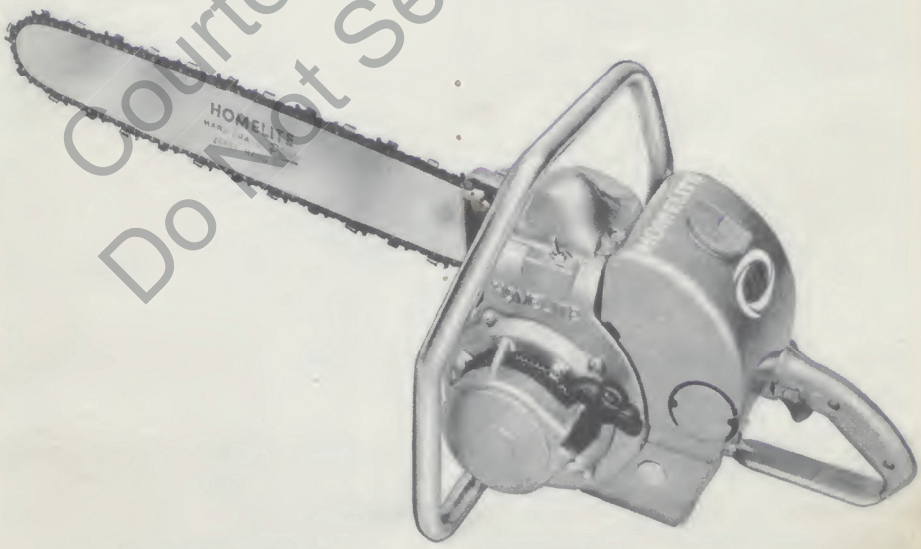
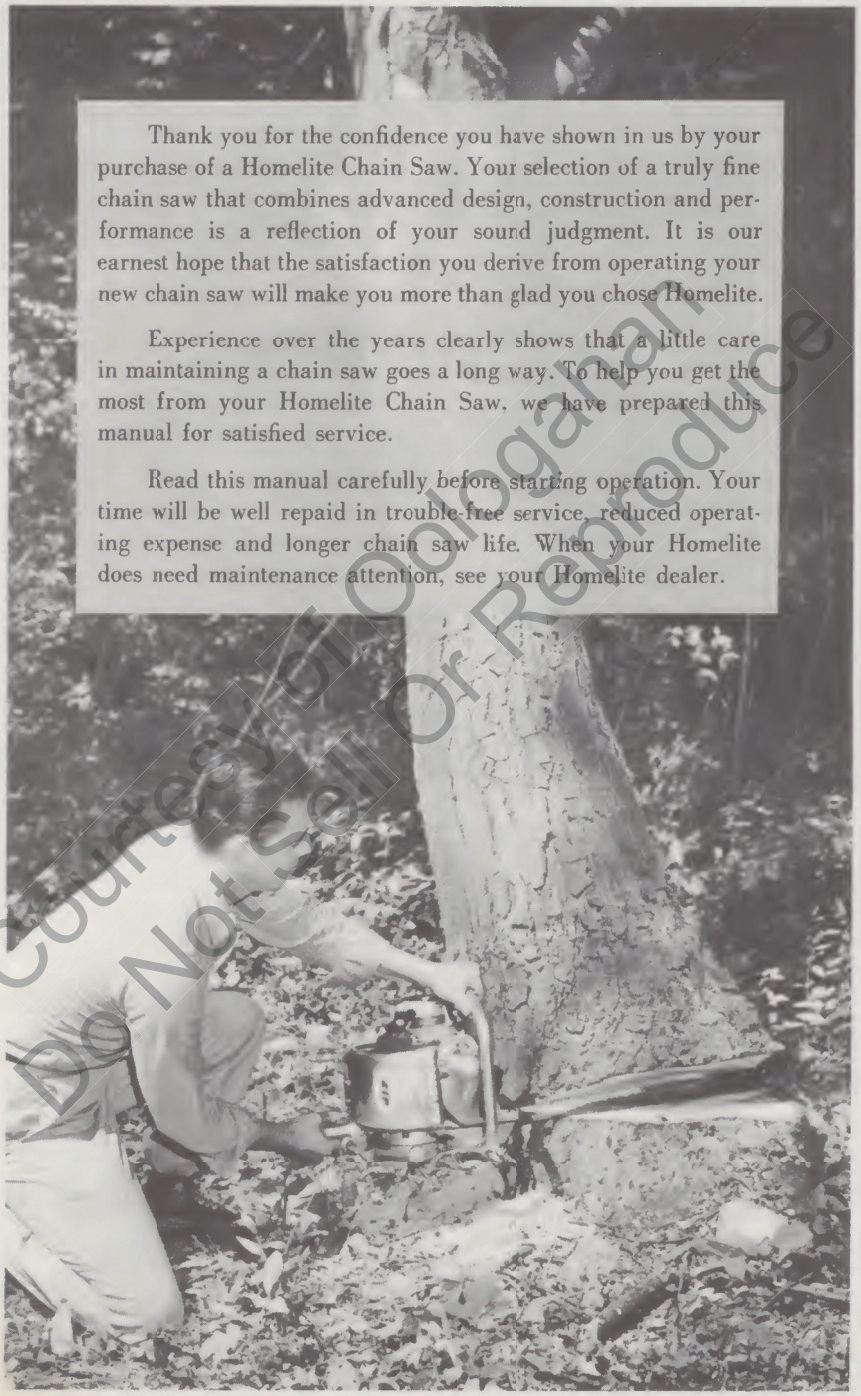
OPERATOR'S MANUAL

HOMELITE

ZIP

CHAIN SAW





Thank you for the confidence you have shown in us by your purchase of a Homelite Chain Saw. Your selection of a truly fine chain saw that combines advanced design, construction and performance is a reflection of your sound judgment. It is our earnest hope that the satisfaction you derive from operating your new chain saw will make you more than glad you chose Homelite.

Experience over the years clearly shows that a little care in maintaining a chain saw goes a long way. To help you get the most from your Homelite Chain Saw, we have prepared this manual for satisfied service.

Read this manual carefully before starting operation. Your time will be well repaid in trouble-free service, reduced operating expense and longer chain saw life. When your Homelite does need maintenance attention, see your Homelite dealer.

Section I
OPERATION

1. PREPARING SAW FOR USE

a. Chain Oil

Fill the chain oil reservoir with SAE-30 engine oil in the summer, and SAE-10 oil in the winter. In temperatures below 0°F, fill the reservoir with a mixture of four parts SAE-10 oil to one part kerosene. Operating the oil pump plunger forces oil from the reservoir into the guide bar groove. Before and during cutting, operate the oil pump at frequent intervals . . . while the chain is *slowly* rotating, not during high speed operation.

b. Mixing Fuel

A Homelite Safety Can (Part No. AA-71472) provides a convenient way to mix and carry fuel. The filler cap of the 2½ gallon can serves as an oil measuring cup. (See figure 1.)

