



MODEL NO. 51660 – 2000001 & UP

OPERATOR'S MANUAL

TC3500 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 number 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. Keep the area of operation clear of all persons, especially 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, 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 one-half inch (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 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

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 thrown debris 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

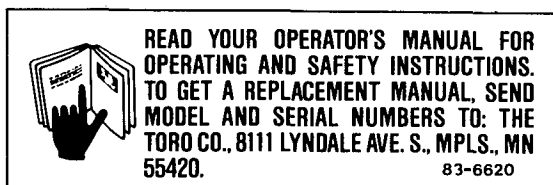
14. Avoid using the trimmer near rocks, gravel, stones or other debris which could be picked up and thrown or personal injury could result.
15. Use trimmer only in daylight or good artificial light.
16. Shut off engine and be certain all moving parts have completely stopped rotating before inverting 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

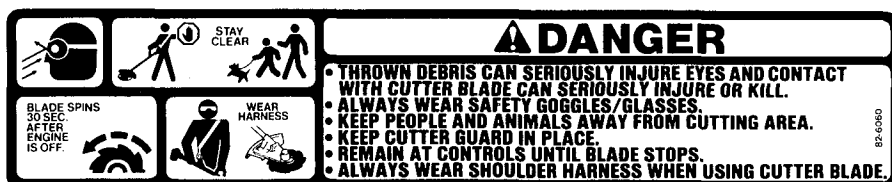
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or lost.



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	12
Before Operating	4	Cleaning Cutter Head	12
Operating Instructions	5	Lubricate Gear Case	13
Maintenance	8	Preparing Trimmer for Storage	13
Replacing Cutting Line	8	Optional Spark Arrestor Muffler	14
Adjusting Carburetor	9	Product Identification	14
Servicing Muffler	10	Toro Service Support	14
Replacing Spark Plug	11	Accessories	14
Cooling System Service	11	Troubleshooting Chart	15
Servicing Air Cleaner	11	The Toro Total Coverage Guarantee	
Replacing Fuel Filter	11		

ASSEMBLY INSTRUCTIONS

MOUNT J—HANDLE (Fig. 1)

1. Loosely secure J—handle to tube (between decals) with handle clamp. Do not cover safety decals with handle clamp.
2. Position handle to ensure maximum comfort and balance for operator. Handle can be adjusted for right or left hand operator. Position on right side of tube for right handed operator. Tighten clamp screws.

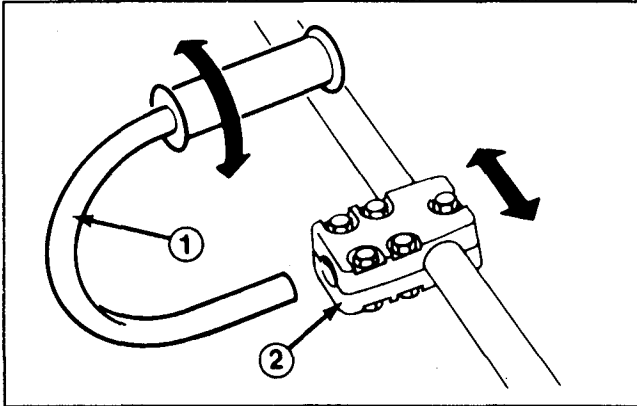


Figure 1

1. Handle 2. Handle clamp

ATTACH HARNESS (Fig. 2)

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

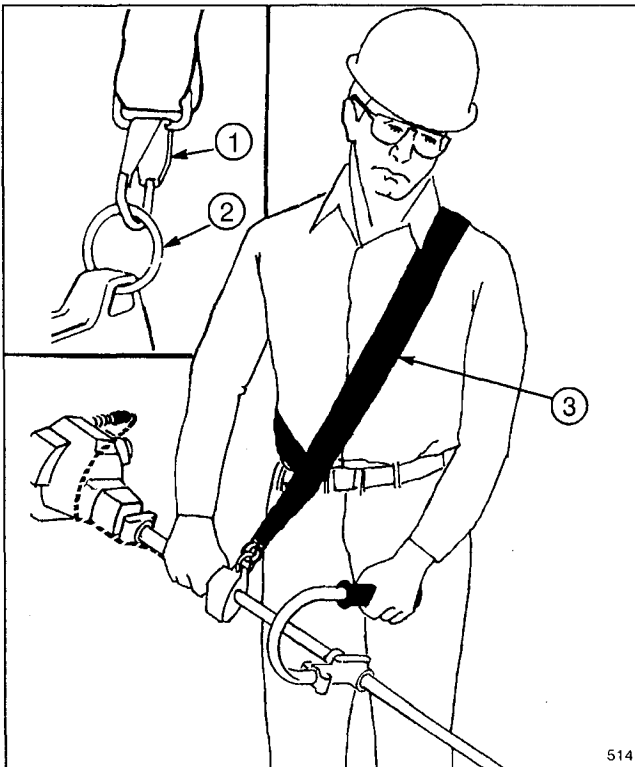


Figure 2

1. Harness hook 2. Ring 3. Double strap loop

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

TO RELEASE HARNESS:

1. Unsnap harness hook from hanger ring.

INSTALLING OPTIONAL CUTTER BLADE (Figs. 3 & 4)

DANGER

- Rotating cutter blade is sharp.
- Contact with rotating cutter blade will cause severe personal injury or death.
- Stop engine and wait for cutter blade to stop rotating. Disconnect wire from spark plug before inverting trimmer.
- Always wear gloves when handling blade to avoid personal injury.

