620 LC4
COMPETITION
'99

BEDIENUNGSANLEITUNG

OWNER'S HANDBOOK

MANUALE D'USO

MANUEL D'UTILISATION

MANUAL DE INSTRUCCIONES

ART. NR.: 3.205.61
10.98

IMPORTANT

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

⚠ WARNING ⚠

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

! CAUTION !

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

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

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. Let us also take this opportunity to thank you for putting your trust in us; we will not let you down.

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. Your owner's handbook 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 by * found 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. Be sure to have any maintenance jobs performed by an authorized KTM dealer.
Address your special requests to an authorized KTM dealer who, should the need arise, will be supported by the KTM importer.

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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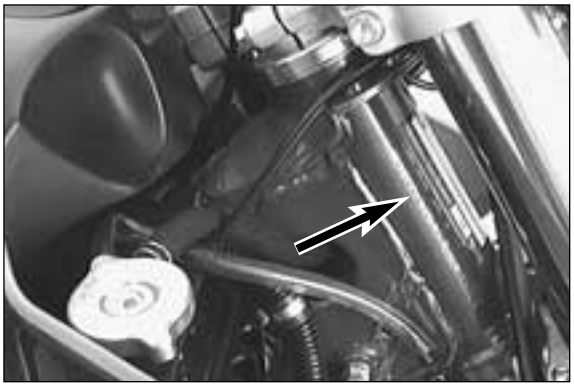
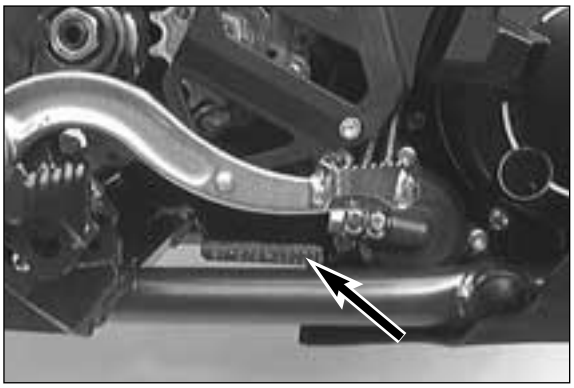


SERIAL NUMBER LOCATIONS

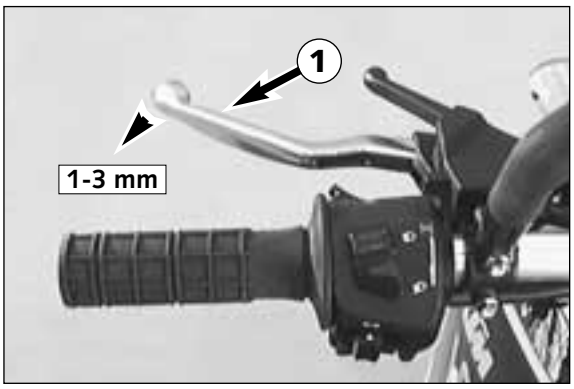
Chassis number

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.



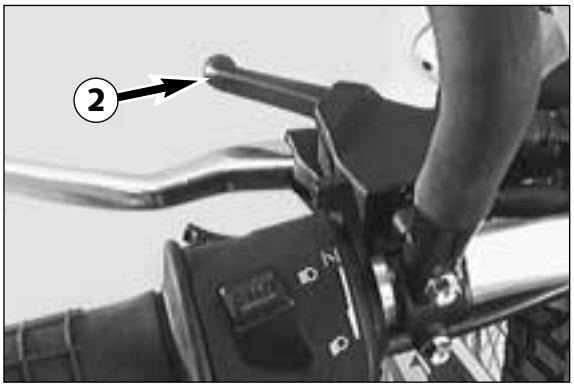
OPERATION INSTRUMENTS

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

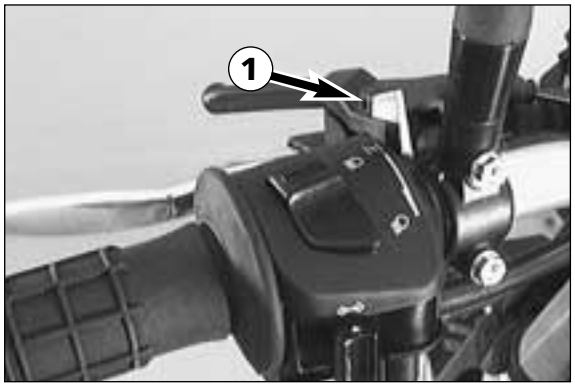
The hand decompression lever ❷ is only used in two special cases:

a) When the engine stalled.
   When you then start the engine, you may feel a hard resistance on the kickstarter, because the automatic decompressor cannot lock into place. If this happens, pull the hand decompression lever and stand on the kick-starter. You can then start the engine normally again.

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

! CAUTION !

THE SETTING OF THE DECOMPRESSION CABLE SHOULD BE REGULARLY CHECKED. A LACK OF PLAY IN THE DECOMPRESSION LEVER CAN RESULT IN ENGINE DAMAGE.

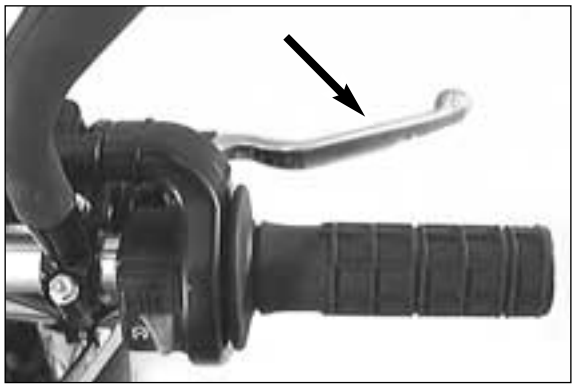


Choke lever

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. 2mm.

! CAUTION !

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

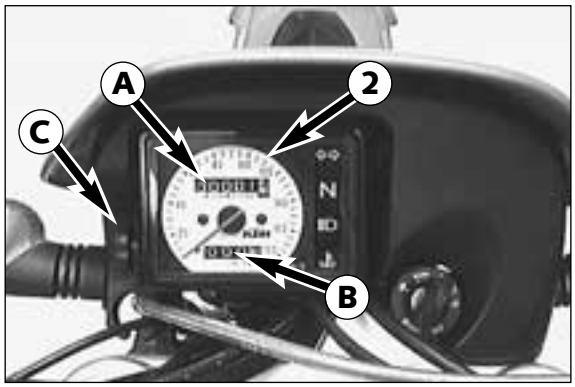


Hand brake lever

The hand brake lever is mounted on the handle bars 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.



Speedometer, control lamps

The mileage indicator ❹ in the speedometer ❷ indicates overall mileage. The day mileage indicator ❸ can be set to 0 by means of the adjustment wheel ❶. Turn the adjustment wheel forward until only zeros can be seen in the display.

The green control lamp flashes when the indicator is working in the same rhythm as the flashing indicator.

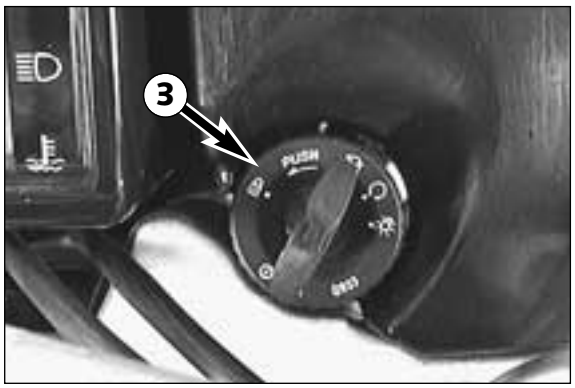
The green control lamp lights up when the gear is switched to idle.

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

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

! CAUTION !

PAY ATTENTION TO THE DIRECTIONS IN THE CHAPTER „COOLING SYSTEM" ON PAGE 24.



Ignition lock with 4 switch positions

Switch positions of ignition lock ❸:

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

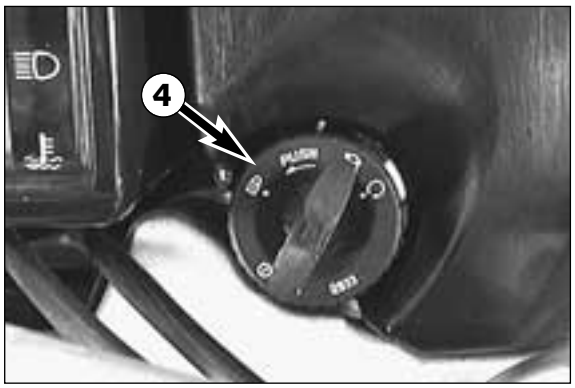
=Ignition on, light off (engine can be started)

=Ignition on, light on (engine can be started)

=Ignition off, light off, handlebar blocked

To switch the ignition to position ⌂ turn the ignition key to position ⊠ and firmly press it into the lock. Turn the handlebar all the way to the left, then turn the ignition key to the left.

The ignition key can be withdrawn in positions ⊠ and ⌂



Ignition lock with 3 switch positions

Switch positions of ignition lock ❹:

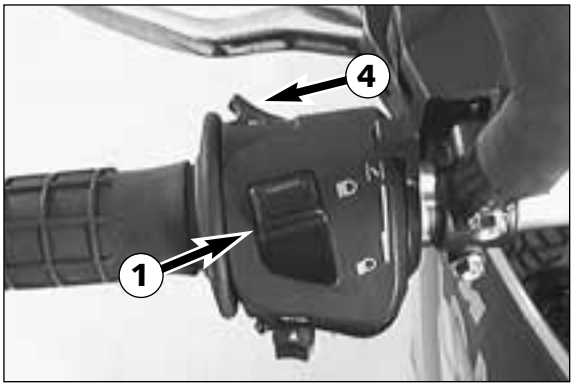
=Ignition off, light off (engine can't be started)

=Ignition on, light on (engine can be started)

=Ignition off, light off, handlebar blocked

To switch the ignition to position ⌂ turn the ignition key to position ⊠ and firmly press it into the lock. Turn the handlebar all the way to the left, then turn the ignition key to the left.

The ignition key can be withdrawn in positions ⊠ and ⌂



Combination switch

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

= High-beam light

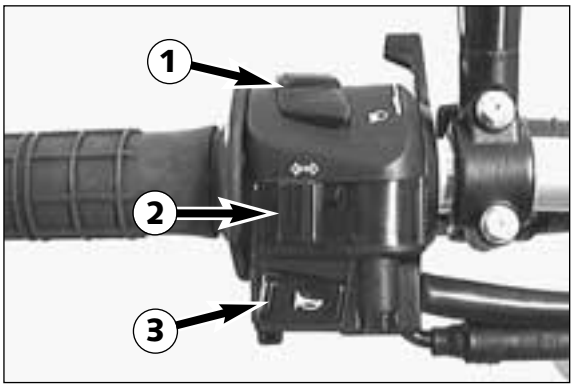
= Low-beam light

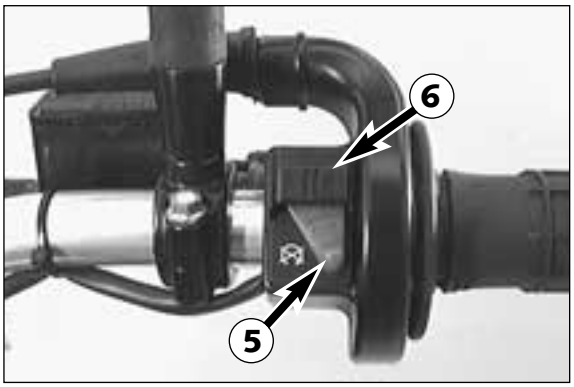
The indicator switch ❷ returns to central position after actuation. Press indicator switch towards switch housing to switch off the indicator.

The horn is sounded with button ❸.

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

NOTE: The engine must be running in order to check that the electric components are functioning correctly.





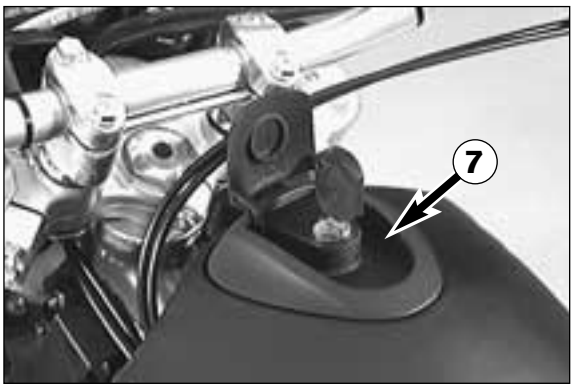
Emergency OFF switch

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

When this symbol is concealed by the switch, the ignition circuit will be short-circuited.

When this symbol is concealed by the switch, the ignition circuit will be operative and the engine should start when cranked.

Button ❻ is inoperative.



Filler cap

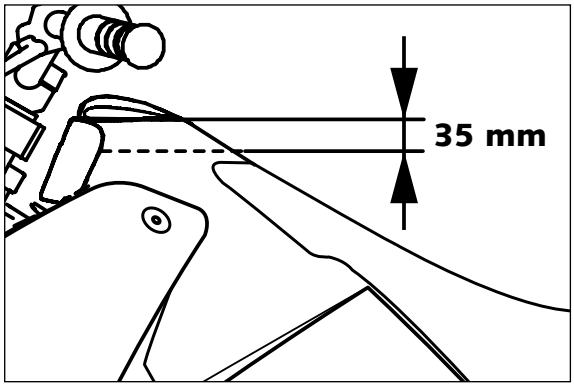
The filler cap ❼ can be locked and is provided with a fuel evaporation control system.
To open the cap insert the ignition key, turn it 90° counterclockwise, then lift off the filler cap.
To close the tank insert the filler cap, turn the ignition key 90° clockwise and take out the key.