CAUTION

Always mix oil and gasoline thoroughly before pouring the fuel into the fuel tank.

(1) BREAK-IN FUEL MIXTURE: Mix the first 5 gallons of fuel in the proportion of one pint Homelite Chain Saw Oil to each gallon of gasoline. After the 5 gallons have been used in the engine, use the regular mixture (given below) from then on.

NOTE

A saw which has had a cylinder or piston replacement should be treated as a new unit and broken-in with 5 gallons of break-in fuel.

(2) REGULAR FUEL MIXTURE: Mix thoroughly ¾ pint of Homelite Chain Saw Oil (or good grade SAE-30 engine oil) with each gallon of gasoline. Regular or high test automotive gasoline should be used and must be clean and fresh.

Figure 1—Homelite Safety Can

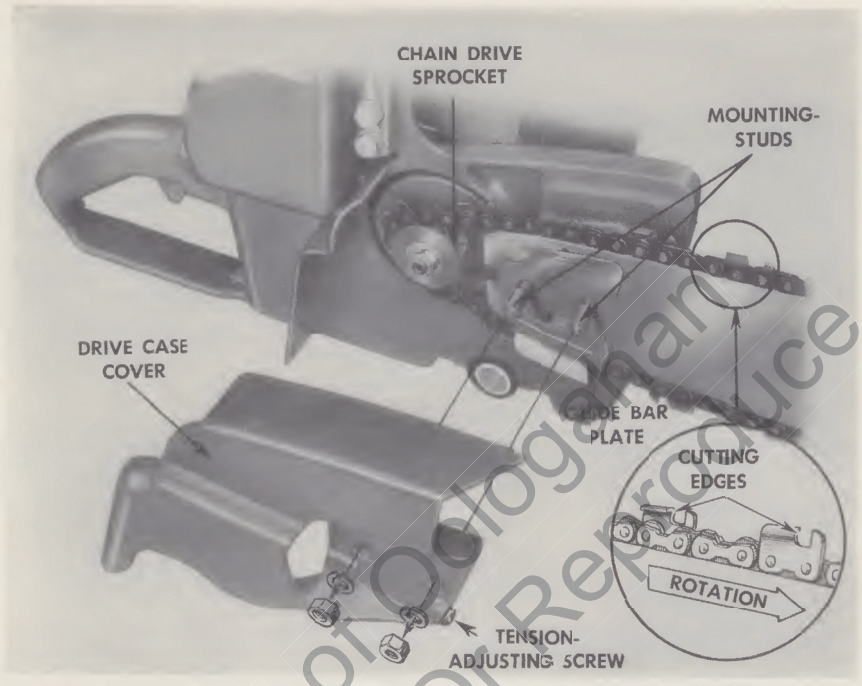


Figure 2—Assembling Guide Bar and Chain

c. Assembling Guide Bar and Chain

(1) Remove the two hex nuts and lockwashers from the guide bar mounting studs. Remove the drive case cover and the outer guide bar plate, but leave the *inner* guide bar plate on the studs.

(2) Slide the slotted end of the guide bar onto the mounting studs and put the outer guide bar plate back on the studs over the guide bar. (See figure 2.)

(3) Assemble the chain on the saw: be sure the cutting edges of the chain teeth face in the direction of rotation. (See figure 2.) Slip the chain over the chain drive sprocket, then, starting along the top edge of bar, feed the chain into the guide bar groove.

(4) Assemble the drive case cover to the saw in the following manner:

(a) Take the combination tool (supplied with engine) and turn adjusting screw in cover counterclockwise as far as possible without forcing.

(b) Put cover on the saw and hold in position with one hand. With the other hand, turn the adjusting screw clockwise until the adjusting screw pin drops into place in the guide bar. (See figure 2.)

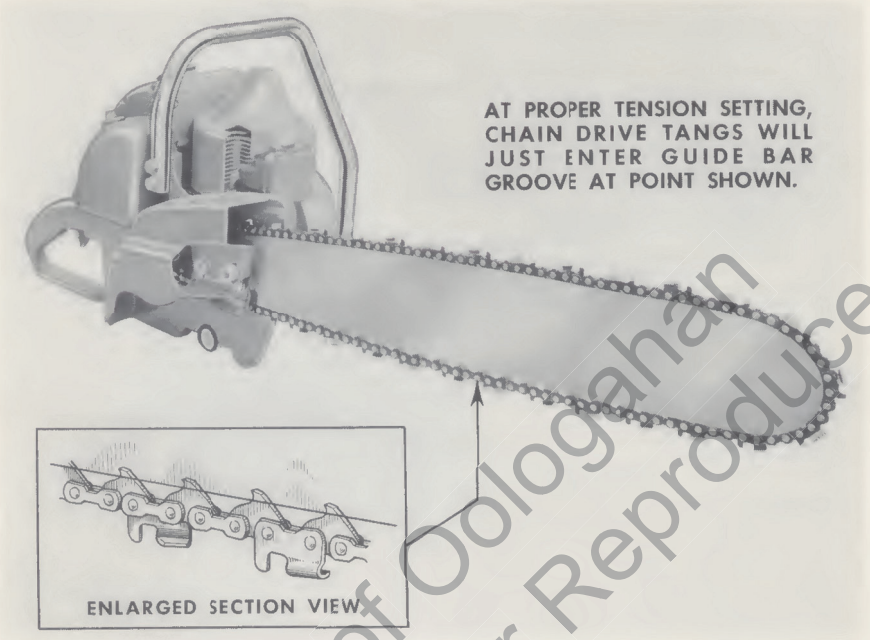


Figure 3—Adjusting Chain Tension

(c) Hold assembly in place and put the lockwashers and hex nuts back on the mounting studs. Tighten nuts just enough to hold assembly in place.

d. Adjusting Chain Tension (See figure 3.)

(1) Hold up the tip of the guide bar to take up the play between the studs and the mounting slot. The guide bar must be held in this position until the chain tension has been adjusted and mounting stud nuts have been tightened securely. Otherwise the guide bar will shift on the first cut, changing the tension.

(2) Turn the chain tension adjusting screw clockwise until the drive tangs *just* enter the guide bar groove at point shown in figure 3.

(3) At the same point shown in figure 3, grasp the chain between thumb and forefinger—pull it downward—then release.

(4) Once again turn adjusting screw clockwise until the drive tangs *just* enter the guide groove shown in figure 3. Now tighten the hex nuts to lock the tension device at this setting.

