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# Commercial Duty Sprayer

## Use and Care Manual



Model 63900 • 4G/ 15L

**⚠ WARNING ⚠**

Carefully Read These Instructions Before Use

## WARNING

**WARNING: Improper use or failure to follow instructions can result in explosive failure causing serious eye or other injury.** For safe use of this product you must read and follow all instructions. Do not leave a pressurized sprayer in the hot sun. Heat can cause pressure build-up resulting in possible explosion. Do not store or leave solution in tank after use. Always wear goggles, gloves, long sleeve shirt, long pants and full foot protection when spraying. Never use any tool to remove pump if there is pressure in the pressure chamber. Never pressurize sprayer by any means other than the original pump. Do not attempt to modify this sprayer. Replace parts only with manufacturer's original parts. **Never spray flammable, caustic, acidic, chlorine, bleach or other corrosive solutions or heat, pressure, or gas producing chemicals. Always read and follow chemical manufacturer's instructions before use with this sprayer as some chemicals may be hazardous when used with this sprayer.**

SK 1158-1

**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

- **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. Insure the large pump clamp is tight. Insure the 2 bolts used to attach the pump lever to the pump shaft are tight.
- Do Not exceed a tank solution temperature of 120° F/ 49° C.

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

**APPLICATIONS & USE FOR YOUR SPRAYER**

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

**General Household Use:** Apply detergents, 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.

**SPRAYER COMPONENTS & USE INFORMATION**

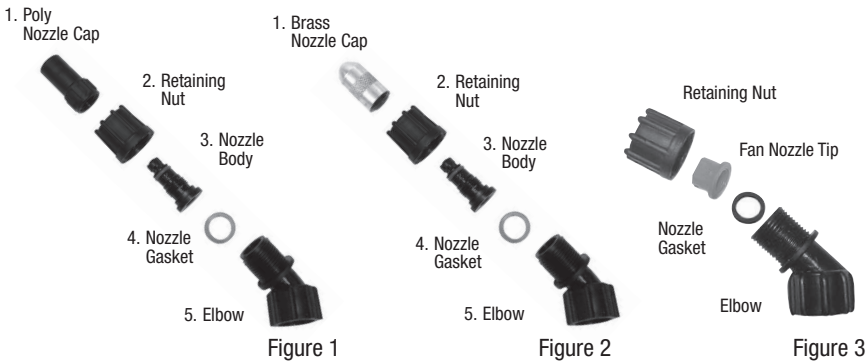
**NOZZLE ASSEMBLY**

**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.

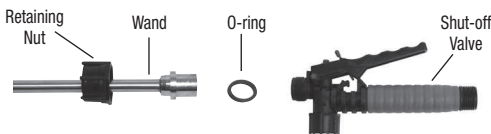
**Figure 3**

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.



**WAND ASSEMBLY**

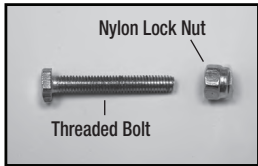
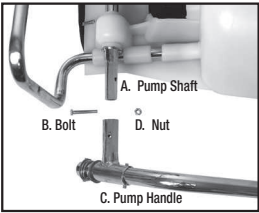
1. Make sure the o-ring is installed on the end of the wand.  
Insert the wand into shut-off valve.
2. Turn and tighten the retaining nut clock-wise onto the shut-off valve.



**SPRAYER COMPONENTS & USE INFORMATION, Continued**

**INSTALLING THE PUMP HANDLE**

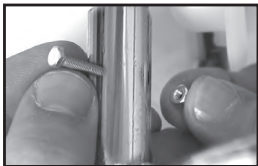
The pump handle can be mounted on either side of the pump shaft (A). To install the pump handle place the handle (C) over the shaft (A) aligning the pump handle hole and shaft hole. Slide the bolt (B) through the aligned hole as shown in figure 1 thru 4. Tighten nut (D) to bolt. There are holes in the pump handle to allow for either left(fig.4) or right (fig.5) hand mounting.



