



OPERATOR'S MANUAL

POWER BLOWER



PB-1000
PB-1010

99922201763
9/90



CAUTION

READ RULES FOR SAFE OPERATION
AND INSTRUCTIONS CAREFULLY

INTRODUCTION

ECHO Power Blower, Models PB-1000 and PB-1010 are lightweight, high performance, gasoline powered units designed for removing leaves, grass, dirt, snow, and other lightweight debris from driveways, sidewalks, parking lots and hard to reach areas.

The Vacuum kit comes as standard equipment with the PB-1010. This same kit may be purchased as an accessory for the PB-1000 at your authorized ECHO dealer.

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



CONTENTS


Page No.


Safety	3
Description	7
Operation	8
Troubleshooting	13
Service	14
Assembly	18
Storage	20
Specifications	21

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

 **DANGER:** 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.

 **CAUTION:** This symbol is used to call attention to procedures that must be followed to avoid serious, although not necessarily always immediate, risk of human injury or death.

NOTE: Indicates a situation that may cause damage to equipment.

FOLLOW SAFETY INSTRUCTIONS

Follow all danger and caution warnings in this manual and on safety decals on the blower.

FOLLOW SAFETY DECALS

Locate the safety decals on your blower. Make sure the decals are legible and that you understand them and follow the instructions on them.

SAFETY

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 built up in tank.

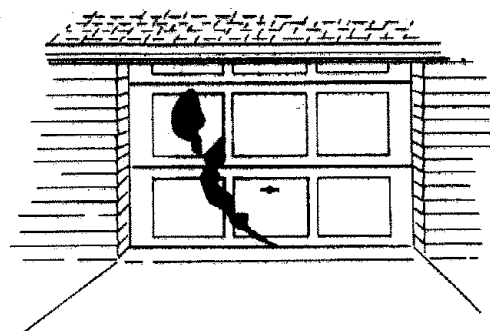
DO NOT overfill the tank and always wipe up spilled fuel.

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.

SAFETY

CLEAR WORK AREA

BEFORE STARTING OPERATION, inspect work area and remove any foreign objects.



WEAR PROTECTIVE CLOTHING AND EQUIPMENT

DANGER:

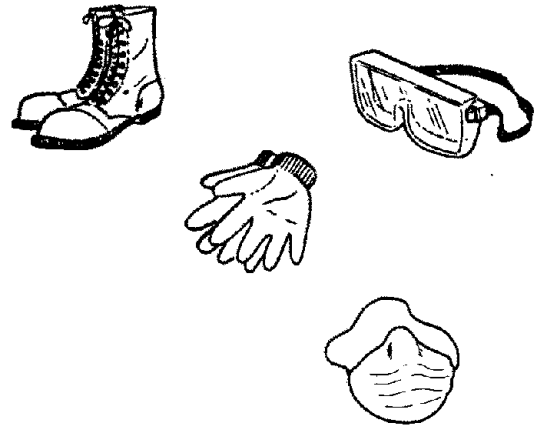
ALWAYS wear eye protection such as safety goggles or glasses that meet ANSI Z87. 1 when operating this unit.

ALWAYS wear a face filter mask.

ALWAYS wear gloves and non-skid footwear.

ALWAYS dress properly with snug fitting, durable clothing. Avoid loose clothing.

ALWAYS wear hearing protection when operating the unit.



OPERATE SAFELY

DO NOT operate the unit when you are fatigued.

