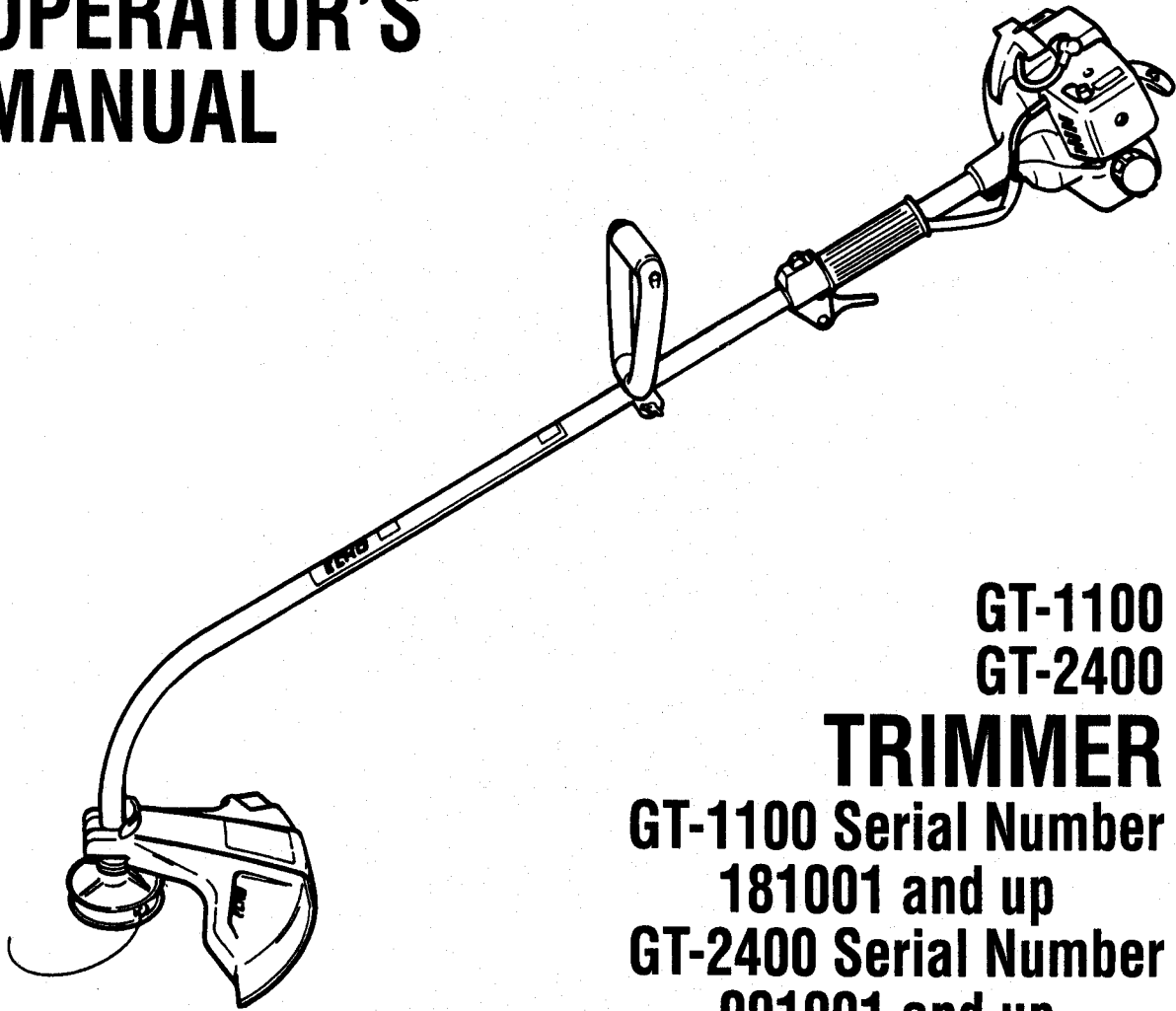


OPERATOR'S MANUAL



GT-1100
GT-2400

TRIMMER

GT-1100 Serial Number
181001 and up

GT-2400 Serial Number
001001 and up

WARNING  **DANGER**

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

ECHO®

INTRODUCTION

INTRODUCTION

Echo Weed and Grass Trimmers, Models GT-1100 and GT-2400 are light-weight, high-performance, gasoline powered units designed for grass trimming.

WARNING DANGER

ECHO supplies an operator's manual and safety manual with each product. You must read and understand both manuals before you are can operate your ECHO product safely and effectively.

The operator's manual provides information necessary for operation, maintenance and storage of the unit.

