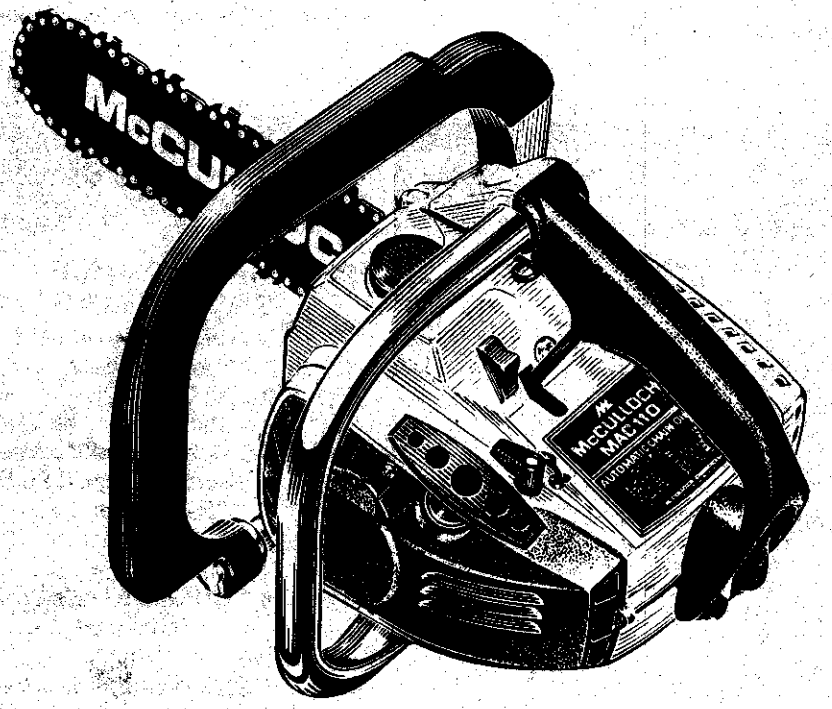
McCULLOCH
CORPORATION

EAGER BEAVER™
MAC 100 SERIES



USER MANUAL

Operation • Maintenance • Safety

WARNING PLEASE READ WARNING

Beware of "KICKBACK". Hold Chain Saw firmly with both hands when using. For your own safety, please read and follow Safety Precautions in this manual before attempting to operate your Chain Saw. Improper use can cause serious injury.

218819-03

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PLEASE READ

Dear Customer,

Thank you for purchasing a McCulloch product. With proper operation and maintenance it will provide you with years of service.

In order to make the best use of your investment, be **CERTAIN** to familiarize yourself with the contents of the **ENTIRE** user manual before attempting to operate and maintain your unit.

Be sure to carefully follow the step-by-step illustrations in this manual to start, operate and maintain your new product.

In the manual there will be the following call-outs: **NOTE, WARNING/CAUTION** and **WARRANTY.**

A **NOTE** is used to convey additional information; to highlight a particular explanation, or expand a step description.

A **WARNING** or **CAUTION** identifies a procedure which, if not undertaken or if improperly done, can result in serious personal injury or damage to the unit and/or both.

The **(WARRANTY SYMBOL)** serves notice that unless instructions or procedures are followed any damage caused will void the warranty and repairs will be at owner's expense.

Pay particular attention to the safety precautions. They are written for your protection and contain important information you must know to safely operate your Chain Saw.

McCulloch Corporation
Product Service Department

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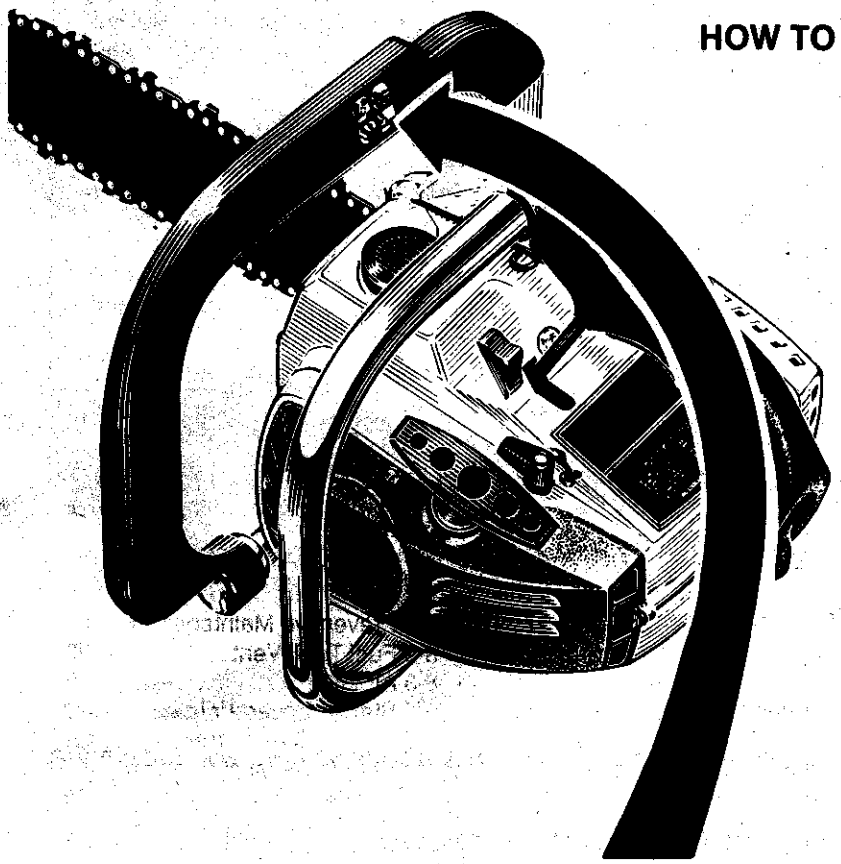
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1 LEGEND SYMBOL DEFINITION 1

Your McCulloch Chain Saw is furnished with a safety label located on the CHAIN BRAKE® Lever/HAND GUARD. This label along with the safety precautions beginning on page 5, should be carefully read before attempting to operate your chain saw.

1-1 LEGEND SYMBOLS



HOW TO READ SYMBOLS & COLORS

RED

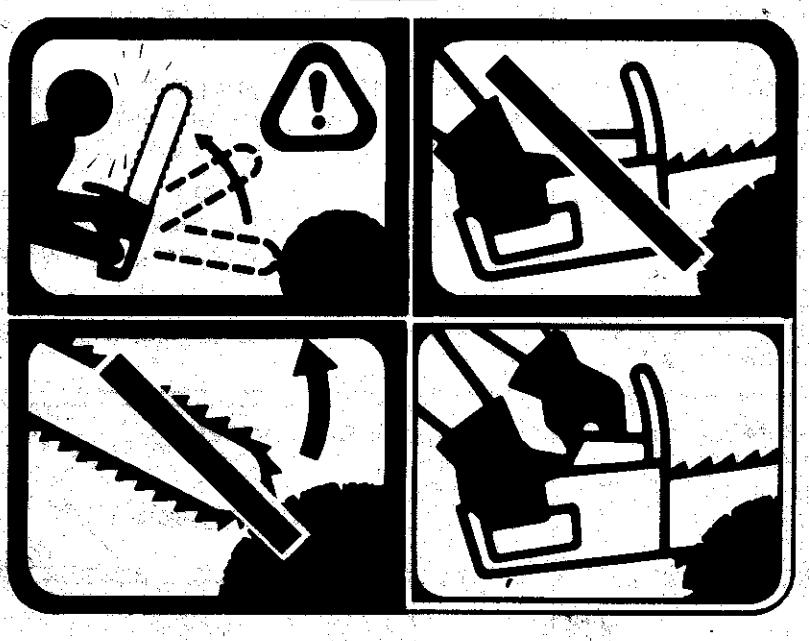
WARNING:

Is used to warn that an unsafe procedure should not be performed.

GREEN

RECOMMENDED

Recommended cutting procedures.



WARNING

1. Beware of kickback.

WARNING

2. Do not attempt to hold saw with one hand.

WARNING

3. Avoid bar nose contact.

RECOMMENDED

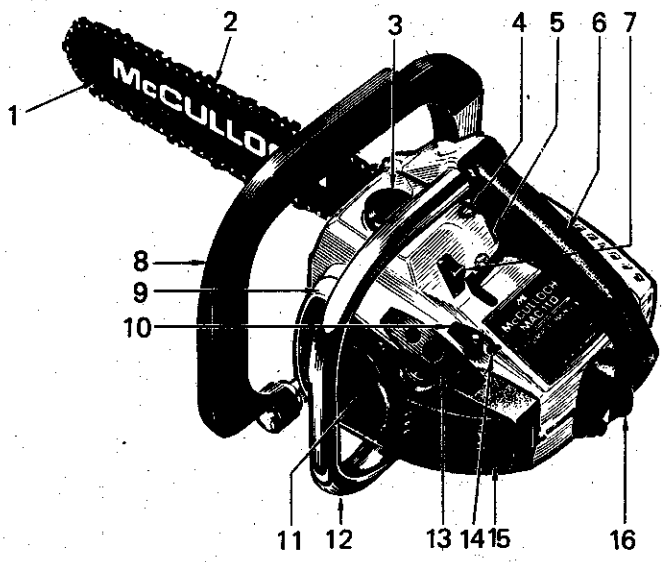
4. Hold saw properly with both hands.

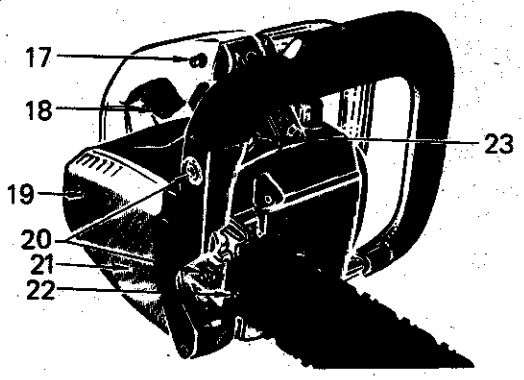
2 GENERAL INFORMATION 2

2-1 General Identification

1. Guide Bar
2. Saw Chain
3. Fuel Tank Cap
4. Manual Oiler
5. Throttle Trigger
6. Rear Handle
7. Ignition/Stop Switch
8. CHAIN BRAKE Lever/Hand Guard
9. Fan Housing
10. Choke Knob
11. Starter Cover
12. Front Handle
13. Starter Handle
14. Carburetor Adjustment Screws
15. Air Cleaner Cover
16. Spark Plug
17. Throttle Latch Knob
18. Safety Trigger
19. Muffler Shield*
20. CHAIN BRAKE Retaining Nuts
21. CHAIN BRAKE
22. Saw Chain Adjustment Screw
23. Oil Tank Cap

* Item 19: Located under Chain Brake Housing





2-2 SAFETY FEATURES

Numbers preceding the descriptions correspond with numbers above to help you locate the safety feature.

2 LOW KICKBACK CHAIN helps reduce kickback or the intensity of kickback significantly, due to specially designed depth gauges and guard links.

7 IGNITION/STOP SWITCH immediately stops engine when tripped. Ignition button must be pushed to ON position to start or restart engine.

8 CHAIN BRAKE LEVER/Hand Guard protects the operator's left hand in the event it slips off the front handle while saw is running.

18 SAFETY TRIGGER prevents accidental acceleration of the engine. Throttle Trigger 5 cannot be squeezed unless Safety Trigger is depressed.

19 MUFFLER SHIELD helps prevent hands and combustible materials from making contact with a hot muffler.

19 SPARK ARRESTER SCREEN* retains carbon and other flammable particles over 0.023 inches in size from engine exhaust flow.

21 CHAIN BRAKE is a safety feature designed to reduce the possibility of injury due to kickback by stopping a moving chain in milliseconds.

* Item 19: Located under Chain Brake Housing

Since it is possible that the saw may be lost or stolen, you may want to etch your own unique marking on the saw and record it along with the serial number and model number.

MODEL NUMBER **SERIAL NUMBER**

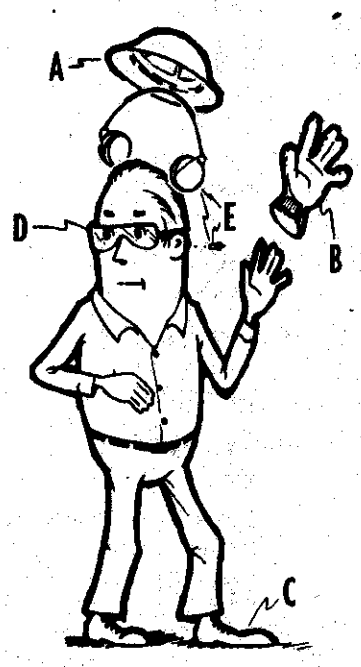
PERSONAL ETCHING:

3 SAFETY PRECAUTIONS 3

3-1 WHAT TO DO

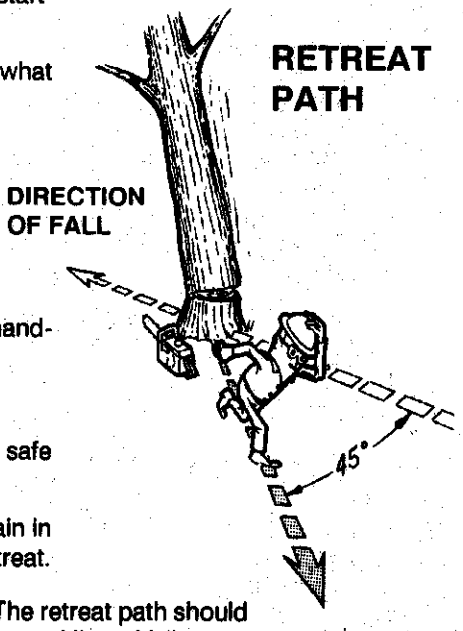


1. **READ YOUR USER MANUAL** in its entirety before attempting to use your Chain Saw. Improper use of your saw can cause serious personal injury.
2. **OPERATION OF A CHAIN SAW** should be restricted to mature, properly instructed individuals.
3. **ALWAYS WEAR CLOSE-FITTING AND PROTECTIVE WORK CLOTHING** that is made to provide protection such as:



   - A **SAFETY HELMET** which meets American National Standards Institute (ANSI) safety standards to protect you from falling objects.
   - B **WORK GLOVES** - Always wear heavy duty work gloves when operating chain saw or when handling, sharpening or filing saw chain.
   - C **SAFETY WORK SHOES** - Always wear heavy duty safety work shoes or boots.
   - D **EYE PROTECTION** - Always wear eye protection which meets ANSI safety standards. Safety eye protection with high impact lenses that can be worn over glasses, safety glasses or goggles protects against flying objects.
   - E **EAR PROTECTION** - Always wear ear plugs or good grade of sound barriers to help reduce dangerous noise levels and to protect against any hearing impairment or damage that may be caused from excessive or continuous noise levels.

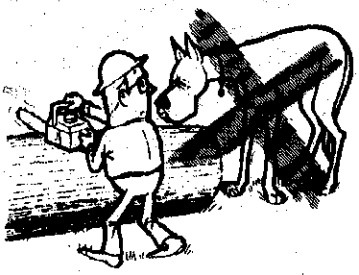
4. **FUEL AND REFUEL IN A SAFE PLACE**, away from sources of ignition or open flame. Do not smoke. Open fuel tank cap slowly to release any pressure which may have formed in fuel tank. Start the saw in a place other than where you fueled it. Move at least 10 feet (3 meters) from fueling area before starting, to prevent a fire hazard.
5. **IF FUEL HAS ACCIDENTALLY SPILLED**, be certain saw is dried before starting. When refueling, allow saw to cool before restarting.
6. **START YOUR SAW YOURSELF.** Others may distract your attention from what you are doing.



