



High Pressure Washer

Operator's Manual

MODEL

HPP-1900

Serial Number 000001 & Up

WARNING  DANGER

Read "Safety Instructions" for Electric Pressure Washers carefully. ECHO provides this information in the Operator's Manual. Read and understand the manual 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 INSTRUCTIONS FOR ELECTRIC PRESSURE WASHER

WARNING DANGER

When using electric pressure washer, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury.

Read all of these instructions before attempting to operate this pressure washer.

SAFETY SYMBOLS

Throughout this manual and on the product itself, you will find safety alerts and helpful, information messages preceded by symbols or key words. The following is an explanation of those symbols and key words and what they mean to you.



This symbol accompanied by the words **WARNING** and **DANGER** calls attention to an act or condition that can lead to serious personal injury to operator and bystanders.



The circle with the slash symbol means whatever is shown within the circle is prohibited.



IMPORTANT



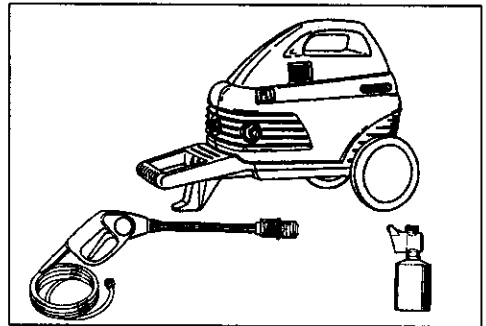
NOTE

IMPORTANT: The enclosed message provides information necessary for the protection of the unit.

NOTE: This enclosed message provides tips for use, care and maintenance of the unit.

EQUIPMENT - MAINTAIN PRESSURE WASHER WITH CARE

- Always keep the unit and all associated equipment, clean; properly serviced and maintained.
- Check unit for loose/missing nuts, bolts and screws. Tighten or replace as needed.
- Take special care of the high pressure hose to assure that it never gets into a condition that may cause it to suddenly break while under high pressure. You can be injured by an unexpected water jet or from a whipping water hose.
- Check to be sure that all fittings are secure and that the high pressure hose is in good working order without imperfections or abraded or worn surfaces. If hose, fittings, or any other part is damaged they should be repaired or replaced by an authorized ECHO service dealer.
- This product is provided with a ground-fault circuit interrupter (G.F.C.I.) built into the power cord. Inspect power cord periodically, and if damaged, have an authorized ECHO service dealer repair or replace with an identical power cord that includes G.F.C.I. protection.
- Do not use any attachment or accessory other than recommended in this Operator's Manual. When using attachments be sure to carefully read the instructions supplied with each attachment: avoid the risk of serious injury.
- When not in use store the unit in a dry warm place that will not freeze, and is out of reach of children.
- Follow all maintenance procedures specified in this manual.



DEALER?

Call

**1-800-432-ECHO
1-800-432-(3246)**

**ATTACHMENTS
AND
ACCESSORIES**

ELECTRICAL SYSTEM

Grounding --

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having a three prong grounding type plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

WARNING ! DANGER

Improper connection of the equipment-grounding plug can result in electrocution. Check with a qualified electrician or service person if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

GROUND-FAULT CIRCUIT - INTERRUPTER PROTECTION

This pressure washer is provided with a ground-fault circuit-interrupter (G.F.C.I.) built into the plug of the power supply cord. This device provides additional protection from the risk of electric shock. Should replacement of the plug or cord become necessary, use only identical replacement parts that include G.F.C.I. protection.

A G.F.C.I. is designed to reduce the risk of electrocution caused by electrical faults that may occur somewhere between the G.F.C.I. and the electric unit being used. A "fault" is a dangerous electrical hazard caused by bad wiring, defective power cords, improper connections, etc. that expose dangerous electricity to an individual and a ground or return electrical path. If your G.F.C.I. continuously trips and shuts down the circuit, don't be annoyed and don't bypass it. The G.F.C.I. is doing its job. Have the unit inspected by an ECHO Authorized Dealer.

EXTENSION CORDS

WARNING

Extension cords are not recommended unless they are plugged into a ground-fault circuit-interrupter found in circuit boxes or protected receptacles.

Use only 3-wire extension cord that have 3-prong grounding-type plugs and 3-pole cord connectors that accept the plug from the product.

Use only extension cords that are intended for outdoor use. These extension cords are identified by a marking "Acceptable for use with outdoor appliances; store indoors while not in use". Use only extension cords having an electrical rating higher than the rating of the product as shown on the motor label.

