

The Green Machine®

ASSEMBLY AND OPERATING INSTRUCTIONS

MODEL 1930 MODEL 1940

MODELS:	PG. NO.	SERIAL NO.		PG. NO.	SERIAL NO.
1910 POWER UNIT	1	<input type="text"/>	2331 STRING TRIMMER		<input type="text"/>
1930 STRING TRIMMER		<input type="text"/>	2371 STRING TRIMMER/ BRUSH CUTTER		<input type="text"/>
1940 STRING TRIMMER/ BRUSH CUTTER		<input type="text"/>	2351 EDGER		<input type="text"/>
			2361 POWER BLOWER		<input type="text"/>
			2371 CULTIVATOR		<input type="text"/>
			2381 SNOW THROWER		<input type="text"/>

To ensure maximum performance and safe operation, read and understand this manual before operating unit.

WARRANTY CERTIFICATE

TWO (2) YEARS CONSUMER — LIMITED WARRANTY — 45 DAYS COMMERCIAL

HMC warrants THE GREEN MACHINE® to be free from defects in material and workmanship under normal use for a period of two (2) years from date of purchase when used by the consumer for residential home use, or 45 days from date of purchase when used commercially.

Should THE GREEN MACHINE® product fail within the warranty period due to defective parts or workmanship, just return the unit transportation prepaid to either (1) the retailer who sold it to you or (2) to your regional distributor, whose address is available from your retailer or (3) directly to The HMC Factory Service Center, 20710 South Alameda Street, Long Beach, California 90810, U.S.A. HMC will, at its option, repair or replace the unit at no charge. HMC assumes no obligation to pay the registered owner a cash refund under any circumstances.

Please return the enclosed warranty card within ten (10) days after purchase. If we do not have the warranty card on file we will require other proof of purchase before completing the repairs. This warranty only extends to the original purchaser of the product.

This warranty does not apply if the product has been misused or used contrary to the instruction manual, or if it has been repaired or altered by anyone other than an HMC authorized service center.

This warranty applies only to parts or components which are defective and does not cover repairs necessary due to normal wear, misuse,

accidents, or lack of proper maintenance. Regular, routine maintenance of the unit to keep it in proper operating condition is the responsibility of the owner.

HMC IS NOT LIABLE FOR INDIRECT OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE USE OF THE PRODUCT INCLUDING ANY COST OF PROVIDING SUBSTITUTE EQUIPMENT DURING PERIODS OF MALFUNCTION.

Some states of the U.S.A. do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.

THE GREEN MACHINE® will perform as indicated in the instruction manual and in the accompanying literature. Your retailer may have sold you the machine with a promise that it would handle a particular task. You may return the machine to him if it does not perform that specific task, but we cannot be responsible for promises which are beyond the scope of the above instruction manual or literature.

THERE ARE NO EXPRESS WARRANTIES OTHER THAN AS CONTAINED IN THIS STATEMENT, AND ANY IMPLIED WARRANTIES SHALL EXPIRE 90 DAYS AFTER DATE OF PURCHASE. Some states of the U.S.A. do not allow limitations on how long an implied warranty lasts, so the above limitations 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.

CAUTION
READ OPERATING
PRECAUTIONS

WARNING
ALWAYS WEAR RECOMMENDED
SAFETY EQUIPMENT AND CLOTHING
KEEP BYSTANDERS AWAY FROM WORK AREA AT ALL TIMES.

CAUTION
READ PRECAUTIONS
WHEN REFUELING



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GM767 10-87

FORWARD

We are pleased that you have chosen a Green Machine product to assist you with your work. Your Green Machine product was assembled using the latest manufacturing methods and materials to bring you a product of the highest quality.

This Owner's Manual is provided to aid you in the proper assembly and the safe, reliable operation of your new Green Machine. Read it and become thoroughly familiar with the proper operating procedures **before you first use this product**. Make sure anyone who operates your Green Machine product is fully acquainted with the proper operating procedures. Careful assembly, safe operation and proper maintenance in accordance with this Owner's Manual will provide you with maximum performance and product life.

SAFETY AWARENESS

Whenever you see the symbols shown below, be sure to read and understand their instructions! Always follow safe operating and proper maintenance practices.



WARNING: This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury or loss of life.

CAUTION: This caution symbol identifies instructions or procedures which, if not strictly observed, could result in damage to or destruction of equipment.

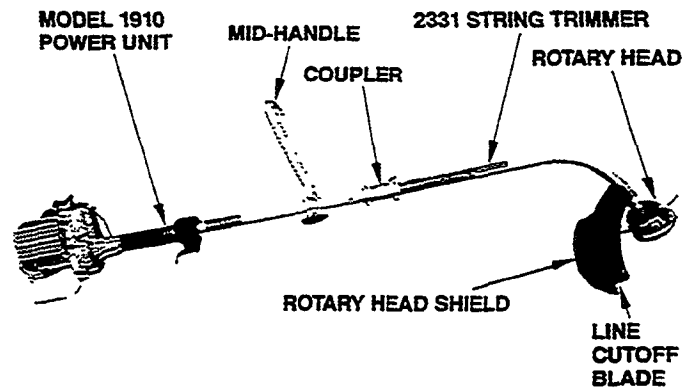
NOTE: Indicates points of particular interest for more efficient and convenient operation.

IMPORTANT: Each Power Unit and all attachments are labeled with a serial number. During use of the unit there's a possibility of these numbers being scratched, destroyed or in some other means made illegible. For your convenience HMC has provided a space on the front page of this manual in which to record your serial numbers. Please record your numbers in the spaces provided; this will speed up ordering parts for your unit and/or reordering a new attachment from your retailer, distributor, or HMC Factory Service Center.

All information contained in this manual is based on the latest product information available at the time of publication. The right is reserved to make changes at any time without prior notice and without incurring an obligation to make such changes to products manufactured previously. See your authorized Green Machine Dealer for the latest information on product improvements incorporated after this manual was issued.

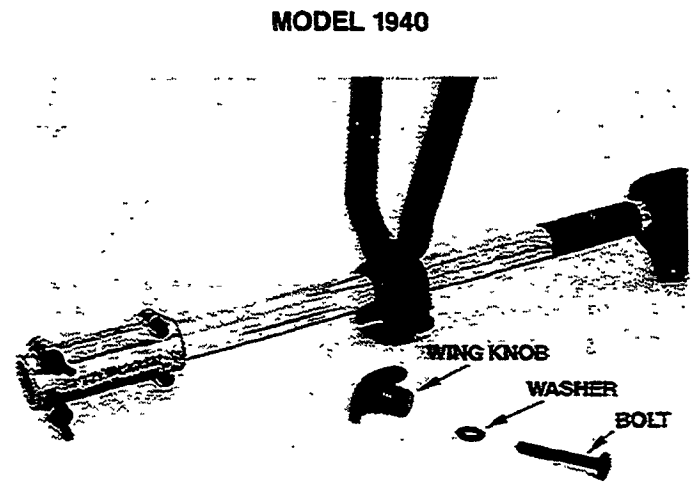
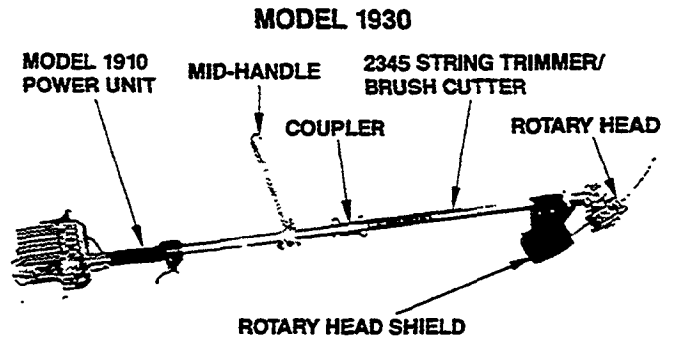
1. ASSEMBLY:

- Snap mid-handle over shaft tube (top of handle should angle back toward engine). Install bolt, washer and wing knob (Fig. 1).
- Position handle for operator comfort, and tighten wing knob securely.
- Install rotary head shield (Fig. 2). **NOTE:** Head shield **must** be installed to prevent driveshaft failure due to excessive line length.



2. ATTACHING LOWER UNIT:

- All the lower units (2331, 2345, 2351, 2361, 2371, 2381) connect to the power unit the same way, by means of the driveshaft coupler device attached to the power unit driveshaft tube (Fig. 3).
- First, loosen the two wing screws near the open end of the coupler. It is not necessary to remove them or loosen the other (2) two screws.
- Position the slot of the lower tube as shown in Fig. 3 and slide the lower unit into the coupler until the tubes of the power unit and the lower unit solidly meet within the coupler. By looking through the sight hole (Fig. 4) in the side, you should see both tube ends are butted together before retightening the wing screws. The inner driveshafts will align themselves.
- For changing lower units or breaking down for storage, follow the sequence in reverse.



