KTM

ADVENTURE R

640

BEDIENUNGSANLEITUNG

OWNER'S HANDBOOK

ART.NR. 3.205.56

9.98

IMPORTANT

WE STRONGLY SUGGEST THAT YOU READ THIS HAND-BOOK CAREFULLY AND COMPLETELY BEFORE YOU TAKE YOUR FIRST RIDE. IT CONTAINS INFORMATION AND TIPS THAT WILL BE ABLE YOU TO OPERATE AND HANDLE YOUR MOTORCYCLE PROPERLY.
PAY ATTENTION ESPECIALLY TO THE FOLLOWING INSTRUCTIONS:

⚠ **WARNING** ⚠

IGNORING THESE INSTRUCTIONS CAN ENDANGER YOUR BODY AND YOUR LIFE.

! **CAUTION** !

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

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

Frame number

Engine number

Stamp of dealer

COMSUMER 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 owner of a sporty and modern motorcycle which you are bound to have a great time with, provided you care for it properly. This manual will furnish you with important information on how to operate and maintain your new KTM motorcycle. At the time of printing, the handbook covered the most up-to-date models in this series. It is, however, possible that we may have made slight modifications in the meantime due to development in our motorcycle design.

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.

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.

We wish you a lot of fun when driving !

TÜV CERT
FOR QUALITY SYSTEM
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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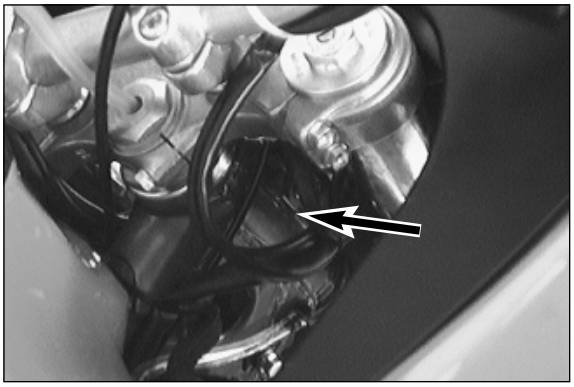
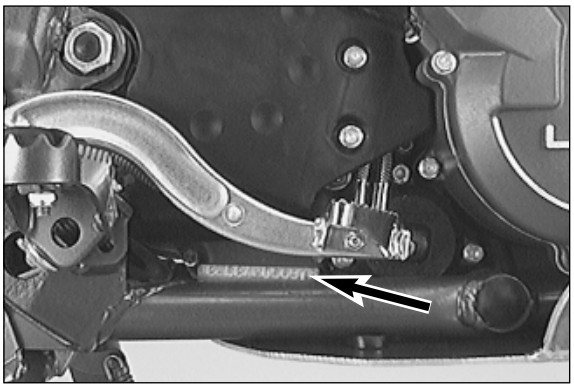


SERIAL NUMBER LOCATIONS

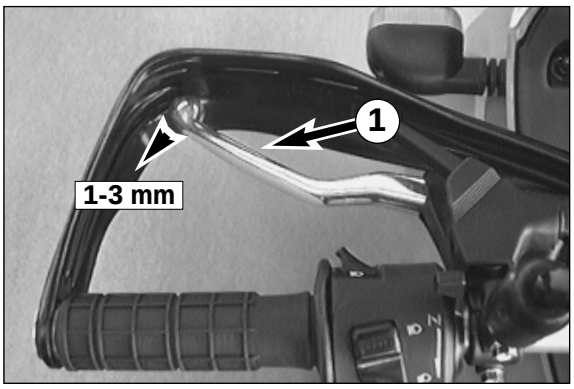
Chassis number

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.



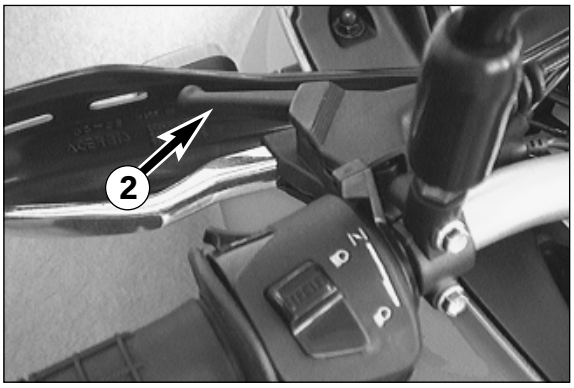
OPERATION INSTRUMENTS

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).

! 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.



Hand decompression lever

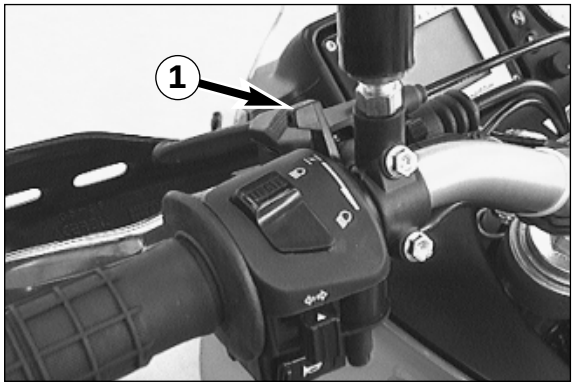
The hand decompression lever ❷ is only used in two special cases:

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.

! 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.

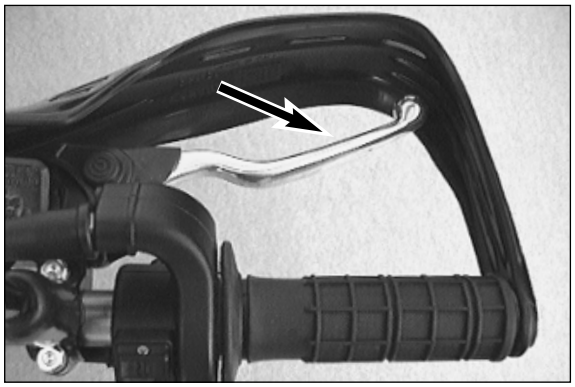


Choke lever

If the choke lever ❶ 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.

! 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.



Hand brake lever

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

⚠ 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.

Indicator lamps

The green indicator lamp flashes when the flasher light is working in the same rhythm as the flasher light.

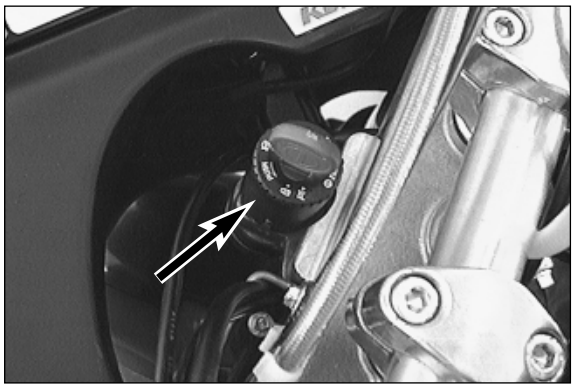
The blue indicator lamp lights up when the high beam is on.

The green indicator lamp lights up when the gear is switched to idle.

The red cooling liquid temperature warning lamp lights up at a cooling liquid temperature of 110°C.

! CAUTION !

IF THE RED COOLING LIQUID TEMPERATURE WARNING LAMP LIGHTS UP WHILE YOU ARE DRIVING, THE COOLING SYSTEM IS PROBABLY DEFECT. IMMEDIATELY STOP THE ENGINE AND CHECK THE COOLING LIQUID LEVEL (SEE PAGE 27). DRIVING WITH THE WARNING LAMP ON WILL CAUSE ENGINE DAMAGE.



Ignition lock, steering lock

There are four positions to this lock. They are:

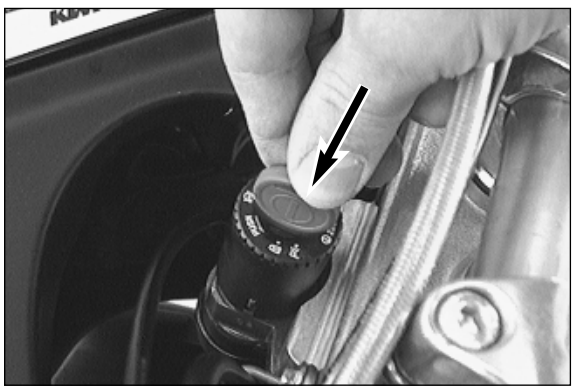
ignition off, light off

ignition on, parking light on, head light on

ignition off, light off, handlebar locked

! CAUTION !

TO SWITCH TO POSITION 🔒 OR P≤, DEPRESS THE IGNITION KEY IN POSITION ⊗ AND TURN IT COUNTERCLOCKWISE. TO BLOCK THE HANDLEBAR TURN IT ALL THE WAY TO THE LEFT AND TURN THE IGNITION KEY TO POSITION 🔒.



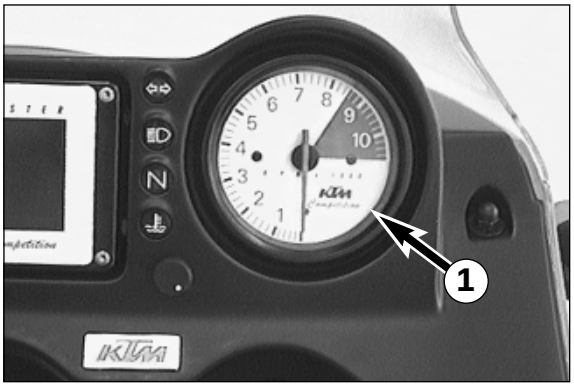
P≤ ignition off, parking light on, handlebar locked

! CAUTION !

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.

ADDITIONALLY, THE BATTERY IS DISCHARGED BELOW THE NORMAL LEVEL AND THEREBY DAMAGED. IN THIS CASE, THE BATTERY SHOULD BE RECHARGED AS SOON AS POSSIBLE.

The ignition key can be removed in the positions ⊗, 🔒, and P≤.



Tachometer

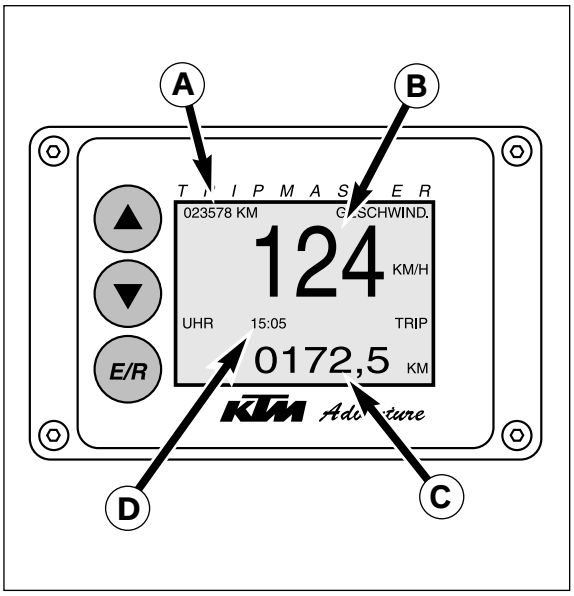
The tachometer ❶ shows the engine speed in revolutions per minute (rpm). Do not push the engine into the red zone, which begins at 8500 rpm.

! CAUTION !

– MAXIMUM RECOMMENDED ROTATION RATE IS 8500 RPM. ROTATION RATES EXCEEDING 8500 RPM WILL SHORTEN YOUR ENGINE'S LIFE. REFER ALSO TO THE SECTION ON RUNNING IN YOUR MOTORCYCLE TO BE FOUND IN THE "DRIVING INSTRUCTIONS" CHAPTER.
– THE TACHOMETER IS NOT SUPPOSED TO GET IN CONTACT WITH FUEL. WHIPE OFF SPLASHED FUEL ON THE PLASTIC PARTS IMMEDIATELY, OTHERWISE THE PLASTIC PARTS MIGHT GET DAMAGED VERY SOON.

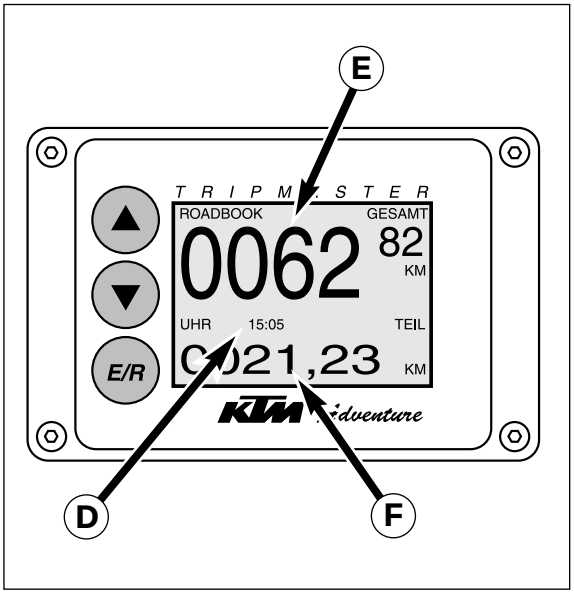
Tripmaster

The tripmaster ❷ is a complete electronic device with a clock and different mileage counters that are helpful during roadbook tours.
The display is switched on and off together with the ignition.
The contrast of the display can be adjusted with the contrast potentiometer ❸. Turn it clockwise to increase and counterclockwise to reduce the contrast.



Display BASIC FUNCTION
❹ indicates the total number of kilometers that you have covered so far with your motorcycle.
❺ indicates the speed.
❻ is the day mileage counter.
Press the ▲ key to reset the day mileage counter to 0.
❼ indicates the time.

NOTE:
If you have pressed the ***E/R*** key by mistake, i.e. if you have switched to the parametrization function but do not wish to change the basic settings, simply press the ***E/R*** button until DATA SAVING appears in the display.

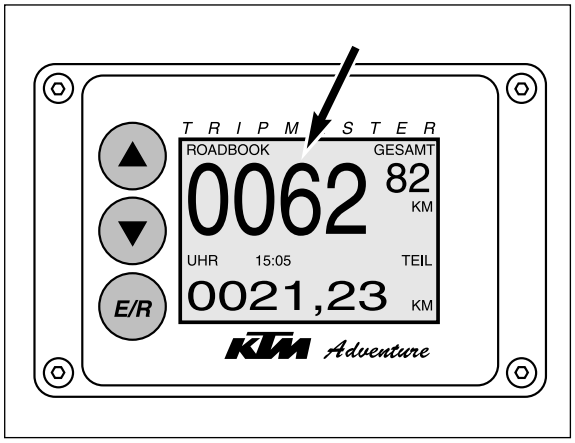


Display ROADBOOK
❼ indicates the time.
❽ indicates the total distance* (e.g. the total distance covered in one day).
The total distance display is useful for roadbook tours. It is recommended to reset the display to 0 at the beginning of every stage. Thus you can simply compare the distance covered with the values of the roadbook.
If the displayed value is found to deviate from the roadbook value at a checking point, it is possible to correct the value (see chapter Tripmaster display value, Changing the total distance value).
❾ indicates the stretch*.
The stretch display is also very useful for roadbook tours. The stretch value can, for example, be reset to 0 after refuelling, thus allowing easy estimation of the fuel reserve.
To reset the stretch value to 0 depress the ▼ button for more than 2 seconds.

To return to the basic function display press the ▲ button.

Instructions for the changing of the basic settings can be found in the chapter Tripmaster parametrization.

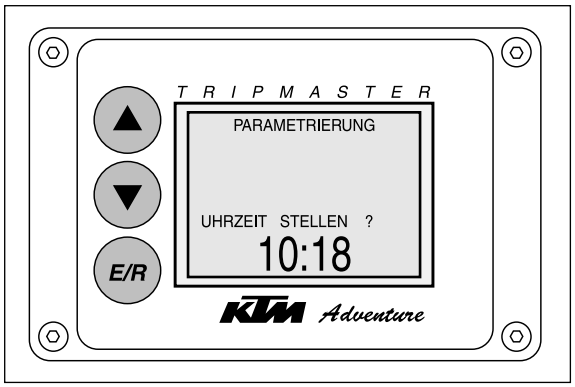
* Display values ❺ and ❽ can be exchanged, depending on the basic setting.

