



# USER MANUAL

**MAC® 2816**  
**EAGER BEAVER® 28, 282**  
***GAS STRING TRIMMERS***

***OPERATION***  
***MAINTENANCE***  
***SAFETY***

## **WARNING • PLEASE READ**

Your new string trimmer is a complex tool. For your own safety, please read this manual before attempting to operate your new unit. Failure to follow instructions can result in serious personal injury. Spend a few moments to familiarize yourself with your trimmer before each use.



# PLEASE READ

Dear Customer,

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

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

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

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

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

## A **WARNING** or **CAUTION**

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

The **W** (**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.

Service other than user maintenance should be performed by a McCulloch Authorized Service Center. Damage or conditions which render this product inoperable caused by improper maintenance practices will void the manufacturer's warranty.

**McCulloch Corporation**  
**Product Service Department**

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### 1-1. INTRODUCTION

Your McCulloch String Trimmer is a light, portable, hand-held unit, powered by a 2-cycle engine, that runs cool and quiet.

Your unit features a recoil starter for fast, consistent starts and a precision diaphragm carburetor for smooth operation.

A spark arrester screen that meets all U.S. Forest Service Regulations is furnished in the user kit. For additional information governing use and replacement of spark arrester screens for your unit, see Safety Precautions and Accessories and Replacement Parts in this manual.

### 1-2. ABOUT YOUR MANUAL

Your User Manual is both a reference and a service handbook that provides you with safety precautions, easy-to-follow assembly, fuel, starting, operating, trimming and maintenance instructions.

### 1-3. ABOUT YOUR UNIT

McCulloch units are designed to meet all of your lawn and garden trimming needs. When equipped with a debris shield and stringhead, your unit can trim unsightly weeds and tall grass in those hard to reach areas - along fences, walls, foundations and around trees.

### 1-4. ASSEMBLY REQUIREMENTS

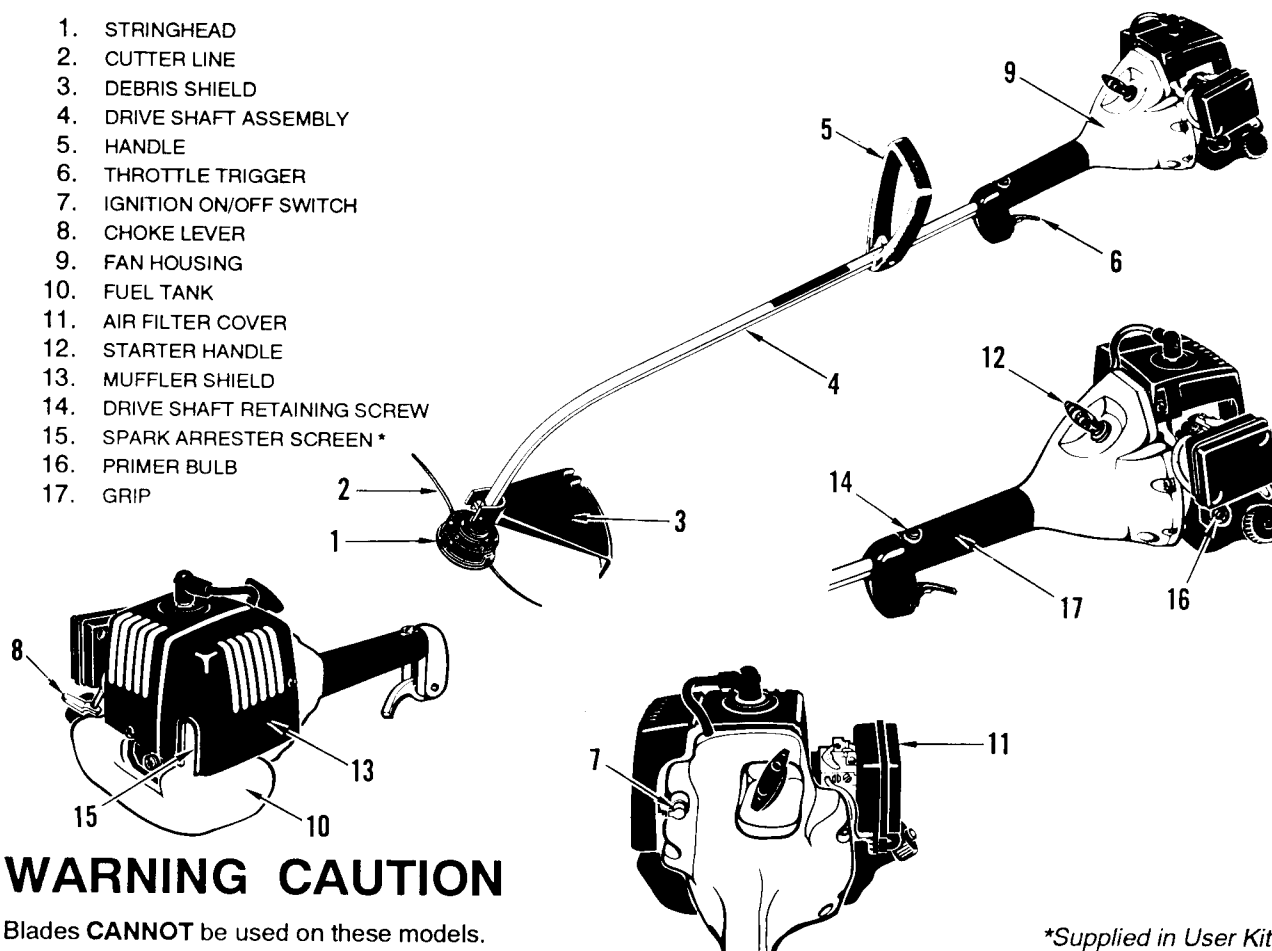
Your unit will require assembly of some components which were packed separately for shipping. Please follow the directions beginning in Section 4-1, Assembly Instructions. **NEVER** operate your unit without a properly installed debris shield.

### 1-5. SPECIFICATIONS

Engine Type . . . . .	Air-cooled, 2-Cycle, Chrome Cylinder
Displacement . . . . .	28 cc
Dry Weight . . . . .	9.9 lbs.
Fuel Capacity . . . . .	24 oz.
Drive Shaft Length . . . . .	44"
Handle . . . . .	Delta
Cutting Line . . . . .	0.080 or 0.095"
Cutting Swath . . . . .	15"
Stringhead . . . . .	Dual Line Semi-Automatic Feed
Carburetor . . . . .	Primer/Diaphragm Type
Ignition . . . . .	Electronic
Spark Plug . . . . .	Champion DJ8J or Equivalent
Drive . . . . .	Direct

## 2-1. GENERAL IDENTIFICATION

1. STRINGHEAD
2. CUTTER LINE
3. DEBRIS SHIELD
4. DRIVE SHAFT ASSEMBLY
5. HANDLE
6. THROTTLE TRIGGER
7. IGNITION ON/OFF SWITCH
8. CHOKE LEVER
9. FAN HOUSING
10. FUEL TANK
11. AIR FILTER COVER
12. STARTER HANDLE
13. MUFFLER SHIELD
14. DRIVE SHAFT RETAINING SCREW
15. SPARK ARRESTER SCREEN \*
16. PRIMER BULB
17. GRIP



## WARNING CAUTION

Blades **CANNOT** be used on these models.

\*Supplied in User Kit

## 2-2. SAFETY FEATURES

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

- 3** DEBRIS SHIELD must be installed to prevent debris from spraying up into the operator and prevent the string from extending longer than necessary.

- 13** MUFFLER SHIELD helps prevent hands, body and/or combustible materials from making contact with a hot muffler.

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

**NOTE:** Compliance with local, state and federal laws and/or regulations governing the use of a spark arrester screen is the **user's responsibility**. See Safety Precautions (Section 3) and Maintenance Instructions (Section 8) for additional information.

The serial number of your unit is located on the engine. For handy reference purposes, you may want to record the serial number along with the model number. You may also want to etch your own marking.

