



MODEL NO. 51652 - 1000001 THRU  
2000001 & UP

# OPERATOR'S MANUAL

## TC3105 GAS TRIMMER



## SAFETY INSTRUCTIONS

To ensure maximum safety, best performance, and to gain knowledge of the product, it is essential that you or any other operator of the trimmer read and understand the contents of this manual before the motor is ever started. Pay particular attention to the safety alert symbol  which means CAUTION, WARNING, OR DANGER — "personal safety instruction." Read and understand the instruction because it has to do with safety. Failure to comply with instruction may result in personal injury.

**WARNING:** Engine exhaust contains carbon monoxide which is an odorless, deadly poison. Carbon monoxide is also known to the State of California to cause birth defects. Do not run engine indoors or in an enclosed area.

### BEFORE OPERATING

1. Operate the trimmer only after reading and understanding the contents of this manual. A replacement manual is available by sending complete model and serial numbers to: The Toro Company, 8111 Lyndale Avenue South, Minneapolis, Minnesota 55420.

2. Never allow children to operate trimmer. It is not a toy. Never allow adults to operate unit without first reading Operator's Manual.

3. Become familiar with the controls and know how to stop the engine quickly.

4. Always wear safety goggles or safety glasses while operating trimmer. The following articles of apparel are strongly recommended and are required by some local safety and insurance regulations:

- A. Safety glasses/goggles - REQUIRED
- B. Safety shoes
- C. Long pants
- D. A long-sleeved shirt
- E. Ear plugs

Dress properly—Do not wear loose clothing or jewelry. They can be caught in moving parts.

5. When using a cutter blade on trimmer, a shoulder harness must be worn.

6. Keep the area of operation clear of all persons, especially children and pets.

7. Never operate trimmer when you are fatigued, depressed or under the influence of alcohol.

8. Keep all shields, safety devices, and decals in place. If a shield, safety device or decal is damaged, repair or replace it before operating the trimmer.

9. Gasoline is highly flammable. The trimmer is fueled with a mixture of gasoline and oil. Indoor or outdoor heat, sunlight or engine heat may cause flammable gasoline vapors which pressurize trimmer fuel tank. Observe all the following precautions:

- A. Use an approved fuel container for storing the gasoline/oil mixture.
- B. Do not fill tank when engine is hot or running.
- C. Do not smoke while handling gasoline.
- D. Fill fuel tank outdoors and up to about one-half inch (13 mm) from the top of the tank, not into the filler neck.
- E. Wipe up any spilled gasoline before starting the engine.
- F. Before transporting trimmer in a vehicle, drain all gasoline from fuel tank.
- G. Store trimmer in a cool, ventilated place.
- H. Lay trimmer on a flat surface so fuel does not contact the gas cap when not operating.

### WHILE OPERATING

10. Do not run the engine in a confined area without adequate ventilation. Exhaust fumes are hazardous and could be deadly.

11. Always be sure of your footing. Keep a firm hold of the handles with both hands and walk, never run, during operation. Shut the engine off before proceeding to the next area of operation.

12. The trimmer is intended to be used as a means of trimming grassy and weedy areas only. DO NOT use the trimmer for such things as tree pruning or hedge trimming. Do not use the trimmer for vertical edging. The grass shield is designed only for horizontal trimming.

13. When using a metal blade cutting attachment, the blade can be suddenly and uncontrollably thrust in any direction when blade strikes a solid object while rotating at high speed. Do not put hands or feet near or under rotating parts. Keep all people and animals far away while operating. Contact with rotating metal blade or debris thrown will cause severe injury to operator or nearby persons and animals.



## SAFETY INSTRUCTIONS

14. If the trimmer should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.

15. Avoid using the trimmer near rocks, gravel, stones or other debris which could be picked up and thrown or personal injury could result.

16. Use trimmer only in daylight or good artificial light.

17. Shut off engine and be certain all moving parts have completely stopped rotating before inverting trimmer.

18. Never use wire or metal reinforced string in place of monofilament cutting line.

19. Wear a long sleeve or other similar arm protection to avoid possible contact with hot engine surfaces.

### MAINTENANCE

20. Before servicing or making adjustments to the machine, stop the engine and pull wire off spark plug to prevent accidental starting of the engine.

21. Ensure entire machine is in good condition. Keep all nuts, bolts and screws properly tightened.

22. Replace cracked or damaged parts before operating. If major repairs are ever needed or if assistance is desired, contact an Authorized Toro Service Dealer.

23. To reduce potential fire hazard, keep the engine area free of excessive oil, grass, leaves and accumulations of dirt.

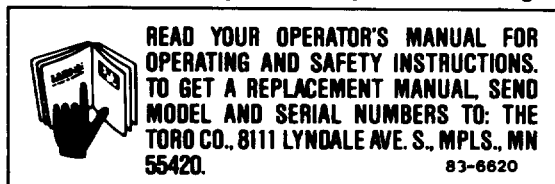
24. If the engine must be running to perform a maintenance adjustment, keep hands, feet, clothing and any part of the body away from any moving parts. Keep everyone away.

25. Never store trimmer in house (living area) or basement because gasoline and fumes are highly flammable, explosive and dangerous if inhaled. Never store trimmer with fuel in fuel tank inside a building where ignition sources such as an open flame, sparks, hot water and space heaters and clothes dryers are present. Allow engine to cool before storing.



## SAFETY DECALS AND INSTRUCTIONS

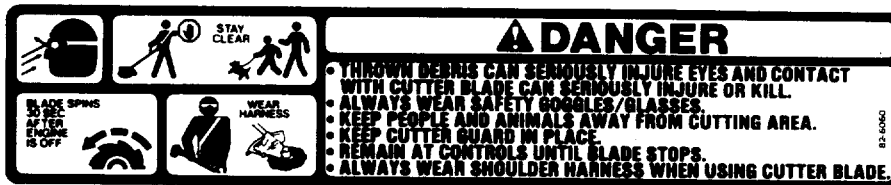
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



ON DRIVE SHAFT TUBE  
(Part No. 83-6620)



ON ENGINE  
(Part No. 65-2690)



ON DRIVE SHAFT TUBE  
(Part No. 82-6060)

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# ASSEMBLY INSTRUCTIONS

## SECURE SUPPORT HANDLE (Fig. 1)

1. Rotate support handle upright and adjust to a comfortable operating position. Tighten handle knob securely.

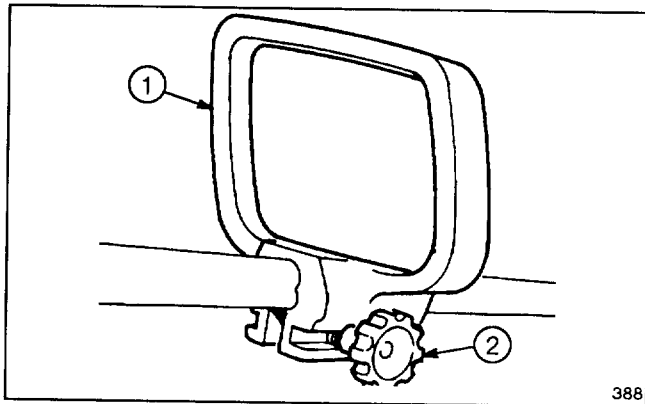


Figure 1

1. Support handle      2. Handle knob

2. Remove the protective tape from line cut-off knife.

## THROTTLE CONTROL

The throttle control has been factory adjusted to obtain maximum throttle when the throttle trigger is fully squeezed. However, readjustment will be necessary during the first few hours of operation due to slight stretching of the throttle cable. Refer to Adjusting Throttle Control, page 12.

## ATTACH OPTIONAL HARNESS AND CLAMP (Fig. 2 & 3)



### WARNING

When using a cutter blade with trimmer, A SHOULDER HARNESS MUST BE WORN.

1. Install clamp over drive shaft tube between throttle trigger housing and decals (Fig. 2). Tighten clamp securely in place with screw and nut.

2. Stand on left side of unit, hang harness over left shoulder with harness hook assembly located by right hip (Fig. 3). The double strap loop of the shoulder harness should lie diagonally across chest with harness hook assembly at right hip.

