



MODEL NO. 51644V - 1000001 & UP

OPERATOR'S MANUAL

TC4000 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 or death.

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 the trimmer. It is not a toy. Never allow adults to operate unit without first reading the 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. Keep the area of operation clear of all persons, particularly children and pets.

6. Never operate trimmer when you are fatigued.

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

8. 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 $\frac{1}{4}$ to $\frac{1}{2}$ inch (6 to 13 mm) from the top of the tank, not the filler neck.

E. Wipe up any spilled gasoline before starting the engine.

F. Before transporting the 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 with engine in an upright position when not operating to avoid saturating inner parts of gas cap.

WHILE OPERATING

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

10. 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.

11. 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.

12. 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. Operator contact with rotating metal blade or debris thrown will cause severe injury.

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

SAFETY INSTRUCTIONS

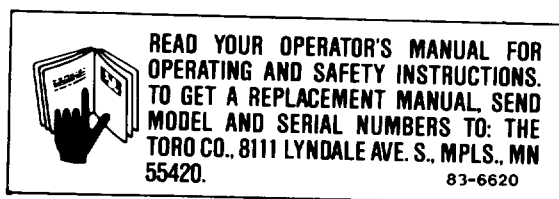
14. Avoid using the trimmer near rocks, gravel, stones or other debris which could be picked up and thrown or personal injury could result.
15. Use trimmer only in daylight or good artificial light.
16. Shut off engine and be certain all moving parts have completely stopped rotating before inverting trimmer.
17. Never use wire or metal reinforced string in place of monofilament cutting line.
18. Wear a long sleeve or other similar arm protection to avoid possible contact with hot engine surfaces.
19. When using a cutter blade on trimmer, a shoulder harness must be worn.

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.

SAFETY DECALS AND INSTRUCTIONS

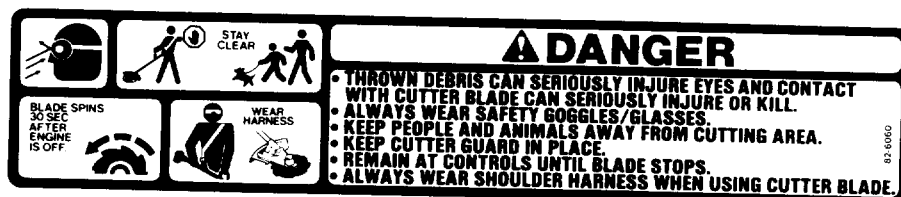
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



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



ON ENGINE
(Part No. 65-2690)



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

TABLE OF CONTENTS

	Page		Page
Assembly Instructions	3	Adjusting Throttle Control	10
Before Operating	4	Cleaning Trimmer Head	10
Operating Instructions	5	Lubricating Gear Case	11
Maintenance	7	Preparing Trimmer for Storage	12
Replacing Cutting Line	7	Optional Spark Arrestor Muffler	12
Adjusting Carburetor	8	Product Identification	12
Servicing Muffler	8	Toro Service Support	12
Replacing Spark Plug	9	Accessories	13
Cooling System Service	9	Troubleshooting Chart	14
Servicing Air Cleaner	9	The Toro Promise	
Replacing Fuel Filter	10		

ASSEMBLY INSTRUCTIONS

INSTALL ENGINE (Fig. 1)

1. Route throttle cable over top of engine housing.
2. Insert drive shaft into engine housing, aligning splines of shaft and engine.

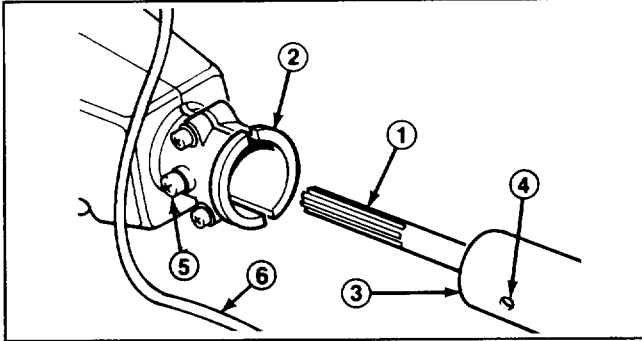


Figure 1

- | | |
|---------------------|-------------------|
| 1. Drive shaft | 4. Hole in tube |
| 2. Engine housing | 5. Housing screw |
| 3. Drive shaft tube | 6. Throttle cable |

3. Loosen housing screw. Insert drive shaft tube into engine housing, aligning hole in tube with housing screw.

Note: If drive shaft tube will not slide all the way into engine housing, rotate cutter head until other end of drive shaft will mate with hole in engine.

4. Tighten (3) housing screws securing tube to housing.

MOUNT J-HANDLE (Fig. 2)

1. Loosely secure J-handle to tube with handle clamp.
2. Position handle to ensure maximum comfort and balance for operator. Handle can be adjusted for right or left handed operator. Tighten clamp screws.