Do not use damaged extension cords. Examine extension cord before using and replace if damaged. Do not abuse extension cord and do not yank on any cord to disconnect. Keep cord away from heat and sharp edges. Always disconnect the extension cord from the receptacle before disconnecting the product from the extension cord. When using an extension cord, follow the specifications listed:

Cable Length
Up to 50 ft.
50 to 100 ft.

Wire Gauge
14 AWG
12AWG

WARNING

To reduce the risk of electrocution, keep all connections dry and off the ground. Do not touch plug with wet hands.

OPERATOR SAFETY

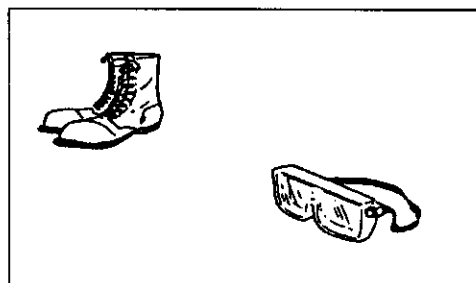
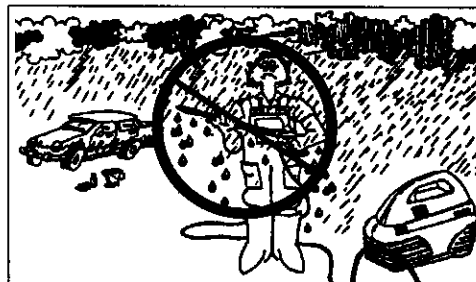
- Stay Alert. Watch what you are doing.
- Do not operate the pressure washer or any other equipment while under the influence of drugs or alcohol or when fatigued.
- To prevent a fire hazard, do not use with or near flammable materials such as gasoline, grain dust, solvents and thinners.
- Do not use this washer on a rooftop.
- Do not work in the rain, during thunder storms or with wet footing.

Equipment

- Always wear rubber soled shoes.
- Always wear Z.87.1 approved eye protection.

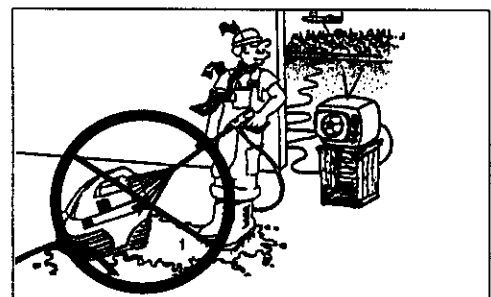
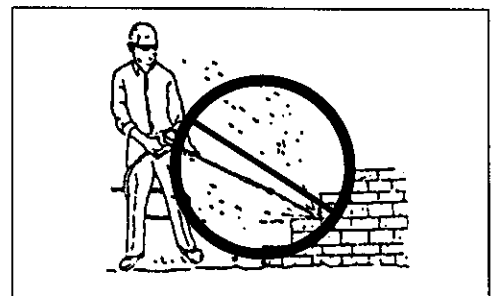
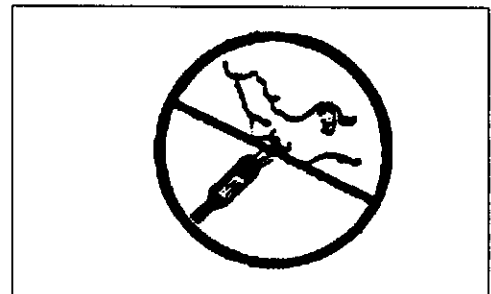
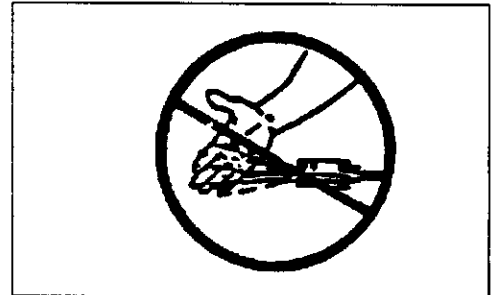
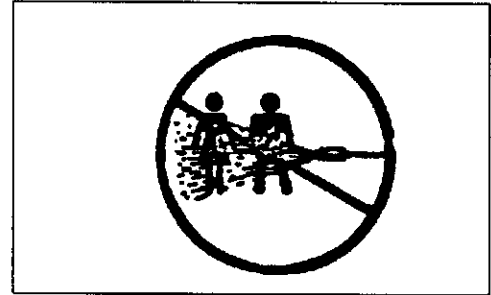
Chemical Precautions

- Use extreme caution when spraying chemicals. Follow all instructions and warnings on chemical container labels.
- If you choose to use chemicals or other caustic liquids with this power washer, we strongly recommend the use of proper skin protections, etc. Wear protective clothing when operating with chemicals.
- After use, wash face and hands with soap and water.

