



Edition: 1/99

solo[®]
service

Note: Always wear rubber gloves, safety goggles and appropriate protective clothing when repairing a sprayer. Once a repair is completed, fill the unit with clean water, pressurize, and check for leaks. If the sprayer leaks, *Do Not Use*. Repair leaks and recheck.

HANDHELD SPRAYER TROUBLE SHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
Difficulty in Moving Pump Handle	<ul style="list-style-type: none"> • Dirty Cylinder Wall • O-Ring on Piston Swollen (Not Cleaned Properly) • No Lube on Piston/Cylinder 	<ul style="list-style-type: none"> • Remove Piston, Clean and Replace • Replace O-Ring • Lubricate with Vaseline Grease
Low Pressure & Resistance During Pumping	<ul style="list-style-type: none"> • Damaged O-Ring in Pressure Relief Valve • Worn or Damaged O-Ring onPisto • Tank Cap Not Tight • No Lube on Piston Cylinder 	<ul style="list-style-type: none"> • Replace O-Ring • Replace O-Ring • Tighten Cap • Lubricate Piston, O-Ring and Cylinder with Vaseline Grease
Leaks From End of Spray Wand	<ul style="list-style-type: none"> • Worn or Damaged O-Ring in Shut-Off Valve 	<ul style="list-style-type: none"> • Rebuild Shut-Off Valve
Leaks From Inside Cylinder	<ul style="list-style-type: none"> • Worn or Damaged Umbrella Valve at Bottom of Cylinder 	<ul style="list-style-type: none"> • Replace Umbrella Valve
Leaks Under Cap	<ul style="list-style-type: none"> • Damaged or Missing Gasket • Screw Cap Not Tight 	<ul style="list-style-type: none"> • Replace Gasket • Tighten Tank Cap
Leaks From Shut-Off Valve	<ul style="list-style-type: none"> • Worn, Damaged or Loose Fittings, Lack of Lubrication 	<ul style="list-style-type: none"> • Tighten Fittings and Replace Worn Parts, Disassemble and Lubricate O-Rings
Leaks From Hose	<ul style="list-style-type: none"> • Worn, Damaged or Loose Fittings 	<ul style="list-style-type: none"> • Tighten Fittings and Replace Worn Parts
Pressure Relief Valve Sticks	<ul style="list-style-type: none"> • Lack of Lubrication or Contaminated Relief Valve Assembly 	<ul style="list-style-type: none"> • Clean and Lubricate Pressure Relief Valve
Air Leak - Air Coming Out Between the Two Halves of the Pump Support	<ul style="list-style-type: none"> • Tank Cap Not Tight • Gasket Twisted or Lacking Lubrication • Tank Lip Damaged 	<ul style="list-style-type: none"> • Tighten Tank Cap • Straighten Gasket and Lubricate with Vaseline Grease • Repair or Replace Tank

SPRAYER DISASSEMBLY & REPAIR

1. If the sprayer will not hold pressure, fill the sprayer 3" (ca. 8 cm) below the top with water. Replace the cap and pump 4 times. Filling the sprayer this full makes it very easy to pump up to the maximum pressure. **CAUTION:** The bottom of the pressure relief valve is submerged and will discharge water under pressure. Dry off any water on the outside of the sprayer. (See Figure 1) If you observe water leaking out of the sprayer, check for damage at the site of the leak.
2. If the leak is at a connection, try to tighten the screw cap. If that fails, remove the screw cap and check the sealing surface to make sure that it is flat, smooth and the seal or O-Ring is undamaged. Retighten. (See Figure 2)
3. When reassembling the connections, especially the hose, make sure the O-Ring is seated before hand-tightening the screw cap. (See Figure 3)
4. The pressure relief valve is removed by unscrewing it from the tank. Once removed, the lower housing pulls off to access the O-Ring on the stem (A). When replacing this O-Ring, make sure it is seated in the recess on the stem. Lubricate O-Ring with Vaseline Grease on stem before reassembly. (See Figure 4)

Figure 1



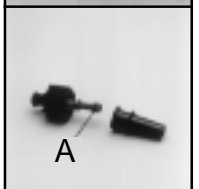
Figure 2



Figure 3



Figure 4



5. If the pump fails to offer resistance when pumping, check the umbrella valve (B) on the bottom of the cylinder to make sure that it is in place and sealing. The umbrella valve is removed by pulling it out. Replace the umbrella valve by re-inserting into the hole on the bottom of the cylinder. (See Figure 5)
6. The pump piston is removed from the cylinder by pulling the two apart forcefully. Occasionally the large gasket at the top of the cylinder will hold the cylinder in the tank cap. Turning the cylinder counter-clockwise while holding the tank cap and pulling the cylinder will help separate the two parts. (See Figure 6)
7. To replace the O-Ring on the plug (C), remove the plug by prying it out with a screwdriver. Replace the O-Ring and lubricate. Reassemble by pushing the plug in until it is flush with bottom of the pump piston. The pump piston O-Ring must be replaced if damaged or worn. Lubricate with Vaseline Grease it before reassembly. (See Figures 7 and 8)
8. To replace the pump piston, remove the cylinder supports by pushing them out of the tank cap. Once the pump piston is replaced, the cylinder support is snapped back into place. (See Figure 9) Note: This is not necessary for most repairs.
9. When reassembling the pump cylinder to the pump piston and cap, make sure that the gasket (D) does not get twisted. This will cause the sprayer to leak. It is important to keep this gasket lubricated with non-water soluble grease or with Vaseline Grease. Note: The cylinder is shown removed from the tank cap for clarity. To ease the assembly, insert the cylinder into the neck of the sprayer tank and then screw the cap assembly on. (See Figure 10)
10. Remove the shut-off valve from the hose. Remove and replace the O-Ring on the hose connection. Reinstall the shut-off valve. (See Figure 11)

Figure 5

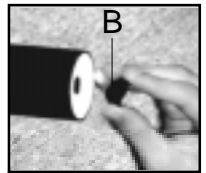


Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11



THE SHUT-OFF VALVE DISASSEMBLY & REPAIR

1. Complete Shut-off valve. (See Figure 12)
2. To remove valve core, you must first disassemble the handle. Remove the retaining pin (A) by squeezing the notched end and pushing through the handle. Slide the handle off the valve core. (See Figure 13)
3. With the handle removed, unscrew cap which retains tension spring and push out valve core (B). Replace worn parts. Lubricate the O-Rings and reassemble in reverse order. Note: The valve core in picture is painted white for clarity.

Figure 12



Figure 13

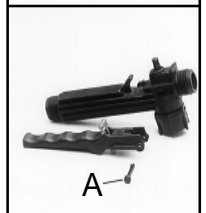


Figure 14

