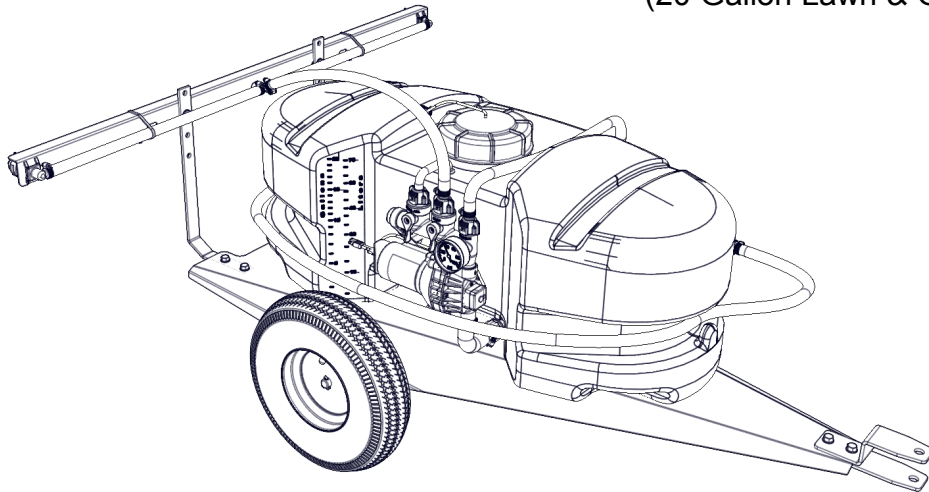


OWNER'S MANUAL

Model: TR-20-EX (5301549)

(20 Gallon Lawn & Garden Trailer Sprayer)



Technical Specifications

- 20 Gallon Corrosion-Resistant Polyethylene Tank
- 12 Volt Diaphragm Pump, 2.1 g.p.m.—60 psi
- Lever Handgun
- 15 Ft. Handgun Hose (3/8" I.D.)
- 15 Ft. max. vertical throw, 30 Ft. horizontal throw
- Low Profile Trailer & tank
- 4.10/3.50 x 4" Pneumatic Tires
- 2-Nozzle Boom Assembly (80" Spray Coverage)
- Pressure Gauge
- Adjustable Pressure

Assembly Instructions

- Make sure the contents of the sprayer's carton match the items shown on page 2 of the manual.
- Follow the steps on pages 3 & 4 to properly assemble the sprayer.
- After assembly is complete and before testing your sprayer, make sure you connect the electrical hook-up to the end of your pump and clip the clips to a fully charged battery. The red wire must be connected to the positive (+) and the black wire should be connected to the negative (-).
- The drain plug assembly should already be attached to the tank

BEFORE RETURNING THIS PRODUCT FOR ANY REASON, PLEASE CALL

1-800-831-0027

IF YOU SHOULD HAVE A QUESTION OR EXPERIENCE A PROBLEM WITH YOUR FIMCO INDUSTRIES PRODUCT:

1-800-831-0027

BEFORE YOU CALL, PLEASE HAVE THE FOLLOWING INFORMATION AVAILABLE: SALES RECEIPT & MODEL NUMBER. IN MOST CASES, A FIMCO INDUSTRIES EMPLOYEE CAN RESOLVE THE PROBLEM OVER THE PHONE.

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. Please read it carefully, as it furnishes information which will help you achieve years of trouble-free operation.

Warranty

Products are warranted for one year from date of purchase against manufacturer or workmanship defects for home owner usage and 90 days for commercial usage.

For technical assistance, visit our website @ www.fimcoindustries.com or call: **TOLL FREE @ 1-800-831-0027**

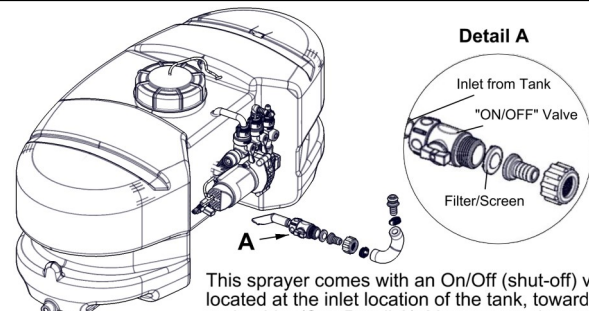
Our Technical Support Representatives will be happy to help you.

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

- Correct Part Description and/or part number
- Model #/Serial # of your sprayer

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

IMPORTANT REMINDER



This sprayer comes with an On/Off (shut-off) valve located at the inlet location of the tank, towards the underside. (See Detail A). You must make sure the valve is in the "open" position before using your sprayer.



