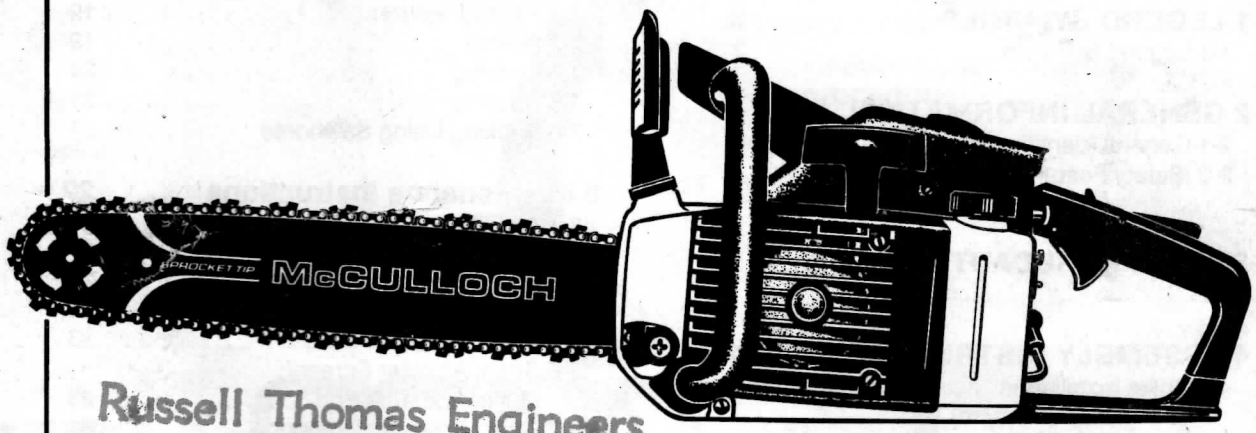
McCULLOCH CORPORATION

OPERATION, MAINTENANCE AND SAFETY MANUAL

SUPER PM 610
PRO MAC™ 605/610
EAGER BEAVER™ 3.7
CHAIN SAWS



Russell Thomas Engineers

DO NOT USE REGULAR UNLEADED FUEL

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.

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218821-02

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 assemble or operate your unit.

Be sure to carefully follow the step-by-step illustrations in this manual to assemble, 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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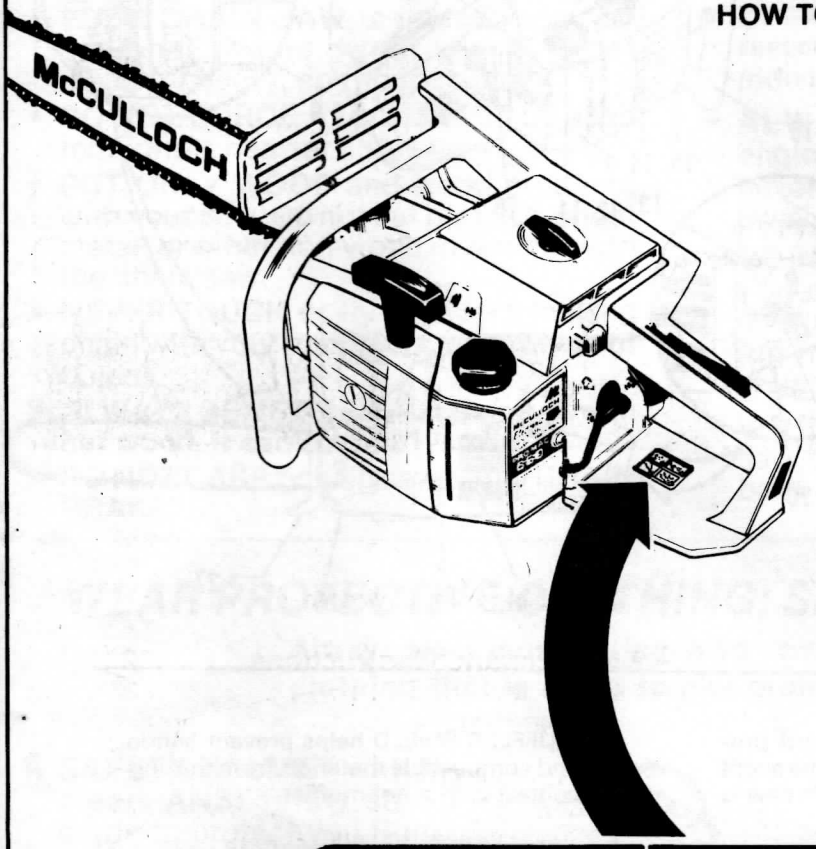
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1 SYMBOL LEGEND DEFINITIONS 1

Your McCulloch Chain Saw is furnished with a safety label located on the **Rear Handle/Boot Loop**. This label along with the safety precautions beginning on Page 4, should be carefully read before attempting to operate your chain saw.

1-1 LEGEND SYMBOLS

HOW TO READ SYMBOLS & COLORS



RED

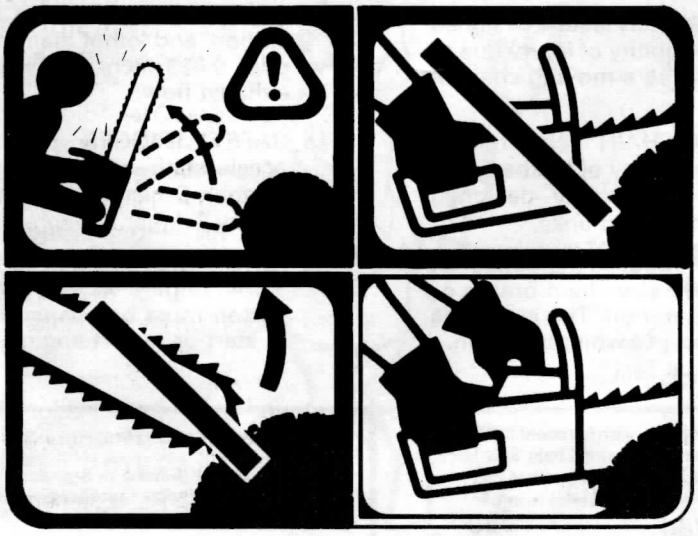
WARNING: ⚠

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.

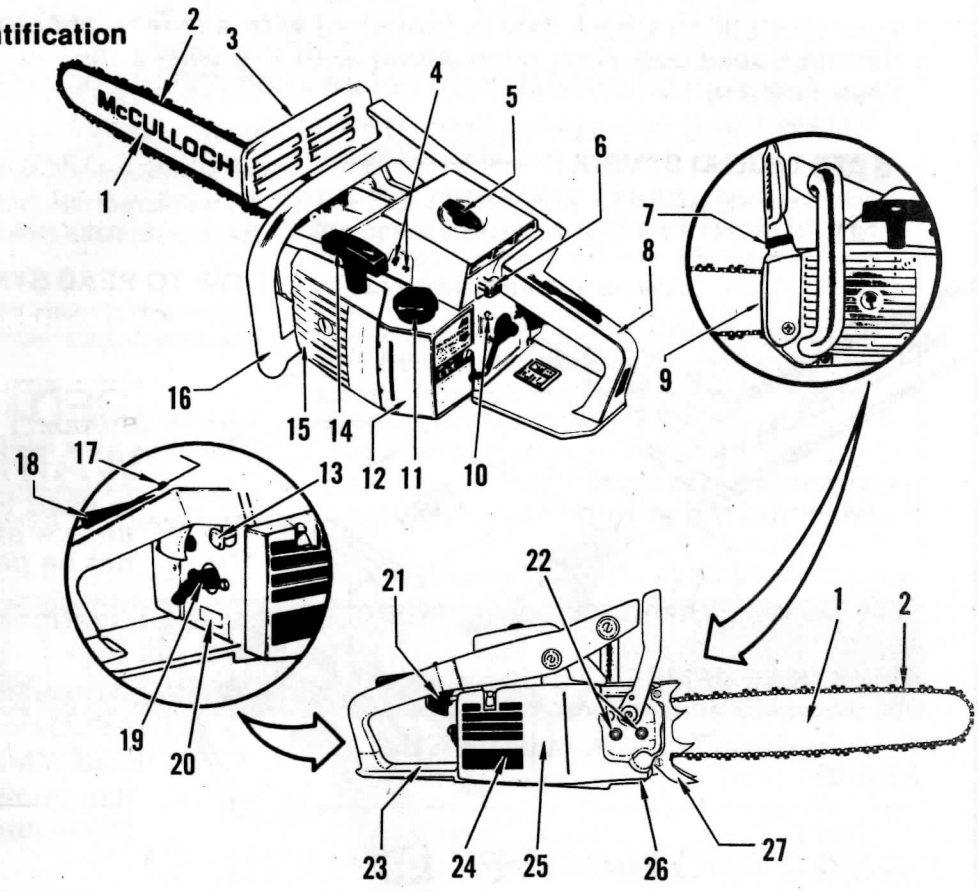
RECOMMENDED

4. Hold saw properly with both hands.

2 GENERAL IDENTIFICATION 2

2-1 General Identification

1. Guide Bar
2. Saw Chain
3. Chain Brake Lever/Hand Guard
4. Carburetor Controls
5. Air Cleaner Cover
6. Manual Oiler
7. Oil Tank Cap
8. Rear Handle
9. Saw Chain Adjustment Screw
10. Ignition (I)/Stop (O) Switch
11. Fuel Tank Cap
12. Fan Housing With Fuel Gauge
13. Choke Knob
14. Starter Handle
15. Starter Cover
16. Front Handle
17. Throttle Latch Knob
18. Safety Trigger
19. Spark Plug
20. Model/Serial Number Identification Plate
21. Throttle Trigger
22. Chain Brake Nuts
23. Bottom Shroud (Boot Loop)
24. Muffler
25. Chain Brake
26. Chain Catcher
27. Spike (Optional Equipment)



2-2 SAFETY FEATURES

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

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

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

26 CHAIN CATCHER reduces the danger of injury in the event saw chain breaks or derails during operation. The catcher is designed to intercept a whipping chain.

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

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

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

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

For handy references you may wish to record the Model Number and Serial Number of your Chain Saw Here. See Item 20 for location of Identification Plate.

Model Number **Serial Number**

NOTE: Many threaded fasteners on your saw are metric. For replacement see your McCulloch dealer to obtain correct metric or American Standard sizes. Metric tools can be used on these fasteners in many cases, so tool sizes are shown in both Metric and American Standard.

3 SAFETY PRECAUTIONS 3

IMPORTANT SAFETY INSTRUCTIONS

DO NOT RELY EXCLUSIVELY ON THE SAFETY DEVICES BUILT INTO THE CHAIN SAW.

TO PREVENT INJURY DURING CHAIN SAW OPERATIONS, REVIEW ALL SAFETY INSTRUCTIONS IN THIS MANUAL BEFORE OPERATING YOUR UNIT.

THESE SAFETY INSTRUCTIONS ARE WRITTEN FOR YOUR PROTECTION. FAILURE TO FOLLOW INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.

- **YOUR CHAIN SAW** is intended for occasional home owner use. It is not made for heavy, continuous use.
- **DO NOT FORCE** your saw to do a job requiring a heavier duty unit.
- **CUT ONLY WOOD** and wood products with your saw. Do not cut plastics, sheet metal, or other non-wood materials with the chain saw.
- **NEVER TOUCH** or try to stop a moving chain with your hand, foot, or any type of object.
- **ALWAYS REMEMBER** if a chain saw can cut wood, it can cut you.
- **DO NOT CARRY** chain saw by the CHAIN BRAKE® .
- **OPERATION OF CHAIN SAW** should be restricted to mature, properly instructed individuals.
- **ALWAYS CARRY CHAIN SAW** with engine stopped, the guide bar and chain covered and to the rear, and the muffler away from your body.
- **DO NOT OPERATE** a chain saw when you are fatigued or tired, have been drinking alcoholic beverages, or are taking medication. You must be in good physical condition and mentally alert.
- **WHEN TRANSPORTING** your chain saw, use the appropriate guide bar scabbard.

WEAR PROTECTIVE CLOTHING; SAFETY EQUIPMENT

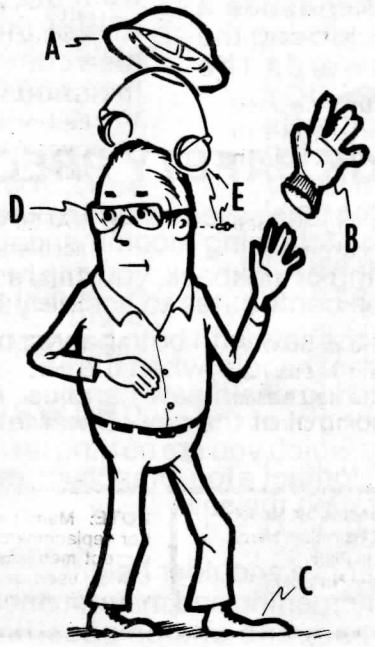
Always wear close-fitting and protective work clothing that is made to give protection such as:

A SAFETY HELMET which meets ANSI* safety standards to protect you from and deflect falling objects.

* A.N.S.I. refers to the American National Standards Institute.

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 that can be worn over glasses, safety glasses or goggles. Safety eye protection with high impact lenses protects from 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 noise levels.