1. Remove cutting head assembly installed on trimmer. Refer to Cleaning Cutter 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.

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

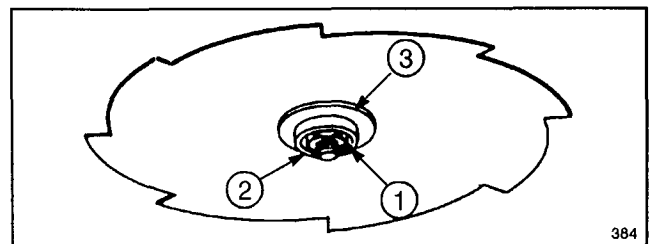


Figure 3

1. Cotter pin 2. Nut 3. Mounting plate

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. 4).

ASSEMBLY INSTRUCTIONS

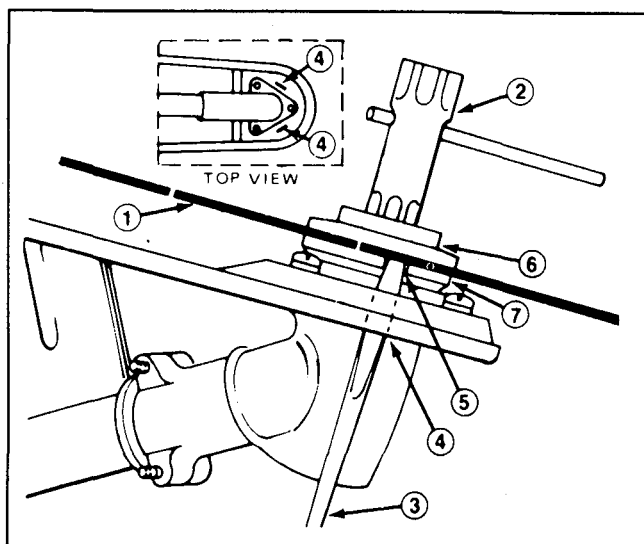


Figure 4

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

5. Insert cotter pin through hole in shaft and wrap ends around shaft (Fig. 3).



DANGER

- Blade could come loose if not securely retained on trimmer shaft with cotter pin.
- Contact with rotating cutter blade will cause severe personal injury or death.
- If cotter pin is missing or damaged, replace it. Insert new cotter pin through hole in shaft and wrap ends around shaft (Fig. 3).



DANGER

- A worn or damaged blade could break and a piece of blade could be thrown into operator's or bystander's area.
- A thrown piece of blade could cause severe personal injury or death.
- 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. 5)

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.**

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, 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. STABILIZERS SHOULD NOT BE USED TO TRY TO ENHANCE THE POWER OR PERFORMANCE OF MACHINE.

BEFORE OPERATING

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 storage.

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.

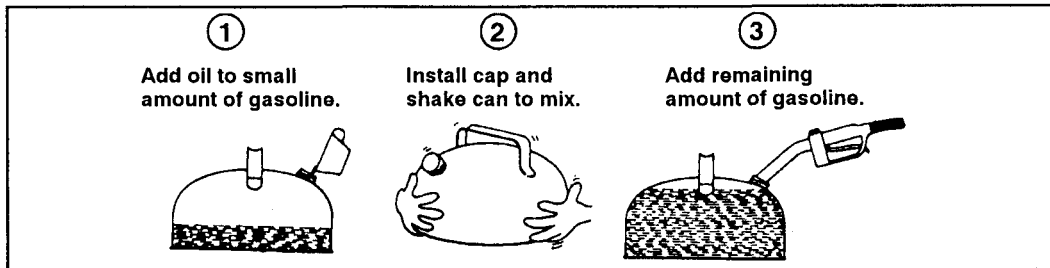


Figure 5

OPERATING INSTRUCTIONS



DANGER

- The cutter head or metal blade continues to rotate for a few seconds after the engine is shut off.
- Contact with rotating cutter head or metal blade will cause serious personal injury or death.
- Do not place any part of the body in the cutter head or metal blade area until you are sure the cutter head or metal blade has stopped rotating.

