

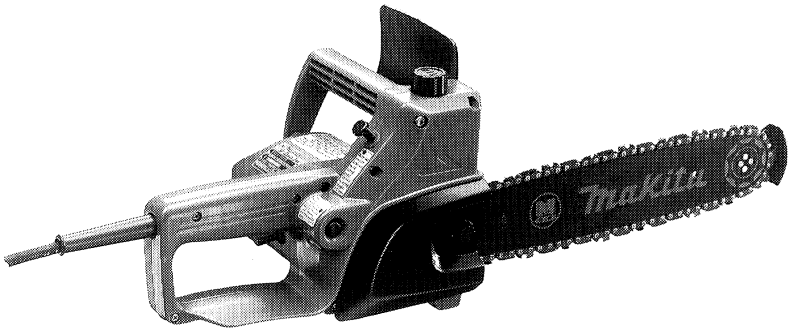
Makita

アメリカ

Chain Saw

300 mm (11-3/4") MODEL 5012B

INSTRUCTION MANUAL



SPECIFICATIONS

Chain speed (FPM)	Guide bar length	Saw chain		Overall length	Net weight
		Pitch	Gauge		
5,500	300 mm (11-3/4")	3/8" (9.5 mm)	0.050" (1.27 mm)	560 mm (22")	4.3 kg (9.5 lbs)

* Manufacturer reserves the right to change specifications without notice.

* Note: Specifications may differ from country to country.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: WHEN USING AN ELECTRIC CHAIN SAW, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND INJURY TO PERSONS, INCLUDING THE FOLLOWING:

READ ALL INSTRUCTIONS.

1. Keep Work Area Clean

Cluttered areas invite injuries. Do not start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree.

2. Consider Work Area Environment

Use extreme caution when cutting small size brush and saplings because the slender material may catch the saw chain and be whipped toward you or pull you off balance. Do not operate a chain saw in a tree unless specifically trained to do so. When cutting a limb that is under tension be alert for spring back so that you will not be struck when the tension in the wood fibers is released. Don't expose chain saw to rain. Don't use chain saw in damp or wet locations. Do not use chain saw in presence of flammable liquids or gases.

3. Guard Against Electric Shock

Prevent body contact with grounded surfaces. For example: metal pipes, wire fences.

4. Keep Children Away

Do not let visitors contact chain saw or extension cord. All visitors should be kept away from work area.

5. Store Idle Chain Saw

When not in use, chain saws should be stored in a dry, and high or locked-up place — out of the reach of children. When storing saw, use a scabbard or carrying case.

6. Don't Force Chain Saw

It will do the job better and safer at the rate for which it was intended.

7. Use Right Tool

Cut wood only. Don't use chain saw for purpose not intended — for example — Don't use chain saw for cutting plastic, masonry non-wood building materials.

8. Dress Properly

Do not wear loose clothing or jewelry. They can get caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.

9. **Use Safety Glasses**
Also use safety footwear; snug fitting clothing; protective gloves; hearing and head protection.
10. **Carrying Saw**
Carry the chain saw by the front handle with the saw stopped, finger off the switch, the guide bar and saw chain to the rear.
11. **Maintain Chain Saw With Care**
Inspect chain saw cords periodically and if damaged, have repaired by authorized service facility. Keep cord clear of the chain and operator at all times. Never carry saw by the cord or pull it to disconnect from receptacle. Keep cord from oil and sharp edges. Inspect extension cords periodically and replace if damaged. Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Keep handles dry, clean, and free from oil and grease.
12. **Disconnect Chain Saw**
Disconnect chain saw when not in use, before servicing, and when changing accessories and attachments, such as saw chain and guard.
13. **Outdoor Use Extension Cords**
Use only extension cords intended for use outdoors and so marked.
14. **Stay Alert**
Watch what you are doing. Use common sense. Do not operate chain saw when you are tired. Keep all parts of the body away from the saw chain when the motor is operating. Before you start the saw, make sure the saw chain is not contacting anything.
15. **Check Damaged Parts**
Before further use of the chain saw, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use chain saw if switch does not turn it on and off. Do not operate a chain saw that is damaged, improperly adjusted, or is not completely and securely assembled. Be sure that the saw chain stops moving when the trigger is released.
16. **Guard Against Kickback**
WARNING: KICKBACK may occur when the nose or tip of the guide bar touches an object, or when the wood closes in and pinches the saw chain in the cut. Tip contact in some cases may cause a lightning fast reverse reaction, kicking the guide bar up and back towards the operator. Pinching the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator. Either of these reactions may cause you to lose control of the saw which could result in serious injury to user. The following precautions should be followed to minimize kickback.

- (1) Grip saw firmly. Hold the chain saw firmly with both hands when the motor is running. Use a firm grip with thumbs and fingers encircling the chain saw handles.
 - (2) Do not over reach.
 - (3) Keep proper footing and balance at all times.
 - (4) Don't let the nose of the guide bar contact a log, branch, ground, or other obstruction.
 - (5) Don't cut above shoulder height.
 - (6) Use devices such as low kickback chain and special guide bars that reduce the risks associated with kickback.
 - (7) Only use replacement bars and chains specified by the manufacturer.
17. Power Supply
Connect chain saw to correct voltage, that is, be sure that the voltage supplied is the same as that specified on the nameplate of the tool.
18. Replacement Parts
When servicing use only identical replacement parts.
19. Wear ear protectors during operation.
20. Before making a felling cut, remove dirt, stones, loose bark, nails, staples and wire from the tree.
21. Secure the log so that it will not roll or move suddenly during operation.
22. AVOID UNINTENTIONAL STARTING. Don't carry plugged-in tool with finger on switch. Be sure switch is OFF when plugging in.
23. Attention! Do not expose this tool to rain and pull plug immediately if the supply cable be damaged or cut.
24. The chain saw must not be left outdoors during rain and it must not be used when wet.

