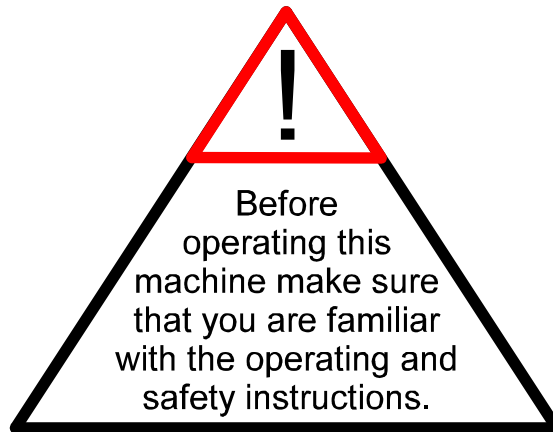


OPERATING MANUAL



5 1007 0010 – 0020- 0040 Pneumatic Chain Saw



Manufactured by: SPITZNAS GmbH, POSTFACH 11 02 09, 42530 VELBERT, GERMANY

DISTRIBUTED BY: CS UNITEC, INC.
22 Harbor Avenue
Norwalk, CT 06850

Toll Free: 800-700-5919
Tel: (203) 853-9522
Fax: (203) 853-9921

Web: www.csunitec.com
Email: Info@csunitec.com

I PREPARE YOUR TOOL

1) Mount Guide Bar and Chain

Make sure that air hose is disconnected

Undo mounting nut (item 16) to remove sprocket guard (item 171)

Loosen adjustment screw (item 7)

Lay chain around bar

Fix bar and make sure, that the free chain part is layed around sprocket

Tighten adjustment screw

Replace sprocket guard

Lift bar and tighten mounting nut

Adjust chain by loosening or tightening adjustment screw
- chain must be easily pullable by hand

2) Air Supply

Compressor must be able to supply the saw with 92 cfm clean and dry air.

Install dirt and water separators, if necessary.

Minimum air hose diameter is 5/8".

Blow air hose clear and connect it to the cleaned saw air inlet (Check screen).

3) Motor Lubricator

Check and if necessary fill with resin- and acid-free SAE 5 W to SAE 10 W oil. In winter or when using very moist air, use antifreeze lubricant, such as "Kilfrost", "BP Energol AX 10", or "Kompranol N 74".

4) Chain Lubricator

Check and if necessary fill with machine oil with adhesive additive of a viscosity of 49-55 c St (6.5 - 7.5° E) at 50° C / 122° F.

To bleed oil line push oil valve button (item 96) sometimes.

The chain oil tank is located in the motor housing. It contains oil for approximately one working hour.

Check transparent oil line if oil is conveyed to the chain or hold running saw with the bar pointing downwards and if adjustment is correct, an oil trace will be clearly observed on a light coloured floor or paper.

5) Remember safety instructions and cutting hints.

II SAFETY INSTRUCTIONS

Become familiar with the following safety instructions, before using the Spitznas Chain Saws.

Notice - safety of yourself and of people around you, depends on using care and judgement while operating this tool. Know how to use the tool and make sure that all unnecessary personnel are clear of the work area before using it.

Read all operating and maintenance instructions before operating the Spitznas Chain Saws.

1. Plan ahead - lay the work out before starting, and always work in a steady manner. Fatigue leads to carelessness and accidents. Never operate your tool while you are under the influence of medication, alcohol, or other drugs.
2. Keep your work area clean and uncluttered. Keep children away from your saw and work area.
3. Wear proper clothing. Clothing which is too tight or too loose is not suitable; it can restrict your movements or be caught up by the chain saw.
4. Protect your head and hair, eyes and ears, hands and feet.