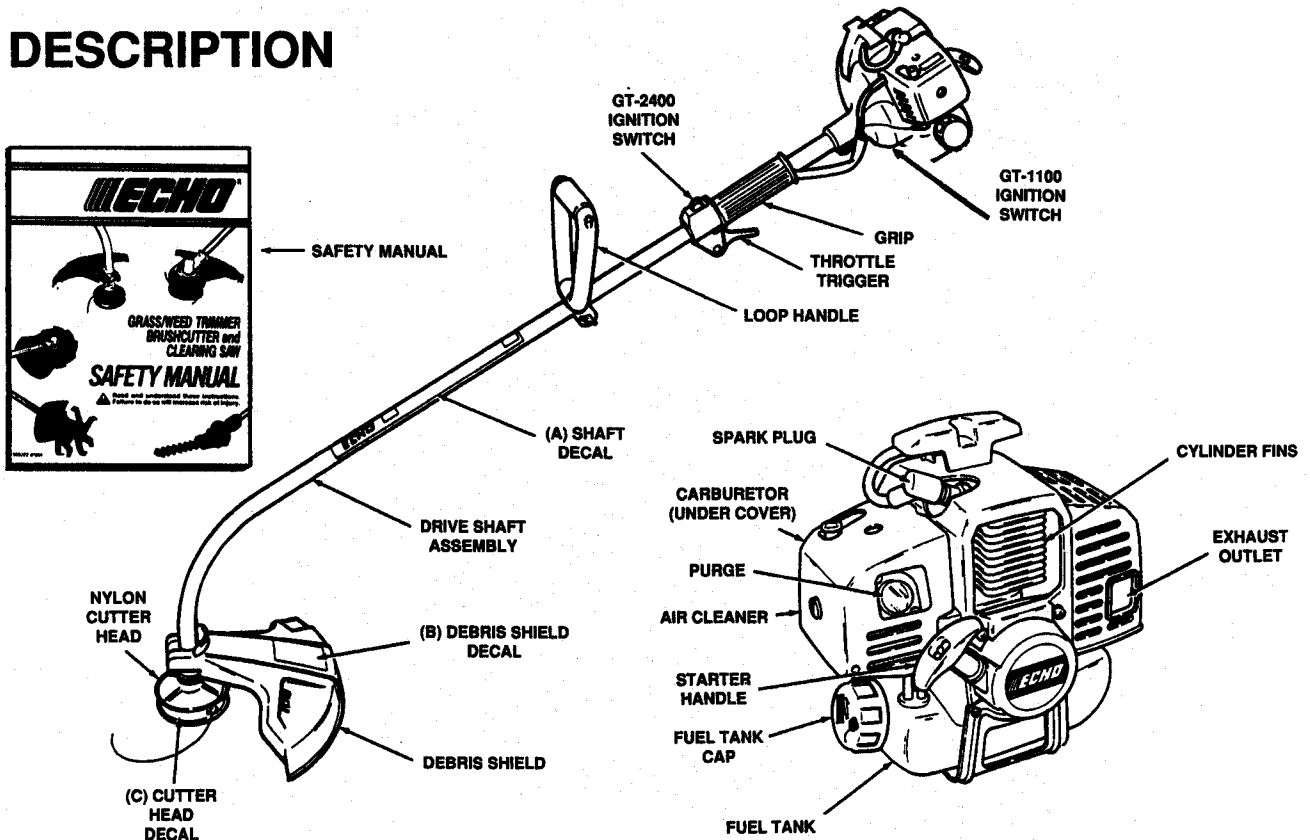
The Safety Manual provides information necessary for the safe operation of the unit.

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

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DESCRIPTION



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.

SAFETY

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

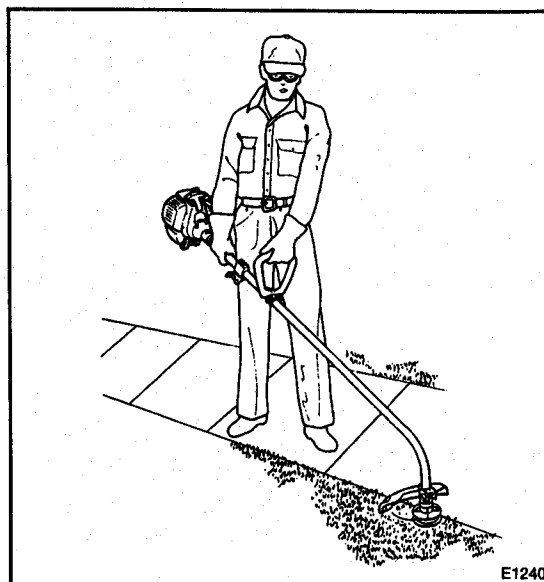
Always stop the engine when a cutting head jam occurs. DO NOT attempt to remove an object causing a jam if the engine is running. Physical Injury can occur if a jam is removed and the cutting head suddenly starts.

- 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.

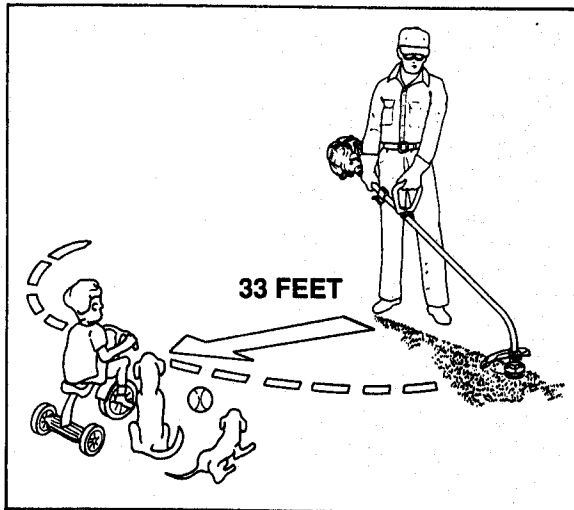


PROTECTIVE EQUIPMENT

- 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.

