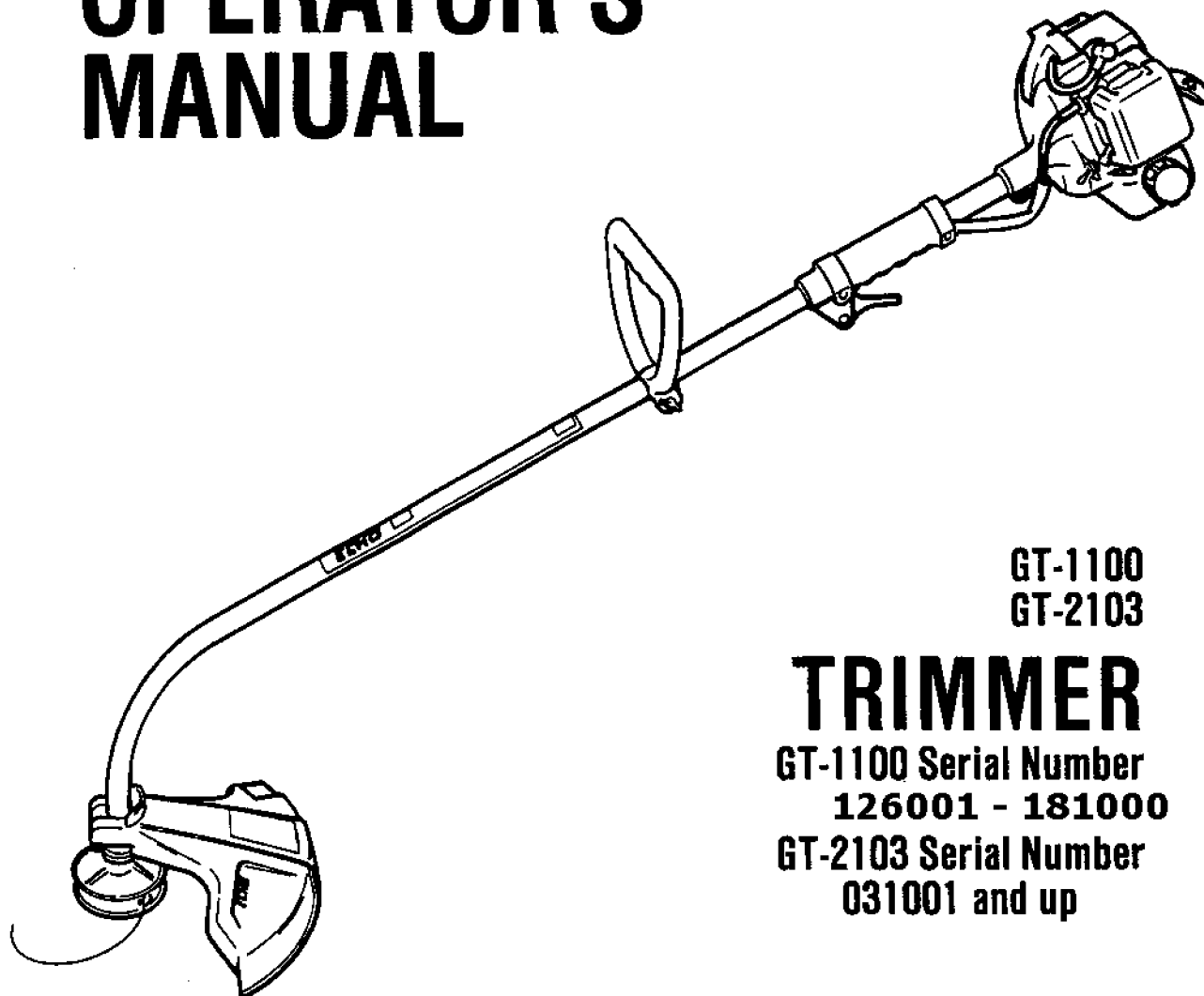


OPERATOR'S MANUAL



GT-1100
GT-2103

TRIMMER

GT-1100 Serial Number
126001 - 181000

GT-2103 Serial Number
031001 and up

WARNING  **DANGER**

READ INSTRUCTIONS CAREFULLY AND
FOLLOW RULES FOR SAFE OPERATION.
FAILURE TO DO SO COULD RESULT IN
SERIOUS INJURY.

ECHO®

898695 50630

9/90


INTRODUCTION

ECHO Weed and Grass Trimmers, Models GT-1100 and GT-2103 are light-weight, high-performance, gasoline powered units designed for grass trimming in areas difficult to control by any other means.

This manual provides the information necessary for assembly, operation and maintenance.

ECHO provides each product with an operator's manual and a safety manual. You must read both manuals to understand the safe and effective operation of your ECHO

product. If you need to obtain a copy of either manual, please write ECHO, Incorporated, 400 Oakwood Road, Lake Zurich, Illinois 60047.

<p>WARNING  DANGER Read rules for safe operation and instructions carefully. ECHO provides an operator's manual and a safety manual. Both must be read for proper and safe operation.</p>
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Specifications, descriptions and illustrative material in this literature are as accurate as known at the time of publication, but are subject to change without notice. Illustrations may include optional equipment and accessories, and may not include all standard equipment.

DECALS

FOLLOW SAFETY DECALS

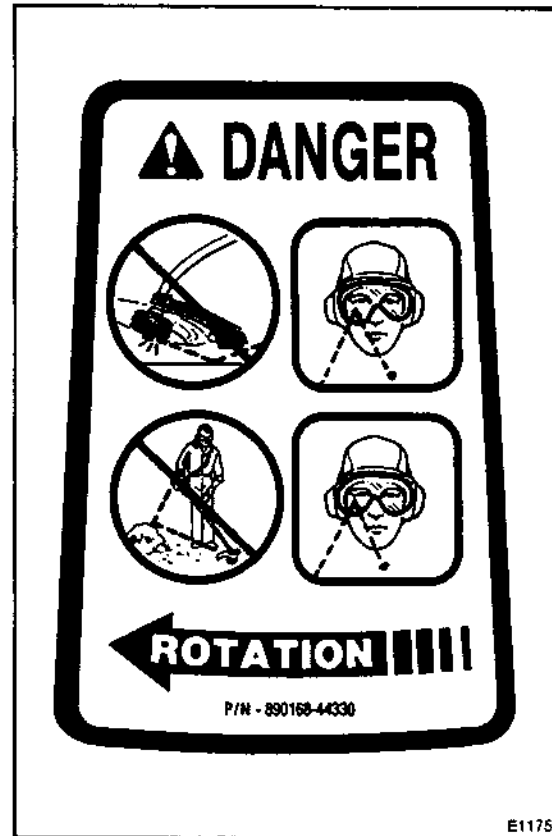
Locate the safety decals on your unit. Make sure decals are legible and that you understand and follow the instructions on them. See page 3 for location of "A", "B" and "C".

A. SHAFT DECAL

—WARNING—DANGER— 

- This unit can be dangerous and can cause serious injury if improperly used. Operators, helpers and bystanders can be severely injured by thrown objects and must wear specified ANSI Z87.1 eye protection. Blindness or loss of eye can occur. Do not rely on cutter head shield to protect eyes. Ricochet can occur.
- To avoid accidental contact, keep everyone beyond operating area.
- To reduce the risk of injury to operator, helpers and bystanders, read and understand your operator's and safety manuals. For a free copy of the safety manual, write to ECHO, INCORPORATED, 400 Oakwood Road, Lake Zurich, Illinois, 60047.
- Keep shield and other components in place and in good condition. Do not use attachments or other parts not approved by Echo.
- GT style (non-blade capable) units must not be converted to blade use except Maxi-Cuts or similar ECHO approved attachments.

