HOMELITE

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and
Automatic Oiling
SUPER XL® AO
GHAIN SAWS

OWNERS Operation and Maintenance MANUAL



WARNING: CHAIN SAWS CAN BE DANGEROUS. TO REDUCE

DANGER FOLLOW ALL SAFETY PRECAUTIONS

IN THIS OWNERS MANUAL.

IMPORTANT: UNDERSTAND THE DANGERS OF KICKBACK

FULLY BEFORE OPERATING. (See page 3.)

NOTICE: For Servicing Dealer Information see back page.

SAFETY PRECAUTIONS FOR CHAIN SAW USERS

BASIC PRECAUTIONS FOR PERSONAL SAFETY

- Use safety footwear, snug-fitting clothing, and eye, hearing and head protection.
- Wear non-slip gloves to improve your grip. Do not wear scarfs, jewelry, or neckties which could be drawn into the engine or catch on the chain or underbrush.
- Always hold the chain saw with both hands when the engine is running. Use a firm grip with thumbs and fingers encircling the chain saw handles.
- GUARD AGAINST KICKBACK:
 - a) Hold the chain saw firmly with both hands. Don't overreach. You cannot maintain good control of the saw if you cut above shoulder height.
 - b) Don't let the nose of the guide bar contact a log, branch, the ground or any other obstruction. Keep the SAFE • T • TIP® anti-kickback device properly mounted on the guide bar.
 - c) Cut at high engine speeds.
 - d) Keep the chain sharp. Don't operate with a loose chain. Maintain the correct tension of the chain as prescribed in this Owner's Manual.
- Guard against the effects of a long or continuous exposure to noise, such as involved in the operation of a chain saw. Hearing protection devices are available from your local Homelite dealer.
- Never operate a chain saw when you are fatigued.
- Keep all parts of your body away from the saw chain when the engine is running.

BASIC PRECAUTIONS WITH CHAIN SAWS

- Always carry the chain saw with the engine stopped, the guide bar and saw chain to the rear, and the muffler away from your body. When transporting your chain saw, use the appropriate guide bar and scabbard available from your Homelite Dealer.
- Always use caution when handling fuel. Move the chain saw at least 10 feet (3 m) from the fueling point before starting the engine.

- Keep the handles dry, clean and free of oil or fuel mixture.
- Before you start the engine, make sure the saw chain is not contacting anything.
- Shut off the engine before setting down the saw. Do not leave the engine running unattended.
- Operate the chain saw only in well ventilated areas.
- Be sure that the chain stops moving when the throttle control is released.

BASIC PRECAUTIONS ABOUT MAINTENANCE

- Never 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 throttle control trigger is released.
- All chain saw service, other than items in the Owner's Manual maintenance instructions, should be performed by competent chain saw service personnel. (If improper tools are used to remove the flywheel or clutch, or if an improper tool is used to hold the flywheel in order to remove the clutch, structural damage to the flywheel could occur which could subsequently cause the flywheel to burst.)

BASIC PRECAUTIONS IN CUTTING/WORK AREA

- Do not operate a chain saw in a tree unless you have been specifically trained to do so.
- Keep bystanders and animals out of the work area.
- Never start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree.
- Use extreme caution when cutting small size brush and saplings, because slender material may catch the saw chain and be whipped toward you or pull you off balance.
- When cutting a limb that is under tension, be alert for springback so that you will not be struck when the tension in the wood fibers is released.

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INTRODUCTION KICKBACK, PUSH, AND PULL and how these reaction forces are best controlled.

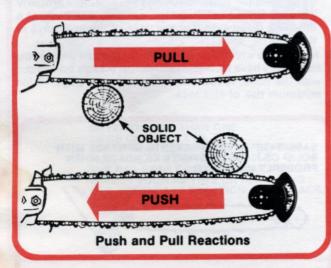
and how these reaction

NOTICE

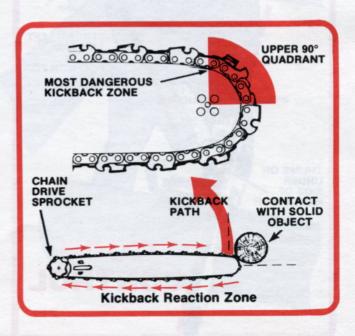
When properly installed on your saw, the SAFE•T•TIP® Anti-Kickback Device will prevent kickback. The Raker III® saw chain on your saw is added protection, helping you to control the reaction forces described below when the SAFE.T.TIP device must be removed. However, if you remove the SAFE+T+TIP device temporarily, even for just one cut, you must rely on the techniques described in this owner's manual as your first line of defense and control.

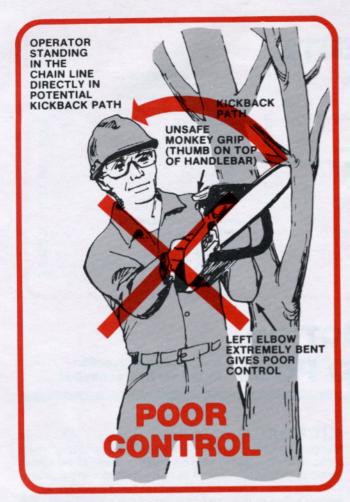
THE REACTION FORCES

In the operation of a chain saw, engine torque is transferred to the chain. This energy is then used to cut wood. But to every force (action) there is always a reaction force in the opposite direction. Thus, if the chain contacts wood or any other obstruction where the chain is moving away from the operator, the operator will feel the saw being pushed toward him. And, when the work contact is made on the underside of the bar where the chain is moving toward the operator, the person will feel the saw being pulled away from him.



KICKBACK is another reaction, the most dangerous of these reactive forces. It occurs only when solid contact with the moving chain is made at the upper quadrant of the bar nose. A violent kickback will occur any time the chain hits a solid object (or takes too large a cut) while rounding this top quadrant of the bar nose. For the instant that the chain is stopped cold, the engine drives the guide bar to rotate inside the chain loop. This results in a pinwheeling rotation of the chain, the saw, and the bar during which the bar nose kicks back in an arc towards the operator. This is KICKBACK the most dangerous of the reactions which can cause loss of control. When properly installed on a saw, a SAFE+T+TIP anti-kickback device prevents kickback. But it is not a general insurance against "accidents" with a chain saw.







HOW TO MAINTAIN CONTROL

 First of all, you must keep the front handlebar diameter in the webbing between the thumb and index finger of your left hand. This grip helps maintain control of the saw and limits the possibility that your hand will come in contact with the chain. See the illustrations of the correct and incorrect grips.

NOTE THUMB



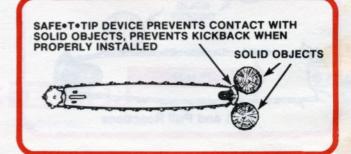
Do not use a "Monkey Grip" because your hand can slip.

Don't forget to wear your gloves.

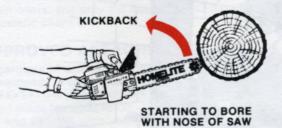
- Hold the front handlebar close to the balance point of the saw (or where you can best oppose and absorb the push, pull and kickback forces of the saw without having it twist out of your grip).
 Do not reverse right and left hand positions on the saw handles.
- 3. Get a good grip on the rear handle.
- Maintain your balance on both feet, and do not reach above chest height with the saw engine, or reach so far forward that you could be drawn off balance by the saw's reactions.
- Stand a bit to one side so that no point of your body is behind the chain line (in the line the saw will take if it kicks back).

HOW TO REDUCE THE CHANCE OF KICKBACK

- Avoid letting the nose section of the saw contact any object. Note: A SAFE•T•TIP® device, when properly installed on the bar nose, will prevent kickback.
- Avoid use of the nose section of the saw for cutting. Cut well back on the straight section of the bar.
- Be sure to keep your chain sharp and properly tensioned on the saw, because a loose or dull chain is apt to increase the chance of kickback.
- 4. Use extreme caution when cutting brush, hedges and other "whippy" material. Unless the saw has a properly installed SAFE•T•TIP device, cut only one piece at a time and make sure that the nose of the saw stays in the clear.
- Never bore with the nose section of the saw unless you absolutely have to. If you really must make a boring cut with the nose, follow our instructions on page 18 for minimum risk of kickback.



Without the anti-kickback device on your saw you would have to beware of these situations.

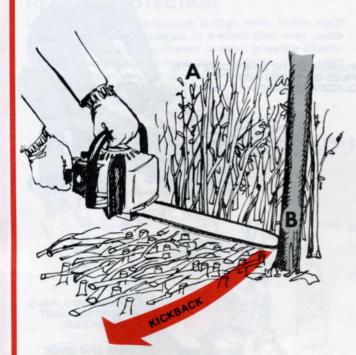


KICKBACK

REINSERTING NOSE OF SAW INTO A PREVIOUS CUT



NOSE STRIKING ANY SOLID OBJECT (WILL CAUSE A KICKBACK)



CUTTING MORE THAN ONE
PIECE OF WOOD AT A TIME
(NOTE THAT CUTTING BRUSH (A) CAN
PULL THE SAW SO THAT
THE BAR NOSE COULD CONTACT AN
OBJECT SUCH AS TREE (B) RESULTING
IN A SECONDARY REACTION — KICKBACK.



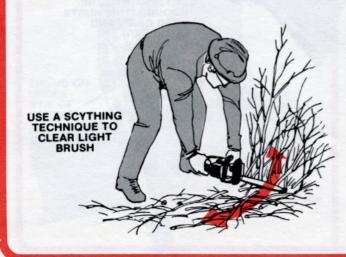
HERE ARE SOME SITUATIONS WHERE THE SAFE•T•TIP® ANTI-KICKBACK DEVICE ACTUALLY MAKES CUTTING FASTER AND EASIER AS WELL AS SAFER.

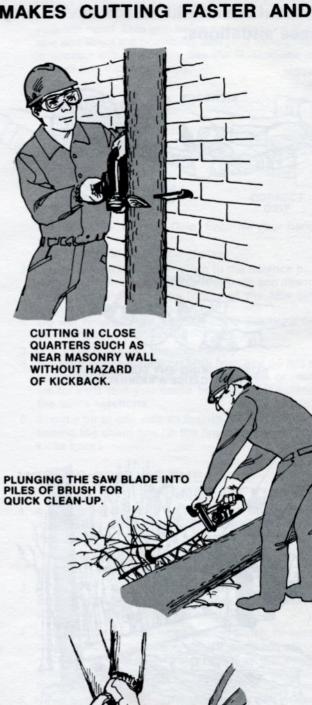


DEVICE RESTED AGAINST AN OBSTRUCTION TO PREVENT CHAIN DAMAGE



CUTTING ONE TRUNK ONLY OF A DOUBLE-TRUNK SHADE TREE





LIMB AND BUCK WITHOUT FEAR THAT THE SAW WILL KICK BACK

Facts About The XL-12 And The Super XL AO Chain Saws

Read this owner's manual carefully before assembling and using your saw. The manual tells you how to prepare the saw correctly and use it properly. It also covers routine maintenance plus tips on trouble shooting and light repair. The XL-12 and Super XL® AO saws discussed in this manual have solid state (breakerless) ignition and manual chain oilers. But only the Super XL-AO models have an automatic chain oiler.

APPROVED ATTACHMENTS

Regardless of whether purchased separately or with the powerhead, every Homelite® guide bar comes with a SAFE•T•TIP® Anti-Kickback device mounted on it. The listed guide bar sizes for XL-12 and Super XL-AO are 16", 20" and 24". We urge you not to adapt your powerhead for use with chains, guide bars, attachments or devices not listed for the XL-12 or SXL-AO series of saws in Homelite Sales literature. We further urge you to use only guide bars having a SAFE•T•TIP device.

Saws prepacked with the guide bar and chain have the new semi-chisel 3/8 pitch Raker IIITM saw chain. Raker III chain has three depth gauges to prevent dangerous overbiting of the cutters. This chain is also recommended for saws not originally equipped with Raker III chain.

We disapprove of bow saws. However, if you intend to use a bow on your saw, read our instructions (Section 6), for proper assembly and operation of a bow saw, as well as any instructions supplied by the manufacturer of the bow guide equipment.

HEARING PROTECTION

Long or continuous exposure to high noise levels, such as involved in the operation of a chain saw, may cause permanent hearing impairment or other possible effects. Hearing protection devices are available from your Homelite dealer, or can be ordered through him. When ordering, specify "Homelite Hearing Protectors", #92810.

PROTECTION FROM VIBRATION

It has been reported that vibrations from hand-held tools (chain saws, pneumatic hammers, grinders, sledge hammers, etc.) may contribute to a condition called Raynaud's Syndrome in certain individuals. Symptoms may include tingling, numbness and blanching of the fingers, usually apparent upon exposure to cold. Heredity factors, exposure to dampness and cold, diet, smoking and work practices are all thought to contribute to the development of these symptoms. It is presently unknown what, if any, vibrations or extended exposure may contribute to the condition.

This saw is classified in the "Occasional Use" category by many current regulations that differentiate between "professional" and "occasional use" saws. These varied regulations place limits on the amount of vibration which saws can transmit to the operator.

- a) Keep your body warm in cold weather. When operating the unit wear gloves to keep the hands and wrists warm. It is reported that cold weather is a major factor contributing to Raynaud's syndrome.
- Refrain from smoking (another suspected contributing factor).
- After each period of operation, exercise to increase blood circulation.
- d) Take frequent work breaks. Limit the amount of exposure per day.
- Keep the tool well maintained, fasteners tightened and worn parts replaced.

If you experience any other symptoms of this condition, immediately discontinue use and see your physician about these symptoms.

HAND GUARD

Your saw has a factory-installed hand guard. For your protection, do not remove this hand guard. The guard can be pushed upward for access to the fuel filler cap and hole.