VOLTAGE WARNING: Before connecting the tool to a power source (receptacle, outlet, etc.) be sure the voltage supplied is the same as that specified on the nameplate of the tool. A power source with voltage greater than that specified for the tool can result in **SERIOUS INJURY** to the user — as well as damage to the tool. If in doubt, **DO NOT PLUG IN THE TOOL**. Using a power source with voltage less than the nameplate rating is harmful to the motor.

Use Of Extension Cord

If the extension cord is intended to be used outdoors, the cord shall be marked with the suffix W-A following the cord type designation, for example — SJTW-A, to indicate it is acceptable for outdoor use. Use an extension cord heavy enough to carry the current the tool will draw. Undersize cord will cause a drop in line voltage resulting in loss of power and over-heating. Make sure the extension cord is in good condition before using. Keep the cord away from the cutting area and to position cord so that it will not be caught on branches, and the like, during cutting. Use the table below to determine the proper wire size required in the extension cord.

Ampere rating (on nameplate)	0 – 5.0	5.1 – 10.0	10.1 – 13.0	13.1 – 15.0
Ext. Cord Length	Wire Size (American Wire Gauge)			
25 Ft.	18	18	16	14
50 Ft.	18	16	16	14
75 Ft.	18	16	14	14
100 Ft.	16	14	12	12
125 Ft.	16	12	12	12
150 Ft.	16	12	12	—

Contact Makita Authorized or Factory Service Center if a proper extension cord cannot be found.

SAVE THESE INSTRUCTIONS.

Chain Saw Nomenclature

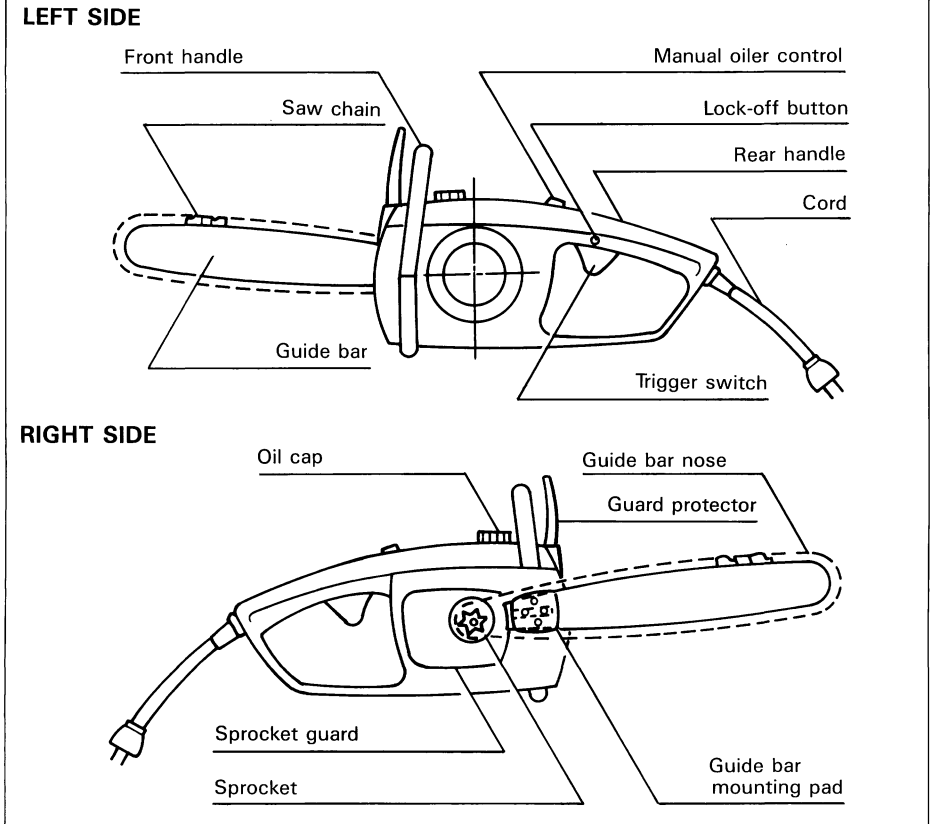


Fig. 1

Bucking — The process of cross cutting a felled tree or log into lengths.

Chain Saw Powerhead — A chain saw without the saw chain and guide bar.

Sprocket — The toothed part that drives the saw chain.

Felling — The process of cutting down a tree.

Felling Back Cut — The final cut in a tree felling operation made on the opposite side of the tree from the notching undercut.

Front Handle — The support handle located at the front of the chain saw.

Front Handle Guard — A structural barrier between the front handle of a chain saw and the guide bar, typically located close to the hand position on the front handle.

Guide Bar — A solid railed structure that supports and guides the saw chain.

Kickback — The backward or upward motion, or both of the guide bar occurring when the saw chain near the nose of the top area of the guide bar contacts any object such as a log or branch, or when the wood closes in and pinches the saw chain in the cut.

Kickback, Pinch — The rapid pushback of the saw which can occur when the wood closes in and pinches the moving saw chain in the cut along the top of the guide bar.

Kickback, Rotational — The rapid upward and backward motion of the saw which can occur when the moving saw chain near the upper portion of the tip of the guide bar contacts an object, such as a log or branch.