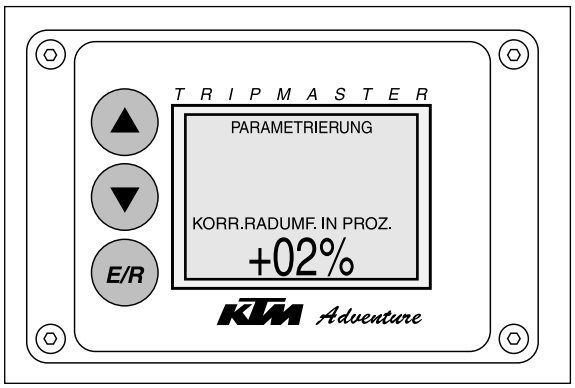


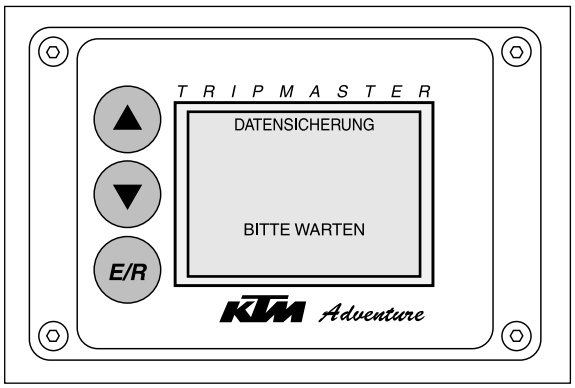
Changing the Tripmaster TOTAL kilometer reading

If the TOTAL kilometer reading differs from the kilometers indicated in the rally map (e.g. if you have taken the wrong road), the TOTAL value can be corrected.

– Press the ▼ key to switch to the ROADBOOK display.
– Depress the ***E/R*** key for two seconds.
The 1st digit of the TOTAL reading flashes and can be altered with ▲ and ▼.
– Press the ***E/R*** key.
The 2nd digit flashes and can be altered with ▲ and ▼.
– Press the ***E/R*** key.
The 3rd digit flashes and can be altered with ▲ and ▼.
– Press the ***E/R*** key.
The 4th digit flashes and can be altered with ▲ and ▼.
– Press the ***E/R*** key.
The 5th digit flashes and can be altered with ▲ and ▼.
– Press the ***E/R*** key.
The 6th digit flashes and can be altered with ▲ and ▼.
– Press the ***E/R*** key to finish the correction procedure.



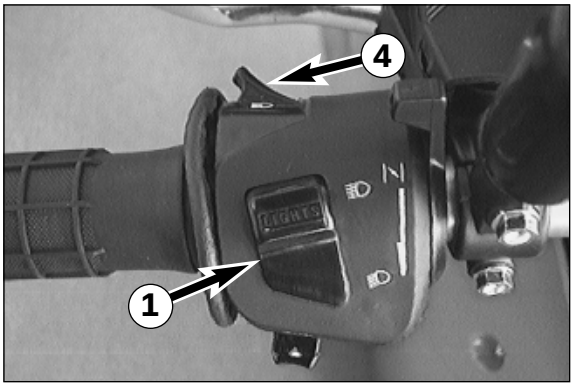




Tripmaster parametrization

The Tripmaster PARAMETRIZATION function can be used to change the basic settings.

– Press the ▲ key to switch to the BASIC FUNCTION display.
– Depress the ***E/R*** key for 2 seconds.
The HOURS of the time reading flash and can be altered with ▲ and ▼.
– Press the ***E/R*** key.
The MINUTES of the time reading flash and can be altered with ▲ and ▼.
– Press the ***E/R*** key.
CORRECT CIRCUMFERENCE, correct with ▲ and ▼ (+/- 10 %).
Here the accuracy of the speedometer and of all kilometer counters can be adjusted. The setting – 1% need not be changed when using the standard tire (90/90-21 Metzeler Enduro 3). However, correcting the circumference can be necessary when a different tire dimension is used on the front wheel.
Additionally, this function can be used to adjust the kilometer counter to the rally map.
– Press the ***E/R*** key.
SELECT LANGUAGE; use ▲ and ▼ to select either German or English.
– Press the ***E/R*** key.
SELECT KILOMETER / MILES; use ▲ and ▼ to select either kilometers or miles.
– Press the ***E/R*** key.
SELECT 12 / 24 H; use ▲ and ▼ to select either the 12 or the 24 hour display mode.
– Press the ***E/R*** key.
ROADBOOK FUNCTION; use ▲ and ▼ to select either of the following display modes:
TOTAL DISTANCE BIG / STRETCH SMALL
STRETCH BIG / TOTAL DISTANCE SMALL
– Press the ***E/R*** key.
CORRECTION ROADBOOK 10/50/100 m.
This function is not active in your model. A remote control device can be ordered as an optional accessory.
– Press the ***E/R*** key.
DATA SAVING - PLEASE WAIT; the basic settings are now stored in the memory. This memory does not rely on the battery so that the values are not lost if the battery is disconnected.



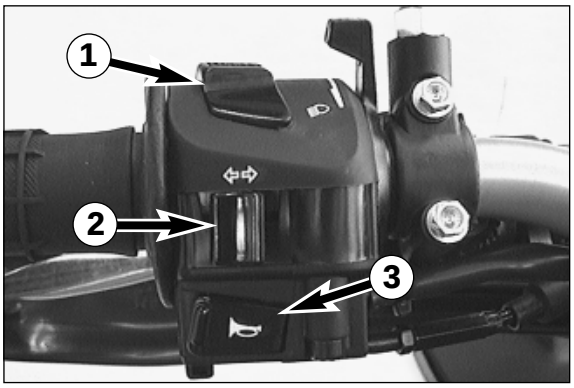
Combination switch

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

High-beam light

Low-beam light

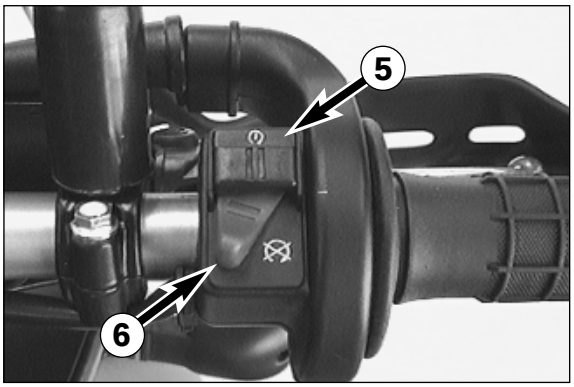
The switch ❷ returns to central position after actuation. Press flasher switch towards switch housing to switch off the flasher.



Flasher left

Flasher right

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



Starter tip switch, emergency OFF switch

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

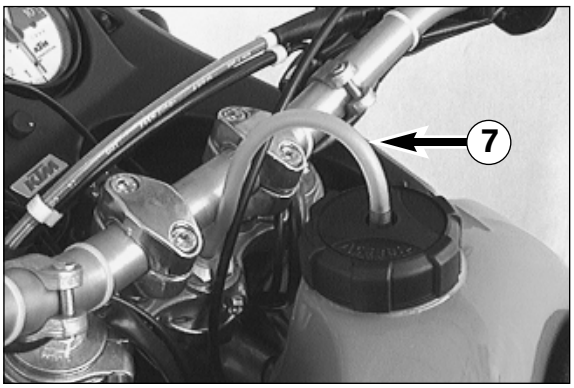
! CAUTION !

MAXIMUM PERIOD FOR CONTINUOUS STARTING: 5 SECONDS. WAIT AT LEAST 5 SECONDS BEFORE TRYING AGAIN.

The emergency OFF switch ❻ is mainly a safety and emergency switch and should normally be ON.

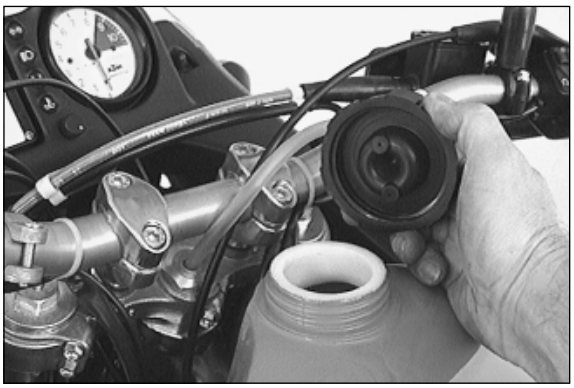
If this symbol is visible on the switch, the engine can be started (i.e. the ignition circuit and the starter circuit are switched on).

If this symbol is visible on the switch, the engine can not be started (i.e. the ignition circuit and the starter circuit are interrupted).



Filler cap

To open: Pull the tank venting hose ❼ out if the steering head and turn the filler cap anti-counterclockwise.
To close: Screw on the filler cap clockwise. Place the tank venting hose in the steering head, avoiding any kinks.

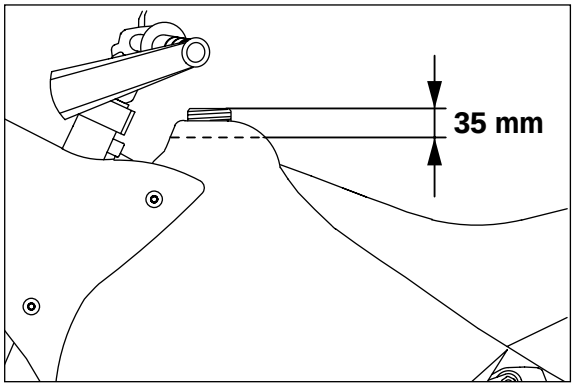


Fuel

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

! CAUTION !

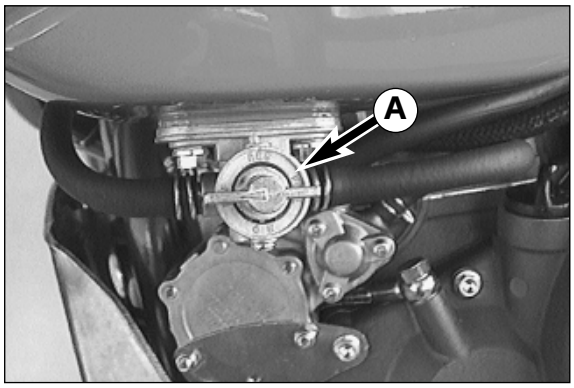
USE UNLEADED PREMIUM GRADE GASOLINE (95 OCTANES). NEVER USE ANY GASOLINE HAVING LESS THAN 95 OCTANES BECAUSE IT MAY DAMAGE THE ENGINE.



⚠ 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.

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



Fuel taps

The motorcycle is equipped with two fuel taps. A fuel pump is installed to pump the fuel from the tank to the carburetor.
The left fuel tap ❹ can each be turned to three different positions:

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

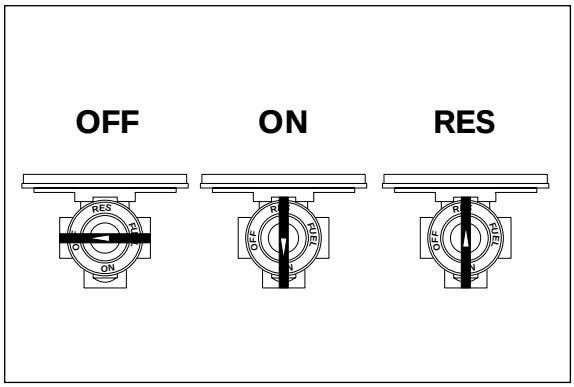
ON When using the motorcycle, the twist grip must be set to the ON position. Now fuel can flow to fuel pump. In this position the tank empties down to the fuel reserve of approx. 3.8 liters (1 US gallone).

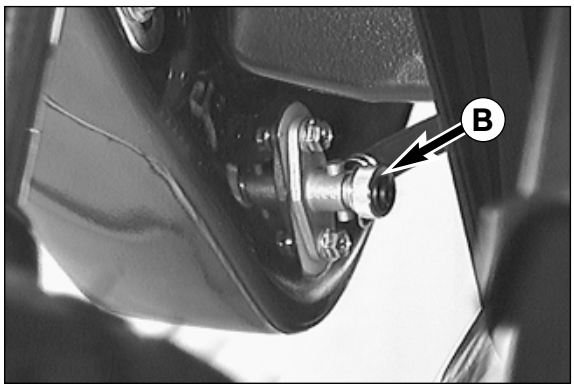
RES The reserve, approximately 3.8 liters (1 US gallone), cannot be tapped until the twist grip is turned to the RES position. Fill the tank as soon as possible and remember to turn the twist grip back to the **ON** position so that you will have backup fuel next time, too.

! CAUTION !

THE FUEL TAP MUST ALWAYS BE CLOSED WHEN THE MOTORCYCLE IS PARKING. OTHERWISE THE CARBURETOR CAN OVERFLOW AND FUEL COULD FLOW INTO THE ENGINE.

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





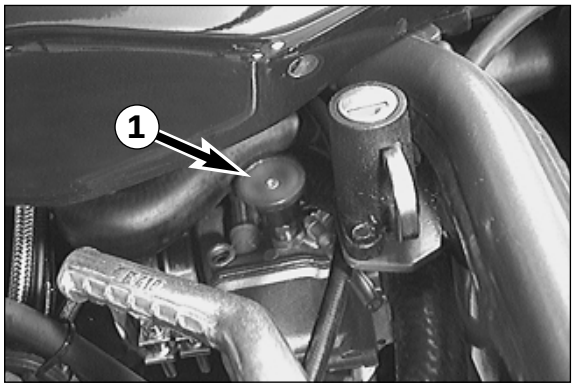
Emergency fuel tap

The second fuel tap ❸ is located on the right front side of the tank. It is always closed during operation and should only be opened in the following case of emergency:

a) The engine has died because you have switched to the fuel reserve too late or because the entire fuel reserve has already been consumed.
b) Defective fuel pump

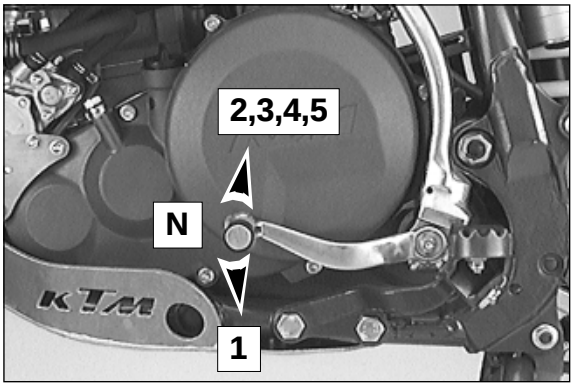
INSTRUCTIONS:

– If the fuel reserve has been consumed, the motorcycle must be refuelled (min 4 liter, 1 US gallone)
– Open the emergency fuel tap (turn the knob anticlockwise). Now the fuel can flow directly to the carburetor and the engine can be restarted. As soon as the engine is running, the fuel pump soon automatically bleeds itself and then works normally again.
– **Keep in mind to close the emergency fuel tap** (by turning the knob clockwise)**. Otherwise no fuel reserve will be available the next time.**



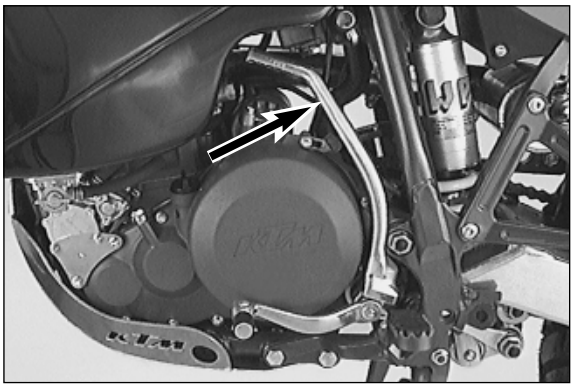
Hot start device

The carburetor is equipped with a hot start device which makes it easier to start the engine when hot. Press the hot-start button ❶ until it engages. This will slightly lift the throttle slide. Once the engine is running, pull the hot-start button back into its original position.
NOTE:
Always pull the hot start device back into the initial position as soon as the engine is running. An activated hot start device will have a negative impact on the cold starting properties of the engine.



