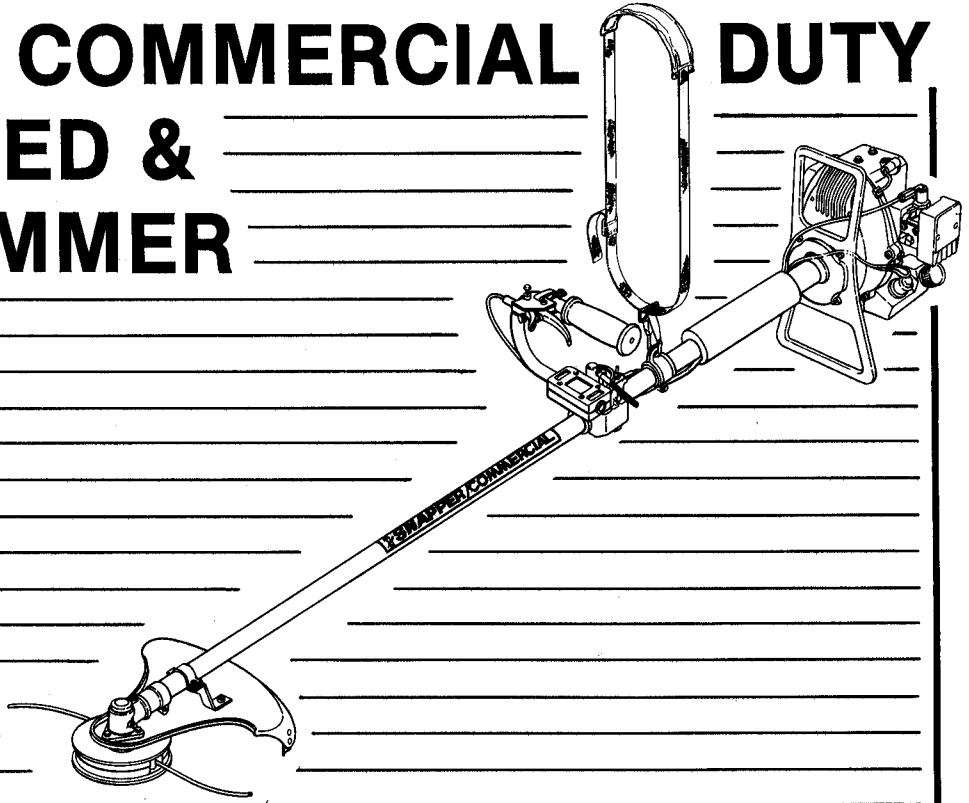


# SNAPPER®

## MODEL 410 COMMERCIAL DUTY GRASS, WEED & BRUSH TRIMMER



*Thank you for buying a Snapper Product! Before operating your trimmer, read this manual carefully and pay particular attention to the Important Safety Instructions on page two. Remember that trimmers and all power equipment can be dangerous if used improperly and keep in mind that safety requires careful use in accordance with the instructions and -- common sense!*

### GENERAL SPECIFICATIONS

|                           |                       |
|---------------------------|-----------------------|
| TYPE.....                 | AIR COOLED, TWO-CYCLE |
| DISPLACEMENT.....         | 40.6 c.c.             |
| IDLE (DECLUTCH)RPM.....   | 2500*                 |
| CLUTCH ENGAGE RPM.....    | 3300*                 |
| FULL OPERATING RPM.....   | 7600*                 |
| FUEL MIX RATIO.....       | 32 to 1               |
| FUEL TANK CAPACITY.....   | 30 oz.                |
| SPARK PLUG TYPE.....      | SNAPPER #6-8025       |
| SPARK PLUG GAP.....       | .028"                 |
| IGNITION TYPE.....        | SOLID STATE           |
| TRIMMER HEAD.....         | Manual Feed Twin Line |
| TRIM LINE DIAMETER.....   | .095"                 |
| UNIT WEIGHT (Approx)..... | 19.5 lbs.             |

\*Approximate-plus or minus 200 RPM

**SNAPPER POWER EQUIPMENT**

McDonough, GA • 30253



# IMPORTANT SAFETY INSTRUCTIONS

**WARNING:** Failure to comply with the following instructions may result in serious injury to the operator or other persons. The owner of the trimmer must understand these instructions and, furthermore, must allow only persons who understand these instructions to operate the unit. Each person operating the trimmer must be of sound mind and body and must not be under the influence of any substance which might impair vision, dexterity, or judgement. If you have any questions pertaining to your trimmer which your dealer cannot answer to your satisfaction, call or write the Customer Service Department at SNAPPER POWER EQUIPMENT, McDonough, Georgia, 30253. (Phone 404-957-9141).