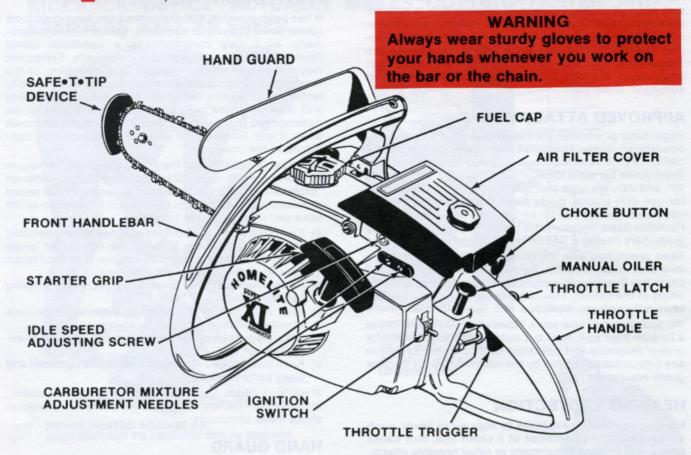
PROTECTIVE CLOTHING, EQUIPMENT AND SUPPLIES



YOUR PHYSICAL CONDITION

Work relaxed but stay alert and maintain control of your saw. Take a break from work whenever you begin to tire. Never operate when tired or under the influence of alcohol or any drugs which may affect your balance, alertness, or coordination or judgement. If you have any serious

ailment such as a heart condition, check with your doctor before doing any strenuous lifting, reaching, pushing, chopping, shoveling, etc. Always do any lifting jobs with your leg muscles, not your back.



FAMILIARIZE YOURSELF WITH YOUR NEW SAW

Take the saw in hand and familiarize yourself with the parts by comparing it with illustrations in this manual. Make sure you know where all the safety features are before operating the saw. Also, note the locations of: a) filler caps for oil and fuel: b) carburetor speed and adjustment screws: c) throttle control lever.

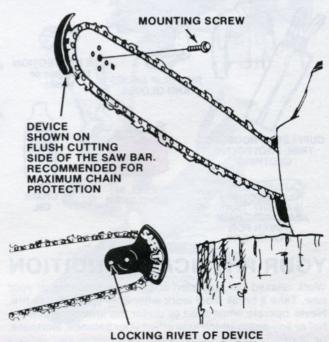
MOUNTING ANTI-KICKBACK DEVICE

IMPORTANT

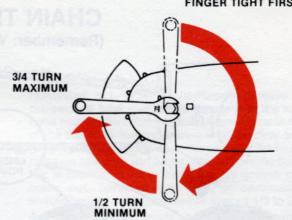
Even though the SAFE*T*TIP® anti-kickback device comes assembled on the guide bar, attention is called to your need to maintain the proper tightness of the mounting screw.

- Regardless of which side of the bar the device is mounted, it will protect you from kickback. We recommend your keeping it on the side which would be down during flush-with-the-ground cutting. The reason is that, on this side, the device protects the chain from contact with the ground.
- 2. The proper screw torque (tightness) is important. The minimum is 70 inch-pounds (8 Nm) and the maximum is 100 inch-pounds (11 Nm). A tightness within this range may be achieved without using a torque wrench. However, the job must be done with an ordinary openend, box, socket or adjustable wrench. This specially-hardened screw has no screwdriver slot. No ordinary screw should be used in replacement.

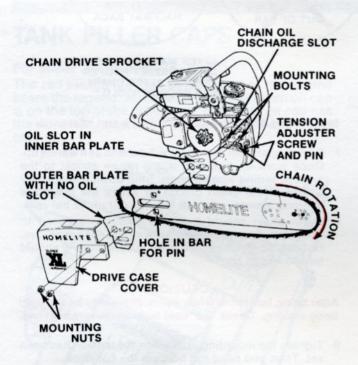
If a torque wrench is not used, you must chase (open up) the threads of the brand new device. Do this by tightening and loosening the screw in the hole several times with a wrench.



- 3. Position the device on the bar and install the screw. Make sure the locking rivet of the device fits into the square hole in the bar. Using only your fingers, make the screw as tight as you can.
- 4. After the screw is finger tight, tighten it only 1/2 to 3/4 turn more with a wrench (see illustration). This sets the torque within the specified range. Check that the locking rivet is still in the square hole.



GUIDE BAR AND CHAIN ASSEMBLY

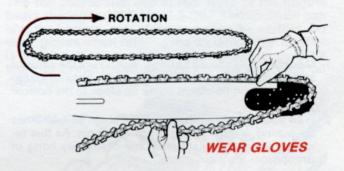


1. Push the ignition switch to "STOP". Remove the two guide bar mounting nuts and lift the drive case cover off the mounting bolts. Remove the outer guide bar plate. A close inspection of the plates will show that the inner plate has a slot for oil passage and the outer plate does not.

CAUTION: When working on saw chain, protect your hands from cuts by wearing gloves or by covering the chain with a rag.

- 2. Put the guide bar on the mounting bolts and up against the inner plate.
- 3. Remove the chain from the carton, lay it out in a loop and check the teeth. The teeth should face in the direction of rotation which is away from the drive sprocket along the top edge of the bar.
- 4. Fit the chain over the clutch and onto the sprocket. Now, beginning at the top of the sprocket, feed the chain drive links into the top bar groove, continuing around the nose of the bar until the chain is on the bar.

LAY OUT CHAIN IN A LOOP WITH TEETH FACING IN DIRECTION OF CHAIN ROTATION.



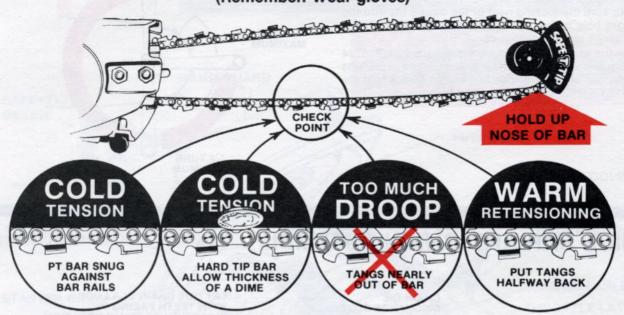
5. Pull the bar out in the direction of its nose to remove slack from the chain. If any drive links come out of the bar groove, put them back in the groove.

NOTE: Check assembly. Pull chain along bar by hand; make sure the drive links are riding in the bar

- 6. Replace the outer guide bar plate. Notice that the bent section, of both outer and inner plate, points away from the guide bar.
- 7. Slide the drive case cover loosely onto the mounting bolts. Turning the guide bar adjuster screw as required, align the adjuster pin in the cover with the large hole in the guide bar. Make sure that the pin engages in the hole. Press cover into place against the guide bar.
- 8. Put the mounting nuts back on. Make them only finger tight because the bar must be free to slide during adjustment of the chain tension.
- 9. Turn the guide bar adjuster screw clockwise to take out most of the slack in the chain. Again check that the drive link tangs are in the bar groove.
- 10. Adjust the chain tension as instructed under chain tension.

CHAIN TENSION

(Remember: Wear gloves)



AFTER WARM RETENSIONING ALWAYS RESET PROPER TENSION AFTER CHAIN HAS BECOME "COLD."

- Mounting nuts should be finger-tight. Turn the adjuster screw clockwise to remove slack in the chain. Tighten until the chain tie-straps come up close to the bottom bar rails.
- With your gloved hand "snap" the chain several times by pulling up and letting go of the chain. As this removes some of the stiffness, the chain may hang or droop from the bar.

NOTE

From now on during the tensioning, hold up the nose of the bar until the mounting nuts have been tightened. This is to take up play between the bar slot and the mounting bolts.

Steps 3 through 6 are for tensioning a cold bar and chain.

- 3. The proper tension is according to the type of bar nose.
- a) Sprocket nose (PT series) bar: Increase tension until there is no clearance (zero droop) between the chain and bar. Pull chain along bar as you increase the tension. If you feel any binding, that is too tight.
- b) Hard nose (GW series) bar: Increase tension until the amount of clearance or "droop" between the bar rails and the chain tie-straps is no more than the thickness of a dime or penny.
- While holding up the bar nose, tighten the nuts to lock the bar at proper tension.
- Pull chain around bar by hand to check that assembly is correct. Start engine. Hold the saw free of obstructions and let the chain turn at slow speed for a few seconds. If droop develops, shut down the saw and reset the tension.
- 6. For the first few tankfuls of fuel make light cuts only. Watch the tension. When the chain tangs hang more than halfway out of the bar, shut down and retension. New chain stretches rapidly due to the combination of limbering up, warming up, and friction wear of both the bar and chain surfaces.

Steps 7 and 8 are for retensioning a warm chain.

- 7. During operation, the chain will expand as it warms up. Once worn in, however, it will return almost to the original setting when it cools. Shut down immediately whenever the chain droops to where the tangs are hanging almost out or all the way out of the bar rails.
- Warm chain should have the tension increased to where the tangs are drawn halfway into the bar groove. Hot chain cannot be tensioned accurately and should be allowed to cool.

CAUTION

After being tensioned while warm, chain may be too tight upon cooling. Check the "cold tension" before next use.

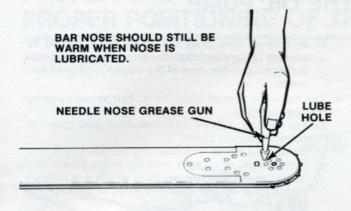
Tighten the mounting nuts when the tension has been set. Then you need not hold up the bar nose.

DAILY ATTENTION TO CHAIN AND GUIDE BAR

 At the end of each day of operation remove the chain and guide bar. Clean the sawdust from the guide bar mounting pad, the clutch area and the drive case cover. Clean out the oil discharge hole in the guide bar mounting pad. Clean out the oil entry holes and the chain groove in the guide bar.

NOTE: When remounting a guide bar each day, it should be reversed top-for-bottom to equalize the wear.

- The chain should be filed, cleaned and inspected, and then oiled.
- Make sure before each day of use that the SAFE●T●TIP ® screw is securely tightened on the saw.

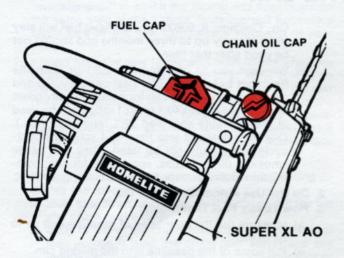


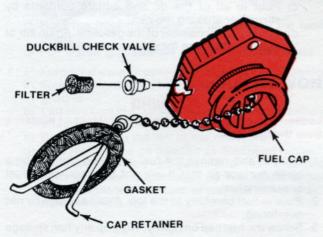
 Sprocket nose guide bars must be lubricated while still warm from use, at the end of each day of cutting. Using needle nose of Lube Gun DA-52713-B filled with Homelite® ALL-TEMP Multi-Purpose Grease, or our pre-packed lube gun, pump grease into the sprocket nose bearing through the small grease hole in the side of the bar nose. Keep pumping until the dirty grease is forced out and fresh grease oozes out of the nose. This removes sawdust, dirt and moisture from the bearing. If bar is lubricated when cold, the old grease may not come out. Sprocket nose bars in continuous use should be lubricated on-the-job every 1 1/2 to 2 hours. A sprocket nose bearing is good as long as it turns freely with no roughness or binding. However, it can be replaced with a new sprocket nose assembly whenever necessary. Both the chain drive and nose sprockets should be replaced whenever a new chain is being installed.

TANK FILLER CAPS

For Super XL® Automatic

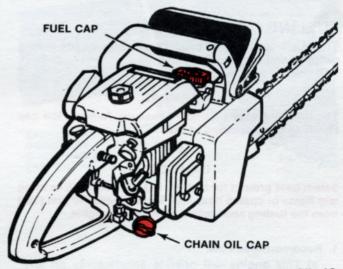
The red plastic fuel cap at top, front of the engine bears the legend "Mix Fuel & Oil". The chain oil cap is on the top of the drive case. The chain oil cap has the word "OIL" cast into it and is smaller than the fuel cap.





For XL®-12

The red plastic fuel cap at top, front of the engine bears the legend "Mix Fuel & Oil." The chain oil cap is at the bottom, rear of the saw near the muffler. So wear gloves when refilling the oil tank, if the muffler is still hot from operation. The engine should be tilted to bring the filler hole upright when the oil reservoir is to be filled.



XL-12

For XL®-12 And Super XL® AO Saws

CAUTION: Whenever opening up the fuel tank, always loosen the cap very slowly and wait for the tank pressure to be equalized before removing the cap.

Whenever storing the saw or stopping work, slowly crack the fuel cap loose for a few seconds to equalize the pressure. Then tighten the cap fully. The fuel cap contains a check valve protected by a porous filter. It is important that this valve and filter be in operating condition so that the proper pressure can be maintained in the tank. An inoperative check valve will result in a vacuum condition in the tank. Vacuum in the fuel tank will show up as "lean operation" (low power, overheating, poor idling ability).

CHAIN OIL AND THE OIL PUMP

1. Before operating, fill the chain oil tank with Homelite® Bar and Chain Oil or any brand of clean engine oil (including reprocessed oil). Our bar and chain oil is formulated for performance over a wide temperature range. If you use ordinary engine oil, select SAE-30 weight. When necessary in cold weather dilute SAE-30 with kerosene until it flows freely, or switch to a lighter weight oil such as SAE-10.

WARNING

Use only petroleum base oils in this chain oiler. Do not use water base (synthetic) oils because they offer little lubrication and tend to clog the automatic oil pump.

- Wipe down the saw any time you spill oil or oily fluids on it. Be sure the saw handles are always clean.
- The Super XL-AO has an automatic oiler as well as a manual oiler. The XL-12 has only the manual oiler.
 - a) The automatic oiler output is according to the speed of the engine. It is designed to keep the bar and chain adequately lubricated under average cutting conditions.
 - b) The manual oiler is operated by "press-and-release" stroking of the oiler button at the left of the throttle control handle.

- c) Whichever oiler does the oiling, there should be enough oil applied that the chain always appears quite moist in the area of the connecting links and rivets.
- The following special needs for oil can be met by using the manual oiler:
 - a) Pre-loading with oil after installing new chain or solvent-cleaned chain.
 - b) Extra-hard wood, or extra long duration cuts.
 - c) Boring cuts, or rip cuts with the wood grain.
 - d) Brushing out and debranching where it is difficult to hold the engine speed to what is best for the chain and bar.
- 5. Tests of oil flow:
 - Automatic pump: Fill oil tank, operate saw continuously for a short measure of time. Measure amount of oil required to refill tank. Check chain for moistness.
 - b) Manual pump: If you do not get normal thumb pressure when oiler is stroked, tank may be empty. If tank is full, but there is no pressure after 5 to 10 pumping strokes, seek an authorized servicing dealer for service.

FUELING THE SAW

FUELING

This is a 2-cycle engine product and requires pre-mixing gasoline and 2-cycle oil.