Low-Kickback Chain — A chain that complies with the kickback performance requirements of ANSI B175.1 when tested on a representative sample of chain saws.

Normal Cutting Position — Those positions assumed in performing the bucking and felling cuts.

Notching Undercut — A notch cut in a tree that directs the tree's fall.

Oiler Control — A system for oiling the guide bar and saw chain.

Rear Handle — The support handle located at the rear of the saw.

Reduced Kickback Guide Bar — A guide bar which has been demonstrated to reduce kickback significantly.

Replacement Saw Chain — A chain that complies with the kickback performance requirements of ANSI B175.1 when tested with specific chain saws. It may not meet the ANSI performance requirements when used with other saws.

Saw Chain — A loop of chain having cutting teeth, that cut the wood, and that is driven by the motor and is supported by the guide bar.

Spiked Bumper (Spike) — The pointed tooth or teeth for use when felling or bucking to pivot the saw and maintain position while sawing.

Switch — A device that when operated will complete or interrupt an electrical power circuit to the motor of the chain saw.

Lock-Off Button — A movable stop that prevents the unintentional operation of the switch until manually actuated.

Installing saw chain and guide bar

CAUTION:

Always be sure that the tool is switched off and unplugged before installing saw chain and guide bar.

Use the socket wrench to loosen the hex bolt holding the chain cover. Remove the chain cover.

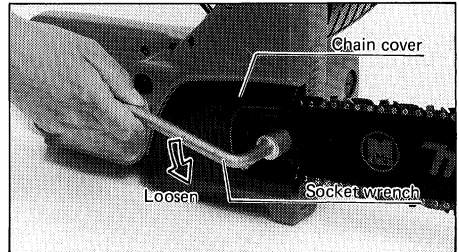


Fig. 2

Fit one end of the chain over the sprocket and the other over the end of the guide bar. Notice that the cutters must be in the direction of the arrow in Fig. 3 and 4. Keep the chain in the guide bar grooves.

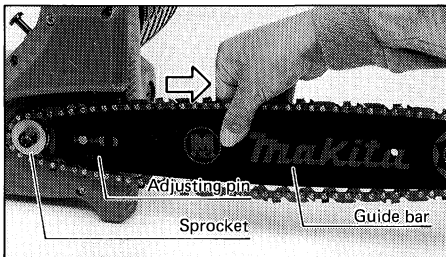


Fig. 3

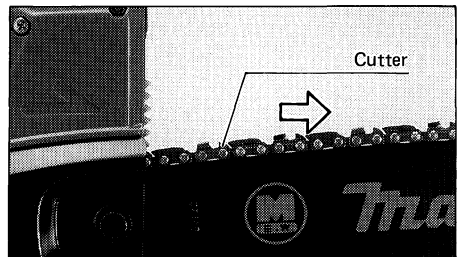


Fig. 4

Install the guide bar so that the lower hole in the guide bar is just over the adjusting pin. Install the chain cover and tighten the hex bolt only tight enough to hold the guide bar temporarily.

Adjusting saw chain tension

CAUTION:

Always be sure that the tool is switched off and unplugged before adjusting chain tension.

Grasp the chain in the middle of the guide bar and lift up. The gap between the side link of the chain and the guide bar should be about 3 mm to 4 mm (1/8" – 5/32").

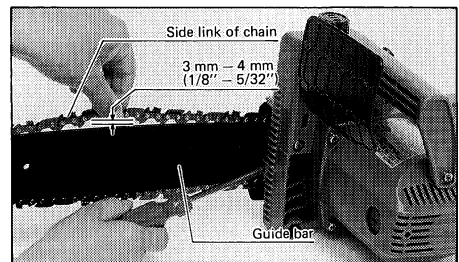


Fig. 5

If the gap is not about 3 mm to 4 mm (1/8" – 5/32"), adjust the chain tension. Use a screwdriver to turn the chain tension adjusting screw clockwise for more tension, or counterclockwise for less tension. When adjusting the chain tension, lift the end of the guide bar slightly.

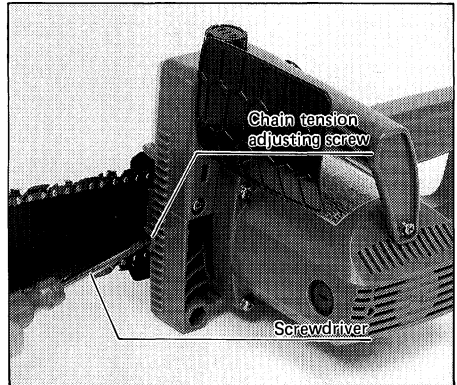


Fig. 6

After adjusting the chain tension, use the socket wrench to tighten the hex bolt securely.

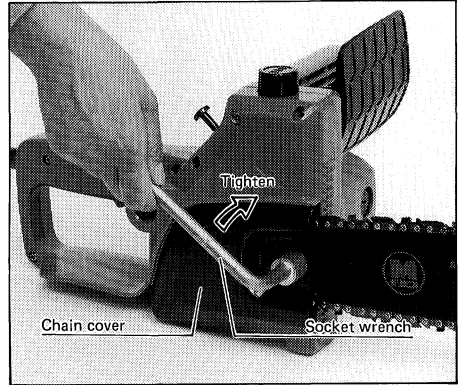


Fig. 7

CAUTION:

When breaking in a new chain, adjust the tension often, since it tends to 'stretch'.

