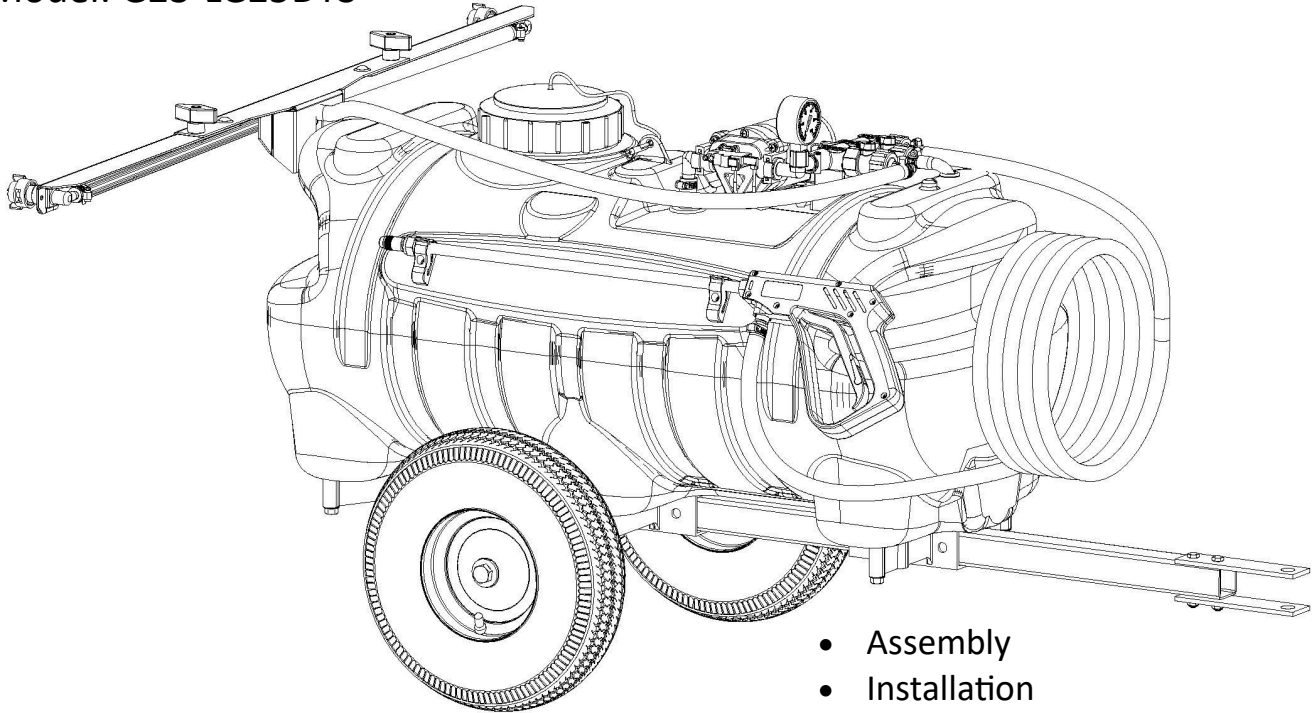


OWNER'S MANUAL

25-Gallon Deluxe Trailer Sprayer w/2-Nozzle Boom

Model: G23-LG25DTS



- Assembly
- Installation
- Operation
- Repair Parts

**BEFORE RETURNING THIS PRODUCT
FOR ANY REASON, PLEASE CALL**

MONDAY-FRIDAY, 8:00 AM to 5:00 PM CST

1-888-433-6631



WARNING: Cancer and Reproductive Harm.
www.P65Warnings.ca.gov



NOTE: Maximum Speed - 5 MPH
Refer to vehicle's manual for towing instructions.



WARNING: To reduce the risk of injury, the user must read and understand the operator's manual before using this product.



WORKHORSE
S P R A Y E R S

www.workhorsesprayers.com

Toll Free Phone: 888-433-6631
[G23-700107

(05/25)]

Table of Contents

Warnings	2	Pump Information & Parts List.....	10
Technical Specifications.....	3	Troubleshooting/FAQs	11
Safety.....	3	Intended Uses	12
Sprayer Contents	4	Sprayer Parts List.....	12
Sprayer Assembly	5 - 6	Sprayer Exploded View	13
Testing/Operation	7	Harness Exploded View/Parts List.....	14
Calibration	8	Approximate Dimensions.....	14
Maintenance, Tank Care and Winter Storage	9	Warranty	16

Thank you for purchasing this product. The purpose of this manual is to assist in operating and maintaining this trailer sprayer.

~~~~~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.

~~~~~IMPORTANT~~~~~

After assembly and connecting the pump to a 12V source, it is VERY important to test the 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.

NOTE: Make sure all hose clamps are tight before testing or spraying for the first time.

Testing the system for leaks with water:

1. Fill the tank part way with water.
2. Turn on the pump and check all fittings.
3. If a leak is detected, fix the leak and re-test.

~~~~~WARNING~~~~~



Read and Understand the Owner's Manual before using this sprayer. Test and use in accordance to instructions.

Read and Follow chemical label instructions and wear protective gear when filling, using, cleaning and servicing the sprayer.

Exercise Caution in vehicle handling when towing/hauling a filled sprayer to avoid loss of control or overturning.

Keep Sprayer and Spray materials away from other people, children and pets.

Do Not Turn on Power to the sprayer, until ready to spray in order to avoid unintentional spray release.

Ensure that Spray Nozzles are oriented correctly, spraying straight down before starting sprayer.

Do Not Spray when wind exceeds 4 MPH in order to minimize spray drift.

Do Not Use on steep slopes. A full sprayer could cause loss of control or overturn sprayer and vehicle.

Always operate up and down a slope, never across the face of a slope.

Keep all movement on slopes slow and gradual. Do not make sudden changes in speed, directions or turning. Do not start or stop suddenly when going uphill or downhill.

Stop on level ground, set the parking brake and shut off engine before leaving the operator's position for any reason.

Keep all parts in good condition and properly installed. Fix damaged or worn parts immediately.

Caution should be taken when towing and/or using any sprayer. This sprayer combined with the weight distribution, turning radius and speed of vehicle can result in damage to vehicle and/or sprayer or severe injury or death, if not used properly.

Improper use of this sprayer or handling of chemicals could result in serious injury or illness, or could cause damage to the environment.

**BEFORE RETURNING THIS PRODUCT
FOR ANY REASON, PLEASE CALL**

1-888-433-6631

MONDAY-FRIDAY, 8:00 AM TO 5:00 PM CST

If you should have a question or experience a problem with your Workhorse Sprayers Product: Visit our website @ www.workhorsesprayers.com or call the Toll free number above. Our technical support representatives will be happy to help you.

In most cases a customer service rep. can resolve the problem over the phone.

To obtain prompt, efficient service, always remember to give the following information....

- Correct Part Description and/or part number
- Model number and Serial Number

Part descriptions and numbers can be obtained from the illustrated parts list section(s) of this manual.

**Retain a copy of your receipt for your unit,
as it will be required to validate any
warranty service.**

**Warranted against manufacturer or workmanship defects
from date of purchase with copy of receipt:**

**Homeowner Usage:
One Year.**

**Commercial Usage:
90 Days.**

Record your purchase information and attach a copy of your receipt to this manual.

Date of Purchase: _____

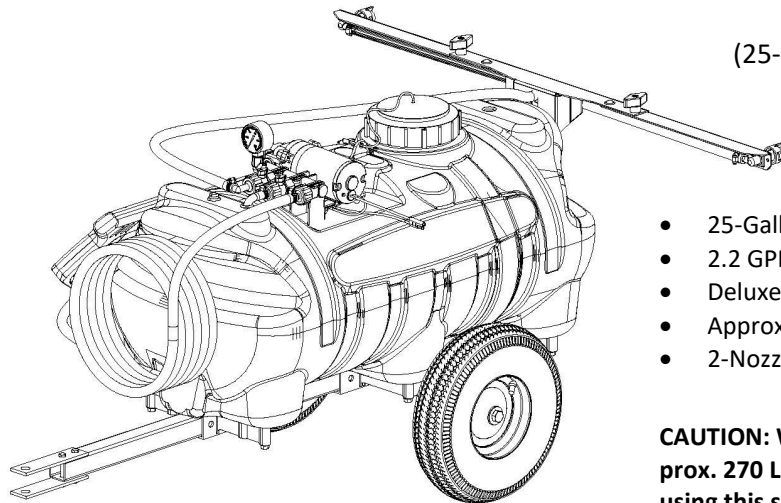
Purchased From: _____

Model: **G23-LG25DTS** _____

Technical Specifications

Model: G23-LG25DTS

(25-Gallon Deluxe Trailer Sprayer w/2-Nozzle Boom)



Technical Specifications

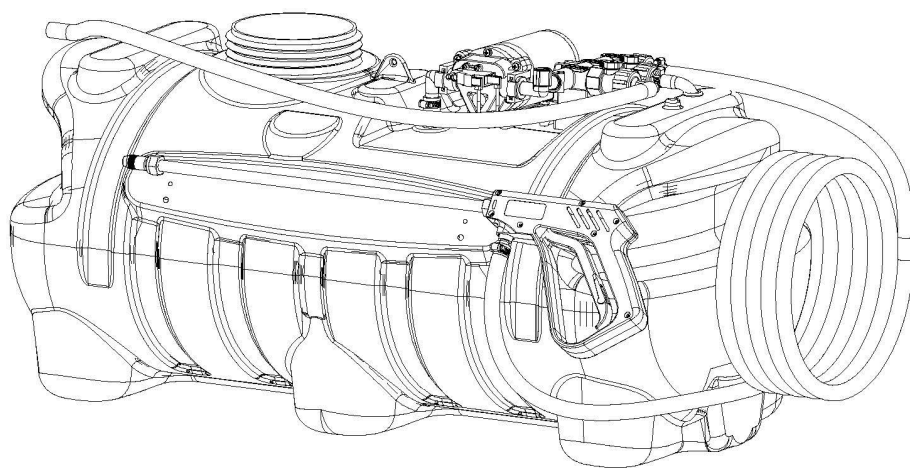
- 25-Gallon Corrosion-Resistant Polyethylene Tank
- 2.2 GPM, 12V, 60 PSI Pump
- Deluxe Pistol Grip Spray Wand w/15 Ft. Hose (3/8" I.D.)
- Approx. 15 Ft. Vertical throw, 30 Ft. Horizontal Throw
- 2-Nozzle Boom (80" Spray Coverage)

CAUTION: When fully filled with water, this sprayer will weigh approx. 270 Lbs. Always check the vehicle load rating before using this sprayer. Do not exceed the recommended rating.

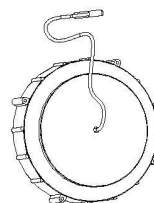
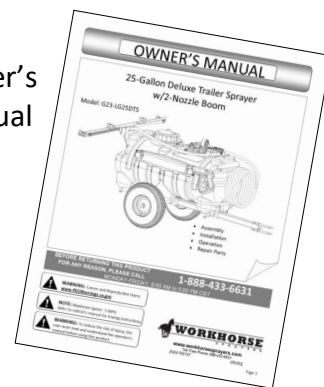
Safety

- Use for intended purposes only.
- Wear protective clothing, eye protection and chemical resistant gloves when filling, using or cleaning this sprayer.
- Do not allow adults to operate without proper instruction or without having read the owner's manual.
- Always be aware of your surroundings when using. Do not let anyone near while operating any sprayer.
- Slow down before turning and be careful when backing up to avoid any damage to sprayer or your equipment.
- Clear the spray area of people and pets. Restrict access for a period recommended on chemical label.
- Clean up spills immediately per instructions on chemical label.
- Turn off sprayer and relieve any pressure before leaving sprayer unattended.
