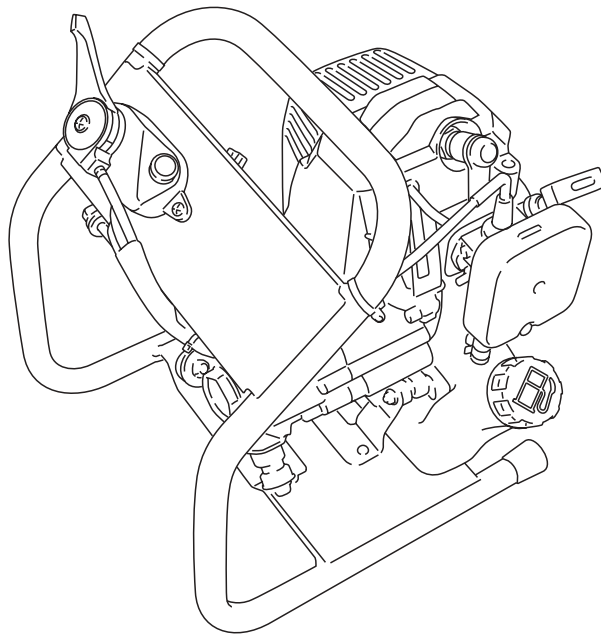




GB ENGLISH



# **OPERATOR'S MANUAL**

## **HIGH PRESSURE POWER SPRAYER**

### **PHP-800**

### **PHP-800/B**

#### **⚠ WARNING**



**Read the instructions carefully and follow the rules for safe operation.  
Failure to do so could result in serious injury.**

# Introduction

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ECHO HIGH PRESSURE POWER SPRAYER is lightweight, high-performance, petrol engined units designed for spraying liquid chemical.

Do not use this unit for any purpose other than aforementioned.  
Never let children operate this unit.

This Manual provides the information necessary for assembly, operation and maintenance.  
You must read this Manual to understand the safe and effective operation of your ECHO product.  
For future reference, you should keep this Operator's Manual.  
If this Operator's Manual has become illegible through impairment or is lost, please purchase a new one from your ECHO dealer.

When renting or lending this machine to a person who will operate it, always include this Operator's Manual, which provides explanation and instructions.  
When transferring a product, please deliver it attaching the Operator's Manual.

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.

The images illustrated with dotted line, and the descriptions / explanations printed in light gray colour are for the **PHP-800** model only.

If there is any clause in this Manual that is hard to be understood, please contact your ECHO dealer.

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## Decals and symbols

### **DANGER**

This symbol accompanied by the word "DANGER" calls attentions to an act or a condition which will lead to serious personal injury or death of operators and bystanders.

### **WARNING**

This symbol accompanied by the word "WARNING" calls attentions to an act or a condition which can lead to serious personal injury or death of operators and bystanders.

### **CAUTION**






"CAUTION" indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



Circle and slash symbol means whatever is shown is prohibited.

### **NOTE**

This enclosed message provide tips for use, care and maintenance of the unit.

Symbol form / shape	Symbol description / application	Symbol form / shape	Symbol description / application
	Carefully read the Operator's Manual		Petrol and oil mixture
	Head protection		Choke control "cold start" position (choke closed)
	Beware of high-temperature areas		

Locate this safety decal on your unit.

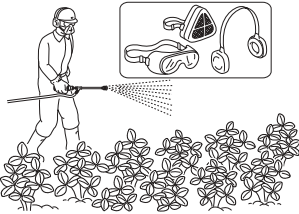
The complete unit illustration found in the "Description" section will help you locate them.

Make sure the decal is legible and that you understand and follow the instructions on it.

If a decal cannot be read, a new one can be ordered from your ECHO dealer.

## Rules for safe operation

### Operator safety



### **⚠ WARNING**

**Users risk injury to themselves and others if the unit is used improperly, and / or safety precautions are not followed.**