3 Safety Precautions

DANGER - BEWARE OF KICK BACK

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 leading causes of most accidents.

Beware of ROTATIONAL KICKBACK

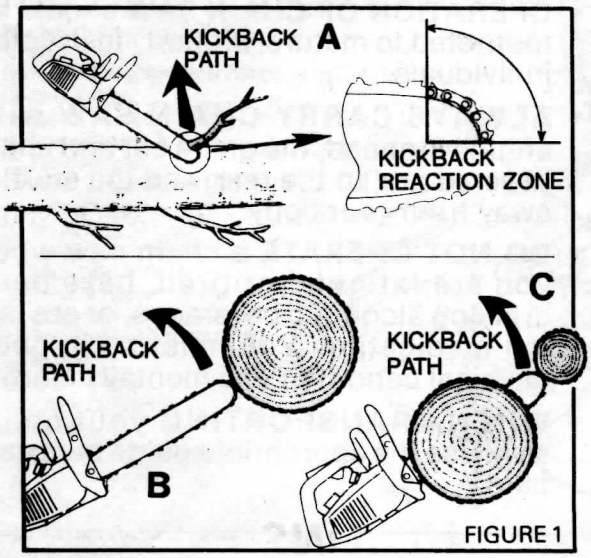


FIGURE 1

The PUSH (pinch-kickback) and PULL Reactions

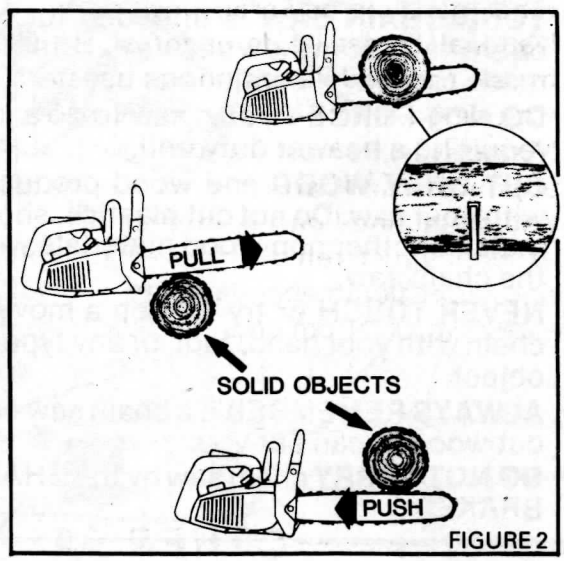


FIGURE 2

WARNING ⚠

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

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

PINCHING the saw chain along the **TOP** of the guide bar may push the guide bar rapidly back towards the operator. **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.

KICKBACK SAFETY PRECAUTIONS

As a chain saw user, you should take several steps to keep your cutting jobs free from accident 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 firm grip on the saw with both hands, the right hand on the rear handle, and the left hand on the front handle, when the engine is running. 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. Don't let go.

(3) Make sure that the area in which you are cutting is free from 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.

Comply With All Fire 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 chain saw or other gasoline-powered engines on U.S. National Forest lands or forest, brush or brush-covered lands in many states - including California, Oregon, Washington, Maine, New Hampshire - you must have an approved spark arrester screen installed and maintained on the muffler. The spark arrester 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. Spark Arrester screen replacement kits are available at your nearest McCulloch retailer or servicing dealer. If you have any questions concerning spark arrester screens or their use, write:

McCulloch Corporation, Product Service Department, 900 Lake Havasu Avenue, Lake Havasu City, Arizona, 86403. Or, you can call:

Toll-free number: 1-800-423-6302.
Arizona residents call collect:
(602) 453-3681.

OTHER SAFETY PRECAUTIONS

- **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.
- **USE EXTREME CAUTION** when cutting small size brush and saplings because slender material may catch the saw chain and be whipped toward you or pull you off balance.
- **DO NOT OPERATE** a chain saw in a tree unless you have been specially trained to do so.
- **DO NOT OPERATE** a chain saw on a ladder or other unstable surface. This is extremely dangerous and could result in serious injury.
- **DO NOT CUT IN AWKWARD POSITIONS** (off balance, with outstretched arms, one-handed, etc.).
- **DO NOT WORK ALONE.**
- **ALWAYS CUT** at high engine speed.
- **READ KICKBACK SAFETY PRECAUTIONS.**
- **DO NOT ALLOW** other persons to be near the chain saw when starting or cutting with the chain saw.
- **DO NOT START CHAIN SAW** on your leg or knee. This procedure is dangerous and wrong. See Operating Instructions for starting an engine.
- **ALWAYS START CHAIN SAW YOURSELF.** Others may distract your attention from what you are doing.
- **DO NOT LET THE BAR AND CHAIN** come in contact with any object or tip forward when starting engine. This could cause saw to kickback. Some cause of kickbacks are:
  - A. **STRIKING LIMBS** or other objects accidentally with the tip of the saw while chain is moving.
  - B. **STRIKING METAL,** cement, or other hardmaterials near the wood or in the wood.
  - C. **RUNNING ENGINE SLOWLY** at start of, or during the cut.
  - D. **CUTTING ABOVE SHOULDER HEIGHT.**
  - E. **INATTENTION** in holding or guiding saw while cutting.

3 Safety Precautions

HANDLE GASOLINE WITH CARE!

- **OPEN FUEL CAP SLOWLY** to release any pressure which may have formed in fuel tank.
- **TO PREVENT FIRE HAZARD** move at least 10 feet (3 meters) from fueling area before starting engine.
- **IF FUEL HAS SPILLED** on unit, be certain unit has been dried completely before starting it.
- **DO NOT CAUSE A SPARK OR SMOKE** while fueling or while operating the chain saw.
- **DO NOT USE ANY OTHER FUEL** than that recommended in your operator's manual.
- **KEEP HANDLES DRY,** clean and free of fuel mixtures.
- **ALWAYS REFUEL IN SAFE AREA,** away from ignition sources or open flame.
- **DO NOT SET A HOT SAW DOWN** where flammable material is present.
- **DO NOT REFUEL A HOT CHAIN SAW.** Allow it to cool before refueling.

ALWAYS KEEP SAW PROPERLY MAINTAINED

- **HANDLES:** Keep chain saw handles and Chain Brake/Handguard lever clean and free of oil and fuel mixtures.
- **FASTENERS:** Keep all fasteners (nuts and bolts) tight. Never operate a chain saw that is damaged, improperly adjusted, or is not completely and securely assembled.
- **CHAIN BRAKE®** : Properly maintain CHAIN BRAKE® at all times. Examine brake band for signs of wear daily or before using your saw. After examining CHAIN BRAKE® as explained in the Maintenance Section always test the CHAIN BRAKE® as explained in the Operating Instructions. Never operate saw without CHAIN BRAKE® or if the CHAIN BRAKE® does not work. Take it to the servicing dealer for repair immediately.
- **SAW CHAIN:** Keep saw chain sharp and properly maintained, and tensioned at all times. A new chain may require tensioning several times during the break-in period. Saw chain may require sharpening once or twice during a day's wood cutting and more frequently if wood being cut is embedded with dirt, sand, stones or foreign objects.

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.

- **ADJUSTMENTS:** Never let the starter rope snap back from extended position to avoid damage to starter assembly and fraying or breaking of rope.
- **FUEL:** Chain saw fuel is a mixture of gasoline and oil. Use only fuel and oil mixture as explained in the Fuel and Lubrication Section in your manual.
- **OIL TANK:** Frequently check oil tank level. Keep bar and chain well lubricated during operation. Chain and Bar Lubrication is explained in the Fuel and Lubrication Section of your manual.
- **ENGINE:** Don't allow dirt, fuel, sawdust, sap or debris on engine or on the outside of saw. Keep saw and CHAIN BRAKE system clean and free of debris build-up.
- **AIR FILTER:** Always keep the air filter clean. Carry spare filters with you to the work area for replacement if necessary. Never operate saw without a clean air filter installed on unit.
- **MUFFLER:** Never operate your chain saw without a properly functioning muffler or spark arrester screen properly installed and maintained.
- **TOOLS:** Use only proper tools to tighten fasteners, adjust carburetor, remove and install spark plug, or when making other repairs. Each maintenance procedure in this manual explains the proper tools required for the specific application being done.
- **MANUAL:** Read and re-read the manual to familiarize yourself with the chain saw and maintenance required to keep your saw in top running condition.

CONSEQUENCES OF POOR MAINTENANCE

Failure to properly maintain your chain saw can result in serious personal injury, damage to the engine and/or the unit itself, faulty operation and poor on-the-job performance.

- **SAW CHAIN:** A loose or dull chain can result in kickback (see safety precautions on kickback) and can slip off the gide bar rails during operation. A dull chain can also result in slower cutting resulting in the use of excess force from operator and lead to engine damage from over heating. Also conditions that are often mistaken as engine problems such as engine running roughly and cutting difficulties are often caused by a dull, loose, or incorrectly sharpened chain.

- **SAW CHAIN MAINTENANCE:** Your unit is equipped with low-kickback saw chain. This chain significantly reduces the danger of chain saw kickback while maintaining high cutting efficiency. CAUTION: All saw chain can kick back, which may result in severe personal injury to the saw operator or bystanders. Improper sharpening and filing of this chain will increase the risk of severe injury due to kickback. Study kickback safety precautions and carefully follow sharpening instructions in your manual.

- **BAR LUBRICATION:** Running a saw dry (without lubrication) or with too little oil will decrease cutting efficiency, shorten saw chain life, cause rapid dulling of chain, and excessive wear of bar from overheating. Too little oil is evidenced by smoke or bar discoloration.

- **SPARK PLUG:** The spark plug must be kept free of oil and carbon deposits and properly gapped for efficient starting and operation of the chain saw.

- **CHAIN BRAKE:** The CHAIN BRAKE can be cracked or broken if carelessly and improperly installed. Follow assembly instructions carefully whenever removing or installing chain brake.

- **IMPROPER CHAIN BRAKE MAINTENANCE:** Improper maintenance of CHAIN BRAKE, as explained in the Chain Brake Maintenance Section in your manual, can result in failure of the chain brake to function properly, if at all, causing serious personal injury. When activated the CHAIN BRAKE stops a moving chain in a fraction of a second. It must be properly maintained at all times. See Chain Saw Safety Features in Safety Precaution Section of this manual.

- **COOLING FINS:** Air inlet vents of the starter cover and cylinder cooling fins must be kept clean or the engine will overheat during cutting operations. Overheating can lead to engine damage.

- **MUFFLER:** It is advisable after five hours of operation to remove, clean and inspect muffler components. At the same time and carbon deposits should be removed from the exhaust port. Operating saw with a dirty or faulty muffler can lead to engine damage.

- **GUIDE BAR:** Most guide bar (the railed bar which supports and carries the saw chain) problems can be avoided for a long time by merely keeping a well-maintained saw chain. Incorrect filing and non-uniform cutter and depth gauge settings cause most guide bar troubles; primarily uneven bar wear. As the bar wears unevenly, it widens, and chain clatter, rivet popping and difficulty in making straight cuts may result.

CONSEQUENCES OF POOR MAINTENANCE

- **IMPROPER STORAGE:** Failing to store a chain saw properly can result in damage to the carburetor, causing the needles to gum up. Gas left in the tank for prolonged periods can become stale, making starting difficult. Follow instructions on Storing A Chain Saw in the Maintenance Section of your manual.

- **FUEL CAP:** The fuel cap vent must be kept cleaned. The vented cap prevents build-up of either pressure or vacuum in the tank. Both conditions will affect engine operation. If cap vent is not plugged and pressure or vacuum develops, have your McCulloch dealer service the saw.

- **FUEL FILTER:** The fuel filter must be inspected and replaced when needed. The filter prevents dirt from entering the fuel line to the carburetor. When dirt builds up in the filter it cuts down the flow of fuel. If water gets into the gas tank, the water will get into the filter and prevent flow of fuel to carburetor. Failure to maintain filter can result in poor performance of unit.

- **AIR FILTER:** Never operate a saw without a clean air filter properly installed, or dust and dirt will be sucked into the engine and damage it. A dirty air filter can result in a rough running engine, making it appear that the carburetor needs adjustment. Air filter should always be kept clean and replaced as required.

- **SPARK ARRESTER:** An improperly maintained spark arrester screen can cause engine power loss and improper functioning of the exhaust system. Keep this screen properly maintained at all times. Inspect and clean after every 5 hours of use, or more frequently as required.

- **SPROCKET/CLUTCH/CLUTCH DRUM:** The sprocket, clutch and clutch drum should be kept as clean and free of sawdust, pitch deposits and debris as possible. If sawdust or debris is allowed to build up, the clutch may drag, causing the chain to move while the saw is idling.

- **CHAIN SAW SERVICE:** All chain saw service, other than items listed in the operator's manual maintenance instructions, should be performed by an authorized McCulloch servicing dealer. (For example, if an improper tool is used to hold the flywheel in order to remove the clutch, structural damage to the flywheel could occur and could subsequently cause the flywheel to burst.)

- **NOTE:** With proper operation and maintenance your chain saw, a powerful wood-cutting tool, will provide you with years of service. In order to make best use of your investment, be certain to familiarize yourself with the contents of the entire manual before you assemble, operate and maintain your chain saw.

