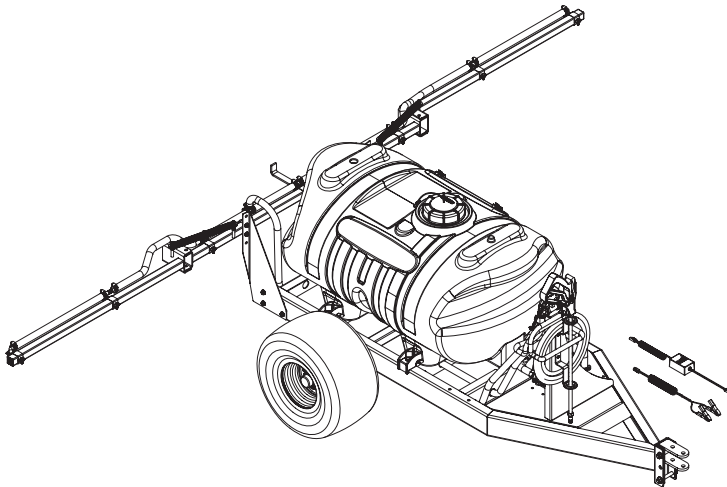


5301192

Model: ATVTS-60-12V

60 Gallon Trailer Sprayer W/7 Nozzle Boom

ASSEMBLY / OPERATION INSTRUCTIONS / PARTS



GENERAL INFORMATION

The purpose of this manual is to assist you in operating your sprayer. Please read it carefully as it furnishes information which will help you operate and maintain your sprayer.

WARRANTY / PARTS / SERVICE

Products are warranted for one year from date of purchase against manufacturer or workmanship defects.

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 of your sprayer.
3. Serial number of your sprayer.

Part number and descriptions 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.

TECHNICAL SPECIFICATIONS

- 12 Volt Pump
- 3.7 G.P.M.; 0 - 45 P.S.I.; 11 Amps
- Pressure Relief Valve
- Pressure Gauge
- Suction Line Filter
- 25 Ft. Hand Gun Hose
- Pistol Grip Spray Gun
- 7 Nozzle Boom Assembly
- Break-Away Outer Booms
- 140 Inch Spray Coverage
- Adjustable Boom Height
- Pneumatic Tires, 15/600 x 6
- 15 M.P.H. Max.

ASSEMBLY INSTRUCTIONS

The sprayer is assembled except for the pressure gauge, axle, wheels and boom assembly.

Attach the axle to the trailer frame with four (4) bolts & nuts as shown in the exploded view drawing. Slide a wheel onto the hub of the axle and use the wheel nuts to hold the wheel in place.

The (L & R) boom mount brackets are to be mounted on the trailer frame. Use (6) hex screws and hex whiz lock nuts to hold them in place

1. Center the center boom tube on the boom mounts and secure in place with the (2) u-bolts and hex whiz lock nuts.
2. Connect the feeder hose to the boom fitting and clamp it in place with a hose clamp.

TESTING THE SPRAYER

It is important to test the sprayer with plain water before actual spraying is attempted. This will enable you to check the sprayer for leaks in the plumbing system.

1. Open tank lid and be sure the tank is clean and free of foreign material. Fill the tank about half full with plain water.
2. Open the valve in the suction line and allow water to flow to the pump. The valve is located at this point to enable the strainer to be taken apart for cleaning.
3. There are two valves located on the valve and handgun bracket. One of these is a shut-off for the boom and the other is used to bypass solution back to the tank, thus decreasing the pressure.
4. You may now start the sprayer. Solution will begin spraying from the boom nozzle when the valve to the boom is opened..
5. The pressure should now be adjusted as desired.
6. During this testing period be sure to observe the spray pattern given by the spray nozzles. Each nozzle should



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overlap the next nozzle. If there is any pattern distortion, it will be necessary to remove and clean the affected tips.

CAUTION: Never use a metal object or other sharp item for cleaning a nozzle tip. It is better to use a nozzle brush (not wire brush) or compressed air for tip cleaning.

OPERATION AND CALIBRATION

The performance of any agricultural chemical depends upon the proper application of the correct amount. **Be sure that your equipment has been calibrated before spraying.**

The nozzles on the boom will spray a 150" wide pattern swath, however it is necessary to overlap patterns 30% to get proper coverages. The first pass will only cover 130" of overlapped spray. Each pass there after will provide a 140" swath of proper coverage. The proper nozzle height is 18 inches above the object being sprayed.

DO NOT EXCEED 20 M.P.H. AT ANYTIME.

- 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.
- 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 (M.P.H.) while spraying.
- Refer to the chemical label to determine the chemical mixture.
- See the tip chart to determine the pressure to be used. The chart will also show the speed used when spraying.

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). The pressure can be set by running the sprayer with the boom nozzles "on", and then adjusting the relief valve until the gauge reads the desired pressure.

When selecting pressure from the tip chart, it is a good idea to try for the 20 or 30 PSI range as this allows an excellent nozzle pattern. 10 PSI begins to break up the pattern, and at 40 PSI, you may notice some drift.

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 carefully.

Some towing vehicles do not have a speedometer. You may follow these directions in that case. Determining the proper speed of the towing vehicle can be done by marking off 100, 200, and 300 ft. The speed chart indicates the number of seconds it takes to travel these distances. Adjust the throttle until you travel the distance in the number of seconds indicated by the speed chart. Once you have reached the throttle

RATE CHART FOR 8002 SPRAY TIP

Pressure P.S.I.	Capacity G.P.M.	Gallons Per Acre Based on Water - 20" Spacing						
		1 MPH 88 FPM	2 MPH 176 FPM	3 MPH 264 FPM	4 MPH 352 FPM	5 MPH 440 FPM	7.5 MPH 660 FPM	10 MPH 880 FPM
20	.14	41.8	20.9	14.0	10.5	8.4	5.6	4.2
30	.17	51.2	25.6	17.2	12.9	10.3	6.9	5.1
40	.20	59.2	29.6	19.8	14.9	11.9	7.9	5.9
50	.23	66.4	33.2	22.2	16.6	13.3	8.8	6.6