**Proper clothing and safety gear must be worn when operating unit.**

- ♦ Read this Manual carefully.  
Be sure you understand how to operate this unit properly before you use it.
- ♦ Wear non-skid sole shoes.  
Do not wear open-toed shoes or operate unit while bare footed.
- ♦ Wear proper clothing to legs and other exposed parts of your body.
- ♦ Wear eye, breathing and hearing protection devices.
- ♦ Secure hair so it is above shoulder length.
- ♦ Use caution when handling fuel.  
The fuel tank may be under pressure.  
Always loosen the fuel cap and wait for pressure to be equalized before removing the cap.  
Put the fuel caps back tightly on both the fuel can and the fuel tank.  
Move at least 3 m from the re-fuelling point and be sure there is no leakage of fuel from the fuel cap or the fuel system before starting the engine.
- ♦ Wipe any spilled fuel off the unit.
- ♦ Operate this petrol engine powered equipment in a well-ventilated area only.
- ♦ Do not operate this unit in closed areas- such as garages, inside building, sheds, etc.
- ♦ Start the unit on the ground with the throttle lever at start position.
- ♦ Do not use a unit on unstable footings.
- ♦ Do not allow other persons or pets in the area when starting or using the unit.
- ♦ Do not point the nozzle in the direction of people or animals.
- ♦ Keep a firm grip on the unit at all times.
- ♦ Keep hands and body away from hot surfaces such as silencer and cylinder area when handling the unit to prevent from heat injury.
- ♦ Never attempt to use incomplete machine or one fitted with unauthorized modification.
- ♦ A fully loaded unit will change your equilibrium.  
Extra precautions should be taken to maintain your footing and balance.
- ♦ This unit is designed for upright use only, do not lay down or lean excessively to avoid leakage of chemicals when operating and transporting.

### Reduce noise

### **NOTE**

Before operating the unit, check and follow local regulations concerning sound level and hours of operation.

- ♦ Avoid using units when people are likely to be disturbed, such as late at night or early in the morning.
- ♦ Operate the unit at the lowest possible throttle setting that gets the job done.
- ♦ Make sure the silencer works well.  
Also check the air intakes and the air filter to make sure the unit is working properly.
- ♦ Use only one piece of equipment at a time.
- ♦ Wear hearing protection when operating the unit.

## Reduce chances of damage

- ♦ Do not use the unit in a windy day or rainy day to avoid chemical drift.
- ♦ Before starting the job, check wind direction.  
Avoid blowing in the direction of open doors and windows, cars, pets, children or anything that could be harmed by chemical.
- ♦ Dust and mist blowing must be done leewardly.  
Choose morning or evening when it is not so windy, and the ground temperature reserves, so as to minimize dispersion losses and enhance chemical adhesion effect and for less hazardous operation.

## Physical condition

### **WARNING**

**Avoid direct contact or ingestion of chemicals you may use. Consult the label the chemicals, you may use for additional warning and precautions as well as unit immediately if you feel sick or excessive fatigue during operation. See a doctor if this condition persists.**



Your judgement and / or dexterity may be impaired if you are ill, are taking medication, and / or have taken alcohol or other substances known to affect the way you would normally function.

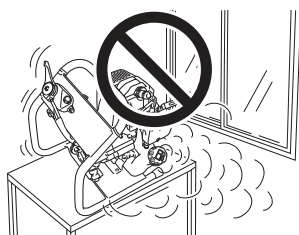
Operate this unit if you are in good physical and mental health.

## Hot humid weather

Heavy protective clothing can increase operator fatigue which may lead to heat stroke. Delay heavy work until the temperature drops.

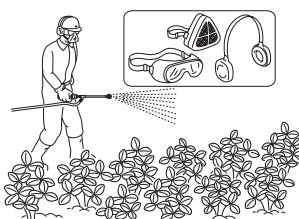
## Operation

Do not run the engine indoors, or where there is poor ventilation. Engine fumes contain deadly poisonous carbon monoxide.



## Eye, breathing and hearing protection

- ♦ Wear eye protection goggles.
  - ♦ Wear breathing protection such as officially approved toxic dust and mist respirator.
  - ♦ Wear hearing protection.
- If this guideline is not followed, hearing loss can occur.

