

REPLACEMENT PARTS ORDER INFORMATION

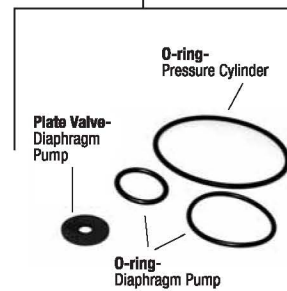
**6-8166
Diaphragm Pump
Assembly**



**6-8151
Pressure
Regulator**



**6-8167
Diaphragm Pump
Repair Kit**



**6-8153
O-ring Kit**



**6-8146
Filter Basket & Cap**



**6-8168
Piston Lever
Replacement Kit**



**6-8188
Filter
Replacement Kit**



Straps 6-8137



**6-8152
Wand Clips**

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Due to our ongoing product improvement process, product specifications may change without notice. U.S. and foreign patents pending.



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ProSeries™ Backpack Sprayer

Use and Care Manual



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Model 64800 • 4.0G/15.1L



WARNING!

Carefully Read These Instructions Before Use

010836 R1208

⚠ WARNING!

IMPROPER USE OR FAILURE TO FOLLOW INSTRUCTIONS CAN RESULT IN PRODUCT FAILURE OR INJURIES. FOR SAFE USE OF THIS PRODUCT YOU MUST READ AND FOLLOW ALL INSTRUCTIONS BEFORE USING.

WARNING: Handling the brass parts of this product will expose you to lead, a chemical known to the State of California to cause birth defects and other reproductive harm.

Wash hands after handling.

⚠ CAUTION

RULES FOR SAFE OPERATION

Before assembling and operating your Chapin sprayer, read all instructions thoroughly. When working with equipment under pressure, safety precautions must always be carefully observed, including the following:

- NEVER spray flammable materials or pressure and gas producing chemicals.
- ALWAYS read chemical label before filling sprayer as some chemicals may be hazardous when used with this sprayer.
- ALWAYS wear goggles, gloves, a long-sleeve shirt, long pants, and full foot protection when spraying. Work in a ventilated area or outdoors.
- PRE-USE CHECK: Before each use check tightness of hose nut to be sure hose is securely attached to the shut-off assembly. Insure hose is securely attached to the tank by tightening hose clamp if necessary. Insure that all nozzle and wand connections are tight.
- DO NOT leave a pressurized sprayer in the hot sun or anywhere near a heat source. Heat can produce pressure to build up causing sprayer to ignite or explode resulting in injury or death.
- NEVER pressurize sprayer by any means other than the original pump. Over pressurizing can cause sprayer to explode resulting in injury or death.
- DO NOT attempt to modify or repair this product except with original manufacturer's parts.

NOTE: The tank and hose may have residual water in it due to quality testing performed on the sprayer.

REPLACEMENT PARTS ORDER INFORMATION

NOZZLE ASSEMBLY

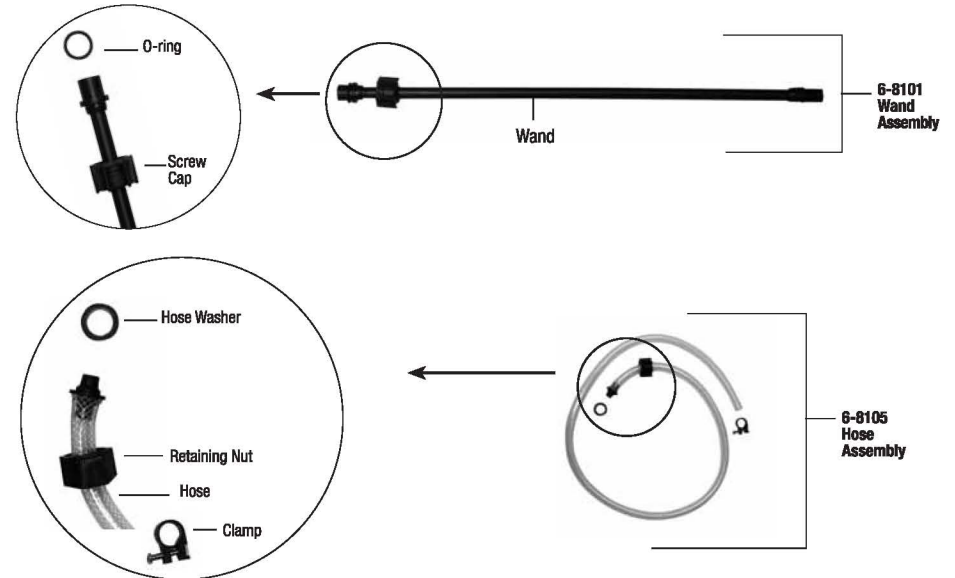
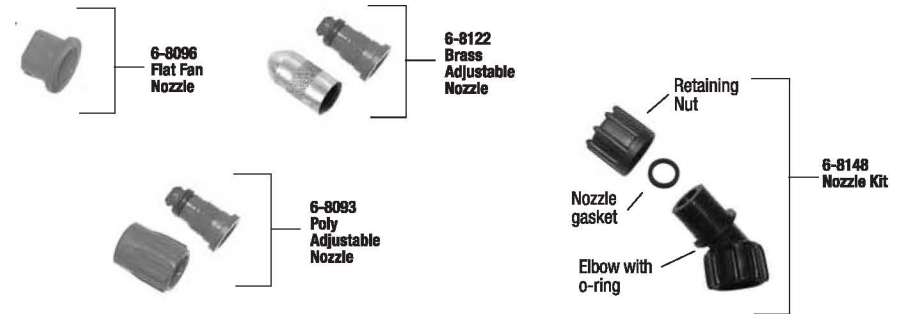