CAUTION: Use extreme care when installing head shield. Cut-off blade is very sharp, and careless handling could result in serious injury on the Model 1930.



WARNING: Always wear approved eye protection. Keep bystanders at least 50 feet away. Never use any type of blade on the Model 1930.

Fig. 1

WARNING

HAZARD ZONE FOR THROWN OBJECTS IS 50 FEET. TRIMMER LINE THROWS OBJECTS VIOLENTLY YOU OR OTHERS CAN BE BLINDED OR INJURED. WEAR EYE AND LEG PROTECTION. NEVER USE BLADES WITH THIS TOOL. BLADES CAN COME OFF AND SERIOUSLY INJURE YOU AND OTHERS.

READ OPERATORS MANUAL. FOLLOW ALL WARNINGS AND INSTRUCTIONS. FAILURE TO DO SO CAN RESULT IN SERIOUS INJURY. KEEP PEOPLE AND ANIMALS 50 FEET AWAY.

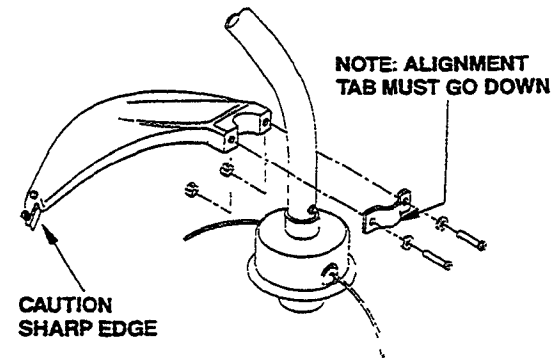


Fig. 2

CAUTION: Be certain wing screws are fully tightened before operating equipment and they should be periodically checked for tightness during use.

3. SUPPLYING FUEL:

- Fill the fuel tank with fuel to $\frac{7}{8}$ full, using a mixed fuel of gasoline and 2 cycle air cooled engine oil.
- HMC recommends using **One-Mix**[®] in its Green Machine products. When using **One-Mix**[®], it is not necessary to figure fuel mixture (oil to gasoline) ratio. Simply mix one packet of **One-Mix**[®] to one U.S. gallon of regular leaded or unleaded gasoline.
- **Special Note: Never use gasohol. If gasohol is used, engine warranty will be voided. To test for alcohol content in gasoline, an inexpensive gasohol tester kit is available, order part #27339.**
- If you do not wish to use **One-Mix**[®], you must then make certain of a proper oil to gasoline ratio.
- When any oil other than **One-Mix**[®] is used, you must use a ratio of 25:1 (25 parts of gasoline to one part of oil) i.e., 5.12 oz. of oil mixed in one U.S. gallon of gasoline.
- Always thoroughly mix the oil and the gasoline by mixing vigorously to insure thorough blending. There are countless small 2 cycle engines destroyed each year because of improperly mixed oil and gasoline.

Econo Pack	Mixes 1 Gallon of Fuel
Pro Tube	Mixes 1 Gallon of Fuel
8 oz. bottle	Mixes 2½ Gallons of Fuel
32 oz. bottle	Mixes 10 Gallons of Fuel
128 oz. bottle	Mixes 40 Gallons of Fuel



WARNING:

1. Never smoke when refueling or refuel in an area with open flame (such as water heater pilot light). Gasoline vapors spread rapidly and are highly explosive.
2. Always stop engine and wait for it to cool before refueling.
3. Clean up any spills and dispose of clean-up materials.
4. After refueling, move to another area for starting.
5. Never over fill. Fill tank only $\frac{7}{8}$ full to avoid spillage.

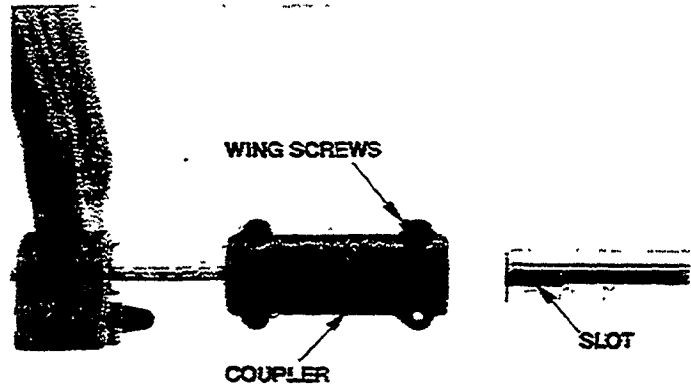


Fig. 3

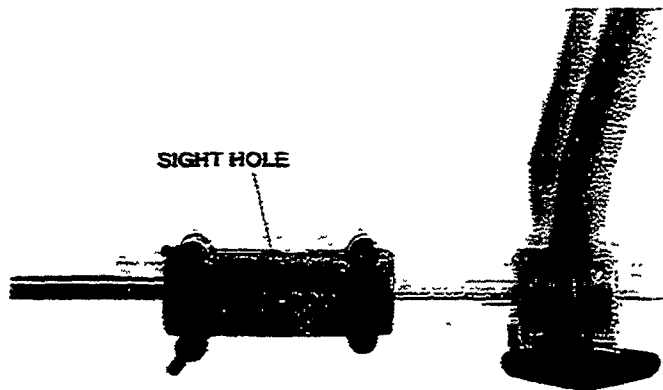


Figure 4

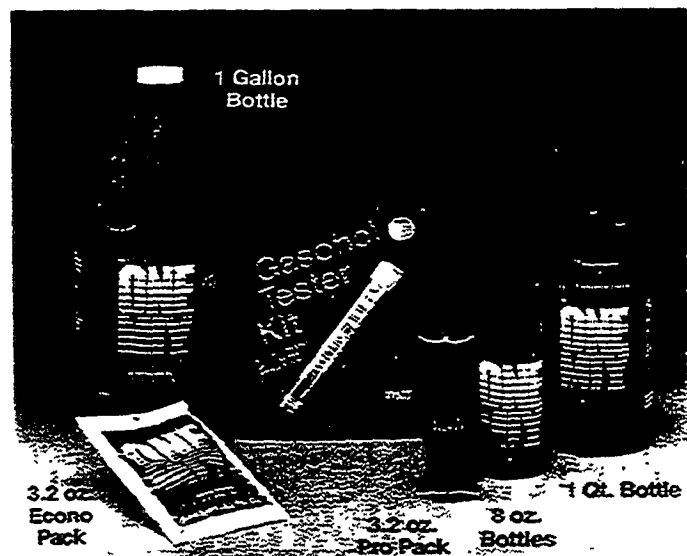


Figure 5



- Before each use, inspect complete unit for loose, damaged or missing parts. Correct before using.
- Always wear approved eye protection (safety goggles) when operating unit.
- When operating unit do not wear loose fitting clothes. Always wear long pants.
- Never operate unit while barefoot or wearing open sandals.
- Keep bystanders at least 50 ft. away at all times.

4. STARTING THE ENGINE WHEN COLD (INITIAL ENGINE STARTING)

- Push the primer pump until fuel flows through the clear plastic return line (Fig. 6 and 7).
- Place choke lever in the start position (Fig. 7).
- Pull starter rope slowly, until engine compression is felt.
- Lock throttle in the start position as shown (Fig. 9). Pull the starter in short rapid strokes until engine starts.
- **Avoid pulling the rope to its full extension as starter failure could result.**
- Once the engine has started, slowly return the choke lever to its run position.
- Return the throttle lever to its idle position.
- Always allow the engine to run 1 to 2 minutes at idle for warm up before starting work.
- **Special Note: Never start unit on the ground by using your foot, knee, or hand, to push down while pulling up on the rope. This will cause the driveshaft (internal) to become bent and then break. Never allow the starter rope to snap back (Fig. 8).**

5. STOPPING ENGINE

- Return throttle lever to its idle position, and allow the engine to idle for a short period (approx. 30 sec.). This allows the engine to cool down.
- Push in and hold the red stop button until the engine comes to complete stop. (Fig. 7)

6. GENERAL MAINTENANCE AND ADJUSTMENTS

- The Green Machine® engine has been adjusted at the factory for optimum performance and fuel consumption. However, varying atmospheric and climatic conditions may require some minor adjustment for your area. These adjustments should be made by your authorized Green Machine service dealer.