(5) New chains always stretch slightly during the first half hour of operation. Keep the new chain generously lubricated while breaking it in. Shut off the engine after every few cuts and check the chain tension. Readjust the chain tension if necessary.

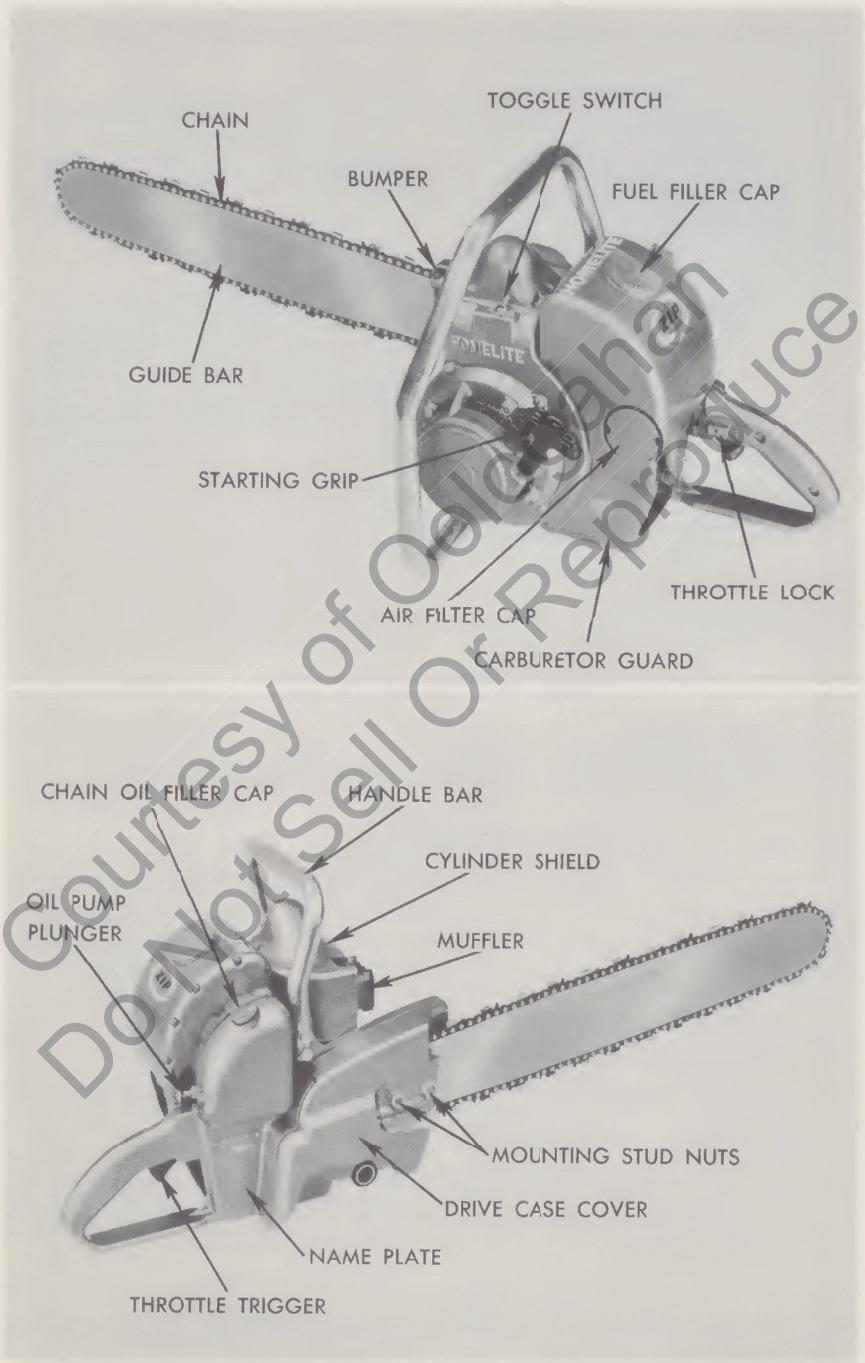


Figure 4—Homelite Zip Chain Saw

2. STARTING AND STOPPING

a. Select Clear Area For Starting

Be sure the chain is clear of all obstruction because it will rotate the moment the engine starts.

b. Check Chain Oiler—Lubricate Bar and Chain

See that the oil runs into the bar groove when oil pump plunger is operated. Use lots of oil for entire wear-in period.

c. Set Saw For Starting

Push the toggle switch to "ON" position . . . pull choke lever (left side of carburetor) down . . . depress trigger and lock throttle open by pulling back throttle lock (left side of grip).

d. Start Saw—Hold It Firmly—On The Ground

Hold the saw firmly on the ground, with one hand at the balance point of the handle. Prevent injury in case the saw kicks during starting. Crank the engine with short, quick pulls on the starter.

e. When Engine Fires . . . Starts

The engine should fire after three to five spins, depending on the temperature. Once it fires, it requires less choking and choke should be pushed to ½ open position. Crank engine at ½ choke until it runs . . . push choke slowly to full open position as engine warms up. RELEASE THROTTLE LOCK IMMEDIATELY—do not let engine race.

WARNING

Never run saw at full throttle except to cut wood. Without a cutting load the engine will race at full throttle. Racing causes excessive wear of guide bar and chain.

f. Push Toggle Switch "OFF" To Stop Engine

g. Starting Hot Engine

A hot engine usually requires no choking to start, and normally can be started with the throttle at idle position.

h. Draining Engine For Storage

If you are not going to use the saw for a month or more, the fuel system should be drained to prevent formation of gum and varnish. Remove fuel cap—turn saw upside-down—and drain fuel tank as much as possible. Use up remaining fuel in the system by starting the engine and letting it run dry.

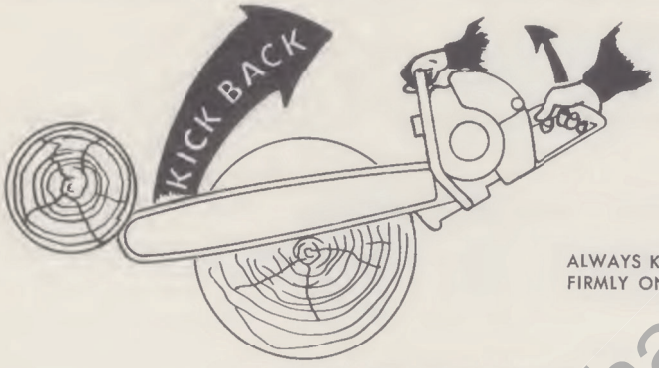


Figure 5—Safe Cutting Instructions

3. OPERATING SAW

a. Safety Precautions

(1) ALWAYS KEEP BOTH HANDS FIRMLY ON SAW:

Always play it safe. Hold the saw firmly with two hands—one on the handle, the other on the pistol grip. This gives you positive control of the saw at all times. Even if the saw kicks back unexpectedly because the end of the blade (a) hits a branch or other obstruction, (b) gets caught in a cut, or (c) is inserted incorrectly into a previous cut (see figures 5 and 9) you will not be endangered.