B. DEBRIS SHIELD DECAL



C. CUTTER HEAD DECAL

WARNING

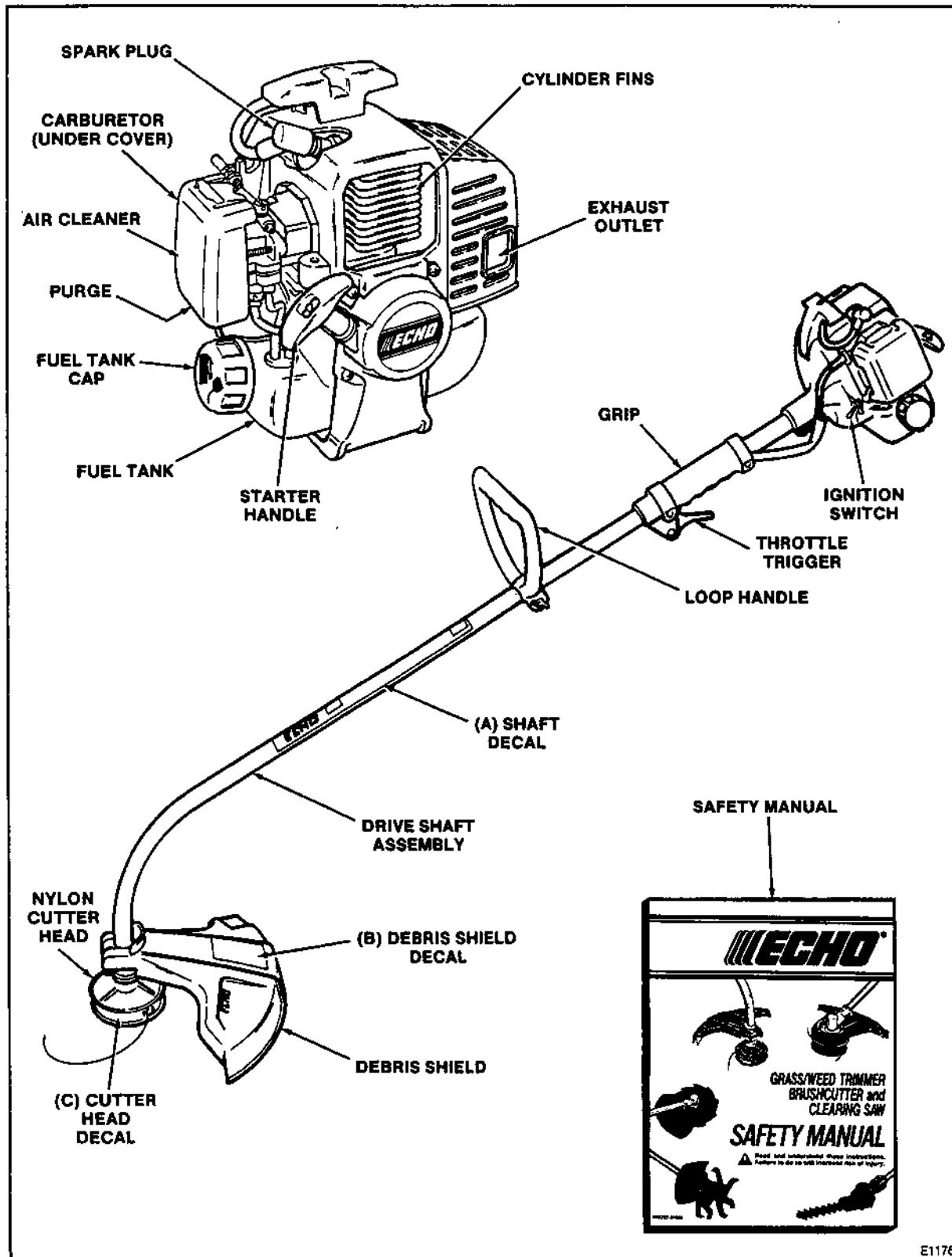
Not to exceed
10,000 R.P.M.

CAUTION

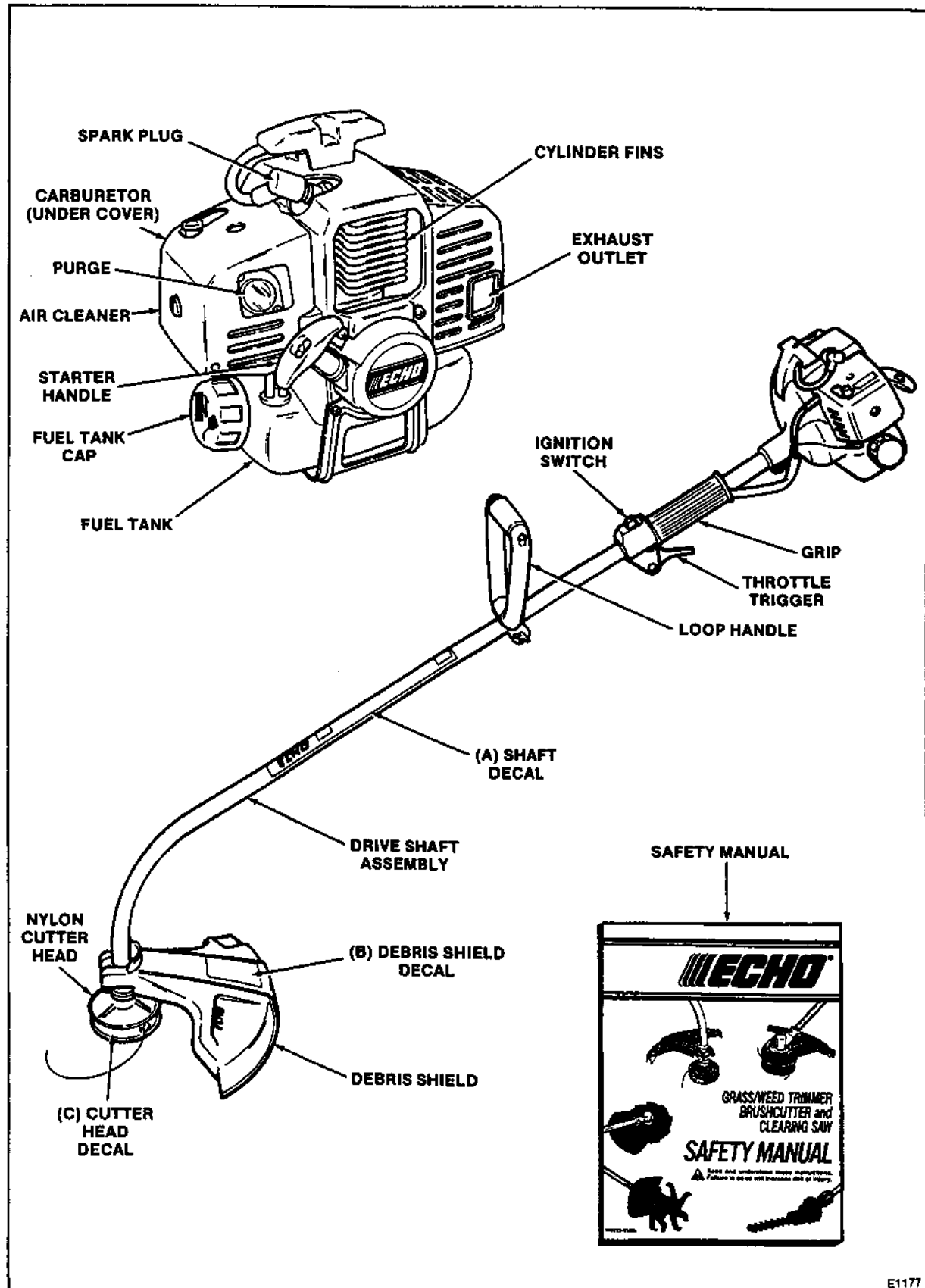
Wear eye protection when operating trimmer.

DESCRIPTION

MODEL GT-1100



MODEL GT-2103



OPERATION

OPERATOR SAFETY

- Read this Trimmer Operator's Manual carefully. Be sure you understand how to operate this unit properly before you use it.
- Wear non-skid sole shoes. Do not wear open-toed shoes or operate unit while bare footed.
- Wear proper clothing to protect legs and other exposed parts of your body.
- Wear eye and hearing protection devices.
- Use caution when handling fuel. Put the gas caps back tightly on both the gas can and the trimmer fuel tank. Move at least 10 feet from the re-fueling point and be sure there is no leakage of fuel from the gas cap or the fuel system before starting the engine.
- Operate this gasoline engine powered equipment in a well-ventilated area only.
- Start the unit on the ground with the throttle set at idle. **Do not** start if the cutting head is obstructed by the ground or any other object.
- Do not overreach or stand on unstable surfaces.
- Inspect area that trimmer will be used in. Remove stones, metal objects and any other object that could jam or damage the trimmer.

WARNING DANGER

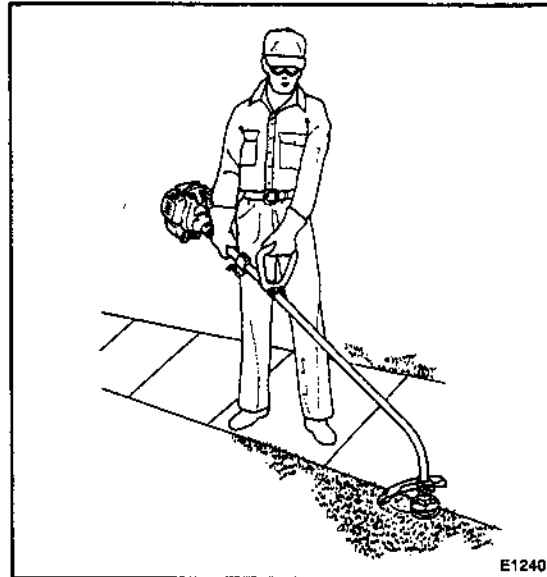
Always stop the engine when a cutting head jam occurs. **DO NOT** attempt to remove an object causing a jam if the engine is running. Physical injury can occur if a jam is removed and the cutting head suddenly starts.