**Figure 1**



**Figure 2**  
Line up holes



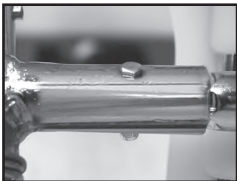
**Figure 3**  
Slide bolt through holes



**Figure 4**  
Tighten nut to bolt



**Figure 5**  
Left Hand

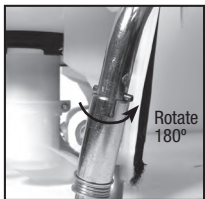
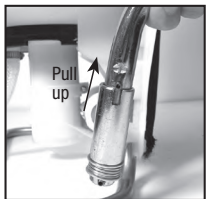


**Figure 6**  
Right Hand



**Figure 7**  
Right Hand

**STOW- AWAY PUMP HANDLE**



**INSTALLING THE SHOULDER STRAP**

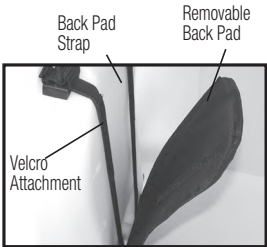
The top of both the shoulder straps and back pad straps are attached to the top of the tank and are removable (figure 1). The back pad strap attaches to the bottom of the tank (figure 2). The back pad is attached to its strap with velcro and is removable (figure 3). Attach the lower end of the straps by clipping the strap hooks to the metal frame between where the frame exits the tank and curves around. (figure 4).



**Figure 1**  
Strap Assembly



**Figure 2**  
Back Pad strap attachment



**Figure 3**  
Removable Back Pad



**Figure 4**  
Strap Attachment

**WAND CLIP**

The wand can be attached to the pump handle using the wand clip.

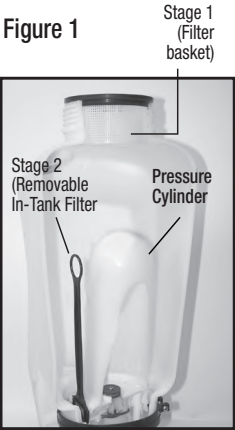


**SPRAYER COMPONENTS & USE INFORMATION, Continued**

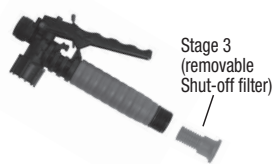
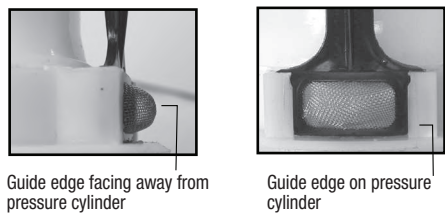
**3 STAGE FILTERING SYSTEM**

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 filter is located at the inlet of the pressure cylinder. Stage 2 is a removable In-Tank filter. 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.

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”) . Make sure pressure is released before detaching the hose from the shut-off. 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 2 Stage 2 (removable In-Tank filter)**



**FILLING THE SPRAYER**

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

Determine the amount of mixture needed for your application. Add the proper amount of water to the tank. Add the proper amount of chemical to the tank (check the chemical label for proper ratio of chemical). Stir mixture in tank with a clean utensil (like a paint stirrer). The tank will hold the 4-gallon (15.1L) 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.

## SPRAYER COMPONENTS & USE INFORMATION, Continued

### HELPFUL SPRAYING INFORMATION

Use RAPID pump strokes to prime the pump. You will know the pressure chamber is filling with liquid when you feel firm resistance from the pump. The air in the pressure chamber is compressed from repeated strokes. By pressing the hand lever on the shut-off, the valve opens. For safety lock-off feature (no-spraying), pull up on handle and move red locking mechanism into lock-off position as shown in fig. 1. To disengage, pull up on handle and return red locking mechanism to neutral position as in fig. 3. For lock-on feature (continuous spraying), push down on handle and move red locking mechanism into lock-on position as shown in fig. 2. To disengage, push down on handle and return red locking mechanism to neutral position as shown in fig. 3.

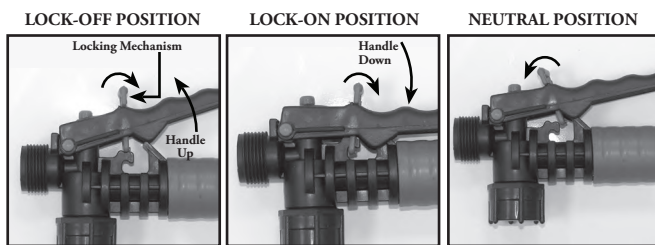


Figure 1

Figure 2

Figure 3

For easy pump action use the END of the pump handle. The amount of liquid delivered during spraying depends on the rate of pump stroke. The fan nozzle tip is rated at .4 gpm at 40psi. This is the nominal operating pressure of the sprayer.

**Note:** If you experience a rapid drop in pressure, drain the sprayer completely and pump the handle with an empty tank. The pressure chamber will fill with the required volume of air to repressurize. Perform 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 (minimum of 30 strokes).
- 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.