Figure 4

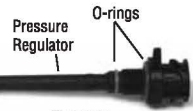


Figure 5

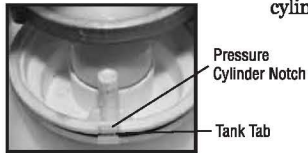


Figure 6

7. At this point the filter cartridge in the pressure cylinder can be removed with pliers and cleaned or replaced (fig. 4).
8. The pressure cylinder o-ring can also be replaced. DO NOT stretch the o-ring over the bottom flange. Assemble the o-ring over the top of the cylinder. Apply petroleum jelly to the o-ring before reinstalling (fig. 3b).
9. The pressure regulator can also be replaced at this point if necessary by unscrewing it from the pressure cylinder. If replacing apply petroleum jelly to the o-rings before installing (fig. 5).
10. Reassemble backwards from step 6 thru 2, performing each step in reverse. Note: there is a tab/notch combination in the pressure cylinder/tank to be used for alignment (fig. 6).

DISASSEMBLING AND REPAIRING THE SHUT-OFF VALVE



Figure 1

- 1) Assembled shut-off valve (Figure 1).



Figure 2

- 2) Remove the retaining pin (A) (Figure 2). Place the notched end of the retaining pin on a hard surface and push down. Remove the retaining pin when it pops up and slide the handle off the valve.

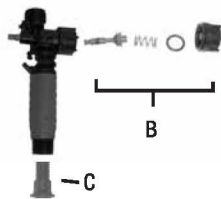


Figure 3

- 3) Remove the screw cap, o-ring, spring, and valve body (B) (Figure 3). Replace worn O-rings and parts. Lubricate the O-rings and reassemble by reversing the steps above. Place the handle groove in the slotted area of the valve body and make sure the locking clip is positioned correctly. Insert the retaining pin. Push down on the handle and release repeatedly to distribute the lubricant evenly. Check filter (C) in end of shut-off valve for debris. Remove filter and flush with water to clean out.

APPLICATIONS & USE FOR YOUR CHAPIN SPRAYER

Avoid using a sprayer for general cleaning purposes if plant protection or herbicide chemicals have already been used in the sprayer if possible. If a sprayer has been used for plant protection or as an herbicide, clean the sprayer completely (see page 5) before using.

Plant Food: Use different spray patterns for optimum foliage feeding or for fungicide and pesticide application.

Herbicides: Reduce weeds and unwanted plants but avoid using the same sprayer for plant feeding or protection without thoroughly cleaning (see pg.5) the sprayer first.

General Household Use: Apply detergents, vinegar, cleaning solutions, warm water (do not exceed 120°F/49°C) or nontoxic household cleaning chemicals for carpets, floors, walls, glass, counter tops and ceilings. DO NOT use sprayer that has been used with herbicides, pesticides or other toxic chemicals for household applications.

General Outdoor Use: Use the sprayer for cleaning windows or with a detergent for general purpose cleaning. Other applications include wood preservatives, waxes, water proofing, and diluted household bleach (max. 1 part household bleach to 9 parts water solution).

SPRAYER COMPONENTS & USE INFORMATION

NOZZLE ASSEMBLY

Figure 1-2

Unscrew the nozzle cap (1) from the nozzle body (3) with retaining nut (2) fastened tightly to the elbow (5). Unscrew the retaining nut (2). Push the nozzle body (3) with the nozzle gasket (4) out of the retaining nut (2). To reinstall the nozzle, reverse the above instructions.