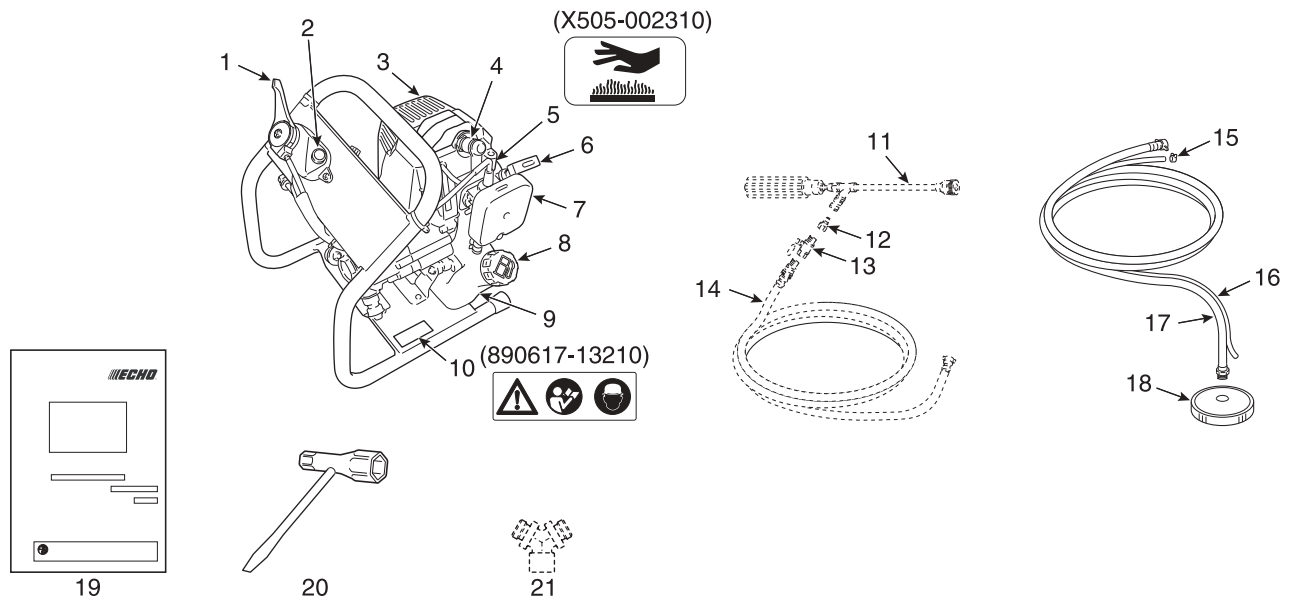


## Wear proper clothing

- ♦ Snug fitting, durable clothing should be worn.  
Trousers should have long legs.  
Do not wear shorts.  
Do not wear loose fitting clothing, scarves, neckties, jewellery or any item that may be drawn or tangled in the fan.
- ♦ Wear chemical resisting work clothes.
- ♦ Wear shoes with non-skid soles.  
Do not wear open toed shoes or operate unit bare footed.
- ♦ Wear no-slip, heavy duty work gloves to improve your grip.  
Wearing rubber gloves and cap to prevent direct contact with chemicals.



## Description



1. **Throttle lever** - Activated operator's hand for controlling the engine speed.
2. **Stop switch** - Push the ignition switch in and hold until the engine has completely stopped.
3. **Silencer cover** - Cover the silencer not to make operator touch to hot surface of silencer.
4. **Spark plug**
5. **Safety decal** - Part number X505-002310
6. **Starter handle** - Pull handle to start the engine.
7. **Air cleaner cover** - Covers air filter.
8. **Fuel tank cap** - For closing the fuel tank.
9. **Fuel tank** - Contains fuel and fuel filter.
10. **Safety decal** - Part number 890617-13210
11. **Adjustable jet nozzle (PHP-800/B; option)**
12. **Coupler (PHP-800/B; option)**
13. **Liquid valve** - Perform the operating and closing operations for spraying. (PHP-800/B; option)
14. **Spray hose** - 7.5 mm x 20 m hose. (PHP-800/B; option)
15. **Band**
16. **Return hose** - 7 mm x 2 m hose.
17. **Supply hose** - 10 mm x 2 m hose.
18. **Strainer**
19. **Operator's Manual** - Included with unit.  
Read before operation and keep for future reference to learn proper, safe operating techniques.
20. **Tool** - 10 x 19 mm T-wrench (combination screwdriver / spark plug socket).
21. **Branch joint** - Branches nozzles when two nozzles are used. (PHP-800/B; option)

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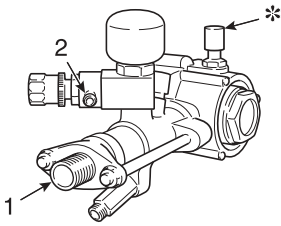
## Assembling

### Spray hose and nozzle

\* Rubber cap

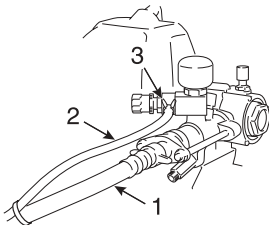
1. Water intake
2. Surplus water intake

- ♦ The rubber cap fitted on the top of pump crank case is for prevention of oil leakage during transportation.  
Remove the cap before operating pump.