WORK AREA CONDITIONS

- **DUE TO THE DANGER** of exhaust fumes, never operate chain saw in a confined or poorly ventilated area.
- **KEEP WORK AREA CLEAN!** Cluttered work areas invite accidents.
- **ALWAYS BE SURE OF YOUR FOOTING** and pre-plan a safe exit from a falling tree.
- **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.
- **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.
- **DO NOT OVERREACH** when cutting, you could lose your balance.
- **NEVER ATTEMPT** cutting procedures beyond your capacity or experience.
- **KEEP BYSTANDERS** and animals out of work area. Always allow a safe distance between you and other people and animals when operating a chain saw.
- **DO NOT START CUTTING** until your work area is clear and you have secure footing. Operate chain saw on solid, level ground whenever possible.
- **DO NOT ATTEMPT TO CUT** down a tree during high or shifting winds. Do not cut on an icy slope, during snow storms, rain or other adverse weather conditions. You could get injured, lose your footing.
- **DO NOT CUT AT NIGHT,** you need good visibility.
- **DO NOT CUT ABOVE SHOULDER HEIGHT,** you could lose control of the saw and kickback could cause you to get hit with the saw. Read Kickback Safety precautions.
- **ALWAYS SHUT OFF THE ENGINE** before setting the chain saw down.
- **NEVER LEAVE CHAIN SAW** unattended.

4 ASSEMBLY INSTRUCTIONS 4

CAUTION:

Do not attempt to start or run the engine until the **BAR, SAW CHAIN** and **CHAIN BRAKE**® have been installed.

4-1 SPIKE INSTALLATION
OPTIONAL EQUIPMENT ONLY

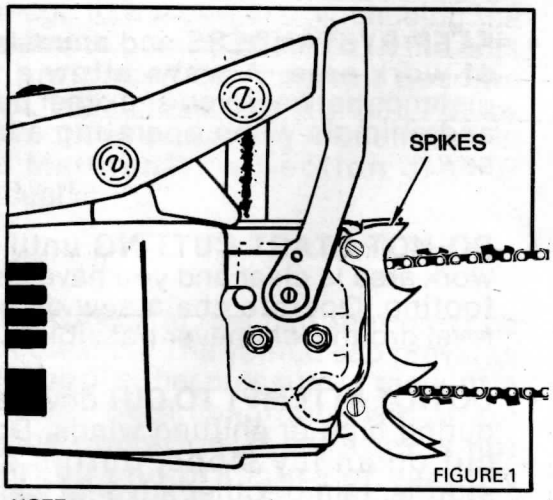


FIGURE 1

NOTE:

See Accessories, page 31, for Spike Kit. part number.

Spikes, acting as wood grippers and fulcrum points, aid in cutting control. (Figure 1).

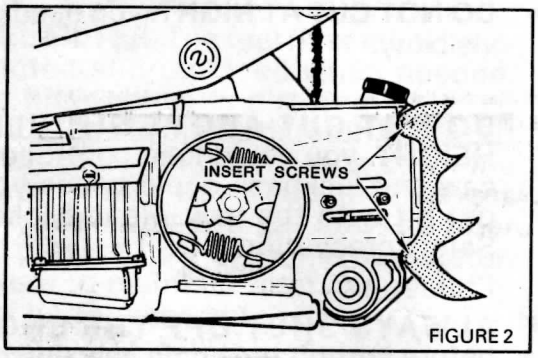


FIGURE 2

1. With the largest tooth at the bottom, fasten one spike to the oil tank with two of the screws provided. (Figure 2).

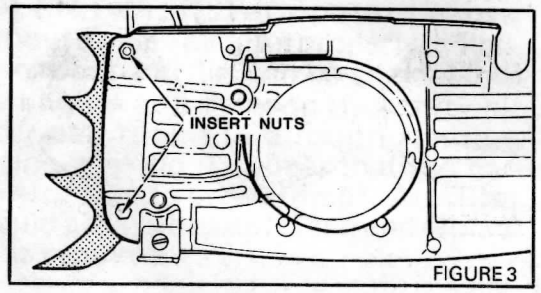


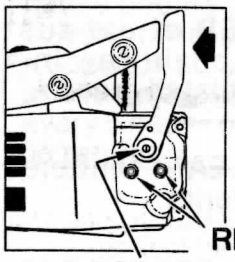
FIGURE 3

2. Insert the two nuts into their holes in the **CHAIN BRAKE**® housing with the locking tabs on the outside. (Figure 3).
3. Again, with the largest tooth at the bottom, fasten the other spike onto the **CHAIN BRAKE**® housing using the remaining two screws.

4-2 GUIDE BAR, SAW CHAIN AND CHAIN BRAKE® INSTALLATION

WARNING

Handle the **CHAIN BRAKE**® carefully. Make certain the **CHAIN BRAKE**® lever is pulled back to the disengaged position when installing or removing the **CHAIN BRAKE**®.



1. Make sure Chain Brake Lever is disengaged. Remove two (2) Chain Brake Housing retaining nuts as shown in the adjacent illustration. Remove Chain Brake.

REMOVE 2 NUTS
DO NOT REMOVE THIS SCREW

GUIDE BAR INSTALLATION

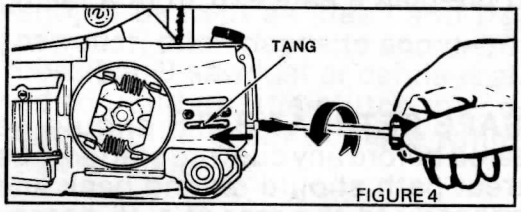


FIGURE 4

2. Turn the chain tension adjustment screw counterclockwise to move the chain tension adjustment nut (tang) as far to the rear as possible. (Figure 4).

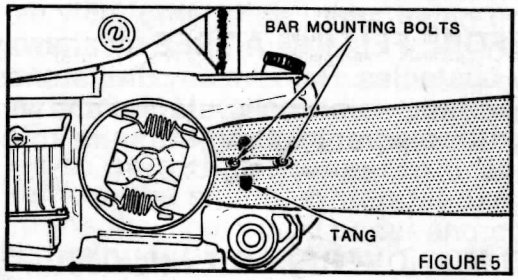


FIGURE 5

3. Slide the slotted end of the bar over the bar mounting bolts and push it back until the tang is positioned in the bar adjustment hole. (Figure 5).

SAW CHAIN INSTALLATION

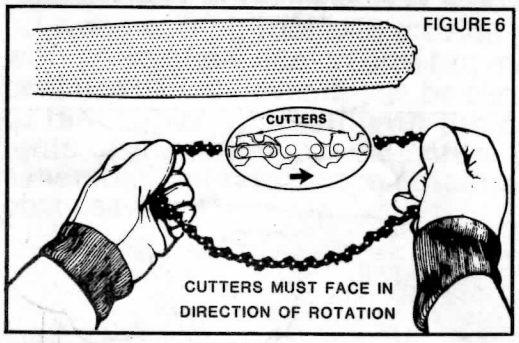
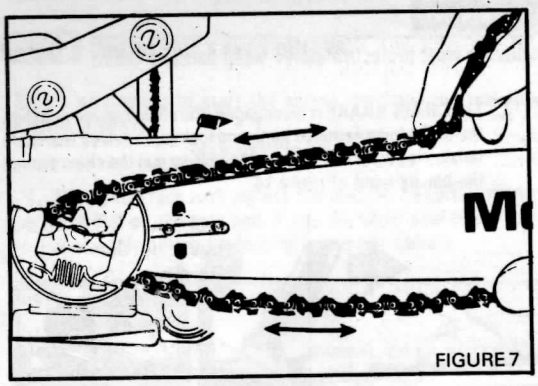


FIGURE 6

WARNING

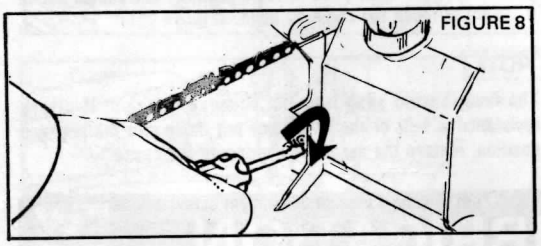
Always wear protective gloves when handling chain.

4. Spread the chain out in a loop with the cutting edges of the chain pointing clockwise around the loop. (Figure 6).


FIGURE 7

5. Tilt the top of the chain away from you and slide it edgewise around and behind the drum and onto the sprocket.

6. Move the chain back and forth to make sure it is in proper mesh with the sprocket and in line with the bar groove.


FIGURE 8

7. Guide the chain center links into the bar groove all the way around the bar. Remove the slack in the chain by turning the chain tension adjustment screw clockwise. (Figure 8).

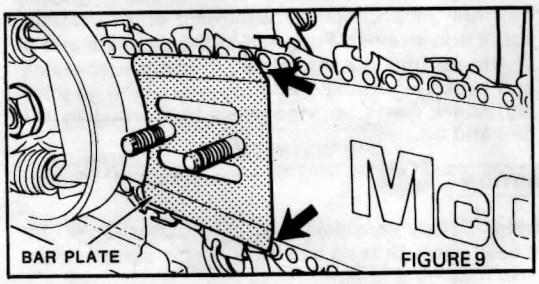
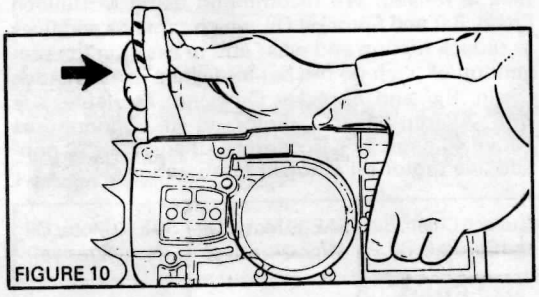
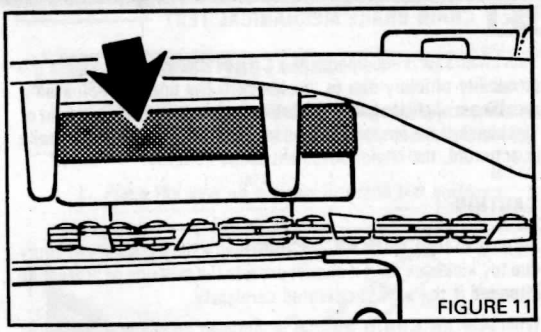


FIGURE 9

8. Install the bar protector plate over the bar bolts with the flange away from the bar. (Figure 9).

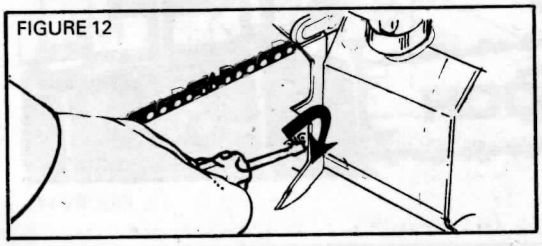

FIGURE 10

9. Make certain the **CHAIN BRAKE**® lever is pulled back to the disengaged position. (Figure 10).


FIGURE 11

10. Install CHAIN BRAKE® Assembly, being certain brake band is carefully fitted around outside of clutch drum.

11. Install CHAIN BRAKE® retaining nuts finger tight.


FIGURE 12

12. Hold the nose of the bar up and turn the adjustment screw clockwise to increase the chain tension. Always maintain a snug fit all the way around the bar. (Figure 12).

NOTE

The chain has the proper tension when, with the bar locked in the uppermost position, it has a snug fit all around and will pull around the bar easily by hand. No droop or sag of the chain is permitted.

CAUTION

During the break-in period, the chain will require special attention.

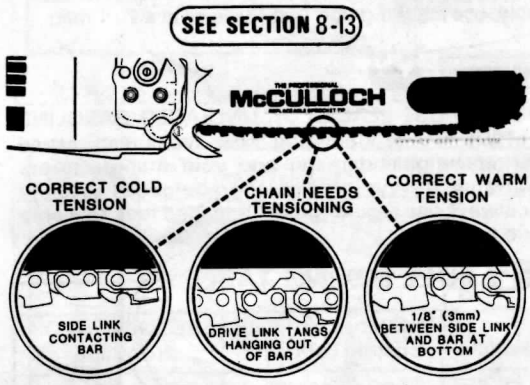


FIGURE 13

CAUTION

Correct chain tension is important for long life. If a chain is too loose or too tight, the bar, chain and saw bearings will wear more rapidly.

13. While holding the nose of the bar up, tighten the two Chain Brake/Guide Bar retaining nuts securely.

4 Assembly Instructions

4-3 CHAIN BRAKE® MECHANICAL TEST

Your chain saw is equipped with a **CHAIN BRAKE®** that reduces the possibility of injury due to "kickback." The brake is actuated if pressure is applied against the brake lever when, as in the event of "kickback," the operator's hand strikes the lever. When the brake is actuated, the chain movement stops abruptly.

CAUTION:

Purpose of the **CHAIN BRAKE®** is to reduce the possibility of injury due to "kickback" but it cannot provide the measure of protection intended if the saw is operated carelessly.