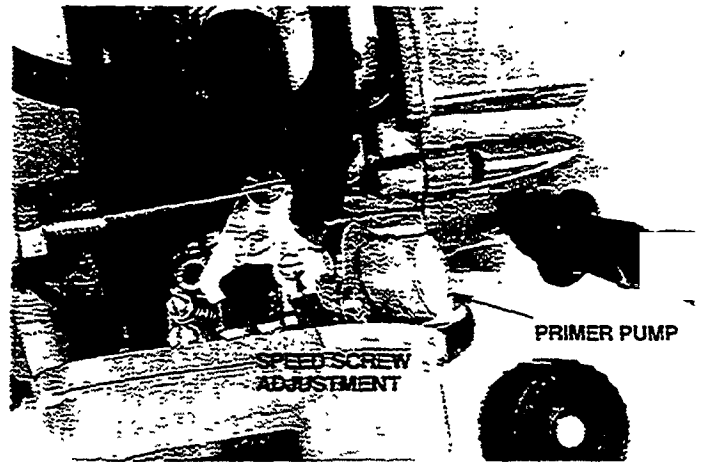


Figure 6

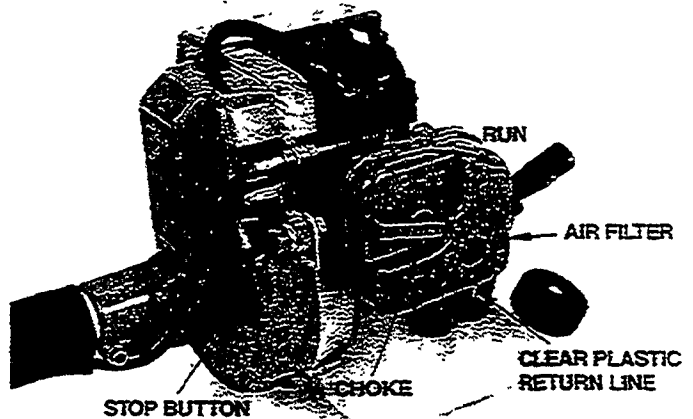


Figure 7



Figure 8

- However, if the idle speed seems too low or the engine dies at idle then the idle speed may be increased by turning the idle speed screw clockwise or decreased by turning counterclockwise (Fig. 6).
- Daily or before each use, carefully inspect complete unit for loose, damaged or missing parts. Check for fuel leaks, correct before use. Clean and dry after each use.
- **Special note:** All adjustments should be made when engine is at operating temperature, and with the proper line size (.080) at its maximum operating length (6 inches).

7. MAINTENANCE (30-hour service)

- Remove air filter element from carburetor cover.
- Wash filter in kerosene, cleaning solvent or detergent and squeeze dry.
- Place a small amount of SAE 30 engine oil on filter element and squeeze element to spread oil. Reinstall filter.
- **Special note:** Any time flexible driveshaft is removed from outer housing, it should be cleaned and regreased. **Note: Do not use a graphite grease. DO NOT REVERSE DRIVESHAFT. USE GRADE NO. 2 GREASE.**
- Remove and inspect spark plug. Clean and regap (.025 in.) if needed. When replacing spark plug, use **Champion DJ8J or NGK BM6F.**
- Clean and service air filter (after cleaning put small amount of engine oil on sponge and squeeze out excess) (Fig. 10).
- Check fuel filter in tank and clean if needed.
- Remove cylinder cover and clean out all dust, dirt, and foreign material.

8. BEFORE EACH USE.

- Inspect air cleaner for cleanliness.
- Make sure there is no fuel leaking. Correct before using.
- Make sure all air passages are free of dirt, or other foreign material.
- Make sure head shield is in place and in good working order.
- **Caution:** Do not use line size greater than .080 diameter.

9. CUTTING TECHNIQUE

- Hold unit so rotary head is at a 30° angle to the ground. Use only the very tip of the nylon line for cutting (Fig. 11).

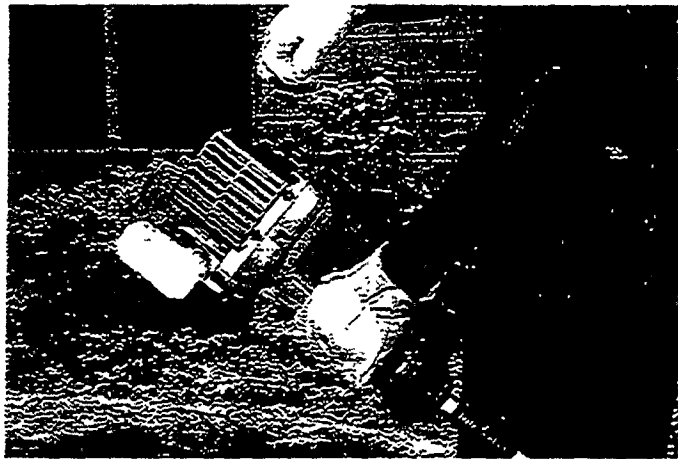


Figure 9

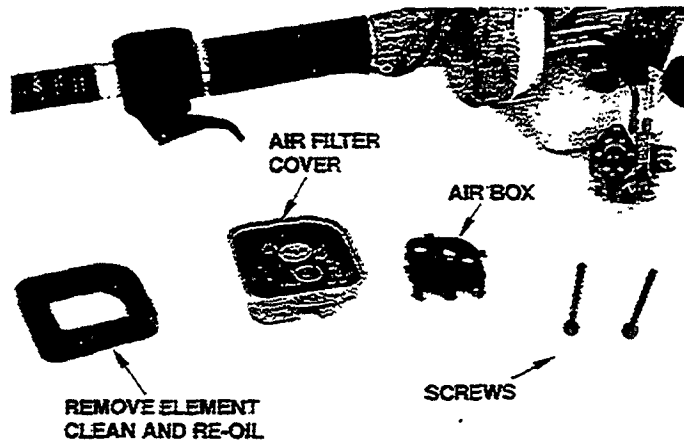


Figure 10



Figure 11

- **MODEL 1930:** Cut from right to left, with engine running at full throttle. **MODEL 1940:** Cut from left to right, with engine running at full throttle.
- Do not attempt to trim with line length past the cut-off blade (Fig. 12).
- **Note:** As the cutting line wears down, engine speed will increase. Allowing engine to run at excessive speed (3 inch cutting line or less) for a prolonged period will shorten engine life.

10. EXTENDING LINE

- With engine running at full speed, lightly tap (Do not pound) the rotary head on the ground. Line will advance approximately $\frac{1}{2}$ inch per tap. When you hear the line making contact with the cut-off blade, stop tapping. Never attempt to trim with line past the cut-off blade. When tapping for line, it should be done on bare ground or hard surface.
- **Note:** The cutting line will not extend automatically if it is worn too short. You should extend the line before it is worn to 3 inch length.
- With engine stopped line can be advanced manually by turning the unit over so you are facing the bottom of the rotary head (Fig. 13). While pulling outward on one of the cutting lines, push in on the spool. When the line stops, release the spool and continue pulling the line. Keep repeating this procedure until the desired amount of line is extended.

11. TO REPLENISH LINE SUPPLY

- Remove head cap by pushing in on one of the holding tabs (Fig. 14) and lifting the head cap. Once both tabs have released, remove cap and lift out spool.
- **Note:** Before reassembly, be sure to clean all dirt, dust and grass out of the head and spool.
- Cut one length of .080 "GREEN LINE" approximately 16 ft long.
- **Caution:** Never use line that is greater than .080 in dia.
- Loop the line through holes in the spool (Fig. 15) and pull out evenly.
- Holding the spool upside down, feed the line on by rotating the spool counterclockwise (Do not wind line, rotate spool!).