## TRAINING

1. Read this Manual carefully. Be thoroughly familiar with the controls and proper use of the equipment.
2. **DO NOT** allow children in yard when trimmer is operated.
3. **DO NOT** allow pre-teenager children to operate trimmer.
4. Allow only responsible teenagers with mature judgement to operate trimmer and only under close supervision.
5. Keep the area clear of all persons, particularly small children, and pets.

## PREPARATION

1. **DO NOT** operate trimmer without safety glasses or goggles.
2. Thoroughly inspect the area where the trimmer is to be used and remove all stones, sticks, wire, bones and other objects that could cause injury if thrown at high speeds.
3. Do not operate trimmer when barefoot or wearing open sandals. Always wear substantial footwear and long pants.
4. Never operate trimmer without proper guards, shields or other safety protective devices in place and properly connected. Inspect to determine that these safety devices are installed properly, are in good repair, and operate properly. If the condition or operation of these devices are questionable, they must be repaired or replaced before using the trimmer.
5. Fill gasoline tank before starting engine. Mix in an approved gasoline container. Do not smoke near open gasoline container. Do not fill gasoline tank indoors or when engine is running. Allow engine to cool for at least ten minutes before refilling. Wipe off any spilled gasoline before starting engine. Move away from fueling site before starting engine. Do not run engine indoors.
6. Use trimmer only in daylight or in good artificial light.
7. Never operate trimmer in wet grass. Keep a firm hold on the handle and walk slowly, never run.
8. Operate only where firm footing is assured. **DO NOT** operate from a ladder or any other place where use of hands would ordinarily be necessary to prevent falls.

## OPERATION

1. Do not overspeed engine.
2. Do not put hands or feet near or under rotating parts while engine is running.
3. Stop or idle engine when crossing gravel drives, walks, or roads, and under any conditions where thrown objects might be a hazard.
4. After striking a foreign object or if unit vibrates abnormally, stop the engine, disconnect and secure spark plug wire. Inspect the unit for any damage and repair the damage.
5. Stop engine before leaving unit.
6. Before cleaning, repairing or inspecting, make certain head or blade has stopped. Disconnect and secure spark plug wire away from plug to prevent accidental starting.
7. When using blade, hold unit firmly and wear harness to prevent loss of control due to blade bounce upon contact with hidden solid objects.

## MAINTENANCE AND STORAGE

1. Keep all nuts, bolts, and screws tight to be sure unit is in safe operating condition.
2. Never store unit with gasoline in the tank inside of a building where fumes may reach an open flame or spark. Allow engine to cool before storing in any enclosure.
3. To reduce fire hazard, keep unit free of grass, leaves or excessive grease.
4. Have your trimmer inspected and serviced each year by an authorized Snapper dealer. Determine if any additional devices are available which might upgrade the safety of your trimmer.
5. Use only factory specified Snapper attachments, accessories and fasteners.

