



Pressure Washer

Operator's Manual

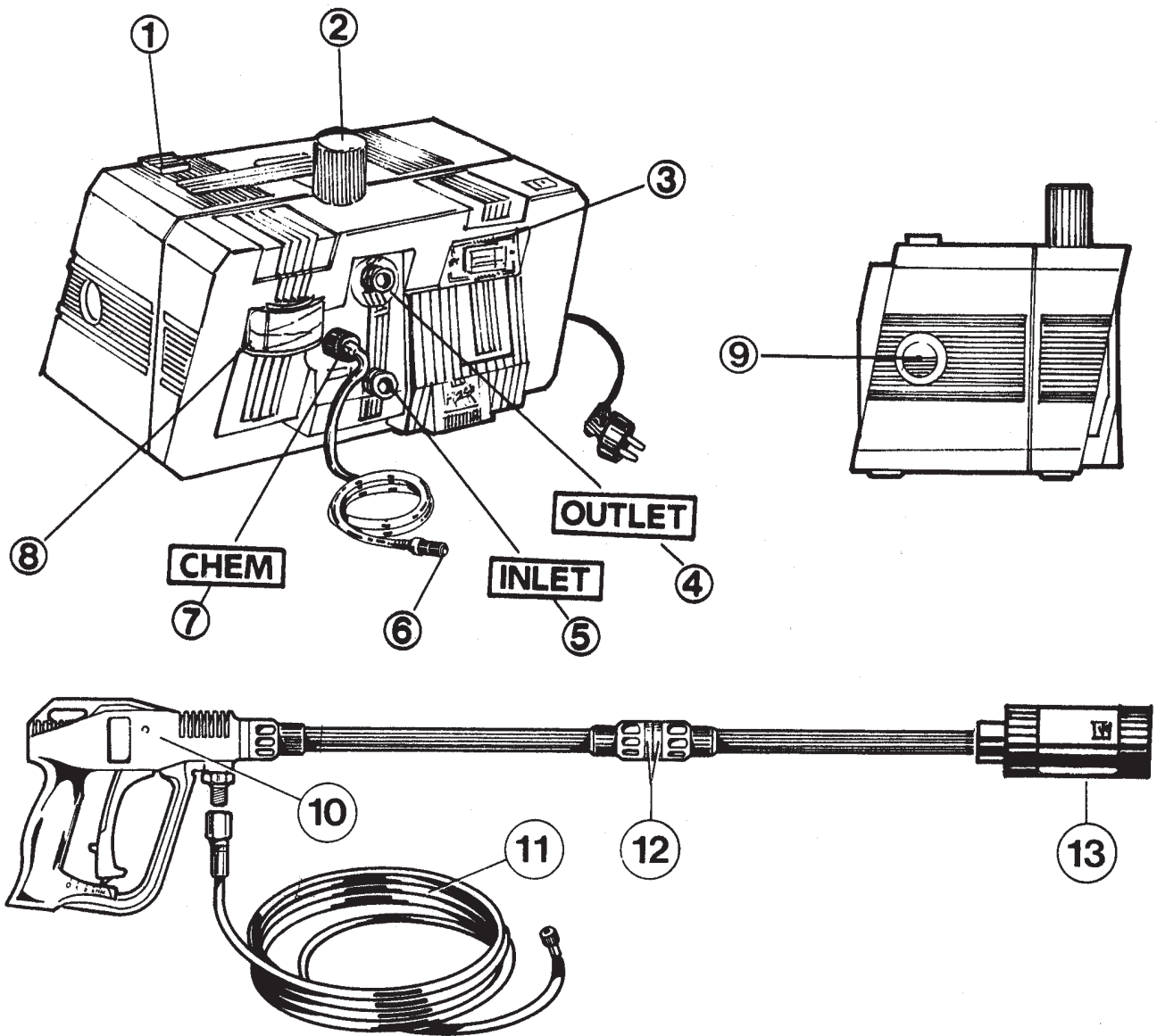
MODELS: **HPP-1890**
All Units



WARNING **DANGER**

Read rules for safe operation and all instructions carefully. ECHO provides this Operator's Manual which must be read and understood for proper and safe operation.