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

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

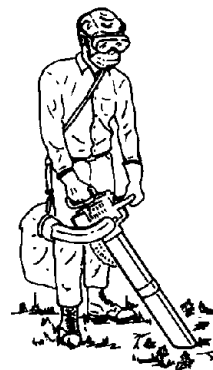


SAFETY

USE CORRECT TECHNIQUE

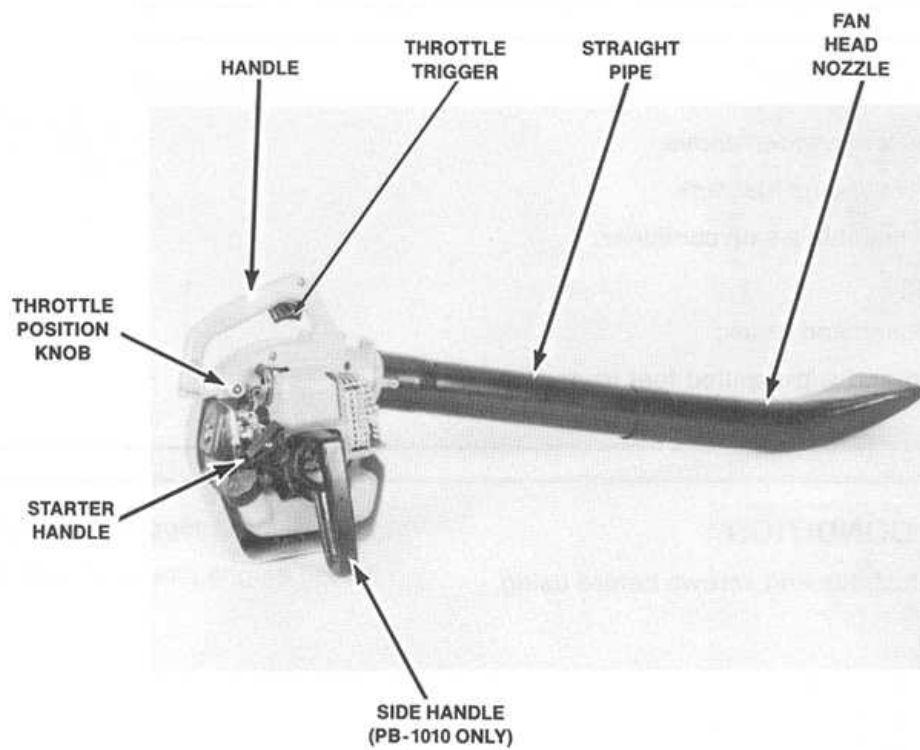
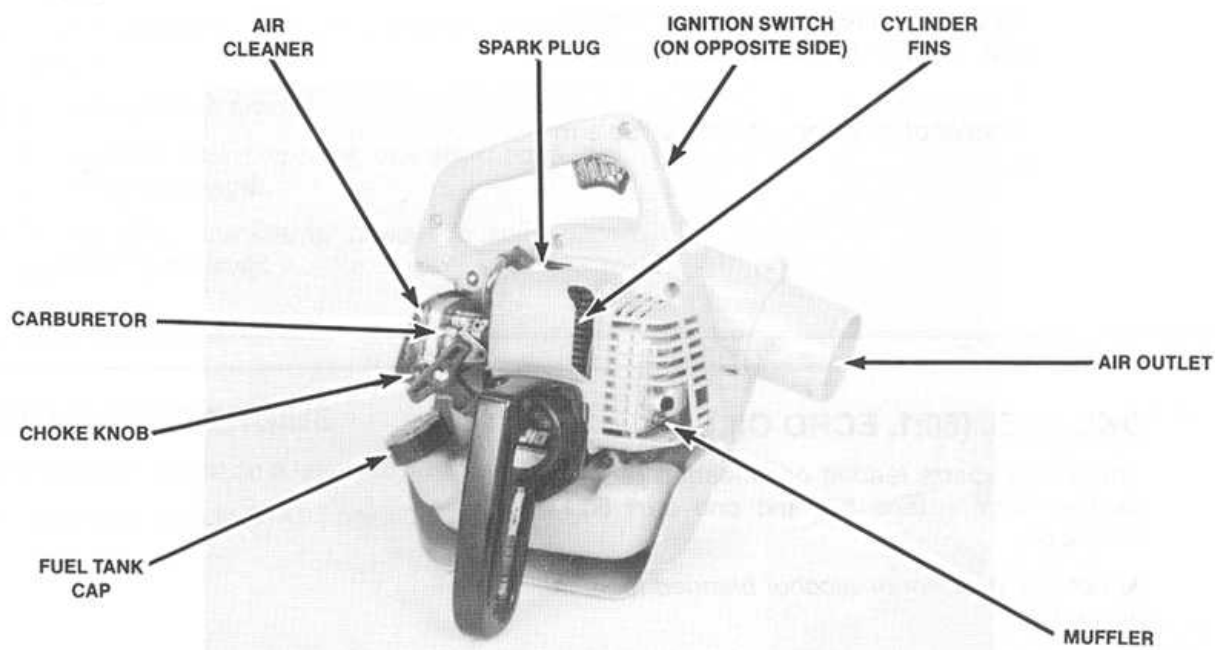
PB-1000: ALWAYS hold the unit firmly with one hand and with fingers and thumb encircling the handle.

