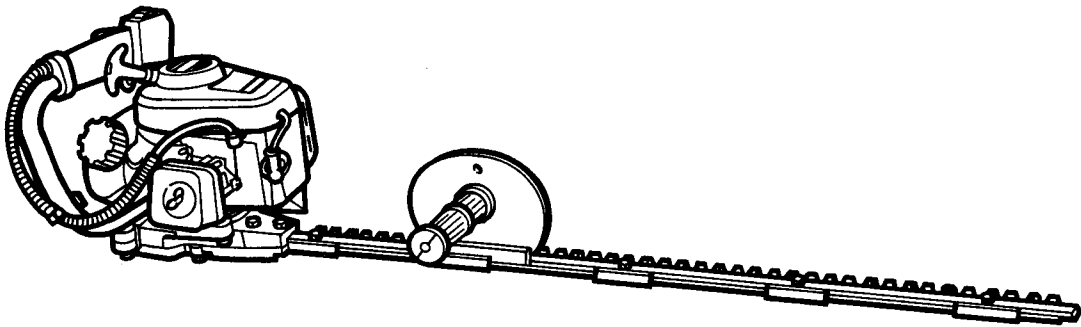


OPERATOR'S MANUAL



HC-2100

HEDGE CLIPPER

Serial Number 001001 thru 012000

 **DANGER**
READ RULES FOR SAFE OPERATION
AND INSTRUCTIONS CAREFULLY

ECHO®

INTRODUCTION

The ECHO HEDGE Clipper model HC-2100 is a light-weight, high-performance, gasoline powered unit designed to cut shrubs and hedges with branches no larger than 1/4 inch in diameter.

This manual provides the information necessary for safe operation and maintenance.



DANGER

Read "SAFETY" Section and all instructions in this operator's manual carefully. This operator's manual must be read for proper and safe operation.

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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.

SAFETY

UNDERSTAND SAFETY WARNINGS



This symbol is used to call attention to procedures that must be followed to avoid the risk of serious immediate and irreversible human injury or death.

NOTE

Indicates a situation that may cause damage to equipment.

FOLLOW SAFETY INSTRUCTIONS

Follow all danger warnings in this manual and on the safety decal on the trimmer.

FOLLOW SAFETY DECALS

Locate the safety decal on your trimmer. Make sure the decal is legible and that you understand and follow it. See page 3 for location of decal.

- **Read and understand all safety messages in operator's manual before using this machine.**
- **Improper use of this product can cause bodily injury.**
- **Keep shields in place at all times.**
- **Always wear eye protection when operating this machine.**
- **Permit only the operator in the area of operation.**

HANDLE FUEL SAFELY

ALWAYS store gasoline in an approved container.

DO NOT smoke while handling gasoline.

ALWAYS stop the engine before refueling.

DO NOT refuel a hot engine. Wait until it cools.

ALWAYS remove the fuel cap slowly in order to relieve any pressure buildup in tank.

DO NOT overfill the tank and always wipe up spilled fuel.

ALWAYS restart the engine at least 10 feet away from refueling point.

AVOID CARBON MONOXIDE

DO NOT operate in a confined area.

KEEP PEOPLE AND ANIMALS AWAY

DO NOT operate if people or animals are in work area.

CLEAR WORK AREA

BEFORE STARTING OPERATION, inspect work area and remove stones or any other foreign objects such as cans, bottles, wire and large branches.

WEAR PROTECTIVE CLOTHING AND EQUIPMENT

ALWAYS wear eye protection that meets ANSI Z87-1 requirements.

ALWAYS wear gloves and non-skid foot wear.

ALWAYS dress properly with snug fitting, durable clothing and avoid loose clothing.

ALWAYS wear hearing protection if you use this tool for more than 2 hours per day. This is based on the Occupational Safety and Health act of 1970. The allowable hours of use could be reduced if guidelines are revised, therefore we recommend hearing protection at all times.

OPERATE SAFETY

DO NOT operate the unit when you are fatigued. If you're tired, rest. Injuries can occur due to fatigue.

ALWAYS remain alert when operating the unit to avoid possible injury to yourself and other people.

