Model: FSTS-60-12V (5301448-BLK) (5301448-BLU)
(60 Gallon Trailer Sprayer - Boom Ready)

Caution: When fully filled with water, this sprayer will weigh approx. 745 lbs. Consult the owner’s manual for your vehicle to verify that you are within it’s load carrying capacity.

General Information
Thank you for purchasing this product. The purpose of this manual is to assist you in operating and maintaining your lawn & garden trailer sprayer.

Technical Specifications
- 60 Gallon Corrosion-Resistant Polyethylene tank
- 12 Volt Diaphragm Pump, 4.0 GPM, 45 PSI
- Deluxe Pistol Grip Handgun W/25’ of Hose
- 26’ Vertical Spray, 35’ Horizontal
- Pneumatic Tires, 18 x 8.50 - 8
- Maximum Speed - 10 MPH

Assembly Instructions
- The sprayer comes mostly assembled from the factory. Follow the steps on pages 2 to properly assemble the sprayer.
- After assembly is complete and before testing your sprayer, connect the wiring harness to the rear of the pump.
Step 1
Bolt the tongue to the skid, using (8) 3/8" x 1" hex flange lock screws and flange lock nuts.

Step 2
Attach the axle to the trailer frame with (4) bolts & nuts as shown.

Step 3
Slide a wheel onto the hub of the axle and use the wheel nuts to hold the wheel in place. Repeat for other side.

Step 4
Insert the stand weldment in the hitch and retain with hitch pins.

Step 5
Install the pressure gauge. Hand tighten securely. **DO NOT OVER-TIGHTEN**

Step 6
If attaching a boom, attach the boom mounts and feeder hose.

Left Hand (LH) and Right Hand (RH) sides of the sprayer are determined as if you are standing behind the sprayer, looking at it (facing forward)

Mount the (LH) and (RH) boom mounts to the back of the frame (If not already done).

Locate both the (LH) & (RH) boom mounts, (4) 3/8"-16 x 3/4" bolt and (4) 3/8"-16 flanged whiz nuts.

Attach the boom mounts to the frame. Make sure the brackets are parallel with each other before tightening down the bolts.

Finally, attach the feeder hose to the hose barb on the manifold and the fitting on your boom.
IMPORTANT: Remove tank lid and be sure the tank is clean and free of any foreign material. Rinse tank out of any tank residue before filling with water to test.

**Testing the Sprayer**

NOTE:
It is VERY important for you to test your sprayer with plain water before actual spraying is attempted. This will enable you to check the sprayer for leaks without the possibility of losing any expensive chemicals.

Fill the tank about 1/2 full with plain water and drive to the starting place for spraying.

When you are ready to spray, turn the boom valve to the “on” position (Detail A). This will start solution spraying from the tips of the boom. The pressure will decrease slightly when the boom is spraying. Adjust the pressure by turning the “ON/OFF” valve lever on the bypass line valve (Detail B). Make sure your pattern is sufficient. You may down-pressure the system by ‘bypassing’ solution back into the tank. This is achieved by opening the bypass valve. Regulating pressure is done in this manner.

Read the operating instructions and initially begin spraying by closing the ‘Pressure Adjust’ valve and opening the boom line valve (Detail A). This will enable the air in the line to be eliminated (purged) through all the tips, while building pressure. When everything tests all right (no leaks and good pressure), add the desired chemicals to the mixture and water combination and start your spraying operation. Adjust the pressure and spray as you did in the testing procedure. Conditions of weather and terrain must be considered when setting the sprayer. Do not spray on windy days. Protective clothing must be worn in some cases.

Be sure to read the chemical label(s) before application!

**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 handgun or boom nozzles.

Connect the lead wire to a fully charged 12 volt battery. You may use either a stand-alone battery or the battery on your towing vehicle. Connect to the positive (red) terminal first, then connect to the negative (black) terminal. Then connect the end of the lead wire to the end of the pump. When disconnecting, disconnect the end of the pump wire from the lead wire, then disconnect the negative (black) connection and finally the positive (red) connection. The lead wire has an On/Off switch to activate the pump. “-” is on and “O” is off.

Fill the tank part way with water and then add the desired amount of chemical to be sprayed. Finish filling tank to proper level. Turn the pump on and by depressing the “-” side of the rocker switch. The pump is equipped with a pressure switch that is pre-set at the factory to shut the pump off when all discharges are closed.