Fuel

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

! CAUTION !

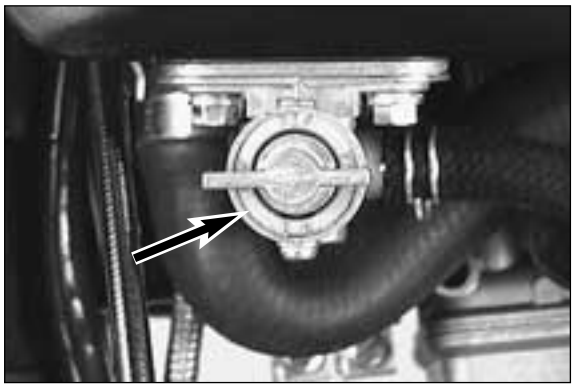
– Use leaded or unleaded premium grade gasoline (95 octanes). Never use any gasoline having less than 95 octanes because it may damage the engine.
– If your motorcycle is equipped with a catalytic converter, always keep in mind that leaded fuel will destroy the catalytic converter. Whether or not your motorcycle is equipped with a catalytic converter is indicated below the KTM logo on the type label of the muffler. Only "HGS KAT" mufflers are equipped with catalytic converters.



⚠ 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.).

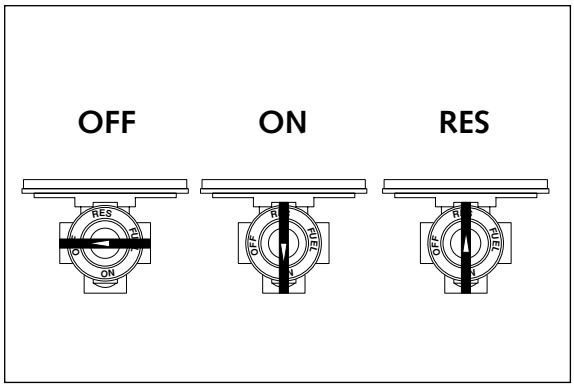


Fuel tap

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

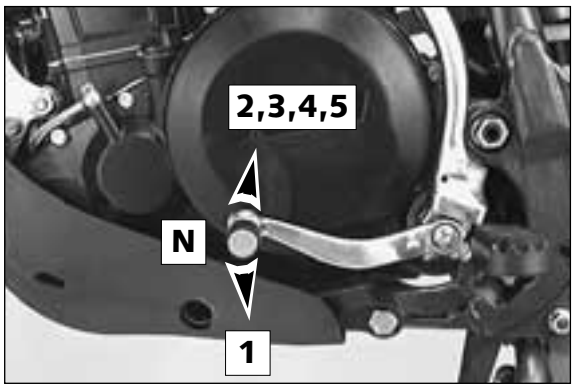
ON When using the motorcycle, the rotating handle must be set to the ON position. Now fuel may flow to carburetor. In this position the tank empties down to the fuel reserve of approx. 2,5 liters.

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



! CAUTION !

THE FUEL TAP SHOULD BE LOCKED WHENEVER THE MOTORCYCLE IS PARKED. IF THE TAP IS NOT CLOSED THE CARBURETOR MAY OVERFLOW AND FUEL GET INTO 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 ⚠

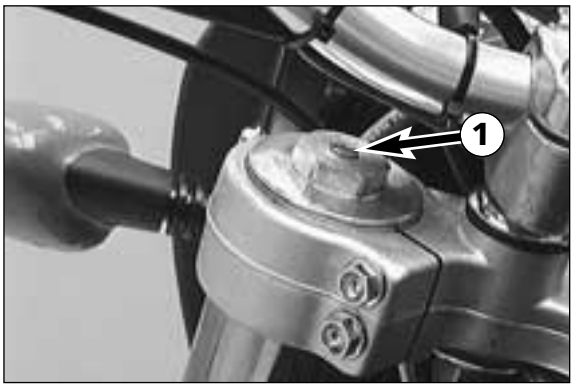
WHEN STARTING THE ENGINE, PUT ON MOTORCYCLE BOOTS IN ORDER TO AVOID INJURIES. YOU MAY SLIP OFF THE KICKSTARTER, OR THE ENGINE MAY STRIKE BACK WHEN KICKING NOT VEHEMENTLY ENOUGH.

Foot brake pedal

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

⚠ WARNING ⚠

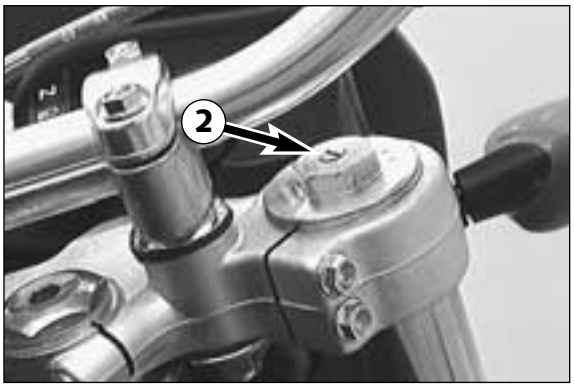
IF THE RESISTANCE IN THE HAND BRAKE LEVER OR FOOT BRAKE PEDAL FEELS "SPONGY" (TOO MUCH GIVE), THIS IS AN INDICATION THAT SOMETHING IS WRONG WITH THE BRAKE SYSTEM. DON'T RIDE YOUR MOTORCYCLE ANYMORE WITHOUT FIRST HAVING THE BRAKE SYSTEM LOOKED OVER BY A KTM DEALER.



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.

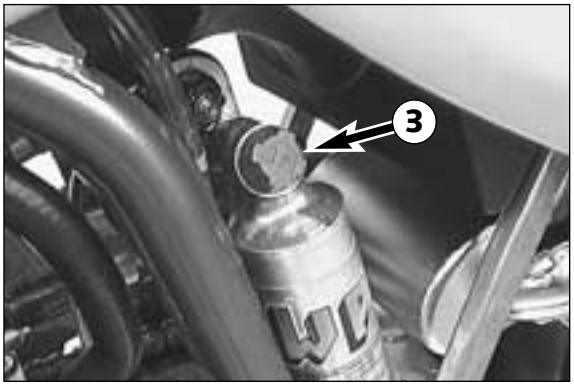
BASIC SETTING:
- turn rotary knob clockwise as far as it will go
- turn it back by as many clicks as are specified for the relevant type of fork
- 918S757.....12 clicks



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.

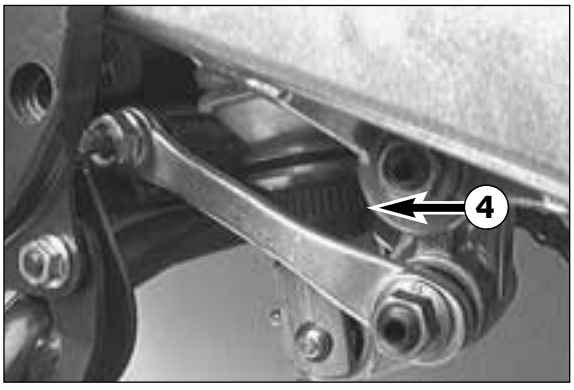
BASIC SETTING:
- turn rotary knob clockwise as far as it will go
- turn it back by as many clicks as are specified for the relevant type of fork
- 918S757.....12 clicks



Compression damping of shock absorber

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

BASIC SETTING:
118S701.....Position 3



Rebound damping of shock absorber

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

BASIC SETTING:
118S701.....Position 5

⚠ WARNING ⚠

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

Passenger handles

On the tail of the motorcycle you will find two handles which a passenger can use to hold on to.

Check the following before each start

When you start off, the motorcycle must be in perfect mechanical 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.

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

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 deteriorate 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, as complete failure of the braking system can be avoided.
Also check the state of the brake hose and the thickness of the brake linings.
Check free travel at hand brake lever and foot brake lever.

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

7 COOLING FLUID
Check the level of cooling fluid when the engine is cold.

8 ELECTRICAL SYSTEM
Check correct functioning of headlamps, tail-lights, brake lights, indicators, control lamps and horn while the engine is running.

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 COLORED SO THAT OTHER VEHICLE CAN SEE YOU AS EARLY AS POSSIBLE. YOUR PASSENGER 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 VEHICLES DRIVING PROPERTIES.
- THE FRONT AND REAR WHEEL ARE ALLOWED TO BE FITTED ONLY 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 these operating instructions carefully before your first ride.
- Familiarize yourself with the operating elements.
- Adjust the hand brake lever and foot brake lever to the most comfortable positions for you.
- Get used to handling the motorcycle on an empty parking lot or open space, 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 abitily and experience.
- Hold the handle bars with both hands and leave your feet on the foot rests while driving.
- Remove your foot from the foot brake lever when you are not braking. If the foot brake lever is not released the brake pads rub continuously and the braking system is overheated.
- A passenger is allowed only if your motorcycle is fitted and registered for such purposes. The passenger must hold tight to the strap 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 hemlet.
- Pay attention to running-in procedure.

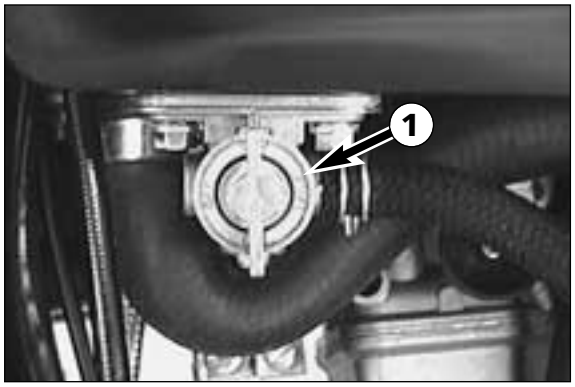
Running in the LC-4 models

Even very precisely machined sections of engine components have rougher surfaces than components which have been sliding across one another for quite some time. Therefore, every engine needs to be broken in. For this reason, during its first 1000 kilometers (620 miles) the engine must not be revved up to its performance limits. The engine speed of 4800 r.p.m. must not be exceeded during the first 1000 kilometers (620 miles). During this break-in time, you should ride your motorcycle in different conditions (roads, easy off-road terrain). The following table shows you the maximum velocity values in the different gears at 4800 r.p.m. as based on the rear wheel transmission ratio of your motorcycle.

gear \ i	16:40 t					
1st	35 (22)					
2nd	55 (34)					
3rd	75 (46)					
4th	90 (56)					
5th	105 (66)					

km/h (mph)

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 (non synthetic) formula. This also applies if the engine has been repaired.



Starting when the engine is cold

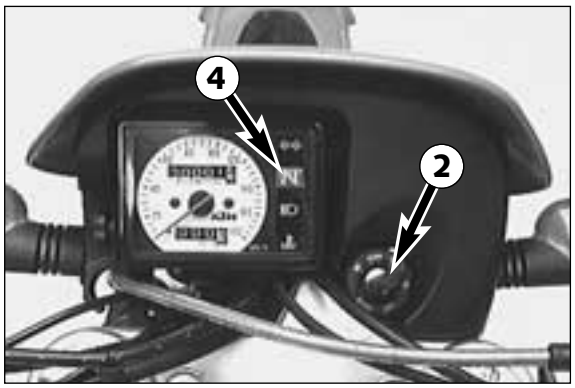
1 Open the fuel tap ❶
2 Switch on the ignition (turn ignition key❷ into positon ⚆)
3 Switch on emergency OFF switch ❸ (symbol ⊠ must be visible)
4 Lift motorcycle of center stand
5 Switch transmission to idle (green indicator lamp N ❹ lights up)
6 Operate cold starting device (choke) ❺
7 Do not give gas and then push the Kickstarter hard all the way
8 If the engine starts, push the choke lever back a little bit, as soon as the engine runs unevenly.

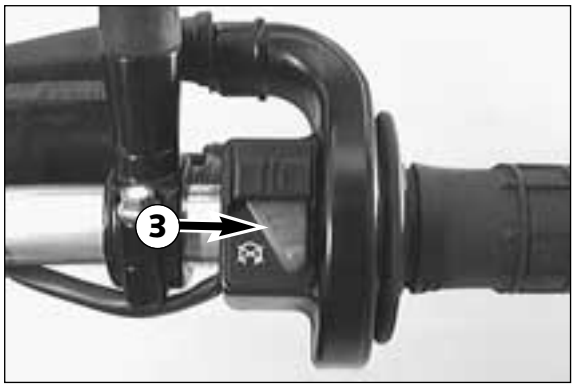
⚠ WARNING ⚠

– When starting the engine, put on motorcycle boots in order to avoid injuries. You may slip off the Kickstarter, or the engine may strike back when kicking not vehemently enough.
– Do not start the engine and allow it to idle in a closed area. Exhaust fumes are poisonous and can cause loss of consciousness and death. Always provide adequate ventilation while the engine is running.

! CAUTION !