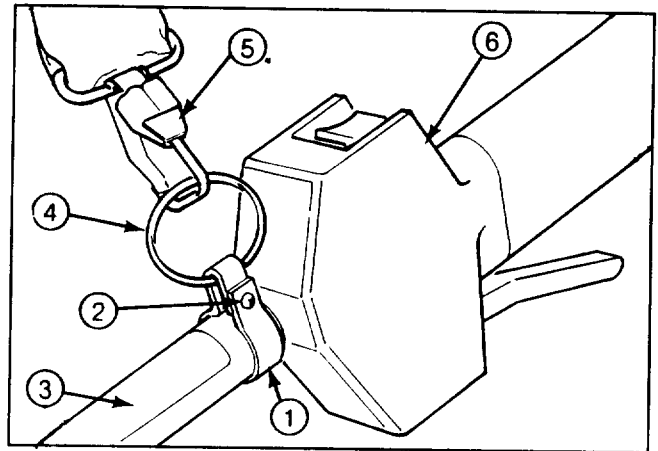


Figure 2

- |                  |                             |
|------------------|-----------------------------|
| 1. Harness clamp | 4. Ring                     |
| 2. Screw and nut | 5. Harness hook             |
| 3. Decal         | 6. Throttle trigger housing |

3. Snap harness hook through ring in harness clamp.

4. Adjust harness to a comfortable position for holding trimmer.



Figure 3

1. Double strap loop

## TO RELEASE HARNESS:

1. Unsnap harness hook from ring.

# ASSEMBLY INSTRUCTIONS

## INSTALLING OPTIONAL CUTTER BLADE (Figs. 4 & 5)



### WARNING

Stop engine and wait for cutting head to stop. Disconnect wire from spark plug before inverting trimmer.



### DANGER

Cutter blade is sharp and may cause personal injury. Care should be taken when handling blade. Avoid contact with sharp blade teeth.

1. Remove cutting head assembly installed on trimmer. Refer to Cleaning Trimmer Head, page 12.

**Note:** Blade mounting plate has a cup shaped recess for nut.

2. Install blade (teeth pointing in clockwise direction when viewed from bottom), mounting plate, and nut onto shaft.

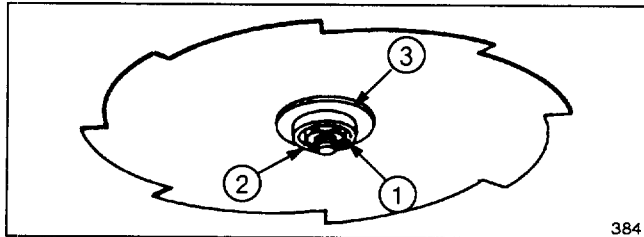


Figure 4

1. Cotter pin      2. Nut      3. Mounting plate

**Note:** Hole in blade fits over raised diameter of gearbox cap.

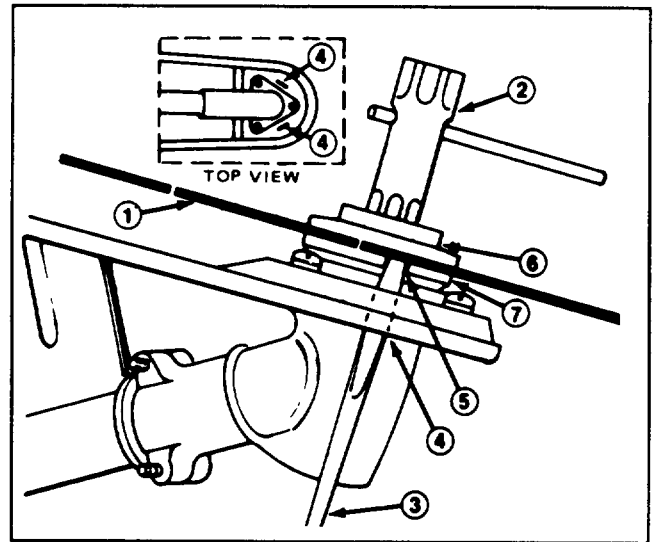


Figure 5

1. Blade      5. Notch in gearbox cap  
2. Wrench      6. Mounting plate  
3. Screwdriver      7. Gearbox cap  
4. Slot in shield

3. Rotate gearbox cap until notch in cap is aligned with slot in shield. Insert medium blade screwdriver through slot in shield and into notch in gearbox cap.

4. Keep shaft from rotating by holding screwdriver as shown and tightening nut securely with wrench (left hand thread) (Fig. 5).

5. Insert cotter pin through hole in shaft and wrap ends around shaft (Fig. 4).



### WARNING

To prevent blade from loosening and causing possible personal injury, the cotter pin must be inserted through hole in shaft and the ends wrapped around shaft as explained in step 5.



### WARNING

Inspect blade before each use and discard if cracked, nicked, bent or damaged in any way.

**Note:** If a blade needs sharpening, contact a reputable saw sharpening service.

# BEFORE OPERATING



## WARNING

**DANGER:** Gasoline is extremely flammable and explosive under certain conditions. Do not smoke when handling fuel and keep fuel far away from open flames and sparks. Never buy more than a 30 day supply of gasoline. Store it in an approved container. Keep gasoline out of reach of children.

Refuel outdoors and only when engine is cold. Do not fill tank full. Fill tank to within 1/4" to 1/2" (6 to 13 mm) from top of tank, not into filler neck. This space is for expansion of fuel. Use funnel or spout to prevent spilling. Wipe up any spilled gas.

### MIX GASOLINE AND OIL — (Fig. 6)

1. **APPROVED MIXTURE**—For simplicity and best engine performance, mix the contents of one 3.2 ounce bottle of Toro "EASY MIX" Two-Cycle Oil with one gallon of fresh, unleaded regular gasoline. Leaded regular gasoline may be used if unleaded regular is not available.

Toro Two-Cycle Oil is specially formulated to provide superior lubrication, make starting easy, and prolong engine life. If Toro Two-Cycle Oil is not available, mix one gallon of gasoline and 3.2 ounces of another high grade two-cycle oil that has the NMMA or BIA-TCW certification printed on the label.

NEVER USE AUTOMOTIVE OIL (i.e. SAE 30, 10W30 etc.), TWO-CYCLE OIL THAT IS NOT CERTIFIED NMMA/BIA-TCW, OR THE WRONG MIX RATIO BECAUSE THE ENGINE CAN BE DAMAGED, AND IT WOULD NOT BE COVERED BY THE TORO WARRANTY.

Toro also recommends that Toro Stabilizer/Conditioner be used regularly in all Toro gasoline powered products during operation and storage seasons. Toro Stabilizer/Conditioner cleans the engine during operation and prevents gum-like varnish deposits from forming in the engine during periods of storage.

2. **Mixing Gasoline and Oil**—Pour a half gallon of gasoline into an approved gasoline container and add the correct amount of two-cycle oil. Reinstall cap on gasoline container and shake the container to mix oil and gas thoroughly. Remove cap and add remaining amount of gasoline.

**IMPORTANT:** NEVER USE METHANOL, GASOLINE CONTAINING METHANOL, GASOLINE CONTAINING MORE THAN 10% ETHANOL, PREMIUM GASOLINE, OR WHITE GAS BECAUSE ENGINE FUEL SYSTEM DAMAGE COULD RESULT.

**DO NOT USE FUEL ADDITIVES OTHER THAN THOSE MANUFACTURED FOR FUEL STABILIZATION DURING STORAGE SUCH AS TORO'S STABILIZER/CONDITIONER OR A SIMILAR PRODUCT. TORO'S STABILIZER/CONDITIONER IS A PETROLEUM DISTILLATE BASED STABILIZER/CONDITIONER. TORO DOES NOT RECOMMEND STABILIZERS WITH AN ALCOHOL BASE SUCH AS ETHANOL, METHANOL OR ISOPROPYL. ADDITIVES SHOULD NOT BE USED TO TRY TO ENHANCE THE POWER OR PERFORMANCE OF MACHINE.**

**NOTE:** Do not mix gasoline and oil in the product fuel tank. Oil that is at room temperature mixes easier and more thoroughly than cold oil.

### 40:1 GAS/OIL Mixing Chart

U.S. GALLON	
Gasoline	Oil
1 gallon	3.2 oz.
1.5 gallons	4.8 oz.
2 gallons	6.4 oz.