MODEL NUMBER

SERIAL NUMBER

PERSONAL ETCHING:

### 3-1. WHAT TO DO

**READ YOUR USER MANUAL AND ALL SUPPLEMENTS (IF ANY ENCLOSED) THOROUGHLY BEFORE OPERATING YOUR UNIT.**

1. **WEAR CLOSE FITTING, TOUGH WORK CLOTHING** that will provide protection, such as long slacks or trousers, safety work shoes, heavy duty work gloves, a safety face shield, goggles or safety glasses for eye protection and a good grade of ear plugs or other sound barriers for hearing protection.
2. **REFUEL IN A SAFE PLACE.** Open fuel cap slowly to release any pressure which may have formed in fuel tank. To prevent a fire hazard, move at least 10 feet (3 meters) from fueling area before starting.
3. **IF FUEL HAS SPILLED ON UNIT,** be sure engine has been dried completely before starting it.
4. **COMPLY WITH ALL FIRE PREVENTION REGULATIONS.** We recommend you keep a shovel and fire extinguisher close by whenever using your unit in areas where dry grass, leaves or other flammable materials are present. To operate a gasoline-powered product on U.S. National Forest Lands or forest, brush or grass-covered lands in many U.S. states - including California, Maine, New Hampshire, Oregon, Washington - you must have an approved spark arrester screen properly installed and maintained on the engine muffler. The spark arrester screen must remove and retain carbon and other flammable particles over 0.023 inches in size from engine exhaust flow.
5. **TURN UNIT OFF** before setting it down.
6. **ALWAYS HOLD UNIT FIRMLY WITH BOTH HANDS,** the thumb and fingers encircling the handles.
7. **KEEP ALL SCREWS AND FASTENERS TIGHT.** Never operate your equipment when it is improperly adjusted or not completely and securely assembled.
8. **KEEP HANDLES DRY,** clean and free of fuel mixture.
9. **KEEP STRINGHEAD AS CLOSE TO GROUND AS PRACTICAL.** Avoid hitting small objects with stringhead. When cutting on a slope, stand below stringhead. NEVER cut or trim on a hill or slope, etc., if there is the slightest chance of slipping, sliding or losing firm footing.
10. **CHECK AREA YOU WILL BE TRIMMING FOR DEBRIS** that may be struck or thrown during operation. Clear area before operating equipment.
11. **KEEP ALL PARTS OF YOUR BODY AND CLOTHING AWAY FROM STRINGHEAD** when starting or running engine. Before starting engine, make sure stringhead will not come in contact with any obstacle.
12. **STOP ENGINE** before examining cutting line.
13. **STORE EQUIPMENT AWAY FROM POSSIBLE IGNITION SOURCES,** such as gas-powered water heaters, clothes dryers, or oil-fired furnaces, portable heaters, etc.
14. **ALWAYS KEEP** the debris shield, stringhead, and engine free of debris build-up.
15. **TURN IGNITION SWITCH TO OFF** and remove spark plug boot from spark plug to avoid any chance of accidental starting before replacing stringhead or line.
16. **OPERATION OF EQUIPMENT** should always be restricted to mature and properly instructed individuals.

**NOTE:** COMPLIANCE WITH ALL LOCAL, STATE, OR FEDERAL LAWS IN THE UNITED STATES IS THE USER'S RESPONSIBILITY. Your unit comes with a spark arrester screen furnished in the user kit. Replacement spark arrester screen kits are available at your nearest McCulloch Authorized Service Center listed under "SAWS" in your Telephone Directory Yellow Pages. If you have any questions concerning spark arrester screens or their use, write to: McCulloch Corporation, Product Service Department, P.O. Box 11990, Tucson, Arizona 85734. Or, you can call our toll-free number, USA: 1-800-423-6302. Arizona residents call 1-800-221-6507.

**NOTES:**

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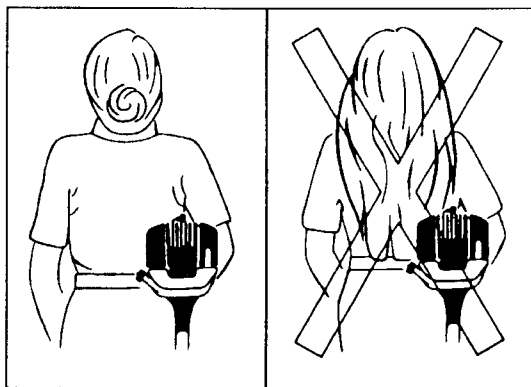


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## 3-2. WHAT NOT TO DO

## WARNING

1. **DO NOT OPERATE THIS EQUIPMENT** with other people or animals in the immediate vicinity. **ALLOW** a safe distance of at least 30 feet (10 meters) between operator and other people or animals.
2. **EDGING/SCALPING IS NOT RECOMMENDED** when other people or animals are within 100 feet.
3. **DO NOT SWEEP WITH UNIT.** Sweeping refers to tilting head attachment to sweep away debris from sidewalks, driveways, etc.
4. **W DO NOT USE ANY OTHER FUEL** than that recommended in your manual. Always follow instructions in the Fuel and Lubrication section of this manual. Never use gasoline unless it is properly mixed with 2-cycle engine lubricant. Permanent damage to engine will result, voiding manufacturer's warranty.
5. **DO NOT OPERATE EQUIPMENT** wearing loose scarves, shorts, dangling jewelry, key chains, etc., or while barefoot.
6. **DO NOT SMOKE** while refueling or operating equipment.
7. **DO NOT START EQUIPMENT WHERE YOU FUEL IT.** Move at least 10 feet (3 meters) from fueling areas before starting.
8. **DO NOT OPERATE UNIT WITHOUT A MUFFLER** and properly installed muffler shield.
9. **DO NOT TOUCH** or let your hands or body come in contact with a hot muffler or spark plug wire.
10. **DO NOT ALLOW DIRT, FUEL OR DEBRIS** to build up on engine.
11. **DO NOT OPERATE UNIT IN AWKWARD POSITIONS,** off balance, outstretched arms, or one-handed. Always use two hands when operating unit with thumbs and fingers encircling the handles.
12. **DO NOT USE STEEL LINE OR PLASTIC-COATED STEEL LINE.** The use of steel line or plastic-coated steel line is extremely dangerous. Your stringhead is designed to be used with .080 or .095" diameter nylon line.
13. **DO NOT RAISE STRINGHEAD** above knee level while unit is operating. Injury to operator could result.
14. **DO NOT USE ANY TYPE BLADE OR SAW CHAIN CUTTER HEAD** unless specified or included.
15. **DO NOT USE UNIT FOR ANY PURPOSES OTHER** than trimming or mowing weeds or grass.
16. **DO NOT OPERATE UNIT FOR PROLONGED PERIODS.** Rest periodically.
17. **DO NOT OPERATE UNIT WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.**
18. **DO NOT OPERATE UNIT UNLESS DEBRIS SHIELD AND/OR GUARD IS INSTALLED AND IN GOOD CONDITION.**
19. **W DO NOT ADD, REMOVE OR ALTER ANY COMPONENTS OF THIS PRODUCT.** Doing so could cause personal injury and/or damage the unit voiding the manufacturer's warranty.



## CAUTION

Extremely long hair may be drawn into the engine by the cooling fan. Ensure long hair is protected and kept clear of the cooling fan intake area.

### 4-1. HANDLE ASSEMBLY

**NOTE:** The Delta handle is attached to the shaft but has been turned under for ease of packing.

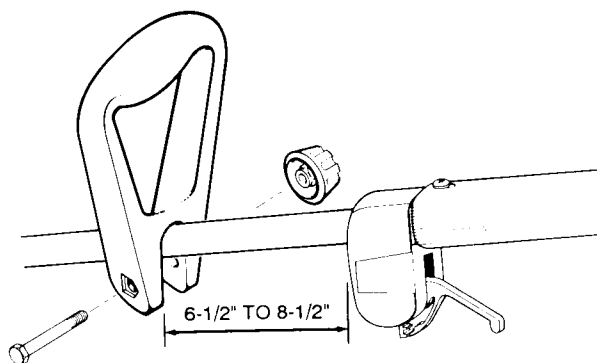


Figure 4-1A

1. Loosen adjustment knob and rotate handle to top of shaft. (Figure 4-1A)
2. Retighten adjustment knob securely.

### 4-2. SPARK ARRESTER INSTALLATION

**NOTE:** Spark Arrester is required when using your trimmer on U.S. National Forest Lands. Check your local state requirements.

1. Place your unit on a work bench or level surface with the muffler facing you as shown in Figure 4-2A.
2. Access to the screen area can be made through the opening on the back of the muffler shield. It is not necessary to remove the muffler shield to install the screen.

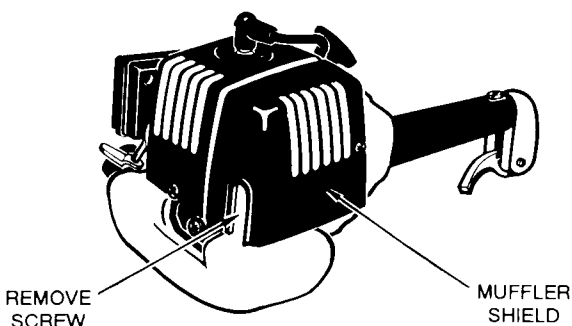


Figure 4-2A

3. Using a screwdriver, remove the screen cover retaining screw. (Figure 4-2A)

INSTALL IN ORDER SHOWN

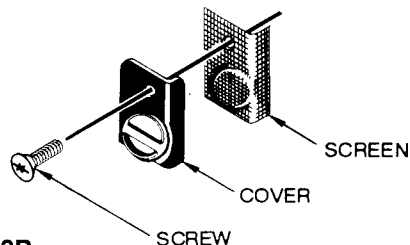


Figure 4-2B

4. Install the spark arrester screen, the screen cover and secure in place with the retaining screw. (Figure 4-2B)

**NOTE:** A dirty spark arrester screen can dramatically reduce performance.

### 4-3. DEBRIS SHIELD INSTALLATION

## WARNING

The debris shield must be installed to properly dispense cutter line and protect operator.