Whenever the **CHAIN BRAKE®** is installed on the unit, the lever mechanism must be tested. This test can be performed without starting the engine in the following manner:

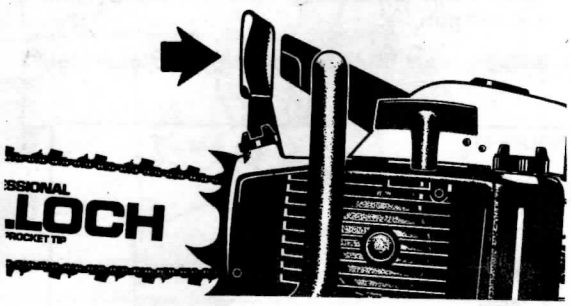


FIGURE 14

WARNING

Always wear protective gloves when handling chain.

1. The **CHAIN BRAKE®** is disengaged (the chain can move) when the brake lever is pulled back and locked. Provided the chain tension is correct, you should be able to pull the chain around the bar by hand. (Figure 14).



FIGURE 15

2. The **CHAIN BRAKE®** is engaged (the chain is stopped) when the brake lever is in the forward position. You should not be able to move the chain by hand. (Figure 15).

NOTE

The lever should snap into the engaged position. If strong resistance is felt, or the lever does not move into the engaged position, remove the assembly and locate the cause.

5 FUEL AND LUBRICATION 5

5-1 FUEL

Use ~~either regular grade~~ leaded or ~~regular grade unleaded~~ gasoline in your unit. Use only one type. Chain saw 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 Mixture Table. McCulloch Two Cycle Custom Lubricant is recommended. If not available, use a good grade Two Cycle oil at a 20:1 ratio.

CAUTION

DO NOT USE ~~LEADED OR~~ UNLEADED GASOLINE ~~ALTERNATELY~~. Changing fuel types can cause serious engine damage and void manufacturers warranty. Always use regular grade leaded gasoline or always use regular grade unleaded fuel. Use only one type.

5-2 FUEL MIXING TABLE

Gasoline	McCulloch 40:1 Ratio Custom Lubricant	SAE Two-cycle Oil 20:1 Ratio
½ U.S. Gal.	1.6 oz. 48ml (cc)	3.2 oz. 95ml (cc)
1 U.S. Gal.	3.2 oz. 95ml (cc)	6.4 oz. 190ml (cc)
5 U.S. Gal.	16.0 oz. 475ml (cc)	32.0 oz. 950ml (cc)
1 Liter	0.9 oz. 25ml (cc)	1.7 oz. 50ml (cc)
5 Liter	4.3 oz. 125ml (cc)	8.5 oz. 250ml (cc)
20 Liter	17.0 oz. 500ml (cc)	34.0 oz. 1000ml (cc)

DO NOT USE REGULAR UNLEADED FUEL

5-3 MIXING FUEL

Mix fuel in a container equipped with a flexible spout and strainer. 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 shake container vigorously to thoroughly mix fuel and oil.

CAUTION

Fuel additives or special starting fluids should not be used because seals and other rubber composition parts may be damaged.

5-4 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 on the bar and chain. If McCulloch Chain, Bar and Sprocket Oil is not available, use SAE 30 non-additive motor oil at temperatures above 40 degrees F (5 degrees 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 TEMPERATURES	40 F (5 C) and ABOVE	LOWER TEMPERATURES

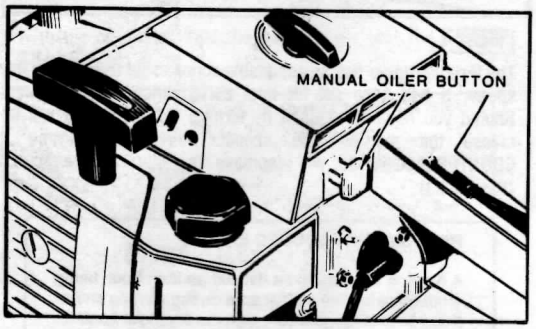
6 OPERATING INSTRUCTIONS 6

6-1 ENGINE PRE-START CHECKS

Before attempting to start the engine, mechanically test the **CHAIN BRAKE.**

SEE SECTION 4-3

1. Fill the fuel tank with correct fuel mixture. Be certain not to spill fuel on the saw and, if you do, allow saw to dry out thoroughly before attempting to start or operate.



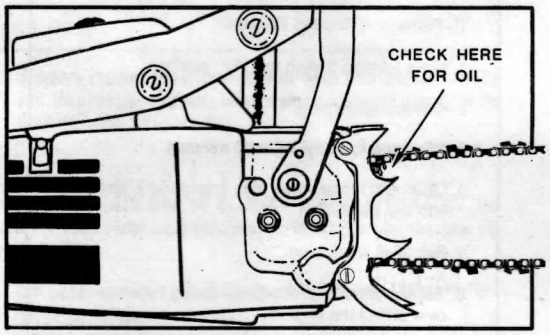


FIGURE 16

2. Fill the chain oil tank with the correct chain oil and pump manual oiler until oil is seen at top of bar, above the bar bolt. (Figure 16).

SEE SECTION 5-4

3. Be certain the chain has correct tension and the bar is tight on the saw.

SEE SECTION 4-2

4. Be certain the **CHAIN BRAKE**® is disengaged before starting the unit.

CAUTION:

Do not attempt to start or operate the unit with the brake engaged (chain is stopped). Do not allow the engine to idle for long periods of time when the brake is engaged as this tends to build up heat in the sprocket bearing.

6-2 TO START THE ENGINE

Your Chain Saw is easy to start. However, improper use of the choke can flood the engine, making starting difficult.

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

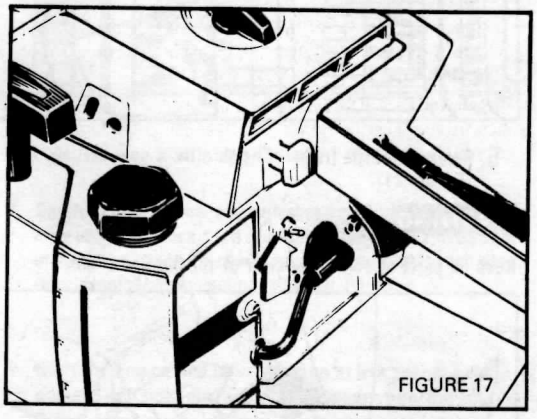


FIGURE 17

2. Move ignition/stop switch upwards to the "on" position. (Figure 17).

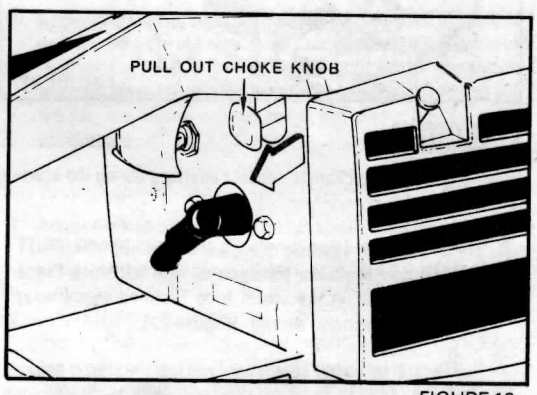


FIGURE 19

3. Pull the choke knob out (cold engine only). (Figure 19).

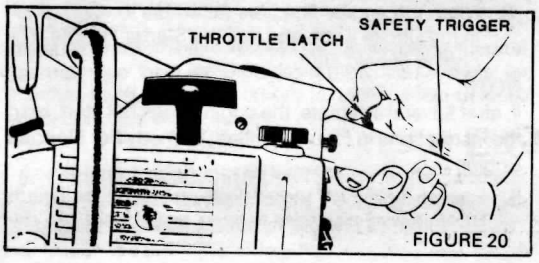


FIGURE 20

6 Operating Instructions

4. Depress the safety trigger with the palm of your hand. Squeeze throttle trigger and pull back throttle latch with thumb. (Figure 20).

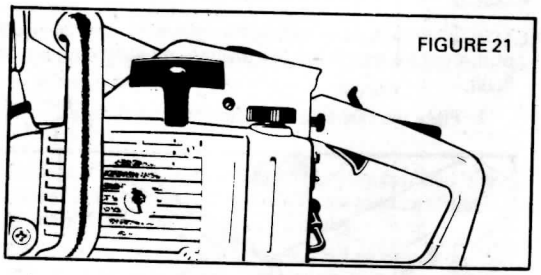


FIGURE 21

5. Release throttle trigger. The throttle is now partially open. (Figure 21).

WARNING

Keep all parts of your body clear of the bar and chain.

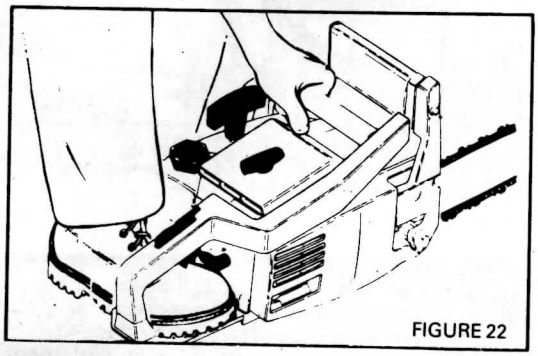


FIGURE 22

WARNING

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

6. Hold the saw down firmly by the front handle (**NOT CHAIN BRAKE** lever/handguard) with left hand. Place your right foot in the "boot loop" formed by the rear handle and bottom shroud. (Figure 22).

7. 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 snap back from the extended position. Repeat until the engine first fires.

8. When the engine first fires (attempts to start), push in the Choke Knob and pull the Starter Handle. The engine should start.

NOTE:
If, after several attempts, the engine does not start, read the instructions in Figure 24 titled, Remedy For Flooded Engine.

9. Squeeze the throttle trigger slightly to release the throttle latch, allowing the engine to return to idle speed.

10. 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.

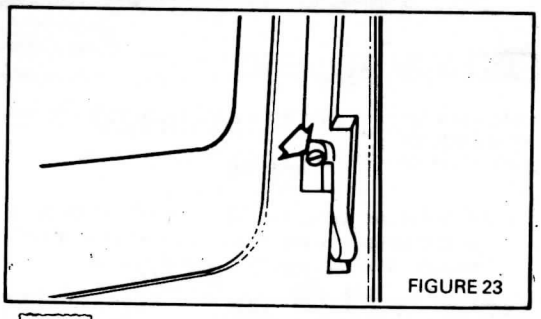


FIGURE 23

NOTE

The throttle trigger has an adjustable screw to set the starting idle speed. It has been set for best performance by the factory. Should you need to readjust it, turning it CLOCKWISE will increase the starting idle speed. Conversely, turning it COUNTERCLOCKWISE will decrease the starting idle speed. (Figure 23).

REMEDY FOR FLOODED ENGINE

A flooded engine will be difficult to start Fuel being emmitted from the muffler area during starting and/or the aroma of fuel is a sure sign the engine is flooded.

To Remedy A Flooded Engine:

1. Move Ignition Switch to "OFF" position.
2. Remove spark plug.
2. Allow saw to sit for 15 to 30 minutes.
3. Clean and regap spark plug if necessary. See Section 8-2, page 22.
4. Reintstall spark plug.
5. Repeat starting procedures, being careful not to over choke the engine.

FIGURE 24

6-3 TO STOP ENGINE

1. Release the throttle trigger and allow the engine to return to idle speed.

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

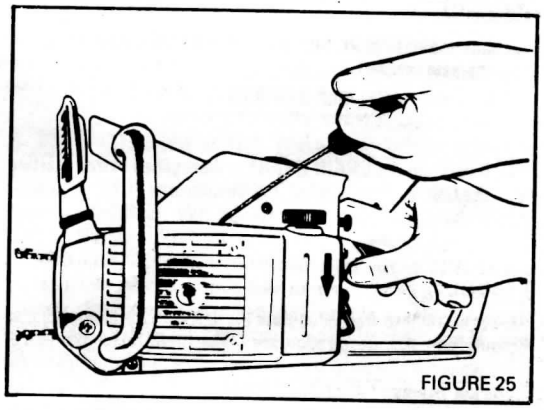


FIGURE 25

3. Pull the starter handle out slowly about 15 to 30 cm (6 inches) and move the ignition/stop switch to the "STOP" position. (Figure 25).

NOTE

When it is necessary to stop the saw immediately, simply move the ignition/stop switch to the "STOP" position.

6-4 CHAIN BRAKE® OPERATIONAL TESTS

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®**.

Test the **CHAIN BRAKE® ASSEMBLY** as follows:

1. Place the saw on a firm flat surface.
2. Follow the correct procedures to start the engine.
3. Grasp the rear handle firmly with the right hand.
4. With the left hand, hold the front handle (not the **CHAIN BRAKE®** lever) firmly.

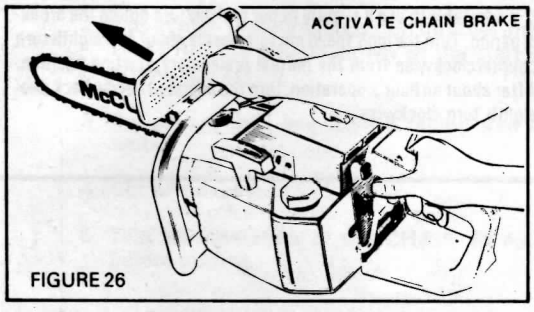


FIGURE 26

5. Squeeze the throttle trigger to wide open throttle. As soon as full throttle is reached, immediately activate the **CHAIN BRAKE®** lever. (Figure 26).

CAUTION:

Activate the **CHAIN BRAKE® SLOWLY** and **DELIBERATELY**. Be careful to keep chain from touching surface: don't let the saw tip forward.