The pump will turn back on when one of the following actions occurs:

- Handgun lever is squeezed to spray the handgun.
- Boom valve is opened to broadcast spray with the boom.
- Bypass valve is opened to re-circulate solution back into the tank.

When spraying with either the boom or the handgun, pressure may be reduced by slowly opening the bypass valve until desired pressure is achieved. Opening the valve decreases pressure, closing the valve increases pressure. When spraying with the boom, the proper method to set the pressure is to open the boom valve completely and if a lower pressure is desired, then slowly open the bypass valve until that pressure is obtained.

For the safest and most efficient chemical application, you will need to calibrate your sprayer using the tip and speed charts. Once you have determined the proper speed and pressure settings, you will need to consult your chemical label for the amount of chemical to be added to the tank. Read the entire label. Use only according to label directions.

**Calibration**

Chemical labels may show application rates in gallons per acre, gallons per 1000 square feet or gallons per 100 square feet.

Determining the proper speed of the pulling vehicle can be done by marking off 100, 200 & 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 the tank and drive to the starting place for spraying.
Using the Boom Nozzles
Four things must be considered before spraying with the boom.
1. How much chemical must be mixed in the tank.
2. Rate of spray (gallons per acre to be sprayed).
3. What pressure (p.s.i.) will be used.
4. Speed traveled (mph) while spraying.
* Refer to the chemical label to determine your chemical mixture
* See the tip chart to determine the pressure to be used. The chart will also show the speed used when spraying.
* Start the pump and open the valve to the boom nozzles.
* Check the spray pattern. Usually you can see the coverage better on a solid concrete surface, such as a driveway.

Maintenance During/After Spraying
Periodically check the strainer and clean the screen on your intake line. Proper care and maintenance will prolong the life of your sprayer.

After use, drain the tank and store or dispose of chemical properly. Fill the sprayer half way with clean water. Start the pump and allow the water to pump through the entire plumbing system and nozzles. Drain and then refill half full, add the recommended amount of a good quality tank cleaner, such as FIMCO Tank Neutralizer and Cleaner. (If no tank cleaner is available, you may substitute dish soap for this step, about 1-2 oz. per gallon). Turn pump on and circulate through system for 15 minutes and then spray out through boom and handgun nozzles. Refill sprayer half way with clean water and repeat. Follow the chemical manufacturer’s disposal instructions of all wash or rinsing water.
If boom or handgun nozzles need cleaning, remove them from the sprayer and soak in warm soapy water. Clean with a soft bristled brush or toothpick if necessary. Never use a metal object. Even the slightest damage can change the flow rate and spray distribution. Water rinse and dry the tips before storing.

WARNING: Some chemicals will damage the pump valves if allowed to soak untreated for a length of time! ALWAYS flush the pump as instructed after each use. DO NOT allow chemicals to sit in the pump for extended times of idleness. Follow the chemical manufacturer’s instructions on disposal of all waste water from the sprayer.

Winter Storage
Prepare the sprayer for end-of-season storage by running RV antifreeze through the system. This will keep internal parts lubricated, protect against corrosion and keep the unit from freezing. Note: RV antifreeze is non-toxic and biodegradable and generally safer for the environment than automotive antifreeze.

Before storing your sprayer for winter or long term storage, thoroughly clean and drain it as much as possible. Then pour enough pink RV antifreeze into the tank so that when the pump is turned on you can pump the antifreeze throughout the entire plumbing system, including the pressure adjust (bypass) line. Make sure to operate the boom and handgun until you see pink fluid spraying from the nozzles. Leave any remaining antifreeze in the tank. Before your next usage, rinse the antifreeze from the sprayer with clean water.

Pumping the antifreeze through the system will displace the water and help prevent this damage.

Removing from storage: drain the antifreeze. Fill the tank with fresh water and run through the system. Dispose of antifreeze and flush water properly.