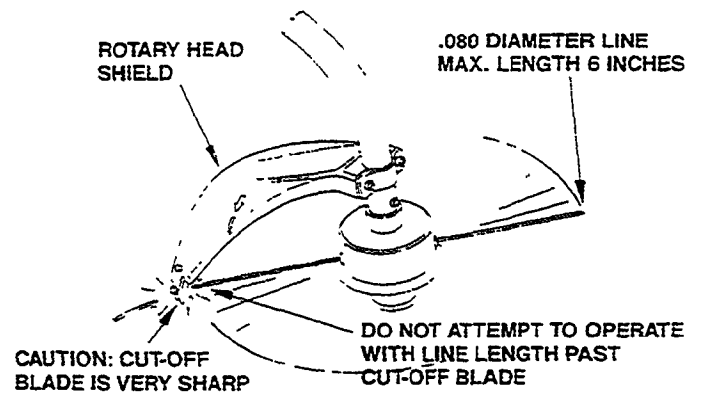


Figure 12

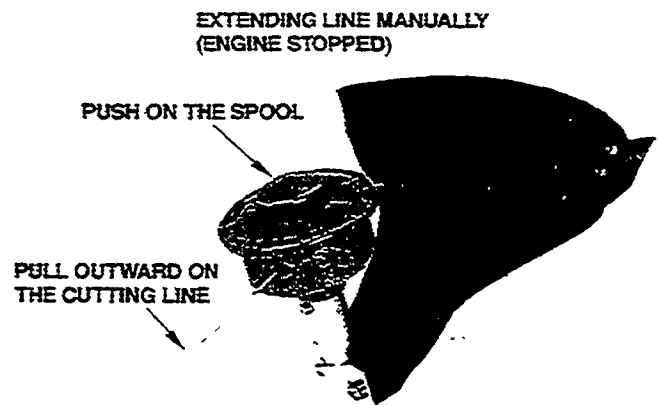


Figure 13

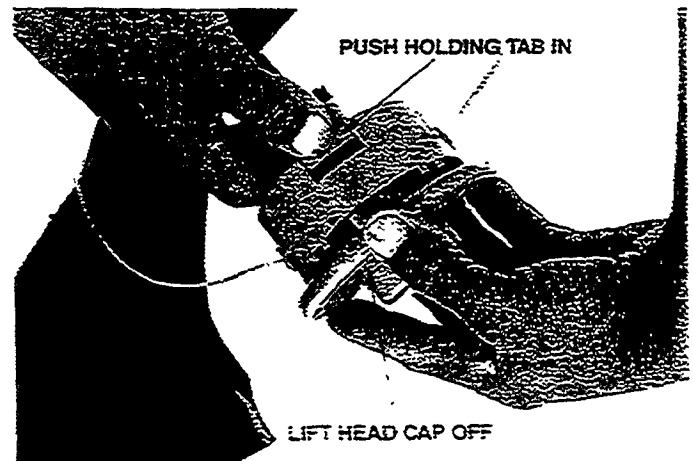


Figure 14

- Insert each line into its respective linesaver, and place spool into the head body (Fig. 15). **Note: Do not allow lines to slip beneath the spool.**
- Align locking tabs on head cap with their respective slots (Fig. 16), and push cap down until it locks in place.

• **Note: TFC cutting head instructions, assembly and dis-assembly apply to both models 1930 and 1940.**

12. STORAGE

- If unit is to be stored or unused for an extended period (30 days or more), clean the exterior thoroughly and apply a thin coat of oil to all metal surfaces to prevent rust or corrosion.
- Empty all fuel from tank and run engine dry.
- Remove spark plug. Turn engine upside down, and inject a small quantity of oil into the cylinder. Pull the starter rope two or three times to distribute the oil, then reinstall the spark plug.
- Store unit off the ground in a dry area.

ROTATE SPOOL COUNTERCLOCKWISE

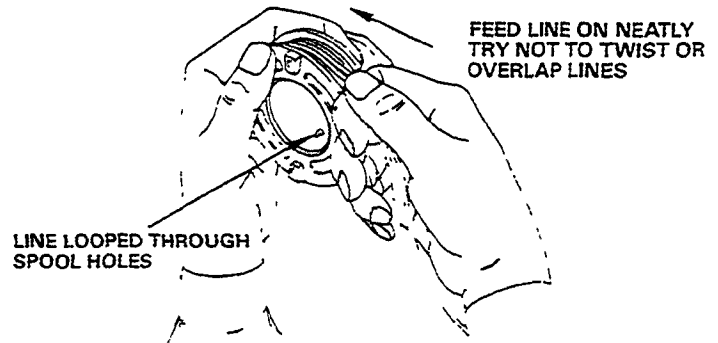


Figure 15

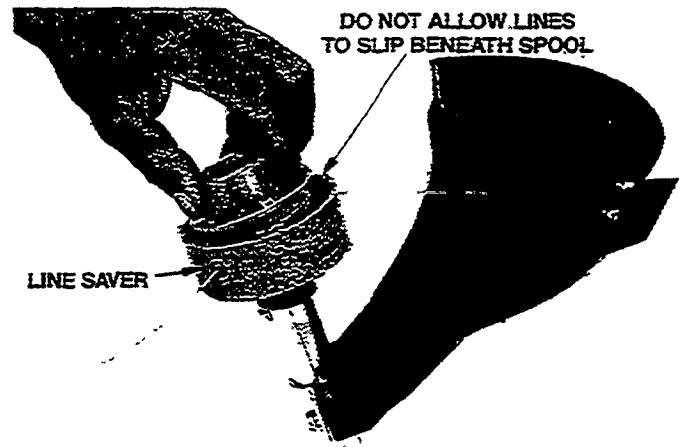


Figure 16



SAFETY:

- Before each use, inspect complete unit for loose or missing fasteners or parts. If found, correct before using.
- Always wear approved eye protection (safety goggles) when operating unit.
- When operating unit do not wear loose fitting clothes. Always wear long pants and long sleeve shirt.
- Never operate unit while bare foot or wearing open sandals.
- Always trim from right to left (Trimming left to right cuttings will be thrown towards operator).
- Never use any type of blade (MODEL 1930).
- Never operate without head shield.
- Keep bystanders at least 50 ft away.

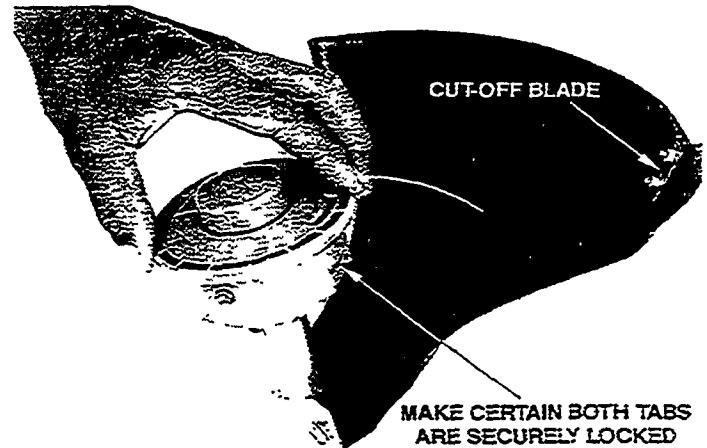


Figure 17

2345 STRING TRIMMER/BRUSH CUTTER

1. ASSEMBLY:

- Using the tools shown (Fig. 19), remove the bolt (left hand thread), star washer, and flat washer at the bottom of the gearcase.

Note: Save bolt and washers as they are needed when using brush or saw blades.

- While holding holder (B) with large spanner wrench, thread rotary head onto gearcase as shown (Fig. 20). Tighten rotary head as tight as possible by hand.
- Install the blade guard/head shield using the hardware supplied (Fig. 21).
- **Note:** The flat washers must be installed on the bottom side of guard.

CAUTION: Never operate without blade guard/head shield in place and keep bystanders at least 50 ft. away.

- To install brush or saw blades:
Remove bolt (LH), star washer and small flat washer at the bottom of gear case (Fig. 22).
- Remove holder (B) and place blade on holder (A) making sure that arbor hole in blade is centered on the arbor embossment on holder (A).
- Install holder (B) making sure that the splines line up and holder is completely seated.
- Re-install small flat washer, star washer, and bolt (note bolt is left hand thread) and is turned counterclockwise to tighten (Fig. 22).



(lower unit only)

- **Special Note**
Take special care when installing blades, as the cutting edge and/or points of the blade are very sharp. Make sure tools used are properly seated on their respective bolt or holder, and you have a firm grip on the tools.
- The blade rotation is clockwise (when viewing from below) so cutting edge of blades must face in that direction.
- Connect the **STRING TRIMMER/BRUSH CUTTER** lower unit to the power unit as outlined under "attaching lower unit." (Page 1.)



(with power unit)
Figure 18

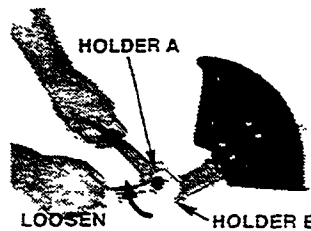


Figure 19



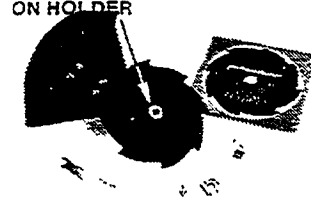
Figure 20



Figure 21



BLADE MUST BE CENTERED ON HOLDER



BLADE BOLT (L.H.)



TIGHTEN ROTATION

Figure 22



WARNING:

Blade Use

- Extreme care must be taken when using brush or saw blades to insure safe operation.
- When the blades hit a hard object a serious side-ward kickback could occur.
- Never attempt blade work without first inspecting and clearing the area of unseen objects such as concrete, fencing, wire, wood, metal, etc.
- Never use blades near sidewalks, fences, posts, buildings or other immovable objects.
- Use the brush and saw blades only for that cutting which is recommended. Brush blade brush up to 3/8 in. diameter. Saw blade tree limbs up to 3 in. diameter.
- Never use a blade after hitting a hard object without first inspecting it for bent cutters and cracks. Do not use if either condition is found.
- Use only Green Machine blades No. 92100 Brush or No. 92115 Saw. Do not use crosscut blade.
- Always use shoulder harness whenever blades are used.