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STANDARD EQUIPMENT

- | | |
|---|---------------------------|
| ① Oil plug | ⑧ Pressure indicator |
| ② Pressure adjusting knob | ⑨ Oil level indicator |
| ③ ON/OFF switch | ⑩ Automatic gun |
| ④ High pressure hose connection (OUTLET) | ⑪ High pressure hose |
| ⑤ Inlet hose connection with water filter (INLET) | ⑫ "QUICK-LANCE" |
| ⑥ Chemical filter | ⑬ "ROTOX" (or "MULTIREG") |
| ⑦ Chemical regulator (CHEM) | |

IMPORTANT SAFETY INSTRUCTIONS

This book has important information for the use and safe operation of this machine. Read and understand all warnings before you start working.



W A R N I N G - WHEN USING THIS MACHINE:

1. Read all the instructions before using the machine.
2. To reduce risk of injury, close supervision is necessary when the machine is used near children.
3. Know how to stop the machine and bleed pressure quickly. Be quite familiar with the controls.
4. Stay alert! Watch what you are doing.
5. Do not operate the machine when fatigued or under the influence of alcohol or drugs.
6. Keep operating area clear of all persons.
7. Do not overreach or stand unstable support. Keep good footing and balance at all times.
8. Follow the maintenance instructions specified in the manual.
9. Read carefully instructions concerning grounding and extension cords on page 41.
10. To prevent fire hazard, do not use with or near inflammable such as: gasoline, grain dust, solvents and thinners.
Only use a cleaning concentrate recommended by the chemical manufacturer.

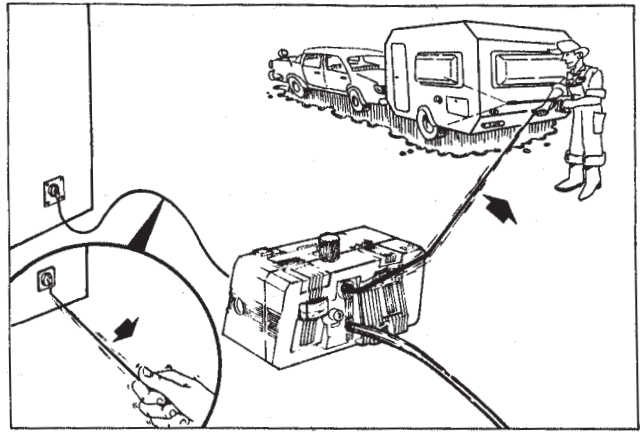
**W A R N I N G - RISK OF INJECTION OR INJURY.
DO NOT DIRECT DISCHARGE STREAM AT PERSONS.**

SAVE THESE INSTRUCTIONS

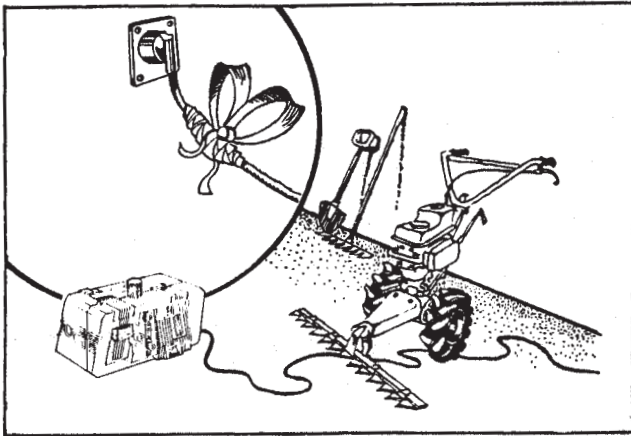
IMPORTANT PRECAUTIONS

WARNINGS

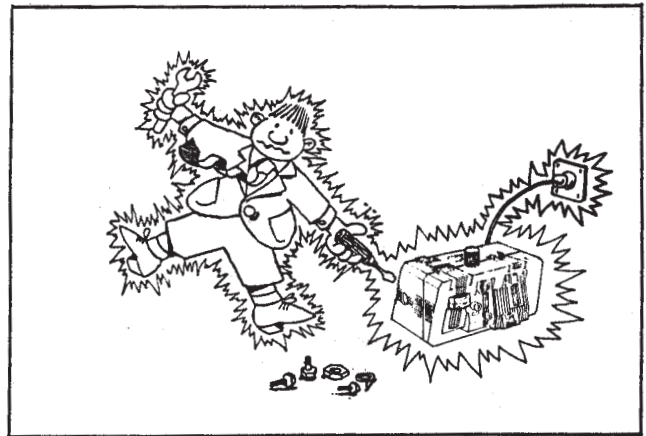
The unit must not be run without water. Lack of water will cause serious damage to the seals.