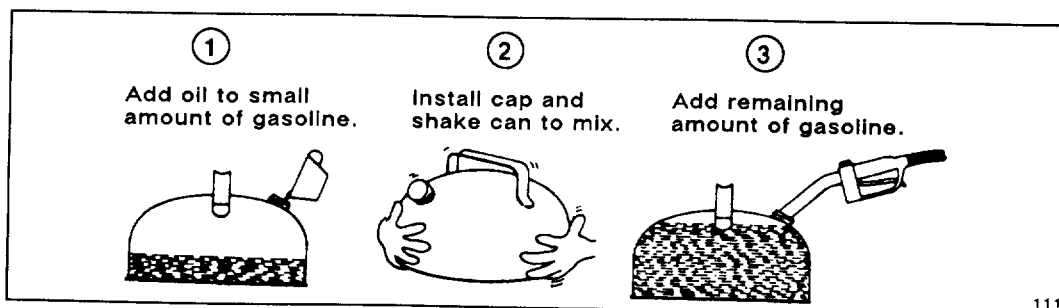


Figure 6

# OPERATING INSTRUCTIONS



## WARNING

The cutter head continues to rotate for a few seconds after the engine is shut off. Do not place any part of your body in the cutter head area until you are sure the cutter head has stopped.

### STARTING AND STOPPING (Figs. 7 & 8)

1. Lay trimmer on a flat surface with engine in upright position.
2. Move ignition switch to "ON" position.
3. Move choke lever to "CLOSED" position (to LEFT).

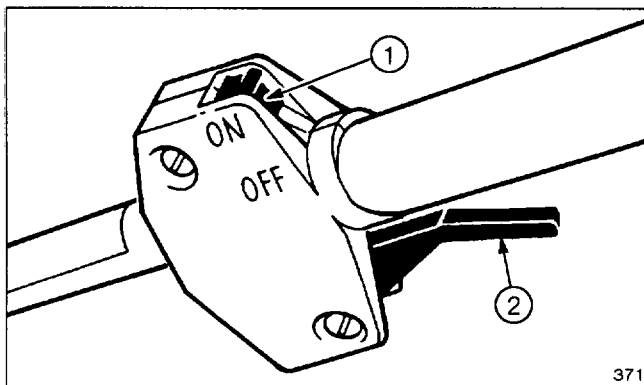


Figure 7

1. Ignition switch      2. Throttle trigger

4. Push the carburetor primer bulb repeatedly until fuel completely fills the clear fuel tube. **Keep pushing primer bulb until bubbles in the fuel tube disappear.**

**Note:** Repeated pushing of primer bulb will not cause over-priming; all excess fuel goes back into the fuel tank.

5. Leave throttle trigger in idle position (do not squeeze).
6. Pull recoil starter handle out slowly until starter ratchets are engaged, then pull handle with short, sharp strokes until engine starts. Slowly move choke lever to OPEN position (to RIGHT). If engine fails to start, repeat all steps above.

**Note:** Always pull starter rope straight up. Pulling rope at an angle will force it against the eyelet and cause it to fray and wear more quickly. Hold the starter handle when rope retracts. Never allow it to snap back from extended position. The rope can fray or snag, and the starter can be damaged.

#### Warm Engine

1. Move ignition switch to "ON" position.
2. Move choke lever to OPEN position (to RIGHT).

3. Leave throttle trigger in idle position.

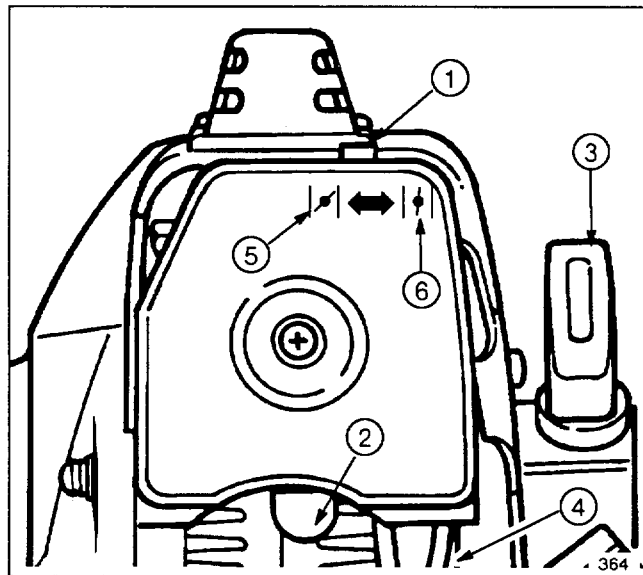


Figure 8

1. Choke lever      4. Fuel tube  
2. Primer bulb      5. CLOSED position  
3. Recoil starter      6. OPEN position

4. Pull recoil starter handle out slowly until starter ratchets are engaged, then pull handle with short, sharp strokes until engine starts. If engine fails to start, follow Cold Engine starting procedure.

**Note:** Use of the primer bulb is not required to start a warm engine. However, if a combination of a hot engine and warm outside temperatures induces a vapor lock condition, use the primer bulb. This will introduce cool fuel into the carburetor and break the vapor lock.

#### To Stop Engine:

1. Release throttle trigger and move ignition switch to "OFF" position.

### CENTRIFUGAL CLUTCH

This machine is equipped with a centrifugal clutch which is designed to engage when engine speed reaches approximately 3600 – 4200 RPM. This is the point at which the cutter head begins to rotate. The clutch will slip to prevent possible engine damage should the cutter head be prevented from rotating. Should this situation occur, STOP ENGINE, remove obstruction, and resume operation.

### ENGINE OPERATION

1. Allow the engine to run at idle speed a few minutes to warm up before using.

**IMPORTANT:** The cutting head should not rotate at engine idle speed. If cutting head rotates at idle, decrease idle speed by adjusting idle speed screw. Refer to Adjusting Carburetor, page 10.

**Note:** DO NOT have engine under load during this warm up period.

# OPERATING INSTRUCTIONS

2. By squeezing throttle lever, increase engine RPM to speed required for operation before placing trimmer under load.

**IMPORTANT: Do not use trimmer at very low engine speeds (below 6000 RPM). Cutting efficiency will be poor and clutch damage could result.**

3. ALWAYS reduce engine speed to idle when not trimming.

4. NEVER operate the engine at high cutting RPM without line extended.

## OPERATING TIPS

1. The trimmer will cut grass, weeds, ivy, and other similar grasses, and can be used to cut areas around shrubs, foundation walls, along fences, sidewalks, and patios.


Be sure to inspect area to be trimmed for any wire, cord, or string-like matter which could become entangled in the rotating line.



### WARNING

Always wear safety goggles or other suitable eye protection and long pants and shoes while operating trimmer. Wear a long sleeve shirt or other similar arm protection to avoid possible contact with hot muffler surface. Ear protection must be worn when operating trimmer for prolonged periods of time (over 2-1/2 hours).

2. Do not force the unit. Remember, it is only the tip of the cutting line that does the job. Forcing the line against an object like a foundation wall or fence could cause the line to break.

3.  Get comfortable. Adjust the harness so it fits snugly and adjust the handle according to your height and the job you are doing. When trimming you should be standing in a natural position without having to bend over or stand on your toes.



### CAUTION

Always be sure of your footing when operating trimmer.

4. Slowly move trimmer in a side-to-side motion into the area being cut, while at the same time, holding the unit at the desired height of cut. Al-

ways tip the leading edge of the cutting line slightly downward to gain maximum efficiency.

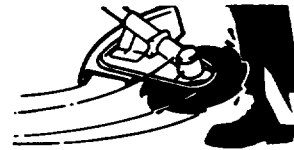
5. The life of your cutting line is dependent upon following the above trimming techniques, as well as what is being cut, and where the cutting is done.

**EXAMPLE:** Line will wear faster when run against a foundation wall as compared to trimming around a tree. Some line breakage will occur from moving unit too fast, from entanglement with foreign matter, from normal line fatigue, and from attempting to cut thick, stalky weeds in excess of unit's capability.



### DANGER

When using a metal blade cutting attachment, the blade can be suddenly and uncontrollably thrust in any direction when blade strikes a solid object while rotating at high speed. Contact of rotating blade with nearby persons or animals will cause severe injury or death.



Debris thrown by blade or nylon line cutting attachment can cause severe injury to nearby persons or animals.