WARNING

The fuel tank may be under pressure. Remove the cap slowly to avoid spurting of fuel.

CAUTION

Select bare ground for fueling. DO NOT SMOKE or bring any flame or sparks near fuel. Move at least 10 feet (3m) from the fueling spot before starting the engine.

1. Recommended Fuel:

- a) This engine will operate satisfactorily on any gasoline intended for automotive use. This includes gasolines blended with alcohols or ethers. If you are not satisfied with the performance of the product (running quality or startability) with these fuels, you may prefer to use unleaded gasoline that does not contain alcohol.
- b) We recommend the exclusive use of Homelite 2-cycle oils. Homelite 2-cycle engine oil, when mixed with gasoline according to the instructions on the oil package, will provide complete lubrication protection.
- c) All Homelite 2-cycle engine oils contain an antioxidant fuel stabilizer. Under average conditions, fuel mixed with Homelite oils will stay fresh up to 12 months.
- d) If Homelite oils are not used, we recommend stabilization of fuel with an anti-oxidant fuel stabilizer, such as STA-BIL, a product of Gold Eagle

- Co., Chicago, IL 60632. Unstabilized fuel will stay fresh for only up to three months and should not be used after that time.
- e) We urge you to use Homelite 32:1 or Homelite Premium Exact Mix oil for best performance and customer satisfaction. Oils formulated for air cooled 2-cycle engines at 40:1 or 50:1 ratios can be used at the Homelite specified 32:1 ratio (4 oz./gal.). Oils formulated at less than 32:1 ratio or non 2-cycle oils should not be used. They can cause smoking, oily residues, spark plug fouling, combustion chamber deposits, hard starting, etc.
- 2. Do Not Use Automotive Motor Oil.
- 3. How To Mix Fuel Thoroughly:
 - a) Measure out the quantities of gasoline and oil to be used.
 - b) Put some of the gasoline into the mixing can.
 - Pour in all of the oil and agitate contents by stirring or shaking the can.
 - d) Pour in the remainder of the gasoline. Again stir or agitate—this time for at least one minute.

HOW TO FUEL

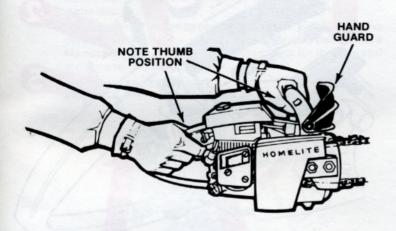
WARNING

Loosen fuel cap slowly to allow safe release of pressure from the fuel tank.

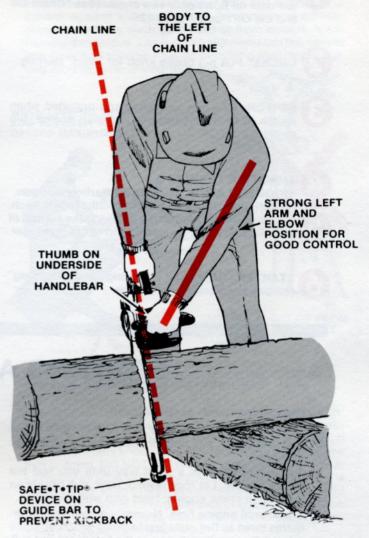
- Untwist and remove the fuel cap. Rest the cap on a clean surface so that it will not be a source of fuel contamination.
- Pour in fuel carefully to the top. Avoid spillage by not overfilling.
- Screw the fuel cap on tightly. Wipe up any fuel spillage immediately.

PROPER GRIP ON THE HANDLES AND PROPER POSITIONING OF THE BODY

Practice these things before you start your saw.



- 1. Note that the proper grip to be used at all times is (the one illustrated) where the fingers encircle the handle and the thumb is wrapped on the opposite side from the fingers. This grip is less likely to be broken by a kickback or similarly sudden reaction of the saw. A "monkey grip," in which the thumb and fingers are on the same side of the handle, is dangerous because a slight kick of the saw can force it right out of your hands.
- 2. Always hold the saw firmly with both hands when the engine is running. Always keep your LEFT HAND on the front handlebar and your RIGHT HAND on the rear (throttle) handle, so that your body is to the left of the cutting line of the chain. Do not under any circumstance operate the saw with one hand. Never use a cross-handed grip, or any stance which would place your body and arm across the chain line.
- The proper stance and saw placement for starting includes the following:
 - a) Hold saw down on a clear, level surface with the bar and chain in the clear.
 - b) Body to left of the chain. Never straddle the saw or lean across it past the chain line. Never use any technique or stance which would bring your foot or leg near the chain.
 - Hold the front handlebar on top, behind the hand quard.
 - d) Pull starter grip straight up with your right hand.
- 4. The proper stance for operating includes the following:
 - a) Weight balanced on both feet both feet on solid ground.
 - b) Left arm kept in a "straight-arm" position with elbow straight to withstand any kickback force.
 - c) Body always to the left of the chain line.
 - d) Grip maintained on handles as described (above).
 - e) Avoidance of any off-balance or overextended cutting stance. Expecially, do not reach above chest height with the saw, or way out in any direction to make a cut.



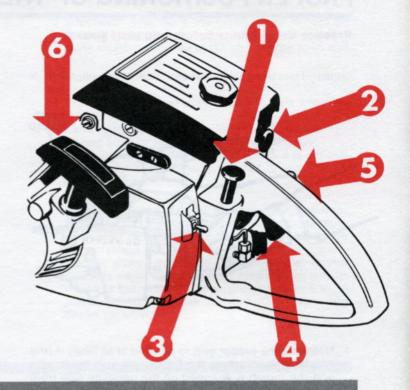
- 5. The proper procedure for cutting includes:
 - a) Starting up engine, then taking stance in front of the wood.
 - b) Positioning saw, but revving it to full speed before chain touches the wood. (Prevents violent reaction.)
 - c) Watching the progress and being ready to stop cutting pressure and hold up the saw so it won't pull you off balance as the chain cuts suddenly free.

REMINDER

Speed up engine before making wood contact. Do all cutting at full throttle so as not to slip the clutch. Get ready to throttle down so as not to overspeed the engine when it becomes load-free.

THE OPERATING CONTROLS

- MANUAL OILER BUTTON: Press and release button until oil flows onto saw chain. (See "Chain Oil and the Oil Pump," page 12.)
- CHOKE: Pull out choke knob for "cold" starting.
- **SWITCH:** Saw can be started and operated when switch is in "RUN" position. To stop engine, flip switch to "STOP."
- THROTTLE TRIGGER &
 TRIGGER LATCH: To latch in starting position,
 hold trigger depressed and push in the trigger latch.
 Let go of trigger first. When ready to take control of
 throttle, unlatch by squeezing and releasing trigger.
- STARTER GRIP: See "Starting and Stopping" (below) for cranking procedure.



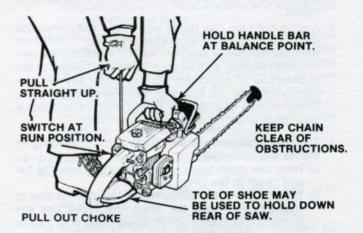
STARTING AND STOPPING

- 1. Flip ignition switch to "RUN".
- 2. Pull choke lever all the way out. (Cold engine only.)
- Depress trigger and push in the trigger latch. Let go of trigger.
- Pull starter grip out a short way until you feel the starter engage. Let rope rewind. Now, pull briskly on the grip to crank engine. Hold grip whil rewinding.
- 5. Crank until engine fires. Normally a cold engine requires three to five pulls just to prime with fuel. Once primed, it normally will start on the first or second pull. In extremely cold weather considerable additional cranking may be required during priming.
- When the engine fires (coughs two or three times on one pull) but does not run, pull choke lever out to the halfway position. Crank until engine starts.
- 7. When engine starts, keep it running by pushing the choke in to the fully open position to prevent stall-out as engine warms up. Grasp throttle handle. Squeeze and release the trigger. Then depress the trigger just enough to keep the engine running.
- Idle the engine. Pick up the saw. Take your stance. Position saw for cutting. Just before letting the chain enter the wood, squeeze the trigger to open the throttle to operating speed.

REMINDER

Speed up engine before making wood contact. Do all cutting at full throttle so as not to slip the clutch. Get ready to throttle down so as not to overspeed the engine when it becomes load-free.

 To stop, flip switch to "STOP". (In an emergency, you can pull out the choke to flood engine to a stop.) When shutting down for a long period in extremely cold weather, choking the engine to stop (rather than shut-



ting off the switch) may save you some cranking to get the cold engine primed.

- When restarting a still warm engine, try first with no choking. Then try at half-choke. If engine has cooled too long, revert to full choking to start.
- 11. When through using the saw and laying it up for any period of time, slowly loosen both the fuel cap and the oil cap. After waiting a few seconds to relieve the pressure, tighten both caps.

NOTE

Vapor-locked carburetor: (This may happen on very warm days after a 5 to 10 minute shut-down of the saw, or when the saw has been in the hot sun or in a car trunk long enough to vaporize the fuel.) Dispel the vapor by cranking alternately at half-choke and full choke. When engine starts, let it run at half-choke for no more than 30 seconds. Repeat this sequence until the vapor lock is broken and engine runs normally without choke.

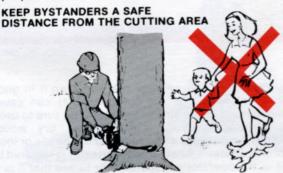
THE WORKING AREA / SECTION



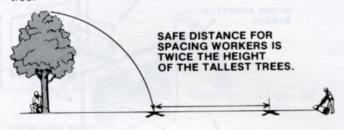
WORKING AREA PRECAUTIONS

Cut only wood or materials made from wood; no sheet metal, no plastics, no masonry, no non-wood building materials.

Do not allow children to operate your saw, EVER. Allow no person to use this chain saw who has not read this Owner's Manual or received adequate instructions for the safe and proper use of this chain saw.



Everyone—helpers, bystanders, children and animals, and other operators—must be kept a safe distance from the cutting area. During felling operations, the safe distance should be at least twice the height of the largest trees in the felling area. During bucking operations, space buckers and limbers adequately so they cannot interfere with each other. Only one person should be working on a tree



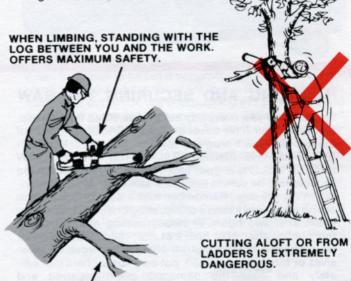
OPERATOR HAS POOR CONTROL OF SAW IF HE OVERREACHES OR CUTS ABOVE CHEST HEIGHT.



STAND ON UPHILL SIDE WHEN CUTTING BECAUSE LOG MAY ROLL.

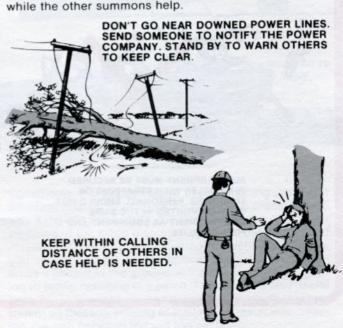
During bucking operations always cut from the uphill side so that the cut-off section of the log will not roll over you. You can be pulled off balance if you have your weight all on one leg, so be sure to stand with both feet on solid ground. Make sure that cut-off wood will not fall on your toes or on your head. Do not cut straight overhead for this

reason. In fact, we advise limiting your cutting to chest height, because a saw held higher than this is difficult to control against kickback forces. Limbing from off-the-ground positions, such as in trees or from ladders, is extremely dangerous. Ladders can slip—you can fall. Unless you have had specific training in cutting aloft, leave cutting aloft to experienced tree men.



LEAVE SOME SUPPORTING BRANCHES UNCUT. AFTER YOU HAVE BUCKED UP THE LOG SECTIONS YOU CAN CUT OFF THESE LAST FEW LIMBS

In areas near roadways or power lines, do not operate until you have permission from the authorities. When working near roads, you must post flagmen to control traffic. If you accidentally knock down a power line or discover one that is down, DO NOT GO NEAR IT, but notify the power company as soon as you are able. A downed power line is a good illustration of why woodsmen should pair up and always keep within calling distance of one another. In the event of trouble such as this, one man can stand guard while the other summons help.



Whenever there is a danger of pinching the saw blade and you have enough room behind the blade for a felling wedge, you should insert one. When felling large trees, wedges should also be used to control the fall. Never use hard metal wedges which could damage the saw chain. Clear your working area of all materials likely to trip you, snag the saw, catch fire from the hot exhaust, or block your safe retreat from a falling tree.

Before cutting limbs or felling trees, inspect the area to be sure the wood will not strike buried pipelines or damage property.

UNUSUALLY HAZARDOUS CONDITIONS

Do not fell trees or go underneath them during periods of high wind or heavy precipitation. Take no chances during periods of extreme hazard. You can wait to do your cutting after the hazard has ended.

Do not use saws to cut down trees having an extreme lean or large trees that have rotten limbs, loose bark, or hollow trunks. Have these trees pushed or dragged down with power equipment. Then you can cut them up.

Work only when visibility and light are adequate for you to see perfectly what you are doing.

HANDLING AND SECURING THE SAW

Inspect your saw every day before use. Keep the fuel cap, oil cap and air filter cover on tightly. Check condition of the fuel line, spark plug and spark plug wire. DO NOT OPERATE IF THE ENGINE BACKFIRES OR THE SAW LEAKS FUEL. Have your saw serviced by an authorized serviceman. Be sure to keep your saw chain in proper condition on the saw. Remember that a dull or loose chain snags more easily than a sharp, snug chain. Touch up the chain after two hours of steady cutting and sharpen it thoroughly after 8-10 hours of use. (See Chain and Bar Maintenance in Section 4.) If chain is damaged by abrasives or hits a stone or nail, put on a spare chain immediately and have the damaged chain repaired and sharpened.

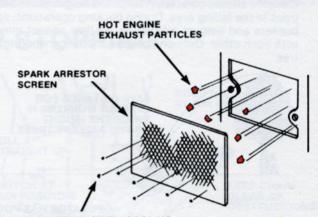
If there is anything wrong with the saw have it fixed before further operation. The idle speed adjustment should be maintained so that the chain stops moving after the engine is brought back to idle. Adjust the idle speed whenever necessary (see Section 5).