Wear a hard hat,
ear protectors
and safety glasses



Wear non-slip gloves
to protect your hands

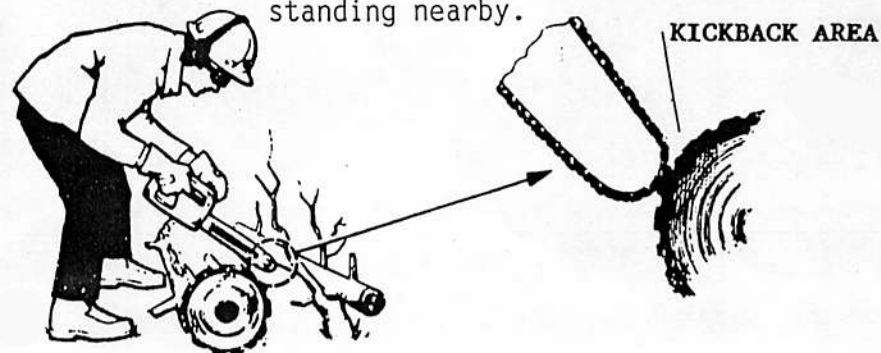


Wear safety boots to
protect feet and legs

5. Always disconnect air hose before working on the saw.
6. Grab the chain saw with both hands during use!
Lock thumb securely around front grip.
Keep hands away from cutting area!
Make sure your feet are firmly planted and your body is well-balanced.
7. Work in a clear area
 - No obstructions
 - No metal pieces when cutting with a chisel chain
 - No unnecessary people
 - Solid footing
 - Well-marked safety zone
 - Roped boundary
 - Signs
8. Slurry is very slick. Remove or control to prevent yourself, or others, slipping while cutting.
9. Never carry the chain saw with the motor running!
Always carry the chain saw with the bar pointing backwards and covered by the chain cover (item 192).
Do not carry the tool with finger on or nearby valve lever.
10. Be alert for pieces which might fall down caused by operation, or which could spring upward when cutting.
11. Keep saw nose away from other objects.
12. Never cut in an awkward position.
Never cut above shoulder level.
13. **Caution! Avoid Chain Saw Kickback.**

Kickback is the upward and backward movement of the chain saw. It occurs when the bar nose unintentionally contacts other wood while cutting. Kickback can also occur if the chain gets stuck in the cut.

Kickback causes loss of control of the chain saw, and can result in injury to the operator as well as to persons standing nearby.



TYPICAL SITUATION IN WHICH KICKBACK COULD OCCUR

- Plan the cut.
- Know the material to be cut. Make sure there is no metal when cutting with a chisel chain.
- Select the right chain depending on the material to be cut.
- Ask your dealer for right combination.
- After mounting a new chain, observe the following procedure:
 - a) Allow saw to run for a short period of time at low speed while applying a liberal amount of oil to the chain.
 - b) Turn off motor and readjust chain tension. Restart saw and make a few light cuts. Readjust chain again if necessary. It is important to monitor chain tension during the first half hour of operation.
 - c) Never subject a new chain to heavy cutting immediately.
- To start the air motor push locking lever with the ball of thumb and press valve lever with the fingers.
- Check the chain oil flow before starting to work - enough oil is necessary for chain lubrication and cooling.
- Stand aside of the saw, never behind it.
- Keep your left arm straight for better control.
- Keep the chain moving for rapid cutting.
Do not feed force the saw too much.
- When finishing a cut, back off on feed force to prevent stalling the chain or breaking it.
- Whenever you stop cutting, check the chain tension and adjust bar, if necessary.
- Chain must be in motion before re-entering a cut. The chain must not be in contact with a surface when starting the saw.

Note: Improper use of chain may cause breakage.
(See chain repair kit information).

- To disconnect air hose shut main air hose valve.
Open air valve to decompress hose, before disconnecting it.

IV TROUBLESHOOTING

Problem: Saw cuts very slowly regardless of air flow pressure.

Probable Cause:

- Chain is blunt. Replace it.
- Chain lubrication failure. Check chain oil supply.

Problem: Vibration or rough cutting

Probable Cause:

- Badly worn bar. Replace it.
- Loose chain. Tighten it.
- Check to see if segments are broken or missing. Replace if necessary.