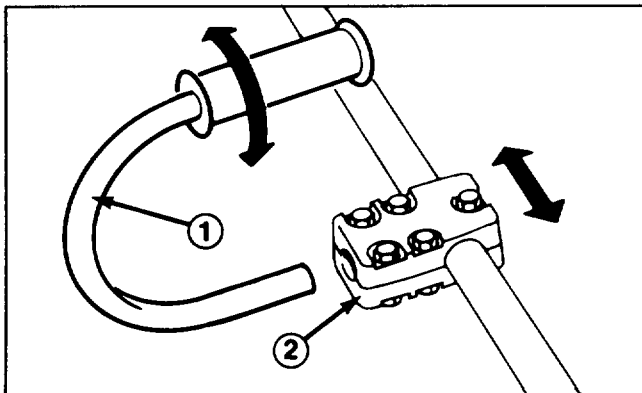


Figure 2

- | | |
|-----------------|--------------------|
| 1. Right handle | 4. Harness clamp |
| 2. Left handle | 5. Throttle handle |
| 3. Handle clamp | |

ATTACH HARNESS (Fig. 3)

1. Stand on left side of unit, hang belt over left shoulder with harness hook assembly located by right hip. Fit shoulder harness so that it is snug. The double-strap loop should lie diagonally across chest with harness hook assembly at right hip. Slide shoulder pad to top of shoulder.

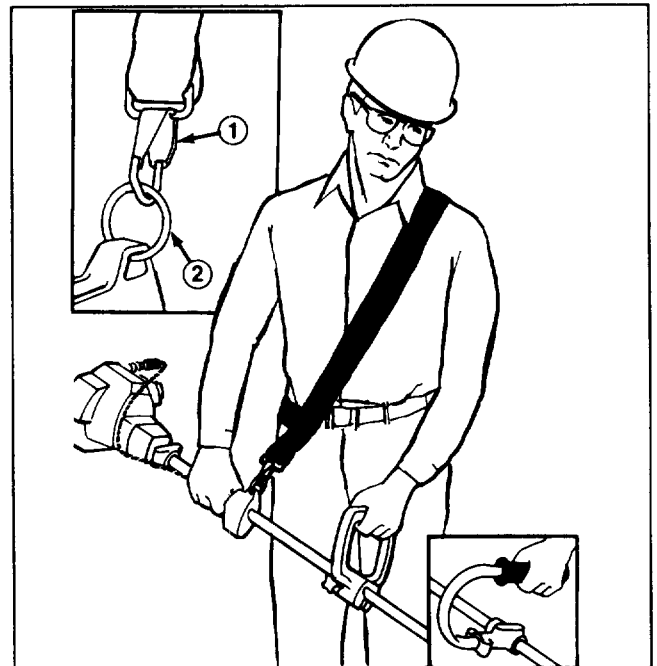


Figure 3

- | | |
|-----------------|----------------|
| 1. Harness hook | 2. Hanger ring |
|-----------------|----------------|

2. Snap harness hook through ring in harness clamp.
3. Adjust harness to a comfortable position for holding trimmer.

RELEASE HARNESS

1. Unsnap harness hook from hanger ring (Fig. 3).

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. 4)

1. **APPROVED MIXTURE**—For simplicity and best engine performance, mix the contents of one 8 ounce bottle of Toro 32:1 Two-Cycle Oil with two gallons 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 two gallons of gasoline and 8 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.

IMPORTANT: YOU CAN ALSO USE TORO "EASY MIX" TWO-CYCLE OIL (3.2 OUNCE BOTTLE MIXED ON PER GALLON OF GASOLINE/40:1 RATIO) IN THIS TORO TWO-CYCLE ENGINE.

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. Install 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, GASOHOL 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.

32:1 GAS/OIL Mixing Chart

U.S. GALLON	
Gasoline	Oil
1 gallons	4 oz.
2 gallons	8 oz.

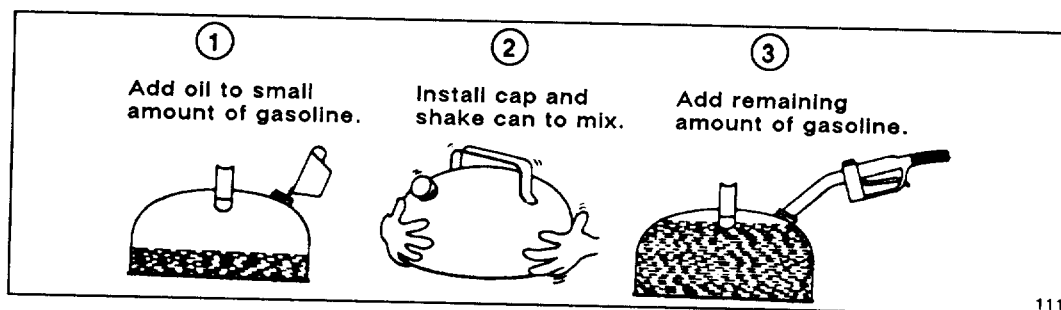


Figure 4

111

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 the body in the cutter head area until you are sure the cutter head has stopped.