Speed Chart

<table>
<thead>
<tr>
<th>Speed in M.P.H. (Miles Per Hour)</th>
<th>100 Ft.</th>
<th>200 Ft.</th>
<th>300 Ft.</th>
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<tbody>
<tr>
<td>1.0</td>
<td>68 sec.</td>
<td>136 sec.</td>
<td>205 sec.</td>
</tr>
<tr>
<td>2.0</td>
<td>34</td>
<td>68</td>
<td>102</td>
</tr>
<tr>
<td>3.0</td>
<td>23</td>
<td>45</td>
<td>68</td>
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<td>4.0</td>
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<td>6.0</td>
<td>11</td>
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<td>7.0</td>
<td>9.7</td>
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<td>29</td>
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<td>8.0</td>
<td>8.5</td>
<td>17</td>
<td>26</td>
</tr>
<tr>
<td>9.0</td>
<td>7.6</td>
<td>15</td>
<td>23</td>
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<tr>
<td>10.0</td>
<td>6.8</td>
<td>14</td>
<td>20</td>
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</table>

NOTE:
Maximum Speed (Empty) - 10 MPH
Maximum Speed (Filled) - 5 MPH
Refer to vehicle’s manual for towing instructions

****IMPORTANT REMINDER****
This sprayer comes with an On/Off valve located on your intake line. You must make sure the valve is in the “open” position before using your sprayer.
DO

- Clean and rinse your pump after each use with Fimco Tank Neutralizer
- Winterize your pump or sprayer by rinsing, draining and running RV Antifreeze through it before storing for the winter.
- Use clean water for your spray mixture
- Store inside a building when not in use.

DON’T

- Use to pump bleach.
- Use to pump petroleum products, such as diesel fuel, gasoline or kerosene
- Leave your pump sit with spray mixture in it for extended periods
- Use dirty or unfiltered water for spraying

Troubleshooting the Pump:

Motor does not run:
- Check for loose wiring connection(s).
- Make sure the ‘ON/OFF’ switch in the lead wire assembly is in the ‘ON’ position. ‘I’ is the ‘ON’ position and ‘O’ is the ‘OFF’ position.
- Check for defective switch assembly. Make sure you are connected to a good 12 volt power source. Make sure any on/off switches are in the ‘on’ position. Disconnect the wires off of switch assembly and short them out. If your pump runs when you do this, your switch assembly will need to be replaced.
- Check the fuse, if applicable.
- Check for low voltage at the power supply.

Pump does not prime:
- Check for air leaks in supply line.
- Check for debris in the valve assembly.
- Check for defective valve assembly.
- Check for clogged strainer/filter.
- Check for cracks in the pump housing.
- Check for empty product supply.

Pulsating flow (surging):
- Check for defective switch assembly.
- Check for leaks in the discharge line.
- Check for restriction in the discharge line.
- Check for debris in nozzle orifice.
- Discharge hose may be too long.
- Check for clogged strainer.

Motor continues to run after discharge is shut off:
- Check for empty product supply.
- Check for open bypass valve. (if equipped)
- Check for low voltage.
- Check for leak in discharge line.
- Check for defective or dirty valve assembly.
- Check for defective switch assembly.

Exploded View/Parts List:

<table>
<thead>
<tr>
<th>Ref. #</th>
<th>Mfg. Part #</th>
<th>Description</th>
<th>Qty.</th>
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<tr>
<td>1</td>
<td>94-230-56</td>
<td>Pressure Switch Assembly</td>
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<tr>
<td>2</td>
<td>94-237-05</td>
<td>Check Valve Assembly</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>94-231-30</td>
<td>Upper Housing</td>
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<td>4</td>
<td>94-232-05</td>
<td>Valve Assembly</td>
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<tr>
<td>5</td>
<td>94-226-17</td>
<td>Drive Assembly</td>
<td>1</td>
</tr>
</tbody>
</table>

Base Plate Grommets (Pkg/4): #5075019

CAUTION

PRESSURE SWITCH OPERATION
Pressure switch is pre-set at the factory. Improper adjustment of the pressure switch, may cause severe overload or premature failure. If the pump is subjected to rapid cycling during normal operation, or infrequent periods, damage may occur.
Exploded View: FSTS-60-12V
(5301448-BLK) (5301448-BLU)

Refer to Parts List Next Page for Part Numbers

Hub Detail
Parts List: FSTS-60-12V (5301448-BLK) (5301448-BLU)

Refer to the Parts List Above for Part Numbers.