PB-1010: ALWAYS hold the unit firmly with both hands and with fingers and thumbs encircling the handles.



DESCRIPTION

CONTROLS



OPERATION

2-STROKE FUEL (32:1, ECHO OIL)

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

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

2-STROKE FUEL (50:1, ECHO OIL)

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

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

MIX FUEL

NOTE: Use only oils recommended above.

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

CHECK BLOWER CONDITION

1. Check for loose nuts, bolts and screws before using unit.

OPERATION

SAFE STARTING TECHNIQUES

NOTE: Always clear work area of debris before starting operation.

NOTE: Always hold unit firmly.

NOTE: When pulling starting rope, use short pulls, 1/2 to 2/3 of rope length.

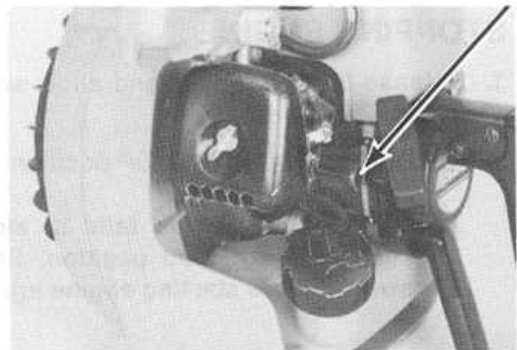
NOTE: Do not allow the starter handle to snap back against the housing.

STARTING COLD ENGINE

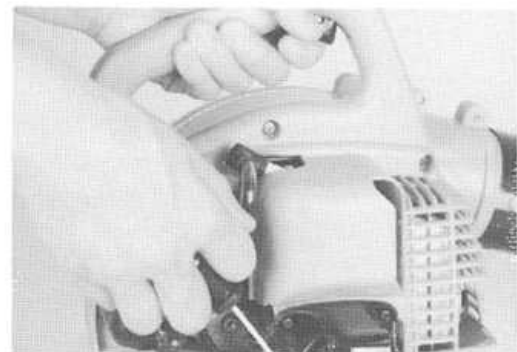
1. Stand engine upright on a level surface.
2. Turn ignition switch to START position.



3. Pull choke knob all the way out.



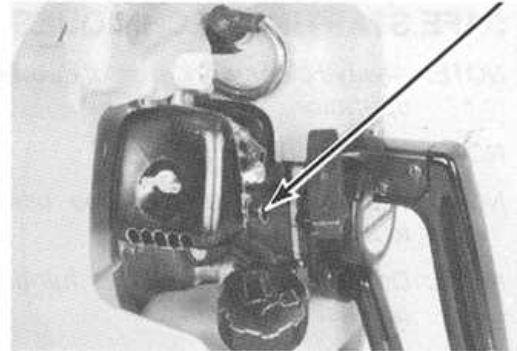
4. Squeeze throttle trigger fully.
5. Pull starter handle until engine fires.



OPERATION

6. Push choke knob all the way in.
7. If necessary, restart engine.

NOTE: Allow engine to warm up before use.



STARTING WARM ENGINE

NOTE: Choke must be in the RUN (open) position for warm engine starting.

1. Turn ignition switch to START position.
2. Squeeze throttle trigger fully.
3. Pull starter handle.

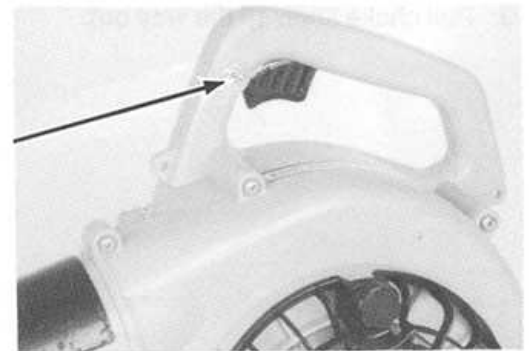
NOTE: If engine does not start after 4 pulls use cold starting procedure.