# OPERATING INSTRUCTIONS

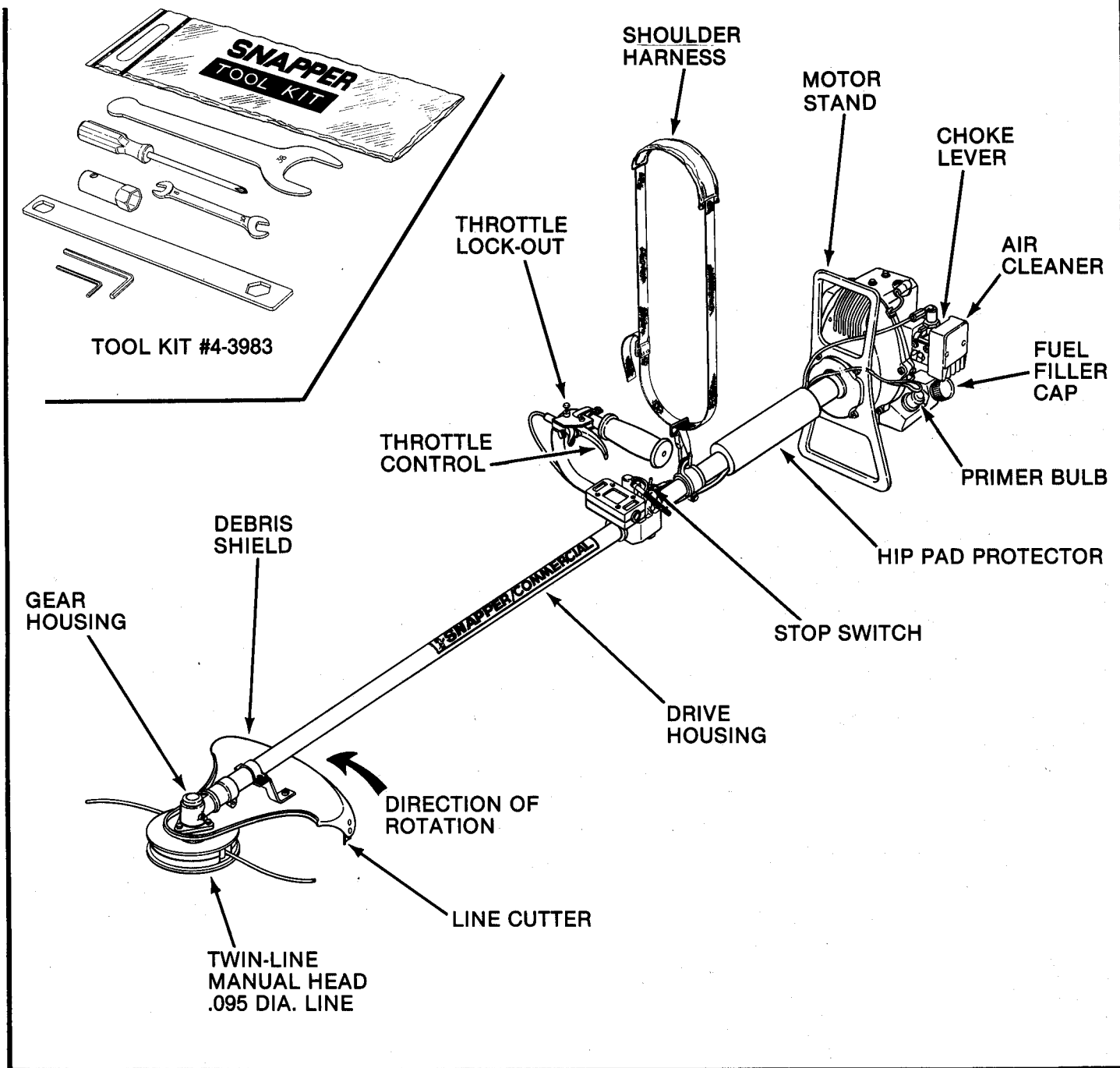


FIG. 1 - LOCATION OF CONTROLS & OTHER FEATURES

## PRE-MIX FUEL

For proper lubrication, the engine must operate on an exact mixture of gasoline and 2 cycle air-cooled engine oil. Use a 32 to 1 mixture. Use a good quality regular grade leaded or unleaded gasoline and an SAE 40 weight 2-cycle air-cooled engine oil. The 410 trimmer engine is also designed to run on gasohol fuel. Do not use the special 50:1 ratio oils. The 32 to 1 ratio equals 4 ounces of oil to each gallon (U.S. Standard) of gasoline, (or 20 oz. to 5 gallons gasoline). Refer to the following chart for correct 32 to 1 ratio mixtures:

## 32:1 RATIO - U.S. STANDARD FLUID MEASUREMENTS

| GALLONS GASOLINE*  | 1 | 2 | 3  | 4  | 5  |
|--------------------|---|---|----|----|----|
| OUNCES 2-CYCLE OIL | 4 | 8 | 12 | 16 | 20 |

Pre-Mix the fuel in an approved container while observing all safety precautions relating to handling of fuel. Add some gasoline to the container first then the oil. Close the container and shake vigorously to thoroughly mix the fuel; open the container and add the remaining amount of gasoline to correct the ratio. Shake the container to mix the fuel each time before filling the trimmer fuel tank. **DO NOT** add fuel to hot trimmer-allow engine to cool.

## START-STOP PROCEDURE

Become thoroughly familiar with the location and function of all controls before operating your trimmer. Be prepared to stop quickly in the event of an emergency. The engine is stopped by flipping the toggle switch at the base of the handle to STOP position. Rotation of the trimmer head or cutting blade is stopped by releasing the clutch control handle which allows the engine speed to drop below clutch engagement speed of approximately 3000 RPM. After filling the fuel tank as described in the foregoing, use the following procedure to start the engine and to operate the unit.