1. Supply hose
2. Return hose
3. Band

- ♦ After assembling the strainer to the supply hose, connect the hose securely to the pump's water intake so as not to take air in.
- ♦ Connect the return hose to the surplus water intake and fix it with the band provided.
- ♦ Fix the two hoses at a point about one meter away from the water intake.

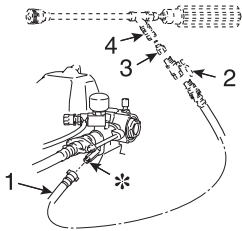


\* Nipple

1. Spray hose
2. Liquid valve
3. Coupler
4. Nozzle

- ♦ Install spray hose, liquid valve, coupler and nozzle to the nipple.

- ♦ Ensure that all nuts, screws and bolts installed are properly tightened.
- ♦ Check all connections to avoid chemical leak. (nozzle, spray hose, etc)
- ♦ Assemble firmly, otherwise leakage of chemicals can cause injury.  
Please be enough careful.





## Operation

### Fuel

#### NOTE

Stored fuel ages.  
Do not mix more fuel than you expect to use in thirty (30) days.  
Do not mix directly in fuel tank.



- ♦ Fuel is a mixture of regular grade petrol and an air-cooled 2-stroke engine oil of reputable brand name.  
Minimum 89 Octane unleaded petrol is recommended.  
Do not use fuel containing methyl alcohol or more than 10 % of ethyl alcohol.
- ♦ Recommended mixture ratio; 50 : 1 (2 %) for ISO-L-EGD Standard (ISO/CD 13738), JASO FC, FD grade and ECHO Premium 50 : 1 oil or 25 : 1 (4 %) for JASO FB grade oil.
  - Do not mix directly in engine fuel tank.
  - Avoid spilling petrol or oil.  
Spilled fuel should always be wiped up.
  - Handle petrol with care, it is highly inflammable.
  - Always store fuel in approved container.

### Handling fuel

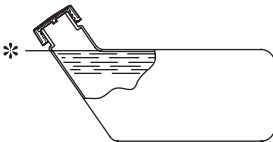
#### DANGER

**After refuelling, tighten fuel cap firmly and check for leakage.  
In case of fuel leakage, repair before starting operation since there is a danger of fire.**

- ♦ Never smoke or allow flame or sparks near fuel.
- ♦ Always fill the fuel tank outdoors.  
Never pour fuel indoors.
- ♦ Never refuel the engine when it is hot or running.
- ♦ Always use an approved, safe fuel container.

#### \* Shoulder level

- ♦ It is not permitted to fill fuel above the shoulder level of fuel tank.
- ♦ After fuelling, always wipe away spilled fuel.
  
- ♦ Always move at least 3 m away from the fuelling spot before starting the engine.
- ♦ Never store the unit with fuel in the tank a fuel leak could start a fire.



### Chemicals

#### DANGER

**Avoid direct contact and ingestion of chemicals.  
Some chemicals may be strongly harmful to human and animals.  
Misuse of the chemicals can result in serious poisoning or death.**

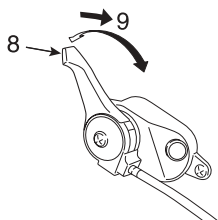
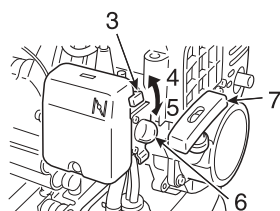
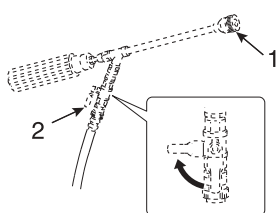
- ♦ Follow all precautions and instructions in the label of chemicals when handling.
- ♦ Never allow untrained persons or children to handle chemicals and the unit.



## Starting the cold engine

### NOTE

- ♦ Check unit for loose nuts, bolts and screws before starting.
  - ♦ Always clear work area of debris before starting operation.
  - ♦ Always hold the unit firmly on the ground.
  - ♦ When pulling starter handle, use short pulls, 1/2 to 2/3 of rope length.
  - ♦ Do not allow the starter handle to snap back against the housing.
  - ♦ Place the unit on a level surface which is as high as or slightly lower than the surface on which the chemical tank is located.
  - ♦ Make sure to start the engine after placing the tips of the supply hose, strainer, and return hose into the chemical or clean water.
  - ♦ For reducing vibration, the engine and chemical pump are placed on the antivibration rubber.
- Do not apply more force than necessary when operating the recoil starter to start the engine.