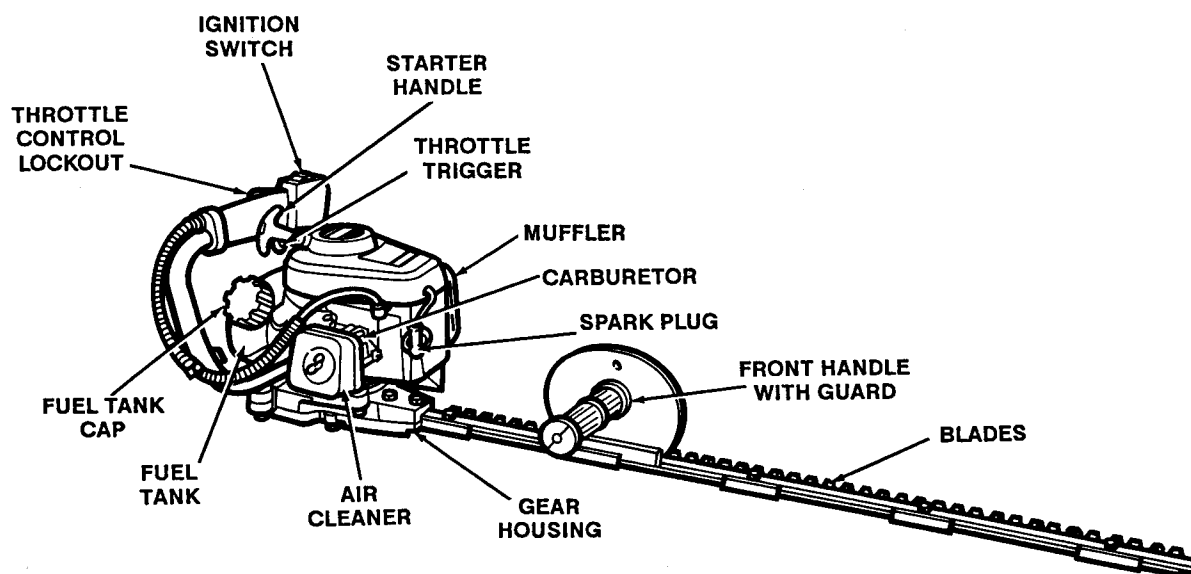
DO NOT operate the unit while under the influence of drugs or alcohol.

USE CORRECT TECHNIQUE

ALWAYS hold the unit firmly with both hands and with fingers encircling the handles.

NEVER remove right hand or fingers from front handle when blades are operating. Injuries to hand or fingers can occur.

DESCRIPTION



0030E

OPERATION

2-STROKE FUEL (50:1 RATIO) ECHO BRANDED ENGINE OIL

Use a mixture of 50 parts leaded or unleaded regular grade gasoline (min. octane 87) and one part 50:1, ECHO branded 2-Stroke Oil.

ALTERNATE 2-STROKE FUEL (32:1 RATIO) ECHO OIL BRANDED ENGINE OIL

Use a mixture of 32 parts leaded or unleaded regular grade gasoline (min. octane 87) and one part 32:1, ECHO branded 2-Stroke Oil.

NOTE

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

Use only oils recommended in this section.

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 and remix.
4. Install fuel tank cap and wipe spilled fuel from container and area.

STARTING AND STOPPING SAFE STARTING TECHNIQUES

- 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

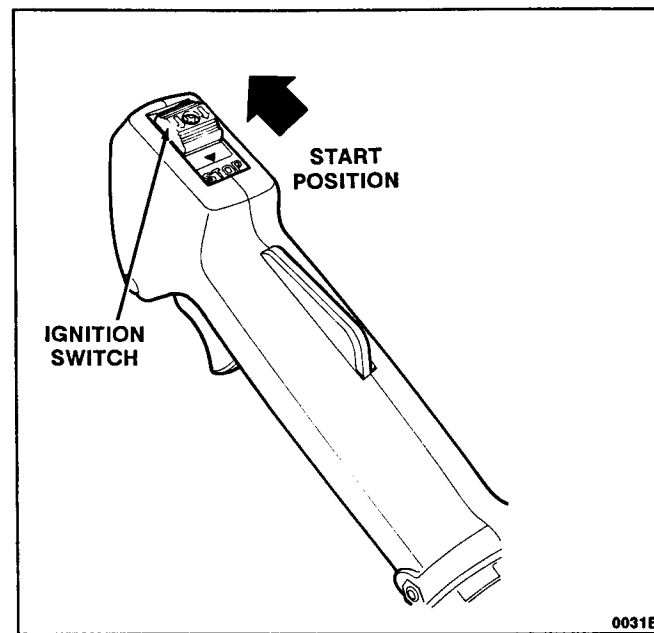


Hedge Clipper should be started at idle with unit resting on ground.