OPERATION

FUEL

The engine uses two-stroke fuel, a mixture of gasoline and specially blended Echo branded 2-stroke oil. 50:1 preferred, 32:1 alternate choice.

GASOLINE

Use branded 89 octane ($\frac{R+M}{2}$) unleaded gasoline or gasohol (maximum 10% ethyl alcohol, no alcohol, no methyl alcohol).

MIXING FUEL

Follow directions on oil container.

STORING FUEL

Store fuel only in clean, safe, approved containers. Check and follow local ordinances on type and location of storage containers.

IMPORTANT

Two-stroke fuel may separate. Shake fuel container thoroughly before each use.

IMPORTANT

Stored fuel ages. Do not mix more fuel than you expect to use in a month.

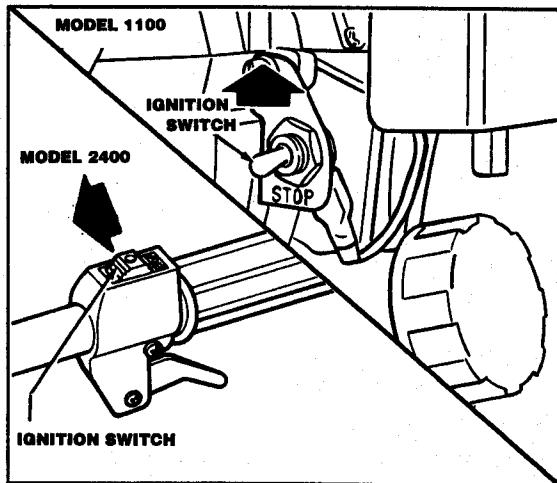
STARTING AND STOPPING

Starting Cold Engine

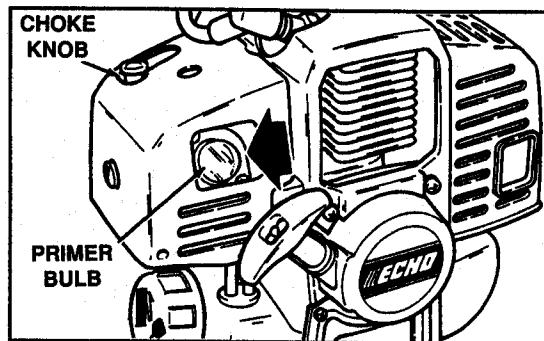
WARNING **DANGER**

When engine starts, the head may rotate, even with throttle trigger in Idle (Released) position.

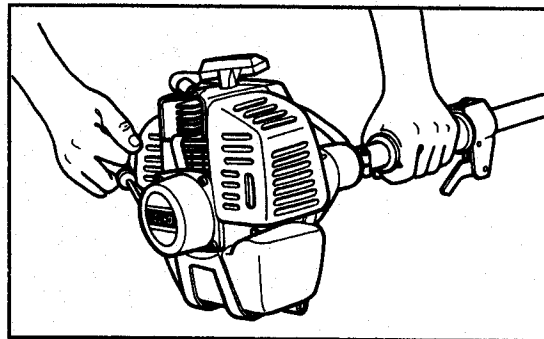
1. Place ignition switch in START/RUN position.



2. Push purge bulb until fuel is visible in "clear" fuel return line. Place choke in START position.



3. Pull starter rope until engine fires and return Choke to RUN position.



4. Run at idle speed until engine is warm before attempting to work with unit.

Starting Warm Engine

1. Push purge bulb until fuel is visible in "clear" fuel return line.
2. Check that ignition switch is on and that choke is in RUN (Down) position.
3. Pull starter handle.

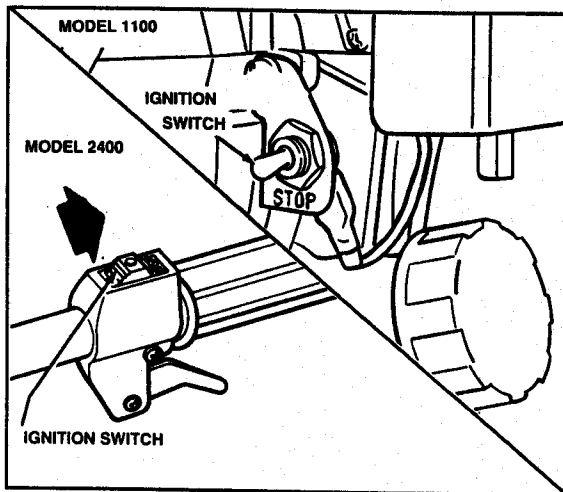
NOTE: If engine does not start after 4 pulls, use Cold Starting Procedure.