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.

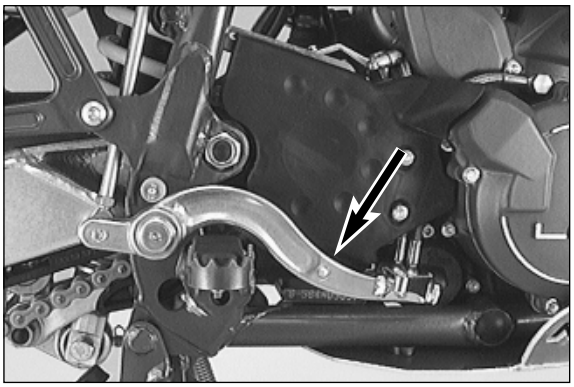


Kickstarter

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

⚠ WARNING ⚠

ALWAYS WEAR BOOTS WHEN USING THE KICKSTARTER TO AVOID INJURY.

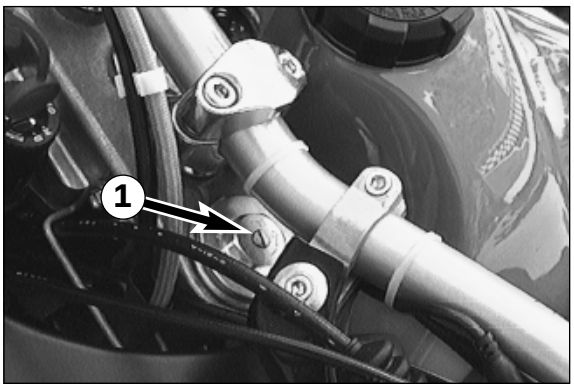


Foot brake pedal

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).

⚠ WARNING ⚠

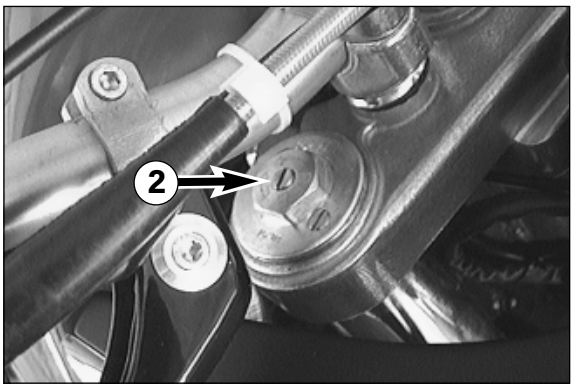
IF THE RESISTANCE IN THE HAND BRAKE LEVER OR FOOT BRAKE PEDAL FEELS "SPONGY" (TOO MUCH GIVE), THIS IS AN INDICATION THAT SOMETHING IS WRONG WITH THE BRAKE SYSTEM. DON'T RIDE YOUR MOTORCYCLE ANYMORE WITHOUT FIRST HAVING THE BRAKE SYSTEM LOOKED OVER BY A KTM DEALER.



Compression damping of fork

The compression damping mechanism is built into the left fork tube. It only regulates the degree of damping during compression.
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.

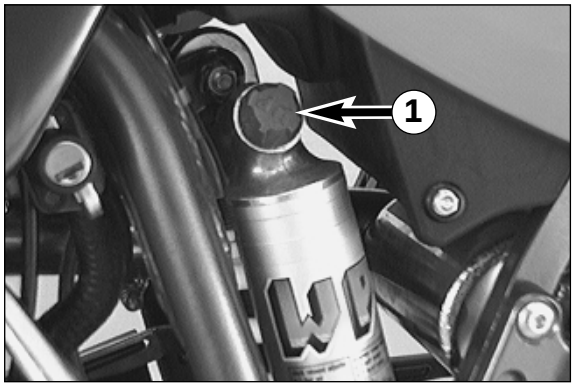
BASIC SETTING
- turn rotary knob clockwise as far as it will go
- turn it back counter-clockwise by as many clicks as are specified for the relevant type of fork
- 09.18.S7.55.....14 clicks



Rebound damping of fork

The rebound damping mechanism is built into the right fork tube. 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.

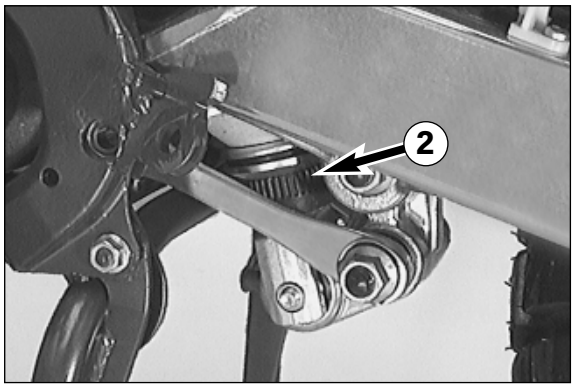
BASIC SETTING
- turn rotary knob clockwise as far as it will go
- turn it back counter-clockwise by as many clicks as are specified for the relevant type of fork
- 09.18.S7.55..... 12 clicks



Compression damping of shock absorber

With the knob ❶ 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
– 01.18.R7.97.....position 3



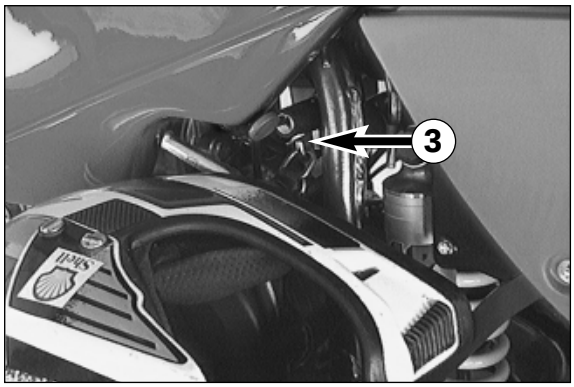
Rebound damping of shock absorber

With the setting wheel ❷ 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:
– 01.18.R7.97.....position 5

⚠ WARNING ⚠

– NEVER CHANGE DAMPING BETWEEN THE TEST DRIVES MORE THAN 2 CLICKS.
– THE DAMPING UNIT OF THE SHOCK ABSORBER IS FILLED WITH HIGHLY COMPRESSED NITROGEN. NEVER TRY TO TAKE THE SHOCK ABSORBER APART OR TO DO ANY MAINTENANCE WORK YOURSELF. SEVERE INJURIES COULD BE THE RESULT.



Helmet lock

A helmet lock ❸ is located on the left side of the frame. To unlock it, insert ignition key and turn it clockwise. Hang helmet on rod, turn key counterclockwise as far as it goes.

⚠ WARNING ⚠

NEVER LEAVE YOUR HELMET ATTACHED TO HELMET LOCK WHEN RIDING YOUR MOTORCYCLE BECAUSE THE HELMET CAN GET CAUGHT IN THE REAR WHEEL AND THROW THE VEHICLE OUT OF CONTROL.

Baggage carrier

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

DRIVING INSTRUCTIONS

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.

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.

⚠ 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.
- 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.

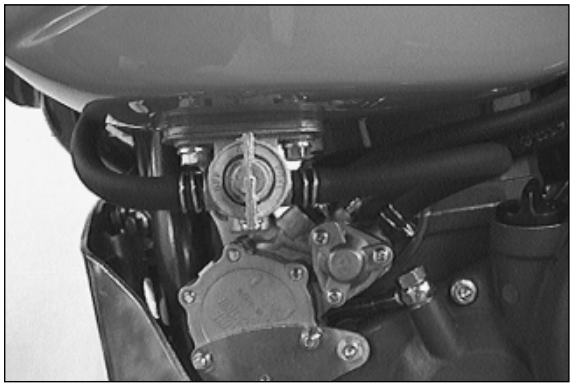
Instructions for initial operation

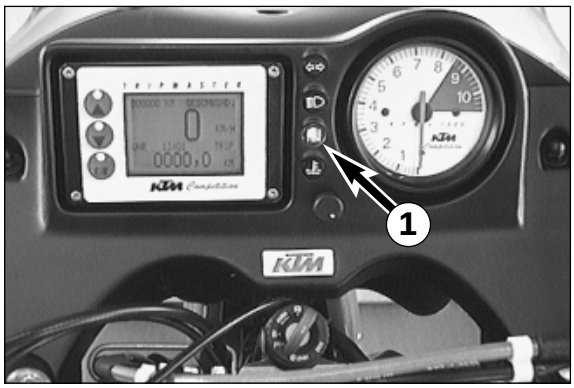
- Verify that your KTM dealer performed the PREPARATION OF VEHICLE jobs (see Customer Service Manual).
- Read the entire manual carefully before your first drive.
- Familiarize yourself with the operating elements.
- Adjust the foot brake pedal to the most comfortable positions for you.
- Get used to 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.
- 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.

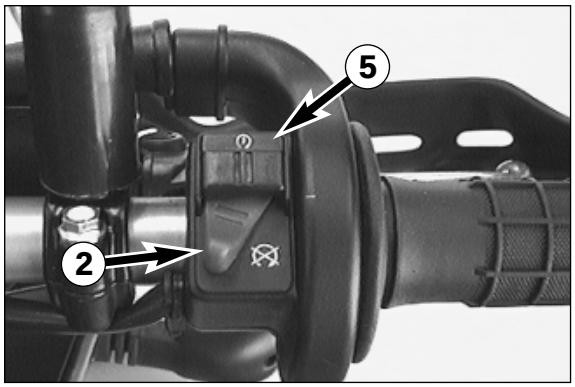
Running in

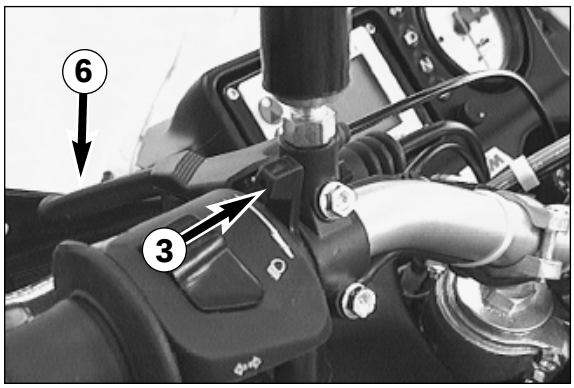
Even finely machined surfaces of engine parts have rougher surfaces than parts that slide on each other for a long time. Therefore, every engine must be run in. For this reason, do not demand maximum performance from the engine for the first 100 kilometers. The vehicle must be run in at low, changing 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.

NOTE:
DURING THE STAGE OF RUNNING THE ENGINE IN, THAT IS THE FIRST 1000 KM (620 MILES), THE ENGINE OIL USED SHOULD BE OF A MINERAL OIL FORMULA. THIS ALSO APPLIES IF THE ENGINE HAS BEEN REPAIRED.









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 (symbol ⊗ must be visible).
5 Operate the choke lever ❸.
6 Operate the starter tip switch ❺ 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

⚠ 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:
– Check if the ignition is on
– Check if the gear is switched to neutral
– Check if the emergency off switch is on
– Check if the parking light and the cockpit lights are on.
  – If this is not the case, the battery is discharged and the engine can be started with the kickstarter.
  – If the lights are on, proceed as described in the „Trouble-shooting" section or contact a KTM dealer.

⚠ WARNING ⚠

TO AVOID INJURIES, IT IS RECOMMENDED TO WEAR BOOTS WHEN USING THE KICKSTARTER.

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.

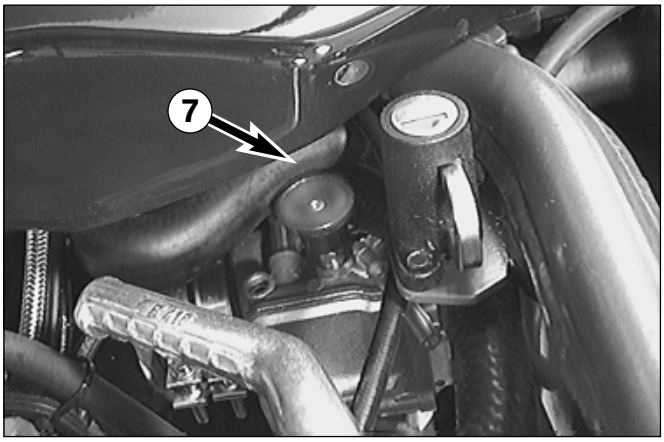
THE ELECTRIC STARTER DOESN'T CRANK THE ENGINE WHEN THE STARTER TIP SWITCH IS OPERATED EVEN THOUGH SUFFICIENT ELECTRIC CURRENT IS AVAILABLE:
– Pull the hand decompression lever ❻, start and release the lever.

Starting when the engine is warm

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 (symbol ⊗ must be visible).
5 Operate the starter switch ❺ without accelerating.
6 Swing up the centerstand

Starting when the engine is 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 (symbol ⊗ must be visible).
5 Operate the hot start button ❼ at the carburetor.
6 Operate the starter switch ❺ without accelerating.
7 Once the engine is running, pull hot start device back into its basic position
8 Swing up the centerstand



What to do when the engine is „flooded"

The throttle must be fully opened when starting.

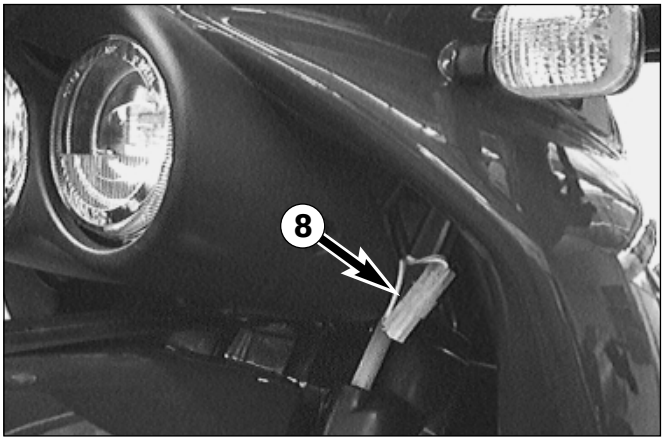
Kickstart instructions

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

⚠ WARNING ⚠

ALWAYS WEAR BOOTS WHEN USING THE KICKSTARTER TO AVOID INJURY.

starting with an empty battery



When the battery of the motorcycle is empty the engine can only be started by disconnecting the power supply of the head light. For this purpose a pin and socket connector ❽ can be found below the headlight mask on the lefthand side. Disconnect the pin and socket connector and start the engine with the kickstarter

! CAUTION !

AS SOON AS THE ENGINE IS RUNNING RECONNECT THE PIN AND SOCKET CONNECTOR TO MAKE SURE THE HEAD LIGHT IS WORKING

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 ⚠

– 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
– NEVER LEAVE A HELMET ATTACHED TO HELMET LOCK WHEN RIDING YOUR MOTORCYCLE BECAUSE THE HELMET CAN GET CAUGHT IN THE REAR WHEEL AND THROW THE VEHICLE OUT OF CONTROL.
– 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.
– 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 ⚠

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.

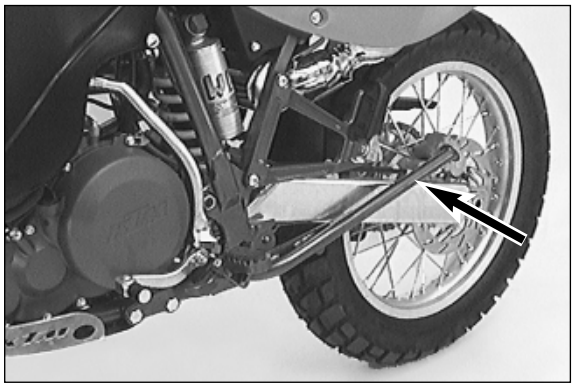
⚠ WARNING ⚠

- NEVER LEAVE YOUR MOTORCYCLE WITHOUT SUPERVISION AS LONG AS THE ENGINE IS RUNNING.
- 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.



! CAUTION !