Problem: Motor does not start.

Probable Cause:

- Uninsufficient low air supply. Check compressor and air hose valves, as well as air inlet screen pollution.
- Chain tightened too much. Loosen adjustment screw.
- Iced exhaust. Wait until ice-free, use anti-freeze lubricant.
- Vanes sticky. Give petroleum into air inlet and blow motor clear. Repeat if necessary. Regard maintenance instructions.

1. Saw Maintenance

Only proper maintenance can ensure constant performance, reduction in wear and thus, a decrease in operating costs and an increase in service life.

Service life and performance of the chain saws are determined by

- a) Degree of air purity
- b) Lubrication
- c) Maintenance

To a) Blow the air hose clear before connecting it to the saw. Install dirt and water separators upstream of the saw, if it is not possible to prevent the formation of rust and water condensation in the air distribution lines.

To b) The motor is lubricated by the lubricator installed in the handle. Fill the lubricator with resin- and acid-free SAE 5 W to SAE 10 W oil. Heavy oils will cause the vanes to stick, thereby making the motor more difficult to start and impairing its performance. Optimum lubrication significantly prolongs service life. We therefore highly recommend to install service units (combined filters, regulators and lubricators) upstream of the saw.

To c) Do not run your saw free for a long time. Regularly check and clean the air inlet screen. Replace wear parts - in particular the motor vanes (item 43) - when necessary.
Vanes are considered worn if their width is less than 5/8"

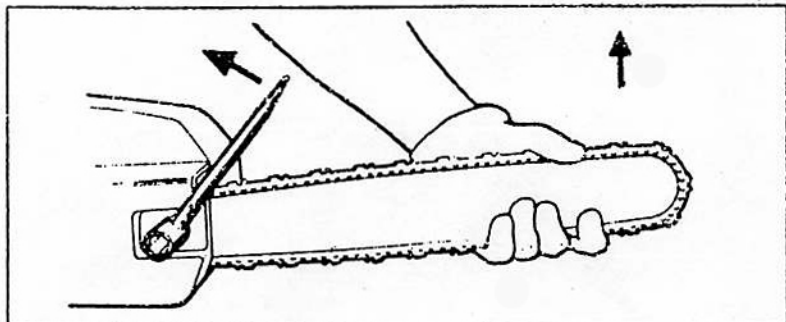
Keep Tool Clean

CAUTION: Wear safety glasses while using compressed air.

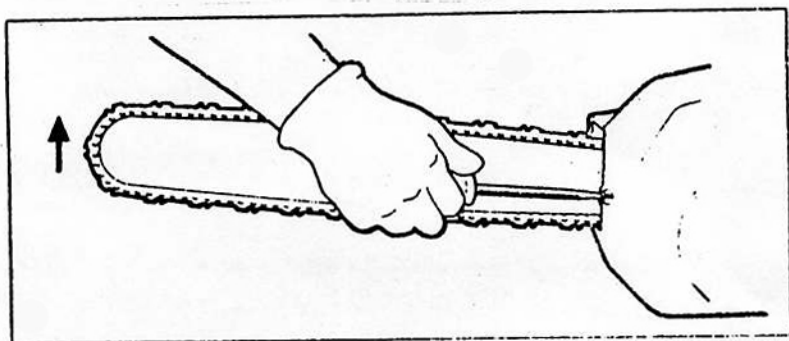
After use, clean the saw and rinse it with light oil or provide alternate corrosion protection.

Enclosed greased ball bearings must not be flushed.