Pressure P.S.I.	Capacity G.P.M.	Gallons Per 1000 Sq. Ft. Based on Water - 20" Spacing						
		1 MPH 88 FPM	2 MPH 176 FPM	3 MPH 264 FPM	4 MPH 352 FPM	5 MPH 440 FPM	7.5 MPH 660 FPM	10 MPH 880 FPM
20	.14	.96	.48	.32	.24	.19	.13	.10
30	.17	1.18	.59	.39	.30	.24	.16	.12
40	.20	1.36	.68	.45	.34	.27	.18	.14
50	.23	1.52	.76	.51	.38	.31	.20	.15

Pressure P.S.I.	Capacity G.P.M.	Gallons Per 100 Sq. Ft. Based on Water - 20" Spacing						
		1 MPH 88 FPM	2 MPH 176 FPM	3 MPH 264 FPM	4 MPH 352 FPM	5 MPH 440 FPM	7.5 MPH 660 FPM	10 MPH 880 FPM
20	.14	.095	.048	.032	.024	.019	.012	.009
30	.17	.117	.059	.039	.029	.024	.015	.011
40	.20	.135	.068	.045	.034	.027	.018	.013
50	.23	.152	.076	.050	.038	.030	.020	.015

MPH = Miles Per Hour
PSI = Pounds Per Square Inch

FPM = Feet Per Minute
GPM = Gallons Per Minute

setting needed, mark the throttle location so you can stop and go again (returning to the same speed).

The following situation is a typical spraying example.

The chemical label says to apply 1.2 gallons of solution per 1000 sq. feet. Looking at the tip chart you see that you can spray 1.2 gallons per 1000 square feet at 30 PSI and 1 MPH. Let's say that it is a fairly still day and the ground is rough. The 30 PSI and 1 MPH will be all right for this spraying situation.

After measuring off the 100, 200, and 300 feet distances, prepare to make the trail runs. The speed chart lists the time to be 68, 136, and 205 seconds. The sprayer does not need to be running at this time. It is best to start about 10 feet ahead of the starting mark so you will be at the set throttle speed by the time you reach the starting mark.

A stopwatch would be best to use for timing the travel but a watch with a second hand can be used. Check each distance separately. By doing this you can check yourself until the time is correct.

Once you have the throttle setting determined, mark the setting so you can return to it each time you want to spray at this rate.

When you are ready to spray, mix chemical as follows. Add proper amount of water to the tank. Run the sprayer while adding chemical to the water. Do not spray through the boom at this time. This will allow solution to (bypass) return to the tank. The movement of solution through the bypass will aid in mixing the water and chemicals.

AFTER SPRAYING

WARNING: Some chemicals will damage the pump valves if allowed to soak untreated for a length of time. Always flush the pump with water after use. Do not allow chemicals to sit in pump for extended times of idleness.

After use dispose of unused chemicals per instructions of chemical manufacturer. Fill the sprayer tank part way with water, start the sprayer and allow clear water to be pumped through the plumbing system and out through the spray

nozzles. Use the handgun on the sprayer to thoroughly wash all internal parts of tank and tank cover.

Refill the tank about half full with plain water and use a chemical neutralizer such as NUTRA-SOL or equivalent and repeat cleaning instructions above. Flush the entire sprayer

with the neutralizing agent. Follow the chemical manufacturer's disposal instructions of all wash and 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 fine bristle (not wire) brush, or with a toothpick. Do not damage the orifice. Water rinse and dry tips before storing.

Ground Speed Chart

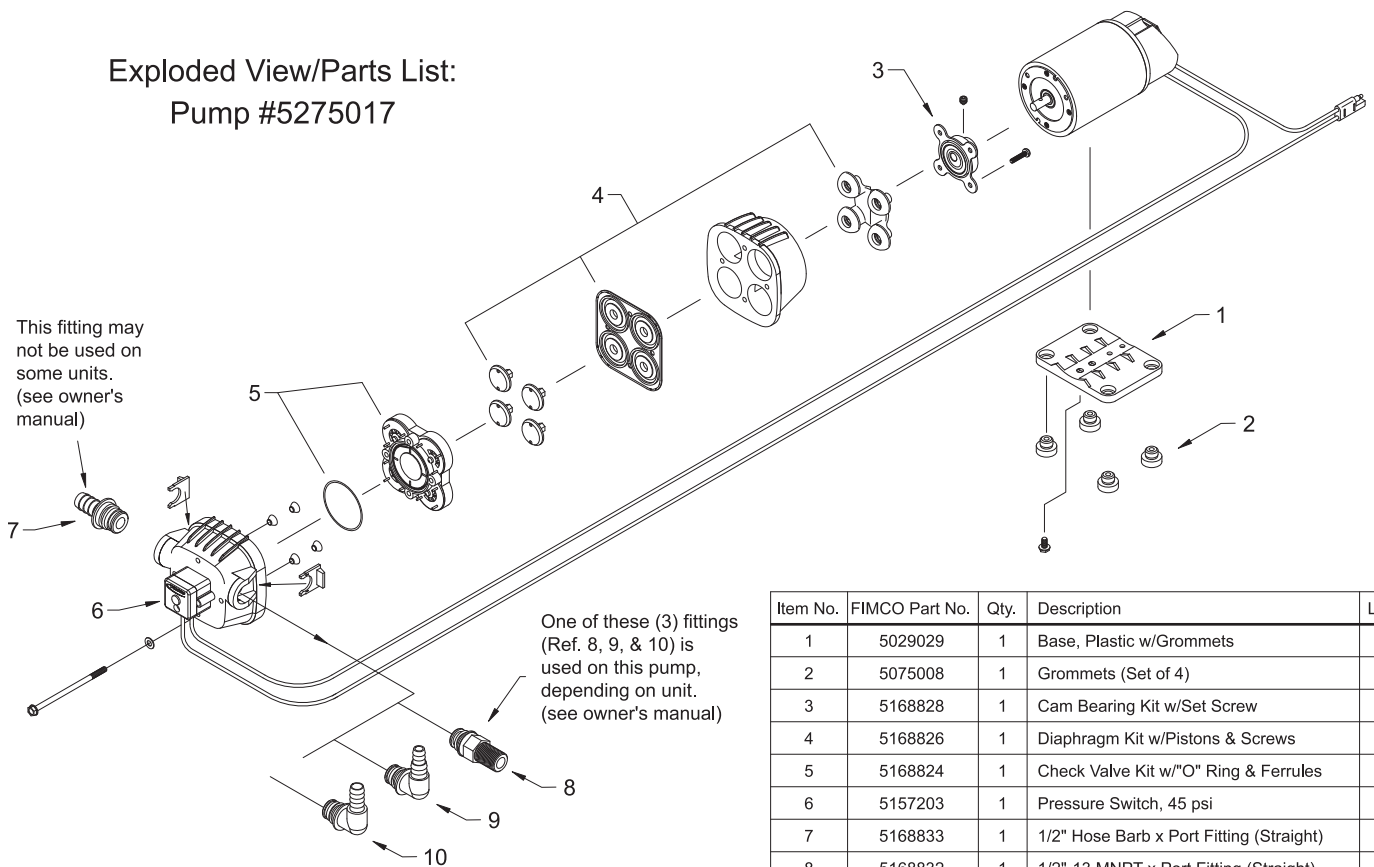
Speed in M.P.H. (Miles Per Hour)	Time Required in Seconds to Travel a distance of;		
	100 ft.	200 ft.	300 ft.
1.0	68	136	205
2.0	34	68	102
3.0	23	45	68
4.0	17	34	51
5.0	14	27	41
6.0	11	23	34
7.0	9.7	19	29
8.0	8.5	17	26
9.0	7.6	15	23
10	6.8	14	20