6. The chain should stop abruptly. When it does, release the throttle trigger immediately.

CAUTION:

When the **CHAIN BRAKE®** has been activated, immediately release the throttle trigger to prevent damage to the engine or the clutch.

WARNING

If the chain does not stop, turn off the engine and check to be sure the **CHAIN BRAKE®** is properly installed. If the installation is correct, take the saw to your McCulloch dealer for repair or replacement of the **CHAIN BRAKE®** assembly.

CAUTION:

DO NOT HOLD THE SAW BY THE CHAIN BRAKE® LEVER. The **CHAIN BRAKE®** lever (handguard) provides the best protection against kickback when the saw is held at the top of the front handle.

6-5 CARBURETOR ADJUSTMENT

General Instructions

Carburetor adjustment is critical and if done carelessly can damage the carburetor and engine.

NOTE

Before making any adjustments, make sure the air filter is clean. Very often a dirty air filter will make the engine operate as though the carburetor needed adjustment. **See Section 7-1**

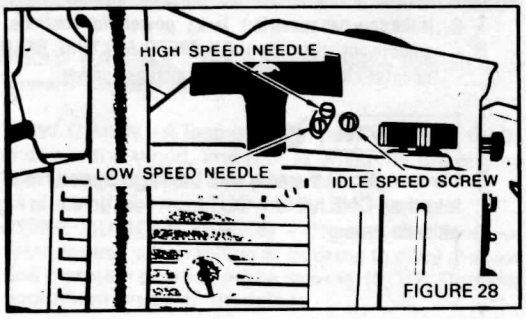


FIGURE 28

1. Carefully turn the low and high speed mixture needles clockwise until resistance is felt. Do not turn the needles in too tight or you can damage the needle tips and their seats. Then open (turn counter-clockwise) each needle 1 turn.

2. Start the engine and let it warm up at low speed. If the engine will not idle without stopping, turn the idle speed screw clockwise until it does. If the chain moves while the engine is idling, turn the speed screw counter-clockwise until it stops.

3. Accelerate the engine several times, adjusting the low speed mixture needle to obtain a smooth, rapid acceleration without hesitation or falter. If the needle is turned in too far, the engine will hesitate or falter when accelerated. If needle is turned out too far, the engine will run rough and smoke heavily when accelerated.

4. Adjust the high speed needle for best power under lead. Do not judge by the sound; judge by the way the saw cuts. Final position of the high speed needle will usually be about 1 to 1⅛ turn open.

5. Check idle operation again. It may be necessary to readjust slightly for smooth idle and acceleration (see step 2).

CAUTION:

Engine performance is determined by the cutting speed and ease of operation under load. Therefore, do not adjust the carburetor for maximum sound level as this is likely to result in a lean condition which can cause engine damage.

6. CARBURETOR ADJUSTMENT TEST: After the carburetor has been adjusted, the following procedures should be performed to ensure adjustment accuracy:

   A. With the throttle wide open, make a test cut in a log. If the carburetor is properly adjusted and the chain is properly sharpened, the saw will cut quickly, smoothly, and with minimum operator effort.

   B. If the engine sounds rough and slows down in the cut, turn the HIGH SPEED MIXTURE NEEDLE clockwise slightly to increase cutting speed and smoothness.

C. If the saw has speed but lacks power to continue a smooth cut, turn the HIGH SPEED MIXTURE NEEDLE counter-clockwise slightly to increase power.

CAUTION

D. Never operate the saw with the High Speed Needle less than ONE full turn OUT from seat unless in high altitude area.

ALTITUDE ADJUSTMENT

All engines lose power as altitude increases. This is due to the "thin" air (less oxygen in the atmosphere at higher altitudes). The rate of power loss is approximately 3% per 1,000 feet (300 meters) of elevation. Other factors, such as temperature and humidity, will affect power output also.

NOTE

At altitudes near sea level, always be sure that the low speed mixture needle is backed out at least one turn and the high speed mixture needle is backed out at least 7/8 turn. These needles are designated "lo" and "hi."

As altitude increases substantially, to approximately 5,000 feet (1500 meters) and above, it may be necessary to adjust the mixture needles slightly below the sea level minimum settings.

6-6 BREAKING IN A NEW ENGINE

Breaking in a new saw engine is very important. Run your engine for its first few minutes at one-third throttle. Increase speed to about half-throttle and run for a few minutes longer. Cut a few LIMBS or SMALL LOGS at first. Check CHAIN tension frequently and use the manual oiler button often.

It is advisable to use a slightly richer fuel mixture during the break-in period. Turn the high speed mixture needle about one-eighth turn counterclockwise from the normal preliminary starting position. After about an hour's operation, turn the adjusted needle back one-eighth turn clockwise.

NOTES:

7 GENERAL CUTTING INSTRUCTIONS 7

This consumer chain saw is intended for general homeowner use, and such general applications as clearing, pruning, and cutting firewood.

Before using your saw, you should review the safety precautions listed in your Operator's Manual, and all local regulations for the operation of your saw. These precautions and regulations are for your protection.

1. For all types of cutting, always hold saw firmly with both hands, with thumbs and fingers encircling saw handles.
2. Cut at high engine speeds (full throttle) only. Don't run the engine slowly at the start or during the cut.
3. Pre-plan a safe exit from a falling tree or limbs.
4. Cut wood only.
5. Test the operation of the **CHAIN BRAKE** before cutting.

7-1 DEFINITIONS

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 occuring 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.

SPIKE BUMPER (SPIKE) - The pointed tooth or teeth for use when felling or bucking to pivot the saw and maintain position while sawing. (NOTE: Optional equipment on some models.)

7-2 SAFETY FEATURES

Your chain saw is equipped with a CHAIN BRAKE/ HANDGUARD designed to reduce the chances of kickback injury. The saw is also equipped with reduced kickback chain to decrease the intensity of kickback should it occur. If kickback occurs, the CHAIN BRAKE, when activated by operator, stops a moving chain in milliseconds.

NOTE
Read all Safety Precautions and study sections titled Beware of Kickback and Controlling Kickback.

7-3 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.

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.

WARNING ⚠

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.

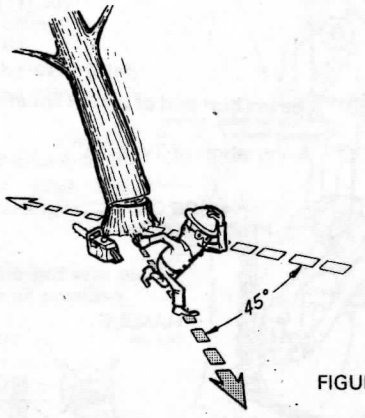


FIGURE 29

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 29).

7 General Cutting Instructions

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.

NOTCHING UNDERCUT

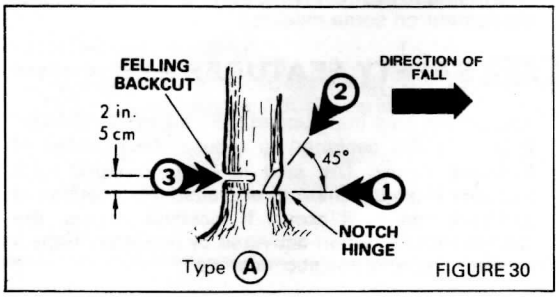


FIGURE 30

WARNING ⚠

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

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 30).

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.

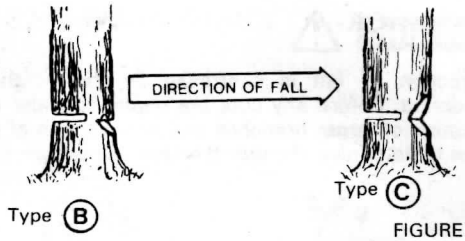


FIGURE 31

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

Type "C": A Variation of Type "A".



FIGURE 32

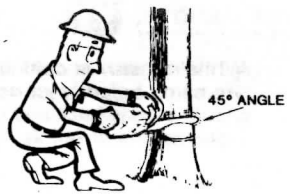


FIGURE 33

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 32).

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 33).

WARNING ⚠

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

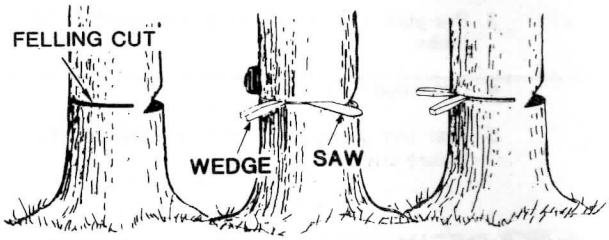


FIGURE 34

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 34).

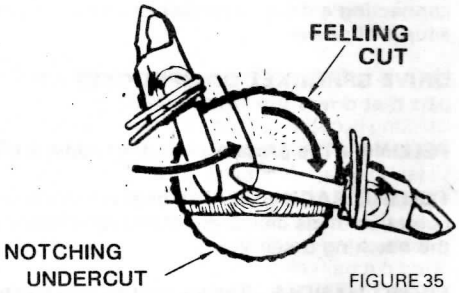


FIGURE 35

NOTE
When diameter of wood being cut is greater than bar length, make two cuts as shown. (Figure 35).

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 29).

WARNING ⚠

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

7-4 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 38. Branches under tension should be cut from the bottom up to avoid binding the chain saw.

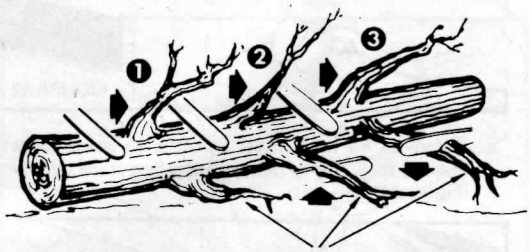


FIGURE 36

Start limbing at the butt of the tree and work toward the tip. Clear away cut limbs as work progresses. (Figure 36).

WARNING ⚠

1. Never cut limbs while standing on tree trunk.
2. Beware of springback when cutting a limb that is under tension. Be alert for springback so that you will not be struck or knocked off balance when limb or branch tension is released.

7-5 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.

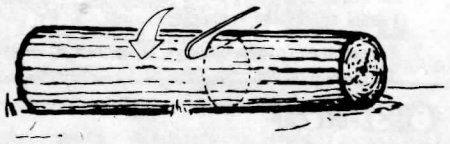


FIGURE 37

1. **Log supported along entire length:** Cut from top (overbuck), being careful to avoid cutting into the ground. (Figure 37).

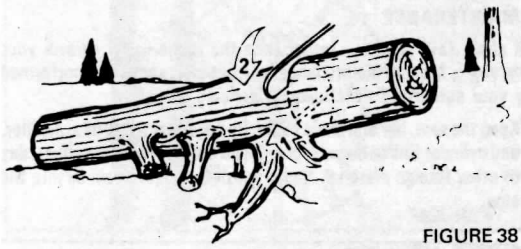


FIGURE 38

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 38).

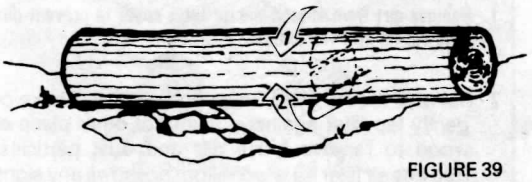


FIGURE 39

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 39).

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.

7-6 BUCKING USING SAWHORSE

For personal safety and ease of cutting, the correct position for vertical bucking is essential. (Figure 40).

Vertical Cutting:

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.

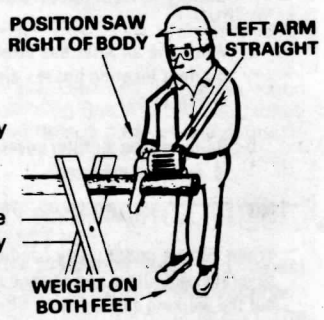


FIGURE 40

CAUTION

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

8 MAINTENANCE INSTRUCTIONS 8

MAINTENANCE

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

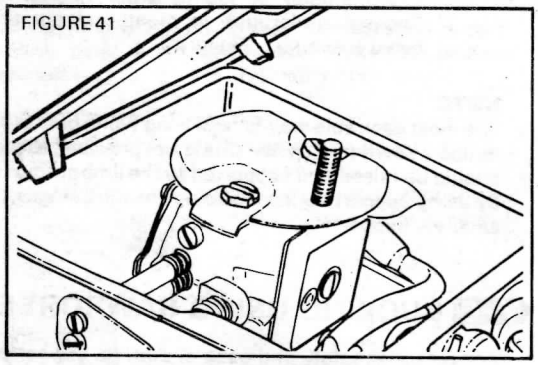
Keep the saw, bar and chain clean. Do not allow the filters, muffler, and cylinder fins to become plugged or covered with saw dust, dirt or other foreign material. Never put dirty fuel or chain oil into the saw.

8-1 AIR FILTER

Never operate saw without the air filter, or dust and dirt will be sucked into the engine and damage it. The air filter must be kept clean. If it becomes damaged, install a new filter as follows:

1. Remove dirt from around the air filter cover to prevent dirt from falling into the airbox.

2. Remove the Air Filter Cover and air filter. Shake or gently tap filter against a stump or other piece of wood to remove loose dirt and dust particles. Replace air filter if it is worn, torn or shows any signs of damage.