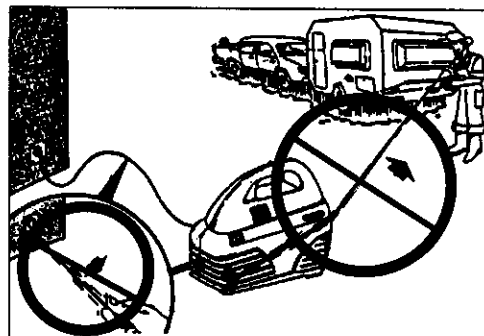


OPERATION SAFETY

- Never direct the water jet at yourself, another person, or an animal. Severe injury will result from force of the water jet.
- Never check the water jet output by placing your hand over the nozzle. There may be danger of injecting chemicals, etc. into the blood stream.
- Do not point the water jet at yourself, bystanders or animals when adjusting nozzle.
- Do not attempt to drink from the water jet. Severe injury can result from the water jet force.
- Keep the work area clear of people and animals.
- Do not allow children to operate this washer.
- Do not operate this washer near children.
- Do not overreach or stand on unstable support or platform.
- Know how to stop the machine and bleed pressure quickly. Be familiar with the controls.
- Always hold the wand with both hands. The pressure of the water will force the wand back towards the operator.
- Beware of the forces generated from the high velocity spray that can throw you off balance and can lead to injuries.
- When cleaning, use caution to avoid property damage and not to over-apply powerful water jet that can damage or remove painted or finished surfaces, can break glass, or harm surfaces or structures.
- Do not direct water jet at weak surfaces or objects that can break or can create additional hazards.
- Never spray onto the unit or the wires and connections leading to it.
- Never spray on receptacles.
- Never spray onto power lines.
- Do not spray with water temperature above 140° F or 45° C.



- Do not pull the electric cord to unplug unit.
- Do not pull hose to move the unit.



- Always unplug power cord when leaving the unit, servicing the unit, or changing accessories.
- Always shut off water supply and release pressure in the unit before servicing or changing accessories.
- Always engage trigger lock when not in use.



SAVE THESE INSTRUCTIONS

DESCRIPTION

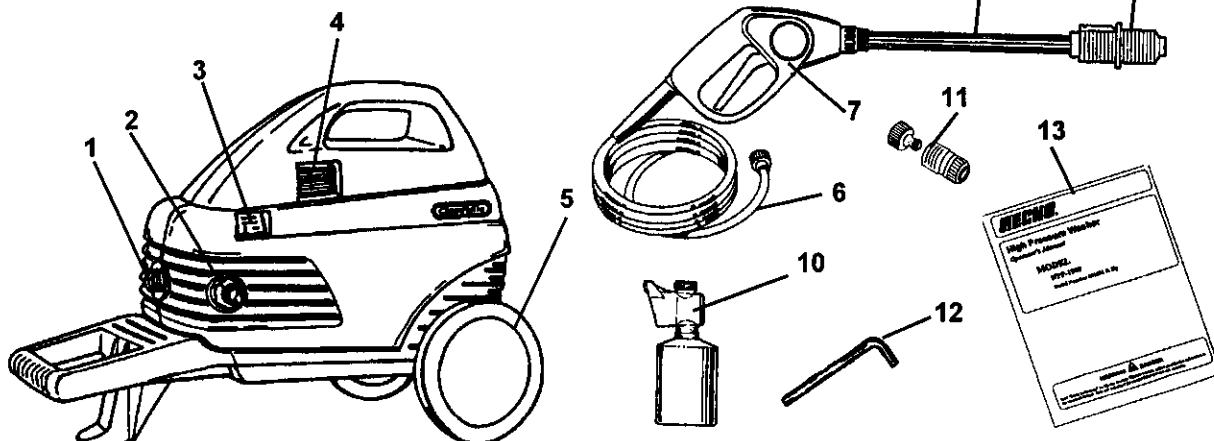
The ECHO product you have purchased is a high quality, pressure washer which you will use for a long time.