STOPPING ENGINE

1. Release throttle trigger and allow engine to cool at idle for 2 minutes.
2. Turn ignition switch to STOP position.

⚠ CAUTION: If engine fails to stop, pull choke knob out to closed position. Replace ignition switch before starting engine again.



OPERATION

OPERATE BLOWER/VACUUM SAFELY AND AVOID DAMAGE TO BLOWER

DANGER:

- DO NOT point the blower pipe in the direction of people or animals.
- ALWAYS wear safety glasses and a face filter mask.
- NEVER operate vacuum without vacuum bag properly attached.
- DO NOT attempt to vacuum up ash from outdoor fireplaces or barbecue pits.
- DO NOT attempt to vacuum up lit smoking materials.
- This unit is designed to vacuum up debris such as, leaves, small bits of paper, small twigs, weeds and grass clippings. Do not use this unit for any other purpose.
- DO NOT vacuum up nails, glass or other sharp objects. Damage to unit might occur.
- DO NOT force objects into suction pipe.
- DO NOT attempt to clear unit or free fan if vacuum becomes plugged or jammed without first shutting unit off and removing spark plug wire.

OPERATING BLOWER

NOTE: Allow engine to warm up at fast idle before using it.

The blower can be operated at speeds ranging from 2500 RPM to 7200 RPM. This vast range enables the blower to move debris of varying weights.

OPERATING HINTS (Blowing Operations)

- Use a low speed to blow dry leaves from a lawn or flower bed.
- Use a medium to high speed to clean grass and leaves from walks, patios and drives.
- Use a high speed to move dirt, snow or cans from a driveway, street, parking lot or stadium.
- Observe local noise ordinances.

OPERATION

OPERATING HINTS (Vacuuming Operations)

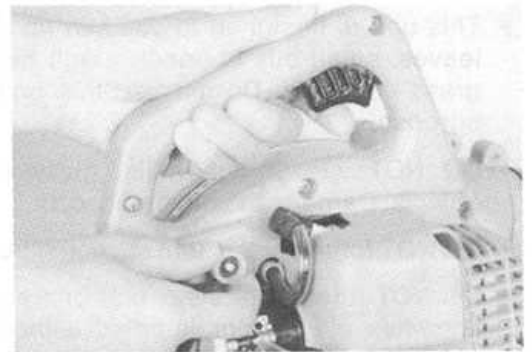
- Make sure bevel at end of vacuum tube is facing downward.
- Place shoulder harness over right shoulder.
- Operate blower/vacuum at high speed while moving unit side to side.



USING THROTTLE POSITION KNOB

NOTE: The throttle position knob can be used to maintain engine speed. It can be set for either medium or high speed operation.

1. With engine running, turn throttle position knob clockwise until desired engine speed is obtained.



TROUBLESHOOTING

TROUBLE	CAUSE	WHAT TO DO
1. Engine fails to start.	No fuel in tank. Fuel filter 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 filter. 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, proceed according to instructions in previous section. If under choked, move choke lever to closed position and crank two or three times. See "Carburetor Adjustment." Contact your nearest authorized dealer. 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 bottom 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. Start engine and run briefly to remove all carbon, then 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.
6. Engine noisy or knocking.	Spark plug incorrect heat range. Worn bearings, piston rings or cylinder walls.	Replace with plug 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)

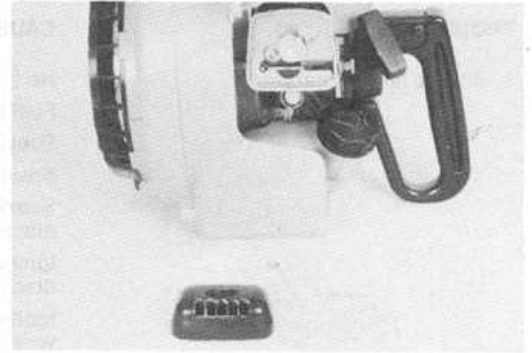
1. Remove wing nut, filter cover and filter.