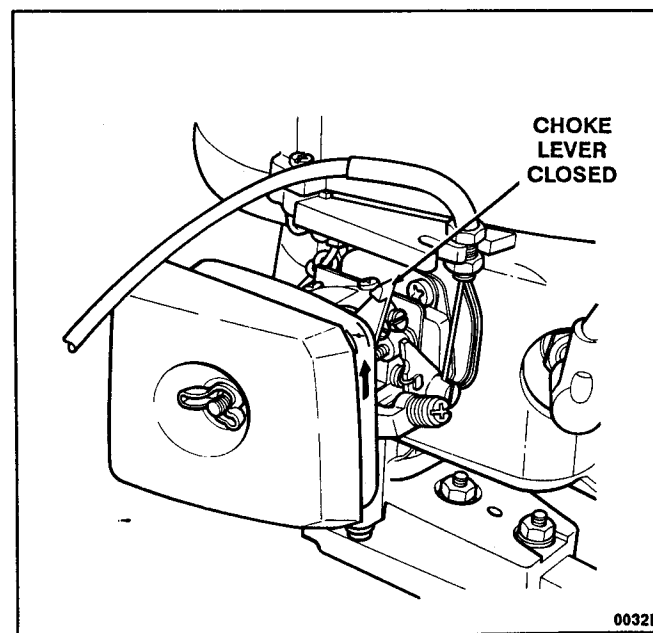


When engine starts, the blade may move even with trigger in low-speed position.

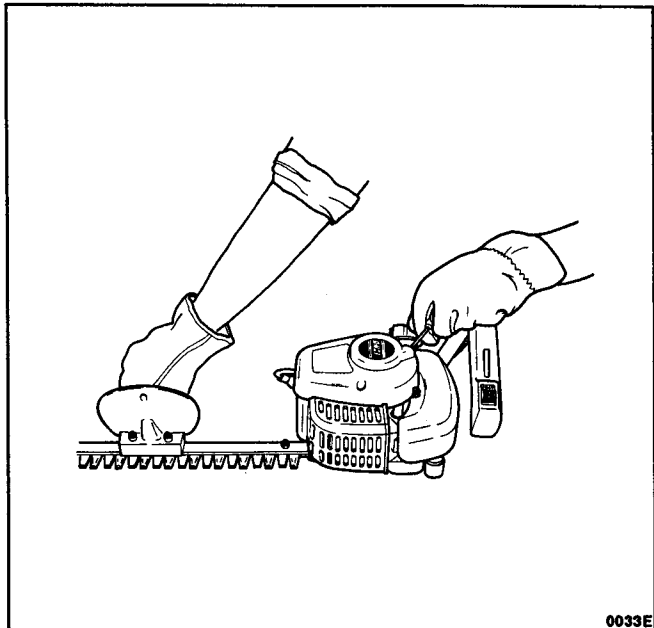
1. Slide ignition switch forward to START/RUN position.



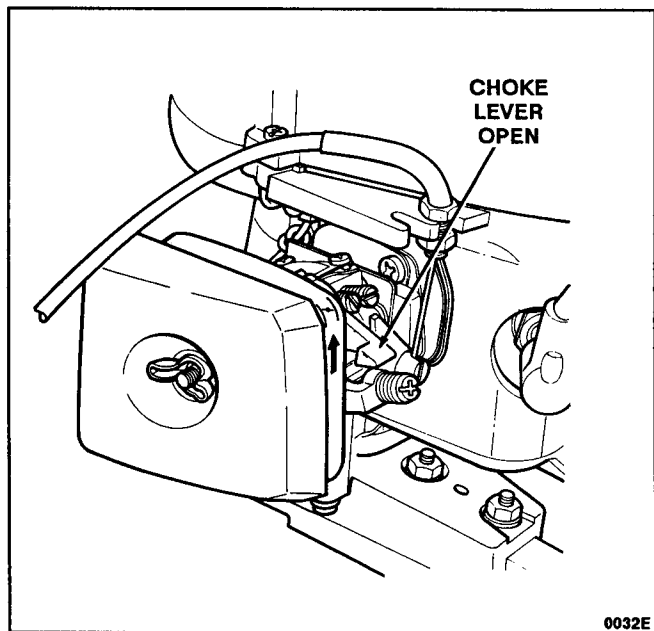
2. Push choke lever up to START (closed) position.