1. Place the trimmer on ground or other flat surface with weight firmly balanced on engine stand and front shield.

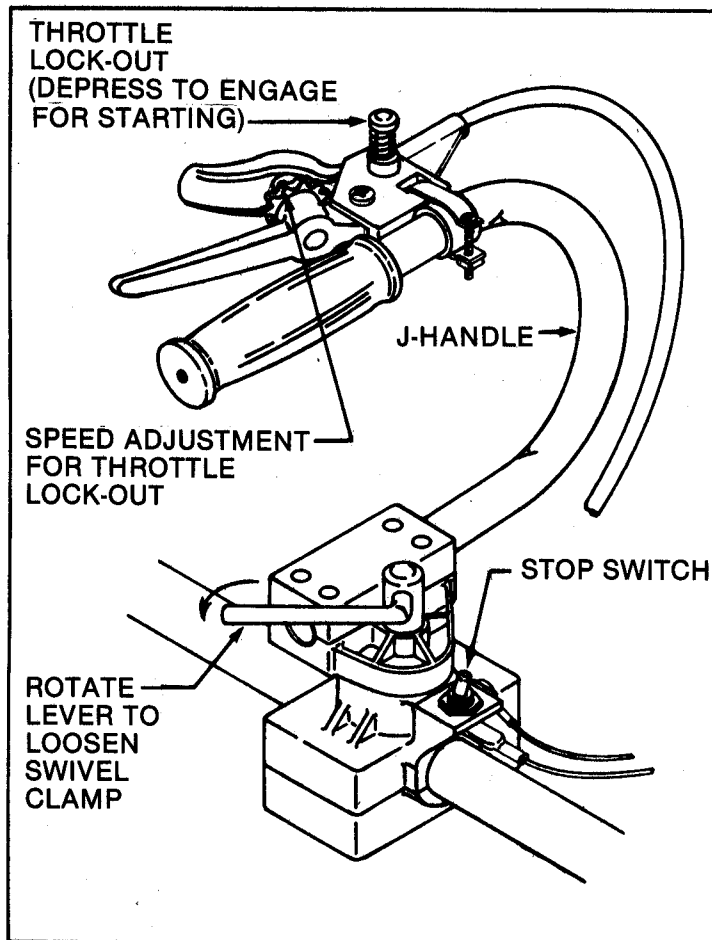


FIG. 2 - LOCATION OF CONTROLS

2. Squeeze clutch control handle, depress pin to lock in starting speed. Caution: Clutch will engage at start speed. Make sure cutting head or blade is not touching the ground.

3. While holding tickler valve up (see figure 3) pump the primer bulb on fuel tank until fuel starts flowing out of the overflow tube. Continue pumping until no air bubbles are evident in the tube. NOTE: Make sure the tickler valve is held up while priming. If primed while in down position, carburetor flooding and hard starting will occur. No priming will be needed with warm engine.

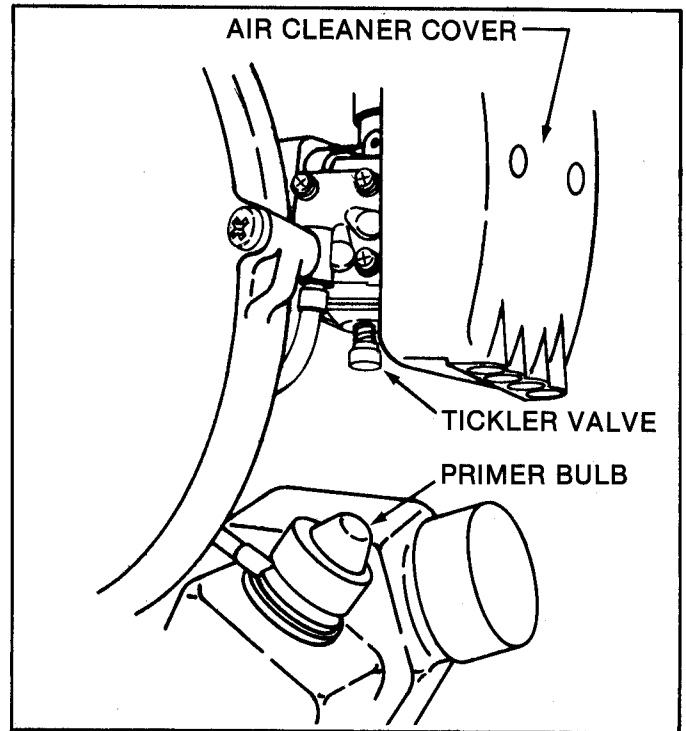


FIG. 3 - TICKLER/PRIMER BULB LOCATION

4. Move the choke lever up to full CHOKE position. No choking will be needed with warm engine.
5. Pull the rope start handle out in full strokes until the engine starts. Allow brief warm up period at full throttle then push lockout pin on throttle control to allow speed to return to idle.
6. Allow few more moments at idle to warm up then move choke lever downward to OPEN position.
7. Lift the unit, slip into harness and begin operation.