7. **KEEP ALL PARTS OF YOUR BODY AND CLOTHING** away from the saw chain when running the engine. Before you start the engine, be sure the saw chain is not contacting anything. This could cause saw to kickback. Read kickback safety precautions.
8. **ALWAYS HOLD SAW FIRMLY WITH BOTH HANDS** when engine is running. Use a firm grip with thumbs and fingers encircling the chain saw handles and watch carefully what you are cutting. Keep your left arm straight.
9. **ALWAYS** cut at high engine speeds.
10. **ALWAYS BE SURE OF YOUR FOOTING.** When felling a tree, pre-plan a safe exit from a falling tree or limbs.
11. **USE WEDGES** to help control felling and prevent binding the bar and chain in the cut. If saw binds and felling starts, leave saw and make a fast, safe retreat.
12. **A SAFE RETREAT PATH** should be cleared before any cuts are started. The retreat path should extend back and diagonally to the rear at a 45 degree angle from the expected line of fall. ALWAYS turn engine OFF before setting saw down.

3 Safety Precautions

13. **BEFORE FELLING A TREE** clear away any obstacles. Remove any dirt, stones, loose bark, visible nails, staples and wire from tree where felling cuts are to be made.



14. **KEEP BYSTANDERS AND ANIMALS OUT OF WORK AREA.** Always allow a safe distance between you, other people and animals when operating a chain saw.

15. **UNLESS YOU ARE A PROFESSIONAL** or are specially trained in dealing with the hazards of kickback, use low-kickback saw chain. Always use other devices such as Chain Brake, handguards which also help reduce the hazards associated with kickback. See Kickback Safety Precautions.

16. **USE EXTREME CAUTION** when cutting small-sized brush and saplings because slender material may catch the saw chain and be whipped toward you, or pull you off balance.



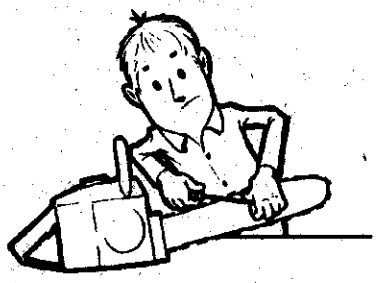
17. **USE EXTREME CAUTION** when cutting a limb that is under tension, be alert for springback so that you will not be struck when the tension in the wood fibers is released.

18. **KEEP WORK AREA CLEAN!** Cluttered work areas invite accidents. Remove debris that could cause you to loose footing, trip, etc.

19. **ALWAYS CARRY CHAIN SAW** with engine stopped, the guide bar and chain covered with a scabbard and to the rear, with the muffler away from your body. Carry the saw by the handle, and not the Chain Brake lever.

20. **CUT ONLY WOOD** and wood products with your saw. Do not cut plastics, sheet metal, or other non-wood materials with the chain saw.

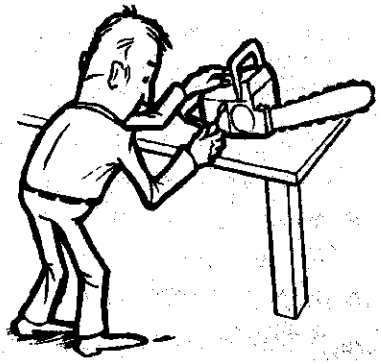
21. **COMPLY WITH ALL FIRE SAFETY AND PREVENTION REGULATIONS.** We strongly recommend you keep a fire extinguisher and a shovel close by whenever operating a chain saw in areas where dry grass, leaves or other flammable materials are present. To operate a gasoline-powered chain saw on U.S. National Forest Lands or forest, brush or brush-covered lands in many states - including California, Maine, New Hampshire Oregon, Washington - you must have an approved spark arrester screen installed and maintained on the muffler. The spark arrester screen must remove and retain carbon and other flammable particles over 0.023 inches in size from engine exhaust flow.



COMPLIANCE WITH LOCAL, STATE, AND FEDERAL LAWS IS THE USER'S RESPONSIBILITY. Your chain saw comes equipped with a spark arrester installed at the factory. This screen meets all U.S. Forestry Service regulations. Spark Arrester Screen replacement kits are available at your nearest McCulloch Servicing Dealer, listed under "SAWS" in your local Telephone Directory Yellow Pages. If you have any questions concerning spark arrester screens or their use, write:

McCulloch Corporation
Product Service Department
6000 S. McCulloch Drive
Tucson, AZ 85706 U.S.A.

Or, you can call our:
Toll-free number: 1-800-423-6302.
Arizona residents: 1-800-221-6507.



22. **KEEP ALL SCREWS AND FASTENERS TIGHT.** 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. If chain moves when engine is idling, carburetor requires adjustment. See Maintenance Instructions.

22. **KEEP THE HANDLES DRY**, clean and free of oil or fuel mixture.

23. **BE SAFETY CONSCIOUS!** Always remember if a chain saw can cut wood, it can cut you.



3-2 WHAT- NOT-TO DO / WHAT TO BEWARE OF / OTHER PRECAUTIONS

1. **DO NOT ATTEMPT OPERATIONS** beyond your capacity or experience.

2. **DO NOT OPERATE A CHAIN SAW** if fatigued, or taking medication that may produce drowsiness, or if drinking alcoholic beverages or if under the influence of intoxicating beverages or drugs.



3. **DO NOT START** a saw where you fuel it.

4. **DO NOT START A CHAIN SAW ON YOUR LEG OR KNEE.** This is wrong and could result in serious personal injury. See Starting Instructions in your User's Manual.

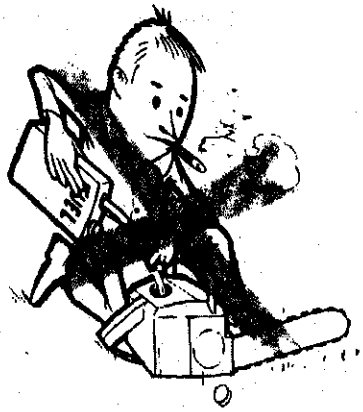
5. **DO NOT USE ANY OTHER FUEL** than that recommended in your User's Manual. See Fuel and Lubrication Section in your manual.

6. **DO NOT OVERFILL** or spill fuel.

7. **DO NOT REFUEL A HOT SAW.** Allow it to cool before refueling.

8. **DO NOT SMOKE** while fueling, refueling, or operating the saw.

9. **DO NOT SET A HOT SAW** down where flammable material is present or near open flame or other ignition sources.

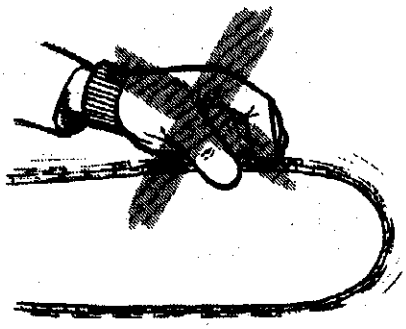


10. **DO'NOT ATTEMPT TO FELL A TREE** during high or changing winds.

11. **DO NOT OPERATE SAW ON SLIPPERY SURFACES**, during snow storms, rain storms or other adverse weather conditions.

12. **DO NOT CUT IN AWKWARD POSITIONS.** Using saw with one hand, outstretched arms, above shoulder height, etc.

13. **DO NOT OPERATE YOUR CHAIN SAW FOR PROLONGED PERIODS.** Rest periodically, especially if your hands or arms start to fell heavy, swell or become difficult to move due to vibration. These conditions can reduce your ability to control a saw. The Anti-Vibration System on your saw helps reduce fatigue.



14. **DO NOT OPERATE** your chain saw in confined or poorly ventilated areas due to danger of exhaust fumes.

15. **DO NOT OPERATE YOUR CHAIN SAW** without a muffler or spark arrester screen.

16. **DO NOT TOUCH** or try to stop a moving chain with your hand, foot or any object, etc.

3 Safety Precautions

17. **DO NOT WEAR DANGLING KEY CHAINS,** jewelry, scarfs or any loose clothing that could be snag by a moving chain. Do not let long hair ever come in contact with a moving chain. If you have long hair take proper precautions (use a hair net, headband, etc.).



18. **DO NOT TOUCH** or let your hand, or any part of your body come in contact with a hot muffler, spark arrester screen or spark plug wire. If maintenance is required, allow saw to cool.

19. **DO NOT ALLOW DIRT, DEBRIS,** or sawdust to build up on the engine or outside of the saw.

20. **DO NOT OPERATE SAW UNLESS CHAIN STOPS** when engine idles. Adjust carburetor. If chain continues to move, take your saw immediately to the nearest McCulloch Servicing Dealer for repair.

21. **NEVER** leave a chain saw unattended.

22. **BEWARE OF KICKBACK!** Do not let the bar and chain come in contact with any object or tip forward when starting engine. This could cause saw to jump and kickback. Some causes of kickbacks are:

    A. **STRIKING LIMBS** or other objects with tip of the saw while chain is moving.

    B. **STRIKING METAL,** cement, or other hard materials near the wood or nails, wire, or fencing staples embedded in the wood.



    C. **RUNNING SAW SLOWLY** at start of, or during the cut.

    D. **CUTTING ABOVE SHOULDER HEIGHT.**

    E. **FAILURE** to properly hold or guiding saw while cutting. See Section 3-3 More About Kickback.

23. **DO NOT ATTEMPT** to operate your chain saw while in a tree, standing on a ladder, or other type of unstable surface. If you elect to do so, be advised that **THESE POSITIONS ARE EXTREMELY DANGEROUS!**

24. **NEVER REMOVE,** modify or make inoperative any safety device furnished with your unit. The Chain Brake/Hand Guard are major safety features.

25. **DO NOT USE CHAIN SAW IF THE CHAIN BRAKE** does not work. Take it to your nearest McCulloch Servicing Dealer, listed under "*SAWS*" in your Telephone Directory Yellow Pages, for repair.



26. **UNLESS YOUR ARE A PROFESSIONAL OR SPECIALLY TRAINED IN DEALING WITH THE HAZARDS OF KICKBACK,** always use saw chain with reduced kickback potential. Low kickback chain significantly reduces the danger of chainsaw kickback, while maintaining high cutting efficiency. See Section 3-3 More About Kickback.

27. **BE AWARE** that a loose or dull saw chain can result in kickback and can slip off guide bar rails during operation.

28. **BE AWARE** that an improperly sharpened saw chain can also result in kickback. If unfamiliar with saw chain sharpening techniques, take your unit to the nearest McCulloch Servicing Dealer, listed under "*SAWS*" in the Telephone Directory Yellow Pages.

29. **BE AWARE** that failure to properly maintain your saw can result in serious personal injury, damage to the engine and/or result in faulty operation and poor on-the-job performance.

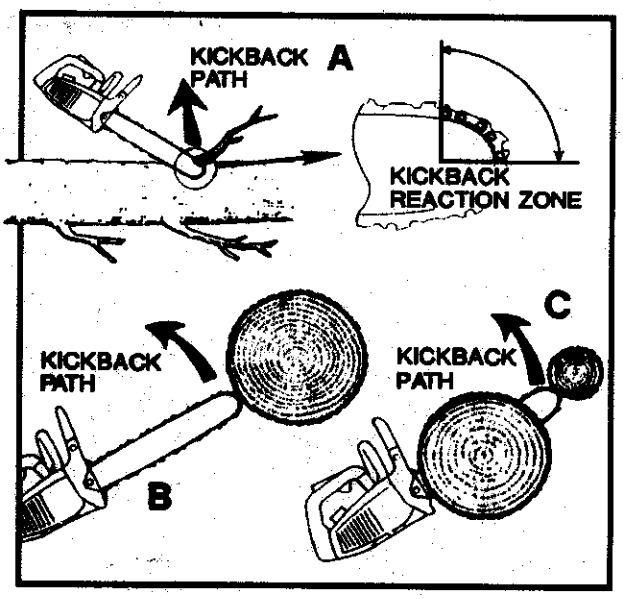
NOTE: See Sections 8 and 9 Maintenance Instructions for additional information.

3-3 MORE ABOUT KICKBACK

WARNING ⚠ DANGER - BEWARE OF KICKBACK ⚠ WARNING

Kickback can lead to dangerous loss of control of the chain saw and result in serious or fatal injury to the saw operator or to anyone standing close by. Always be alert because rotational kickback and pinch kickback are major chain saw operational dangers and the leading causes of most accidents.

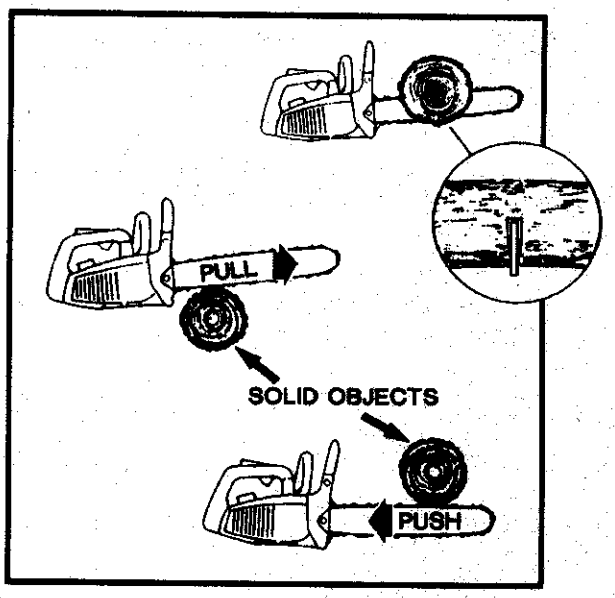
Beware of ROTATIONAL KICKBACK



KICKBACK may occur when the NOSE or TIP of the guide bar touches an object, or when wood closes in and pinches the saw chain in the cut.

Tip contact in some cases may cause a lightning fast reverse reaction, kicking the guide bar up and back toward the operator.

The PUSH (pinch-kickback) and PULL Reactions



PINCHING the saw chain along the TOP of the guide bar may push the guide bar rapidly back toward the operator. PINCHING the saw chain along the BOTTOM of the guide bar may pull the saw forward, away from the operator.

Any of these reactions may cause you to lose control of the saw which could result in serious personal injury.of the saw which could result in serious personal injury.

KICKBACK SAFETY PRECAUTIONS

As a chain saw user, you should take several steps to keep your cutting jobs free from acident or injury by heeding the following recommendations:

1. With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
2. Keep a good grip on the saw with both hands, the right hand on the rear handle, and the left hand on the front handle. Use a firm grip with thumb and fingers encircling chain saw handles. A firm grip will help you reduce kickback and maintain control of the saw. Do not let go.
3. Make sure that the area in which you are cutting is free of obstructions. Do not let the nose of the guide bar contact a log, branch, or any other obstruction which could be hit while you are operating the saw.
4. Cut at high engine speeds.
5. Do not overreach or cut above shoulder height.
6. Follow manufacturer's sharpening and maintenance instructions for the saw chain.
7. Only use replacement bars and chains specified by the manufacturer or the equivalent.

4 ASSEMBLY INSTRUCTIONS 4

4-1 INTRODUCTION

Your McCulloch chain saw is a light, portable and powerful cutting tool which is easy to start, handle and maneuver.

Your new chain saw can be used for a variety of projects - cutting firewood, making fence posts, clearing wooded areas, felling small trees, limbing, pruning at ground level, cleaning up storm damage and light carpentry. Cut only wood or wood products with your saw.

Although your saw is factory-assembled, assembly instructions are provided for reference purposes since periodic general maintenance will be required to keep your unit in top operating condition.

The Maintenance Instruction section of your manual also provides you with easy to follow procedures and illustrations.

Therefore, your manual is both a reference guide and handbook designed to help you start, operate and maintain your new saw.