After opening the carton, check for damage. Immediately notify your retailer or ECHO Dealer of damaged or missing parts. Use the contents list to check for missing parts.

CONTENTS LIST

- _____ 1 - Pressure Washer Assembly
- _____ 1 - Operators Manual
- _____ 1 - Warranty Statement
- _____ 1 - Warranty Registration Card

- _____ 1 - Wand/Hose
- _____ 1 - Detergent Applicator
- _____ 1 - Motor Turn Key
- _____ 1 - Quick-Connect



1. **INLET** - Garden hose inlet attachment fitting.
2. **OUTLET** - Wand hose outlet attachment fitting.
3. **PRESSURE GAUGE** - Provides pressure in PSI (pounds per square inch).
4. **ON/OFF SWITCH** - Turns pressure washer electric motor on and off.
5. **WHEEL CART** - Handle pulls out to transport unit. When pushed in the cart provides a stable horizontal platform.
6. **HIGH PRESSURE HOSE** - Contains water under high pressure from the pump to the gun.
7. **GUN/HOSE** - Controls pressure application.
8. **LANCE** - Attaches to gun on one end; mounts spray nozzle on other end.
9. **FAN SPRAY NOZZLE** - Rotates and varies water stream from concentrated spray to fan spray.
10. **DETERGENT APPLICATOR** - Applies soap or cleaning chemicals.
11. **QUICK-CONNECT** - Connects pressure washer inlet and garden hose.
12. **MOTOR TURN KEY** - Tool intended to turn electric motor over to assure the unit is not frozen or locked up.
13. **OPERATORS MANUAL** - The Operator's Manual contains specifications and information for operation, starting, stopping, maintenance, storage and assembly specific to this product. Read and understand this manual before operation. Keep manual in a safe location for future reference, i.e., operation, maintenance, storage and specifications.

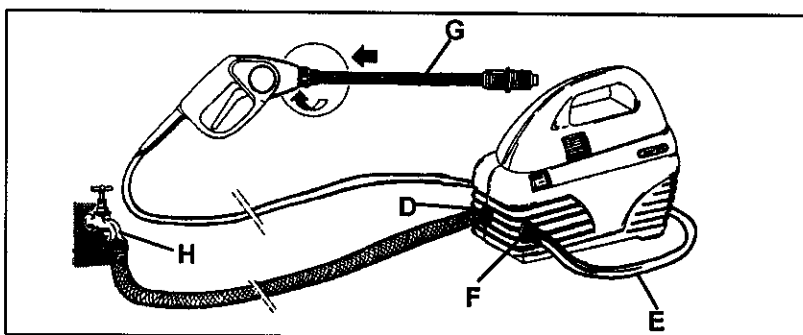
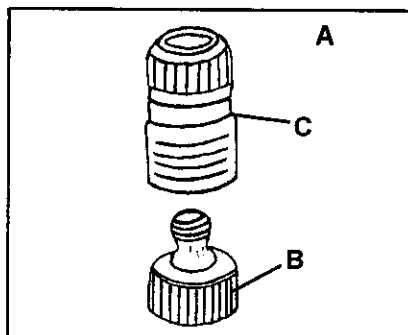
SPECIFICATIONS

Maximum Volume	1.85 GPM
Maximum Discharge Pressure	1300 PSI
Equivalent Washing Impact with Rotoclean	2300 PSI
Single-Phase Motor Power	120V - 15 A
Motor Protector	Current Thermal Overload
Motor Protection Grade	1P x 5
Maximum Inlet Water Temperature	140° F
Hose Length	23 ft.
Cord Length	7 ft.
Oil Capacity	5 oz.
Oil Type	SAE 20/30 Weight
Weight	26.9 lbs.
Dimensions with cart	20.5 x 8.8 x 14.1 in.

ASSEMBLY

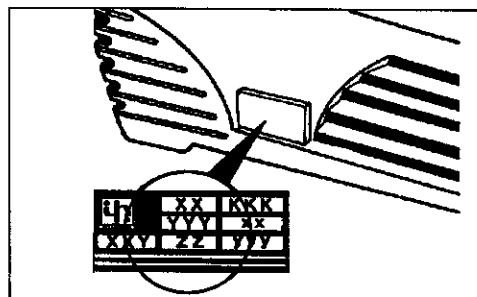
No tools required.

NOTE: Unit setup requires a reinforced garden hose in good condition for water transfer from the source to the pressure washer. Recommended hose diameter is 1/2 inch to 5/8 inch.