STARTING AND STOPPING (Fig. 6 & 7)

Cold Engine

1. Lay trimmer on a flat surface with engine in upright position.
2. Raise tickler button and hold up while pushing primer bulb repeatedly until no bubbles can be seen in the sight tube.
- Note:** If primer bulb is pushed repeatedly without holding tickler button up, engine flooding may result.
3. Move ignition switch to "ON" position.
4. Leave throttle trigger in idle position and move choke to "UP" position.
5. Pull recoil starter handle out slowly until starter ratchets are engaged, then pull handle with short, sharp strokes until engine starts. Lower choke halfway for 10-30 seconds, then lower completely.

Note: If engine fails to start, lower choke completely and squeeze and hold throttle trigger halfway, then repeat step 5.

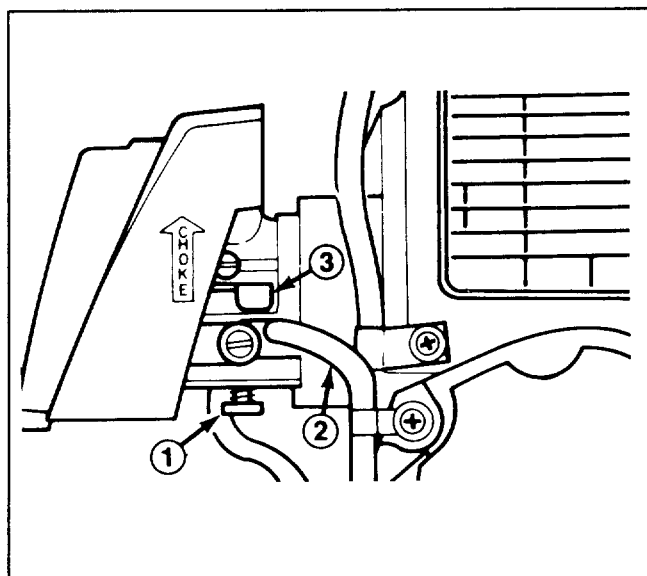


Figure 5

1. Tickler button
2. Sight tube
3. Choke lever

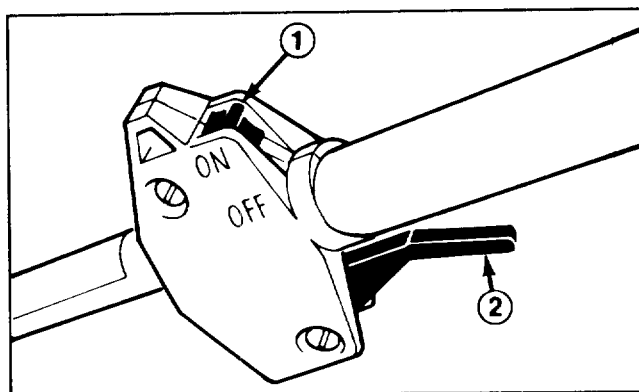


Figure 6

1. Ignition switch
2. Throttle trigger

Warm Engine

1. Move ignition switch to "ON" position.
2. Leave throttle in idle position.
3. Pull recoil starter (3) times. If engine does not start, raise choke, pull recoil starter once, lower choke, then pull starter until engine starts.

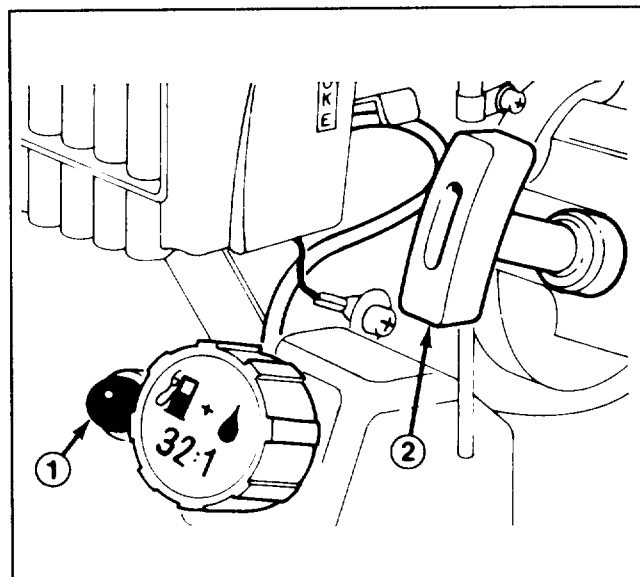


Figure 7

1. Primer bulb
2. Recoil starter

Note: If using gasohol or gasoline containing ethanol (noted on fuel pump where purchased), partial choke may be necessary when starting trimmer.

To Stop Engine:

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



WARNING

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

OPERATING INSTRUCTIONS

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, wait until cutter head has completely stopped rotating, 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 8.

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

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 RPM without line extended.
5. When starting trimmer engine initially, check carburetor adjustments, refer to Adjusting Carburetor, page 8.

OPERATING TIPS



WARNING


Always wear safety goggles or other suitable eye protection, 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).

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.

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 U-handle according to your height and the job you are doing. Be sure to stand on the left of the trimmer so it rests at your right hip. 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. Always tip the leading edge of the cutting line slightly downward to gain maximum efficiency.



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 attachments 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 FRACTURE RESULTING IN PERSONAL INJURY OR DEATH.

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

OPERATING INSTRUCTIONS

5. The life of your cutting line is dependent upon following the preceding 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.