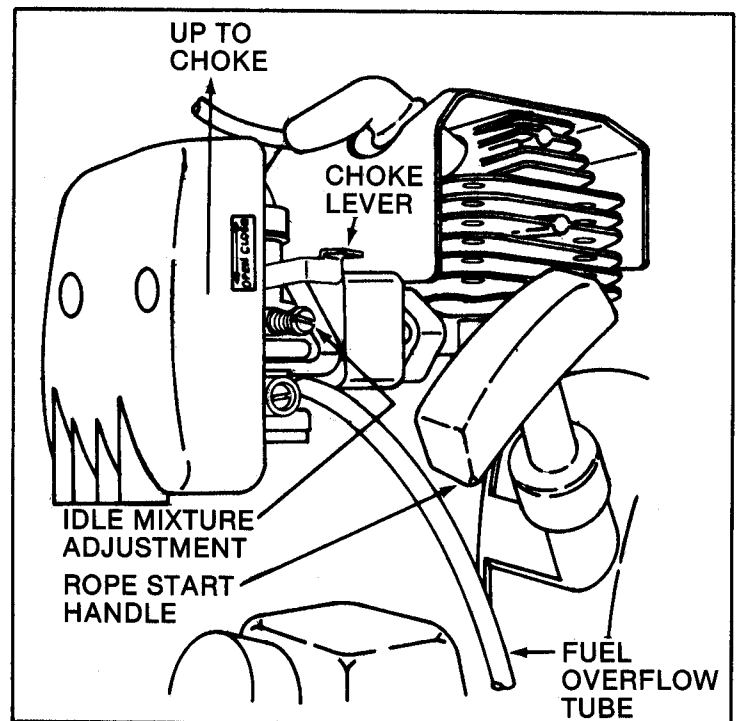


FIG. 4 - CARBURETOR CONTROLS

## OPERATION (Continued)

### TRIMMING OPERATION

The model 410 is furnished with a manual advance trim line head. When fitted with the trimmer head, use the machine as follows. Remember to wear eye protection, substantial footwear and clothing to protect against injury from thrown objects. Also wear the harness for better control and comfort.

**TRIMMING PROCEDURE:** Always swing the trimmer head slowly from the right to the left in a semi-circular motion. Hold the head at about a 30° angle to the ground to trim around trees, walks etc. Allow the tips of the line to do the trimming. For mowing or sweeping operation, hold the head so that the line is parallel to the ground. Keep the head above the ground to avoid scalping and unnecessary wear of the trimmer head.

**OPERATIONAL WARNING:** It is normal for the gear housing to become very warm after extended periods of operation. While the temperature should not normally become hot enough to cause burns, be aware that the housing could reach levels very uncomfortable to the touch.

**TO RELEASE LINE:** Stop the engine and wait for the trimmer head to stop turning. Loosen the lock knob by turning to the right (marked LOOSEN) several turns, pull both ends of the line until extended to desired length. Turn the lock knob to the left (marked TIGHTEN) until hand tight. Note: If the lock knob has been overtightened and cannot be loosened by hand, tap it lightly on hard surface with unit stopped then try to loosen again. Refer to the service section of this manual for line replacement procedure.

### BLADE OPERATION: (OPTIONAL BRUSH & SAPLING KIT)

Use extreme caution when operating the unit as weed cutter with the blade installed in place of the trimmer head. Never use a blade with cracks or chips and always wear safety goggles, safety shoes and use the harness supplied in kit to help maintain control. Refer to the service section for blade installation and important sharpening instructions.

**CUTTING PROCEDURE:** Cut in a semi-circular motion, sweeping slowly from the right to the left. Do not attempt to cut solid vines, small trees and keep away from hard objects such as pipes, metal fence, posts, rocks etc. The blade will tend to bounce violently away from solid objects causing the operator to lose balance and possible control when bounce occurs. Check the blade frequently with unit stopped for evidence of cracking. Replace damaged blade.

# SERVICE

## SERVICE ASSISTANCE & PARTS

To retain the original quality of your trimmer, be sure to use genuine SNAPPER replacement parts only. This is of particular importance when the blades, trimmer heads and retaining hardware are involved--do not use substitutes! Most routine services covered in this section can be performed quickly and easily using the tools provided in the trimmer tool kit. Contact your SNAPPER dealer for service assistance and replacement parts. The information in the parts section furnished with your trimmer is and subject to change. Complete, up-to-date parts information is available at your dealer. For the nearest SNAPPER dealer, check the yellow pages of your telephone directory under the heading LAWN-MOWERS.

