



# **596766001**

## **4 Gal. Backpack**

### **Sprayer**

*Use and Care Manual*



**⚠ CAUTION: Read and follow all instructions**

For help, information or parts, contact your nearest authorized service dealer.  
Visit RedMax® online at [www.redmax.com](http://www.redmax.com).

Manual No. 183852

Rev. 05

ECN18-028

5 1/2" x 8 1/2" Booklet

## SAFETY PRECAUTIONS

- Read owner's manual completely before operating this sprayer.
- Always use goggles, gloves, and protective clothing when using sprayer.
- Read and follow all instructions and cautions on label of products used in this sprayer.
- Never use flammable liquids, caustics, acids, or hot water in this tank.
- Do not leave sprayer in the sun when not in use.
- Spray when air is calm to prevent drift of chemicals.
- Do not use sprayer near open flame or anything that could cause ignition of the spray.
- Always inspect hose and all hose connections before each use. A damaged hose, or loose hose connection can result in unintended exposure to the pressurized chemical, resulting in serious injury or property damage.
- Do not lift or carry sprayer by the hose, shut-off valve, or wand extension. Carry by the handle only.
- Do not pressurize with any mechanical device such as an air compressor, since this can create a dangerous pressure level and bursting of parts resulting in serious injury. Only use original pump.
- Do not store chemicals in this tank.
- Always release pressure when sprayer is not in use and before performing any maintenance.
- **Clean and rinse sprayer thoroughly after each use.**
- Never attempt to alter sprayer from original condition.
- Always use replacement parts from original manufacturer.
- Keep the sprayer and all chemicals out of the reach of children.

## WARNING

**ALWAYS CLEAN THE SPRAYER AND SHUT-OFF THOROUGHLY AFTER EACH USE OR WHEN CHANGING APPLICATIONS AS DESCRIBED IN THE *CLEANING* SECTION. FAILURE TO COMPLETELY CLEAN MAY CAUSE CROSS-CONTAMINATION.**

## CAUTION

Always empty, clean and dry tank, pump system, shut-off, hose, and extension after each use. FAILURE TO DO SO MAY WEAKEN SPRAYER COMPONENTS, CAUSING COMPONENTS TO RUPTURE WHEN PRESSURIZED. Additionally, FAILURE TO CLEAN AND PROPERLY MAINTAIN YOUR SPRAYER WILL VOID MANUFACTURER'S WARRANTY.

## WARNING

The sprayer is operated with liquid under pressure. Failure to observe caution and to follow instructions for operating and cleaning can cause tank, hose and other parts to be weakened and rupture under pressure. This can result in serious injury from high pressure discharge of liquids or forcible ejection of parts. Do not use flammable materials in this sprayer. Material could ignite or explode, causing serious injury and/or possible death. For safe use of this product, you must read and follow all instructions before use.

**TEST SPRAYER WITH WATER BEFORE USING ANY CHEMICALS.**

**If you experience problems or have questions contact your nearest authorized service dealer.**

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# ASSEMBLY INSTRUCTIONS

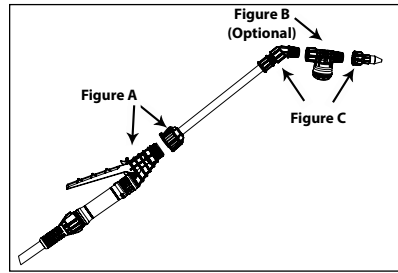
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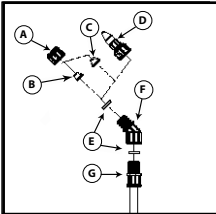
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## Assemble Extension, Shut-Off, Nozzle and Spray Optimizer

1. Install the extension "wand" onto the shut-off assembly and tighten the nut securely. (See Figure A)
2. (Optional) Install Spray Optimizer for low pressure (low drift) applications. This will help prevent weed killer formulas from drifting into undesired areas. (**Do not over tighten, actual position will vary. See Figure B**)
3. Install selected nozzle onto the end of the extension or optimizer (if installed) and tighten securely. (See Figure C)