WINTER STORAGE

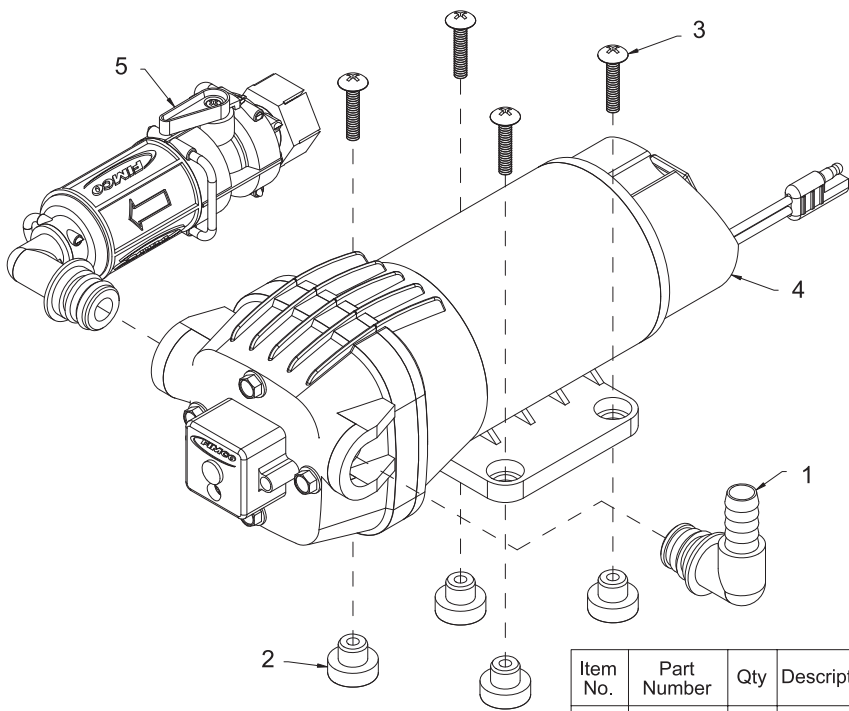
Drain all water out of the sprayer paying special attention to pump, valves, and spray gun. These items are especially prone to damage from chemicals and freezing weather.

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

Exploded View/Parts List: Pump #5275017



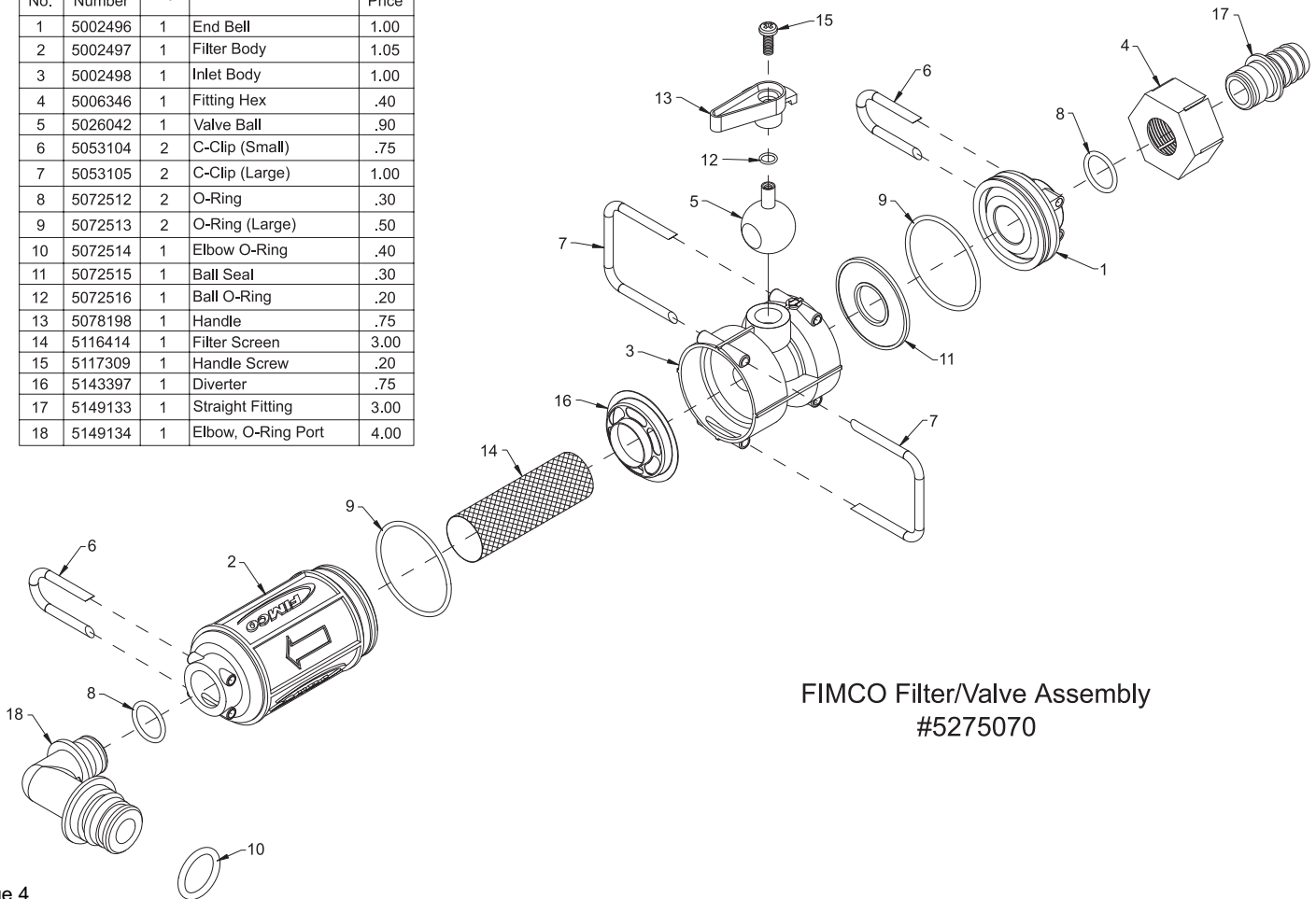
Item No.	FIMCO Part No.	Qty.	Description	List Price
1	5029029	1	Base, Plastic w/Grommets	9.25
2	5075008	1	Grommets (Set of 4)	1.82
3	5168828	1	Cam Bearing Kit w/Set Screw	—
4	5168826	1	Diaphragm Kit w/Pistons & Screws	19.96
5	5168824	1	Check Valve Kit w/"O" Ring & Ferrules	24.99
6	5157203	1	Pressure Switch, 45 psi	24.95
7	5168833	1	1/2" Hose Barb x Port Fitting (Straight)	2.24
8	5168832	1	1/2"-13 MNPT x Port Fitting (Straight)	2.24
9	5010424	1	3/8" Hose Barb Elbow x Port Fitting	1.50
10	5010426	1	1/2" Hose Barb Elbow x Port Fitting	1.49