NOTE

Do not disassemble the rotor (flywheel). Special techniques are required (on a dealer level) for safe removal and installation of the rotor.

ALL EQUIPMENT MUST BE SECURED IN VEHICLES WITH STRAPPING OR TIE-DOWNS. PERSONNEL SHOULD NOT BE TRANSPORTED IN THE SAME COMPARTMENT AS EQUIPMENT AND FUEL SUPPLIES.

Always use a muffler on your saw and keep it in good repair. A faulty muffler (or open exhaust) can cause hearing damage and is also a fire hazard. Be sure to use a spark arrestor on your muffler under dry woods conditions, and always when required by the law or local authorities. In states where a spark arrestor is required by law, it is the operator's responsibility to see that it is in good condition at all times. Check the muffler and spark arrestor at regular intervals. Careful! Never touch a hot muffler.



ONLY SMALL, QUICK-COOLING PARTICLES CAN GET PAST THE SCREEN.

A SPARK ARRESTOR IS ONLY ABOUT 90% EFFICIENT IN PREVENTING FIRES. LOCAL AUTHORITIES MAY CLOSE THE FOREST DURING EXTREMELY DRY PERIODS.



TECHNIQUES OF CUTTING /SECTION



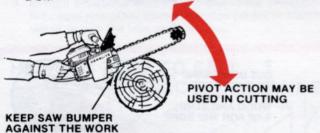
When you are going to cut wood — DO IT RIGHT!

BUCKING, LIMBING AND PRUNING TECHNIQUES

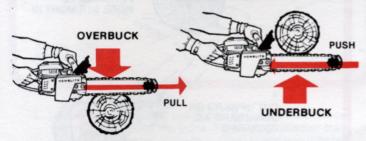
For your first cutting experience, set up a small log so that one end is off the ground. Practice your overbucking technique by cutting firewood length sections off the raised end. (See illustration.)



- 1. Position yourself and the saw for cutting. Hold the saw near the log and throttle up to full speed just before letting the chain touch the wood. Then exert moderate feed pressure to help the chain cut the wood. The chain must always be running at full throttle speed when it is. contacting the wood, or you will burn out the clutch.
- 2. If desired you can pivot the saw blade back and forth during cutting. This often helps to speed up the cutting



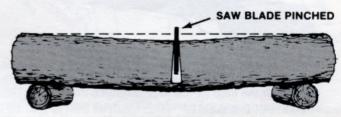
3. You will notice a slight amount of pull reaction during cutting. So be ready for the moment the saw breaks through the wood and pull ceases. You must be ready to stop pushing down on the saw and hold the saw nose up. The moment the chain breaks clear, release the throttle trigger so the engine will not overspeed.



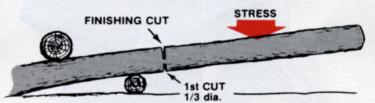
4. When you have mastered the overbucking technique, try underbucking to see what it feels like.

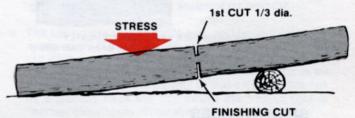
Place the saw blade under the log. Throttle up and exert upward pressure to cut clear through. Now you are ready to learn when to overbuck and when to underbuck in order to avoid pinching the chain in the wood.

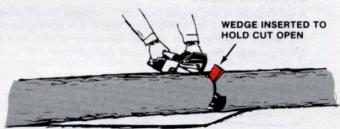
CUTTING VARIATIONS ACCORDING TO THE STRESS FACTORS



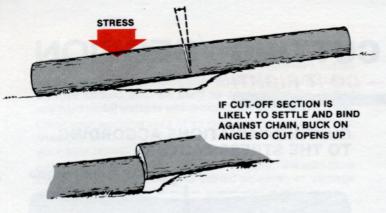
When the piece to be cut is supported on the ends, but not along the point where you want to cut, it will bend as you make your cut. If you are overbucking a log that will bend downward at the cut, your saw will be pinched if you cut more than 1/3 the log diameter. So overbuck 1/3, then remove the saw and finish with an underbucking cut from the bottom of the log. This 1/3-2/3 cutting technique helps to avoid pinching of the saw and splitting of wood that is under stress. With small diameter wood, you can make the whole cut by underbucking as long as you don't care if the wood splits. The reverse of the above is true when the lie is such that the log will bend upward at the cut. In this case, underbuck 1/3 through, and then overbuck so that the cut will open up instead of closing on the saw blade.



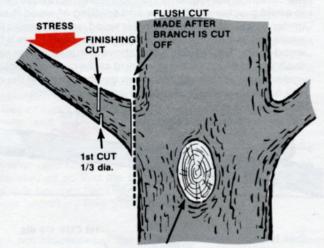




Sometimes it is impossible to avoid pinching (with just standard cutting techniques) or difficult to predict which way a log will bend when cut. You can do this to prevent pinching: If the wood diameter is large enough for you to insert a soft bucking wedge without touching the chain, you should use the wedge to hold the cut open. Sometimes a pocket in the ground will allow the cut section of log to settle, resulting in a pinch. The wedge is also useful here, but in this case you can cut on a slight angle (as illustrated) so that any settling of the log will result in increasing the gap between the cut log sections.



When pruning shade trees it is important not to make the flush cut next to the main limb or trunk until you have lopped off the limb further out to reduce the weight. This prevents stripping the bark from the main member. Unless the branch to be pruned is supported by another branch, the stress will be downward (see illustration). Underbuck the branch 1/3 through, then overbuck to drop the branch off. Now make your finishing cut smoothly and neatly against the main member so the bark will grow back to seal the wound.



WHEN BRANCHES ARE TRIMMED NEATLY FLUSH WITH THE TRUNK, THE BARK CAN GROW BACK TO SEAL THE WOUND

SPRINGPOLES

A springpole is any log or branch or sapling which is bent under tension by other wood so that it will spring back if the wood holding it is cut or removed. Watch out for springpoles. They are potentially dangerous.



THIS IS A SPRINGPOLE BENT DOWN UNDER HIGH STRESS.

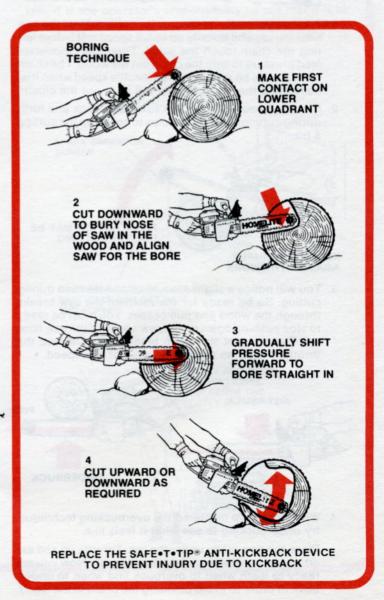
BORING WITH THE NOSE SECTION

KICKBACK DANGER

There is a great possibility that the saw will kick back during the start of the boring cut.

Boring should be attempted only by experienced operators because it requires extreme care and attention to proper technique. Do not bore unless there is no other way to make a cut. Boring is usually resorted to in order to avoid an obstacle or when it is necessary to make blind holes such as cut-outs for log cabin windows. The SAFE•T•TIP® anti-kickback device must be removed for a boring cut. Boring increases the chance of kickback and also wears the chain and bar at an accelerated rate. Although it may not prevent kickback from happening, the Raker III™ chain on your saw may help you to keep control by reducing the force of a kickback reaction.

Study the panel illustrating a boring operation. As shown, the danger will be minimized if you can make first contact on the underside of the bar as far back from the bar nose as you can get. Then cut downward into the wood until the tip is buried in the cut. Gradually bring the saw level, then bore through the wood to full length of the blade. Now you can cut either upward or downward through the wood as shown in the panel.



TREE FELLING TECHNIQUES

CAUTION

If the saw gets caught or hung up in a tree during felling, leave the saw and save yourself. The saw can be replaced and you cannot!



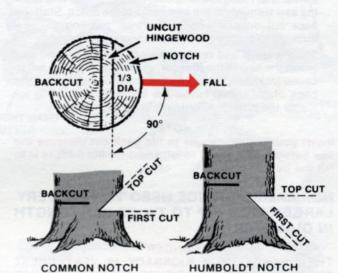




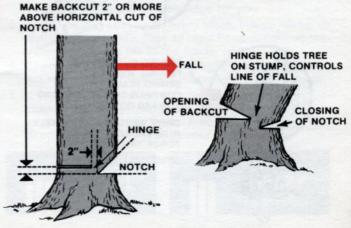
- Pick your escape route (or routes in case the intended route is blocked). Clean the immediate area around the tree, and make sure there are no obstructions in your planned path of retreat.
- 2. Consider the factors of wind speed and direction, the natural lean and the balance of the tree, and the location of large limbs. These things influence the direction in which the tree will fall. Do not try to fell a tree along a line different from its natural line of fall until you have had considerable experience in felling trees which present no problem as to where they will fall.
- Take into consideration whether the trunk is sound or so rotted inside as to snap and crash while being cut. Also look for broken or dead branches (widow makers) AND don't go below any widow makers.
- In tight situations where a mistake in the direction of fall could ruin other trees or destroy property, attach a tether line to the tree as illustrated.



5. If the tree is not badly out of balance, cut a notch about 1/3 the diameter of the trunk. This notch whether standard or "Humboldt" is made in the side the tree is to fall. And the cuts of the notch are made so they intersect at a right angle to the line of fall. This notch should be cleaned out to leave a straight line. To keep the weight of the wood off the saw always make the lower cut of the notch before the upper cut. We illustrate a common notch made with a horizontal cut and an angular cut above it. A "Humboldt" notch, with the horizontal notch on top, is made when trees are to be cut for saw log processing.



- 6. The backcut is always made level and horizontal and at a minimum of 2 inches (51 mm) above the horizontal cut of the notch. As a guide to placing the back cut above the notch, figure 10% of the trunk diameter as the proper height. Be very careful to make a level back cut, as a slanted back cut can cause the tree to split or "barber chair" (see illustration).
- 7. You must never cut through to the notch. Always leave a band of wood uncut between the notch and back cut. This is called "hinge" or "hingewood." It controls the fall of the tree and prevents slipping or twisting or shoot-back of the tree off the stump. If the tree starts over in the wrong direction, or if the saw gets caught or hung up during the fall, leave the saw and save yourself!



8. On large diameter trees, it is proper to stop the back cut before it is deep enough for the tree to either fall or settle back on the stump. Then, soft wooden or plastic wedges (not hard metal) are inserted behind the saw so they do not touch the chain. The wedges can be driven in, little by little, to help jack the tree over.



9. Trees larger than the saw can cut in one cut, can be both notched and back-cut in a series of cuts, as illustrated. Start the notching cuts from one side and draw the saw through to the other side of the notch. Start the back cut on one side of the tree, pivoting the saw through to form the desired hinge on that side.

Then remove and reverse the saw for the second cut. Insert the saw in the first cut, very carefully so as not to cause kickback, and cut back toward and around the back of the trunk. Finish the back cut by cutting towards the notch to complete the hinge section.

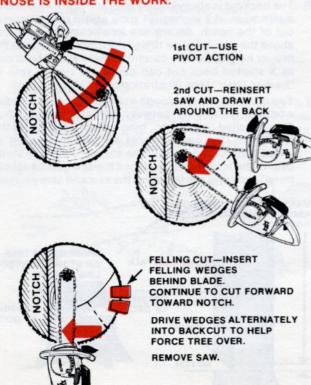
NOTE

Insert your felling wedges in the back cut. Remove the saw before tree is ready to fall and drive the wedges in to fell the tree.

NORMAL SEQUENCE USED TO FELL VERY LARGE TREES (UP TO TWICE BAR LENGTH IN DIAMETER)

DANGER

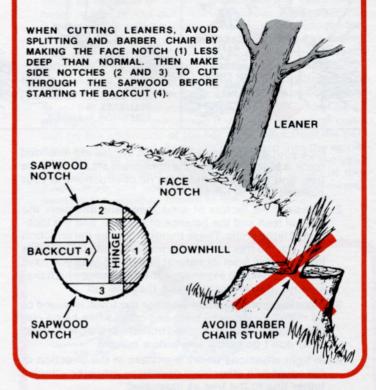
THE CHANCE OF A KICKBACK IS VERY GREAT DURING THIS SERIES OF CUTS BECAUSE THE BAR NOSE IS INSIDE THE WORK.



FELLING LEANERS

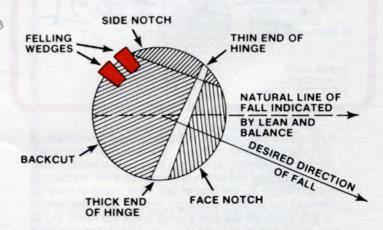
This variation is designed to prevent splitting and "barber chair" of leaners:

- Make the directional control face notch shallower than usual
- Make shallow notches on both sides of the tree to cut through the outer layer (sapwood).
- 3. Now make your back cut to leave a parallel hinge.



CHANGING THE DIRECTION OF FALL (from the natural line of fall)

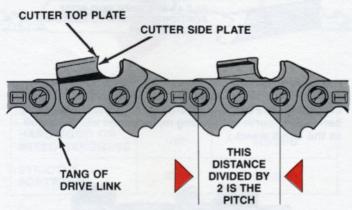
- Where you would leave a parallel hinge (hingewood of equal thickness on both sides) the hinge is left thicker on the side toward which you want the tree to swing (away from the natural line of fall).
- Place your wedges in the backcut between the backcenter and the narrow side of the hinge. Drive in the wedges to force the tree over in the direction desired.



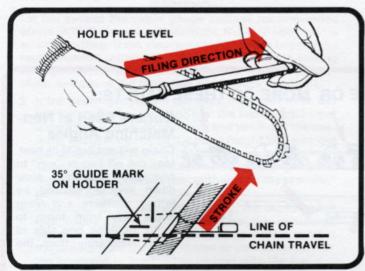
MAINTENANCE AND REPAIR OF THE CUTTER UNIT



HOMELITE® RAKER III® SAW CHAIN



Kickback - reducing type 38ME50 semi-chisel tooth, 3/8" pitch, Raker III® saw chain has three depth gauges to guide the cutting tooth. With regard to smoothness of cutting as well as speed, Raker III chain needs proper maintenance for satisfactory results. Shut down the saw for chain filing or whenever the sawdust chips turn to powder and you have to bear down hard to make the chain cut. Follow our instructions for filing the cutters and resetting proper depth of the depth gauges.



