**WARNING:** Some chemicals will damage the pump valves if allowed to soak untreated for a long period of time. Always flush the pump with water after use. Do not allow chemicals to sit in pump for extended times of idleness. Follow chemical manufacturers instructions on disposal of all waste water from the sprayer.

---

**GENERAL INFORMATION**

The purpose of this manual is to assist you in assembling, operating and maintaining your lawn and garden sprayer. Please read it carefully as it furnishes information which will help you achieve years of dependable trouble-free operation.

**WARRANTY / PARTS / SERVICE**

Workhorse products are warranted for one year from the date of purchase against manufacture or workmanship defects for personal or homeowner usage with proof of purchase. Workhorse products are warranted for 90 days for commercial users. Any unauthorized modification of a Workhorse brand sprayer will void warranty.

Your authorized dealer is the best source of replacement parts and service. To obtain prompt, efficient service, always remember to give the following information: 1) Correct part description and part number. 2) Model number and serial number of your sprayer.

Part description and part numbers can be obtained from the illustrated parts list section of this manual.

Whenever you need parts or repair service, contact your distributor / dealer first. For warranty work always take your original sales slip, or other evidence of purchase date, to your distributor / dealer.
— ASSEMBLY INSTRUCTIONS

Tools required:
- 2 — 7/16” End Wrenches
- 1 — 9/16” End Wrench
- 1 — 1/2” End Wrench
- 1 — 3/4” End Wrench
- 1 — Blade Screwdriver
- 1 — Thread Sealant
- 1 — Pliers
- 1 — 9/16” End Wrench
- 2 — 7/16” End Wrenches
- 1 — Blade Screwdriver
- 1 — 1/2” End Wrench
- 1 — 3/4” End Wrench
- 1 — Thread Sealant

— OPERATION

The pumping system draws solution from the tank, through the strainer and to the pump. The pump forces the solution under pressure to the boom nozzles and spray wand.

The pump has a pressure switch which will shut the pump off when it reaches 60 PSI.

Pressure may be regulated by opening or closing the valve located on the top of the tank. See “Valve Operation” illustrated in this manual.

The nozzles on the boom will spray an 80 inch wide swath. Check the nozzle spray pattern by spraying water on a concrete surface.

Regularly inspect the suction supply screen on the inside of the tank. Flush with water to clear any accumulated debris.

— TIP CHARTS

<table>
<thead>
<tr>
<th>Tip No.</th>
<th>Spray Height (in.)</th>
<th>Pressure (PSI)</th>
<th>Capacity (GPM)</th>
<th>Gallons Per Acre - Based on Water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 MPH</td>
<td>2 MPH</td>
<td>3 MPH</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>10.0</td>
<td>0.30</td>
<td>44.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20.0</td>
<td>0.42</td>
<td>63.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30.0</td>
<td>0.52</td>
<td>76.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40.0</td>
<td>0.60</td>
<td>90.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tip No.</th>
<th>Spray Height (in.)</th>
<th>Pressure (PSI)</th>
<th>Capacity (GPM)</th>
<th>Gallons Per 1000 Sq. Ft. - Based on Water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 MPH</td>
<td>2 MPH</td>
<td>3 MPH</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>10.0</td>
<td>0.30</td>
<td>1.01</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20.0</td>
<td>0.42</td>
<td>1.40</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30.0</td>
<td>0.52</td>
<td>1.74</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40.0</td>
<td>0.60</td>
<td>2.06</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tip No.</th>
<th>Spray Height (in.)</th>
<th>Pressure (PSI)</th>
<th>Capacity (GPM)</th>
<th>Gallons Per 100 Sq. Ft. - Based on Water</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 MPH</td>
<td>2 MPH</td>
<td>3 MPH</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>10.0</td>
<td>0.30</td>
<td>0.100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20.0</td>
<td>0.42</td>
<td>0.140</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30.0</td>
<td>0.52</td>
<td>0.174</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40.0</td>
<td>0.60</td>
<td>0.206</td>
</tr>
</tbody>
</table>

Tools required:
- 1 — 1/2” End Wrench
- 1 — 3/4” End Wrench
- 1 — Blade Screwdriver
- 1 — Thread Sealant
- 1 — Pliers
- 1 — 9/16” End Wrench
- 2 — 7/16” End Wrenches