Figure 3

Unscrew the retaining nut from the elbow and push the fan nozzle tip and gasket out of the retaining nut. To reinstall the nozzle, reverse the above instructions.



Figure 1

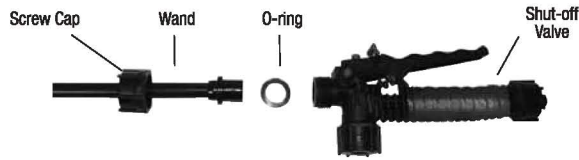
Figure 2

Figure 3

SPRAYER COMPONENTS & USE INFORMATION, Continued

WAND ASSEMBLY

1. Make sure the o-ring is installed on the end of the wand.
Insert the wand into shut-off valve.
2. Turn and tighten the screw cap clock-wise onto the shut-off valve.



INSTALLING THE PUMP LEVER

The sprayer includes all hardware necessary for installing the pump lever. The pump lever can be mounted on either end of the shaft. To install the pump lever place the lever handle (C) over the shaft (A). Align the pump lever and shaft hole. Push the straight side of the cotter pin (B) through the aligned hole as shown in figure 1 thru 3.

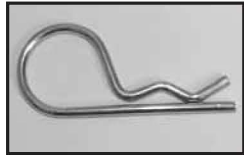
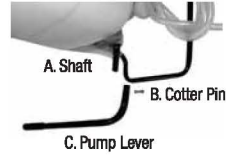


Figure 1
Cotter Pin



Figure 2
Line up holes



Figure 3
Slide pin through holes.

CONNECTING THE SHOULDER STRAP

The top of the shoulder straps are attached to the tank. Attach the lower end of the straps by fastening the strap hooks to the metal frame between where the frame exits the tank and curves around.



WAND CLIP

The wand can be attached to the metal frame using the wand clips.



3E



- 7) Attach pivot lever and connection hardware to new diaphragm pump assembly. Make sure orientation is correct with slot in diaphragm cover (Fig. 5).

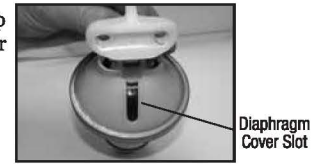


Figure 5

- 8) Apply Petroleum jelly to 2 diaphragm pump o-rings (Fig. 6a). Thread diaphragm pump assembly into pressure chamber base, making sure the o-ring seats inside the pressure chamber base (Fig. 6b-6c). Align the diaphragm pump alignment mark with the pressure cylinder base alignment mark (fig.6d).

The slot in the diaphragm cover will also be in alignment.



Figure 6a

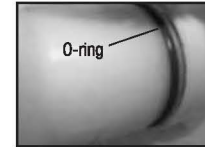


Figure 6b



Figure 6c

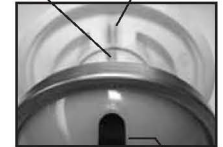


Figure 6d

Diaphragm Cover Slot

- 9) Re-assemble pump shaft (see step 3).

- 10) Re-attach pivot lever to pump shaft (see step 2).

DISASSEMBLING AND REPAIRING THE PRESSURE CYLINDER

Only remove the pressure cylinder if the cartridge filter is clogged or the sprayer is leaking from where the pressure cylinder and tank meet.

1. Release the pressure from the sprayer and remove all liquid from both the pressure cylinder and tank.
2. Disconnect hose
3. Remove 2 screws attaching the pivot lever to the pump shaft (fig 2)
4. Remove the large clamp holding the pressure cylinder and tank together (fig 1).
5. Rock the pressure cylinder back and forth and push down forcefully to free it from the tank (fig 1).
6. Once freed the entire assembly can be removed by angling and maneuvering it through the base frame (fig 3a & 3b).

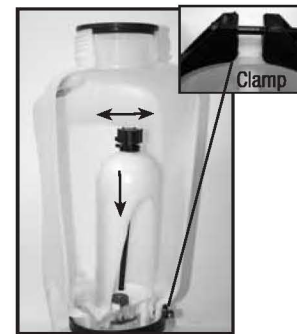


Figure 1



Figure 2



Figure 3a

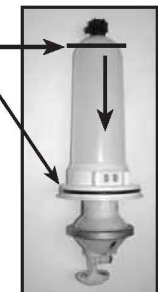


Figure 3b

8E

DISASSEMBLING AND REPLACING THE DIAPHRAGM PUMP

- 1) De-pressurize the cylinder and remove all liquid from both the pressure cylinder and tank.
- 2) Remove the 2 screws attaching the pivot lever to the pump shaft (fig. 1)



Figure 1

- 3) Remove cotter pin from pump shaft and remove washer (fig. 2a). Pull and slide the shaft from opposite side, moving it out of the way of the diaphragm pump assembly (fig. 2b & 2c).