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

2. Brush dirt from filter or wash it in a suitable cleaner.

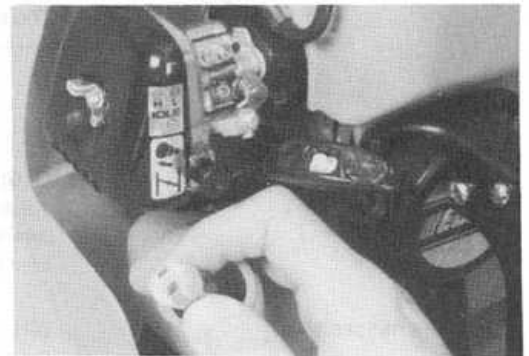
NOTE: Allow all parts to air dry.

3. Reinstall filter, cover and wing nut.



REPLACING FUEL FILTER (Check Periodically)

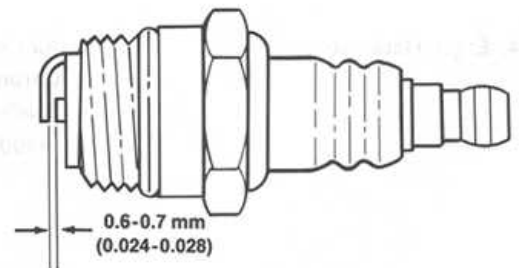
1. Pick up fuel filter through fuel tank opening with a piece of steel wire.
2. Remove old filter.
3. Install new filter.



CHECKING SPARK PLUG (Check Periodically)

NOTE: Proper gap is 0.6-0.7 mm (0.024-0.028 in.).

1. Check spark plug gap.
2. Inspect electrode for wear.
3. Inspect insulator for oil or other deposits.
4. Replace plug, if needed, and torque to 145-155 kg (125-135 in. lbs.).



SERVICE

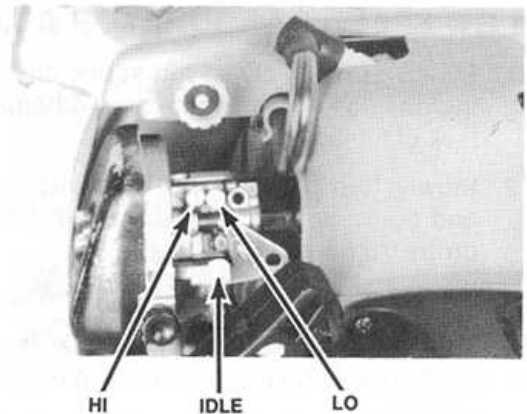
ADJUSTING CARBURETOR (As Needed)

GENERAL

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

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 CARBURETOR ADJUSTMENT

NOTE: The adjustment screws have a sharp point. To avoid carburetor damage, do not use excessive force.

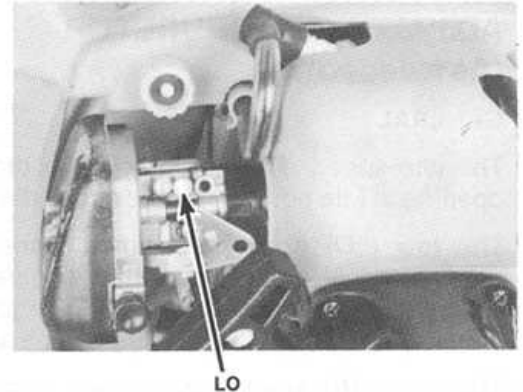
1. Turn the HI and LO screws clockwise until seated lightly in carburetor body.
2. Turn the LO screw counterclockwise 1-1/8 turn.
3. Start the engine and allow it to run at idle until warm.

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

SERVICE

LOW SPEED CARBURETOR ADJUSTMENT

1. Slowly turn the LO speed screw clockwise and note the position when engine speed begins to drop from lack of fuel.
2. Slowly turn the LO speed screw counterclockwise and note position at which again the engine speed drops from too much fuel.
3. Set the screw midway between these points.
4. Turn the idle speed screw clockwise until a speed of 2500-3400 RPM is achieved and engine idles without stalling.