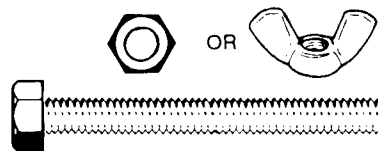


Figure 4-3A

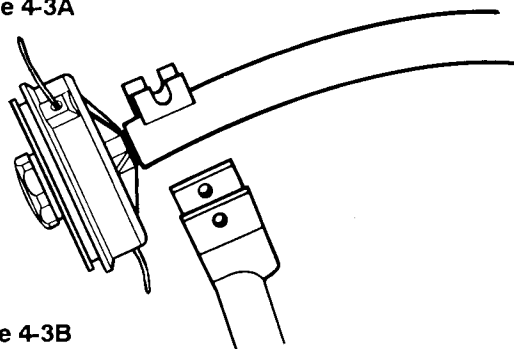


Figure 4-3B

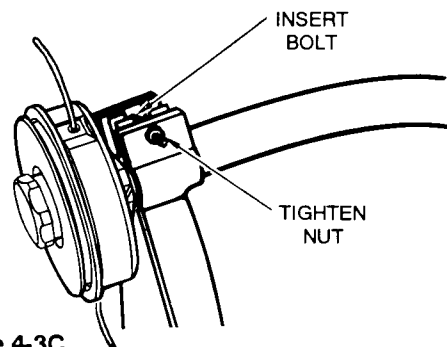


Figure 4-3C

### 5-1. FUEL

Engine fuel is a mixture of gasoline and 2-cycle oil. The correct ratio of gasoline to oil is very important. Follow the ratios in the Fuel Mixing Table.

Use regular grade unleaded gasoline mixed with McCulloch 40:1 custom 2-cycle engine oil for best results. Use mixing ratios in Section 5-3.

### CAUTION

Never use straight gasoline in your unit. Never use a fuel mixture that has been stored for over 90 days. This will cause permanent engine damage and void the manufacturer's warranty for that product.

### CAUTION

If 2-cycle lubricant other than McCulloch Custom Lubricant is to be used, it must be a premium grade 2-cycle oil mixed at a 40:1 ratio. If insufficient lubrication is the cause of engine damage, it voids the manufacturer's warranty for that product.

### 5-2. MIXING FUEL

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

### CAUTION

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

Special starting fluids SHOULD NOT be used because seals and other rubber composition parts may be damaged.

### 5-3. FUEL MIXING TABLE

GASOLINE	McCulloch 40:1 Ratio Custom Lubricant	
1/2 U.S. Gal.	1.6 oz.	48 ml (cc)
1 U.S. Gal.	3.2 oz.	95 ml (cc)
2.5 US Gal.	8.0 oz.	237 ml (cc)
5 U.S. Gal.	16.0 oz.	475 ml (cc)
1 Liter	0.9 oz.	25 ml (cc)
5 Liters	4.3 oz.	125 ml (cc)
20 Liters	17.0 oz.	500 ml (cc)
1 Imp. Gal.	4.3 oz.	125 ml (cc)
2 Imp. Gal.	8.6 oz.	250 ml (cc)
5 Imp. Gal.	21.4 oz.	625 ml (cc)
Mixing Procedure:	40 Parts Gasoline to 1 Part Lubricant	
1 ml = 1 cc		

The use of a fuel additive such as STA-BIL® Gas Stabilizer or an equivalent will minimize the formation of fuel gum deposits. Such an additive should only be used when the fuel/oil mix is prepared. Add 11 ml / 0.4 oz. per gallon of gasoline or mix per instructions on container. NEVER add fuel additives directly to the unit fuel tank.

### 5-4. USE OF BLENDED FUELS

Today's fuels are often a blend of gasoline and one or more oxygenates such as ethanol, methanol, MTBE (ether) and axonal. These blends are often referred to as gasohol, premium or super unleaded.

We recommend **regular unleaded** gasoline for use in your McCulloch product. However, if you choose to use a blended fuel or its use is unavoidable, the following precautions are recommended.

<ol style="list-style-type: none"> <li>1. Always use fresh fuel mixed per your User Manual.</li> <li>2. Use the special additive ALCOHOL PROTECTOR® (by Gold Eagle) or equivalent to inhibit corrosion and reduce oil/fuel separation (mix as directed).</li> <li>3. Always agitate the fuel mix before fueling unit.</li> <li>4. Defuel tank and run engine dry before storing the unit.</li> </ol>	<p><b>PROBLEMS COMMON TO BLENDED FUELS</b></p> <p>Some problems associated with use of blended fuels include:</p> <ul style="list-style-type: none"> <li>• Vapor lock</li> <li>• Poor warm restart</li> <li>• Poor performance at high altitudes</li> <li>• Corrosion of fuel system components</li> </ul>	<p><b>GASOHOL USE MAY REQUIRE CARBURETOR ADJUSTMENTS</b></p> <p>Your McCulloch engine is lubricated by oil mixed with the fuel. Using oxygenated fuels may alter the air/fuel ratio causing a lean mix (less fuel, more air).</p> <p>If this condition is not corrected by adjusting the carburetor, engine damage due to poor lubrication may result. Your McCulloch Authorized Service Center can make these adjustments.</p>
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## 6-1. STARTING A COLD ENGINE

**NOTE:** Ignition is always "ON"

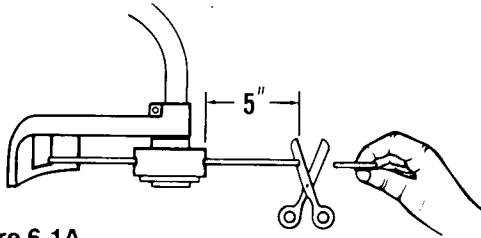


Figure 6-1A

**NOTE:** To minimize load on engine during starting and warm-up, trim excess cutter line to 5 inches. (Figure 6-1A)

Your unit is designed with a 3 position choke; "CHOKE", "START", and "RUN".

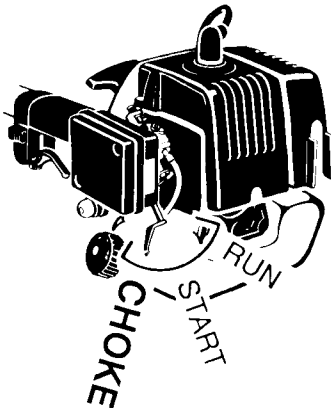


Figure 6-1B

### TO START ENGINE

1. Move choke lever to "CHOKE" position. (Figure 6-1B)

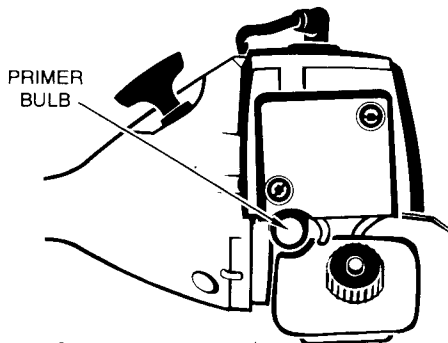


Figure 6-1C

2. Prime the carburetor. Pump the primer bulb 10 times. (Figure 6-1C)

FULL THROTTLE

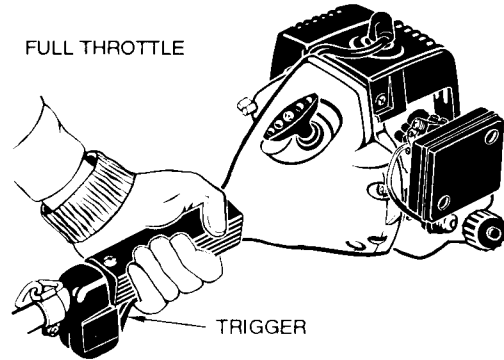


Figure 6-1D

3. Squeeze the trigger to the FULL THROTTLE position. (Figure 6-1D)

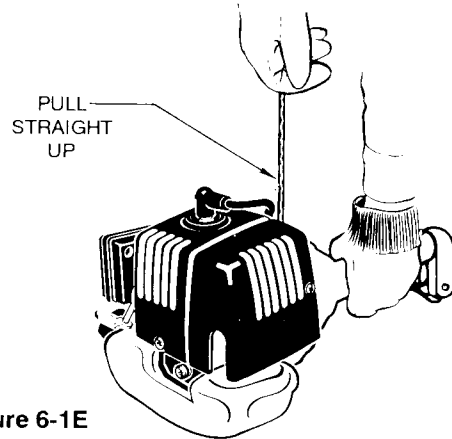


Figure 6-1E

4. Pull starter rope out a short way until resistance is felt (approx. 4 inches). Pull starter rope briskly 4 times. A smooth rapid pull is required for a strong spark. (Figure 6-1E)