- Do not allow other persons or pets in the area when starting or using the trimmer.
- Keep a firm grip on the trimmer with both hands, the right hand on the rear handle, the left hand on the front handle. Use a firm grip with thumbs and fingers encircling the handles. A firm grip will help you keep control of the trimmer. **NEVER OPERATE** the trimmer with only one hand.
- Do all cutting at full throttle speed. Cutting at less than full speed can damage the clutch by allowing it to slip.
- Always carry the trimmer with the engine stopped and the **HOT** muffler away from your body.

PREPARING FOR USE

WARNING DANGER

Trimmer users risk injury to themselves and others if the trimmer is used improperly, and/or safety precautions are not followed. Proper clothing and safety gear must be worn when operating a trimmer.



PROTECTIVE EQUIPMENT

- Always wear eye protection goggles that meet ANSI Z 87.1 requirements (Z87 is stamped on the goggles).
- Wear hearing protection. If this guideline is not followed, hearing loss can occur. The Occupational Health and Safety Act of 1970 requires the wearing of hearing protection if you use the unit more than two hours per day. Since the guidelines could be revised to require the wearing of hearing protection if you use the unit for less than two hours per day, we recommend that hearing protection be worn at all times.
- Wear snug fitting, durable clothing. Avoid wearing loose clothing that could become entangled when contact is made with the trimmer.
- Wear shoes with non-skid soles to ensure proper footing.
- Wear non-slip, heavy-duty work gloves to improve your grip on the trimmer handles. The gloves also help reduce the transmission of machine vibration to your hands.

PROTECTING OTHERS

Spectators, children, fellow workers and animals must be warned to come no nearer than 33 feet while the trimmer is in use. People working in the area near you should wear the same protective equipment as the operator.

AVOID DAMAGE TO TRIMMER

- If the trimmer is operated for extended periods in high temperatures, the drive shaft housing may become very hot (too hot to touch). Allow unit to cool and check lubrication as outlined in service section before continuing.
- Do not run trimmer at full throttle without load.

PHYSICAL CONDITION

Your judgement and/or dexterity may be impaired if you are ill or have taken alcohol or other substances known to affect the way you would normally function. Operate only when in sound mind and body.


WARNING DANGER PRECAUTION AGAINST VIBRATION AND COLD

It is believed that a condition called Raynaud's Phenomenon which affects the fingers of certain individuals is brought about by exposure to cold and vibration. Exposure to cold and vibration may cause tingling and burning, followed by loss of color and numbness in a person's fingers. We strongly recommend taking the following precautions because the minimum exposure which might trigger the ailment is unknown.

- Keep your body warm - especially head, neck, feet and ankles, and hands and wrists.
- Maintain good blood circulation by performing vigorous arm exercises during frequent work breaks, and also by not smoking.
- Limit the number of hours of operation. Try to fill a part of each work day with jobs where operating the trimmer or other hand-held power tools is not required.
- If you experience discomfort, redness and swelling of the fingers, followed by whitening and loss of feeling, consult your physician before exposing yourself further to cold and vibration.

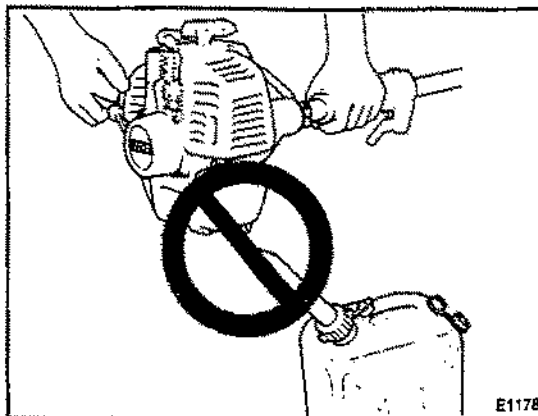
FUEL

HANDLING FUEL

WARNING  DANGER
Handle fuel carefully. It is extremely flammable. Follow all rules listed below to help prevent fire or explosion which may result in severe injury or death.

- Never smoke or allow flame or sparks near fuel.
- Always fill the fuel tank outdoors. Never pour fuel indoors.
- Never refuel the engine when it is hot or running.
- Always use an approved, safe fuel container.
- After fueling, always wipe up spilled fuel.

- Always move at least 10 feet away from the fueling spot before starting the engine.
- Never store the trimmer with fuel in the tank — a fuel leak could start a fire.



MIXING FUEL

2-Stroke Fuel 50:1 Mixture

Mix one part "specially blended ECHO branded 50:1 two cycle engine oil" with 50 parts unleaded gasoline (minimum octane 87).

NOTE

Do not use gasohol or alcohol blended fuels in this engine.

32:1 Mixture (Acceptable Alternative)

Mix one part "specially blended ECHO branded 32:1 two cycle oil" with 32 parts unleaded gasoline (minimum octane 87).

NOTE

Do not use gasohol or alcohol blended fuels in this engine.

NOTE

Use only oils recommended in this section.

NOTE

Do not mix fuel in engine fuel tank.

1. Pour 1/2 of the gasoline into a safe container.
2. Add oil to gas and mix.
3. Add remaining gasoline, remix and fill the fuel tank.
4. Install fuel tank cap and wipe spilled fuel from container and area.

STARTING AND STOPPING

SAFE STARTING TECHNIQUES

NOTE

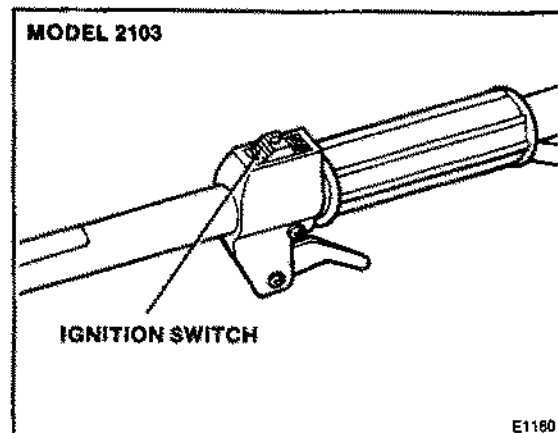
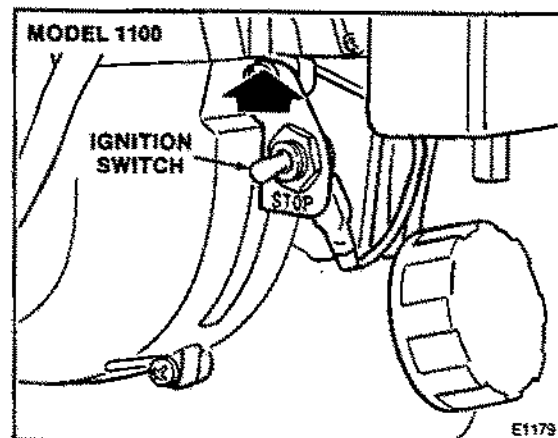
- Check unit for loose nuts, bolts and screws before starting.
- Always clear work area of debris before starting operation.
- Always hold the unit firmly.
- When pulling starting rope, use short pulls, 1/2 to 2/3 of rope length.
- Do not allow the starter handle to snap back against the housing.
- Always hold the unit firmly.

STARTING COLD ENGINE

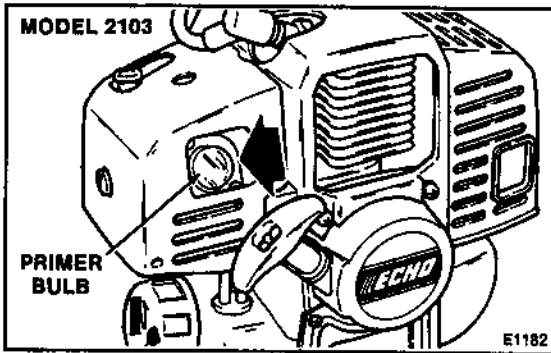
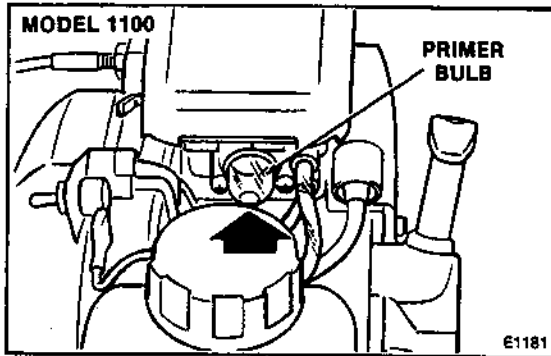
WARNING DANGER

When engine starts, the head may rotate even with trigger in low-speed position.