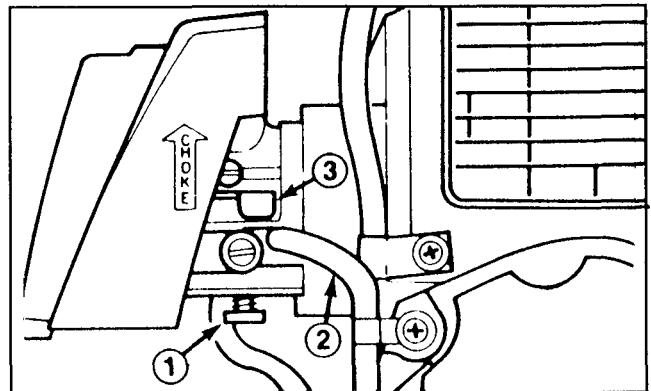


Figure 6

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

STARTING AND STOPPING (Fig. 6 – 8)

Cold Engine

1. Lay trimmer on a flat surface with engine in up-right position.
2. Raise tickler button and hold up while pushing primer bulb repeatedly until fuel drains from the carburetor through fuel sight tube.

Note: If primer bulb is pushed repeatedly without holding tickler button, engine flooding may result.

3. Move ignition switch to "ON" position.
4. Leave throttle trigger in idle position and move choke to "UP" position.

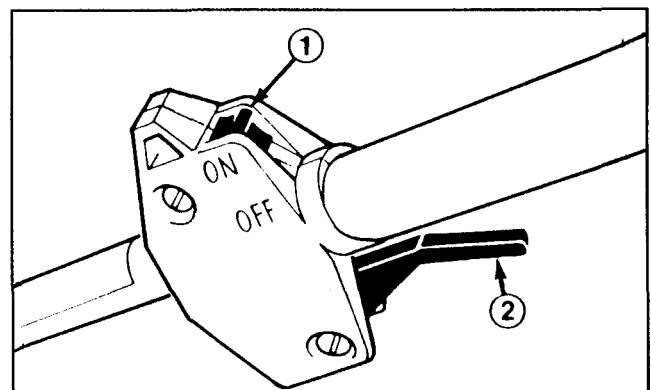


Figure 7

1. Ignition switch 2. Throttle trigger

OPERATING INSTRUCTIONS

5. Pull recoil starter handle out slowly until starter ratchets are engaged, then pull handle with short, sharp strokes until engine starts. Lower choke half-way 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.

Warm Engine

1. Move ignition switch to "ON" position.

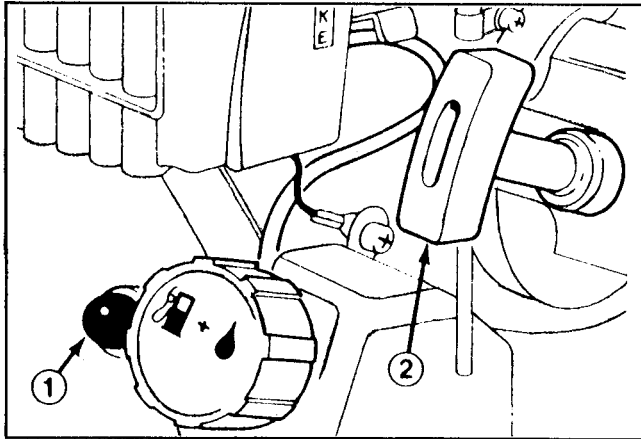


Figure 8

1. Primer bulb

2. Recoil starter

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.

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

To Stop Engine:

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



DANGER

- The cutter head or metal blade continues to rotate for a few seconds after the engine is shut off.
- Contact with rotating cutter head or metal blade will cause serious personal injury or death.
- Do not place any part of the body in the cutter head or metal blade area until you are sure the cutter head or metal blade has stopped rotating.

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 9.

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

2. Squeeze throttle lever to 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 extending line.

OPERATING TIPS

The trimmer with nylon line cutter 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.

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



CAUTION

- Muffler surface becomes hot when trimmer is in operation.
- Contact with hot muffler surface could cause a burn.
- Wear a long sleeve shirt or other similar protection to avoid possible contact with hot muffler surface.



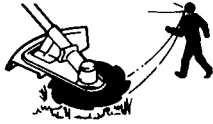
WARNING

- Operating noise of trimmer is loud.
- Exposure to trimmer operating noise over prolonged periods of time (over 2–1/2 hours) could cause hearing damage.
- Ear protection must be worn when operating trimmer for prolonged periods of time (over 2–1/2 hours).

OPERATING INSTRUCTIONS

DANGER

- When trimmer is in operation, objects could be thrown in operator's or bystander's direction.




- Thrown objects could cause serious personal injury or death to operator, bystanders or animals.
- Always wear safety goggles or other suitable eye protection and long pants and shoes 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.

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.

DANGER

- Metal blade spins for up to 30 seconds after shutting engine off.



- Contact with rotating metal blade will cause severe personal injury or death.
- REMAIN AT CONTROLS UNTIL BLADE COMPLETELY STOPS.
- DO NOT OPERATE TRIMMER/BRUSHCUTTER IF CUTTING HEAD GUARD IS NOT IN PLACE.