Pump Sub-Assembly
#5274808

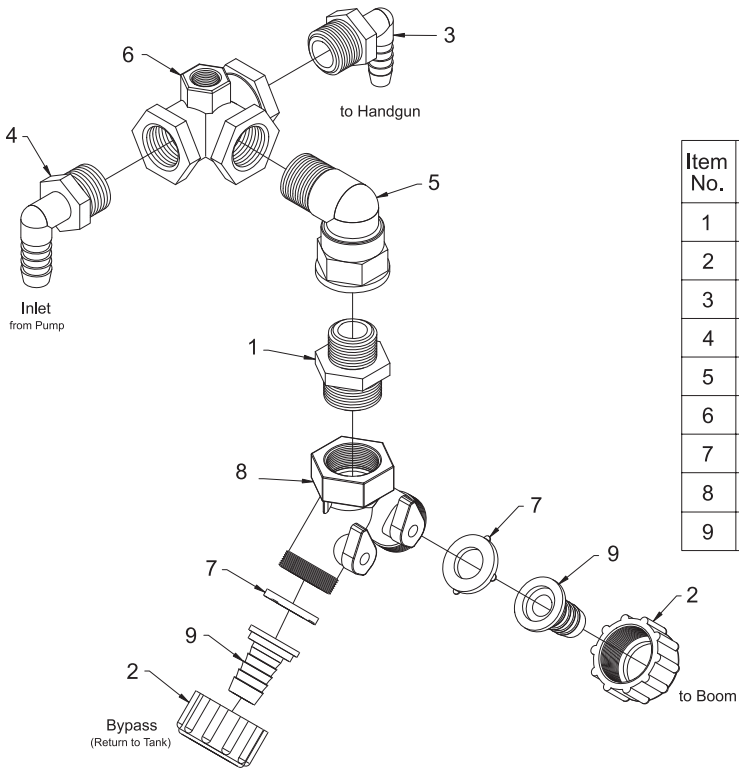
Item No.	Part Number	Qty	Description	List Price
1	5010426	1	90 Degree Port Elbow Fitting, 1/2" Hose Barb	1.49
2	5075017	1	Pump Grommets (Pkg. of 4)	---
3	5117168	4	#10-24 x 1" Phillips Truss Head Machine Screw	.25
4	5275017	1	"Quad" Pump - 12V, 4-Piston, 3.8 G.P.M.	159.00
5	5275070	1	FIMCO Filter/Valve Assembly with 1/2" HB x 1/2" Port Fitting	14.95

Item No.	Part Number	Qty	Description	List Price
1	5002496	1	End Bell	1.00
2	5002497	1	Filter Body	1.05
3	5002498	1	Inlet Body	1.00
4	5006346	1	Fitting Hex	.40
5	5026042	1	Valve Ball	.90
6	5053104	2	C-Clip (Small)	.75
7	5053105	2	C-Clip (Large)	1.00
8	5072512	2	O-Ring	.30
9	5072513	2	O-Ring (Large)	.50
10	5072514	1	Elbow O-Ring	.40
11	5072515	1	Ball Seal	.30
12	5072516	1	Ball O-Ring	.20
13	5078198	1	Handle	.75
14	5116414	1	Filter Screen	3.00
15	5117309	1	Handle Screw	.20
16	5143397	1	Diverter	.75
17	5149133	1	Straight Fitting	3.00
18	5149134	1	Elbow, O-Ring Port	4.00