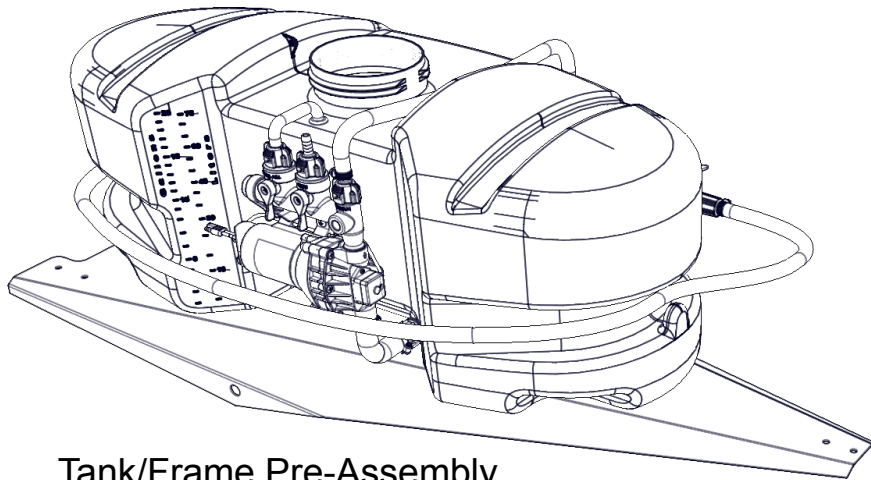
www.fimcoindustries.com

1000 FIMCO Lane, P.O. Box 1700, North Sioux City, SD 57049
Toll Free Phone: 800-831-0027 : Toll Free Fax: 800-494-0440

[5004773

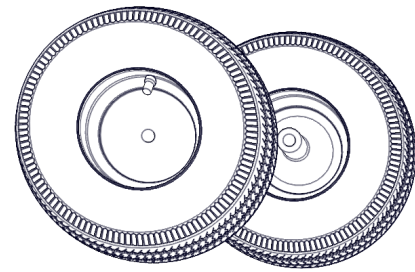
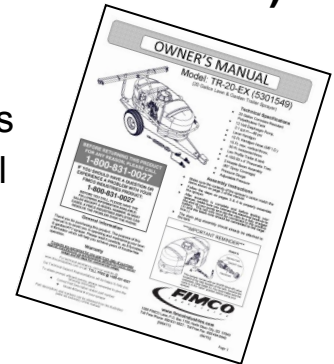
(12/15)]

Contents of your sprayer's carton (TR-20-EX - 5301549):

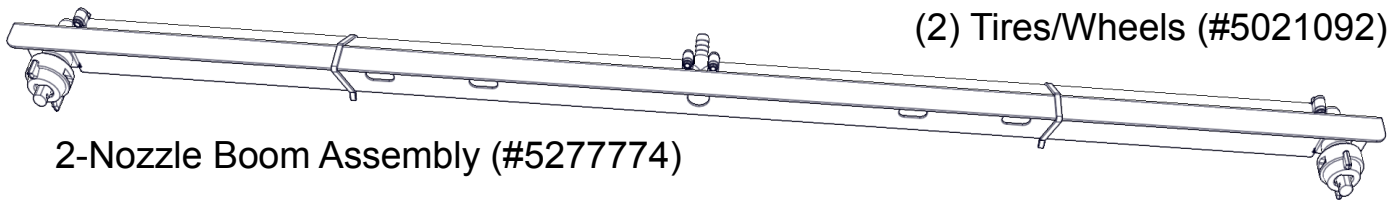


Tank/Frame Pre-Assembly

Owner's Manual



(2) Tires/Wheels (#5021092)



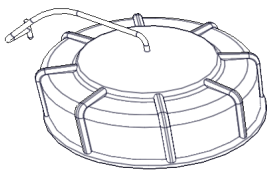
2-Nozzle Boom Assembly (#5277774)

15/20 Gallon Trailer Bracket Kit #5277727

Boom Bracket (Light-Duty)
5095198

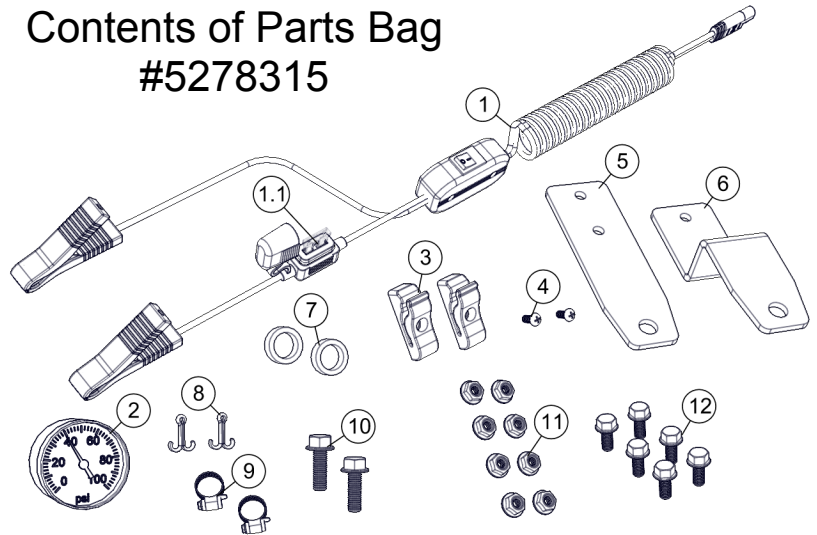
Axle (5/8" Dia. x 24")
5024105

Hose (3/8" I.D. x 30")
5020133



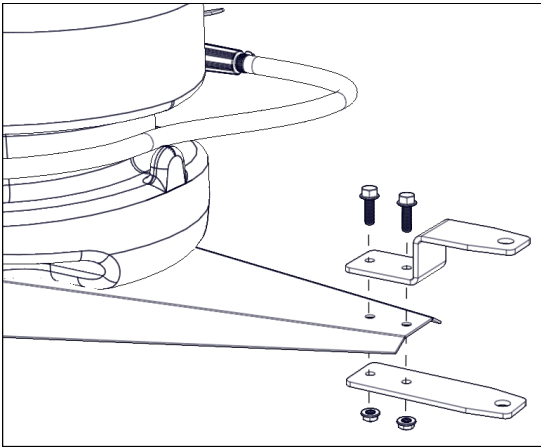
Tank Lid & Lanyard
(#5058188)

Contents of Parts Bag #5278315



Ref. #	Part #	Description	Qty
1	5278114	Lead Wire Assembly w/15A Fuse & 30A Clips (96" Long)	1
1.1	5157238	15 Amp Regular Blade Fuse	1
2	5167097	2" Dry 100# Back Mount Gauge	1
3	5053096	Spray Wand Clip, for Blow-Molded Tanks	2
4	5117334	#10-24 x 1/2" Machine Screw, Phillips Round Head	2
5	5038518	Hitch Bracket (Flat)	1
6	5038517	Hitch Bracket (Formed)	1
7	5127219	Axle Spacer	2
8	5101077	Cotter Pin, 1/8" x 1"	2
9	5051144	Hose Clamp, 3/8"	2
10	5117300	H.H.C.S. Flanged 5/16"-18nc x 1" Long	2
11	5006307	5/16"-18 Hex Whiz (Flange) Locknut	8
12	5117323	H.H.C.S. Flanged 5/16"-18nc x 3/4" Long	6

Step 1



Assembly Procedure (TR-20 EX - 5301549)

Remove the hitch brackets, both flat (5038518) and formed (5038517) from the parts bag. The flat one is to be placed under the frame and the formed one gets placed on top of the frame.