3. With unit on ground, hold unit as shown. With right hand on front handle, pull starter rope with left hand until engine fires.



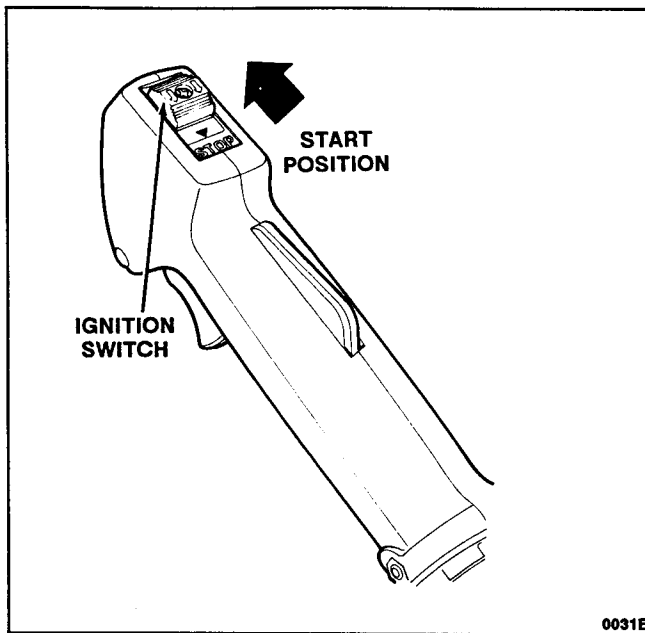
4. Push choke lever down to RUN (open) position.



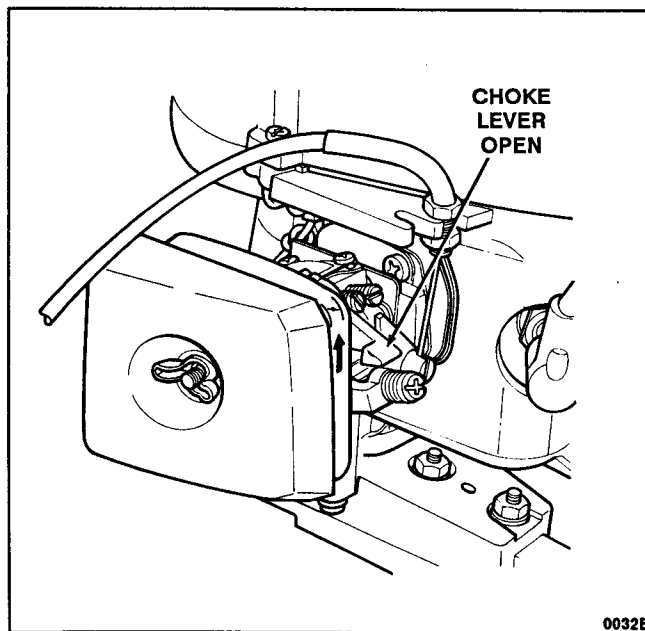
5. Restart engine and allow it to warm up.
6. Depress throttle control lockout and squeeze throttle trigger gradually.

STARTING WARM ENGINE

1. Slide ignition switch forward to START/RUN position.



2. Push choke lever down to RUN (open) position.



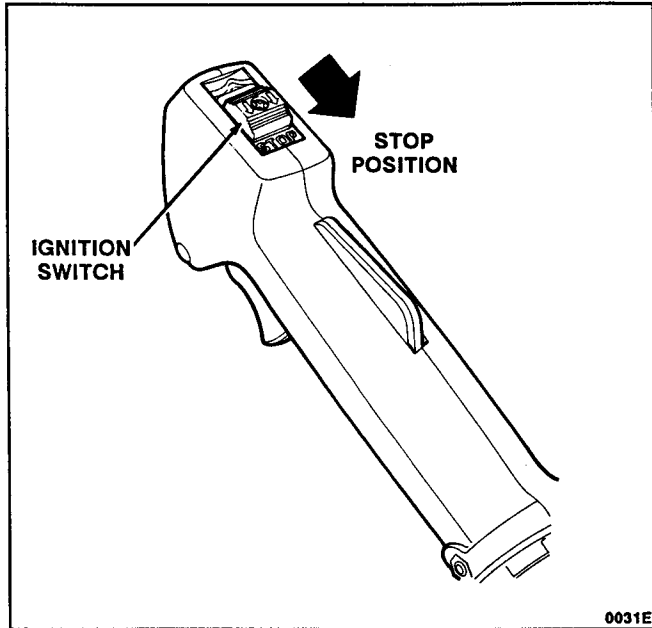
3. With unit on ground, hold unit as shown. With right hand on front handle, pull starter rope with left hand until engine fires.