TOOLS FOR SHARPENING RAKER III® 38ME50 SAW CHAIN

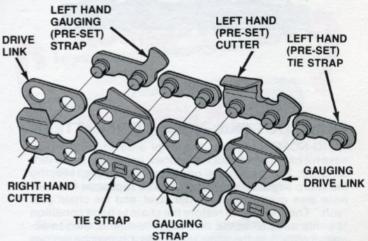
Use our standard 7/32" diameter "fast-cut" round file and file holder (our assembly DA-92615-A). When more than 1/2 of the original tooth steel has been filed away, you should switch to a 3/16" diameter file which will fit the same holder. The need for a smaller file is that the cutter tapers toward the rear.

The file holder has the required 35° top filing angles marked on it. It holds the file at the correct height (1/10 file diameter above top plate of tooth) to produce the required side plate angle of 85° (5° forward from 90°) and beveled cutting edge.

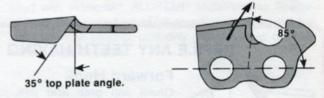
A chain filing vise to hold the cutters rock-steady during filing is good to have. But you can do a satisfactory job without one, provided you tighten up the chain tension to prevent the chain from wobbling, and do all the filing at the mid-point of the bar.

REPAIR NOTE

Raker III chain construction is shown in exploded view form. Should replacement of damaged cutters be required we recommend using pre-set tie-straps in place of left-hand cutters and plain tie-straps in place of right-hand cutters. Because putting a few new cutters into an old chain loop can render the chain kickback-prone, we no longer include cutters in chain repair kits.



SIDE PLATE 85°-90° TO LINE OF CHAIN TRAVEL. BEVELED UNDER EDGE.



HOW TO FILE CUTTERS

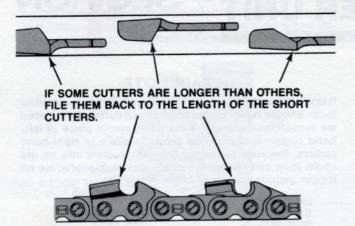
For fast cutting all cutters must be uniform in every detailsame length, same top plate angle, same side plate angle.

- Hold file against cutter face and adjust filing angle to 35° (marked on holder).
- 2. Keep file level do not let it dip or rock.
- File in one direction towards front corner of tooth only. Move file away from tooth face on return stroke.
- Use light but firm pressure, mostly towards back of tooth and very little downward pressure. With the correct pressure and correct angle you will let the file holder produce the desired edge for you.
- Put a few firm strokes on every tooth. File all left hand cutters on one side, then all right hand cutters on the other. Rotate the file in the holder occasionally.
- Check your filing job in strong light. A sharp edge will not reflect light. If an edge reflects light, refile the tooth.
- 7. If you are not satisfied with the performance of your chain, examine it (below) for skid-nose or one of the other common chain faults. Also be sure to keep the depth gauges filed to the proper clearance.





CORRECTIVE FILING

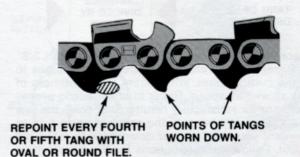


CORRECTLY EDGED CUTTER BITES INTO THE WOOD. mmmi SKID-NOSE OF ABRADED CUTTER PREVENTS EDGE FROM CUTTING. FILE AWAY ENTIRE SKID-NOSE PORTION OF TOOTH TO RESTORE ABILITY TO CUT.

Chain drive tangs must have sharp points to clean sawdust from the bar groove, and bar groove must be deep enough for the tangs to clear bottom all the way around bar. (Every fourth or fifth tang resharpened will do the job as the chain wears.)

FILING OUT SKID-NOSE WEAR PATTERN

"SKID-NOSE" describes the edge area of teeth which have hit hard objects such as stones, nails, etc., or cut dirt, sand, etc. The "skid-nose" rides the wood surface keeping the sharp edges out of the wood. The friction at the skidnose area overheats the cutter steel, and the chain gets "soft." The only way to restore the chain to good condition is to file away all of the skid-nose steel. And, then to adjust all cutters to the same length. As this may be tedious to do by hand-filing, consider having it done by your servicing dealer on an electric grinder.



REFILE ANY TEETH HAVING ONE OR MORE OF THESE FAULTS:



Forward Hook

Chain will grab and jerk, producing rough cutting. Caused by excessive downward filing pressure. or tip of file held too low on tooth.



Cutters Filed at Non-**Matching Angles**

Chain will not cut at its best. one side, drag may slow dawn engine. Caused by letting pressure and filing angle vary from tooth to tooth, or filing one side of chain differently from the other.



Back Slope

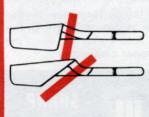
Chain resists entering wood (scrapes instead of cutting wood). Causes excessive heat and wear to bar and chain. Caused by lowering handle end of file or holding file too high on the tooth.



Thin Feathered Edges

When they almost immediately break off, you have a dull chain. Usually found on chain filed with a hook (see "forward hook").

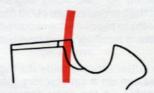
Caused by pressing down too hard on file.



Improper Top Plate Angles

Too little an angle requires too much feed pressure. Too great an angle causes chain to bind, produces a rough cut, robs power from saw, and increases bar

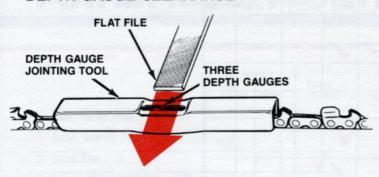
groove wear. Caused by holding file at wrong angle or letting it drift or rock during the stroke.



Blunt Cutting Edges

Although edge is durable it won't cut properly; scrapes wood, robs power and produces dust instead of chips. Caused by holding file too high on face of tooth.

HOW AND WHEN TO SET DEPTH GAUGE CLEARANCE



SUGGESTED DEPTH FOR THIS SAW AND CHAIN

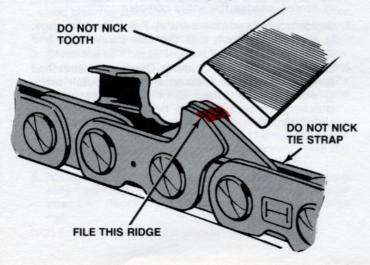
TYPE OF WOOD	DEPTH	TOOL NUMBER
HARDWOOD OR MIXED HARDNESS	.030"	92632-B
STRICTLY SOFTWOOD	.035"	92633-B

- Depth gauge tools available for Raker III® chain are listed above. You should also have a 6" flat file.
- 2. Every time the chain is filed, check one or two of the gauges. Fit the tool over the chain so a set of three gauges projects up into the slot in the tool (see illustration) and the tool protects the tooth from the file. File flush across the slot. If you take off any metal from the gauges, file all the gauges on the chain.

WARNING

Do not exceed the depth gauge settings recommended above. With these gauge clearances, Raker III saw chain is smooth-cutting. If the clearance is increased beyond the recommended settings, the chain becomes rough-cutting and "grabby," losing the advantage that it has over other chain designs in the reduction of kickback reactions.

- 3. If the depth gauges are too high, the chain teeth will get too shallow a bite; if too low, the teeth will take too large a bite and cause grabbing and jerking of the saw. If the gauges are not all the same height you may get the same results as when the cutters are not uniform in some other respect (such as shape, angle, length, etc.). Non-uniformity causes slow cutting, and the saw often goes off line.
- 4. After filing all gauges and removing the depth gauge tool, check that the gauges are smoothly contoured along the contact edge. If you recontour them, protect the cutters from the file and also be careful not to nick the tie-straps in front of the gauges with the file.



DAILY ATTENTION TO CUTTING UNIT

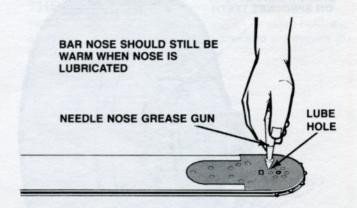
- At the end of each day of cutting, clean the sawdust from the guide bar mounting pad, the clutch area and the clutch cover. Clean out sawdust from the chain groove in the guide bar.
- 2. File and clean the saw chain.
- Each time you remount the bar, reverse its position (top for bottom on the saw) to distribute the wear.

REVERSING BAR ON SAW OCCASIONALLY HELPS TO DISTRIBUTE THE WEAR.



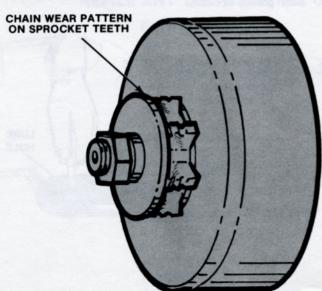
AFTER FLOPPING THE BAR OVER REMOUNT DEVICE ON PROPER SIDE

4. The sprocket nose of your PT or SP guide bar may need a grease change every day of cutting (see Maintenance Section). The proper time to change the grease is while the nose is still warm from operation and the old grease is still soft. Use needle nose Lube Gun DA-52713-B filled with Homelite* ALL-TEMP Multi-Purpose Grease #17193, or our pre-packed lub gun. Pump grease into the sprocket nose bearing, until dirty grease oozes out and clean grease appears.



ETHING UNIT	Frequent Check	Check Daily	Only as Nec- essary	Every Week or 15 Hrs.	100 Hours Check
1. Touch-up Chain Cutters	~				
2. Sharpen the Chain		1			
3. Lower Depth Gauges Uniformly	S			TWICE	
4. Grease Guide Bar Nose Sprocket	✓				- 510
5. Clean Bar Groove, Oil Discharge Hole, and Clutch Area		1			
6. Clean. Inspect SL* Chain Brake. Lubricate Brake Levers.		1	63° GH	E MAS	BRI
Check That Chain is Getting Enough Oil.	1	FIE	DESIGNA	aros	
8. Check Filters and Valves in Tank Caps.		palls.	~	19:11-2	,
9. Clean Oil Strainer					~
10. Check Worn Sprock- et and Drum (Change matched Set Drum and Brake Band if SL*)			1		
 Dress Down Bar Rails, Remove all Burrs. 				1	
 Reverse Guide Bar Top for Bottom on Saw. 		940	1	LOCK I	## B
13. Disassemble Bow Guide Spurs. Reverse Bow Guide Top for Bottom Position.*		PERSONAL PROPERTY OF THE PERSONAL PROPERTY OF		1	de so
14. Clean and Lubricate Clutch Bearing.					1
*Optional Equipment		MIN	HES WIS	JTA 1921A	1,00

CLUTCH, DRUM AND SPROCKET TROUBLE-SHOOTING



WARNING

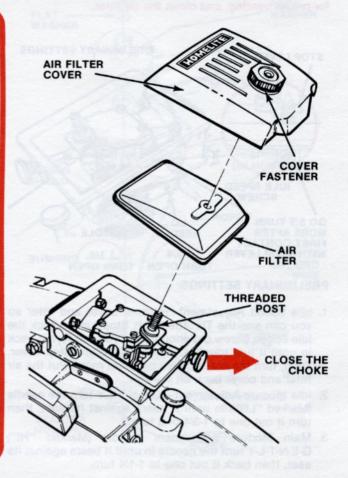
Proper disassembly and repair of the clutch is so important to the life of the engine and safety of the operator, that all clutch service should be done by an experienced repairman equipped with the required special tools. Do not disassemble the clutch unless you are a competent mechanic and have the proper clutch service tools.

- The Drum and Sprocket assembly should be inspected every 15 hours or 15 weeks, whichever comes first. If the teeth on the sprocket are worn, replace the sprocket. Remember to use the required special tools and parts for repair or have an authorized Homelite service station do the repairs.
- 2. The clutch assembly requires disassembly and servicing only at 100 hour intervals, unless trouble develops or the drive sprocket is to be changed. During this 100 hours servicing, the clutch bearing should be cleaned, inspected for wear, and either replaced or repacked with a small amount of HOMELITE ALL-TEMP Multi-Purpose Grease (#17193) or a lithium base grease. Naturally, if the bearing needles are worn or missing, bent or burnt, or the bearing cage or inner race is worn or scored, change the entire complement.
- Clutch trouble symptoms are: a) Failure to disengage;
 b) slipping so much that the saw cannot cut; and
 c) chattering during a load.
- 4. Clutch troubles may include: a) Overheated, stretched springs; b) worn or cracked spider or clutch plate; c) worn or broken shoes; d) oil, dirt or grease on the clutching surfaces; e) worn, bent, cracked or scored clutch drum; f) dry or worn bearing; g) and worn sprocket.

POWER HEAD MAINTENANCE



		Daily Check	Only as Nec- essary	Every Week	Every 50 Hrs
1.	Clean the Air Filter	TWICE	GRY MO	N CONT	1900
2.	Install New Air Filter	F18973	1		
3.	Check Fuel Filter	100	-	- Hares	1
4.	Clean and Examine Exterior of Saw	/			the ris
5.	Keep Air Openings of Fan Housing Clean	1	-		
6.	Adjust Carburetor		1	22	X.
7.	Adjust Starting Speed	3999	1	HISTOR	93.54
8.	Check and Clean Spark Plug	the star	1	Die	HAS
9.	Adjust Spark Plug to .025" Gap	Libra Is Libra Is	1	in last	in to a
10.	Clean Muffler and Spark Arrestor Dis- charge Openings	the die	1	160min	SHARK SPARK
11.	Clean Air Cooling System	AN		~	
12.	Check and Tighten Loose Fasteners				/
13.	Adjust Starter for Proper Rewind		1		N



THE AIR FILTER

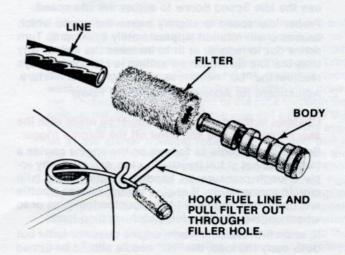
The air filter should be cleaned twice each full day of operation, or more frequently as required to preserve engine power when operating conditions are extremely dusty. When the air filter is dirty, the engine will lack power because it is being deprived of both air and fuel.

