



**SPRAYER
OPERATORS MANUAL
MODEL MS-1**

**ECHO, INCORPORATED
400 OAKWOOD ROAD
LAKE ZURICH, IL 60047**

99922202285

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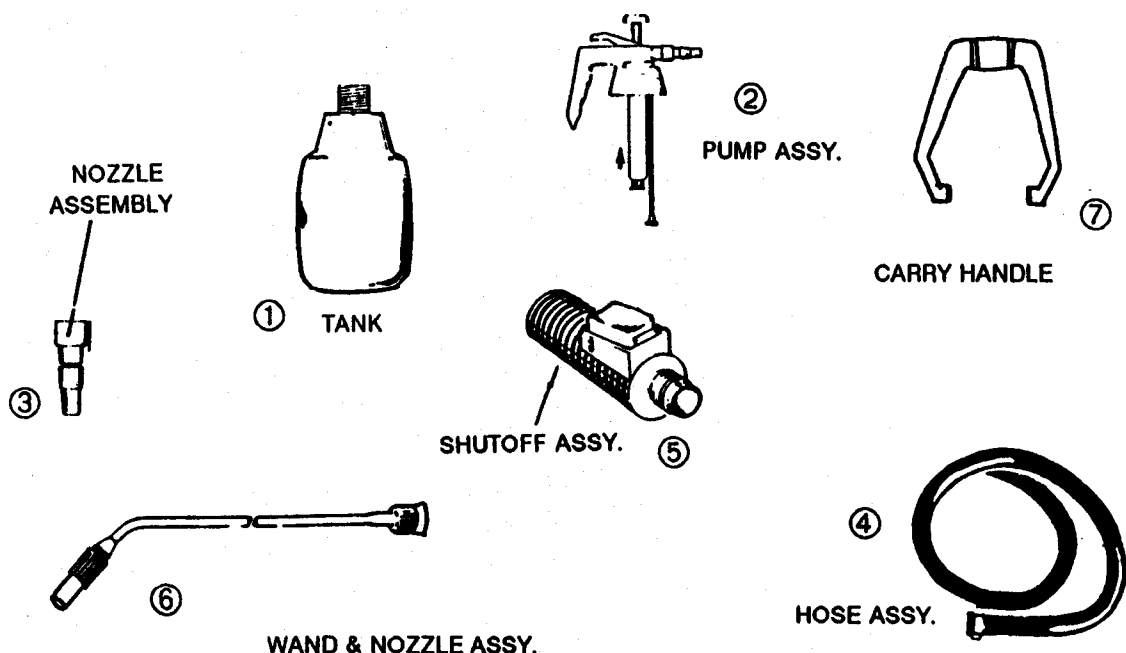
Thank you for choosing an ECHO Sprayer. This sprayer is powered by retained air pressure and is made of materials highly resistant to corrosion and commonly used chemicals. The ECHO Sprayer is easy to maintain, easy to repair. No special tools are required. These and other features make this sprayer very functional, lightweight and economical. Failure to observe cautions and to follow instructions could result in serious injury.

RULES FOR SAFE OPERATION

Read and understand this entire manual before using the sprayer to avoid potentially serious situation.

- Always inspect your sprayer thoroughly before and after each use. Check to be sure hose is securely attached and in good condition before pressurizing tank.
- Use special care when spraying near electrical installations.
- Keep the work area clear of people and animals.
- Never use the sprayer during windy conditions.
- Always wear goggles when filling, using or cleaning the sprayer.
- Always wear a mask or respirator when filling, using and cleaning sprayer if recommended by the spray material manufacturer.
- Wear protective gear and clothing when filling, using and cleaning the sprayer.
- Always release pressure in the pump prior to filling, cleaning or servicing the sprayer.
- Before opening a container of pesticide or other spray material carefully read, understand and follow all instructions on the label.
- Do not use flammables in the sprayer. They can ignite or explode, causing serious injury.
- Never use caustic or corrosive materials in sprayer. They could cause damage to unit.
- In case of personal contamination, remove contaminated clothing, remain upright, do not consume liquids or cause vomiting, get professional help immediately.
- Never attempt to pressurize unit by any other method than with the pump module provided. Never over pressurize unit.
- Do not eat, drink or smoke while spraying.
- Wash face and hands with soap and water after spraying.
- Clean and rinse tank and spraying assembly after each use to prevent crystallizing, which would later cause clogging and chemical damage to the unit.
- Do not use hot water (100 degrees F+ or 38 degrees C+).
- Never stand with face or body over sprayer when pressurizing tank or releasing pressure.
- Do not store sprayer under pressure or with spray solution in tank.
- Do not transfer spray materials to other containers, especially food and/or drink containers.
- Keep spray materials locked up and out of reach of children and animals.
- Use only original manufacturer's replacement parts.

SPRAYER PARTS



KEY #	DESCRIPTION	ECHO P/N	KEY #	DESCRIPTION	ECHO P/N
1	Tank Only	2331000000	5	Shutoff Assy.	2330330000
2	Complete Pump Assy.	2331010000	6	Wand & Nozzle Assy.	2330320000
3	Nozzle Assy.	2330340000	7	Carry Handle	2331060000
4	Hose Assy.	2331030000	not shown	"O" Ring Kit	2330530000

WARNING DANGER

This sprayer is operated with liquid under pressure. Failure to observe safety precautions or follow instructions for operating and cleaning can cause tank, hose and other parts to be weakened and/or rupture under pressure. This can result in **SERIOUS INJURY** from high pressure discharge of liquids or forcible ejection of parts.