Hook

When using an extension cord, secure it to the tool's cord with the hook provided. Attach the hook about 100-200 mm (4" – 8") from the extension cord connector. This will help prevent unintentional disconnection.

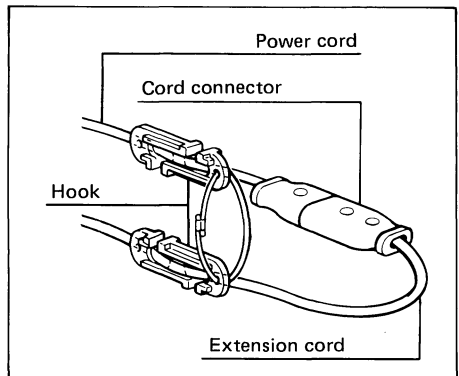


Fig. 8

Switch action

To prevent the trigger from being accidentally pulled, a lock-off button is provided as a safety feature.

To start the tool, press in the lock-off button and pull the trigger. Release the trigger to stop.

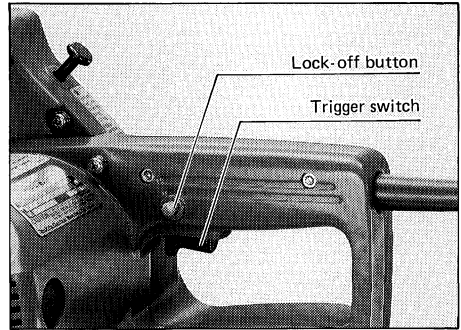


Fig. 9

CAUTION:

Before plugging in the tool, always check to see that the trigger switch actuates properly and returns to the "OFF" position when released.

Lubrication

Turn the tool on and then depress the oil button 4 or 5 times. Let the oil get around the bar groove and penetrate before cutting. For continuous operation, lubricate the tool for every log having a diameter of about 200 mm (8") by depressing the button 4 or 5 times. For greater thickness, depress the button several times at some point in the cutting.

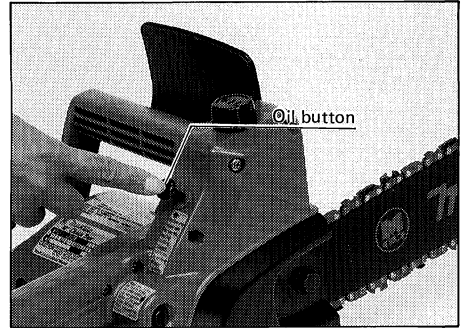


Fig. 10

Insufficient oiling will cause wear on the rivets, rough chain travel and high chain tension. Use in such conditions will put a great load on the motor, and the overload protector may cut out. Unplug the saw and pump the oil plunger 5 or 6 times while running the saw chain around by hand. After enough lubrication, resume sawing operations.

Be sure there is enough oil in the oil tank before operation. There is an oil tank inspection window on the side opposite the chain cover. Replenish with oil if the level is low.

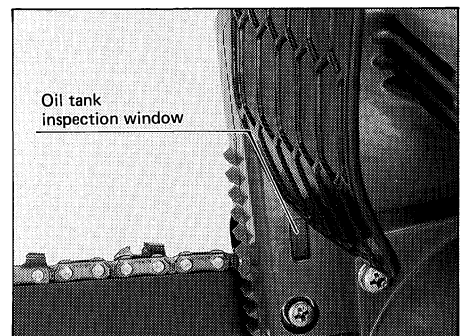


Fig. 11

To replenish the oil, take off the cap on the tank and fill with the oil supply.

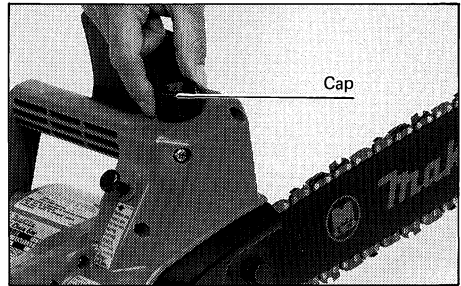


Fig. 12

CAUTION:

Turbine oil #200 or machine oil is recommended. A special oil or one of high viscosity is neither needed nor advisable, since the aim is to lubricate the chain and the guide bar. Do not use dirty oil nor volatile oil.

Cutting operation

Turn the tool on and allow the chain to reach full speed before it contacts the wood. Be sure the chain is adequately lubricated.

Use the spike as a pivot point and ease the tool into the wood, rocking it in gently. Do not force the guide bar in. Whenever heavy work is prolonged, the overload protector will cut out to stop the motor.

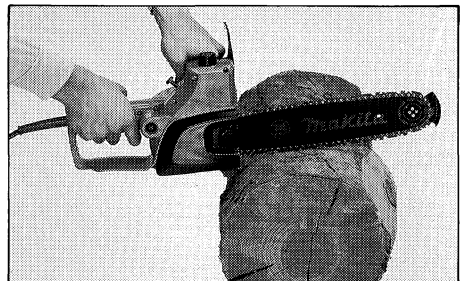


Fig. 13

CAUTION:

If you notice that the guide bar is too hot to touch, stop operation and let the tool cool off. Check the chain tension. Make sure the oil is feeding properly.

Overload protector

The overload protector automatically cuts out to break the circuit and the button pops out, whenever heavy work is prolonged. If this occurs, turn the switch off and unplug the tool. Check the chain tension, oil feeding and your sawing method. Then press the restart button to resume operation. Your finger should not be on the trigger when you press the restart button, however.