4-2 TOOLS FOR MAINTENANCE/ ASSEMBLY

Tools provided in the Owner's kit include:

1. Combination Wrench.
2. 5/32" Allen Wrench

Other tools required include:

3. Straight Screwdriver.
4. Work Gloves.

4-3 ASSEMBLY/DISASSEMBLY PROCEDURES

To install a new Guide Bar and Saw Chain (or to remove the bar and chain for maintenance) will require removal of the Chain Brake. All disassembly and assembly procedures will be explained in this section step-by-step with easy to follow illustrations.

All procedures must be completed. The procedures to be performed in sequence begin as follows:

4-4 CHAIN BRAKE REMOVAL
4-5 GUIDE BAR INSTALLATION
4-6 SAW CHAIN INSTALLATION
4-7 CHAIN BRAKE INSTALLATION
4-8 SAW CHAIN TENSION ADJUSTMENT
4-9 CHAIN BRAKE MECHANICAL TEST

4-4 CHAIN BRAKE® REMOVAL

To Remove Chain Brake:

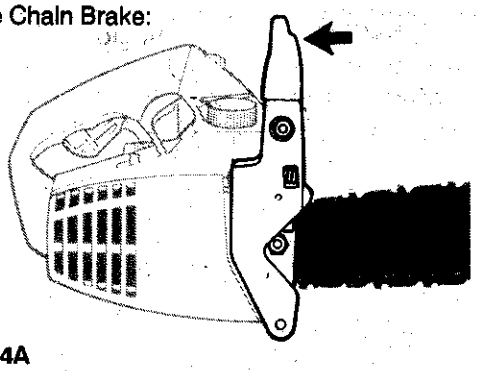


FIGURE 4-4A

1. Make sure Chain Brake Lever is in the disengaged position. Chain Brake must be in disengaged position for removal and installation. **(Figure 4-4A)**

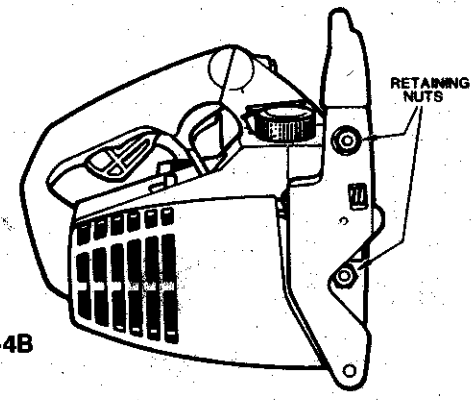


FIGURE 4-4B

2. Using the wrench furnished in your owner's kit, remove two (2) Chain Brake retaining nuts. **(Figure 4-4B)**
3. Remove Chain Brake.

NOTE:
Set the Chain Brake and two retaining nuts aside.

4-5 GUIDE BAR INSTALLATION

To Install Guide Bar:

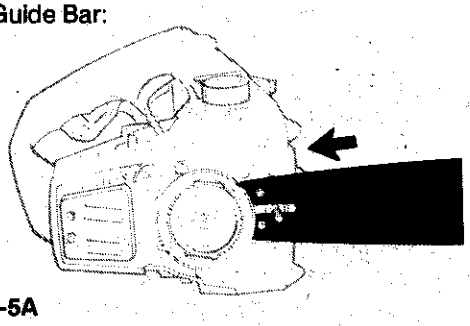


FIGURE 4-5A

1. Slide slotted end of Guide Bar over the mounting bolt as far as it will go. **(Figure 4-5A)**

4-6 SAW CHAIN INSTALLATION

WARNING ⚠
Always wear heavy duty work gloves when handling saw chain to avoid cutting hands or fingers on sharp cutter teeth.

To Install Saw Chain:

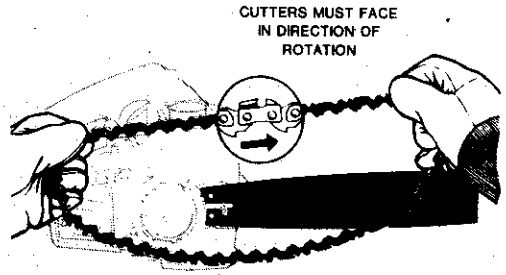


FIGURE 4-6A

1. Spread saw chain out in a loop with cutting edges pointing CLOCKWISE. **(Figure 4-6A)**



FIGURE 4-6B

2. Place chain behind Clutch Drum and onto sprocket teeth. **(Figure 4-6B)**
3. Guide chain along top of bar and around sprocket tip, setting drive links in the bar rail. It may be necessary to adjust sprockets on bar nose. **(Figure 4-6B)**

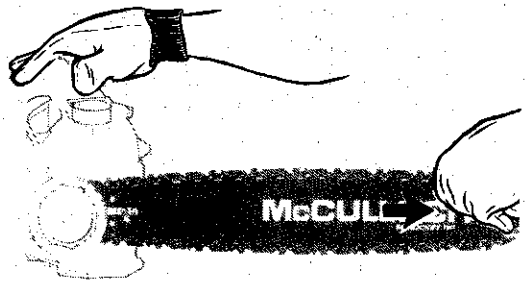


FIGURE 4-6C

4. Pull guide bar forward to take up slack in chain. Make sure chain fits in bar rail along bottom of bar. Move chain back and forth to make sure it is in mesh with sprocket and that chain drive links are lined up with the bar rails. **(Figure 4-6C)**

4-7 CHAIN BRAKE INSTALLATION

NOTE
The CHAIN BRAKE housing cannot be installed unless the CHAIN BRAKE lever is pulled back to the disengaged position. See Section 4-4, Figure 4-4A.

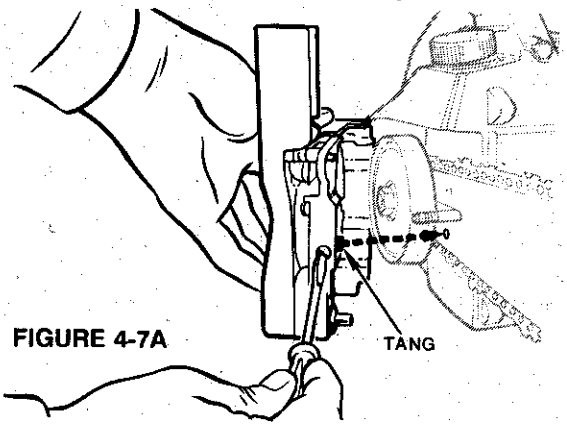


FIGURE 4-7A

1. Turn chain adjustment screw IN or OUT to align tang (projecting prong attached to adjustment screw) with bar adjustment hole. Tang must fit into the bottom hole on Guide Bar. **(Figure 4-7A)**

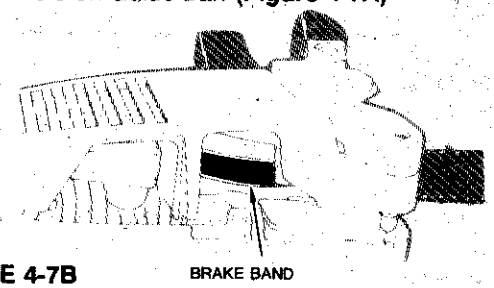


FIGURE 4-7B

2. With the tang aligned, place the CHAIN BRAKE on the saw. When the CHAIN BRAKE is properly installed:

   A. The brake band fits around the outside of the clutch drum. **(Figure 4-7B)**

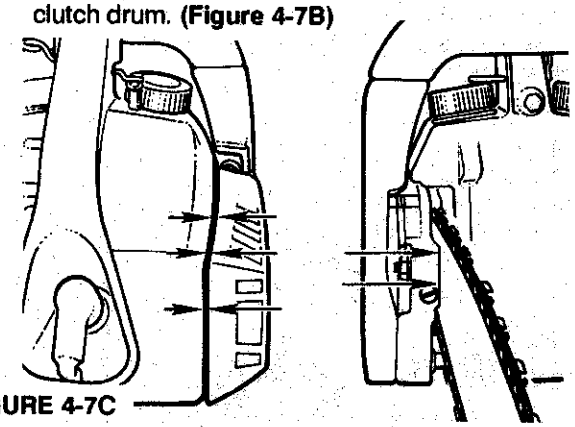


FIGURE 4-7C

   B. There is a uniform gap between it and the saw housing, and the front fits snug against the bar. The CHAIN BRAKE lever will fit easily into the CHAIN BRAKE. **(Figure 4-7C)**

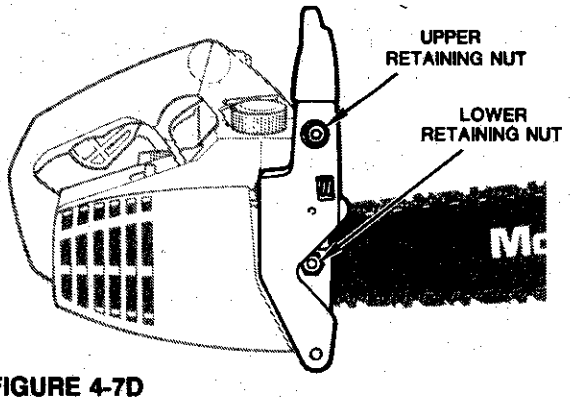


FIGURE 4-7D

3. Re-Install Chain Brake Lever bolt and upper retaining nut. Tighten nut securely.

4. Reinstall lower retaining nut onto bar mounting bolt. Leave nut finger tight. Proceed to Section 4-8.

NOTE
Whenever adjusting saw chain tension, the Guide Bar mounting bolt retaining nut must be finger tight.

4-8 SAW CHAIN TENSION ADJUSTMENT

WARNING ⚠
Always wear heavy duty work gloves whenever handling chain to avoid cutting hands or fingers on sharp cutter teeth.

Proper tension of saw chain is extremely important and must be checked before starting any cutting operation, as well as during the job.

Taking the time to make needed adjustments to the saw chain will result in improved cutting performance and increase chain life.

NOTE:
A new saw chain will stretch, requiring adjustment after as few as five cuts. This is normal with a new chain, and the interval between future adjustments will lengthen quickly.

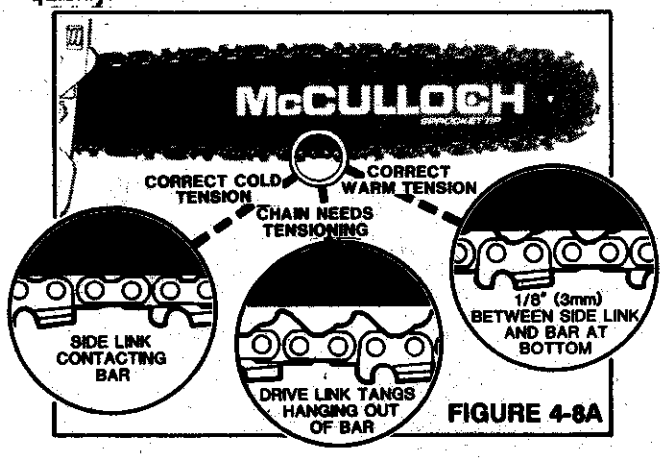


FIGURE 4-8A

CAUTION
If saw chain is too loose or too tight, the sprocket, chain, guide bar, and crankshaft bearings will wear more rapidly. Study **Figure 4-8A** for information concerning Cold Tension, Correct Warm Tension and as a guide as to when saw chain needs adjustment.

To Adjust Chain Tension

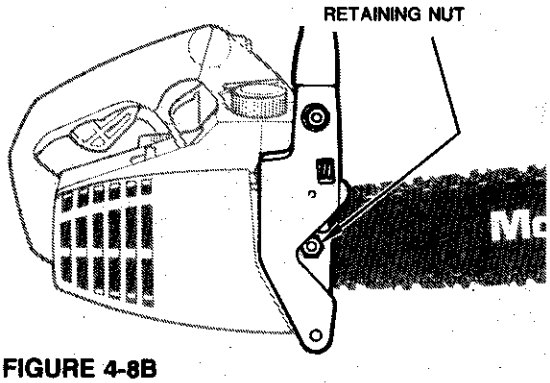


FIGURE 4-8B

1. Loosen guide bar retaining nut so it is finger tight. **(Figure 4-8B)**

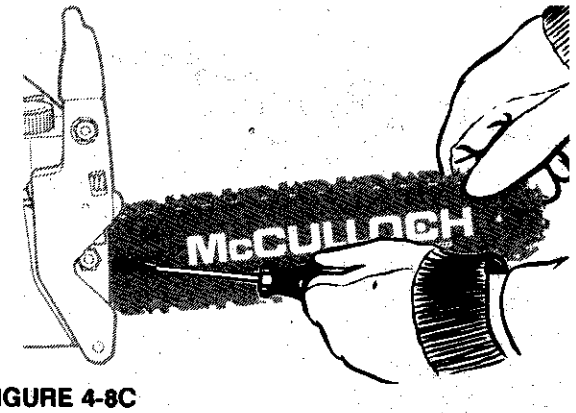


FIGURE 4-8C

2. Hold nose of Guide Bar up and turn tension adjustment screw **CLOCKWISE** to increase chain tension. Turning tension adjustment screw **COUNTERCLOCKWISE** will decrease the amount of tension on chain. Always maintain a snug fit all the way around the Guide Bar. **(Figure 4-8C)**

3. After making adjustment and while still holding bar nose in the up position, tighten the bar bolt retaining nut securely. Chain has the proper tension when, with bar secured in upper most position, it has a snug fit and will pull around easily by hand. **(Figure 4-8A)**

NOTE:
Readjust saw chain tension if necessary by repeating above steps.

4-9 CHAIN BRAKE® MECHANICAL TEST

Your chain saw is equipped with a Chain Brake that reduces the possibility of injury due to "kickback". Chain Brake is activated if pressure is applied against brake lever when, as in the event of kickback, operators hand strikes the lever. When brake is actuated, chain movement stops abruptly.

WARNING ⚠

Purpose of the Chain Brake is to reduce possibility of injury due to "kickback", but it cannot provide the measure of protection intended if saw is operated carelessly or improperly.

WARNING ⚠

Chain Brake Lever should snap into the disengaged and engaged positions. If strong resistance is felt, or lever does not move into either position, do not use your saw. Take it immediately to your nearest McCulloch Servicing Dealer for repair.

The Chain Brake mechanism must be tested before starting engine in the following manner:

WARNING ⚠

Always wear heavy duty work gloves whenever handling chain to avoid cutting hands or fingers on sharp cutter teeth.

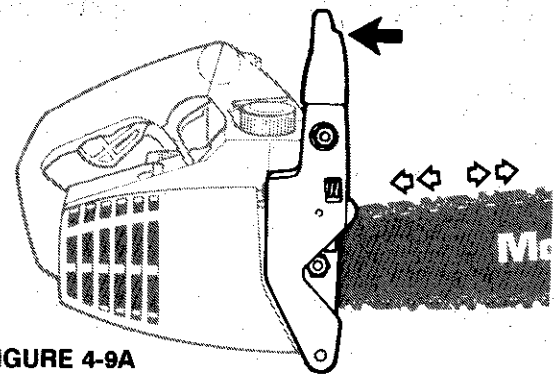


FIGURE 4-9A

1. Chain Brake is disengaged (chain can move) when brake lever is pulled back and locked. Provided chain tension is correct, you should be able to pull the chain around the bar. **(Figure 4-9A)**

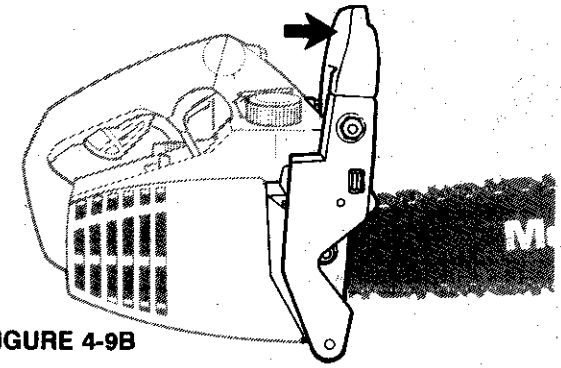


FIGURE 4-9B

2. Chain Brake is engaged (chain is stopped) when brake lever is in forward position. You should not be able to move chain when trying to pull it back and forth on guide bar. **(Figure 4-9B)**

NOTES:

FUEL

Use either regular grade leaded or regular grade unleaded gasoline in your unit. Use only one type. Changing fuel types can cause engine damage and void the Manufacturer's warranty.