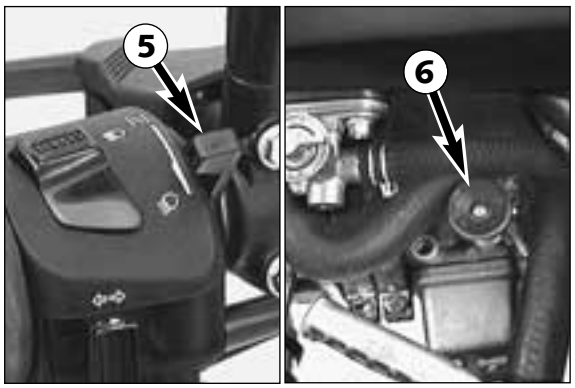
Don't ride your motorcycle with full load and don't rev engine when cold. Because the piston is warming up faster than the water cooled cylinder, it can cause engine damage.





Starting when the engine is warm

1 Open the fuel tap ❶
2 Switch on the ignition (turn ignition key ❷ into postion ⚆)
3 Switch on emergency OFF switch ❸ (symbol ⊠ must be visible)
4 Lift motorcycle of center stand
5 Switch transmission to idle (green indicator lamp N ❹ lights up)
6 Do not give gas and then push the Kickstarter hard all the way



Starting when the engine is hot

1 Open the fuel tap ❶
2 Switch on the ignition (turn ignition key ❷ into postion ⚆)
3 Switch on emergency OFF switch ❸ (symbol ⊠ must be visible)
4 Lift motorcycle of center stand
5 Switch transmission to idle (green indicator lamp N ❹ lights up)
6 Push in the hot-start putton ❻ on the carburetor as far as it will go
7 Do not give gas and then push the Kickstarter hard all the way
8 When the engine is running, pull the hot-start putton back to its original position.

What to do when the engine is „flooded"

Pull in the hand decompression lever, open the throttle fully, kick the kick starter through the stroke 5 to 10 times and start the motor as described above.

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 MAIN OR SIDE STAND HAS BEEN SWUNG UP FULLY. IF THE STAND DRAGS ON THE GROUND, THE MOTORCYCLE CAN GO OUT OF CONTROL.

ALWAYS TURN ON THE LIGHT TO MAKE SURE THAT OTHER DRIVERS BECOME AWARE OF YOU AS EARLY AS POSSIBLE.

Shifting/Riding

You are now in first gear, refered to as the drive or uphill gear. Depending on the conditions (traffic, hill size, etc.), you can shift to a higher gear. Close throttle, at the same time pull clutch lever in and shift to the next higher gear. Let clutch lever go again and give gas. 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 opening the throttle all the way, turn throttle back to 3/4; the speed hardly decreases although the engine will use less gas.

Only give as much gas as the engine can handle. Through quick and high reving of throttle, the gas usage increases.

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.

⚠ 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 UN UNKNOWN ROADS OR ON UNFAMILIAR TRIALS.
- WHEN DRIVING OFF-ROAD, ALWAYS HAVE A FRIEND ON A SECOND MOTORCYCLE TO KEEP YOU COMPANY, SO THAT YOU CAN HELP EACH OTHER SHOULD DIFFICULTIES ARISE.
- REPLACE HELMET VISOR OR GOGGLE LENS WHEN SCRATCHED OR DAMAGED. IF BRIGHT LIGHT SHINES THROUGH A SCRATCHED VISOR OR LENS, THE OPERATOR WILL BE BLINDED.
- 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. THE ENGINE HAS REACHED ITS OPERATING TEMPERATURE AS SOON AS THE RADIATORS BECOME WARM.
- NEVER HAVE THE THROTTLE WIDE OPEN WHEN CHANGING DOWN TO A LOWER GEAR. THE ENGINE WILL OVER-REV, DAMAGING THE VALVES. IN ADDITION, THE REAR WHEEL LOCKS SO THAT THE MOTORCYCLE CAN EASILY GET OUT OF CONTROL.
- LONG WHEELIES LEAD TO A DROP IN THE OIL PRESSURE WHICH CAN LEAD TO ENGINE DAMAGE.
- 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 DEMAGE.
  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
- IF ANY ABNORMAL VIBRATIONS OCCUR WHILE DRIVING, CHECK THAT THE ENGINE FASTENING BOLTS ARE TIGHT.
- IN THE EVENT THAT, WHILE RIDING ON 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 down hill, 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 or pull the short circuit button when the engine is idling, until the engine stops. Turn the fuel tap to the OFF position, park on an area where the ground is firm, and lock the motorcycle.

⚠ WARNING ⚠

- NEVER LEAVE YOUR MOTORCYCLE WITHOUT SUPERVISION IF THE ENGINE IS RUNNING.
- MOTORCYCLE ENGINES PRODUCE A GREAT AMOUNT OF HEAT WHILE RUNNING. THE ENGINE, EXHAUST PIPE, MUFFLER, BRAKE ROTORS, 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.
- ALWAYS TAKE OUT THE IGNITION KEY WHEN PARKING YOUR MOTORCYCLE SO THAT IT CANNOT BE USED BY UNAUTHORIZED PERSONS.

! CAUTION !

- CLOSE THE FUEL TAP WHEN LEAVING YOUR VEHICLE.OTHERWISE THE CARBURETTOR CAN FLOOD AND FUEL WILL ENTER THE ENGINE.
- NEVER LET THE PARKING LIGHT ON FOR LONGER THAN 90 MINUTES IF THE ENGINE IS SWITCHED OFF! IF THE OPERATING TIME EXTENDS THIS LIMIT, THE BATTERY WILL BECOME TOTALLY DISCHARGED AND THUS DESTROYED (ONLY MODELS WITH BATTERY).
- ALWAYS TAKE OUT THE IGNITION KEY WHEN PARKING YOUR MOTORCYCLE SO THAT IT CANNOT BE USED BY UNAUTHORIZED PERSONS.
- NEVER PARK YOUR MOTORCYCLE IN PLACES WHERE THERE EXIST FIRE HAZARDS DUE TO DRY GRASS OR OTHER EASILY FLAMMABLE MATERIALS.

NOTE REGARDING THE CENTER STAND:

We advise 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 motorcycle backwards at an angle is illustrated (see illustrtion).

Make sure that the ground is solid and that your motorcycle is standing securely.

PERIODIC MAINTENANCE SCHEDULE

400/640 LC4 '99
400/640 LC4 R '99
620 LC4 Comp.'99
640 Supermoto
10. 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)					
Drain and clean carburetor float chamber		●		●	●
Adjust idling				●	
Check all air supply and ventilation hoses of the engine and of the carburetor for kinks.			●	●	
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		●	●	●	

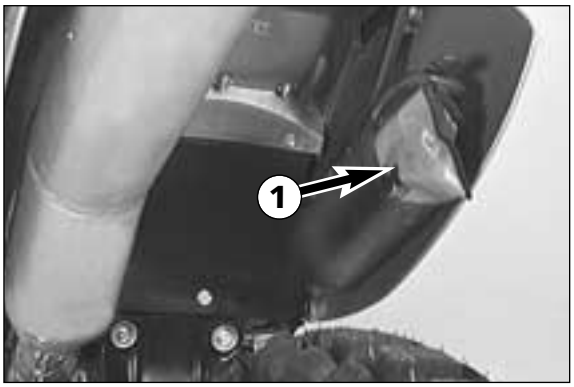
MAINTENANCE WORK ON CHASSIS AND ENGINE

⚠ WARNING ⚠

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

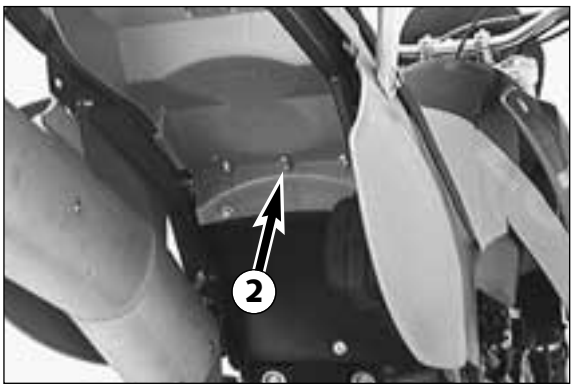
! CAUTION !

- When cleaning the motorcycle, do not use a high pressure cleaning unit if possible, otherwise water will penetrate the bearings, carburettor, electric connectors etc.
- When transporting your KTM, ensure that it is held upright with restraining straps or other mechanical fastening devices and that the fuel tap is in the OFF position - if the motorcycle should fall over, be aware of any leaking fuel from the carburetor or fuel tank
- Do not use toothed washers or spring rings 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.
- Remove Oils, fatty matters, filters, fuels, washing detergents etc. orderly.
- Under no circumstances may used oil be disposed of in the sewage system or in the open countrysize. 1 liter used oil contaminates 1.000.000 liters water.



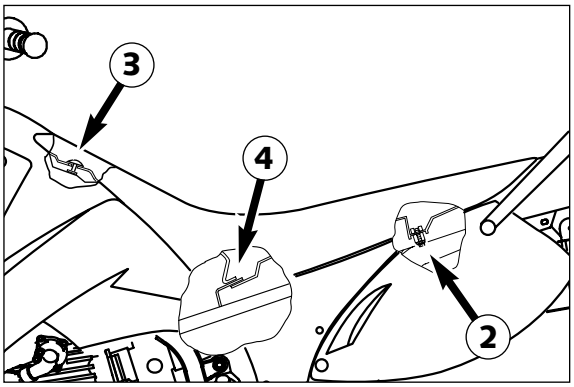
Tool set

The tool set ❶ is located in the tool box under the right side cover.

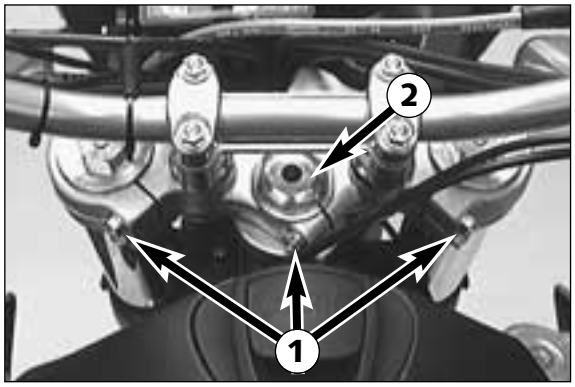


Removal of seat

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 mount the seat hook it into the oval head screw, lower the rear part of the seat and push the whole seat forwards. If necessary push the middle of the seat slightly down to let the retaining bracket ❹ engage with the seat. Finally fasten the seat with the corresponding screw.



Checking and adjusting steering head bearing *

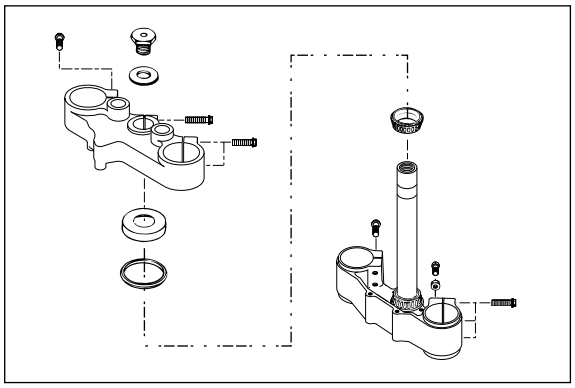
Check steering head bearing for play periodicaly. To check this put motorcycle on a stand so that the front wheel is off the ground. Now try to move the fork forward and backward. To adjust, loosen the five clamp screws ❶ of the top triple clamp and turn steering stem bolt clockwise ❷ until there is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

⚠ WARNING ⚠

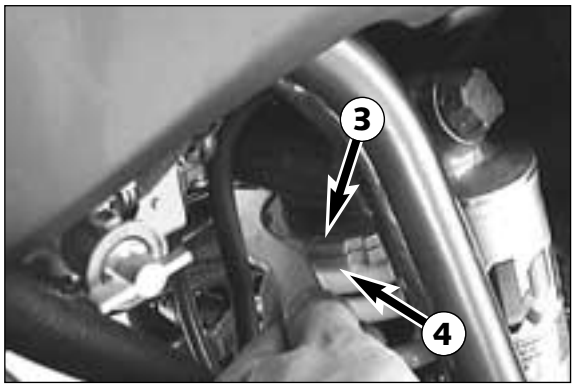
IF THE STEERING HEAD BEARING IS NOT ADJUSTED TO BE FREE OF PLAY, THE MOTORCYCLE WILL SHOW AN UNSTEADY DRIVING PERFORMANCE AND CAN GET OUT OF CONTROL.

! 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.



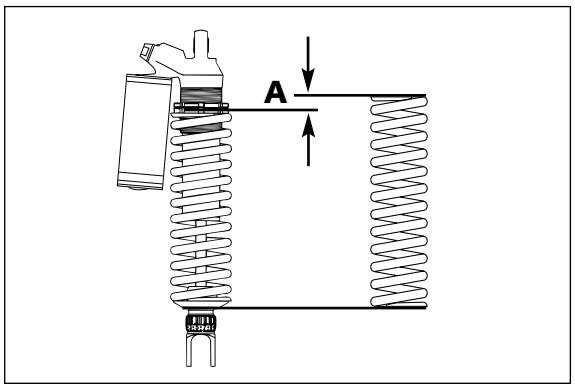
Changing the spring preload of the shock absorber

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 ❹ accordingly. This is easily done.