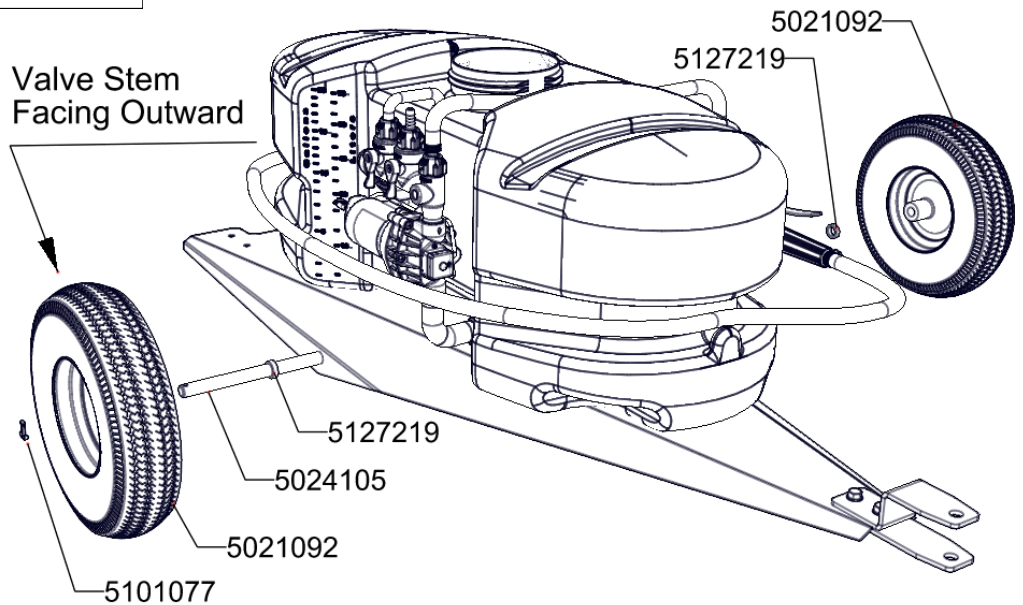
Bolt them together, 'sandwiching' the frame between both of the brackets.

Using a 1/2" socket or wrench, tighten the 1" long bolts (5117300) securely.

Use the 5/16" whiz nuts (5006307) with the bolts.

They should grab tightly against the frame as you tighten the bolts down.

Step 2

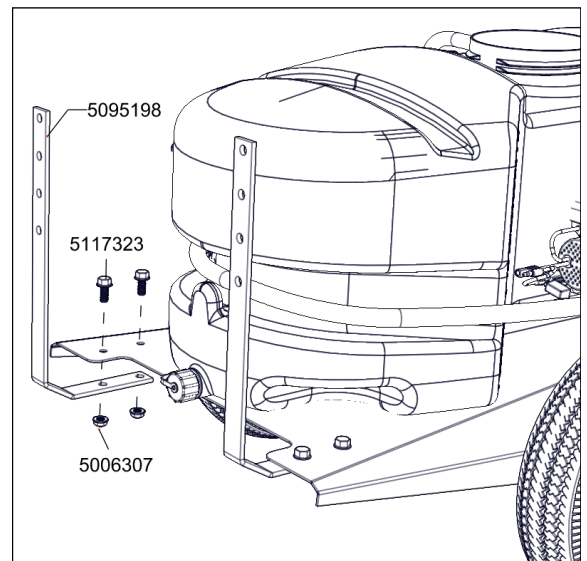


Remove the axle (5024105) and (2) wheels (5021092) from the carton. Remove the (2) wheel spacers (5127219) and (2) cotter pins (5101077) from the parts bag. Slide the axle through the hole in one side of the frame and through the corresponding hole on the other side of the frame. You may need to maneuver (squeeze) the frame slightly while doing this to get the axle through both holes. Center the axle about the frame as best as possible. Slide the wheel spacers onto the axle. Now slide the wheels over the axle and up against the wheel spacer. Make sure the valve stems of the wheels are facing outward. Retain the wheel on the axle with cotter pins. Place the pins through the holes at the end of the axle. Using a needle nose pliers or similar tool, bend the pins so they will not slip out and the wheel will be retained on the axle.

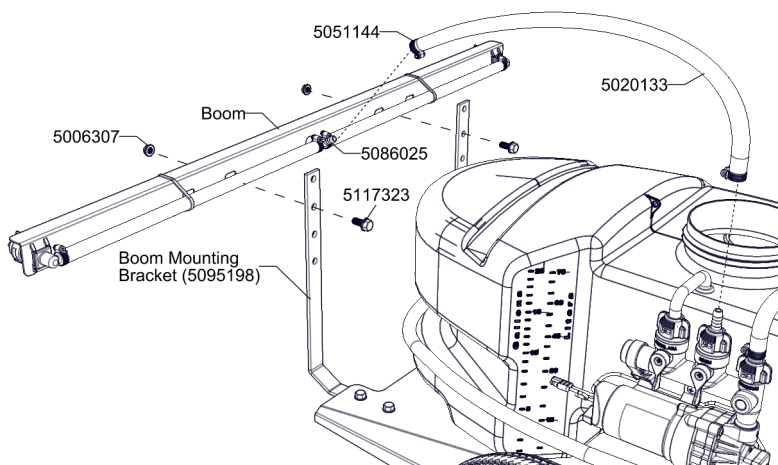
Step 3

Locate the (2) boom mounting brackets (5095198). These two brackets mount to the rear of the frame with (2) bolts (5117323) and (2) whiz nuts (5006307). (Each Bracket)

Using a 1/2" socket or wrench, tighten the hardware securely. The whiz nuts will grab tightly against the frame as you tighten the bolts down.