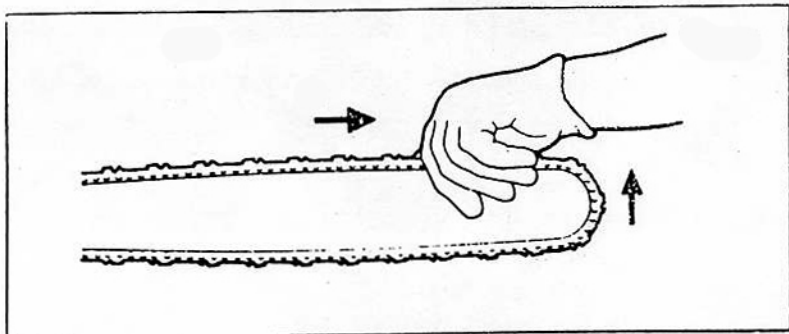
1. Loosen mounting bolt



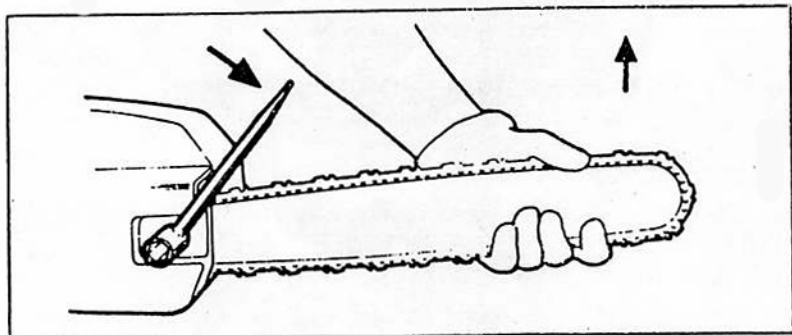
2. Tighten chain tension adjustment screw until the coupling links touch the bar.
Lift bar nose slightly while adjusting tension



3. Pull chain around by hand



4. Lift bar and tighten mounting bolt



2. Chain Maintenance



POOR CHAIN CARE -- Although almost new, this chain is no longer serviceable. It was ruined by too little oil, insufficient chain tension and a worn sprocket.



GOOD CHAIN CARE -- Although resharpened many times, this chain still cuts. It has had a long, useful service life.

The illustrations above clearly show the difference: The second chain received excellent care. It still cuts, even though the cutting teeth have been filed almost completely back. The top chain is no longer serviceable, even though it was hardly used.

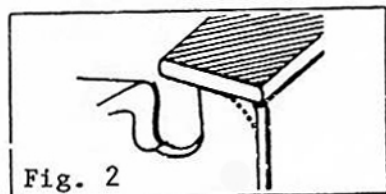
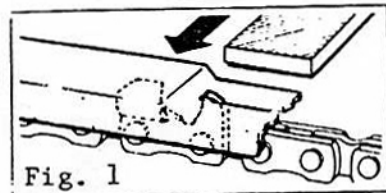
Observe the following rules to obtain the best performance from your chain:

1. Inspect the bar before mounting a new chain. Never run a new chain on a worn bar.
2. Make sure the chain tension is correct. Do not run your saw with a chain which is too loose.
3. Sharpen your chain correctly. Follow the sharpening instructions on page 10 and 11.
4. Always use plenty of oil when cutting. Oil is cheaper than a new chain.
5. Keep the oil hole in the bar and the bar mount clean. Clean these two points at least once a day.
6. The air hole in the oil filler plug must be clear.
7. When cutting frozen wood, mix approx. 25% diesel fuel or kerosene with the chain oil.