Have professional re-sharpen your blade or saw.

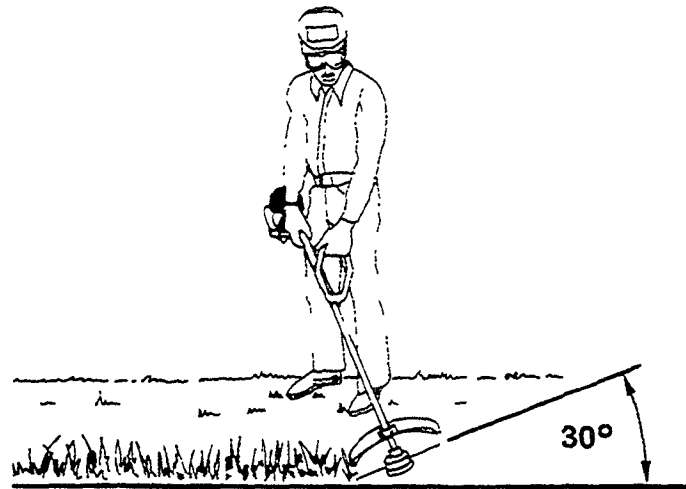


Figure 23

WARNING

<p>BLADE COASTS AFTER THROTTLE RELEASE WITH PROPER RPM ADJUSTMENT BLADE COULD COAST UP TO 15 SECONDS</p> <p>WARNING: THE COASTING BLADE COULD INJURE YOU OR OTHERS</p>	<p>HAZARD ZONE FOR THROWN OBJECTS IS 50 FEET</p> <p>BLADE AND/OR TRIMMER LINE CAN THROW OBJECTS VIOLENTLY</p> <p>YOU OR OTHERS CAN BE BLINDED OR INJURED</p> <p>WEAR EYE AND LEG PROTECTION</p>	<p>BLADE CAN THRUST VIOLENTLY AWAY FROM MATERIAL IT CAN NOT CUT</p> <p>BLADE THRUST CAN CAUSE AMPUTATION OF ARMS OR LEGS</p> <p>KEEP PEOPLE AND ANIMALS 50 FEET AWAY</p>
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2. CUTTING TECHNIQUE:

- Hold unit so the rotary head is at an approx. 30° angle to the ground (Fig. 23).
- Allow the very tip of the line to do the cutting.
- Always operate unit with the correct line size (.080 dia.).
- Always use correct line length (max. 6.0, min. 3.0 inches).
- **Note:** As the cutting line wears down, engine speed (RPM) will increase. Allowing engine to run at high RPM (3 inch cutting line or less) for a prolonged period will shorten engine life.
- Cut from left to right with the engine at full throttle. so that clippings will be thrown away from you (Fig. 23).

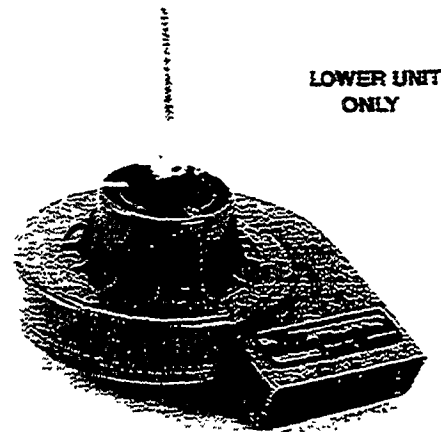


Figure 24

2361 POWER BLOWER

1. ASSEMBLY:

- This lower unit is fully assembled at the factory and requires no further assembly.
- Connect the power blower lower unit to power unit as outlined under "attaching lower unit" (Page 1).

2. OPERATION:

- Your power blower produces a strong air blast when operated at full speed and the amount of "air power" is directly controlled by the engine speed.
- So that you may become accustomed to the blower operation, start the engine (see "starting the engine") and let it warm up. At idle; you will find that no air is moving because the clutch is disengaged. As you gradually increase the engine speed to full, you will find that the "air power" increases also. You have a fully variable and controlled blast of air at your disposal.
- In many uses it is not necessary to use all the "air power" of your Blower and in fact is not advisable in some applications.
- When using the Blower in tight quarters such as corners of patios and garages, full speed is not usually required. A somewhat slower speed will do the same job effectively without the turbulence created by full speed operation. This turbulence only carries the blown material back into the corner and produces floating dust.
- The efficient use of the variable speed of your Blower will allow you to perform many sweeping tasks that were before very difficult and time consuming by conventional brooms and sweeping devices.
- You will find that it no longer is necessary to move objects to effectively clean around them. A simple blast from your Blower will move debris from those difficult to reach and often impossible to clean areas.
- The correct handling of your Blower is shown in (Fig. 25).
- The ground level air blast is ideal for practically all sweeping jobs. The many uses for your Power Blower can be left to your own imagination.
- **Note:** Do not drag or push it on the ground as the housings will wear quickly. Carry it slightly above ground level.



Figure 25



SAFETY:

- Before each use, inspect complete unit for loose, damaged or missing parts. Correct before use.
- Always wear approved eye protection (safety goggles) when operating unit.
- When operating unit do not wear loose fitting clothes. Always wear long pants.

(Continued on next page)



SAFETY:

(Continued)

- Never operate unit while barefoot or wearing open sandals.
- Keep bystanders at least 50 ft. away and never direct air blast towards any persons, animals or delicate objects.
- Keep air intake clear of debris.
- Always stay clear of air intake while blower is running.

3. MAINTENANCE:

- This lower unit is maintenance free except for an occasional check for debris that may have accumulated on top of the fan. A vibration during use is sure sign that something has become lodged in the fan. Stop the motor and remove it.
- **Note:** Do not remove the cable at any time as the Blower must be completely disassembled to install it.

2371 WEEDER CULTIVATOR

1. ASSEMBLY:

- Install the blades exactly as shown (Fig. 27-29). Incorrect assembly will cause the blades to loosen during use.
- **Note:** The blade plates must be assembled with the rounded edges facing into the blade and the word "out" facing away from the blade (Fig. 29).
- Tighten the blade bolts as tight as possible using method shown (Fig. 30).
- Connect the Weeder/Cultivator lower unit to power unit as outlined under "attaching lower unit" (Page 1).

CAUTION: Blades must be checked periodically for tightness. A loose blade will cause internal damage.

2. OPERATION:

- The Weeder/Cultivator will weed, cultivate and mix soil in difficult and hard-to-reach places with surprising accuracy and control. This tool provides a totally new time-saving method of weeding and cultivating that will enable you to work closely under and around trees, shrubs, flowers, sidewalks, and garden plants that once required the most careful manual work. As you learn the techniques of this new and versatile tool, more and more uses for it will arise.
- Always wet the soil (preferably the night before) when using your Weeder/Cultivator, as this will loosen the soil and make the job easier. **Remember, this tool is not a tiller for rock hard soil, but a cultivator intended for soil maintenance use.**