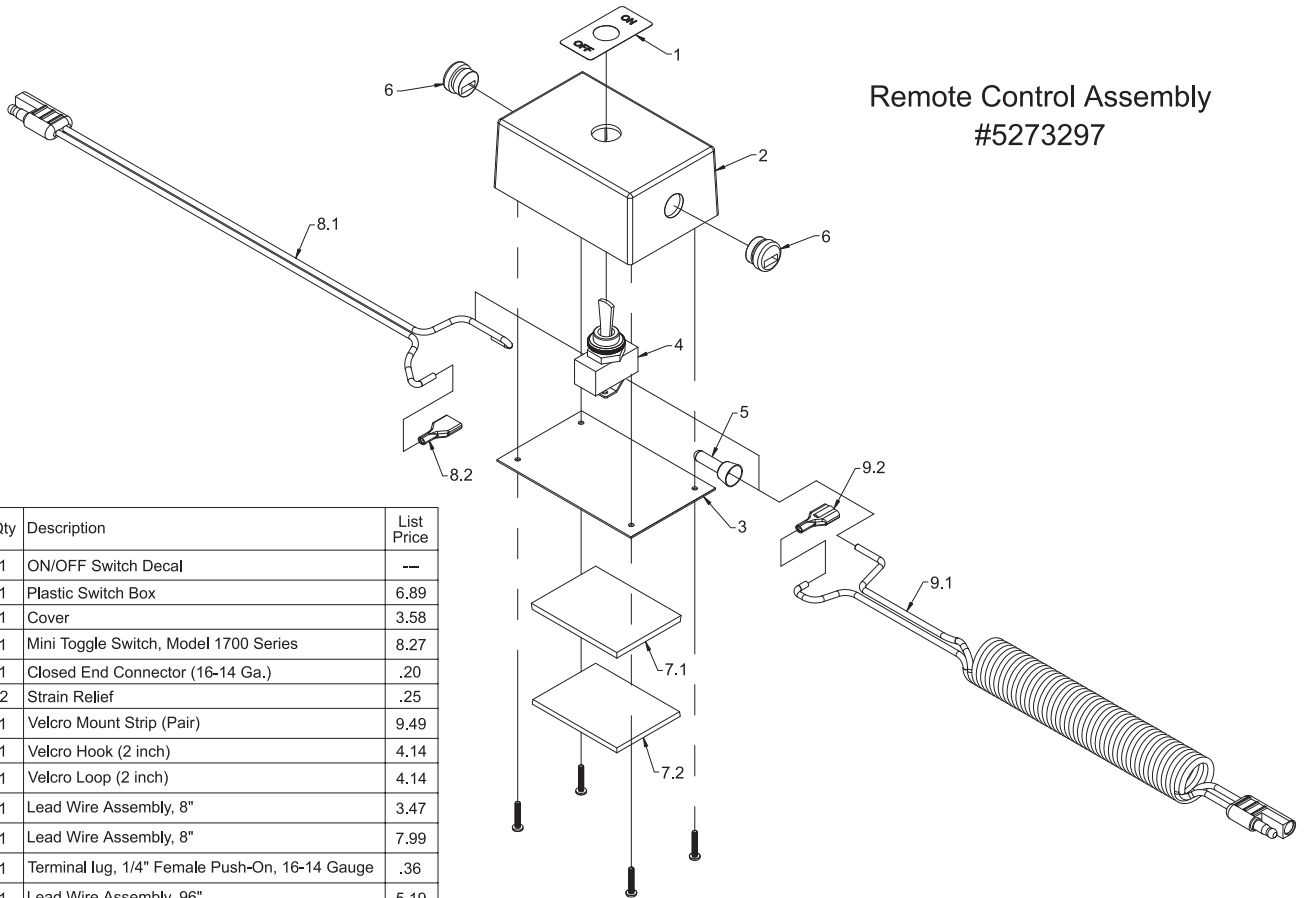
FIMCO Filter/Valve Assembly
#5275070

Valve Sub-Assembly #5274806

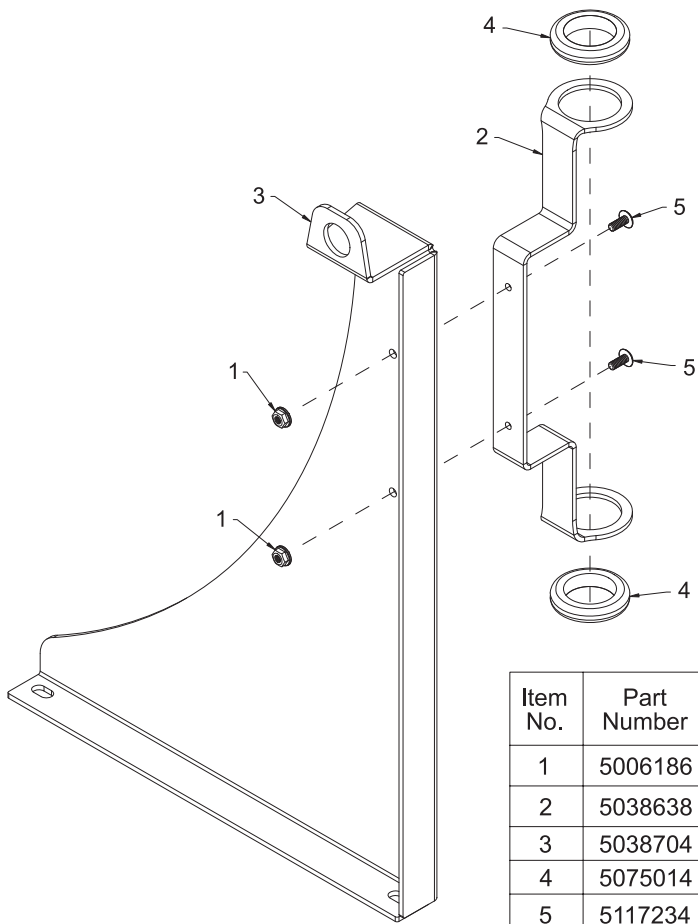


Item No.	Part Number	Qty	Description	List Price
1	5005021	1	Nylon Adapter, 1/2" MNPT x 3/4" MGHT	.61
2	5006055	2	Nylon Knurled Swivel Nut, 3/4" FGHT	.38
3	5010038	1	Nylon Elbow, 1/2" MNPT x 3/8" HB	.75
4	5010039	1	Nylon Elbow, 1/2" MNPT x 1/2" HB	.82
5	5010148	1	Nylon Street Elbow, 1/2" MNPT x 1/2" FNPT	2.16
6	5010193	1	Nylon Tee, 1/2" FNPT w/1/4" Port (Gauge)	3.31
7	5016066	2	#102 Hose Washer (Gasket) 1" O.D. Rubber	.20
8	5143204	1	#235 Dual Hose Shut-Off "Y"-Valve, 3/4" GHT	4.38
9	5149011	2	Nylon Swivel, 1/2" Flat Seat Hose Barb	.37