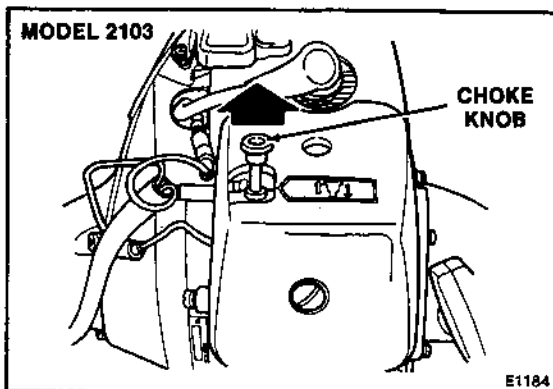
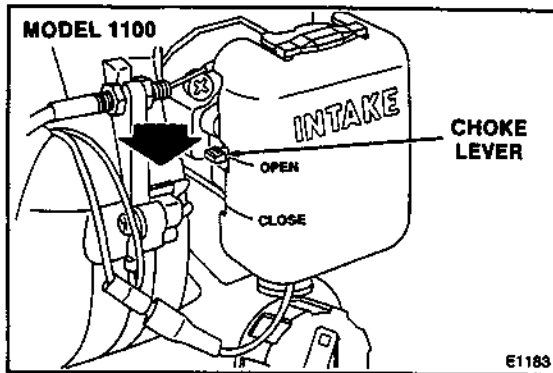
1. Flip ignition switch to START/RUN position for 1100 models. For 2103 models, slide ignition switch to START/RUN position.



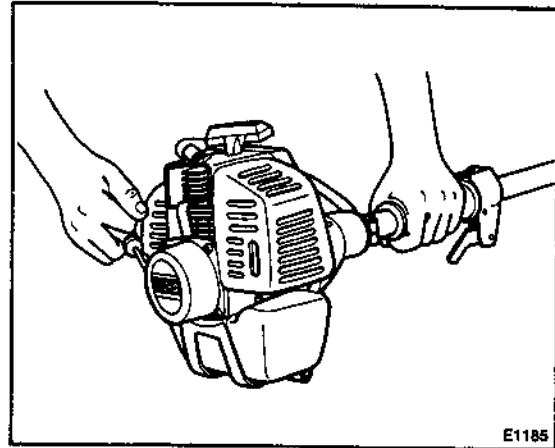
2. Push primer bulb 3 to 4 times until constant flow of fuel is visible in clear fuel return line.



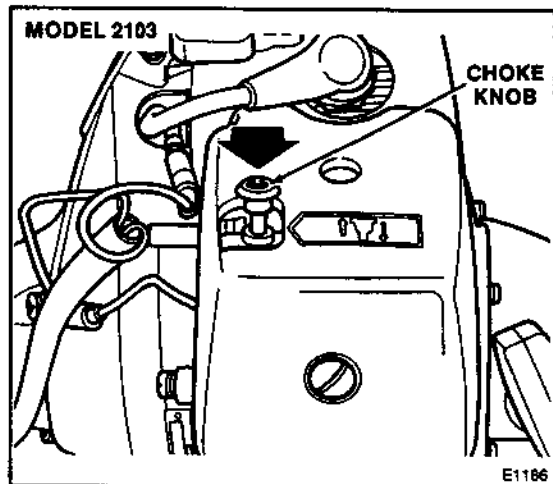
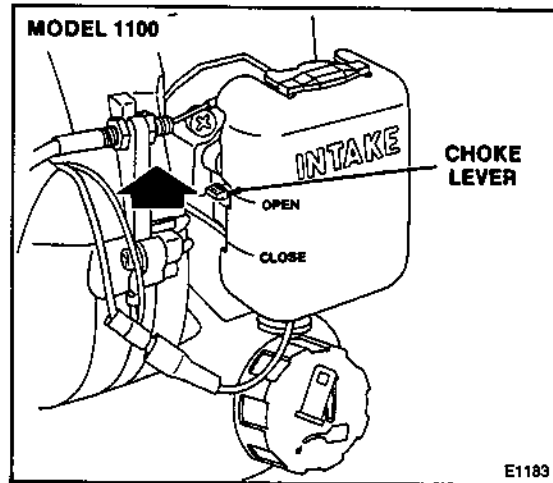
3. Slide choke lever to CLOSE position for 1100 models. For 2103 models, pull choke knob up to START (closed) position.



4. Pull starter rope until engine fires.



5. Slide choke lever to OPEN position for 1100 models. For 2103 models, push choke knob down to RUN (open) position.

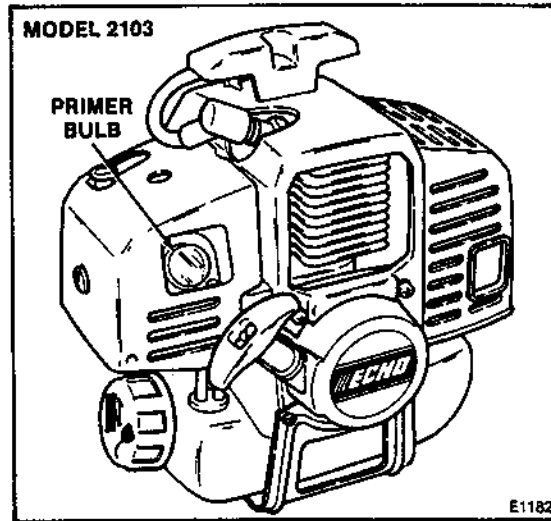
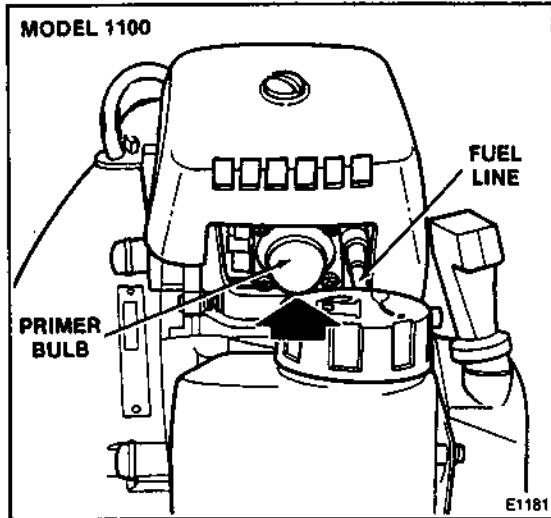


6. Restart engine and allow it to warm up.

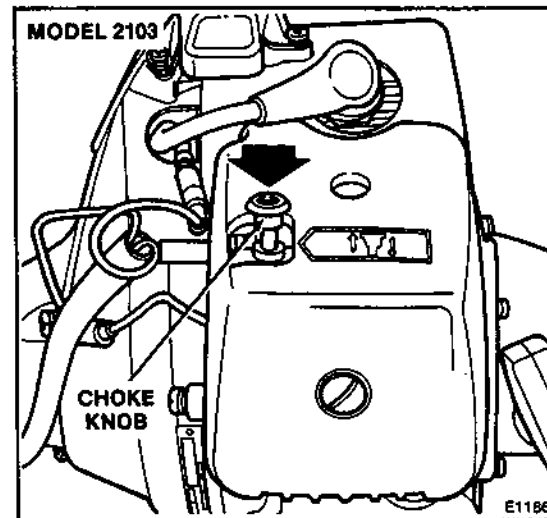
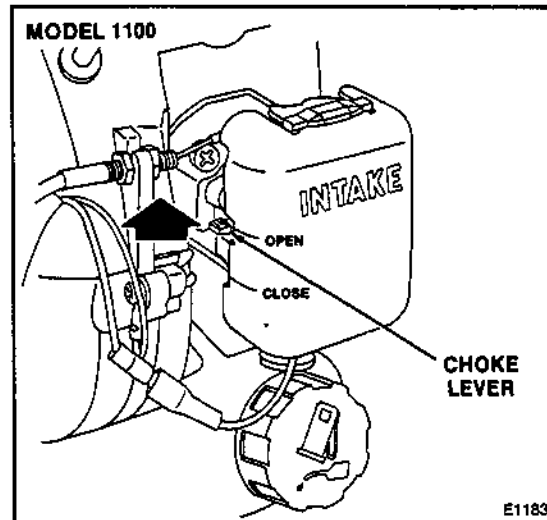
7. Squeeze throttle trigger gradually.

STARTING WARM ENGINE

1. If fuel tank was emptied during previous operation, refill tank and push primer bulb 3 or 4 times or until fuel flow is visible in clear fuel return line.



2. Place ignition switch in START position.
3. Slide choke lever to OPEN position for 1100 models. For 2103 models, push choke knob down to RUN (open) position.