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 personal injury or death.
- Always be sure of your footing when operating trimmer. KEEP ALL PEOPLE AND ANIMALS FAR AWAY FROM TRIMMER/BRUSHCUTTER WHILE OPERATING.



- ALWAYS USE SHOULDER HARNESS WHEN USING METAL BLADE CUTTING ATTACHMENT.



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 cutter slightly downward to gain maximum efficiency.

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

- THE 8-TOOTH METAL BLADE MAY CRACK IF USED TO CUT PLANTS THAT ARE TOO THICK. A PIECE OF BLADE COULD BREAK OFF AND BE THROWN IN OPERATOR'S OR BYSTANDER'S AREA.
- A THROWN PIECE OF BLADE COULD CAUSE SEVERE PERSONAL INJURY OR DEATH.
- DO NOT USE METAL BLADE TO CUT WOODY PLANTS MORE THAN 1/2" THICK.
- DO NOT USE ANY METAL BLADE IF CRACKED, NICKED, DISTORTED OR DAMAGED IN ANY WAY.

OPERATING INSTRUCTIONS

LENGTHENING CUTTING LINE

Never extend lines more than 6 inches (15 cm) from eyelets or the cutter head RPM will be slowed and cutting efficiency affected.



WARNING

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

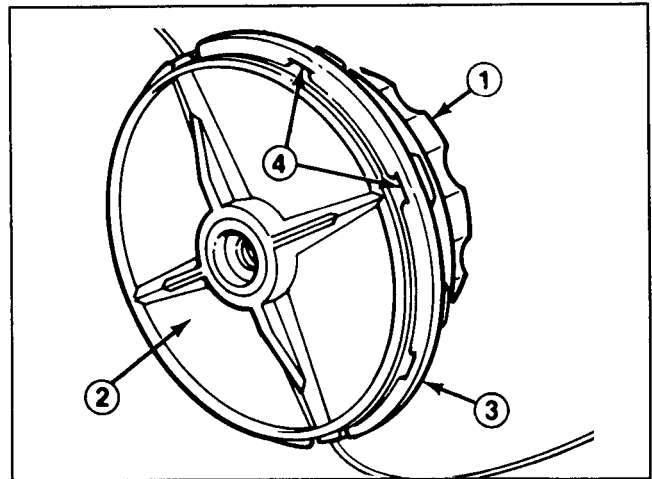


Figure 9

1. Knob
2. Spool
3. Spool housing
4. Spool teeth

1. Loosen spool knob until spool teeth are above spool housing (Fig. 9).
2. Slowly pull out desired amount of line (Fig. 10).
3. Align spool teeth with notches in spool housing and tighten knob securely. Make sure spool teeth are in notches before tightening knob (Fig. 9).

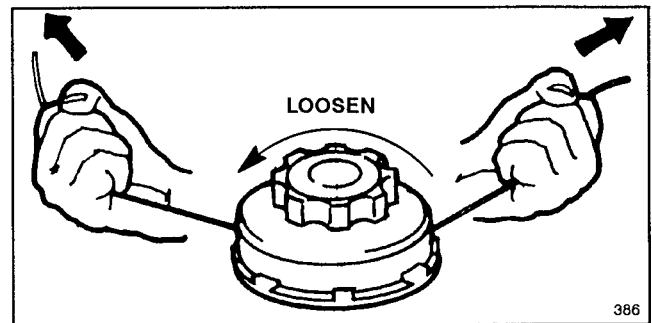


Figure 10

MAINTENANCE

REPLACING CUTTING LINE

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

The cutter head is designed to use .080", .095", .105" or .130" dia. nylon monofilament cutting line.

Use .080" dia. line for trimming fine grasses and light weeds.

Use .095" or .105" dia. line for cutting heavy grasses and weeds.

The .130" dia. line can be used for cutting very thick, stalky weeds.



DANGER

- Cutter head continues to rotate for up to 30 seconds after the engine is shut off.
- Contact with rotating cutter head will cause severe personal injury or death.
- Shut engine off and be certain cutter head has completely stopped rotating before inverting trimmer.

1. Loosen spool knob until it can be removed (Fig. 11).

2. Slide spool housing, spring, and spool from mounting shaft (Fig. 12).

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

- A. Determine correct maximum amount of line to use by using the following chart below:

LINE DIA.	LENGTH (Feet)
.080"	38
.095"	24
.105"	20
.130"	12

- B. Insert end of line into spool line retainer. Pull line thru so equal amounts of line are on each end (Fig. 11).