(2) WEAR PROTECTIVE CLOTHING

Always wear a safety helmet (hard hat) to protect your head from falling branches (widow makers). Wear heavy, protective, non-slip footwear. Never wear loose-fitting gloves, ties, or outer garments when operating a chain saw.

(3) PREPARE THE CUTTING AREA

Before making a cut, select a path of safe retreat. Clear all brush and obstructions from this path as well as from the immediate cutting area so nothing will interfere with the saw. Observers should remain a safe distance from all sawing operations.

(4) BE A SAFE WOODSMAN

Do not attempt to fell large trees or those in dangerous positions until you have gained experience with a chain saw. Do not fell a tree if other trees will block its fall. Be wary of "spring poles" (trees or boughs held under spring tension by another fallen tree) which will spring back when cut. When bucking, stand clear of the log and ALWAYS ON THE UPHILL SIDE.

(5) STOP ENGINE BETWEEN CUTS

Play it safe—never carry a running saw from tree to tree. Always carry the saw with the blade to the rear so it will not become snagged in the under brush.

(6) KEEP CHAIN CUTTING PROPERLY

Dull chain which will not cut properly is a safety hazard because the operator works harder to cut, becomes fatigued and sometimes careless.

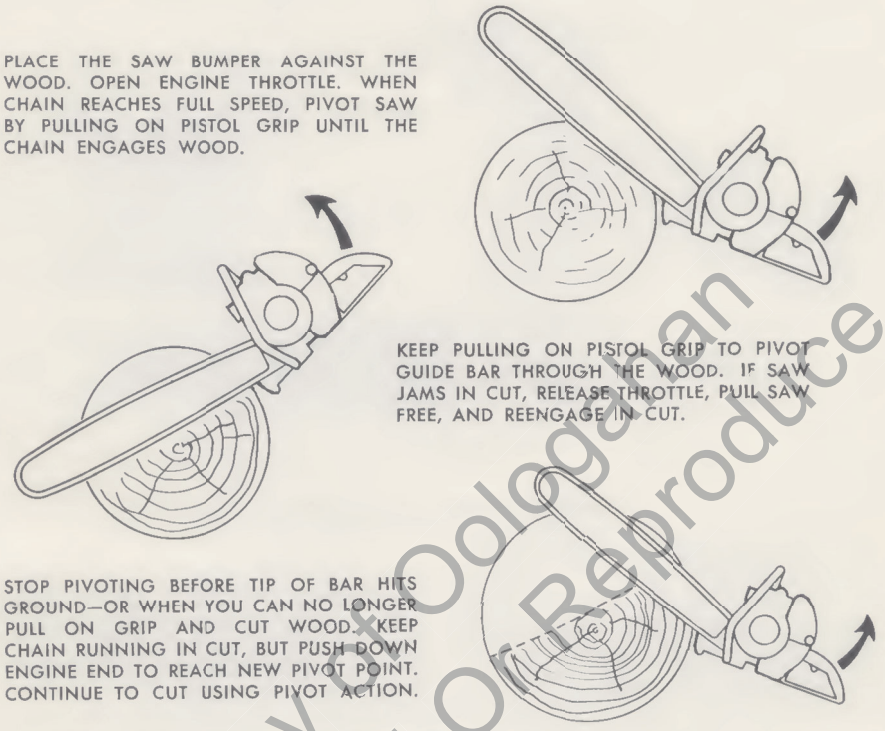


Figure 6—Pivot Action

b. Operating Tips

A few cuts in a practice log will give you the feel of this direct drive saw. The amazing cutting speed of the saw, and its light weight enable the operator to cut more wood, faster and with far less fatigue than would be experienced using saws requiring heavier feed pressures.

(1) KEEP CHAIN SHARP, PROPERLY TENSIONED, LUBRICATED

A dull chain forces both the operator and engine to work harder to cut wood. This is extremely harmful to the friction clutch and the engine. Do not let the chain hit the dirt or other obstruction at any time during cutting period. Stop cutting and touch up the chain as soon as it becomes dull. Fine, powdery sawdust instead of chips indicates the chain is not cutting well. Maintain proper chain tension. Too loose chain tension causes wobble and chatter—chain may fly off the bar.

(2) CUT WITH ANY PART OF THE BAR

Cutting can be done at any point around the bar, including the nose. With sharp chain and properly set depth gauges, little more pressure than the weight of the bar and chain on the wood is required for efficient cutting. On very large cuts, use of the saw bumper plate can be made for pivot action if more leverage is desired. (See figure 6.)

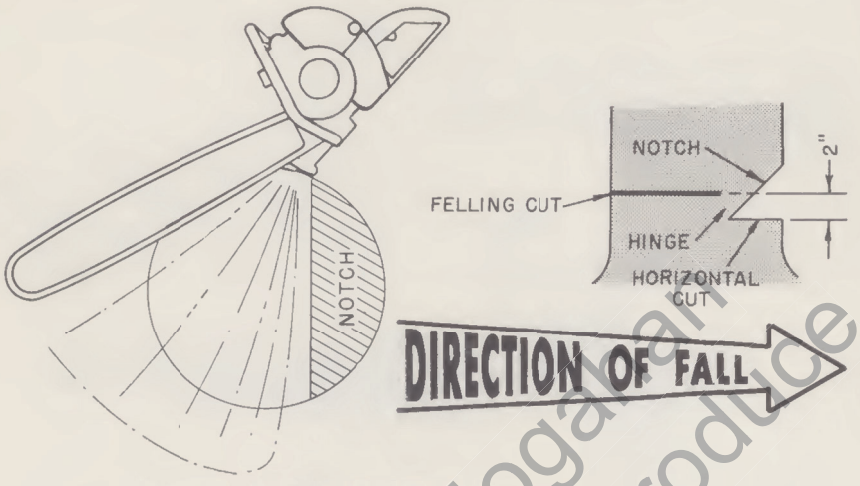


Figure 7—Notching and Felling Cuts

(3) NOTCH TREES FOR FELLING

(a) Consider all factors which affect the direction of fall—the way the tree leans, wind direction, position of heavy branches. If conditions indicate it is possible to fell in the desired direction, prepare a notch on the side the tree is to fall. This notch should be 1/4 to 1/3 through the tree. (See figure 7.)