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 ensure 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.



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

To replace cutting line when your factory furnished supply runs out, you may purchase replacement line from your Toro retailer.



WARNING

Shut off engine and be certain cutter head has completely stopped rotating before inverting trimmer.

The aluminum fixed line head uses either 2.5 mm (.105") or 3.3 mm (.130") line. Because of the added load put on the engine when using the thicker line, be sure to cut the line to the proper length:

DIAMETER	LENGTH
2.5 mm (.105")	40.5 cm (16")
3.3 mm (.130")	35.5 cm (14")



WARNING

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

1. Cut line to the proper length specified in the chart.

2. Mark the center of the line with a felt tipped marker.

3. Thread the line through the cutter head guides as shown in Figure 8. Make sure that the center-line mark lines up on the cutter head shaft.

IMPORTANT: While it is possible to use two lines with the metal fixed line head, best cutting results are obtained by using only one line.

MAINTENANCE

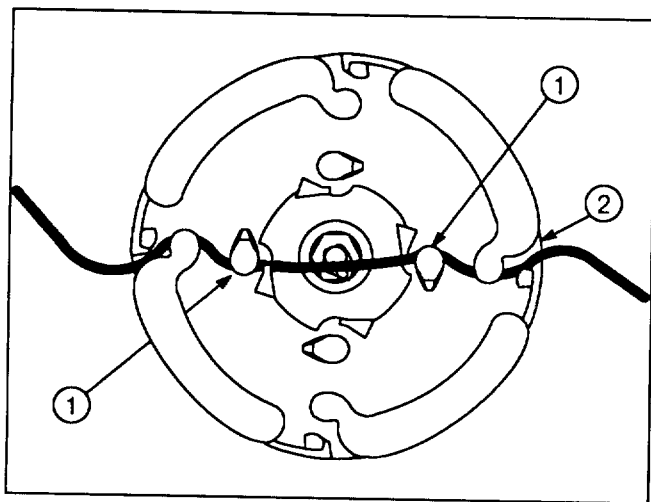


Figure 8

1. Cutter head guides 2. Position in slot

ADJUSTING CARBURETOR (Fig. 9)

The carburetor has been adjusted at the factory, but an adjustment may be required to compensate for differences in fuel, temperature, and altitude.

IMPORTANT: Correct amount of line must be installed on trimmer head before adjusting carburetor.

IMPORTANT: Do not adjust screws too tight because the screw and seat will likely be damaged.

1. Fuel Mixture Screw—Close screw by gently rotating it clockwise until a slight seating resistance is felt. Next, rotate screw $2\frac{1}{2}$ turns counterclockwise.

2. Idle Speed Screw—Close screw by gently rotating it clockwise until spring is compressed. Do not overtighten spring so coils overlap. Next, rotate screw 4–5 turns counterclockwise.

Note: These settings are approximate; however, they will allow engine to be started so carburetor can be fine tuned — steps 5–8.



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.

3. 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 (2700–3100 RPM). Turning screw clockwise increases idle speed, counterclockwise decreases idle speed.

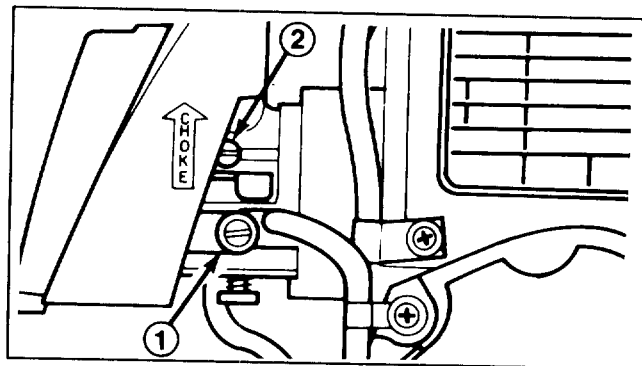


Figure 9

1. Fuel mixture screw 2. Idle speed screw

Note: When making adjustments turn adjustment screw $\frac{1}{8}$ turn at a time and wait for engine to respond to change.

4. With the throttle trigger in the maximum speed position, turn the fuel mixture screw clockwise slowly and note the position at which the engine speed is reduced. Now turn the fuel mixture screw counterclockwise and again note the position when speed is reduced. Set the screw in the midway position.

Note: Minor adjustments to the fuel mixture screw may be necessary to produce maximum power when operating under heavy cutting conditions. To increase cutting power, turn the fuel mixture screw counterclockwise $\frac{1}{16}$ turns at a time. Test cutting power at each setting until the optimum position is found.

5. Recheck idle speed and adjust if necessary to 2700–3100 RPM.

IMPORTANT: Cutter head should not rotate at idle speed.

SERVICING MUFFLER (Fig. 10)

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

1. Remove three (3) screws securing muffler cover to trimmer.

2. Remove two (2) flange nuts securing muffler and gasket to trimmer.

3. Clean any carbon buildup from inside of muffler.

4. Rotate the engine crankshaft until the piston totally covers the exhaust port. Clean the exhaust port area by using a clean, flat piece of 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.