— SPEED CHART

<table>
<thead>
<tr>
<th>Speed in MPH (Miles Per Hour)</th>
<th>Time Required in Seconds to Travel a distance of:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>100 ft.</td>
</tr>
<tr>
<td>2.0</td>
<td>68.0</td>
</tr>
<tr>
<td>3.0</td>
<td>34.0</td>
</tr>
<tr>
<td>4.0</td>
<td>23.0</td>
</tr>
<tr>
<td>5.0</td>
<td>17.0</td>
</tr>
<tr>
<td>6.0</td>
<td>14.0</td>
</tr>
<tr>
<td>7.0</td>
<td>11.0</td>
</tr>
<tr>
<td>8.0</td>
<td>9.7</td>
</tr>
<tr>
<td>9.0</td>
<td>8.5</td>
</tr>
<tr>
<td>10.0</td>
<td>7.6</td>
</tr>
<tr>
<td>11.0</td>
<td>6.8</td>
</tr>
</tbody>
</table>

— CALIBRATION

Chemical labels may show application rates in gallons per acre, gallons per 1000 square feet or gallons per 100 square feet. You will note that the tip chart shows all three of these rating systems.

Once you know how much you are going to spray then determine (from the tip chart) the spraying pressure (PSI), and the spraying speed (MPH).

Conditions of weather and terrain must be considered when setting the sprayer. Do not spray on windy days. Protective clothingmust be worn in some cases. Be sure to read the chemical label carefully.

Determining the proper speed of the tractor can be done by marking off 100, 200 and 300 feet. The speed chart indicates the number of seconds it takes to travel the distances. Set the throttle and with a running start travel the distances. Adjust the throttle until you travel the distances in the number of seconds indicated by the speed chart. Once you have reached the throttle setting needed, mark the throttle location so you can stop and go again (returning to the same speed).

Add water and proper amount of chemical to tank and drive to the starting place for spraying.

When you are ready to spray, turn the boom valve to the “on” position. This will start solution spraying from the tips once the pump is turned on. The pressure will decrease slightly when the boom is spraying.

— AFTER SPRAYING

After use, fill the sprayer part way with water. Start the sprayer and allow clear water to be pumped through the plumbing system and out through the spray nozzles.

Refill the tank about half full with plain water and use a chemical neutralizer such as Nutra-Sol® or equivalent and repeat cleaning instructions. Flush the entire sprayer with the neutralizing agent. Follow the chemical manufacturer’s disposal instructions of all wash or rinsing water.

Remove tips and screens from the boom. Wash tips thoroughly with water or cleaning solution (appropriate for chemical used). Blow out orifice, clean and dry. If orifice remains clogged clean it with a fine bristle (not wire) brush, or with a toothpick. Do not damage the orifice. Water rinse and dry tips before storing.

— WINTER STORAGE

Drain all water and chemical out of sprayer, paying special attention to pump and valves. These items are especially prone to damage from chemicals and freezing weather.

The sprayer should be winterized before storage by pumping a solution of RV antifreeze through the entire plumbing. Proper care and maintenance will prolong the life of the sprayer.

<table>
<thead>
<tr>
<th>Chemicals to cause cancer</th>
<th><a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>This product can expose you to chemicals including lead, which is known to the State of California to cause cancer.</td>
<td></td>
</tr>
</tbody>
</table>
--- TANK ASSEMBLY ---

**PARTS LIST**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>600132</td>
<td>25 Gallon Tank</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>600133</td>
<td>Tank Lid</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>600134</td>
<td>Tank Lid Tether</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>600151</td>
<td>Spray Wand Clip</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>600152</td>
<td>10-24 x 3/8&quot; Screw</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>600298</td>
<td>Drain Cap Assembly</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>600261</td>
<td>Economy Wand and Hose Assembly</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>600156</td>
<td>Deluxe Wand and Hose Assembly</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>600153</td>
<td>Lead Wire Assy. w/ Switch (96&quot;)</td>
</tr>
</tbody>
</table>

WORKHORSE SPRYERS®, a division of Green Leaf, Inc.  9490 N BALDWIN ST  FONTANET, IN 47851  www.workhorsesprayers.com  888-433-6631
Assembly Instructions

1.0-- Assemble the tank and trailer frame as illustrated using hardware shown. Note the orientation of the Frame Member items as their orientation is essential for proper assembly. (The Stop Pad on the Frame Tube should go against the tank.)