Figure 2a

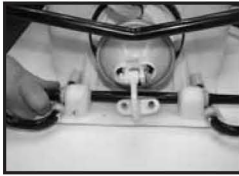


Figure 2b

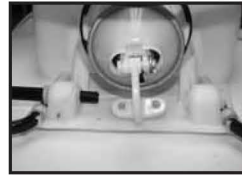


Figure 2c

- 4) Unscrew diaphragm pump from pressure cylinder base. The use of a strap wrench or other mechanical means may be necessary (fig. 3).



Figure 3

- 5) Remove cotter pin from diaphragm pump assembly pivot lever connection. Remove pivot lever and connection hardware from diaphragm pump assembly (Fig. 4a & 4b).



Figure 4a

Pivot Lever Connection



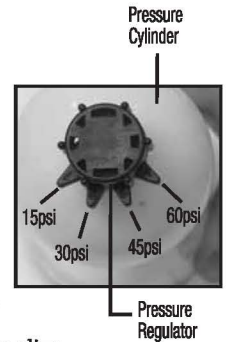
Figure 4b

- 6) Discard Diaphragm Pump Assembly.

SPRAYER COMPONENTS & USE INFORMATION, Continued

PRESSURE REGULATOR

The spray tank and the pressure cylinder are separate compartments in the cylinder sprayer. Pressure is maintained in a separate pressure cylinder within the unit and is built to withstand normal operating pressure. The Chapin backpack sprayer has a built-in, adjustable regulator to control spray pressure. If required adjust the regulator before filling the sprayer tank. To adjust, first remove the tank cap and filter basket. Look into the tank to view the top of the regulator. There are four “fingers” on the regulator’s knob. The fingers are numbered 1, 2, 3, and 4. Finger 1=15 psi, Finger 2=30 psi, Finger 3=45 psi, and Finger 4=60 psi. The higher you set the pressure, the more liquid will exit the sprayer in a given amount of time. Note: the higher the pressure is set, the smaller the droplets. Therefore, there will be more “drift” in the expelled liquid at higher pressures. When changing the spray pressure, excess pressure in the pressure cylinder must be released into the tank through the spray wand. To adjust, push down the regulator knob and rotate to align with the alignment pin to the desired number.



3 STAGE FILTERING SYSTEM

This backpack sprayer is equipped with a 3 stage filtering system (see figure 1). Stage 1 is a filter basket incorporated into the tank opening where fluid is added. Stage 2 is a removable filter cartridge integrated into the pressure cylinder. Stage 3 is a removable filter incorporated into the shut-off assembly. Periodic cleaning of these filters is recommended to insure consistent fluid flow through the sprayer. This will also reduce sprayer component wear.

Stage 2 filter cartridge cleaning requires removal of the entire pressure cylinder assembly (see section “disassembling and repairing the pressure cylinder”). Once the pressure cylinder is removed the stage 2 filter can be removed for cleaning (see figure 2).

The stage 3 filter is a removable filter incorporated into the inlet side of the shut-off valve (see section “disassembling and repairing the shut-off valve”). It is best to have no or minimal fluid in the pressure cylinder before removing and reinstalling the stage 3 shut-off filter as fluid can leak from the hose.

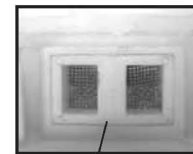
Figure 1 Stage 1 (filter basket)



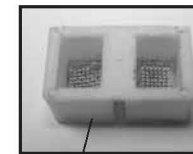
Stage 2 (removable filter cartridge)



Figure 2 Stage 2 (removable filter cartridge)



Filter cartridge in pressure cylinder base



Filter cartridge removed

SPRAYER COMPONENTS & USE INFORMATION, Continued

FILLING THE SPRAYER

Make sure the filter basket is in place to keep debris from entering the sprayer.

Determine the amount of water needed for your application, then check the chemical label for proper ratio of chemical to the amount of water you want to spray for this job. Add the proper amount of chemical to the sprayer, and then pour the measured amount of water through the basket filter in your sprayer. Stir mixture in tank with a clean utensil (like a paint stirrer). The sprayer will hold the 4-gallon (15.0L) capacity plus the chemical.