Remote Control Assembly #5273297



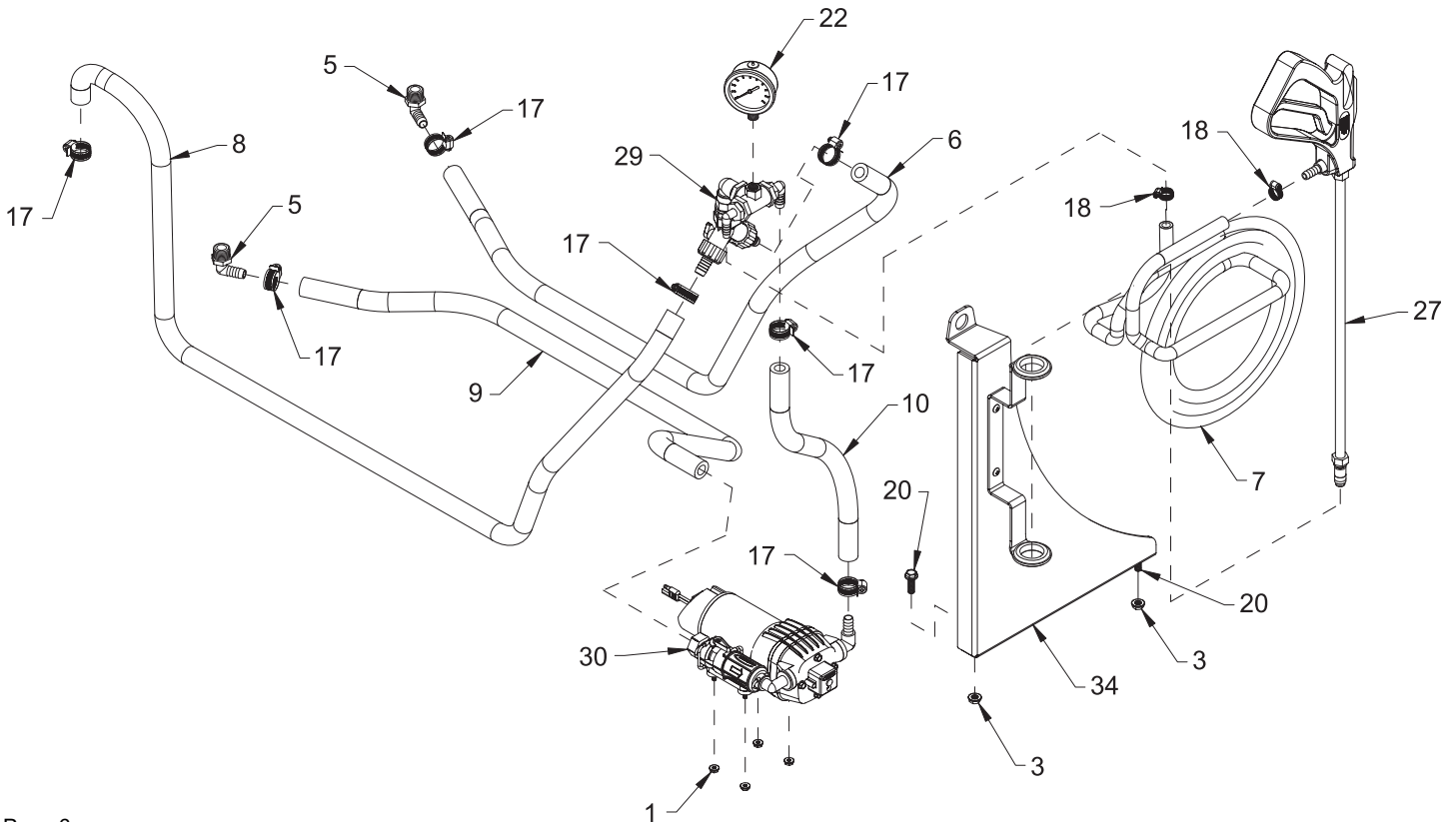
Item No.	Part Number	Qty	Description	List Price
1	5001184	1	ON/OFF Switch Decal	---
2	5047041	1	Plastic Switch Box	6.89
3	5058150	1	Cover	3.58
4	5157016	1	Mini Toggle Switch, Model 1700 Series	8.27
5	5157026	1	Closed End Connector (16-14 Ga.)	.20
6	5157082	2	Strain Relief	.25
7	5273214	1	Velcro Mount Strip (Pair)	9.49
7.1	5095080	1	Velcro Hook (2 inch)	4.14
7.2	5095081	1	Velcro Loop (2 inch)	4.14
8	5273295	1	Lead Wire Assembly, 8"	3.47
8.1	5273078	1	Lead Wire Assembly, 8"	7.99
8.2	5157049	1	Terminal lug, 1/4" Female Push-On, 16-14 Gauge	.36
9	5273296	1	Lead Wire Assembly, 96"	5.19
9.1	5273021	1	2-Wire Cable Assembly, 96"	4.00
9.2	5157049	1	Terminal lug, 1/4" Female Push-On, 16-14 Gauge	.36