- Exercise special caution in handling and DO NOT exceed 10 MPH, 5 MPH is recommended at most. Sprayer is less stable and will perform differently with a filled sprayer. Exercise extreme caution on sloped or rough surfaces.

Sprayer Contents

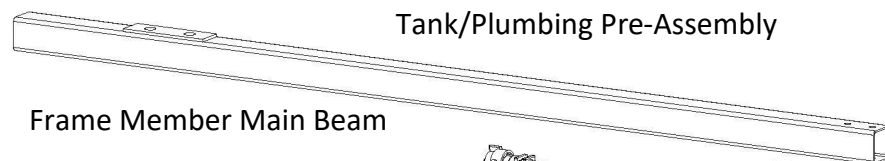
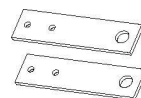


Owner's
Manual



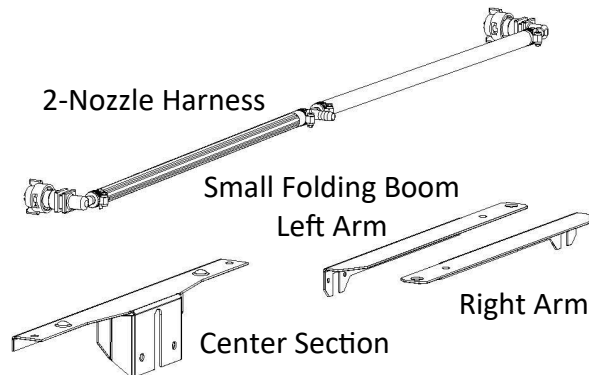
Tank Lid
& Lanyard

Hitch Bracket



Tank/Plumbing Pre-Assembly

Frame Member Main Beam

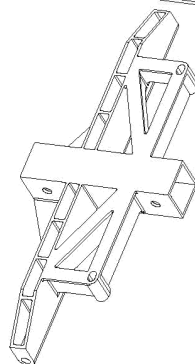


2-Nozzle Harness

Small Folding Boom
Left Arm

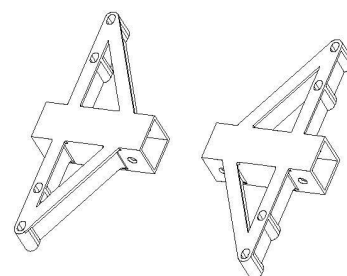
Right Arm

Center Section

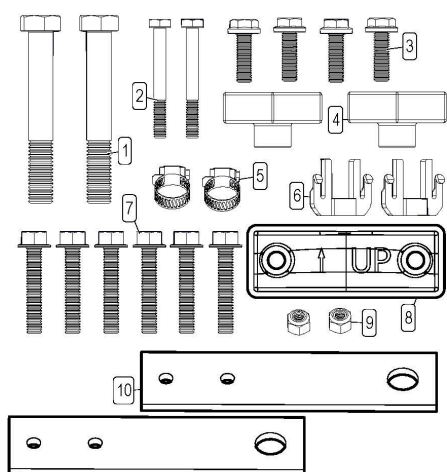
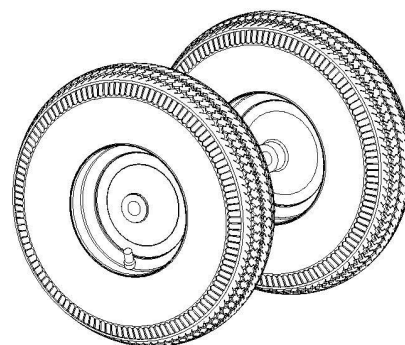


Frame Member
Axle Thread

Frame Member
Front/Back

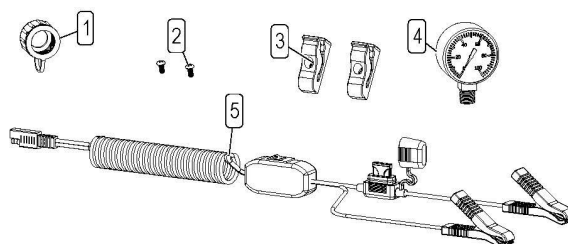


Tire/Wheel (2)



Part Bag #5283302

Ref. #	Part #	Description	Qty
1	5034022	1/2-13 x 3.50 Hex Bolt	2
2	5117274	1/4-20 x 2.25 Hex Bolt	2
3	5117300	5/16-18 x 1.00 Fing Hex Bolt	4
4	G23-630029	Wing Nut, 5/16"-18	2
5	5051144	Hose Clamp (3/8")	2
6	G23-640510	Nozzle Clip	2
7	5034639	5/16-18 x 1.75 Fing Hex Bolt (Full Thread)	6
8	G23-640509	Tank Adapter	1
9	5006391	1/4-20 Nylock Hex Nut	2
10	G23-630103	Hitch Bracket	2



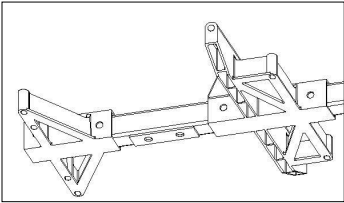
Part Bag #G23-700178

Ref. #	Part #	Description	Qty
1	G23-600298	Drain Cap Assembly 3/4 In	1
2	5117293	#10-24 x 0.375 PH Round Head Screw	2
3	5053112	Deluxe Wand Clip	2
4	G23-600129	Pressure Gauge, 2" Dia., 100 PSI	1
5	5278114	Lead Wire w/15 Amp Fuse (96" Long)	1
5.1	5157238	15 Amp Regular Blade Fuse	1

Assembly Procedure

This sprayer is partially assembled at the factory.

- Follow the steps on pages 5 & 6 to properly assemble the sprayer.
- Make sure the contents of the sprayers carton match the items shown on page 4 of the manual.

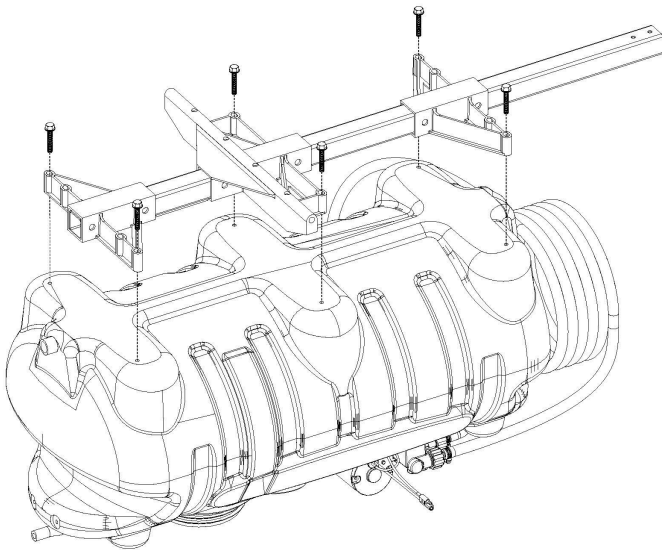


Step 1:

Slide the Axle Thread Frame Member on to the Main Beam Frame Member, from the front until it butts up against the wedge, as shown in the inset.

Slide the Front/Back Frame Member on to the Main Beam Frame Member, from the front of the Frame Member Main Beam. Then slide the other Front/Back Frame Member from the rear until it butts up against the wedge, as shown in the inset.

Now start the sprayer assembly procedure by turning the tank upside on a stable, flat surface.

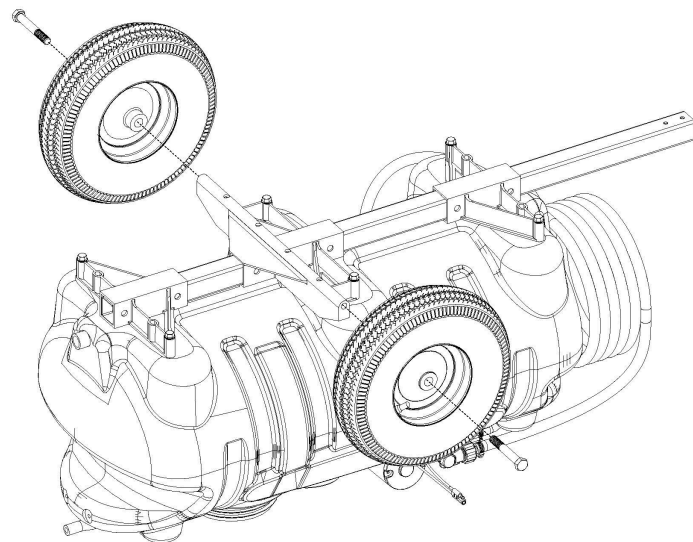


Step 2:

Mount the completed frame from Step 1 to the bottom of the tank using (6) full thread hex bolts. Do not over-tighten bolts.



NOTE: Maximum Speed - 5 MPH
Refer to vehicle's manual for towing instructions.



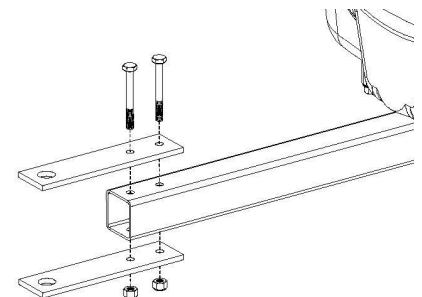
Step 3:

Mount the wheel on to the Axle Thread Frame Member using a hex bolt.

Repeat for other side.

Make sure the valve stems of the wheels are facing outward.

Now you can turn the unit over to finish assembly.



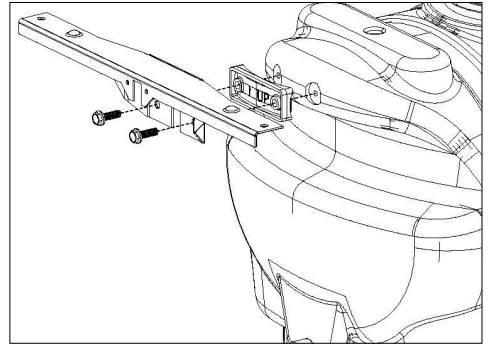
Step 4:

Attach the hitch plates on to the front of the Main Beam Frame Member. Place on top and bottom of the main beam and bolt together, as shown. Tighten the bolts and nuts securely.

Assembly Procedure

Step 5:

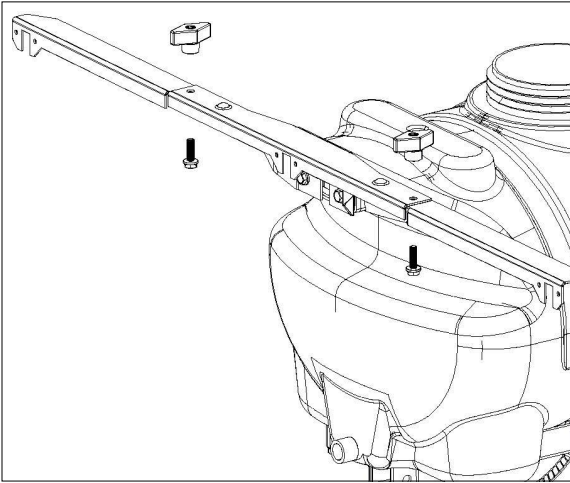
Mount the Small Folding Boom, Center Section, to the tank, using (2) Flng Hex Bolts, as shown. Do not over-tighten bolts.



Step 6:

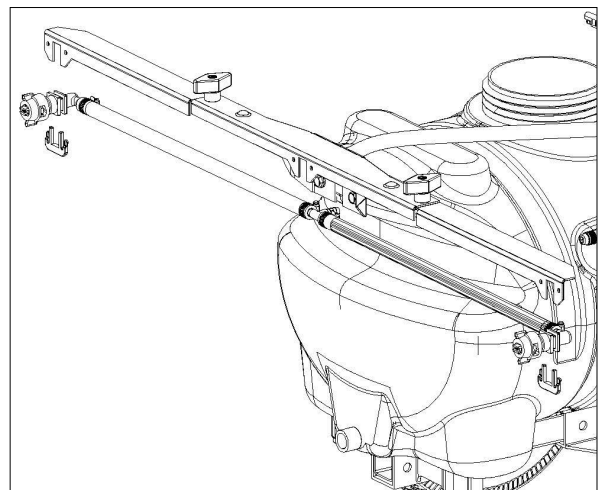
Attach the Small Folding Boom, Left Arm to the Center Section, using (1) Flng Hex Bolts and (1) Wing Nuts, as shown.

Repeat for the Small Folding Boom, Right Arm.



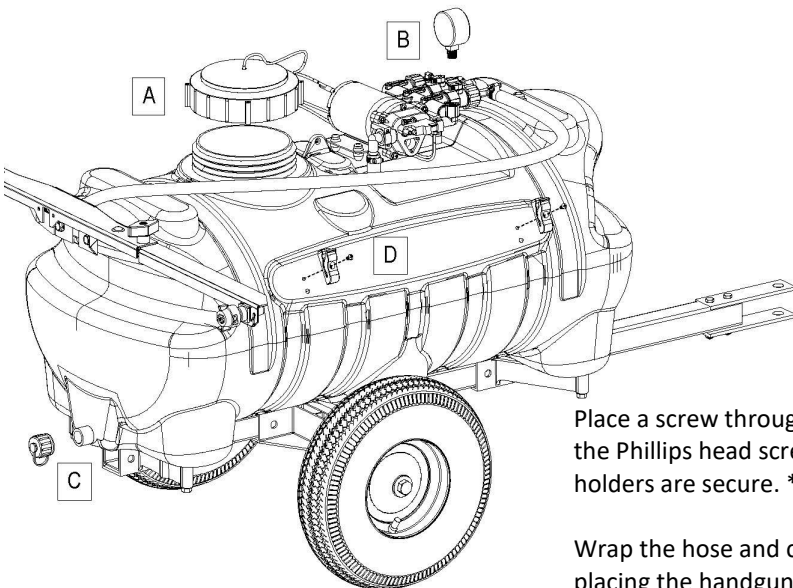
Step 7:

Slide the Boom Feeder Hose through the opening on the Center Section. Slip a hose clamp on to the end of the feeder hose and with a twisting motion connect it to the barb in the center of the 2-Nozzle Harness. Attach the 2-nozzle harness to the folding boom arms and secure with the nozzle clips. Now attach the other end of the feeder hose to the manifold, by slipping a hose clamp on to the end of the hose and with a twisting motion attach to the elbow barb on the manifold.



Step 8:

- A) Thread the lid on to the tank.
- B) Thread the pressure gauge into the gauge port on the top of the manifold.
- C) Thread the drain plug caps on to the tank.
- D) A Phillips head screwdriver is required for this step: Locate the (2) #10-24 x 3/8" Screws and the (2) Tank Clips from the parts bag.