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.

PERIODIC MAINTENANCE SCHEDULE

Adventure 09.98

IF THE MOTORCYCLE IS USED FOR COMPETITIVE RACING, THE 5000 KM (3000 MILES) SERVICE NEEDS TO BE CARRIED OUT AFTER EVERY RACE

	KTM rider		KTM dealer		
	before each start	after washing	1st service, after 500 km (300 miles)	after 5000 km (3000 miles) or once a year	at least once a year
Check engine oil level	●				
Change engine oil			●	●	●
Clean oil screen and magnet of the drain plugs whenever you exchange the engine oil			●		
Change oil filter insert			●	●	●
Change fine screen filter (screwed filter) at front pipe (of the frame)			●	●	●
Check oil lines for leakage and proper instalment without kinks			●	●	
Check valve clearance			●	●	
Clean spark plug and adjust electrode gap				●	
Change spark plug after 10 000 kilometers (6 200 miles)					
Check ignition point				●	
Drain and clean carburetor float chamber		●		●	●
Adjust idling				●	
Check breather hoses of engine gase and gas tank for correct position without buckles			●	●	
Clean air filter and air filter box		●		●	●
Check sprockets, chain guides and chain for wear	●		●	●	
Clean and lube chain	●	●		●	
Check chain tension	●		●	●	
Check cooling liquid level	●		●	●	
Check quality of antifreezer					●
Check cooling system for leaks – visual check	●		●	●	
Check exhaust system for leakage					●
Check exhaust brackets			●	●	
Disassemble and clean spark arrestor discs (USA models)					
Check brake fluid level front and rear	●		●	●	
Change brake fluid					●
Check brake pad thickness	●			●	
Check brake discs				●	
Check condition and correct instalment of brake hoses	●		●	●	
Check free play and easy operation of foot brake pedal	●		●	●	
Check adjustment and function of telescopic fork	●			●	
Check telescopic fork for leaks				●	
Loosen bleeder screws at fork legs (overpressure)				●	
Change telescopic fork oil					●
Perform a full maintenance job for the telescopic fork					●
Clean dust scrabber of telescopic fork				●	●
Check steering head bearing clearance / adjust			●	●	
Clean and grease steering head bearings and its seals					●
Check adjustment and funktion of shock absorber	●			●	
Check O-ring of the shock absorber for wear				●	●
Service the shock absorber					●
Grease nipple of the Pro Lever suspension system				●	
Disassemble the Pro Lever suspension system linkage and perform a full maintenance job on it					●
Service swingarm pivot					●
Check spoke tension and join	●		●	●	
Check wheel bearings for clearance	●			●	
Check shock absorber rubbers on the rear hub				●	
Check tire condition and air pressure	●			●	
Check cables for damage and easy working	●			●	
Lube and adjust cables		●	●	●	
Check the electrical system	●		●	●	
Check battery holder, battery and connections				●	●
Check adjustment of headlight				●	
Spray ignition lock, emergency off switch, and light switch with contact spray		●		●	
Check all screws, nuts and hose clamps for proper tightness	●		●	●	
Grease or lube all pivot points and sliding points		●	●	●	

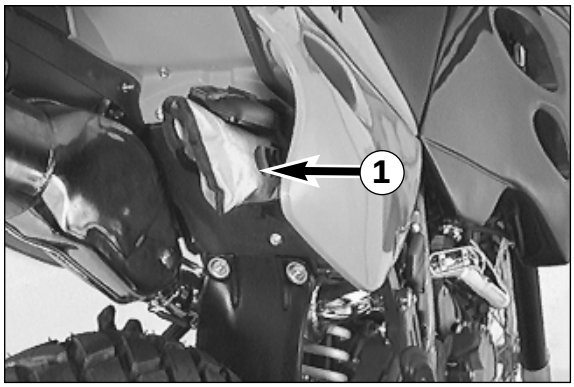
MAINTENANCE WORK ON CHASSIS AND ENGINE

⚠ **WARNING** ⚠

ALL MAINTENANCE AND ADJUSTEMENT OPERATIONS THAT ARE MARKED WITH A * REQUIRE SPECIALIST KNOWLEDGE. FOR YOUR OWN SAFETY, LET THESE TASKS BE CARRIED OUT BY A KTM-DEALER

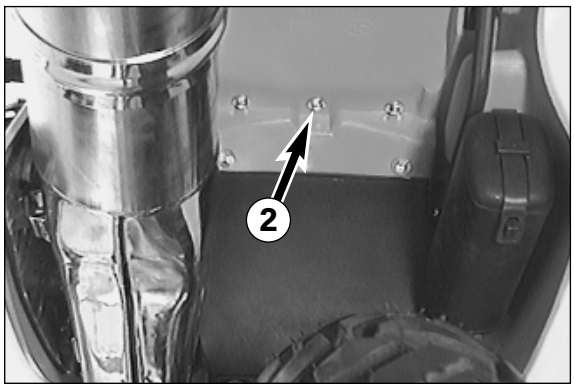
! **CAUTION** !

- 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.
- Dispose of oil, grease, filters, fuels, cleaning agents etc. according to your local regulations.
- 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.



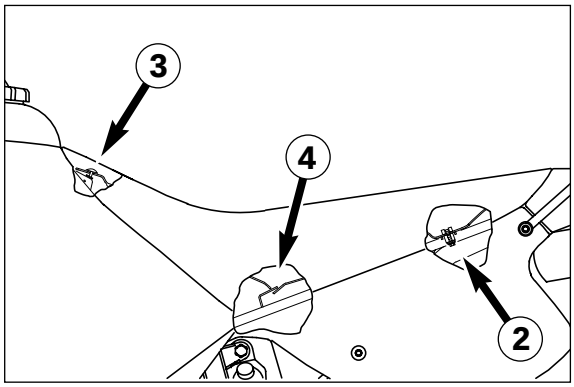
Tool set

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

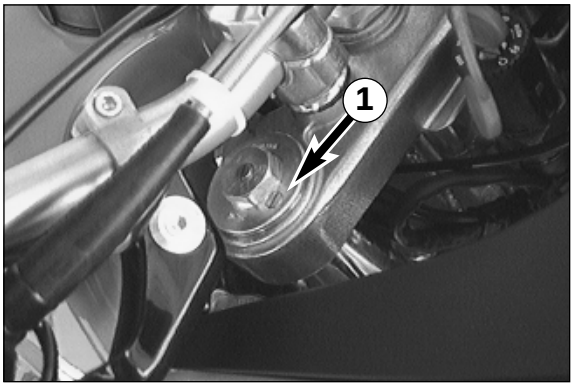


Removing the seat

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.

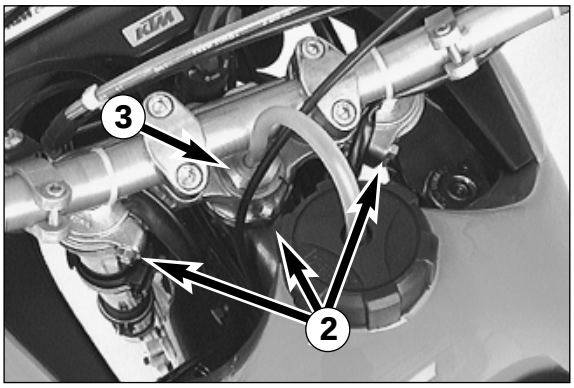


Bleeder screw front fork

The bleeder screws ❶ 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.



Checking and adjusting steering head bearing *

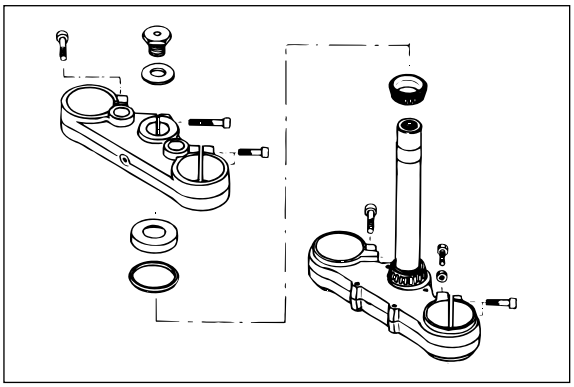
Check steering head bearing for play periodicaly. To check this put motorcycle on a stand so that the front wheel is off the ground. Now try to move the fork forward and backward. To adjust, loosen the five clamp screws ❷ of the top triple clamp and turn steering stem bolt clockwise ❸ until there is 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 ⚠

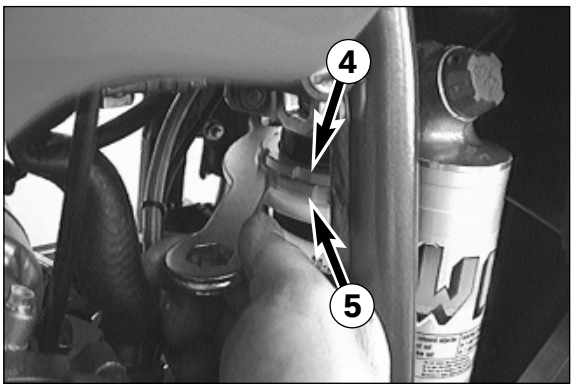
IF THE STEERING HEAD BEARING IS NOT ADJUSTED TO BE FREE OF PLAY, THE MOTORCYCLE WILL SHOW AN UNSTEADY DRIVING PERFORMANCE AND CAN GET OUT OF CONTROL.

! 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.



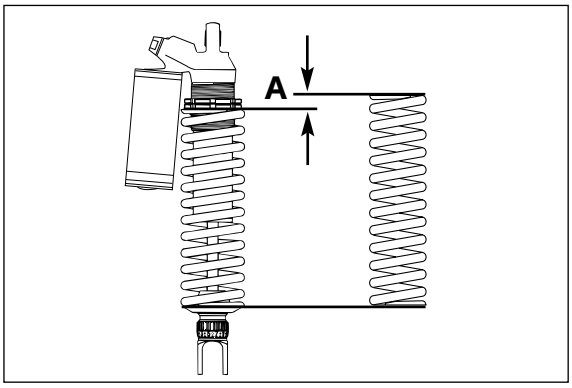
Changing the spring preload of the shock absorber

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.

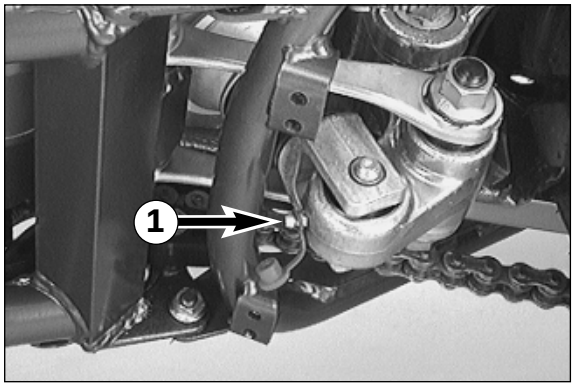
NOTE:

– 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 ❺ changes the spring preload by approximately 1,75 mm (0,07 in).

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



BASIC SETTING – SPRING PRELOAD
A = 23 mm (0,9 in)

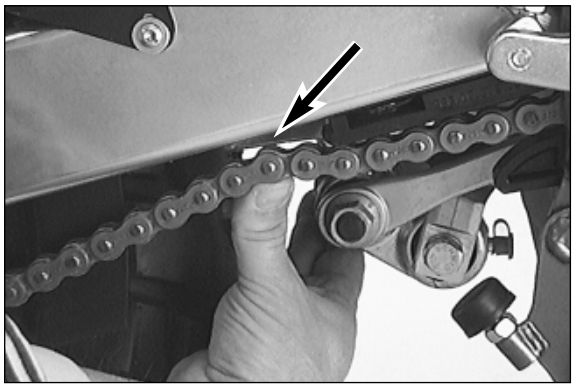


Lubricating the shock absorber linkage

The bearings in the rocker arm must be greased in regular intervals. For this purpose, a grease nipple ❶ 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.

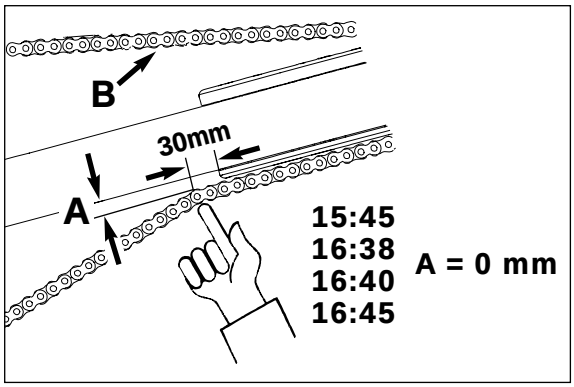


Checking chain tension

- 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!

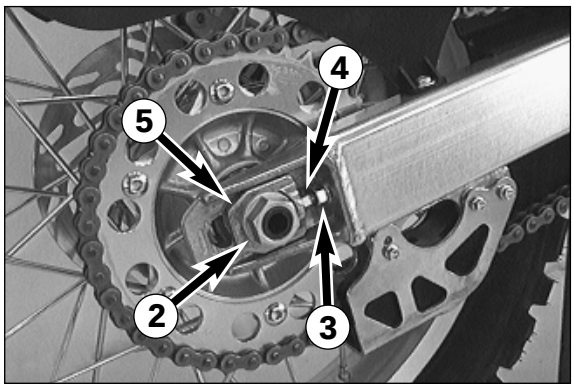
⚠ WARNING ⚠

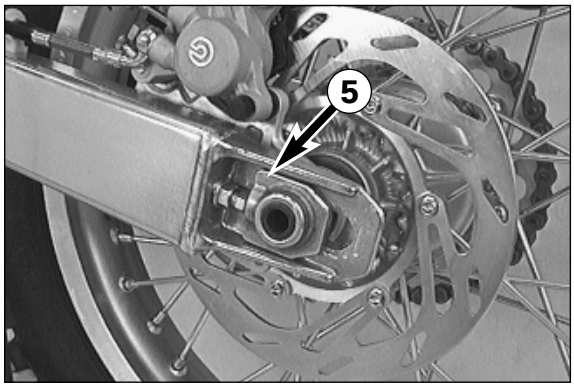
- IF CHAIN TENSION IS TOO GREAT, PARTS WITHIN THE SECONDARY POWER TRANSMISSION (CHAIN, CHAIN SPROCKETS, TRANSMISSION AND REAR WHEEL BEARINGS) WILL BE SUBJECTED TO UNNECESSARY STRESS, RESULTING IN PREMATURE WEAR AND EVEN CHAIN BREAKAGE.
- TOO MUCH SLACK IN THE CHAIN, ON THE OTHER HAND, CAN RESULT IN THE 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.

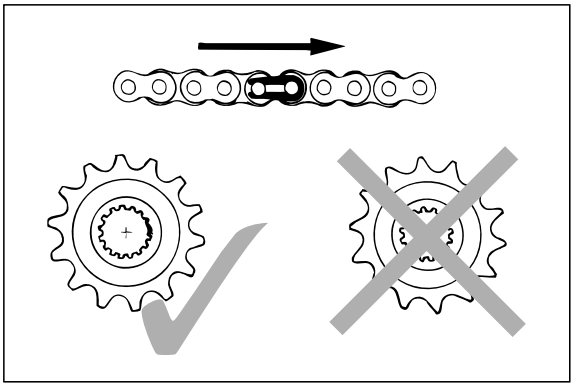


Correct chain tension

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







Chain maintenance

For long chain life, good maintenance is very important. O-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 O-ring chain spray.