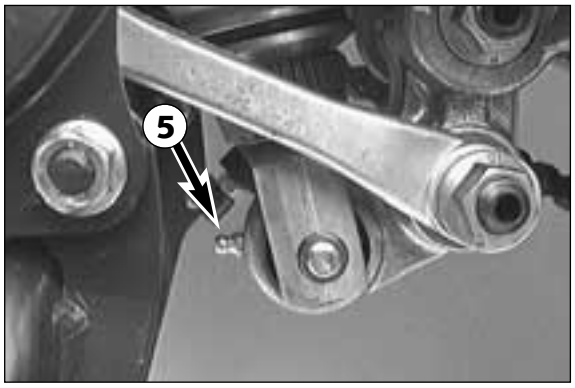
NOTE:

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

Loosen the locking ring ❸ with the hook wrench from the tool set. Change the spring preload with the adjusting ring ❹ and retighten the locking ring.



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

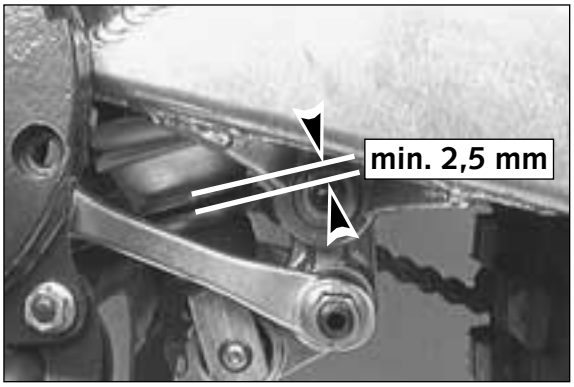


Lubricating the shock absorber linkage

The bearings in the rocker arm must be greased (Shell Advance Grease) in regular intervals. For this purpose, a grease nipple ❺ 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 rubber ring on the WP rear shock absorber

A rubber ring mounted on the rear shock absorber serves as a vibration damper. This ring gets pressed together with time and loses its shock absorbing quality.
Measure the distance between the two discs at various points around their circumferences. The space should be at least 2.5 mm (0,1 in) wide. Have the rubber ring replaced by an KTM dealer when compaction due to wear has exceeded this lower limit.

! CAUTION !

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

⚠ WARNING ⚠

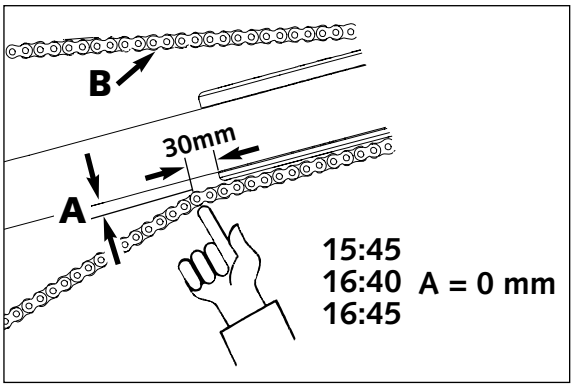
THE DAMPING UNIT OF THE SHOCK ABSORBER IS FILLED WITH HIGH COMPRESSED NITROGEN. NEVER TRY TO TAKE THE SHOCK ABSORBER APART OR TO DO ANY MAINTENANCE WORK YOURSELF. SEVERE INJURIES COULD BE THE RESULT.

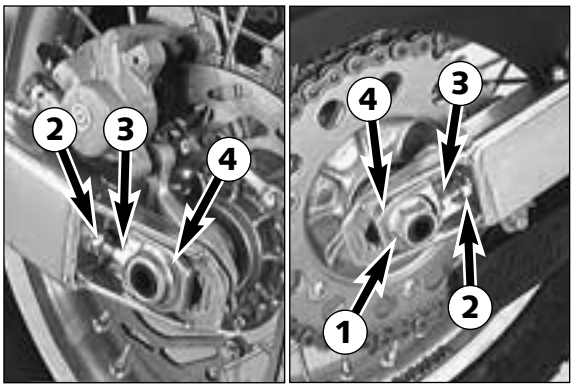
Checking chain tension

- 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 illustration)
- Now, the distance Ⓐ between chain and swingarm should be 0 mm. The upper part of the chain Ⓑ must be tight (see illustration).
- Correct chain tension, if necessary!

⚠ WARNING ⚠

- IF CHAIN TENSION IS TOO GREAT, PARTS WITHIN THE SECONDARY POWER TRANSMISSION (CHAIN, CHAIN SPROCKETS, TRANSMISSION AND REAR WHEEL BEARINGS) WILL BE SUBJECTED TO UNNECESSARY STRESS, RESULTING IN PREMATURE WEAR AND EVEN CHAIN BREAKAGE.
- TOO MUCH SLACK IN THE CHAIN, ON THE OTHER HAND, CAN RESULT IN THE CHAIN JUMPING OFF THE CHAIN WHEELS. IF THIS HAPPENS, THE CHAIN COULD ALSO BLOCK THE REAR WHEEL OR DAMAGE THE ENGINE.
- IN EITHER CASE THE OPERATOR IS LIKELY TO LOSE CONTROL OF THE MOTORCYCLE.



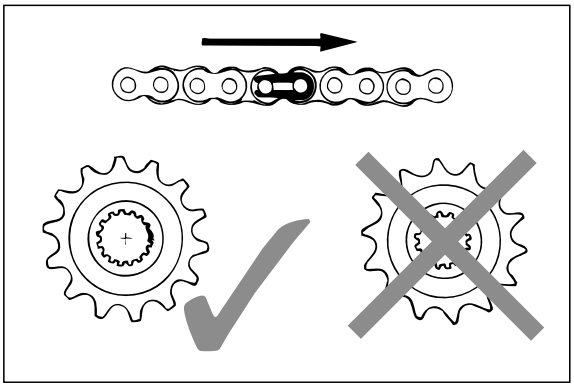


Correct chain tension

- Loosen collar nut ❶, loosen counter nuts ❷, and turn right and left adjusting screws ❸ equally far. Tighten counter nuts ❷.
- Before tightening the wheel spindle, verify that the chain adjusters ❹ are sitting close to the adjusting screws and that the rear wheel has been aligned with the front wheel.
- Tighten collar nut ❶ with 80 Nm (60 ft.lb).

⚠ WARNING ⚠

IF YOU DON'T HAPPEN TO HAVE A TORQUE WRENCH AT HAND, MAKE SURE YOU HAVE THE TIGHTENING TORQUE CORRECTED BY A KTM DEALER AS SOON AS POSSIBLE. A LOOSE AXLE MAY LEAD TO AN UNSTABLE DRIVING BEHAVIOR OF YOUR MOTORCYCLE.



Chain maintenance

For long chain life, good maintenance is very important. 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 (Shell advance bio chain).

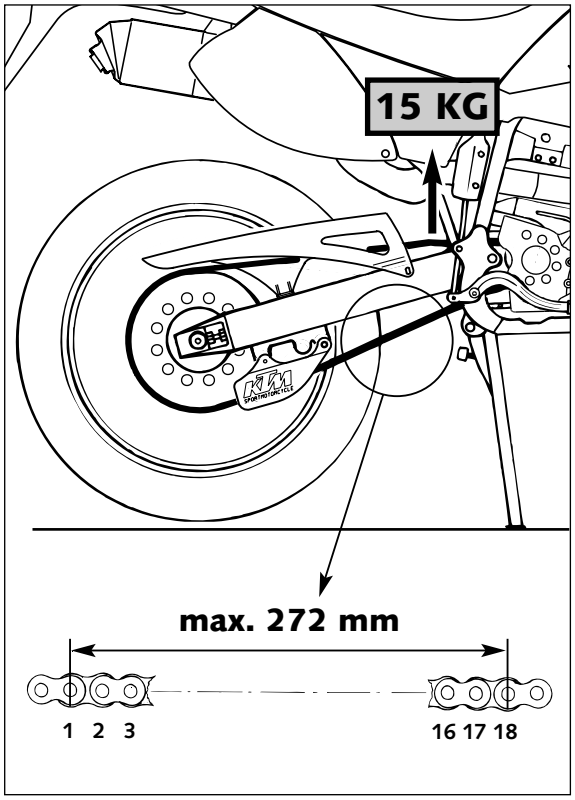
⚠ WARNING ⚠

NO LUBRICATION IS ALLOWED TO REACH THE REAR TIRE OR THE BRAKE DISK, EITHERWISE THE ROAD ADHERENCE AND THE REAR WHEEL BRAKING EFFECTS WOULD BE STRONGLY REDUCED AND THE MOTORCYCLE COULD EASILY GET OUT OF CONTROL.

! CAUTION !

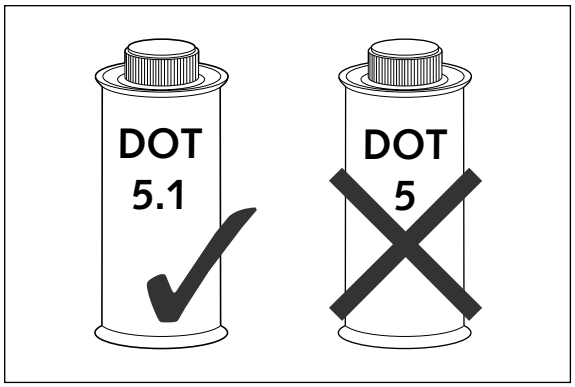
WHEN MOUNTING THE CHAIN JOINT, THE CLOSED SIDE OF THE SAFETY DEVICE MUST POINT IN RUNNING DIRECTION.

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



Chain wear

In order to check the chain wear, regard the following indications:
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.



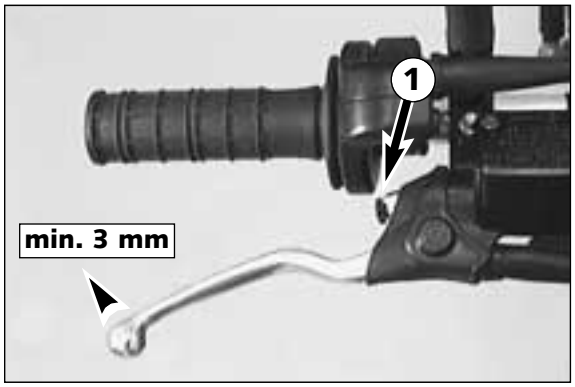
General information about KTM disc brakes

BRAKE CALIPERS:
The brake calipers of this series use a „floating" mount. This means that the brake calipers are not solidly attached to the caliper support, which enables them to „float" for maximum braking contact.

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

BRAKE FLUID:
KTM fills the brake systems with Shell Advance Brake DOT 5.1 brake fluid, one of the best brake fluids that is currently available. We recommend that you continue to use it. DOT 5.1 brake fluid is based on glycol ether and of an amber color. If you do not have any DOT 5.1 for refilling, you may use DOT 4 brake fluid. However, you should replace it as soon as possible by DOT 5.1.

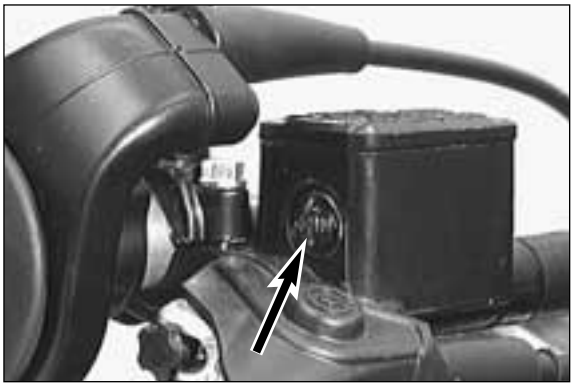


Adjusting of free travel at the hand brake lever

Free travel at the hand brake lever may be readjusted by using adjustment 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.

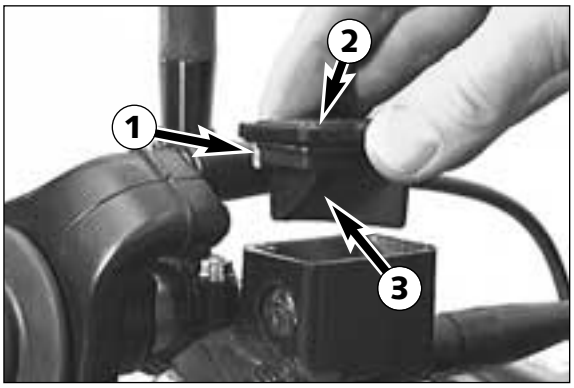


Checking of brake fluid level - front brake

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 drop below the middle of the glass. The reservoir should be kept completely full at all times for best performance.

⚠ WARNING ⚠

IF THE BRAKE FLUID LEVEL DROPS BELOW THE MINIMUM EITHER THE BRAKE SYSTEM HAS A LEAK OR THE BRAKE PADS ARE COMPLETELY WORN. IN THIS CASE, CONSULT AN AUTHORIZED KTM DEALER IMMEDIATELY.

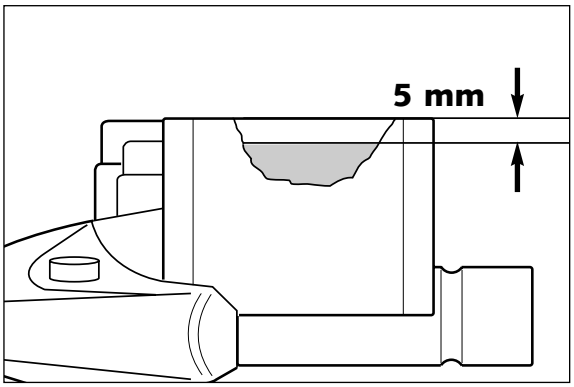


Refilling the front brake fluid reservoir *

When the brake fluid falls to the middle of the inspection glass, new brake fluid has to be added.
Loosen screws ❶ and remove lid ❷ and membrane ❸.
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 Shell Advance Brake DOT 5.1. Replace membrane and lid, tighten screws. Rinse off spilled or overflowing brake fluid with water.