Place a screw through the holes in the hose clip and bring it up to the tank. Use the Phillips head screwdriver to secure the holders in place. Tighten so the holders are secure. ****Do Not Over-Tighten****

Wrap the hose and clip in the handgun. Do not use excessive force when placing the handgun into the clips, as this could cause breakage.

- Make sure all hose clamps are tight before testing or spraying for the first time.
- One requirement will be for you to hook up your battery leads to a fully charged 12 Volt battery.

**** The Sprayer is now ready to TEST w/plain water before actual use ****

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 to test this 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 Press Adj. 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 press adj. valve. Regulating pressure is also 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.

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.

Fill the tank part way with water and then add the desired amount of chemical to be sprayed. Finish filling tank to proper level.

Only fill the tank with what you’re going to spray in a day, never leave chemicals sit in tank.

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. Turn the pump on 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.

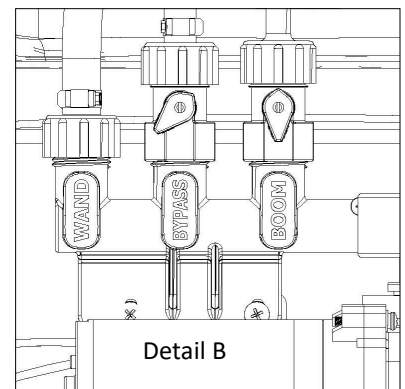
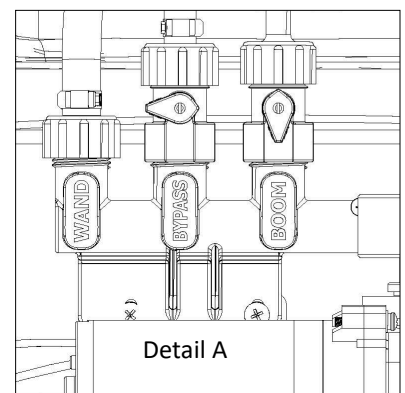
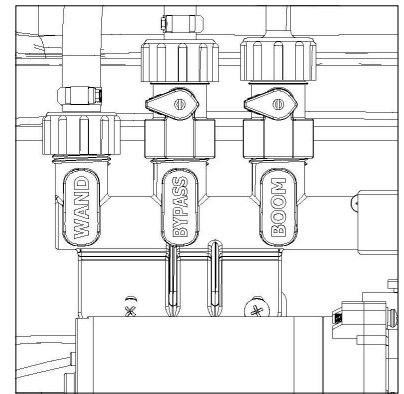
The pump will turn back on when one of the following actions occurs:

- ◆ 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. Adjust the pressure and spray as you did in the testing procedure.

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.

Manifold Valves CLOSED



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 3 of these rating systems. Once you know how much you are going to spray, then determine the spraying pressure, and the spraying speed (MPH).

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.

- Speed Chart -			
Speed in MPH	Time Required in Seconds to Travel a distance of:		
	100 ft.	200 ft.	300 ft.
1.0	68.0	136.0	205.0
2.0	34.0	68.0	102.0
3.0	23.0	45.0	68.0
4.0	17.0	34.0	51.0
5.0	14.0	27.0	41.0
6.0	11.0	23.0	34.0
7.0	9.7	19.0	29.0

Rate Chart for 80/110-02 Spray Tip									
	Pressure (PSI)	Capacity (GPM)	1 MPH	2 MPH	3 MPH	4 MPH	5 MPH	7.5 MPH	10 MPH
Gallons Per Acre Base on Water	20	0.14	41.8	20.9	14.0	10.5	8.4	5.6	4.2
	30	0.17	51.2	25.6	17.2	12.9	10.3	6.9	5.1
	40	0.20	59.2	29.6	19.8	14.9	11.9	7.9	5.9
	50	0.23	66.4	33.2	22.2	16.6	13.3	8.8	6.6
Gallons Per 1000 Sq. Ft. Base on Water	20	0.14	.96	.48	.32	.24	.19	.13	.10
	30	0.17	1.18	.59	.39	.30	.24	.16	.12
	40	0.20	1.36	.68	.45	.34	.27	.18	.14
	50	0.23	1.52	.76	.51	.38	.31	.20	.15
Gallons Per 100 Sq. Ft. Base on Water	20	0.14	.096	.048	.032	.024	.019	.012	.009
	30	0.17	.117	.059	.039	.029	.024	.015	.011
	40	0.20	.135	.066	.045	.034	.027	.018	.013
	50	0.23	.152	.076	.050	.038	.030	.020	.015

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 (psi) will be used.
 4. Speed traveled (mph) while spraying.
- * Refer to the chemical label to determine chemical mixture
 - * Tip chart will 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.

The tips supplied as standard with the sprayer can be used for a wide variety of spraying applications. The speed and pressure charts shown indicate the rates can be changed considerably by changing speed and pressure.

When you are ready to spray, mix chemicals as follows. Add the proper amount of water to the tank. Run the sprayer while adding chemical to the water.

Only fill the tank with what you're going to spray in a day, never leave chemicals sit in tank.

Do NOT spray through the boom at this time. This will allow the solution to return ('bypass') to the tank. The movement of solution through the bypass will aid in mixing the water and chemicals. Once mixed, you should now be ready to spray.

When ready to spray, turn boom control valve to the "ON" position. Once the pump is turned on, the unit will begin spraying. The system pressure will decrease slightly when the solution is spraying from the nozzles. This is normal, the pressure will return as before when the control valve is turned to the "OFF" position.

Maintenance During/After Spraying