WARNING DANGER

- **DO NOT** use flammable materials in this sprayer. Material could ignite or explode causing **SERIOUS INJURY**.
- **DO NOT** use caustics or acids. Either can cause corrosion and weaken hose and gaskets.
- **DO NOT** use hot water. Excess heat can weaken plastic and rubber components.
- **DO NOT** use sprayer if hose is frayed, cracked or shows signs of swelling.
- **NEVER** stand with face or body over sprayer when pressurizing tank or releasing pressure.
- **NEVER** pressurize sprayer using an air compressor or other means. Excessive pressure can cause sprayer to explode. **ONLY PRESSURIZE** sprayer using built-in pump mechanism.
- **ALWAYS** read and understand directions supplied by manufacturer/packager of product to be sprayed.
- **ALWAYS** wear goggles (eye protection) that meet ANSI Z87.1 specifications and protective clothing when using sprayer.
- **ALWAYS** use ECHO replacement parts. Use of improper parts may lead to a failure and serious injury.
- **ALWAYS KEEP SPRAYER AND SPRAY MATERIALS OUT OF THE REACH OF CHILDREN.**

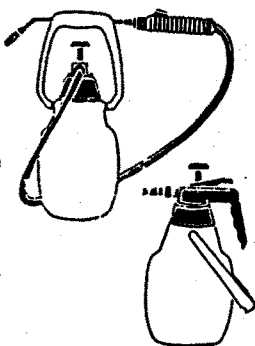
WARNING ⚠ DANGER
RELEASE PRESSURE FROM TANK BEFORE FILLING OR SERVICING.

To release pressure from tank, lay sprayer on its side in a flat position with hose outlet pointing up. Depress trigger and hold until ALL air has escaped.

OPERATING INSTRUCTIONS

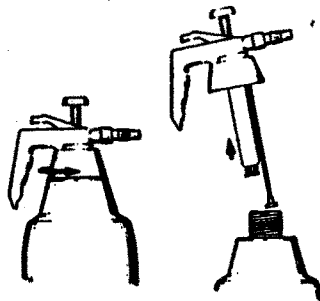
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Choose operating mode, either one hand operation with nozzle on pump assembly or install the wand and nozzle with three foot hose.



2

Unscrew the pump assembly (turn counter clockwise) and lift from tank.



3

Prior to filling tank, strain liquid to remove foreign particles. Add up to 1/2 gallon of spray material to tank.



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Check that control valve is closed (button on wand released or trigger on pump assembly free).

NOTE: When hose and wand are installed, shutoff valve in pump assembly is by-passed and wand button controls spray.

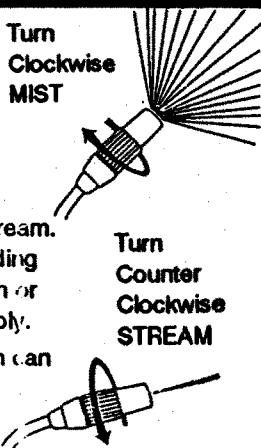
Pressurize sprayer by moving pump handle in smooth up and down strokes (approximately 15-30 strokes) until pump works hard.



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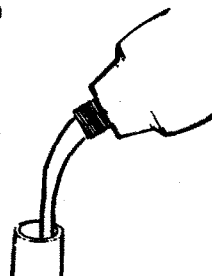
Adjust nozzle to desired pattern. Turn nozzle tip clockwise for mist, counter-clockwise for stream. Operate sprayer by holding down either wand button or trigger on pump assembly.

NOTE: The wand button can be locked in place for continuous spraying.



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Store leftover spray liquid in a proper container. Flush tank and sprayer with cold clean water. Dry sprayer with soft clean cloth. Allow tank to drain and dry before reassembling for storage.



Trouble Shooting

<i>Problem</i>	<i>Problem Cause</i>	<i>Remedy</i>
Weak or no spray	1. Insufficient pressure 2. Clogging	1. Pump to increase pressure. 2. Clean nozzle assembly and valve. 3. Unscrew sprayer from tank. Clean pickup filter screen extending from pump.
Distorted spray	Partial blockage	Clean nozzle hole.
Sprayer control valve leaks	Build-up of sediment on internal sealing surfaces	Remove nozzle and clean surfaces thoroughly.
Wand control valve leaks	Build-up of sediment on internal sealing surfaces	Remove rear part of wand handle by unscrewing counter-clockwise. Clean all internal surfaces.

CLEANING AND STORING

COLD WEATHER STORAGE

All liquids must be removed from the tank, handle, trigger, and extension. Failure to do this may cause these parts to rupture.

NEVER STORE SPRAYER WITH PRESSURE IN TANK.

Empty any leftover spray material into proper container.

Flush out tank with cool clean water. **NEVER USE HOT WATER FOR CLEANING.**

Dry off sprayer with clean cloth and allow inside of

tank to dry by hanging upside down with pump assemble removed.

Lubricate plunger assembly with light oil through hole in cap.

Lubricate all threaded fittings with light oil or grease.

IMPORTANT: ALWAYS EMPTY, CLEAN AND DRAIN TANK AND HOSE ASSEMBLY AFTER EACH USE. FAILURE TO DO SO MAY WEAKEN TANK AND/OR HOSE CAUSING SUCH PARTS TO BURST WHEN UNDER PRESSURE.

///ECHO
POWER EQUIPMENT

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