MAINTENANCE

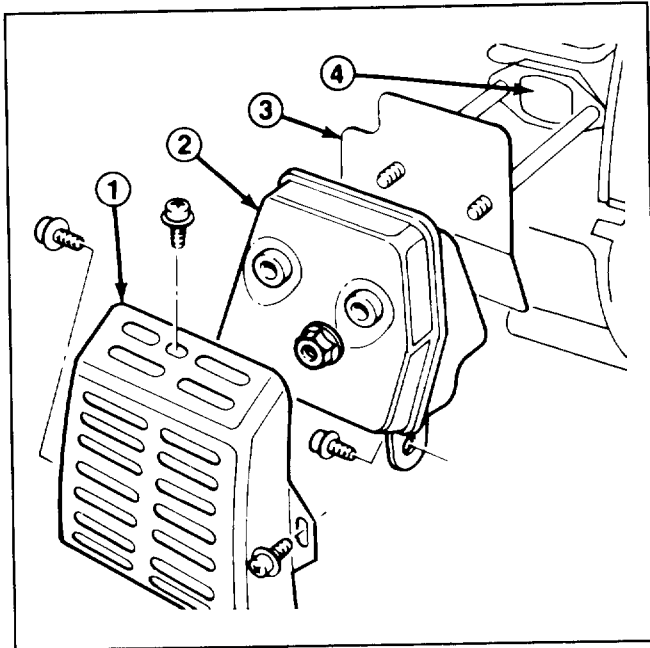


Figure 10

- | | |
|------------------|-----------------|
| 1. Muffler cover | 3. Gasket |
| 2. Muffler | 4. Exhaust port |

5. Make sure the muffler gasket is still useable (replace, if necessary) and install muffler and muffler cover to trimmer. Tighten all fasteners securely.

REPLACING SPARK PLUG (Fig. 11)

Use an NGK BM-6A 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. Pull wire off spark plug.
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). Install correctly gapped spark plug and gasket seal. Tighten plug firmly to 9 ft-lb (1.2 Kg-m).

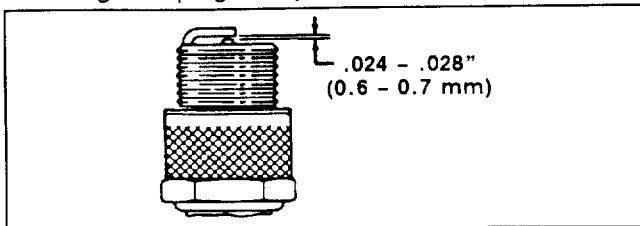


Figure 11

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. 12)

After every 25 hours of operation inspect and clean air cleaner.

1. Remove two (2) screws securing air cleaner cover to trimmer.
2. Carefully remove filter grid, foam filter and filter screen.

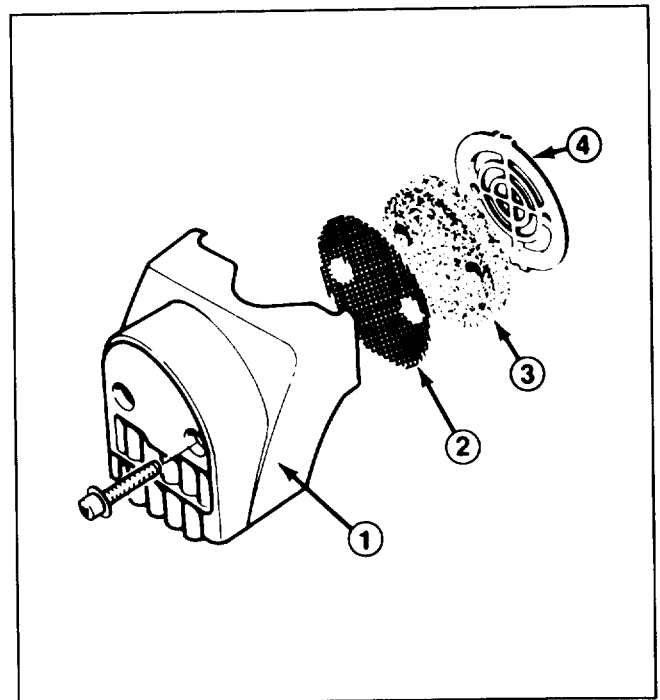


Figure 12

- | | |
|----------------------|----------------|
| 1. Air cleaner cover | 3. Foam filter |
| 2. Filter screen | 4. Filter grid |

3. Wash foam filter in a soap and water solution and thoroughly dry. 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. Wash the filter screen in a clean solvent and air dry. If filter shows any sign of damage, replace it.

6. Reinstall air cleaner components as shown in Figure 12.

MAINTENANCE

REPLACING FUEL FILTER (Fig. 13)

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.