Two-Cycle engine fuel is a mixture of gasoline and lubricating oil. The correct ratio of gasoline to oil is very important. Follow the ratios in the Fuel Mixing Table. McCulloch 40:1 Custom Lubricant is recommended. If not available, use a good grade Two Cycle Oil at a 20:1 ratio.

CAUTION

Never use straight gasoline in your unit. This will cause permanent engine damage and void the Manufacturer's warranty for that product.

WARNING CAUTION

If Two-Cycle lubricant other than McCulloch Custom Lubricant is to be used, it must be mixed at a 20:1 ratio. Regardless of type of oil used or what mixing ratio is recommended, if insufficient lubricant is the cause of powerhead (engine) failure, it voids the Manufacturer's warranty for that product.

GASOHOL USE PROHIBITED

WARNING CAUTION

Do not use gasohol or gasoline that contains alcohol as fuel in any McCulloch Two-Cycle engine product. It will damage engine.

MIXING FUEL

Mix fuel in a container equipped with a flexible spout and strainer. See the Fuel Mixing Table for the correct ratio of gasoline to oil. Pour half of the gasoline and all of the oil into the container. Cover the container and shake vigorously. Add the rest of the gasoline and again shake container to thoroughly mix fuel and oil.

CAUTION

Never attempt to mix the gasoline and lubricating oil in the fuel tank of the engine.

Fuel additives or special starting fluids **SHOULD NOT** be used because seals and other rubber composition parts may be damaged.

FUEL MIXING TABLE

McCULLOCH CUSTOM LUBRICANT

GASOLINE	McCulloch 40:1 Ratio Custom Lubricant	
1/2 U.S.Gal.	1.6 oz.	48 ml (cc)
1 U.S.Gal.	3.2 oz.	95 ml (cc)
5 U.S. Gal.	16.0 oz.	475 ml (cc)
MIXING PROCEDURE	**40 Parts Gasoline to 1 Part Lubricant**	

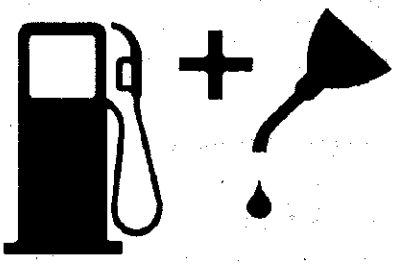
1 ml = 1 cc

TWO CYCLE LUBRICANTS

GASOLINE	Using any other Two-cycle Oil 20:1 Ratio	
1/2 U.S.Gal.	3.2 oz.	95 ml (cc)
1 U.S. Gal.	6.4 oz.	190 ml (cc)
5 U.S. Gal.	32.0 oz.	950 ml (cc)
MIXING PROCEDURE	**20 Parts Gasoline 1 Part Lubricant**	

1 ml = 1 cc

Fill Fuel Tank with proper Fuel and Oil Mixture.



CHAIN AND BAR LUBRICATION

Always refill the Chain Oil Tank each time the fuel tank is refilled. We recommend using McCulloch Chain, Bar and Sprocket Oil, which contains additives to reduce friction and wear and to assist in the prevention of pitch formation on the bar and chain. If McCulloch Chain, Bar and Sprocket Oil is not available, use SAE 30 non-additive motor oil at temepratures above 40° (5° C) and SAE 10 non-additive motor oil at lower temperatures.

McCulloch Chain, Bar and sprocket oil	SAE 30 Motor Oil (non-abrasive)	SAE 10 Motor Oil (non-abrasive)
ALL TEMPERATURE	40° F (5° C) AND ABOVE	LOWER TEMPERATURES

6 OPERATING INSTRUCTIONS 6

6-1 ENGINE PRE-START CHECKS

Never attempt to start or operate your chain saw unless it is properly assembled.

1. Make sure Guide Bar and Saw Chain are properly installed. For reference refer to Section 4 Assembly Instructions.
2. Tighten all fasteners.
3. Fill fuel tank with correct fuel/oil mixture. Be certain not to spill fuel on saw and, if you do, allow saw to dry before attempting to start to avoid fire hazard. See Section 5 Fuel and Lubrication.
4. Fill chain oil tank with correct Bar and Chain lubricating oil. See Section 5 Fuel and Lubrication.

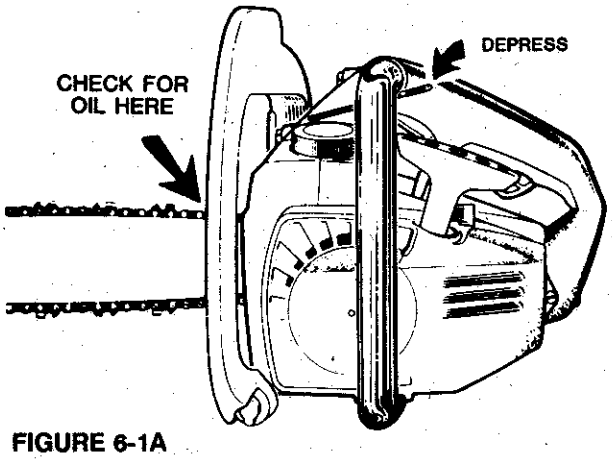


FIGURE 6-1A

5. After filling oil tank, prime manual oiler system by depressing Manual Oiler Button three to four times. Check for oil to ensure lubrication system is working. **(Figure 6-1A)**

NOTE:
Only Eager Beaver Super 16 and Mac 160S chain saws are equipped with both an automatic oiler and manual oiler systems. On all other saws, the Manual Oiler must be used during all cutting operations. See Section 6-8 Manual Oiler.

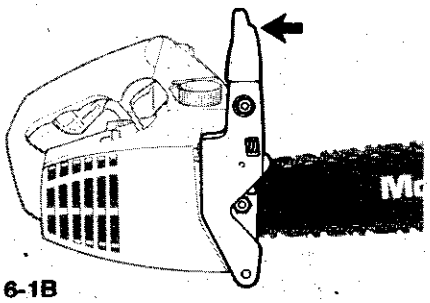


FIGURE 6-1B

6. Make sure Chain Brake is in the disengaged position (pushed back) so chain can move. **(Figure 6-1B)**

6-2 TO START THE ENGINE

1. Place saw on a clear, firm and flat surface.

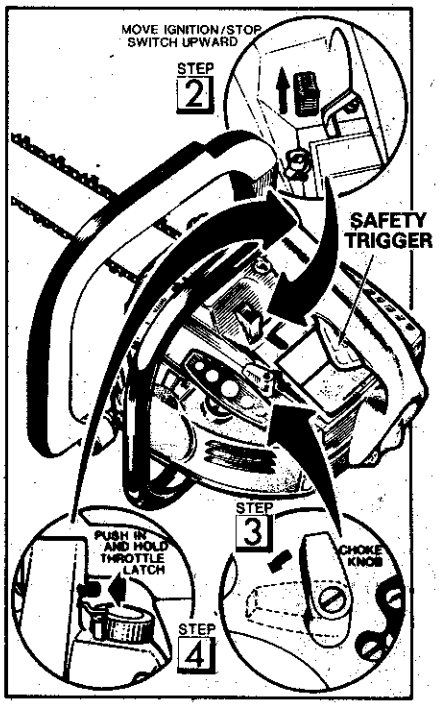


FIGURE 6-2A

2. Move Ignition/Stop Switch upwards to the "ON" position. **(Figure 6-2A)**
3. Turn the choke lever counterclockwise (cold or vapor locked engine only). **(Figure 6-2A)**
4. Depress the safety trigger as you grasp the rear handle and squeeze the throttle trigger halfway. Push in and hold the throttle latch. Release trigger. Release throttle latch. **(Figure 6-2A)**

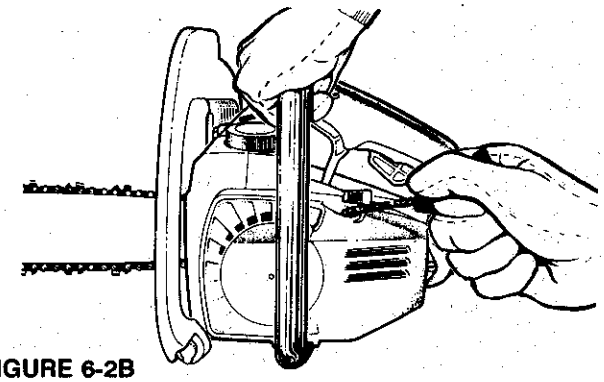


FIGURE 6-2B

5. Grip front handle firmly (NOT brake lever). **(Figure 6-2B)**
6. Pull the starter handle slowly until you feel the starter engage, then give a smooth, rapid and short pull. Allow the starter rope to rewind slowly. Never let the starter rope back from the extended position. Repeat until the engine first fires. **(Figure 6-2B)**

NOTE:
If the engine continues to run, immediately turn the choke knob clockwise and proceed to step 9. If the engine does not continue to run, proceed to step 7.

7. If engine attempted to start, turn the choke knob clockwise. Pull the starter handle. The engine should start. If, after several attempts, the engine does not run, turn the choke knob counterclockwise and pull starter handle a few times until engine starts or attempts to start.
8. If the engine attempted to start, turn choke knob COUNTERCLOCKWISE. Pull Starter rope. When engine starts, Immediately turn choke knob CLOCKWISE and proceed to Step 9.
9. Squeeze the throttle trigger slightly to release the throttle latch button.
10. To keep the engine running after first starting, it may be necessary to move the choke knob to a slightly closed position while alternately squeezing and releasing the throttle trigger. Continue to squeeze and release the throttle trigger as required until the engine is running smoothly without hesitation.

CAUTION
Do not run the engine at full throttle unless you are cutting wood.

6-3 STARTING A WARM ENGINE

When starting a warm engine - an engine that has been running but stopped briefly to change locations or for refueling for example - it is not necessary to turn the choke lever COUNTERCLOCKWISE to close position. The choke is used only to start a cold or vapor-locked engine.

To start a warm engine, return to Section 6-2 and follow all starting procedures, except at Step 3 make sure Choke Lever is turned CLOCKWISE to the open position.

6-4 STARTING A VAPOR-LOCKED (HOT) ENGINE

To Start A Vapor-Locked Engine:

1. Slowly loosen Fuel Tank Cap to release any pressure build-up in the tank. After releasing pressure, tighten cap.
2. Move Ignition Switch **UPWARD** to the **ON** position.
3. Move Choke Lever **COUNTERCLOCKWISE** to the **CLOSE** position.
4. While manually holding **THROTTLE TRIGGER** wide open, pull starter rope briskly with a series of rapid pulls until engine starts.
5. When engine starts, continue to hold Throttle Trigger wide open and at the same time **REPEATEDLY** open and close the choke lever, turning it alternately **CLOCKWISE** and **COUNTERCLOCKWISE** until engine runs smoothly.

NOTE:
If unable to start engine, allow unit to cool for 15 minutes before attempting to restart it. After engine cools follow normal starting procedures explained in Section 6-2.

6-5 TO STOP ENGINE

The normal stopping procedure, except in an emergency, should be followed to prevent unnecessary wear to the starter assembly.

EMERGENCY STOPPING
1. To stop saw in an emergency, actuate the chain brake, release trigger and turn Ignition Switch to STOP position.

NORMAL STOPPING
1. Release throttle trigger and allow engine to return to idle position.
2. Place saw on a clear, firm, and flat surface.
3. Move Ignition Switch to **STOP** position.

6-6 CHAIN BRAKE® OPERATIONAL TESTS

The Chain Brake Operational Test MUST be performed before cutting with the saw. If the Chain Brake does not stop a moving chain, do not use your saw. Take it immediately to your nearest McCulloch Servicing Dealer, listed under "*SAWS*" in the Telephone Directory Yellow Pages, for repair.

Periodically, the CHAIN BRAKE should be tested while the engine is operating. This test is especially important when the saw is new or has had any service involving the CHAIN BRAKE.

NOTE:
Saw engine must be running to perform the operational test.

Test the CHAIN BRAKE® ASSEMBLY as follows:

1. Place the saw on a clear, firm, and flat surface.

WARNING
Never allow bar and chain to contact anything during the starting procedures.

2. Follow the correct procedures to start the engine. See Section 6-2.

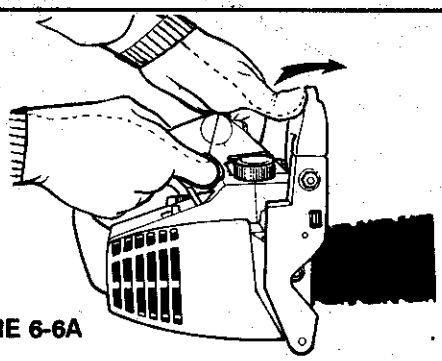


FIGURE 6-6A

3. Grasp the rear handle firmly with the right hand. **(Figure 6-6A)**
4. With the left hand, hold the front handle (not the CHAIN BRAKE® lever) firmly. **(Figure 6-6A)**
5. Squeeze the throttle trigger to wide open throttle. As soon as full throttle is reached, immediately activate the CHAIN BRAKE lever. **(Figure 6-6A)**

WARNING

Activate Chain Brake **SLOWLY** and **DELIBERATELY**. Be careful to keep chain from touching any surface or coming in contact with an object. **DO NOT** let saw tip forward during this test. **(Figure 6-6A)**

6. The chain should stop abruptly. When it does, immediately release the throttle trigger to prevent heat buildup and/or damage to the engine or the clutch.
7. Pull Chain Brake Lever back to the **DISENGAGED** position.

6-7 BREAKING IN A NEW ENGINE

Breaking in a new chain saw is very important.

Run engine for its first few minutes at one-third throttle. Increase speed to about half-throttle and run a few minutes longer.

6-8 MANUAL OILER/CHAIN & BAR LUBRICATION

On all saws, except Eager Beaver Super 16 and Mac 160S units, the Manual Oiler is the ONLY source of supplying lubricating oil to the bar and chain and must be USER OPERATED. Eager Beaver Super 16 and Mac 160S chain saws are equipped with both a manual oiler and an adjustable Automatic Oiler. Automatic oiler adjustment instructions are included in Section 6-9.

Adequate lubrication of the bar and chain is essential at all times during cutting operations to minimize friction with the Guide Bar. See Section 9 Bar/Chain Maintenance.

CAUTION

Never starve bar and chain of lubricating oil. Running a saw dry or with too little oil will decrease cutting efficiency, shorten saw chain life, cause rapid dulling of chain, and excessive wear of bar from friction-related overheating. Too little oil is evidenced by smoke or bar discoloration.

NOTE:

A new saw chain will stretch, requiring frequent tension adjustment. The interval between future adjustments will lengthen but during the initial break-in period special attention is necessary. (See Section 4-8).

HOW TO OPERATE MANUAL OILER:

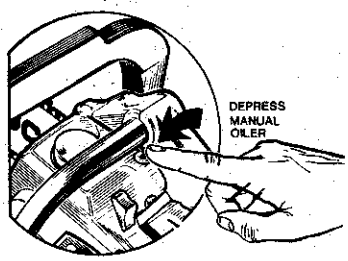


FIGURE 6-8A

1. To provide a constant and adequate flow of oil to the bar and chain during cutting operations, DEPRESS the Manual Oiler Rod three (3) to five (5) times a minute or more often if conditions require additional lubrication. **(Figure 6-8A)**
2. Frequently check the level of oil in the Oil Tank. The capacity of the tank is 3.2 ounces. Always fill oil tank with Chain and Bar Oil. See Section 5 Fuel and Lubrication.