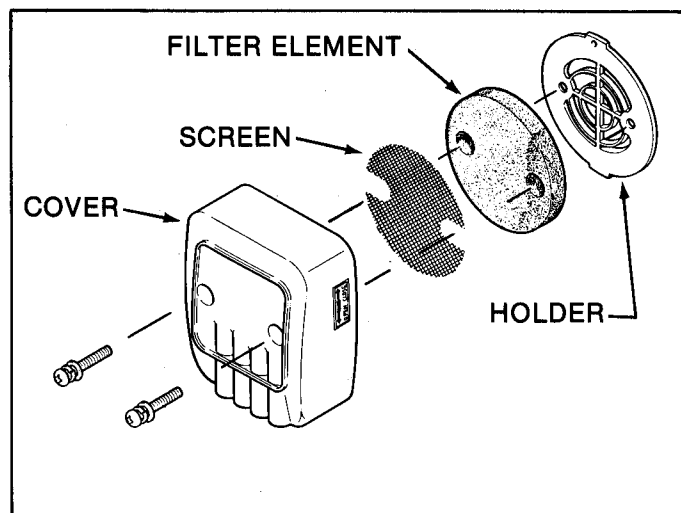


FIG. 5 - AIR CLEANER SERVICE

### AIR CLEANER-SERVICE EVERY 25 HOURS

Every 25 hours, or more frequently if operating under extremely dusty or dirty conditions, service the air cleaner as follows. Replace any parts found to be damaged.

1. Use the Phillips head screwdriver provided in tool kit to remove the two air cleaner cover retaining screws.
2. Remove the cover. The element, holder and screen will normally stay inside the recess in the air cleaner cover. Carefully pry the holder out of the recess then remove the filter element.
3. Wash the element in solution of dishwashing detergent and water, squeeze dry then lubricate the element with small amount of SAE 30 weight engine oil then squeeze element again to evenly distribute the oil.
4. Wash the cover and metal screen in position in dishwashing detergent solution before reinstalling screen, element and holder in the recess in cover.

## SERVICE (Continued)

**NOTE:** Make sure flat surface of holder is facing toward element-the side with the raised ridge or ring must be outside to fit into the carburetor opening otherwise unfiltered air can enter carburetor.

5. Reinstall serviced air cleaner assembly on carburetor. Make sure air intake passages face downward.

### SPARK PLUG-SERVICE

The spark plug on a 2-cycle engine quickly become oil fouled especially if the engine is run at low speeds too long. The electrodes also tend to become carbon fouled. Check the spark plug frequently especially if the engine fails to start or is difficult to start. Use the spark plug wrench supplied in the tool kit to remove the plug. Keep the electrodes clean and the gap set at .025". Use a Snapper #6-8025(NGK BM-6A or Champion CJ8 or equivalent) spark plug.

### GEAR HOUSING-SERVICE EVERY 50 HRS.

Keep hands away from the gear housing after extended periods of operation as it gets very warm. After every 50 hours of operation, grease through fitting with a good quality lithium base #2 multi-purpose grease.

### DRIVE SHAFT-CLUTCH

The model 410 features a heavy duty solid steel drive shaft which runs in five bushings inside the main drive tube. The drive shaft does not normally require service on a regular basis, however, if a rattling noise is detected after extended use, this could indicate bushing and or shaft wear. In this event, return the unit to a SNAPPER dealer for repair. A slipping clutch may be caused by excessive wear or oil on the clutch drum. Return the unit to your SNAPPER dealer for clutch repair.

### LINE LIMITER SERVICE

Keep the cutting edge of the line limiter sharp by filing frequently with a file. Limiting the line to the design maximum of 18" cutting path provides optimum trimming-cutting operation. Replace the limiter when it becomes excessively worn or badly nicked. Remove the two locknuts and screws, remove the old limiter, install the replacement in its place and secure with the new fasteners.

