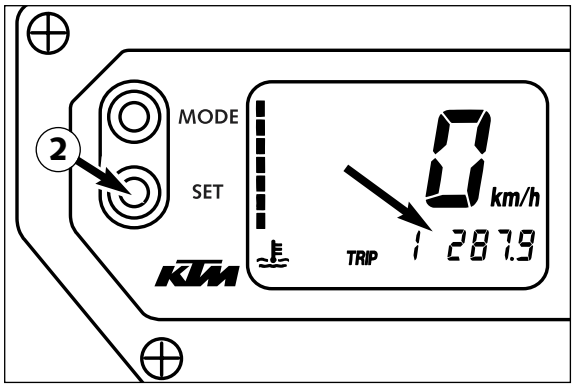
Switch on the ignition and change to the CLOCK mode.

Simultaneously press MODE ❶ and SET ❷. The numbers on the clock will start to blink. Use the MODE button to set the hours and the SET button to set the minutes.

The press the MODE and SET buttons simultaneously.

NOTE:

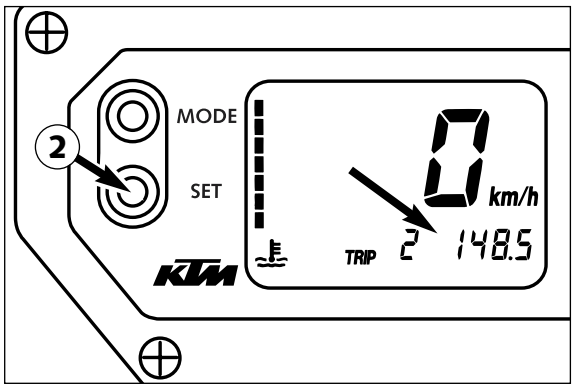
0:00 will be displayed if the clock is not supplied with electricity. This can be caused by a defective fuse or a fault in the board electric system (see Troubleshooting).



TRIP 1

The trip meter 1 runs continuously and counts up to 999.9. It can be used to measure the length of a certain route on a trip or the distance between two refueling stops.

To return the trip meter 1 to zero, switch on the ignition, change to the TRIP 1 mode and press the SET button.



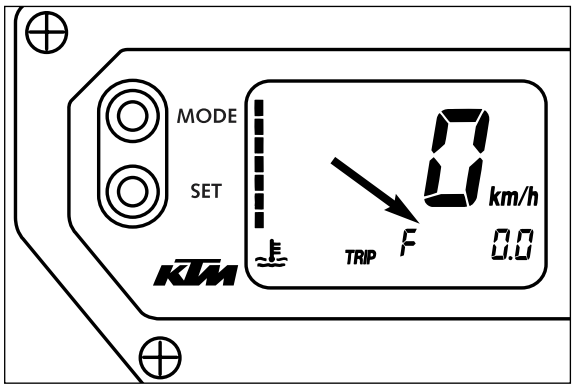
RESETTING TRIP 2

The trip meter 2 runs continuously and counts up to 999.9. It can be used similarly to TRIP 1 or together with a switch available as an accessory (see below) for trips according to a roadbook.

To return the trip meter 2 to zero, switch on the ignition, change to the TRIP 2 mode and press the SET button.

NOTE

A Tripmaster switch (Part no. 582.14.069.044) is available as an accessory and enhances the trip meter 2 functions. You can correct the displayed route by increasing or decreasing in increments of 0.1. For example, if you have taken the wrong road when driving according to a roadbook, you can easily correct the display to correspond to the roadbook again. It can also be used to change the display modes. The switch is mounted on the handlebars so that you can keep your hands on the handlebars.



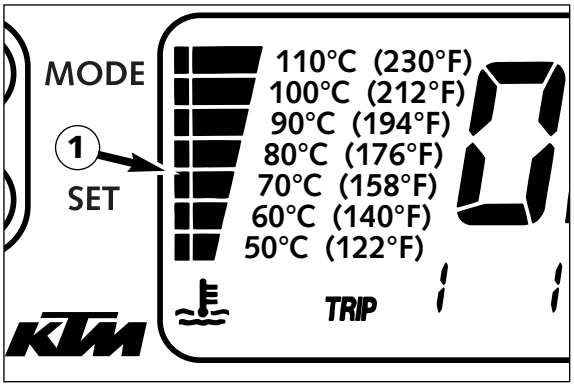
TRIP F

When the fuel level reaches the reserve mark, the display will automatically switch to TRIP F and begin to count (no matter which display mode was active before). At the same time, the fuel warning lamp will start to blink. You will still have enough reserve fuel for at least 35 kilometers.

After refueling, it will take approx. 3 minutes for TRIP F to automatically reset to 0 and return to the previous display mode.

NOTE:

To use up the reserve fuel in the tank, move the fuel cock to the RES position by hand.

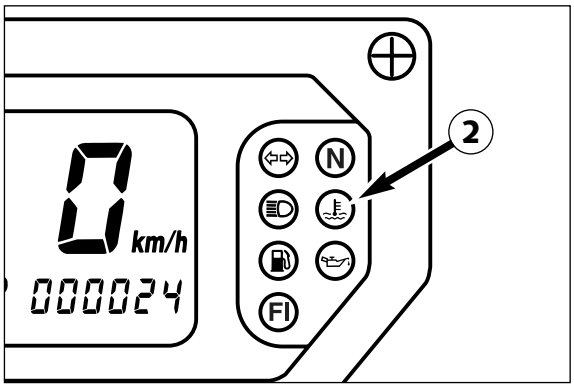


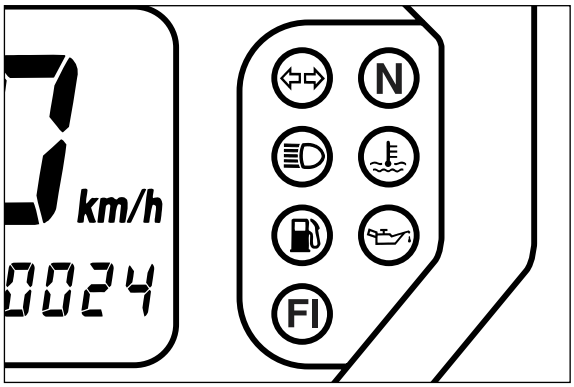
Cooling liquid temperature display

The temperature display ❶ is shown in 7 bars. The more bars that light up, the hotter the cooling liquid. When the lowest bar lights up, the cooling liquid has reached a temperature of approx. 50°C. Each additional bar represents 10°C more. When the upper bar lights up, all of the bars will start to blink and the red warning lamp ❷ will light up.

⚠ WARNING ⚠

POSSIBLE CAUSES FOR AN INCREASE IN TEMPERATURE, CAUSING THE RED WARNING LIGHT FOR THE COOLING LIQUID TEMPERATURE TO LIGHT UP (ALSO SEE PAGE 32):
– DRIVING TOO SLOWLY AND DRIVING WITH A HEAVY LOAD AT HIGH AIR TEMPERATURES
– NOT ENOUGH COOLING LIQUID IN THE SYSTEM
– THE VENTILATOR ON THE LEFT RADIATOR IS NOT RUNNING
– IMPROPER USE OF THE CLUTCH WHEN DRIVING SLOWLY





Indicator lamps

The green indicator lamp will blink in the blinker rhythm when the blinker is switched on.
NOTE:
The indicator lamp will blink slower when a blinker is broken.

The green indicator lamp will light up when the gearbox is in an idling position.

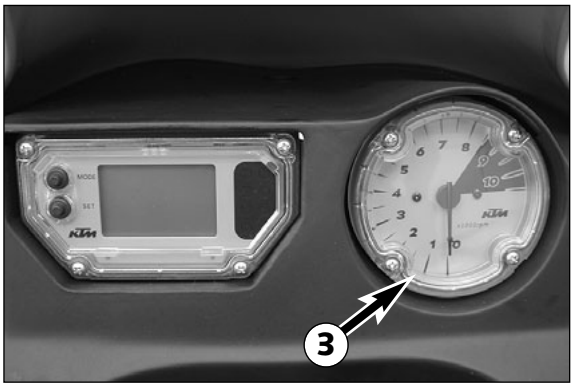
The blue indicator lamp will light up when the high beams are switched on.

The red warning light will light up when the cooling liquid has reached a temperature of approx. 110°C.

The orange warning light will start to blink when the fuel level has reached the reserve mark. At the same time the display will automatically change to TRIP F (see TRIP F).

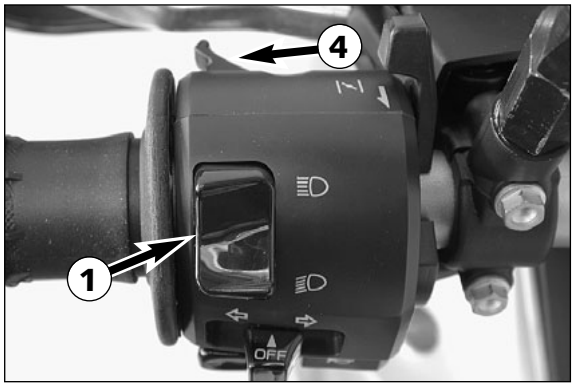
This warning light has no function.

This indicator lamp has no function.



Tachometer

The tachometer ❸ shows the engine speed in revolutions per minute (rpm). Do not push the engine into the red zone, which begins at 8500 rpm.



Combination switch

The rocker switch LIGHTS ❶ actuates the high beam or low beam.

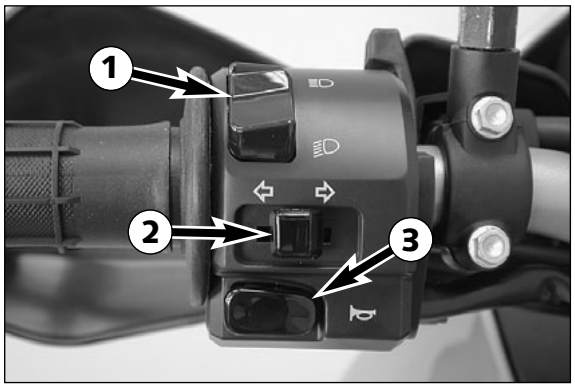
= High-beam light

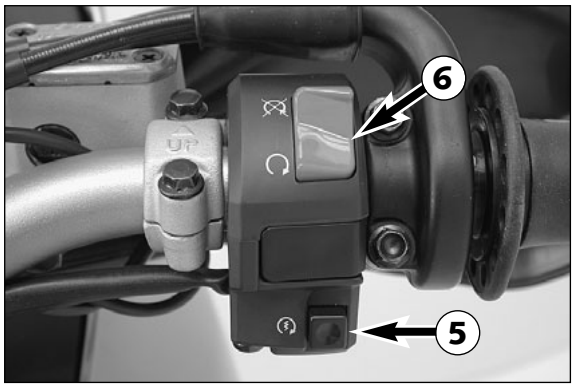
= Low-beam light

The indicator switch ❷ returns to central position after actuation. Press flasher switch towards switch housing to switch off the flasher.

The horn is sounded with button ❸.

The light signal (high beam) is actuated with button ❹.

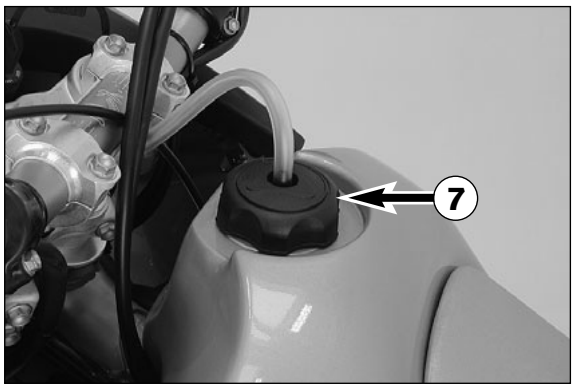




Starter tip switch, emergency OFF tip switch

Use the starter tip switch ❺ to operate the electric starter.

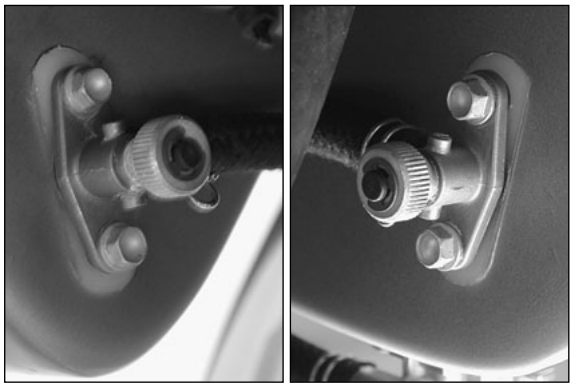
The emergency off switch ❻ is provided for emergency situations and should not be used to switch off the engine.
The engine is ready for operation in position ⟳ (ignition circuit and starter circuit are switched on).
The engine cannot be started in position ⊠ (ignition circuit and starter circuit are interrupted).



Filler cap

To open: Turn the filler cap ❼ anti-counterclockwise.

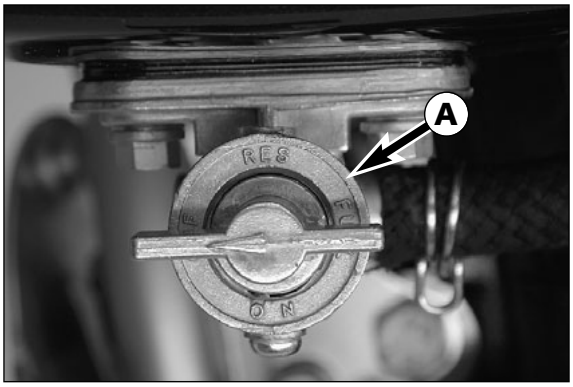
To close: Screw on the filler cap clockwise.



Fuel taps

The motorcycle is equipped with a fuel taps and 2 auxiliary fuel cocks. A fuel pump pumps the fuel from the tank to the carburetor.
The auxiliary fuel cocks on the inside of the tank are connect the two tank chambers via a line. They must always be open.
Open position: turn the knob to the limit in a counter-clockwise direction.

NOTE:
Only close the two auxiliary fuel cocks when you remove the fuel tank (see chapter on removing the tank).



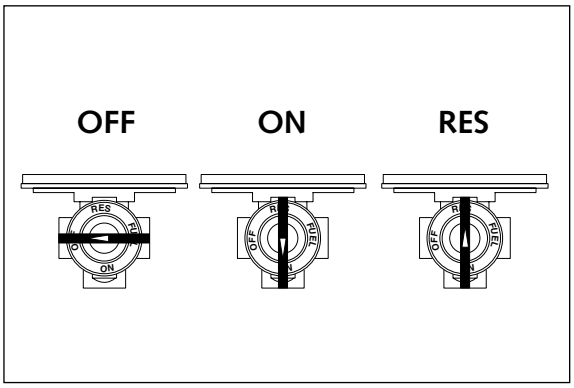
Fuel tap ❶ on the left side of the tank has 3 positions.

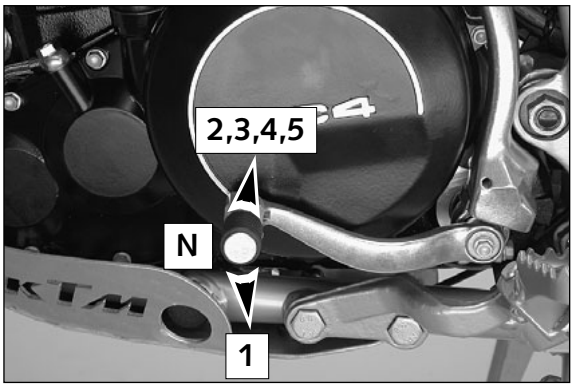
OFF In this position the fuel tap is closed. No fuel can flow to the carburetor.

ON When using the motorcycle, the twist grip must be set to the **ON** position. Now fuel can flow to fuel pump. In this position the tank empties down to the fuel reserve of approx. 2,0 liters (0,5 US gallone).

RES The reserve, approximately 2,0 liters (0,5 US gallone), cannot be tapped until the twist grip is turned to the **RES** position. Fill the tank as soon as possible and remember to turn the twist grip back to the **ON** position so that you will have backup fuel next time, too.

NOTE:
The fuel tap must be open during operation. The fuel tap must be closed for parking.



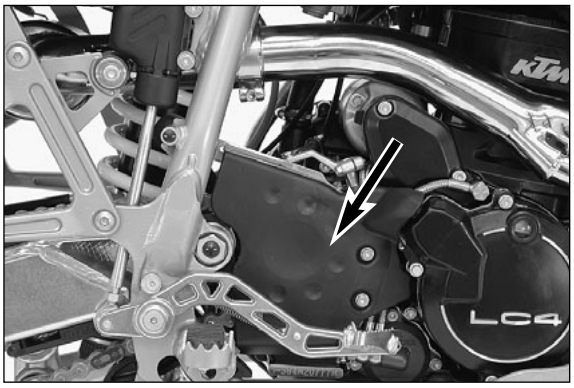


Shift lever

The shift lever is mounted on the left side of the engine. The position of the gears is shown in the illustration. Neutral, or the idle speed, is located between first and second gear.

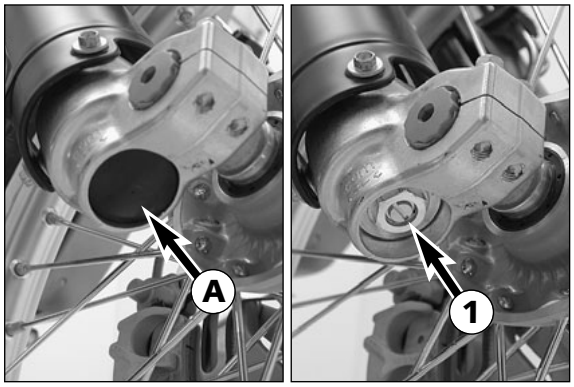
Kickstarter

The kickstarter is mounted on the left side of the engine. Its upper part can be swivelled.



Foot brake pedal

The foot brake pedal is located in front of the right footrest. Its basic position can be adjusted to your seat position (see maintenance work).

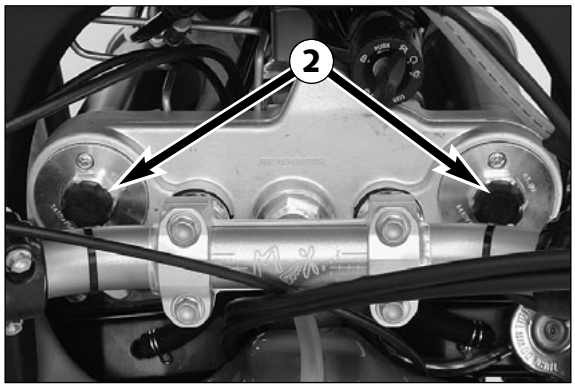


Compression damping of fork

The compression damping is to be set at the lower end of the fork tubes. It only regulates the degree of damping during compression.Remove closing cap ❹. By using the knob ❶ (COM), the degree of damping of the compression can be adjusted. Turn the knob clockwise to increase damping, turn it counterclockwise to reduce damping during compression.

BASIC SETTING
- turn rotary knob clockwise as far as it will go
- turn it back counter-clockwise by as many clicks as are specified for the relevant type of fork

WP 1418W711 . . . . . .14 clicks

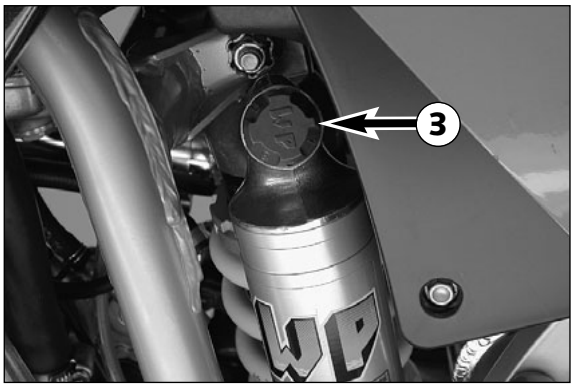


Rebound damping of fork

The rebound damping is to be set at the upper end of the fork tubes. It only regulates the degree of damping during rebounding.
By using the knob ❷ (REB), the degree of damping of the rebound can be adjusted. Turn the knob clockwise to increase damping, turn it counterclockwise to reduce damping during rebounding.