MAINTENANCE

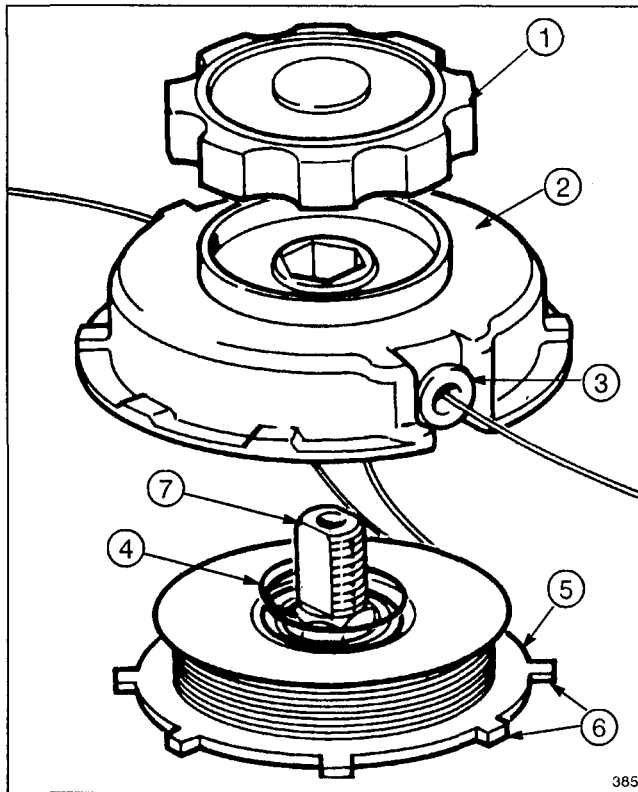


Figure 11

- | | |
|------------------|----------|
| 1. Knob | 5. Spool |
| 2. Spool housing | 6. Teeth |
| 3. Eyelet | 7. Shaft |
| 4. Spring | |

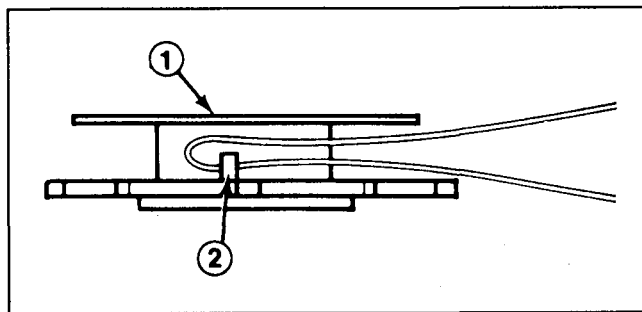


Figure 12

- | | |
|----------|-------------|
| 1. Spool | 2. Retainer |
|----------|-------------|

- C. Wind line in direction of arrows on spool in level rows between spool flanges.
- D. Do not wind more than the correct amount of line on spool as specified in chart. Wound line should not extend outside smaller flange on spool.
- Note:** Before reassembly, be sure to thoroughly clean out spool housing and visually inspect for any damaged or worn parts.
- E. Thread ends of line thru eyelets in spool housing while inserting spool and spring into housing. Make sure teeth fit into notches in spool housing.
- F. Secure spool and housing to mounting shaft with knob.

G. Trim ends of line to equal lengths. Lines should not extend more than 6 inches (15 cm) from eyelets.

ADJUSTING CARBURETOR (Fig. 13)

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 extended from trimmer head before adjusting carburetor.

DANGER

- When engine is running, cutter head is rotating and other parts are moving.
- Contact with rotating cutter head or other moving parts could cause severe personal injury or death.
- Use extreme caution when an adjustment or maintenance procedure must be performed while the engine is running.
- Pull wire off spark plug if engine does not have to be running while performing adjustment or maintenance procedures.

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 screws 2–1/2 turns counterclockwise.

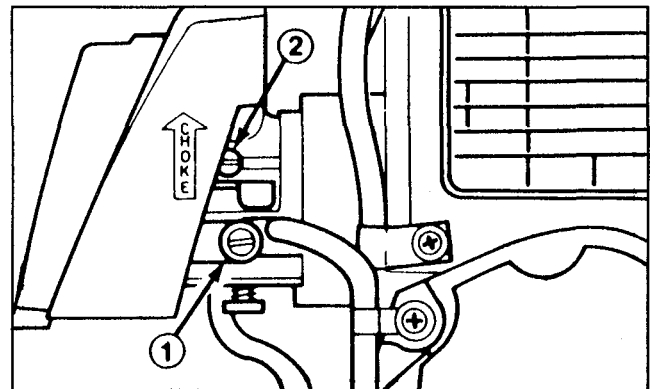


Figure 13

- | | |
|-----------------------|---------------------|
| 1. Fuel mixture screw | 2. Idle speed screw |
|-----------------------|---------------------|

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 allow engine to be started so carburetor can be fine tuned – steps 3–5.

MAINTENANCE

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.



DANGER

- Engine must be running to perform final adjustment of carburetor.
- When engine is running, cutter head is rotating and other parts are moving.
- Contact with rotating cutter head or other moving parts could cause severe personal injury or death.
- Keep hands, feet, and face away from concealed, moving or rotating parts.