6-9 AUTOMATIC OILER ADJUSTMENT

Only Eager Beaver Super 16 and Mac 160S Chain saws are equipped with both the Automatic and Manual Oiler systems. For Manual Oiler information see Section 6-8, page 17.

NOTE: The Automatic Oiler is adjusted at the factory for average cutting conditions. However, oil flow may be adjusted for special conditions or individual requirements. If additional oil is needed for short periods, it is better to use the Manual Oiler as a supplement rather than adjust the Automatic Oiler.

To Adjust Automatic Oiler:

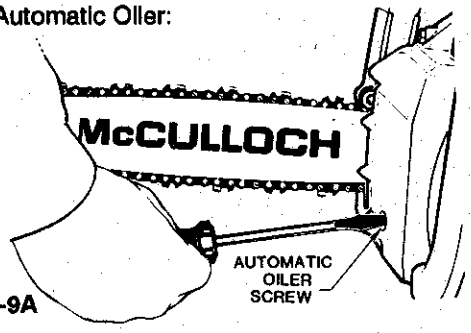


FIGURE 6-9A

1. Using a straight screwdriver, turn the adjustment screw CLOCKWISE to REDUCE oil flow and COUNTERCLOCKWISE to INCREASE it.
2. Do not turn turn adjustment screw more than 1/4th turn at a time. Check oil flow after each adjustment.

CAUTION

Frequently check oil tank level during operation of saw to avoid running out of lubricant.

7 GENERAL CUTTING INSTRUCTIONS 7

7-1 DEFINITIONS/CUTTING TERMS

BUCKING - The process of cross cutting a felled tree or log into lengths.

CHAIN BRAKE - A device used to stop the saw chain.

CLUTCH - A mechanism for connecting and disconnecting a driven member to and from a rotating source of power.

DRIVE SPROCKET OR SPROCKET - The toothed part that drives the saw chain.

FELLING - The process of cutting down a tree.

FELLING BACK CUT - The final cut in a tree felling operation made on the opposite side of the tree from the notching under-cut.

FRONT HANDLE - The support handle located at or toward the front of the chain saw.

GUIDE BAR - A solid railed structure that supports and guides the saw chain.

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

NORMAL CUTTING POSITION - Those positions assumed in performing the bucking and felling cuts.

NOTCHING UNDERCUT - A notch cut in a tree that directs the tree's fall.

OILER - A system for oiling the guide bar and saw chain.

REAR HANDLE - The support handle located at or toward the rear of the saw.

SAW CHAIN - A loop of chain having cutting teeth, that cut the wood, and that is driven by the engine and is supported by the guide bar.

SPIKED BUMPER (SPIKE) - The pointed tooth or teeth for use when felling or bucking to pivot the saw and maintain position while sawing.

7-2 FELLING

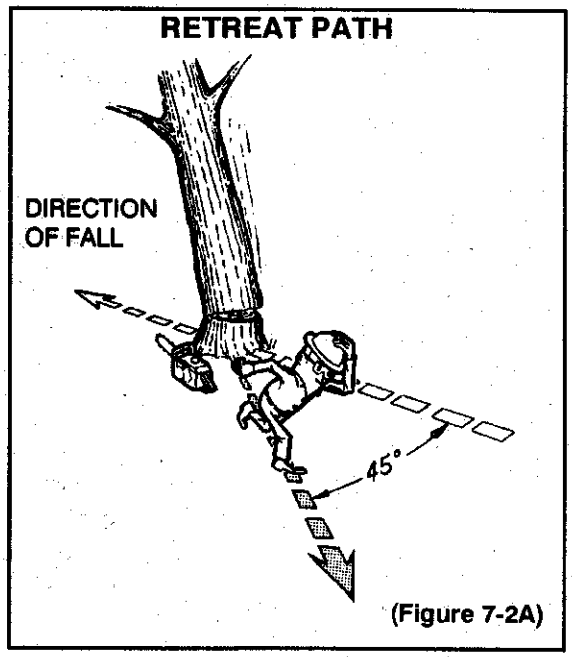
Felling is the term for cutting down a tree. Small trees of up to six or seven inches in diameter are usually cut in a single cut. Larger trees require notch cuts. Notch cuts determine the direction the tree will fall.

FELLING A TREE

WARNING ⚠

A retreat path should be planned and cleared as necessary before cuts are started. The retreat path should extend back and diagonally to the rear of the expected line of fall as illustrated in Figure 7-2A.

NOTE:
If felling a tree on sloping ground, the chain saw operator should keep on the uphill side of the terrain as the tree is likely to roll or slide downhill after it is felled.



(Figure 7-2A)

NOTE:

Direction of fall is controlled by the notching undercut. Before any cuts are made, consider the location of larger branches and natural lean of the tree to determine the way the tree will fall.

WARNING ⚠

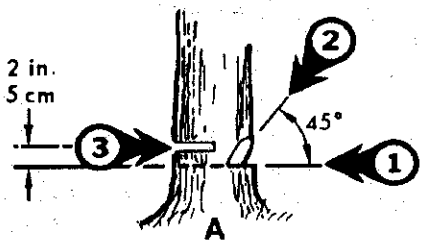
Do not cut down a tree during high or changing winds or if there is a danger to property. Consult a tree professional.

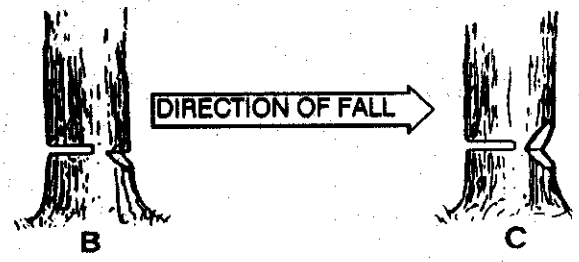
Do not cut down a tree if there is a danger of striking utility wires, notify the utility company before making any cuts.

NOTCHING UNDERCUT

WARNING ⚠

Never walk in front of a tree that has been notched.





(Figure 7-2B)

A notching undercut is easy to make and is commonly used to fell small trees.

Make cuts in order shown -- 1, 2, 3 -- in Figure 7-2B.

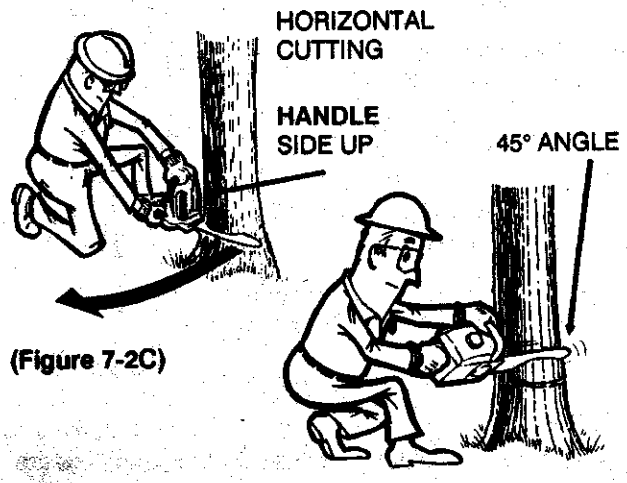
NOTE
Direction of fall is controlled by the undercut.

Type "A": Easy to make and is commonly used for small trees. Make cuts in order shown -- 1, 2, 3.

Type "B": Leaves the butt end of log cut squarely across.

Type "C": A variation of Type "A".

MAKING THE NOTCH CUT



(Figure 7-2C)

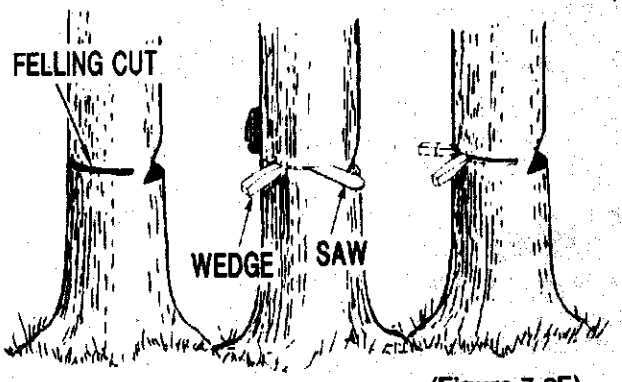
(Figure 7-2D)

1. Make a horizontal cut in the side of the tree facing the direction of fall. This cut should be one-third the diameter of the tree. **(Figure 7-2C)**
2. To complete the notch cut, start second cut above the first cut at an angle of 45 degrees until the wedge loosens. If the wedge of wood will not come out freely, knock it out with an axe. **(Figure 7-2D)**

WARNING ⚠

Before making the final cut, always recheck the area for people, children, animals or obstacles.

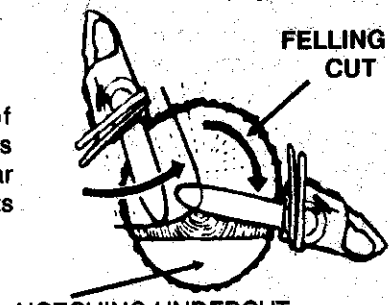
FELLING CUT



(Figure 7-2E)

3. Start the felling cut approximately 1 to 2 inches (4 to 9 cm) above the first cut. Use wooden or plastic wedges to prevent binding the bar or chain in the cut. Wedges also help control felling. **(Figure 7-2E)**

NOTE
When diameter of wood being cut is greater than the bar length, make two cuts as shown. **(Figure 7-2F)**



(Figure 7-2F)

4. Complete felling cut. Do not cut through to the notch cut. When tree starts to topple, place the saw along the path of the selected retreat path where it will not get hit and diagonal to the line of tree fall as shown in Figure 7-2A.

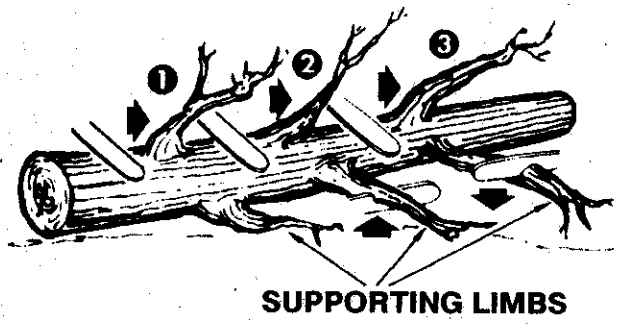
WARNING ⚠

As the felling cut gets close to the hinge the tree should begin to fall. When tree begins to fall remove saw from cut, stop engine, put chain saw down, leave area along retreat path.

7 General Cutting Instructions

7-3 LIMBING

Limbing a tree is the process of removing the branches from a fallen tree. Do not remove supporting limbs until after the log is bucked (cut) into lengths as illustrated in **Figure 7-3A.** Branches under tension should be cut from the bottom up to avoid binding the chain saw.



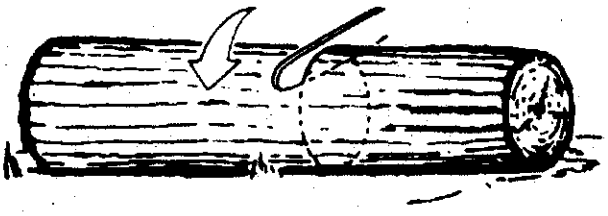
(Figure 7-3A)

WARNING ⚠
Never cut limbs while standing on tree trunk.

7-4 BUCKING

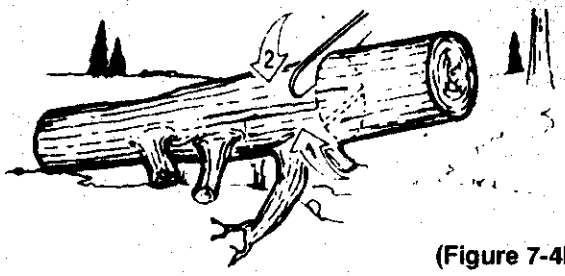
Bucking is cutting a fallen log into lengths. Make sure you have a good footing and stand uphill of the log when cutting on sloping ground. If possible, the log should be supported so that the end to be cut off is not resting on the ground. If the log is supported at both ends and you must cut in the middle, make a downward cut halfway through the log and then make your undercut. This will prevent the log from pinching the bar and chain. Be careful that the chain does not cut into the ground when bucking as this causes rapid dulling of the chain.

When bucking on a slope, always stand on the uphill side.



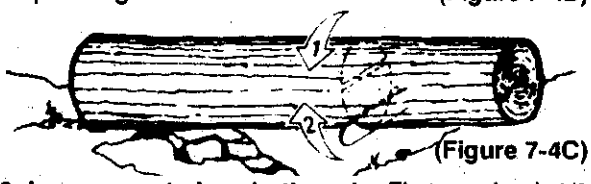
(Figure 7-4A)

1. **Log supported along entire length:** Cut from top (overbuck), being careful to avoid cutting into the ground. **(Figure 7-4A)**



(Figure 7-4B)

2. **Log supported on one end:** First cut from bottom (underbuck) 1/3 diameter of log to avoid splintering. Second, overbuck to meet first cut and avoid pinching. **(Figure 7-4B)**



(Figure 7-4C)

3. **Log supported on both ends:** First overbuck 1/3 diameter of log to avoid splintering. Second, underbuck to meet first cut and avoid pinching. **(Figure 7-4C)**

NOTE
The most desirable way to hold a log while bucking is to use a sawhorse. When this is not possible, the log should be raised and supported by the limb stumps or by using supporting logs. Be sure the log being cut is securely supported.

7-5 BUCKING USING SAWHORSE

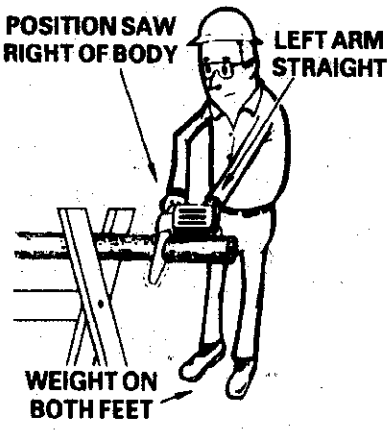
For personal safety and ease of cutting, the correct position for vertical bucking is essential. **(Figure 7-5A)**

<u>Vertical Cutting</u>:

A. Hold the saw firmly with both hands.

B. Keep the saw to the right of your body while cutting.

C. Keep the left arm as straight as possible.



(Figure 7-5A)

CAUTION
While the saw is cutting, be sure the chain and bar are being properly lubricated.

8 MAINTENANCE INSTRUCTIONS 8

All chain saw service, other than items listed here in your User Manual maintenance instructions, should be performed by your authorized McCulloch Servicing Dealer.

8-1 PREVENTIVE MAINTENANCE

A good preventive maintenance program of regular inspection and care will increase life and improve performance of your McCulloch Chain Saw. This maintenance check list is a guide for such a program.

Cleaning, adjustment, and parts replacement may, under certain conditions, be required at more frequent intervals than those indicated.

The chain oiler must be kept constantly in good operating condition and the chain must be kept snug on the guide bar. The proper saw chain tension.adjustment must be maintained at all times.

After the first 7 days or 15 hours of operation, whichever comes earliest, take your saw to your nearest McCulloch Servicing Dealer for an inspection and checkup.

He will be pleased to help you establish a preventive maintenance program to suit your needs.

The recommended first seven-day or 15-hour checkup and, in addition, a follow-up of regular periodic checkups and tune-ups will assure long, satisfactory servicie from your McCulloch chain saw. This service will be performed at current shop rates.