To Order Replacement Parts: 1-888-433-6631
2.0 Install Spray Boom Bracket to rear of tank using (2) 5/16-18 x 3/4" Bolts
2.1 Insert Boom Supply Hose Assembly thru Spray Boom Bracket as illustrated
2.2 Snap Spray Boom into Bracket aligning locator holes in boom and bracket
2.3 Install (2) Boom Clamps on end of spray Boom and Tighten Screws
   (screws should be at top of spray boom)
2.4 Install Hose Clamp over tubing and press tubing onto NTL 38 P fittings then
   tighten Hose Clamps
2.5 Install NTL 38 P fittings thru Boom Clamps and tighten N1116 P Nuts as shown
2.6 Insert check valves into NTL 38 P Fittings
2.7 Insert Spray Tips into 8027 P Nuts and screw nuts onto NTL 38 P Fittings.

---

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QTY</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>630111</td>
<td>Spray Boom</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>600110</td>
<td>25 Gal Spray Boom Bracket</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>600113</td>
<td>B 11-34 R</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>600112</td>
<td>NTL38 P Fitting</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>600116</td>
<td>N1116 P Nut</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>600117</td>
<td>Check Valve / Strainer</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>600118</td>
<td>FT Spray Tip</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>600119</td>
<td>8027 P Nut</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>600120</td>
<td>5/8&quot; Hose Clamp</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>600209</td>
<td>Boom Hose Assembly</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>600114</td>
<td>5/16-18 x 3/4&quot; Bolt</td>
</tr>
</tbody>
</table>
The Lever adjusts the system pressure by relieving liquid back to the tank. Adjusting this lever will increase or decrease pressure to both the spray wand and the spray boom.

Install Wand Hose Assembly onto Swivel Barb Assembly, by placing a Hose Clamp over the open end of the hose on the Wand Hose Assembly. Then pressing the open end of the hose onto the Swivel Barb Assembly like shown. Secure in place by tightening the Hose Clamp as shown.

The lever turns the spray boom on and off.

*Pump included depends upon model purchased.
**PowerFLO™ 7800 Series**
12 Volt DC Motor-Driven Diaphragm Pumps

### Specifications —

**Motor:**
- Type: 12 VDC, permanent magnet, totally enclosed, non-ventilated
- Leads: 16 AWG, 12” long
- Temperature Limits: Motor is not equipped with thermal protection. For user safety, optimal performance, and maximum motor life, the motor surface temperature should not exceed 150°F (66°C).

**Pump:**
- Type: 3 chamber positive displacement diaphragm pump, self priming, capable of being run dry, demand or bypass model.
- Certifications: NSF Standard 58
- Pressure: Liquid Temperature: 140°F (60°C) Max.
- Priming Capabilities: 14 feet (4 m)
- Max Pressure: 60 PSI

**Inlet/Outlet Ports:**
- 7802: Quick Attach

**Materials of Construction:**
- Housing: Polypropylene
- Diaphragm: Santoprene
- Valves: Viton
- Fasteners: Stainless steel

**Weight:** 6 lbs (2.7 kg)

### Installation and Operation Precautions —

1. The pump is equipped with a pressure sensing demand switch that controls the maximum operating pressure.
2. In addition, never subject the pump to pressures above 125 PSI (8.5 bars).
3. Do not operate pump in an explosive environment. Arcing from the motor brushes, switch or leads can cause explosions.
4. Do not locate the pump motor near low temperature plastics or combustible material. The surface temperature of the motor may exceed 250°F (120°C).
5. Do not locate pump or drive near water/ground. Do not use with petroleum products.
6. Do not pump gasoline or other flammable liquids. Pump head materials are designed for use with water only.
7. Do not assume fluid compatibility. If the fluid is improperly matched to the pumps’ elastomers, a leak may occur.
8. To prevent electrical shock, disconnect power before initiating any work. In the case of pump failure, the motor housing and/or pump fluid may carry high voltage to components normally at rest. Always consult an electrician. Electrical wiring should only be done by a qualified electrician per local and state electrical codes.

### Troubleshooting — Problem/Causes and Remedies:

#### Pressure Sensing Demand Switch —

The PowerFLO Series 7800 pump is controlled by a built-in pressure sensing demand switch. When a faucet or valve is opened down stream of the pump, line pressure drops thus starting the pump automatically. Conversely, when the valve shuts, the line pressure increases turning the pump off automatically. The pressure switch actuates in response to the pump outlet pressure at a predetermined and preset pressure. The pump label indicates the predetermined ON and OFF pressures. Typically, the OFF pressure is accurately set at the factory and the ON pressure is within an allowable range below that value. In response to the characteristics of the system in which the pump is installed, the flexibility and length of the tubing, the faucet or valves and the duration that they are open; these pressure settings may vary. Therefore, variation in pressure setting is expected with use and over time.