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

4. With 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 run 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 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 (Figs. 14 & 15)

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 (Fig. 14).
2. Remove screw securing muffler lid, gasket and baffle to muffler body.
3. Clean any carbon build-up from inside of muffler.

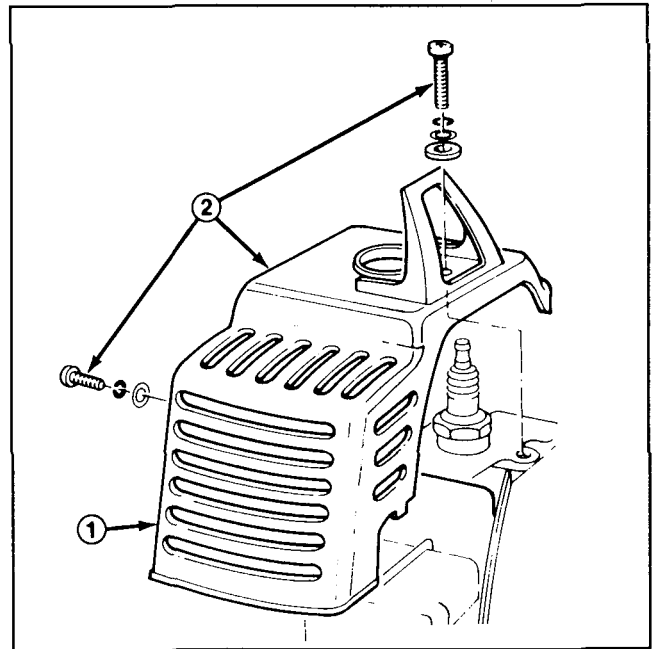


Figure 14

1. Muffler cover

2. Mounting screws (3)

4. Rotate the engine crankshaft until the piston totally covers the exhaust port (Fig. 15). Clean the exhaust port area by using a clean, flat piece of hard wood. Remove all loose particles.

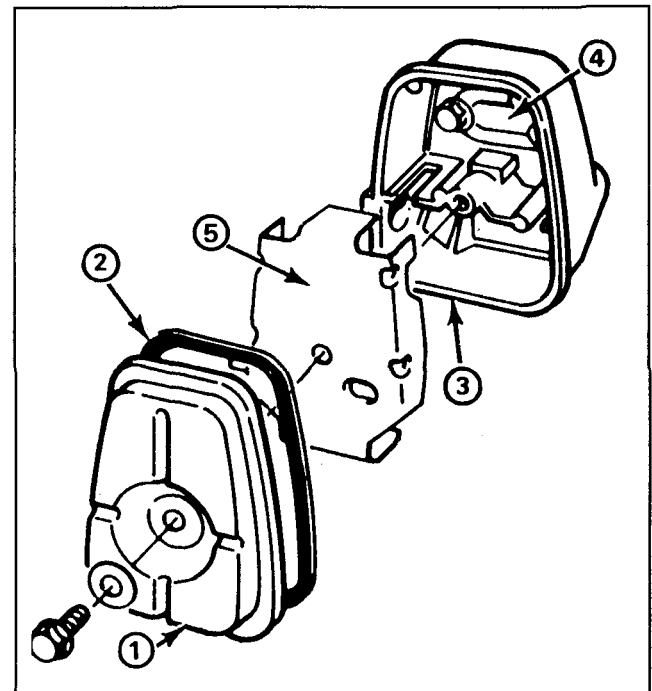


Figure 15

1. Muffler lid
2. Gasket
3. Muffler body

4. Exhaust port
5. Baffle

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

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

REPLACING SPARK PLUG (Fig. 16)

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 and 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) as shown in Figure 16. Install correctly gapped spark plug and gasket seal. Tighten plug firmly to 9 ft–lb (1.2 Kg–m).

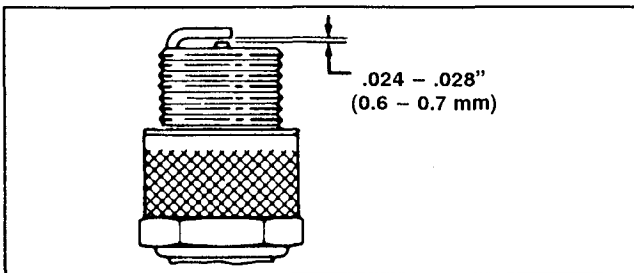


Figure 16

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. 17)

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 and foam filter.
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. Squeeze filter to distribute oil evenly and to remove excess oil. A damp element is desirable.