MAINTENANCE CHECK LIST		EACH USE	10 HOURS	25 HOURS	AS REQ'D
ITEM	MAINTENANCE				
FASTENERS	INSPECT/TIGHTEN	•			
CONTROLS	INSPECT	•			
	* REPLACE				•
AIR FILTER	CLEAN / REPLACE	•			•
SAWDUST GUARD	CLEAN	•			
CHAIN	INSPECT & SHARPEN	•			
BAR	CLEAN & TURN	•			
SPROCKET/DRUM	INSPECT	•			
	* REPLACE				•
CHAIN BRAKE COMPONENTS	INSPECT & CLEAN	•			
	REPLACE				•
STARTER ROPE	INSPECT	•			
	* REPLACE				•
OIL PICKUP/TANK	CLEAN			•	

MAINTENANCE CHECK LIST		EACH USE	10 HOURS	25 HOURS	AS REQ'D
ITEM	MAINTENANCE				
MUFFLER	CLEAN			•	
SPARK ARRESTER SCREEN	INSPECT		•		
	REPLACE			•	
SPARK PLUG	CLEAN & ADJUST			•	
	REPLACE				•
CYLINDER FINS	CLEAN			•	
EXHAUST PORT	* CLEAN			•	
FUEL FILTER	REPLACE			•	
FUEL TANK	CLEAN				•
HOSES - FUEL/OIL	CHECK		•		
CARBURETOR	* CLEAN				•
Carburetor Diaphragm	* REPLACE				•
LAMINATION GAP	* CLEAN & ADJUST				•

* Recommended for Maintenance by an Authorized Dealer.

8-2 FUEL TANK VENT

The Fuel Tank is vented to prevent build-up of either pressure or vacuum in the tank. Both conditions will affect operation of the engine. The vent can become plugged through the use of dirty fuel or dirt falling into the tank during refueling operations. If pressure or vacuum develops, have your McCulloch dealer service the saw.

8-3 AIR FILTER

Never operate your chain saw without an air filter, or dust and dirt will be drawn into the engine and damage it. The air filter must be kept clean. Very often a dirty air filter will make the engine operate as though the carburetor needed adjustment. Replace Air Filter if it is worn, torn or damaged.

NOTE:
It is advisable to bring several clean air filters to the job for replacement as required.

To Clean/Replace Air Filter:

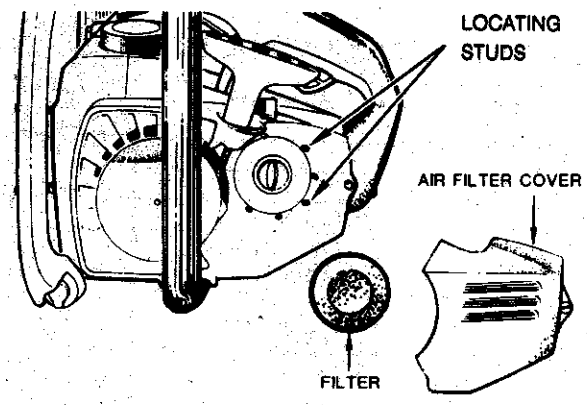


FIGURE 8-3A

1. Remove the Air Filter cover by loosening the retaining screw. Cover and air filter will lift off. **(Figure 8-3A)**
2. Wash the Air Filter in clean, warm, soapy water. Rinse in clear, cool water. Allow filter to dry completely.

NOTE:
Before installing Air Filter and Air Filter Cover, check Starter Cover Air Inlets. Air Inlets must be cleaned if clogged with debris or sawdust. See Section 8-4.

3. Install the cleaned air filter (or a new filter), centered within the ring of small locating studs. **(Figure 8-3A)**
4. Reinstall cover. Align screw hole on cover with recessed hole on saw. Press cover in until it "snaps" into place. Install cover retaining screw. Tighten securely.

8-4 STARTER COVER AIR INLETS/ FLYWHEEL FINS

The Starter Cover Air Inlets and Flywheel Fins must be kept clean and free of debris for proper ventilation and cooling. If the Air Inlets are clogged, the engine will become overheated during operation. Unless maintenance is performed, this will result in damaging heat buildup.

To Clean Starter Cover Vents:

1. Move Ignition Switch to STOP position.
2. Remove Air Filter Cover and Air Filter. See Section 8-3.
3. Partially remove the Starter Assembly by removing the three (3) retaining screws on the face of the cover. The Starter Handle will remain in place.
4. Carefully extend starter rope by pulling Starter Assembly out from between the Chain Brake Lever and Front Handle.

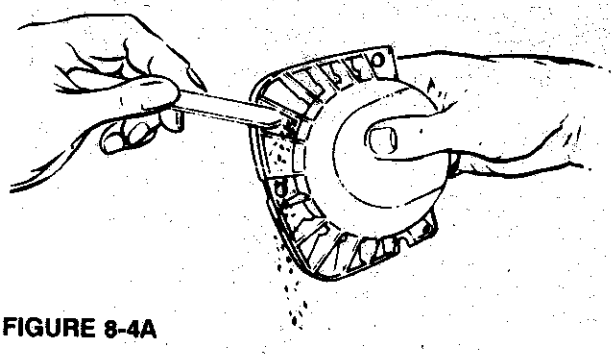


FIGURE 8-4A

5. Use a small wooden scraper to remove dirt and sawdust packed into the air inlets. Use a soft bristle brush to finish cleaning the starter cover. **(Figure 8-4A)**
6. Use the wooden scraper and soft bristle brush to clean the flywheel fins and any other parts that are visible.
7. After cleaning, install the Starter Assembly by gently pulling the starter rope, allowing the starter to engage with the flywheel. Hold starter in place and slowly pull out starter rope a short distance to make sure it moves freely and easily.
8. Install the three (3) Starter Cover retaining screws.

8-5 MUFFLER/SPARK ARRESTER SCREEN/EXHAUST PORT/ COOLING FINS

The following maintenance MUST be performed every 25 hours with light to moderate use of your saw and more frequently with heavier usage.

Servicing Muffler and Spark Arrester Screen:

CAUTION

A dirty or faulty muffler system and/or a plugged spark arrester screen can cause engine power loss and improper functioning of the exhaust system, leading to poor performance, engine overheating and serious irreversible engine damage. Also, a plugged spark arrester screen will make the engine operate as though the carburetor needed adjustment.

WARNING ⚠

Never touch a hot muffler. Allow engine to cool before servicing.

To Service Muffler:

1. Move Ignition Switch to STOP position.
2. Make sure Chain Brake is in disengaged position. **(Figure 4-4A)**
3. Using the wrench furnished in your owner's kit, remove the Chain Brake Lever retaining nut and the Guide Bar bolt retaining nut. Remove Chain Brake. **(Figure 4-4B)**
4. Remove Saw Chain and Guide Bar.

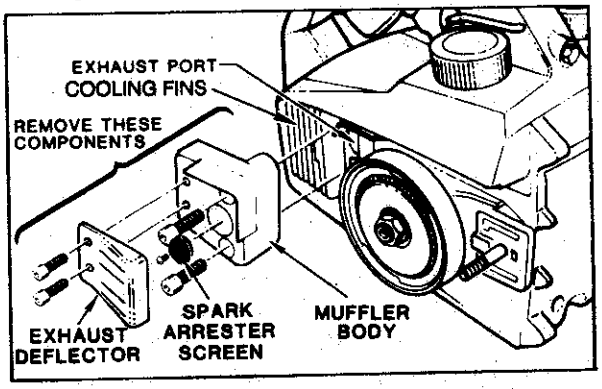


FIGURE 8-5A

5. Use the 4mm (5/32 inch) Allen wrench (provided in owner's kit) to remove the two (2) Exhaust Deflector screws. Remove the Exhaust Deflector. **(Figure 8-5A)**
6. Use the 4mm (5/32 inch) Allen wrench to remove the remaining two (2) Allen head screws to separate the muffler body from the cylinder. Muffler will lift off easily after screws are removed. **(Figure 8-5A)**
7. Using a straight screwdriver, remove the Spark Arrester Screen retaining screw and screen. **(Figure 8-5A)**
8. Clean muffler body. Using a scraper or wire brush, clean away any carbon deposits.
9. After cleaning muffler body, install new spark arrester screen (See Accessories Section for screen replacement part number). Secure screen in place with retaining screw. Tighten securely (6 to 12 inch pounds torque).

To Clean Exhaust Port:

10. Pull the Starter Rope slowly until the piston completely covers the exhaust port. **(Figure 8-5A)**
11. Using a small wooden scraper, clean away any carbon deposits. CAUTION Do not use any metal blade or sharp-edged tool that may slip and/or scratch the piston or ring.
12. Using a wooden scraper clear away any dirt or debris packed in the cylinder cooling fins. Finish cleaning the fins with a soft bristle brush. **(Figure 8-5A)**
13. After cleaning, turn saw exhaust side down and blow away any loose particles with compressed air. WARNING ⚠ Wear eye protection during this application.
14. Reinstall muffler body. Tighten the two (2) retaining screws securely. **(Figure 8-5A)**
15. Reinstall Exhaust Deflector. Tighten the two (2) retaining screws securely. **(Figure 8-5A)**
16. While Chain Brake, Bar and Chain are still off the unit, perform Sprocket/Clutch and Clutch Drum maintenance. Follow Instructions in Section 8-6.
16. Reinstall Guide Bar, Saw Chain, and Chain Brake. Follow Assembly Instructions in Sections 4-5, 4-6, 4-7, 4-8, and 4-9.

8-6 SPROCKET/CLUTCH/ CLUTCH DRUM

The Sprocket/Drum and Drum Clutch must be kept clean and free of sawdust, pitch deposits and debris as possible. After cleaning inspect for any sign of damage or sprocket wear after each use. Any worn or damaged parts should be replaced. A new Sprocket/Drum/Drum Clutch should be installed whenever saw chain is being replaced.

8 Maintenance Instructions

CAUTION

The saw should never be operated with excessive clutch slippage. Evidence of slippage is noticeable when saw chain moves very slowly or stops when engine is running at full throttle while cutting wood. Be advised this condition will result in rapid and damaging heat build-up in the clutch and clutch drum. If the clutch begins to slip, the saw should be taken immediately to the nearest McCulloch Servicing Dealer (listed under *"SAWS"* in the Telephone Directory Yellow Pages) for repair.

The Clutch and Clutch Drum should be kept as clean and free of sawdust as possible. If sawdust is allowed to build up, the clutch may drag causing the chain to move while the saw is idling.

To Clean Sprocket/Clutch/Clutch Drum will require the following procedures:

1. Move Ignition Switch to STOP position.

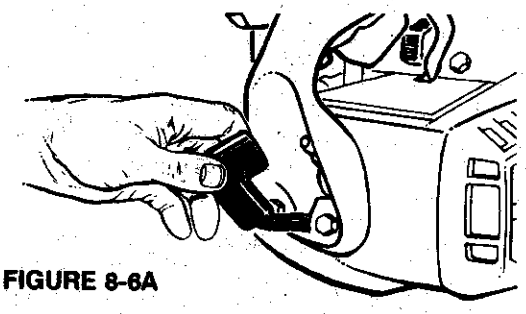


FIGURE 8-6A

2. Disconnect black rubber Spark Plug Boot. **(Figure 8-6A)** Remove Spark Plug, see Step 3, Section 8-8.

3. After removing spark plug, insert a knotted piece of rope into the cylinder to act as a piston stop. Leave a piece of rope hanging out of cylinder, for removal later.

WARNING ⚠

Wear heavy duty work gloves when handling chain to prevent cutting of hands or fingers on sharp cutter teeth.

4. Remove Chain Brake, Guide Bar and Saw Chain. (See Section 4-4).

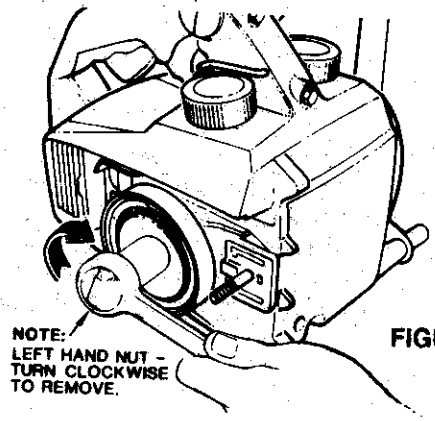


FIGURE 8-6B

5. Using a 1/2 inch (or 13mm) socket wrench, loosen the clutch nut by turning it in a CLOCKWISE direction. NOTE: The clutch nut is a left hand thread. **(Figure 8-6B)**

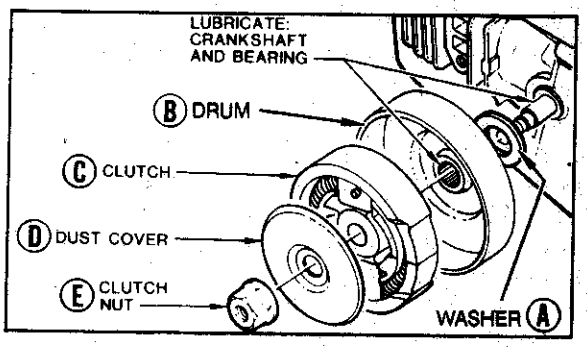


FIGURE 8-6C

7. Remove the clutch nut, dust cover, clutch assembly, Drum/Sprocket/Bearing Assembly and washer. **(Figure 8-6C)**

8. Clean the components and wipe dry.

9. Lubricate the threaded shaft and bearing. Use a good grade of non-fibrous chassis grease. **(Figure 8-6C)**

10. Reinstall components as shown in **(Figure 8-6C)** in order listed:

    A. Washer.
    B. Sprocket/Drum Assembly.
    C. Clutch Assembly.
    D. Dust Cover.
    E. Clutch Nut.

11. Using a socket wrench, tighten clutch nut securely turning **COUNTERCLOCKWISE.**

NOTE:
While Chain Brake cover is still off the unit, this would be an ideal time to perform the Chain Brake Maintenance as outlined in Section 8-7.

12. Reinstall Guide Bar, Saw Chain and Chain Brake. Follow Assembly Instructions in Section 4.

13. Remove the knotted piece of rope from the cylinder.

14. Reinstall Spark Plug.

15. Reinstall black rubber spark plug boot. See Figure 8-6A

8-7 CHAIN BRAKE MAINTENANCE

The Chain Brake is an important safety feature on all McCulloch Chain Saws. The Chain Brake, when operator actuated as in the event of kickback, will stop a moving chain in milliseconds.

WARNING ⚠
Never remove, modify or make inoperative any part of the chain brake. Never operate your saw if the Chain Brake fails to work. Always perform the mechanical Chain Brake test before using your saw.
(See Section 4-9)

NOTE:
The Sprocket/Clutch/Clutch Drum must also be kept free of sawdust buildup as is possible to allow free movement and full contact of the brake band with the clutch drum. Always perform Sprocket/Clutch/Clutch Drum Maintenance (see Section 8-6) when performing the Chain Brake Maintenance.

IMPORTANT NOTICE

The thickness of the brake band is important to the effectiveness of the chain brake. For that reason, daily preventive maintenance is essential. The chain brake components must be inspected for any signs of measurable wear or for any noticeable variation in the thickness of the band.

The following maintenance must be performed daily or before using the saw:

1. Move the Ignition Switch to the STOP position.
2. Disconnect black rubber Spark Plug Boot, to avoid any chance of accidental engine starting. **(Figure 8-8A)**
3. Remove Chain Brake. (See Section 4-4)

WARNING ⚠
Wear heavy duty work gloves when handling chain to prevent cutting of hands or fingers on sharp cutter teeth.

4. Remove Guide Bar and Saw Chain.

CAUTION
Do not remove brake band or other components from the Chain Brake Assembly. The Chain Brake has been designed as an integral part of your chain saw.