LOWER UNIT ONLY

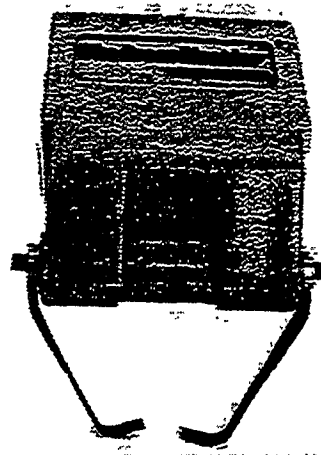


Figure 26

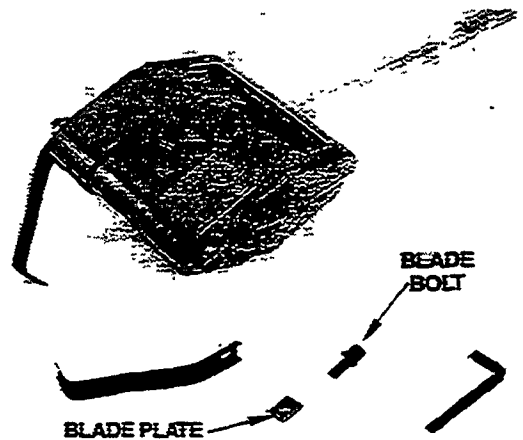


Figure 27



Figure 28

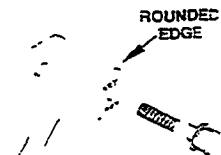


Figure 29

- The more water you apply to the work area, the looser and easier the soil will be to work. The blades of your Weeder/Cultivator will not become clogged, even in the wettest soil conditions.
- Your Weeder/Cultivator should be used much like you would use a gardening hoe except that this tool does the work for you. With the least amount of pressure on the mid-handle, the blades will dig themselves into the soil.
- Then pull the unit toward you while it is digging beneath the soil's surface (Fig. 31).
- At the end of the pulling stroke, lift it slightly out of the soil and reach forward to begin another stroke with the unit still running. It is not necessary to idle the engine after each pass.
- After each pass, move to the right or left to begin your next pass. Continue making passes in the same direction until you have covered the area you wish to work.
- Usually it takes two passes in the same path to thoroughly mix the soil and cut the weed roots, so your first pass may look as if you haven't mixed the soil at all. However, your first pass has cut the soil cleanly beneath the surface, including all the weed roots.
- For best cultivating results, your second pass over the soil should be at a perpendicular angle to your first pass. When you have made two passes over your work area in a crisscross pattern (Fig. 31), you have effectively mixed every inch of soil, and removed all the weeds at the same time.
- Your Weeder/Cultivator will effectively cultivate to a depth of 4¾" (120.6 mm). The action of the blades will bring any cut off weeds (and their roots) to the surface to be raked away, leaving a professionally manicured look to your flower beds or garden.
- Soil not cultivated for a period of time will be harder to work the first time. Regularly maintained soil will be much easier to cultivate and will give you the timesaving benefits of your Weeder/Cultivator.
- Allow your Weeder/Cultivator to do the work for you. Forcing it will only wear out the operator and shorten the unit's life expectancy.
- In nearly all types of soil, it is not necessary to use full engine throttle since the cutting action is so efficient. It is not recommended to operate full throttle as engine and drivetrain life will be shortened. Partial throttle will usually be sufficient.
- Your Weeder/Cultivator may also be used to dig noles for transplanting flowers or small trees. Simply hold the unit vertically and rotate the tool clockwise and counter-clockwise while applying downward force. The blades act as a mini post hole digger.

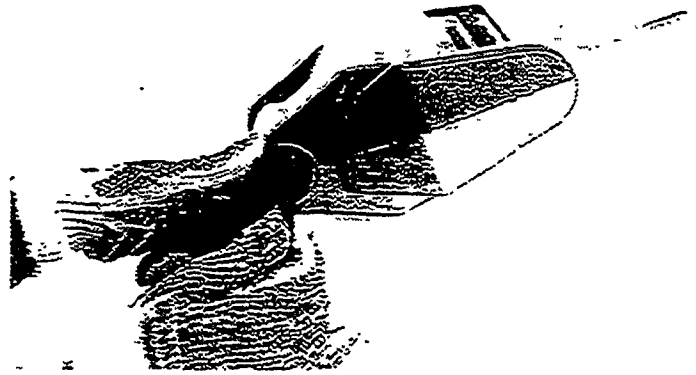


Figure 30



Figure 31

- Another use for your Weeder/Cultivator is a mini sod remover when making or enlarging flower beds or garden areas. After wetting the sod to be removed, place the unit into the sod, hold down firmly and pull the unit toward you like you would a hoe.
- You may also use the Weeder/Cultivator to maintain a neat edge along flower beds and gardens. In addition, the tool is ideal for mixing fertilizer, mulch or compost into the soil.

3. MAINTENANCE:

- The Weeder/Cultivator is internally lubricated at the factory and should not need service. However, if it is used daily or in extremely hard or dusty soil, it is recommended that new grease be supplied by first removing the four (4) upper cover screws, removing the cover and applying grease to the gears and other moving parts (Fig. 32).
- Before and during each use the blades should be checked for tightness. Loose blades will result in damage to internal parts. Check all fasteners.



SAFETY:

Never allow children to operate the Weeder/Cultivator. It is not a toy. Never allow adults to operate unit without first reading the Operator's Manual.

- Keep the work area clear of all persons, particularly small children and pets.
- Dress Properly — Do not wear loose clothes or jewelry. They can be caught in moving parts. Always wear substantial footwear and long pants.
- Always be sure of your footing; keep a firm hold on the handles and walk, never run.
- Stop the motor whenever you leave the Weeder/Cultivator, or when making any repairs or inspections.
- When not in use, store your Weeder/Cultivator in a dry place out of the reach of children.
- Keep all fasteners tight to be sure the Weeder/Cultivator is in safe working condition. Follow maintenance instructions provided in this manual.
- If the Weeder/Cultivator should start to vibrate abnormally or become noisy, stop the motor and check immediately for the cause. Abnormal noise is generally a warning of trouble.
- Do not operate your GREEN MACHINE after it has been dropped or damaged. Return it to your nearest authorized service dealer for inspection and repair.
Check the blade bolts for tightness before each usage.

2351 EDGER

1. ASSEMBLY:

- The edger lower unit is fully assembled at the factory when the unit is shipped with an engine. When the edger lower unit is shipped as an attachment, some assembly is required. Refer to assembly instructions included.
- Connect edger lower unit to power unit as outlined under "attaching lower unit" (Page 1)

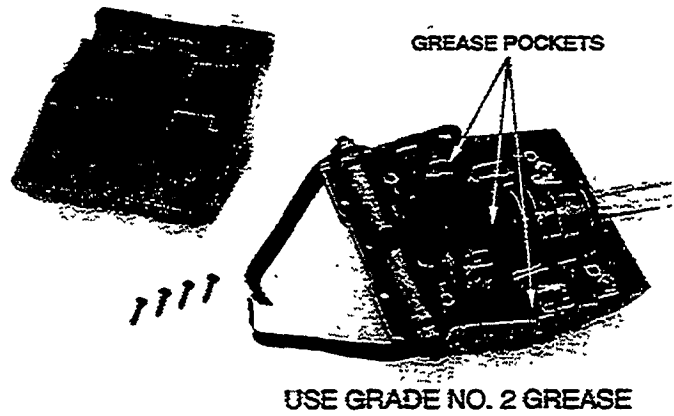


Figure 32



Figure 33

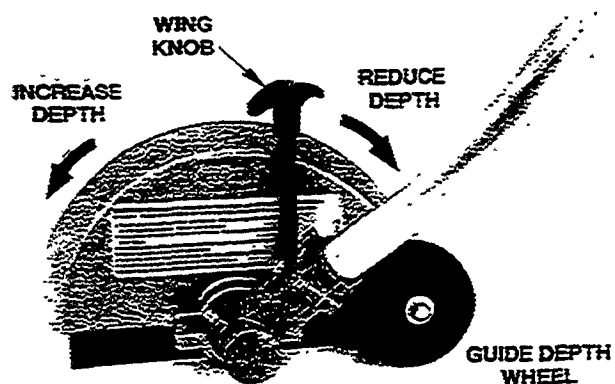


Figure 34

2. OPERATION:

- Before using your edger you should adjust the depth of cut by rotating the blade shield to which the guide/depth wheel is attached.



WARNING: Never adjust blade height with motor running.

- To adjust the blade's depth of cut, first loosen the wing knob as shown (Fig. 34).
- Rotating blade shield back (toward the operator) will reduce the cutting depth.
- Rotating forward will increase the blade's depth of cut (Fig. 34-35).
- The best depth setting is that which produces a fine cut line between sidewalk and grass with a minimum of blade depth (usually 1/2 inch of blade in the ground).
- Blade depth may have to be adjusted for each edging job due to different concrete to grass heights.
- It is not recommended to adjust the depth to its maximum where not needed. This will only make the edge work more difficult and shorten blade life.
- To begin edging, first determine which direction you wish to travel so that your walking will not be on the grass. Always operate from left hand side.
- Always survey the area of edging for obstacles and items that may be thrown. Remove both of these dangers before beginning.
- Start the engine and run at half throttle before putting blade into the ground. Gently lower the blade into the ground at the point you wish to start edging. Be careful not to hit the concrete (Fig. 36).



WARNING: Always use eye protection (safety goggles when edging. Always remove obstacles and throwable objects.

- Move forward as quickly as the blade and its cutting will allow. Don't force it; let the blade do the work.
- Use only as much engine speed as is needed to do the job. Overspeed will only shorten blade life.
- While edging, try not to allow blade to touch the concrete.
- The correct handling of your edger is shown in Fig. 36.
- **NOTE:** Sidewalk edges that have not been maintained may require more than one pass to obtain a clean cut. Periodic edging will keep the edge neat and make the job easier.