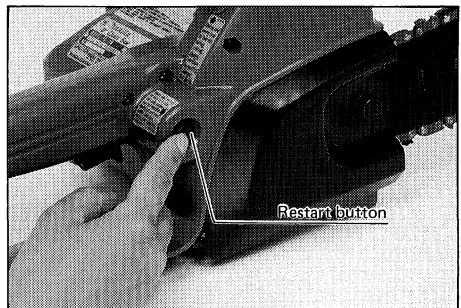


Fig. 14

Holding the chain saw

Always grip each handle with the thumb and fingers encircling the handle as shown in Fig. 15.

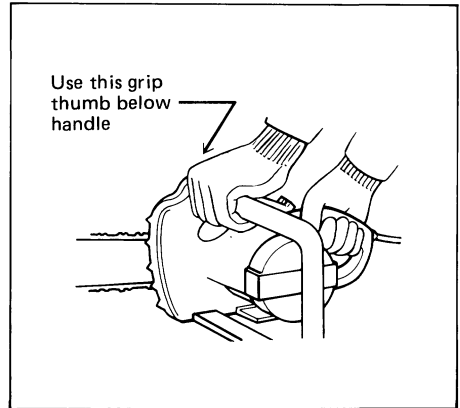


Fig. 15

Using the chain saw

Always be sure of your footing and hold the chain saw firmly with both hands while the motor is running.

Felling a tree

When bucking and felling operations are being performed by two or more persons, at the same time, the felling operation should be separated from the bucking operation by a distance of at least twice the height of the tree being felled. Trees should not be felled in a manner that would endanger any person, strike any utility line or cause any property damage. If the tree does make contact with any utility line, the utility company should be notified immediately.

The chain saw operator should keep on the uphill side of the terrain as the tree is likely to roll or slide downhill after it is felled.

A retreat path should be planned and cleared as necessary before cuts are started. The retreat path should extend back and diagonally to the rear of the expected line of fall as shown in Fig. 16.

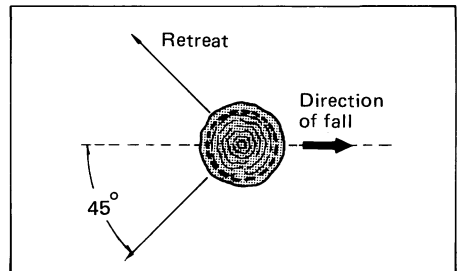


Fig. 16

Before felling is started, consider the natural lean of the tree, the location of larger branches and the wind direction to judge which way the tree will fall. Remove dirt, stones, loose bark, nails, staples, and wire from the tree where felling cuts are to be made.

Notching undercut

Make the notch 1/3 the diameter of the tree, perpendicular to the direction of fall as shown in Fig. 17. Make the lower horizontal notching cut first. This will help to avoid pinching of either the saw chain or the guide bar when the second notch is being made.

Felling back cut

Make the felling back cut at least 2 inches (50.8 mm) higher than the horizontal notching cut as shown in Fig. 17. Keep the felling back cut parallel to the horizontal notching cut. Make the felling back cut so enough wood is left to act as a hinge. The hinge wood keeps the tree from twisting and falling in the wrong direction. Do not cut through the hinge.

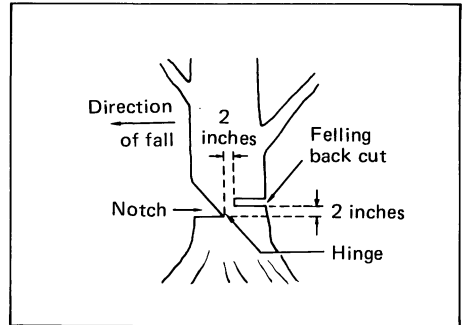


Fig. 17

As the felling cut gets close to the hinge the tree should begin to fall. If there is any chance that the tree may not fall in the desired direction or it may rock back and bind the saw chain, stop cutting before the felling back cut is complete and use wedges of wood, plastic or aluminum to open the cut and drop the tree along the desired line of fall. When the tree begins to fall remove the chain saw from the cut, stop the motor, put the chain saw down, then use the retreat path planned. Be alert for overhead limbs falling and watch your footing.

Limbing a tree

Limbing is removing the branches from a fallen tree. When limbing, leave larger lower limbs to support the log off the ground. Remove the small limbs in one cut as shown in Fig. 18. Branches under tension should be cut from the bottom up to avoid binding the chain saw.

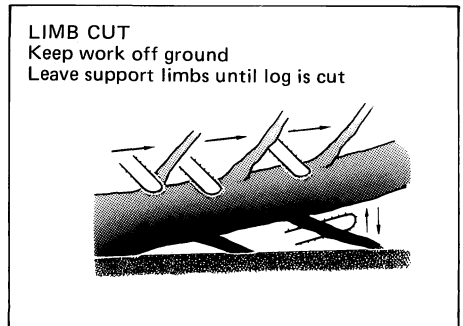


Fig. 18

Bucking a log

Bucking is cutting a log into lengths. It is important to make sure your footing is firm and your weight is evenly distributed on both feet. When possible, the log should be raised and supported by the use of limbs, logs or chocks. Follow the simple directions for easy cutting.

When the log is supported along its entire length as shown in Fig. 19, it is cut from the top (overbuck).