4. Pull starter handle.

NOTE

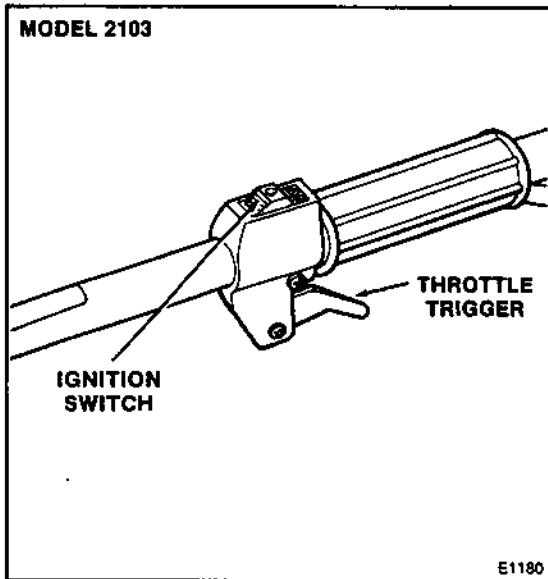
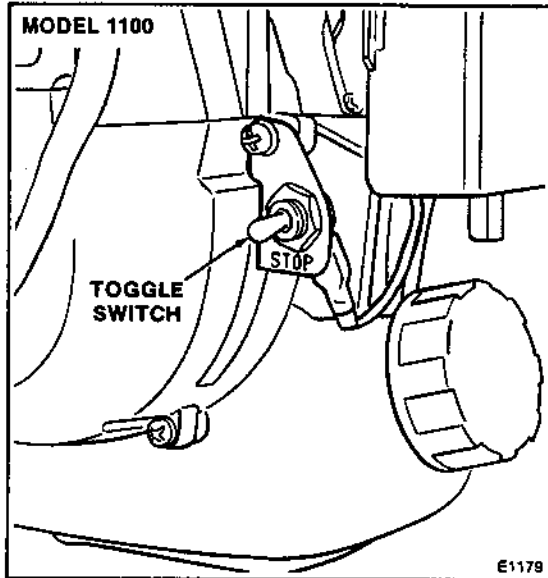
If engine does not start after 4 pulls, use cold start procedure.

WARNING DANGER

If engine does not stop when ignition switch is moved to STOP position, slide choke lever to CLOSE position (1100 models) or pull choke knob up to START position (2103 models). Have your ECHO dealer inspect and repair ignition switch before using trimmer again.

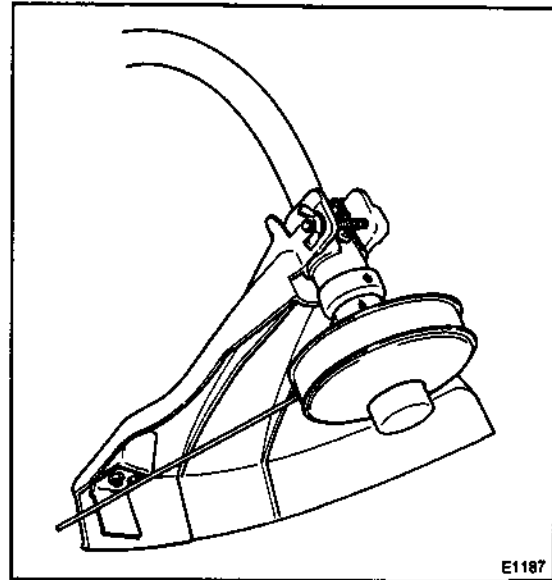
STOPPING ENGINE

1. Release throttle trigger and allow engine to idle.
2. Flip ignition switch to STOP position for 1100 models. For 2103 models, slide ignition switch to STOP position.



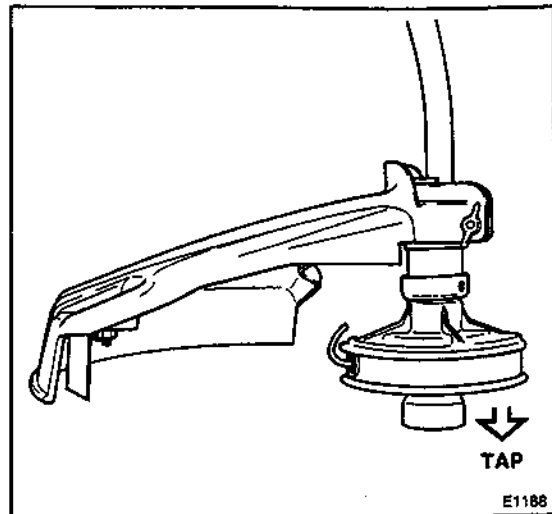
ADJUSTING LINE LENGTH

RECOMMENDED LINE LENGTH: 13 cm (5 in.). Measured from cut-off knife to edge of cutting head.



1. With the engine running at normal operating speed, tap head firmly on the ground.

NOTE
One inch of line will be released each time head is tapped.



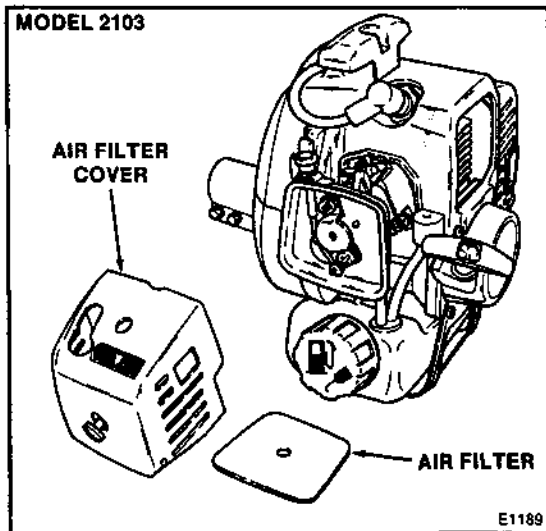
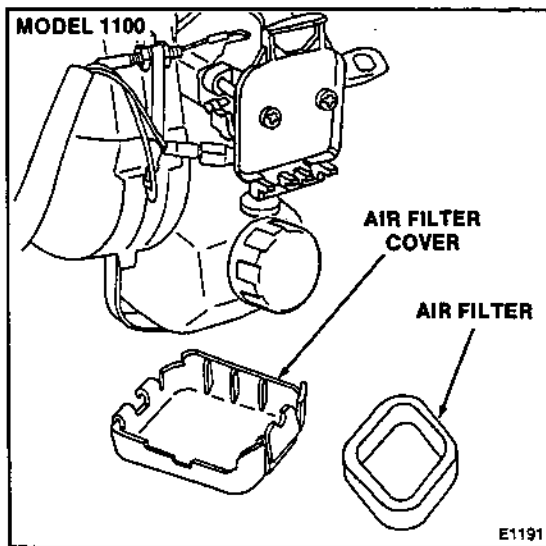
TROUBLESHOOTING

TROUBLE	CAUSE	REMEDY
1. Engine fails to start.	No fuel in tank. Strainer clogged. Fuel line clogged. Spark plug shorted or fouled. Spark plug broken (cracked porcelain or electrodes broken). Ignition lead wire shorted, broken or disconnected from spark plug. Ignition inoperative (no spark from lead wire).	Fill tank. Replace strainer. Clean fuel line. Install new spark plug. Replace spark plug. Replace lead wire or attach to spark plug. Contact your nearest authorized dealer.
2. Engine hard to start.	Water in gasoline or stale fuel mixture. Too much oil in fuel mixture. Engine over or under choked. Gasket leaks (carburetor or cyl. base gasket.) Carburetor out of adjustment. Weak spark at spark plug.	Drain entire system and refill with fresh fuel. Drain and refill with correct mixture. If flooded by over choking: a. Make certain choke knob is in OPEN (1100 models) or RUN (2103 models) position. b. Check that ignition switch is in START/RUN position. c. Hold throttle full open and pull starter rope until engine fires. d. If engine fails to start after 10 - 15 tries, refer to Trouble 1. If under choked, move choke knob to CLOSED (1100 models) or START (2103 models) position and crank two or three times. Replace gaskets. Contact your nearest authorized dealer. Contact your nearest authorized dealer.
3. Engine misses.	Dirt in fuel line or carburetor. Spark plug fouled, broken or incorrect gap setting. Weak or intermittent spark at spark plug. Carburetor improperly adjusted.	Remove and clean. Clean or replace spark plug - set gap to 0.6 - 0.7 mm (0.024 - 0.028 in.). Contact your nearest authorized dealer. Contact your nearest authorized dealer.
4. Engine lacks power.	Air cleaner clogged. Muffler clogged. Clogged exhaust ports. Carburetor out of adjustment. Poor compression.	Clean air cleaner. Clean carbon from muffler. Remove muffler, rotate engine until the piston is at top of cylinder. With a wooden scraper or blunt tool, remove all carbon from exhaust ports. Be careful not to scratch or damage piston or cylinder walls. Blow out loose carbon with compressed air. Install muffler and gasket. Contact your nearest authorized dealer. Contact your nearest authorized dealer.
5. Engine overheats.	Insufficient oil in fuel mixture. Air flow obstructed.	Mix fuel as shown in starting instructions. Clean flywheel and cylinder fins and screen.
6. Engine noisy or knocking.	Loose flywheel. Spark plugs incorrect heat range. Worn bearings, piston rings or cylinder wall.	Tighten flywheel nut. Replace with plugs specified for engine. Contact your nearest authorized dealer.
7. Engine "stalls" under load.	Engine overheats. Carburetor main adjustment too "lean."	See "Cleaning Cylinder Fins" in service section. Contact your nearest authorized dealer.