SELECT NOZZLE FROM CHART BELOW





- A. Cap Nut  
B. Red High-Volume Fan Nozzle  
C. Yellow Low-Volume Fan Nozzle  
D. Adjustable Cone Nozzle  
E. Flat Seal  
F. Adapter  
G. Extension

### ADJUSTABLE CONE USES:

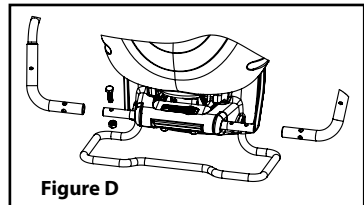


- Spot spraying in or around flower beds, trees, and shrubs.
- Edging along fences, driveways, and walkways.
- Killing brush such as poison ivy, poison oak, kudzu and wild blackberry.
- Preparing garden beds for planting of ornamentals and vegetables.

RED HIGH VOLUME FAN NOZZLE USES:	YELLOW LOW VOLUME FAN NOZZLE USES:
 <ul style="list-style-type: none"> <li>• Lawn replacement. Kill lawn and weeds before planting a new lawn.</li> <li>• Preparing large areas for planting of ornamental and vegetable gardens.</li> </ul>	 <ul style="list-style-type: none"> <li>• For precision spraying in confined areas such as gardens and flower beds.</li> </ul>

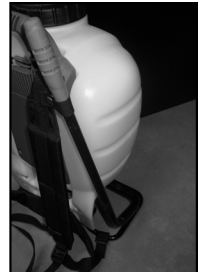
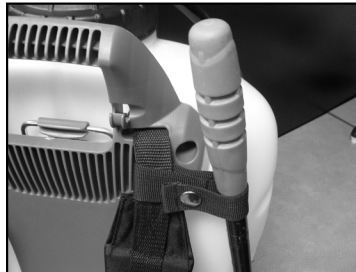
## Assemble Pump Handle

Handle comes pre-installed for left-hand pumping, but can be mounted on the right if user prefers. To change sides, slide handle onto shaft and line up holes. Thread bolt through handle and shaft and securely tighten. Thread on lock nut and tighten using a 13mm (or adjustable) wrench. (See Figure D)



## Folding Handle

1. Thread bolt through handle and shaft as stated above.
2. Snap strap around handle.
3. Handle shown in folded position.



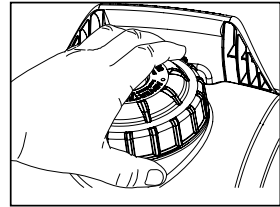
# OPERATING INSTRUCTIONS

***Always conduct a test using cool, clean water before mixing chemicals.***

## Filling

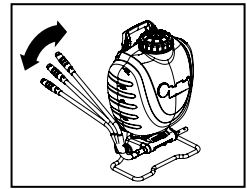
***Always refer to chemical manufacturer for proper mixture.***

1. Remove the cap from the tank.
2. Make sure the filter basket is in place in the neck of the tank. The filter basket includes the seal and must be in place to prevent leaks.
3. Fill the tank with cool water and chemical to the desired level.
4. Reinstall the cap.

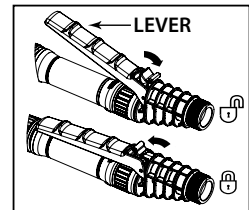


## Pressurizing and Spraying

1. To begin pressurizing, be sure shut-off lever is not depressed. Pump handle up and down in a smooth motion (**See Figure E**). Operating pressure is reached when pumping becomes difficult, which is no more than 10-12 full pumps. (**Do not over-pressurize**)
2. Direct nozzle away from you and squeeze shut-off lever to begin spraying.
3. To maintain pressure while spraying, operate pump handle every 8 sec. or as needed.
4. For continuous spraying, squeeze lever and rotate lock. (**See Figure F**)
5. Unlock if needed and release shut-off lever to stop spraying.