**KEEP ALL PEOPLE AND ANIMALS FAR AWAY FROM TRIMMER/BRUSHCUTTER WHILE OPERATING.**



### DANGER

**DO NOT USE THE 8-TOOTH METAL BLADE CUTTING ATTACHMENT (TORO PART NO. 51-1240) TO CUT WOODY PLANTS MORE THAN 1/2" THICK. THE BLADE MAY FRAC-  
TURE, RESULTING IN PERSONAL INJURY.**

**DO NOT USE ANY METAL BLADE IF CRACKED, NICKED, DISTORTED OR DAMAGED IN ANY WAY.**

# OPERATING INSTRUCTIONS

## WARNING

DEBRIS THROWN BY CUTTING ATTACHMENT CAN CAUSE SEVERE INJURY TO OPERATOR'S EYES. ALWAYS WEAR SAFETY GOGGLES OR SAFETY GLASSES WHILE OPERATING TRIMMER/BRUSHCUTTER.



Safety goggles/glasses must comply with the latest ANSI Z 87.1 Standard to assure adequate eye protection. If you do not have appropriate safety goggles/glasses, you are expected to procure them before operating this product. Safety goggles/glasses can be purchased from a trimmer/brushcutter dealer, hardware stores and industrial supply companies.

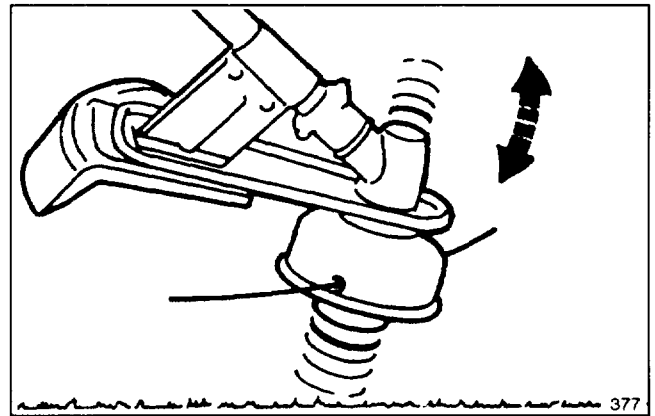


Figure 9

## CAUTION

Never continue to use a spool cap which has been worn through, cracked or has chips out of it.

## LENGTHENING CUTTING LINE (Fig. 9)

Your Toro trimmer is equipped with an automatic line feeding device so the line can be lengthened WITHOUT STOPPING THE ENGINE.

**Note:** Engine speed and noise will increase noticeably when lines wears down.

1. To lengthen lines, firmly tap spool on the ground with the engine running at half cutting RPM (Fig. 9). The lines will be fed from the spool and cut off to the proper length by the cutting knife attached to the shield.

Just tap the trimmer on the ground; do not hold it on the ground.

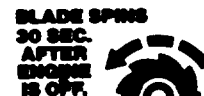
**Note:** The spool cap may wear during normal use of the line advance feature and may require occasional replacement.

Spools prewound with 38 feet of cutting line are available through your local Toro Dealer.

## WARNING

OPERATOR CONTACT WITH ROTATING METAL BLADE WILL CAUSE SEVERE INJURY OR DEATH.

Metal blade spins for up to 30 seconds after shutting engine off. REMAIN AT CONTROLS UNTIL BLADE COMPLETELY STOPS.



DO NOT OPERATE TRIMMER/BRUSHCUTTER WITHOUT CUTTING HEAD GUARD IN PLACE.

ALWAYS USE SHOULDER HARNESS WHEN USING METAL BLADE CUTTING ATTACHMENT.



# MAINTENANCE

## REPLACING CUTTING LINE (Figs. 10–13)

1. To replace cutting line when your factory furnished supply runs out, you may purchase .080 dia. replacement line to rewind the empty spool or prewound replacement spools from your Toro retailer.



### WARNING

Shut off engine, remove wire from spark plug, and be certain cutter head has completely stopped rotating before inverting trimmer.

2. To remove empty spool, insert medium blade screwdriver in one of two window slots on spool hub and twist screwdriver 1/4 turn (Fig. 10). Spool will snap off.

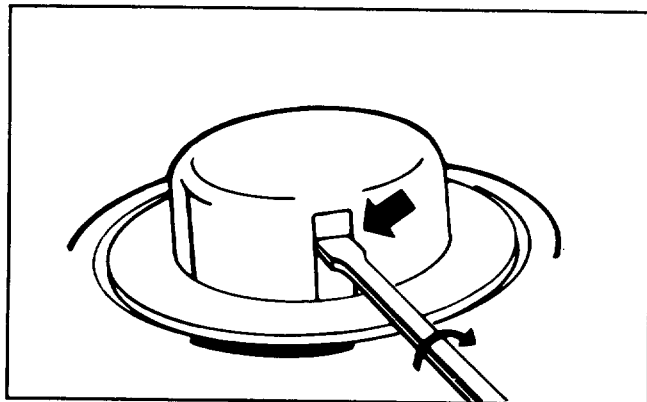


Figure 10

**Note:** Use as wide a screwdriver as will fit in slot so as not to mar cap when twisting.

3. To rewind empty spool, use the following steps:

A. Hook one end of each line into the keyhole slot on spool. Wind both lines together around spool in level rows between spool flanges in direction shown in Figure 11.

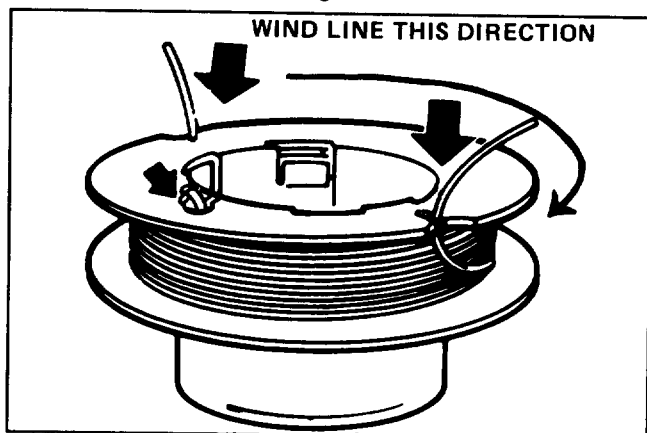


Figure 11

**Note:** Avoid crossover or crisscrossing of line to insure proper line advancing. Winding line in wrong direction will cause spool, cover and driver (Fig. 23) to detach from cutter head.

- B. Do not wind more than 38 feet of line onto spool (two strands of 19-feet ea.) or allow wound line to extend outside of spool. Only use line .080" dia.
- C. Keep line tight on spool by securing in spool notches, leaving about 4 inches of line extending beyond notch (Fig. 11).

**Note:** Before reassembly, be sure to thoroughly clean drum and power shaft area and visually inspect for any damaged or worn parts.

- D. The spool and core are keyed and **must** be properly aligned when putting spool back on. Push downward on spool core and rotate it until "key" feature on the core is aligned with the eyelets on the drum (Fig. 12). With lines still retained in spool notches, thread ends of lines through eyelets (Fig. 13). Place spool onto keyed spool core; the spool notches must be aligned with eyelets and spool core key (Fig. 13). Push spool inward until you hear it click. Pull lines outward while pushing spool inward to free lines from notches. Unwind no more than six inches of line from spool. To extend lines, pull lines out while pushing spool inward. To retract lines, rotate spool clockwise while pushing spool inward.

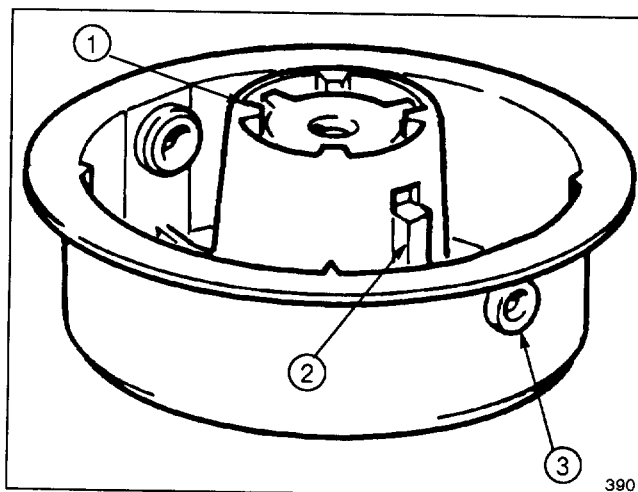


Figure 12

- 1. Spool core
- 2. Key
- 3. Eyelet



### WARNING

Do not use any type of wire or other string-like substance. Use only Toro approved replacement monofilament line of .080 inch diameter. Use of improper monofilament line could result in personal injury.