SERVICE

CLEANING AIR FILTER (Before Each Use)

1. Slide choke lever to CLOSE position for 1100 models. For 2103 models, pull choke knob up to START (closed) position.
2. Snap off air filter cover for 1100 models. For 2103 models, loosen screw and remove air filter cover.
3. Remove air filter (air filter is located inside air filter cover on 2103 models).

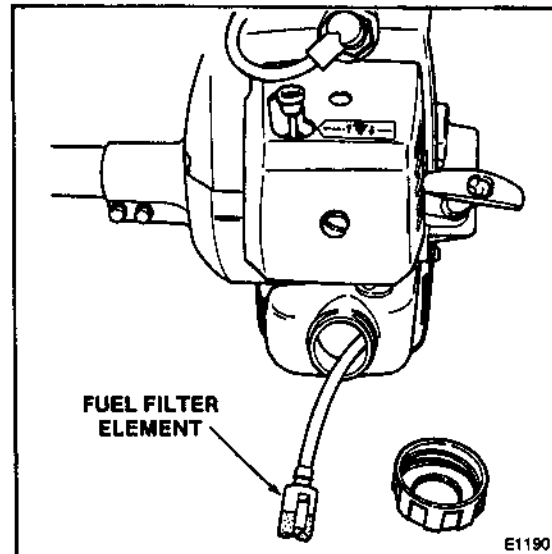


NOTE
If filter is excessively dirty or no longer fits properly, replace it.

4. Brush dirt from filter or clean with compressed air.
5. Reinstall filter.
6. Snap on cover from 1100 models. Reinstall cover on 2103 models and tighten screw.

REPLACING FUEL FILTER (Check Periodically)

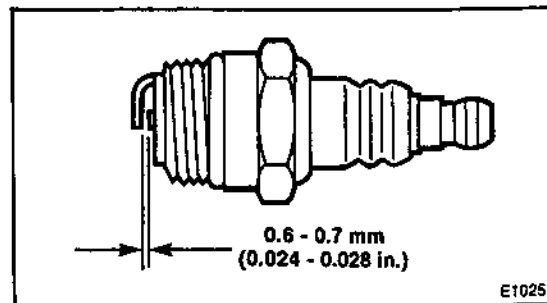
1. Use a piece of steel wire to pick up fuel filter through fuel tank opening.



2. Pull old filter from fuel line.
3. Install new filter element.

CHECK SPARK PLUG (Check Periodically)

1. Check plug gap. Correct gap is 0.6 - 0.7 mm (0.024 - 0.028).



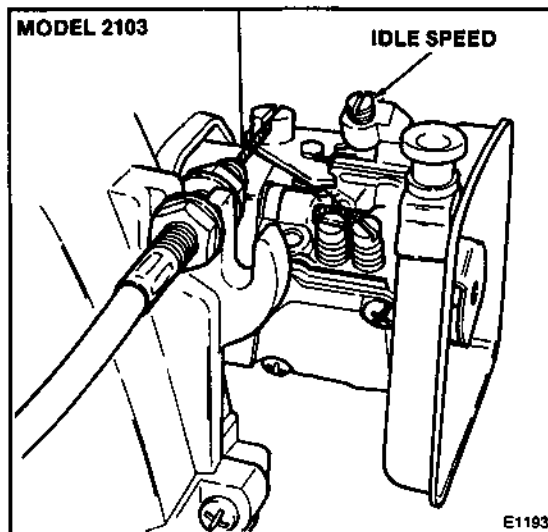
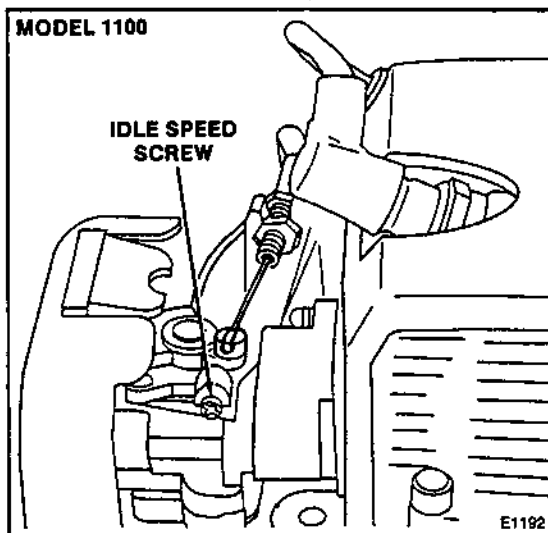
2. Inspect electrode for wear.
3. Inspect insulator for oil or other deposits.
4. Replace plug if needed, tighten to 145 - 155 kg - cm (125 - 135 in. lb.).

IDLE SPEED ADJUSTMENT (As Needed)

The idle speed adjustment screw controls the throttle opening at idle position.

If the idling adjustment is too low or too high, use the following procedure.

CARBURETOR ADJUSTMENT (GT-1100)



NOTE

If the preceding Idle Speed adjustment does not result in satisfactory performance, see your Echo Dealer for carburetor adjustment. GT-1100 only.

CARBURETOR ADJUSTMENT (GT-2103) (As Needed)

General

If the carburetor requires adjustment, follow these procedures.

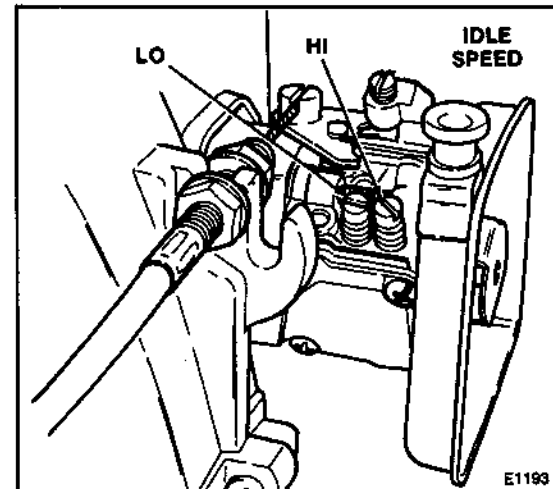
NOTE

The diaphragm carburetor has three external adjustments. Each adjustment affects the others.

The idle speed adjustment screw controls the throttle opening at idle position.

The low (LO) speed adjustment screw controls the volume of fuel/oil mixture at low engine speed. It also controls the supplementary fuel required to obtain smooth progression from idling to high speed.

The high (H) speed adjustment screw controls the volume of fuel/oil mixture at full throttle.



Initial Adjustment

NOTE

The needle screws have a sharp point. To avoid carburetor damage, do not use excessive force when seating needle in body.

1. Turn HI and LO adjustment screws clockwise until seated lightly in carburetor body.
2. Turn LO adjustment screw counterclockwise one turn.
3. Start engine and allow it to run at high idle until warm (approx. 2-3 minutes).

NOTE
Idle speed screw may have to be readjusted to keep engine from stalling.

Low Speed Adjustment

1. Slowly turn the LO adjustment screw clockwise and note the position when engine speed drops.
2. Turn the LO adjustment screw counterclockwise and note position when engine speed drops.
3. Set the screw midway between these points.
4. Turn the idle speed screw clockwise until cutter head just begins to turn.
5. Turn idle speed screw counterclockwise one-half turn to stop cutter head from turning.

High Speed Adjustment

NOTE
Engine must be at normal operating temperature and line length should be extended to the cut-off knife.

1. Turn the HI adjustment screw counterclockwise 1-1/4 turns.

IMPORTANT
Do not run the engine on full throttle longer than 5-6 seconds to avoid damage to engine.