- Close the choke. Give the cover fastener a half-turn to the left and remove the air filter cover and the filter. If there is any dirt or dust on the choke plate, invert the engine before brushing the choke area clean.
- Cover the air intake opening of the carburetor while you clean all sawdust from the inside of the carburetor chamber and the outside surface of the carburetor. Also clean the air filter cover.
- Clean the air filter by tapping it against a clean surface.
 Occasionally, give it a thorough cleaning in detergent
 and water or a non-oily solvent and let it dry thoroughly
 before use. You may find it practicable to keep some
 spare filters on hand for instant changing.
- As cleaning never removes all of the dirt or wood slivers from the filter pores, the filter should be replaced after several months of continuous service or more than 100 cleanings.
- Always put the air filter over the threaded post, making sure the filter completely covers the carburetor chamber. Replace the cover and tighten the captive nut

NOTE: Never use the saw without the air filter.

THE FUEL FILTER

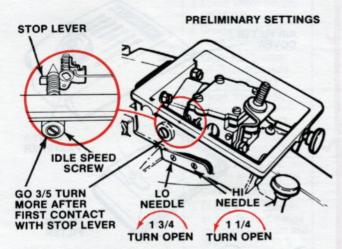
The fuel filter will usually last a month or more before a new one is required. It should be checked at intervals of every 50 operating hours.



CARBURETOR ADJUSTMENTS

IMPORTANT

Before adjusting the carburetor, always check fuel tank for proper venting, and clean the air filter.



PRELIMINARY SETTINGS:

- Idle Speed Adjustment Remove cover and filter so you can see the Throttle Shaft Stop Lever. Back the Idle Speed Screw out enough that you can turn it back in until it just touches the Throttle Shaft Stop Lever. Then, turn the screw in 3/5 of a turn more. Put the air filter and cover back on the saw.
- Idle Mixture Adjustment—G-E-N-T-L-Y turn the needle (Marked "LO") in until it bears against its seat, then turn it out one to 1-3/4 of a turn.
- Main Mixture Adjustment Needle (Marked "HI") G-E-N-T-L-Y turn the needle in until it bears against its seat, then back it out one to 1-1/4 turn.

FINAL ADJUSTMENTS (OPERATING TEMPERATURE)

 Adjustment For Idling—The preliminary settings (above) should enable the saw to be started. First, run the engine until it is warm. Then turn the "LO" needle slightly to right or left to find the fastest idling speed without touching the Idle Speed Screw setting. Next, use the Idle Speed Screw to adjust the idle speed.

Proper idle speed is slightly below the speed which causes chain rotation (approximately 2,600 rpm). Turn screw out to reduce, or in to increase the speed. Any time the Idle Speed Screw setting is changed, always readjust the "LO" needle, as above, for proper mixture.

2. Adjustment for Acceleration and Full Power

IMPORTANT

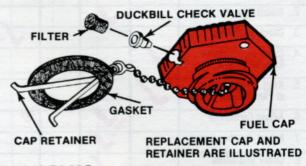
Changes in these adjustments must be made with the saw returned to idle and hand off the throttle trigger.

Set the "Hi" needle as follows so the engine carries a load: Start cut at full throttle in a log, and gradually apply enough pressure on handles to stall chain (slip clutch) momentarily. If engine falters, release throttle and open "Hi" needle 1/4 turn counterclockwise or to where engine carries a full clutch-slipping load.

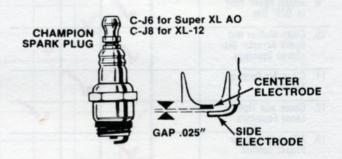
If, when first check is made, engine does not falter but does carry the load, the "HI" needle should be turned clockwise to where the engine will falter. Then the "HI" needle should be reset as per above instruction. If the engine cannot accelerate smoothly, adjust as follows: Open the "LO" needle counterclockwise until saw accelerates smoothly. Then reset Idle Speed for proper idling speed as in paragraph 1 (above).

CHECKING THE FUEL TANK CAP

As explained in Section 1, the flow of fluid from the fuel tank will be reduced if the check valve in the tank fails to let in the air. The fuel cap can be checked by comparing the performance of the saw with the cap tightly on the tank, and then with it loosened just enough for air to leak around the cap into the tank. If the saw sounds as if it has more power or increase of performance with the cap loose, install a new cap assembly.



SPARK PLUG



When the engine cannot be started, always check that the tank has fresh, properly mixed fuel. Then change to a new spark plug at least long enough to find out whether the engine can be started. The proper size, type and heat range plugs are the gasketed type 14mm, non-resistor Champion CJ-6 for the Super XL® and CJ-8 for the XL® -12. It is important that these plugs be tightened enough for a gas-tight seal without overtightening. To do this, screw them in finger tight and then take up 1/2 turn with the spark plug wrench.



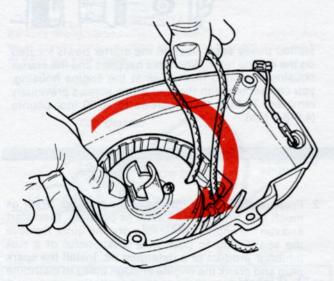
Fouled spark plugs often can be restored by cleaning to remove deposits and short-causing bridges, scraping the electrodes down to bare metal, and then regapping the electrodes to .025" (0.63mm) by bending the side electrode toward the center.

If you are not satisfied with the cleaned plug's performance, replace it with a new one. Should the saw not start after the new plug has been installed, take the saw to the nearest authorized Homelite servicing dealer.

STARTER MAINTENANCE

No regular maintenance is required beyond cleaning the air intake slots whenever leaves or sawdust begin to build up. Instructions are given below to enable the owner to compensate for rope stretch (by increasing the rewind spring tension) or to change the rope.

- Remove the tour screws which hold the starter housing to the engine housing.
- While removing the starter housing, disconnect the "Run-Stop" switch ground wire.
- 3. To add more spring tension: If the grip does rewind, but lacks enough spring tension to be drawn snugly against the housing, more tension is needed. Note the notch in the edge of the pulley. Pull out the grip about a foot (30cm) and hold the pulley from rewinding. Turn the pulley to locate the notch at the rope entry hole in the housing. Pull up a loop of rope between the housing and pulley and anchor the rope in the notch. Grasp the loop and wind in a clockwise direction, letting the pulley rotate one turn with the loop. Hold the pulley from turning. Pull the starter grip until the rope runs straight from pulley through the entry hole. Then let the starter rewind. If this is not enough tension to draw the grip in place, repeat this procedure to add one more turn of tension. Do not add more turns than necessary to draw the grip into place.



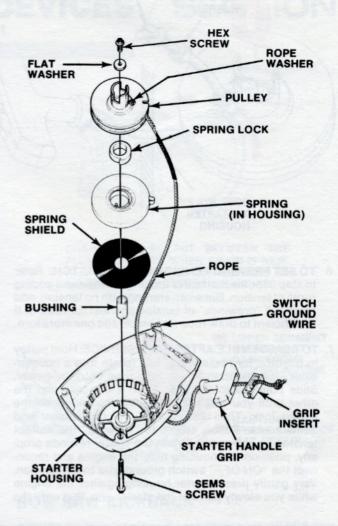
TO ADD SPRING TENSION HOLD LOOP OF ROPE. WIND LOOP AND PULLEY CLOCKWISE 1 TURN.

4. To remove worn starter rope: Hold pulley from turning. Cut rope between housing and starter grip. Let pulley rewind slowly to relieve the spring tension which we call the "prewind tension."

WARNING

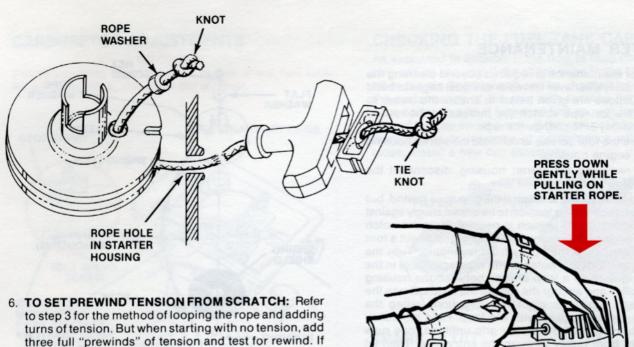
Put on safety glasses and gloves before removing the pulley. If you lift the pulley out before detaching the spring, the spring may fall out and the coils may fly apart. They are relatively difficult to rewind.

Make sure there is no prewind tension on the spring. Then remove the Sems screw and flat washer by lifting them straight up, not by dumping them out. Grasp the



pulley hub and pull the pulley out of position about the width of your little finger. Then insert a thin-bladed screwdriver between the pulley and the starter housing to free the pulley from the spring. Remove the pulley. Remove pieces of the old rope. Be sure to save the rope washer from the pulley end for use on the new rope. Leave the springlock in position where it engages the inner loop of the spring.

5. To install new rope: Tie a simple knot tightly at one end of the rope. This knot should be set by dipping in nail polish or model cement, or otherwise prevented from loosening by heating the short end past the knot. Trim the rope right up close to the knot. Slide the rope washer onto the rope. Refer to the exploded view drawing. Thread the unknotted end of the rope through the hole in the pulley and draw the end out between the sheaves at the rim. Thread the rope through the eyelet at the starter housing rope entry hole and pull it out through the housing. Put the starter grip on the rope and then the grip insert (as shown). Now, knot and set this end of the rope as you did the other. Pull the knot into the insert, and the insert into the grip. Hold pulley in position to install on the pulley post. Rotate pulley in a counterclockwise direction to wind the rope onto the pulley. Then slide the pulley onto the post. Jiggle and turn the pulley one way or the other until you can feel that spring is engaged. Fasten the pulley in place with the flat washer and Sems screw.



- three full "prewinds" of tension and test for rewind. If insufficient to draw rope into place, add one more turn.
- 7. TO REASSEMBLE AFTER ROPE SERVICE: Hold pulley in position for reassembly, and rotate it in a counterclockwise direction to wind the rope onto the pulley. Slide pulley onto the post. Turn it one way and the other until you feel that the pulley has engaged the spring lock. Then secure with the flat washer and Sems screw. Follow step 6 to "prewind" the correct tension on the spring. When the starter rewinds properly, position the housing near the engine and reconnect the "ON-OFF" switch ground wire to the ignition. Very gently press starter housing against the engine while you slowly pull out the starter grip. Pull until the

slotted pulley seats itself in the starter pawls located on the engine rotor. When this happens and the starter housing is seated flush against the engine housing, you can secure with the four Sems screws previously removed. Tighten these screws to 40-50 inch-pounts (4.5-5.7 Nm).

MUFFLER AND CYLINDER

CYLINDER FINS and fan housing should be cleaned occasionally to prevent engine from running too hot.

The muffler should be kept clean and open, but the saw should never be run without the muffler. If local regulations require use of a spark arrestor screen, check condition periodically, and replace when clogged or deteriorated.

Scraping Carbon: While muffler is off, check the condition of the cylinder ports (and piston and rings through the ports.) If ports are more than 1/3 clogged, it will be necessary to first put the piston to top dead center, then remove carbon carefully with a wooden scraper. Do not scratch the piston or damage edges of the ports.

STORING THE SAW

1. All local regulations for the safe storage of fuel supplies must be observed. Non-stablized fuel supplies should be used up in other equipment or discarded.

- 2. Prepare the engine internally for storage. Drain as much fuel from the saw tank as possible, then start and run the engine until it runs dry and quits. Remove the spark plug to pour in a teaspoonful of a rust inhibitor product or a detergent oil. Install the spark plug and crank the engine enough times to distribute the oil over the cylinder and piston walls as a vapor.
- 3. Remove bar and chain and clean them thoroughly. Let chain dry and store it in a small container of engine oil to prevent rust. Oil the dried bar and wrap it in oiled paper.
- 4. Clean all foreign material from the outside surfaces of the engine. The finish can be preserved with a coat of auto wax.
- 5. Store the saw in a well-ventilated place where it is inaccessible to children and away from corrosive agents such as garden chemicals and de-icing salts.

ATTACHMENTS AND DEVICES /

Other than standard equipment.



BOW SAW ATTACHMENTS

NOTICE

Homelite does not recommend the use of bow saws. This bow saw information is provided for those who will insist on adapting their Model XL-12, SXL-AO chain saw to a bow guide.

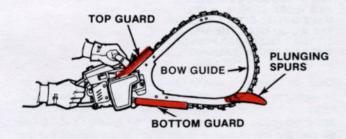
WARNING

Extreme caution must be taken to use a bow saw safely. When used carelessly, or when not used properly (as outlined in this manual) the bow saw could cause serious injury from KICKBACK. DO NOT operate a bow saw without reading and understanding ALL of the information pertaining to bow saws and KICKBACK given below and on pages 3 and 4 of the manual.

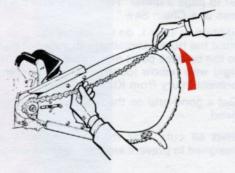
Any Bow Guide Kit you select for the Model XL-12 or SXL-AO contains detailed instructions for any adaptions or modifications of either Model chain saw or the attachment parts required for a proper fit.

IMPORTANT

Be sure the ignition switch is in the "STOP" position. And wear gloves for protection whenever you are working on or near the saw chain.



Do not use any attachment or adapt your Model XL-12 or SXL-AO for any device or attachment not specifically recommended by Homelite for the Model XL-12 and SXL-AO.



CHAIN MUST BE PUT BETWEEN THE PLUNGING SPURS. WHEN CHAIN IS NEW, IT IS EASIEST TO GET ON THE BOW BY WORKING UPWARD FROM THE SPURS.



BOW SAW KICKBACK

KICKBACK from a bow saw is similar to KICKBACK from any other chain saw. But the KICKBACK DANGER ZONE of a bow saw (see illustration) is much larger than that of a straight blade saw. The danger of KICKBACK from a bow saw is, accordingly, greater.

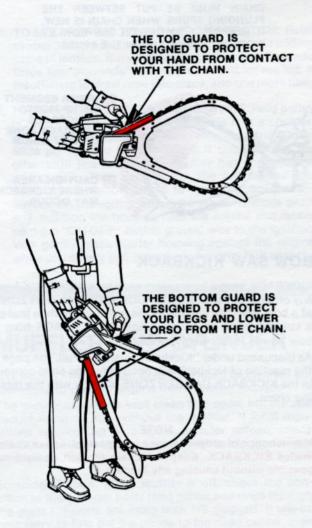
As discussed under "Kickback, Push and Pull," on page 3 the reaction of kickback will occur any time solid contact in the KICKBACK DANGER ZONE is made with the rotating chain.