(b) After completing the notch, start the felling cut (back cut) on the opposite side of the trunk at least 2 inches higher than the horizontal cut of the notch. (The larger the tree, the higher the felling cut should be above the notch.) DO NOT CUT THROUGH TO THE NOTCH. Always leave a section of wood parallel to the notch as a hinge. The hinge controls the direction of fall. As you make the felling cut, watch both the cut and the top of the tree for signs of movement . . . pull saw out and retreat to a safe position as tree goes over.

(c) In felling trees larger than the guide bar (figures 8 and 9) notch the tree for direction of fall. After notching, felling is accomplished by a series of cuts. It is very important that the first cut be made in the correct position relative to the notch, so that final cut will complete the parallel hinge as shown in figure 7. On large trees where there is a danger of pinching, drive soft wedges into the back cut to keep it open. For safety with large trees, lumberjacks remove the saw before the tree is ready to fall, then drive wedges to force it over.

(4) BUCKING AND LIMBING TIPS

Remember to stand in a safe position on the uphill side of the log when bucking. Keep your balance . . . hold saw with both hands. When using top or nose of blade to cut, it is wise to hold your hip or thigh against the rear of the engine, because the saw will kick backward if a tooth gets caught or hits a hard knot or hidden nail.

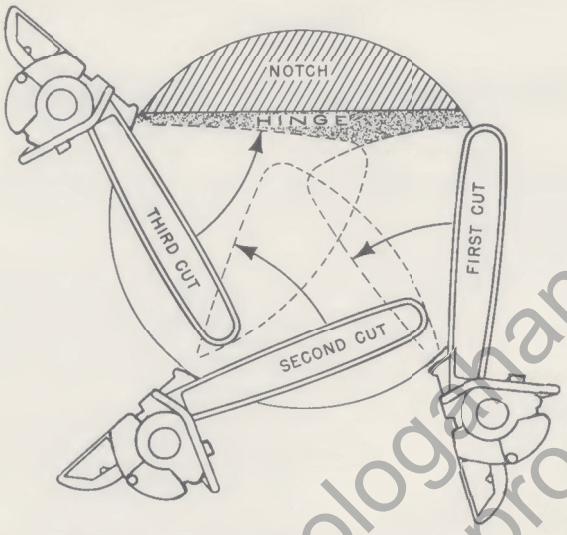


Figure 8—Felling Trees Larger Than Bar Length

(a) A log flat on the ground can be bucked from the top. (overbucking)

(b) A log suspended in the center but supported on the ends should be bucked upward from the bottom (underbucking) to avoid pinching. If it is desired not to split the log, start a cut about 1/3 through from the top before underbucking.

(c) To cut off an end section of log which is entirely suspended above ground and may either pinch or split, underbuck about 1/3 through the log, then finish the cut from the top down. Cut limbs and heavy branches in the same way.

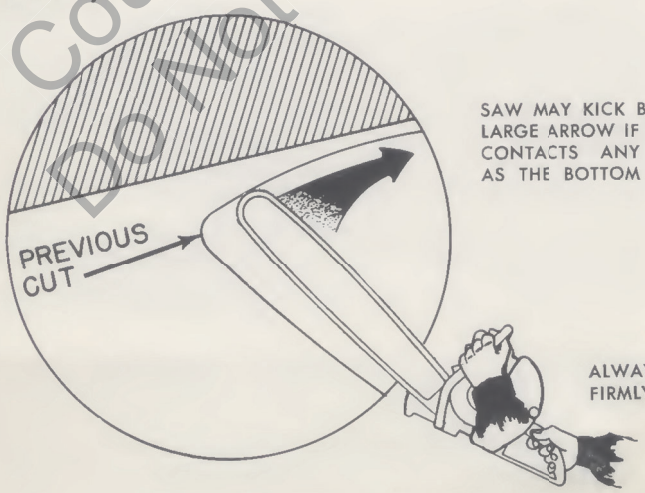


Figure 9—Safe Cutting Instructions

Section II

MAINTENANCE AND ADJUSTMENT

4. MAINTENANCE OF CHAIN, GUIDE BAR AND SPROCKET

a. Daily Check List

KEEP CHAIN IN KEEN CUTTING CONDITION	1. The life of the entire saw depends on how well and how regularly chain is filed. 2. Slip a sheath on chain and guide bar for protection when transporting or storing. 3. Check for tight links, loose rivets, repair chain if necessary.
STORE CHAIN IN OIL	1. Clean sawdust and pitch from bar groove after cutting. Kerosene will soften pitch. After cleaning chain and sprocket, soak chain in oil. A dry chain rusts.
KEEP SAW CLEAN—TIGHTEN LOOSE PARTS	1. Wipe saw down after cutting. 2. Change air filter daily or when engine smokes and loses power. Do not blow filter with air. 3. Check screws and nuts for tightness.

b. Sprocket Maintenance

(1) Inspect sprocket from time to time. Replace if badly worn.

(2) Whenever a new chain is installed, it is very important that the sprocket be in good condition or the chain might be damaged. Be sure replacement chain and sprocket are of equal pitch.

c. Chain Sharpening

The combination of chain sharpening and filing of depth gauges should produce a chain which feeds smoothly but willingly, that is, the chain should help feed itself into the wood . . . pull away from the bar so heavy pressure to cut is unnecessary. This action, plus careful chain tensioning and frequent lubrication, keeps friction, heat and wear to an absolute minimum.

(1) USE A FILE HOLDER FOR UNIFORM SHARPENING

Lack of uniformity in filing results in sub-standard chain performance. Best results are obtained by using a file holder with correct size, round file for your chain. Guide lines on the holder enable you to file equal angles on both right and left cutters.

(2) KEEP SIDE OF CUTTING EDGE VERTICAL . . . MAINTAIN SAME TOP PLATE ANGLE (See figure 10)

(a) A vertical edge permits easy feeding into the cut. Avoid a forward hook, which makes chain grab and jerk; and backward slope which makes teeth bounce away from the wood.