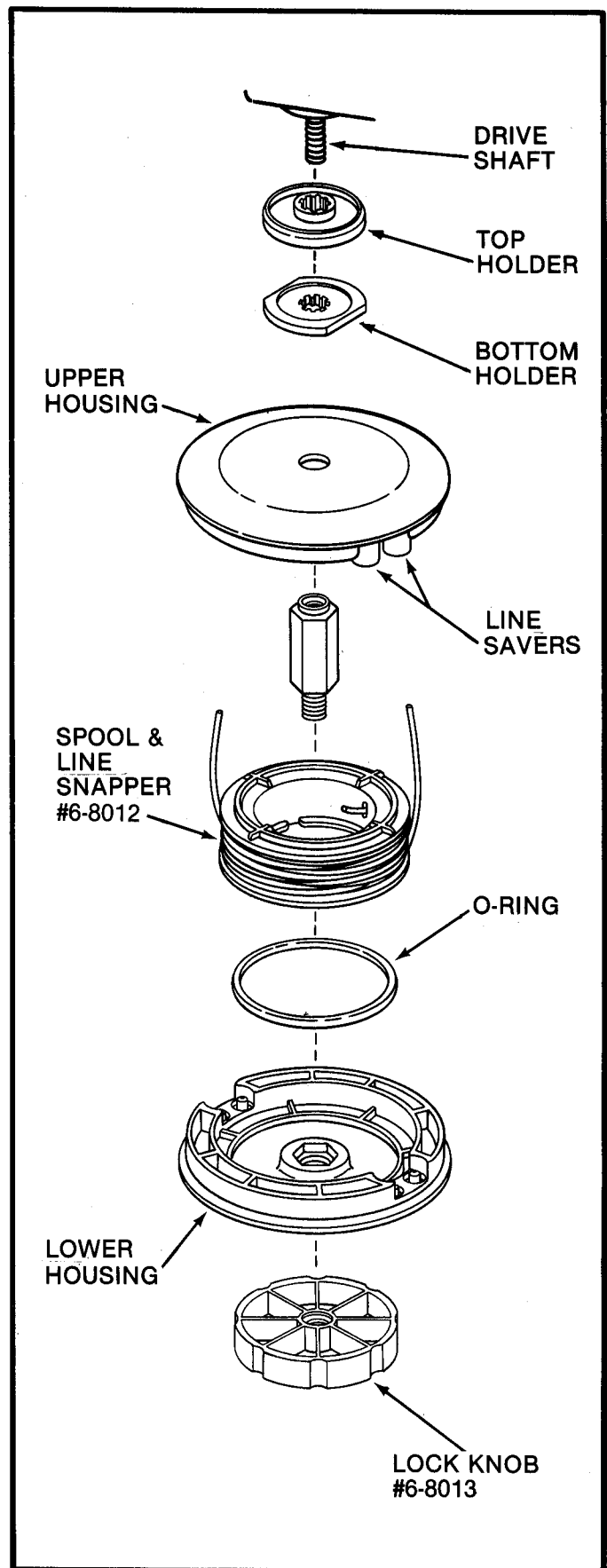


FIG. 6-MANUAL CUTTING HEAD

## TRIMMER HEAD & LINE

The model 410 is furnished with a heavy duty, manual line release head. The line can be replaced by winding a new 15 foot length of SNAPPER .095" replacement line on the existing spool or a new spool can be obtained complete with line. Do not substitute line or use metal line!

**TO INSTALL HEAD:** Install head in place as follows. Note use of the upper and lower holders as shown between the head and gear housing. The same holders are used for the blades but in different sequence. Save the locknut for later use with blades.

1. With the head completely assembled, turn the unit in counter clockwise direction onto the treaded end of the drive.

2. After hand tightening head, remove the lockknob (turn clockwise) and remove lower housing. Use a 3/4" socket wrench (spark plug tool) to turn the arbor (counter clockwise) securely against the drive shaft while holding washer with flats with the 38mm wrench provided in tool kit.

3. Reinstall lower housing and secure by turning the lock knob in clockwise direction. **NOTE:** Lightly hand tighten knob as it will tighten itself in use - do not overtighten.

**TO REPLACE SPOOL:** Keep a Snapper #6-8012 wound spool on hand as a spare for line replacement. this includes 15 feet of .095" diameter twin line. to replace, remove the lock knob and lower housing then pull out the old spool.

This is a good time to service the line savers. to service, pull each down one at a time (do not remove) and wipe the outside surface clean with a wet soapy cloth. Squirt a few drops of oil into cavities after cleaning. Set the replacement spool in place--make sure wording "**WIND CORD**" is visible, cut rubber band then extend line ends out of each line exit port between line savers, reinstall lower housing and lock knob. Lengthen line as needed.

## CUTTING BLADE

To install any of the weed cutting blades provided as standard equipment with the trimmer, remove the head as described in the foregoing instructions and install blade as follows:

1. Position the centering flange of the top holder into hole of the blade. Make sure cutting edge is positioned as shown in inset in figure 7.

2. Position blade and top holder on drive shaft and install bottom holder with flat surface up as shown, start lock nut on drive shaft and hold flats of bottom holder with spanner while securely tightening the locknut. Refer to operational section for special instructions on using blades.

**CAUTION:** Never use blades other than genuine SNAPPER replacement blades. Differences such as mounting hole diameter and material hardness could be dangerous. Also, never attempt to install a blade with the trimmer head installed. Use the specific retaining hardware in sequence shown in figure 7.

**BLADE SHARPENING PROCEDURE:** Check blade for nicks and cracks and discard if any are found! Sharpen blade cutting edges as shown in inset of figure 7. Be sure to maintain radius at base of tooth to minimize chances of cracks developing in this particular area of the blade.