Periodically check the strainer and clean the screen on your intake line. If sprayer becomes clogged during use, discontinue use immediately. DO NOT attempt to service while chemicals are in the sprayer and power is connected. 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. (If no tank cleaner is available, you may substitute dish soap for this step, about 1-2 oz. per gallon). But a neutralizer/cleaner should be used to thoroughly clean the system. 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.

Tank Care & Maintenance

Warning: Do not use the tank as a container for fuel oils, kerosene, gasoline or any other petroleum distillate product. All poly olefins are softened and permeated by such products. In an enclosed area the vaporization of these materials from the outside surface of the tank could create a dangerous condition.

The tank should not be used as a pressure vessel nor used with chemicals or solutions having a weight of more than 12 pounds per gallon.

Store the tank in a dry dark place when not in use. Storage out of sunlight will prolong the life of the tank.

Do not drop, strike or kick the tank, especially at low temperatures. Tanks become brittle and are subject to cracking at temperatures below 20° Fahrenheit.

Always flush the tank with water and a neutralizing agent at the end of each use, to prevent contamination of solutions.

Winter Storage

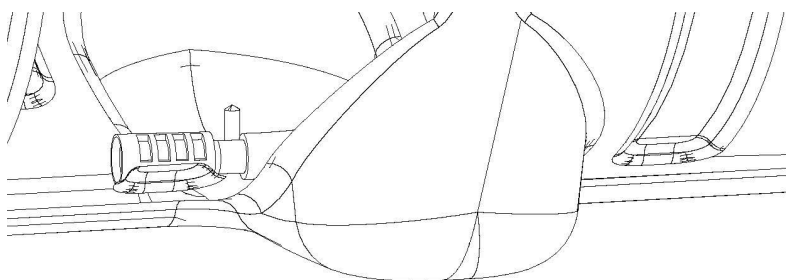
Drain all water out of your sprayer, paying special attention to the pump, handgun and valve(s). These items are especially prone to damage from chemicals and freezing weather.

The sprayer should be winterized before storage by pumping a solution of automotive antifreeze (containing a rust inhibitor) through the entire plumbing system. This antifreeze solution should remain in the plumbing system during the winter months.

When spring time comes and you are preparing the sprayer for the spray season, rinse the entire plumbing system out, clearing the lines of the antifreeze solution.

Proper care and maintenance will prolong the life of your sprayer.

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



'Cut' View of a
'Typical' Tank
(looking inside)

IMPORTANT:

Occasionally check the strainer screen to ensure it is clean and clear of any debris. Strainer is located on the end of the intake hose, inside of the tank. Use protective gear when removing hose from tank and cleaning the strainer.

The suction line of your sprayer should contain an intake hose with a filter screen that lies on the bottom of the tank surface.

- ◆ Remove the screen and clean as necessary.

3300 Series: 2.2 GPM

Pump Information:

Type - 3 chamber diaphragm pump, self priming, capable of being run dry.

Pressure Control - Demand.

Liquid Temperature - 140°F (60°C) Max.

Priming Capabilities - 8 feet (2.4 m).

Max Pressure - 60 PSI.

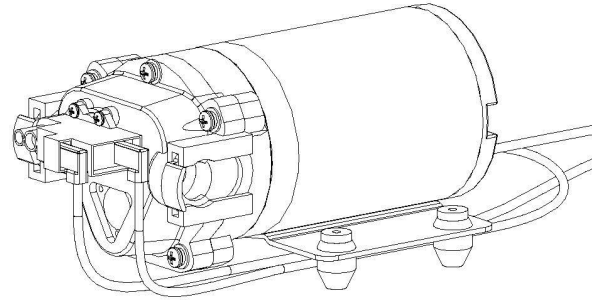
Inlet/Outlet Ports - 3/4" Quick Attach.

Motor Information:

Leads - 14 AWG, 7" long w/2-pin.

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 180°F (82°C).

REMCO



Installation & Operation Precautions

- Pump is equipped with a pressure sensing demand switch that controls the maximum operating pressure.
- Never subject the pump to pressures above factory set/max pressure rating.
- As long as there is inlet water pressure, the pump will not stop forward flow of water, even if the motor is turned off. Be sure the system has positive means of shutting off water supply.
- Do not operate pump in an explosive environment. Arcing from the motor brushes, switch or excessive heat from an improperly cycled motor may cause an explosion.
- Do not locate the pump motor near low temperature plastics or combustible material. The surface temperature of the motor may exceed 180°F (82°C).
- Do not pump gasoline or other flammable liquids. Pump head materials are designed for use with water only. Do not use with petroleum products.
- Do not assume fluid compatibility. If the fluid is improperly matched to the pumps' elastomers, a leak may occur.
- 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 considered safe. Therefore, always consider electrical shock hazard when working with and handling electrical equipment. If uncertain, consult an electrician. Electrical wiring should only be done by a qualified electrician per local and state electrical codes.

Servicing -

- Every Year: Check system against operating standards. Flush with clean water and store in warm dry place.
- Every 2-3 Years: We recommend replacing the valves and checking against operating standards.

Recommendations -

Electrical:

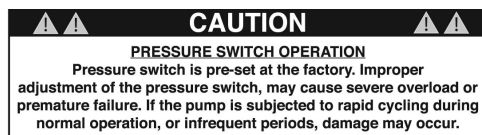