Step 4

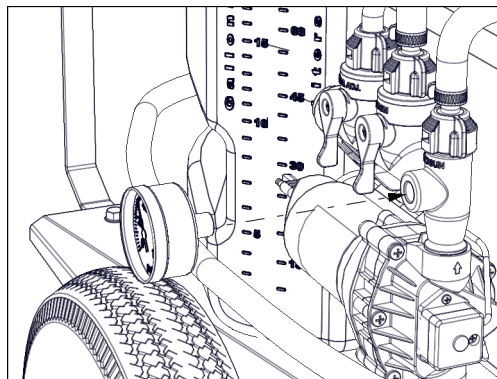


Assembly Procedure (TR-20 EX - 5301549)

Remove the 2-nozzle boom assembly (5277774) from the carton. Using (2) bolts (5117323) and (2) whiz nuts (5006307), bolt the boom to the upright boom mounting brackets. There are four holes in the boom brackets, so you can choose the most optimal (height) position for your spraying purposes.

Tighten the hardware down, using a 1/2" socket or wrench.

Find the 3/8" hose (30" long) (5020133) and place hose clamps (5051144) loosely onto each end of the hose. Connect this hose to the 'TEE' fitting on the boom and to the 'Boom' line on the manifold. Tighten the hose clamps snugly.



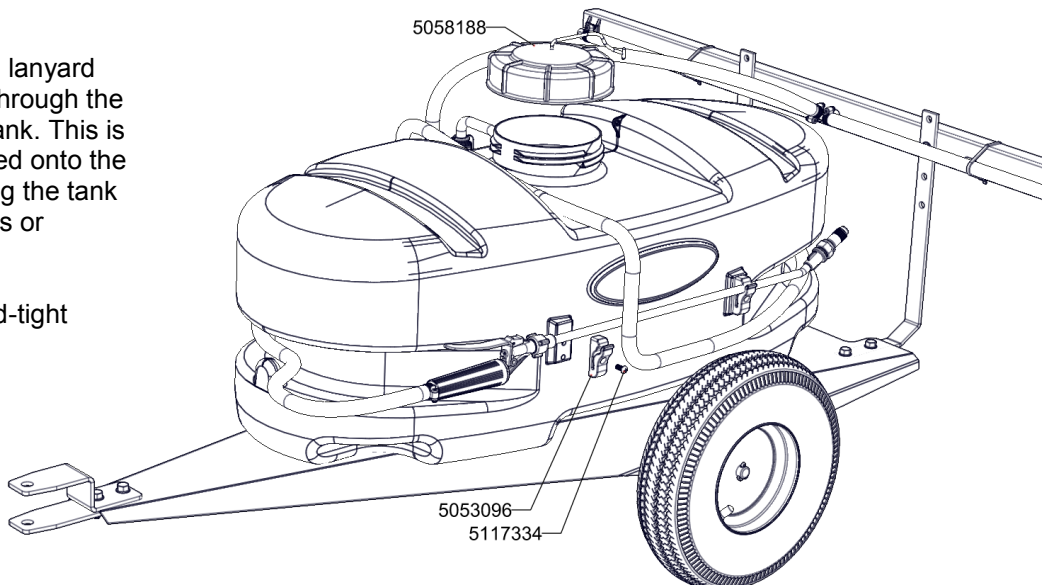
Step 5

Screw the pressure gauge into the manifold. Hand tight should be sufficient.

Step 6

The tank lid (5058188) has an 8" lanyard attached to it. Slide the lanyard through the hole in the tab at the top of the tank. This is so the lid can 'hang' or be retained onto the tank while you are filling or rinsing the tank out. This should help prevent loss or damage of the lid.

Screw the lid onto the tank. Hand-tight should be sufficient.



Step 7

Remove the (2) handgun clips (5053096) and (2) screws (5117334) from the parts bag. Use a phillips head screwdriver to screw them onto the tank. Do not over tighten. These clips are where the spray wand (5163100) is secured to the tank, while not in use.

NOTE:

The spray wand should already be attached to the 15 foot hose prior to assembly.

***** The Sprayer should now be ready for use *****

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.

Add water to the tank and drive to the starting place for spraying. When you are ready to spray, position booms for spraying and turn the boom valve to the "on" position. 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.

Read the operating instructions and initially begin spraying by closing the 'bypass' valve (this is the valve marked Press. Adj. on your manifold assembly) and opening the boom line valve (this is the center valve on the manifold). 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, 40 psi), 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

Your sprayer is equipped with (1) ON/OFF switch in the wire assembly that you hook up to your battery. The "-" is the "ON" position and the "o" is the "OFF" position for the switch. Make sure the switch is depressed in the "-" position for operation.

The pump is equipped with a pressure switch that is factory pre-set for it to shut off at 60 p.s.i. This switch assembly is the 'square box' on the head portion of the pump.

Always fill the tank 1/2 full with water first and then add the chemical slowly, mixing as you pour the chemical into the tank and then fill the rest of the way. You may use the bypass in order to mix the chemical and water.

The pumping system draws solution from the tank, through the strainer/filter and to the pump. The pump forces the solution under pressure to the handgun and/or boom nozzles.

- Activate the handgun by squeezing the handle lever
- Rotating the adjustable nozzle tip on the handgun will change the tip pattern from a straight stream to a cone pattern (fine mist)

This sprayer is designed to be towed behind a garden tractor.