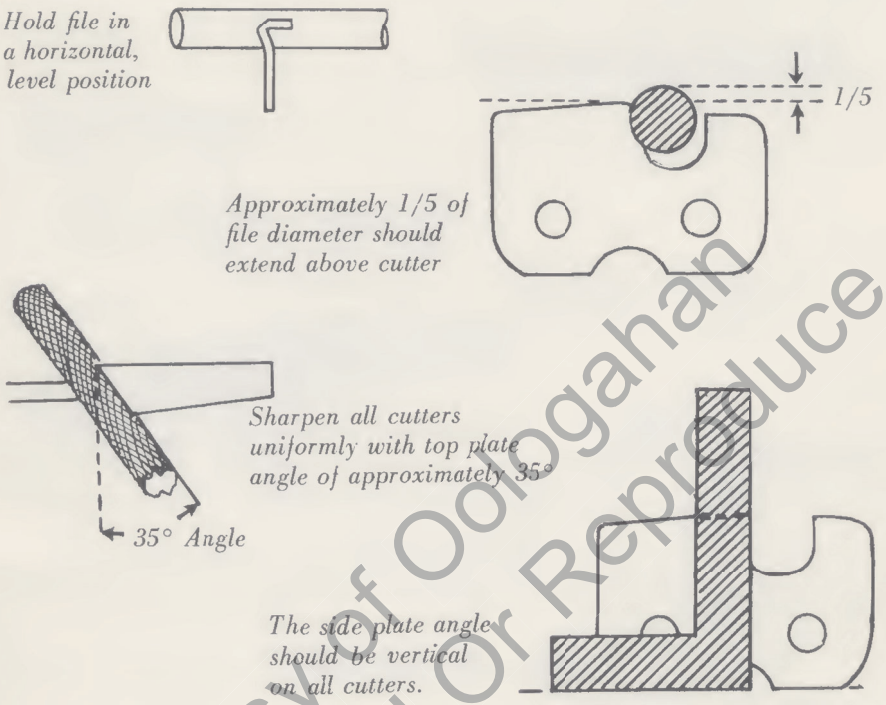


Figure 10—Chain Filing Hints

(b) The top plate angle should be 35°. Unequal angles cause chain to run or drift to one side. Sharper angles produce an edge which will not stay sharp. Wider angles make a blunt chain which must be forced to cut.

(3) SET DEPTH GAUGE CLEARANCE (See figure 11)

(a) The depth gauges (also called "rakers" or "stops") control the size chip the chain teeth can cut. If the gauges are too high, that tooth cannot get enough bite into the wood and requires too much feed pressure for capacity cutting; if too low, it will grab and jerk.

(b) New chains for the Zip saw have gauges set at .030". Every fourth or fifth sharpening, the depth gauges may need to be lowered to restore adequate clearance. Use a "Gaugit" or adjustable type depth gauge and a flat file to lower the depth gauges safely and uniformly. Depth gauge settings depend on type of wood and accuracy of tooth sharpening angles . . . range from .030" for hard woods through .040" or .045" for soft woods.

(c) After filing gauges, be sure to round off the front parts of the gauges *uniformly* as shown in figure 11. This facilitates smooth entry into the cut.

Setting Depth Gauge Clearances

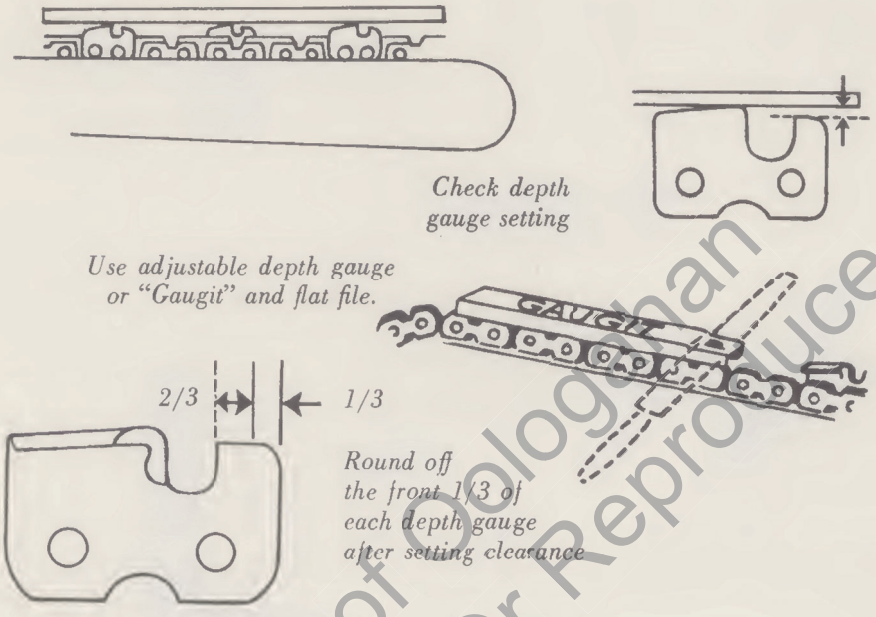


Figure 11—Filing Depth Gauges

d. Guide Bar Maintenance

(1) Occasionally reverse the position of the guide bar top-for-bottom on the saw. This will distribute the wear on both sides of the bar.

(2) Check bar rails for uneven wear . . . restore uneven rails to even height by grinding the high rail. However, if both rails are worn at any point so the chain hits bottom in the groove, either replace the bar or repair by grinding the groove deeper. After grinding, remove all burrs and rinse bar in solvent to remove abrasives.

5. MAINTENANCE AND ADJUSTMENT OF ENGINE

a. Air Filter (See figure 12)

(1) The air filter must be cleaned frequently to prevent loss of power. Under severe dusty conditions, clean filter daily. A dirty engine restricts the air volume, causes rich operation, carbon build-up, low power, and may prevent proper acceleration.

(2) DO NOT POKE HOLES IN OR BLOW AIR THROUGH THIS FILTER. Replace air filter if it is cracked or torn. To clean filter, remove two screws through the air filter cap; remove and rinse filter in solvent. The filter must be thoroughly dry before use. Keep a spare one for immediate use whenever necessary.

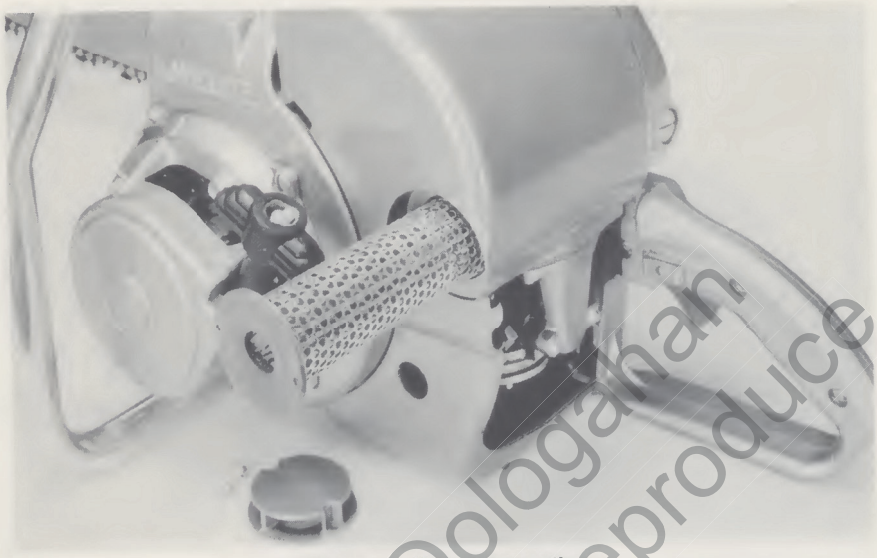


Figure 12—Changing Air Filter

b. Spark Plug and Ignition

(1) Spark plugs are made in wide ranges to suit different engines. The Zip chain saw uses Champion J-6-J (Homelite No. 40190-1) or HO-8A (Homelite No. 71530).