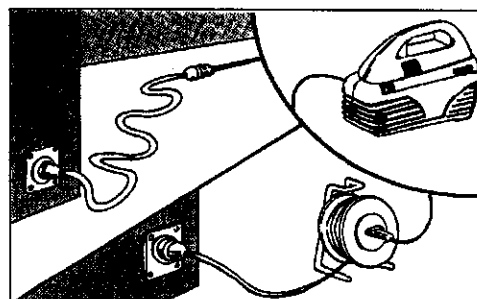
1. Remove quick disconnect hose coupler (A) from package and separate.
2. Attach male coupler fitting (B) securely onto inlet fitting (D) at front of pressure washer.
3. Attach female coupler fitting (C) onto garden hose fitting.
4. Snap the garden hose with coupler fitting (C) securely onto the pressure washer coupler fitting (B).
5. Attach gun high pressure hose (E) securely to outlet fitting (F) of pressure washer turning coupling clockwise to tighten.
6. Attach lance (G) securely to gun fitting turning coupling clockwise to tighten.
7. Attach garden hose to water source (H).

IMPORTANT: Before plugging unit into outlet check that the outlet voltage is the same value as is shown on the motor label, otherwise serious motor damage will result.



WARNING

If it is necessary to use an extension cord follow recommendations listed in the Safety Section on page 4.

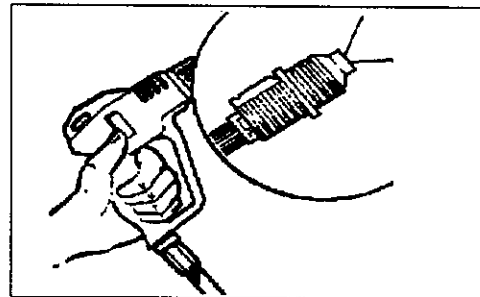


OPERATION

WARNING **DANGER**

Read and understand all safety information under "Safety Instructions" before operating pressure washer.

1. Turn on water. Hold the gun trigger in the open position until water sprays out to purge air from the pump and hoses.

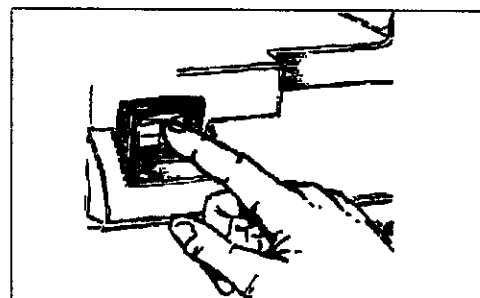


2. Release gun trigger to the off position.

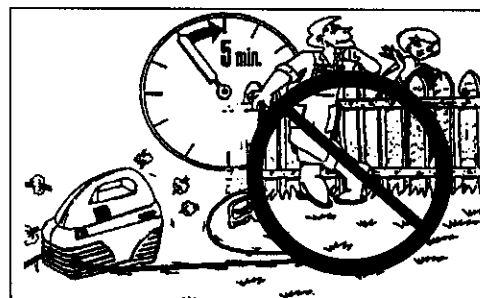


3. Switch on unit, squeeze trigger and spray on work surface.

IMPORTANT: When operating pressure washer, the unit must be positioned horizontally otherwise pump failure may result.

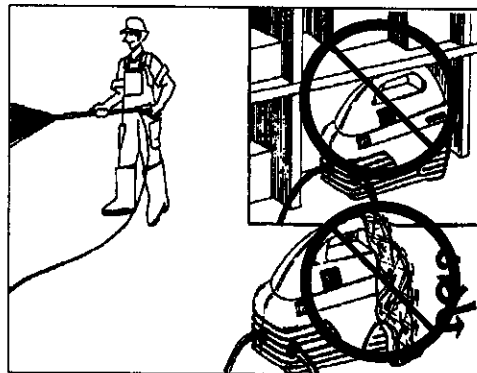


IMPORTANT: Do not run unit more than 5 minutes with the gun in the off position. Should the pump run for a longer period the temperature of the recirculating water will increase rapidly and could cause damage to the pump seals.



IMPORTANT: When operating the pressure washer do not place in a closed space or cover otherwise the electric motor will overheat.

- Always engage trigger lock when not spraying or in use.