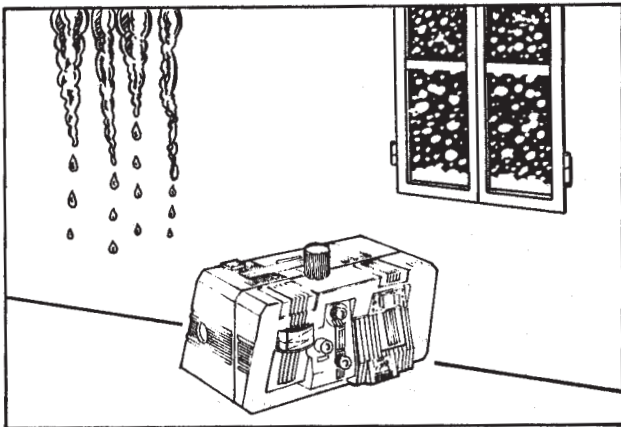
Do not pull cable in order to unplug. Do not pull hose in order to move the unit.



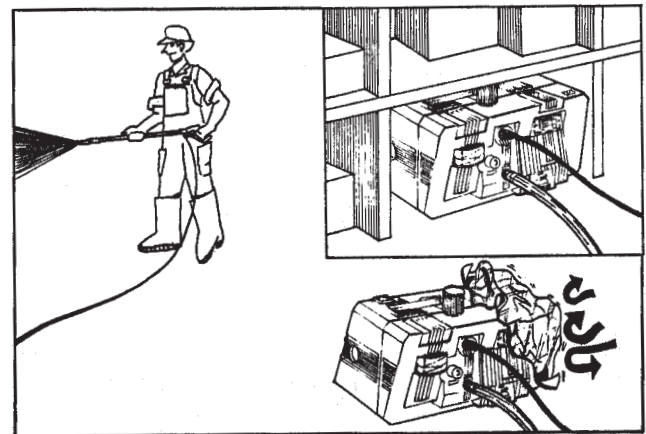
Do not damage or effect risky repairs on electric cable.
Have worn, cut or damaged cords and plugs replaced by an authorized service person.



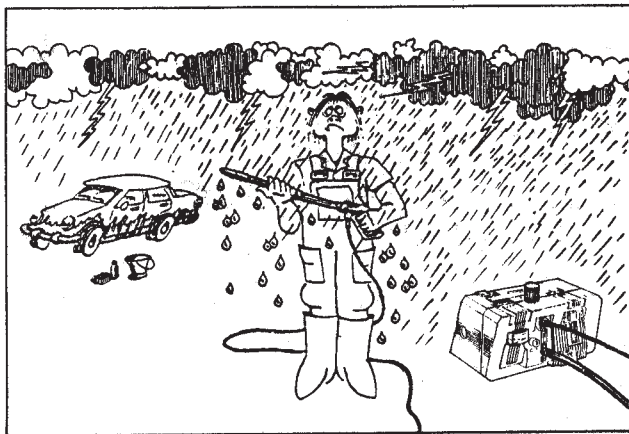
To prevent injury, always disconnect plug before disassembling any part of the unit or effecting any servicing and before leaving the machine.



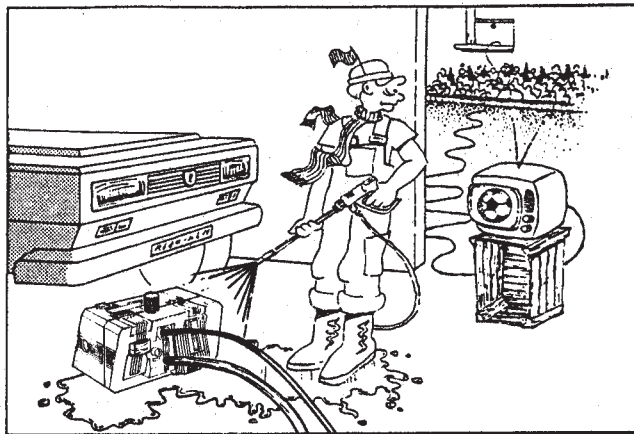
Avoid storing the unit in cold places where there is danger of freezing.
Keep the unit in a dry building.