1. 5169250  6 Gallon Elliptical Tank (Yellow)  1
2. 5059188  Tank Lid w/Lanyard  1
3. 5010203  Poly Elbow, 1/2" MNPT x 1/2" HB  1
4. 5020228  Hose, 1/2"-1 Brd. x 36"  1
5. 5051114  Hose Clamp (1/2")  4
6. 5281364  SHURflo 4.0 Pump Assembly  1
6.1 5280362  SHURflo Plumbing Assembly for 1/2" MSPT Pump  1
6.1.1 5067121  Poly Hose Fitting, 3/4" MGHT 1/2" HB  1
6.1.2 5143419  Swivel Shut-Off  1
6.1.3 5116242  Strainer, 1" Filter Washer  1
6.1.4 5005287  Poly Swivel Adapter Spud, 1/2" NPT  1
6.1.5 5006209  Poly Knurled Swivel Nut, 3/4" FGHT  1
6.1.6 5010236  Poly Elbow, 1/2" FNPT x 1/2" FNPT  1
6.2 5151066  SHURflo Pump: 12V, 4 GPM, 45 PSI, 1/2" MSPT  1
6.3 5117166  #10-24 x 1 1/4" Phillips Truss Head Mach. Screw  3
6.4 5005456  3/4" Port to 1/2" Female NPT Adapter  1
7 5005457  Port Adapter Clip  1
8 5302350  Quick Connect Manifold Assembly  1
8.1 5302347  Quick Connect Manifold (Body)  1
8.1.1 5072514  O-Ring - Pump Port Connection  1
8.2 5143430  Quick Connect Manifold - 3  3
8.3 5143431  QC Manifold - 3/8" Hose Straight Barb  2
8.4 5143432  QC Manifold - 1/2" Hose Straight Barb  1
8.5 5143429  Quick Connect Quarter Turn Cap  3
9 5037943  Manifold Support Brace  1
10 5117166  #10-24 x 1 1/4" Phillips Truss Head Mach. Screw  1
11 5167007  Gauge, Dry, 0-100 PSI  1
12 5006186  #10-24 Hex Flange Whiz Nut, ZP  5
13 5051144  Hose Clamp (3/8")  2
14 5020538  Hose, 3/8"-1 Brd. x 43"  1
15 5010202  Poly Elbow, 1/2" MNPT x 3/8" HB  1
16 5020167  Hose, 1/2"-1 Brd. x 90°  1
17 5034101  H.H.C.S., 3/8"-16 x 1 3/4"  4
18 5038698  Plastic Tank Hold-Down Leg Clip  4
19 5006259  3/8"-16nc Hex Flanged Whiz Nut Gr. 5  8
20 5278083  60 Gallon Skid Weldment (Specify Black or Blue)  1
21 5274957  Tongue Weldment (60 Gallon Skid)  1
22 5272092  Stand Weldment  1
23 5101065  #211 Hitch Pin Clip (Zinc Plated)  2
24 5117307  3/8"-16 x 1" Whiz (Flange) Lockscrew  12
25 5274955  Axle & Hub Assembly  1
25.1 5272465  Hub Assembly, 4-Bolt  2
25.1.1 5046327  Grease Cap  1
25.1.2 5085018  Hub Assembly (4-Stud)  1
25.1.3 5031139  Cone Bearing  2
25.1.4 5072471  Grease Seal  1
25.2 5006300  Castle Nut, 1"  2
25.3 5101081  Cotter Pin, 5/32" x 2-1/4"  2
25.4 5006301  1/2"-20 Hex Cone Wheel Nut  4
25.5 5274954  Axle Weldment  1
26 5006259  3/8"-16 Hex Whiz (Flange) Locknut  12
27 5272464  Wheel, 18 x 8.5 - 8 - 4-Bolt  2
28 5051122  5/8" Black Nylon Loom Cable Clamp  1
29 5117234  #10-24 x 1/2" Phillips Truss Head Mach. Screw  3
30 5038831  Boom Mount Bracket (LH)  1
31 5038835  Boom Mount Bracket (RH)  1
32 5034660  H.H.C.S. Flanged 3/8"-16nc x 3/4"  4
33 5205027  Hose, 3/8"-1 Brd. x 25 Ft.  1
34 5273959  Deluxe Pistol-Grip Handgun w/X-26 Tip  1
35 5038775  Handgun Bracket  1
36 5075014  Rubber Grommet (Black)  2
37 5277040  Lead Wire Assembly (14 ga, w/Switch), 120"  1
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WHAT THIS LIMITED WARRANTY COVERS AND FOR HOW LONG. Ag Spray Equipment warrants that any new Equipment will be free from defects in material and workmanship for a period of one (1) year (homeowner), 90 days (commercial user), after delivery of the Equipment to you (the “Warranty Period”). The Warranty Period is not extended if Ag Spray Equipment repairs or replaces the Equipment.

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