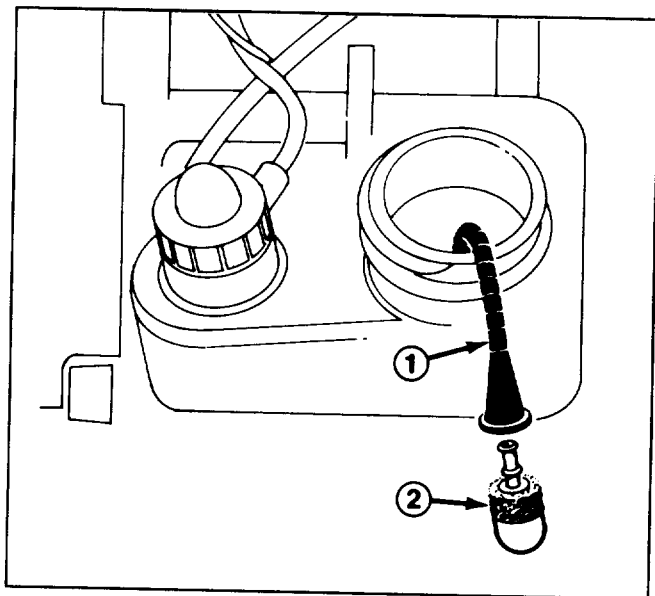


Figure 13

1. Suction hose

2. Fuel filter

ADJUSTING THROTTLE CONTROL (Fig. 14)

1. Remove two (2) screws securing air cleaner cover to trimmer.

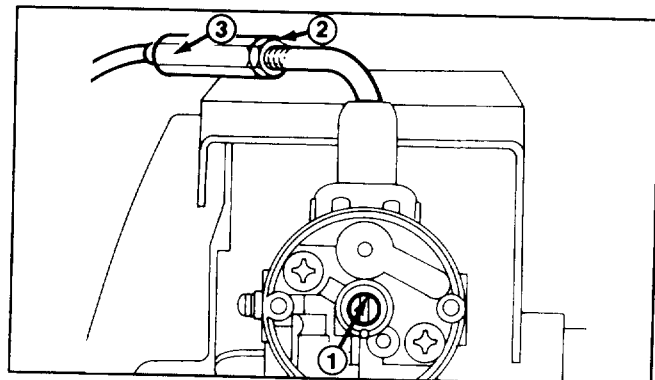


Figure 14

1. Throttle valve (in up position)
2. Stop

3. Jam nut
3. Turn buckle

Note: When removing air cleaner, note sequence in which air cleaner components are installed.

2. Squeeze throttle trigger and note travel of throttle valve in carburetor opening. Throttle valve should travel to top of carburetor opening when trigger is in full throttle position.

3. To adjust, loosen jam nut on throttle cable and rotate turnbuckle to increase or decrease travel of throttle valve.

4. Tighten jam nut and check adjustment.

5. Reinstall air cleaner cover and air cleaner components to trimmer. See Servicing Air Cleaner, Figure 12 for component sequence.

6. Check idle speed and adjust, if necessary. Refer to Adjusting Carburetor, page 8.

CLEANING CUTTING HEAD (Fig. 16)

Stringy weeds or other debris may become wound around gear case shaft. Cutter head assembly must be removed and cleaned periodically.

1. Drain gasoline from fuel tank. Pull wire off spark plug.

2. Insert a flat bladed screwdriver into the slot in the top of the shield to prevent the cutter head from rotating during spool removal (Fig. 15).