1. Nozzle
2. Liquid valve
3. Choke lever
4. Close
5. Open
6. Priming pump (purge bulb)
7. Starter handle
8. Throttle lever
9. Start position

- ♦ Ensure that chemical liquid valve closed before starting engine.  
In order to prevent the breakage of the chemical pump, start the engine after placing the tips of the supply hose, strainer, and return hose into the chemical.
- ♦ Move choke lever to closed position.
- ♦ Push purge bulb until fuel is visible in clear fuel return line.
- ♦ Keep throttle lever at start position (in the middle of scale).
- ♦ Pull starter handle until first firing sound.
- ♦ Move choke lever to open position.  
Restart the engine and allow warming up for a few minutes, before using.
- ♦ Do not run the engine indoors, or where there is poor ventilation.  
Engine fumes contain deadly poisonous carbon monoxide.

## Starting the warm engine

### NOTE

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

- ♦ Ensure that chemical liquid valve closed before starting engine.
- ♦ Move throttle lever to start position.
- ♦ Move choke lever to open position.
- ♦ If fuel tank is not empty, pull starter handle one to three times and engine should fire.
- ♦ If fuel tank is empty, after refilling, push the purge bulb (until fuel is visible in clear fuel return line) and pull the starter handle.  
Do not use choke.

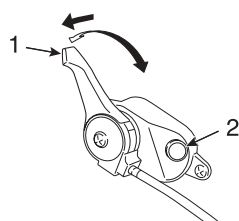
## Stopping the engine

### **WARNING**

If engine does not stop, close choke to stall engine.  
Have your ECHO dealer inspect and repair.

### **NOTE**

- When misting liquid is over, stop the engine.  
Do not keep engine running, chemical tank has been emptied.
- Carburettor has been correctly adjusted in factory.  
Do not readjust yourself unless it is necessary.  
It should be readjusted by ECHO dealer.



1. Throttle lever
  2. Stop button
- Turn throttle lever to the lowest position and push stop button.

## For safe operation

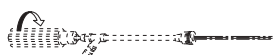
1. Check all connections to avoid chemical leak. (nozzle, hose etc.)
2. Avoid wearing loose clothing and always wear safety glasses and gloves.
3. Use a face filter mask to avoid breathing chemical.
4. Check wind direction before spraying.
5. Do not point nozzle in the direction of people.
6. Stop the engine when refuelling and / or replacing parts.
7. Close chemical liquid valve when not in use.
8. Avoid using at engine speeds where the clutch slips.

## Spraying

### **NOTE**

Since this unit is equipped with a centrifugal clutch, sprinkling not possible when the engine is running at low speeds (idling).

- Ensure that chemical liquid valve is closed before starting engine.
- After engine is warmed up, turn throttle lever to the high speed position and open liquid valve.
- Open the liquid valve in the case where the chemical is not taken in even if the engine speed is increased and the unit is operated at that speed for one minute.  
Should the problem persist, see the "Troubleshooting" section.
- Increase the engine speed when a nozzle with a high discharge rate is used, and reduce the speed when a low discharge nozzle is used.  
Operate the unit at engine speeds high enough to make effective spraying possible.
- The chemical pump of this product is equipped with an air chamber.  
It reduces discharge pulsation and enables stable spraying even at low engine speeds.
- By turning the grip of the adjustable jet nozzle anticlockwise, wide-angle spray is gradually changed to solid spray.  
The distance reachable by the solid spray is 5 m in the upper direction and 8 m in the horizontal direction.  
For pest control of objects located nearby (e.g. vegetables), use the wide-angle spray pattern.  
For those located far away (e.g. trees), use the solid spray pattern.  
Control the grip depending on the object needing pest control and make your spraying operation more effective.



## Service maintenance guide

Area	Maintenance	Page	Before use	Weekly	Monthly	Yearly
Air filter	Clean / Replace	14	•			
Fuel system	Inspect	14	•			
Fuel line	Inspect	-			•	
Fuel filter	Inspect / Clean / Replace	14			•	
Spark plug	Inspect / Clean / Adjust / Replace	14			•	•
Cooling system	Inspect / Clean	15	•			
Carburettor	Adjust / Replace and adjust	15				•
Silencer	Inspect / Tighten / Clean	15	•			
Starter rope	Inspect	-	•			
Screws, bolts and nuts	Inspect, Tighten / Replace	-	•			
Pump grease cup	Supply grease by turning grease cap one turn clockwise	15		•		

### IMPORTANT

Time intervals shown are maximum.  
 Actual use and your experience will determine the frequency of required maintenance.  
 Record dates of monthly and yearly inspections.