NOTE

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

STOPPING ENGINE

1. Release throttle trigger and allow engine to idle.
2. Slide ignition switch rearward to STOP position.

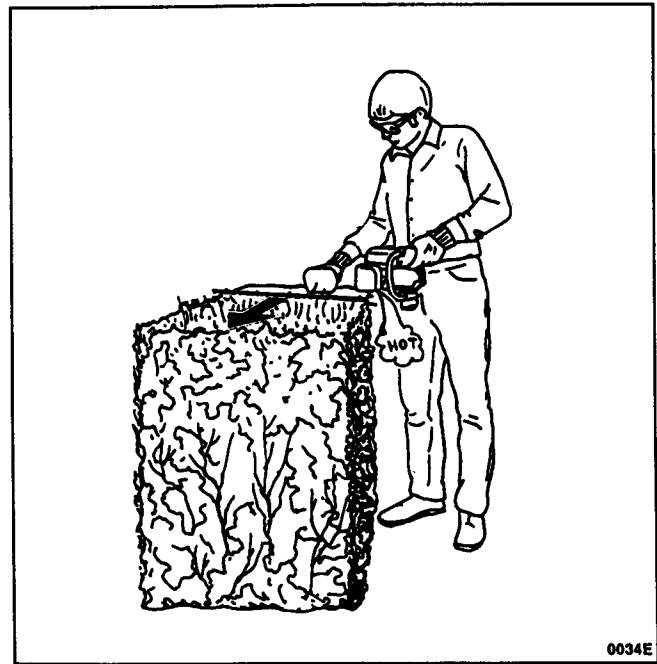


DANGER

If engine does not stop, pull choke lever up to START position. Check and replace stop switch before starting engine again.

OPERATE SAFELY AND AVOID DAMAGE TO TRIMMER

- Read "SAFETY" section in this manual.
- Hold grip and operate throttle trigger with left hand.
- Hold front handle with right hand.
- Keep left hand on grip and right hand on front handle when engine is running.
- Avoid hot exhaust when operating trimmer.



- Always wear hearing protection if you use this tool for more than 2 hours per day. This is based on the Occupational Safety and Health act of 1970. The allowable hours of use could be reduced if guidelines are revised, therefore we recommend hearing protection at all times.
- ALWAYS wear eye protection that meets ANSI Z87-1 requirements.
- Do not overreach or stand on unstable surfaces.
- If blades strikes an obstruction or are prevented from functioning properly, stop engine and inspect blades for damage.
- To avoid damage, do not run at full throttle without load.