- Designed for intermittent duty. Make sure the "OFF" periods are sufficient.
- Be sure power supply used is adequate for the application.
- Pump and motor specifications are based on an alternator charged battery (13.6 VDC).
- Use sufficient battery supply power. UTV and lawn tractor batteries may affect pump performance due to low voltage and amp ratings.
- **Rapid On/Off cycling must be limited to no more than 6 times per minute, even if the pump is operating in the Continuous Duty zone. Cycling could cause the motor to heat beyond the recommended maximum temperature and reduce the operational life of the pump and pressure-sensing switch.**

3300 Series (3/4" Quick Attach) 2.2 GPM Pump

	Mfg. Number	Fimco Part #
Replacement Pump	3313-1E1-82B	7V70043
Valve Housing Assembly	VHA7863-7F77	5283101
Pressure Switch	3300-PSW	5157299
Slide Clips	51-251	5053120
Pump Feet	10-024	5029248



- Clean and rinse your pump after each use with a Tank Neutralizer/Cleaner.
- 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.



- Use to pump bleach.
- Use to pump petroleum products such as diesel fuel, gasoline or kerosene.
- Use to pump chemicals w/petroleum distillates or surfactants.
- Use to store flammable or combustible liquids.
- Leave your pump sit with spray mixture in it for extended periods.
- Use dirty or unfiltered water for spraying.

Before Troubleshooting or Attempting to Service the Pump:

- ◆ **Review Troubleshooting Chart:** Do Not attempt to repair until steps below are followed.
- ◆ **Personal Protective Gear:** Wear protective gear when servicing pump.
- ◆ **Disconnect Power:** Disconnect the power to the pump and relieve the pressure from the system.
- ◆ **Empty and Flush** the pump system with water, never attempt to service the pump until it has been emptied and flushed.
- ◆ **Perform Repairs:** Follow directions provided in the troubleshooting section to repair the pump.
- ◆ **Test:** Always test the pump for leaks with plain water after any repairs before using.

Troubleshooting			
Pump will not run:	Check for loose wiring	Pump surges:	Low flow may cause pump to surge
	Make sure the ON/OFF switch is on		Spray Wand is adjusted to small or fine of a spray pattern
	Check the fuse		Check for defective pressure switch
	Check for defective pressure switch		Check for leaks in the discharge line
	Check to see if connected to good 12 Volt Power Source		Check for debris in nozzle orifice
	Check for Low Voltage		Discharge hose may be too long
Pump Does Not Prime (No Discharge w/Motor Running)	Check for clogged strainer/filter	Pump continues to run:	Check for clogged strainer/filter
	Check for kinked inlet/outlet hoses		Check for worn or dirty check valve
	Check for empty product supply		Slightly open bypass (if applicable) to overcome Pressure switch may need to be adjusted 1/4 turn at a time clockwise until surging stops
	Check for defective check valve		Check for worn or dirty check valve
	Check for debris in the check valve assembly		Check for empty product supply
	Check for cracks in the pump housing		Check for Low Voltage
Low Pressure/ Low Flow:	Check for air leaks in supply line	Fuse blows:	Check for leaks in the discharge line
	Check for a clogged strainer		Check for defective pressure switch
	Check for proper voltage Try another 12-Volt battery		System has leaks
	Check for leaks in the discharge line		Air trapped in outlet line or pump head
	Check for restrictions in the discharge line		Excessive voltage
	Check for debris in intake		Improper adjustment of pressure switch
	Check for debris in nozzle orifice		Damaged or defective wiring harness
	Check for worn or dirty check valve		Defective pressure switch

Pump FAQs

Sprayer and Pump FAQs:

◆ Why does the pump not run all the time?

This is an on-demand pump and only runs when a discharge is open (spray gun, bypass, boom (if applicable) or a leak in system.

◆ Why does the pump surge while using the spray gun?

Low flow/high pressure may cause the pump to surge (or cycle). Typically the spray wand is adjusted at too fine of a mist, to overcome, adjust the nozzle for a higher flow.

◆ How do I adjust the pressure?

Pressure can only be adjusted by opening the pressure adjust (bypass) valve to allow some of your water or solution to return to the tank (if equipped).

◆ Pump quit and will not run, what do I need to do?