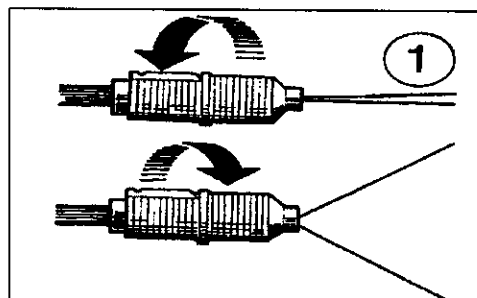


NOZZLE SPRAY ADJUSTMENT

WARNING **DANGER**

- Do not point the water jet at yourself, bystanders or animals when adjusting nozzle.
- Never check the water jet output by placing your hand over the nozzle. There may be danger of injecting chemicals, etc. into the blood stream.

1. The spray pattern can be changed from fan spray pattern to a jet stream by rotating the nozzle.
 - Rotating the nozzle clockwise will produce a fan spray.
 - Rotating the nozzle counter clockwise will produce a concentrated high pressure stream.

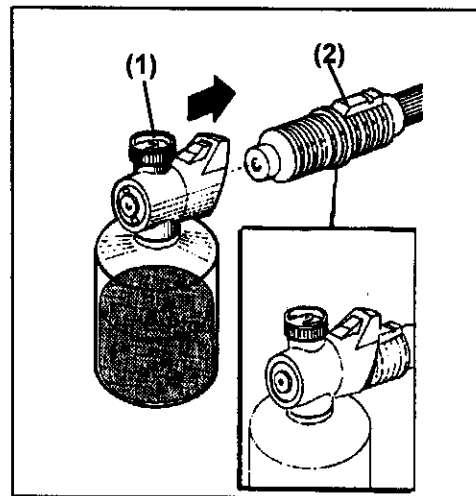


OPERATING DETERGENT APPLICATOR

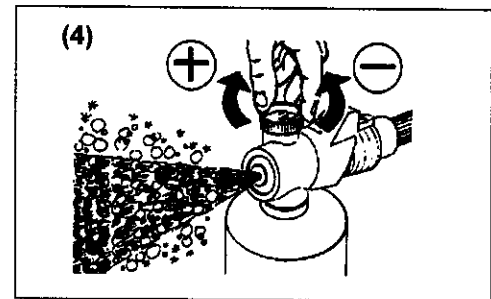
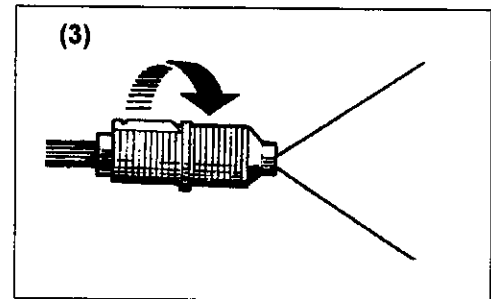
WARNING

Turn pressure washer and water source off. Relieve pressure from pump and lock trigger before attaching any accessory to the wand, otherwise personal injury could result.

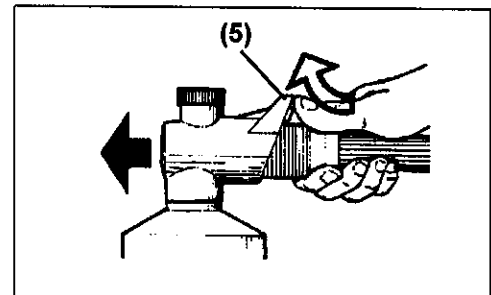
1. Attach canister with detergent applicator (1) to spray nozzle until it snaps over nozzle tab (2).



2. Turn wand nozzle to fan spray (3) and detergent cannister adjustment knob to fan spray (4). From this initial setting vary the amount of detergent applied by turning the cannister adjusting knob for desired results.



3. When finished using the detergent applicator, shut off unit, shut off water source, relieve water pressure and lock trigger. Lift locking tab (5) and remove cannister from spray nozzle.
4. Thoroughly rinse applicator with water and store in a warm, dry area out of reach of children.



MAINTENANCE

Your ECHO product is designed to provide many hours of trouble free service. If you are unsure or are not equipped with necessary tools, you may want to take your unit to an ECHO Service Dealer for maintenance.