(2) To remove the spark plug, remove the cylinder shield, held by three 8-32 pan head screws; twist the spark plug cover ("Sparky") clockwise and pull it off the spark plug terminal nut. Remove spark plug and gasket from the cylinder.

(3) Clean both the porcelain insulation and the electrodes and adjust the electrode gap to .025". If the electrodes are badly burned or the porcelain is cracked, replace with a new spark plug and gasket.

(4) A wet spark plug indicates a flooded engine and may be due to faulty fuel supply, spark plug, or faulty ignition. An oily spark plug indicates too much oil in fuel mix, dirty air filter, or rich carburetor adjustment.

(5) With the spark plug removed, it is easy to test for ignition spark. Be sure the toggle switch is "on." Push a long ¼-20 screw into the spark plug cover to contact the metal spring connector on the end of the high-tension lead. Hold the rubber cover as shown in figure 13 –keep fingers away from the screw to avoid shock—hold screw head ¼" away from the cylinder, crank engine rapidly and observe the spark. If a strong spark jumps between the screw and the cylinder, the magneto is working properly. If there is only a weak spark or no spark, your Homelite servicing dealer or branch is equipped to check the complete ignition system.

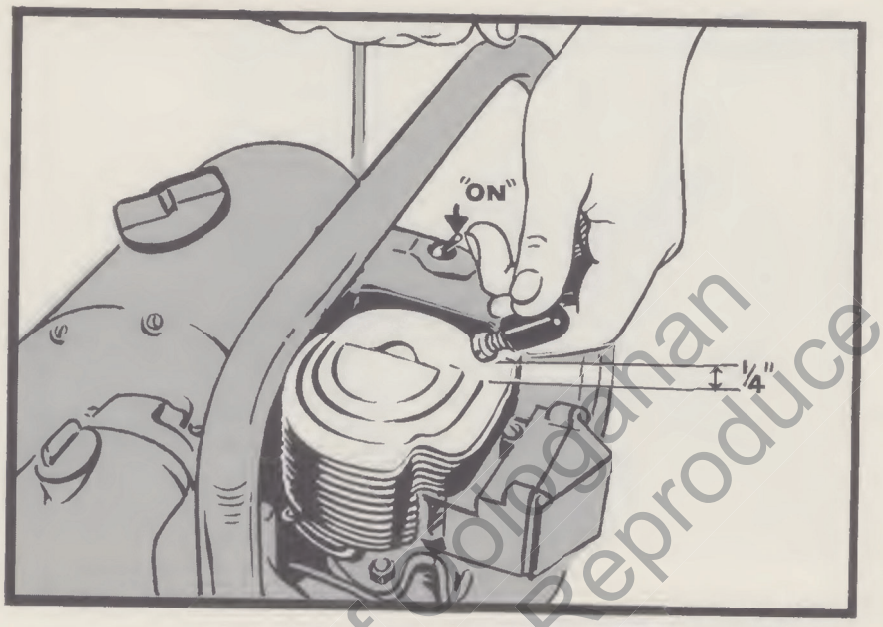


Figure 13—Testing for Magneto Spark

(6) If the magneto is giving proper spark, the easiest way to check for a faulty spark plug is to install a dry new spark plug or one known to be in good condition.

(7) Always tighten the spark plug securely, with gasket in place. An air leak at the spark plug will cause the engine to run hot. Make certain the spark plug terminal nut is tight. Twist spark plug cover clockwise . . . push high-tension lead onto spark plug. Fasten cylinder shield to air shroud with three 8/32 pan head screws.

c. Fuel System

(1) The Zip chain saw fuel system features a Brown CP or Tillotson HL type fuel pump, all-angle-operation carburetor. The carburetor needle adjustment settings are the same for both types of carburetor. (See figure 14.)

(2) CARBURETOR ADJUSTMENTS (See figure 14)

Adjustment	*Control and Approximate Setting*
Main (or high) speed adjustment	HI-SPEED NEEDLE ½ to ¾ turn counterclockwise from closed position.
Idle mixture adjustment	LO-SPEED NEEDLE ½ to ¾ turn counterclockwise from closed position.
Idle speed adjustment	IDLE STOP SCREW ½ to ¾ turn clockwise after screw hits throttle stop lever.

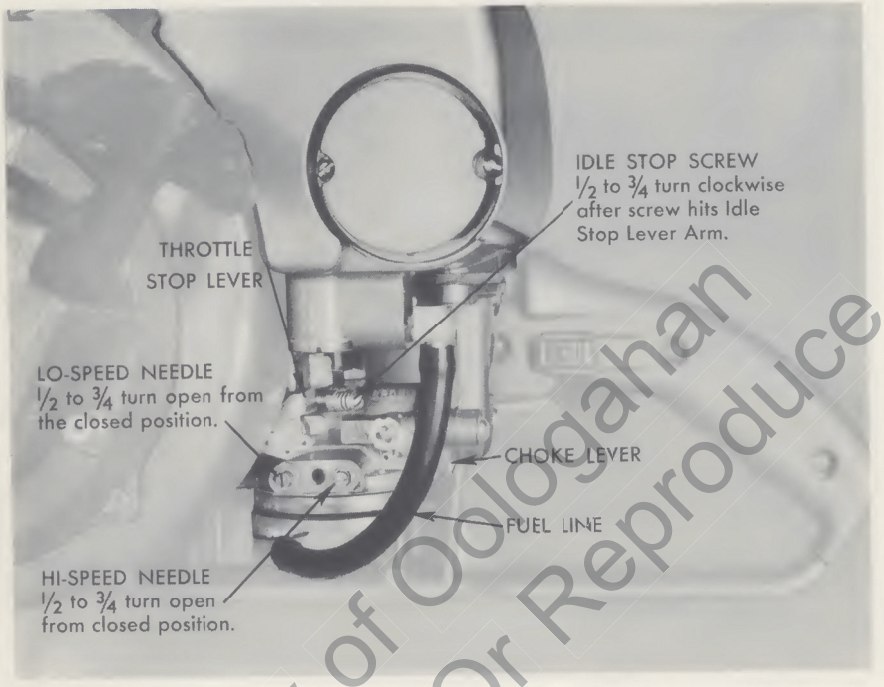


Figure 14—Carburetor Controls

(a) For proper carburetor adjustment, first set all adjustments as given above. Start saw and let it warm up. Release throttle lock so engine idles. Then set LO-SPEED NEEDLE so the engine idles smoothly. Set the IDLE STOP SCREW so the chain does not rotate.