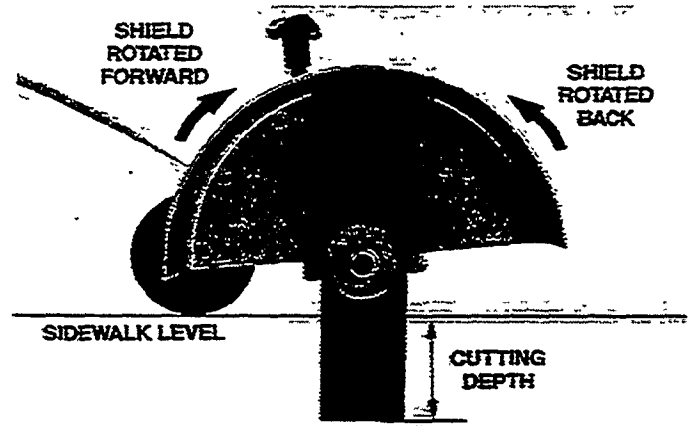


Figure 35



Figure 36

- It is recommended that a watering of the edge area be done to soften the ground sometime before edging.

3. MAINTENANCE:

- Before each use, inspect complete unit for loose or missing fasteners or parts. If found, correct before using.
- Replace blades as needed. Never wear blade shorter than 3 inches.
- Each 10 hours of use, the gearcase should be regreased by first removing the blade, blade holders and seal collar (Fig. 37).

CAUTION: Regreasing without removing blade and holders will cause gear and bearing damage.

- To replace blade or to regrease gearbox, first make certain engine is stopped. Fit spanner wrench supplied onto flats of holder B (Fig. 38).
- Using suitable wrench, loosen blade bolt by turning clockwise. NOTE: left hand thread.
- Remove blade and holders for regreasing.
- Remove only holder B and old blade if only blade is replaced.
- Install new blade onto holder A. Install holder B and bolt.
- Make certain blade is properly centered before tightening blade bolt.
- Turn counterclockwise to tighten blade bolt.
- Tighten securely.
- Rotate blade to see that blade tips don't touch blade shield at any point.

2381 SNOW THROWER

1. ASSEMBLY:

- Using a Phillips screwdriver, remove the two (2) screws holding the top cover (Fig. 40). Remove the cover.
- Slide the flex cable **partially** out of the non-slotted end of the tube and insert its square end into the drive gear of the snow thrower. Make certain the squares of the flex cable and the drive gear are engaged before proceeding (Fig. 40).
- Loosen the driveshaft clamp screw and remove the locking screw (Fig. 41).



Figure 37

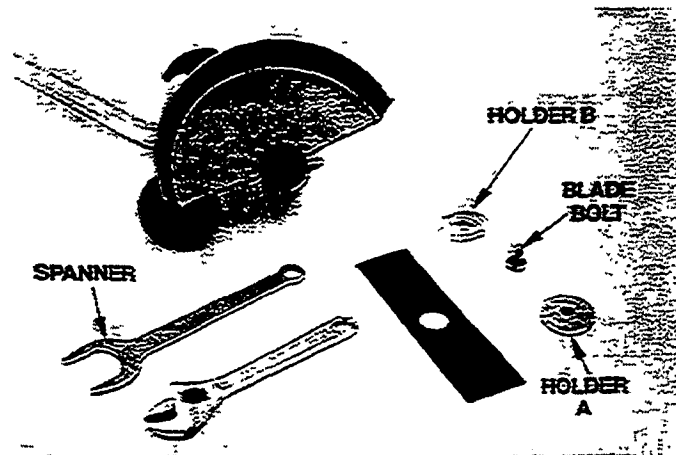


Figure 38



SAFETY:

- Never allow children to operate edger. It is not a toy.
- Always read and understand owner's manual before operation.
- Keep area of operation clear of all persons; inspect area for obstacles and throwable objects.
- Dress properly — Do not wear loose clothes or jewelry. They can be caught in moving parts.
- Never wear sandals or operate barefoot.

(Continued on next page)

- Slip the driveshaft tube into the gearbox as far as it will go and align the locking screw holes of the gearbox and the tube by looking into the screw hole and rotating the tube.

CAUTION: The lock screw holes must be aligned to prevent damage to the tube and to insure correct alignment of snow thrower to engine.

- Re-install the locking screw and tighten.
- Tighten the clamp screw securely, with the Allen wrench supplied (Fig. 41).
- **NOTE:** After assembly, the flex cable should not stick out beyond the slotted tube end. If it does, push the cable in as far as it will go (Fig. 42).
- Slide the top cover over the tube and into position by aligning the screw holes.
- Re-install and tighten the cover screws.
- Connect the snow thrower to power unit as outlined under "Attaching Lower Unit" on page 1.

2. OPERATION:

- Read and fully understand the Owner's Manual especially the sections concerning safety, handling and refueling.
- Survey the area you wish to clear to determine what direction to throw the snow and from what direction the wind is blowing. Always throw downwind to prevent light snow from falling on you.
- Start your snow thrower and place it in the snow in front of you. Tilt upward and push forward until you feel the scraper reach ground.
- Push the unit at an angle of approximately 45° to the path you wish to clear until you reach arms length. Lift it out of the snow, and return to your first starting point to make another pass, moving forward with each angular pass (Fig. 43).
- A 4–6 inch snow depth can be removed with one pass. If the snow is deeper, then remove the top 4–6 inches by "skimming" above the ground, then use additional lower passes to reach ground.
- When clearing large areas such as driveways, make one long pass the driveway's length; then work from the center to each side by pushing the snow thrower in front of you while walking.
- Don't force the snow thrower. Let it do the work for you; you will find the work much easier. Deeper snow will require more time but not necessarily more of your energy to move.



SAFETY:

(Continued)

- Wear long pants.
- Make certain motor is stopped whenever adjusting blade height or making repairs.
- Always wear safety goggles.
- Keep all fasteners tight to insure the edger is in safe working condition.
- Never operate without guard in place.
- Keep bystanders at least 50 feet away.
- Never operate near gravel or in especially rocky soil.
- Never operate with unit on operator's left hand side.

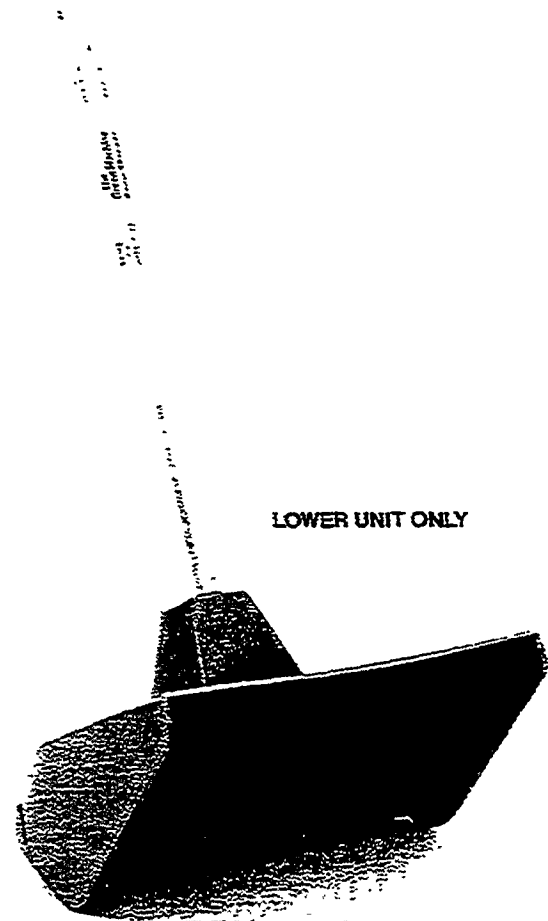


Figure 39

- Snow removal is easiest immediately after the snow has stopped falling or early day before it begins melting. The wetter the snow, the more difficult your job becomes.



SAFETY:

- Dress properly for cold wet weather and wear footgear that will provide good footing on slippery surfaces.
- Inspect the area to be cleared for covered "throwable" objects such as toys, sticks, wire, etc.
- Keep bystanders at least 50 ft. away at all times.
- Never throw snow towards windows, structures, autos, people or animals.
- Stay clear of discharge at all times. Stop the motor before any service.
- Be alert for hidden hazards and nearby traffic when clearing snow.
- Never use snow thrower on roofs or steep slopes.
- Always be sure your footing and balance are adequate for the work.
- Before each use and particularly if the snow thrower vibrates abnormally, stop the motor and inspect for loose, broken or missing parts. If found, the unit must be repaired before use.
- Never start or run the engine indoors.

3. MAINTENANCE:

- Follow the engine maintenance as outlined on page 3.
- Before each use inspect the entire unit for loose, missing or broken parts. Make all repairs before using.
- Should a rotor or the scraper become broken, return the snow thrower to your nearest Green Machine Dealer for service.