BASIC SETTING
- turn rotary knob clockwise as far as it will go
- turn it back counter-clockwise by as many clicks as are specified for the relevant type of fork

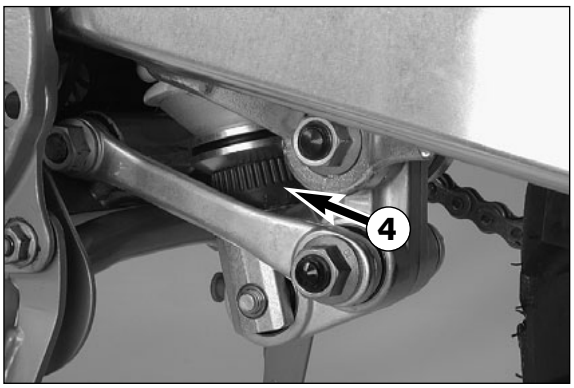
WP 1418W711 . . . . . .14 clicks



Compression damping of shock absorber

With the knob ❸ the degree of damping of the compression can be adjusted to 7 positions. Turn the knob counterclockwise to increase damping, turn it clockwise to reduce damping during compression.

BASIC SETTING
WP 0118W715 . . . . . .position 6



Rebound damping of shock absorber

With the setting wheel ❹ the degree of damping of the rebound can be adjusted to 11 positions. Turn the knob to the left side to increase damping, turn it to the right side to reduce damping during rebounding.

BASIC SETTING:
WP 0118W715 . . . . . .position 7

Baggage carrier

The baggage carrier may be loaded with up to 10 kg. The two lateral hoops serve as handles for the passenger

GENERAL TIPS AND WARNINGS FOR STARTING THE MOTORCYCLE

Instructions for initial operation

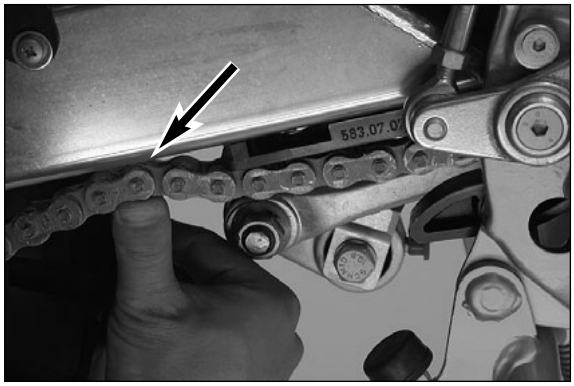
- Verify that your KTM dealer performed the PREPARATION OF VEHICLE jobs (see Customer Service Manual).
- Read the entire manual carefully before your first drive.
- Familiarize yourself with the operating elements.
- Adjust the foot brake pedal to the most comfortable positions for you.
- Make the basic settings on the multi-functional digital speedometer.
- Get used to handling the motorcycle on an empty car park, before starting on a longer drive. Also try to drive as slowly as possible and in standing position, to improve your feeling for the vehicle.
- Do not drive along off-road tracks which go beyond your ability and experience.
- Hold the handlebar with both hands and leave your feet on the foot rests while driving.
- Remove your foot from the foot brake pedal when you are not braking. If the foot brake pedal is not released the brake pads rub continuously and the braking system is overheated.
- You may only be accompanied by a passenger if your motorcycle is fitted and registered for such purposes. The passenger must hold tight to the brackets or hold on to the driver during the drive, with his feet on the passenger foot rests.
- Do not make any alterations to the motorcycle and always use ORIGINAL KTM SPARE PARTS. Spare parts from other manufacturers can impair the safety of the motorcycle.
- New tires have a smooth surface and must be run in. For this purpose, carefully ride the motorcycle at moderate speed, tilting the vehicle at different angles so that the surface is evenly roughened. Tires will not display their full grip characteristics before they are properly run in.
- Motorcycles are sensitive to alterations in the distribution of weight. If you are taking luggage with you, this should be secured as close as possible to the middle of the vehicle; distribute the weight evenly between the front and rear wheel. Never exceed the maximum permissible laden weight and the axle weights. The maximum permissible laden weight is made up of the following components:
  - Motorcycle ready for operation and tank full
  - Luggage
  - Driver and passenger with protective clothing and helmet.
- Pay attention to running in instructions.

Running in

Even finely machined surfaces of engine parts have rougher surfaces than parts that slide on each other for a long time. Therefore, every engine must be run in. For this reason, do not demand maximum performance from the engine for the first 100 kilometers. The vehicle must be run in at low, changing performance level for the first 1000 KM (620 miles). The maximum number of revolutions per minute must not go exceed 4800 rpm. Do not accelerate the engine up to the red mark on the tachometer (8500 r.p.m.) during a running-in period of 1000 km. Exceeding the above listed rotations as well as pushing high rpm when the engine is cold will have an adverse effect on the life of your engine.

⚠ WARNING ⚠

- Wear suitable clothing when driving a motorcycle. Clever KTM drivers always wear a helmet, boots, gloves and a jacket, regardless of whether driving all day or just for a short trip. The protective clothing should be brightly coloured so that other users of the roads can see you as early as possible. Your passenger of course will also need suitable protective clothing.
- Always turn on the light make sure that other drivers become aware of you as early as possible.
- Do not drive after having consumed alcohol.
- Only use accessories that have been released by KTM. For example, front panelling can impair the driving properties of the motorcycle. Cases, extra tanks etc. can alter the weight distribution and thus also impair the vehicle's driving properties.
- The front and rear wheel are only allowed to be tired with tires that have the same profile type.
- Observe the traffic regulations, drive defensively and trying to look ahead as far as possible so that any hazards can be recognized as early as possible.
- Adjust your driving speed according to the conditions and your driving skills.
- Drive carefully on unknown roads
- Replace the helmet visor respectively goggle glasses in plenty of time. When light shines directly on scratched visor or goggles, you will be practically blind.
- Never leave your motorcycle without supervision as long as the engine is running.



Check the following before each start

When you start off, the motorcycle must be in a perfect technical condition. For safety reasons, you should make a habit of performing an overall check of your motorcycle before each start.

The following checks should be performed:

1 CHECK THE OIL LEVEL
Insufficient oil results in premature wear and consequently to engine damage.

2 FUEL
Check that there is sufficient fuel in the tank; when closing the filler cap, check that the tank venting hose is free of kinks.

3 CHAIN
A loose chain can fall off; an extremely worn chain can tear, and insufficient lubrication can result in unnecessary wear to the chain and rear sprockets.

4 TIRES
Check for damaged tires. Tires showing cuts or dents must be replaced. The tread depth must comply with the legal regulations. Also check the air pressure. Insufficient tread and incorrect air pressure reduce the driving performance.

5 BRAKES
Check correct functioning of the braking system. Check for sufficient brake fluid in the reservoir. The reservoirs have been designed in such a way that brake fluid does not need to be refilled even when the brake pads are worn. If the level of brake fluid falls below the minimum value, this indicates a leak in the braking system or completely worn out brake pads. Arrange for the braking system to be checked by a KTM specialist garage, as complete failure of the braking system can be expected.
Also check the state of the brake hoses and the thickness of the brake linings.
Check free travel at hand brake lever and foot brake pedal.

⚠ WARNING ⚠

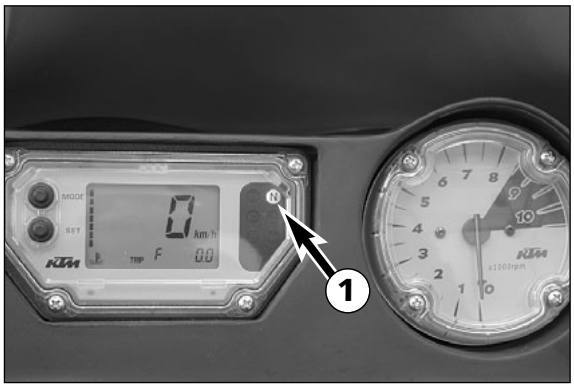
IF THE RESISTANCE IN THE HAND BRAKE LEVER OR FOOT BRAKE PEDAL FEELS "SPONGY" (TOO MUCH GIVE), THIS IS AN INDICATION THAT SOMETHING IS WRONG WITH THE BRAKE SYSTEM. DON'T RIDE YOUR MOTORCYCLE ANYMORE WITHOUT FIRST HAVING THE BRAKE SYSTEM LOOKED OVER BY A KTM DEALER.

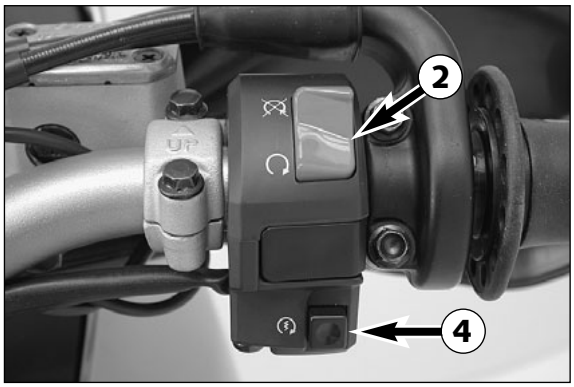
6 CABLES
Check correct setting and easy running of all control cables.

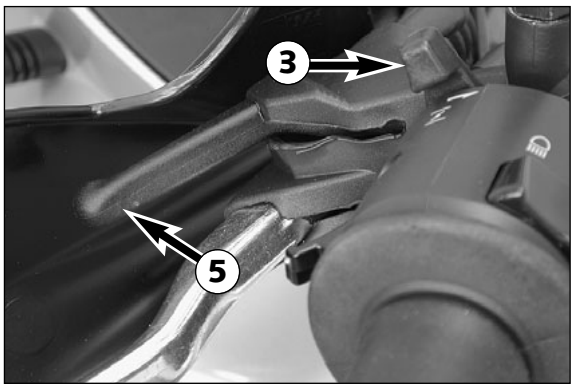
7 COOLING LIQUID
Check the level of cooling liquid when the engine is cold.

8 ELECTRICAL SYSTEM
Check headlight, parking light, tail light, brake light, flashers, indicator lamps and horn for faultless operation.

9 LUGGAGE
If you are taking luggage with you, check that this is securely fastened.







Starting when the engine is cold

1 Open the fuel tap.
2 Turn on the ignition (ignition key position: ○).
3 Switch the gear to neutral (green lamp ❶ lights).
4 Switch on the emergency off switch ❷.
5 Operate the choke lever ❸.
6 Operate the starter tip switch ❹ without accelerating.
7 If the engine starts, push the choke lever back a little bit, as soon as the engine runs unevenly.
8 Swing up the centerstand
9 Switch on the light before setting off. (Ignition key in position ☼).

⚠ WARNING ⚠

DO NOT START THE ENGINE AND ALLOW IT TO IDLE IN A CLOSED ROOM. EXHAUST FUMES ARE POISONOUS AND CAN CAUSE LOSS OF CONSCIOUSNESS AND DEATH. ALWAYS PROVIDE ADEQUATE VENTILATION WHILE THE ENGINE IS RUNNING.

! CAUTION !

– MAXIMUM PERIOD FOR CONTINUOUS STARTING: 5 SECONDS. WAIT AT LEAST 5 SECONDS BEFORE TRYING AGAIN.
– DON'T RIDE YOUR MOTORCYCLE WITH FULL LOAD AND DON'T REV ENGINE WHEN COLD. BECAUSE THE PISTON IS WARMING UP FASTER THAN THE WATER COOLED CYLINDER, IT CAN CAUSE ENGINE DAMAGE. ALWAYS KEEP IN MIND THAT THE ENGINE SHOULD BE WARMED UP WITH SMALL LOAD AT MEDIUM R.P.M.

IF THE ENGINE IS DOES NOT CRANK WHEN YOU ACTUATE THE STARTER TIP SWITCH:
– the transmission is switched to idle
– Check if the emergency OFF switch is on
– Check if the ignition is on
– the headlight is on (ignition lock in position ☼).
  – If this is not the case, the battery is discharged
  – If the lights are on, proceed as described in the „Trouble-shooting" section or contact a KTM dealer.

IF THE ENGINE CRANKS BUT DOES NOT START, WHEN YOU ACTUATE THE STARTER TIP SWITCH:
– Check if the fuel tap is open
– Check if the choke lever has been operated
– Check if sufficient fuel is in the tank
  – If this is not the case, refill the tank
  – if sufficient fuel is in the tank, proceed as described in the „Trouble-shooting" section or contact a KTM dealer.

NOTE:
THIS MOTORCYCLE IS EQUIPPED WITH A SAFETY STARTER SYSTEM. THE ENGINE CAN ONLY BE STARTED WHEN THE TRANSMISSION IS SWITCHED TO IDLE OR THE CLUTCH LEVER IS PULLED, RESPECTIVELY.

THE ELECTRIC STARTER DOESN'T CRANK THE ENGINE WHEN THE STARTER TIP SWITCH IS OPERATED EVEN THOUGH SUFFICIENT ELECTRIC CURRENT IS AVAILABLE:
– Pull the hand decompression lever ❺, start and release the lever.

Starting when the engine is warm or hot

1 Open the fuel tap.
2 Turn on the ignition (ignition key position: ○).
3 Switch the gear to neutral (green lamp ❶ lights).
4 Switch on the emergency off switch ❷.
5 Operate the starter switch ❹ without accelerating.
6 Swing up the centerstand
7 Switch on the light before setting off. (Ignition key in position ☼).

What to do when the engine is „flooded"

The throttle must be fully opened when starting. If necessary change spark plug.

Kickstart instructions

Start as described above, then push the kickstarter hard all the way.

⚠ WARNING ⚠

- If you want to start the engine, make sure that you always put on sturdy motorcycle boots in order to avoid injuries. You might slip off the kickstarter, or the engine may kick back the Kickstarter.
- Always kick kickstarter briskly all the way without opening the throttle. Kicking the kickstarter with not enough momentum, and an opened throttle grip increase the kick-back hazard.

Starting off

Pull the clutch lever. Put the engine into first gear, slowly release the clutch lever and open throttle at the same time.

⚠ WARNING ⚠

Before you start off, check that the center stand has been swung right up to the top. If the stand drags on the ground, the motorcycle can go out of control.

Shifting/Riding

You are now in first gear, refered to as the drive or uphill gear. Depending on the conditions (traffic, road gradient, etc.), you can shift to a higher gear. Close throttle, at the same time pull clutch lever and shift to the next higher gear. Let clutch lever go again and open throttle. If you turned on the choke, make sure you turn it off again as soon as engine is warm.
When you reach full speed through turning the throttle grip all the way, turn throttle back to 3/4; the speed hardly decreases although the engine will use less gas. Never open the throttle wider than the engine can handle. Excessive turning of the throttle grip will increase full consumption.
By shifting down, use the brakes if necessary and close throttle at the same time. Pull clutch lever and shift down to the next gear. Let clutch lever go slowely and open throttle or shift down again.
If the engine is killed f.ex. at a crossing, simply pull the clutch lever and start. It is not necessary to switch the gear to NEUTRAL.

⚠ WARNING ⚠

- Avoid abrupt load cycles in curves and on wet or slippery roads. Otherwise, the motorcycle could easily get out of control.
- Never turn the ignition key to position ⊠ or 🔒 while the motorcycle is moving.
- Do not try to change the settings while driving. Your attention will be distracted from the traffic and may cause you to lose control of your motorcycle.
- After falling with the motorcycle, check all functions thoroughly before starting up operations again.

! CAUTION !

- High rpm rates when the engine is cold have an adverse effect on the life of your engine. We recommend you run the engine in a moderate rpm range for a few miles giving it a chance to warm up. After that no further precautions in this respect need be taken.
- Shift to the next higher gear by 8500 rpm at the latest.
- Never have the throttle wide open when changing down to a lower gear. The engine will overspeed, damaging the valves. In addition, the rear wheel blocks so that the motorcycle can easily get out of control.
- If the red cooling liquid temperature lamp lights up while you are driving, this indicates cooling system trouble. Immediately stop and turn off the engine. Driving with the warning lamp on will cause engine damage.
  - Place a cloth on the radiator cap. Open the cap slowly, so the excess pressure in the cooling system can escape. CAUTION SCALDING HAZARD! - and check the cooling liquid level.
  - Do not drive on, until there is sufficient liquid in the cooling system. However, call on one of KTM's dealers as soon as possible in order to have the defect remedied.
- If any abnormal vibrations occur while driving, check that the engine fastening screws are tight.
- In the event that, while riding your motorcycle, you notice any unusual operation-related noise, stop immediately, turn the engine off, and contact an authorized KTM dealer.

Braking

Close throttle and apply the hand and foot brakes at the same time. When driving on sandy, wet or slippery ground use mainly the rear wheel brake. Always brake with feeling, blocking wheels can cause you to skid or fall. Also change down to lower gears depending on your speed.
When driving downhill, use the braking effect of the engine. Change down one or two gears but do not overspeed the engine. In this way, you will not need to brake so much and the brakes will not overheat.

⚠ WARNING ⚠

- Delayed brake action must be expected due to wet brake disks during rainy weather or after cleaning of the motorcycle. In this case, repeatedly apply the brakes until they are dry.
- Delayed brake action can also occur on salted or dirty roads. In this case, repeatedly apply the brakes to remove the dirt.
- When you brake, the brake discs, brake pads, brake caliper and brake fluid heat up. The hotter these parts get, the weaker the braking effect. In extreme cases, the entire braking system can fail.

Stopping and parking

Apply the brakes fully and put the engine into neutral. To stop the engine, switch off the ignition. Close fuel tap. Park on solid ground and lock the vehicle.

⚠ WARNING ⚠

– MOTORCYCLE ENGINES PRODUCE A GREAT AMOUNT OF HEAT WHILE RUNNING. THE ENGINE RADIATORS, EXHAUST, EXHAUST SYSTEM, BRAKE DISCS, AND SHOCK ABSORBERS CAN BECOME VERY HOT. DO NOT TOUCH ANY OF THESE PARTS AFTER OPERATING THE MOTORCYCLE, AND TAKE CARE TO PARK IT WHERE PEDESTRIANS ARE NOT LIKELY TO TOUCH IT AND GET BURNED.
– NEVER PARK YOUR MOTORCYCLE IN PLACES WHERE THERE EXIST FIRE HAZARDS DUE TO DRY GRASS OR OTHER EASILY FLAMMABLE MATERIALS.

! CAUTION !

– PARK YOUR MOTORCYCLE, SO THAT IT RESTS STABLY ON THE SIDESTAND (HARD GROUND, LEVEL SURFACE) AND CAN'T TIP OVER.
– DO NOT LEAVE THE PARKING LIGHT ON FOR MORE THAN THREE HOURS WITH THE ENGINE OFF. OTHERWISE YOU WILL NOT BE ABLE TO START THE ENGINE WITH THE ELECTRIC STARTER.
– THE FUEL TAPS MUST ALWAYS BE CLOSED WHEN PARKING THE MOTORCYCLE. OTHERWISE THE CARBURETOR CAN OVERFLOW AND FUEL COULD FLOW INTO THE ENGINE.
– ALWAYS TAKE OUT THE IGNITION KEY WHEN PARKING YOUR MOTORCYCLE SO THAT IT CANNOT BE USED BY UNAUTHORIZED PERSONS.

NOTE REGARDING THE CENTER STAND:
We advice the following procedure to place the motorcycle on the center stand as effortlessly as possible:
a) press main stand to ground using foot,
b) swing out kickstarter and pull motocycle backwards at an angle as illustrated (see illustration).
Make sure that the ground is solid and that your motorcycle is standing securely.

Refueling

The LC4 engine needs premium gasoline with an octane number of 95 or higher.

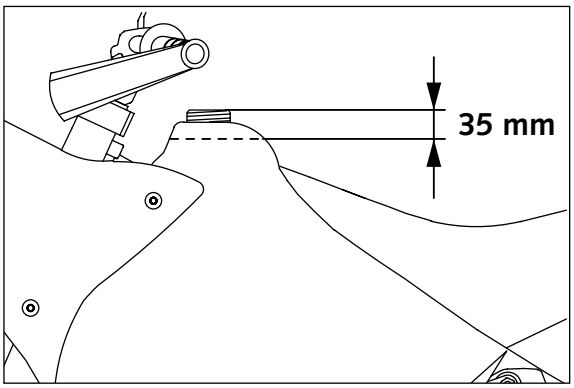
! CAUTION !

USE UNLEADED PREMIUM GRADE GASOLINE (95 OCTANES). NEVER USE ANY GASOLINE HAVING LESS THAN 95 OCTANES BECAUSE IT MAY DAMAGE THE ENGINE.

Fuel expands when its temperature rises. Therefore do not fill the tank to the top (see fig.).