Squeeze trigger on spray gun to ensure that the system isn't just pressurized up with discharges closed.

Check electrical connections, ensure switch is on. Check fuses. Check for proper voltage. Check pressure switch.

◆ Low flow or no flow at all, what do I need to check for?

Check for a clogged or kinked intake hose and/or clogged intake strainer. Check for proper voltage.

You will need to occasionally check your intake strainer to ensure that it is clean of any debris.

◆ What is causing the fuse to blow each time I turn the pump on?

Check for excessive voltage. Improper adjustment of the pressure switch. Damaged or defective wire harness or defective pressure switch.

Warning:

Ensure the wiring harness does not become pinched or damaged in any way. This may damage the pump or cause the wiring harness to overheat, resulting in a melt down or fire.

The pump is intended to be used spraying agricultural pesticides, herbicides, and other non-flammable liquids.

Spraying Pesticides:

Pesticides are hazardous chemicals that must be handled with caution as directed on the pesticide label. Pesticides are regulated by the United States Environmental Protection Agency (EPA) and defined as:

Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Though often misunderstood to refer only to insecticides, the term pesticides is a comprehensive term that applies to insecticides, herbicides, fungicides, and various other substances used to control pests.

The pump is intended for use in spraying pesticides in liquid form only. The pump is NOT intended for use in spraying pesticides in dry or aerosolized form, for use with fumigants.

In addition to spraying pesticides, this pump may be used to spray other **non-flammable** liquids. Example uses include herbicides, watering plants/trees or spraying water for dust control, or applying water-based, **non-flammable** sealant or stain to outdoor wood surfaces.

WE RECOMMEND THAT THE PUMP NOT BE USED FOR OTHER PURPOSES ONCE IT HAS ALREADY BEEN USED FOR SPRAYING PESTICIDES.

Any chemical will leave some residual in the pump components, even after the pump has been properly cleaned. These residual chemicals can have unexpected effects on future uses. For example, spraying water or other liquids that are contaminated with residual pesticide may result in unforeseen hazards to plant or animal life.

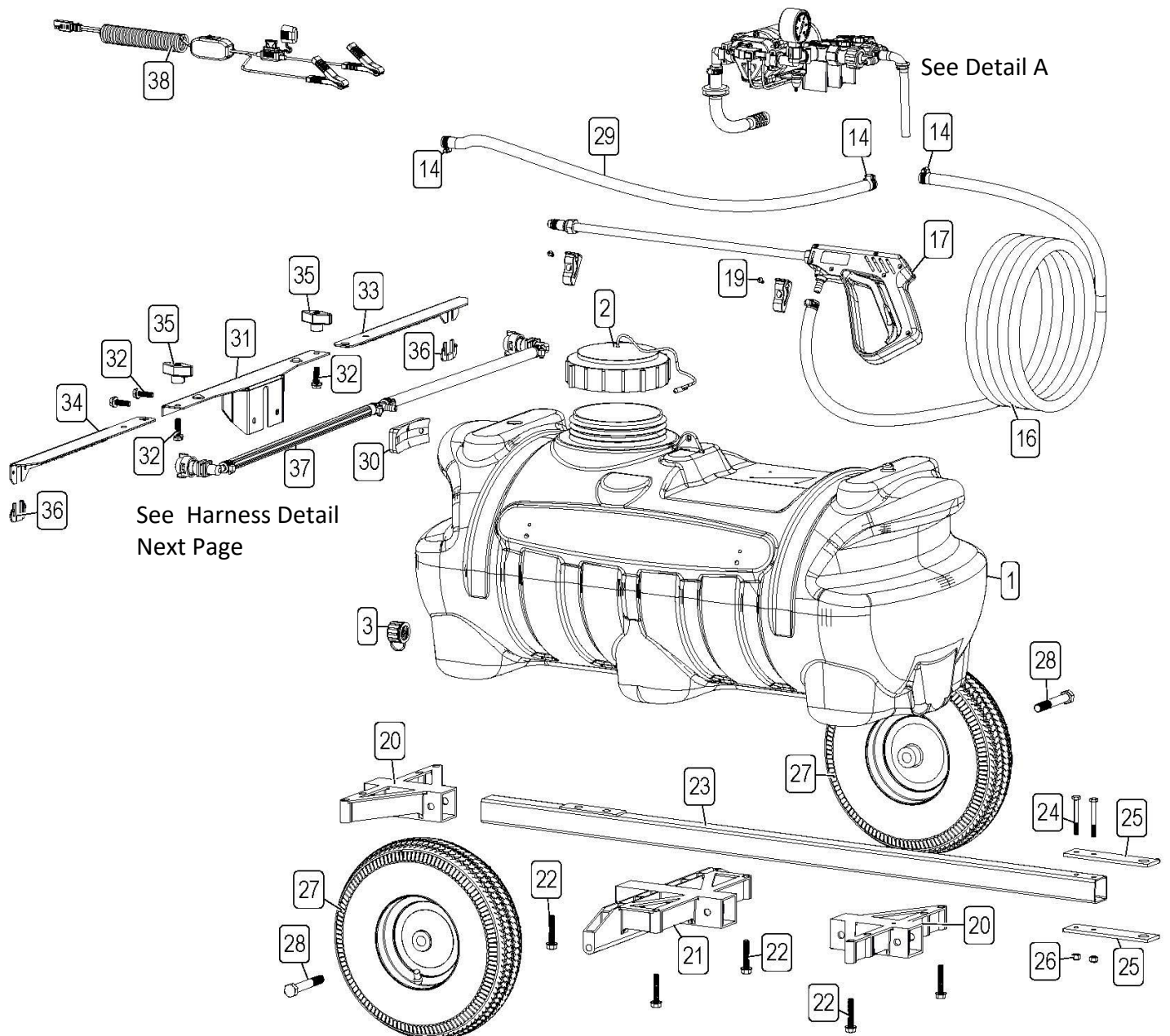
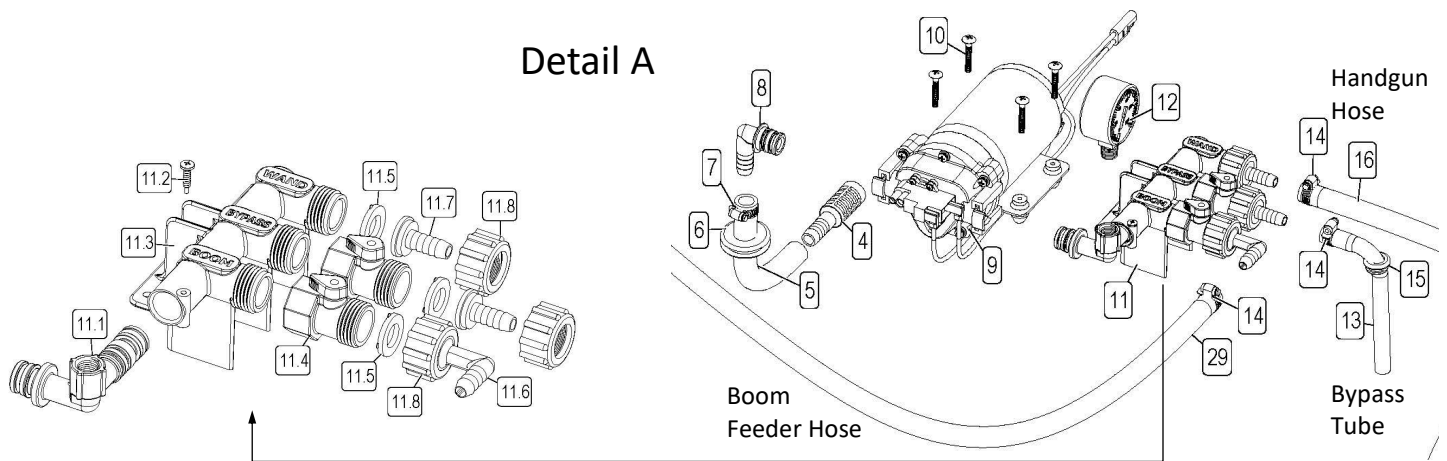
NOTE: The pump will be damaged, and warranty voided if used to apply bleach, chlorine, ice control chemicals, or any petroleum-based product (gasoline, diesel, kerosene, oil).

Parts List: G23-LG25DTS

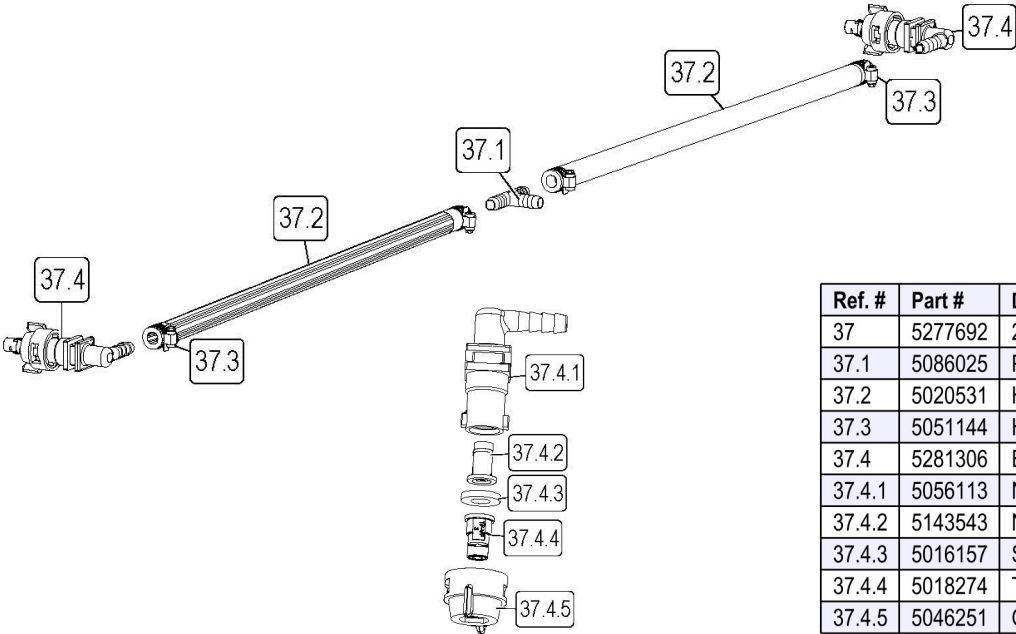
Ref. #	Part #	Description	Qty	Ref. #	Part #	Description	Qty
1	G23-630013	25-Gallon Tank	1	17.1	5018331	Brass Handgun Tip (X-26)	1
2	G23-700154	Tank Lid Assembly	1	18	5053112	Deluxe Wand Clip	2
3	G23-600298	Drain Cap Assembly 3/4 In	1	19	5117293	#10-24 x 0.375 PH Round Head Screw	2
4	5116477	1/2" Hose Barb Suction Strainer	1	20	G23-600101	Frame Member Front/Back	2
5	5020307	Hose, 1/2"-1 Brd. x 23"	1	21	G23-600244	Frame Member Axle Thread	1
6	5075016	Rubber Grommet	1	22	5034639	5/16-18 x 1.75 Fling Hex Bolt (Full Thread)	6
7	5051114	Hose Clamp (1/2")	1	23	G23-630184	Frame Member Main Beam	1
8	G23-600287	QD Elbow x 1/2" HB	1	24	5117274	1/4-20 x 2.25 Hex Bolt	2
9	7V70043	2.2 GPM Remco Pump (Quick Attach)	1	25	G23-630103	Hitch Bracket	2
10	5117166	#10-24 x 1.25 PH Truss Head Screw	4	26	5006391	1/4-20 Nylock Hex Nut	2
11	G23-700149	Manifold Assembly	1	27	G23-600104	Tire/Wheel 410/3.5 6 1/2IN	2
11.1	G23-600291	Supply Elbow Flex QD	1	28	5034022	1/2-13 x 3.50 Hex Bolt	2
11.2	G23-600199	#8-3/4" Self Tapping Screw	1	29	5020558	Hose, 3/8"-1 Brd. x 40"	1
11.3	G23-600289	3-Outlet Manifold Body	1	30	G23-640509	Tank Adapter	1
11.4	G23-600216	Garden Hose Valve, 3/4" GHT	2	31	G23-630028	Small Folding Boom, Center Section	1
11.5	5016066	1" Rubber Washer	3	32	5117300	5/16-18 x 1.00 Fling Hex Bolt	4
11.6	G23-640448	Flat Swivel x 3/8" ELL HB	1	33	G23-630026	Small Folding Boom, Left Arm	1
11.7	5149034	Poly Swivel, 3/8" Hose Barb	2	34	G23-630027	Small Folding Boom, Right Arm	1
11.8	5006209	Poly Knurled Swivel Nut, 3/4" FGHT	3	35	G23-630029	Wing Nut, 5/16"-18	2
12	G23-600129	Pressure Gauge, 2" Dia., 100 PSI	1	36	G23-640510	Nozzle Clip	2
13	5100961	Formed Bypass Tube	1	37	5277692	2-Nozzle Harness (3/8")	1