NOTE

Maintenance of proper tension is important. Loose chain invites KICKBACK. Keep the chain tension as tight as possible without causing any binding.

HOW TO MAINTAIN CONTROL OF A BOW SAW

- Refer to page 3 under "How to Control the Reactive Forces of a Chain Saw."
- 2. In addition to step 1, do the following:
 - a) Hold the front handlebar with your left hand, close to the balance point of the saw. Keep your left arm rigid with (elbow locked), for good control and to prevent injury from KICKBACK.
 - b) Get a good grip on the rear handle with your right hand.
 - Start all cuts near the plunging spur which is designed to prevent kickback when used properly.



WARNING

Do not operate a bow saw unless the plunging spurs and the bottom and top chain guards are in place. Serious injury may result if any of these parts are left off the bow guide.

BOW SAW DO'S AND DON'TS

Not all of the techniques of cutting, as outlined in Section 4, apply to the bow saw. The following informa-

tion will be helpful and should be followed when cutting with a bow saw.

The chief advantage of the bow saw is its ability to cut through wood without the bow guide becoming pinched.



THE SPURS ARE DESIGNED AS A WORK STOP. ALWAYS MAKE INITIAL CONTACT WITH THE WOOD NEAR THE SPURS SO THAT THE SPURS PREVENT THE SAW FROM "WALKING" UP THE SIDE OF THE LOG.

Thus, in situations where two cuts (as overbuck and an underbuck) would be required with a "straight blade" saw to avoid a pinch, the bow saw can do it in one cut. The basic cut made with a bow saw is the "plunge cut," made by placing the plunging spurs against the side of the log or tree trunk, and plunging the tapered front of the guide into the wood.

Another cut made with a bow saw (illustrated top of page) is the "pivot cut," useful in bucking logs flat on the ground. When bucking logs on the ground, anchor the spur by placing it on the ground next to the log. Rev up the engine and pivot the saw on the spur. Initial contact should be made near the spur.

Some professionals prefer to use the top section of the bow (between kickback zone and the top guard) for lopping off small branches. If you intend to use the bow in this manner, take extreme care not to let the chain at the kickback zone contact any object.

Here are some disadvantages of a bow saw: It is a heavier, more cumbersome tool than a conventional chain saw. The higher friction drag (greater chain-bar contact surface) uses up more of the engine's power than the same capacity "straight blade" does. The wide bow configuration puts the saw chain closer to your body, hands, face and legs. And at the end of a plunge cut, the cut log sections may come back together inside the bow, preventing its removal.

No matter what type of cutting you do, make sure your left arm is rigid with your elbow "locked". In the event of a kickback, a "locked" elbow may prevent injury. Balance is a very important part of cutting. Make sure you have a firm stance. Do not work with your head or body directly over the saw. When cutting, always stand to one side of the potential kickback path.

BOW SAW MAINTENANCE

- At the end of each day of operation, remove the chain and bow guide. Clean the drive case cover, the drive case and the oil discharge hole in the guide bar mountpad. Clean the oil entry holes in the bow guide.
- The chain should be filed, cleaned, inspected, and then oiled. (Daily or as required.)
- The assembly should be inspected before each day of use. Loose top guard, bottom guard and spur fasteners should be retightened. Remember to use proper torque values for each fastener.
- 4. Once a week or so, the guards and spurs should be removed and the guide reversed, top-for-bottom. Then the guards and spurs should be reassembled. This procedure, when regularly followed, will distribute the wear on the top and bottom rails of the bow. It will last a lot longer.



FILL IN THIS INFORMATION FOR YOUR RE	COPE

NOTICE

Technology changes with the times. Homelite strives not only to create new products, but also to refine and improve existing designs. By contacting our manager of customer relations (see address below) you can learn of any improvements or new devices which have been developed since you purchased your chain saw.

Homelite Division of Textron Inc.

P.O. Box 7047 14401 Carowinds Boulevard Charlotte, N.C. 28241 Attention: Customer Relations Manager

SERVICING DEALER INFORMATION

For the location of your nearest Homelite Servicing Dealer in the contiguous United States, Hawaii, Puerto Rico, and the Virgin Islands.

CALL: 1-800-242-4672

1-800-521-5165 N.C. Res. only

NOTE: Only Dealer Location Information can be obtained at this number.

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HOMELITE

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Homelite Division of Textron Inc.

1987

SUPPLEMENT **TO YOUR**



HOMELITE° **CHAIN SAW** OWNER'S MANUAL

THE CHAIN SAWS LISTED BELOW CONFORM TO THE ANSI-B175.1 - 1985 KICKBACK STANDARD WHEN EQUIPPED WITH THE GUIDE BARS AND CHAINS SHOWN.

POWERHEAD, GUIDE BAR AND CHAIN COMBINATIONS

SAW MODEL	GUIDE BAR PART NO.	CHAIN PART NO.	CHAIN TYPE NO.	SAW MODEL	GUIDE BAR PART NO.	CHAIN PART NO.	CHAIN TYPE NO.
XL & SUPER 2	HT-10001-G4 HT-12001-G4 PT-12371-G4 PT-14371-G4 PT-16371-G4	HI-92042-JB HI-92048-JB HI-92048-JB HI-92053-JB HI-92059-JB	37-ME50-42 37-ME50-48 37-ME50-48 37-ME50-53 37-ME50-59	XL-12, SXL-AO, 330, 360 & 410	SP-16381-H5 GW-16001-G5 PT-20381-G5 SP-20381-H5 GW-20001-G5 PT-20381-G5	JI-92059-MB JI-92059-MB JI-92070-LB JI-92070-LB JI-92070-LB JI-92070-MB	38-LE50-59 38-LE50-59 38-ME50-70 38-ME50-70 38-ME50-70 38-LE50-70
VIS2	PT-14371-G4 PT-16371-G4	HI-92053-JB HI-92059-JB	37-ME50-53 37-ME50-59		SP-20381-H5 GW-20001-G5 PT-24381-G5	JI-92070-MB JI-92070-MB JI-92081-LB	38-LE50-70 38-LE50-70 38-ME50-81
150-AO & SEZ	PT-16381-G3 PT-16381-G3	JI-92059-LB JI-92059-MB	38-ME50-59 38-LE50-59		SP-24381-H5 GW-24001-G5 PT-24381-G5	JI-92081-LB JI-92081-LB JI-92081-MB	38-ME50-81 38-ME50-81 38-LE50-81
240 & 245	PT-14371-G4 PT-16371-G4	HI-92053-JB HI-92059-JB	37-ME50-53 37-ME50-59		SP-24381-H5 GW-24001-G5	JI-92081-MB JI-92081-MB	38-LE50-81 38-LE50-81
	PT-18371-G4 PT-16321-G4 PT-18321-G4	HI-92064-JB DI-92067-EB DI-92073-EB	37-ME50-64 32-ME50-67 32-ME50-73	360 & 410	SP-28381-H5	JI-92092-MB	38-LE50-92
290 & 340	SP-16381-H6	JI-92059-LB	38-ME50-59	410	GW-30001-G5 SP-31381-H5	JI-92098-MB JI-92103-MB	38-LE50-98 38-LE50-10
230 & 340	SP-16321-H6 SP-20381-H6 SP-20321-H6	JI-92059-LB JI-92059-MB DI-92067-FB JI-92070-LB JI-92070-MB DI-92079-FB	38-LE50-59 32-LE50-67 38-ME50-70 38-LE50-70 32-LE50-79	550	PT-16381-G5 SP-16381-H5 GW-16001-G5 PT-20381-G5 SP-20381-H5	JI-92059-MB JI-92059-MB JI-92059-MB JI-92070-MB JI-92070-MB	38-LE50-59 38-LE50-59 38-LE50-59 38-LE50-70 38-LE50-70
XL-12, SXL-AO, 330 & 360	PT-16381-G5 SP-16381-H5 GW-16001-G5 PT-16381-G5	JI-92059-LB JI-92059-LB JI-92059-LB JI-92059-MB	38-ME50-59 38-ME50-59 38-ME50-59 38-LE50-59	1141	GW-20001-G5 PT-24381-G5 SP-24381-H5 GW-24001-G5 SP-28381-H5 GW-30001-G5	JI-92070-MB JI-92081-MB JI-92081-MB JI-92081-MB JI-92092-MB JI-92098-MB	38-LE50-70 38-LE50-81 38-LE50-81 38-LE50-92 38-LE50-92

CODING IN BAR PART NUMBERS AND CHAIN TYPE NUMBERS I

BAR NO. PREFIXES

RE - Narrow Nose
GW - Solid, Gas-Weided Tip
PT - Sprocket Nose
SP - Sprocket Nose, Hvy. Duty
HT - Hard Track

FIRST TWO DIGITS OF BAR NUMBER

"called" bar length

FIRST DIGITS OF CHAIN TYPE NO. 32 = .325" Pitch 37 = .375" Pitch

38 = 3/8" Pitch 40 = .404" Pitch CHAIN TYPE LETTERS ME = Raker III Semi Chisel LE = Raker III Chisel

DIGITS BEFORE AND AFTER THE HYPHEN

XX - (before) = drive link gauge.

- XX (after) = drive links in chain loop.

SAFETY PRECAUTIONS FOR CHAIN SAW USERS



Additional safety precautions and instructions for the proper use and maintenance of your chain saw are contained in your owners manual. Read your owner's manual and this supplement carefully before assembling and operating your saw.

PRECAUTIONS AGAINST KICKBACK



WARNING: KICKBACK may occur when the nose or tip of the guide bar touches an object. Tip contact, in some cases, may cause a lightningfast reverse reaction, kicking the guide bar up and back towards the operator.



WARNING: PINCHING the saw chain along the top of the guide bar may push the guide bar rapidly back towards the operator. The pinch may occur when the wood closes around the chain in the cut.

Either of the above reactions, **KICKBACK** or **PINCH**, may cause you to lose control of the saw and could result in **SERIOUS PERSONAL INJURY**. When a push has caused the operator to lose control, it is possible for a kickback to occur as a secondary reaction.

Do not rely exclusively upon the safety devices built into your saw to protect you from injury. As a chain saw user, you should do the following to avoid accident and injury:

- Keep SAFE T TIP® Anti-kickback Device properly mounted on the guide bar. It prevents kickback.
- Get a basic understanding of kickback so you can reduce or eliminate the element of surprise. Surprise can contribute to accidents.
- Keep a firm grip on the saw with both hands when the engine is running. The right hand should be on the rear handle and the left hand on the front handle. Use a firm grip with thumbs and fingers encircling the handles. A firm grip will help you to maintain control of the saw if kickback occurs. Don't let go.
- Be sure the area in which you are cutting is free from obstructions. To avoid kickback, if you remove the SAFE•T•TIP Device for a specific cut, do not let the chain at the tip of the guide bar contact a log, branch or any other obstruction while you are operating the saw.
- Keep your body to the left of the line of cut.

- Always bring the saw up to speed before letting the chain touch the wood. Once wood contact is made, keep cutting at steady speed. Do not slow down, then speed up or the saw may pull you off balance.
- Do not overreach or cut above shoulder height. You cannot maintain proper control in these positions.
- Follow Homelite's sharpening and maintenance instructions for the saw chain.
 Improper maintenance may defeat the safety features designed into your saw.
- Use only the bars and chains specified by Homelite. Other bars and chains may have greater kickback potential.
- Keep up to date with the latest technology in chain saw safety devices and equipment. Contact Homelite Manager of Customer Relations for information. (Address is on back page.)

COMPARISON CHART

FUNCTION

EFFECT, IF ANY, UPON PERFORMANCE EFFECT IF REMOVED

EFFECT OF BOTH NORMAL AND IMPROPER USE & CARE EFFECT OF A PRODUCT SUBSTITUTE

DEVICE TO PREVENT INJURIES FROM KICKBACK

BAR-TIP GUARD (SAFE•T•TIP® Anti-kickback device is factory-installed on all Homelite bars.)

Covers kickbackgenerating zone of the bar tip to prevent kickback from happening. Prevents (a) drawing of the bar tip through the cut, (b) boring and (c) cuts where tip is buried. Cannot prevent kickback if removed from the bar. No loss of protection if kept properly tight. Loose device can catch the chain. To be as effective as the SAFE•T•TIP Device, similar products must fit just as well over the bar tip.

DEVICES TO REDUCE INJURIES FROM KICKBACK

LOW-KICKBACK CHAIN (Homelite's Chain in this category is Raker III™ Chain.)

Control depth of cutter penetration at the bar tip to reduce force of a potential kickback. Low-kickback design may compromise cutting speed. Needs proper care to preserve top speed. May be slight increase of potential kickback force as teeth are filed back. Can be grabby and more dangerous if improperly filed.

Other chains may have greater potential kickback force and may not cut as well.

REDUCED-KICKBACK GUIDE BAR (Most Homelite models do not use reduced-kickback quide bars.)

Small radius bar tip lowers potential kickback force and may provide a smaller kickback zone at bar tip.

May tend to have shorter life than wider tip bars, and may reduce the cutting rate in some situations No loss of protection if properly maintained, slow or off-line cutting if not properly maintained. Rail wear, changing effective tip radius, may affect protection.

Kickback potential may increase.

CHAIN BRAKE (Kits and special "SL" model chain saws with chain brakes are available for many Homelite saw models.)

Intended to stop chain in time to reduce injury from a kickback. Adds weight and bulk to the saw model. May snag in the brush. May activate unintentionally. Chain will not be stopped by a brake.

May fail to stop chain quickly enough - even with normal use and care. Increase in stopping time likely to go undetected. May not function as intended.

FRONT HAND GUARD (Front hand guards are provided on all Homelite saws.)

Protects left hand from contact with the saw chain. Adds slight weight. May snag in the brush. Loss of protection.

May fail to protect if bent, loose, damaged or broken. May provide less protection than original guard.



DEVICE TO PREVENT INJURIES FROM KICKBACK

SAFE+T+TIP® ANTI-KICKBACK DEVICE

You still have to control PULL and PUSH as well as the tendency of the chain to slide along the work rather than penetrate it. But, the SAFE•T•TIP Device really does prevent kickback from happening, because it covers the tip of the bar where kickback is generated. Inexperienced persons should never attempt any kind of cutting where the Device would have to be removed from the bar tip.