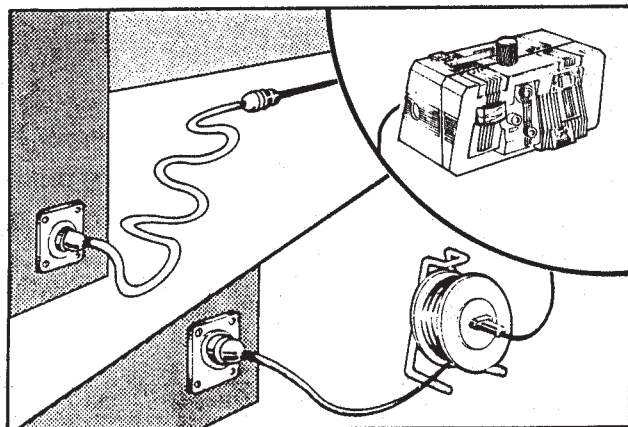
When the unit is working, do not cover and do not place in a closed space where ventilation is insufficient.



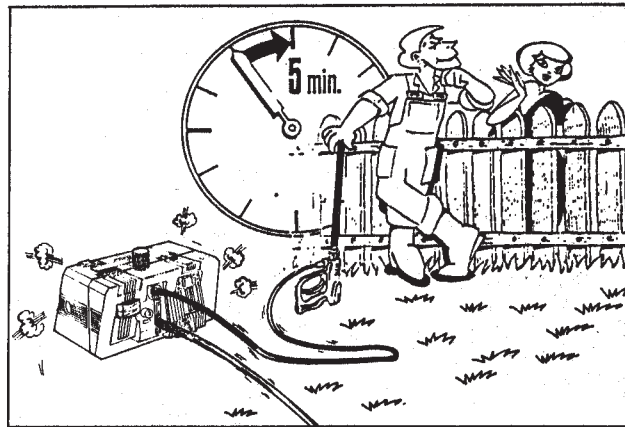
Do not work in the rain, or during thunderstorms.



To reduce the risk of electric shock:
 a) do not direct the jet of water on to the unit or any other electrical part;
 b) always wear rubber soled footwear when operating the unit.

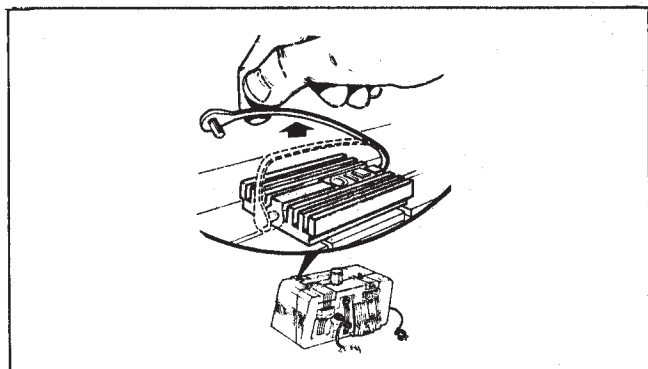


When using an extension cable, it is essential to follow the instructions given in the "INSTALLATION" section (Page 5). Wrong choice of cable dimension can damage or jeopardize the functioning of the unit.

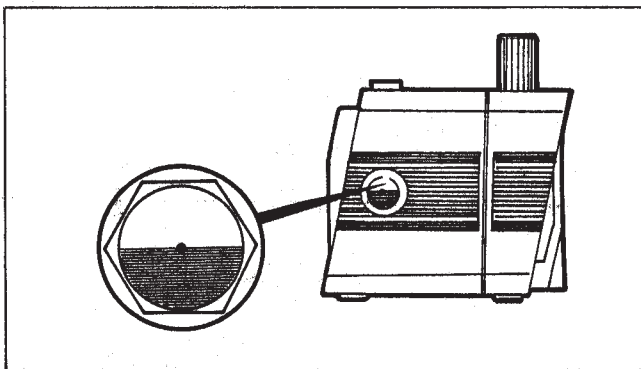


It is important not to run unit for more than 5 minutes with the gun in closed position. Should it run for a longer period, the temperature of the re-circulating water will increase rapidly and could risk damaging the pump seals.