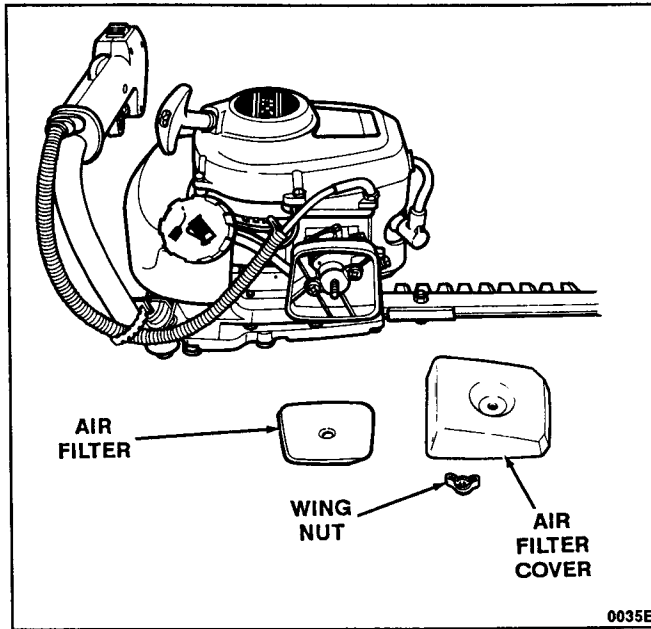
TROUBLESHOOTING

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. Carburetor out of adjustment. Gasket leaks (carburetor or cyl. base gasket.) 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 is open. 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 position and crank two or three times. See "Carburetor Adjustment." Replace gaskets. Contact your nearest authorized dealer.
3. Engine misses.	Dirt in fuel line or carburetor. Carburetor improperly adjusted. Spark plug fouled, broken or incorrect gap setting. Weak or intermittent spark at spark plug.	Remove and clean. See "Carburetor Adjustment" in service section. Clean or replace spark plug—set gap to 0.6–0.7 mm (0.024–0.028 in.). Contact your nearest authorized dealer.
4. Engine lacks power.	Air cleaner clogged. Carburetor out of adjustment. Muffler clogged. Clogged exhaust ports. Poor compression.	Clean air cleaner. See "Carburetor Adjustment." 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.
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.	Carburetor main adjustment too "lean." Engine overheats.	See "Carburetor Adjustment." See "Cleaning Cylinder Fins" in service section.

SERVICE

CLEANING AIR FILTER (Before Each Use)

1. Loosen wing nut and remove air filter cover.
2. Remove air filter (element is in the cover).



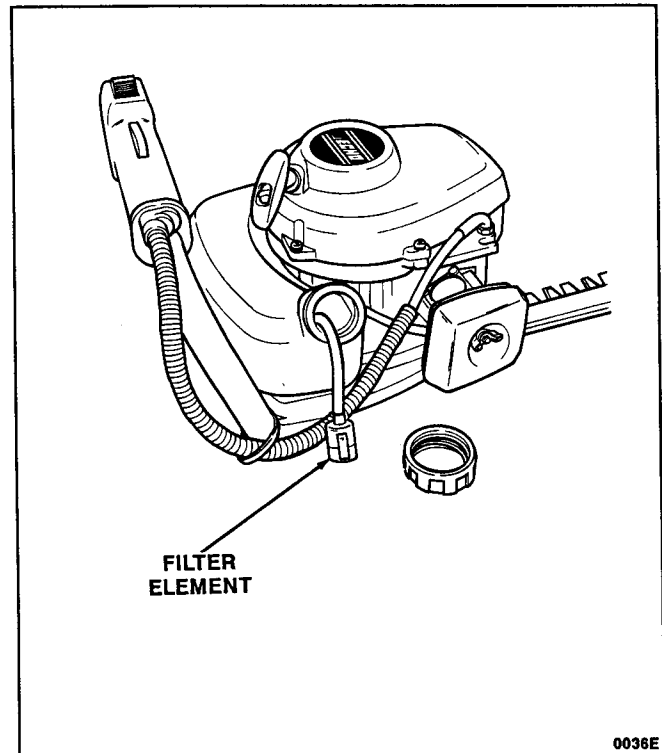
NOTE

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

3. Brush dirt from filter or clean with compressed air.
4. Reinstall filter in cover.
5. Reinstall cover and tighten wing nut.

REPLACING FUEL FILTER (Check Periodically)

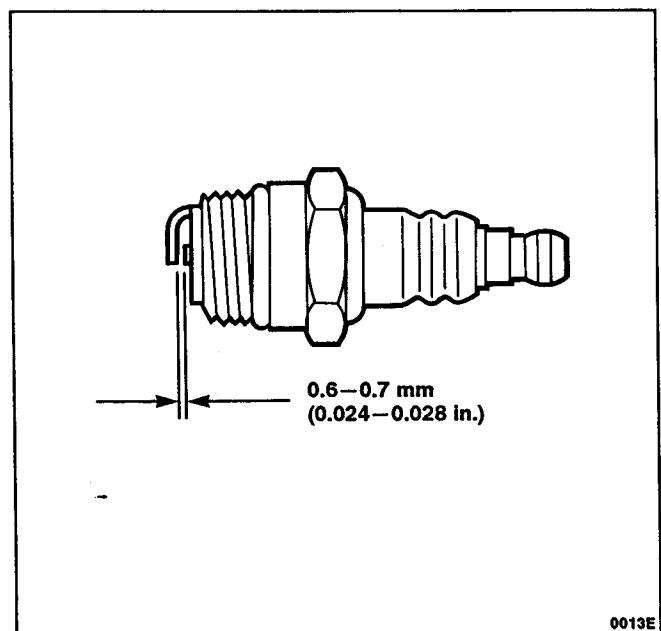
1. Use a piece of steel wire to pick up fuel filter through fuel tank opening.