Stopping Engine

WARNING ▲ DANGER

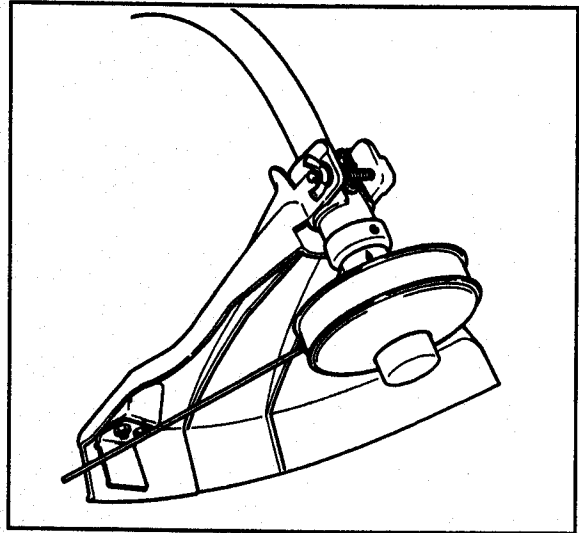
If engine does not stop when ignition switch is moved to STOP position, close choke (START or Up position) to stall engine. Have your ECHO Dealer repair ignition switch before using trimmer again.

1. Release throttle trigger and allow engine to idle.
2. Place ignition switch in STOP position.



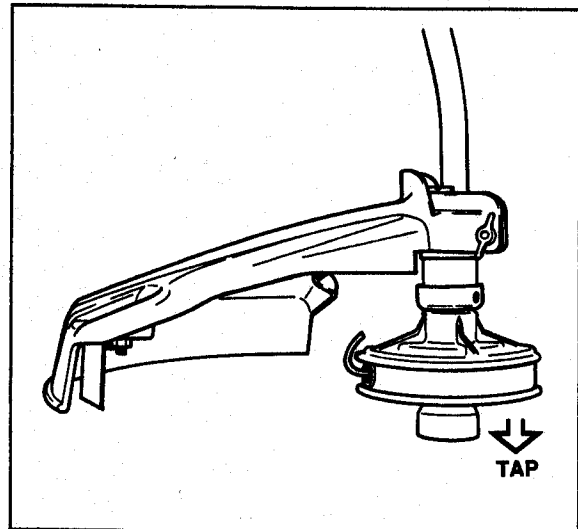
ADJUSTING LINE LENGTH

NOTE: Recommended line length is 13 cm (5 in.) measured from cut-off knife to edge of cutting head.



NOTE: Each time head is tapped, one inch of line is released.

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



SERVICE MAINTENANCE GUIDE

AREA	MAINTENANCE	PAGE	BEFORE USE	MONTHLY	YEARLY
Air Filter	Clean/Replace	7	●		
Fuel Filter	Inspect/Replace	7		●	
Spark Plug	Inspect/Clean/ Adjust/Replace	7		●	
Carburetor	Adjust	8			●
Cooling System	Inspect/Clean	9	●		
Muffler (Spark Arrestor)	Inspect/Clean	10		●	
Drive Shaft	Grease	11			●
Starter Rope	Inspect/Replace			●	
Cut-off Knife	Inspect/Clean		●		
Fuel System	Inspect/Repair		●		
Screws, Bolts & Nuts	Inspect, Tighten/ Replace		●		
Fuel Line	Inspect			●	

IMPORTANT

Time intervals shown are maximum. Actual use and your experience will determine the frequency of required maintenance.

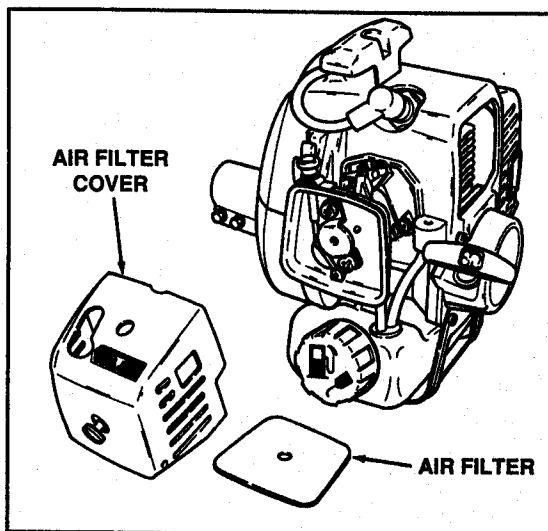
TROUBLESHOOTING

Problem			Cause	Remedy
Engine	—starts hard —does not start			
Engine Cranks	Fuel at carburetor	No fuel at carburetor	<ul style="list-style-type: none"> •Fuel strainer clogged •Fuel line clogged •Carburetor 	<ul style="list-style-type: none"> •Clean. •Clean. •See your Echo dealer
	Fuel at cylinder	No fuel at cylinder	<ul style="list-style-type: none"> •Carburetor 	<ul style="list-style-type: none"> •See your Echo dealer
		Muffler wet with fuel	<ul style="list-style-type: none"> •Fuel mixture is too rich 	<ul style="list-style-type: none"> •Open choke •Clean/replace air filter •Adjust carburetor •See your Echo dealer
	Spark at end of plug wire	No spark at end of plug wire	<ul style="list-style-type: none"> •Ignition switch off •Electrical problem 	<ul style="list-style-type: none"> •Turn switch on •See your Echo dealer
	Spark at plug	No spark at plug	<ul style="list-style-type: none"> •Spark gap incorrect •Covered with carbon •Fouled with fuel •Spark plug defective 	<ul style="list-style-type: none"> •Adjust. 0.6-0.7 mm (0.024-0.028) •Clean or replace. •Clean or replace. •Replace plug
Engine does not crank			<ul style="list-style-type: none"> •Internal engine problem 	<ul style="list-style-type: none"> •See your Echo dealer
Engine runs	Dies or Accelerates poorly		<ul style="list-style-type: none"> •Air filter dirty •Fuel filter dirty •Fuel vent plugged •Spark plug •Carburetor •Cooling system plugged •Exhaust port/spark arrestor screen plugged 	<ul style="list-style-type: none"> •Clean or replace •Replace •Plugged •Clean and adjust/replace •Adjust •Clean •Clean

SERVICE

CLEANING AIR FILTER

1. Close choke.
2. Loosen screw and remove air filter cover.
3. Remove air filter (air filter is located inside air filter cover).