INSTALLATION

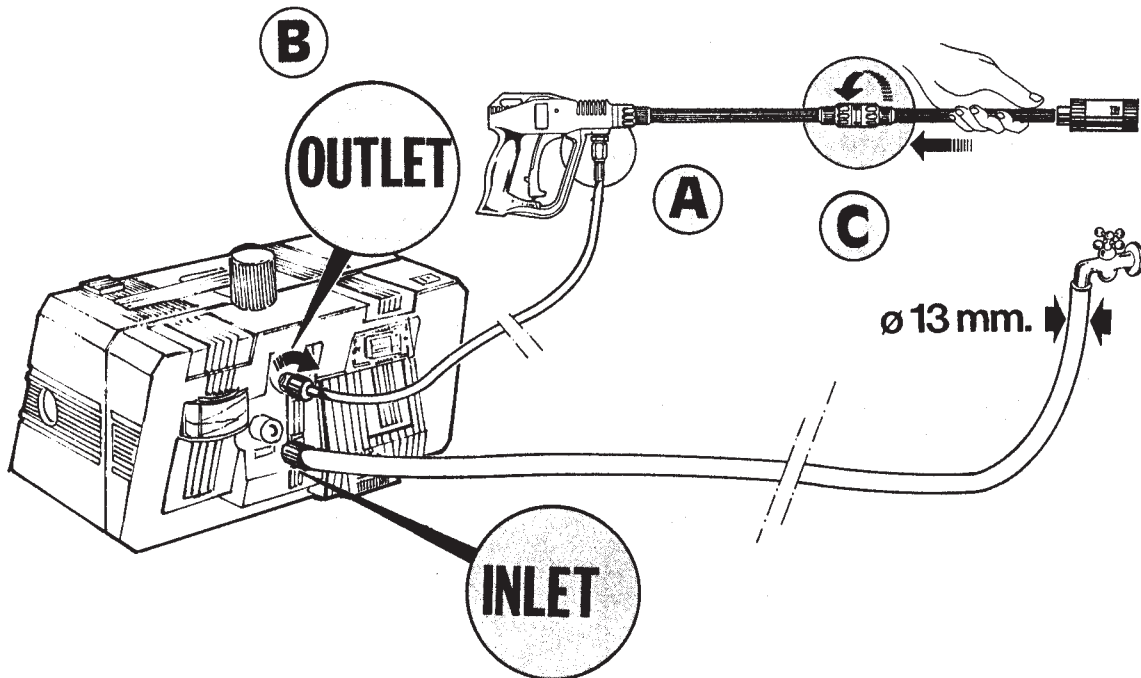


Remove plug from oil cap.



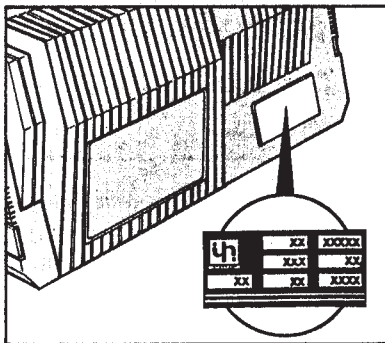
Check that the oil in the sight glass is at the half-way level.

Connect one end of the high pressure hose to the gun (A) and the other to the outlet connection (B). Assemble the lance by pushing the two halves together and then fix by turning the connector (C).



Connect water suction hose to the INLET connector. We recommend the use of a reinforced suction hose with internal diameter not less than 13 mm (1/2 inch).

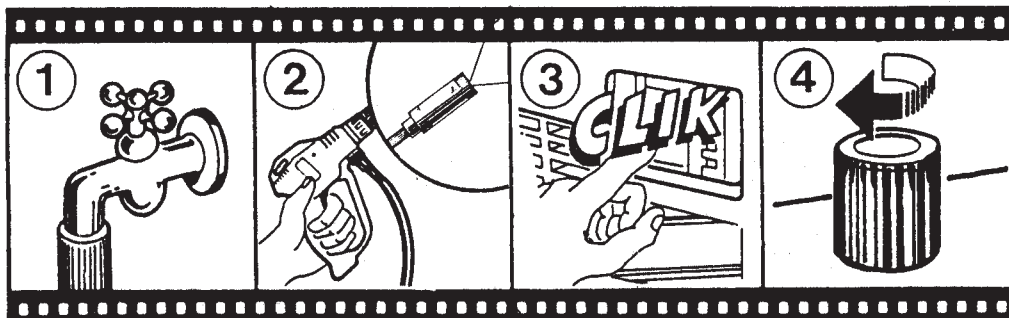
When working, the unit must be placed in horizontal position.