5. Make certain the brake mechanism is clean and free of debris, sawdust and pitch so as not to interfere with the chain brake operation and band contact with the clutch drum.
6. After cleaning and inspecting, lubricate the compression spring and latch engaging surfaces with a light coat of lithium grease. See **Figure 8-7A** Items A and B for lubrication locations.

Inspection Points

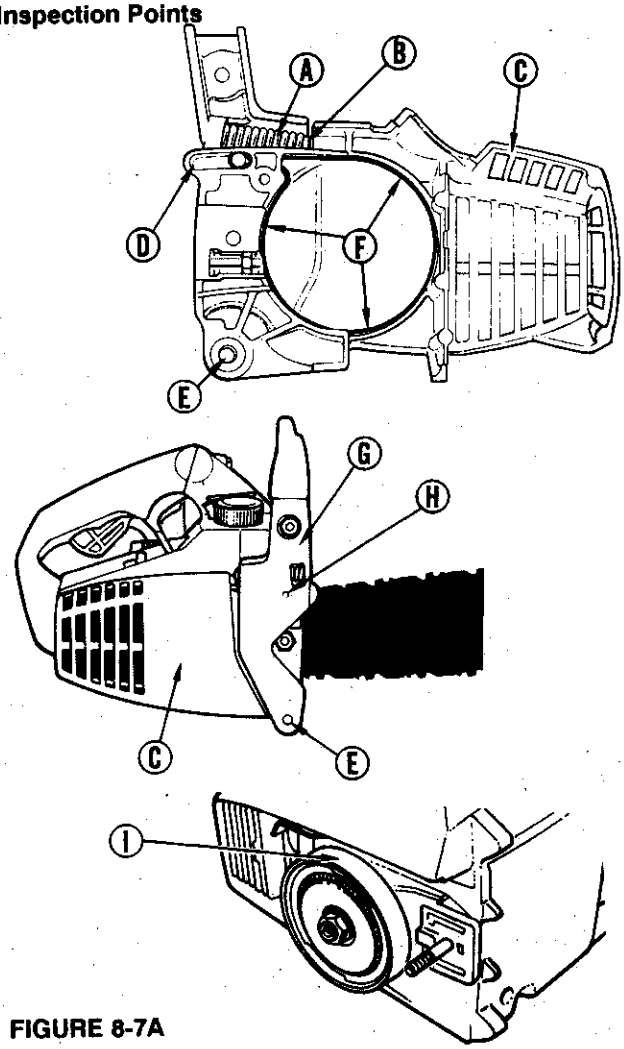


FIGURE 8-7A

The following parts (as shown in **Figure 8-7A**) **must be inspected** daily for cracks, breaks, or general wear before using your saw:

Ⓐ COMPRESSION SPRING - Check for cracks or damage.

Ⓑ LATCH AND LATCH PIVOT - Check for looseness or any signs of damage.

Ⓒ CHAIN BRAKE ASSEMBLY - Check all areas of brake housing, assembly for any cracks or other signs of damage.

Ⓓ LIMIT STOP AREA - Check for any cracks or damage.

Ⓔ LEVER PIVOT/CHAIN CATCHER - Check for any signs of looseness or damage.

Ⓕ BRAKE BAND - Inspect brake band for excessive wear. If the brake band is found to be worn to a thickness of .021 inches or thinner, at any point along the entire length, it MUST be replaced.

Ⓖ LEVER ASSEMBLY - Gently activate lever. Be certain lever travels to its fullest extension.

Ⓗ BRAKE BAND RETAINING PINS - Check for looseness or any signs of damage.

Ⓘ CLUTCH DRUM - If the brake band contact surface of the clutch drum shows signs of scoring or grooving, it MUST be replaced.

7. After completion of inspection points, provided components examined do not requiring replacement, Install Guide Bar, Saw Chain and Chain Brake. Follow ALL Assembly Instructions in Sections 4.

8. Reinstall Spark Plug boot. **(Figure 8-8A)**

WARNING ⚠
Never operate saw if Chain Brake Assembly is incorrectly installed or if it is in need of repair due to broken or damaged parts. Always have the Chain Brake serviced by your nearest McCulloch Servicing Dealer, listed under "*SAWS*" in the Telephone Directory Yellow Pages.

8-8 SPARK PLUG

The spark plug must be kept clean - free of oil and carbon deposits - and properly gapped, for efficient starting and operation of the chain saw engine.

SERVICE TOOLS:
A deep socket Spark Plug Wrench, a spark plug gapping tool or feeler gauge and a piece of emery cloth will be required.

To Remove Spark Plug

1. Move Ignition Switch to **STOP** position.

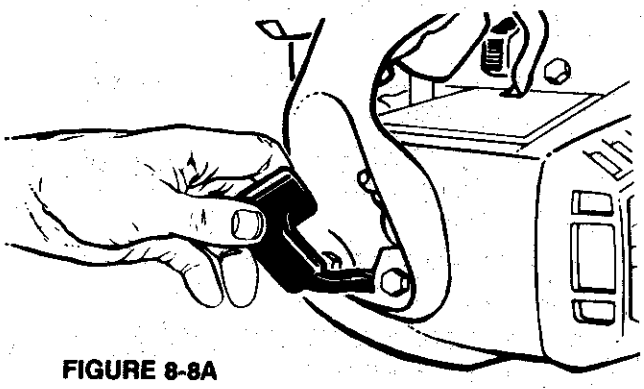


FIGURE 8-8A

2. Remove black rubber Spark Plug boot from spark plug by twisting and pulling at the same time **(Figure 8-8A)**

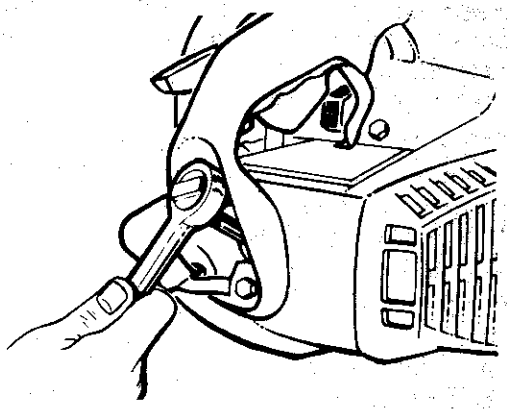


FIGURE 8-8B

3. Remove spark plug, using a deep socket spark plug wrench. CAUTION DO NOT USE ANY OTHER TOOL. **(Figure 8-8B)**

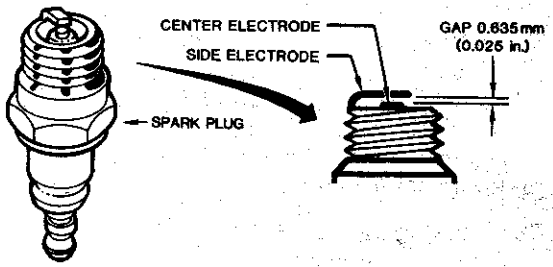


FIGURE 8-8C

4. Clean between electrodes using emery cloth or fine sandpaper. Using compressed air, blow all dust away. **WARNING** ⚠ Wear Eye protection during this operation. **(Figure 8-8C)**

5. Adjust the electrode air gap to 0.025 inches (0.63mm) by bending side electrode only. Use a spark plug gapping tool or feeler gauge. (Available at hardware or auto supply centers). **(Figure 8-8C)**

NOTE:
See Accessories section for replacement spark plug description and McCulloch part number.

6. Install spark plug or install a new plug that is properly gapped hand tight. Using a spark plug wrench, tighten to 105 to 120 inch pounds torque.

7. Install black rubber spark plug boot. **(Figure 8-8A)**

8-9 CARBURETOR ADJUSTMENT

Carburetor adjustment is critical and if done carelessly can damage the carburetor and engine. So before making any adjustments make sure the Air Filter is clean and Spark Arrester Screen is not plugged with carbon deposits.

IMPORTANT NOTE:

Very often a dirty air filter or a plugged spark arrester screen and/or both conditions will make the engine operate as though the carburetor needed adjustment. Check condition of Air Filter and Spark Arrester Screen before making any adjustment to the carburetor. See Sections 8-3 and 8-5.

If sawdust or debris builds up on Clutch/Drum, the clutch may drag causing the chain to move while saw is idling. See Section 8-6.

CAUTION

If unsure about adjusting the carburetor have the service performed by your McCulloch Servicing Dealer listed under "SAWS" in the Telephone Directory Yellow Pages.

SERVICE TOOLS:

Use a thinly tapered screwdriver or carburetor adjustment screwdriver which is available at most automotive service centers to make adjustments.

CAUTION

Engine performance is determined by cutting speed and ease of operation under load. **DO NOT ADJUST** carburetor for maximum sound level as this is likely to result in a lean condition which can cause engine damage.

To Adjust Carburetor

NOTE:
Read all carburetor adjustment instructions and fully understand procedures to be undertaken before attempting any adjustments.

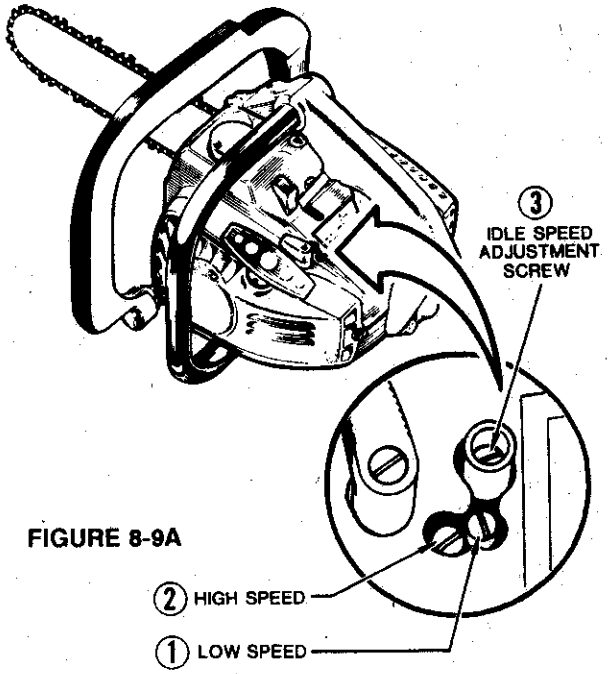


FIGURE 8-9A

Locate the THREE adjustment screws on your unit: (1) LOW speed mixture needle; (2) HIGH speed mixture needle, and (3) IDLE speed screw. **(Figure 8-9A)**

Adjustment Directions

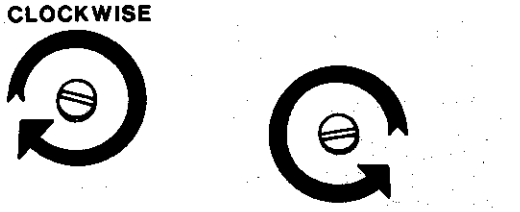


FIGURE 8-9B

NOTE:
IDLE SPEED SCREW:

Turning idle speed screw IN (clockwise) INCREASES idle speed. Turning idle speed screw OUT (counterclockwise) DECREASES idle speed.

LOW SPEED MIXTURE NEEDLE:

If the low speed mixture needle is turned IN (clockwise) too far, engine will HESITATE or FALTER when accelerated. If the low speed mixture needle is turned OUT (counterclockwise) too far, the engine will run rough when accelerated and may also smoke.

HIGH SPEED MIXTURE NEEDLE:

Turning high speed mixture needle IN (clockwise) too far will decrease the Fuel/OIL/Air Mixture increasing engine speed and resulting in a lean condition, leading to serious engine damage.

Turning high speed mixture needle OUT (clockwise) too far will cause the engine to run rough and smoke.

Refer to **Figures 8-9A and 8-9B** when making adjustments.

Adjustment Procedures

1. Before making adjustments, start saw and let engine warm up to operating temperature. After engine reaches operating temperature, stop the engine.
2. Carefully turn LOW (L) and HIGH (H) Speed Mixture Needles **CLOCKWISE** until resistance is felt. CAUTION **DO NOT TURN** needles in too tight or you can damage both needle tips and their seats. Then **OPEN** (turn COUNTERCLOCKWISE to open) each needle one (1) full turn.
3. Restart engine and let it warm up at low speed.
4. If engine will not idle without stopping, turn **IDLE** speed screw **CLOCKWISE** one-half (1/2) turn.
5. If saw chain moves on guide bar while engine is idling, turn **IDLE** speed screw slowly **COUNTERCLOCKWISE** until chain stops.
6. To obtain a smooth, rapid acceleration without hesitation or falter, turn Low (L) speed mixture needle CLOCKWISE until RPM starts to drop. Then turn Low (L) speed mixture needle COUNTERCLOCKWISE until RPM speeds up and then starts to drop again. Position Low Speed Mixture Needle at the mid-point.
7. Adjust HIGH (H) Speed Mixture Needle for best power under load. DO NOT JUDGE BEST POWER BY SOUND, but judge by way saw cuts. Final position of HIGH (H) Speed Mixture Needle will usually be about one (1) turn open (**COUNTERCLOCKWISE**).
8. Check idle speed operation again. It may be necessary to readjust the Idle Speed Screw slightly for smooth idle and acceleration.
9. When idle speed has been adjusted, squeeze throttle trigger. If saw accelerates without hesitating, make a test cut. If saw seems to smoke or have low power in the cut, the High Speed Mixture Needle is set too rich. Turn High Speed Mixture Needle CLOCKWISE one-sixteenth (1/16th) of a turn. Repeat test cut. Repeat this adjustment until saw runs smoothly.

CAUTION

Never set High Speed Mixture Needle less than 7/8ths turn open. A lean setting will damage saw engine.

10. If the engine does not have power in the test cut and quits, it is set too lean. Turn High Speed Mixture Needle 1/16th turn COUNTERCLOCKWISE. Test cut again. Repeat adjustment until saw runs smoothly.
11. After completing adjustments, check acceleration. If there is SLIGHT hesitation, turn Low Speed Mixture Needle slowly about 1/16th turn COUNTERCLOCKWISE to obtain smooth acceleration.

8-10 STORING A CHAIN SAW

CAUTION

Storing a chain saw for periods longer than 30 days requires storage maintenance. Unless storage instructions are followed, fuel remaining in the carburetor will evaporate, causing damage and costly repairs.

1. Start engine and let it warm up in the idle position. See Section 6-2.
2. Stop engine. Move Ignition Switch to **STOP** position.
3. Remove fuel tank cap slowly to release any pressure in tank. Carefully drain fuel tank. Reinstall fuel cap.
4. Start engine and let it run until unit stops to remove fuel from carburetor. When it stops, move Ignition Switch to STOP position. See Section 6-2.
5. Allow saw engine to cool for a few minutes.
6. Remove spark plug. See Section 8-8.

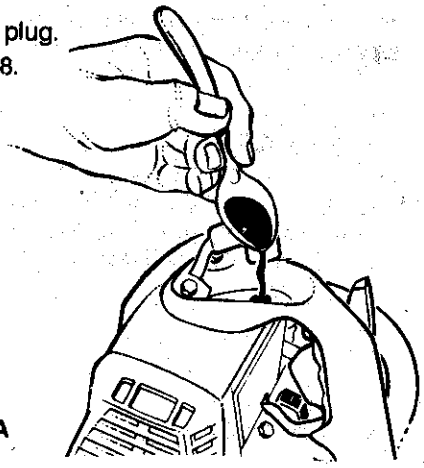


FIGURE 8-10A

7. Pour one (1) teaspoon of clean Two Cycle Oil through spark plug hole into the combustion chamber. Pull the starter rope **SLOWLY** several times to distribute the oil throughout the engine. **(Figure 8-10A)**
8. Replace the spark plug and tighten securely. Replace black rubber spark plug boot. See Section 8-8.