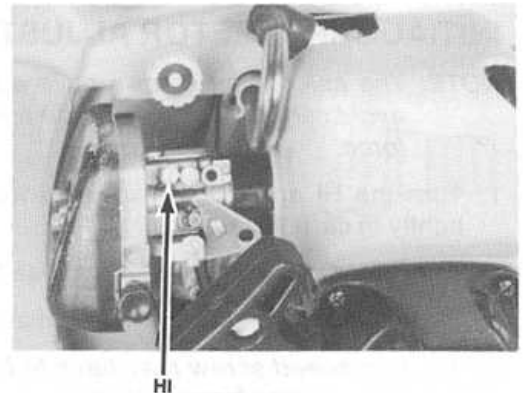
HI SPEED CARBURETOR ADJUSTMENT

NOTE: Engine must be at normal operating temperature when performing this adjustment.

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

CAUTION: Do not run the engine on full throttle longer than 5-6 seconds to avoid damage to engine during carburetor adjustment.

2. While running the engine at full throttle, turn the HI screw slowly clockwise until the engine runs smoothly without four stroking and engine speed begins to drop.
3. Turn the HI screw counterclockwise 1/8 turn to obtain optimum fuel for full power under load conditions. After the high speed adjustment has been completed, and should the engine hesitate during acceleration from idle to full throttle, turn the HI speed screw 1/16 to 1/8 additional turn in the counterclockwise direction.

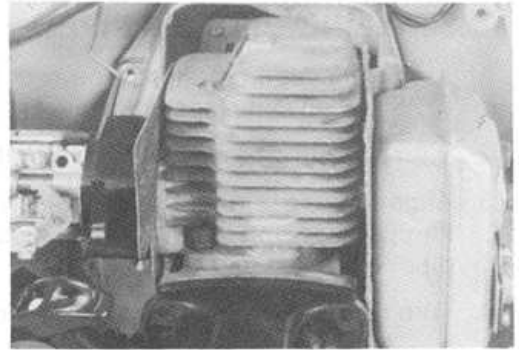


SERVICE

CLEANING CYLINDER FINS (Check Periodically)

NOTE: Clogged fins could cause engine overheating.

1. Carefully remove housing.
2. Clean dirt and dust from fins.
3. Reinstall housing.



CLEANING MUFFLER AND EXHAUST PORT (Check Periodically)

1. Remove housing.
2. Remove cover and muffler.

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

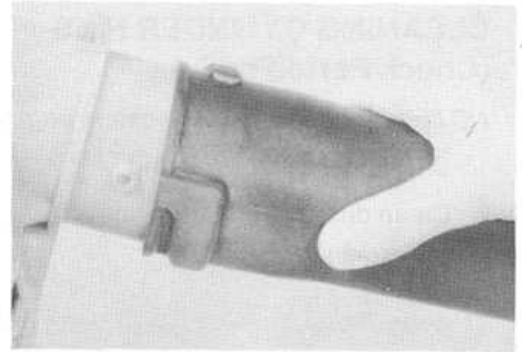
3. Clean deposits from cylinder exhaust port and spark arrester screen.



ASSEMBLY

INSTALLING BLOWER PIPES

1. Align grooves in straight pipe with pegs on blower housing and slide pipe onto housing.
2. Turn straight pipe clockwise to lock it in place.
3. Align grooves in fan head nozzle with pegs on straight pipe and slide fan head nozzle onto straight pipe.
4. Turn fan head nozzle clockwise to lock it into place.

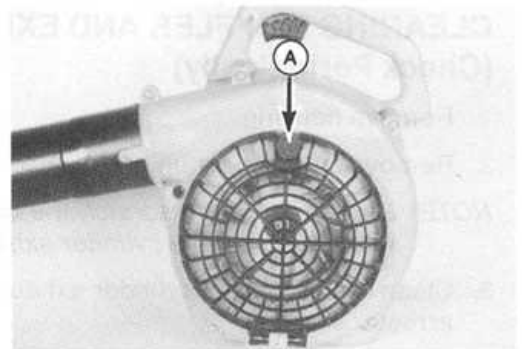


INSTALLING VACUUM KIT (Not Standard on PB-1000)

⚠ CAUTION: Never operate unit without either housing cover or vacuum tube installed securely on unit.