⚠ WARNING ⚠

GASOLINE IS HIGHLY FLAMMABLE AND POISONOUS. EXTREME CAUTION SHOULD BE USED WHEN HANDLING GASOLINE. DO NOT REFUEL THE MOTORCYCLE NEAR OPEN FLAMES OR BURNING CIGARETTES. ALWAYS SWITCH OFF THE ENGINE BEFORE REFUELLING. BE CAREFUL NOT TO SPILL GASOLINE ON THE ENGINE OR EXHAUST PIPE WHILE THE ENGINE IS HOT. WIPE UP SPILLS PROMPTLY. IF GASOLINE IS SWALLOWED OR SPLASHED IN THE EYES, SEEK A DOCTOR'S ADVICE IMMEDIATELY.



PERIODIC MAINTENANCE SCHEDULE

640 LC4, SUPERMOTO
640 LC4 ADVENTURE

	A washed motorcycle can be checked more quickly which saves money!	1. Service after 1000 km	2. Service after 5000 km, then every 5000 km or once a year
ENGINE	Change engine oil, oil filter, and fine filter	●	●
	Clean oil screens and magnet of drain plug	●	●
	Check oil lines for damage and kink-less arrangement	●	●
	Check and adjust spark plug, replace it every 10,000 km		●
	Check and adjust valve clearance	●	●
	Check engine fastening screws for tight fit	●	●
	Make sure all engine screws accessible from the outside are screwed tight.	●	●
CARBURETOR	Check carburetor connection boots for cracks and leaks		●
	Check idle setting	●	●
	Check bleeder hoses for damage and kink-free arrangement	●	●
ADD-ON-PARTS	Check cooling system for leaks, antifreeze protection	●	●
	Check radiator fan for proper operation		●
	Check exhaust system for leaks and suspension	●	●
	Check actuating cables for damage, smooth operation, and kink-less arrangement,adjust and lubricate them	●	●
	Clean air filter and air filter box		●
	Check cables for damage and kink-less arrangement		●
	Check headlamp adjustment		●
	Check electrical system for function (low/high beams, stop light, turn indicators,headlamp flasher, tell-tale lamps, speedometer illumination, horn, side-stand switch, clutch switch, emergency-off switch)	●	●
	Make sure all screws and nuts are tight.	●	●
BRAKES	Check brake fluid level, lining thickness, and brake discs	●	●
	Check brake lines for damage and leaks	●	●
	Check/adjust smooth operation, free travel of handbrake/footbrake levers	●	●
	Check screws of brake system for tight fit	●	●
CHASSIS	Check suspension strut and fork for leaks and proper operation	●	●
	Check O-ring of suspension strut for wear		●
	Clean fork dust sleeves		●
	Bleed fork legs	●	●
	Check swinging-fork pivot	●	●
	Check/adjust steering-head bearing	●	●
	Lubricate reversing lever		●
	Check all chassis screws for tight fit (fork plates, fork leg, axle nuts/screws, swinging-fork pivot, reversing lever, suspension strut)	●	●
WHEELS	Check spoke tension and rim joint	●	●
	Check tire condition and inflation pressure	●	●
	Check chain and chain guides for wear, force fit and tension.	●	●
	Check screws on pinion and chain sprocket for locking devices and a tight fit.	●	●
	Lubricate chain	●	●
	Check wheel bearings and jerk damper for play		●

IMPORTANT RECOMMENDED MAINTENANCE PROCEDURES TO BE PERFORMED BASED ON A SEPARATE SUPPLEMENTARY ORDER

	at least once a year	every 2 years or 20000 km
Perform complete fork maintenance	●	
Perform complete suspension strut maintenance		●
Perform complete reversing lever maintenance		●
Clean and lubricate steering-head bearing and sealing elements	●	
Clean and adjust the carburetor	●	
Treat the electrical contacts and switches with contact spray	●	
Treat battery connections with contact grease	●	
Change the brake fluid	●	

IF MOTORCYCLE IS USED FOR COMPETITION 5000 KM SERVICE SHOULD BE CARRIED OUT AFTER EVERY RACE!

SERVICE INTERVALLS SHOULD NEVER BE EXCEED BY MOOR THAN 500 KM.

MAINTENANCE WORK DONE BY KTM AUTHORISED WORKSHOPS IS NOT A SUBSTITUTE OF CARE AND CHECKS DONE BY THE RIDER!

VITAL CHECKS AND CARE PROCEDURES TO BE CONDUCTED BY THE OWNER OR THE MECHANIC

	before each start	after every cleaning	for cross country use	once a year
Check oil level	●			
Check brake fluid level	●			
Check brake pads for wear	●			
Check lighting system for proper operation	●			
Check horn for proper operation	●			
Lubricate and adjust actuating cables and nipples		●		
Bleed fork legs in regular intervals			●	
Remove and clean fork dust sleeves in regular intervals			●	
Clean and lubricate chain as necessary		●	●	
Check chain tension	●	●	●	
Clean air filter and filter box			●	
Check tire pressure and wear	●			
Check coolant level	●			
Check fuel lines for leaks	●			
Drain float chamber		●		
Check all control elements for smooth running.	●			
Check brake performance	●	●		
Treat exposed metal components (except for the braking and exhaust systems) with wax-based anti-corrosion agents		●		
Treat ignition/steering lock and light switch with contact spray		●		
Check all screws, nuts, and hose clamps for their tight fit				●

as of 10.2001

⚠ WARNING ⚠

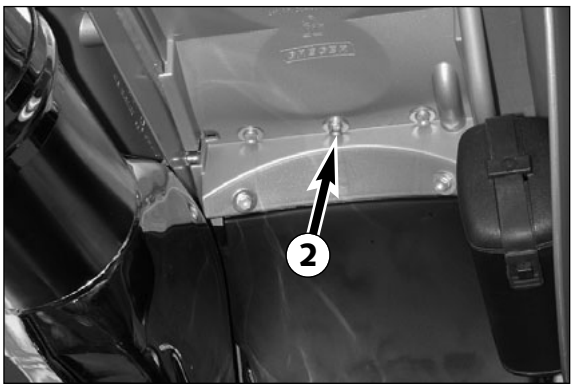
MAINTENANCE AND ADJUSTING WORK MARKED WITH AN ASTERISK (*) REQUIRES EXPERT SKILLS AND TECHNICAL KNOW-HOW. FOR YOUR OWN SAFETY, ALWAYS HAVE SUCH WORK PERFORMED BY A SPECIALIZED KTM DEALER WHERE YOUR MOTORCYCLE WILL BE OPTIMALLY SERVICED BY APPROPRIATELY QUALIFIED SKILLED STAFF.

! CAUTION !

- When cleaning the motorcycle, do not use a high pressure cleaning unit if possible, otherwise water will penetrate the bearings, carburetor, electric connectors etc.
- When transporting your KTM, ensure that it is held upright with restraining straps or other mechanical fastening devices. If the motorcycle should fall over, fuel can leak from the carburetor or fuel tank
- Do not use toothed washers or spring washers with the engine fastening screws, as these work into the frame parts and keep working loose. Instead, use self-locking nuts.
- Let your motorcycle cool down before beginning any maintenance work in order to avoid getting burned.
- Properly dispose of oil, grease, filters, fuel, cleansers, brake fluid, cooling liquid, etc. Observe the regulations effective in your country. Also observe the safety regulations when handling these substances.
- Under no circumstances may used oil be disposed of in the sewage system or in the open countryside. 1 liter used oil contaminates 1,000.000 liters water.
- if you unfasten self-locking nuts, you have to replace them by new ones.
- if you unfasten screws and nuts secured by loctite, you have to reattach and secure them in the same way. See technical specifications - fastening torques on page 43.

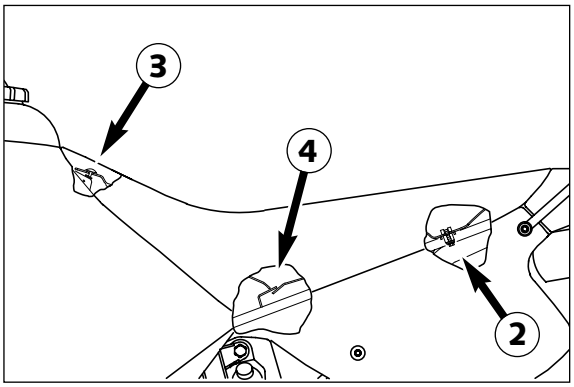
Tool set

The tool kit ❶ is locted in the tool box under the right side cover.

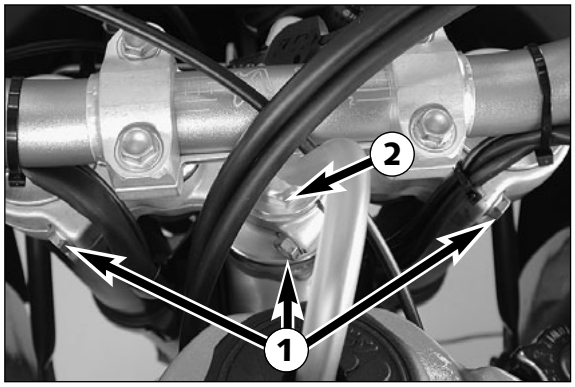


Removing the seat

Remove the collar screws ❷ from the underside of the fender. Lift the rear of the seat, pull backwards, and unhook it from the oval-head screw ❸.



To install the seat, hook the seat into the oval-head screw, set the rear portion down on the frame, and slide it forward. If necessary, press down on the front area of the seat so that the seat catches on the retaining bracket ❹. Insert and tighten the collar screw.



Checking and adjusting steering head bearing *

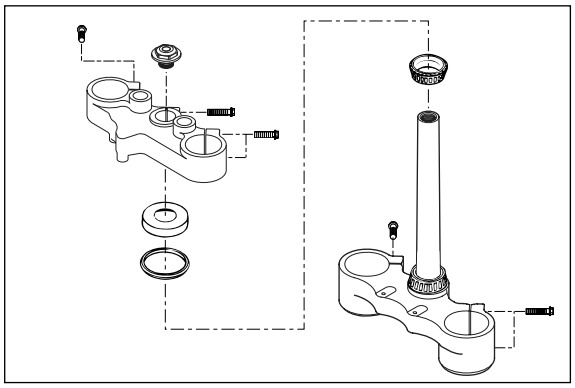
Check steering head bearing for play periodicaly. To check this put motorcycle on a stand so that the front wheel is off the ground. Now try to move the fork forward and backward. To adjust, loosen the five clamp screws ❶ of the top triple clamp and turn steering stem bolt clockwise ❷ until there is no more play. Don't tighten the steering stem bolt all the way, otherwise the bearings will be damaged. With a plastic hammer, lightly rap on the triple clamp to avoid tension. Re-tighten the five clamp screws with 15 Nm (11 ft.lb).

⚠ WARNING ⚠

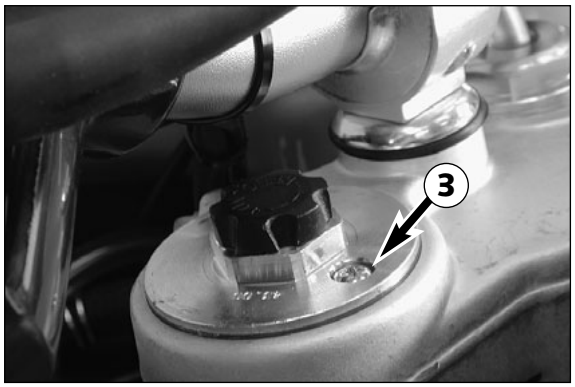
IF THE STEERING HEAD BEARING IS NOT ADJUSTED TO BE FREE OF PLAY, THE MOTORCYCLE WILL SHOW AN UNSTEADY DRIVING PERFORMANCE AND CAN GET OUT OF CONTROL.

! CAUTION !

IF YOU DRIVE WITH PLAY IN THE STEERING HEAD BEARING FOR LONGER PERIODS, FIRST THE BEARINGS AND THEN THE BEARING SEATS IN THE FRAME WILL BE DESTROYED.



At least once a year, the steering head bearings should be greased.

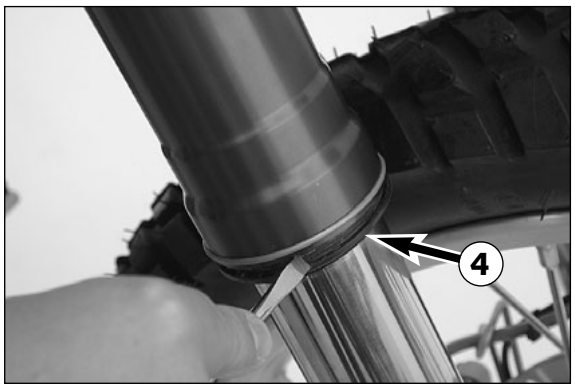


Bleeder screw front fork

The bleeder screws ❸ should now and then be released a few turns to let overpressure, if any, escape from the interior of the fork. To do this, place the motorcycle on a stand with the front wheel lifted off the ground. When riding the motorcycle mainly on street, it will be enough to have this job performed in the course of the periodical maintenance service.

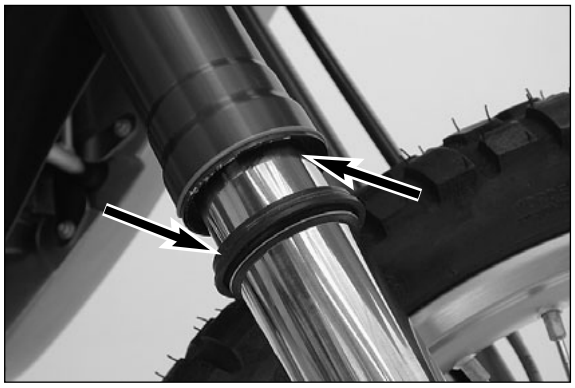
! CAUTION !

EXCESSIVE PRESSURE IN THE INTERIOR OF THE FORK CAN CAUSE LEAKS IN THE FORK. IF YOUR FORK IS LEAKING, IT IS RECOMMENDED TO OPEN THE BLEEDER SCREWS BEFORE HAVING THE SEALS REPLACED.

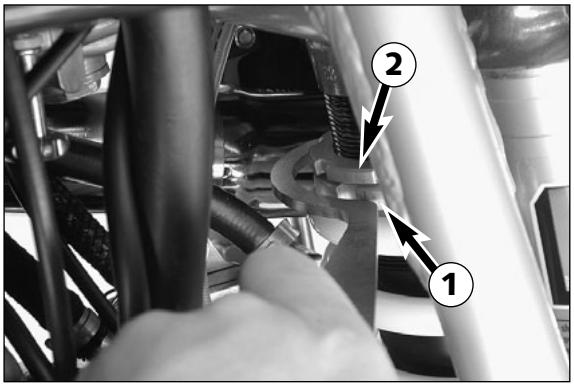


Cleaning the dust sleeves of the telescopic fork

The dust-protection bellows ❹ are to remove dust and coarse dirt particles from the fork tube. However, after some time, dirt may also get in behind the dust-protection bellows. If this dirt is not removed, the oil sealing rings located behind it may start to leak.
Use a screwdriver to lever the dust-protection bellows out of the outer tubes and slide them downward.



Clean dust-protection bellows, outer tubes, and fork tubes thoroughly, and oil them thoroughly with silicone spray or engine oil. Then, push dust-protection bellows into the outer tubes by hand.



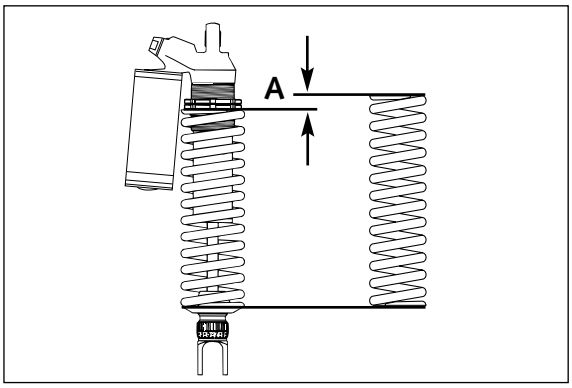
Changing the spring preload of the shock absorber

KTM sets the shock absorber for a driver only, weighing approximately 75 kg (165 lb). If you want to take a passenger with you, of if you weigh considerably more or less than 75 kg (165 lb), you should change the spring preload Ⓐ accordingly. This is easily done.

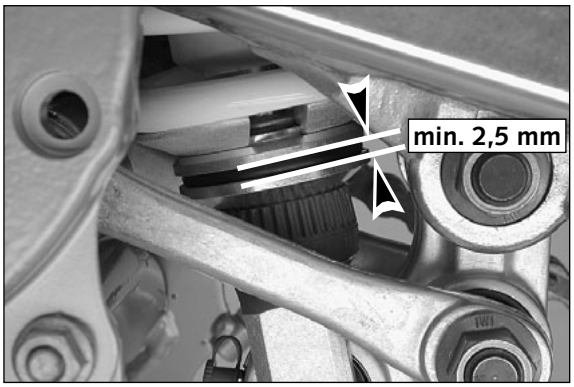
NOTE:

– Before changing the spring preload note down the basic setting, e.g. how many threads are visible above the adjusting ring.
– One rotation of the adjusting ring ❶ changes the spring preload by approximately 1,75 mm (0,07 in).

Loosen the locking ring ❷ with the hook wrench from the tool set. Change the spring preload with the adjusting ring ❶ and re-tighten the locking ring.



BASIC SETTING – SPRING PRELOAD
WP 0118V709..... A = 27 mm (0,9 in)



Checking rubber ring on the WP rear shock absorber

A rubber ring mounted on the rear shock absorber serves as a vibration damper. This ring gets pressed together with time and loses its shock absorbing quality.

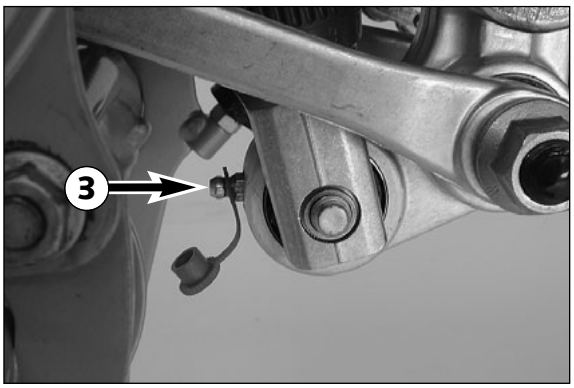
Measure the distance between the two discs at various points around their circumferences. The space should be at least 2.5 mm (0,1 in) wide. Have the rubber ring replaced by an KTM dealer when compaction due to wear has exceeded this lower limit.

! CAUTION !

NOT REPLACING THE RUBBER RING IN TIME CAN RESULT IN DAMAGE TO THE REAR SHOCK ABSORBER.

⚠ WARNING ⚠

THE DAMPING UNIT OF THE SHOCK ABSORBER IS FILLED WITH HIGH COMPRESSED NITROGEN. NEVER TRY TO TAKE THE SHOCK ABSORBER APART OR TO DO ANY MAINTENANCE WORK YOURSELF. SEVERE INJURIES COULD BE THE RESULT.

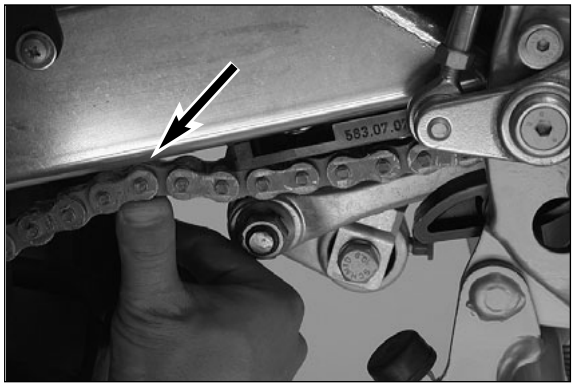


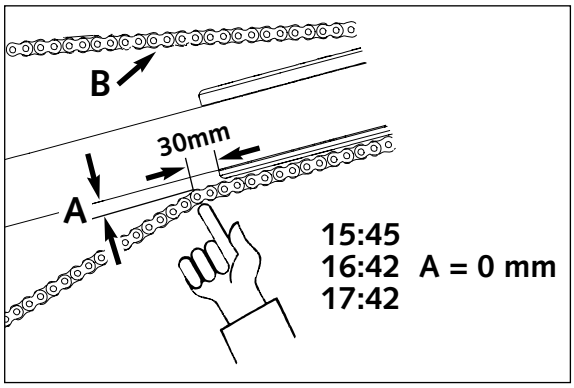
Lubricating the shock absorber linkage

The bearings in the rocker arm must be greased in regular intervals. For this purpose, a grease nipple ❸ is mounted on the rocker arm.

! CAUTION !

AFTER EACH TIME THE MOTORCYCLE IS WASHED, IT IS ESPECIALLY IMPORTANT TO GREASE THE GREASE NIPPLE TO PUSH ANY WATER OUT OF THE BEARINGS.