9. Perform all general maintenance recommended in the Maintenance Sections 8 and 9.
10. Clean and sharpen saw chain. Section 9-2.
11. Remove Chain Brake. See Section 4-4.
12. After cleaning and sharpening saw chain, store chain in a leak-proof container with lubricating oil covering the chain. Store chain in a cool, dry place.
13. After cleaning Guide Bar, apply a light coat of lubricating oil to the Bar. Wrap in paper and store in a cool dry place along with saw chain. See Section 9-1.
14. Install Chain Brake. See Section 4-7.
15. Place a light, clean, protective cloth over saw, and store the saw in a dry place. The cloth should be loose to allow for proper ventilation. Always store unit in a dry place and away from possible sources of ignition such as a furnace, gas hot water heater, gas dryer, etc.

8-11 REMOVING SAW FROM STORAGE

To remove chain saw from storage:

1. Remove spark plug. Section 8-8.
2. Pull the starter rope **BRISKLY** several times to clear the cylinder of excess oil.
3. Clean and gap the spark plug, or install a new spark plug that is properly gapped. Section 8-8.
4. Connect the black rubber connector to the spark plug. Section 8-8.
5. Remove Chain Brake. Section 4-4.
6. Install the Guide Bar, Chain, and Chain Brake following all Assembly Instructions in Section 4.

CAUTION

Always use fresh gasoline. Do not use old or stale gasoline.

7. Fill the fuel tank with the correct fuel/oil mixture. Fill the chain oil tank with McCulloch Chain, Bar and Sprocket Oil. Follow Fuel and Lubrication Instructions in Section 5.
8. Follow all Operating Instructions in Section 6.

NOTE:
Since the storage process removes all fuel from the fuel tank, fuel lines and carburetor, it may be more difficult to initially start your saw. This is normal since the carburetor has to be primed. It will take a few more pulls on the starter rope to draw fuel from the fuel tank into the carburetor.

NOTES:

9 BAR/CHAIN MAINTENANCE 9

9-1 GUIDE BAR MAINTENANCE

Frequent lubrication of the Guide Bar Sprocket Tip is required. Proper maintenance of the Guide Bar as explained in this section is essential to keep your saw in good working order.

Sprocket Tip Lubrication

CAUTION

Failure to lubricate the Guide Bar Sprocket Tip as explained below will result in poor performance and seizure, voiding the manufacturer's warranty.

Lubrication of the sprocket tip is recommended after each saw use or after three tanks of fuel are consumed, whichever occurs first. Always thoroughly clean Guide Bar Sprocket Tip before lubrication.

TOOLS FOR LUBRICATION -

McCulloch Corporation recommends the metal reusable Lubri-Gun, part number 214194, or the disposable Lubri-Gun, part number 214195, for applying grease to the Guide Bar Sprocket Tip. The Lubri-Gun is equipped with a needle nose tip which is necessary for the efficient application of grease to the sprocket tip.

The metal Lubri-Gun is not packaged with grease. The disposable Lubri-Gun is packaged with grease. The Lubri-Guns are available at your nearest McCulloch Servicing Dealer, listed under "SAWS" in the Telephone Directory Yellow Pages.

To Lubricate Sprocket Tip

WARNING

Wear heavy duty work gloves when performing this application.

1. Move Ignition Switch to STOP position.

NOTE:

It is not necessary to remove the saw chain to lubricate the Guide Bar Sprocket Tip. Lubrication can be done on the job.

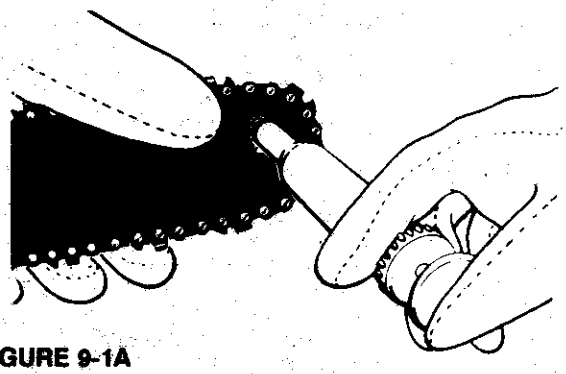


FIGURE 9-1A

2. Clean the Guide Bar Sprocket Tip.
3. Using the Lubri-Gun, insert needle nose into the lubrication hole and inject grease until it appears at outside edge of sprocket tip.
4. Rotate saw chain by hand. Repeat lubrication procedure until the entire sprocket tip has been greased.

Guide Bar Maintenance

Most Guide Bar (railed bar which supports and carries the saw chain) problems can be avoided for a long time by merely keeping the chain saw well maintained.

Incorrect filing and non-uniform cutter and depth gauge settings cause most Guide Bar troubles, resulting primarily in uneven bar wear. As the bar wears unevenly, the rails widen and, as a consequence, chain clatter, rivet popping and difficulty in making straight cuts may result.

Also, insufficient Guide Bar lubrication and operating saw with chain that is TOO TIGHT will contribute to rapid bar wear.

To help minimize bar wear, the following Guide Bar Maintenance Procedures are recommended:

BAR WEAR - Turn guide bar frequently -- at regular intervals after five hours of use for example -- to ensure even wear on top and bottom of bar.

BAR GROOVES - Bar grooves (or rails which support and carry the chain) should be cleaned if saw has been used heavily or if saw chain appears dirty. Rails should always be cleaned every time saw chain is removed.

OIL PASSAGES - Oil passages at base of saw should be cleaned to ensure proper lubrication of the bar and chain during operation. This can be done with a depth gauge tang or similar blunt instrument small enough to insert into the oil passages and grooves.

NOTE:
The condition of oil passages can be easily checked. While running the saw, depress manual oiler button a few times. If passages are clear, the chain will give off a spray of oil within seconds of starting the saw.

To Clean Guide Bar Rails:

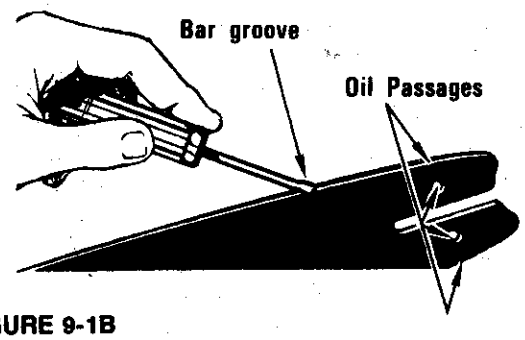


FIGURE 9-1B

1. Using a screwdriver, putty knife, wire brush or other similar type instrument, clear residue from rails on the Guide Bar. This will keep the oil passages open to provide proper lubrication to the bar and chain. **(Figure 9-1B)**

9-2 CHAIN MAINTENANCE INSTRUCTIONS

WARNING ⚠
Unless you have experience and specialized training for dealing with kickback (see Safety Precautions), always use low kickback saw chain, which significantly reduces the danger of kickback. Low-kickback saw chain does not eliminate kickback completely. A low-kickback or so-called safety chain should never be regarded as total protection against injury.

Low kickback saw chain should always be used in conjunction with other kickback protection devices such as the Chain Brake/Hand Guard furnished with your unit.

Always use replacement saw chain designated as "Low Kickback" or saw chain meeting the low-kickback performance requirements of ANSI (American National Safety Institute).

Standard Saw chain - chain which does not have the kickback reducing guard links - should only be used by experienced professional chain saw operators.

What is low-kickback saw chain?

Low-kickback saw chain is chain which has met the kickback performance requirements of ANSI B175.1 (safety requirements for gasoline-powered chain saws) when tested on the representative sample of chain saws below 3.8 c.i.d. (cubic inch displacement) specified in ANSI B175.1

By keeping the chain brake and saw chain in good working condition and correctly serviced as recommended in this manual, you will be able to maintain the safety system of your chain saw over the life of the product.

WARNING ⚠
Never remove, modify or make inoperative any safety device furnished with your unit. The Chain Brake/Hand Guard and low-kickback saw chain are major safety features provided for your protection.

NOTE:
Chain tension and chain sharpening instructions listed in this manual is for low kickback saw chain type MP 370GLX only.

WARNING ⚠
Always wear heavy duty protective work gloves when working on saw chain.

NOTE:
Instructions in this Chain Maintenance Section will cover the following topics:

A. Chain Tension

B. Breaking In A New Saw Chain

C. Chain Lubrication

D. How To Sharpen Saw Chain

A. CHAIN TENSION

Check the chain tension frequently and adjust as often as necessary to keep chain snug on the bar, but loose enough to be pulled around by hand. (For illustration and instructions see Section 4-8 Saw Chain Tension)

B. BREAKING IN A NEW SAW CHAIN

A new chain and bar will need chain readjustment after as few as five cuts. This is normal during the break-in period, and the interval between future adjustments will begin to lengthen quickly.

However, over a period of time, the moving parts of saw chain become worn which results in what is called CHAIN STRETCH. This is normal. When it is no longer possible to obtain correct tension adjustment, a link will have to be removed to shorten the chain. See your McCulloch Servicing dealer (listed under "SAWS" in the Telephone Directory Yellow Pages) to have this repair performed.

WARNING **CAUTION**
Never have more than three (3) links removed from a loop of chain. This could cause damage to the sprocket.

9 Bar/Chain Maintenance

C. CHAIN LUBRICATION

Always make sure the Manual Oiler system is working properly. Keep the Oil Tank filled with McCulloch Chain, Bar and Sprocket Oil.

Adequate lubrication of bar and chain during cutting operations is essential to minimize friction with the guide bar.

Never starve bar and chain of lubricating oil. Running saw dry or with too little oil will decrease cutting efficiency; shorten saw chain life; cause rapid dulling of chain, and lead to excessive wear of bar from overheating. Too little oil is evidenced by smoke or bar discoloration.

D. HOW TO SHARPEN SAW CHAIN:

CAUTION

If you are unfamiliar with correct saw chain sharpening techniques or do not understand chain maintenance instructions, consult your McCulloch Servicing Dealer (listed under "*SAWS*" in the Telephone Directory Yellow Pages) to have the work performed.

IMPORTANT INFORMATION

If you do not have a bench vise to hold the Guide Bar for chain filing, a satisfactory job of filing can be done using the Chain Brake to hold the chain in place. Make sure chain has proper tension to prevent wobbling. Carefully push Chain Brake lever forward until it releases and brake is engaged.

Touch up sharpening may be required once or twice during a day's wood cutting. Under certain conditions where sand or other abrasive materials become embedded in the bark of trees or wood, cutter teeth may dull more rapidly and more frequent sharpening may be required.

TOOLS REQUIRED

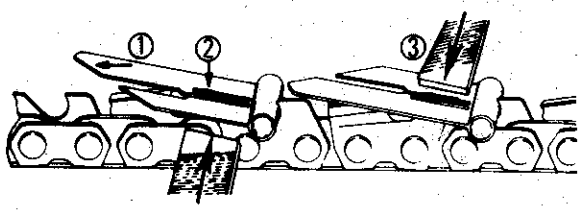
To sharpen MP370GLX saw chain you will need McCulloch File Plate, part number 219131; a 5/32" (4.0mm) Round File, part number, 214217, and a Flat File, part number, 84893.

NOTE:
Sharpening tools are available at your nearest McCulloch Servicing Dealer (listed under "*SAWS*" in the Telephone Directory Yellow Pages).

To Lower Depth Gauges:

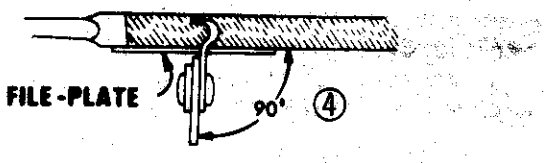
WARNING ⚠

Always move Ignition Switch to Stop position before working on saw. Always wear heavy duty work gloves when handling chain to avoid cutting hand or fingers on sharp cutter teeth.

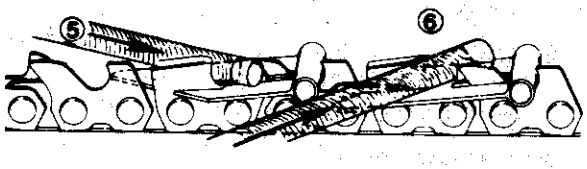


1. Place File Plate onto chain with angled end pointing toward saw motor (in direction of arrow). **(Figure 1)**
2. Using a Flat File, file depth gauges down flush with File Plate, filing in direction shown. **(Figure 2)**
3. Turn File Plate over to lower depth gauges of opposite side cutter, filing in direction shown. **(Figure 3)**
4. Lower all depth gauges before proceeding to sharpen cutters.

To Sharpen Cutters:



When filing cutters, hold round file at 90 degrees. File only in one direction as indicated in illustration. **(Figure 4)**



1. Place File Plate onto chain and with correct size file, sharpen cutters using smooth even strokes until cutting edge is sharp. Continue around loop of chain until all cutters of one side are sharpened. **(Figure 5)**
2. Turn File Plate over and sharpen opposite cutters in direction of arrow as shown in illustration. **(Figure 6)**

ACCESSORIES AND REPLACEMENT PARTS

PART NUMBER	DESCRIPTION
62345	Spark Plug DJ-8J or AC-CS45T
92879	Spark Plug RDJ-8J
96412	Fuel/Oil Tank Cap
214224	Air Filter
214204	Spark Arrester Screen
215252	Drum/Sprocket Assembly
214219	Wrench-All Purpose Saw Maintenance Tool
214194*	Bar Sprocket Tip Lube Gun (Metal/Reusable)
214195	Bar Sprocket Tip Lube Gun (Plastic/Disposable)
215824	Carrying Case/ With Bar/Chain Guard 10" to 16"
214201	Bar Guard (10" to 12" Bar/Chain)
214202	Bar Guard (14" to 16" Bar/Chain)

*Lube Gun is not packed with grease. Grease must be purchased separately.

REPLACEMENT BAR AND CHAIN COMBINATIONS/ CHAIN SHARPENING TOOLS

BAR PART NUMBER	BAR DESCRIPTION	CHAIN PART NUMBER	CHAIN DESCRIPTION	FILE PLATE PART NUMBER	ROUND FILE PART NUMBER	FLAT FILE PART NUMBER
214233-00	10" Spkt. Tip	214923-12	MP370GLX 38CL	219131-00	214217-00	68761-00
214234-00	12" Sprk. Tip	214921-12	MP370GLX 44CL			
214235-00	14" Sprk. Tip	214919-12	MP370GLX 49CL			
214236-00	16" Sprk. Tip	214925-12	MP370GLX 54CL			

Spkt = Sprocket
CL = Center Links

CUSTOM LUBRICANTS

McCulloch 40:1 Two-Cycle Oil

McCulloch Custom Lubricants are available in 3.2 ounce cans or resealable pints and quart containers at your local McCulloch Dealer.

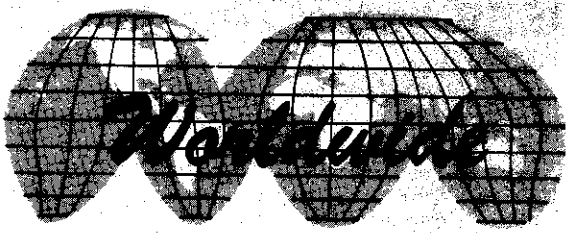
Bar and Chain Lubricant

UNIT SIZE	CASE CONTAINS	PART NUMBER
1 Quart Bottle	12 Bottles	87885
1 Gallon Bottle	6 Bottles	94818

SERVICE NOTES:

SERVICE NOTES:

McCULLOCH CORPORATION



• MANUFACTURING • SALES • SERVICE •

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FOR SERVICE-RELATED PROBLEMS, REPAIR OR MAINTENANCE, TAKE YOUR UNIT TO THE NEAREST McCULLOCH AUTHORIZED SERVICE CENTER LISTED UNDER SAWS IN YOUR TELEPHONE DIRECTORY YELLOW PAGES.

If additional assistance is required, call this toll-free hot-line:
1-800-423-6302
Arizona residents: 1-800-221-6507