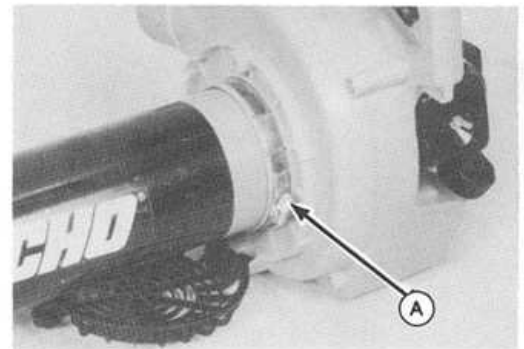
⚠ CAUTION: Never perform maintenance or assembly procedures with engine running.

1. Turn knob (A) counterclockwise until housing cover is free and pull housing cover outward to gain access for vacuum tube installation.

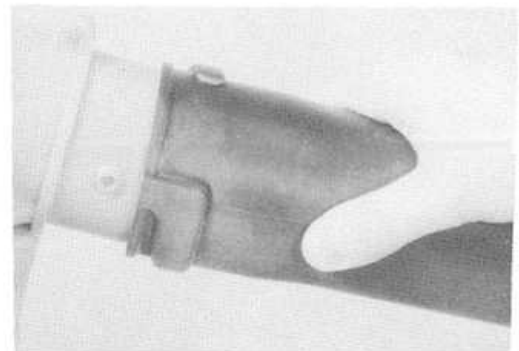


2. While holding housing cover open, install vacuum tube (with bevel facing down) into blower housing.
3. Secure vacuum tube with clamp (A).

NOTE: Hose clamp fits under slotted guide.

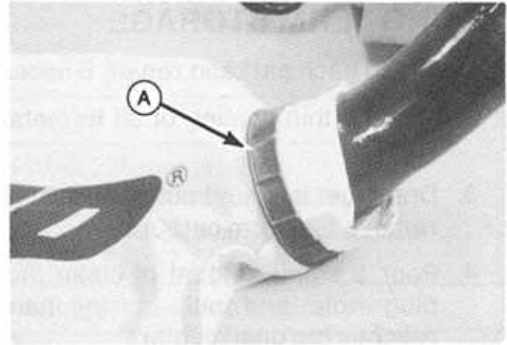


4. Align grooves in vacuum elbow with pegs on air outlet and install vacuum elbow.
5. Turn vacuum elbow clockwise to lock it into place.



ASSEMBLY

6. Place vacuum bag opening over end of vacuum elbow.
7. Slide clamp (A) down around vacuum bag opening.



8. Remove four 4 x 18 mm cross point screws from starter housing assembly.

NOTE: Do not remove starter assembly from the unit.

9. Install right-hand handle assembly over starter housing and secure with four screws removed in step #8.

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 handle 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 blower in a dry, dust free, area.

PARTS BOOKS

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

ECHO INCORPORATED
P.O. Box 67
Lake Zurich, IL. 60047
ATTN: Technical Publications.

Purchaser's Name

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Address (Street)

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

(City) (State) (Zip Code)

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

ECHO Model No. PB-1000, PB-1010

SERIAL NO. _____

Parts Book No. 898-696-05060

SPECIFICATIONS

MODEL PB-1000, PB-1010

Dimensions	Length	325 mm (12.8 in.) without blower pipe
	Width	PB-1000: 220 mm (8.7 in.) PB-1010: 225 mm (11.2 in.)
	Height	330 mm (13.0 in.)
Weight (dry) (without pipes)		PB-1000: 3.3 kg (7.3 lbs.) PB-1010: 3.5 kg (7.7 lbs.)
Type of Engine		Air-cooled, two-stroke, single-cylinder, gasoline engine
	Bore	32.2 mm (1.268 in.)
	Stroke	26.0 mm (1.024 in.)
	Displacement	21.2 cc (1.294 cu. in.)
Exhaust System		Spark arrester muffler
Carburetor		ZAMA diaphragm model C1U 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 oil or 50:1 ratio with ECHO oil
	Fuel Tank Capacity	0.45 lit. (15.2 US fl. oz.)
Starter System		Automatic rewind system
Vacuum Kit		PB-1000: Optional PB-1010: Standard