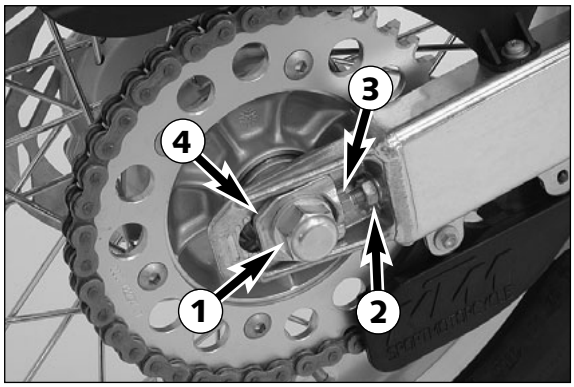


Checking chain tension

Support the motorcycle on the center stand or side stand, respectively.
Switch transmission to neutral.
Push the chain upwards appr. 30 mm (1,2 in) from the end of the chain sliding component until the upper part of the chain is tensioned (see illustr.)
Now, the distance Ⓐ between chain and swingarm should be 0 mm. The upper part of the chain Ⓑ must be tight (see illustr.).
Correct chain tension, if necessary!

⚠ WARNING ⚠

– If chain tension is too great, parts within the secondary power transmission (chain, chain sprockets, transmission and rear wheel bearings) will be subjected to unnecessary stress, resulting in premature wear and even chain breakage.
– Too much slack in the chain, on the other hand, can result in the chain jumping off the chain wheels. If this happens, the chain could also block the rear wheel or damage the engine.
– In either case the operator is likely to lose control of the motorcycle.

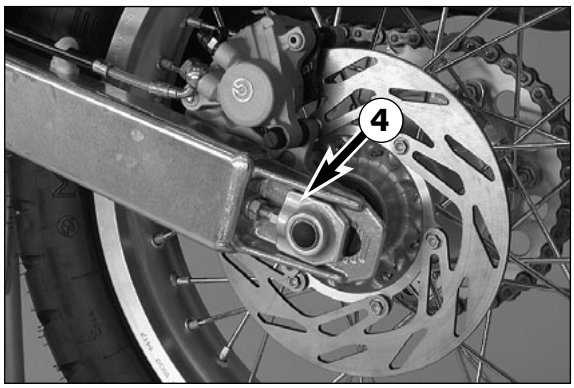


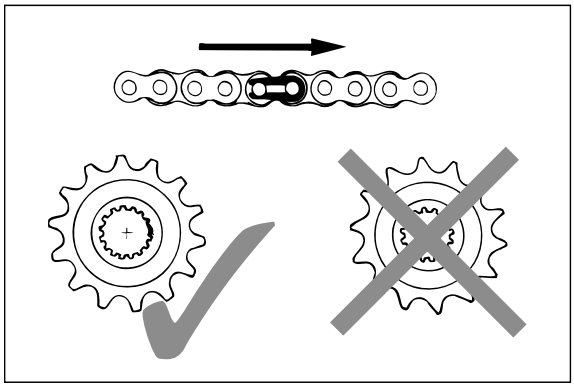
Correct chain tension

Loosen collar nut ❶, loosen counter nuts ❷, and turn right and left adjusting screws ❸ equally far. Tighten counter nuts ❷.
Before tightening the wheel spindle, verify that the chain adjusters ❹ are sitting close to the adjusting screws and that the rear wheel has been aligned with the front wheel.
Tighten collar nut ❶ with 80 Nm (59 ft.lb).

⚠ WARNING ⚠

If you don't happen to have a torque wrench at hand, make sure you have the tightening torque corrected by a KTM dealer as soon as possible. A loose axle may lead to an unstable driving behavior of your motorcycle.





Chain maintenance

For long chain life, good maintenance is very important. X-ring chains require only modest maintenance. The best way is to use lots of water, but never use brushes or solvents. After letting the chain dry, you can use a special X-ring chain spray (Shell Advance Bio Chain).

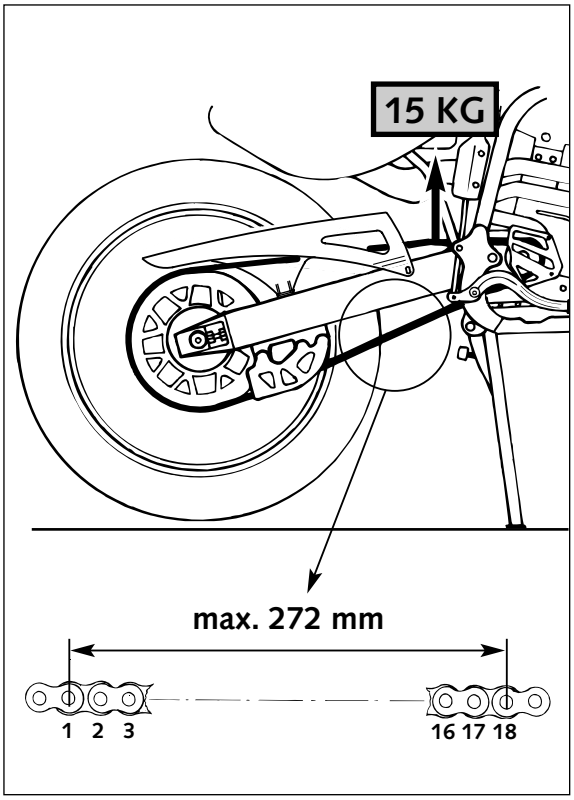
⚠ WARNING ⚠

No lubrication is allowed to reach the rear tire or the brake disk, eitherwise the road adherence and the rear wheel braking effects would be strongly reduced and the motorcycle could easily get out of control.

! CAUTION !

When mounting the chain joint, the closed side of the safety device must point in running direction.

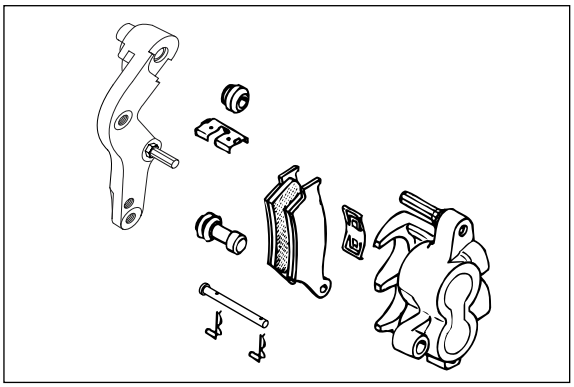
Also check sprockets and chain guides for wear, and replace if necessary.



Chain wear

In order to check the chain wear, regard the following instructions:
Shift the gear into idling and pull the upper chain strand with approx. 10-15 kilogramm (33 lb) upwards (see figure). Now one can measure a space of 18 chain reels at the lower chain strand. The chain should be replaced at the latest when a space of 272 mm (10,70 in) is measured. Chains do not always wear off evenly, therefore repeat the measurement at different places on the chain.

NOTE: If you mount a new chain, the sprockets should also be replaced. New chains wear faster if used on old used sprockets.



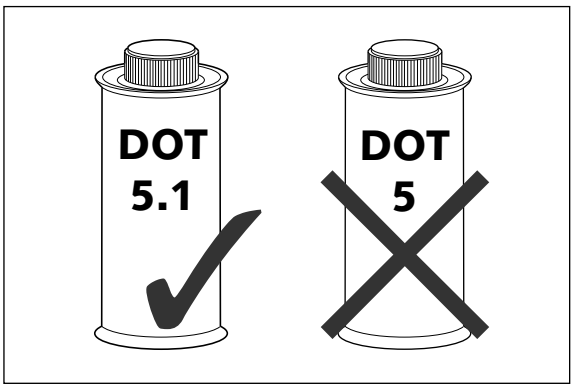
General informations about KTM disc brakes

BRAKE CALIPERS:
The brake calipers of this series "float". This means that the brake calipers are not solidly attached to the caliper support. Thus, the brake pads are always in optimum contact with the brake disc. Secure the screws of the caliper support with Loctite 243 and tighten to 25 Nm (19 ft.lb).

BRAKE PADS:
The motorcycles are delivered with organic brake pads and have also been type-coded with these pads. Said pads are suitable for almost the entire range of application of these motorcycles.It is only for competitive racing in extremely dirty conditions (e.g., water in combination with sand and mud) that we recommend brake pads that have sintered linings. However, take notice of the fact that brake pads with sintered linings have not been type-coded! Besides, they may cause greater wear on the brake discs.

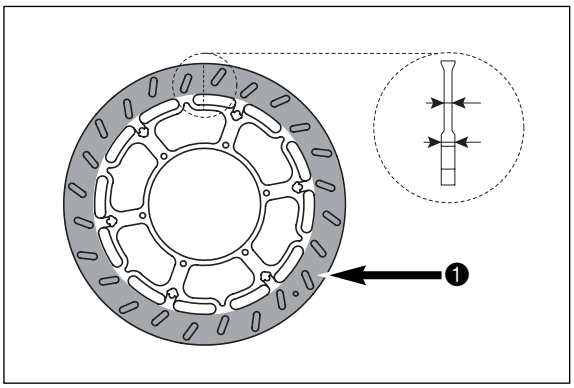
⚠ WARNING ⚠

BRAKE SHOES AVAILABLE IN THE ACCESSORY TRADE ARE OFTEN NOT AUTHORIZED FOR OPERATION OF YOUR KTM MOTORCYCLE IN ROAD TRAFFIC. THE BRAKE SHOE'S DESIGN AND FRICTION FACTOR AND THEREFORE THE BRAKING POWER CAN DEVIATE SIGNIFICANTLY FROM ORIGINAL KTM BRAKE SHOES. IF YOU USE DIFFERENT BRAKE SHOES THAN THOSE PROVIDED WITH THE ORIGINAL EQUIPMENT, IT CANNOT BE WARRANTED THAT THEY ARE AUTHORIZED FOR USE IN ROAD TRAFFIC. YOUR MOTORCYCLE WILL NOT LONGER COMPLY WITH THE REGULATIONS AUTHORIZING THE USE OF VEHICLES FOR ROAD TRAFFIC AND THE WARRANTY WILL BE VOID.



BRAKE FLUID RESERVOIRS:
The brake fluid reservoirs on the front and rear wheel brakes have been designed in such a way that even if the brake pads are worn it is not necessary to top up the brake fluid. If the brake fluid level drops below the minimum either the brake system has a leak or the brake pads are completely worn down. In this case, consult an authorized KTM dealer immediately.

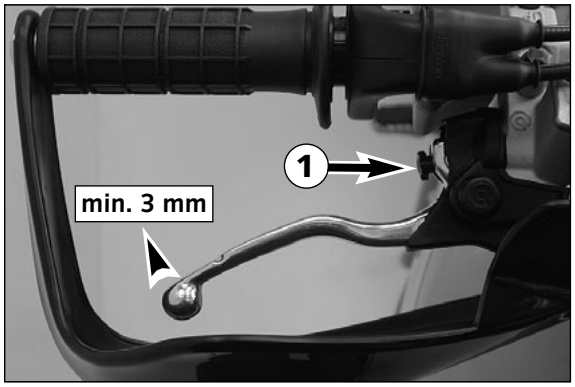
BRAKE FLUID:
KTM fills the brake systems with Shell Advance Brake DOT 5.1 brake fluid, one of the best brake fluids that is currently available. We recommend that you continue to use it. DOT 5.1 brake fluid is based on glycol ether and of an amber color. If you do not have any DOT 5.1 for refilling, you may use DOT 4 brake fluid. However, you should replace it as soon as possible by DOT 5.1.
Never use DOT 5 braking fluid. It is based on silicone oil and has a purple color. Gaskets and brake hoses are not compatible with it.



BRAKE DISCS:
Wear reduces the thickness of the brake disc in the area of contact ❶ with the brake pads. At its thinnest spot Ⓐ, the brake disc must not be more than 0.4mm thinner than its nominal dimension Ⓑ. The nominal dimension can be gaged in a location beyond the area of contact with the brake pads. Check wear in several spots.

⚠ WARNING ⚠

- BRAKE DISCS SUFFERING FROM WEAR GREATER THAN 0.4 MM CONSTITUTE A SAFETY HAZARD. HAVE THE BRAKE DISC REPLACED IMMEDIATELY AS SOON AS IT REACHES ITS WEAR LIMIT.
- AS A MATTER OF PRINCIPLE, HAVE ANY REPAIR OF THE BRAKE SYSTEM CARRIED OUT BY A LICENSED KTM MECHANIC.



Adjusting of free travel at the hand brake lever

Free travel at the hand brake lever may be readjusted by using adjusting screw ❶. In this way, the position of the point of pressure (i.e., the resistance you feel on the hand brake lever when the brake pads are pressed against the brake disc) can be adjusted for any hand size.

! **CAUTION** !

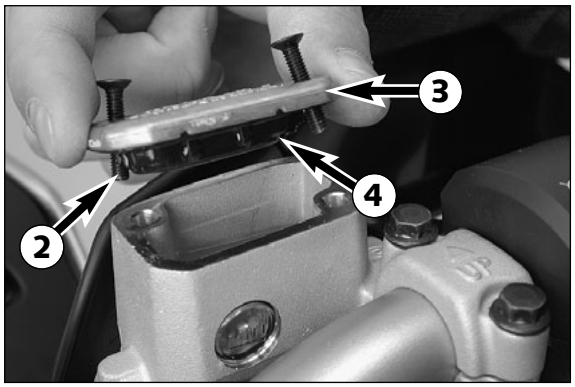
At the hand brake lever, free travel must at least be 3 mm. Only then may the piston in the hand brake cylinder be moved (to be recognized by the greater resistance of the hand brake lever). If this free travel is not provided, pressure will build up in the braking system, and the front wheel brake may fail due to overheating.

Checking of brake fluid level - front brake

The brake fluid reservoir is linked with the hand brake cylinder at the handlebar and the reservoir is provided with an inspection glass. With the reservoir in a horizontal position, the brake fluid level should not go below middle of the glass.

⚠ **WARNING** ⚠

If the brake fluid level drops below the minimum either the brake system has a leak or the brake pads are completely worn down. In this case, consult an authorized KTM dealer immediately.



Refilling the front brake fluid reservoir *

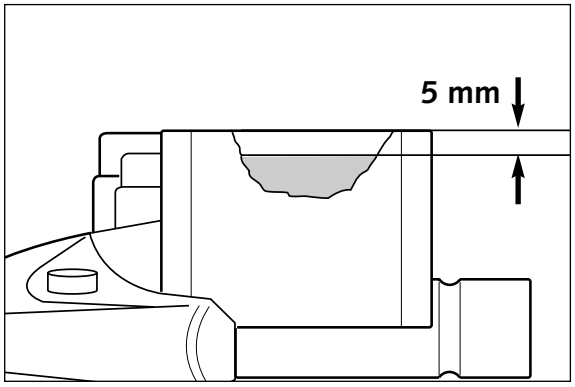
Loosen screws ❷ and remove lid ❸ and membrane ❹.
Place hand brake cylinder in a horizontal position and fill the brake fluid reservoir to 5 mm (0,2 in) below the rim with brake fluid DOT 5.1. Replace membrane and lid, tighten screws. Rinse off spilled or overflowing brake fluid with water.

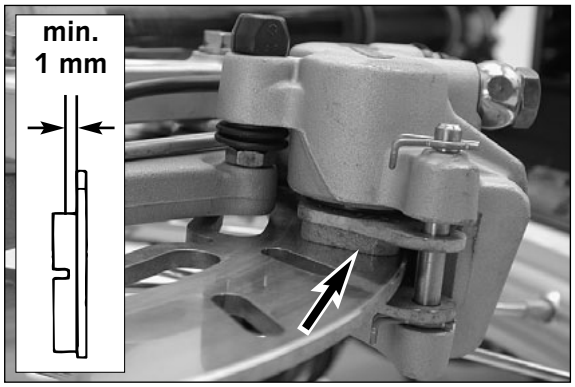
⚠ **WARNING** ⚠

– Store brake fluid out of reach of children.
– Brake fluid can cause skin irritation. Avoid contact with skin and eyes. If you get brake fluid in your eyes, rinse with plenty of water and consult a doctor.

! **CAUTION** !

– Don't let brake fluid get in contact with paint, it is an effective paint remover.
– Use only clean brake fluid taken from a tightly sealed container.





Checking the front brake pads

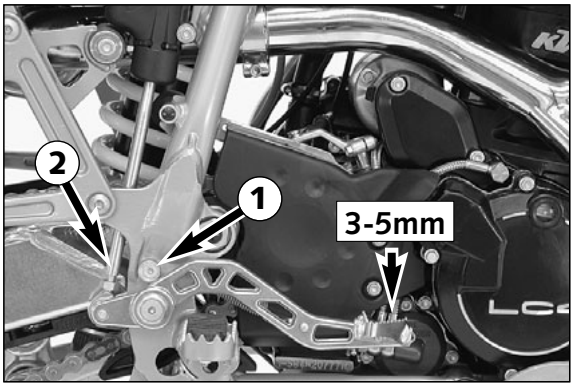
The brake pads can be inspected from below. The linings must be at least 1 mm (0,04 in) thick.

⚠ **WARNING** ⚠

At their most worn point brake pad linings should not be thinner than 1 mm, otherwise they could lead to brake failure. For your own safety don't put off having your brake pads changed.

! **CAUTION** !

If the brake pads are replaced too late so that the lining is partly or entirely worn away, the steel components of the brake pad will rub against the brake disc, impairing the braking effect and destroying the brake disc.

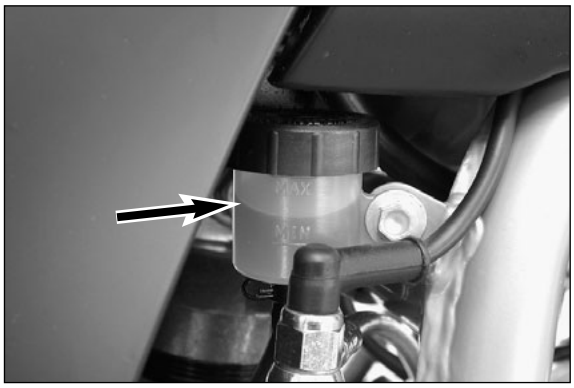


Changing the basic position of the foot brake pedal *

The basic position of the foot brake pedal can be altered by turning the stop roller ❶. The free play at the foot brake pedal must then be adjusted by means of the piston rod ❷.
Measured on the outside, the foot brake pedal must have 3-5 mm (0,12–0,20 in) of free play, before the piston rod can move the piston in the brake cylinder (to be recognised from the resistance on the foot brake pedal).

! CAUTION !

If this free play is not present, then pressure can build up in the brake system-when driving, causing constant friction of the brake pads.The braking system overheats and can fail completely in extreme cases.



Checking rear brake fluid level

The reservoir for the rear disc brake is located on the left-hand side of the vehicle next to the carburetor carburetor connection boot. The brake fluid level may not drop below the „MIN" marking when the vehicle is in an upright position.

⚠ WARNING ⚠

If the brake fluid level drops below the minimum either the brake system has a leak or the brake pads are completely worn down. In this case, consult an authorized KTM dealer immediately.

Refilling the rear brake fluid reservoir*

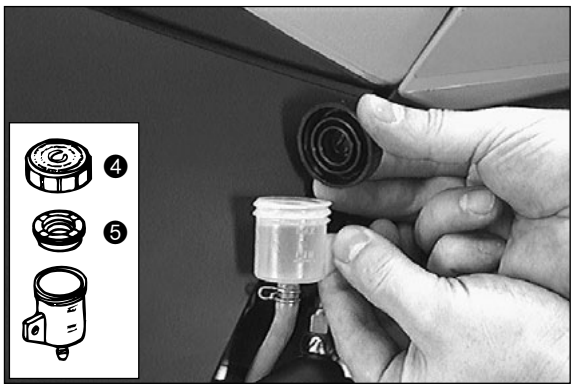
When the brake fluid level has dropped to the MIN mark, you need to refill the brake fluid reservoir.
For easier access to the brake fluid reservoir it is recommended to remove the hexagon screw ❸. Then move the container outwards as indicated in the illustration. Remove plug ❹ with rubber boot ❺ and add brake fluid DOT 5.1 (Shell Advance Brake DOT 5.1) up to the „MAX" mark. Replace rubber boot and plug. Overflown or spilled brake liquid must be rinsed off with water. Mount the screw and fix the brake fluid reservoir to the frame, always making sure to prevent kinks in the connecting hose.