- 4. If lines should break at the eyelets, remove the spool completely, refeed the cutting lines through the eyelets and reassemble spool to trimmer following instructions in step D.

# MAINTENANCE

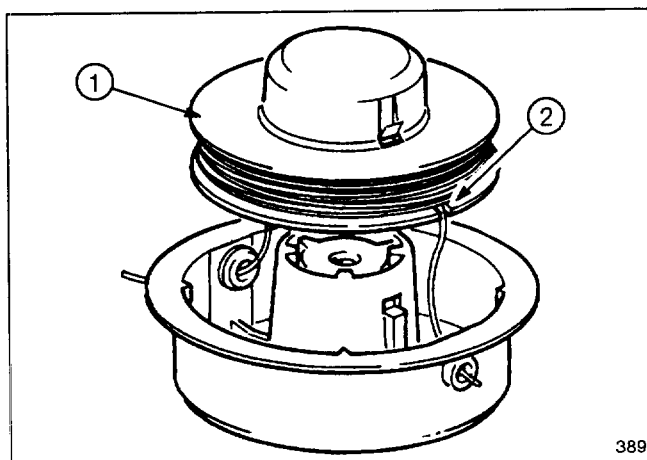


Figure 13

1. Spool

2. Spool notch

## ADJUSTING CARBURETOR (Fig. 14)

The carburetor air/fuel mixture ratio has been set at the factory. There are no external air/fuel mixture adjustments on the carburetor. If power and performance are marginal when operating trimmer in higher altitudes, bring trimmer to your Authorized Toro Service Dealer for air/fuel mixture adjustment.



### CAUTION

Engine must be running to adjust idle speed. To guard against possible personal injury, keep hands, feet, and face away from concealed, moving or rotating parts.

1. **ADJUSTING IDLE SPEED**—Start the engine and let it warm up for approximately 3–5 minutes. Do not adjust carburetor when engine is cold. Be sure to perform carburetor adjustment while at a temperature that will be the average outdoor temperature at which the trimmer will be used. Allow the engine to idle. If necessary, readjust the idle speed to keep the engine from stalling (2600–3200 RPM). Turning screw clockwise increases idle speed, counterclockwise decreases idle speed.

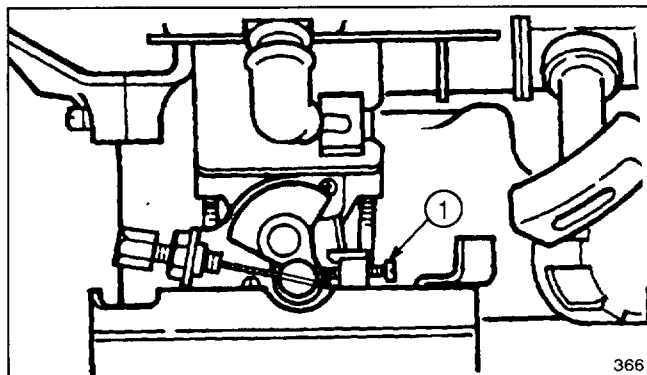


Figure 14

1. Idle speed screw

**Note:** When making adjustments turn adjustment screw 1/8 turn at a time and wait for engine to respond to change.

## SERVICING MUFFLER (Figs. 15 & 16)

If engine speed or power decreases drastically, inspect and clean muffler and exhaust port of carbon deposits to relieve back pressure.

1. Remove two (2) screws securing engine cover to trimmer (Fig. 15).

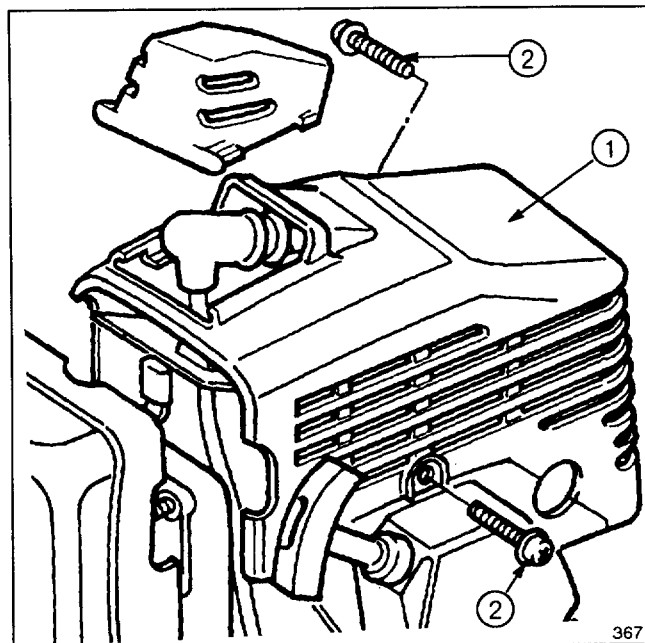


Figure 15

1. Engine cover

2. Screws (2)

2. Remove two (2) nuts securing muffler to engine (Fig. 16). Remove muffler.

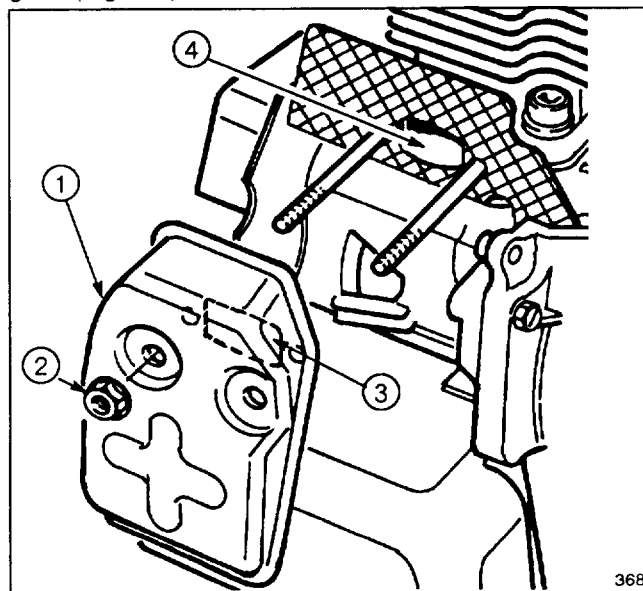


Figure 16

1. Muffler  
2. Nuts

3. Muffler port  
4. Exhaust port

# MAINTENANCE

3. Clean any carbon build-up from muffler port (Fig. 16).
4. Pull recoil starter slowly to rotate the engine crankshaft until the piston totally covers the exhaust port (Fig. 16). Clean the exhaust port area by using a clean, flat piece of hard wood. Remove all loose particles.

**IMPORTANT:** Use extreme care when cleaning exhaust port. Stay clear of the piston so it will not be damaged. Piston damage can cause early engine failure.

5. Reinstall muffler to engine. Tighten all fasteners securely.
6. Reinstall engine cover and tighten all fasteners securely.

## REPLACING SPARK PLUG

Use a Champion CJ8 or RCJ8 spark plug or equivalent. Correct air gap is .024 - .028" (0.6 - 0.7 mm). Remove plug after every 25 operating hours and check its condition.

1. Stop engine. Remove spark plug cover by squeezing sides and slide off engine cover (Fig. 17). Pull wire off spark plug.

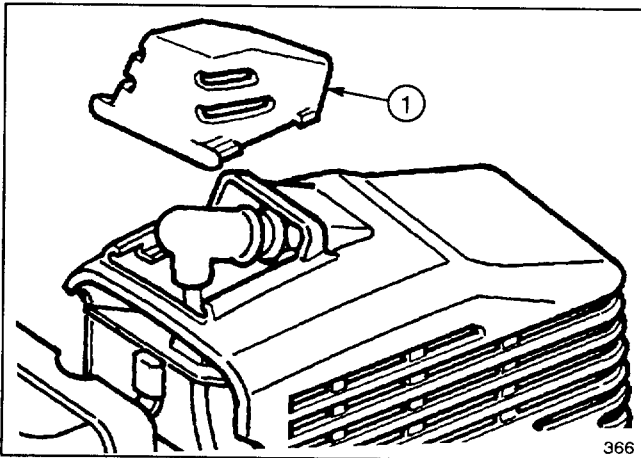


Figure 17

1. Spark plug cover

2. Clean around spark plug and remove plug from cylinder head.

**IMPORTANT:** Replace a cracked, fouled or dirty spark plug. Do not sand blast, scrape or clean electrodes because engine damage could result from grit entering cylinder.