The nozzles on the boom will spray an 80 inch wide swath. Check the nozzle pattern by spraying water on a concrete surface. Raise the boom to a higher mounting position to get more spray pattern overlap, if desired.

Speed Chart			
Speed in M.P.H. (Miles Per Hour)	Time Required in seconds to travel a distance of		
	100 Ft.	200 Ft.	300 Ft.
1.0	68 sec.	136 sec.	205 sec.
2.0	34	68	102
3.0	23	45	68
4.0	17	34	51
5.0	14	27	41
6.0	11	23	34
7.0	9.7	19	29
8.0	8.5	17	26
9.0	7.6	15	23
10.0	6.8	14	20

After Spraying

After use, fill the sprayer tank part way with water. Start the sprayer and allow the 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 FIMCO Tank Neutralizer and Cleaner and repeat cleaning instructions above. Flush the entire sprayer with the neutralizing/cleaning agent, then flush out one more time with plain water. Follow the chemical manufacturer's disposal instructions of all wash or rinsing water. For the boom (if applicable) remove the tips and screens from the nozzle assemblies. Wash these items out thoroughly. Blow the orifice clean and dry. If the 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 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

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 RV antifreeze 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 your 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.

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.

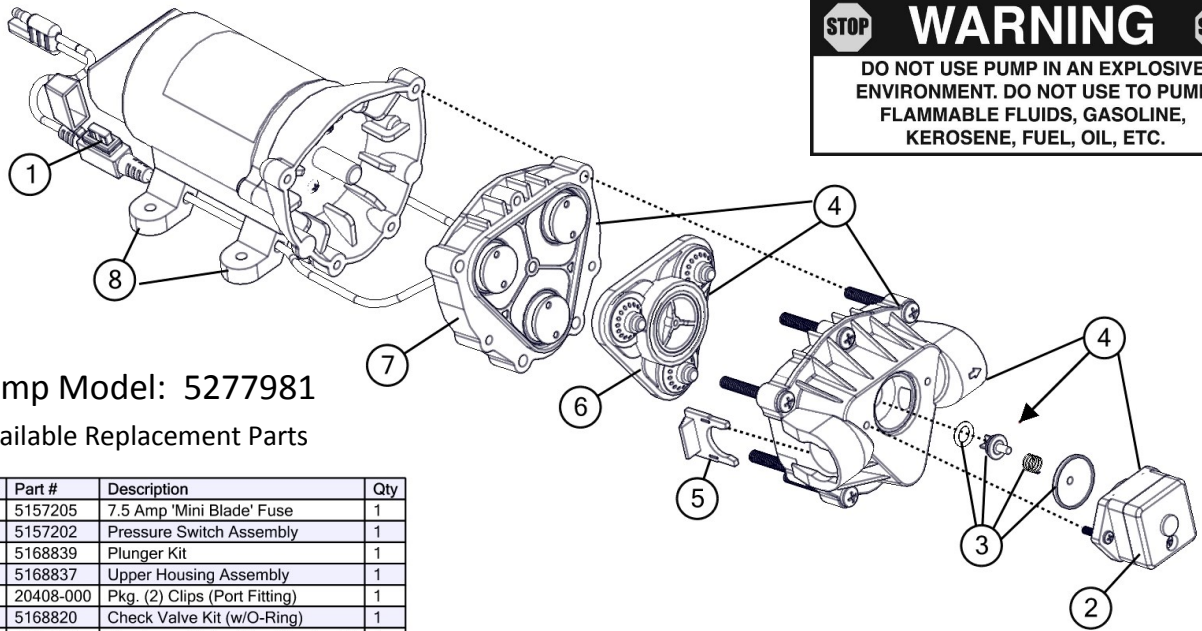
Once you know how much you are going to spray, then determine (from the tip chart) the spraying pressure (PSI), and the spraying speed (MPH).

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.

Tip Chart for TKT-VP3, TF-VP3 & 30DT3.0 Tips										
Tip No. (Color)	Spray Height	Pressure (psi)	Capacity (GPM)	Gallons Per Acre - Based on Water						
				1 MPH	2 MPH	3 MPH	4 MPH	5 MPH	7.5 MPH	10 MPH
3 (Gray)	18"	10	.30	44	22	14.9	11.1	8.9	5.9	4.5
		20	.42	63	31.5	20.9	15.7	12.6	8.4	6.3
		30	.52	76	38	26	19.3	15.4	10.3	7.7
		40	.60	90	45	30	22	17.8	11.8	8.9
Tip No. (Color)	Spray Height	Pressure (psi)	Capacity (GPM)	Gallons Per 1000 Sq. Ft. - Based on Water						
				1 MPH	2 MPH	3 MPH	4 MPH	5 MPH	7.5 MPH	10 MPH
3 (Gray)	18"	10	.30	1.01	.5	.34	.254	.204	.135	.103
		20	.42	1.4	.72	.48	.36	.29	.19	.14
		30	.52	1.74	.87	.596	.44	.35	.236	.176
		40	.60	2.06	1.00	.688	.50	.408	.27	.20
Tip No. (Color)	Spray Height	Pressure (psi)	Capacity (GPM)	Gallons Per 100 Sq. Ft. - Based on Water						
				1 MPH	2 MPH	3 MPH	4 MPH	5 MPH	7.5 MPH	10 MPH
3 (Gray)	18"	10	.30	.10	.05	.034	.025	.02	.013	.01
		20	.42	.14	.072	.048	.036	.029	.019	.014
		30	.52	.174	.087	.059	.044	.035	.023	.017
		40	.60	.206	.10	.068	.05	.04	.027	.02

STOP WARNING STOP
DO NOT USE PUMP IN AN EXPLOSIVE ENVIRONMENT. DO NOT USE TO PUMP FLAMMABLE FLUIDS, GASOLINE, KEROSENE, FUEL, OIL, ETC.