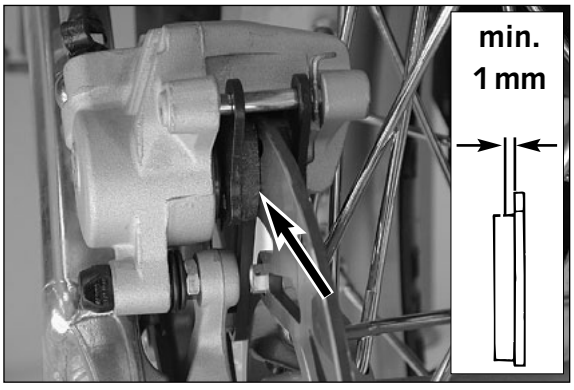
⚠ WARNING ⚠

- Store brake fluid out of reach of children.
- Brake fluid can cause skin irritation. Avoid contact with skin and eyes. If you get brake fluid in your eyes, rinse with plenty of water and consult a doctor
- The brake fluid reservoirs on the front and rear wheel brakes have been designed in such a way that even if the brake pads are worn it is not necessary to top up the brake fluid. If the brake fluid level drops below the minimum either the brake system has a leak or the brake pads are completely worn down.
  In this case, consult an authorized KTM dealer immediately.

! CAUTION !

- Don't let brake fluid get in contact with paint, it is an effective paint remover.
- Use only clean brake fluid taken from a tightly sealed container.





Checking the rear brake pads

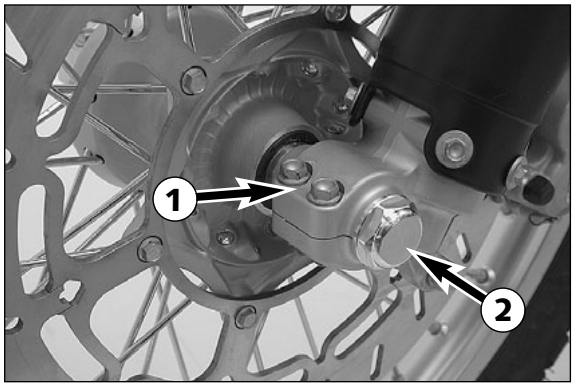
The brake pads can be inspected from the rear. The thickness of the linings may not be less than 1 mm (0.04 in).

⚠ WARNING ⚠

At their most worn point brake pad linings should not be thinner than 1 mm, otherwise they could lead to brake failure. For your own safety don't put off having your brake pads changed.

! CAUTION !

If the brake pads are replaced too late so that the lining is partly or entirely worn away, the steel components of the brake pad will rub against the brake disc, imparing the braking effect and destroying the brake disc.

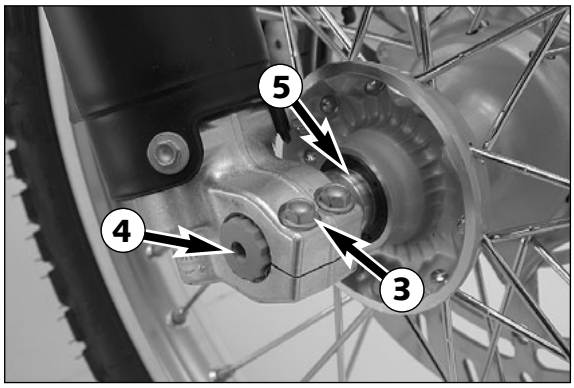


Dismounting and mounting the front wheel

To remove the front wheel, jack the motorcycle up on its frame so that the front wheel no longer touches the ground.
Loosen both clamp screws ❶ on the left fork leg. Then loosen the collar nuts ❷ before loosening the clamp screws ❸ on the right fork leg.
Hold the front wheel and withdraw the wheel spindle ❹.
Note: The wheel spindle can be withdrawn more easily by turning it moderately with a 6 mm ALLAN/IMBUS key while pulling.

! CAUTION !

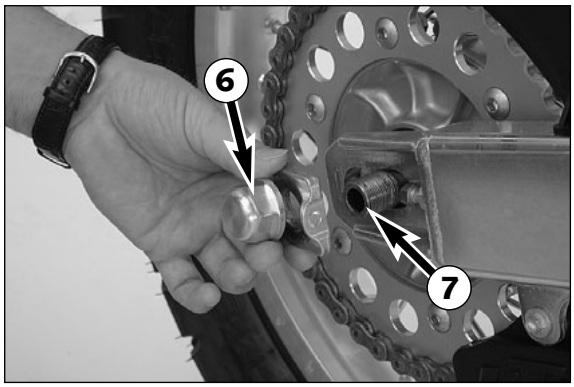
- DO NOT OPERATE THE HAND BRAKE WHEN THE FRONT WHEEL HAS BEEN DISMOUNTED.
- ALWAYS PUT DOWN THE WHEEL WITH THE BRAKE DISC ON TOP TO PREVENT DAMAGING OF THE BRAKE DISC.

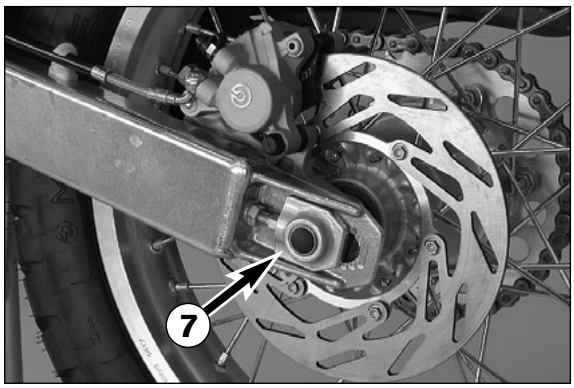


Before mounting, check if the left and the right ❺ distance bushing are correctly positioned in the shaft seal rings. Extremely soiled distance bushings should be removed, cleaned and regreased.
To mount the front wheel lift it into the fork and insert the brake disk into the brake caliper.
Position the front wheel and mount the wheel spindle.
Mount the collar nut ❷, tighten the clamping sceews on the right side ❸ to prevent the wheel spindle from turning and tighten the collar nut to 40 Nm (30 ft.lb).
Loosen the clamping screews on the right side,
Take the motorcycle off the stand and bounce the fork hard a few times to align the fork legs.
Then tighten clamping screws ❶ and ❸ to a max. torque of 10 Nm (7 ft.lb).

⚠ WARNING ⚠

- IF YOU DON'T HAPPEN TO HAVE A TORQUE WRENCH AT HAND, MAKE SURE YOU HAVE THE TIGHTENING TORQUE CORRECTED BY A KTM DEALER AS SOON AS POSSIBLE. A LOOSE AXLE MAY LEAD TO AN UNSTABLE DRIVING BEHAVIOR OF YOUR MOTORCYCLE.
- AFTER MOUNTING THE FRONT WHEEL, KEEP OPERATING THE HAND BRAKE UNTIL THE PRESSURE POINT RETURNS.
- IT IS VERY IMPORTANT TO KEEP THE BRAKE DISK FREE FROM OIL AND FATTY MATTERS, EITHERWISE THE BRAKING EFFECTS WOULD BE STRONGLY REDUCED.



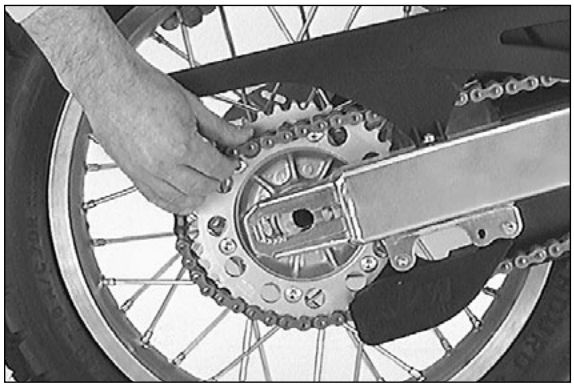


Dismounting and mounting the rear wheel*

Jack the motorcycle up by frame so that the rear wheel no longer touches the ground. Loosen the collar nut ❻, hold the rear wheel and pull out the wheel spindle ❼ until the rear wheel is free but the brake caliper support is still held. Push the rear wheel as far forward as possible, take the chain from the rear sprocket and carefully take the rear wheel out of the swingarm.

! CAUTION !

- DO NOT OPERATE THE REAR BRAKE WHEN THE REAR WHEEL HAS BEEN DISMOUNTED.
- IF THE AXLE IS DISMOUNTED, CLEAN THE THREAD OF THE WHEEL SPINDLE AND COLLAR NUT THOROUGHLY AND APPLY A NEW COAT OF GREASE TO PREVENT THE THREAD FROM JAMMING.
- ALWAYS PUT DOWN THE WHEEL WITH THE BRAKE DISC ON TOP TO PREVENT DAMAGING OF THE BRAKE DISC.

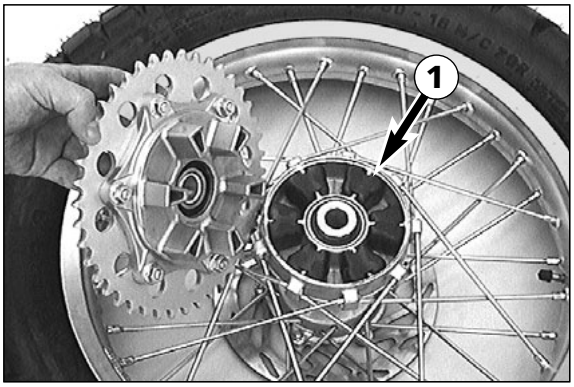


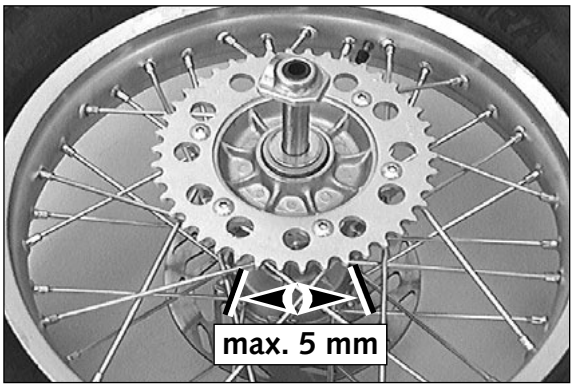
NOTE:
When removing the rear wheel always check the damping rubbers.

The rear wheel is remounted in reverse order. Before tightening the collar nut to 80 Nm (59 ft.lbs), push the rear wheel forwards so that the chain tensioners lie on the tension screws.

⚠ WARNING ⚠

- IF YOU DON'T HAPPEN TO HAVE A TORQUE WRENCH AT HAND, MAKE SURE YOU HAVE THE TIGHTENING TORQUE CORRECTED BY A KTM DEALER AS SOON AS POSSIBLE. A LOOSE WHEEL SPINDLE MAY LEAD TO AN UNSTABLE DRIVING BEHAVIOR OF YOUR MOTORCYCLE.
- AFTER MOUNTING THE REAR WHEEL, KEEP OPERATING THE FOOTBRAKE UNTIL THE PRESSURE POINT RETURNS.
- IT IS VERY IMPORTANT TO KEEP THE BRAKE DISK FREE FROM OIL AND GREASE, OTHERWISE THE BRAKING EFFECT WOULD BE STRONGLY REDUCED.





TIRES – AIR PRESSURE		
	front	rear
Road, driver only	1,8 bar	2,0 bar
Road, with passenger	2,0 bar	2,2 bar

Checking the shock absorption rubbers in the rear hub *

LC4 models have a damped rear wheel hub. For this purpose, the engine power is conveyed from the rear sprocket via 6 shock absorption rubbers ❶ to the rear wheel. These 6 absorption rubbers wear with increasing operation time, and should be checked for wear whenever the rear wheel is dismounted.

For this purpose, lie the rear wheel on a work bench with the rear sprocket upwards, and put the wheel spindle in the hub. Now hold the rear wheel firmly and try to turn the rear sprocket. The rear sprocket may not turn more than maximum 5 mm (0,2 in) measured on the outside. If the play in the chain wheel is larger, all 6 shock absorption rubbers are to be replaced. Check the shock absorption rubbers for signs of damage and dirt.

! CAUTION !

If the shock absorption rubbers are not replaced in good time, the rear sprocket carrier and the rear hub will be damaged. Allways replace all 6 absorption rubbers, never single rubbers.

Tires, air pressure

Tire type, tire condition, and how much air pressure the tires have in them affect the way your motorcycle rides, and they must therefore be checked whenever you're getting ready to go anywhere on your motorcycle.

⚠ WARNING ⚠

In order to ensure riding safety and optimal riding performance, only KTM-approved tires may be used. Other tires can have a negative effect on riding performance (e.g. vibration at higher speeds).

Approved tires for 640 LC4 Adventure (as of September 2001)
METZELER . . . . . .Enduro 3, Enduro 4, Karoo
MICHELIN . . . . . .Sirac, T63
PIRELLI MT21, MT60, MT70, MT90

- Tire type and size can be found in the technical specifications and in the homologation certificate
- Tire condition has to be checked every time you want to ride your motorcycle. Before leaving check for punctures and nails or other sharp objects that might have become embedded in the tire.
  Refer to the specific regulations in your country for minimum tire tread requirements. We recommend replacing tires at the latest when the tread is down to 2 mm.
- Tire pressure should be checked regularly on a "cold" tire. Proper pressure ensures optimum driving comfort and extends the life of your tires.

⚠ WARNING ⚠

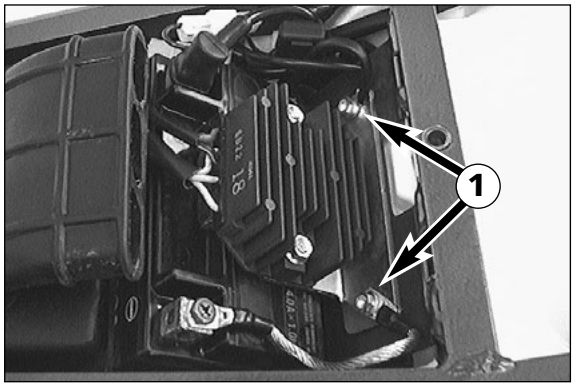
- Do not mount tires which have not been approved by KTM. Other tires could have adverse effects on the way your motorcycle rides.
- The front and rear wheel are only allowed to be tired with tires that have the same profile type.
- For your own safety replace damaged tires immediately.
- Worn tires can have a negative effect on how your motorcycle performs, especially on wet surfaces
- If air pressure is too low, abnormal wear and overheating of the tire can result
- New wheels have a smooth surface, which means that they must be run in to achieve full grip. For this purpose, ride the motorcycle carefully at moderate speed during the first 200 kilometers with new tires, tilting the vehicle at different angles so that all sections are properly roughened. Tires will not display their full grip characteristics until they are properly run in.
- For reasons of safety, it is recommended to exchange the valve insert whenever a new tire is mounted.

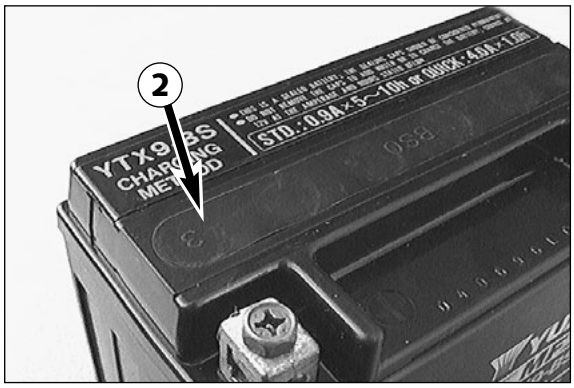
Checking spoke tension

The correct spoke tension is very important for the stability of the wheels and thus for riding safety. A loose spoke causes the wheel to become unbalanced and before long other spokes will have come loose. Check spoke tension, especially on a new motorcycle, in regular intervals. For checking, tap on each spoke with the blade of a screw driver (see illustration). A clear tone must be the result. Dull tones indicate loose spokes. If necessary, have the spokes retightened and the wheel centered by a KTM dealer.

⚠ WARNING ⚠

- Spokes can tear if you continue to ride with them loose. This may lead to an unstable handling of your motorcycle.
- Excessively tensioned spokes may rupture due to local overloading.The spokes must be tensioned to 4 Nm.





Battery

The battery is mounted under the seat (remove the seat, see page 18)
The battery has a closed system and therefore requires no maintenance. It is not necessary to check the electrolyte level or to refill water. Simply keep the battery poles clean and slightly grease them with an acid-free grease if necessary.

Removing the battery:
First disconnect the negative and then the positive pole of the battery.
Remove screws ❶ and swing retaining bracket and voltage regulator out of the way.
Remove battery.
When replacing, connect first the positive and then the negative pole.

NOTE:
After installing the battery, switch on the ignition, switch off and switch on again. The time will appear in the display and can be set.

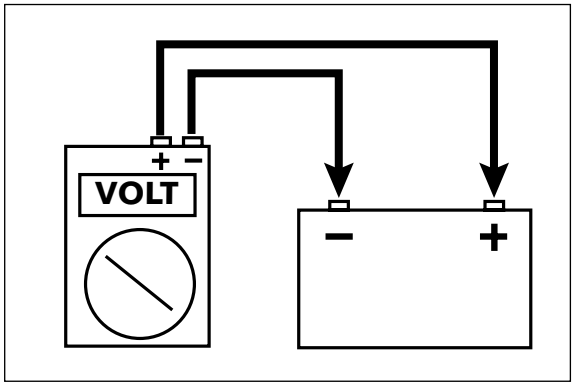
⚠ WARNING ⚠

- If electrolyte (sulphuric acid) leaks from the battery, proceed with great care. The electrolyte can cause severe burns.
- In the case of skin contact rinse thoroughly with water.
- In the case of contact with the eyes, thoroughly rinse eyes with water for at least 15 minutes. Immediately consult a doctor!
- The battery is a closed model but can nevertheless emit explosive gases. Avoid sparks and open fire near the battery.
- Defect batteries must be stored out of the reach of children. Ensure proper disposal of discarded batteries.

! CAUTION !

- To avoid damage, do not remove the locking bar ❷ !

BATTERY STORAGE:
When preparing the motorcycle for a longer period of standstill, remove the battery and recharge it. Storage temperature: 0 - 35°C. Do not expose to direct sun radiation.



Charging the battery

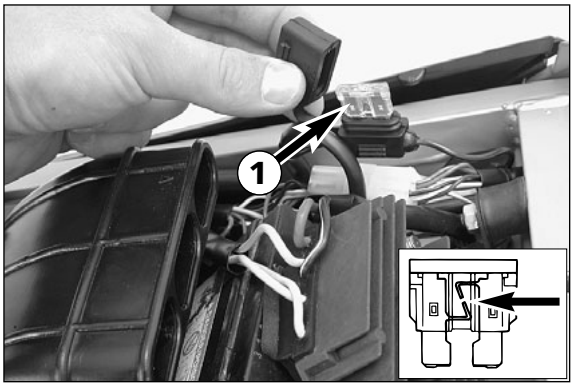
Remove the battery and check the charging level. Use a voltmeter to measure the voltage between the battery poles (off-load voltage).
Accurate results can only be obtained if the battery has neither been charged nor discharged during a period of 30 minutes preceding the measuring.

off load voltage Volt	charging level %	charging time 0,8 A	charging voltage
>12,7	100	—	max. 14,4 V
~12,5	75	4 h	
~12,2	50	7 h	
~12,0	25	11 h	
~11,8	0	14 h	

If the battery is empty, it can be recharged for a maximum period of 10 hours at 0.8 A and a maximum of 14.4 V.

! CAUTION !

- To avoid damage, do not remove the locking bar
- Always connect the battery to the charging unit before turning the charging unit on.
- When recharging the battery in closed rooms ensure sufficient ventilation. Explosive gases are released during the battery charging process.
- Charging time and charging voltage should not exceed the stated values. Otherwise electrolyte will be released through the safety valves.
- Avoid quick charging if possible.

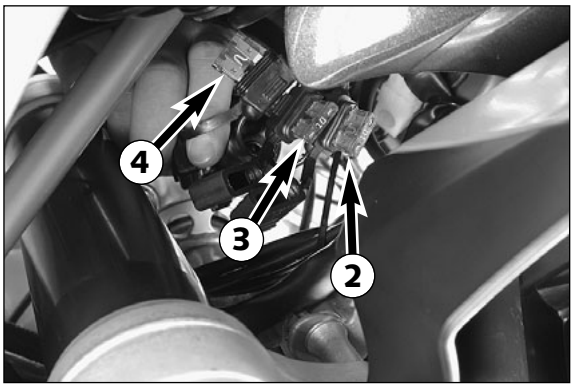


Main fuse

Located near the battery under the seat, the main fuse ❶ protects all power consumers.
Replace a blown fuse only with an equivalent one. If a new fuse that has just been set in gets blown again, you are strongly advised to have it inspected by a KTM dealer.
The fuse capacity is 20 Ampere.