## Troubleshooting

Trouble		Cause	Remedy
Engine	- hard to start - does not start		
Engine cranks	Fuel at carburettor    No fuel at carburettor	<ul style="list-style-type: none"> <li>♦ Fuel filter clogged</li> <li>♦ Fuel line clogged</li> <li>♦ Carburettor</li> </ul>	<ul style="list-style-type: none"> <li>♦ Clean or replace</li> <li>♦ Clean</li> <li>♦ Ask your ECHO dealer</li> </ul>
	Fuel at cylinder    No fuel at cylinder	<ul style="list-style-type: none"> <li>♦ Carburettor</li> </ul>	<ul style="list-style-type: none"> <li>♦ Ask your ECHO dealer</li> </ul>
	Silencer wet with fuel	<ul style="list-style-type: none"> <li>♦ Fuel mixture is too rich</li> </ul>	<ul style="list-style-type: none"> <li>♦ Open choke</li> <li>♦ Clean / replace air filter</li> <li>♦ Adjust carburettor</li> <li>♦ Ask your ECHO dealer</li> </ul>
	Spark at end of plug wire    No spark at end of plug wire	<ul style="list-style-type: none"> <li>♦ Electrical problem</li> </ul>	<ul style="list-style-type: none"> <li>♦ Ask your ECHO dealer</li> </ul>
	Spark at plug    No spark at plug	<ul style="list-style-type: none"> <li>♦ Spark gap incorrect</li> <li>♦ Covered with carbon</li> <li>♦ Fouled with fuel</li> <li>♦ Spark plug defective</li> </ul>	<ul style="list-style-type: none"> <li>♦ Adjust 0.6 to 0.7 mm</li> <li>♦ Clean or replace</li> <li>♦ Clean or replace</li> <li>♦ Replace plug</li> </ul>
Engine does not crank		<ul style="list-style-type: none"> <li>♦ Internal engine problem</li> </ul>	<ul style="list-style-type: none"> <li>♦ Ask your ECHO dealer</li> </ul>
Engine runs	Dies or accelerates poorly	<ul style="list-style-type: none"> <li>♦ Air filter dirty</li> <li>♦ Fuel filter dirty</li> <li>♦ Fuel vent plugged</li> <li>♦ Spark plug</li> <li>♦ Carburettor</li> <li>♦ Cooling system plugged</li> <li>♦ Exhaust port / silencer plugged</li> </ul>	<ul style="list-style-type: none"> <li>♦ Clean or replace</li> <li>♦ Clean or replace</li> <li>♦ Clean</li> <li>♦ Clean and adjust / replace</li> <li>♦ Adjust</li> <li>♦ Clean</li> <li>♦ Clean</li> </ul>
	Unstable mist discharge	<ul style="list-style-type: none"> <li>♦ Pump valve clogged or damaged</li> <li>♦ Cup packing on pump piston is worn out</li> </ul>	<ul style="list-style-type: none"> <li>♦ Clean or replace</li> <li>♦ Replace</li> </ul>
	No mist discharge / poor mist discharge	<ul style="list-style-type: none"> <li>♦ Nozzle liquid valve closed (or partially closed)</li> <li>♦ Nozzle liquid valve clogged</li> <li>♦ Nozzle clogged</li> <li>♦ Chemical liquid line defective (pipe, packing etc.)</li> <li>♦ Spraying hose pipe cracked</li> <li>♦ V-packing worn out (low pressure)</li> <li>♦ V-packing is not firmly tightened</li> <li>♦ Regulator valve defective</li> </ul>	<ul style="list-style-type: none"> <li>♦ Open</li> <li>♦ Clean</li> <li>♦ Clean</li> <li>♦ Replace</li> <li>♦ Replace</li> <li>♦ Replace</li> <li>♦ Replace</li> <li>♦ Tighten grand nut</li> <li>♦ Clean or replace</li> </ul>
	No spray	<ul style="list-style-type: none"> <li>♦ Chemical line is completely clogged with dirt</li> <li>♦ Chemical tank is empty</li> <li>♦ Pump is damaged</li> </ul>	<ul style="list-style-type: none"> <li>♦ Clean</li> <li>♦ Refill</li> <li>♦ Ask your ECHO dealer</li> </ul>

### **WARNING**

- ♦ **Servicing of this machine, other than items listed in the Operator's Manual, should be performed by competent service personnel.**
- ♦ **Fuel vapors are extremely flammable and may cause fire and / or explosion.**
- ♦ **Never test for ignition spark by grounding spark plug near cylinder plug hole, otherwise serious personal injury may result.**

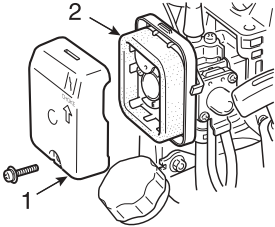
## Maintenance and care

- ♦ If you have any questions or problems, please contact your ECHO dealer.