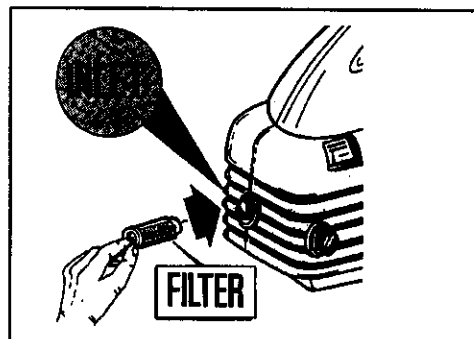
MAINTENANCE INTERVALS			
System/Component	Procedure	Interval	Date Maintenance Performed
Oil Change	ECHO Dealer	300 hrs.	
Water Filter	Clean	10 hrs.	
Air Vents	Clean	Daily	

Oil

1. The pump oil should be changed once a year or every 300 hours by your ECHO Dealer.

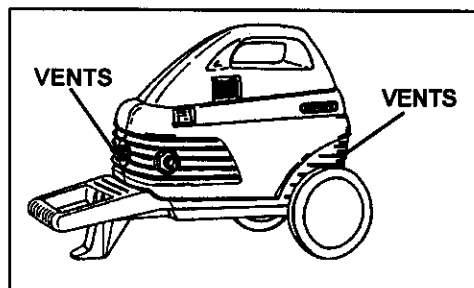
Water Filter

1. Inspect and clean the water filter located in the unit inlet every 10 hours. A clean filter prevents restriction of the water flow that occurs due to deposit buildup in the filter screen. A clean filter ensures good performance and long life of the unit.



Air Vent

1. Air vents located in the front and back of the unit allow cooling air to be drawn over the electric motor to prevent overheating. Inspect and clean air vents before every use to ensure these vents are not blocked.



PRESSURE WASHER PUMP MAINTENANCE

Water quality can affect the performance of pressure washers. HPP-1900's are subject to mineral deposits that gradually build up on the internal components reducing pressure and volume output.

To help avoid this problem ECHO recommends the pressure washer be flushed monthly or at 40 hours use (maximum) with a 50/50 solution of standard antifreeze (do not use antifreeze containing, "Stop Leak" - Fibrous Additives) and clean water. The lubricating qualities and deposit prevention qualities of the antifreeze additive package will reduce deposit buildup and extend seal life.

Maintenance Procedure

1. Prepare one gallon of 50/50 antifreeze/water mix in a clean bucket.
2. Attach a three foot (3') length of garden hose to the water inlet of the washer and place the open end in the bucket of antifreeze.

NOTE: Pressure washer and bucket of 50/50 mix should be on the same level.

3. Operate the pressure washer for approximately 5 minutes, alternating between high and low pressure recirculating the solution through the unit and back into the bucket.
4. Shut off pressure washer leaving antifreeze solution in the unit and store until next use.
5. Store or dispose of the remaining antifreeze solution according to instructions provided on the antifreeze container.

TROUBLE SHOOTING GUIDE

FAULT	CAUSE	REMEDY
Pump running normally but pressure does not achieve rated values.	Pump sucking air Valves worn or dirty Unloader valve packing worn Nozzle incorrect or worn Worn piston packing	Check that hoses and fittings are air tight. *Check, clean or replace. *Check and replace. *Check and replace . *Check and replace.
Fluctuating pressure	Valves worn, dirty or stuck Pump sucking air Worn piston packing	*Check, clean or replace. Check that hoses and fittings are air tight. *Check and replace.
Pressure drops after period of normal use	Nozzle worn Valves worn, dirty or stuck Unloader valve packing worn Worn piston packing	*Check and replace. *Check, clean or replace. *Check, clean or replace. *Check and replace.
Pump noisy	Pump sucking air Valves dirty or worn Worn bearings Water too hot	Check that hoses and fittings are air tight. *Check, clean or replace. *Check and replace if necessary. Reduce temperature.
Presence of water in oil	High humidity in air Piston packing and oil seal worn	Check and change oil twice as often. *Check and replace.
Water dripping from under pump	Piston packing worn The O-rings of piston guide or retainer worn	*Check and replace. *Check and replace.
Oil dripping	Oil seal worn	*Check and replace.
The motor does not start when switched on	The plug not well connected or lack of power supply	Check plug, cable and switch.
When switching on the unit, the motor hums but does not run	The mains voltage is insufficient, lower than the minimum required The pump is stuck or frozen Incorrect extension cable	Check that the mains power supply is adequate. Check by turning the motor manually as described in Storage Instructions Pg. 14. For correct choice see table Pg. 4.
The motor stops	Tripped thermal overload due to overheating	Check that the mains voltage corresponds to the specifications. Wait a few minutes before turning on the unit again.