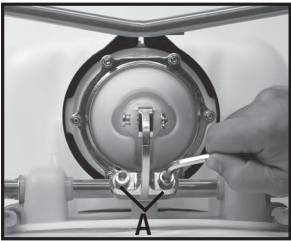
**STORING / MAINTAINING YOUR SPRAYER**

- 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, pump, pressure cylinder, hose, shut-off valve, wand and nozzle, to avoid liquid expansion and cracking in the sprayer components (See “Cleaning” section). Lock the shut-off valve in the “open” position.
- When service is required call your nearest dealer and always insist on original 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 actuating the pumphandle and/or pump handle moves itself back up.	Upper valve plate sticks	Clean or replace valve plate
	Piston cylinder outlet passage clogged	Clean piston cylinder outlet passage
Little or no resistance during repeated pumping – no pressure.	Damaged/worn/dirty/upper valve plate	Clean or Replace Valve Plate
	Piston Collar or piston cylinder assembly is worn	Replace Piston/ Diaphragm assembly
Too much resistance after just a few pumping strokes but pressure only lasts briefly.	Not enough air cushion in the pressure chamber	Release pressure in pressure chamber Remove the hose & drain pressure chamber. Reconnect the hose.
	Upper valve plate damaged/worn/dirty	Clean or replace upper valve plate
Upward pumping action is more difficult and/or pump handle moves itself backdown.	Vent hole is clogged	Clear the vent hole in cap
	Lower valve plate sticks	Clean or replace the valve plate
	Clogged intake filter	Clean the In-Tank filter
	Piston cylinder intake clogged	Clean piston cylinder intake
Leaks at Piston Cylinder	Damaged/worn/Dirty Collar	Replace Piston/ Diaphragm assembly
	Damaged Piston Cylinder	Replace Piston/ Diaphragm assembly
	Damaged Piston	Replace Piston/ Diaphragm assembly
Shut-off leaks	Connections loose	Tighten connection
	Worn or damaged shut-off	Rebuild or replace the shut-off valve
Wand assembly leaks	Connections loose	Tighten connection
	Damaged or worn o-ring/gasket	Replace o-ring/gasket
Nozzle assembly leaks	Connections loose	Tighten connection
	Damaged or worn o-ring/gasket	Replace o-ring/gasket
Leak between pump assembly and tank	Pump clamp loose	Tighten clamp
	O-ring worn or damaged	Replace pressure chamber oring
Hose leaking at tank outlet	Hose clamp loose	Tighten clamp
Hose leaking at shut-off	Connection loose	Tighten retaining nut
	Damaged or worn o-ring/gasket	Replace o-ring/gasket

**DISASSEMBLING AND REPAIRING THE PISTON PUMP**



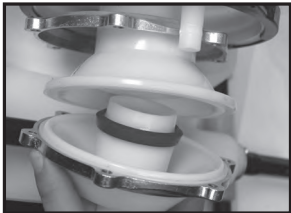
**Figure 1**

- 1) Remove the cotter pin and pump handle. With the pump facing towards you lay the unit on its back (Figure 1). Loosen the hose clamp and remove the sprayer hose. Caution: There could be residual liquid in the hose and pressure cylinder. Rotate the pump shaft in order to reach two lever bolts(A). Using an allen wrench, remove the lever bolts.



**Figure 2**

- 2) Remove bolts clamping the the two halves of the Piston/Diaphragm pump housing together (Figure 2).



**Figure 3**

- 3) Pull the pump housing halves apart and inspect piston collar/diaphragm for wear. Replace as needed (Figure 3).



**Figure 4**

- 4) Guide lever through skirt (Figure 4).

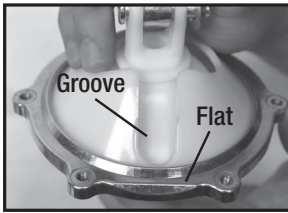


Figure 5

- 5) Align the “groove” in the skirt with the flat ledge on the retaining ring. Align flat edge with hose connection.



Figure 6

- 6) Re-assemble the two pump halves (fig.3).  
Re-tighten all pump housing bolts.  
Re-assemble hose and lever bolts.

## DISASSEMBLING AND REPAIRING OR REPLACING THE PUMP ASSEMBLY

1. Release the pressure from the sprayer and remove all liquid from both the pressure chamber and tank.
2. Remove hose.
3. Remove the In-tank filter from the pressure chamber.
4. Remove 2 bolts attaching the pivot lever to the pump shaft and remove piston assembly (fig. 2).
5. Remove the large clamp holding the pressure chamber and tank together (fig. 1).
6. Rock the pressure chamber back and forth and push down to free it from the tank (fig 1).
7. Once freed the entire pump assembly can be removed by maneuvering it through the base frame (fig 3a & 3b). Pump shaft may be removed to ease the disassembly of the pump.