(b) Try to accelerate. If engine falters, open LO-SPEED NEEDLE a little more until engine accelerates properly. (Do not race engine.)

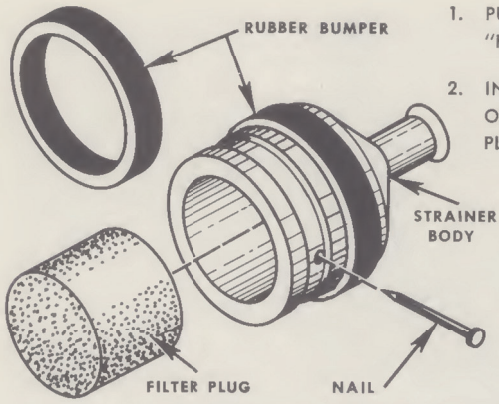
(c) Set HI-SPEED NEEDLE so engine neither slows down nor smokes excessively, but runs at highest practicable speed obtainable.

(3) CHANGING FILTER IN BROWN CP CARBURETOR

The Brown CP carburetor has a filter plug and screen installed under the large brass plug screw on top of the carburetor body. This filter may require cleaning or replacing from time to time, and should be checked whenever lean operation is encountered.

(4) CHANGING FUEL TANK FILTER (See figure 15)

After the engine has given good performance for some time, the saw may begin to run lean because the filter plug in the fuel tank is dirty. With clean fuel, a filter can be expected to last a long time, but with exceptionally dirty fuel, it may require changing every three or four weeks. NEVER OPERATE A SAW WITHOUT A FUEL FILTER.



1. PULL NAIL UNDER FRONT BUMPER TO "FREE" FILTER.
2. INSTALL NEW, CLEAN FILTER. LET END OF FELT STICK OUT 1/16". HOLD IN PLACE WITH NAIL.

Figure 15—Changing Fuel Filter in Fuel Tank

(a) Fish the fuel strainer out of the fuel tank filler hole with a wire hook.
(b) Remove dirty filter and install clean filter as shown in figure 15.
(c) Attach the strainer to the fuel line and drop assembly back into tank.

6. TROUBLE SHOOTING LIST

Trouble	*Probable Cause*	*Remedy*
Will not start	Toggle Switch "OFF"	Turn "ON"
	Fuel tank empty	Fill
	Faulty spark plug	Replace, see paragraph 5b
	No spark	Test, see paragraph 5b
Does not run well	Air filter clogged	Clean, see paragraph 5a
	Fuel filter clogged	Change, see paragraph 5c
	Faulty spark plug	Replace, see paragraph 5b
	Water or dirt in fuel	Drain tank and carburetor and clean
	Carburetor out of adjustment	Readjust, see paragraph 5c
Does not cut well	Dull chain	Sharpen, see paragraph 4c
	Tight chain	Adjust tension, see paragraph 1d
	Pinched bar	Remove chain, open pinch
	Chain reversed	Install properly, see paragraph 1c
	Uneven guide bar rails	Grind rails even, see paragraph 4d

When ordering parts, always give both the name and the serial number of the saw.

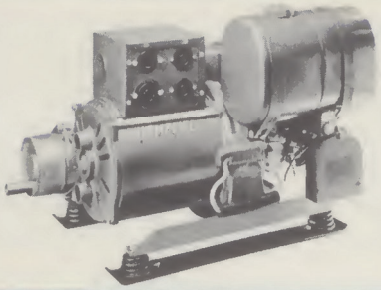
HOMELITE GUARANTEE

We guarantee each New Zip Chain Saw manufactured by us to be free from defects in material or workmanship. This guarantee shall be effective only providing guarantee reply card is properly filled out and returned to Homelite at the time of purchase.

HOMELITE
a division of Textron Inc.

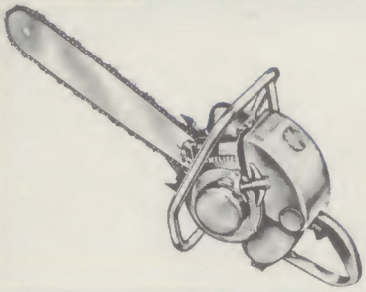
Port Chester, N.Y., U.S.A.

HOMELITE CARRYABLE PRODUCTS



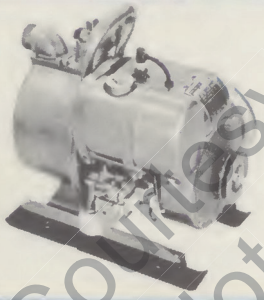
GENERATORS

Lightweight Homelite generators can be carried anywhere to provide electric power for cabins, campsites, power tools, floodlights, and for homes, farms and businesses during power-failure emergencies. Sizes range from 1500 to 5000 watts in all standard voltages.



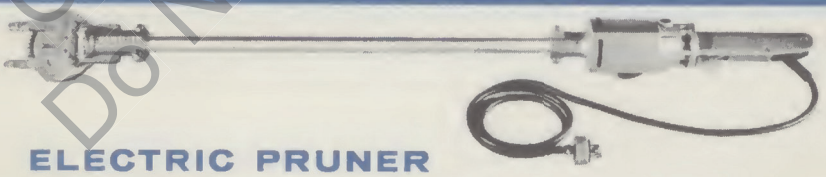
CHAIN SAWS

Whether you're a sportsman, farmer or professional logger, there's a Homelite chain saw that will meet your needs exactly. You have your choice of direct or gear drive, straight or bow blades, brush cutting, clearing or debarking attachments.



PUMPS

For water supply, irrigation, fire protection, or any general pumping job, there is no better buy than a carryable Homelite gasoline-engine or electric-motor-driven self-priming pump. Capacities from 5500 to 15,000 g.p.h. Diaphragm type pump also available.



ELECTRIC PRUNER

Here's the fastest, easiest to use, power pruner on the market today. It's a saw, not a shear. Makes clean cuts that heal quickly. Perfect for fruit trees, shrubs, ornamental or shade trees. Plug into a carryable Homelite generator, or an outdoor receptacle.

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