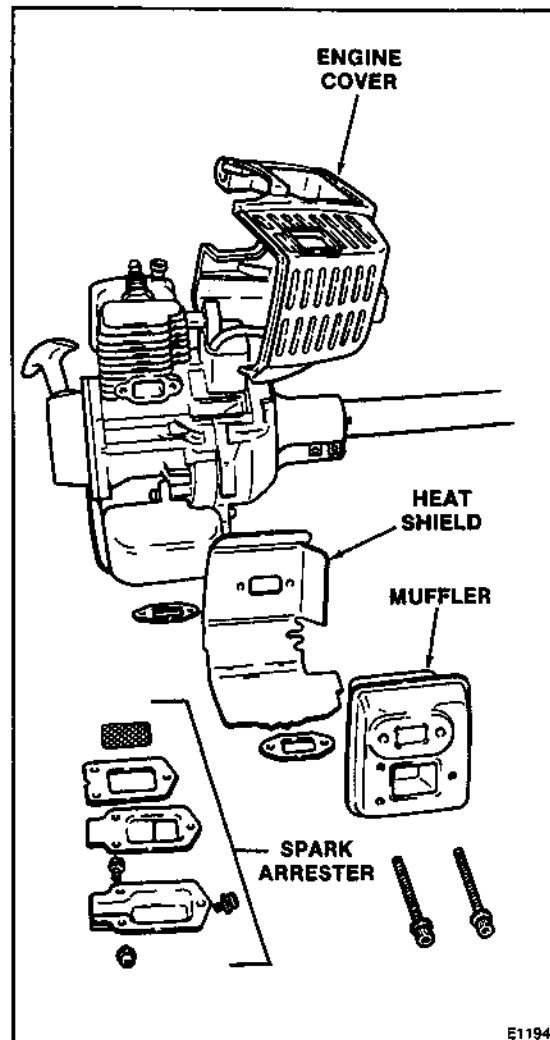
2. While running the engine at full throttle, turn the HI adjustment screw slowly clockwise until the engine runs smoothly.
3. Turn the screw counterclockwise 1/8 turn to obtain optimum fuel mixture for full power under load conditions.

NOTE

It may be necessary to reset idle speed as outlined in steps 4 and 5 of "Low Speed Adjustment" section.

CLEANING MUFFLER AND EXHAUST PORT (Check Periodically)

1. Remove spark plug lead from spark plug, and throttle cable from carburetor swivel.
2. Remove the four screws which secure engine cover.
3. Pull engine cover away from engine.
4. Remove spark arrester. Replace screen if it is plugged, cracked or has holes burned through it.



E1194

- Remove muffler and heat shield.

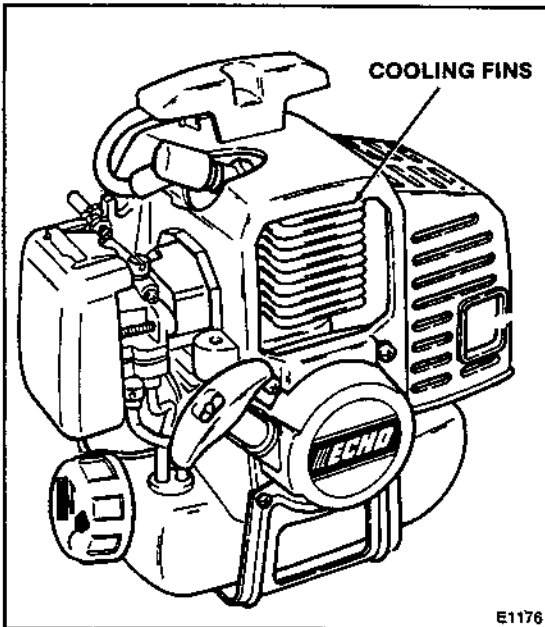
NOTE

Be careful not to scratch the cylinder or piston when cleaning the cylinder exhaust port.

- Clean deposits from muffler, spark arrester screen and cylinder exhaust port.
- Inspect gaskets, replace if necessary.
- Install heat shield and muffler.
- Install spark arrester.
- Install engine cover and spark plug lead.

**CLEANING CYLINDER FINS
(Check Periodically)**

- Remove dust and dirt from between fins.



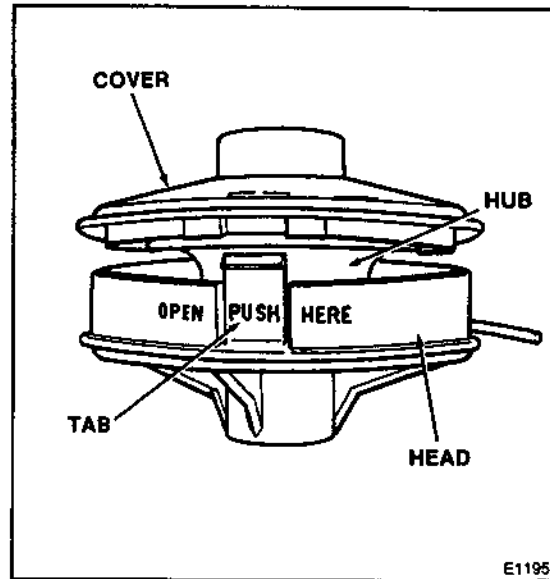
- If greater access is needed to thoroughly clean fins, remove engine cover as outlined in steps 1, 2 and 3 in "Cleaning Muffler and Exhaust Port".

REPLACING NYLON LINE

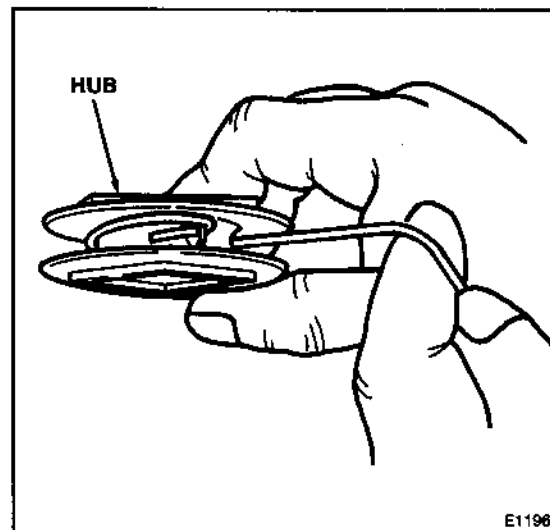
NOTE

Cutter head line capacity: 4.5 m (15 feet) of 0.080 nylon line.

- Depress tab on head and remove cover. Remove hub from head.

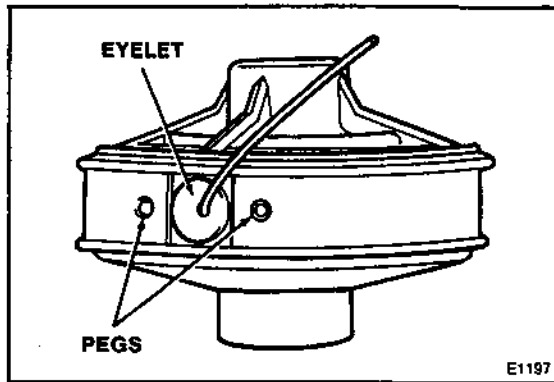


- Secure one end of the replacement nylon line to the loop on the hub. Hold the line tight while winding it in a clockwise direction. (See arrow on hub).



- Feed the nylon line through the eyelet in the head and press the reel into position against the spring.

- Align pegs on cover with holes in head and press cover into place.

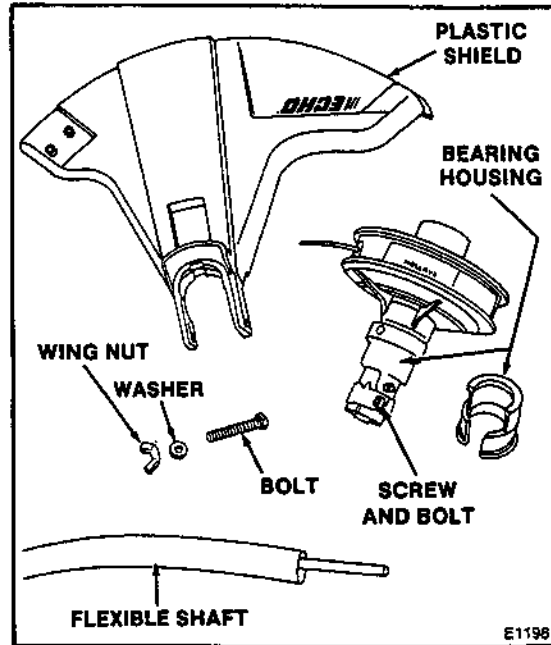


LUBRICATING DRIVESHAFT (Flexible Shaft)

- Remove wing nut, washer, bolt, and plastic shield.
- Loosen screw and bolt and remove bearing housing.
- Pull the flexible shaft from the drive shaft tube.

- Wipe shaft clean and recoat it with a thin coating (0.352 - 0.705 oz.) of lithium base grease.