**Figure E**



**Figure F**

## Cleaning

1. Fill the tank with cool, clean tap water. Replace the cap and tighten securely. (**Never use hot water for cleaning**)
2. Agitate the tank to rinse the chemical from the tank walls.
3. Remove the cap and empty the contents into gravel or bare soil.
4. Refill the tank with clean tap water. Replace the cap and tighten securely.
5. Pressurize the tank as described in the *Pressurizing and Spraying* section.
6. Direct the nozzle away from you and activate the shut-off for at least 30 seconds to clean the pressure chamber, hose and shut-off.
7. Remove the cap and empty the contents into gravel or bare soil.
8. Repeat steps 4 - 7 until thoroughly cleaned. Remove nozzle when flushing pump system. Clean nozzle before replacing.

## Sprayer Storage

1. Never store sprayer with pressure in chamber or liquid in any part of sprayer.
2. Sprayer tank should be hung upside down, with the cap removed, to dry completely.
3. Do not store or leave any solution in the tank after use.
4. Store in a warm, dry location out of direct sunlight.
5. ***Keep the sprayer and all chemicals out of the reach of children.***

## Tank Maintenance

1. After each use, rinse the tank with cool, clean water.
2. Check the check valve (See Figure G) and filter basket gasket. (See Figure H)  
Make sure they do not show signs of wear and are operating properly.  
Replace them as required.
3. Clean any dirt or debris from the filter basket.
4. Periodically check the straps for fraying.  
Replace them as required.

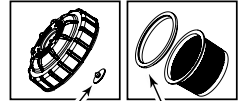


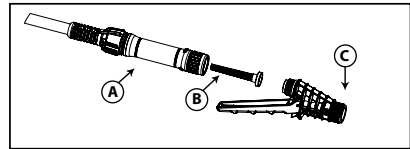
Figure G

Figure H

## Shut-off Maintenance

**Always depressurize sprayer before maintenance by activating shut-off and spraying contents out.**

1. Unscrew the handle from the shut-off assembly.
2. Remove the filter from the shut-off assembly.
3. Clean any debris from inside the handle, shut-off assembly, or the filter by rinsing with cool, clean water.
4. Reassemble the components as shown and tighten all connections securely.



A. Handle

B. Filter

C. Shut-off Assembly

## Nozzle Maintenance

1. If nozzle clogs, remove and disassemble the nozzle assembly.
2. Clean the openings of any obstructions and reassemble.

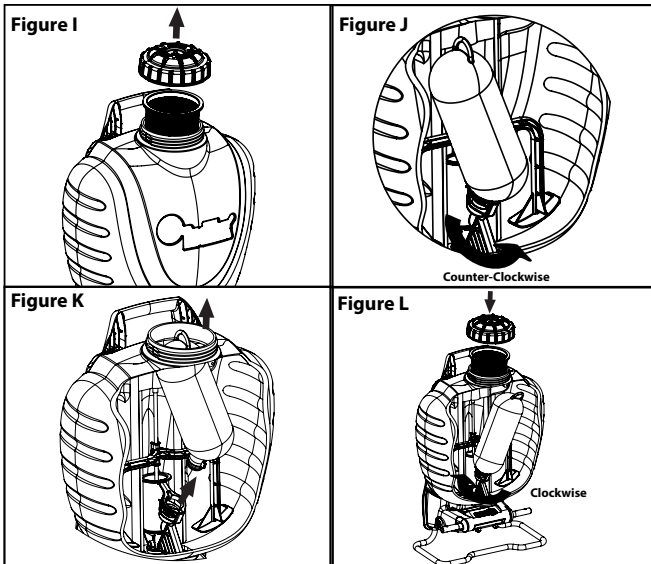


Figure I

Figure J

Figure K

Figure L

Counter-Clockwise

Clockwise

## Pressure Chamber Maintenance

**WARNING: Always depressurize sprayer before cleaning or replacing pressure chamber by activating shut-off and spraying out all pressure.**

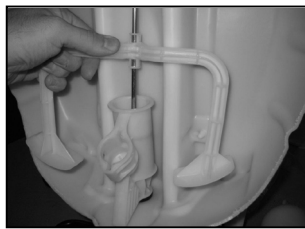
1. Remove the tank cap and strainer (See Figure I).
2. Reach into the tank and turn the chamber 1/4 turn counterclockwise (See Figure J) to unlock the chamber from the pump then remove chamber from tank (See Figure K).
3. Rinse out any debris that may have accumulated in the chamber.
4. Reinstall the chamber into the pump by aligning the tabs on the chamber with the slots in the pump, push firmly into pump and turn clockwise until pump stops.
5. Reinstall the strainer and tank cap (See Figure L).