**NOTE:** Throttle must remain in full throttle position until engine starts and warms up (approx. 10 seconds).

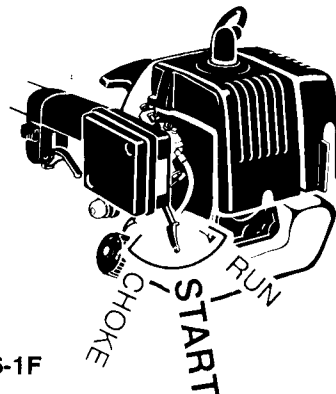


Figure 6-1F

5. Move choke lever to "START" position. Pull starter rope again 4 times while holding trigger at the full throttle position. (Figure 6-1F)
6. If engine fails to start, repeat steps 1 through 5.

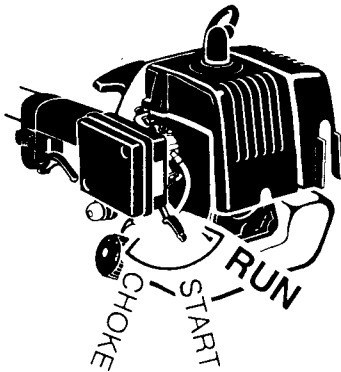


Figure 6-1G

7. Once engine starts, leave the choke in the "START" position for 10 seconds, then move choke to "RUN" position. (Figure 6-1G)

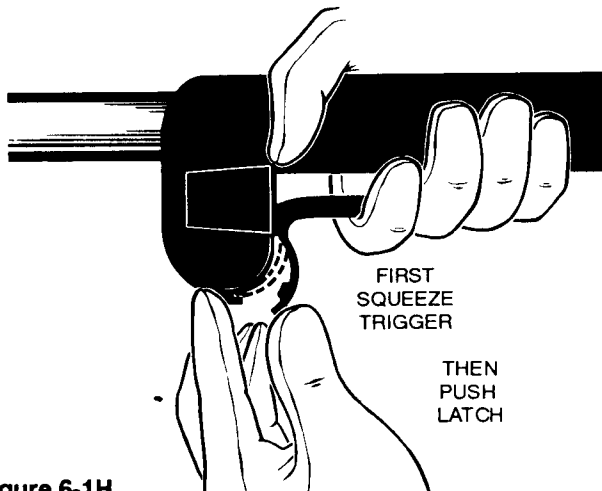


Figure 6-1H

**NOTE:** Your unit is equipped with a throttle advance which also can be used during starting. (Figure 6-1H)

**NOTE:** If engine fails to start, after repeated attempts, refer to Troubleshooting section.

**NOTE:** Always pull starter rope straight up. Pulling starter at an angle will cause rope to rub against the eyelet. This friction will cause rope to fray and wear quickly. Always hold starter handle when rope retracts. Never let rope snap back from extended position. This could cause rope to snag or fray and also damage the starter assembly.

## 6-2. TO STOP THE ENGINE

Normal Stopping:

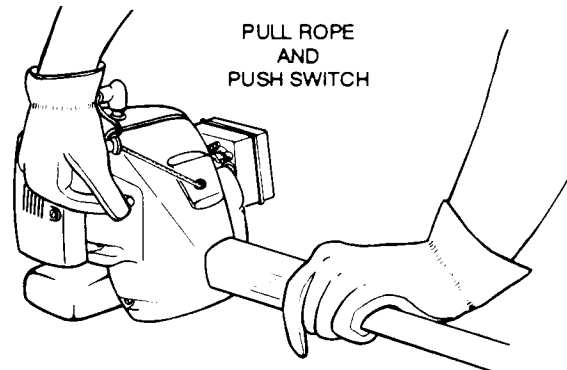


Figure 6-2A

1. Release throttle trigger. Let engine return to idle. Extend starter rope 4"-6" to absorb strain on starter components when engine stops. Push and hold ignition stop switch until engine stops. Allow starter rope to retract slowly. (Figure 6-2A)

## 6-3. WARM ENGINE START

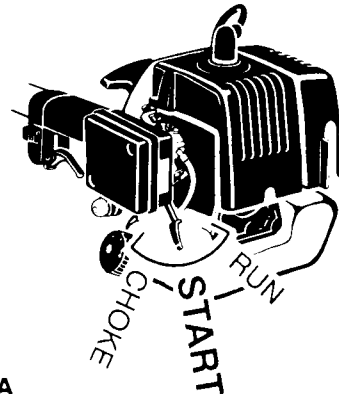


Figure 6-3A

1. Place choke in "START" position. (Figure 6-3A)
2. Grasp throttle handle firmly, squeeze throttle trigger to FULL throttle position.
3. Pull starter rope briskly until engine starts, but no more than 6 times. Keep throttle at FULL position until engine runs smoothly.
4. If engine doesn't start, place choke in "RUN" position and pull starter rope 5 more times. If engine still does not start it is probably flooded. Wait 5 minutes and repeat procedure with choke in "RUN" position and throttle full open.

## 7-1. ADDITIONAL SAFETY PRECAUTIONS

Before operating your unit, review ALL SAFETY PRECAUTIONS in this manual.

### WARNING CAUTION

- **IF UNFAMILIAR WITH TRIMMING / CUTTING** techniques, practice the procedures with ENGINE in "OFF" position.
- **ALWAYS CLEAR WORK** area of debris such as cans, bottles, rocks, etc. Striking objects can cause serious injury to operator or bystanders and also damage equipment. If an object is accidentally hit, immediately **TURN ENGINE OFF** and examine equipment. If stringhead is cracked or broken, or plastic debris shield is damaged, replace those parts immediately. Never operate unit with damaged or defective equipment.
- **ALWAYS HOLD UNIT FIRMLY** with both hands, thumbs and fingers encircling handles.
- **ALWAYS WEAR PROPER CLOTHING**, work shoes, work gloves, safety goggles and ear protection to guard against hearing impairment.
- **ALWAYS TRIM OR CUT AT HIGH ENGINE SPEEDS.** Do not run engine slowly at start or during trimming operations.

- **DO NOT** use equipment for purposes other than trimming or mowing weeds.
- **NEVER** raise stringhead above knee height during operation.
- **DO NOT** operate unit with other people or animals in the immediate vicinity. Allow a minimum of 30 feet between operator and other people and animals when trimming or mowing. Allow a distance of 100 feet between operator and other people and animals when **EDGING** or **SCALPING** with stringhead.
- **NEVER OPERATE EQUIPMENT** if taking medication that produces drowsiness or reduces reflexes.
- **NEVER OPERATE EQUIPMENT** while drinking alcoholic beverages or while under the influence of alcohol or drugs.
- **IF OPERATING UNIT ON A SLOPE**, stand below the cutting attachment. **DO NOT OPERATE** on a slope or hilly incline if there is the slightest chance of slipping or losing your footing.

## 7-2. STRINGHEAD LINE RELEASE

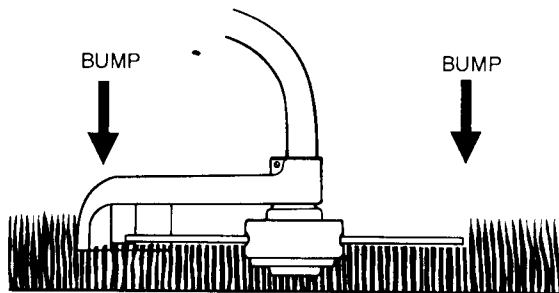


Figure 7-2A

**NOTE:** The bump-and-feed stringhead allows for quick and easy line feeding without the need to stop engine to advance line. (Figure 7-2A)

### WARNING CAUTION

**DO NOT** use steel wire or plastic-coated steel wire.

To release fresh line, run engine at full throttle and "bump" stringhead against lawn. Line will automatically release. The knife in debris shield will trim excess line.

### CAUTION

Periodically remove weed wrap to prevent overheating the drive shaft. Weed wrap occurs when strands of weeds become entangled around the shaft beneath the debris shield (Figure 7-2B). Remove weed wrap with a screwdriver or similar device, or refer to Section 8-3, Removing / Replacing Stringhead.