14	5051144	Hose Clamp (3/8")	5	38	5278114	Lead Wire w/15 Amp Fuse (96" Long)	1
15	5075018	Grommet	1	38.1	5157238	15 Amp Regular Blade Fuse	1
16	5020524	Hose, 3/8"-1 Brd. x 15 Ft.	1				
17	5273959	Deluxe Pistol-Grip Handgun w/X-26 Tip	1				

Sprayer Exploded View: G23-LG25DTS

Detail A

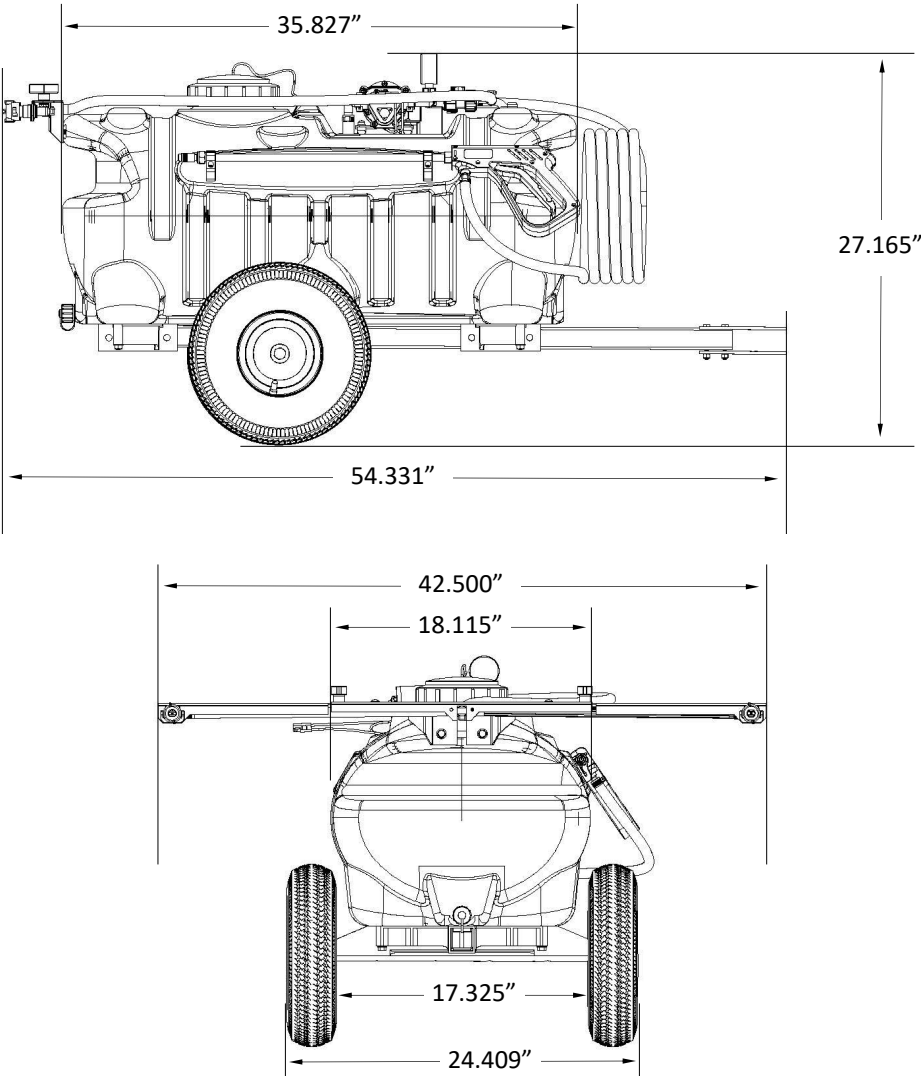


Harness Detail: G23-LG25DTS



Ref. #	Part #	Description	Qty
37	5277692	2-Nozzle Harness Assembly	1
37.1	5086025	Poly Hose Tee, 3/8" HB	1
37.2	5020531	Hose, 3/8"-1 Brd. x 19-3/8"	2
37.3	5051144	Hose Clamp (3/8")	4
37.4	5281306	ELL Nozzle Assembly, 3/8"	2
37.4.1	5056113	Nozzle Body - QJ - Elbow - 3/8"	1
37.4.2	5143543	Nozzle Check Strainer, Blue (50 Mesh)	1
37.4.3	5016157	Seat Washer - EPDM - QJ Caps	1
37.4.4	5018274	Turbo Floodjet Tip - Gray (TF-VP3)	1
37.4.5	5046251	Quick Cap - Black	1

Approx. Dimensions:



Notes

Warranty

LIMITED WARRANTY FOR NEW WORKHORSE SPRAYERS EQUIPMENT

WHO MAY USE THIS LIMITED WARRANTY. This limited warranty (the "Limited Warranty") is provided by Workhorse Sprayers to the original purchaser ("you") of the Equipment (as defined below) from Workhorse Sprayers or one of Workhorse Sprayers' authorized dealers. This Limited Warranty does not apply to any subsequent owner or other transferee of the Equipment. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

WHAT THIS LIMITED WARRANTY COVERS AND FOR HOW LONG. Workhorse Sprayers warrants that any new Equipment will be free from defects in material and workmanship for a period of **one (1) year** for homeowner and **90 days** commercial user, after delivery of the Equipment to you (the "Warranty Period"). The Warranty Period is not extended if Workhorse Sprayers repairs or replaces the Equipment.

WHAT IS NOT COVERED BY THIS LIMITED WARRANTY. This Limited Warranty does not apply to: (1) used Equipment; (2) any Equipment that has been altered, changed, repaired or treated since its delivery to you, other than by Workhorse Sprayers or its authorized dealers; (3) damage or depreciation due to normal wear and tear; (4) defects or damage due to failure to follow Workhorse Sprayers' operator's manual, specifications or other written instructions, or improper storage, operation, maintenance, application or installation of parts; (5) defects or damage due to misuse, accident or neglect, "acts of God" or other events beyond Workhorse Sprayers' reasonable control; (6) accessories, attachments, tools or parts that were not manufactured by Workhorse Sprayers, whether or not sold or operated with the Equipment; or (7) rubber parts, such as tires, hoses and grommets.

HOW TO OBTAIN WARRANTY SERVICE. To obtain warranty service under this Limited Warranty, you must (1) provide written notice to Workhorse Sprayers of the defect during the Warranty Period and within **thirty (30)** days after the defect becomes apparent or the repair becomes necessary, at the following address: Workhorse Sprayers, PO Box 1700, North Sioux City, SD 57049; and (2) make the Equipment available to Workhorse Sprayers or an authorized dealer within a reasonable period of time.

For more information about this Limited Warranty, please call: **888-433-6631**.

WHAT REMEDIES ARE AVAILABLE UNDER THIS LIMITED WARRANTY. If the conditions set forth above are fulfilled and the Equipment or any part thereof is found to be defective, Workhorse Sprayers shall, at its own cost, and at its option, either repair or replace the defective Equipment or part. Workhorse Sprayers will pay for shipping and handling fees to return the repaired or replacement Equipment or part to you.

LIMITATION OF IMPLIED WARRANTIES AND OTHER REMEDIES. THE REMEDIES DESCRIBED ABOVE ARE YOUR SOLE AND EXCLUSIVE REMEDIES, AND WORKHORSE SPRAYERS' SOLE LIABILITY, FOR ANY BREACH OF THIS LIMITED WARRANTY. TO THE EXTENT APPLICABLE, ANY IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED IN DURATION TO THE WARRANTY PERIOD, AND THE REMEDIES AVAILABLE FOR BREACH THEREOF SHALL BE LIMITED TO THE REMEDIES AVAILABLE UNDER THIS EXPRESS LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. IN NO EVENT SHALL WORKHORSE SPRAYERS' LIABILITY UNDER THIS LIMITED WARRANTY EXCEED THE ACTUAL AMOUNT PAID BY YOU FOR THE DEFECTIVE EQUIPMENT, NOR SHALL WORKHORSE SPRAYERS BE LIABLE, UNDER ANY CIRCUMSTANCES, FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL OR PUNITIVE DAMAGES OR LOSSES, WHETHER DIRECT OR INDIRECT. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.