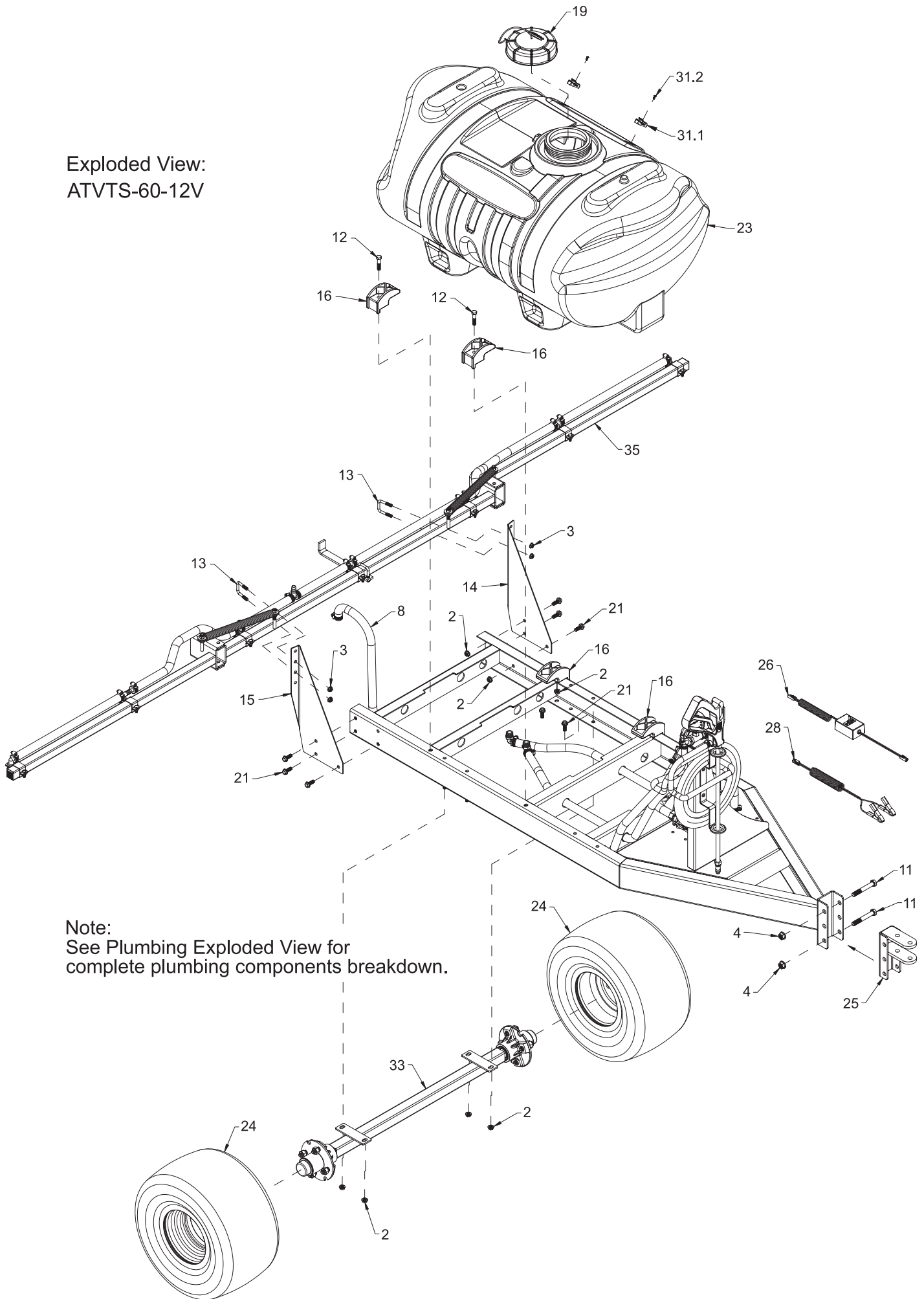
Valve Mount Sub-Assembly
#5275405

Item No.	Part Number	Qty	Description	List Price
1	5006186	2	#10-24 Hex Whiz (Flange) Locknut	.10
2	5038638	1	Handgun Holder Bracket	9.32
3	5038704	1	Valve Mount Bracket	11.61
4	5075014	2	Rubber Grommet (Black)	2.79
5	5117234	2	#10-24 x 1/2" Phillips Truss Head Machine Screw	.25