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.).

CARBURETOR ADJUSTMENT (As Needed)

General

If the carburetor requires adjustment, follow these procedures.

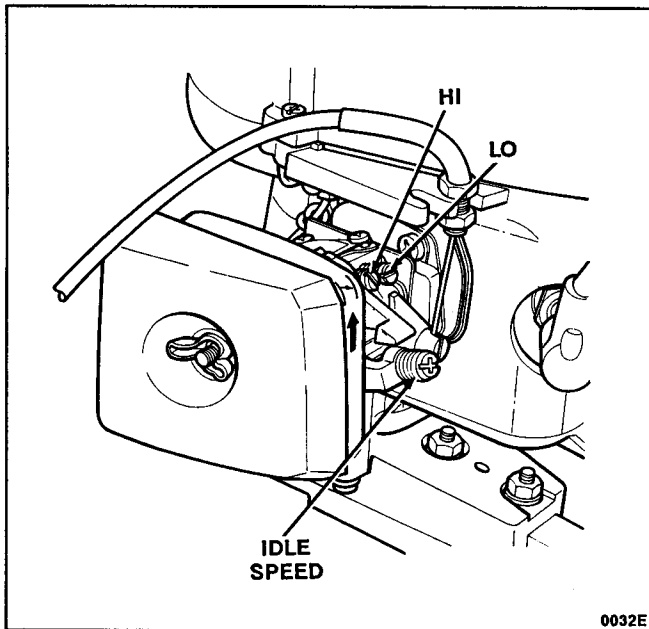
NOTE

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 (HI) 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.

Idle Adjustment



DANGER

Blades must not move when unit is at idle.

1. Turn the idle speed screw clockwise until blades just begin to move.
2. Turn idle speed screw counterclockwise one-half turn to stop blades from moving.

High Speed Adjustment

NOTE

Engine must be at normal operating temperature.

1. Turn the HI adjustment screw counterclockwise 3/4 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 "Idle Adjustment" section.

CLEANING MUFFLER AND EXHAUST PORT (Check Periodically)

1. Remove spark plug lead, spark plug, and throttle cable from carburetor swivel.
2. Remove the four screws which secure recoil starter housing.
3. Remove recoil starter housing.
4. Remove the two screws which secure the engine cover.
5. Pull engine cover away from engine.
6. Remove spark arrester. Replace screen if it is plugged, cracked or has holes burned through it.
7. Remove muffler and heat shield.