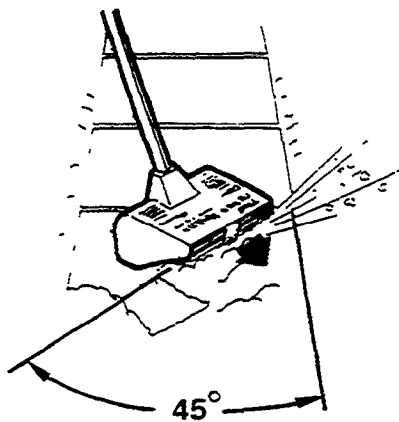


Figure 43

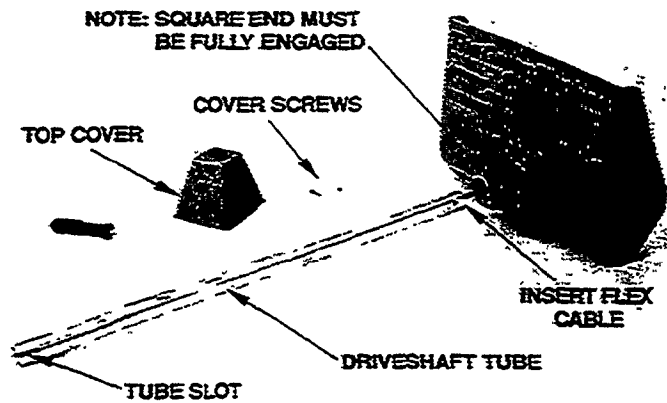


Figure 40

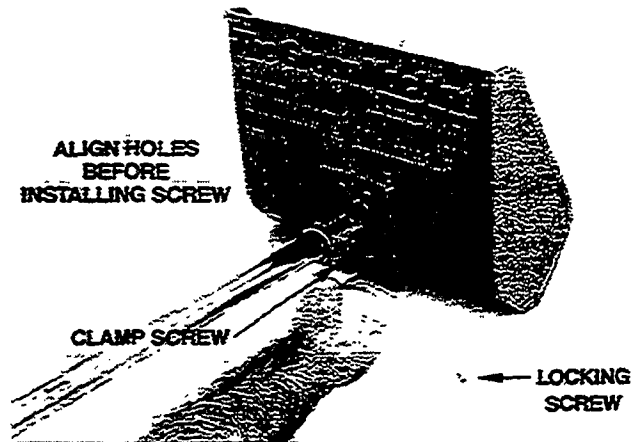


Figure 41

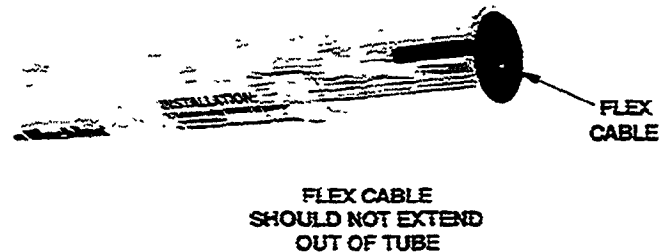


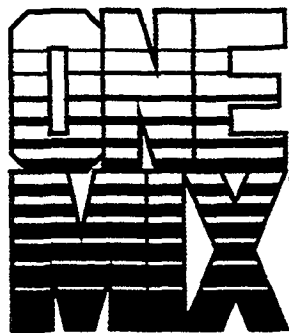
Figure 42

50,000 Dinosaurs gave their lives for ONE MIX®. In their honor, we make it the best it can be.



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**THE GREEN MACHINE®
TROUBLE SHOOTING CHART**

TROUBLE	POSSIBLE CAUSE	CORRECTION
FAILURE OF ENGINE TO START — NO SPARK 1. Failure located on the spark plug side	<ol style="list-style-type: none"> 1. The electrode of spark plug is wet 2. Carbon deposit sticks to the electrodes of spark plug 3. Poor insulation caused by crack, etc. of insulator 4. Undersize or oversize gap of the electrodes of spark plug 5. Burning of the electrodes of spark plug 	<ol style="list-style-type: none"> 1. Dry it 2. Clean it 3. Replace spark plug 4. Adjust the gap to 0.6mm 5. Replace spark plug
2. Failure located on the magneto side	<ol style="list-style-type: none"> 1. Coil burnout 2. Coil poor insulation 3. Cord coating breakage 4. Unit burnout 	<ol style="list-style-type: none"> 1. Replace coil 2. Replace coil 3. Replace or repair cord 4. Replace magneto
HAS SPARK 1. Proper compression and sufficient fuel	<ol style="list-style-type: none"> 1. Engine flooded 2. Use of improper fuel mixture 	<ol style="list-style-type: none"> 1. Discharge outward with recoil starter 2. Replace with proper fuel: 25:1 ONE-MIX®
2. Sufficient supply of fuel but compression is poor	<ol style="list-style-type: none"> 1. Heavy wear of cylinder, piston and piston ring 2. Loose spark plug 	<ol style="list-style-type: none"> 1. Replace all worn parts 2. Tighten
3. No supply of fuel to the carburetor	<ol style="list-style-type: none"> 1. Fuel tank is empty 2. Loose fuel hose fitting or loose carburetor 3. Filter clogging 4. Fuel is available in the tank, however, fuel does not reach the carburetor 5. Air vent in the fuel tank clogging 	<ol style="list-style-type: none"> 1. Refill the fuel tank 2. Tighten fuel lines or carburetor 3. Clean or replace filter 4. Refer to the starting procedure 5. Clean it
POWER IS NOT SUFFICIENT 1. Compression of engine is normal and there is no misfiring	<ol style="list-style-type: none"> 1. Air cleaner clogging 2. The muffler is plugged with carbon 3. Air leakage through the pipe fitting, etc. 4. Fuel passage clogging 5. Water is mixed in fuel 	<ol style="list-style-type: none"> 1. Clean 2. Clean the muffler or replace 3. Tighten the fitting securely 4. Clean 5. Replace with proper fuel
2. Overheating is observed	<ol style="list-style-type: none"> 1. Excessive lean fuel mixture 2. Use of improper mixed oil 3. Carbon deposit 4. Fan cover, cylinder fin, etc. are stuffed with dirt 5. Forced operation 	<ol style="list-style-type: none"> 1. Adjust and clean carburetor 2. Replace with 2-cycle ONE-MIX® 3. Clean 4. Clean and remove dirt 5. Operate properly
3. Knocking noise is heard	<ol style="list-style-type: none"> 1. Cylinder overheat 2. Use of improper fuel 3. The combustion is covered with carbon deposits 	<ol style="list-style-type: none"> 1. Adjust carburetor, clean cylinder fin 2. Replace with proper fuel: 25:1 ONE-MIX® 3. Clean the combustion chamber
4. Air Suction	<ol style="list-style-type: none"> 1. Loose carburetor 2. Loose fuel pipe 	<ol style="list-style-type: none"> 1. Tighten 2. Insert firmly
ENGINE RUNS BUT TOOL WILL NOT PERFORM	<ol style="list-style-type: none"> 1. Lower tool not fully engaged in coupler. 	<ol style="list-style-type: none"> 1. Refer to owners manual for proper assembly or see authorized service dealer for assistance.
ENGINE STOPS WHILE IN OPERATION 1. Engine stops abruptly	<ol style="list-style-type: none"> 1. Defective stop button 2. Dislocation of plug cap 3. The piston shows score surface with indication of seizure 4. Short circuit of spark plug electrode due to carbon deposit 5. Failure of proper functioning of magneto 	<ol style="list-style-type: none"> 1. Replace 2. Fix firmly 3. Repair or replace 4. Clean 5. Disassemble and replace necessary parts
2. Engine stops gradually	<ol style="list-style-type: none"> 1. Empty fuel tank 2. Inside carburetor clogging 3. Fuel tank clogging 4. Water is mixed in fuel 	<ol style="list-style-type: none"> 1. Refill 2. Disassemble and clear. 3. Disassemble and clean breather 4. Replace with proper fuel
ENGINE WILL NOT STOP WHEN TURNED OFF	<ol style="list-style-type: none"> 1. The extreme end portion of ignition plug is red-heated 2. Broken stop button 	<ol style="list-style-type: none"> 1. Clean or replace spark plug and adjust the gap to 0.6 mm 2. Replace worn part
SHAFT VIBRATES	<ol style="list-style-type: none"> 1. Cord is not in balance — both cords not of same length 2. Cord is worn out 3. Nylon cord head is bent 4. Saw or Brush blade not centered on Holder A 5. Grease or oil has gotten into clutch assembly (clutch housing) 6. Lower gear case is out of grease 	<ol style="list-style-type: none"> 1. Equalize cord length at 6 inches 2. Same as #1 3. Replace arbor post 4. Re-center blade on holders 5. Clean clutch shoes and drum 6. Grease gear case — 30 operating hours