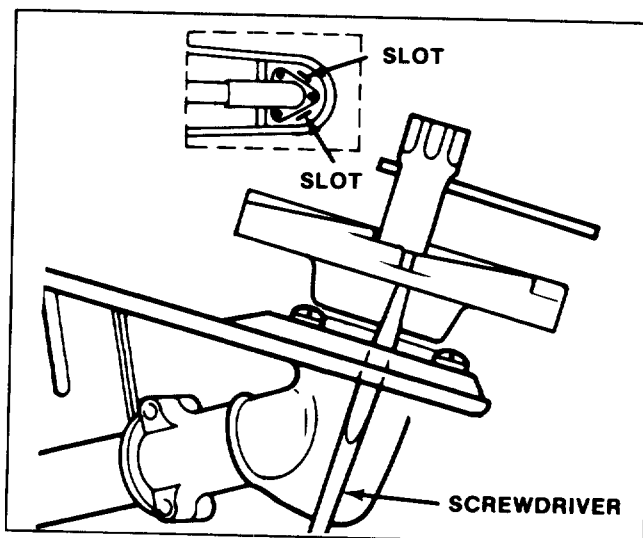


Figure 15

3. Remove the nut by turning *clockwise* (as viewed from the bottom of the spool) (Fig. 16).

MAINTENANCE

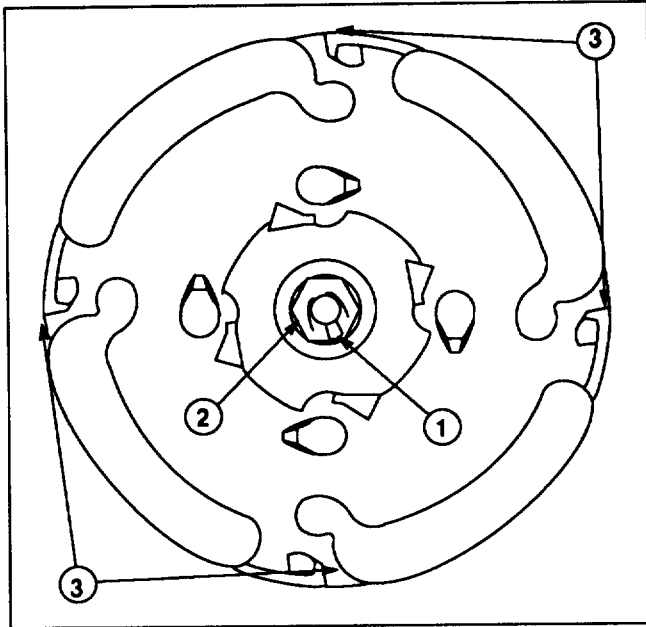


Figure 16

1. Cotter pin 2. Nut 3. Check for burrs

4. Remove the spool, being careful not to lose the insert (Fig. 17).

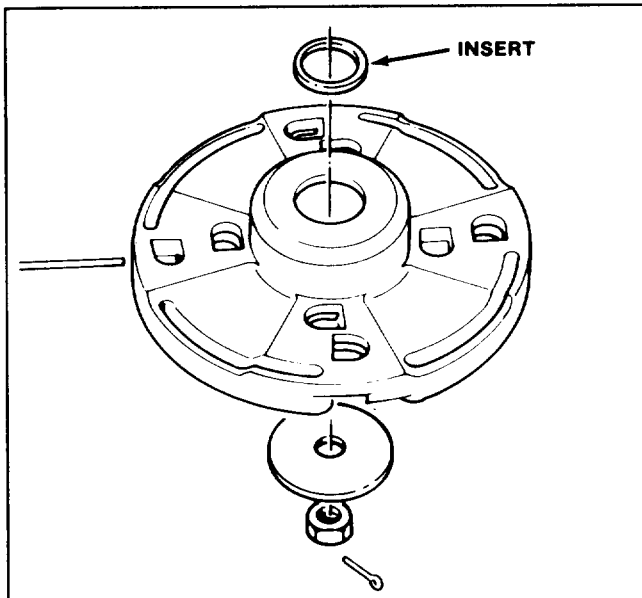


Figure 17

1. Insert

5. Inspect the spool for damage. Pay particular attention to the area where the line exits the spool. Burrs in this area can lead to premature line breakage (Fig. 16). Clean out any debris

wrapped around gear case shaft or under cutter head.

6. Reinstall cutter head.



CAUTION

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

LUBRICATING GEAR CASE (Fig. 18)

Every 40 hours of operation, lubricate the gear case.

1. Remove cutter head and gear case cap from gear case shaft. Refer to Cleaning Cutting Head, page 10.

2. Clean any debris under gear case cap.

3. Using pliers, remove spacer sleeve from gear case shaft.

IMPORTANT: Failure to remove this sleeve can result in over-packing the gear case with grease, which can cause gear case over-heating and subsequent damage to gear case and trimmer head.

4. Fill gear case with a good quality multi-purpose Lithium base grease until grease comes out around gear case shaft.

5. Reinstall spacer sleeve, gear case cap, and cutter head. Tighten cutter head securely.

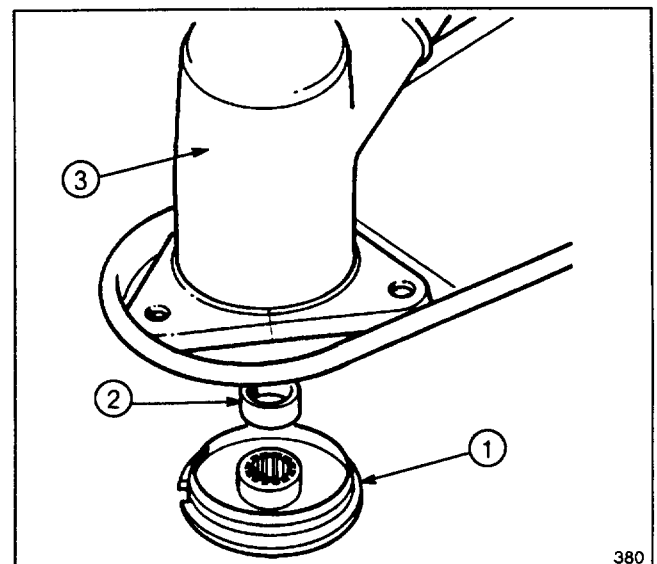


Figure 18

1. Gear case cap 2. Spacer sleeve 3. Grease fitting location

380

MAINTENANCE

PREPARING TRIMMER FOR STORAGE

1. For long term storage, either drain gasoline from fuel tank or add a fuel stabilizer 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 stabilizer 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.

3. Remove dirt and grime from external parts of trimmer housing. Also clean the cooling system: refer to Cooling System Service, page 9.

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 2 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 INSTALL WIRE ON SPARK PLUG.**

5. Check condition of cutter head; replace line, if necessary; refer to Replacing Cutting Head, page 7.

6. Clean the air cleaner if necessary: refer to Servicing Air Cleaner, page 9.

7. Lubricate Gear Case, if necessary: refer to Lubricate Gear Case, page 11.

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.