! CAUTION !

UNDER NO CIRCUMSTANCES IS A STRONGER FUSE ALLOWED TO BE SET IN OR A FUSE ALLOWED TO BE "REPAIRED". AN INEXPERT TREATMENT COULD DAMAGE THE WHOLE ELECTRICAL INSTALLATION!

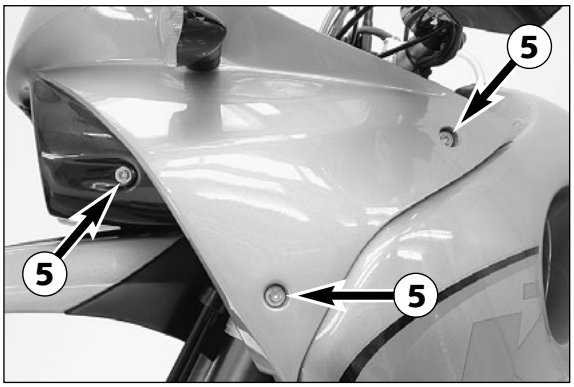


Fuses for individual power-consuming units

Additional fuses separately protecting different power-consuming units are mounted under the cockpit cover.
The fuses can be pulled out underneath the cockpit cover for replacement.

Fuse ❷ (10 Ampere) protects the following power-consuming units:
– headlight
– parking light

Fuse ❸ (10 Ampere) protects the following power-consuming units:
– flasher lights
– brake light
– horn
– radiator fan



Fuse ❹ (10 Ampere) protects the following power-consuming units:
– ignition
– starter system

NOTE:
The multi-function digital speedometer is protected by the main fuse ❹.

Replace a blown fuse only with an equivalent one. If a new fuse that has just been set in gets blown again, you are strongly advised to have it inspected by a KTM dealer.

! CAUTION !

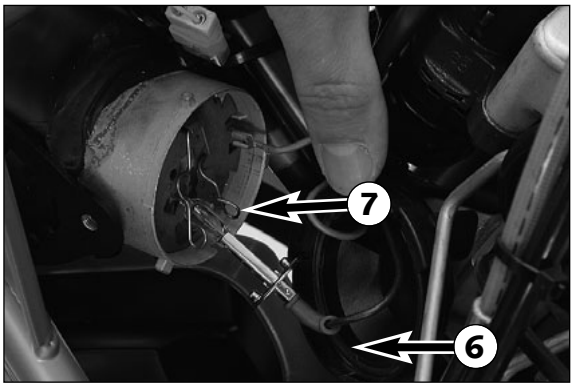
UNDER NO CIRCUMSTANCES IS A STRONGER FUSE ALLOWED TO BE SET IN OR A FUSE ALLOWED TO BE "REPAIRED". AN INEXPERT TREATMENT COULD DAMAGE THE WHOLE ELECTRICAL INSTALLATION!

Removing and mounting the headlight mask *

The headlight mask must be removed to replace the headlight lamps, the indicator lamps or the tachometer lamps.

REMOVING THE HEADLIGHT MASK
Use the wrench from the tool kit to remove the 6 screws ❺ of the headlight mask.
Swing the headlight mask forward, disconnect the flasher cables and remove the mask.

MOUNTING THE HEADLIGHT MASK
Hold the headlight mask and connect the flasher cables.
Position the headlight mask and replace the screws without tightening them yet.
Tighten all 6 screws at once with 5 Nm (4 ft.lbs).



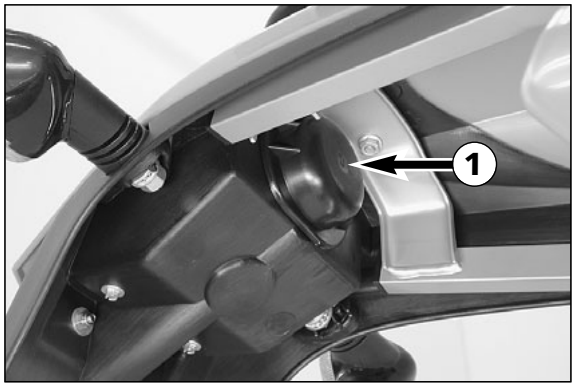
Replacing the headlight bulb *

The headlights are accessible after you have removed the headlight mask.
Turn the cover ❻ counterclockwise, and remove it.
Detach the spring bar ❼, and remove the lamp from the headlight insert and connect a new H1 lamp (12 V 55 W)

! CAUTION !

THE GLASS OF THE BULB MUST BE FREE OF OIL AND GREASE. THE HEAT CAUSES THE OIL TO VAPORIZE. THE RESULTING VAPOR ON THE REFLECTOR DECREASES THE BRIGHTNESS OF THE HEADLIGHT.

Start the engine and check the headlight for proper functioning.
Place the cover in position, and turn it clockwise.



Exchanging the brake light and tail light bulb

Remove the cap ❶ on the underside of the license plate retainer.

Turn the lamp socket ❷ approximately 30° counterclockwise and pull it out of the tail light housing.
Slightly depress the bulb, turn it approx. 30° counterclockwise and pull it out of the socket.
To mount the lamp reverse the worksteps indicated above.

Removing the tank *

Removing the seat (see page 20)

Removing the headlight mask (see page 30)

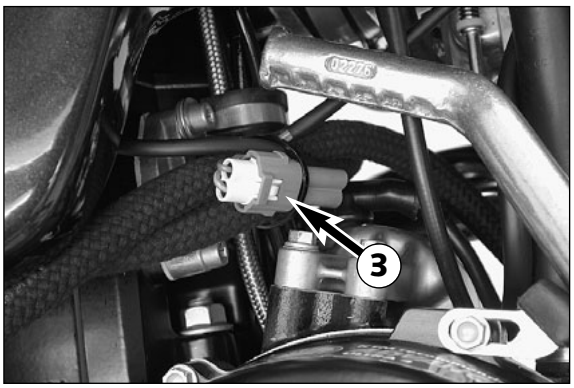
Close the auxiliary fuel cocks (turn in a clockwise direction) and the fuel cock (OFF position).

Close the fuel lines to the 3 fuel cocks.

Unplug the plug connector ❸ to the gasoline level sensor.

! CAUTION !

THE GASOLINE LEVEL SENSOR WILL BE DAMAGED IF THE PLUG CONNECTOR ❸ IS NOT UNPLUGGED WHEN YOU REMOVE THE TANK.



Remove the collar nut ❹ and disks, pull the tank vent hose from the steering-head pipe.

Lift the rear tank 10-12 cm and lift off.

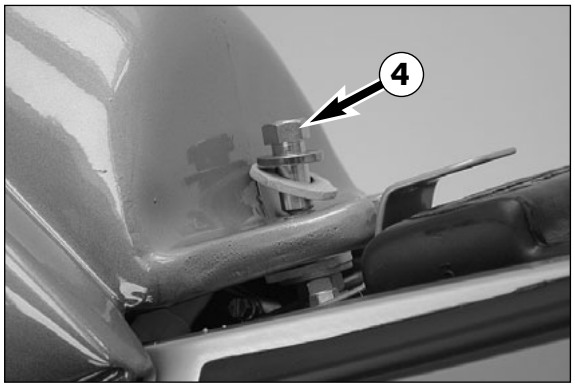
Mount the tank carefully. Mount the insulating disk, steel disk and collar nut and tighten. Connect the fuel lines and open the fuel cocks. Connect the plug and socket connector for the gasoline level sensor and fix to the fuel lines with cable clips.

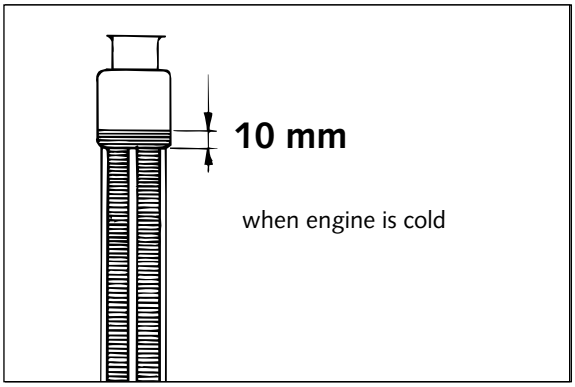
NOTE:

The line leading to the fuel pump must be connected to the fuel cock.

Mount the headlight mask (see page 30).

Mount the seat and run the vent hose without kinking.





Checking the cooling liquid level

The cooling liquid should be 10 mm (0,4 in) above the cooling elements when the engine is cold (cf. diagram). In the event of the cooling liquid being drained, always fill the system before hand, then top off while the engine is running.

⚠ **WARNING** ⚠

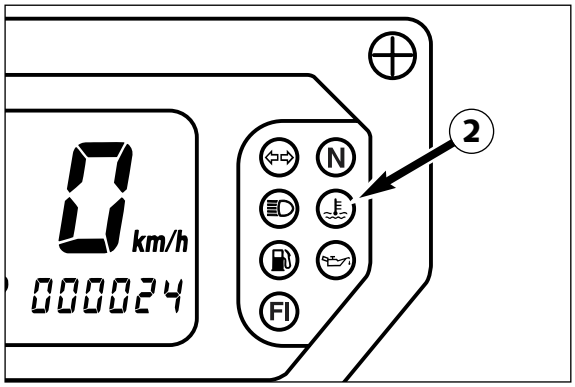
IF POSSIBLE, ALWAYS CHECK LEVEL OF COOLING LIQUID WHEN ENGINE IS COLD. IF YOU HAVE TO OPEN THE RADIATOR CAP WHEN ENGINE IS HOT, USE A RAG TO COVER THE CAP AND OPEN SLOWLY TO RELEASE PRESSURE.

Cooling system

Coolant is circulated by a water pump located in the engine. When the engine is cold the cooling liquid circulates only through the cylinder and the cylinder head. After the engine has reached its operating temperature (about 70°C, 158°F), the thermostat opens and the cooling liquid is also pumped through both aluminum radiators.

Air blowing in through the radiators cools the cooling liquid. The slower the speed of the motorcycle, the less the cooling liquid is cooled down. Dirty radiator fins also reduce the cooling efficiency.

If little or no air blows through the radiators, for example when riding through slow traffic or waiting at traffic lights, the coolant temperature will rise. If the coolant temperature rises to 85° C (185°F), the fan ❶ on the left radiator will switch on. This fan will provide additional air circulation through the radiator thereby preventing the cooling system from overheating.

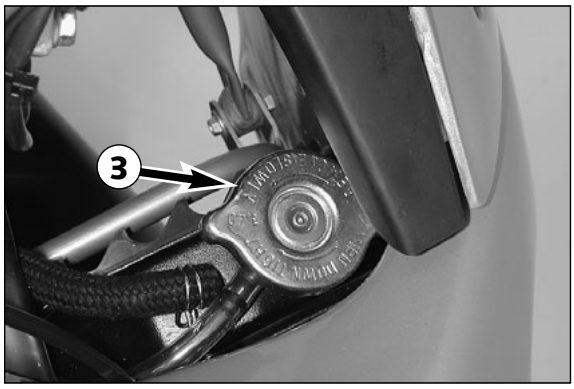


! **CAUTION** !

The red cooling liquid temperature warning light ❷ will begin to light up, if the cooling liquid temperature reaches approx. 110°C and henceforth has exceeded its normal operating temperature.

Possible causes:

– riding slowly with a large load at a higher air temperature:
  If possible increase your running speed, so that more air can blow through the radiators. Should the warning light still be on off after 300 meters, stop immediately, switch off the engine and look for other possible causes.
– Too little cooling liquid in the system:
  Let the engine cool down, and check the system for leakage's. Also examine the cooling liquid level CAUTION SCALDING HAZARD! Do not drive on, until there is sufficient liquid in the cooling system. Go to your nearest KTM garage and get it seen to. If you drive with the cooling liquid temperature warning light on, you will cause even more damages to the engine.
– The cooling fan on the left cooler is not working:
  The cooling fan must be running, when the cooling liquid temperature is 110°C and the ignition is on. If the fan is not working, and there appears to be sufficient cooling liquid, the only thing you can do is to drive on to your nearest KTM garage at the least possible engine load.



⚠ **WARNING** ⚠

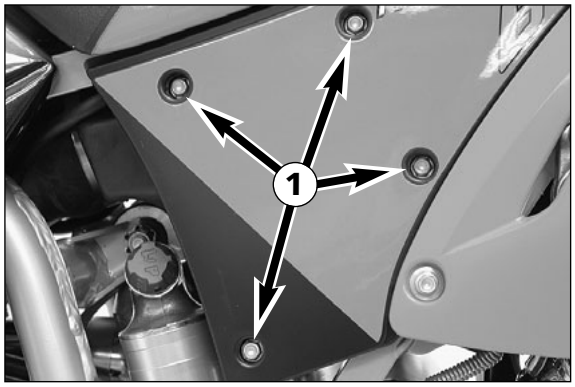
IF POSSIBLE, ALWAYS CHECK LEVEL OF COOLING LIQUID WHEN ENGINE IS COLD. IF YOU HAVE TO OPEN THE RADIATOR CAP WHEN ENGINE IS HOT, USE A RAG TO COVER THE CAP AND OPEN SLOWLY TO RELEASE PRESSURE.

A mixture of 40% antifreezer and 60% water is used as cooling liquid. How-ever, the anti-freeze protection must be at least -25° C (-13° F). Aside from antifreezing protection, this mixture also provides great corrosion protection which is why it must not be replaced by pure water.

! **CAUTION** !

FOR THE COOLING SYSTEM, USE ONLY HIGH-GRADE ANTIFREEZER (SHELL ADVANCE COOLANT). USING LOWERGRADE ANTIFREEZE AGENTS, CAN CAUSE CORROSION AND COOLANT FOAMING.

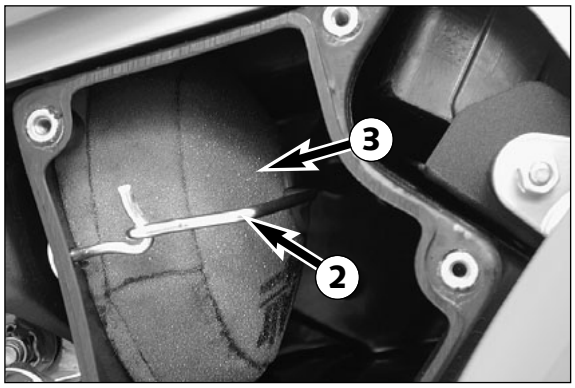
Pressure induced by heating of the cooling liquid in the cooling system is controlled by a valve in the radiator cap ❸; a water temperature rising up to 120° C (248° F) is admissible, without fear of problems.



Cleaning the air filter *

It is very important for the engine's life expectancy to clean the air filter regularly.

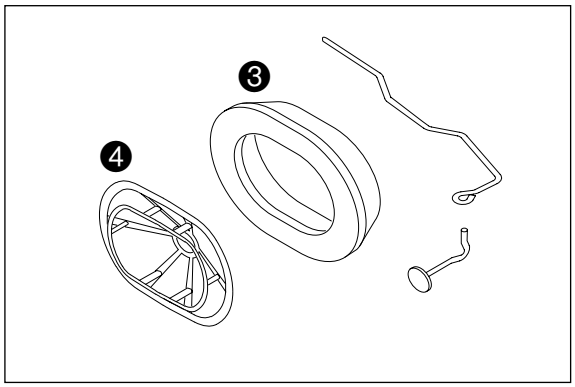
To clean the air filter, remove screws ❶ and the filter box cover. Detach retaining clip ❷ and remove the air filter ❸ including the filter holder ❹ from the filter box.
Remove the air filter from the filter holder and wash thoroughly in special cleaning fluid. Products required for a professional maintenance of the air filter are available from TWIN AIR. Press out the water from the air filter – but do not wring – and allow the filter to dry. Lubricate the dry air filter thoroughly with high-grade filter oil, rubbing to coat the entire filter surface.
Clean the filter box and cover and check the carburetor connection boot for damage.

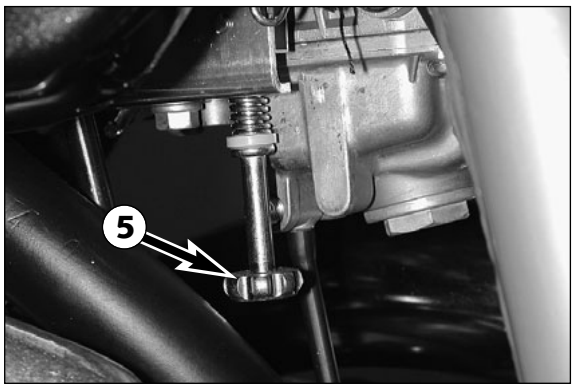


Mount the air filter on the filter holder, position in the filter box (make sure to center) and fix with the retaining clip. Check whether the air filter is positioned correctly and mount the filter box cover.

! CAUTION !

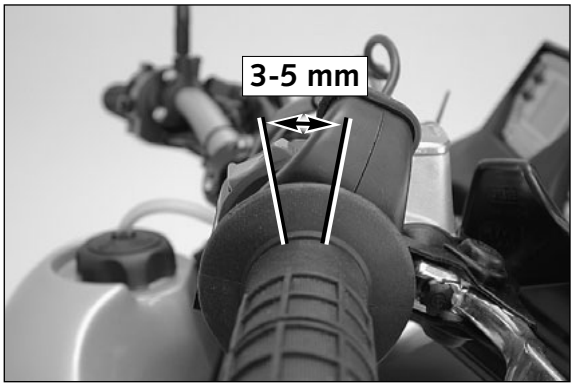
- DO NOT CLEAN AIR FILTER WITH FUEL OR PETROLEUM SINCE THESE WILL DAMAGE THE FOAM. KTM RECOMMENDS THE PRODUCTS MADE BY TWIN AIR FOR AIR FILTER MAINTENANCE. FOR CLEANING PURPOSES AND TO OIL THE AIR FILTER.
- DUST AND DIRT CAN ACCUMULATE AND DAMAGE THE ENGINE IF THE AIR FILTER IS NOT MOUNTED CORRECTLY.





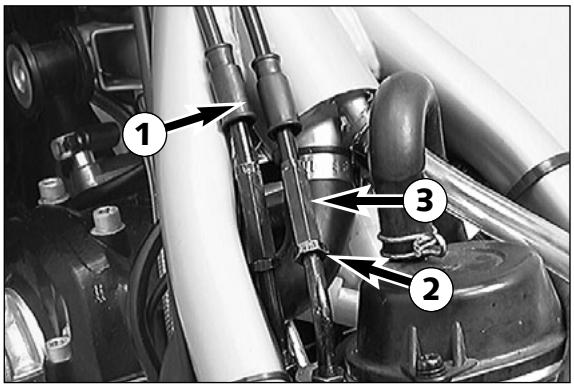
Adjust idling speed *

Use the adjusting screw ❺ to adjust the basic position of the throttle valve and, thus, the idle speed.Turning in clockwise direction will increase the idling speed, turning in counterclockwise direction will reduce the idling speed. Normal idling speed 1400 - 1500 rpm.

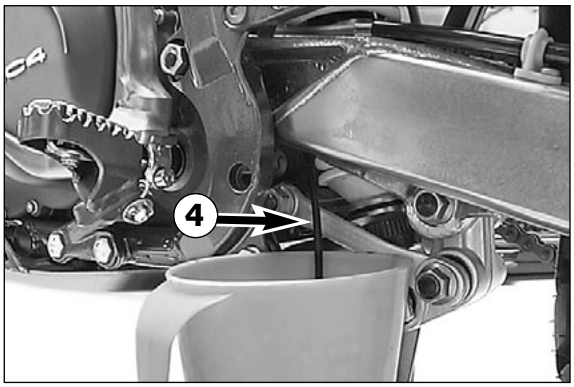


Adjusting the throttle cable *

When starting to turn the throttle grip, you should feel an initial backlash of 3-5 mm.