***Prior to servicing and/or repairs.***

1. Empty contents of tank.
2. While squeezing shut-off, pump sprayer until all liquid is expelled.
3. Continue squeezing shut-off without pumping to release all air pressure.
4. You will find all parts for servicing primary seals and gaskets to be included in **KIT #32**.

**Tank Servicing Steps**

1. Unscrew cap from tank. Remove and replace check valve. (**See Figure 1**)
2. Remove pressure chamber as outlined in *Pressure Chamber Maintenance* section of the manual. Remove and replace o-ring. Lubricate o-ring with petroleum jelly. (**See Figure 2**)
3. Unsnap agitator from piston rod. Remove from tank. (**See Figure 3**)

**Figure 1****Figure 2****Figure 3**

4. Position pump handle to the furthest downward position. Remove pump handle from sprayer. (**See Figure 4**)
5. Disassemble carry handle by removing the (6) screws. (**See Figure 5**)
6. Remove hitch pin and lift pivot clip off of the piston rod. (**See Figure 6**)

**Figure 4****Figure 5****Figure 6**

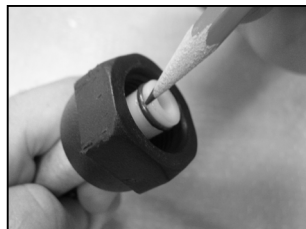
7. Pull upward to slide piston rod out of pump. **(See Figure 7)**
8. While holding onto the pump, use an adjustable wrench to unthread pump nut from pump. Remove nut, hose and barb assembly. **(See Figure 8)**
9. Inspect (2) o-rings on barb assembly. If damaged, replace hose assembly. **(See Figure 9)**



**Figure 7**

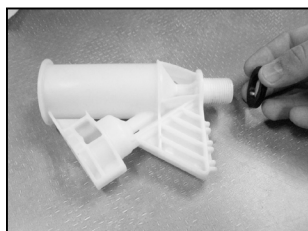


**Figure 8**



**Figure 9**

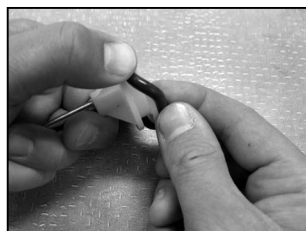
10. Remove pump out of tank. Remove and replace gasket. **(See Figure 10)**
11. Slide piston rod assembly down and out of grommet and remove from tank. **(See Figure 11)**
12. Carefully remove and replace o-ring from piston. Lubricate o-ring with petroleum jelly. **(See Figure 12)**



**Figure 10**



**Figure 11**



**Figure 12**

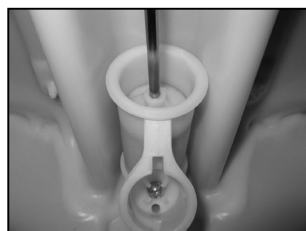
13. Remove grommet from tank using pliers to grasp the head of the grommet while flexing the grommet out of the hole in the tank. Press or tap new grommet into tank. Lubricate hole in grommet with petroleum jelly. **(See Figure 13)**
14. Insert piston rod assembly into tank and through grommet. **(See Figure 14)**
15. Reassemble pump with gasket into tank. **(See Figure 15)** for correct orientation. Tighten pump nut securely with adjustable wrench while holding pump to maintain correct orientation. Push piston assembly into pump.