FIGURE 41

3. Wash the Air Filter in warm soapy water. Rinse completely in cool, clear water.

4. When the air filter has dried, re-install it, being certain the four locating bosses are aligned inside the corners of the airbox.

5. Re-install the air filter cover, being certain the assembly is securely mounted.

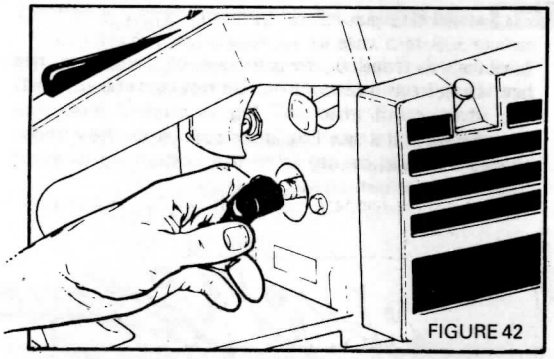
NOTE:

When cutting under dusty conditions, it is advisable to carry several clean filters and change the filter as needed throughout the working day. A felt air filter is recommended for use in highly abrasive conditions. It may be obtained from your McCulloch dealer.

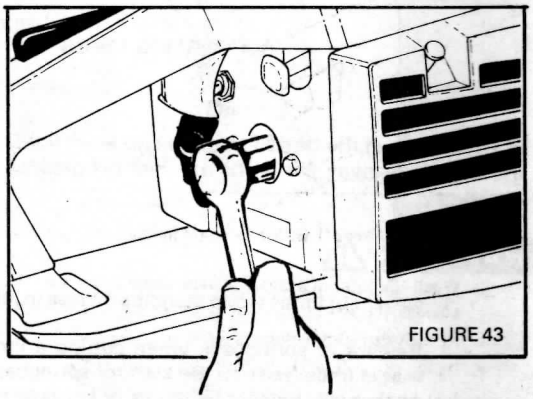
8-2 SPARK PLUG

For efficient operation of the saw engine, the spark-plug must be kept clean and properly gapped.

1. Move ignition/stop switch to "STOP" position.


FIGURE 42

2. Disconnect the black rubber connector on end of the wire from the spark plug by twisting and pulling at the same time. (Figure 42).


FIGURE 43

3. Remove spark plug with spark plug wrench. (Figure 43).

4. Clean in-between electrodes with emery cloth or fine sandpaper. Blow all dust away. Do not use a grit-type cleaning machine. WEAR EYE PROTECTION DURING THIS OPERATION.

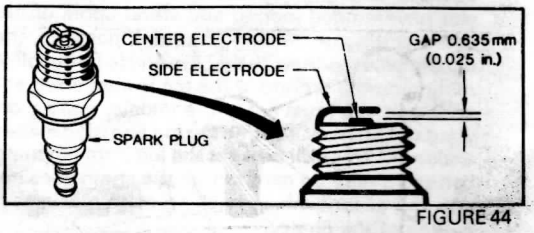


FIGURE 44

5. Adjust the electrode air gap to 0.635 mm (0.025 in.) by bending side electrode only. Use spark gapping tool or feeler gauge. (Available at hardware or auto supply centers.)

6. Re-install spark plug (snug but don't overtighten) and black rubber spark plug connector.

7. For replacement spark plugs of different heat ranges, see your McCulloch dealer.

8-3 FUEL CAP

The fuel tank cap 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 fuel tank during refueling operations. If pressure or vacuum develops, have your McCulloch dealer service the saw.

8-4 FUEL TANK FILTER

The fuel tank filter prevents dirt from entering the fuel line to the carburetor. After a while, dirt will build up on the filter and will cut down the flow of fuel. Or, if water is permitted to enter the fuel tank, the water will get into the filter and prevent the flow of fuel to the carburetor. If any condition affects the filter, install a new filter. However, if a new filter is not available the filter can be cleaned for temporary use.

1. Remove the fuel tank cap and lift out the free end of the fuel line.

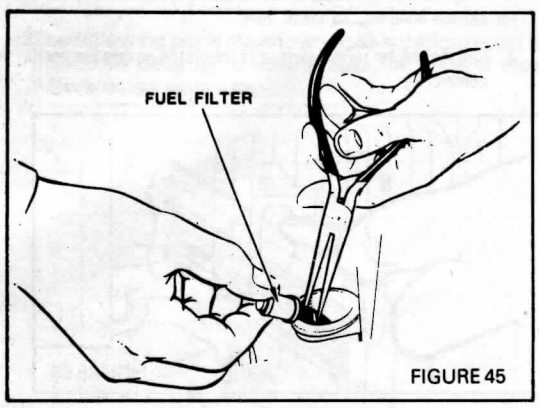


FIGURE 45

2. Pull the filter off with a twisting motion. (Figure 45).
3. Wash the filter in a clean solvent. If the filter is water-soaked, it must be thoroughly dried. Be sure to follow solvent manufacturer's instructions.
4. Replace the filter. Never operate the saw without the fuel filter.

8-5 COOLING FINS

The air inlet openings of the starter cover and the cylinder cooling fins must be kept clean or the engine will become overheated during cutting operations. Cooling fins are easily cleaned.

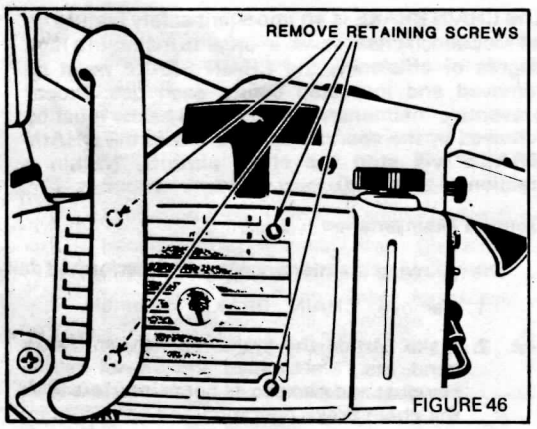


FIGURE 46

1. Remove the four (4) starter cover retaining screws and the starter cover. (Figure 46).
2. Clean out the openings in the starter cover. Use a small wooden scraper to remove dirt and sawdust packed into the openings. Use a soft bristle brush to finish cleaning the cover.

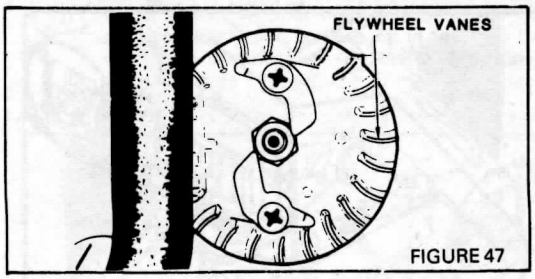
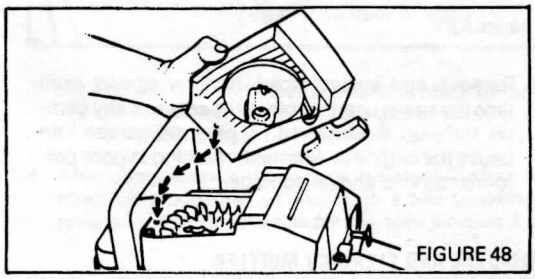
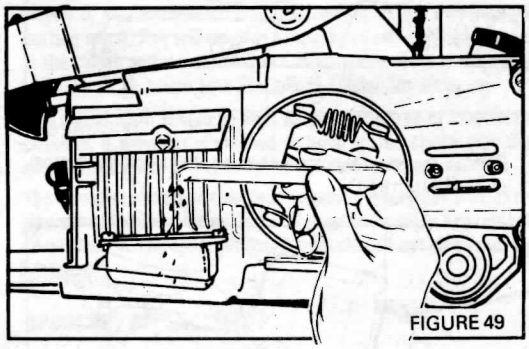


FIGURE 47

3. Clean the vanes on the flywheel and the other parts of the engine that became visible when the starter cover was removed. (Figure 47).


FIGURE 48

4. When re-installing the starter cover, pull the starter rope slowly so the starter can engage the flywheel properly, and be certain the guide post is positioned in the locating hole in the fan housing. (Figure 48).


FIGURE 49

5. Remove the chain Brake. Clean all dirt, grass, wood chips, etc. from the cooling fins and cylinder jacket. Be sure guide bar oiler hole is clear of any debris. (Figure 49).

8-6 SPARK ARRESTER SCREEN/MUFFLER ASSEMBLY/EXHAUST PORT

Periodically it is advisable to remove, clean and inspect the muffler components. At the same time, any carbon deposits should be removed from the exhaust port. The spark arrester screen must be inspected daily, and replaced if carbon build-up is observed.

CAUTION

Operating the saw with a dirty or faulty muffler can lead to engine damage. Never run the saw without a muffler.

WARNING

Always ensure that the saw is cool before maintenance is performed on the muffler.

1. Remove the **CHAIN BRAKE**®

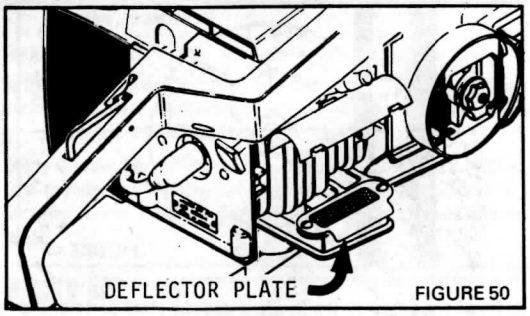
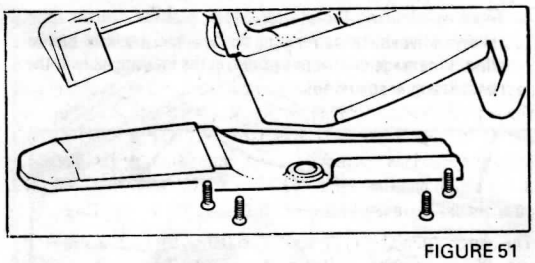


FIGURE 50

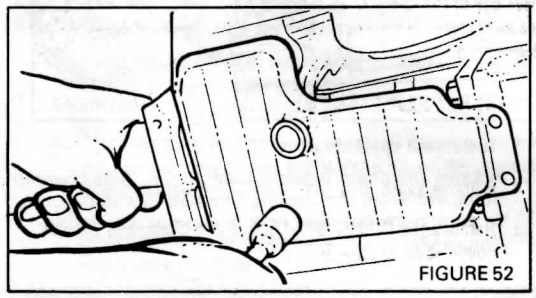
2. On models equipped with a deflector plate, remove two (2) screws that hold the deflector plate to muffler. (Figure 50).

3. Remove and inspect spark arrester screen each time the saw is used. Replace the screen if any carbon build-up is observed. A plugged screen can cause the engine to overheat, resulting in poor performance and engine damage.

REMOVAL AND CLEANING MUFFLER


FIGURE 51

1. Remove the four (4) bottom shroud screws and the bottom shroud. (Figure 51).

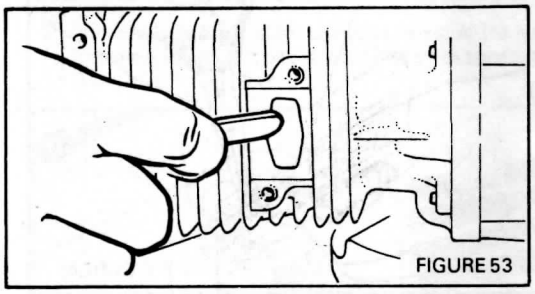

FIGURE 52

2. Remove the remaining two (2) muffler screws and the muffler, being careful not to damage the muffler gasket. (Figure 52).

3. Clean away any carbon deposits on the muffler with a scraper blade, wire brush, or by washing it with a clean solvent. Be sure to follow solvent manufacturer's instructions.

4. With the muffler removed, examine the cylinder exhaust port for carbon build-up. To clean port:

   A. Pull the starter rope slowly until the piston covers the port completely.


FIGURE 53

   B. Use a wooden scraper and clean in and around the port. Do not use any metal or sharp-edged tool that might slip and scratch the piston or rings. (Figure 53).

8-7 CHAIN BRAKE® MAINTENANCE

The clutch drum and CHAIN BRAKE® should be kept as clean and free of sawdust as possible to allow free movement and full contact of the brake band. And, as the thickness of the brake band is important to the effectiveness of the CHAIN BRAKE®, it should be inspected daily for any signs of measurable wear or for any noticeable variation in the thickness of the band.

The CHAIN BRAKE® is an important safety feature on all McCulloch chain saws. In order to maintain a high degree of efficiency, the CHAIN BRAKE® must be removed and inspected before each use. Proper preventive maintenance as outlined below must be followed by the operator to ensure that the CHAIN BRAKE® will stop the chain abruptly (within a fraction of a second).

General Maintenance

The following maintenance must be performed daily:

1. Remove CHAIN BRAKE® assembly.
2. Make certain the brake mechanism, brake band, etc., are cleaned and free of debris, sawdust and pitch so as not to interfere with the chain brake operation and band contact with clutch drum.

NOTE
Do not remove the brake band or components from the CHAIN BRAKE assembly. The CHAIN BRAKE has been designed as an integral part of your chain saw.