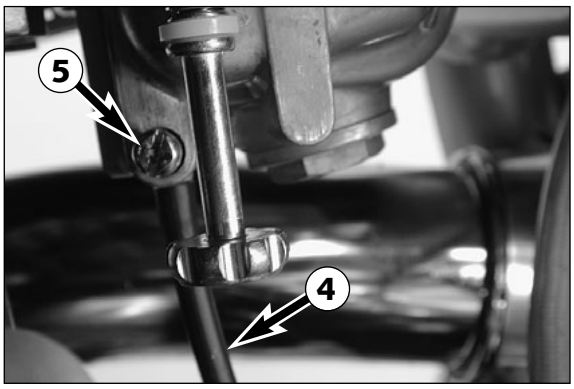
If a correction is necessary, start by removing the tank. Slide back the protection cover ❶. To set the backlash, loosen the counter nut ❷ and turn the adjusting screw ❸ accordingly. Then, fasten the counter nut and slide the protection cover back on.
Make sure that the throttle grip will return to the idle position automatically once you let go of it.
To check the correctness of this setting, start the engine, turn the handlebar left and right, in both cases as far as it will go. This must not cause any changes in idling speed. Otherwise, you have to increase the backlash of the throttle cable.



Draining of float chamber of the carburetor

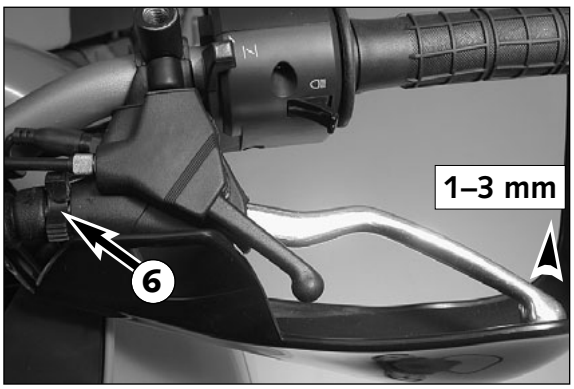
Following every wet-cleaning procedure, the float chamber of the carburetor should be drained in order to remove any water that may have penetrated into it. Water in the float chamber leads to engine malfunction.

Wait until the engine is cold before commencing to perform the worksteps indicated below.
Close the fuel tap.
Put the end of the hose ❹ that leads downward behind the engine into an appropriate container.
Open the drain plug ❺, turning it counterclockwise a few times, and let the fuel drain from the float chamber.
Then tighten the drain plug and open the fuel tap.



⚠ WARNING ⚠

FUEL IS EASILY FLAMMABLE AND TOXIC. WHEN HANDLING FUEL, BE SURE TO EXERCISE THE UTMOST CAUTION. NEVER PERFORM ANY WORK ON THE FUEL SYSTEM IN THE PROXIMITY OF OPEN FLAMES OR BURNING CIGARETTES. ALWAYS ALLOW THE ENGINE TO COOL OFF FIRST. IMMEDIATELY CLEAN UP ANY FUEL WHICH MAY HAVE BEEN SPILLED. MATERIALS SATURATED WITH FUEL ARE ALSO EASILY FLAMMABLE. IN CASE YOU INGESTED FUEL OR FUEL SPLASHED INTO YOUR EYES, CONSULT A DOCTOR IMMEDIATELY.

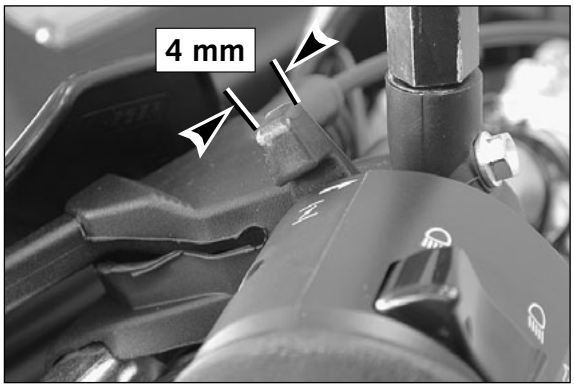


Adjusting the clutch cable

When the engine is cold, the play at the clutch lever should be 1-3 mm (0.04 - 0,12 in). Measured at the outer edge.
To adjust the clutch cable turn the adjusting nut ❻ accordingly.

! CAUTION !

IF THERE IS NO PLAY ON THE CLUTCH LEVER, THE CLUTCH WILL START TO SLIP. THE CLUTCH WILL THEN OVERHEAT, DESTROYING THE CLUTCH LININGS.

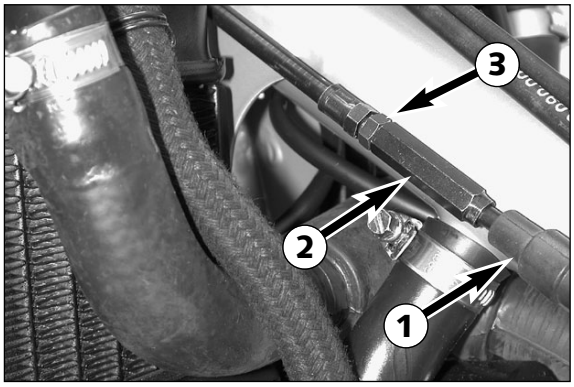


Checking and adjusting the choke cable play *

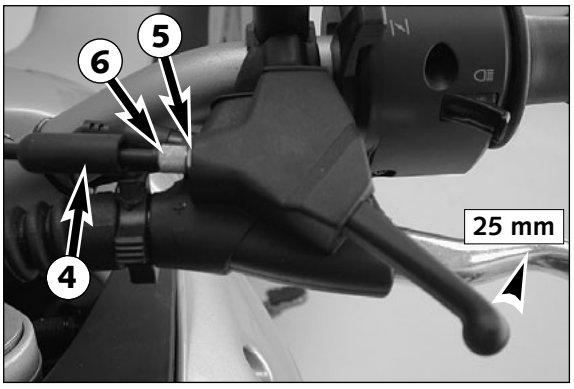
The choke lever must always have a play of approx. 4 mm (0,16 in).
Remove the seat and tank to adjust.

! CAUTION !

IF THERE IS NO PLAY IN THE CHOKE CABLE, THE BORE OF THE COLD STARTER SYSTEM CANNOT BE COMPLETELY CLOSED. THIS RESULTS IN HIGH FUEL CONSUMPTION, AN UNEVEN RUNNING ENGINE, AND AN EXTREME WEAR OF PISTON AND CYLINDER.



Push the choke lever all the way to the front and slide the protecting cap ❶ from the adjusting part ❷.
Loosen the lock nut ❸ and correct the play by turning the adjusting part. Tighten lock nut and slide protecting cap back on.
Mount the tank and seat.



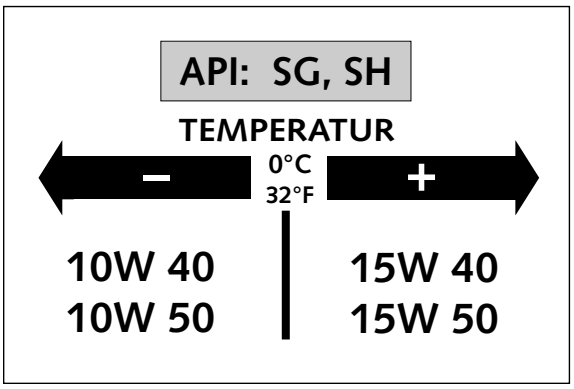
Checking the adjustment of the hand decompression cable *

To check, set piston at compression, so that the valves are closed. While doing this, slowly operate the kickstarter through its stroke until the clicking sound (disengaging) of the automatic decompression can be heard. Now the decompression lever must be operated 25 mm (1 in) until resistance is felt (the exhaust valves begin to open). To adjust move back the protective cover ❹, loosen the counter nut ❺ and correct the adjusting screw ❻ accordingly. Tighten counter nut and push back protective cover.

! CAUTION !

THE SETTING OF THE HAND DECOMPRESSION CABLE SHOULD BE REGULARLY CHECKED (SEE MAINTENANCE WORK). A LACK OF PLAY IN THE HAND DECOMPRESSION LEVER CAN RESULT IN ENGINE DAMAGE.

NOTE:
No adjustment need be made to the automatic decompressor.



Engine oil

Only use fully synthetic branded oils (Shell Advance Ultra 4) meeting or surpassing the quality requirements of API classes SG or SH (see specifications on the container).

! CAUTION !

INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.

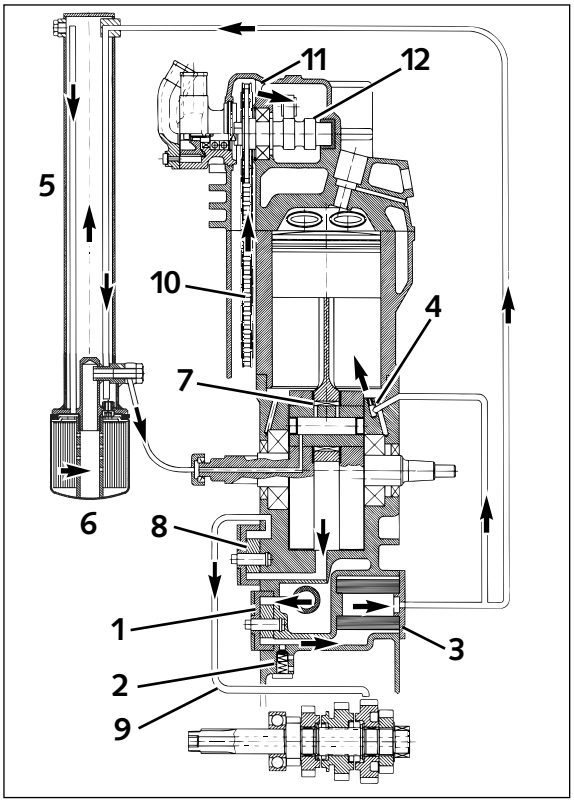
Checking engine oil level

Allow the engine to run at idle speed for about 4 minutes. Turn off the engine and place the motorcycle on a flat, level surface (center stand). Wait 5 minutes, unscrew and remove the oil dipstick, and wipe it clean with a cloth.
SCREW THE DIPSTICK IN ALL THE WAY AND REMOVE IT AGAIN.
The oil level should be between the two marks on the dipstick, however, it must never rise above the MAX mark. Otherwise, engine oil would get into the air filter box by way of the engine venting system.
Add engine oil if necessary.

! CAUTION !

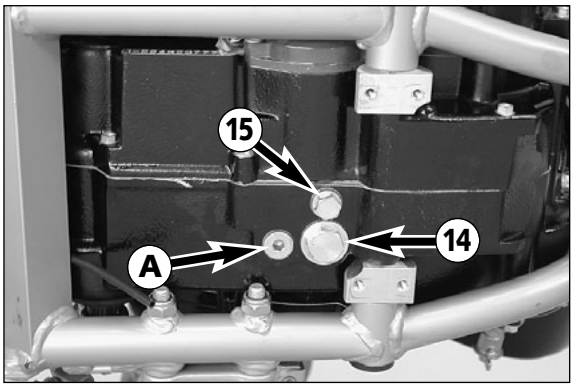
- INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.
- CHECKING THE ENGINE OIL LEVEL WHEN THE ENGINE IS COLD RESULTS IN A FALSE READING ON THE OIL DIPSTICK AND THEREFORE AN INCORRECT OIL LEVEL.
- DO NOT OVERFILL THE ENGINE CASE.
- DO NOT UNDERFILL THE ENGINE CASE.

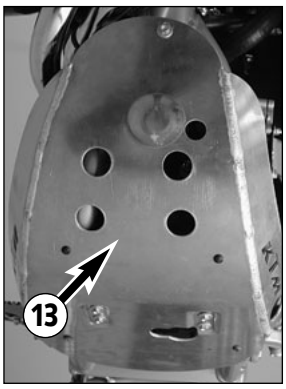
Finally, check oil system and engine for leaks.

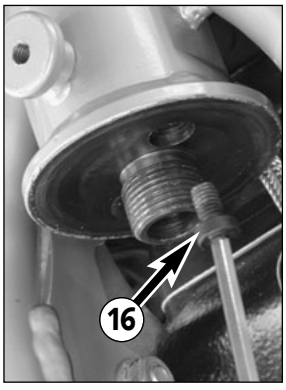


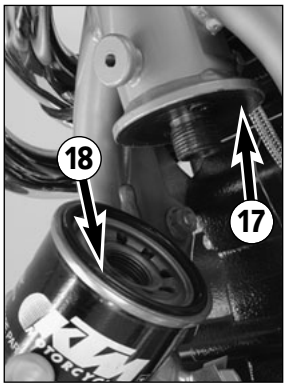
Oil circuit

The oil pump ❶ pumps the motor oil past the bypass valve ❷ and through the oil filter ❸ . Beyond the oil filter, one of the oil lines forks off to a jet ❹ that injects motor oil to the piston pin bearing and the piston head. The second oil line leads the main oil flow to the frame breast pipe ❺ where the motor oil is cooled off. Then the motor oil flows through the fine screen filter ❻ that removes even the finest of contaminants from the motor oil. The cleansed motor oil is pumped via an oil line and the clutch cover into the crankshaft to the conrod bearing ❼ and drains from there into the crank case. A additional oil pump ❽ suctions the motor oil out of the crank case and pumps it through the oil canal ❾ to the gear wheels of the 4th and 5th gears. The motor oil reaches the oil sump via the gear wheels. The timing chain ❿ also dips into the oil sump and propels motor oil upwards to the cylinder head. The motor oil reaches the carnshaft ⓬ and the valves through the bore ⓫.









Oil and screen filter change, bleeding of the oil system *

Note: The frame breast pipe is integrated into the oil circuit for the sake of more effectively cooling the motor oil. It is thus important when changing the oil to also remove the fine screen filter, to drain the motor oil from the breast pipe and to de-aerate the oil system.
If the oil system is not bled at all or bled insufficiently, the bearings of the engine will not get enough lubrication, which in turn may result in engine failure.
Therefore, we recommend that you have the engine oil changed by your authorized KTM mechanic. During the guaranty period, the oil change must be performed by an authorized KTM mechanic. Otherwise, the guarantee will become void.

The engine oil change is to be carried out when the engine is still warm.

⚠ WARNING ⚠

AN ENGINE HAVING BEEN RUN WARM, AND THE ENGINE OIL IN IT IS VERY HOT - DO NOT BURN YOURSELF.

Place the motorcycle on a horizontal surface.

Remove 5 screws to remove the engine guard ⓭.
Remove the two screw plugs ⓮ and ⓯ and drain oil into a vessel. Loosen the fine filter ❻ with an oil-filter wrench and unscrew by hand.

Remove the two plugs ⓭ and ⓮, and drain oil into a container.

! CAUTION !

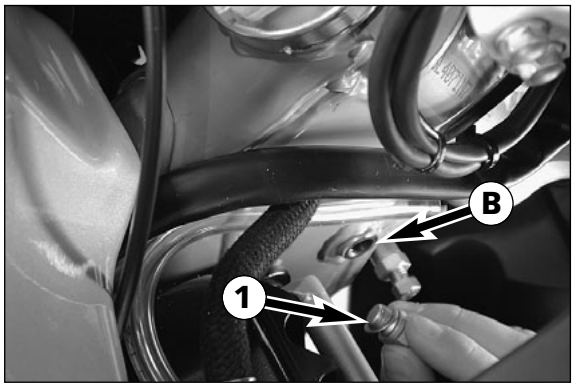
PLUG Ⓐ MUST NOT BE REMOVED, THIS IS PART OF THE BY-PASS VALVE.

The screw ⓰ must be removed to allow the motor oil to flow out of the frame breast pipe.
Clean the plugs thoroughly with petroleum and compressed air in order to remove any metal filings. After the oil has drained completely, clean the sealing areas and remount the plugs together with their gaskets. Tighten plug ⓮ with 30 Nm and plug ⓯ with 20 Nm. Tighten the screw ⓰ with 10 Nm. Clean sealing surfaces on the frame breast pipe ⓱, fill new fine screen filter with engine oil, and oil rubber gasket ⓲. Replace fine screen filter and screw it back in place, your bare hand will do.
Remove oil dipstick on the clutch cover, fill with 1,3 litre engine oil and attach plug again.

! CAUTION !

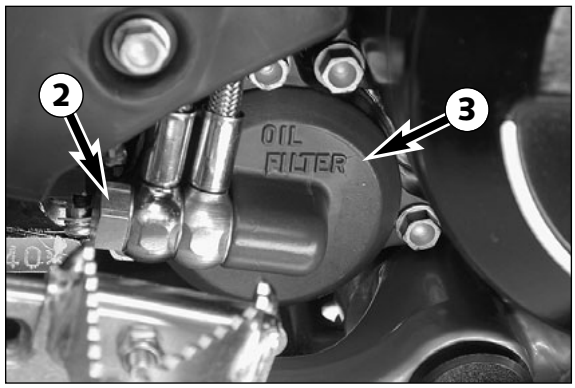
- USE ONLY ORIGINAL KTM FINE SCREEN FILTERS. USING ANOTHER FILTER BRAND CAN RESULT IN DAMAGE TO THE ENGINE.
- **IF THE ENGINE OIL HAS BEEN DRAINED FROM THE FRONT PIPE OF THE FRAME, YOU MUST BLEED THE OIL SYSTEM !**

To facilitate bleeding of the oil system, we have added a hose connection piece and a plastic hose to the set of tools. Take an empty oil can (1 liter) and drill a 7 mm-diameter hole into the lid. Screw the hose connection piece into the lid from the outside, and secure it from the inside with the M8 hexagon nut.
Slip the plastic hose onto the hose connection piece, and you will have your filling tool.



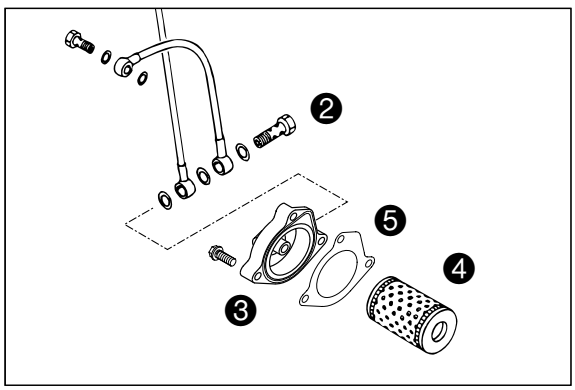
Fill 0.6 liters of engine oil into the can and remove the plug ❶ next to the steering head. Introduce the plastic hose into the vent hole Ⓑ, (see page 30) and fill 0.6 liters of engine oil into the frame's front tube. Remove plastic hose, start engine, and let it idle (approx. 20 seconds) until oil escapes at the hole Ⓑ. As soon as oil starts to escape, turn off the engine, and mount the plug together with the gasket.

Allow the engine to warm up, check the engine oil level and correct if necessary. Afterwards, check the entire oil system for leakage.
Mount the engine guard.



Changing oil filter *

Replace the oil filter when changing the engine oil. Press the foot brake pedal and place a screwdriver or similar between foot brake pedal and stopper roll so that the oil filter cover is more accessible. Remove banjo bolt ❷ and the three screws. Remove oil filter cover ❸ and oil filter. Clean the filter case, oil filter cover and sealing areas. Make sure the oil duct in the oil filter cover is not clogged.



Place the new oil filter ❹ on the connection in the oil filter cover and mount together with a new seal ❺. Tighten the 3 screws in the filter cover to 5 Nm (4 ft.lb). Tighten the hollow screw with seals and tighten to 15 Nm (11 ft.lb).
Finally, start the engine and check the oil system for leakage.

TROUBLE SHOOTING

If you let the specified maintenance work on your motorcycle be carried out, disturbances can hardly be expected. Should an error occur nevertheless, we advise you to use the trouble shooting chart in order to find the cause of error.
We would like to point out that many operations cannot be performed by oneself. In case of uncertainty, please contact a KTM-dealer.