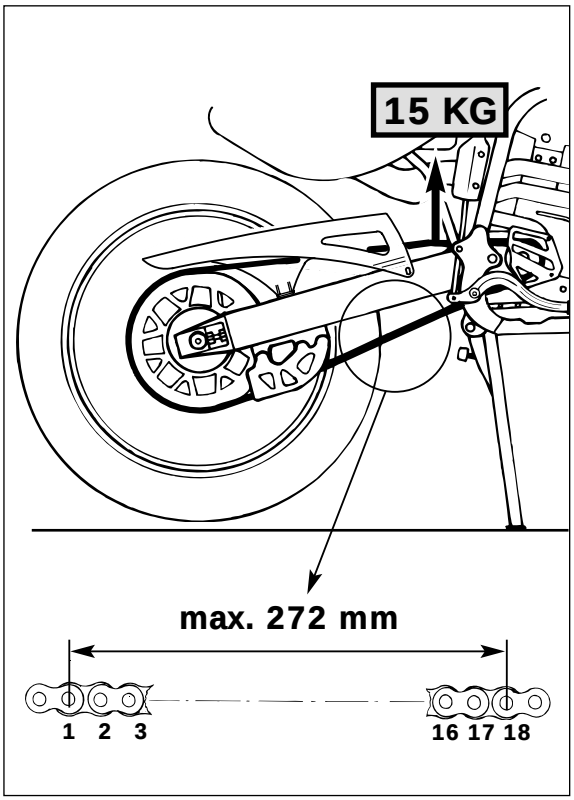
⚠ WARNING ⚠

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.

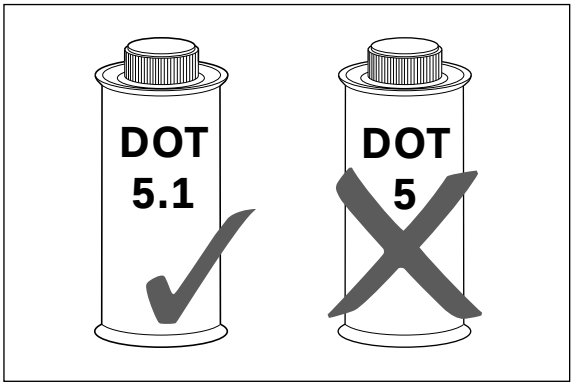
Also check sprockets and chain guides for wear, and replace if necessary.



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.



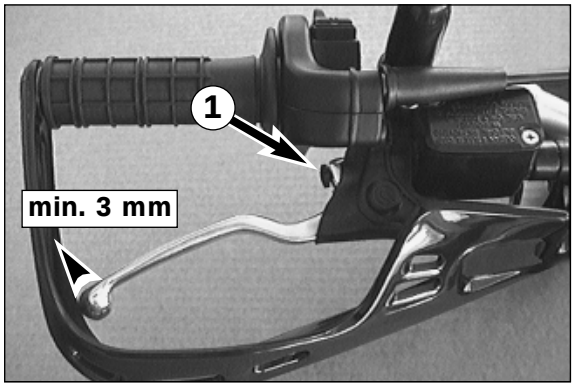
General informations about KTM disc brakes

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.

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.

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 CASTROL 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.

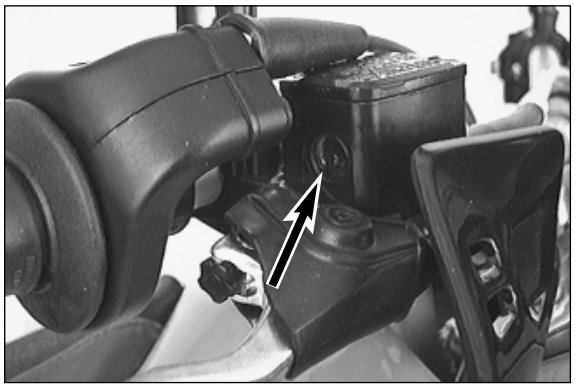


Adjusting of free travel at the hand brake lever

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.

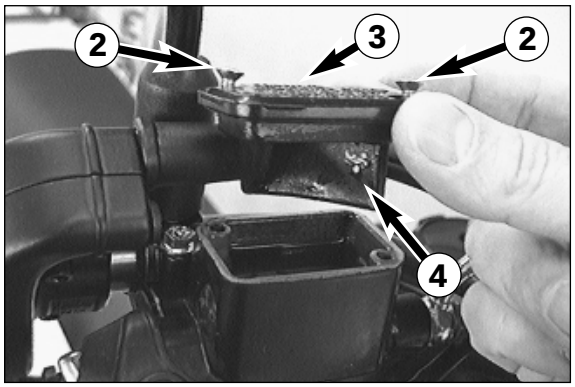


Checking of brake fluid level - front brake

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.

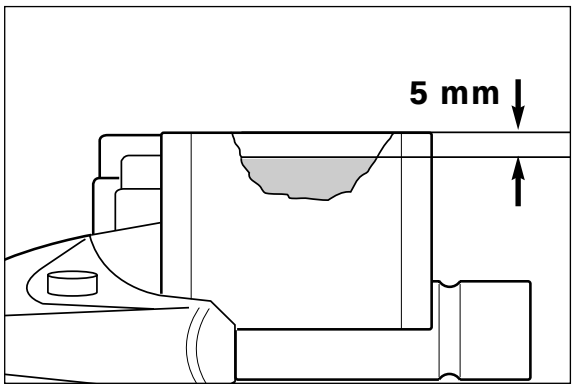
Place hand brake cylinder in a horizontal position and fill the brake fluid reservoir to 5 mm (0,2 in) below the rim with brake fluid DOT 5.1. Replace membrane and lid, tighten screws. Rinse off spilled or overflowing brake fluid with water.

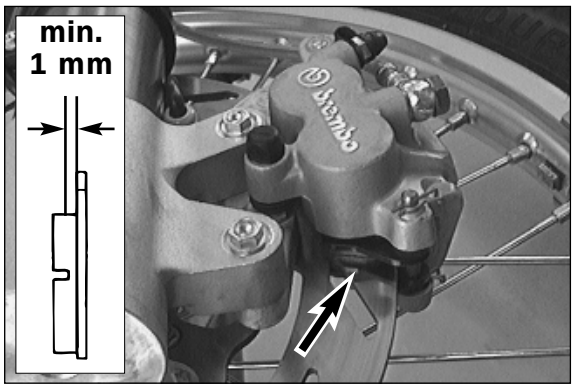
⚠ WARNING ⚠

- NEVER USE DOT5 BRAKE FLUID! IT IS BASED ON SILICONE OIL AND OF A PURPLE COLOR. SEALS AND BRAKE HOSES MUST BE ESPECIALLY ADAPTED TO IT.
- 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

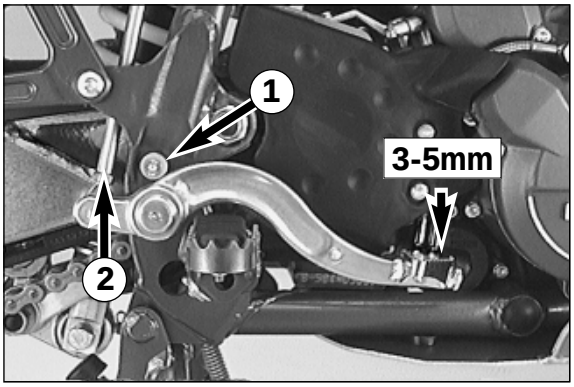
The brake pads can be inspected from below. The linings must be at least 1 mm (0,04 in) thick.

⚠ 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.

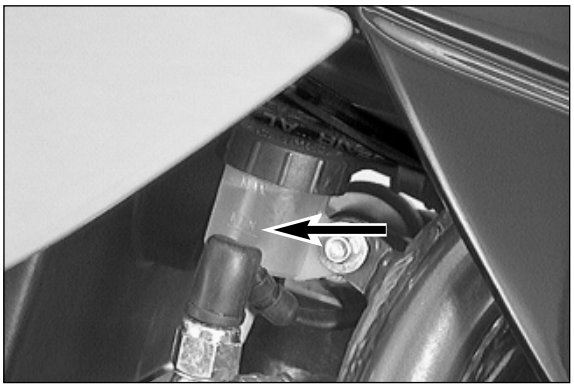


Changing the basic position of the foot brake pedal *

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 *

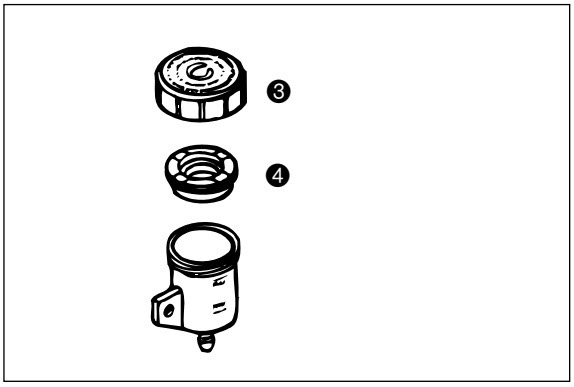
When the brake fluid level has dropped to the MIN mark, you need to refill the brake fluid reservoir.
For better access to the brake fluid reservoir, remove the seat and the right side cover. Remove plug ❸ with rubber boot ❹ and add brake liquid DOT 5.1 up to the „MAX" mark. Replace rubber boot and plug. Overflown or spilled brake liquid must be rinsed off with water.

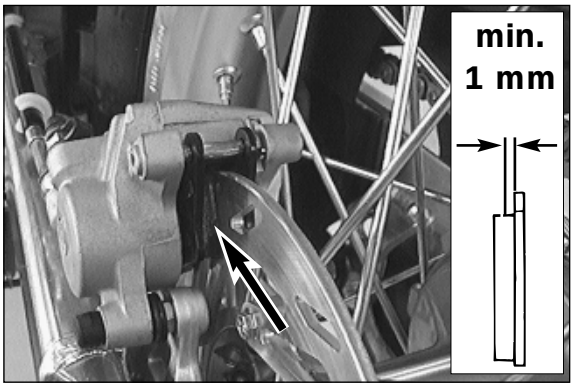
⚠ WARNING ⚠

- NEVER USE DOT5 BRAKE FLUID! IT IS BASED ON SILICONE OIL AND OF A PURPLE COLOR. SEALS AND BRAKE HOSES MUST BE ESPECIALLY ADAPTED TO IT.
- 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 rear brake pads

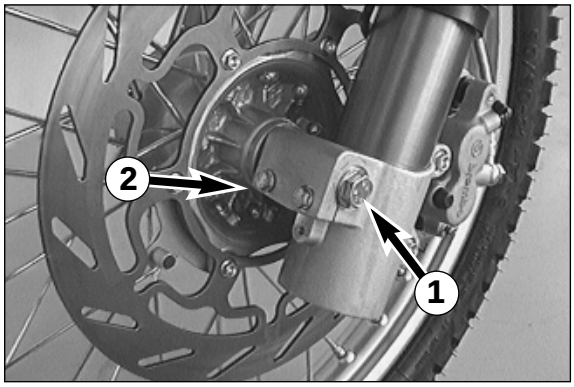
The brake pads can be inspected from the rear. The thickness of the linings may not be less than 1 mm (0.04 in).

⚠ 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.

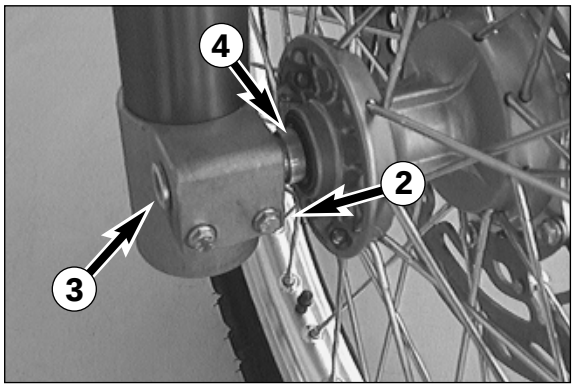


Dismounting and mounting the front wheel

– To remove the front wheel, jack the motorcycle up on its frame so that the front wheel no longer touches the ground.
– Loosen the collar screw ❶ and unscrew it approx. 5 turns.
– Loosen the 4 clamping screws ❷ on the fork leg axle passage.
– Use the collar screw to push the wheel spindle forward and remove the collar screw.
– Hold the front wheel, pull out the wheel spindle ❸
NOTICE: the wheel spindle may be pulled out more easily, if you slide an open-end wrench (17mm) onto the flat portion of the wheel spindle.
– Remove front wheel carefully from the fork.

! CAUTION !

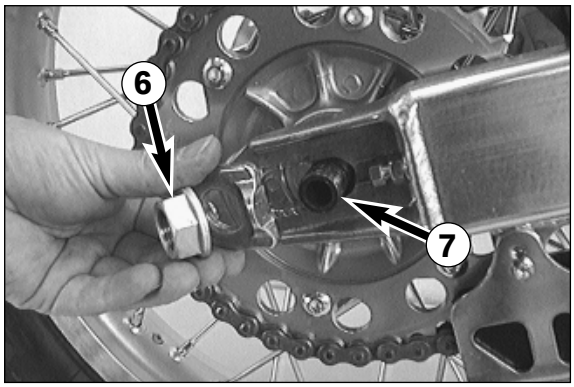
DO NOT OPERATE THE HAND BRAKE WHEN THE FRONT WHEEL HAS BEEN DISMOUNTED.

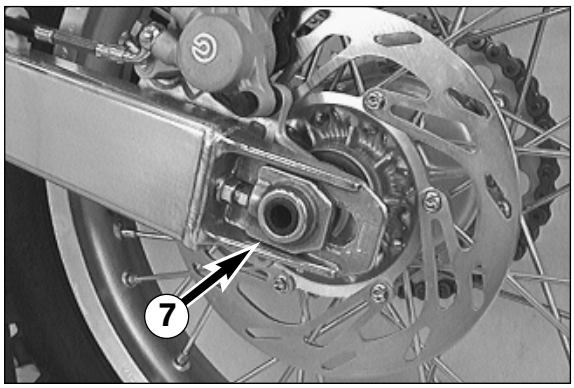


– Before mounting, check if the left and the right ❹ distance bushing are correctly positioned in the shaft seal rings. Extremely soiled distance bushings should be removed, cleaned and regreased.
– To mount the front wheel lift it into the fork and insert the brake disk into the brake caliper.
– Position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

⚠ 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.





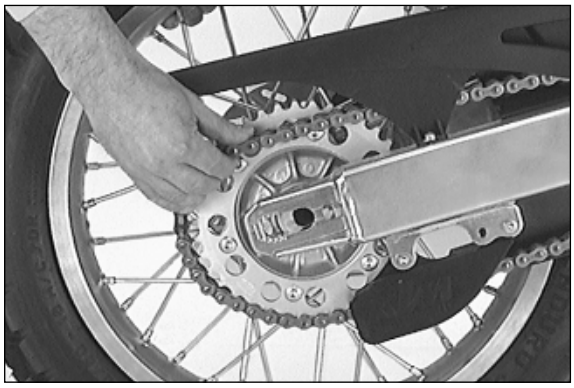
Dismounting and mounting the rear wheel*

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 !

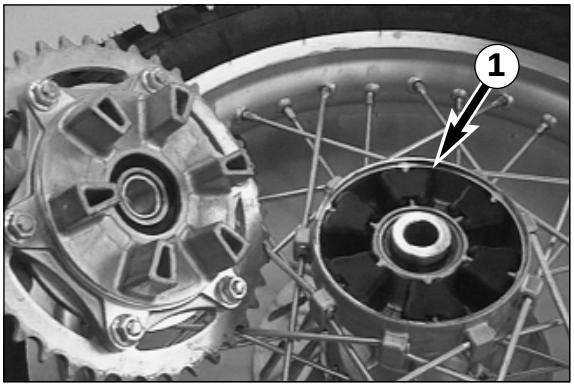
– DO NOT OPERATE THE REAR BRAKE WHEN THE REAR WHEEL HAS BEEN DISMOUNTED. IF THE AXLE IS DISMOUNTED, CLEAN THE THREAD OF THE WHEEL SPINDLE AND COLLAR NUT THOROUGHLY AND APPLY A NEW COAT OF GREASE TO PREVENT THE THREAD FROM JAMMING.

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.