3. Set air gap at .024 - .028" (0.6 - 0.7 mm) (Fig. 18). Install correctly gapped spark plug and gasket seal. Tighten plug firmly to 9 ft-lb (1.2 Kg-m).

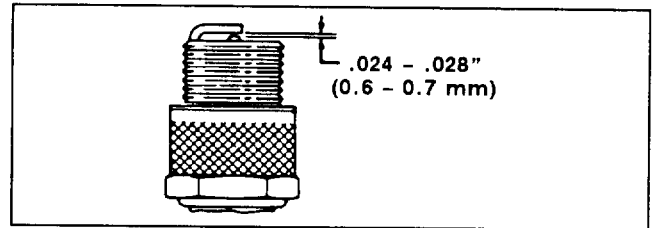


Figure 18

## COOLING SYSTEM SERVICE

To avoid overheating and possible engine damage, visually inspect the cooling air inlet for debris obstructing the air passages, muffler, and also the cooling fins around the cylinder after each use. Remove any contamination by using a flat piece of wood shaped so it will pass between the fins.

## SERVICING AIR CLEANER (Fig. 19)

After every 25 hours of operation, inspect and clean air cleaner. Air cleaner may require more frequent cleaning in dusty or dirty conditions.

1. Remove one (1) screw securing air cleaner cover.

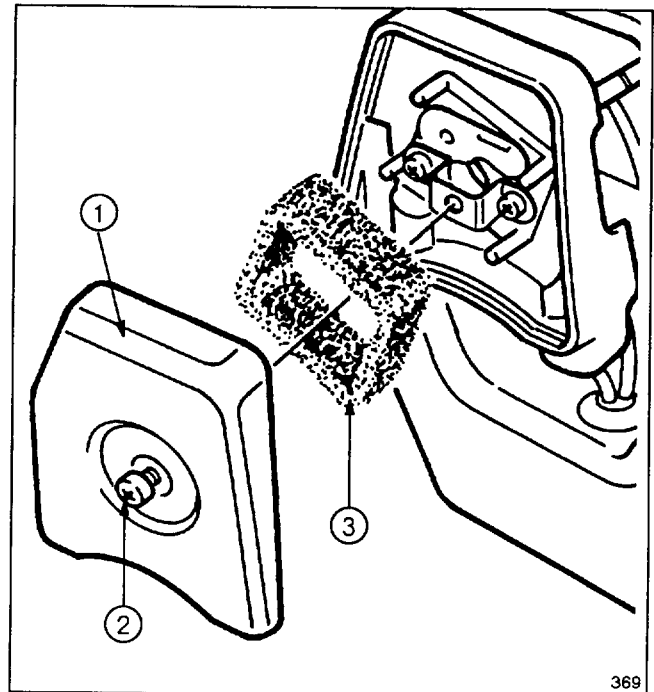


Figure 19

1. Air cleaner cover      2. Screw      3. Foam filter

2. Carefully remove foam filter.
3. Wash foam filter in a soap and water solution. Rinse thoroughly with clear water. Dry filter thoroughly in a clean rag. If filter shows any sign of damage, replace it.
4. Saturate the foam filter with one teaspoon (5 ml) of SAE 30 oil; then squeeze it to distribute oil evenly and to remove excess oil. A damp element is desirable.
5. Reinstall air cleaner components as shown in Figure 19.

# MAINTENANCE

## REPLACING FUEL FILTER (Fig. 20)

After every 25 hours of operation, remove and replace fuel filter.

1. Drain gasoline from fuel tank. Start engine and let it run at idle speed until it stops and all fuel is expended.
2. Remove fuel tank cap. Invert trimmer and shake until end of suction hose is accessible or passes through fuel tank opening.

Alternate Method: Insert a clean wire with a hooked end into tank, hook suction hose above weight, and carefully pull hose out fuel tank opening.

3. Replace fuel filter and reinstall suction hose into tank.
4. Reinstall fuel tank cap.

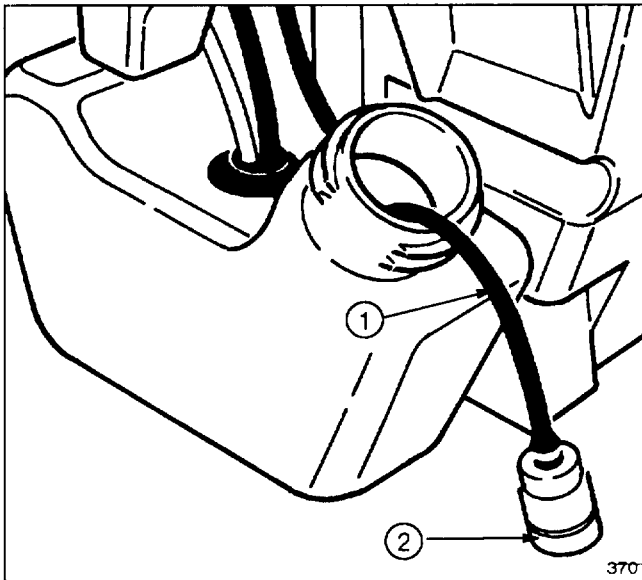


Figure 20

1. Suction hose      2. Fuel filter

## ADJUSTING THROTTLE CONTROL (Fig. 21)

The throttle control will need to be adjusted periodically to compensate for slight stretching of the throttle cable. Initially, check throttle control adjustment every few hours of operation, and every 25 hours thereafter.

1. Squeeze throttle trigger and note travel of throttle shaft plate.
2. When throttle trigger is in full throttle position (squeezed against rubber handgrip), throttle plate should make contact with stop.
3. To adjust, loosen jam nut on fitting and rotate fitting. Tighten jam nut and recheck throttle operation.

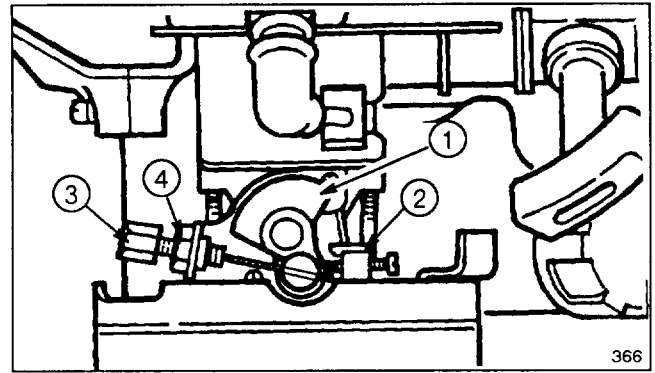


Figure 21

1. Throttle shaft plate      3. Fitting  
2. Stop      4. Jam nut

## CLEANING TRIMMER HEAD (Figs. 22 & 23)

Stringy weeds or other debris may become wound around powershaft. Trimmer head assembly must be removed and cleaned periodically.

1. Drain gasoline from fuel tank. Remove spark plug cover by squeezing sides together and slide off engine cover (Fig. 15). Pull wire off spark plug.
2. Insert medium blade screwdriver in one of two windows slots on spool hub and twist screwdriver 1/4 turn (Fig. 22). Spool will snap off.

**Note:** Use as wide a screwdriver as will fit in slot so as not to damage cap when twisting.

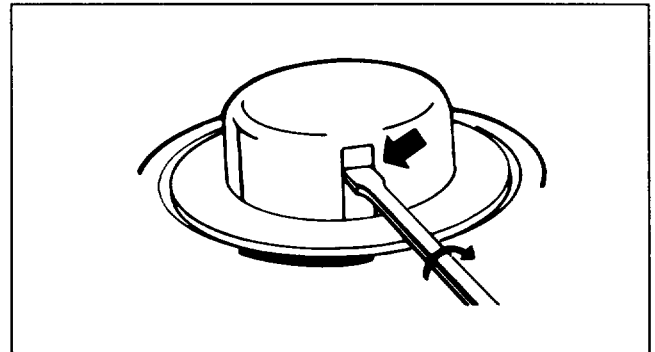


Figure 22

3. Hold drum securely and unscrew spool core in CLOCKWISE direction. This will unscrew the driver.
4. Remove washer and compression spring, and unscrew drum from powershaft (left hand thread).
5. Clean debris from inside and outside of drum and any wrapped around powershaft.
6. Screw drum onto powershaft (left hand thread).
7. Install compression spring, washer, spoolcore, and driver (rotate counterclockwise).
8. The spool and spoolcore are keyed. Be sure they are properly aligned when putting spool back on. Thread ends of lines through eyelets, place spool on keyed core, and push in place until you hear it click (see Replacing Cutting Line).