Pump Model: 5277981
Available Replacement Parts

Ref #	Part #	Description	Qty
1	5157205	7.5 Amp 'Mini Blade' Fuse	1
2	5157202	Pressure Switch Assembly	1
3	5168839	Plunger Kit	1
4	5168837	Upper Housing Assembly	1
5	20408-000	Pkg. (2) Clips (Port Fitting)	1
6	5168820	Check Valve Kit (w/O-Ring)	1
7	5168838	Diaphragm/Piston/Cam/Bearing Kit	1
8	5095202	Mounting Feet (Pkg of 4)	1

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

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.

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 pressure switch. Make sure you are connected to a good 12 volt power source. Make sure any on/off switches are in the 'on' position.
- Remove the cap to the pressure switch. Pull both red wires off of their terminals, and touch the two ends together. If your pump runs when you do this, your pressure switch will need to be replaced.
- Check the fuse.
- Check for low voltage at the power supply.

Pump does not prime:

- Check for air leaks in supply line.
- Check for debris in the check valve assembly.
- Check for defective check valve.
- Check for clogged strainer/filter.
- Check for cracks in the pump housing.
- Check for empty product supply.

Pulsating flow (surging):

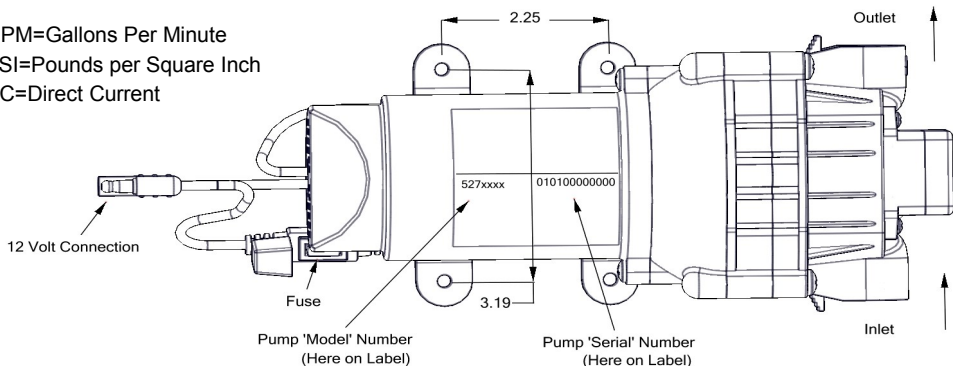
- Check for defective pressure switch.
- Check for leaks in the discharge line.
- Check for restriction in the discharge line.
- Check for debris in nozzle orifice.
- Discharge hose may be too long.
- Check for clogged strainer.

Motor continues to run after discharge is shut off:

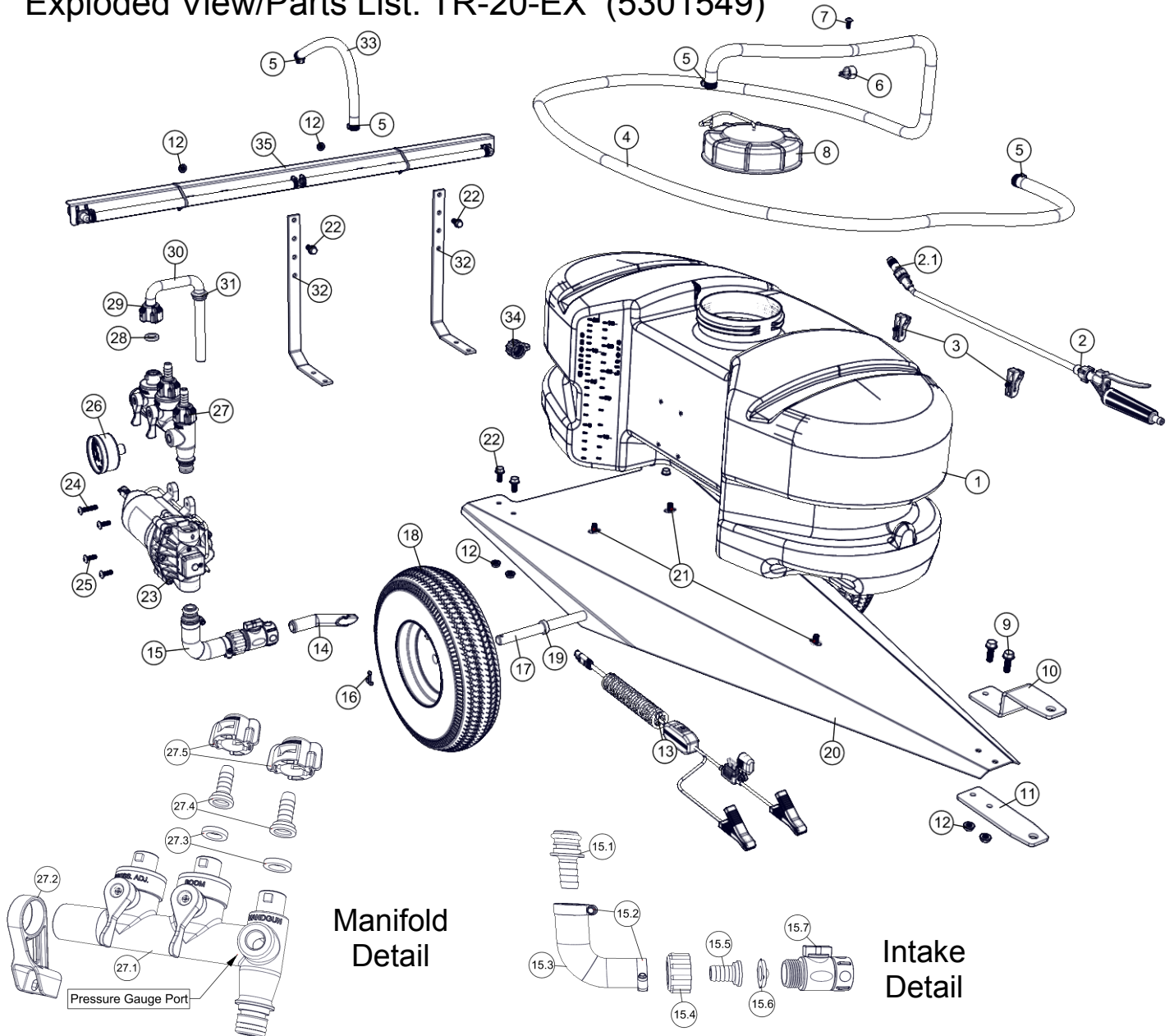
- Check for empty product supply.
- Check for open bypass valve. (if equipped)
- Check for low voltage.
- Check for leak in discharge line.
- Check for defective or dirty check valve.
- Check for defective pressure switch.