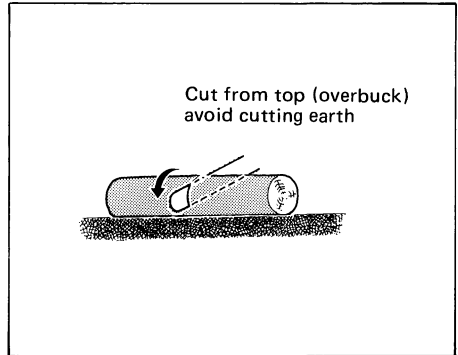


Fig. 19

When the log is supported on one end, as shown in Fig. 20, cut $\frac{1}{3}$ the diameter from the underside (underbuck). Then make the finished cut by overbucking to meet the first cut.

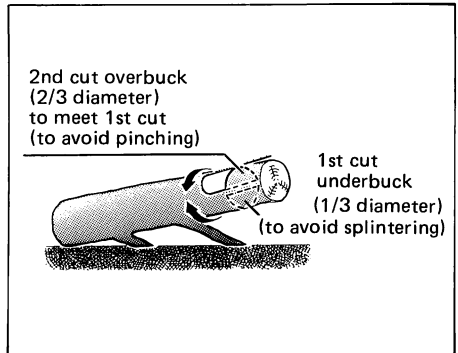


Fig. 20

When the log is supported on both ends, as shown in Fig. 21, cut $\frac{1}{3}$ of that diameter from the top overbuck. Then make the finished cut by underbucking the lower $\frac{2}{3}$ to meet the first cut.

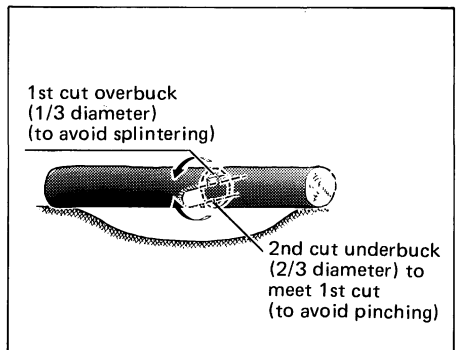


Fig. 21

When bucking on a slope, always stand on the uphill side of the log, as shown in Fig. 22. When “cutting through”, to maintain complete control, release the cutting pressure near the end of the cut without relaxing your grip on the chain saw handles. Don't let the chain contact the ground. After completing the cut, wait for the saw chain to stop before you move the chain saw. Always stop the motor before moving from tree to tree.

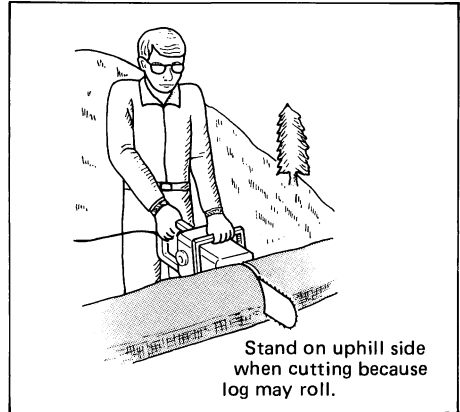


Fig. 22

Carrying tool

Carry the tool by the front handle with the tool turned off, finger off the switch, the guide bar and the saw chain to the rear. Use the scabbard to cover the guide bar and the saw chain.

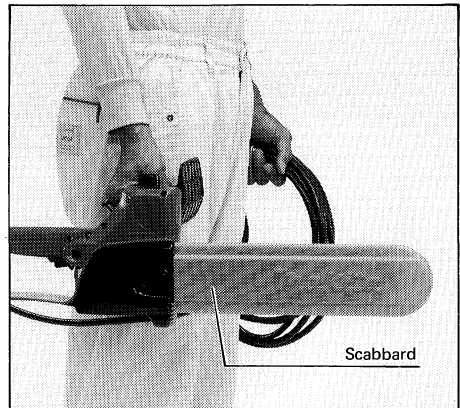


Fig. 23

MAINTENANCE

CAUTION:

Always be sure that the tool is switched off and unplugged before attempting to perform inspection or maintenance.

Filing saw chain

To get the most in cutting performance from your tool, you must keep the cutters sharp and filed properly as shown below.

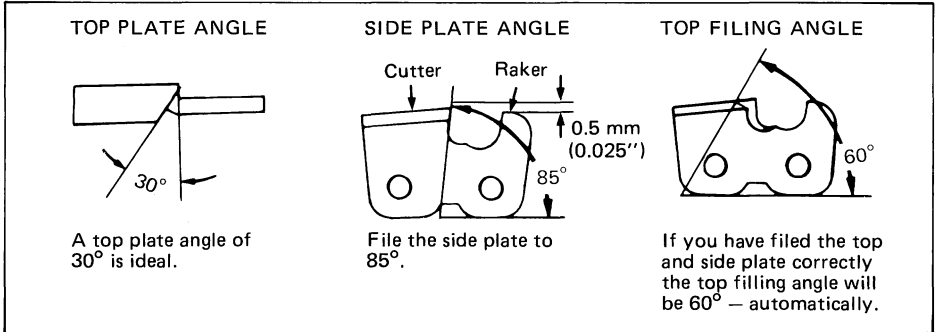


Fig. 24

To file the saw chain, push the file in the direction of the arrow. When pulling it back, be careful not to touch the cutters with the file.