# MAINTENANCE

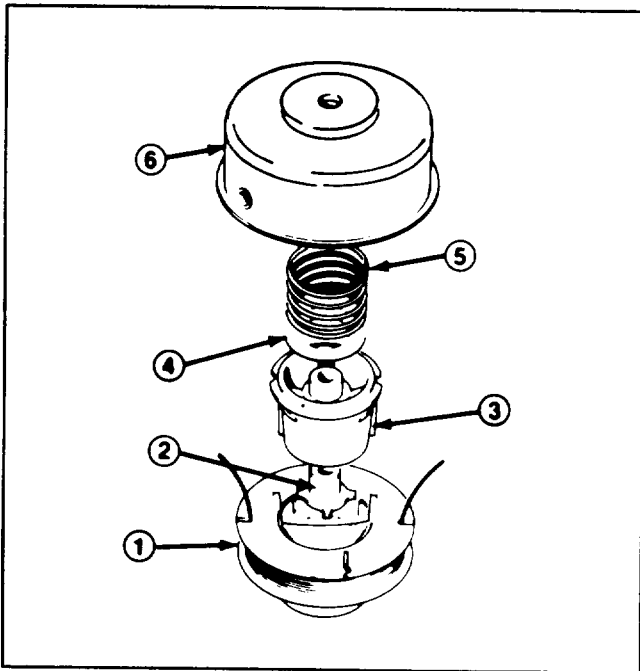


Figure 23

- |               |                       |
|---------------|-----------------------|
| 1. Spool hub  | 4. Washer             |
| 2. Driver     | 5. Compression spring |
| 3. Spool core | 6. Drum               |



## CAUTION

Stay clear of gear case after operating trimmer as it can get hot. Wait for it to cool before attempting any service procedures.

## LUBRICATE GEAR CASE (Fig. 24)

Every 40 hours of operation, lubricate the gear case.

1. Remove cutter head and gear case cap from gear case shaft. Refer to Cleaning Trimmer Head, page 12.
2. Clean any debris under gear case cap.
3. Using pliers, remove spacer sleeve from gear case shaft.
4. Remove grease access screw and gasket from side of gear case.
5. Fill gear case with a high quality multi-purpose lithium base grease until grease comes out around gear case shaft.
6. Reinstall screw and gasket, spacer sleeve, gear case cap, and cutter head. Tighten cutter head securely.

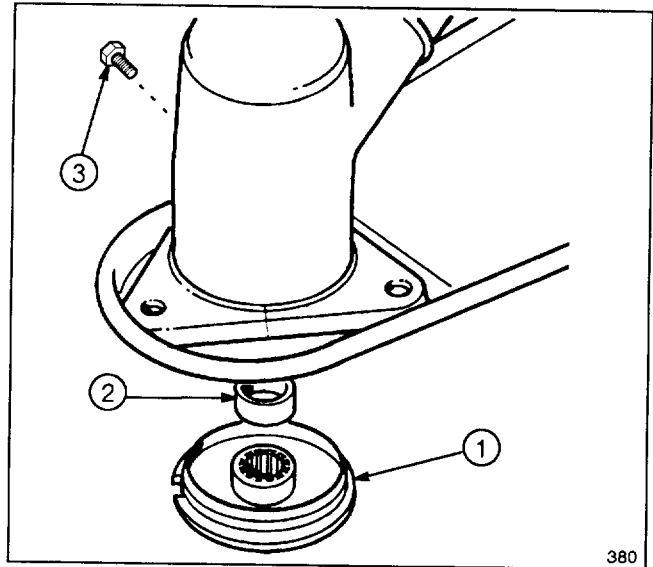


Figure 24

- |                  |                                   |
|------------------|-----------------------------------|
| 1. Gear case cap | 3. Grease access screw and gasket |
| 2. Spacer sleeve |                                   |

## LUBRICATE DRIVE SHAFT

The drive shaft has been greased at the factory. After approximately 40 hours of operation, the drive shaft should be removed from the drive shaft housing and the entire surface of the shaft should be evenly coated with No. 2 general purpose lithium base grease.

1. To remove drive shaft from housing, remove set-screw from side of engine mount, loosen engine mount clamping screw, and slide engine off drive shaft housing (Fig. 25). Then pull drive shaft from drive shaft housing.

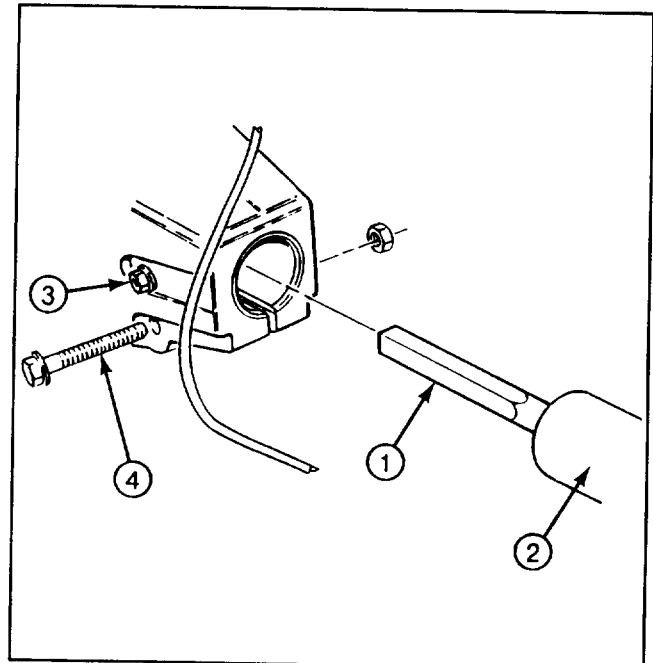


Figure 25

- |                        |                   |
|------------------------|-------------------|
| 1. Drive shaft         | 3. Set-screw      |
| 2. Drive shaft housing | 4. Clamping screw |

# MAINTENANCE

2. Grease entire surface of drive shaft.
3. When reinstalling engine onto drive shaft housing, make sure that the throttle cable is on right hand (muffler) side of drive shaft housing.

**Note:** If engine will not slide all the way onto drive shaft housing, rotate the cutter head until drive shaft aligns with engine shaft.

4. Reinstall set-screw and tighten engine clamping screw.

## PREPARING TRIMMER FOR STORAGE

1. For long term storage, either drain gasoline from fuel tank or add a fuel additive to the gasoline. After fuel is drained, start engine and let it idle until all fuel is consumed and engine stops. If gasoline is not drained and a fuel stabilizer is not added, gum-like varnish deposits will form and cause poor engine operation, even starting problems.

Fuel can be left in gas tank only if a fuel stabilizer, such as Toro's Stabilizer/Conditioner, is added to gasoline before storing. Toro's Stabilizer/Conditioner is a petroleum distillate based conditioner/stabilizer. Toro does not recommend stabilizers with an alcohol base, such as ethanol, methanol or isopropyl. Use fuel additive in recommended quantities as specified on container.

Under normal conditions, fuel stabilizers remain effective in fuel for 6-8 months.

2. If trimmer is stored with fuel and a fuel additive in gas tank, lay trimmer on a flat surface so fuel does not contact gas cap.

**DANGER:** Never store trimmer in house (living area) or basement because gasoline and fumes are highly flammable, explosive and dangerous if inhaled. Never store trimmer with fuel in fuel tank inside a building where ignition sources such as an open flame, sparks, hot water and space heaters and clothes dryers are present. Allow engine to cool before storing.

3. Remove dirt and grime from external parts of trimmer housing. Also clean the cooling system: refer to Cooling System Service, page 11.