#### Adjusting the Pressure Switch:

Should the pressure switch OFF setting vary with use and time to an unsuitable value, it may be adjusted for optimum performance. Turn the setscrew clockwise to increase the OFF pressure setting and counter clockwise to decrease. The screw should not be adjusted more than one half turn without consulting the factory. Excessive adjustment of the pressure switch could cause low system pressure, rapid cycling ON/OFF operation, and reduced pump and motor life. Damage may occur. The Warranty does not cover improper adjustment of the pressure switch.

#### Servicing —

Every Year: Check system against operating standards.
Every 2-3 Years: We recommend replacing the diaphragm and checking against operating standards.

### Weight:
6 lbs (2.7 kg)

### Fasteners:
- Stainless steel

### Housing:
- Polypropylene

### Diaphragm:
- Santoprene

### Valves:
- Viton

### Materials of Construction:
- Fasteners: Stainless steel

### Weight:
6 lbs (2.7 kg)

### Installation and Operation Precautions —

1. The pump is equipped with a pressure sensing demand switch that controls the maximum operating pressure.
2. In addition, never subject the pump to pressures above 125 PSI (8.5 bars).
3. Do not operate pump in an explosive environment. Arcing from the motor brushes, switch or leads can cause explosions.
4. Do not locate the pump motor near low temperature plastics or combustible material. The surface temperature of the motor may exceed 250°F (120°C).
5. Do not locate pump or drive near water/ground. Do not use with petroleum products.
6. Do not pump gasoline or other flammable liquids. Pump head materials are designed for use with water only.
7. Do not assume fluid compatibility. If the fluid is improperly matched to the pumps’ elastomers, a leak may occur.
8. To prevent electrical shock, disconnect power before initiating any work. In the case of pump failure, the motor housing and/or pump fluid may carry high voltage to components normally at rest. Always consult an electrician. Electrical wiring should only be done by a qualified electrician per local and state electrical codes.

### Troubleshooting — Problem/Causes and Remedies:

#### Pressure Sensing Demand Switch —

The PowerFLO Series 7800 pump is controlled by a built-in pressure sensing demand switch. When a faucet or valve is opened down stream of the pump, line pressure drops thus starting the pump automatically. Conversely, when the valve shuts, the line pressure increases turning the pump off automatically. The pressure switch actuates in response to the pump outlet pressure at a predetermined and preset pressure. The pump label indicates the predetermined ON and OFF pressures. Typically, the OFF pressure is accurately set at the factory and the ON pressure is within an allowable range below that value. In response to the characteristics of the system in which the pump is installed, the flexibility and length of the tubing, the faucet or valves and the duration that they are open; these pressure settings may vary. Therefore, variation in pressure setting is expected with use and over time.

#### Adjusting the Pressure Switch:

Should the pressure switch OFF setting vary with use and time to an unsuitable value, it may be adjusted for optimum performance. Turn the setscrew clockwise to increase the OFF pressure setting and counter clockwise to decrease. The screw should not be adjusted more than one half turn without consulting the factory. Excessive adjustment of the pressure switch could cause low system pressure, rapid cycling ON/OFF operation, and reduced pump and motor life. Damage may occur. The Warranty does not cover improper adjustment of the pressure switch.

#### Servicing —

Every Year: Check system against operating standards.
Every 2-3 Years: We recommend replacing the diaphragm and checking against operating standards.

### Weight:
6 lbs (2.7 kg)

### Fasteners:
- Stainless steel

### Housing:
- Polypropylene

### Diaphragm:
- Santoprene

### Valves:
- Viton

### Materials of Construction:
- Fasteners: Stainless steel

### Weight:
6 lbs (2.7 kg)

### Fasteners:
- Stainless steel

### Housing:
- Polypropylene

### Diaphragm:
- Santoprene

### Valves:
- Viton

### Materials of Construction:
- Fasteners: Stainless steel

### Weight:
6 lbs (2.7 kg)

### Fasteners:
- Stainless steel

### Housing:
- Polypropylene

### Diaphragm:
- Santoprene

### Valves:
- Viton