Those users, such as professional loggers, who may need to draw the tip through the cut, make boring cuts, or cut logs bigger than the bar length should replace the Device as soon as those cuts are complete. When cutting with the Device removed, the user must rely on careful use of the proper techniques as shown in the manual to avoid kickback. With proper care to keep the Device properly mounted and tightened on the bar, the SAFE•T•TIP Device will prevent kickback for the life of the unit. If allowed to loosen, it may catch the chain. Replace only if damaged.

DEVICES TO REDUCE INJURIES FROM KICKBACK



RAKER III® LOW KICK-BACK SAW CHAIN

The three rakers (depth gauges) ahead of each cutter can minimize the force of a kickback reaction by preventing the cutters rounding the tip of the bar from digging in too deeply at the kickback zone. Raker III chain is a

key factor enabling your saw to meet the ANSI standard which requires that a saw shall kick back no more than 45 degrees under simulated conditions. These conditions are intended only to provide reference numbers for comparison (like EPA mileage ratings which may not represent actual fuel economy). A rating below 45 degrees does not mean the saw cannot kick much higher in actual use.

Under some conditions Raker III saw chain may not cut as smoothly or quickly as conventional chain. When cutting logs with smooth bark, the chain may tend to skid or slide along the work before penetrating into a cut. Top performance of Raker III chain is obtained by frequent, precise chain maintenance.

Properly maintained Raker III chain may lose a bit of its kickback-reducing ability with every sharpening. This is due to the increase in space between rakers and teeth as the cutters are filed back. The chain will be rough-cutting, "grabby," and more kickback-prone if the cutters have a forward hook shape, rakers are filed too low or have an improper contour.

Generally: a) Dullness does not increase the kickback potential of a chain very much, b) improperly sharpened chain, especially the too-low filing of the rakers, may have a significantly higher kickback potential, and c) even with care to maintain the proper cutter angles and raker depths, the kickback potential can increase slightly with each filing.

HOMELITE® GUIDE BARS

Generally, guide bars with small radius tips have somewhat lower kickback potentials, but at the sacrifice of both cutting efficiency and durability. Therefore Homelite equips only electric saws with the narrow tip bars.

Homelite gasoline saws meet the kickback-reduction requirements of ANSI B175.1 without need for small radius tip bars.

When making a replacement be sure to order one of the Homelite bars listed for your saw in this owner's instruction. The proper size SAFE•T•TIP Device comes installed on the bar. Bars of other manufacture which lack provision for mounting this kickback preventing Device should not be used.

The ability of a kickback-reduction guide bar to reduce kickback does not normally diminish with either wear or normal use. But the owner's manual instructions for bar maintenance should be followed to prevent chain damage and preserve saw performance.

FRONT HAND GUARD

Your saw has a factory-installed front hand guard. On some models it can be pivoted out of the way for fueling. Do not remove this guard or replace it with a substitute (which may not offer the same level of protection). Maintain the guard in good condition. Do not let it snag in the underbrush. Do not use the guard as a hand grip. Replace it if damaged or broken.

CHAIN BRAKE

Even if you purchased a chain brake-equipped model, Homelite has supplied a SAFE•T•TIP® anti-kickback device for it. This is because a chain brake does not prevent kickback any more than a seat belt prevents collisions. A chain brake can only stop chain rotation. For your safety, rely on the SAFE•T•TIP Device to prevent kickback. Also depend on using the proper grip and stance, and the safe cutting techniques recommended in your owner's manual to control the forces which tend to push or pull you and the saw during cutting.

At its best, a chain brake offers only partial protection against injury from kickback. In some situations it may be impossible for the brake mechanism to stop the chain before the saw blade reaches the operator. This is especially true in situations where the operator is positioned in close proximity to the saw blade.

A chain brake is not like a fire extinguisher which can be certified to work for a certain time. Too many things like breakage or wear, dirt, dust, sawdust, chain oil, and temperature changes in the chain saw's environment can reduce the chain brake's ability to stop the chain. The best chance you can give the brake to react effectively is to keep it clean. Even with daily cleaning of the mechanism, the dependability of a chain brake to perform under field conditions cannot be certified or even gauged. Keep the SAFE•T•TIP Device on your saw's guide bar, and use proper cutting techniques.

HOMELITE DIVISION OF TEXTRON INC.

P.O. BOX 7047 14401 CAROWINDS BOULEVARD CHARLOTTE, N.C. 28241



HOMELITE/JACOBSEN PRODUCTS

LIMITED WARRANTY

Homelite Division of Textron Inc. warrants to the original retail purchaser that this Homelite/Jacobsen Product is free from defects in material and workmanship and agrees to repair any defective Product free of charge within these time periods from the date of purchase;

- -One year, if the Product is used for personal, family or household use;
- -90 days, if the Product is used for any other purpose, such as commercial or rental use.

This warranty is not transferable and does not cover damage resulting from other than defects in material or workmanship, or damage caused by unreasonable use, including the failure to provide reasonable and necessary maintenance. In addition, this warranty does not cover general check-ups on electrical equipment, tune-ups on gasoline engines or replacement of non-defective parts (such as electrical brushes, cables, plugs, spark plugs, filters, starter ropes, etc.) that may wear and need to be replaced with reasonable use within the warranty period or which may require replacement in connection with normal maintenance. This warranty applies only to products sold within the United States of America, the District of Columbia, Canada, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, the Canal Zone, or American Samoa.

SAVE YOUR SALES SLIP

Proof of purchase in the form of your dated sales receipt, cash register slip, etc. showing the serial number and the model of your Product will be required before our dealers can perform warranty service on this Product.

You must at your own expense arrange to deliver or ship the Product for warranty repairs and arrange for pickup or return of the Product after repairs have been made.

This warranty does not apply to any trade accessory, engine or electric motor which is separately warranted by another manufacturer and not manufactured by Homelite/Jacobsen.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER EXPRESS WARRANTIES, ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY OR OTHERWISE, APPLICABLE TO THIS PRODUCT, SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS LIMITED WARRANTY. HOMELITE/JACOBSEN SHALL NOT BE LIABLE FOR ANY SPECIAL, INCI-DENTAL OR CONSEQUENTIAL DAMAGES.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. 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.

HOW TO OBTAIN WARRANTY SERVICE

Warranty service can be obtained from a Homelite/Jacobsen dealer authorized to make warranty repairs. If you need warranty service, check first with the Homelite/Jacobsen dealer from whom you purchased the Product, or call the following phone number(s) for the name and location of the nearest dealer providing warranty service.

1-800-242-4672—Contiguous United States, Hawaii, Puerto Rico and Virgin Islands.

1-800-521-5165-North Carolina

IN CANADA: You may also obtain this information from our Sales Offices located as follows:

3260 Viking Way Richmond, B.C. **V6V 1N6**

Edmonton, Alta. **T5M 3V8**

16520, 111th Avenue 595 Canarctic Drive **Downsview (Toronto)** Ontario, Canada M3J 2P9

1850 55th Avenue Lachine, Que. H8T-3J5

45 Brandon Street Moncton, N.B. **E1C 7E7**

Homelite/Jacobsen will not make any reimbursements for warranty service, except to Homelite/ Jacobsen dealers authorized to make warranty repairs. You must present your sales receipt when making any claim for warranty service.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to

In Canada, compliance with radio interference regulations certified. Replace spark plug with resistor spark plug only.

This warranty is given by Homelite Division of Textron Inc., Post Office Box 7047, 14401 Carowinds Blvd., Charlotte, North Carolina 28241.

Printed in U.S.A.

HOMELITE TEXTRON

PART NUMBER 17703-C

PRODUITS HOMELITE/JACOBSEN

GARANTIE LIMITEE

Homelite Division of Textron Inc. garantit à l'acheteur au détail d'origine que ce Produit Homelite/Jacobsen est exempt de défauts de matière et de fabrication et consent à réparer gratuitement tout produit défectueux, dans les délais suivants, à compter de la date de l'achat:

- -Un an, si le produit a reçu un usage personnel, familial ou domestique;
- -90 jours, si le produit a été utilisé d'une autre manière quelconque, par exemple, pour usage commercial ou de location.

Cette garantie n'est pas transférable et ne couvre pas les dégâts résultant de causes autres que des défauts de matière ou de fabrication, les dégâts causés par un usage déraisonnable, y compris le défaut d'entretien raisonnable et nécessaire. En outre, cette garantie ne couvre pas les vérifications générales du système électrique, les mises au point des moteurs à essence ni le remplacement des pièces non défectueuses (telles que balais, câbles, fiches électriques, bougies, filtres, cordons démarreurs, etc.) qui s'usent et ont besoin d'être remplacées à la suite d'un usage raisonnable, pendant la période de garantie, ou qui ont besoin d'être remplacées lors de l'entretien normal. Cette garantie ne s'applique qu'aux produits vendus à l'intérieur des Etats-Unis d'Amérique, du District de Columbia, du Canada, du Commonwealth de Porto-Rico, des lles Vierges, de Guam, de la Zone du Canal ou des Samoa américaines.

CONSERVEZ VOTRE REÇU

Avant que nos distributeurs puissent effectuer la réparation en garantie de ce produit, vous devrez fournir une preuve d'achat, c'est-à-dire le reçu daté, le bon de caisse, etc. montrant le numéro de série et le modèle de votre produit.

La livraison ou l'expédition du produit en vue de faire effectuer les réparations sous garantie est à votre charge et à votre initiative ainsi que la reprise ou le retour du produit, une fois que les réparations ont été effec-

Cette garantie ne s'applique pas aux accessoires, moteurs ou moteurs électriques qui font l'objet d'une garantie séparée fournie par un autre fabricant, quand ils ne sont pas manufacturés par Homelite/Jacobsen.

CETTE GARANTIE LIMITEE TIENT LIEU DE TOUTE AUTRE GARANTIE EXPLICITE OU IMPLICITE D'APTITUDE A UN BUT PARTICULIER, DE VALEUR MARCHANDE OU AUTRE, POUVANT S'APPLI-QUER A CE PRODUIT; ELLE EST LIMITEE EN DUREE, C'EST-A-DIRE A LA DUREE DE LA PRESENTE GARANTIE LIMITEE. HOMELITE/JACOBSEN NE POURRA PAS ETRE TENU POUR RESPONSABLE DES DOMMAGES FORTUITS ET CONSEQUENTS.

CERTAINS ETATS N'ADMETTENT PAS LES LIMITATIONS DE DUREE D'UNE GARANTIE IMPLICITE: IL SE PEUT DONC QUE LA LIMITATION CI-DESSUS NE S'APPLIQUE PAS DANS VOTRE CAS. CER-TAINS ETATS N'ADMETTENT PAS L'EXCLUSION NI LA LIMITATION DES DOMMAGES FORTUITS ET CONSEQUENTS; IL SE PEUT DONC QUE LA LIMITATION OU L'EXCLUSION CI-DESSUS NE S'APPLI-QUE PAS DANS VOTRE CAS.

COMMENT OBTENIR LA REPARATION EN GARANTIE

La réparation en garantie peut être obtenue chez un distributeur Homelite/Jacobsen autorisé à effectuer les réparations en garantie. Si vous avez besoin d'une réparation en garantie, adressez-vous d'abord au distributeur Homelite/Jacobsen auquel vous avez acheté le produit, ou appelez l'un des numéros suivants pour avoir le nom et l'adresse du distributeur le plus proche fournissant la réparation en garantie.

- 1-800-242-4672 Etats-Unis du continent, Hawaï, Porto-Rico et les lles Vierges.
- 1-800-521-5165 Caroline du Nord

AU CANADA: Vous pouvez aussi obtenir cette information auprès de nos Bureaux de Vente situés:

3260 Viking Way Richmond, B.C. **V6V 1N6**

Edmonton, Alta. **T5M3V8**

16520, 111th Avenue 595 Canarctic Drive **Downsview (Toronto)** Ontario, Canada M3J 2P9

1850 55th Avenue Lachine, Que. H8T-3J5

45 Brandon Street Moncton, N.B. E1C 7E7

Homelite/Jacobsen ne fera aucun remboursement pour la réparation en garantie, sauf aux distributeurs Homelite/Jacobsen autorisés à effectuer les réparations en garantie. Vous devrez présenter votre reçu pour faire une réclamation de réparation en garantie.

Cette garantie vous donne des droits légaux spécifiques et vous pouvez également avoir d'autres droits qui varient d'un état à l'autre.

Au Canada, conformité avec les réglementations concernant l'interférence radio certifiée. Remplacez la bougie par une bougie à résistance seulement.

Cette garantie est fournie par Homelite Division of Textron Inc., Post Office Box 7047, 14401 Carowinds Blvd., Charlotte, North Carolina 28241 U.S.A.

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HOMELITE TEXTRON

NUMERO DE PIECE 17703-C

GRAPHIC MESSAGES How to "Read" the Symbols

1. Devices and Forms



DIAGONAL LINE across a symbol "prohibited" or "to be avoided."



This symbol indicates Danger or Warning.

2. Picture Series on Homelite® Chain Saws

Some messages take more than one picture to tell the complete story clearly. The pictures on the hand guard of your Homelite chain saw tell the following story.



1. DANGER! BEWARE OF KICKBACK.



2. AVOID BAR NOSE



3. THE SAFE+T+TIP® DEVICE ON YOUR BAR NOSE PREVENTS KICKBACK.



4. DO NOT USE ONE-HANDED.



5. HOLD SAW PROPERLY WITH BOTH HANDS.



6. READ YOUR PRODUCT LITERATURE.



WEAR HEARING AND EYE PROTECTION DEVICES.



PART NO. 17729-B Printed in U.S.A.

MESSAGES GRAPHIQUES Comment "Lire" les Symboles

Emblèmes et Formes



LA LIGNE DIAGONALE en travers du symbole indique "interdit" ou "à éviter".



Ce symbole indique Danger ou Avertissement.

2. Série de dessins sur les Scies à Chaîne Homelite®

Il est parfois nécessaire d'avoir plusieurs dessins pour exprimer clairement le message complet. Les dessins apposés sur la plaque de protection de la main de votre scie à chaîne Homelite expriment le message suivant:





2. Evitez le contact du nez de la lame.



3. Le dispositif SafeeTeTip du nez de la lame empêche le recul.



d'une seule main.



Tenez la scie correcte ment, des deux mains.



6. Lire le manuel de l'utilisateur.



et lunettes protectrices.



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