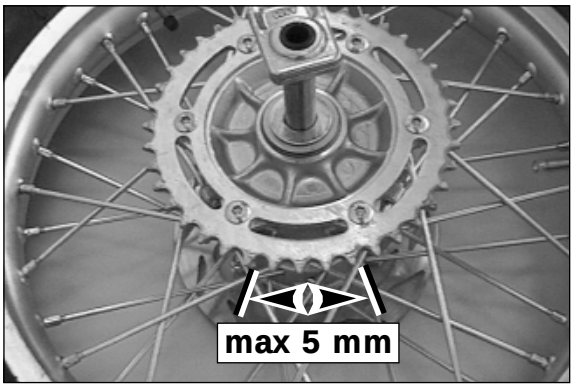
⚠ WARNING ⚠

– 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.



Checking the shock absorption rubbers in the rear hub*

The LC4 models have a cush-drive 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.

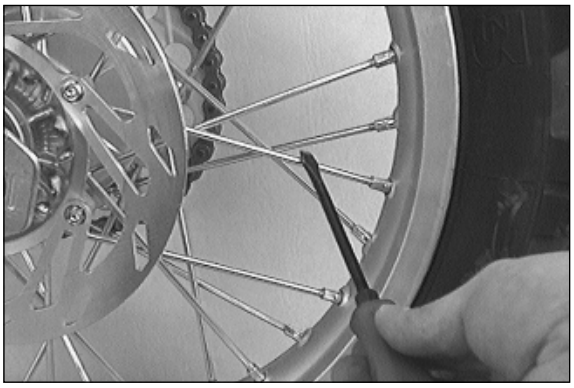
– Tire type and size can be found in the technical specifications and in the homologation certificate
– Tire condition has to be checked every time you want to ride your motorcycle. Before leaving check for punctures and nails or other sharp objects that might have become embedded in the tire.
  Refer 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

TIRES – AIR PRESSURE

	front	rear
Road driver only	1,5 bar (22 psi)	2,0 bar (29 psi)
Road w. passenger	2,0 bar (29 psi)	2,2 bar (31 psi)

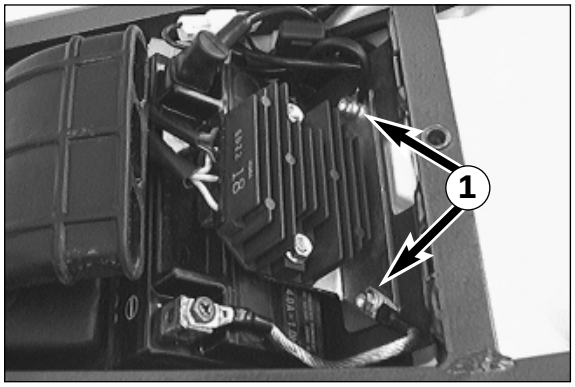


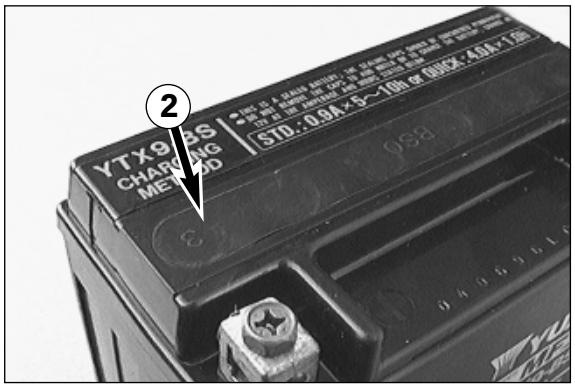
Checking spoke tension

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.





Battery

The battery is mounted under the seat (remove the seat, see page 17)
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.

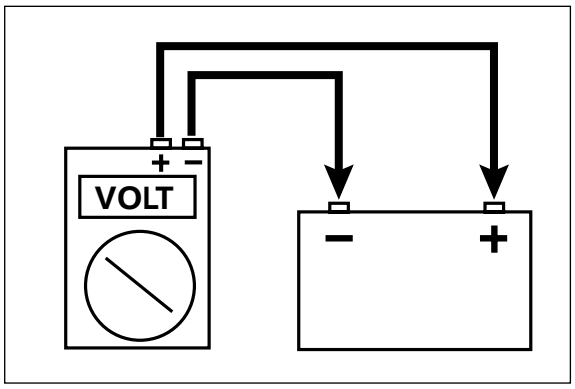
⚠ WARNING ⚠

- 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 !
- Never disconnect the battery while the engine is running. This will destroy the rectifier-regulator.

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

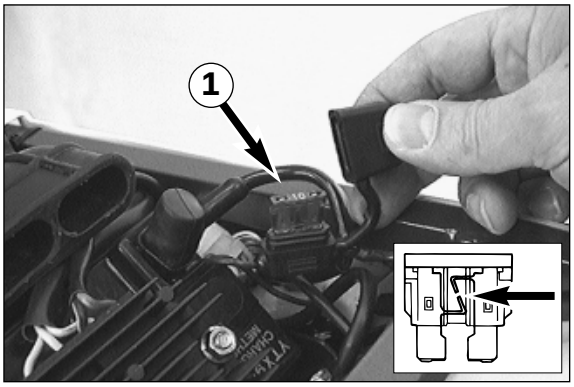
Remove the battery and check the charging level. Use a voltmeter to measure the voltage between the battery poles (off-load voltage).
Accurate results can only be obtained if the battery has neither been charged nor discharged during a period of 30 minutes preceding the measuring.

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 0.3 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.

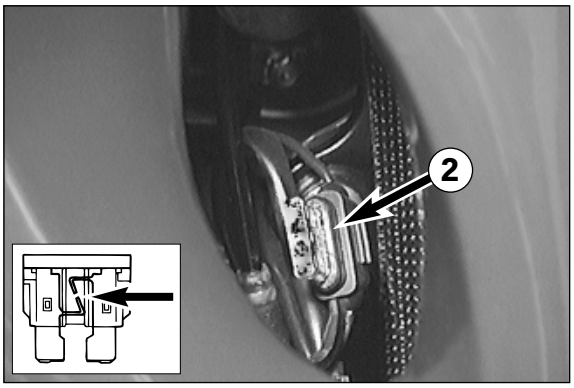


Main fuse

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 10 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!

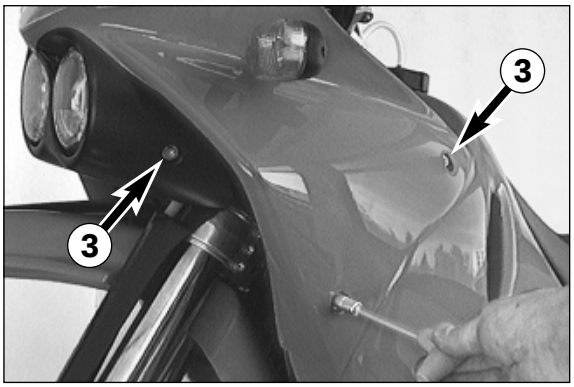


Fuse / fan

The fan motor of the radiator is specially protected. The fuse ❷ is located behind the right radiator. It is visible through the right opening of the tank and can be accessed from below.
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.
Fuse capacity: 5 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!

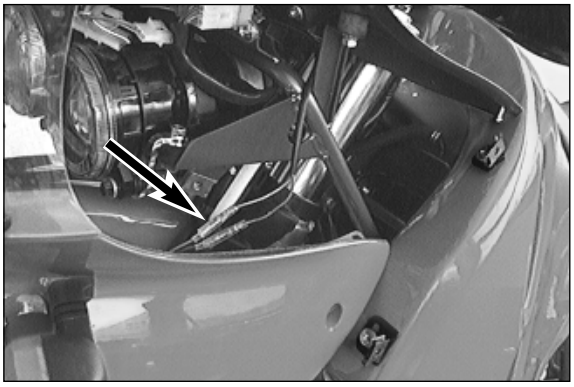


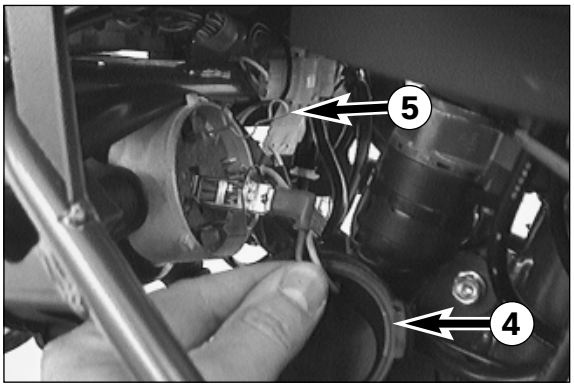
Removing and mounting the headlight mask *

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 ❸ 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).





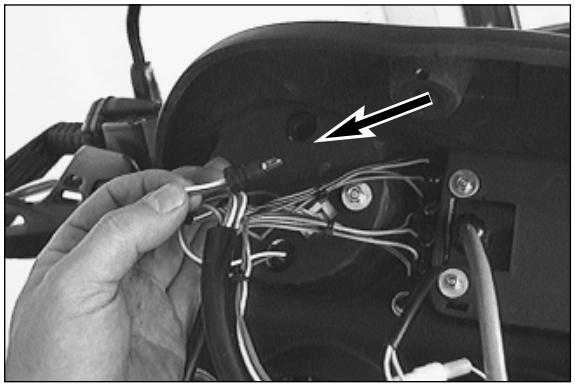
Replacing the headlight bulb *

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

! CAUTION !

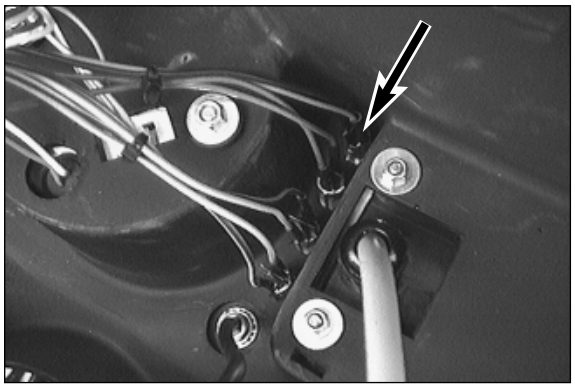
THE GLASS OF THE BULB MUST BE FREE OF OIL AND GREASE. THE HEAT CAUSES THE OIL TO VAPORIZE. THE RESULTING VAPOR ON THE REFLECTOR DECREASES THE BRIGHTNESS OF THE HEADLIGHT.

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



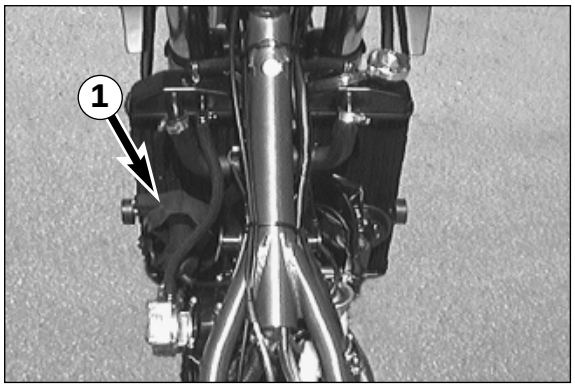
Replacing the tachometer lamps *

The tachometer is easily accessible after removing the headlight mask.
– Simply pull the bulb sockets out of the housing by the cables.
– Pull the bulb out of the bulb socket.
– Before replacing the headlight mask check if the tachometer illumination works properly.



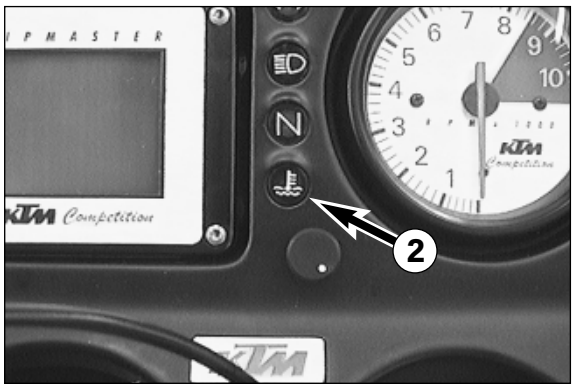
Replacing the indicator lamps

Remove the headlight mask and the cockpit cover.
– Disconnect the cable and push the indicator lamp upwards out of the cockpit cover.



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.



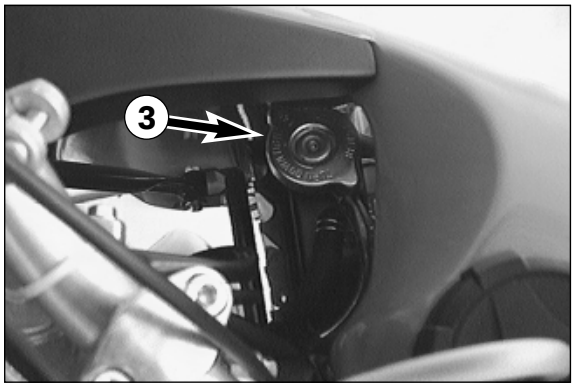
! CAUTION !

IF THE RED COOLING LIQUID TEMPERATURE WARNING LAMP ❷ LIGHTS UP, THIS WILL MOST LIKELY BE DUE TO A DEFECT IN THE COOLING SYSTEM. IN THIS CASE, STOP IMMEDIATELY AND TURN OFF THE ENGINE. LET THE ENGINE COOL DOWN AND CHECK THE COOLING SYSTEM FOR LEAKS. ALSO CHECK IF THERE IS ENOUGH COOLING LIQUID. CAUTION - SCALDING HAZARD! DO NOT DRIVE ON, UNTIL THERE IS SUFFICIENT LIQUID IN THE COOLING SYSTEM.

⚠ 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.

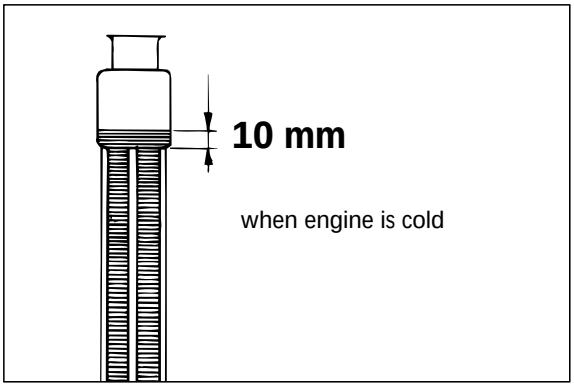
A mixture of 40% antifreezer and 60% water is used as cooling liquid. How-ever, the anti-freeze protection must be at least -25° C (-13° F). Aside from antifreezing protection, this mixture also provides great corrosion protection which is why it must not be replaced by pure water.



! CAUTION !

FOR THE COOLING SYSTEM, USE ONLY HIGH-GRADE ANTIFREEZER. 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.

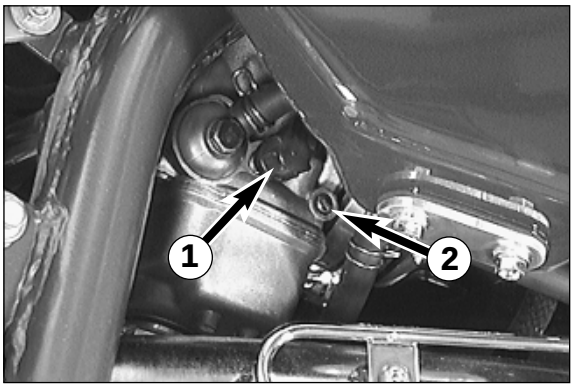


Checking the cooling liquid level

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.

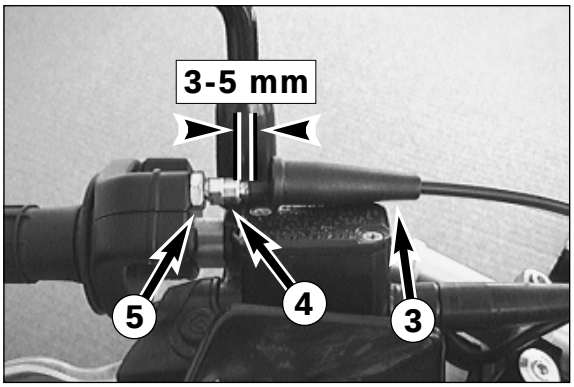
⚠ WARNING ⚠

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.