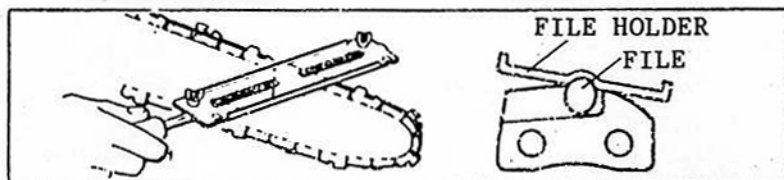
Sharpening the Chain

LOWERING THE DEPTH LIMITER

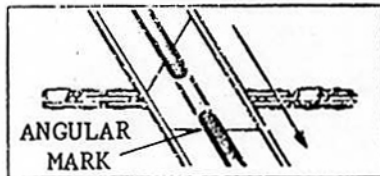
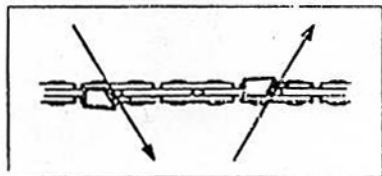
1. When sharpening your chain with a file holder, the clearance of the depth limiter must be checked and adjusted if necessary after sharpening.
2. Check the clearance of the depth limit at least after every third sharpening, and after every sharpening when cutting frozen wood.
3. Place depth limiter gauge on cutting tooth. If depth limiter is too high, file off protruding part with a flat file (Fig. 1)
4. Round off front edge of depth limiter. Its original shape must be preserved (Fig. 2).



GENERAL FILING INSTRUCTIONS

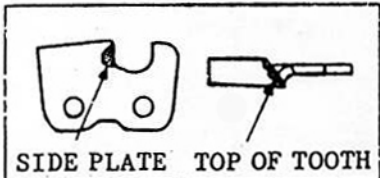
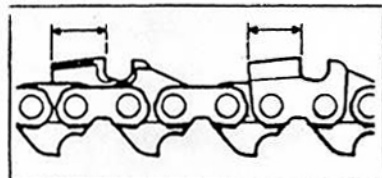


1. Place file holder on top of tooth and depth limiter.



2. First file all cutting teeth on one side using an outward cutting stroke. Then file the cutting teeth on the other side.

3. Keep marks on file holder parallel to chain.

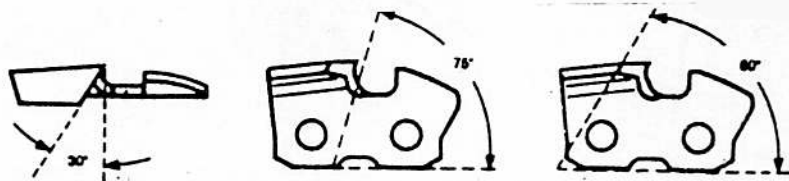


4. All cutting teeth must be of equal length.

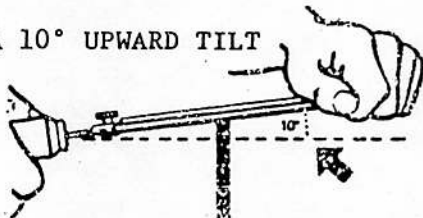
5. Always completely file away any damaged areas on side plate and top of tooth.

Sharpening the Chain

The chain supplied with the saw is to be sharpened at the following angles.