3. **After cleaning, lubricate pivot joints and latch engaging surfaces with a lithium base grease to ensure free operation of the CHAIN BRAKE mechanism.**

Inspection Points

The following parts (as shown in illustration) must be inspected daily for cracks, breaks, or general wear before using your saw:

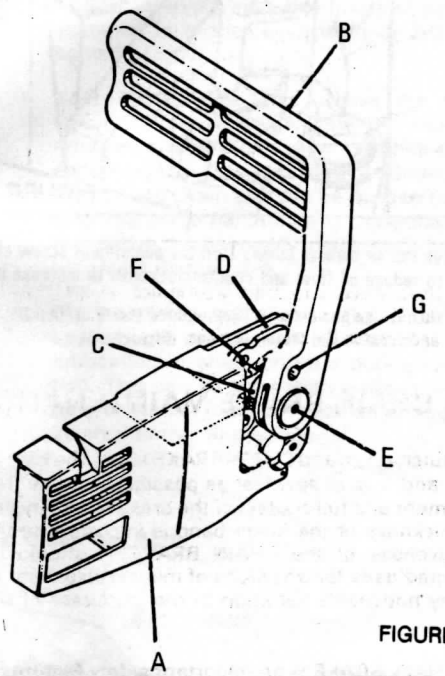


FIGURE 54

A. Chain Brake Assembly - Check all areas of the brake assembly for cracks or other signs of damage.
B. Handguard/Flag Assembly - Gently activate, making certain flag travels to its fullest extension.
C. Spring - Check for cracks or damage.
D. Limit Stop Area - Check for cracks or damage.
E. Handguard/Flag Assembly Pivot - Check for excessive looseness or any signs of damage.
F. Latch and Latch Pivot - Check for excessive looseness or any signs of damage.
G. Brake Band Retaining Pins - Check for looseness or any signs of damage.

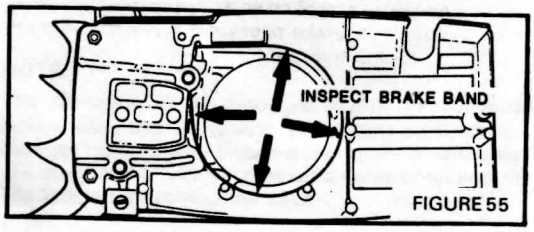
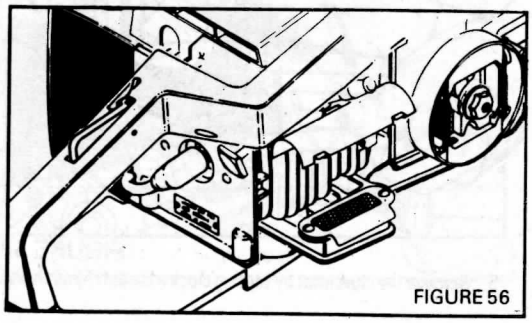


FIGURE 55

H. Brake Band - Inspect the brake band for excessive wear. If the brake band is found to be worn to a thickness of .021 or thinner at any point along its entire length, it must be replaced. (Figure 56).


FIGURE 56

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

4. After completion of the general maintenance and inspection procedures of the chain brake assembly, reinstall the chain brake assembly. (See Section 3-2).

8-8 SPROCKET, CLUTCH AND CLUTCH DRUM

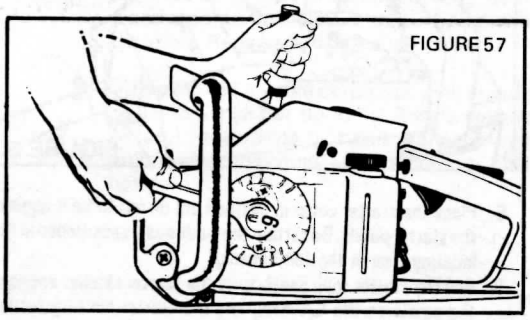
You should always install a new sprocket when a new chain is installed. A damaged or worn sprocket must be replaced with a new one. The saw should never be operated with excessive clutch slippage. Evidence of slippage is shown when the chain moves very slowly or stops when the engine is running at full throttle while cutting wood. This will result in a rapid and damaging heat build-up in the clutch and the clutch drum. If the clutch begins to slip, the saw should be taken to a McCulloch Dealer for servicing.

The 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.

The sprocket should be checked frequently (every day with extensive use of the saw) for evidence of wear or damage, and replaced as necessary. The sprocket bearing should be kept clean and well lubricated.

SPROCKET REPLACEMENT

1. **Disconnect spark plug wire.**
2. **Remove spark plug using spark plug wrench.**
3. **Remove the CHAIN BRAKE®, bar and chain, and the starter cover. (See Section 4-2, 7-5).**


FIGURE 57

4 **Remove the clutch nut by holding an 11/16 (17 mm) socket wrench on the flywheel nut to act as a backup to an 11/16 inch wrench on the clutch nut.**

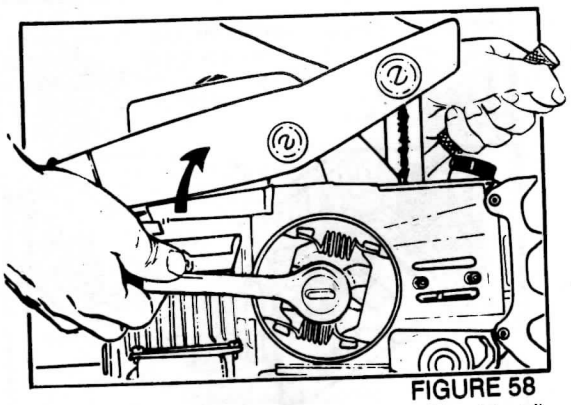


FIGURE 58

5. Remove the clutch nut by turning clockwise (left hand thread).

6. Remove the sprocket and drum assembly and the sprocket bearing. Lubricate the bearing with a good grade of non-fibrous chassis grease whenever replacing the bearing or the sprocket and drum assembly.

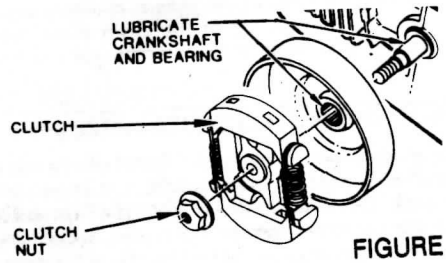


FIGURE 59

7. Install the bearing, sprocket and drum assembly, clutch and the clutch nut. Ensure the sprocket is installed with the smooth side against the clutch drum. Lock the crankshaft as explained in Step 4, above, turning the nut in a counterclockwise direction. Tighten the nut securely.

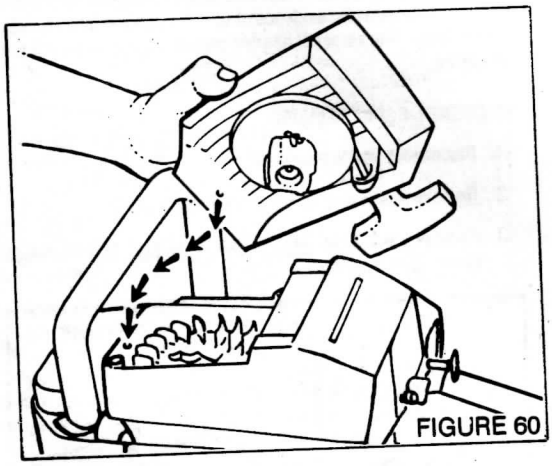


FIGURE 60

8. Place the starter cover in position but do not force it against the starter pawls. Be certain the guide post is positioned in the locating hole in the fan housing.
9. Pull the starter rope gently until the starter ratchet engages the pawls on the flywheel, and the starter housing settles against the saw. Install the starter housing screws and tighten securely. (See Section 6-7.)
10. Re-install the bar and chain and the **CHAIN BRAKE**, followed by installing the spark plug and spark plug wire.

8-9 AUTOMATIC OILER ADJUSTMENT

The automatic oiler is adjusted at the factory for average cutting conditions. Oil flow may be adjusted, however, for special conditions or individual requirements.

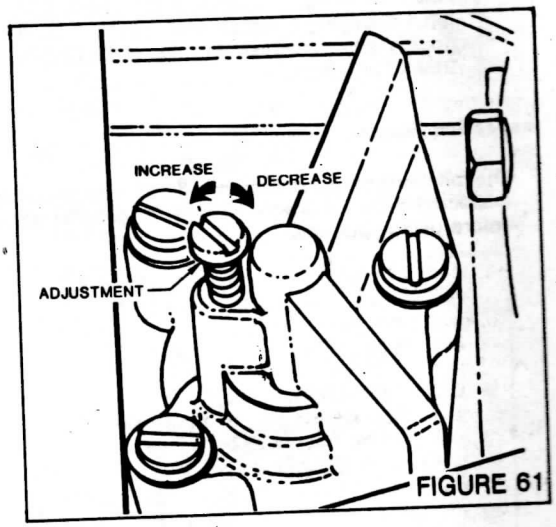


FIGURE 61

Remove the air cleaner cover. Turn the adjustment screw clockwise to reduce oil flow and counterclockwise to increase it.

8-10 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 a well-maintained saw chain. Incorrect filing and non-uniform cutter and depth gauge settings cause most guide bar troubles, primarily uneven bar wear. As the bar wears unevenly, it widens, and chain clatter, rivet popping and difficulty in making straight cuts may result.

Insufficient bar lubrication and operating saw with chain that is too tight will also cause rapid bar wear.

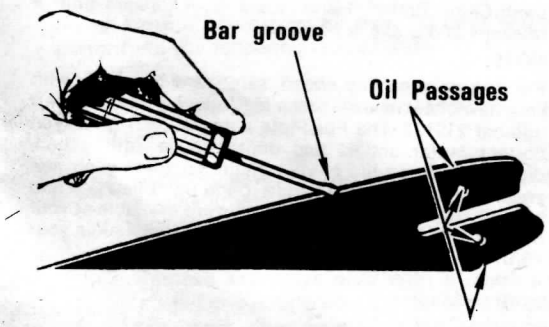
Guide Bar Maintenance Procedures

A. **BAR WEAR:** Turn bar over frequently (at regular intervals after five hours of use for example) to ensure even wear on top and bottom of bar.

B. **BAR GROOVES:** Bar groove (or rails) should be cleaned every time saw chain is removed or if saw has been used heavily or appears dirty. This will require removal of the bar and chain and can be done by reversing the steps for installing the guide bar outlined in the Assembly Instructions beginning with Section 4-4.

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

To Clean Bar Rails

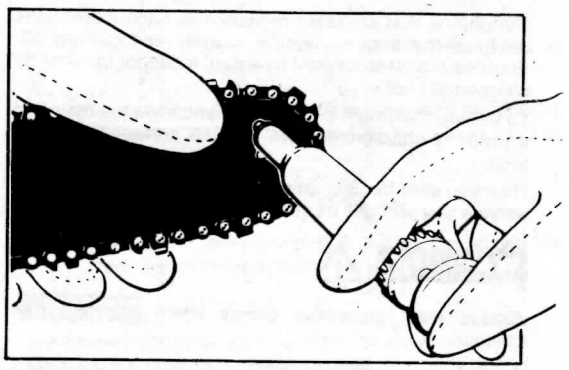


1. Using a screw driver, putty knife, wire brush or other similar type of instrument, clear residue from the rails on the guide bar. This will keep the oil passages open to provide proper lubrication to the bar and chain.

NOTE:

The condition of oil passages should be checked before each use of the saw. 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 after starting the saw.

SPROCKET TIP LUBRICATION



NOTE: The metal reuseable Lubri-Gun, part number **214194**, or disposable Lubri-Gun, part number **214195**, is recommended by McCulloch Corporation for applying grease to sprocket tip. The needle nose tip is necessary for efficient application of grease to sprocket tip. Lubri-Gun, **214194**, is not pre-packed with grease. The disposable Lubri-Gun, **214195**, is packaged with lubricant. The Lubri-Guns are available from your nearest McCulloch Servicing Dealer.

CAUTION

LUBRICATION OF SPROCKET TIP is recommended after every hour of usage or after three (3) tanks of gas are consumed, whichever come first.

NOTE:
Thoroughly clean bar tip before lubrication.

Three methods of lubrication for the sprocket tip may be used.

1. **Needle Nose Grease Gun:** Using a clean lubricant of No. 1 consistency, force grease into lubrication on one side of bar while covering the lubrication hole on the other side. Rotate sprocket and apply grease until it appears at edge of sprocket. Repeat on other side of bar.

2. **Oil Can:** Squirt the appropriate weight motor oil (SAE10 in cold weather, SAE30 in hot weather) into lubrication hole while turning sprocket. Repeat on other side of bar.

3. **Oil Soak:** Fill a small container with clean oil and submerge bar tip in oil. Rotate sprocket several revolutions by hand. Bar tip may be submerged overnight for maximum lubrication.

8-11 CHAIN MAINTENANCE

Conditions that are often mistaken as engine problems such as the engine running roughly and cutting difficulties are often caused by a dull, loose, or incorrectly sharpened chain.

To ensure maximum cutting efficiency, always maintain a properly sharpened chain and the correct chain tension.

How you care for your saw chain determines the kind of service you will get from it.

WARNING ⚠

Always wear protective gloves when handling 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.