After checking that the mains voltage is the same as shown on the motor label, you may proceed to plug the unit in.

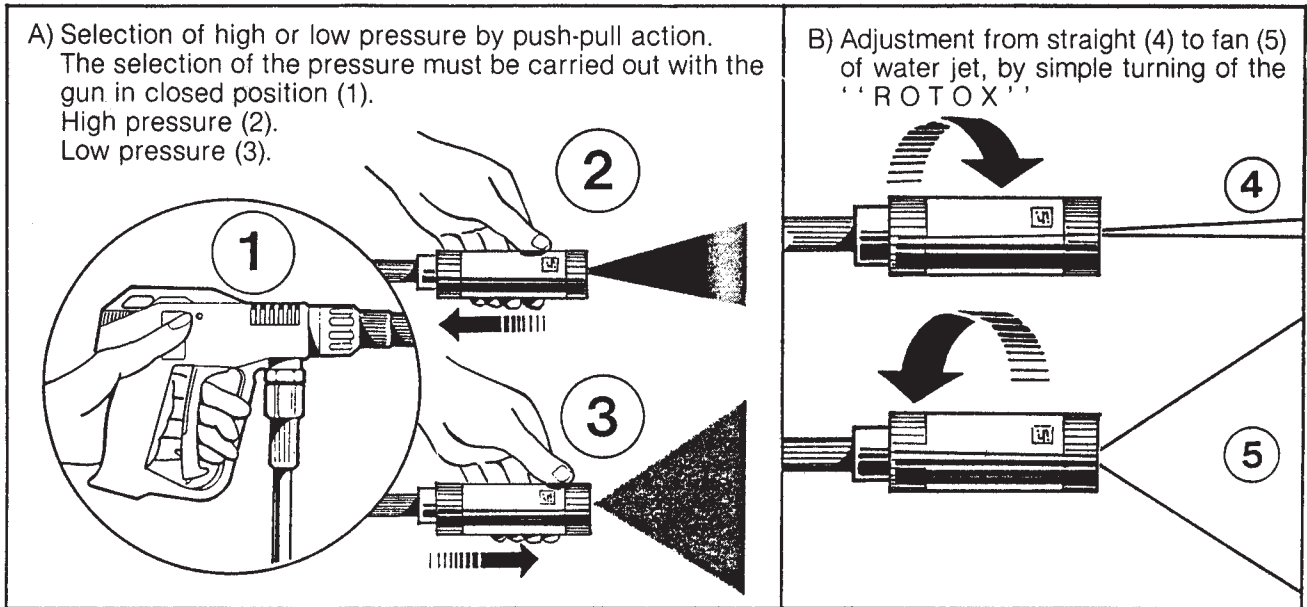
In case you need an extension cable, it is essential to respect the indications shown in the table. Do not join two extension cords.

Voltage	Extension cable length m.	Section	
		mm ²	AWG
220 + 240	Up to 20 m.	1,5	—
220 + 240	From 20 to 50 m.	2,5	—
100 + 115	Up to 20 m.	2,5	12
100 + 115	From 20 to 50 m.	4	11