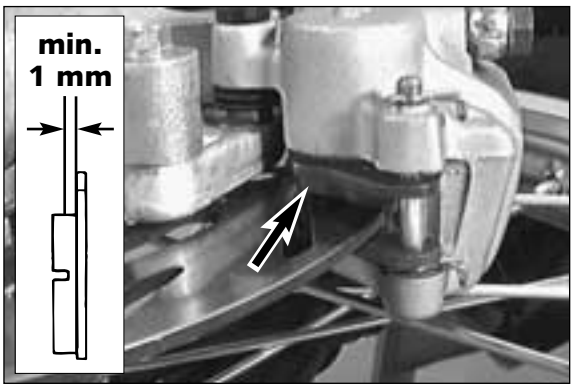
⚠ WARNING ⚠

- 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

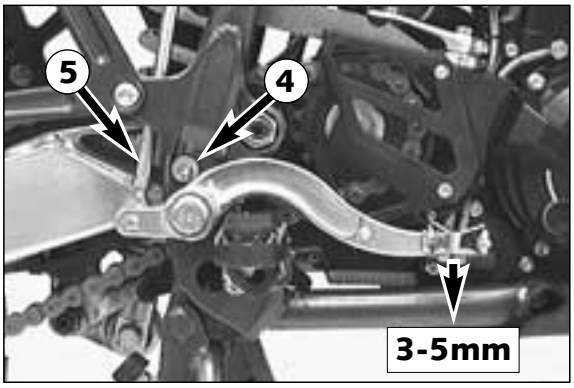
The brake pads can be inspected from below. The linings must be at least 1 mm (0,04 in) thick.

⚠ 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, THE STEEL COMPONENTS OF THE BRAKE PAD WILL RUB AGAINST THE BRAKE DISC, THEREBY IMPARING THE BRAKING EFFECT AND DESTROYING THE BRAKE DISC.

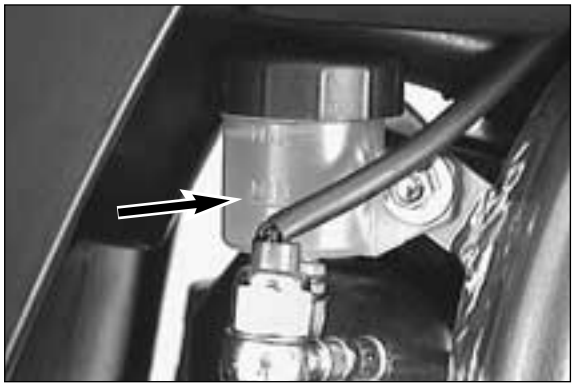


Changing the basic position of the foot brake pedal *

The basic position of the foot brake pedal can be altered by turning the stop roller ❹. The free play at the foot brake pedal must then adjusted by means of the piston rod ❺.
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 resistance on the foot brake pedal).

! CAUTION !

IF THIS FREE PLAY IS NOT PRESENT, THEN PRESSURE CAN BUILD UP IN THE BRAKE SYTEM WHEN DRIVING, CAUSING CONSTANT FRICTION OF THE BRAKE PADS. THE BRAKING SYSTEM OVERHEATS AND CAN FAIL COMPLETELY IN EXTREME CASES.



Checking rear brake fluid level

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

⚠ WARNING ⚠

IF THE BRAKE FLUID LEVEL DROPS BELOW THE MINIMUM EITHER THE BRAKE SYSTEM HAS A LEAK OR THE BRAKE PADS ARE COMPLETELY WORN DOWN. IN THIS CASE, CONSULT AN AUTHORIZED KTM DEALER IMMEDIATELY.

Refilling the rear brake fluid reservoir*

When the brake fluid level has dropped to the MIN mark, you need to refill the brake fluid reservoir.

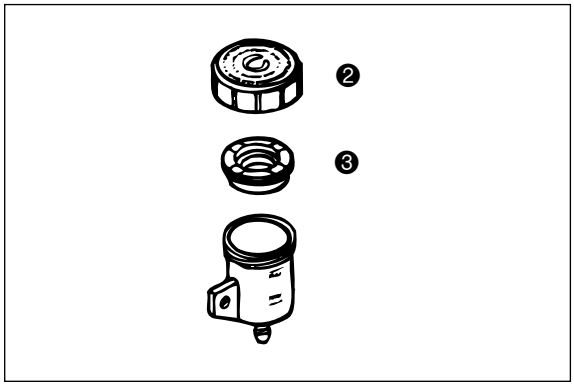
For easier access to the brake fluid reservoir it is recommended to remove the hexagon screw ❶. Then move the container outwards as indicated in the illustration. Remove plug ❷ with rubber boot ❸ and add brake liquid ShellAdvance Brake DOT 5.1 up to the „MAX" mark. Replace rubber boot and plug. Overflown or spilled brake liquid must be rinsed off with water. Mount the screw and fix the brake fluid reservoir to the frame, always making sure to prevent kinks in the connecting hose.

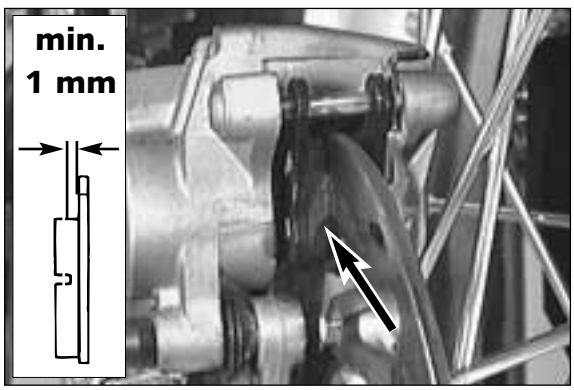
⚠ WARNING ⚠

- 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

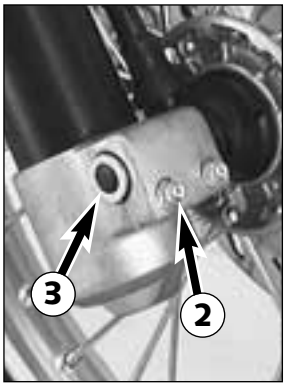
The brake pads can be inspected from the rear. The thickness of the linings may not be less than 1 mm (0.04 in).

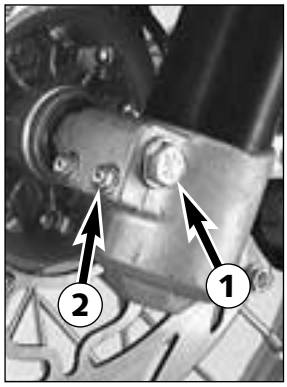
⚠ WARNING ⚠

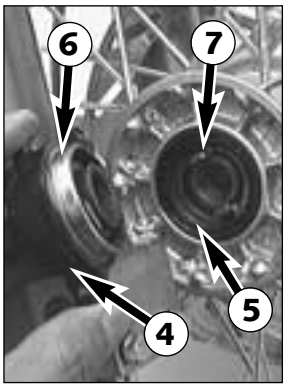
AT THEIR MOST WORN POINT BRAKE PAD LININGS SHOULD NOT BE THINNER THAN 1 MM, OTHERWISE THEY COULD LEAD TO BRAKE FAILURE. FOR YOUR OWN SAFETY DON'T PUT OFF HAVING YOUR BRAKE PADS CHANGED.

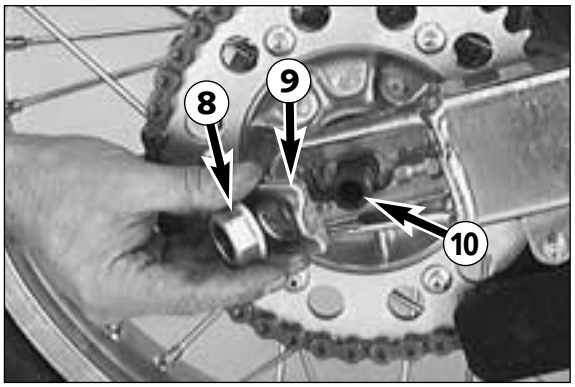
! CAUTION !

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 and take the speedometer drive ❹ off the hub.

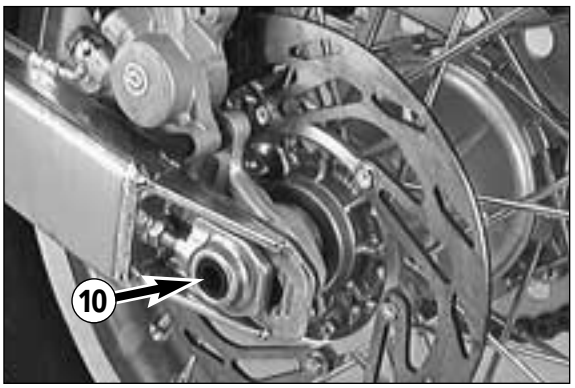
! CAUTION !

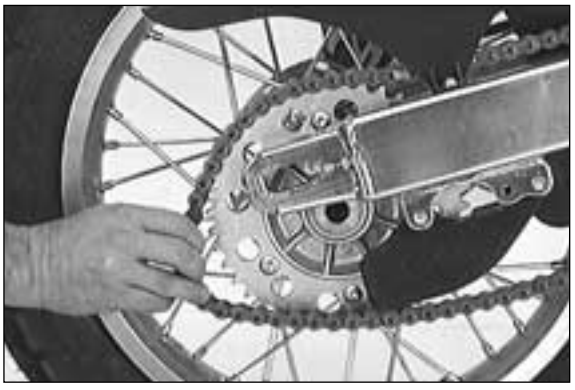
DO NOT OPERATE THE HAND BRAKE WHEN THE FRONT WHEEL HAS BEEN DISMOUNTED.

- Prior to mounting the front wheel, clean and grease sealing ring ❺ and running surface ❻ at the speedometer drive.
- To mount the front wheel, lift it into the fork. Insert speedometer drive into the hub. Make sure that the driving tabs ❼ engage with the slots of the drive.
- Position front wheel and speedometer drive, and mount wheel spindle.
- Mount collar screw ❶, turn speedometer drive in a way that the flexible speedometer shaft will curve upwards in a slight bow and tighten collar screw to 40 Nm (30 ft.lb).
- Take the motorcycle off the stand and bounce the fork hard a few times to align the fork legs
- Then tighten clamping screws ❷ 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 ❽, remove the chain adjuster ❾, hold the rear wheel and pull out the wheel spindle ❿ 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.

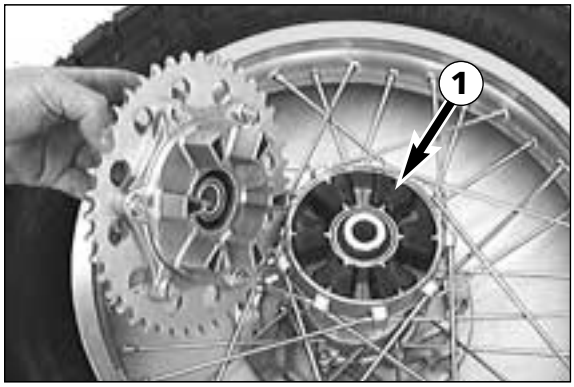
! CAUTION !

- 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 (SHELL ADVANCE GREASE) TO PREVENT THE THREAD FROM JAMMING.

The rear wheel is remounted in reverse order. Before tightening the collar nut to 80 Nm (60 ft.lb), push the rear wheel forwards so that the chain tensioners lie on the tension screws.

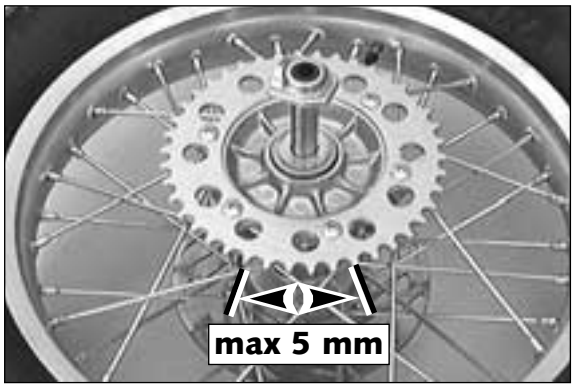
⚠ WARNING ⚠

- 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*

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



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

! CAUTION !

IF THE SHOCK ABSORPTION RUBBERS ARE NOT REPLACED IN GOOD TIME, THE REAR SPROCKET CARRIER AND THE REAR HUB WILL BE DAMAGED. ALLWAYS REPLACE ALL 6 ABSORPTION RUBBERS, NEVER SINGLE RUBBERS.