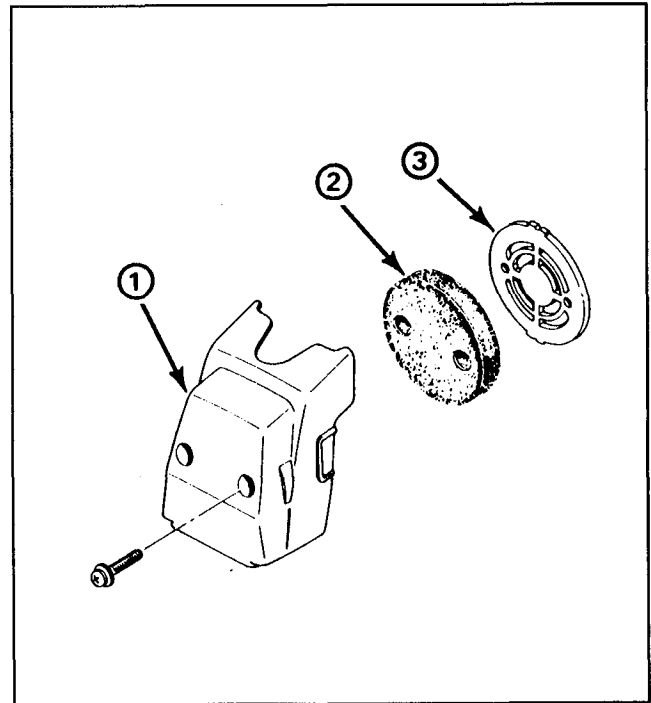


Figure 17

1. Air cleaner cover 2. Foam filter 3. Filter grid

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 17.

REPLACING FUEL FILTER (Fig. 18)

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.

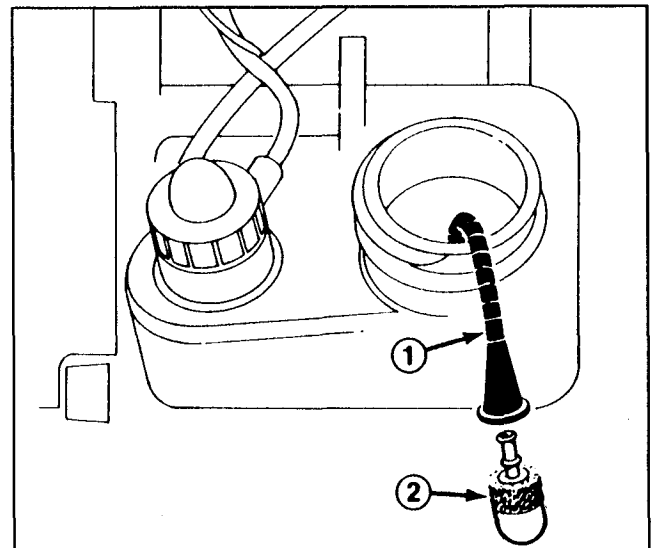


Figure 18

1. Suction hose 2. Fuel filter

MAINTENANCE

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.

ADJUSTING THROTTLE CONTROL (Fig. 19)

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

Note: When removing air cleaner cover, 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 17 for component sequence.
6. Recheck idle speed and adjust if necessary. Refer to Adjusting Carburetor, page 9.

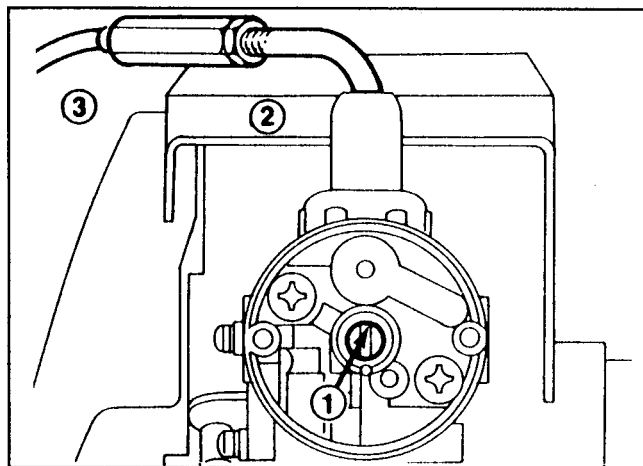


Figure 19

1. Throttle valve (in up position)
2. Jam nut
3. Turnbuckle

CLEANING CUTTER HEAD (Fig. 20)

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 and pull wire off spark plug.



CAUTION

- Gear case becomes hot when trimmer is in operation.
- Personal contact with hot gear case could cause a burn.
- Stay clear of gear case after operating trimmer. Wait for it to cool before attempting any service procedures.

2. Rotate gear case cap until notch in cap is aligned with slot in shield. Insert medium blade screwdriver thru slot in shield and into notch in gear case cap.
3. Keep shaft from rotating by holding screwdriver as shown and rotating cutter head (left hand thread).
4. Remove cutter head and gear case cap.
5. Clean any debris wrapped around gear case shaft or under gear case cap.
6. Reinstall gear case cap and cutter head (left hand thread). Tighten securely.