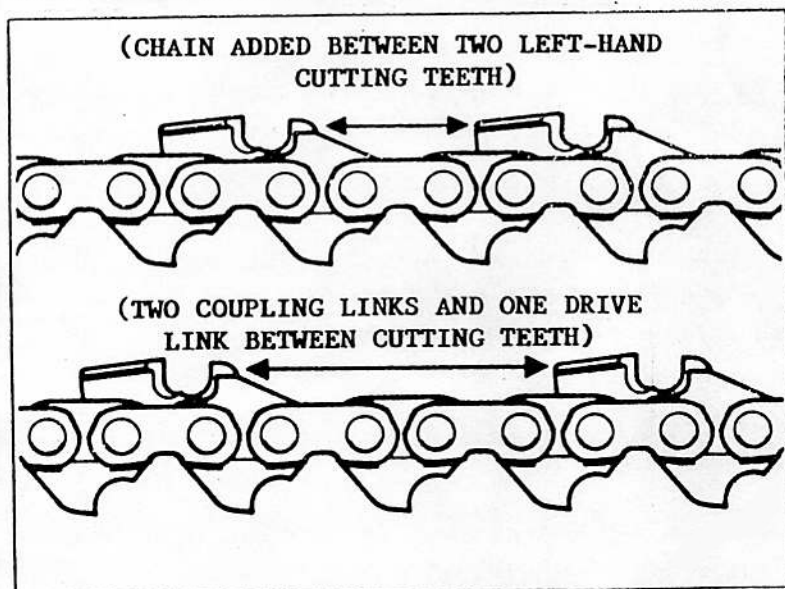


HOLD FILE HOLDER AT A 10° UPWARD TILT



Chain Repair

SHORTENING AND LENGTHENING THE CHAIN



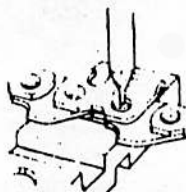
Most chain saws are assembled with one coupling link between a right-hand and a left-hand cutting tooth, however there are also chains which are assembled differently due to their length (number of drive links). If a chain must be shortened or lengthened, it is best to do so at this point. However do not insert more than two coupling links between two cutting teeth.

IMPORTANT: When shortening the chain, always remove the standard drive link and not the safety drive link.

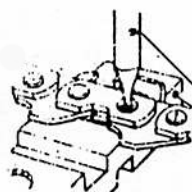
Replacing Broken Drive Links

Grind off rivet heads if necessary.

Lay chain in the corresponding recess of the anvil with the cutting tooth always pointing upward. Press out rivets.



CORRECT

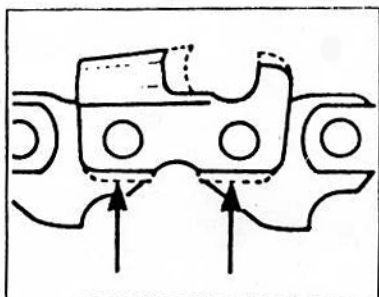


INCORRECT

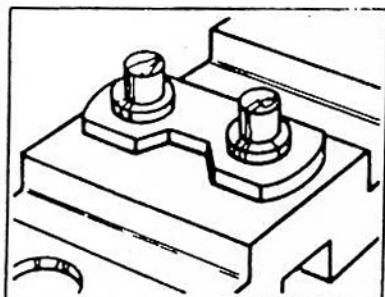
Rivet Removal Tool
9 2550 0040

Chain Repair

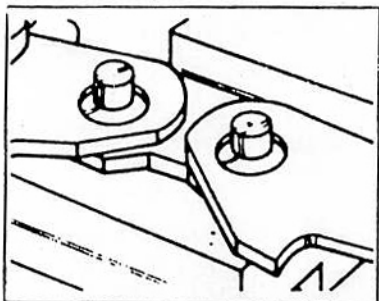
INSTALLATION OF NEW PARTS



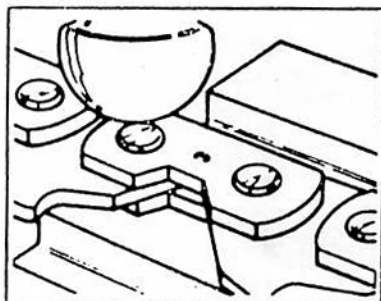
1. File the running surfaces of new chain links so that they are the same as those of the worn links. File back new cutting teeth so that they correspond to the worn ones.



2. Place coupling link with rivets on a flat surface.



3. Join ends of chain.



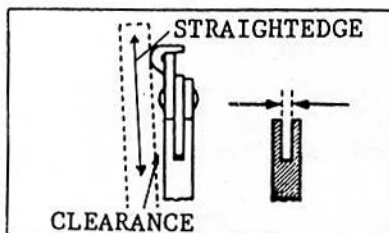
4. Place side plate of coupling link with mark facing up. Flatten rivet heads with ball end of hammer.

Chain Bar

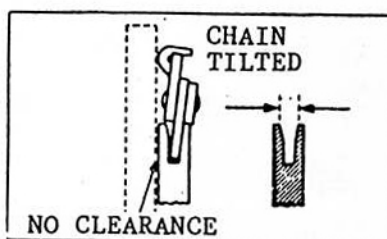
IMPORTANT!