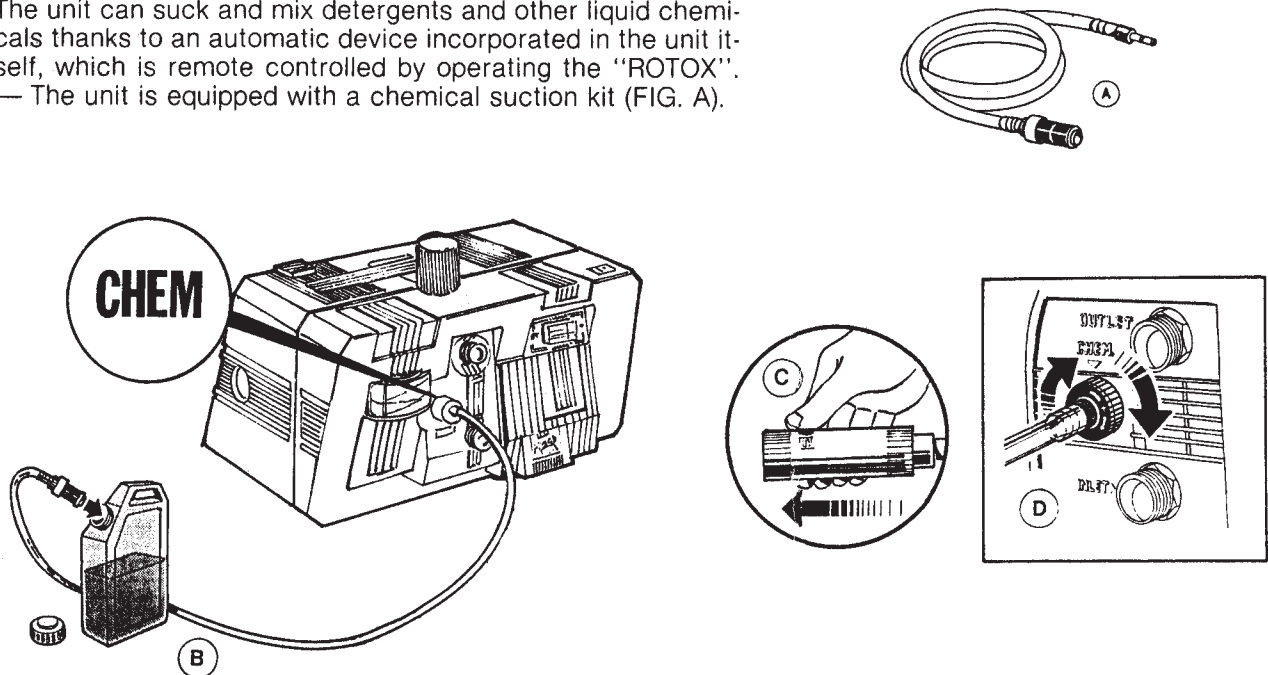
- ① Now you can turn on the water.
 - ② Hold the gun in the open position to allow the air to escape from the hose.
 - ③ Switch on the unit.
 - ④ At this point adjust the machine to your pressure requirement and you are ready to enjoy your work.
- * **When you stop working, switch off the unit and open the gun to release pressure trapped in the hose.**

HOW TO USE THE "ROTOX" (OR "MULTIREG")



HOW TO USE THE CHEMICAL INJECTOR

The unit can suck and mix detergents and other liquid chemicals thanks to an automatic device incorporated in the unit itself, which is remote controlled by operating the "ROTOX".
— The unit is equipped with a chemical suction kit (FIG. A).

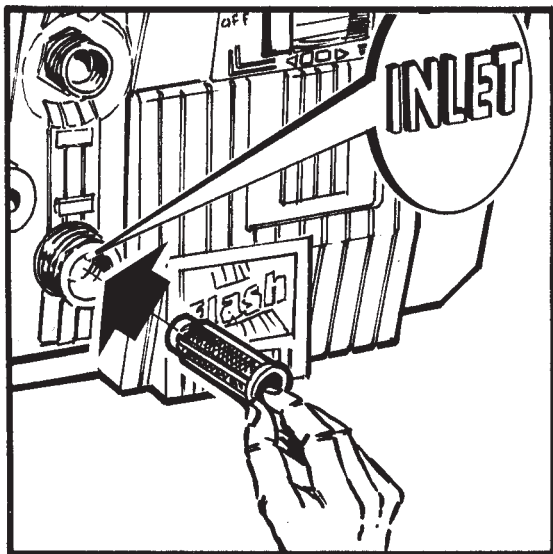


- Fit the brass connector into the chemical control knob and filter into chemical container (FIG. B).
 - Select low pressure with the "ROTOX" (FIG. C).
 - At this point the suction and mixing of the chemical will start automatically.
 - You can regulate the quantity of chemicals by adjusting the chemical control knob (FIG. D).
 - When you wish to stop using chemicals in order to clean or rinse, simply release the gun trigger and adjust the "ROTOX" to high pressure.
- At this point the chemical injection automatically stops.
If you foresee not using the unit for a long period of time, we suggest to clean the chemical suction kit with clear water to avoid chemical deposit build-up.