SEE SECTION 4-10

B. BREAKING IN NEW SAW CHAIN

The following steps **MUST** be followed when breaking in a new chain saw or chain. A new chain will *stretch* and requires special attention as follows:

1. Run chain at low speed without cutting for approximately 5 minutes. Push manual oiler button every 10 to 15 seconds to provide extra oil.
2. After 5 minutes, shut off engine and recheck and adjust chain tension if needed.
3. Keep the chain well lubricated with liberal use of the manual oiler.
4. Restart engine and after 10 minutes, shut off engine and check chain tension. Adjust if required. Repeat chain tension often during first few hours of cutting.

Over a period of time, the moving parts of saw chain become worn which results in what is called *chain stretch*. When it is no longer possible to obtain correct chain tension adjustment, a link will have to be removed to shorten the chain. See your McCulloch Servicing Dealer to have this repair performed.

CAUTION

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

C. CHAIN LUBRICATION

Make sure manual oiler is working. Keep oiler tank filled with clean McCulloch Chain, Bar and Sprocket Oil.

SEE SECTION 5-4, PAGE 14

CAUTION

Use plenty of oil on chain when cutting. Never let chain run dry on the bar. In abrasive wood, use extra oil.

D. CHAIN SHARPENING

McCulloch saw chain is a precision manufactured cutting attachment and requires daily inspection and care to maintain peak cutting efficiency. Touch up sharpening may be required once or twice during a day's wood cutting. In some areas where sand or other abrasives have become embedded in the bark of trees, cutter teeth dull more rapidly and frequent sharpening may be required.

Your unit is equipped with Low-Kickback saw chain which significantly reduces the danger of kickback (See Safety Precautions). 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 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).

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® (Section 8-8, Page 25) and saw chain in good working condition and correctly serviced as required and 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:

If you are unfamiliar with correct sharpening procedures or do not understand how to properly maintain saw chain, consult your McCulloch servicing dealer to have the work performed or for instructions.

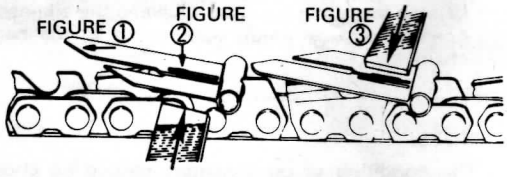
How To Sharpen Saw Chain:

If you do not have a vise to hold the guide bar for chain filing, a satisfactory job of sharpening can be done using the Chain Brake® to hold the chain in position. Make sure chain is tensioned to prevent wobbling. Carefully push Chain Brake® /Hand Guard lever forward until it releases and brake is engaged.

NOTE:

For maximum cutting speed, safety and durability with your saw chain, always use a McCulloch File Plate, part number 219132 .The File-Plate automatically gives you correct cutter angles and depth gauge setting condinuously for the life of your chain. To sharpen cutters you will need a 7/32" (5.5 mm) round file. File-Plate and correct size Round File and flat file are available at your nearest McCulloch Servicing dealer to maintain your PMR 370 GLX saw chain.

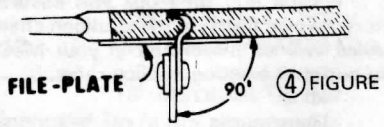
To Lower Depth Gauges:



1. Place File-Plate onto chain with angled end pointing toward saw engine (in direction of arrow) as shown in Figure 1.
2. Using a flat file, file depth guages down flush with File-Plate, filing in direction shown in Figure 2.

3. Turn File-Plate over to lower depth guages of opposite side cutter, filing in direction shown in Figure 3.
4. Lower all depth guages on saw chain loop before proceeding to sharpen cutters.

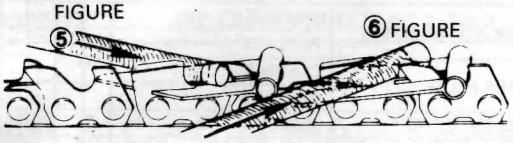
To Sharpen Cutters:



④ FIGURE

NOTE:
When filing cutters, hold round file level at 90 degrees. File only in direction indicated. See Figure 4 for level filing position.

FIGURE ⑤ ⑥ FIGURE



1. Place File-Plate onto chain and with 7/32" (5.5 mm) Round file, sharpen cutters using smooth even strokes until cutting edge is sharp. File only in direction indicated. Continue around loop of chain until all cutters of one side are sharpened as illustrated in Figure 5.

2. Turn File-Plate over and sharpen opposite cutters in direction shown in Figure 6.

8-12 STORING A CHAIN SAW

Ideally, the saw should be operated for a short period of time (5 minutes) every 30 days. When storing the saw for short periods or transporting it with fuel in the tank, always keep the saw level and with the fuel cap up to avoid leakage from the tank or cap vent.

Never store a chain saw for over 30 days without performing the following procedures:

1. In a safe area, drain the fuel tank into a gas can.
2. Start the saw and run at idle speed until the engine stops. This will remove most of the fuel from the fuel system.
3. Remove the spark plug with a spark plug socket and pour a teaspoonful of oil through the spark plug hole into the combustion chamber. (Use McCulloch 40:1 oil.) Pull the starter rope slowly several times to distribute the oil throughout the engine. Replace the spark plug tightly.
4. Remove and clean the bar and chain (use gloves when handling chain).
5. Store the chain in a container with McCulloch chain oil covering the chain.
6. Apply a heavy film of chain oil over the entire bar including the groove for the chain. Cover with heavy paper, cloth or plastic.
7. Clean the outside surfaces of the saw.
8. Place a light, protective cloth or plastic covering over the saw, and store the saw and bar in a dry place.

WARNING

The covering should be loose to allow for proper ventilation. Always store away from possible sources of ignition such as furnaces, heaters, etc.

8-13 REMOVAL FROM STORAGE

Remove the spark plug with a spark plug wrench. Pull the starter rope briskly to clear the cylinder of excess oil. Clean and gap the spark plug or install a new spark plug. Fill the fuel tank with the correct fuel mixture and fill the chain oil tank with McCulloch Chain, Bar and Sprocket Oil.

A Hint For Easier Starting

A newly manufactured saw or one which has been in storage may sometimes be difficult to start. This is because for shipping purposes one of the manufacturing processes removes all fuel from the fuel tank, fuel lines and carburetor after the engine is tested. Proper storage and long storage periods also result in removing or evaporating all fuel from the engine.

Under these circumstances, it can be easier to start the engine in the following manner. Remove the air filter cover and air filter. Prime the engine by injecting about half a teaspoon of the proper fuel mixture through the carburetor air intake, using an oil can filled with the proper fuel mixture. Take care not to flood the engine and do not spill fuel into the airbox. It usually takes two or three pulls of the starter rope to draw the fuel into the combustion chamber and start the engine.

It may be necessary to start the engine two or three times in this manner before the engine will run on its own fuel system. As soon as the engine is running on its own fuel system, stop the engine and replace the air filter and air filter cover. Never do any cutting with the air filter and air filter cover off the engine.

NOTE:
DO NOT USE THIS METHOD FOR REGULAR STARTING!

9 PREVENTIVE MAINTENANCE CHART 9

9-1 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 chart 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 bar.

After the first 7 days or 15 hours of operations, whichever comes earliest, take your saw back 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 7-day or 15-hour checkup and, in addition, a follow-up of regular periodic checkups and tune-ups will assure long, satisfactory service from your McCulloch chain saw. This service will be performed at your McCulloch servicing outlet at existing service rates.

MAINTENANCE CHECK LIST		EACH USE	10 HOURS	20 HOURS	AS REQ'D
ITEM	MAINTENANCE				
SCREWS/NUTS/BOLTS	INSPECT/TIGHTEN	•			
CONTROLS	INSPECT	•			
	* Replace As Required				
AIR FILTER	CLEAN OR REPLACE	•			
SAWDUST GUARD	CLEAN	•			
CHAIN	INSPECT & SHARPEN	•			
BAR	CLEAN & TURN	•			
CHAIN BRAKE COMPONENTS	INSPECT & CLEAN	•			
	REPLACE				•
SHOCK MOUNTS (If Equipped)	INSPECT	•			
	* REPLACE				•
SPROCKET/DRUM	INSPECT	•			
	* REPLACE				•
FUEL FILTER	REPLACE				•
OIL SCREEN	CLEAN				•
MUFFLER	CLEAN				•

MAINTENANCE CHECK LIST		EACH USE	10 HOURS	20 HOURS	AS REQ'D
ITEM	MAINTENANCE				
Spark Arrester Screen	INSPECT	•			
	REPLACE				•
SPARK PLUG	CLEAN & ADJUST			•	
	REPLACE				•
CYLINDER FINS	CLEAN				•
STARTER ROPE	INSPECT	•			
	* REPLACE				•
CARBURETOR	* CLEAN				•
FUEL TANK	CLEAN				•
LAMINATION GAP	* CLEAN & ADJUST				•
EXHAUST PORTS	* CLEAN				•
FUEL, OIL HOSES	CHECK	•			
Carburetor Diaphragm	*				•
CRANKSHAFT SEALS	*				•

* Recommended for Maintenance by an Authorized Dealer.

SERVICE SPECIFICATIONS

DISPLACEMENT PM 605	3.5 cu. in. (58cc)
SUPER PM 610/PM 610,/EAGER BEAVER® 3.7	3.7 cu. in. (60cc)
SPARK PLUG	AC CS 45T/CHAMPION RDJ6
SPARK PLUG GAP	.025" (.63mm)
FUEL TANK CAPACITY	17.3 ounces (510cc)
OIL TANK CAPACITY	14.6 ounces (430cc)
CLUTCH ENGAGEMENT SPEED	2800 to 3000 rpm
IDLE SPEED	1800 to 2000 rpm
LAMINATION GAP	.011 to .015 (30 to 40mm)
IGNITION	Capacitive Discharge (C.D.I.)
TIMING	26° BTDC
MAIN BEARINGS	Needle and Ball
CONNECTING ROD BEARINGS	Needle
WEIGHT (POWER UNIT ONLY)	14.7 pounds

BAR & CHAIN COMBINATIONS

PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
94074-00 86830 218839-12	16" Speed Mac Bar Replacement - Sprocket Tip 16" Chain PMR370 GLX 60CL	93778-05 219975 218069-12	20" Speed Mac Bar Replacement - Sprocket Tip 20" Chain PMR370 GLX 70CL
94074-05 219975 218839-12	16" Speed Mac Bar Replacement - Sprocket Tip 16" Chain PMR370 GLX 60CL	86846-00 86830 218070-12	24" Speed Mac Bar Replacement - Sprocket Tip 24" Chain PMR370 GLX 70CL
217025 NOTE: *Sprocket Tip is not replaceable* 218062-12	18" Sprocket Tip Bar 18" Chain PMR370 GLX 66Cl	86846-05 219975 218070-12	24" Speed Mac Bar Replacement - Sprocket Tip 24" Chain PMR370 GLX 81CL
93778-00 86830 218069-12	20" Speed Mac Bar Replacement - Sprocket Tip 20" Chain PMR370 GLX 70CL	NOTE: Bar part number is stamped on bar. CL = Center Links	

BAR & CHAIN MAINTENANCE TOOLS

PART NUMBER		DESCRIPTION
214221	(1)	Scrench
214195	(2)	Lube Gun - Plastic/Disposable
214194	(2)	Lube Gun - Metal/Reuseable

(1) This multi-purpose tool is a screwdriver, bar bolt wrench, and spark plug wrench, all in one. Use it for setting proper chain tension, installing spark plug, and assembling and maintaining your saw.

PART NUMBER		DESCRIPTION
219132	(3)	File Plate
219161	(3)	Round File - 7/32"
84893	(3)	Flat File

(2) Grease guns are specially designed for lubricating bar sprocket tip bearings. The plastic gun is pre-loaded and ready to use

(3) Saw Chain sharpening tools

CUSTOM LUBRICANTS

McCulloch 40:1 Two-Cycle Custom Lubricant

UNIT SIZE	CASE CONTAINS	PART NUMBER
6 Ounce Can	48 Cans	93770
1 Quart Bottle	12 Bottles	85709
1 Gallon Bottle	6 Bottles	94816

Bar and Chain Oil

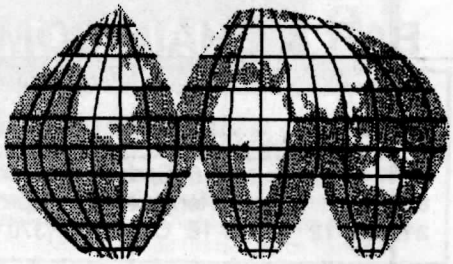
UNIT SIZE	CASE CONTAINS	PART NUMBER
1 Quart Bottle	12 Bottles	87885
1 Gallon Bottle	6 Bottles	94818

ACCESSORIES & REPLACEMENT PARTS

PART NUMBER	DESCRIPTION	PART NUMBER	DESCRIPTION
214223	Spark Plug	2161757	Fuel Cap
214205	Spark Arrester Screen	216052	Oil Cap
214226	Air Filter	214208	Spike (Optional Equipment)
87670	Starter Rope	94121	Kit - Carrying Case (16"-20")
		214203	Bar Guard (For 16", 18", 20")



McCULLOCH
CORPORATION



• MANUFACTURING • SALES • SERVICE •

6000 McCulloch Drive • Tucson, AZ 85706

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

If additional assistance is required, call this toll-free hot-line:
(800) 423-6302
Arizona residents call collect (602) 453-3681

Russell Thomas Engineers