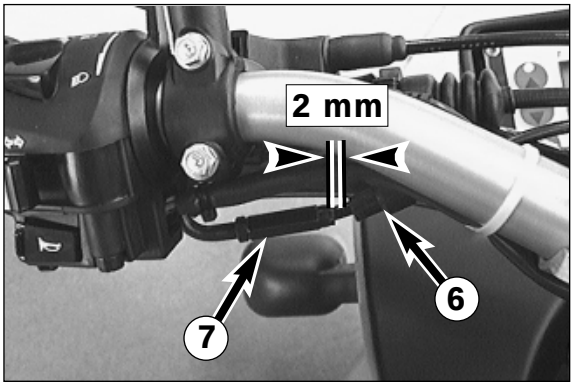
Adjust idling speed *

Idling adjustment of the carburetor strongly affects the engine's starting behavior. That is, an engine whose idling speed is adjusted correctly will be easier to start than one whose idling speed has not been adjusted correctly.
The throttle stop screw ❶ is used to adjust the basic position of the slide. Turning in clockwise direction will increase the idling speed, turning in counterclockwise direction will reduce the idling speed. Normal idling speed 1400 - 1500 rpm.
The mixture control screw ❷ never should be changed.



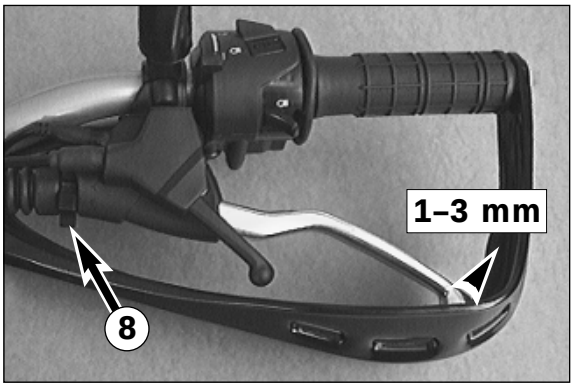
Adjusting the throttle cable *

There must always be a 3-5 mm (0.1-0.2 in) play in the throttle cable. To check this, move back the protective cover ❸ on the throttle grip. You must be able to lift the outer covering of the cable 3-5 mm from the adjusting screw ❹, until resistance is felt.
To adjust, loosen the counter nut ❺ and turn the adjusting screw accordingly. Finally tighten counter nut and slide the protective cover back on.



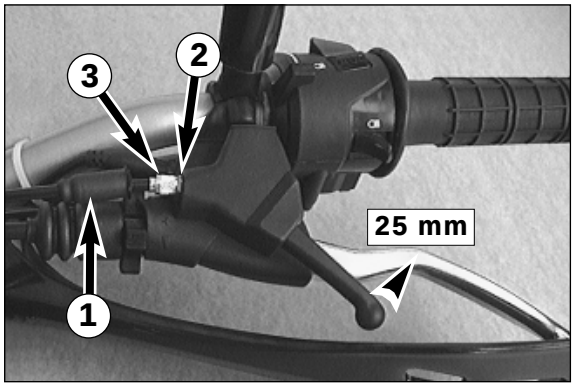
Adjusting the choke cable *

At the choke cable, there must always exist a play of approx. 2 mm (0.1 in). To check this, push choke lever fully forward and pull protective cover ❻ from the adjuster piece ❼. Now, it must be possible to lift the outer covering of the cable by approx. 2 mm from the adjuster piece until feeling a resistance. If necessary, loosen counter nut and readjust play by turning the adjuster piece. Tighten counter nut, and slide on protective cover.



Adjusting the clutch cable

When the engine is cold, the play at the clutch lever should be 10 mm (0.4 in) (measured at the outer edge).
To adjust the clutch cable turn the adjusting nut ❽ accordingly.



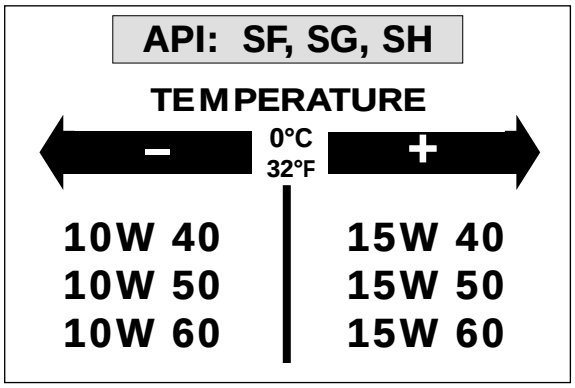
Checking the adjustment of the hand decompression cable *

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 ❶, loosen the counter nut ❷ and correct the adjusting screw ❸ accordingly. Tighten counter nut and push back protective cover.

! CAUTION !

IF THERE IS NO PLAY IN THE DECOMPRESSION LEVER, THIS CAN RESULT IN ENGINE DAMAGE.

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

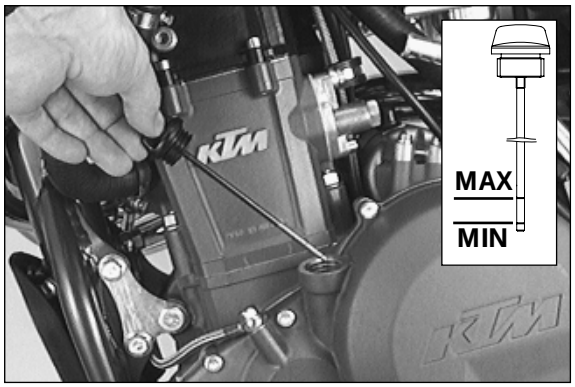


Engine oil

Only use high-quality oils (Shell Advance Ultra 4) meeting or surpassing the quality requirements of API classes SF, SG, or SH (for specifications see containers). You may use either mineral oils or synthetic oils fulfilling the above criteria.

! 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.

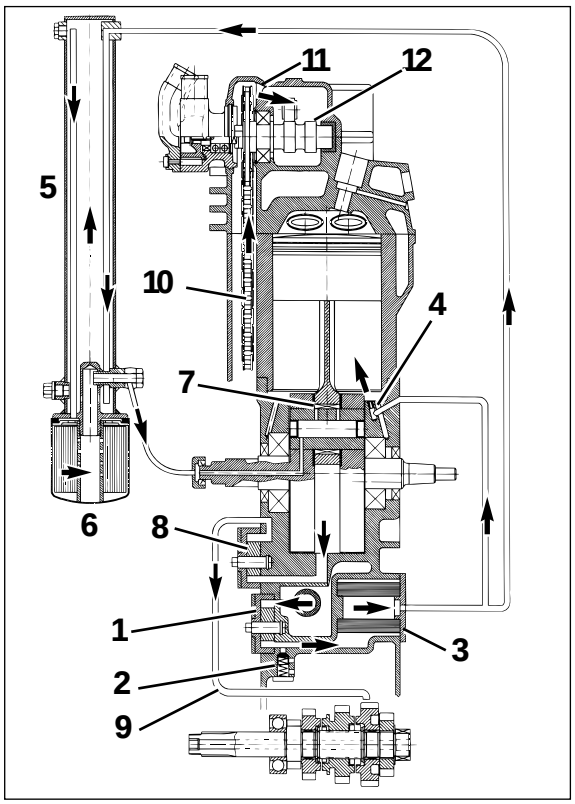
The oil level should be between the two marks on the dipstick, however, it must never rise above the MAX mark. Otherwise, engine oil would get into the air filter box by way of the engine venting system.

Add engine oil if necessary.

! CAUTION !

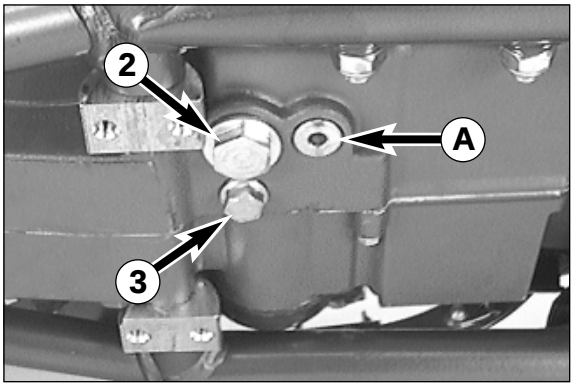
- INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.
- CHECKING THE ENGINE OIL LEVEL WHEN THE ENGINE IS COLD RESULTS IN A FALSE READING ON THE OIL DIPSTICK AND THEREFORE AN INCORRECT OIL LEVEL.
- DO NOT OVERFILL THE ENGINE CASE.
- DO NOT UNDERFILL THE ENGINE CASE.

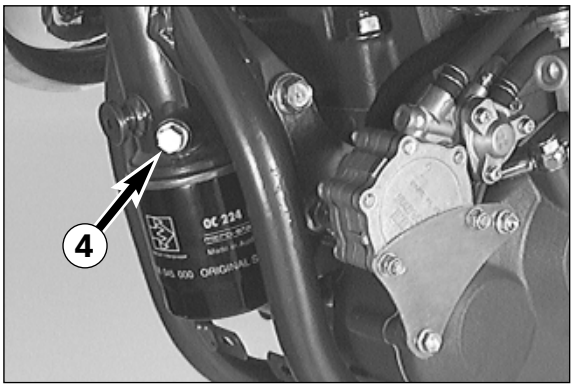
Finally, check oil system and engine for leaks.

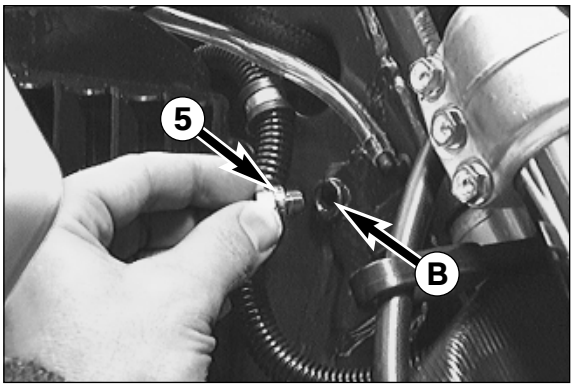


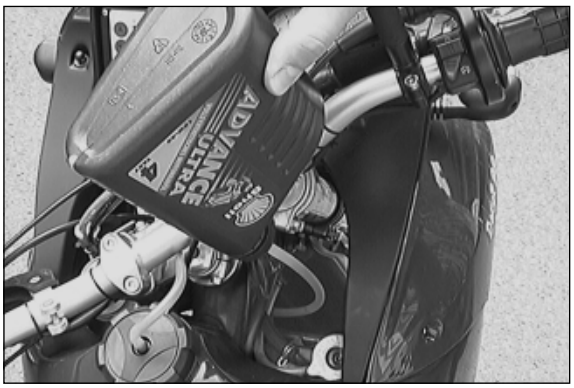
Oil circuit

The oil pump ❶ pumps the engine oil past the by-pass valve ❷ through the oil filter ❸. After the oil filter, an oil line branches off to a jet ❹ which sprays engine oil onto the piston pin bearing and piston head. The second oil line takes the main flow of oil into the front pipe of the frame ❺, where the engine oil is cooled down. Afterwards the engine oil runs through the fine screen filter ❻, which filters out even the finest impurities. The cleaned engine oil is pumped through the oil line and the clutch cover into the crankshaft to the conrod bearing ❼ and drips into the crankcase. An additional oil pump ❽ sucks the engine oil out of the crankcase and pumps it through the oil line ❾ to the gear wheels of the 4th and 5th gear. Via the gear wheels, the engine oil reaches the oil sump. The timing chain ❿ runs through the oil sump and transports the engine oil upwards to the cylinder head. Through the bore hole ⓫ the oil reaches the camshaft ⓬ and the valves.









Oil change and bleeding of the oil system *

Note: For improved cooling of the engine oil, the front tube of the frame was integrated into the oil circuit.Thus, when you change the oil, you also have to drain the engine oil from the front tube and bleed 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 the two plugs ❷ and ❸, and drain oil into a container. Models with integrated font pipe: Remove cover, unscrew plug ❹ at the lower end of the front pipe and drain oil.

! **CAUTION** !

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

Clean all 3 plugs thoroughly with a fireproof solvent and compressed air, in order to remove the metal abrasion. After all the oil has drained through, clean sealing areas and install plugs with gaskets. Tighten plug ❷ with 30 Nm (23 ft.lb) and plugs ❸ and ❹ with 20 Nm (15 lb.ft).

Remove oil dipstick on the clutch cover, fill with 1,3 litre engine oil and attach plug again.

! **CAUTION** !

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 ❺ next to the steering head. Introduce the plastic hose into the vent hole Ⓑ, 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.

! **CAUTION** !

DO NOT REV UP THE ENGINE DURING THE BLEEDING PROCEDURE BECAUSE NOT ALL THE LUBRICATING POINTS WILL ALREADY HAVE BEEN SUPPLIED WITH SUFFICIENT AMOUNTS OF OIL.

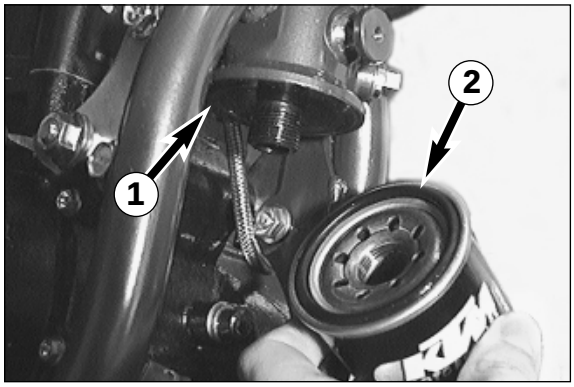
Allow the engine to run until warm. Then, turn off the engine, and place the motorbike on a flat, level surface in an upright position (center stand). Wait for 5 minutes. Unscrew and remove the oil dipstick, and wipe it clean with a cloth.
SCREW THE DIPSTICK IN ALL THE WAY AND REMOVE IT AGAIN.
The oil level should be between the two marks on the oil 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.

NOTE: DISPOSE OF USED OIL PROPERLY! UNDER NO CIRCUMSTANCES MAY USED OIL BE DISPOSED OF IN THE SEWAGE SYSTEM OR IN THE OPEN COUNTRYSIDE. 1 LITER OIL CONTAMINATES 1.000.000 LITER WATER.



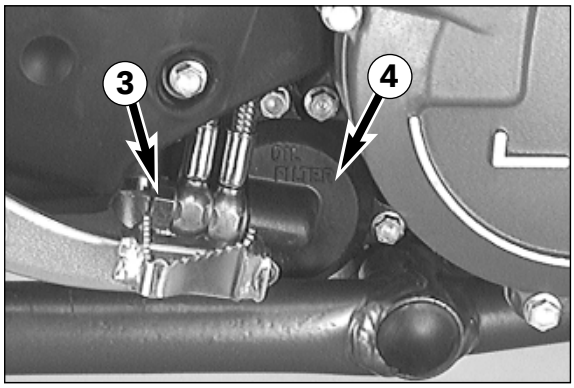
Changing the fine screen filter *

Replace the fine screen filter when changing the engine oil.
Loosen the fine screen filter with an oil filter wrench; you will be able to unscrew it the rest of the way with your bare hand. Let engine oil flow out of the front pipe of the frame.

- Clean sealing surfaces on the front pipe ❶, fill new fine screen filter with engine oil, and oil rubber gasket ❷. Replace fine screen filter and screw it back in place, your bare hand will do.
- Start motor, bleed oil system (see Changing the engine oil) and make sure that the fine screen filter does not leak.

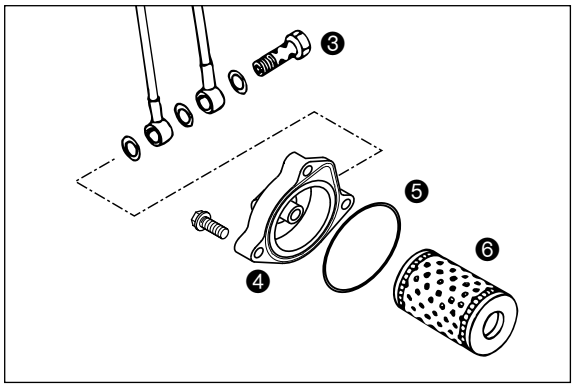
! CAUTION !