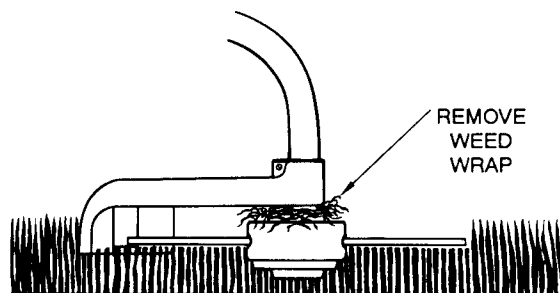


Figure 7-2B

### 7-3. TRIMMING PROCEDURES

When properly equipped with a debris shield and stringhead, your unit will trim unsightly weeds and tall grass in those hard-to-reach areas - along fences, walls, foundations and around trees. It can also be used for edging along walkways and driveways. And it can be used for scalping to remove vegetation down to the ground for easier preparation of a garden or to clean out a particular area.

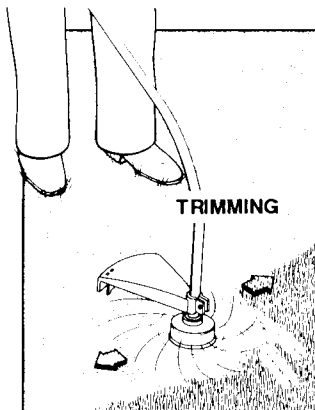
## WARNING

Do not use steel wire or plastic-coated steel wire of any kind with your stringhead. Serious operator injury can result.

**NOTE:** Even with care, trimming around foundations, brick or stone walls, curves, etc., will result in above normal string wear. To release fresh line, see instructions in Section 7-2, Stringhead Line Release.

#### TRIMMING/MOWING

Swing trimmer with a sickle-like motion from side to side. Do not tilt the stringhead during the procedure. Test area to be trimmed for proper cutting height. Keep stringhead at same level for even depth of cut.



#### CLOSER TRIMMING

Position trimmer straight ahead with a slight tilt so bottom of stringhead is above ground and string contact occurs at proper cutting point. Always cut away from operator. Do not pull trimmer in toward operator.

#### FENCE/FOUNDATION TRIMMING

Approach trimming around chain link fences, picket fences, rock walls and foundations slowly to cut close without whipping string against the barrier. If the string comes in contact with rock, brick walls, or foundations, it will break or fray. If string snags fencing, it will snap off.

#### TRIMMING AROUND TREES

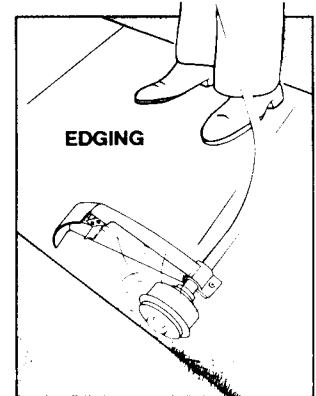
Trim around tree trunks with a slow approach so string does not contact the tree bark. Walk around the tree trimming from left to right. Approach grass or weeds with tip of string and tilt stringhead slightly forward.

## WARNING

Use extreme caution when **EDGING** or **SCALPING**. Keep a distance of 100 feet between operator, other people and animals during these operations.

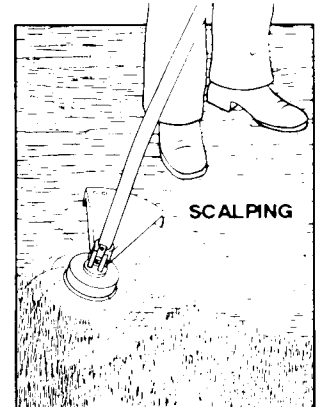
#### EDGING

Tilt unit to the left so that stringhead is in a vertical position. This will allow the nylon line to skim along the edge of the concrete. Before edging, you may want to adjust the handle so as to make this operation as effortless as possible. Always keep a distance of 100 feet from other people and animals when edging. Do not attempt this procedure if there is any chance flying debris could injure operator, other people or cause damage to property.



#### SCALPING

Scalping refers to removal of all vegetation down to the ground. To do this, tilt the stringhead to about a 30 degree angle to the left. By adjusting the handle you will have better control during this operation. Always keep a distance of 100 feet from other people and animals when scalping. Do not attempt this procedure if there is any chance flying debris could injure operator, other people or cause damage to property.



## WARNING

### DO NOT SWEEP WITH TRIMMER

Sweeping refers to tilting stringhead to sweep away debris from walkways, etc. Your trimmer is a powerful tool and small stones or other such debris may be hurled 50 feet or more, causing injury or damage to nearby property such as automobiles, homes and windows.

### 8-1. PREVENTIVE MAINTENANCE

Service other than routine user maintenance items should be performed by your McCulloch Authorized Service Center listed in under "SAWS" in the Yellow Pages of your telephone directory.

Keep your unit clean. Do not allow filters, muffler and cylinder fins to become plugged or covered with dirt or debris.

**W** Never use dirty fuel or dirty oil. Engine damage could result. Always follow instructions in the Fuel and Lubrication section of this manual.

A good preventive maintenance program will prolong the life and maintain the performance of your McCulloch unit.

After the first 7 days or 15 hours of operation, whichever comes earliest, take your unit to your McCulloch Authorized Service Center for an inspection and check-up. Your dealer will be pleased to help you set up a preventive maintenance program to suit your needs. The recommended first 7-day or 15-hour check-ups and a follow-up of regular periodic check-ups and tune-ups will assure long, satisfactory service from your McCulloch product. This service will be performed at your McCulloch Authorized Service Center at existing service rates.

### MAINTENANCE CHECKLIST

**NOTE:** The maintenance checklist below is a guide for preventive maintenance. Cleaning, adjustment, and parts replacement may, under certain conditions, be required at more frequent intervals than those indicated.

MAINTENANCE CHECK LIST		E A C H U S E	5 H O U R S	10 H O U R S	20 H O U R S	50 H O U R S
ITEM	ACTION					
SCREWS / NUTS / BOLTS	INSPECT / TIGHTEN	•				
CONTROLS	INSPECT	•				
	*REPLACE AS REQUIRED					
AIR FILTER	CLEAN OR REPLACE			•		
FUEL FILTER	REPLACE				•	
DEBRIS SHIELD	INSPECT	•				
	REPLACE AS REQUIRED					
STRINGHEAD	INSPECT	•				
	REPLACE AS REQUIRED					
SPARK PLUG	CLEAN/ADJUST/REPLACE			•		
MUFFLER	*CLEAN					•
LAMINATION GAP	*CLEAN/*ADJUST				•	
EXHAUST PORTS	*CLEAN					•
SPARK ARRESTER SCREEN	INSPECT	•				
	REPLACE			•		
CYLINDER FINS	*CLEAN				•	
CARBURETOR	*CLEAN				•	
STARTER ROPE	INSPECT	•				
	*REPLACE AS REQUIRED					
DRIVE SHAFT	*LUBRICATE (Every 50 Hours)					•
FUEL HOSES	INSPECT	•				
	*REPLACE AS REQUIRED					
*Recommended for Maintenance by a McCulloch Authorized Service Center Technician						

## 8-2. REPLACING CUTTER LINE

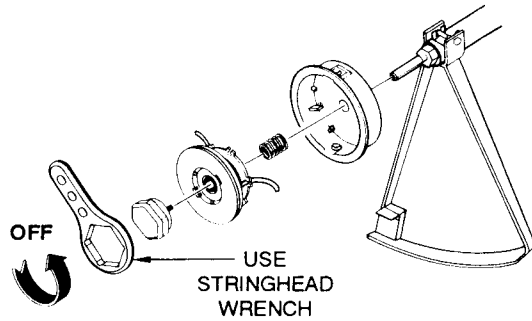


Figure 8-2A

1. Turn the knob COUNTERCLOCKWISE and remove it. If required use string head wrench.
2. Remove the spool and spring.
3. Remove any remaining cutter line. (Figure 8-2A)

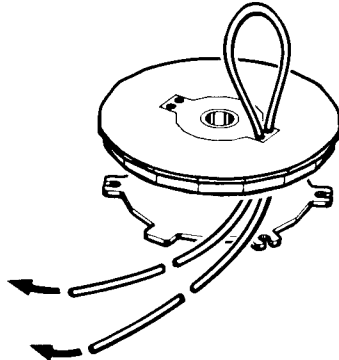


Figure 8-2B

4. Double a 18ft. length of .095 (or .080) cutter line. Thread each end through one of the two sets of holes on the top of the spool. Pull both ends evenly through the holes. (Figure 8-2B)