Bars are designed only for the purpose of guiding the chain, and should never be used as crowbars. Turning, twisting, and using the bar as a lever will shorten its service life and void the warranty.

The bar of your chain saw needs as much care as the chain. The running surfaces must be flat and smooth, and the groove must not be expanded. Inspect the groove as shown below:



Place straightedge against bar and cutting tooth. If there is clearance between the straightedge and the bar, the groove is OK.



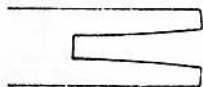
If the chain tilts so that there is no clearance between the bar and the straightedge, the groove is worn. Replace chain bar!

Chain Bar

BAR CONDITION

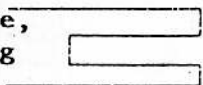
CAUSE

Worn groove.



Wear due to long service.

Shallow groove,
narrow running
surface.



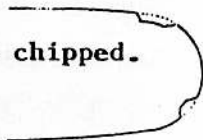
Chain tilted. Cutting teeth
damaged on one side. Drive link
tongues worn.

Blueish areas on running
surface.



Groove compressed in these areas.
Friction of drive links has caused
heating and blue coloration.

Reinforcement chipped.



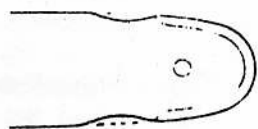
Bar used improperly. Saw jammed
in the cut. Log slid over bar.

Running surface scored.



Improper use caused extreme lat-
eral pressure on the running
surface at the bar nose. A com-
mon problem most often caused by
log slippage.

Cavities in bar.



Impact of the chain behind the
reinforced area of the bar as a
result of insufficient chain
tension. Dull cutting teeth.
Extreme pressure applied to front
area of bar.

Sprocket

A damaged sprocket will ruin your chain. Replace a damaged sprocket immediately; the cost is only 1/4 that of a new chain. It is therefore uneconomical to run new chains on old sprockets.

Avoid the problems caused by a damaged sprocket:

1. Check it each time you mount a new chain, and replace it if it shows signs of wear.
2. Always make sure the chain tension is sufficient.

Refer to the exploded drawing and to the spare parts list when disassembling and assembling.

Motor

Remove hexagon nut (item 16), then remove sprocket guard (item 171), bar (item 181) and chain (item 186).

After removing screw (item 59), the sprocket (item 56) can be withdrawn from the front rotor journal. Remove 4 hexagon nuts (item 21) and 3 fillister-head screws (item 115), then completely remove oil tank cover (item 92) from motor housing (item 2).

Remove motor from motor housing toward the rear together with cylinder bushing (item 33), rotor (item 34) and front and rear end plates (items 36 and 35). Disassemble motor and inspect all parts for wear and damage. Replace any worn or damaged parts.

Throttle Valve

Remove hexagon-head screws (item 86) and remove entire handle (item 65) from motor housing. After removing snap ring (item 71), the ball (item 69), compression spring (item 70) and cylindrical pin (item 72) can be removed.

Oil Pump

The replace internal pump components (valves (item 103), plastic hose (item 107) and plunger (item 108)), remove the 4 countersunk screws (item 110) and remove top pump section (item 96).

Use only original SPITZNAS spare parts for all repairs.

ASSEMBLY

Assembly is performed essentially the same as disassembly, but in reverse order.

Make sure motor clearance is correct: When the bearing is tight, the longitudinal clearance between the falt rear surface of the rotor and the rear end plate should be approx. 0.04 mm. Correct by grinding spacer (item 38) if necessary.

Chain Replacing and Adjusting Tension

Proper chain tension is extremely important for long chain service life. Check chain tension at regular intervals with the air hose disconnected, and after the bar and chain have cooled.

If the chain saw is used for long periods of time, check chain tension more often. Chain tension is correct if chain is easy pullable by hand.

If the chain is loose, allow it to cool before adjusting the tension.