*Return pressure washer to your authorized ECHO Dealer for service.

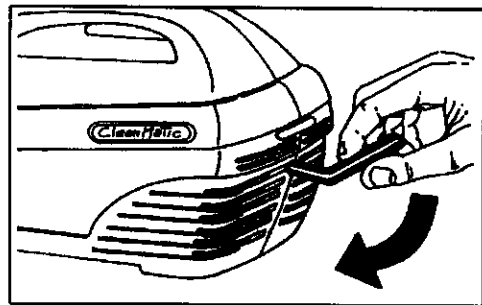
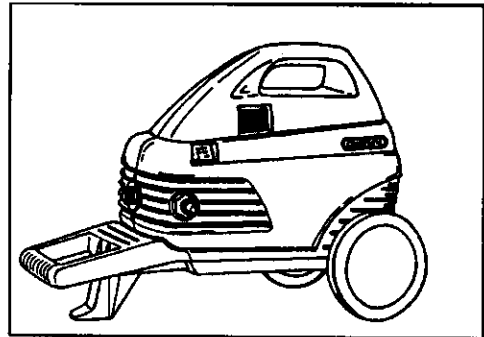
STORAGE

LONG TERM STORAGE (OVER 30 DAYS)

IMPORTANT: Always perform the following protective maintenance whenever storing unit 30 days or longer.

1. Clean any grease, oil, dirt or debris from unit.
2. Perform any periodic maintenance required, including tightening screws and nuts.
3. If the unit is stored in a place where there is a risk of freezing refer to the Maintenance Section concerning filling pump with antifreeze.

IMPORTANT: If the unit has been in cold storage without antifreeze added turn motor over with the key supplied. This procedure will determine if the unit is frozen or blocked due to lime scale or other deposits. This precaution before starting will avoid damaging the unit. Remove the key before switching on motor.

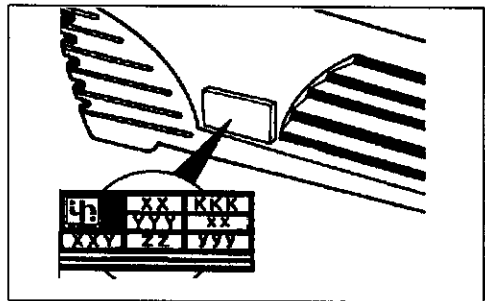


SERVICING INFORMATION

PARTS

Genuine ECHO Parts and ECHO Re Power Parts and Assemblies for your ECHO products are available only from an Authorized ECHO Dealer. When you do need to buy parts **always** have the Model Number and Serial Number of the unit with you. You can find both numbers on the motor housing. For future reference, write them in the space provided below.

Model No. _____ SN. _____



SERVICE

Service of this product during the warranty period must be performed by an Authorized ECHO Service Dealer. For the name and address of the Authorized ECHO Service Dealer nearest you, ask your retailer or call: 1-800-432-ECHO. When presenting your unit for Warranty service/repairs, proof of purchase is required.

WARRANTY CARD

This card is our means of registering all original owners of ECHO equipment. The card plus proof of purchase provides you the assurance that authorized warranty work will be done. It also provides a direct link between you and ECHO if we find it necessary to contact you.

DEALER?

Call

1-800-432-ECHO
1-800-432-(3246)

[illegible]

OPERATOR'S AND PARTS MANUALS

are available for purchase from your ECHO dealer or directly from ECHO. Parts Manuals are \$2.00 per manual and Operators Manual are \$1.50 per manual. To obtain a manual send a check or money order made payable to ECHO, INCORPORATED. State on a sheet of paper the part number of the manual, your name and address and mail to:

HPP-1900 Parts Catalog Part Number 99922202686

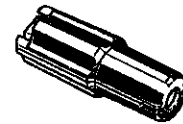
ECHO, Incorporated
400 Oakwood Road
Lake Zurich, IL 60047

Attn: Technical Publications
Orders

HPP-1900 ACCESSORIES

Roto Clean

Part Number: 99944800170



Brush Kit

Part Number: 99944800010



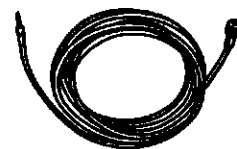
Soap for Brush Kit

Part Number: 99944800020



Drain Kit

Part Number: 99944800030



Sand Kit

Part Number: 99944800060





ECHO, INCORPORATED

400 OAKWOOD ROAD
LAKE ZURICH, IL 60047