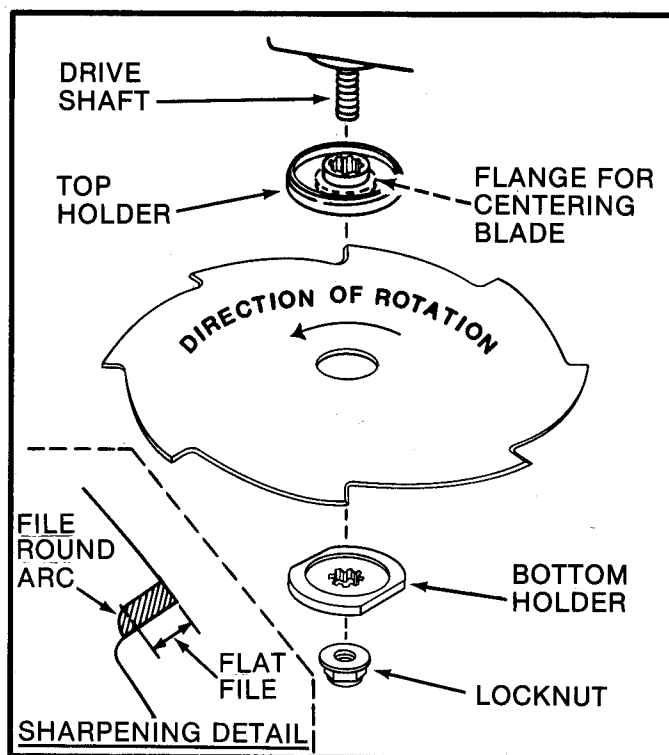


FIG. 7 - CUTTING BLADE INSTALLATION

## FUEL SYSTEM SERVICE

An all position diaphragm type carburetor is used on the model 410. The carburetor has a fixed main jet but has adjustable idle speed and idle mixture adjustments. Do not tamper with these adjustments. If the engine will not start, stalls at idle or stalls under rapid acceleration, and the cause is not due to the air cleaner or muffler, or fouled plug readjust the carburetor as follows. Refer to figure 4 for adjustment points.

1. With engine stopped, turn the idle mixture screw to the right until the needle bottoms lightly--do not force it closed. Turn it to the left 1-1/2 turns.

2. Start the engine and allow time for it to warm up. Check idle speed operation. If the engine stalls, turn the idle speed to the right 1/8 turn at a time until it idles properly. (NOTE: The trimmer head or blade should not move at idle speed.)

3. Test acceleration. If the engine stumbles or stalls, turn the idle mixture screw to the left 1/8 turn at a time until proper acceleration is achieved. Recheck idle speed setting and readjust as needed.

NOTE: Keep the carburetor free of gum formation by using only clean fresh fuel. Whenever possible, drain the fuel or run until the fuel tank is dry, particularly when the trimmer is to be stored for any length of time.

## MUFFLER SERVICE

Poor performance may be caused by build-up carbon in the muffler and exhaust port areas. Check only when engine is cold. Remove the screws securing the heat shield and muffler to the crankcase, pull the

muffler off and check exhaust area of cylinder. Use wire brush to remove carbon. Replace muffler if blocked with carbon or damaged. Replace exhaust gasket as needed before reassembling muffler to engine.

## OFF-SEASON STORAGE

Before storing the unit during the off-season or for any period where the unit will not be used for 30 days or more, preserve the unit by taking the following steps:

1. Run the engine dry of fuel or drain all fuel from the tank.

2. Remove the spark plug, squirt small amount of 2-cycle engine oil into cylinder, pull rope starter several times and reinstall the plug.

3. Place dust cover over unit and store in high area out of reach of children and dry shed protected from weather.

## MANUFACTURER'S 1 YEAR LIMITED WARRANTY

For 1 Year from purchase date for a non-commercial user, or for Ninety (90) days from purchase date for a commercial user, SNAPPER POWER EQUIPMENT, through any factory authorized service dealer, will replace for the original purchaser, free of charge, any part or parts found upon examination by the factory at McDonough, Georgia, to be defective in material or workmanship or both.

All transportation cost incurred by the purchaser in submitting material to an authorized service dealer for replacement under this warranty must be borne by the purchaser.

This warranty does not apply to parts that have been damaged by accident, alteration, abuse, improper lubrication, normal wear, or other cause beyond our control.

There is no other express warranty.

Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to 1 year from purchase date for non-commercial users, and for ninety (90) days from purchase for commercial users and to the extent permitted by law and all implied warranties are excluded. This is the exclusive remedy. Liabilities for consequential damages under any and all warranties are excluded.

Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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

WARNING: Use of replacement parts other than genuine SNAPPER parts may impair the safety of your product.

IMPORTANT: Please fill out the attached Snapper Product Registration Card and mail to:

**SNAPPER POWER EQUIPMENT, McDONOUGH, GEORGIA 30253**



**SNAPPER POWER EQUIPMENT**  
McDonough, GA • 30253