Tires, air pressure

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

- 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

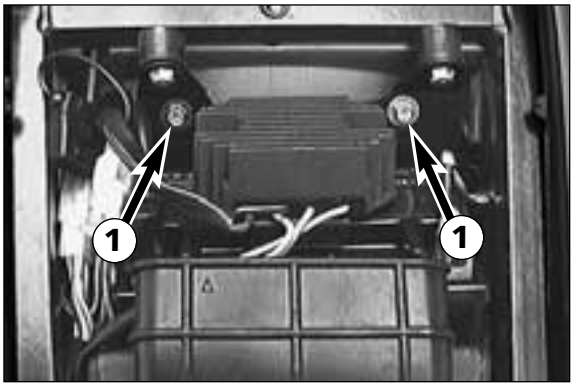
	front	rear
Road driver only	1,5 bar (21 psi)	2,0 bar (28 psi)
Road w. passenger	2,0 bar (28 psi)	2,2 bar (31 psi)

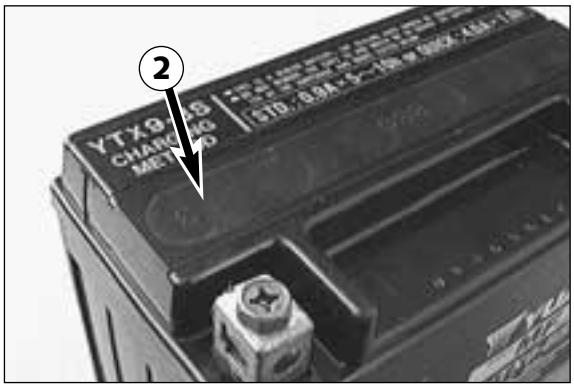
Checking spoke tension

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 14)
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.

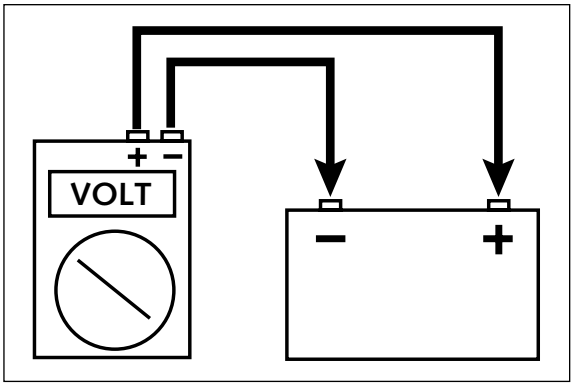
⚠ WARNING ⚠

- 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 (30 - 95°F). Do not expose to direct sun radiation.



Charging the battery

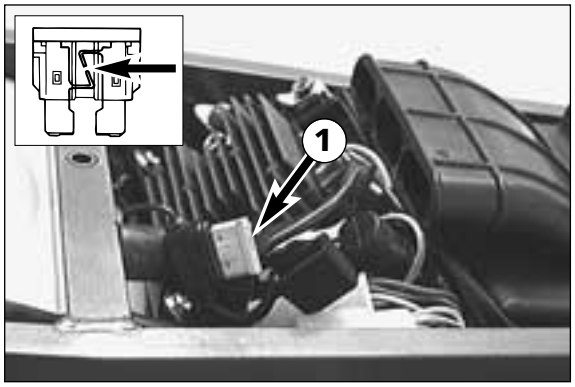
Remove the battery and check the charging level. Use a voltmeter to measure the voltage between the battery poles (off-load voltage).
Accurate results can only be obtained if the battery has neither been charged or discharged during a period of 30 minutes preceding the measuring.

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 discharged, 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.

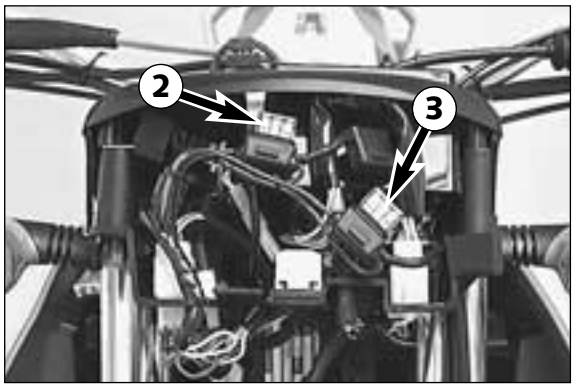


Main fuse

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 20 Ampere.

! CAUTION !

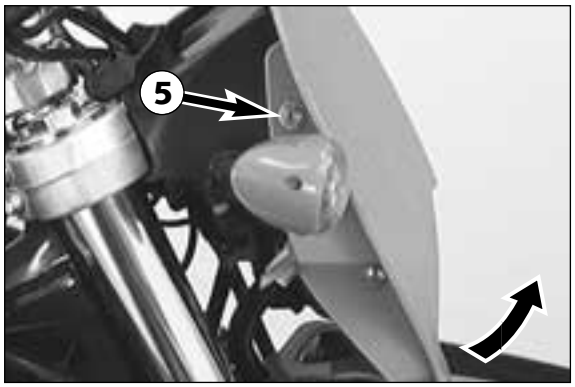
UNDER NO CIRCUMSTANCES IS A STRONGER FUSE ALLOWED TO BE SET IN OR A FUSE ALLOWED TO BE "REPAIRED". AN INEXPERT TREATMENT COULD DAMAGE THE WHOLE ELECTRICAL INSTALLATION!



Fuses for individual power-consuming units

Additional fuses separately protecting different power-consuming units are mounted under the headlight mask.
For instructions to remove and mount the headlight mask please refer to "Exchanging the headlight lamp".
Fuse ❷ (10 Ampere) protects the following power-consuming units:
– headlight
– parking light

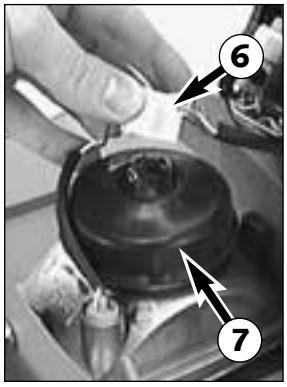
Fuse ❸ (10 Ampere) protects the following power-consuming units:
– flasher lights
– brake light
– horn
– radiator fan motor



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

! CAUTION !

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

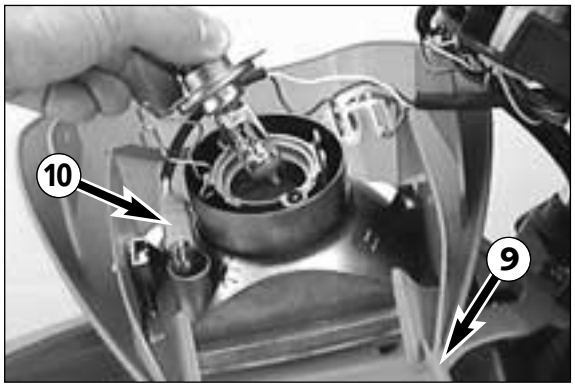


Remove the headlight mask:
– Remove screw ❺ on the left and on the right side.
– Depress the front section of the fender, pull the headlight mask upwards, unhook it from the lower part of the fender, then swing it forwards.

Exchanging the headlight lamp
– Disconnect plug ❻ from the bulb.
– Remove the rubber cap ❼
– Unhook the retaining bracket, then remove the bulb.
– When inserting the new bulb make sure that the wider of the 3 tongues ❽ is located in the corresponding groove in the socket.

! CAUTION !

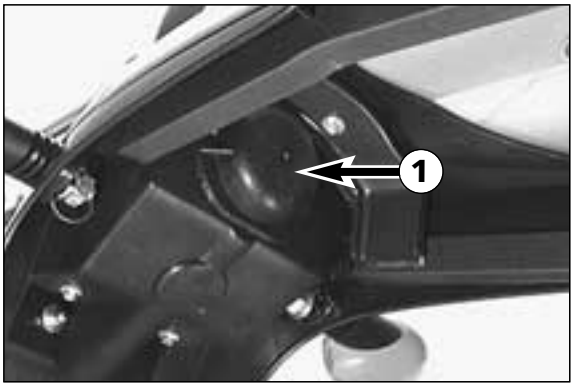
– NEVER TOUCH THE GLASS OF THE BULB WITH YOUR FINGERS. THE GLASS OF THE BULB MUST REMAIN ABSOLUTELY FREE FROM GREASE. HEAT WILL OTHERWISE CAUSE THE GREASE TO EVAPORATE AND SETTLE DOWN ON THE REFLECTOR.
– HOOK IN THE RETAINING BRACKET, MOUNT THE RUBBER CAP AND CONNECT THE PLUG TO THE BULB.



Mounting the headlight mask
– Appropriately position the headlight mask. The headlight must be located below the cockpit.
– Depress the front part of the fender, pull the headlight mask upwards and insert the retaining pins ❾ into the corresponding bores of the fender.
– Mount the screws ❺.

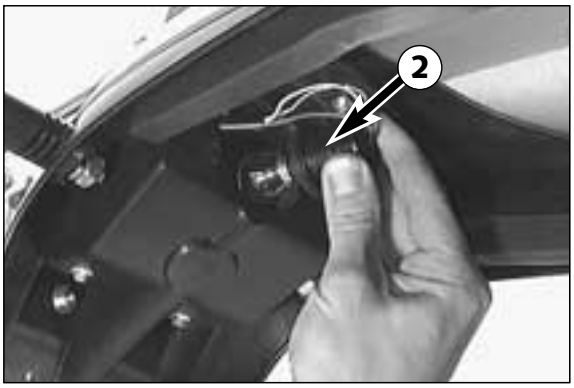
Replacing the parking-light bulb

Disassemble the headlight as described above and simply pull the bulb socket ❿ out of the reflector.

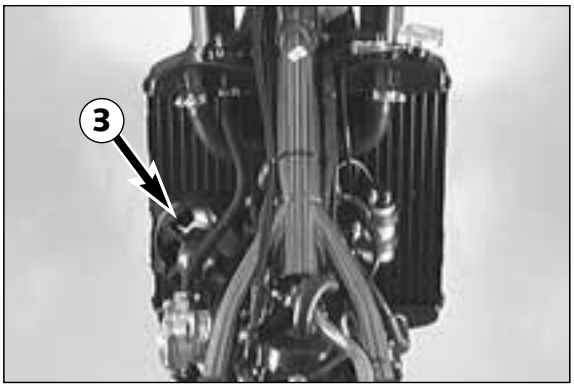


Exchanging the brake light and tail light bulb

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

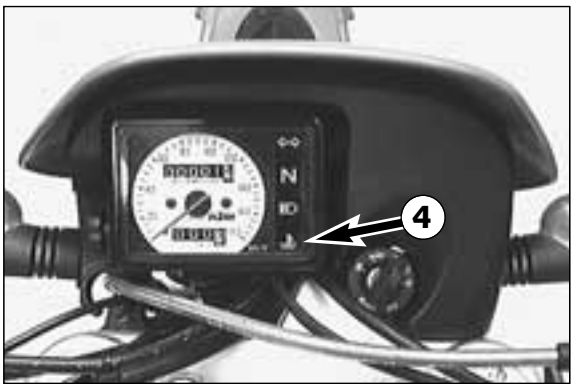


– Turn the lamp socket ❷ approximately 30° counterclockwise and pull it out of the tail light housing.
– Slightly depress the bulb, turn it approx. 30° counterclockwise and pull it out of the socket.
– To mount the lamp reverse the worksteps indicated above.



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 ❸ on the left radiator will switch on. This fan will provide additional air circulation through the radiator thereby preventing the cooling system from overheating.



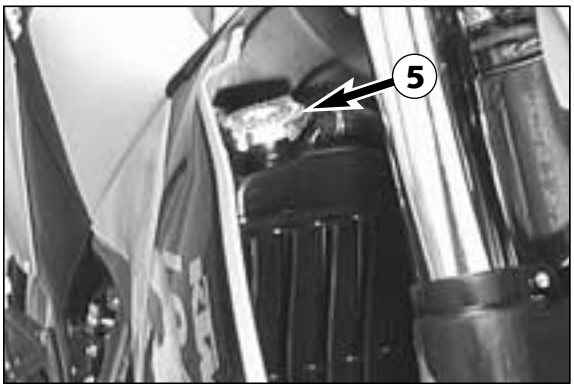
! CAUTION !

IF THE RED COOLING LIQUID TEMPERATURE WARNING LAMP ❹ 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.

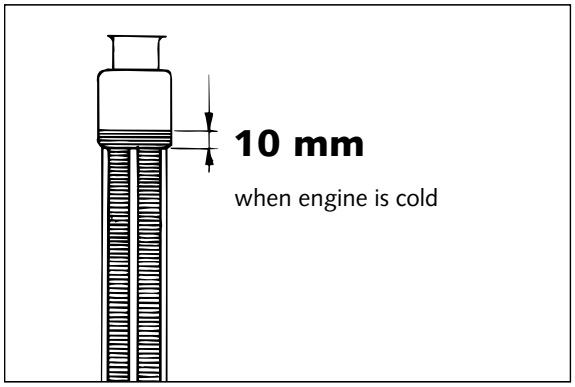
A mixture of 40% antifreezer and 60% water is used as cooling liquid. How-ever, the anti-freeze protection must be at least -25° C (-13° F). Aside from antifreezing protection, this mixture also provides great corrosion protection which is why it must not be replaced by pure water.



! CAUTION !

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

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

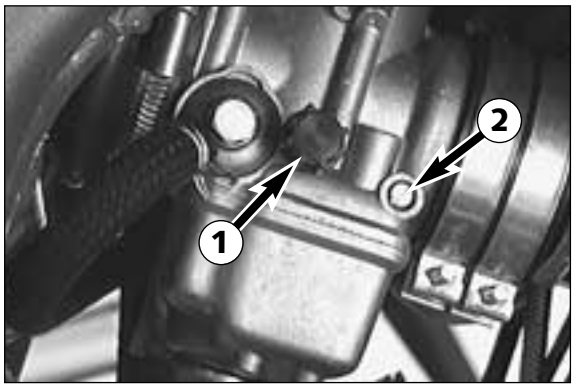


Checking the cooling liquid level

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.