**Figure 13**



**Figure 14**



**Figure 15**

## SERVICING INSTRUCTIONS CONTINUED

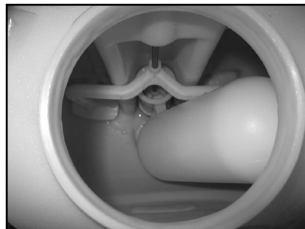
16. Attach pivot clip to piston rod and insert hitch pin. Note orientation of piston rod must match the pivot clip. **(See Figure 16)**
17. Reassemble carry handle onto tank. Tighten all (6) screws. **(See Figure 5)**
18. To reinstall the agitator, line the notch up on the agitator with the swedge on piston rod and snap into place. **(See Figure 17)**
19. Reinstall pressure chamber as outlined in the *Pressure Chamber Maintenance* section. **(See Figure 18)**



**Figure 16**



**Figure 17**



**Figure 18**

20. Replace tank cap, filter **(See Figure 19)** and pump handle **(See Figure 4)**.



**Figure 19**

### **Harness Installation**

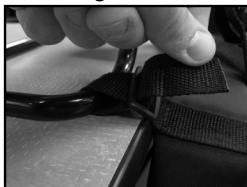
1. For each side, remove the small plastic clips from the two shoulder strap loops and thread each loop through the slots at the top of the carry handle. Replace the clips through the loops and pull strap securing the two shoulder straps in place. **(See Figure 20)**
2. To install lower end of the straps, remove strap from top portion of buckles and place around the foot stand, starting from underneath. **(See Figure 21)**
3. Loop strap through the first section of buckle. **(See Figure 22)**
4. Next loop strap through other section of buckle and tighten **(See Figure 23)**. Adjust the shoulder pads and strap length for a comfortable fit.



**Figure 20**



**Figure 21**



**Figure 22**



**Figure 23**



## TROUBLESHOOTING

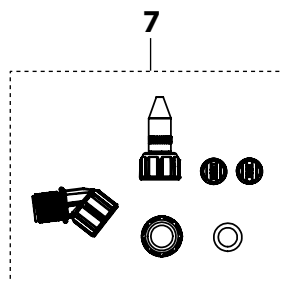
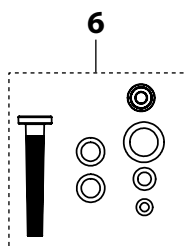
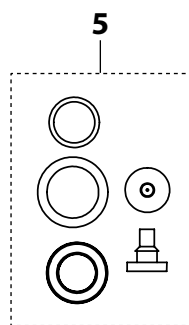
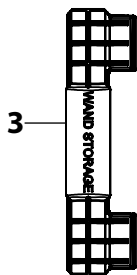
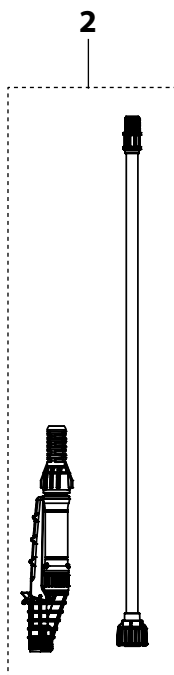
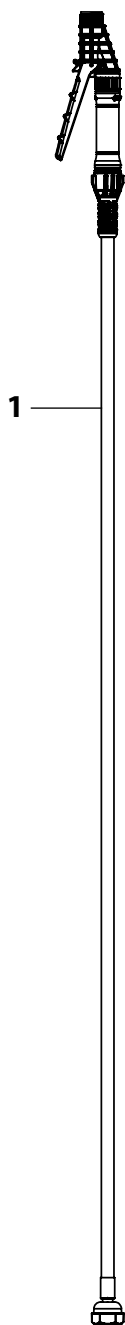
English