Pump Specifications	
Current:	4.5 Amps @ 30 PSI
Check Valve:	Viton
Wetted Parts Housing:	Polypropylene
Diaphragm:	Santoprene
Liquid Temperature:	130° F max.

GPM=Gallons Per Minute
 PSI=Pounds per Square Inch
 DC=Direct Current



Exploded View/Parts List: TR-20-EX (5301549)



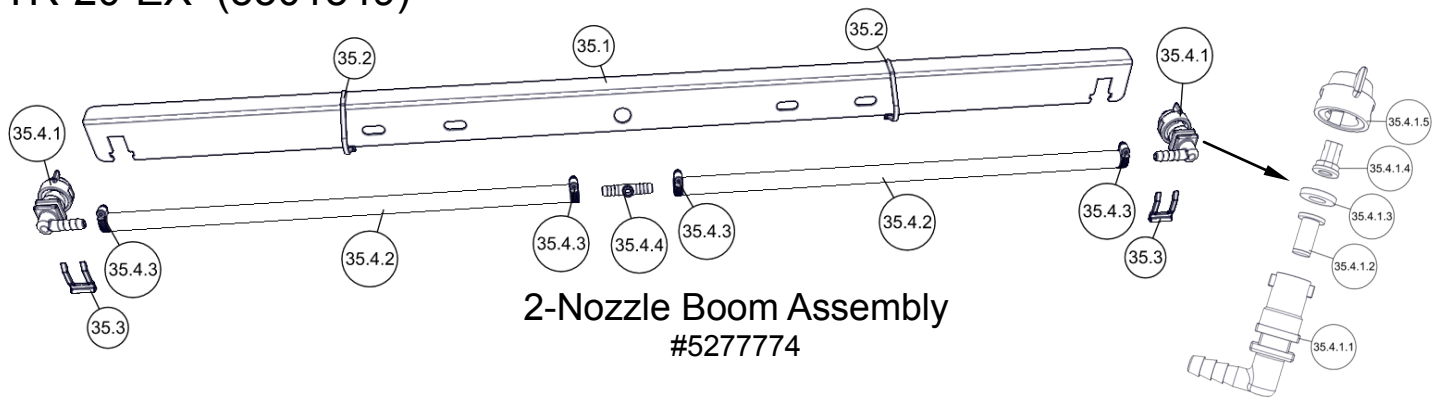
Manifold Detail

Intake Detail

Ref. #	Part #	Description	Qty
1	5169241	20 Gallon Tank (White)	1
2	5163100	Low-Flow Spray Wand w/X-26 Tip	1
2.1	5018330	Handgun Tip (X-26)	1
3	5274880	Handgun Clips & Screws (Pkg/2) (#10-24 Thread)	1
4	5020524	Hose, 3/8"-1 Brd. x 15 Ft.	1
5	5051144	Hose Clamp, 3/8"	4
6	5051122	5/8" Black Nylon Loom Cable Clamp	1
7	5117234	#10-24 x 1/2" Phillips Truss Head Machine Screw	1
8	5058188	Tank Lid w/Lanyard	1
9	5117300	H.H.C.S. Flanged 5/16"-18nc x 1" Long	2
10	5038517	Hitch Bracket (Formed)	1
11	5038518	Hitch Bracket (Flat)	1
12	5006307	5/16"-18 Hex Whiz (Flange) Locknut	8
13	5278114	Lead Wire Assembly w/15A Fuse & 30A Clips (96" Long)	1
13.1	5157238	15 Amp Regular Blade Fuse	1
14	5100452	Siphon Tube	1
15	5275877	Intake Sub-Assembly	1
15.1	5168833	Port Kit Fitting, 1/2" Hose Barb	1
15.2	5051114	Hose Clamp, 1/2"	2
15.3	5020557	1/2" Polyspring Hose x 5 1/4"	1
15.4	5006209	Poly Knurled Swivel Nut, 3/4" FGHT	1
15.5	5149035	Poly Swivel, 1/2" Hose Barb	1
15.6	5116242	Strainer, 1" Filter Washer	1
15.7	5143419	Swivel Shut-Off	1
16	5101077	Cotter Pin, 1/8" x 1"	2
17	5024105	Axle (5/8" Dia. x 24")	1