- 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 !**



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 ❸ and the three screws. Remove oil filter cover ❹ and oil filter. Clean filter housing, oil filter cover, and sealing surfaces. Check oil duct in oil filter cover if clogged.



Check the O-ring ❺ for damage. O-rings need not be replaced unless damaged. Press the O-ring into the groove of the filter cover ❹. Fit new oil filter ❻ with rubber gasket on the fitting in oil filter cover and mount cover with filter. Mount three screws and tighten with 5 Nm (4 ft.lb). Mount hollow screw ❸ with seal rings and tighten with 15 Nm (11 ft.lb). Start engine and check 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.	Starting see driving instruction page 14. 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.
Engine doesn't crank; neutral indicator lamp and headlight don't light up.	Blown main fuse	Remove seat and replace the main fuse. If fuse blows again contact a KTM dealer
	Discharged battery.	Starting see driving instruction page 14. Recharge the battery and investigate the causes for discharging; contact a KTM dealer.
The engine cranks only with pulled clutch lever	The diode at the connector support is defect (interrupted)	Contact a KTM dealer; the diode must be replaced.
Engine cranks with gear engaged	Defect safe-starting system.	Contact a KTM dealer.
Engine cranks but doesn't start.	Operating error	Open the fuel tap (see page 9), refuel. The choke or hot start device, respectively, has not been operated. Observe starting instructions (see driving instructions).
	Fuel supply interrupted	Disconnect the fuel hose coming from the fuel tap at the fuel pump. Put the end of the fuel hose into an appropriate container and open the fuel tap. – If fuel flows out, check the fuel pump. – If no fuel flows out, the fuel evaporation control system must be checked or the fuel tap must be cleaned, respectively.
	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. – check if the fuel filter is clogged. – contact a KTM dealer.
	Flooded engine	See driving instructions
	Sooty or wet spark plug	Clean or replace spark plug
	Electrode gap too large	Adjust spark plug elektrode gap to 0,7 mm
	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 produced, loosen spark plug cap from ignition cable, hold about 5 mm from ground and actuate kickstarter – 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

TROUBLE	CAUSE	REMEDY
Engine fails to idle	Glogged idling jet	Disassemble carburetor and clean jets
	Oncorrect adjustment of adjusting screws on carburetor	Have carburetor adjusted
	Defective ignition system	Have ignition system checked
Engine does not rev high	Carburetor fuel level too high because – Float needle is dirty or worn out – Float leaks – Float has no axial play	Dismount carburetor and check if worn out Replace float needle Replace float Abrade float
	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
	Float leaks, or no axial play	Replace or abrade the float
	Air filter very dirty	Clean or replace air filter, contact a KTM dealer
	Exhaust system leaking or deformed	Check if exhaust system is damaged
	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
Engine misfires or backfires into carburetor	Fuel shortage	Clean and check fuel system and carburettor
	Engine takes in unmetered air	Check intake flange and carburettor for tight fit
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“
All switched on lamps blown out	Voltage regulator faulty	Remove seat and check connections. Have voltage regulator checked
The NEUTRAL lamp is not on even though the gear is in NEUTRAL	Defect indicator lamp.	Replace indicator lamp
	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.

TROUBLE	CAUSE	REMEDY
The battery is discharged	The ignition (power consumer) hasn't been switched off	Recharge the battery according to the relevant instructions. Starting see driving instructions page 14.
	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.	The contrast potentiometer is set incorrectly.	Turn the contrast potentiometer until the display can be easily read.
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.
A time entry is requested by the Tripmaster every time the ignition is switched on.	The lithium battery in the device is empty.	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.
- 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).
- Fill up tank with fresh fuel.
- Check motorcycle as before each start (see driving instructions)
- Take a short, careful test ride first.

TECHNICAL DATA – ENGINE 640 LC4-E ADVENTURE R '99

Engine	**640 LC4-E**
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° (249)
Valve timing by 1 mm	IO 13° BTDC EO 53° BBDC
valve clearence	IC 51° ABDC EC 11° ATDC
Valve diameter	Intake: 36 mm Exhaust: 30 mm
Valve clearence cold	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	cast aluminium alloy
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring
Engine lubrication	two Eaton-oilpumps
Engine oil	see bellow #
Engine oil quantity	appr. 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
Gear ratio	1st 14:35 2nd 15:24 3rd 18:21 4th 20:19 5th 22:18
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 DR8EA
Spark plug gap	0,7 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 and kickstarter

ASSEMBLY CLEARANCE, WEAR LIMIT	
Crank shaft	axial play .....0,03 - 0,12 mm (0,0012 - 0,0047 in)
	run out of crank stud .....max. 0,08 mm (0,0031 in)
Connecting rod bearing	radial play .....max. 0,05 mm (0,002 in)
	axial play .....max. 1,10 mm (0,043 in)
Cylinder	bore diameter .....max. 101,04 mm (3,9779 in)
Piston	assembly clearance .....max. 0,12 mm (0,0047 in)
Piston rings end gap	compression rings .....max. 0,80 mm (0,0315 in)
	oil scraper ring .....max. 1,0 mm (0,0394 in)
Valves	seat sealing intake.....max. 1,50 mm (0,0591 in)
	seat sealing exhaust.....max. 2,00 mm (0,0788 in)
	run out of valve heads .....max. 0,05 mm (0,0019 in)
	valve guides diameter .....max. 7,05 mm (0,2778 in)
Oil pump	clearance outer rotor - housing .....max. 0,20 mm (0,0079 in)
	clearance outer rotor - inner rotor .....max. 0,20 mm (0,0079 in)
Bypaß valve	minimum spring lenght.....25 mm (0,985 in)
Clutch	clutchspring lenght....min. 34,5 mm (1,36 in), new 37 mm (1,458 in)
	Wear limit organic.....min. 2,5 mm (0,0985 in)
Cam shaft	diameter of bearing bolt .....min. 19,97 mm (0,7868 in) (needle bearing)
Transmission shafts	axial play .....0,1 – 0,4 mm (0,0039 – 0,0158 in)

TIGHTENING TORQUES - ENGINE		
Hexagon nut at primary gear	M20x1,5	Loctite 242 + 170Nm (125 ft.lb)
Hexagon nut flywheel	M16x1,25 LH thread	80°C + 150 Nm (110 ft.lb)
Hexagon nut for inner clutch hub	M18x1,5	80 Nm (59 ft.lb)
Kickstarter stop screw	M12x1,5	50 Nm (37 ft.lb)
Allen head screws oil pump	M6	Loctite 242 + 8 Nm (6 ft.lb)
Hexagon screw camshaft gear	M10	Loctite 242 + 35 Nm (26 ft.lb)
Allen head screws outer race	M6x12/M6x12,5	Loctite 648 + 18 Nm (13 ft.lb)
Allen head screw cylinder head top sect.	M6x50/M6x55 (12.9)	20 Nm (15 ft.lb)
Allen head screw cylinder head top sect.	M6x25/M6x65/M6x70 (8.8)	8 Nm (6 ft.lb)
Cylinder head screws	M10	50 Nm (37 ft.lb)
Collar nuts at cylinder base	M10	40 Nm (30 ft.lb)
Hexagon screw chain sprocket	M10	Loctite 242 + 40 Nm (30 ft.lb)
Oil drain plug	M22x1,5	30 Nm (22 ft.lb)
Magnetic plug	M12x1,5	20 Nm (15 ft.lb)
Plug bypass valve	M12x1,5	20 Nm (15 ft.lb)
Crankshaft locating bolt	M8	25 Nm (18 ft.lb)
Hollow screws oil lines	M8x1	10 Nm (7 ft.lb)
Hollow screws oil lines	M10x1	15 Nm (11 ft.lb)
Jet screw clutch cover	M8	10 Nm (7 ft.lb)
Screw plug timing-chain tensioner	M12x1,5	20 Nm (15 ft.lb)
Counternuts valve adjusting screws	M7x0,75	20 Nm (15 ft.lb)
Engine fastening screw	M8	40 Nm (30 ft.lb)
	M10	70 Nm (52 ft.lb)

BASIC CARBURETOR SETTING		
	640 EGS-E 25 kW with KAT	**640 EGS-E** 37 kW with KAT
Carburetor	PHM 40 SD	PHM 40 SD
Carburetor setting number	210198	210198
Main jet	155	155
Needle jet	DR 268	DR 268
Idling jet	45	45
Jet needle	K 51	K 51
Needle position from top	4 rd	4 rd
Mixture.adju. screw open	1,5 turn	1,5 turn
Throttle valve	40	40
Starting jet	55	55
Performance restrictor	slide stop 28 mm	–

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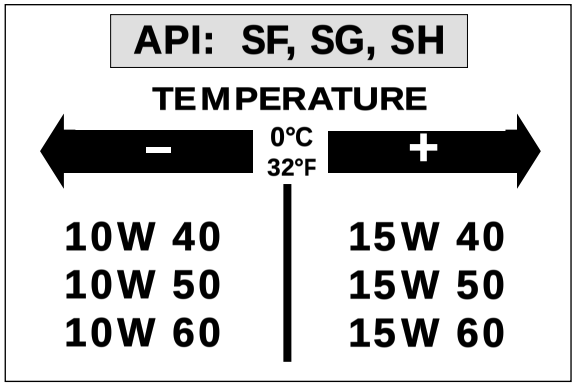


Engine oil

Use only oil brands, which meet quality requirements of API-classes SF, SG or SH (informations on bottles) or higher. Both, mineral and synthetic oils with above specifications can be used.

! CAUTION !

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

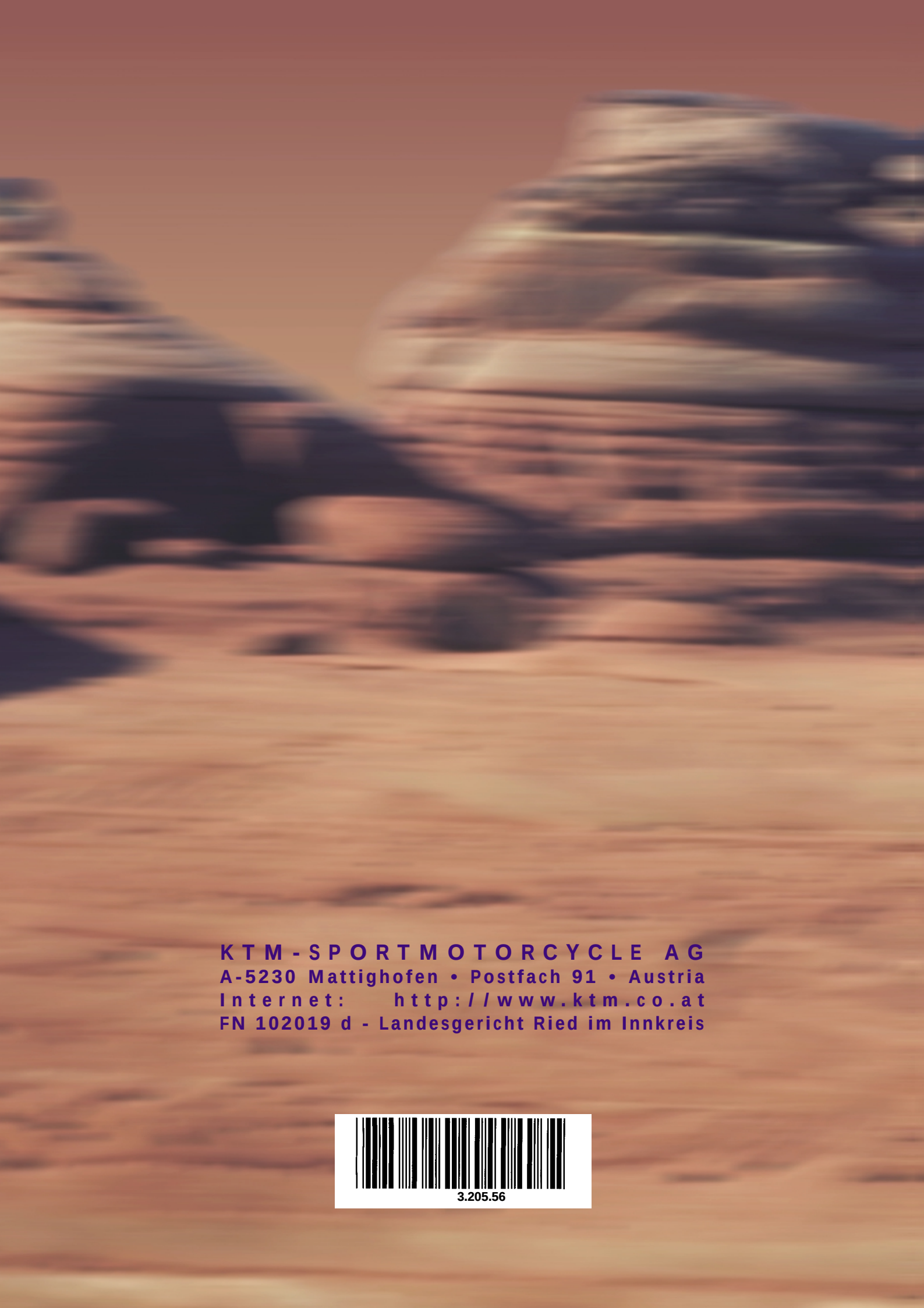
TECHNICAL SPECIFICATIONS - CHASSIS 640 ADVENTURE R '99

	640 ADVENTURE R
Frame	Central chrome-moly-steel frame
Fork	WP-Extreme Ø 50 mm
Wheel travel front/rear	300 / 320 mm (11,8 / 12,6 in)
Rear suspension	Central shock absorber WP IBS with PRO-LEVER linkage to rear- swing-arm with needle bearing
Front brake	Disc brake with carbon-steel brake disc ∅300 mm (11,8 in), brake caliper floated
Rear brake	Disc brake with carbon-steel brake disc ∅220 mm (8,7 in), brake caliper floated
Tyres front	90/90 - 21 54S Enduro 3
Air press. road, driver only	1,5 bar (22 psi)
Air press. road with passenger	2,0 bar (29 psi)
Tyres rear	140/80 - 18 70R Enduro 3
Air press. road, driver only	2,0 bar (29 psi)
Air press. road with passenger	2,2 bar (31 psi)
Fuel tank capacity	28 liter (7,4 US gallons), 3,8 liter (1 US gallons) reserve
Final drive ratio	16:40 t
Chain	O – Ring $^{5}/_{8}$ x $^{1}/_{4}$"
Battery	maintenance-free battery 12V 8Ah
Steering angle	62,5 °
Wheel base	1510 ± 10 mm (59,4 ± 0,4 in)
Seat high	940 mm (37 in)
Ground clearance	320 mm (12,6 in)
Dead weight without fuel	154kg (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	
	09.18.S7.55
Compression adjuster	14
Rebound adjuster	12
Spring	4,4 N/mm
Spring preload	10 mm (0,4 in)
Air chamber length	155 mm (5,9 in)
Capacity per fork leg	ca 800 ccm
Fork oil	SAE5

STANDARD-ADJUSTMENT - SHOCK ABSORBER	
	01.18.R7.97
Compression adjuster	3
Rebound adjuster	5
Spring	70/260
Spring preload	23 mm (0,9 in)

TORQUES			
Collar screw front axle	M 10	40 Nm	(30 ft.lb)
Collar nut rear axle	M 20x1,5	80 Nm	(59 ft.lb)
Hex. nut swing arm bolt	M 14x1,5	100 Nm	(74 ft.lb)
Clamping screw upper fork bridge	M 8	15 Nm	(11 ft.lb)
Clamping screw lower fork bridge	M 8	20 Nm	(15 ft.lb)
Clamping screws fork stubs	M 8	10 Nm	(7 ft.lb)
Other screws chassis	M6	10 Nm	(7 ft.lb)
	M8	25 Nm	(19 ft.lb)
	M10	45 Nm	(33 ft.lb)



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