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TROUBLE	LOOK FOR	REMEDY
Sprayer starts to spray when pumping or sprayer will not stop spraying when shut-off lever is released.	Shut-off lock is engaged.	Squeeze shut-off lever and disengage the lock. See <i>Pressurizing and Spraying</i> section.
Sprayer will not build pressure.	<ol style="list-style-type: none"> <li>1. Pressure chamber installed into pump.</li> <li>2. Dirty, damaged or worn pump or chamber o-ring (kit #5).</li> <li>3. Dirty poppet in pump.</li> </ol>	<ol style="list-style-type: none"> <li>1. Install pressure chamber as described in <i>Pressure Chamber Maintenance</i> section.</li> <li>2. Clean and lubricate or replace o-rings as described in <i>Servicing</i> section.</li> <li>3. Clean sprayer as described in <i>Cleaning</i> section.</li> </ol>
Sprayer will not spray.	<ol style="list-style-type: none"> <li>1. Sprayer pressurization.</li> <li>2. Shut-off clogged.</li> <li>3. Nozzle clogged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Pressurize sprayer as described in <i>Pressurizing and Spraying</i> section.</li> <li>2. Clean shut-off as described in <i>Shut-off Maintenance</i> section.</li> <li>3. Clean nozzle as described in <i>Nozzle Maintenance</i> section.</li> </ol>
Sprayer leaks from the bottom of the tank.	<ol style="list-style-type: none"> <li>1. Loose pump nut.</li> <li>2. Damaged or worn o-rings or seals (kit #5).</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten pump nut as described in <i>Servicing</i> section.</li> <li>2. Replace o-rings and seals as described in <i>Servicing</i> section.</li> </ol>
Sprayer leaks where piston rod enters top of the tank.	Dirty, damaged, or worn grommet (kit #5).	Clean and lubricate hole in grommet or replace grommet as described in <i>Servicing</i> section.
Hose leaks at tank connection.	Cracked, swollen or faulty hose.	Replace shut-off assembly.
Hose leaks at shut-off.	Cracked, swollen or faulty hose.	Replace shut-off assembly.
Pump handle is difficult to operate.	<ol style="list-style-type: none"> <li>1. Swollen or damaged pump piston o-ring (kit #5).</li> <li>2. Dirty, dry or damaged grommet (kit #5).</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean and lubricate or replace o-ring as described in <i>Servicing</i> section.</li> <li>2. Clean and lubricate hole in grommet or replace grommet as described in <i>Servicing</i> section.</li> </ol>
Nozzle drips when shut-off lever is released.	<ol style="list-style-type: none"> <li>1. Dirt or debris in shut-off valve.</li> <li>2. Damaged o-ring or seal in shut-off (kit #6).</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean shut-off as described in <i>Shut-off Maintenance</i> section.</li> <li>2. Service shut-off seals as described in <i>Maintenance service kit #6</i>.</li> </ol>
Nozzle tip leaks, poor spray pattern, partial spray or complete stoppage.	<ol style="list-style-type: none"> <li>1. Flat seal is missing or damaged.</li> <li>2. Spray extension or nozzle clogged.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace flat seal at extension tip (kit #6 &amp; 7).</li> <li>2. Remove nozzle and clean as described in <i>Nozzle Maintenance</i> section.</li> </ol>

## KITS, PARTS &amp; ACCESSORIES



KEY#	PART#	DESCRIPTION
1	596946201	SHUT-OFF ASSY
2	596947401	25"WAND & SHUT-OFF KIT
	includes	25"WAND ASSY, STAINLESS STEEL SHUT-OFF
3	596947301	VERTICAL WAND STORAGE CLIP
4	596946301	DELUXE HARNESS
5	596946501	BACKPACK SERVICE KIT
	includes	RESERVOIR / CHAMBER O-RING PISTON O-RING PUMP GASKET CHECK VALVE, VITON TANK GROMMET
6	596947501	SHUT-OFF SERVICE KIT
	includes	POPPET SEAL WAND O-RING VALVE BODY O-RING ADJUSTABLE NOZZLE O-RING (2X) FLAT NOZZLE SEAL FILTER
7	596947601	BRASS NOZZLE KIT
	includes	BRASS ADJUSTABLE NOZZLE YELLOW FLAT FAN NOZZLE (LOW VOLUME) RED FLAT FAN NOZZLE (HIGH VOLUME) FLAT NOZZLE SEAL NOZZLE CAP NUT ANGLED NOZZLE ADAPTOR

**SERVICE KITS, PARTS & ACCESSORIES ARE AVAILABLE BY CONTACTING  
YOUR NEAREST AUTHORIZED SERVICE DEALER.**

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