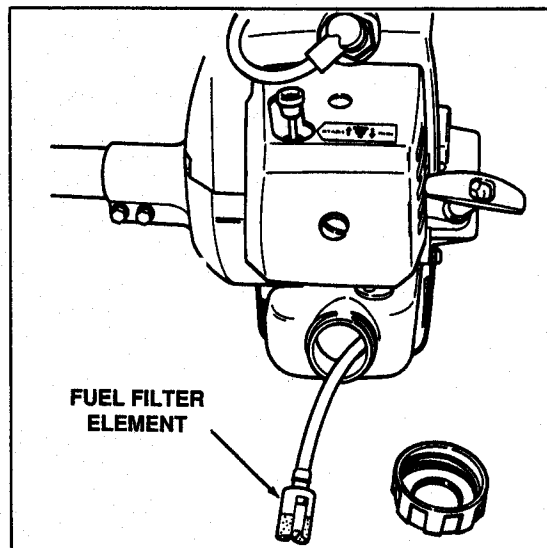


NOTE
If filter is excessively dirty or no longer fits properly, replace it.

4. Brush dirt from filter or clean with compressed air.
5. Reinstall filter.
6. Reinstall cover and tighten screw.

REPLACING FUEL FILTER

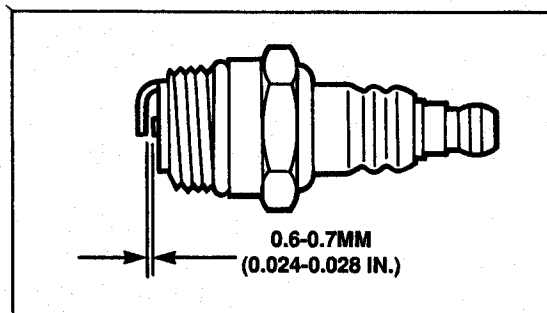
1. Use a piece of steel wire to pick up fuel filter through fuel tank opening.



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.).

CARBURETOR ADJUSTMENT

General

If the carburetor requires adjustment, follow these procedures.

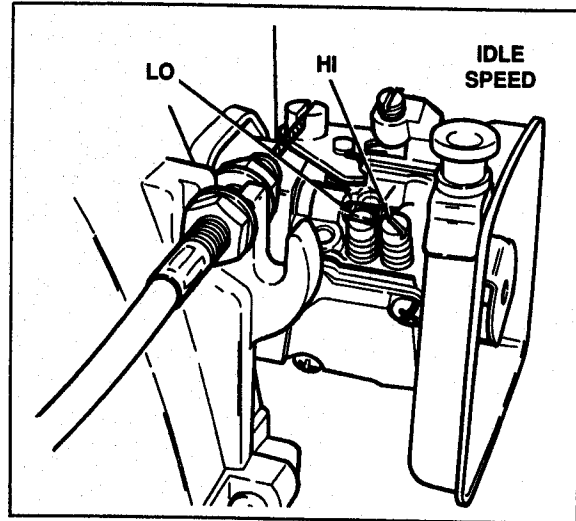
NOTE

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.

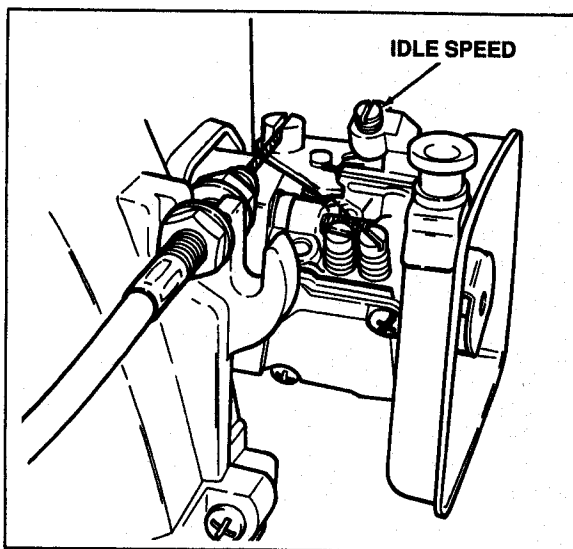
The high (H) speed adjustment screw controls the volume of fuel/oil mixture at full throttle.



Idle Speed Adjustment

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.



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 counter-clockwise 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.