TROUBLE	CAUSE	REMEDY
Engine doesn't crank.	Operating errror	Turn on the ignition, switch the gear to neutral and switch the emergency OFF switch on.
	Discharged battery.	Recharge the battery and investigate the causes for discharging; contact a KTM dealer.
	Defect ignition lock or emergency OFF switch	Check ignition lock and emergency OFF switch, contact a KTM dealer.
The engine doesn't crank. The neutral indicator lamp doesn't light up.	Blown fuse safe-starting system.	Replace fuse (below the cockpit cover).
	Blown main fuse.	Remove seat and replace the main fuse. If fuse blows again contact a KTM dealer.
	Discharged battery.	Recharge the battery and investigate the causes for discharging; contact a KTM dealer.
The engine cranks only with pulled clutch lever	Defect safe-starting system.	Contact a KTM dealer.
Engine cranks with gear engaged.	Defect safe-starting system.	Contact a KTM dealer.
Engine cranks but doesn't start.	Operating error	Open fuel tap / emergency fuel tap, tank fuel, you did not use choke i.e. the warmstart device. Pay attention to starting off information (see driving instructions).
	The motorcycle has been out of operation for a longer period of time. Therefore old fuel has accumulated in the float chamber	The easily inflammable components of the new fuels evaporate during longer periods of standstill. When the motorcycle has been out of operation for more than a week, it is therefore recommended to drain the old fuel from the float chamber. The engine will immediately start off when the float chamber is filled with new fuel.
	Fuel supply interrupted	Pull the fuel hose from the fuel cock and allow the fuel to drain into a vessel – if any fuel leaks out, check the fuel pump. If the fuel pump functions properly, clean the carburetor – if no fuel leaks out, open the auxiliary fuel cocks and check for free passage or clean the fuel cock
	Defective fuel pump	Disconnect the fuel hose at the carburetor. Put the end of the fuel hose into an appropriate container, open the fuel taps and start the engine. – If fuel flows out, clean the carburetor. – If no fuel flows out – check the underpressure tube between the cylinder head and the fuel pump for leaks. – contact a KTM dealer.
	Flooded engine	Fully open the throttle when starting or exchange the spark plug, respectively
	Sooty or wet spark plug	Clean and dry the spark plug or exchange it, respectively
	Electrode gap too large	Adjust spark plug elektrode gap to 0,9 mm

TROUBLE	CAUSE	REMEDY
Engine cranks but doesn't start.	Spark plug connector or spark plug faulty	Dismount spark plug, connect ignition cable, hold to ground (blank place on engine) and actuate starter, a strong spark must be produced at the spark plug – If no spark is created exchange the spark plug. – If the new spark plug doesn't produce a spark either, disconnect the spark plug connector from the ignition cable, hold it a distance of approx. 5 mm from ground and start. – If a spark now occurs, replace spark plug cap – If no spark is produced, control ignition system
	The plug connection of the CDI-unit, the pulse generator or the ignition coil has oxydized	Remove the seat, the right side cover and the fuel tank. Clean the plug connection and treat it with contact spray
	Water in carburetor or jets blocked	Dismount and clean carburetor
	Carburetor does not fit in properly at intake flange	Check if carburetor is fitted in correctly
Engine fails to idle	Glogged idling jet	Disassemble carburetor and clean jets
	Oncorrect adjustment of adjusting screws on carburetor	Have carburetor adjusted
	Defective spark plug	Replace spark plug
	Defective ignition system	Have ignition system checked
Engine does not rev high	Carburetor fuel level too high because	Dismount carburetor and check if worn out
	Float needle is dirty or worn out	Replace float needle
	Float leaks	Replace float
	The cold starting system is permanently activated due to a lack of play in the choke cable.	Adjust choke cable.
	Defective membrane of slide	Replace membrane
	Carburetor leaking	Check vacuum hose and venting hose of carburetor for correct position (no kinks)
	Loose carburettor jets	Tighten jets
	Electronic ignition timing faulty	Have ignition system checked
Engine will not reach full power	Fuel supply partically interrupted or carburetor dirty	Clean and check fuel system as well as carburetor Have fuel pump checked.
	Float leaks	Replace the float
	Defective membrane of slide	Replace membrane
	Carburetor leaking	Check vacuum hose and venting hose of carburetor for correct position (no kinks)
	Air filter very dirty	Clean or replace air filter, contact a KTM dealer
	Valve clearance to small	Have valve clearance adjusted
	Loss of compression because hand decompressor has no play	Check setting of the hand decompression cable
	Electronic ignition timing faulty	Have ignition system checked

TROUBLE	CAUSE	REMEDY
Engine overheats	Insufficient cooling liquid	Refill cooling liquid (see maintenace work), check cooling system for leaks
	Radiator fins are extremely dirty	Clean radiator with water jet
	Foam forms in cooling system	Replace cooling liquid, use antifreezer with brand name
	Bent radiator hose	Shorten or replace cooling hose
	Thermostat defective	Remove and check thermostat (opening temperature 70°C (158°F) or replace it, contact a KTM dealer
	Blown fan fuse	Replace fuse and check if fan operates properly (see below)
	Defect thermoswitch	Contact a KTM dealer
	Fan defective	Check if fan operates properly. To do this, start the engine, then bypass the connections to the thermoswitch (bottom right radiator), contact a KTM dealer
High oil consumption	Buckling gear ventilation hose	Readjust or replace ventilation hose
	Engine oil level too high	Check engine oil level when the engine is warm; correct if necessary
	Engine oil too thin (viscosity)	Use thicker engine oil; see chapter „Engine oil“
Electric system not operational	Blown main fuse.	Remove seat and replace the main fuse. If fuse blows again contact a KTM dealer.
	Discharged battery.	Recharge the battery and investigate the causes for discharging; contact a KTM dealer.
All switched on lamps blown out	Voltage regulator faulty	Remove seat and check connections. Have voltage regulator checked
Headlight and parking light fail	Blown fuse	Replace fuse (below the cockpit cover).
Flasher lights, brake light, fan and horn fail	Blown fuse	Replace fuse (below the cockpit cover).
The NEUTRAL lamp is not on even though the gear is in NEUTRAL	Defect neutral switch.	Connect cable to ground; neutral switch must be replaced if indicator lamp lights up.
	Loose connections, defect cable.	Check connections and cables.
The battery is discharged	The ignition (power consumer) hasn't been switched off	Recharge the battery according to the relevant instructions.
	The battery isn't charged by the generator because	Remove seat and check voltage regulator connections; voltage regulator and generator should be checked by a KTM dealer.
No values are visible in the Tripmaster display.	Main fuse melted through	Replace the main fuse under the seat
No speed display.	Defective sensor cable or oxidized socket connector.	Check the sensor cable for damage and replace it if necessary. Remove the headlight mask and check the socket connector. Contact a KTM dealer.

CLEANING

Clean your motorcycle regularly in order to maintain the beauty of its plastic surfaces.

The best manner would be to use warm water that has been mixed with a normal trade washing detergent and a sponge. The hard dirt can be removed before with the help of a soft water jet.

! CAUTION !

NEVER CLEAN YOUR MOTORCYCLE WITH A HIGH-PRESSURED CLEANER OR A HIGH-PRESSURED WATER JET. THE WATER COULD OTHERWISE RUN INTO THE ELECTRICAL COMPONENTS, CONNECTORS, SHEATHED CABLES, BEARINGS, CARBURETOR ETC. AND CAUSE DISTURBINGS OR LEAD TO A PREMATURE DESTRUCTION OF THESE PARTS.

- You should use normal trade-mark detergents to clean the engine. Strongly dirted parts should be cleaned additionally with the help of a paint brush.
- Befor cleaning with water, plug the exhaust pipe to prevent water ingress
- After the motorcycle has been rinsed with a soft water jet, it should be dried by air pressure and a cloth. Then take a short drive until the engine has reached the working temperature and also use the brakes. Due to the heat, the water also evaporates at the unapproachable parts of the engine and the brakes.
- Slide back the protective covers on the handlebar-mounted instruments so that any water that may have seeped into this part of the motorcycle is allowed to evaporate.
- After the motorcycle has cooled down, oil and grease all sliding and pivot points. Treat the chain with a chain spray too.
- To prevent failures in the electric system, you should treat the ignition lock, the emergency OFF switch, light switch and the socket connectors with contact spray.

CONSERVATION FOR WINTER OPERATION

In the event that the motorcycle is also used in winter and on roads where one has to expect salt spraying, you will have to take precautions against the aggressive road salt.

- Thoroughly clean and let the motorcycle dry after every ride.
- Treat engine, carburetor, swing arm, and all other bare or galvanized parts (except for brake discs) with a wax-based anti-corrosion agent.

⚠ WARNING ⚠

KEEP ANTI-CORROSION AGENT FROM GETTING INTO CONTACT WITH THE BRAKE DISCS, FOR OTHERWISE THIS WILL SIGNIFICANTLY REDUCE THE BRAKING POWER.

! CAUTION !

AFTER RIDES ON SALTED ROADS, CLEAN MOTORCYCLE THOROUGHLY WITH COLD WATER AND LET IT DRY WELL!

STORAGE

Should you desire to make a pause over a longer space of time, please observe the following instructions:

- Clean motorcycle thoroughly (see chapter: CLEANING)
- Change engine oil, oil filter and fine screen filter (old engine oil contains aggressive contaminations).
- Check antifreezer and amount of cooling liquid.
- Let the engine warm up again, close fuel tap and wait until the engine dies off by itself. By this means, carburetor jets are prevented from becoming resinous by the old fuel.
- Remove spark plug and fill in approx. 5 ccm of engine oil into the cylinder through the opening. Actuate kick-starter 10 times in order to distribute the oil onto the cylinder walls and mount the spark plug.
- Set piston to compression so that the valves will be closed (slowly operate the kickstarter, until you can hear the automatic decompressor click (release))
- Let fuel flow out of tank into an appropriate container.
- Correct tire pressure.
- Lubricate pivot points of the control levers, foot rests, etc. as well as the chain.
- Service the shock absorber linkage
- Disassemble and charge battery (see chapter: BATTERY).
- The storage place should be dry and not subject to excessive temperature fluctuations.
- Cover the motorcycle with an air permeated tarpaulin or blanket. Do not use non air permeable materials as a possible humidity might not be able to escape and could cause corrosion.

! CAUTION !

IT WOULD BE VERY BAD TO LET THE ENGINE RUN FOR A SHORT TIME DURING THE STORAGE PERIOD. THE ENGINE WOULD NOT GET WARMED UP ENOUGH AND THE THUS DEVELOPED STEAM WOULD CONDENSE DURING THE COMBUSTION PROCESS AND CAUSE THE VALVES AND EXHAUST TO RUST.

RE-INITIATION AFTER TIME OF STORAGE

- Mount the charged battery (regard polarity) and adjust the clock.
- Fill up tank with fresh fuel.
- Check motorcycle as before each start (see driving instructions)
- Take a short, careful test ride first.

NOTE: Before you put your motorcycle away for the winter, you have to check all parts for their function and wear. Should any service jobs, repairs, or any refitting be necessary, you should have them carried out during the off-season (lower workload at mechanics shops). This way, you can avoid the long waiting times at your mechanic at the beginning of the next biking season.

TECHNICAL DATA – ENGINE 640 LC4 ADVENTURE 2002

Type	**640 LC4**
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft and electric starter
Displacement	625 ccm
Bore / Stroke	101 / 78 mm
Ratio	11,0 : 1
Fuel	unleaded premium gasoline with a least RON 95
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain
Camshaft	249/1
Valve diameter	Intake: 36 mm Exhaust: 30 mm
Valve clearence cold	Intake: 0.15 mm Exhaust: 0.15 mm
Crank shaft bearing	2 cylinder roller bearing
Connecting rod bearing	needle bearing
Top end bearing	bronze bushing
Piston	forged/cast aluminium alloy
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring
Engine lubrication	2 Eaton-Oilpumps
Quantity of engine oil	see table
Engine oil	2.1 liters including frame
Primary ratio	straight geared spur wheels 30 : 81 teeth
Clutch	multi disc clutch in oil bath
Transmission	5-speed claw shifted
Ignition system	contactless DC- CDI ignition with digital advanced system type KOKUSAN
Ignition timing	adjustment to max. 38° BTDC at 6000 rpm
Generator	12V 200W
Spark plug	NGK DPR8 EA9
Spark plug gap	0.9 mm
Cooling system	liquid cooled, permanent rotation of cooling liquid through mechanic driven water pump
Cooling liquid	1 liter, 40% antifreeze, 60% water, at least –25° C (–13° F)
Starting equipment	electric starter, kick starter

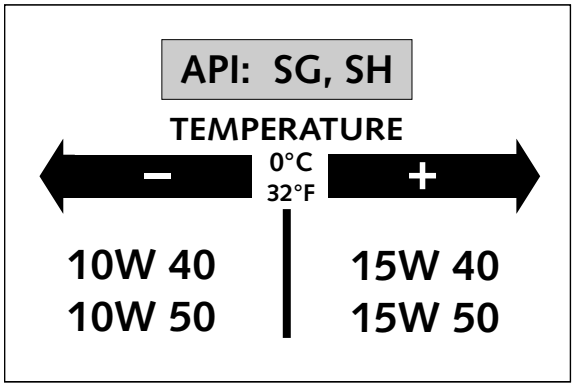
ASSEMBLY CLEARANCE, WEAR LIMIT 640 LC4		
Crank shaft	axial play	.0.03 - 0.12 mm
	run out of crank stud	.max. 0.08 mm
Connecting rod bearing	radial play	.max. 0.05 mm
	axial play	.max. 1.10 mm
Cylinder	bore	.max. 101.04 mm
Piston forged	assembly clearance	.max. 0.12 mm
Piston rings end gap	compression rings	.max. 0.80 mm
	oil scraper ring	.max. 1.00 mm
Valves	seat sealing intake	.max. 1.50 mm
	seat sealing exhaust	.max. 2.00 mm
	run out of valve heads	.max. 0.05 mm
	valve guides diameter	.max. 7.05 mm
Oil pumps	clearance outer rotor - housing	.max. 0.20 mm
	clearance outer rotor - inner rotor	.max. 0.20 mm
Bypaß valve	minimum spring length	.25.00 mm
Clutch	Length of springs	.min. 34.5 mm (new 37.00 mm)
	wear limit organic	.min. 2.50 mm
Camshaft	diameter of bearing bolt (needle bearing)	.min. 19.97 mm
Transmission shafts	axial play	.0.10 - 0.40 mm

GEAR RATIOS

Primary ratio	Transmission	Original final drive ratio	Available chain drive sprockets	Available final drive sprockets
30:81	1st gear 14:35 2nd gear 15:24 3rd gear 18:21 4th gear 20:19 5th gear 22:18	15:45 16:42 17:38 17:42	15 t 16 t for chain 17 t ⅝ x ¼"	38 t 40 t for chain 42 t ⅝ x ¼" 45 t 48 t

BASIC CARBURETOR SETTING

	640 LC4, Adventure 36 kW
Type	BST40-225
Carb.-setting number	090298
Main jet	142,5
Needle jet	689 X-6
Idling jet	45
Jet needle	6G5
Needle clip pos. f. top	3. from top
Mixt. adj. screw open	2,25
Throttle valve	–
Starting jet	–
Performance restrictor	–



Engine oil

Use only synthetic oil brands, which meet quality requirements (ShellAdvance Ultra 4) of API-classes SG or SH (informations on bottles) or higher.

! CAUTION !

POOR OIL QUALITY OR MINOR QUANTITY EFFECT EARLY ENGINE-WEAR.

TIGHTENING TORQUES - ENGINE 640 LC4

Hexagon nut at primary gear	M20x1,5	Loctite 243 + 170 Nm	(125 ft.lb)
Collar nut flywheel	M16x1,25 left	80° C + 150 Nm	(110 ft.lb)
Hexagon nut for inner clutch hub	M18x1,5	Loctite 243 + 80 Nm	(59ft.lb)
Kickstarter stop screw	M12x1,5	50 Nm	(37ft.lb)
Allan head screw freewheel hub	M6x12/M6x12,5	Loctite 648 + 12 Nm	(9ft.lb)
Allan head screw oil pumps	M6	Loctite 243 + 8 Nm	(6ft.lb)
Hexagon screw camshaft gear	M10	Loctite 243 + 35 Nm	(25ft.lb)
Allan head screw cylinder head top sect.	M6x25/m6x35/M6x65/M6x70 (8.8)	8 Nm	(6ft.lb)
Allan head screw cylinder head top sect.	M6x50/M6x55 (12.9)	15 Nm	(11ft.lb)
Cylinder head screws	M10	50 Nm	(37ft.lb)
Collar nuts at cylinder base	M10	40 Nm	(30ft.lb)
Hexagon screw chain sprocket	M10 (10.9)	Loctite 243 + 60 Nm	(44ft.lb)
Oil drain plug	M22x1,5	30 Nm	(22ft.lb)
Magnetic plug	M12x1,5	20 Nm	(15ft.lb)
Plug bypass valve	M12x1,5	20 Nm	(15ft.lb)
Hollow screws oil lines	M8x1	10 Nm	(7ft.lb)
Hollow screws oil lines	M10x1	15 Nm	(11ft.lb)
Jet screw clutch cover	M8	10 Nm	(7ft.lb)
Screw plug timing-chain tensioner	M12x1,5	20 Nm	(15ft.lb)
Counternuts valve adjusting screws	M7x0,75	16 Nm	(12ft.lb)
Crankshaft locking bolt	M8	20 Nm	(15ft.lb)
Spark plug	M12x1,25	20 Nm	(15ft.lb)
Engine mounting bolt	M8	40 Nm	(30ft.lb)
Engine mounting bolt	M10	70 Nm	(52ft.lb)

TECHNICAL SPECIFICATIONS - CHASSIS 640 LC4 ADVENTURE 2002

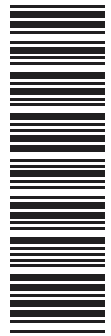
	640 LC4 Adventure
Frame	Central chrome-moly-steel frame
Fork	WP USD MXMA 4860
Wheel travel front/rear	275/300 mm (10,5/12 in)
Rear suspension	Central shock absorber (WP BAVP3612) with PRO-LEVER linkage to rear-swingarm with needle bearing
Front brake	Disc brake with carbon-steel brake disc Ø 320 mm (11,8 in), brake caliper floated
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated
Tyres front	90/90-21 Enduro3
Air pressure offroad	1,8 bar (21 psi)
Air press. road, driver only	2,0 bar (29 psi)
Tyres rear	140/80-18 Enduro3
Air press. road, driver only	2,0 bar (29 psi)
Air press. road, with passenger	2,2 bar (32 psi)
Fuel tank capacity	28 liter (7,4 US gallons) of that 2 liter (0,5 US gallons) reserve
Final drive ratio	16 : 42
Chain	5/8 x 1/4 "X-Ring
Lampenbestückung	head light . . . . . .H1 12V 55W (Sockel P14,5S) parking light . . . . . .12V 2W (Sockel Ba9s) brake- rear light . . . . . .12V 21/5W (Sockel BaY15d) flasher light . . . . . .12V 10W (Sockel Ba15s) license plate illintion . . . . . .12V 5W (Sockel W2,1x9,5d)
Battery	maintenance-free battery 12V 8Ah
Steering angle	62,5°
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)
Seat high	955 mm (37,7 in)
Ground clearance	355 mm (14,2 in)
Dead weight without fuel	154 kg (340 lbs)
Max. permissible front axle load	150 kg (331 lbs)
Max. permissible rear axle load	230 kg (507 lbs)
Max. permissible laden weight	380 kg (839 lbs)

STANDARD ADJUSTMENT - FORK	
	WP 4860 MXMA **1418W711**
Compression adjuster	14
Rebound adjuster	14
Spring	4,4 N/mm
Spring preload	4 mm
Air chamber length	120 mm
Capacity per fork leg	ca 420 ccm
Fork oil	SAE 5

STANDARD-ADJUSTMENT - SHOCK ABSORBER	
	WP BAVP3612 **0118W715**
Compression adjuster	6
Rebound adjuster	7
Spring	70/260
Spring preload	27 mm (0,9 in)

TIGHTENING TORQUES - CHASSIS 640 LC4 ADVENTURE			
Collar nut front axle	M16x1,5	40 Nm	(30ft.lb)
Collar nut rear axle	M20x1,5	80 Nm	(59ft.lb)
Shock absorber top/bottom	M10	45 Nm	(33ft.lb)
Collar screws brake disk front/rear	M6 (10,9)	Loctite 243 + 10Nm	(7ft.lb)
Screw brake caliper front	M8	Loctite 243 + 25 Nm	(19ft.lb)
Bearing bolt linkage arm/frame	M12	60 Nm	(44ft.lb)
Collar nuts rocker arm bolts	M14x1,5	100 Nm	(74ft.lb)
Engine mounting screw	M10	45 Nm	(33ft.lb)
Sprocket screws on nuts	M8	Loctite 243 + 35 Nm	(25ft.lb)
Collar nut swingarm bolt	M14x1,5	100 Nm	(74ft.lb)
Clamping screws top triple clamp (MXMA 4860)	M8	20 Nm	(15ft.lb)
Clamping screws bottom triple clamp (MXMA 4860)	M8	15 Nm	(11ft.lb)
Clamping screws fork stubs	M8	10 Nm	(7ft.lb)
Spoke nipple	M4	4 Nm	(3ft.lb)
Other screws on chassis	M6	10 Nm	(7ft.lb)
	M8	25 Nm	(19ft.lb)
	M10	45 Nm	(33ft.lb)
Other colllar nuts an chassis	M6	15 Nm	(11ft.lb)
	M8	30 Nm	(22ft.lb)
	M10	50 Nm	(37ft.lb)

HEAD WORD INDEX



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