### Cleaning air filter

#### NOTE

- ♦ Clean air filter after each use.
- ♦ If filter is excessive dirty or no longer fits properly, replace it.



1. Air cleaner cover
2. Air filter

- ♦ Close the choke and loosen screw.
- ♦ Remove air cleaner cover and air filter.
- ♦ Then check and / or clean air filter by washing in a suitable solvent when heavily soiled.
- ♦ Dry filter before reinstalling.

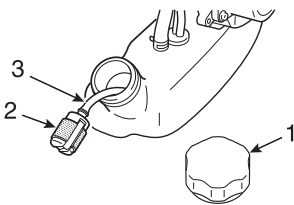
### Check fuel system

- ♦ Check before every use.
- ♦ After refuelling, make sure fuel does not leak or exude from around fuel pipe, fuel grommet or fuel tank cap.
- ♦ In case of fuel leakage or exudation there is a danger of fire.  
Stop using the machine immediately and request your dealer to inspect or replace.

### Replacing fuel filter

#### NOTE

- ♦ A clogged fuel filter will cause hard starting or poor engine performance.
- ♦ Keep fuel tank clean - do not allow dirt or debris to enter fuel tank.
- ♦ Make sure fuel filter goes to bottom of the tank when installing.



1. Fuel tank cap
2. Fuel filter
3. Fuel line

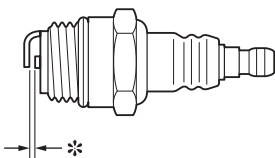
- ♦ Pick up the fuel filter through fuel tank opening with a piece of steel wire or the like.
- ♦ Remove old filter from fuel line.
- ♦ Install new fuel filter.

### Check spark plug

#### NOTE

Do not overtighten spark plug.

- \* Spark plug gap: 0.6 to 0.7 mm
- ♦ Check plug gap.  
Correct gap is 0.6 to 0.7 mm.
- ♦ Inspect electrode for wear.
- ♦ Inspect insulator for oil or other deposits.
- ♦ Replace plug if needed and tighten to 15 - 17 N•m (150 to 170 kgf•cm).

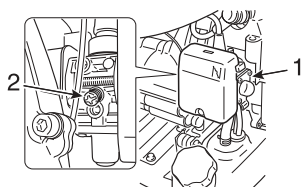


## Cylinder fins (Cooling system)



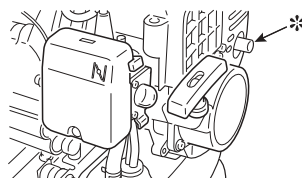
- \* Cylinder fins
- ♦ Always keep cylinder fins clean.  
Clogged cylinder fins will cause engine to overheat.  
Clean out grass, mud, leaves, and other debris with a wooden stick periodically.

## Carburettor adjustment



1. Carburettor
  2. Idle adjustment screw
- ♦ Do not adjust the carburettor unless necessary.
  - ♦ If idling adjustment is required, turn adjustment screw of carburettor.
    - When turning it anticlockwise, engine speed is reduced.
  - ♦ When the machine is not to be used for a long time, drain fuel out from fuel tank.

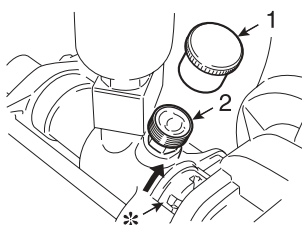
## Cleaning silencer



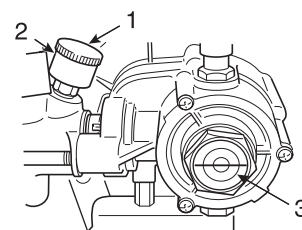
- \* Silencer
- ♦ Clean silencer by removing carbon deposits at outlet port, and tighten two bolts.  
This should be done periodically to maintain constant performance of engine.