COOLING SYSTEM MAINTENANCE

IMPORTANT

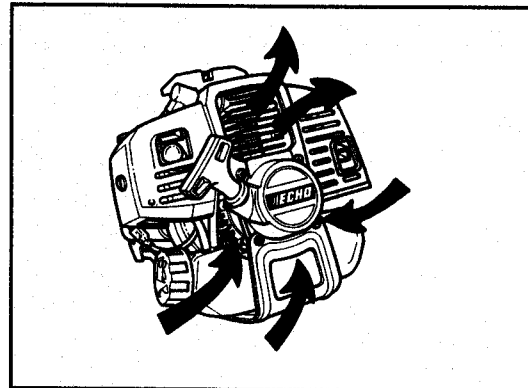
To maintain proper engine operating temperatures, cooling air **must** pass freely through the cylinder fin area. This flow of air carries combustion heat away from the engine.

Overheating and engine seizure can occur when:

- Air intakes are blocked, preventing cooling air from reaching the cylinder, or
- Dust and grass build up on the outside of the cylinder. This build-up insulates the engine and prevents the heat from leaving.

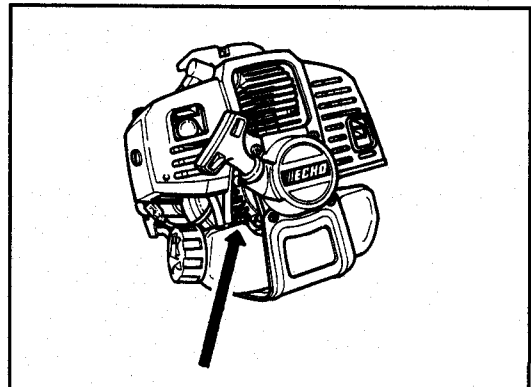
Removal of cooling passage blockages or cleaning of cylinder fins is considered "Normal Maintenance." Any resultant failure attributed to lack of maintenance is not warranted.

The cooling system relies on cooling air entering the engine through a grille located between the fuel tank and starter. The cooling fan pushes this air through the cylinder area and out the forward facing opening in the engine cover.



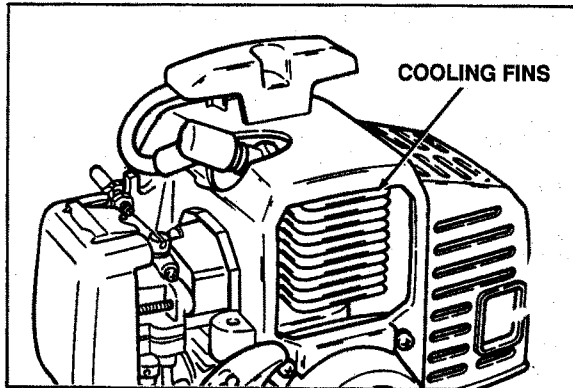
Cleaning Grille

1. Remove accumulated debris from intake grille.



Cleaning Cylinder Fins

1. Remove dust and dirt from between fins.



2. 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".

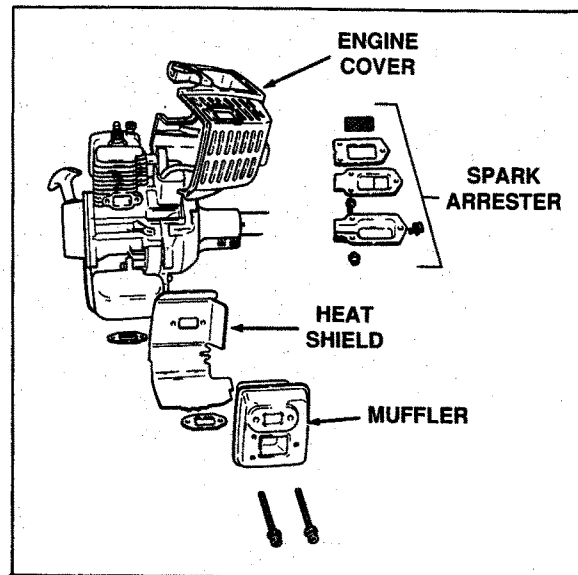
CLEANING MUFFLER AND EXHAUST PORT

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.
5. Remove muffler and heat shield.