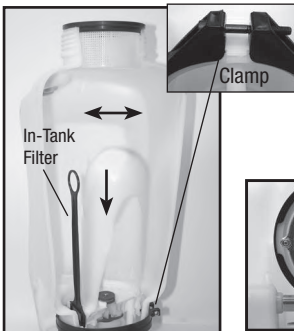


Figure 1

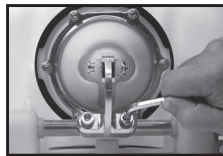


Figure 2

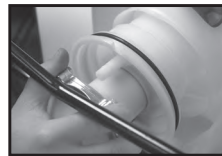


Figure 3a

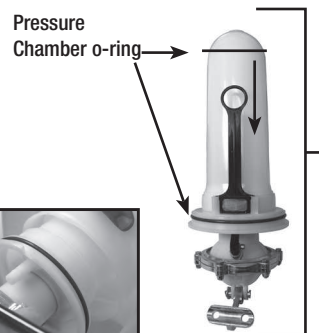


Figure 3b

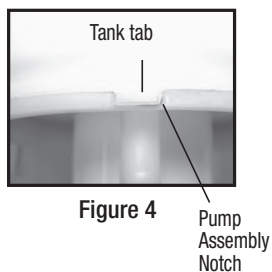


Figure 4

8. The pressure chamber 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 chamber. Apply petroleum jelly to the o-ring before reinstalling pump assembly into the tank (fig. 3b).
9. Reassemble backwards from step 7 thru 2, performing each step in reverse. Note: there is a notch/tab combination in the pump assembly/tank to be used for alignment (fig. 4).

## DISASSEMBLING AND REPAIRING THE SHUT OFF VALVE



Figure 1

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



A  
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 and slide the handle off the valve.

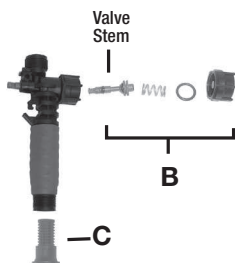
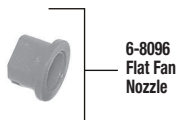


Figure 3

- 3) Remove the retaining nut (o-ring attached), spring, and valve stem (B) (Figure 3). Replace worn parts. Lubricate the O-rings and reassemble by reversing the steps above. Place the handle groove in the slotted area of the valve stem and make sure the locking clip is positioned in the neutral position (see "Helpful Spraying Information" section). Insert the retaining pin. Push down on the handle a few times 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.

## REPLACEMENT PARTS ORDER INFORMATION



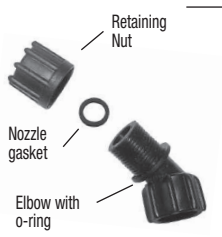
**6-8096**  
Flat Fan  
Nozzle



**6-8122**  
Brass  
Adjustable  
Nozzle



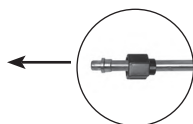
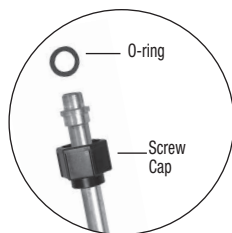
**6-8093**  
Poly  
Adjustable  
Nozzle



**6-8148**  
Nozzle Kit

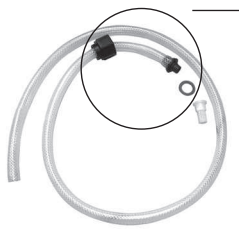
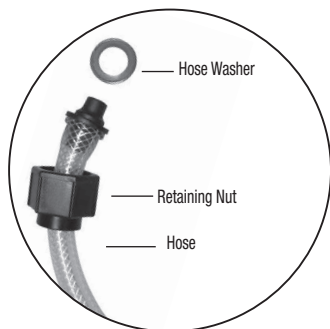


**6-8169**  
Filter  
Replacement  
Kit



Wand

**6-8149**  
Wand  
Assembly



**6-8105**  
Hose  
Assembly



**6-8120B**  
Shut-off Valve  
Repair Kit



**6-8138**  
Shut-off  
Assembly

## REPLACEMENT PARTS ORDER INFORMATION



6-8224  
Piston /Diaphragm  
Pump



6-8225  
Piston Collar



Elbow O-ring



Hose Gasket



Nozzle Gasket



Wand O-ring

6-8153  
O-ring Kit



6-8146-1  
Filter Basket  
& Cap



6-8182  
Backpad and  
Straps



6-8150  
Wand Clip

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