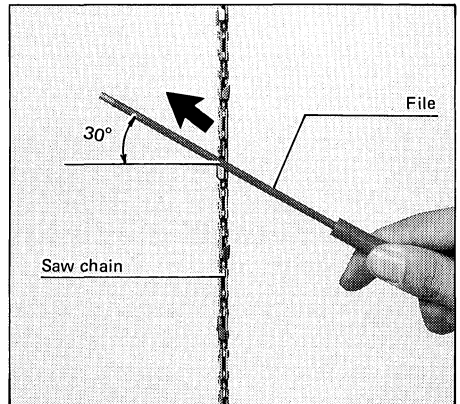


Fig. 25

After a saw chain has been filed two or three times, the "raker" (see Fig. 24) may need to be filed down slightly. This is because the raker acts as a depth gauge for the cutters. As the cutters are filed, they lose some height due to their angled shape. Eventually, the cutters will become lower than the depth gauge and consequently, will not be able to cut. To remedy this, use a flat file to file the tops of the rakers so that they are about 0.5 mm (0.025") below the tips of the cutters (see Fig. 24). Be careful not to file the rakers excessively or the cutters will be allowed to take too large of a "bite", causing the tool to stall or snag in the cut.

Removing chip buildup

Chips and sawdust will build up in the guide bar groove and oil hole, clogging them and impairing oil flow. Remove the guide bar and clean them out.

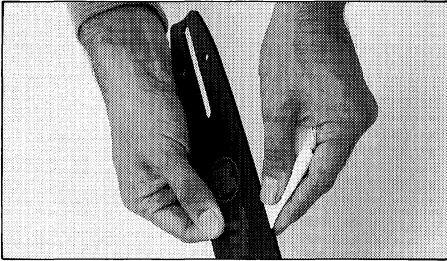


Fig. 26

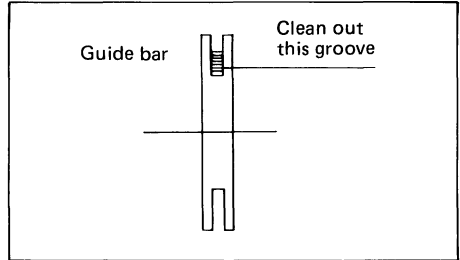


Fig. 27

Replacing carbon brushes

Remove and check the carbon brushes regularly. Replace when they wear down to the limit mark. Keep the carbon brushes clean and free to slip in the holders. Both carbon brushes should be replaced at the same time. Use only Makita carbon brushes.

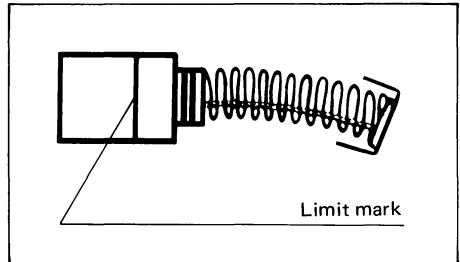


Fig. 28

Use a screwdriver to remove the brush holder caps. Take out the worn carbon brushes, insert the new ones and secure the brush holder caps.

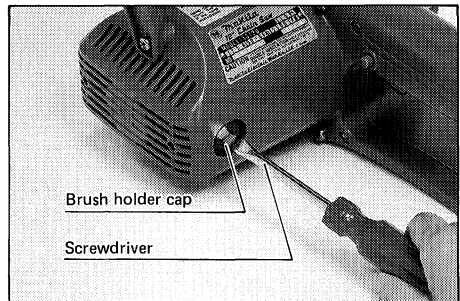


Fig. 29

Storing the tool

Before storing the tool, be sure to do the following:

- Remove the chain cover. Remove any chips and sawdust from the tool.
- Install the chain cover. Turn the tool on and depress the oil button 4 or 5 times.
- Cover the saw chain and the guide bar with the scabbard.

To maintain product SAFETY and RELIABILITY, repairs, any other maintenance or adjustment should be performed by Makita Authorized or Factory Service Centers, always using Makita replacement parts.

ACCESSORIES

CAUTION:

These accessories or attachments are recommended for use with your Makita tool specified in this manual. The use of any other accessories or attachments might present a risk of injury to persons. The accessories or attachments should be used only in the proper and intended manner.