NOTE

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

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

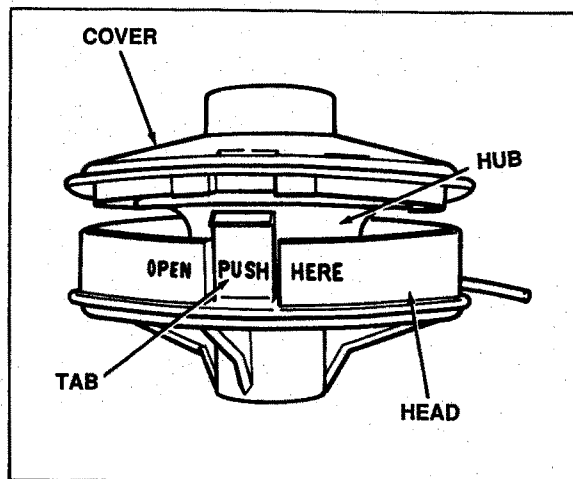


REPLACING NYLON LINE

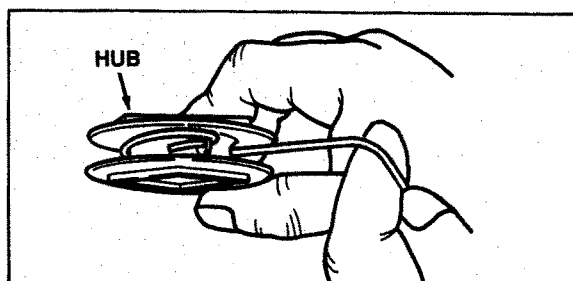
NOTE

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

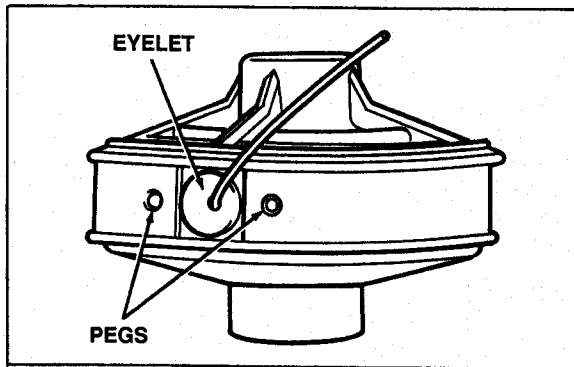
1. Depress tab on head and remove cover. Remove hub from head.



2. 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).

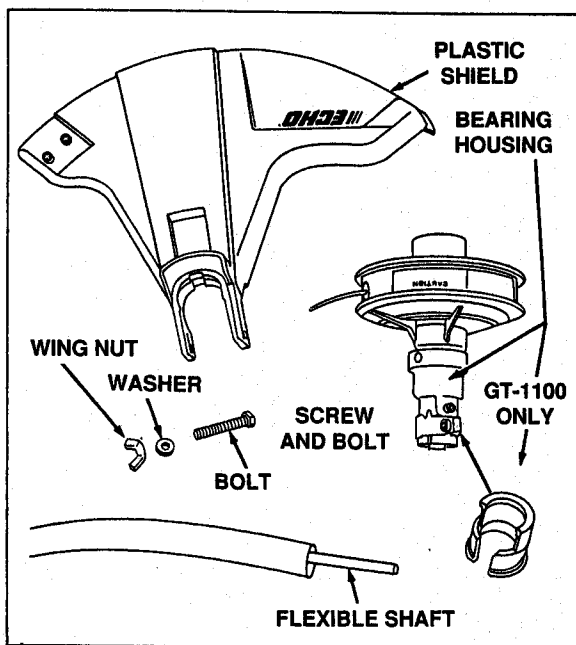


3. Feed the nylon line through the eyelet in the head and press the reel into position against the spring.
4. Align pegs on cover with holes in head and press cover into place.



LUBRICATING DRIVESHAFT (Flexible Shaft)

1. Remove wing nut, washer, bolt, and plastic shield.
2. Loosen screw and bolt and remove bearing housing.
3. Pull the flexible shaft from the drive shaft tube.
4. Wipe shaft clean and recoat it with a thin coating 1/3-2/3 oz. of lithium base grease.
5. Reverse the above procedure for installation.



STORAGE

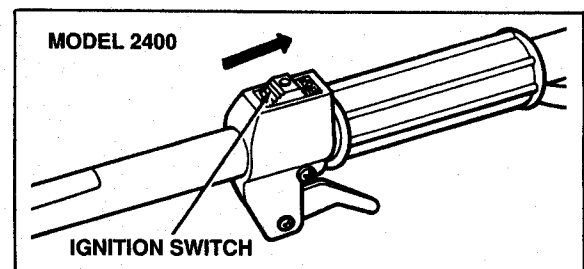
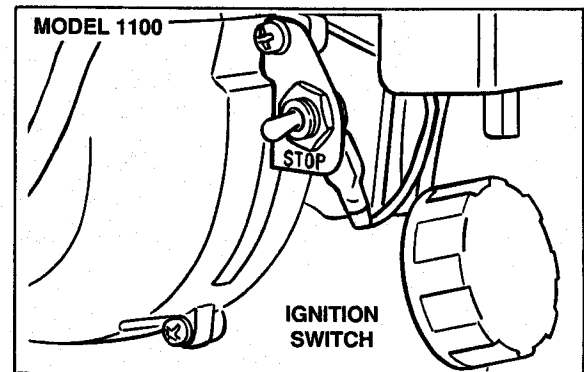
LONG TERM STORAGE (over 60 days)

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.



2. Place the ignition in the "OFF" position.

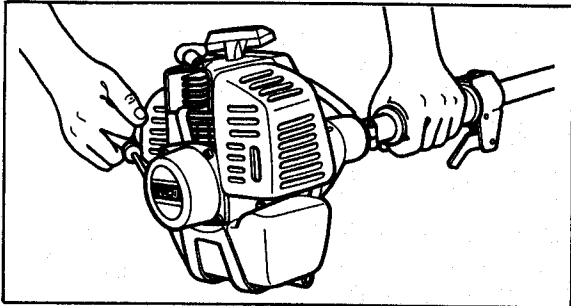


3. Remove accumulation of grease, oil, dirt and debris from exterior of unit.
4. Perform all periodic lubrication and services that are required.
5. Tighten all the screws and nuts.
6. **Drain** the fuel tank **completely** and pull the starter handle several times to remove fuel from the carburetor.