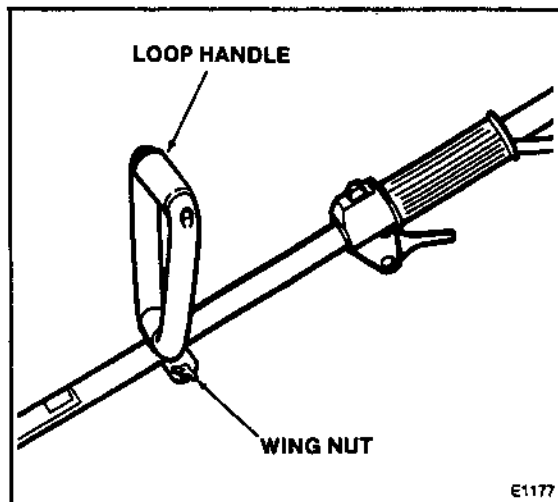
- Reverse the above procedure for installation.



ASSEMBLY

INSTALLING LOOP HANDLE

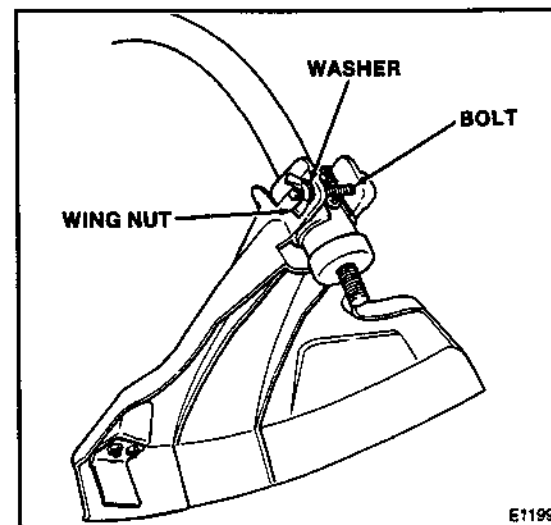
- Assemble loop handle and bracket to drive shaft loosely.



- Position handle in comfortable operating position and tighten wing nut.

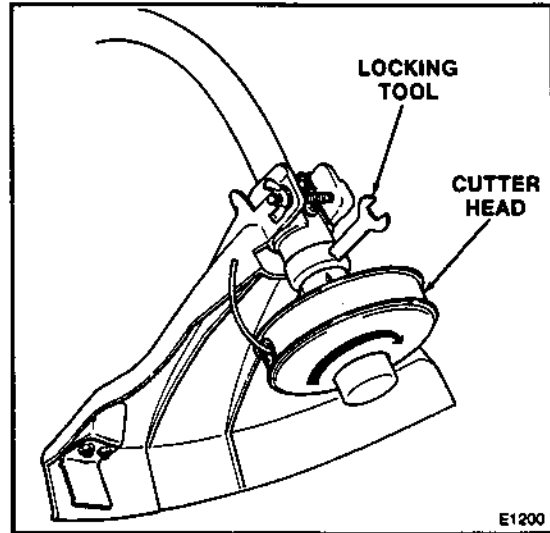
INSTALLING PLASTIC SHIELD

- Fit the shield to the bearing housing.
- Install bolt, washer and wing nut.



INSTALLING NYLON LINE CUTTER HEAD

1. Locate hole in adapter plate and install locking tool.
2. Thread cutter head onto shaft (turning it clockwise) until it is tight.
3. Remove locking tool.




STORAGE

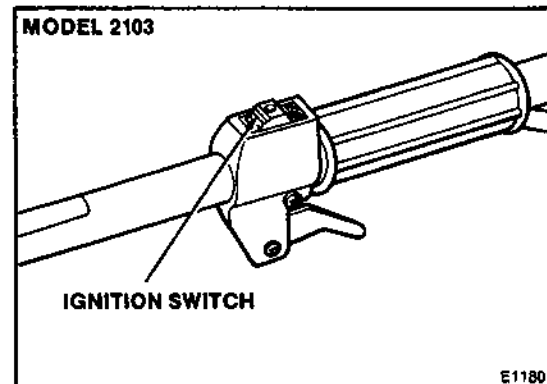
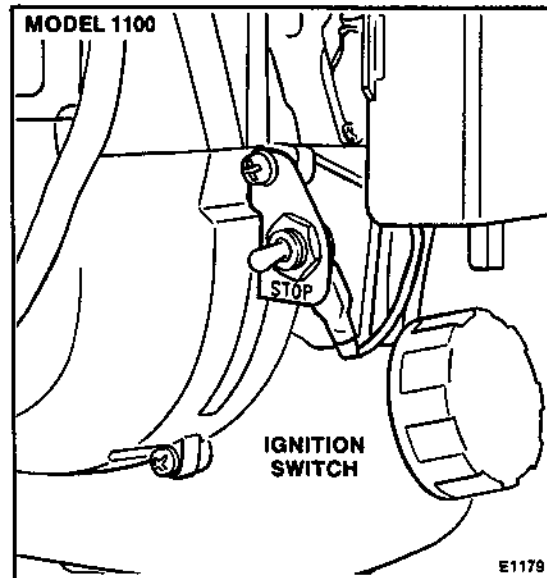
LONG TERM STORAGE (over 60 days)

Do not store your unit for a prolonged period of time (60 days or longer) without performing protective storage maintenance which includes the following:

1. Store unit in a dry, dust free place, out of the reach of children.

WARNING  **DANGER**
Do not store in enclosure where fuel fumes may accumulate or reach an open flame or spark.

2. Place the ignition in the "OFF" position.
3. Remove accumulation of grease, oil, dirt and debris from exterior of unit.
4. Perform all periodic lubrication and services that are required.
5. Tighten all the screws and nuts.
6. **Drain the fuel tank completely** and pull the starter handle several times to remove fuel from the carburetor.

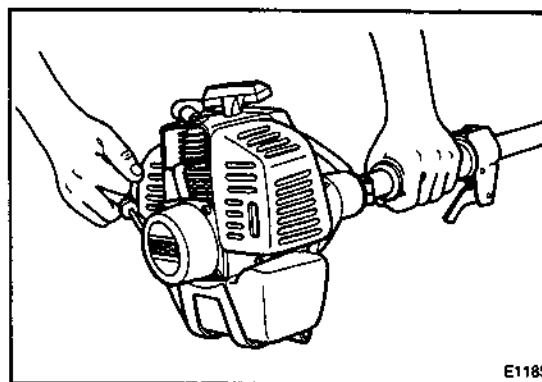


7. Remove the spark plug and pour 1/4 oz. (1/2 tablespoon) of fresh, clean, 2-stroke engine oil into the cylinder through the spark plug hole.

A. Place a clean cloth over the spark plug hole.

B. Pull the recoil starter handle 2-3 times to distribute the oil inside the engine.

C. Observe the piston location through the spark plug hole. Pull the recoil handle slowly until the piston reaches the top of its travel and leave it there.



8. Install the spark plug (do not connect ignition cable.)

SPECIFICATIONS

MODEL GT-1100 AND GT-2103

Length	G.T.-1100: 1.400 m (55 in.) G.T.-2103: 1.500 m (59 in.)
Width	330 mm (13 in.)
Height	360 mm (14.2 in.)
Weight (dry weight with cutter head)	GT-1100 4.1 kg (9.0 lbs.) GT-2103 4.5 kg (9.9 lbs.) w/cutter head
Type of Engine	Air-cooled, two-stroke, single-cylinder, gasoline engine
Bore	32.2 mm (1.268 in.)
Stroke	26.0 mm (1.04 in.)
Displacement	21.2 cc (1.294 cu. in.)
Exhaust System	Spark arrester muffler
Carburetor	GT-1100 — WALBRO diaphragm model WYL type w/purge GT-2103 — ZAMA diaphragm model C1U type w/purge
Ignition System	Flywheel magneto, capacitor discharge ignition type
Spark Plug	NGK BPM7A, CHAMPION CJ-7Y
Fuel	Mixed fuel
Fuel Oil Ratio	32:1 ratio or 50:1 ratio with ECHO branded engine
Gasoline	Regular (DO NOT use gasohol or alcohol blended fuel)
Oil	Designated ECHO brand, two-stroke, air-cooled engine oil
Fuel Tank Capacity	0.4 lit. (13.5 oz.)
Starter System	Automatic rewind starter
Clutch	Centrifugal type
Drive Shaft	1/4" flexible shaft
Rotating Direction	Counterclockwise viewed from top
Cutter Head	Nylon line head (UN-35, 1-line) with .080" line, capacity 4.5 m (15 feet)
Handle	Left — D-loop Right — grip

PARTS CATALOG

To obtain a parts catalog send a check or money order for \$2.00 per parts book made payable to ECHO, INCORPORATED and state on a sheet of paper the part number GT-1100 — Part Number 99922201781, GT-2103 — Part Number 99922201782, your name and address and mail to:

ECHO, INCORPORATED
400 Oakwood
Lake Zurich, IL 60047

If you require additional parts books, you may order them by writing down the model number and serial number of the ECHO unit you have along with \$2.00 per parts book.