OPTIONAL SPARK ARRESTOR MUFFLER—PART #52-5090

If a spark arrestor muffler is required because of local, state or federal regulation, it may be purchased at your local Authorized TORO Service Dealer. If trimmer is operated on any California forest, brush or grass covered land without a properly operating spark arrestor muffler, the operator is violating state law, Section 4442 Public Resources Code.

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.

ACCESSORIES

PART NO.	DESCRIPTION
46-2961	Deluxe Shoulder/Waist Harness
57-5670	Dual-Line Manual Feel Cutter Head (.105 dia.)
51-2760	Non-Metallic Fixed-Line Cutter Head (.105" x 16" segments)
83-4610	Dual-Line Bump Feed Cutter Head (.080 dia.)
83-4600	Single-Line Bump Feed Cutter Head (.095 dia.)
61-4540	Bracket/Knife Blade Assembly (use with 61-4571 shield and fasteners for bump-feed cutter heads)
52-5090	Spark Arrestor Muffler Kit
83-4650	Dual-Line Prewound Spool (.080 Dia.)
83-4660	Single-Line Prewound Spool (.095 Dia.)
43-5000	.080 Line (38 ft.)
46-2710	.080 Line (405 ft.)
41-6820	.095 Line (285 ft.)
46-2730	.105 Line (235 ft.)
52-5070	.105 Line (20 ft.)
47-2260	.105 Line (16" segments) (100 pcs.)
42-0580	.130 Line (14" segments) (100 pcs.)
46-2740	.130 Line (465 ft.)

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	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> A. Wrong fuel mix B. Clogged air cleaner C. Engine overheating D. Carbon build-up in exhaust system E. Throttle cable maladjusted 	<ul style="list-style-type: none"> 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. Refer to Adjusting Throttle Control.
Engine runs erratically.	<ul style="list-style-type: none"> A. Carburetor maladjusted. B. Contaminated fuel C. Fuel filter plugged 	<ul style="list-style-type: none"> A. Adjust: refer to Adjusting Carburetor. B. Drain fuel tank. Fill fuel tank with fresh fuel mixture. Refer to Before Operating. C. Replace fuel filter.
Engine stops running	<ul style="list-style-type: none"> A. Out of fuel B. Fuel filter plugged 	<ul style="list-style-type: none"> A. Fill fuel tank. B. Replace fuel filter.
Trimmer vibrates abnormally	<ul style="list-style-type: none"> A. Line length not even on both sides of cutter head B. Cutter head cracked or otherwise damaged 	<ul style="list-style-type: none"> A. Adjust line lengths. B. Replace damaged part immediately.



The Toro Promise
A Two Year Limited Warranty
On All
Gasoline Powered Consumer Products

The Toro Company promises to repair these TORO Products if defective in materials or workmanship. The following time periods from the date of purchase apply:

Residential Product	2 Years
Residential Products Used Commercially	45 Days
Straight Shaft Trimmers, 3 H.P. Edger, Back Pack Blowers, 5 H.P. Lawn Vac, 5 H.P. Blower Used Commercially	90 Days

The cost of parts and labor are included, but the customer pays the transportation costs. Just return any residential product to an Authorized TORO Service Dealer or TORO Distributor.

Should you feel your TORO Product is defective and wish to rely on The Toro Promise, the following procedure is recommended:

1. Contact any Authorized TORO Service Dealer, TORO Master Service Dealer, or TORO Distributor (the Yellow Pages of your telephone directory is a good reference source).
2. He will either instruct you to return the product to him or recommend another Authorized TORO Service outlet which might be more convenient.
3. Bring the product along with your original sales slip, or other evidence of purchase date, to the service dealer.
4. The servicing dealer will inspect the unit, advise you whether the product is defective and, if so, make all repairs necessary to correct the defect without extra charge to you.

If for any reason you are dissatisfied with the analysis of the defect or the service performed, you may contact us.

Write: TORO Customer Service Dept.
8111 Lyndale Avenue South
Minneapolis, MN 55420

The above remedy of product defects through repair by an Authorized TORO Service Dealer is the purchaser's sole remedy for any defect.

THERE IS NO OTHER EXPRESS WARRANTY EXCEPT FOR THE TORO STARTING GUARANTEE ON GTS ENGINES. ALL IMPLIED

WARRANTIES OF MERCHANTABILITY AND FITNESS FOR USE ARE LIMITED TO THE DURATION OF THE EXPRESS WARRANTY.

Some states do not allow limitations on how long implied warranty lasts, so the above limitation may not apply to you.

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.

All warranty repairs reimbursable under The Toro Promise must be performed by an Authorized Toro Service Dealer using Toro approved replacement parts.

Repairs or attempted repairs by anyone other than an Authorized TORO Service Dealer are not reimbursable under the TORO Promise. In addition, these unauthorized repair attempts may result in additional malfunctions, the correction of which is not covered by warranty.

THE TORO COMPANY IS NOT LIABLE FOR INDIRECT OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH THE USE OF THE PRODUCT INCLUDING ANY COST OR EXPENSE OF PROVIDING SUBSTITUTE EQUIPMENT OR SERVICE DURING PERIODS OF MALFUNCTION OR NON-USE.

Some states do not allow the exclusion 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.