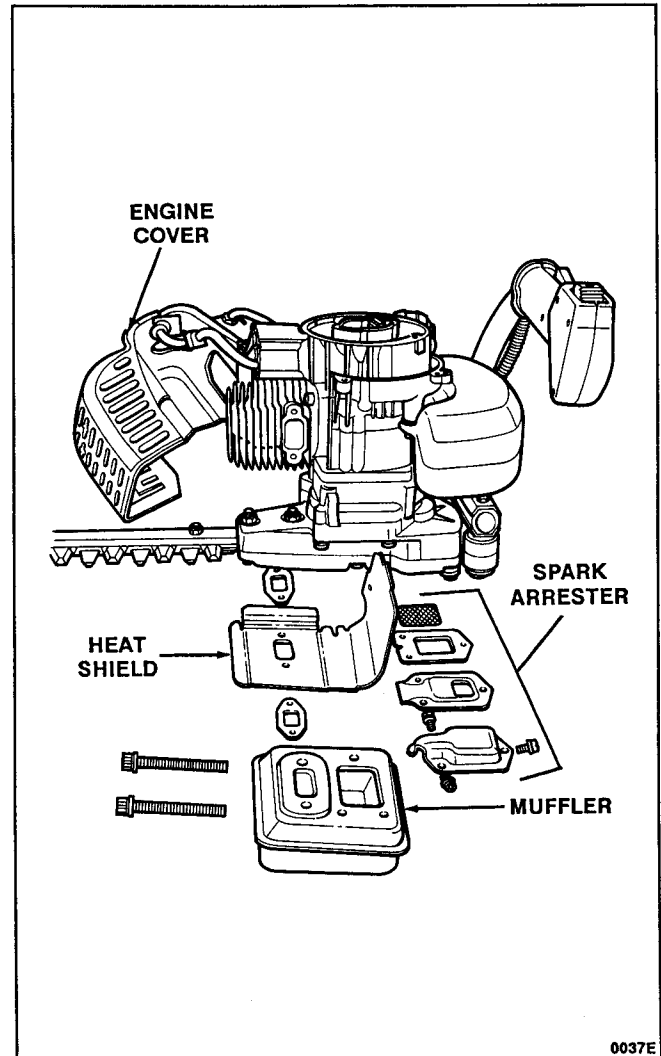
NOTE

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

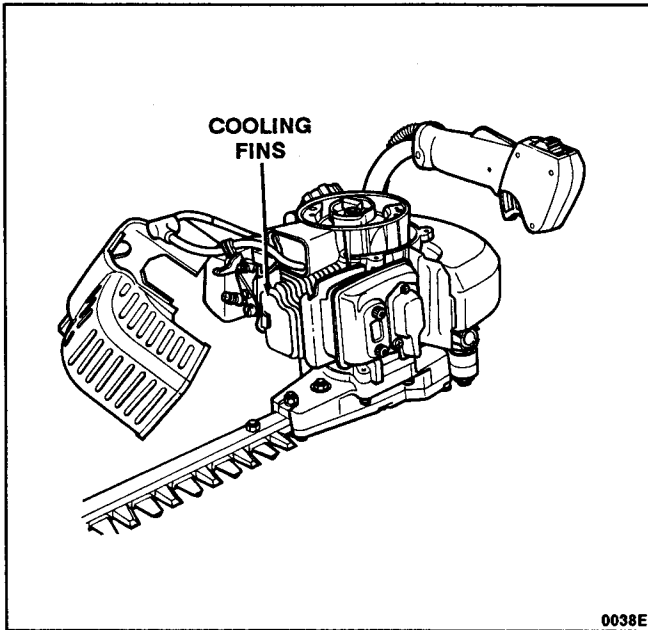
8. Clean deposits from muffler, spark arrester screen and cylinder exhaust port.
9. Inspect gaskets, replace if necessary.
10. Install heat shield and muffler.
11. Install spark arrester.
12. Install engine cover.

13. Install recoil starter housing.

14. Install spark plug, spark plug lead and throttle cable.



CLEANING CYLINDER FINS (Check Periodically)



1. Remove engine cover as outlined in steps 1, 2, 3, 4 and 5 in "Cleaning Muffler and Exhaust Port".
2. Remove dust and dirt from between fins.

STORAGE LONG TERM STORAGE

1. Clean each part and repair, if necessary.
2. Apply a thin coating of oil to metal parts to prevent rust.
3. Drain fuel tank and pull starter a few times to remove fuel from carburetor.
4. Pour a small amount of clean motor oil into spark plug hole and pull starter handle until engine reaches top dead center.
5. Store trimmer in a dry, dust free, area.

SPECIFICATIONS	
Length	990 mm (39.0 in.)
Width	240 mm (9.4 in.)
Height	230 mm (9.1 in.)
Weight (dry)	5.7 K (12.7 lb)
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	WALBRO diaphragm model WT type
Ignition System	Flywheel magneto, capacitor discharge ignition type
Spark Plug	NGK BPM-7A, CHAMPION CJ-7Y
Fuel	Mixed fuel
Fuel Oil Ratio	32:1 ratio with ECHO branded engine oil or 50:1 ratio special oil approved by ECHO
Gasoline	Regular (DO NOT use gasohol or alcohol blended fuel)
Oil	Designated ECHO brand, two-stroke, air-cooled engine oil
Fuel Tank Capacity	0.5 lit. (16.9 US fl. oz.)
Starter System	Automatic rewind starter
Clutch	Centrifugal type
Gear Case	1:5.13 ratio, reduction
Cutter Type	Dual action, single-edged blade
Cutter Length	559.2 mm (22.4 in.)
Cutter Pitch	35 mm (1.4 in.)
Cutter Height	24 mm (0.94 in.)
Rear Handle	Rubber mounted with rubber grip
Front Handle	Rubber grip with hand guard

Purchaser's Name

Address (Street)

(City/State/Zip Code)

ECHO Model No. HC-2100

Parts Book No. 898696 05960

PARTS BOOKS

To obtain a parts catalog, complete this order form and enclose a check or money order for \$2.00. Make payable to ECHO, INCORPORATED and mail to:

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P.O. Box 67
Lake Zurich, IL 60047

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