- **Socket wrench 13**
Part No. 782212-4



- **Screwdriver**
Part No. 783002-8



- **File**
Part No. 744003-1



- **Scabbard**
Part No. 411936-2



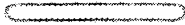
- **Oil supply**
Part No. 181117-9



- **Cap for oil supply**
Part No. 242012-9



- **Saw chain**
Part No. 713010-5



- **Hook**
Part No. 158024-1



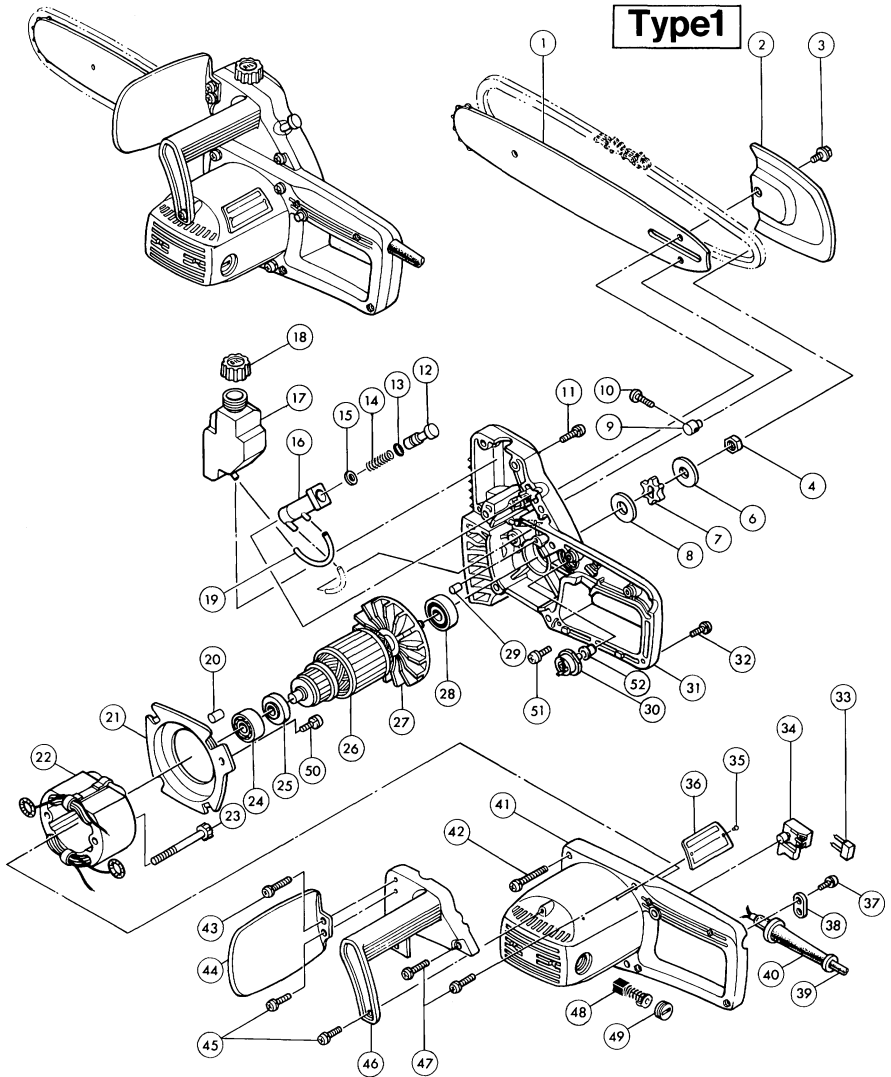
MODEL 5012B

July - 29 - 88 US

ITEM NO.	NO. USED	DESCRIPTION	ITEM NO.	NO. USED	DESCRIPTION
MACHINE			MACHINE		
1	1	Guide Bar	27	1	Fan 90
2	1	Chain Cover	28	1	Ball Bearing 6202LLB
3	1	Hex. Flange Head Bolt M8x17	29	1	Rubber Pin 6
4	1	Hex. Lock Nut M8 - 13	30	1	Overload Protector
6	1	Flat Washer 8	31	1	Motor Housing Cover
7	1	Sprocket 6	32	4	Pan Head Screw M4x28 (With Washer)
8	1	Flat Washer 12	34	1	Switch
9	1	Adjust Pin	35	2	Rivet 0-5
10	1	Flat Head Screw M5x25	36	1	Name Plate
11	1	Pan Head Screw M5x40 (With Washer)	37	2	Pan Head Screw M4x18 (With Washer)
12	1	Plunger	38	1	Strain Relief
13	1	O Ring 6	39	1	Cord
14	1	Compression Spring 6	40	1	Cord Guard
15	1	Flat Washer 5	41	1	Motor Housing
16	1	Casing Complete	42	3	Pan Head Screw M5x50 (With Washer)
17	1	Oil Vessel	43	1	Pan Head Screw M5x40 (With Washer)
18	1	Cap	44	1	Protector
19	1	Tube 3	45	2	Pan Head Screw M5x20 (With Washer)
20	1	Rubber Pin 6	46	1	Side Grip
21	1	Baffle Plate	47	3	Pan Head Screw M5x30 (With Washer)
22	1	FIELD ASSEMBLY	48	2	Carbon Brush
23	2	Hex. Bolt M5x65 (With Washer)	49	2	Brush Holder Cap
24	1	Ball Bearing 6200LB	50	1	Pan Head Screw M4x12 (With Washer)
25	1	Insulation Washer	51	1	Pan Head Screw M4x8 (With Washer)
26	1	ARMATURE ASSEMBLY (With Item 24 - 28)	52	1	Relay Cover

Note: The switch and other part specifications may differ from country to country.

300 mm (11-3/4") CHAIN SAW Model 5012B



Note: The switch, noise suppressor and other part configurations may differ from country to country.

WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

MAKITA LIMITED ONE YEAR WARRANTY

Warranty Policy

Every Makita tool is thoroughly inspected and tested before leaving the factory. It is warranted to be free of defects from workmanship and materials for the period of ONE YEAR from the date of original purchase. Should any trouble develop during this one-year period, return the COMPLETE tool, freight prepaid, to one of Makita's Factory or Authorized Service Centers. If inspection shows the trouble is caused by defective workmanship or material, Makita will repair (or at our option, replace) without charge.

This Warranty does not apply where:

- repairs have been made or attempted by others;
- repairs are required because of normal wear and tear;
- The tool has been abused, misused or improperly maintained;
- alterations have been made to the tool.

IN NO EVENT SHALL MAKITA BE LIABLE FOR ANY INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES FROM THE SALE OR USE OF THE PRODUCT. THIS DISCLAIMER APPLIES BOTH DURING AND AFTER THE TERM OF THIS WARRANTY.

MAKITA DISCLAIMS LIABILITY FOR ANY IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF "MERCHANTABILITY" AND "FITNESS FOR A SPECIFIC PURPOSE," AFTER THE ONE-YEAR TERM OF THIS WARRANTY.

This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

Makita Corporation

3-11-8, Sumiyoshi-cho,
Anjo, Aichi 446 Japan

883236C066

PRINTED IN JAPAN
2000-12-N