## When spraying is finished

- ♦ Spray clear water through nozzle for 2 to 3 minutes for cleaning.
- ♦ Wipe off the liquid chemical on the machine after use.



- \* Grand nut
  - 1. Grease cap
  - 2. Grease cup
- ♦ If chemical liquid leaks or discharge pressure goes down, turn grand nut as shown.



1. Grease cap
  2. Grease cup
  3. Oil gauge
- ♦ To supply grease, turn grease cap clockwise one turn weekly.
  - ♦ When grease in grease cup becomes empty, remove the cap and refill grease.
  - ♦ To see oil level check oil gauge before operation by watching it from the side of the machine.  
If oil level is below half, add some more oil.  
Use normal engine oil (SC, SD, SE SAE#30 or equivalent).

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## Storage

### Long term storage (Over 30 days)

#### WARNING

**Do not store in an enclosure where fuel fumes may accumulate or reach an open flame or spark.**



#### NOTE

For future reference, you should keep this Operator's Manual.

Do not store your unit for a prolonged period of time (30 days or longer) without performing protective storage maintenance which includes the following:

1. Clean inside of chemical tank and spraying hose.
2. Drain the fuel tank completely.
  - A. Alternately press and release the purge bulb a number of times to remove the fuel from the purge bulb.
  - B. Start the engine and run it at idle speed until it comes to a natural stop.
3. Always store fuel in approved container.
4. Remove accumulation of grease, oil, dirt and debris from exterior of unit.
5. Perform all periodic lubrication and services that are required.
6. Tighten all the screws, bolts and nuts.
7. Inspect and adjust every part of the sprayer.
  - A. Completely clean every part, and repair, if necessary.
  - B. Apply thin coating of oil on metal parts to prevent rust.
  - C. Remove spraying hose.
8. Remove the spark plug and pour 10 mL of fresh, clean, two-stroke engine oil into the cylinder through the spark plug hole.
  - A. Place a clean cloth over the spark plug hole.
  - B. Pull the recoil starter handle two or three times to distribute the oil inside the cylinder.
  - C. Observe the piston location through the spark plug hole.

Pull the recoil starter handle slowly until the piston reaches the top of its travel and leave it here.
9. Install the spark plug (do not connect ignition cable).
10. Store unit in a dry, dust free place, out of the reach of children and other unauthorized persons.



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## Disposal procedure



- ♦ Dispose of waste oil in accordance with local regulations.
- ♦ Major plastic parts making up the product have codes showing their materials. The codes refer to the following materials; dispose of those plastic parts in accordance with local regulations.

Mark	Material
>PA6-GF<	Nylon 6 - Glass fibre
>PP-GF<	Polypropylene - Glass fibre
>PE-HD<	Polyethylene

- ♦ Please contact your ECHO dealer in case you do not know how you should dispose of waste oil / plastic parts.

## Specifications

Model		PHP-800	PHP-800/B
<b>Mass:</b> Without spraying hose and nozzle	kg	6.5	
<b>Volume:</b> Fuel tank	L	0.8	
<b>External dimensions:</b> Length × Width × Height	mm	305 × 295 × 320	
<b>Engine:</b> Type Engine displacement Engine speed Carburettor Magneto Spark plug Starter	mL (cm <sup>3</sup> ) r/min	Air cooled two-stroke single cylinder 22.8 6500 Circulation type Flywheel magneto, TCI system NGK BPM7Y Recoil starter	
<b>Fuel:</b>  Oil Mixture ratio		Regular grade petrol. Minimum 89 Octane unleaded petrol is recommended. Do not use fuel containing methyl alcohol or more than 10 % of ethyl alcohol.  Two stroke, air-cooled engine oil. 50 : 1 ( <b>2 %</b> ) for ISO-L-EGD Standard (ISO/CD13738), JASO FC, FD grade and ECHO Premium 50 : 1 oil or 25 : 1 ( <b>4 %</b> ) for JASO FB grade oil.	
<b>Pump:</b> Type Discharge volume Pressure	L/min MPa	Plunger pump 5 2.5 Maximum (25 kgf/cm <sup>2</sup> Maximum)	
<b>Nozzle:</b>		Adjustable jet nozzle	option
<b>Spraying hose:</b>		ø7.5 mm × 20 m	option

- \* Technical data may be changed without advance notice.
- \* Other nozzles are available as optional supply.
- \* For some country, a optional nozzle is supplied as standard supply and two-head nozzle is available at extra cost.

# Memorandum

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