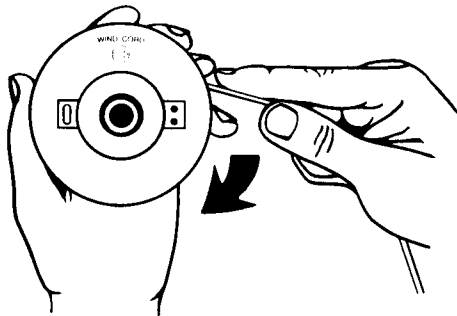


Figure 8-2C

5. Wind both ends around the spool together in a CLOCKWISE direction to within 6" of the ends. **DO NOT TWIST LINE ON SPOOL.** Twisting line could cause stringhead to feed improperly. (Figure 8-2C)

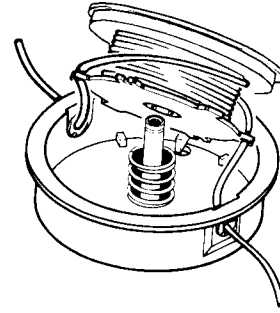


Figure 8-2D

6. Lock each end into a slot on opposite sides of the spool. Install the spring over the spindle. Insert each end of the line through an eyelet in the housing and lower the spool into the housing while feeding the line through the eyelets. Ensure the spring seats itself into the spool. (Figure 8-2D)

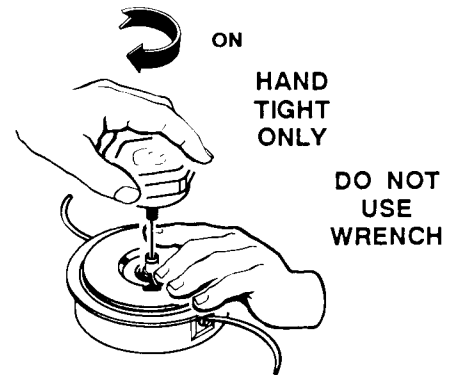


Figure 8-2E

7. Once the spool is in place, apply pressure on the spool compressing the spring. Pull each end of the line sharply to unlock them from the slots. Continue to apply pressure to the spool until the knob can be threaded CLOCKWISE onto the spindle. Tighten the knob securely by hand only. **DO NOT USE THE STRINGHEAD WRENCH TO TIGHTEN.** (Figure 8-2E)

**NOTE:** Apply an anti-seize compound (Permatex® 133A Anti-seize or equivalent) to the threads to make the knob easier to remove next time service is required.

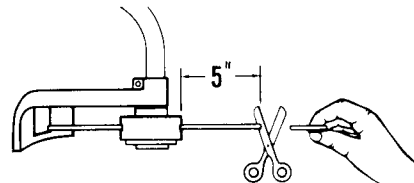


Figure 8-2F

8. Trim the excess line to approximately 5 inches. This will minimize load on engine during starting and warm-up. (Figure 8-2F)

### 8-3. REMOVING / REPLACING STRINGHEAD

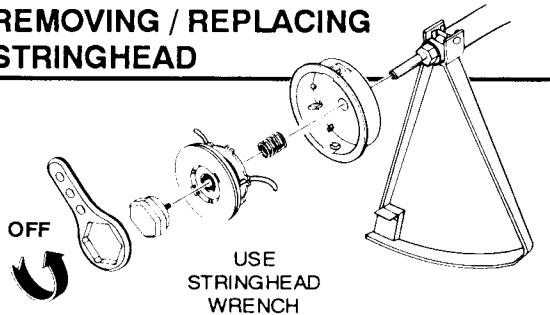


Figure 8-3A

1. Turn the knob **COUNTERCLOCKWISE** to remove. Use the stringhead wrench if required.
2. Remove the spool and spring from the housing.
3. Remove the housing. Gently tap back of housing to loosen. (Figure 8-3A)

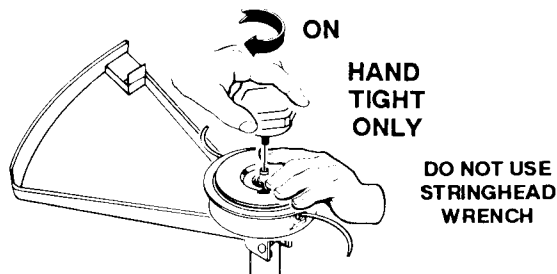


Figure 8-3B

4. Remove the replacement stringhead from the package intact. Place it on the spindle. Ensure the hex on the spindle is well seated into the housing.
5. Compress the spool into the housing and thread the knob into the assembly. Tighten the knob **CLOCKWISE, BY HAND ONLY**. (Figure 8-3B)

### 8-4. AIR FILTER

To Clean Air Filter:

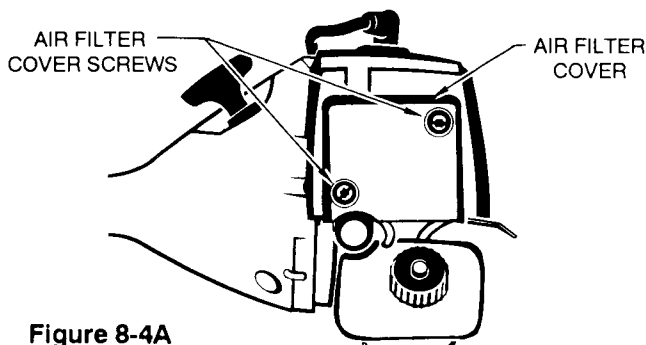


Figure 8-4A

1. Remove 2 screws holding air filter cover in place and remove cover. (Figure 8-4A)

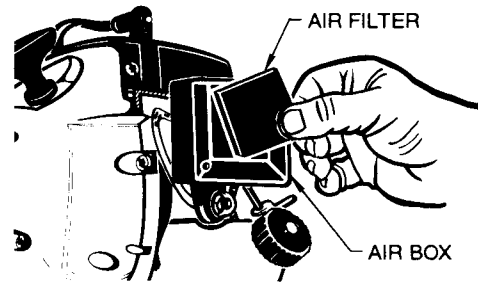


Figure 8-4B

2. Lift filter from Air Box. (Figure 8-4B)
3. Wash filter in soap and water. **DO NOT USE GASOLINE!**
4. Air dry filter.
5. Reinstall filter in reverse order of removal.

**NOTE:** Replace filter if frayed, torn, damaged or unable to clean.

### 8-5. FUEL CAP/FUEL FILTER

## CAUTION

Remove fuel from unit and store in approved container before starting this procedure.

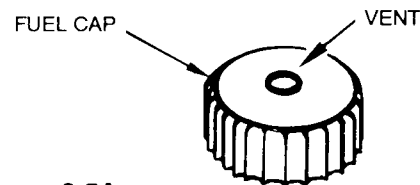


Figure 8-5A

**NOTE:** Keep vent on fuel cap clean of debris. (Figure 8-5A)

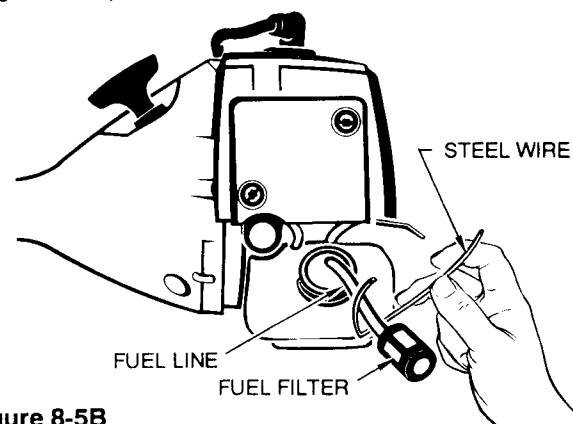


Figure 8-5B

1. Lift fuel line out of tank. Steel wire with hook or paper clip works well. (Figure 8-5B)

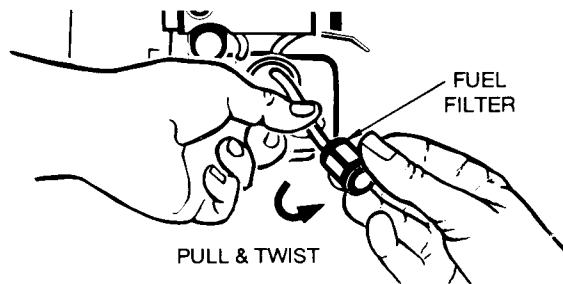


Figure 8-5C

2. Pull off with a twisting motion. (Figure 8-5C)
3. Replace fuel filter.

**W** **NOTE:** Never operate the trimmer without the fuel filter. Internal engine damage could result !

### 8-6. CARBURETOR ADJUSTMENT

The carburetor was pre-set at the factory for optimum performance. If further adjustments are necessary, please take your unit to the nearest McCulloch Authorized Service Center listed in the Yellow Pages.