Ref. #	Part #	Description	Qty
18	5021092	4.10/3.50-4 Wheel (White) (5/8" Bearing)	2
18.1	5031175	5/8" Wheel Ball Bearing	2
19	5127219	Axle Spacer	2
20	5070066	Trailer Frame (15 & 20 Gal. w/0.625in Axle Holes) (Red)	1
21	5034531	5/16"-18 x 5/8" Flange Lock Screw	3
22	5117323	H.H.C.S. Flanged 5/16"-18nc x 3/4" Long	6
23	5277981	High Flo Gold Series 2.1 GPM Pump	1
24	5117168	#10-24 x 1" Phillips Truss Head Machine Screw	1
25	5117167	#10-24 x 5/8" Phillips Truss Head Machine Screw	3
26	5167097	2" Dry 100# Back Mount Gauge	1
27	5302793	Quick Connect Manifold Assembly	1
27.1	5302347	Quick Connect Manifold	1
27.2	5143422	QC Manifold - Support Bracket	1
27.3	5143430	Flat Washer - Hose Barb Seal	2
27.4	5143431	QC Manifold - 3/8" Hose Barb - Straight	2
27.5	5143429	QC Manifold - QC Quarter Turn Cap	2
28	5143430	Flat Washer - Hose Barb Seal	1
29	5143429	QC Manifold - QC Quarter Turn Cap	1
30	5100804	Rigid By-Pass Tube Assembly	1
31	5075018	Grommet, 1/2" I.D.	1
32	5095198	Boom Bracket (Light Duty)	2
33	5020133	Hose, 3/8"-1 Brd. x 30"	1
34	5274373	Drain Plug Cap, Tether, and Washer Assembly	1
35	5277774	2-Nozzle Boom (QJ)	1

TR-20-EX (5301549)

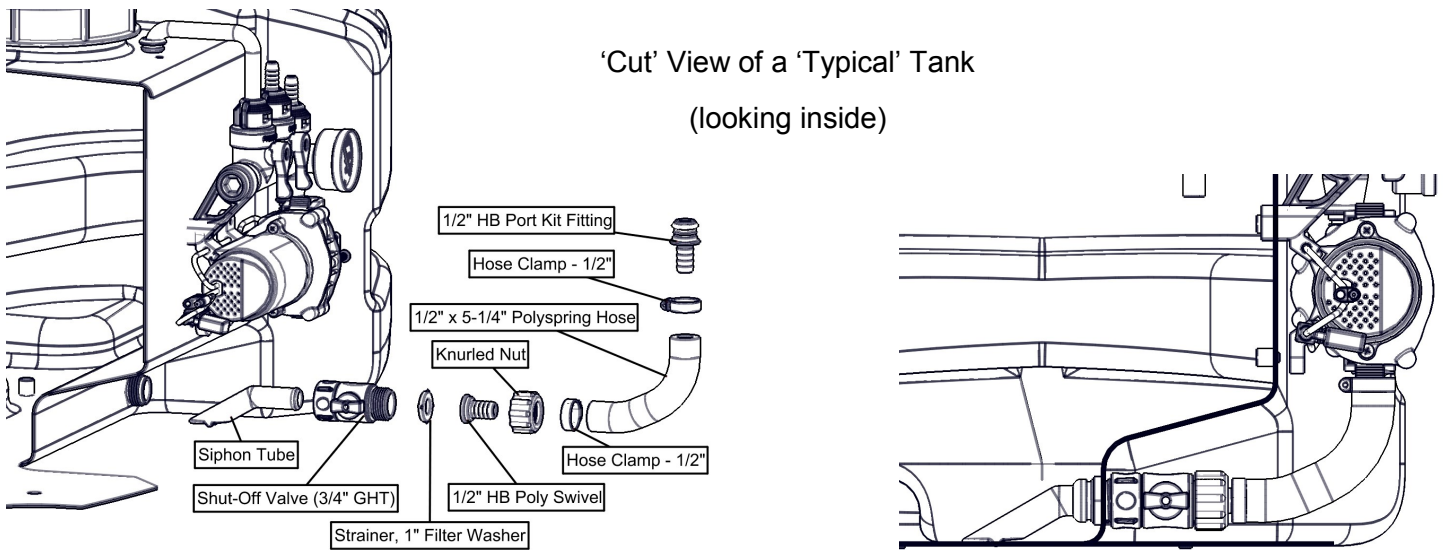


2-Nozzle Boom Assembly
#5277774

Ref. #	Part #	Description	Qty
35	5277774	2-Nozzle Boom (QJ)	1
35.1	5022431	Boom Mount Angle -2 Nozzle (QJ100)	1
35.2	5133094	Nylon Cable Tie	2
35.3	5053110	Plastic Retaining Clip (14 & 16 Ga.)	2
35.4	5277692	2-Nozzle Harness (3/8")	1
35.4.1	5277688	ELL Nozzle Sub-Assembly (3/8")	2
35.4.1.1	5056113	Single Hose Shank (3/8" Hose)	1
35.4.1.2	5116019	Nozzle Strainer, Red (50 Mesh)	1

Ref. #	Part #	Description	Qty
35.4.1.3	5016157	Seat Washer (QJ Caps)	1
35.4.1.4	5018274	Turbo FloodJet Tip (TF-VP3)	1
35.4.1.5	5046251	QJ Cap Only (Black)	1
35.4.2	5020510	Hose, 3/8"-1 Brd. x 19-3/8"	2
35.4.3	5051144	Hose Clamp, 3/8"	4
35.4.4	5086025	Poly Hose Tee, 3/8" HB	1

Intake/Siphon Tube/Screen Detail of a Typical L&G/ATV Sprayer (not including the 'EC' Units)



The suction line of your sprayer should contain a 'siphon tube' or intake tube which should be rotated so that it just touches the bottom of the tank surface. (see Detail Views). Reach in and rotate it, as needed, if not already in this position.

A nylon shut-off valve is threaded onto the pipe nipple at the intake location on the tank. It is at this location so you can shut off the flow of solution to access your system's screen for cleaning.

Checking/Cleaning the sprayer's filter/screen:

- ◆ Start your pump and before it shuts off, reach down and Shut the nylon valve to the 'Closed' position (lever is perpendicular to the flow of fluid), then shut off your pump.
- ◆ Unscrew the knurled nut from the shut-off valve, leaving the valve connected to the tank.
- ◆ Swing (swivel) the intake assembly towards you. Look in the nut you JUST unscrewed. There is a screen/washer there.
- ◆ Remove the screen and clean as necessary. Replace when done and reassemble the entire assembly.
- ◆ Make sure the valve is turned to the 'Open' position before restarting your pump.