4. Pull wire off spark plug, clean area around plug so foreign matter cannot fall into cylinder when plug is removed. Remove plug from cylinder head and pour one teaspoon (5 ml) of two-cycle oil into spark plug hole. Pull recoil starter handle slowly to distribute oil on inside of cylinder. Reinstall spark plug and tighten it to 9 ft-lbs (1.2 Kg-m). If torque wrench is not used, tighten plug firmly. **DO NOT REINSTALL WIRE ON SPARK PLUG.**

5. Check condition of cutter head; replace line, if necessary; refer to Replacing Cutting Line, page 9.

6. Clean the air cleaner if necessary: refer to Servicing Air Cleaner, page 11.

7. Lubricate gear case, if necessary: refer to Lubricate Gear Case, page 13.

8. Check and tighten all screws, bolts, nuts and mating parts. If any part is damaged, repair or replace it.

9. Store trimmer in a clean, dry place. Cover trimmer to protect it and keep it clean.

# ACCESSORIES

PART NO.	DESCRIPTION
82-6100	Brush Blade/Harness Kit
46-2951	Shoulder Harness
46-2961	Deluxe Shoulder/Waist Harness
46-2690	Harness Clamp and Ring Kit
83-4600	Single Line Bump-Feed Cutting Head (.095 dia. line)
83-4660	Single Line Prewound Spool (.095 dia. line)
41-6820	.095 Dia. Line (285 ft.)
51-1240	8 Tooth Brush Blade
51-1230	80 Tooth Saw Blade
43-5000	.080 Dia. Line (38 ft.)
46-2710	.080 Dia. Line (405 ft.)
83-4650	Dual Line Prewound Spool (.080 dia. line)
83-4800	Spark Arrestor Muffler

# PRODUCT IDENTIFICATION

A model number and a serial number decal is located on the drive shaft tube. Always refer to specific numbers on this decal in correspondence or when replacement parts are needed.

## TORO SERVICE SUPPORT

If help—concerning safety, set-up, operation, and maintenance or troubleshooting—is ever needed, contact the local Authorized TORO Service Dealer or Distributor. Refer to the “Yellow Page” for assistance. In addition to skilled service technicians, the dealer and distributor have factory approved accessories and replacement parts. Keep your TORO all TORO. Buy genuine TORO replacement parts and accessories.

## TROUBLESHOOTING CHART

This Troubleshooting Chart is intended as a guide to assist in correcting some of the common problems which may occur. Most of the “remedies” can be performed with common hand tools. The

chart is not intended as a guide for major overhaul procedures. For problems which are not covered in this Troubleshooting Chart or the Operator’s Manual, consult your local Toro Dealer.

Problem	Possible Causes	Remedy
Engine won't start or hard starting	A. No fuel B. Stale fuel C. Carburetor maladjusted D. Faulty spark plug E. Improper starting F. Clogged air cleaner G. Fuel filter plugged H. Carbon build-up in exhaust system	A. Fill fuel tank with gasoline/oil mix: refer to Before Operating. B. Drain fuel tank. Fill fuel tank with proper fuel. C. Adjust: refer to Adjusting Carburetor. D. Replace spark plug. E. Refer to Starting and Stopping Procedures. F. Refer to Air Cleaner Service. G. Replace fuel filter. H. Clean exhaust system, refer to Servicing Muffler.
Engine RPM too slow	A. Wrong fuel mix B. Clogged air cleaner C. Engine overheating D. Carbon build-up in exhaust system E. Trimmer head dirty F. Throttle cable maladjusted G. High-altitude operation	A. Drain fuel tank. Fill with proper gasoline/oil mix. Refer to Before Operating. B. Refer to Air Cleaner Service. C. Refer to Cooling System Service. D. Clean exhaust system, refer to Servicing Muffler. E. Clean trimmer head; refer to Cleaning Trimmer Head. F. Refer to Adjusting Throttle Control. G. See Authorized Toro Service Dealer for installation of high-altitude jet in carburetor.
Engine runs erratically.	A. Contaminated fuel B. Fuel filter plugged	A. Drain fuel tank. Fill fuel tank with fresh fuel mixture. Refer to Before Operating. B. Replace fuel filter.
Engine stops running	A. Out of fuel B. Fuel filter plugged	A. Fill fuel tank. B. Replace fuel filter.
Trimmer vibrates abnormally	A. Line wound incorrectly B. Trimmer head dirty	A. Rewind cutting line; refer to Replacing Cutting Line. B. Clean trimmer head; refer to Cleaning Trimmer Head



Consumer  
Products

## THE TORO TOTAL COVERAGE GUARANTEE

### A Full Two-Year Warranty (Limited Warranty for Commercial Use)

#### What Is Covered By This Express Warranty?

The Toro Company promises to repair any TORO Product used for residential purposes if defective in materials or workmanship for a period of two years from the date of purchase. The cost of parts and labor are included, but the customer pays the transportation costs.

Transportation within a 15 mile radius of the servicing dealer is covered under this warranty for two-stage snowthrowers, walk behind debris equipment and all TORO Wheel Horse riding products. Walk power mowers, single stage snowthrowers, and other products not specifically covered, are excluded from the transportation coverage provided by this warranty.

#### What Products Are Covered By This Warranty?

This warranty applies to all gasoline powered Consumer Products (including TORO Wheel Horse riding products). Wide area walk behind mowers, ProLine 118, and 21" Commercial mowers without blade stop controls are covered by separate warranty statements.

#### How About Commercial Use?

TORO Consumer Products used for commercial, institutional or rental use are covered by a limited warranty for the following time periods from the date of purchase:

Products	Warranty Period
<ul style="list-style-type: none"> <li>300 through 700 Series Tractors (except 612-Z) and 1600 HMR <ul style="list-style-type: none"> <li>Chassis . . . . . 1 year limited warranty</li> <li>Engine . . . . . 2 year limited warranty</li> </ul> </li> <li>21" Commercial Duty Walk Mower with blade stop controls . . . . 1 year limited warranty</li> <li>200 Series Tractors, Rear Engine Riders, 612-Z, 1200 HMR <ul style="list-style-type: none"> <li>3.0 and 3.5 HP Edgers</li> <li>Straight Shaft Trimmers, and Backpack Blowers . . . . . 90 day limited warranty</li> </ul> </li> <li>All Others . . . . . 45 day limited warranty</li> </ul>	

#### How Do You Get Warranty Service?

Should you feel your TORO product contains a defect in material or workmanship, contact the dealer who sold you the product or any Authorized TORO Service Dealer or TORO Master Service Dealer. The Yellow Pages of your telephone directory is a good reference source. The dealer will either arrange service at his/her dealership or recommend another Authorized Service Dealer who may be more convenient. You may need proof of purchase (copy of registration card, sales receipt, etc.) for warranty validation.

If for any reason you are dissatisfied with the Service Dealer's analysis of the defect in materials or workmanship or if you need a referral to a TORO Service Dealer, please feel free to contact us at the following address:

Toro Customer Service Department  
8111 Lyndale Avenue South  
Minneapolis, MN 55420  
612-888-8801

#### What Must You Do To Keep The Warranty In Effect?

You must maintain your TORO Product by following the maintenance procedures described in the operator's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

#### What Does This Warranty Not Cover? and

#### How Does Your State Law Relate To This Warranty?

There is no other express warranty except the TORO Starting Guarantee on GTS Engines. This express warranty does not cover:

- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, tune-up parts, blade sharpening, brake and clutch adjustments.
- Any product or part which has been altered or misused or required replacement or repair due to normal wear, accidents, or lack of proper maintenance.
- Repairs necessary due to improper fuel, contaminants in the fuel system, or failure to properly prepare the fuel system prior to any period of non-use over three months.
- Pickup and delivery charges for distances beyond a 15 mile radius from an Authorized TORO Service Dealer (covered products only).

All repairs covered by this warranty must be performed by an Authorized TORO Service Dealer using Toro approved replacement parts.

Repair by an Authorized TORO Service Dealer is your sole remedy under this warranty.

The Toro Company is not liable for indirect, incidental or consequential damages in connection with the use of the TORO Products covered by this warranty, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty. Some states do not allow exclusions of incidental or consequential damages, so the above 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.

#### COUNTRIES OTHER THAN THE UNITED STATES OR CANADA

Customers who have purchased TORO products exported from the United States or Canada should contact their TORO Distributor (Dealer) to obtain guarantee policies for your country, province, or state. If for any reason you are dissatisfied with your Distributor's service or have difficulty obtaining guarantee information, contact the TORO importer. If all other remedies fail, you may contact us at The Toro Company.