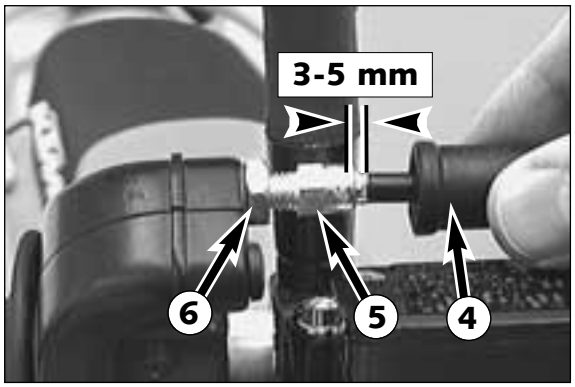
⚠ WARNING ⚠

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.



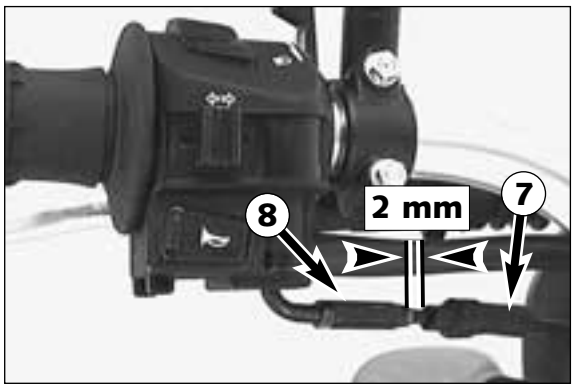
Adjust idling speed *

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.



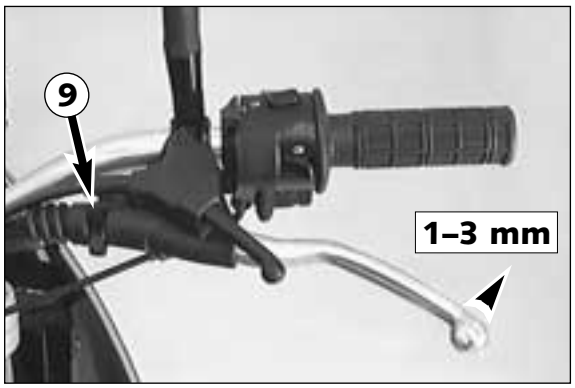
Adjusting the throttle cable *

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 ❹ on the throttle grip. You must be able to lift the outer covering of the cable 3-5 mm from the adjusting screw ❺, until resistance is felt.
To adjust, loosen the counter nut ❻ and turn the adjusting screw accordingly. Finally tighten counter nut and slide the protective cover back on.



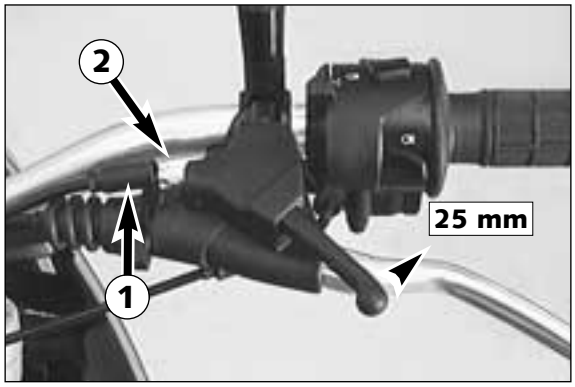
Adjusting the choke cable*

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 ❼ from the adjuster piece ❽. 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 1–3 mm (0.04–0.12 in) (measured at the outer edge).
To adjust the clutch cable turn the adjusting nut ❾ accordingly.



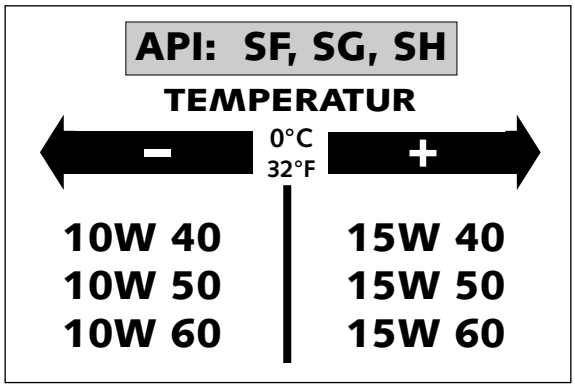
Checking the adjustment of the hand decompression cable*

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 and correct the adjusting screw ❷ 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.

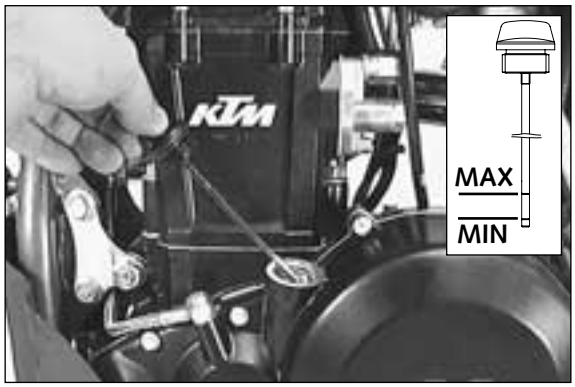


Engine oil

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.

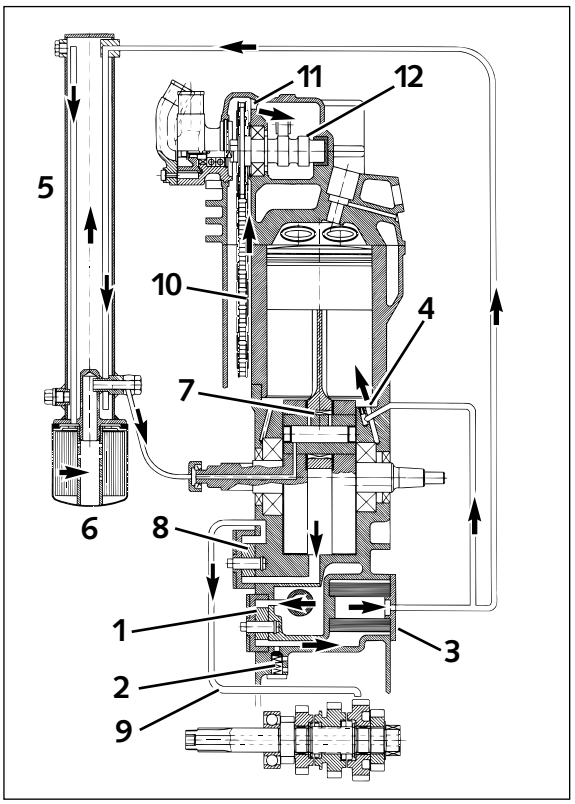
SCREW THE DIPSTICK IN ALL THE WAY AND REMOVE IT AGAIN.

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 !

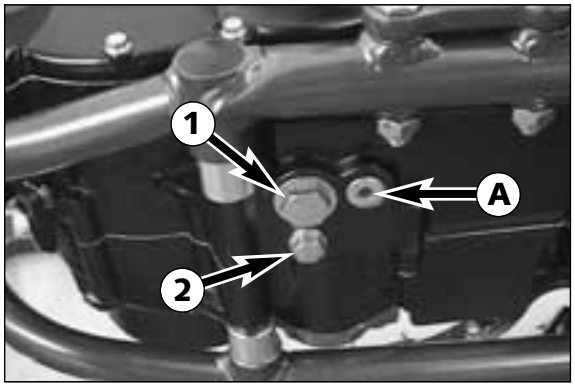
- INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.
- CHECKING THE ENGINE OIL LEVEL WHEN THE ENGINE IS COLD RESULTS IN A FALSE READING ON THE OIL DIPSTICK AND THEREFORE AN INCORRECT OIL LEVEL.
- DO NOT OVERFILL THE ENGINE CASE.
- DO NOT UNDERFILL THE ENGINE CASE.

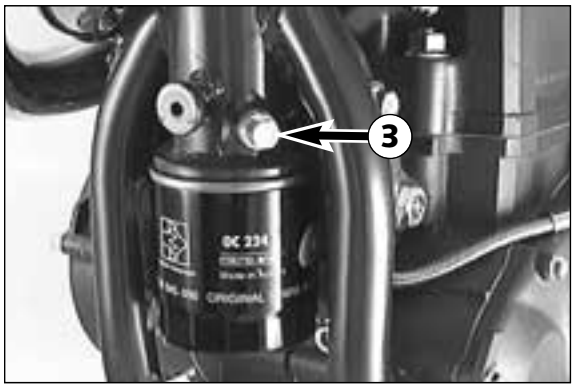
Check the engine for leaks.

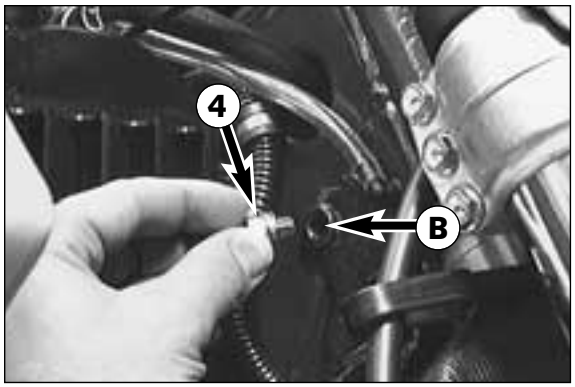


Oil circuit

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 ARE VERY HOT - DO NOT BURN YOURSELF.

Place the motorcycle on a horizontal surface. Remove the two plugs ❶ and ❷, and drain oil into a container. Models with integrated font pipe: Remove cover, unscrew plug ❸ 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 ❶ with 30 Nm (23 ft.lb) and plugs ❷ and ❸ 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 ❹ 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.

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** !

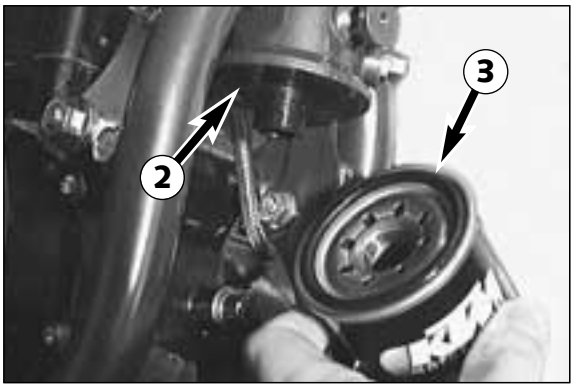
- INSUFFICIENT OIL OR POOR QUALITY OIL RESULTS IN PREMATURE WEAR OF THE ENGINE.
- CHECKING THE ENGINE OIL LEVEL WHEN THE ENGINE IS COLD RESULTS IN A FALSE READING ON THE OIL DIPSTICK AND THEREFORE AN INCORRECT OIL LEVEL.
- DO NOT OVERFILL THE ENGINE CASE.
- DO NOT UNDERFILL THE ENGINE CASE.

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 *

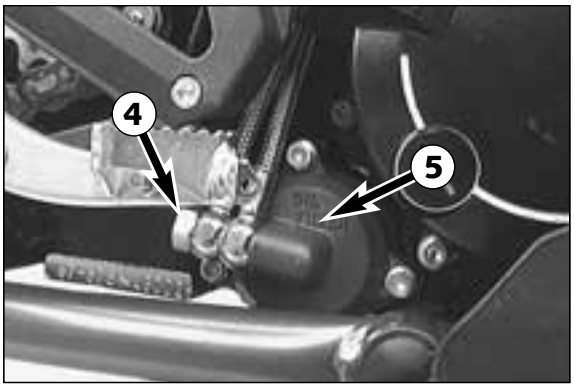
Replace the fine screen filter when changing the engine oil.
To do so, loosen the three screws and remove the cover ❶. Loosen the fine screen filter with an oil filter wrench; you will be able to unscrew it the rest of the way with your bare hand. Let engine oil flow out of the front pipe of the frame.



– Clean sealing surfaces on the front pipe ❷, fill new fine screen filter with engine oil, and oil rubber gasket ❸. 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.

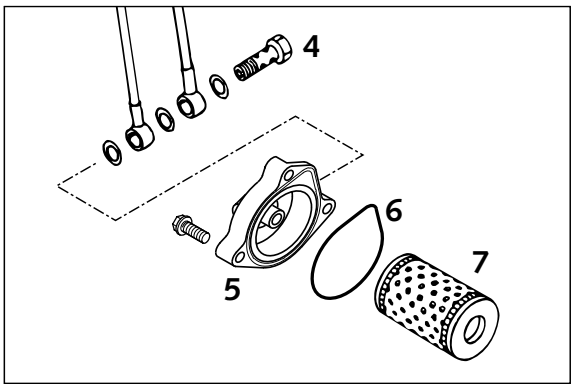
! CAUTION !