It is not necessary to completely fill the sprayer tank with each use. You can fill the tank with only the amount needed for each application.

Always follow the manufacturer's instructions included on their product label.

HELPFUL SPRAYING INFORMATION

Use RAPID pump strokes to prime the pump. You will know the pressure cylinder is filling with liquid when you feel firm resistance from the pump. The air in the pressure cylinder is slowly compressed from repeated strokes. By pressing the hand lever on the shut-off, the valve opens. The hand lever valve has a retaining clip to keep the valve in the "OPEN" position for continuous spraying, if desired. For easy pump action use the END of the pump handle. The amount of liquid delivered during spraying depends on the pressure set on the pressure regulator.

Note: If you experience a rapid drop in pressure, drain the sprayer completely and pump the handle with an empty tank. The air chamber will fill with the required volume of air to repressurize. Chapin advises performing this procedure from time to time as routine maintenance.

POWDER-BASED CHEMICALS

Powder-based chemicals (powder mixed with liquids to make the spraying agent) are usually abrasive and can cause wear. When you use a powder-based chemical in your sprayer, make sure it is thoroughly dissolved in the liquid solution. Thoroughly clean and flush the sprayer with water to extend the life of the sprayers parts.

CLEANING

- 1 Always empty the sprayer and clean the tank thoroughly after each use.
- 2) Pump the sprayer handle until all of the contents and air exit through the nozzle.
- 3) Fill tank half way with water and pump the water out as explained in step 2 (repeat several times as necessary).

Other Cleaning Hints:

- Improper spray distribution usually means the nozzle is clogged, remove the nozzle and clean it.
- Soap can be added to the water to clean the tank.
- Do not use strong cleaning agents or abrasives.
- If you use a chemical agent to clean the tank follow the manufacturer's recommendations for the disposal of the waste water.
- Follow the chemical manufacturers instructions for clean up.

STORING / MAINTAINING YOUR SPRAYER

- The sprayer should be stored out of direct sunlight in a cool dry space.
- Before freezing weather make sure to drain all liquid in the tank, lines and pressure cylinder to avoid liquid expansion and cracking in the sprayer components (See "Cleaning") and lock the shut-off valve in the "open" position.
- When service is required call your nearest Chapin dealer and always insist on original Chapin manufactured replacement parts.
- Inspect the hose, wand, pump, tank and shut-off valve for wear, damage or leaks on a regular basis and repair defects promptly.

TROUBLE SHOOTING YOUR SPRAYER

Symptom	Possible Reason	Correction
Difficulty moving the pump lever	Dirty bushing	Remove the pump shaft, clean & grease the bushings with petroleum jelly
	Damaged or dirty piston lever assembly	Clean or replace piston lever assembly
Little or no resistance during repeated pumping – no pressure	Damaged or dirty valve plate	Clean or replace valve plate on diaphragm pump
	Damaged O-ring at valve seat	Replace O-ring on diaphragm pump
	Diaphragm pump is damaged	Replace diaphragm pump
	Damaged pressure regulator o-rings	Replace pressure regulator
Too much resistance after just a few pumping strokes but pressure only lasts briefly	Not enough air cushion in the pressure cylinder	Remove the PVC hose & drain pressure cylinder. Reconnect the hose
Upward pumping is more difficult and/or tank wall becomes indented.	Cap vent hole is clogged	Clear the vent hole
When the handle is pulled up it moves itself back down	Cartridge filter clogged (at base of pressure cylinder)	Clean cartridge filter with a small brush and detergent
	Valve plate stuck	Clean or replace valve plate on diaphragm pump assembly
Leaks at Diaphragm Pump	Damaged diaphragm	Replace diaphragm pump
	Damaged /worn o-rings	Replace o-rings on diaphragm pump
	Diaphragm pump not threaded into pressure cylinder far enough	See section "disassembling and replacing the diaphragm pump"
Shut-off leaks	Worn or damaged shut-off valve	See section "disassembling and replacing the shut-off valve"
Wand assembly leaks	Damaged/worn o-ring/washer	Clean or replace o-ring/washer
Nozzle assembly leaks	Damaged/worn o-ring/gasket	Clean or replace o-ring/gasket
Leak between tank and pressure cylinder base	Loose clamp	Tighten clamp
	Damaged or worn pressure cylinder o-ring	Replace pressure cylinder o-ring
		See section "disassembling and repairing the pressure cylinder"