### 8-7. SPARK PLUG

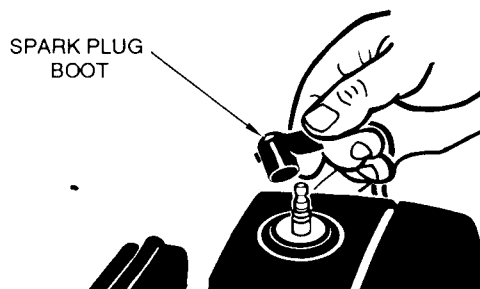


Figure 8-7A

1. Remove spark plug boot with a twist and pull motion. (Figure 8-7A)
2. Remove the spark plug.
3. Clean spark plug electrodes with emery cloth.

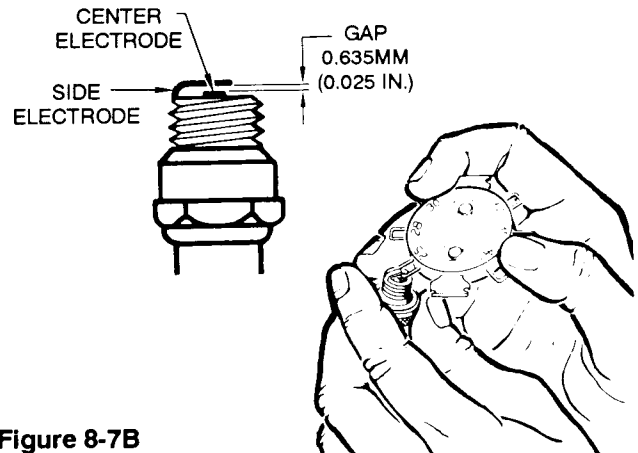


Figure 8-7B

4. Adjust gap to .025 in. Bend side electrode only using a gapping tool. (Figure 8-7B)
5. Reinstall spark plug and torque to 105 to 130 inch pounds. Reconnect spark plug boot.

### 8-8. SPARK ARRESTER SCREEN

**NOTE:** It is not necessary to take muffler shield off to replace or install a new spark arrester screen.

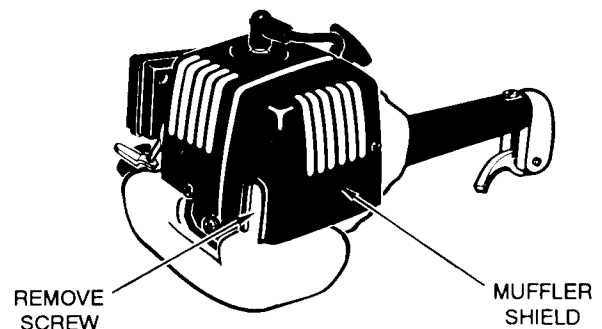


Figure 8-8A

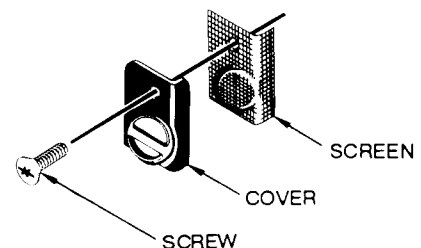


Figure 8-8B

1. To replace spark arrester screen, remove the retaining screw and screen cover. Discard old screen. Install new screen. (Figure 8-8A & 8-8B)



### 8-9. DEBRIS SHIELD KNIFE SHARPENING

1. Remove cutter knife from debris shield.
2. Place knife in a bench vise. Sharpen knife using a flat file, being careful to maintain the angle of cutting edge. File in one direction only.

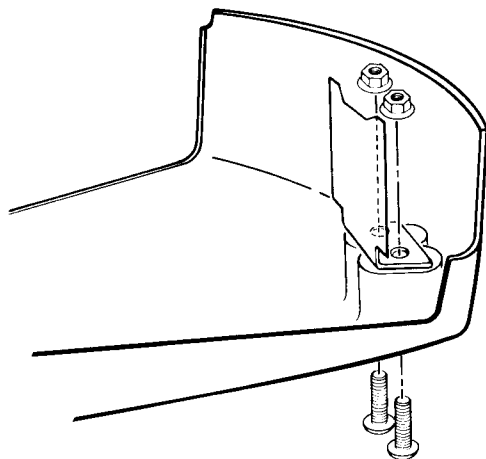


Figure 8-9A

3. Reinstall knife. Tighten fasteners securely. (Figure 8-9A)

### 8-10. STORING A UNIT

**W** Failure to follow these steps may cause varnish to form in the carburetor, difficult starting or permanent damage after storage.

1. Perform all the general maintenance recommended in the Maintenance Section of your User Manual.
2. Clean exterior of engine, drive shaft assembly, debris shield and stringhead.
3. Drain fuel from the fuel tank.
4. After fuel is drained, start engine.
5. Run engine at idle until unit stops. This will purge the carburetor of fuel.
6. Allow engine to cool (approximately 5 minutes).
7. Using a spark plug wrench, remove the spark plug.



Figure 8-10A

8. Pour 1 teaspoon of clean 2-cycle oil into the combustion chamber. Pull starter rope slowly several times to coat internal components. Replace spark plug. (Figure 8-10A)
9. Store unit in a cool, dry place away from any source of ignition such as an oil burner, water heater, etc.

### 8-11. REMOVING A UNIT FROM STORAGE

1. Remove spark plug.
2. Pull starter rope briskly to clear excess oil from combustion chamber.
3. Clean and gap spark plug or install a new spark plug with proper gap.
4. Prepare unit for operation.
5. Fill fuel tank with proper fuel / oil mixture. See Fuel and Lubrication Section.

# ACCESSORIES / LUBRICANTS

*FOR PERFORMANCE AND SAFETY REASONS USE ONLY GENUINE  
McCULLOCH ACCESSORIES AND REPLACEMENT PARTS.*

DESCRIPTION	PART NUMBER
<b>ACCESSORIES and REPLACEMENT PARTS</b>	
Dual Line Stringhead Assembly . . . . .	300160
Dual Line-on-Spool . . . . .	300159
Bump Knob . . . . .	300339
Bump Spring . . . . .	300356
Spark Plug DJ8J . . . . .	219043-01
Air Filter . . . . .	300323
Debris Shield . . . . .	223975-01
Spark Arrester Screen . . . . .	224040
Fuel Filter . . . . .	216985
<b>LUBRICANTS</b>	
3.2 oz. ONE SHOT . . . . .	223251-01
8 oz. (for 2.5 gal. mix) . . . . .	224477
16 oz. (with easy mix chamber) . . . . .	98463

# TROUBLESHOOTING THE STRINGHEAD

PROBLEM	PROBABLE CAUSE	SOLUTION
Line won't feed.	Line is tangled inside stringhead.	Remove spool from unit; disassemble. Untangle line and wind correctly in direction indicated on spool (see Section 8).
	Upon removing spool, line appears to be melted together.	Trim off damaged line and rewind line (see Section 8).
	Line wound in wrong direction inside stringhead.	Remove spool. Check to be certain line is wound in direction indicated on line element. (see Section 8)
	Insufficient line inside stringhead.	Remove spool and install new line (see Section 8).
	Internal damage to stringhead caused by bumping head too hard on ground while advancing line.	Disassemble stringhead and examine parts for damage. Replace parts or entire head (see Section 8).
Line snaps off or frays.	Improper trimming procedures, or poor quality line.	See General Trimming Instructions or replace line (see Section 8).
Unable to remove stringhead knob.	Stringhead knob over tightened - use stringhead wrench supplied in user kit.	Use anti-seize compound (Permatex® 133A Anti-seize or equivalent) and reinstall knob HAND TIGHT ONLY.
Stringhead and shaft are hot to the touch.	Weed wrap.	Remove weed wrap (see Section 7).

# TROUBLESHOOTING THE ENGINE

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Unit won't start or starts but will not run.	Incorrect starting procedures	Follow instructions in the User Manual (See Section 6).
	Incorrect carburetor mixture adjustment setting	Have carburetor adjusted by an Authorized Service Center.
	Fouled spark plug	Remove, clean and gap (or replace) spark plug. If plug is wet, reinstall plug and hold at full throttle until unit starts. If plug is dry, try starting with choke on (See Section 8).
	Fuel filter plugged	Replace fuel filter (See Section 8).
Unit starts, but engine has low power.	Incorrect lever position on choke	Move to RUN position.
	Dirty spark arrestor screen	Replace spark arrestor screen.
	Dirty air filter	Remove, clean and reinstall filter.
	Incorrect carburetor mixture adjustment setting	Have carburetor adjusted by an Authorized Service Center.
Engine hesitates	Incorrect carburetor mixture adjustment setting	Have carburetor adjusted by an Authorized Service Center.
No power under load		
Runs erratically	Incorrectly gapped spark plug	Clean / gap or replace plug.
Smokes excessively	Incorrect carburetor mixture adjustment setting	Have carburetor adjusted by an Authorized Service Center.
	Incorrect fuel mixture	Use properly mixed fuel (40:1 mixture).