– 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 ❹ and the three screws. Remove oil filter cover ❺ 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 ❻ for damage. O-rings need not be replaced unless damaged. Press the O-ring into the groove of the filter cover. Fit new oil filter ❼ 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 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 will not start	Operating error	Switch on ignition, switch on emergency OFF switch, open fuel tap, tank fuel, do not use choke i.e. the hotstart device. Pay attention to starting off information (see driving instructions).
	The motorcycle has been out of operation for a longer period of time. Therefore the float chamber is filled with old fuel.	The easily inflammable components of the new fuels evaporate during longer periods of standstill. When the motorcycle has been out of operation for more than a week, it is therefore recommended to drain the old fuel from the float chamber. The engine will immediately start off when the float chamber is filled with new fuel.
	Fuel supply interrupted	Close fuel tap, loosen fuel hose at carburetor, lead into a basin and open fuel tap, – if fuel leaks out, clean carburetor – if no fuel leaks out, check tank ventilation, i.e. clean fuel tap
	Flooded engine	Fully open the throttle when starting or replace the spark plug, respectively.
	Sooty or wet spark plug	Clean / dry 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 kickstarter, a strong spark must be produced at the spark plug – If no spark is created exchange the spark plug. – If the new spark plug doesn't produce a spark either, disconnect the spark plug connector from the ignition cable, hold it approx. 5 mm from ground and start. – If a spark now occurs, replace spark plug cap – If no spark is produced, control ignition system
	If connector oxidates from generator to ignition coil	Remove fuel tank, clean connector and treat with contact spray
	Short circuit cable scored in wiring harness, ignition lock, emergency OFF switch faulty	Remove fuel tank, draw off blue/black cable from orange cable of ignition coil and check spark. – If a spark is produced, seek fault in short circuit current
	Water in short emergency OFF switch	Remove 2-pole connector located underneath the headlight mask, treat emergency OFF switch with contact spray
	Water in carburetor or jets blocked	Dismount and clean carburetor
	Carburetor does not fit in properly at intake flange	Check if carburetor is fitted in correctly
Engine will not idle	Idling jet blocked	Dismount carburetor and clean jets
	Adjusting screws on carburetor uncorrect adjusted	Adjust carburetor
	Spark plug faulty	Exchange the spark plug
	Ignition system faulty	Have ignition system checked

TROUBLE	CAUSE	REMEDY
Engine does not rev high	Carburetor fuel level too high because	Dismount carburetor and check if worn out
	Float needle is dirty or worn out	Replace float needle
	Float leaks	Replace float
	The cold starting system is permanently activated due to a lack of play in the choke cable.	Adjust choke cable.
	Carburetor jets have loosened.	Retighten jets.
	Defective electronic ignition timing device.	Have the ignition system tested.
Engine will not reach full power	Fuel supply partically interrupted or carburetor dirty	Clean and check fuel system as well as carburetor
	float is not tight	replace the float
	Air filter very dirty	Clean or replace air filter
	Valve gap to small	Adjust valve gap
	Loss of compression because hand decompressor has no play	Check setting of the hand decompression cable
	Electronical ignition timing faulty	Have ignition system checked
Engine gets to hot, cooling liquid tmperature warning lamp lights up	Insufficient cooling liquid	Refill cooling liquid (see maintenace work), check cooling system for leaks
	Radiators very dirty	Clean radiators with water jet
	Foam formation in cooling system	Replace cooling liquid, use anti freeze liquid with brand name
	Bent cooling hose	Shorten or replace cooling hose
	Thermostat defective	Dismount and check thermostat (opening temperature 70°C, 158°F) or replace it
High oil consumption	Buckling gearing ventilation hose	Dislocate i.e. replace non-buckling vetilation hose
	Engine oil level too high	Check engine oil level when the engine is warm; correct if necessary
	Motor oil too thin (viscosity)	Use thicker engine oil; see chapter „Engine oil“
All lamps that were on have burned out.	Defective voltage regulator.	Remove seat, check connections, have the voltage regulator tested.
Headlight and parking light fail.	Blown fuse.	Replace fuse (below the headlight mask).
Flasher lights, brake light, fan and horn fail.	Blown fuse	Replace fuse (below the headlight mask).

TROUBLE	CAUSE	REMEDY
The neutral indicator lamp doesn't light up when the motorcycle is put into neutral.	Defective indicator lamp.	Replace indicator lamp.
	Defective idle switch.	Connect the cable to ground. The neutral switch must be replaced if the indicator lamp lights up.
	Loose connections, defective cable.	Check connections and cable.
Discharged battery.	The ignition (power consumer) has been left on.	Recharge the battery according to the relevant instructions.
	The generator doesn't recharge the battery.	Remove the seat and check the voltage regulator connections. Have both the voltage regulator and the generator checked by an authorized mechanic.

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 brand-name washing detergent and a sponge. The hard dirt can be removed before washing 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 DISTURBANCES OR LEAD TO A PREMATURE DESTRUCTION OF THESE PARTS.

- You should use normal brand-name detergents to clean the motorcycle. Especially dirty 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. By warming these components, the residual water can evaporate from inaccessable 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 the gliding bearing parts. 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, the short circuit button, the 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.

- clean motorcycle thoroughly and let it dry after each riding
- 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 micro filter and fine screen filter (old engine oil contains aggresive contaminants).
- Check antifreezer and amount of cooling liquid.
- Warm up the engine once again, close the fuel cock and wait until the engine dies. Then open the drain plug of the float chamber to remove the remaining 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. While doing this, slowly kick the kick starter through its stroke until the clicking sound (disengaging) of the automatic decompression release can be heard.
- Let fuel flow out of tank into an appropriate container.
- Correct tire pressure.
- Lubricate bearing points of the control levers, foot rests, etc. as well as the chain.
- Service the rear suspension linkage
- Disassemble and charge battery (see chapter: BATTERY).
- The storage place should be dry and not be subject to too big temperature fluctuations.
- Cover the motorcycle with an air permeated tarp or blanket. Do not use non air permeable materials as a possible humidity might not be able to escape and thereby 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.

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

TECHNICAL SPECIFICATIONS - CHASSIS 620 LC4 COMPETITION '99

	620 LC4 COMPETITION
Frame	Central chrome-moly-steel frame
Fork	WP Extreme
Wheel travel front/rear	280 / 320 mm (11,0 / 12,6 in)
Rear suspension	Central shock absorber (WP) with PRO-LEVER linkage to rear-swingarm with needle bearing
Front brake	Disc brake with carbon-steel brake disc , brake caliper floated brake disc Ø = 300 mm (11,8 in)
Rear brake	Disc brake with carbon-steel brake disc Ø 220 mm (8,7 in), brake caliper floated
Tyres front Air press. road, driver only Air press. road with passenger	90/90-21 T63 1,5 bar (21 psi) 2,0 bar (28 psi)
Tyres rear Air press. road, driver only Air press. road with passenger	130/80-18 T63 2,0 bar (28 psi) 2,2 bar (31 psi)
Fuel tank capacity	12 liter (3,2 US gallons) of that 2,5 liter (0,7 US gallons) res
Final drive ratio	16:40
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	955 mm (37,6 in)
Ground clearance	335 mm (13,2 in)
Dead weight without fuel	133 kg (293 lbs)
Max. permissible front axle load	211 kg (466 lbs)
Max. permissible rear axle load	335 kg (737 lbs)
Max. permissible laden weight	350 kg (770 lbs)

STANDARD ADJUSTMENT - FORK	
	918 S 757
Compression adjuster	12
Rebound adjuster	12
Spring	4,4 N/mm
Spring preload	10 mm
Air chamber length	160 mm
Capacity per fork leg	ca. 800 ccm
Fork oil	SAE 5

NOTE FOR WP EXTREME FORKS:
The damping units in the left and the right fork leg are of different design. Make sure not to mix them up in case of repair or service works.

STANDART-ADJUSTMENT - SHOCK ABSORBER	
	118 S 701
Compression adjuster	3
Rebound adjuster	5
Spring	66/260
Spring preload	23 mm

TORQUES		
Collar screw front axle	M10	40 Nm (30 ft.lb)
Brake caliper front	M8	25 Nm (19 ft.lb) + Loctite 242
Collar nut rear axle	M20x1,5	80 Nm (59 ft.lb)
Hex. nut swing arm bolt	M14x1,5	100 Nm (74 ft.lb)
Clamping screw top triple clamp	M8	15 Nm (11 ft.lb)
Clamping screw bottom triple clamp	M8	20 Nm (15 ft.lb)
Clamping screws fork leg axle passage	M8	10 Nm (7 ft.lb)
Other screws chassis	M6 M8 M10	10 Nm (7 ft.lb) 25 Nm (19 ft.lb) 45 Nm (33 ft.lb)

TECHNICAL SPECIFICATIONS – ENGINE 620 LC4 COMPETITION '99

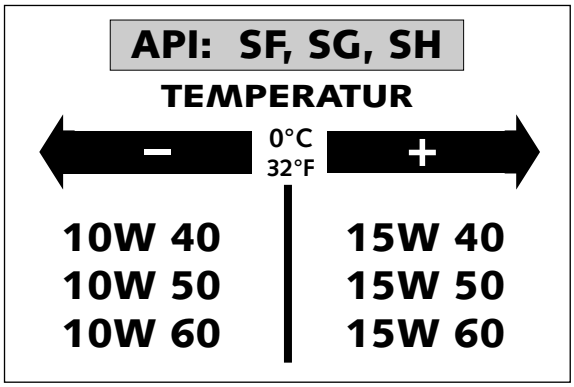
Engine	**620 LC4 COMPETITION**
Design	Liquid-cooled single cylinder 4-stroke engine with balancer shaft
Displacement	609 cm^3
Bore / Stroke	101 / 76 mm
Ratio	10,4 : 1
Fuel	unleaded premium gasoline with a least RON 95
Valve timing	4 valves over rocker arm and 1 overhead camshaft, camshaft drive through single chain
Camshaft	249/1
Valve timing by 1 mm valve clearence	IO 15° BTDC EO 52° BBDC IC 54° ABDC EC 17° ATDC
Valve diameter	Intake: 36 mm Exhaust: 30 mm
Valve clearence cold	Intake: 0,15 mm Exhaust: 0,15 mm
Crank shaft bearing	2 cylinder roller bearing
Connecting rod bearing	needle bearing
Top end bearing	bronze bushing
Piston	forged/cast aluminium alloy
Piston rings	1 compression ring, 1 taper face ring, 1 oil scraper ring
Engine lubrication	forced-feed lubrication through Eaton-Oilpump with oil sump
Engine oil	see bellow #
Engine oil quantity	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 thyristor ignition with electronic advanced system type SEM
Ignition timing	adjustment to max. 32 ° BTDC at 6000 rpm
Generator	12V 130W
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	decompressor automatic and hand actuated, cold and hot start knob on carburetor

TIGHTENING TORQUES - ENGINE			
Hexagon nut at primary gear	M20x1,5	Loctite 242 +170Nm	(125 ft.lb)
Collar nut flywheel	M12x1 LH thread	60 Nm	(44 ft.lb)
Hexagon nut for inner clutch hub	M18x1,5	Loctite 648 + 80 Nm	(59 ft.lb)
Kickstarter stop screw	M12x1,5	50 Nm	(37 ft.lb)
AH screws oil pump	M6	Loctite 242 + 8 Nm	(6 ft.lb)
Hexagon screw camshaft gear	M10	Loctite 242 + 35 Nm	(26 ft.lb)
AH screw cylinder head top sect.	M6x25	8 Nm	(6 ft.lb)
AH screw cylinder head top sect.	M6x50/M6x55 (12.9)	20 Nm	(15 ft.lb)
AH screw cylinder head top sect.	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)
Banjo bolts oil lines	M8x1	10 Nm	(7 ft.lb)
Banjo bolt oil lines	M10x1	15 Nm	(11 ft.lb)
Jet screw clutch cover	M8x1	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)
Spark plug	M 12	20 Nm	(15 ft.lb)

ASSEMBLY CLEARANCE, WEAR LIMIT		
Crank shaft	axial play ....0,03 - 0,12 mm	(0,001-0,005 in)
	run out of crank stud....max. 0,08 mm	(0,0031 in)
Connecting rod bearing	radial play ....max. 0,05 mm	(0,0019 in)
	axial play....max. 1,00 mm	(0,04 in)
Piston	assembly clearance ....max. 0,12 mm	(0,005 in)
Piston rings end gap	compression rings....max. 0,60 mm	(0,023 in)
	oil scraper ring....max. 0,80 mm	(0,031 in)
Valves	seat sealing intake....max. 1,50 mm	0,059 in)
	seat sealing exhaust ....max. 2,00 mm	(0,079 in)
	run out of valve heads....max. 0,05 mm	(0,002 in)
	valve guides diameter....max. 7,05 mm	(0,277 in)
Oil pump	clearance outer rotor - housing ....max. 0,20 mm	(0,008 in)
	clearance outer rotor - inner rotor ....max. 0,20 mm	(0,008 in)
Bypaß valve	minimum spring lenght....25 mm	(1 in)
Clutch discs	wear limit organic ....2,5 mm	(0,1 in)
Transmission shafts	axial play ....0,1 - 0,4 mm	(0,004 in)
Clutch	minimum clutchspring lenght ....34,5 mm (new 37 mm)	(1,36 in - new 1,45 in)

BASIC CARBURETOR SETTING		
	620 LC4 COMP. 24 kW	**620 LC4 COMP. 37 kW**
Carburetor	PHM 40 SD	PHM 40 SD
Carburetor setting number	110996	110996
Main jet	155	155
Needle jet	DR 268	DR 268
Idling jet	45	45
Jet needle	K 51	K 51
Needle position from top	3 rd	3 rd
Mixture.adju. screw open	1,5 turn	1,5 turn
Throttle valve	40	40
Starting jet	45	45
Performance restrictor	slide stop 26 mm	–

#



Engine oil

Use only oil brands,(Shell Advance Ultra 4) 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.

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