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.



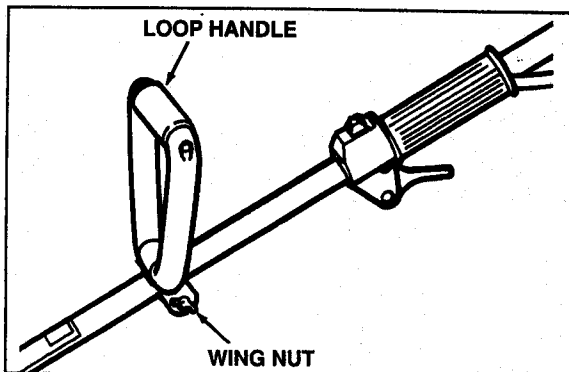
C. Observe the piston location through the spark plug hole. Pull the recoil handle slowly until the piston reaches the top of its travel and leave it there.

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

ASSEMBLY

LOOP HANDLE

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

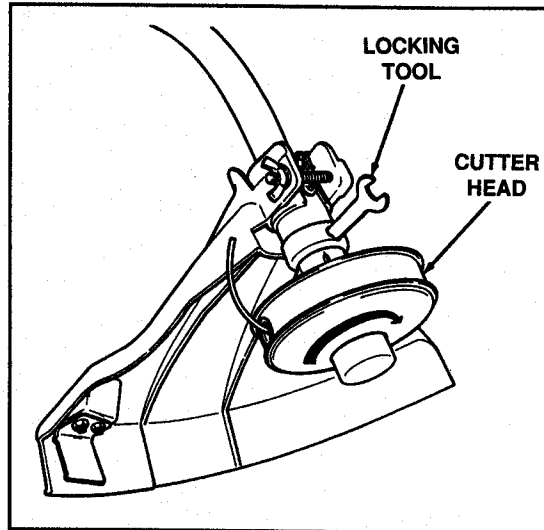


INSTALLING NYLON LINE CUTTER HEAD

1. Locate hole in adapter plate and install locking tool.

2. Thread cutter head onto shaft (turning it clockwise) until it is tight.

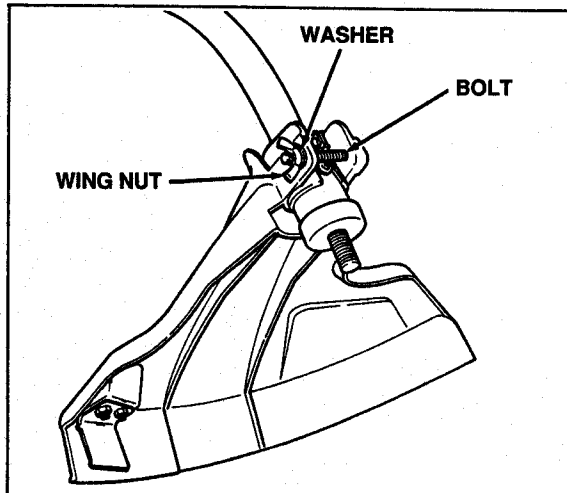
3. Remove locking tool.



INSTALLING PLASTIC SHIELD

1. Fit the shield to the bearing housing.

2. Install bolt, washer and wing nut.



SPECIFICATIONS

MODEL GT-1100 and GT-2400

Model	GT-1100	GT-2400
Length	1,400 mm (55.1 in.)	1500 mm (59.1 in.)
Width	330 mm (13.0 in.)	330 mm (13.0 in.)
Height	360 mm (14.2 in.)	360 mm (14.2 in.)
Weight (dry weight with cutter head)	4.3 kg (9.4 lb.)	4.7 kg (10.3 lb.)
Type of Engine	Air-cooled, two-stroke, single cylinder gasoline engine	
Bore	32.2 mm (1.268 in.)	34.0 mm (1.34 in.)
Stroke	26.0 mm (1.04 in.)	26.0 mm (1.04 in.)
Displacement	21.2 cc (1.29 cu. in.)	23.6 cc (1.44 cu. in.)
Exhaust System	Spark arrester muffler	
Carburetor	Zama diaphragm model C1U w/purge	
Ignition System	Flywheel magneto, capacitor discharge	
Spark Plug	NGK BPM-7A or Champion CJ-7Y	
Fuel	Mixed (gasoline and oil)	
Fuel Oil Ratio	50:1 (2%) or 32:1 (3%) using ECHO branded oil	
Gasoline	89 octane unleaded. Do not use fuel containing methyl alcohol or more than 10% ethyl alcohol.	
Oil	ECHO brand, two-stroke, air-cooled engine oil	
Fuel Tank Capacity	0.4 lit. (14.2 US fl. oz.)	
Starter System	Automatic rewind starter	
Clutch	Centrifugal type	
Drive Shaft	1/4 in. flexible shaft	
Rotating Direction	Counterclockwise viewed from top	
Cutter Head	Nylon line head (UN-35, 1-line) with .080 in. 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 GT-1100 999222-01979, GT-2400 Part Number GT-2400 999222-01980, 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.



ECHO, INCORPORATED
400 OAKWOOD ROAD • LAKE ZURICH, IL 60047
PHONE: 708-540-8400

X750227-7800
X750227-8100