CHECKING AND CHANGING THE OIL

- The level of the oil must be checked periodically.
- The first important oil change must be carried out after the first 20 hours of work and successively every 150 hours.
- In any case we suggest an oil change at least once a year.
- Oil type: SAE 20/30.
- Capacity: 0,33 litres.

CHECKING THE WATER FILTER



It is important to check and clean periodically the water filter in order to avoid restricting the water flow due to deposits in the filter screen. Remember that a well-cleaned filter means good performance and long life to the unit.

PRECAUTIONS AGAINST FREEZING

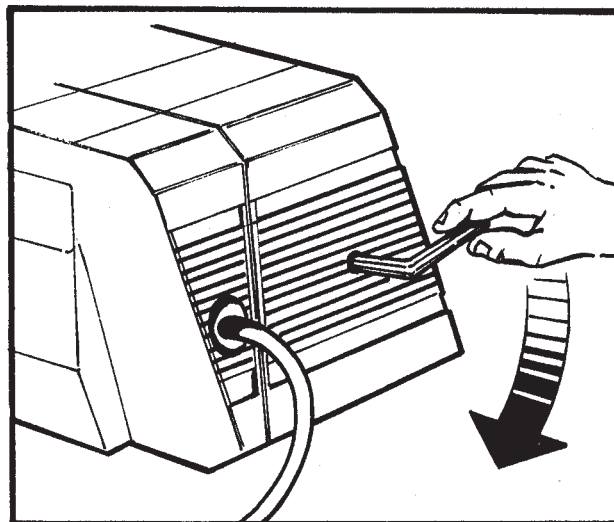
If the unit is to be stored in a place where there is risk of freezing, we suggest feeding some anti-freeze into the pump, similar to that used in your car.

In any case, at very low temperatures if in doubt that some parts of the unit may be frozen or if the unit has been in store for a long time, before plugging in, **we suggest**, to turn the motor shaft with the key supplied.

This operation permits to find out if the unit is frozen or blocked due to lime scale deposits.

Taking these precautions before starting, you will avoid damaging the unit.

Remove the key before switching on motor.



TROUBLE SHOOTING

FAULT	CAUSE	REMEDY
Pump running normally but pressure does not achieve rated values	Pump sucking air Valves worn or dirty Unloader valve seat faulty or 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 seat worn or dirty 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 below 60°C.
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 instructions (Page 7). For correct choice see table (Page 5).
The motor stops	Tripped thermal overload due to over-heating	Check that the mains voltage corresponds to the specifications. X-221, X-222, X-241, X-242 switch off the motor and let it cool a few minutes. X-115, X-116, X-150, X-160 wait a few minutes before turning on the unit again.

SERVICING INFORMATION

PARTS

Genuine ECHO Parts and ECHO REPOWER™ 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 these numbers on the engine 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 (3246). Dealer information is also available on our Web Site. When presenting your unit for Warranty service/repairs, proof of purchase is required.

ECHO CONSUMER PRODUCT SUPPORT

If you require assistance or have questions concerning the application, operation or maintenance of this product you may call the ECHO Consumer Product Support Department at 1-800-673-1558 from 8:30 am to 4:30 pm (Central Standard Time) Monday through Friday. Before calling, please know the model and serial number of your unit to help your Consumer Product Support Representative.

WARRANTY REGISTRATION

You may register your Echo equipment using the warranty registration card or register on-line at www.echo-usa.com. Registering provides a direct link between you and ECHO if we find it necessary to contact you.

ADDITIONAL OR REPLACEMENT MANUALS

Safety Manuals in English/Spanish or English/French are available, free of charge, from your ECHO dealer or at www.echo-usa.com.

Operator's and Parts Manuals are available by:

- Downloading free from www.echo-usa.com
- Purchasing from your Echo Dealer.
- Sending a check or money order for \$2.00 per Parts Catalog or \$1.50 per Operator's Manual made payable to ECHO, INCORPORATED. State on a sheet of paper the model number and serial number of the ECHO unit you have, part number of the manual (if known), your name and address and mail to address above.

Safety Videos are available from your Echo dealer. A \$5.00 shipping charge will be required for each video.

Available Parts Catalog

HPP-1890 All Units

Part Number 99922201922



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