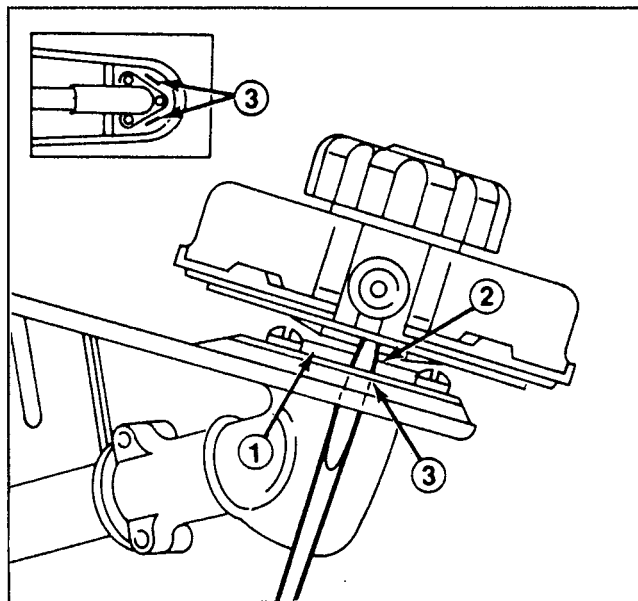


Figure 20

1. Gear case cap
2. Notch in gear case cap
3. Slot in shield

MAINTENANCE

LUBRICATE GEAR CASE (Fig. 21)

Every 40 hours of operation, lubricate the gear case.

! CAUTION

- Gear case becomes hot when trimmer is in operation.
- Personal contact with hot gear case could cause a burn.
- Stay clear of gear case after operating trimmer. Wait for it to cool before attempting any service procedures.

1. Remove cutter head, and gear case cap from gear case shaft. Refer to Cleaning Trimmer Head, page 12.

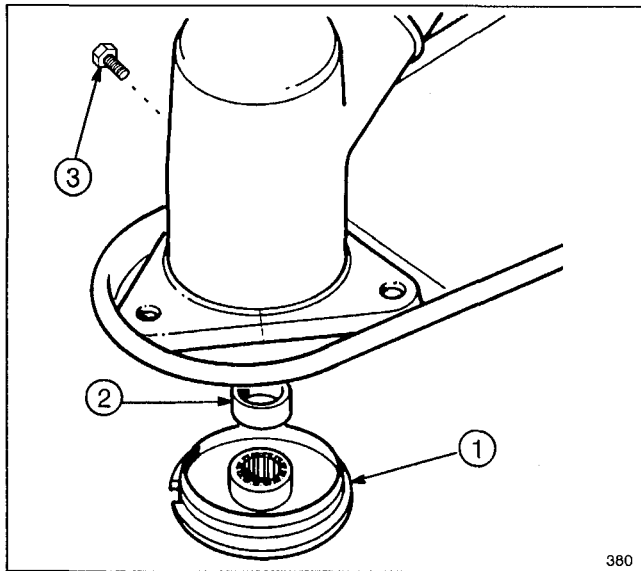


Figure 21

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

2. Clean out any debris from 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 good 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.

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 stabilizer/conditioner. 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.

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 INSTALL WIRE ON SPARK PLUG.**

5. Check condition of cutter head; replace line, if necessary; refer to Replacing Cutting Line, page 8.
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.

OPTIONAL SPARK ARRESTOR MUFFLER

PART #65–4300

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 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 Pages” 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
46–2810	Fixed Line Cutter Head (Aluminum)
51–2760	Fixed Line Cutter Head (Nylon)
83–4610	Dual Line Bump–Feed Cutter Head (0.80 dia. line)
83–4600	Single Line Bump–Feed Cutter Head (.095 dia. line)
41–4440	Metal Blade Adaptor Kit
51–1240	8” Blade (8 T.)
51–1230	8” Blade (80 T.)
83–4650	Prewound Spool (2–.080 Dia.)
83–4660	Prewound Spool (.095 Dia.)
43–5000	.080 Line (38 ft.)
46–2710	.080 Line (405 ft.)
41–6820	.095 Line (285 ft.)
47–2260	16” Line–.105 (100 pcs.)
46–2730	.105 Line (235 ft.)
52–5070	.105 Line (20 ft.)
42–0580	14” Line–.130 (100 pcs.)
46–2740	.130 Line (465 ft.)
61–4540	Cut–off Blade Assembly

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 misadjusted 	<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 misadjusted 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 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
• 300 through 700 Series Tractors (except 612-Z) and 1600 HMR	
Chassis	1 year limited warranty
Engine	2 year limited warranty
• 21" Commercial Duty Walk Mower with blade stop controls	1 year limited warranty
• 200 Series Tractors, Rear Engine Riders, 612-Z, 1200 HMR 3.0 and 3.5 HP Edgers Straight Shaft Trimmers, and Backpack Blowers	90 day limited warranty
• All Others	45 day limited warranty

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.