**FOR WARRANTY OR SERVICE CONTACT THE NEAREST McCULLOCH AUTHORIZED SERVICE CENTER LISTED UNDER "SAWS" IN YOUR TELEPHONE DIRECTORY YELLOW PAGES.**

IF FURTHER ASSISTANCE IS REQUIRED CALL THIS TOLL-FREE HOT LINE.  
PLEASE REFERENCE YOUR MODEL AND SERIAL NUMBER.

**1-800-423-6302**

*In Arizona:*

**1-800-221-6507**

M-F 6:00 AM - 4:45 PM (MST)

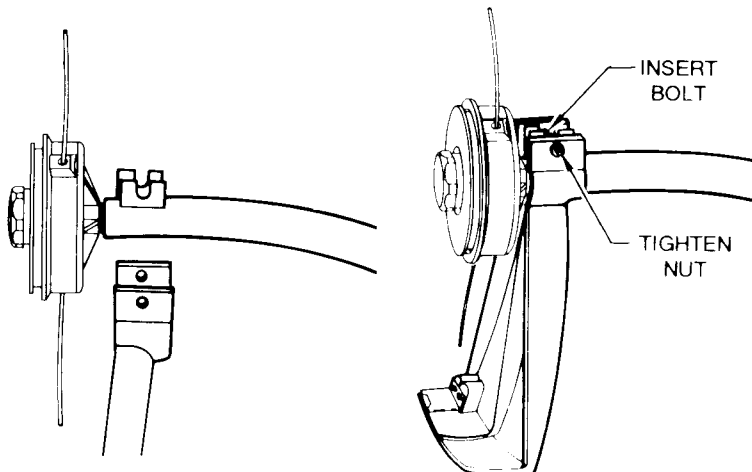
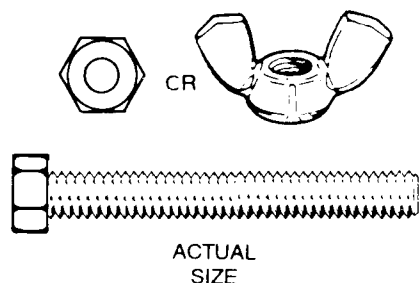


## ASSEMBLY QUICK REFERENCE

FOLLOW THESE SIMPLE STEPS TO ASSEMBLE YOUR TRIMMER

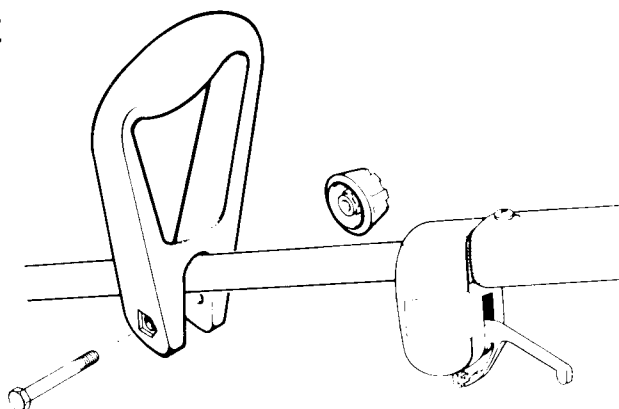
REFER TO YOUR USER MANUAL FOR MORE DETAILED INSTRUCTIONS

### A. DEBRIS SHIELD



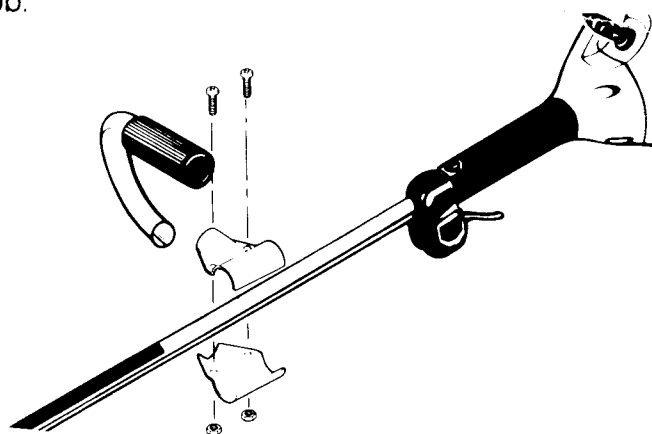
Locate bolt and nut. Set debris shield in place. Install bolt and nut, then tighten.

### B. DELTA HANDLE



Loosen knob and rotate handle to the top. Adjust to a comfortable distance from the rear grip and tighten knob.

### C. J - HANDLE



Loosen the screws slightly and rotate the handle to the top a comfortable distance from the rear grip. Tighten the screws.

**BEFORE STARTING ENGINE:** Fuel used in this machine must be mixed with McCulloch Custom Lubricant at 40:1 mix ratio (3.2 oz. oil to 1 gallon gasoline).

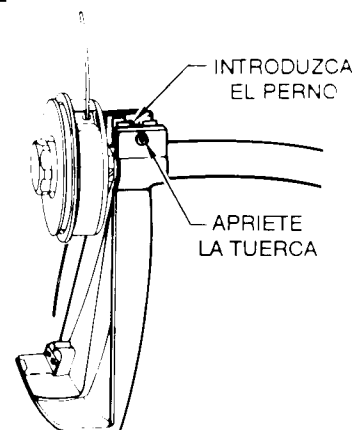
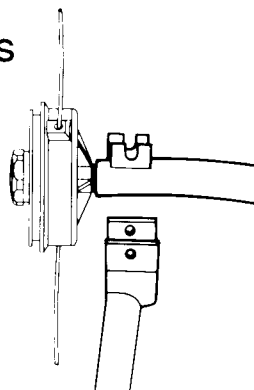
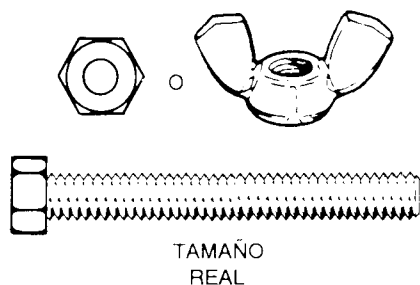


## CONSULTA RAPIDA PARA EL ENSAMBLAJE

SIGA ESTOS SIMPLES PASOS PARA ENSAMBLAR SU RECORTADORA

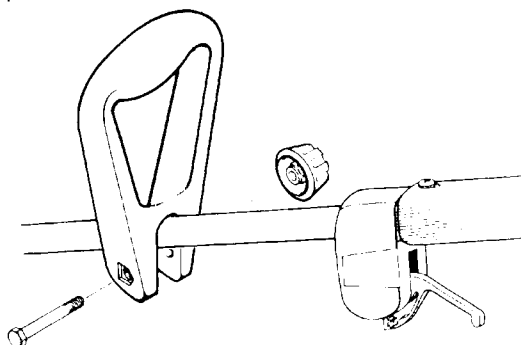
CONSULTE EN EL MANUAL DEL USUARIO SI DESEA  
INSTRUCCIONES EN MAS DETALLE

### A. PROTECTORA CONTRA ESCOMBROS



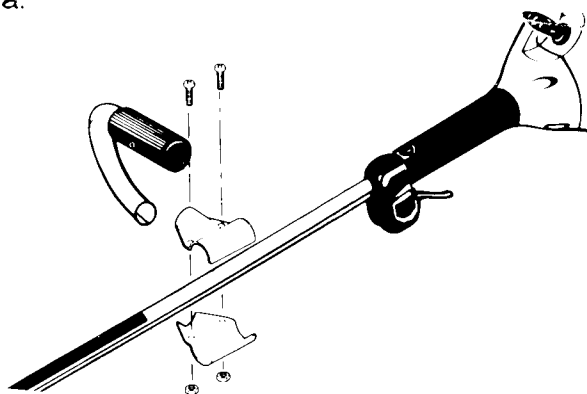
Localice el perno y la tuerca. Coloque la protectora contra escombros en su lugar. Instale el perno y la tuerca, y apriete.

### B. MANIJA DELTA



Afloje la perilla y gire la manija hasta arriba. Ajuste a una distancia cómoda del agarre trasero y apriete la perilla.

### C. MANIJA EN J



Afloje los tornillos ligeramente y gire la manija hacia su posición superior, a una distancia cómoda del agarre trasero. Apriete los tornillos.

**ANTES DE ARRANCAR EL MOTOR:** el combustible usado en esta máquina debe estar mezclado con el lubricante Custom Lubricant de McCulloch a una razón de mezcla de 40:1 (236 ml de aceite por 10 litros de gasolina - 3.2 onzas de aceite por 1 galón de gasolina).