Plumbing Exploded View:
ATVTS-60-12V



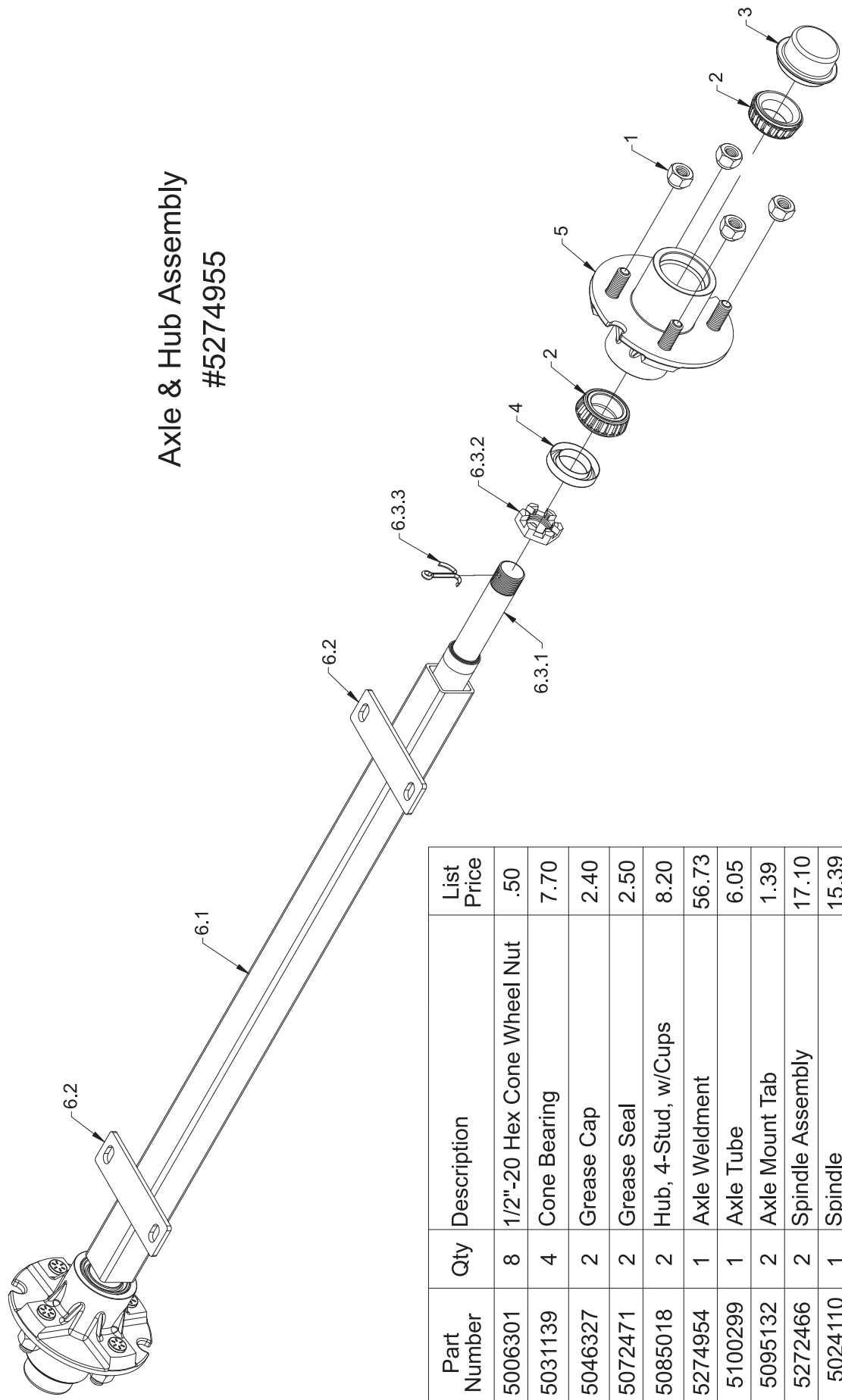
Exploded View:
ATVTS-60-12V



Repair Parts List: ATVTS-60-12V

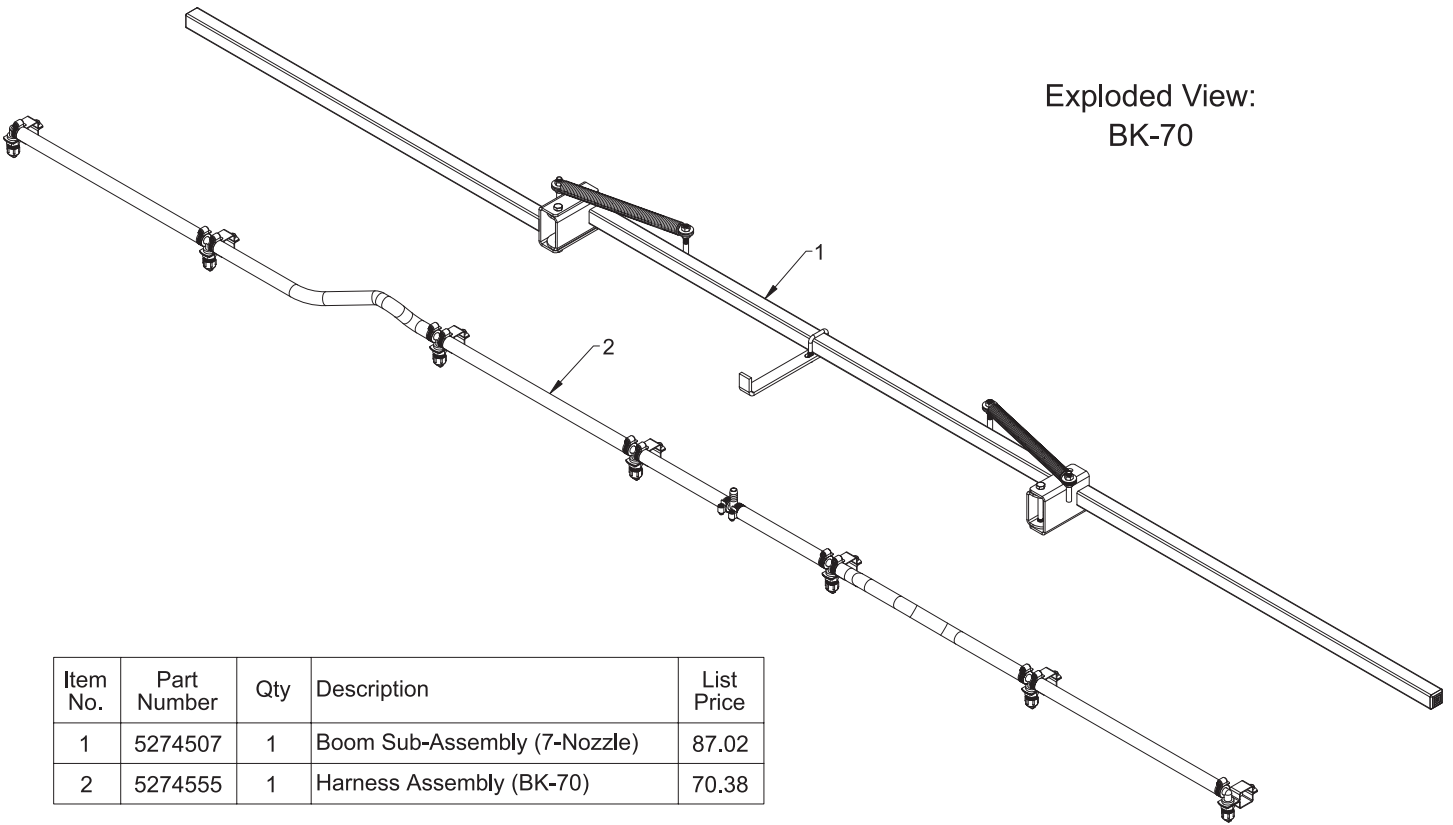
Item No.	Part Number	Qty	Description	List Price
1	5006186	4	#10-24 Hex Whiz (Flange) Locknut	.10
2	5006259	14	3/8"-16 Hex Whiz (Flange) Locknut	.18
3	5006307	6	5/16"-18 Hex Whiz (Flange) Locknut	.09
4	5006337	2	1/2"-13 Hex Whiz (Flange) Locknut	.17
5	5010039	2	Nylon Elbow, 1/2" MNPT x 1/2" HB	.82
6	5020122	1	Hose, 1/2"-1 Brd. x 48"	5.88
7	5020135	1	Hose, 3/8"-1 Brd. x 25 Ft.	14.50
8	5020167	1	Hose, 1/2"-1 Brd. x 90"	5.71
9	5020228	1	Hose 1/2"-1 Brd. x 36"	3.01
10	5020416	1	Hose, 1/2"-1 Brd. x 19 3/8"	1.55
11	5034022	2	H.H.C.S., 1/2"-13 x 3 1/2"	.44
12	5034101	4	H.H.C.S., 3/8"-16 x 1 3/4"	.50
13	5034159	2	Square U-Bolt, 5/16" x 1 5/16" x 1 7/8"	.65
14	5038671	1	Boom Mount Bracket (L.H.)	8.61
15	5038672	1	Boom Mount Bracket (R.H.)	8.61
16	5038698	4	Plastic Tank Hold-Down Leg Clip	2.93
17	5051022	7	Hose Clamp, 1/2"	.62
18	5051114	2	Hose Clamp, 3/8"	.63
19	5058183	1	FIMCO 5" Threaded Tank Lid w/Lanyard	10.50
20	5117300	2	5/16"-18 x 1" Flange Whiz Lock Screw	.22
21	5117307	10	3/8"-16 x 1" Whiz (Flange) Lockscrew	.46
22	5167031	1	Gauge, Liquid-Filled, 0-100# p.s.i.	14.50
23	5169209	1	60 Gallon Elliptical Tank (White)	129.00
24	5272464	2	Wheel, 18 x 9.5 x 8 - 4-Bolt	69.25
25	5273204	1	Hitch Clevis Weldment	23.44
26	5273297	1	Remote Control Assembly	41.60
27	5273959	1	Handgun w/X-26 Tip	36.00
28	5274281	1	Lead Wire Assembly, 96"	9.35
29	5274806	1	Valve Sub-Assembly	14.68
30	5274808	1	Pump Sub-Assembly	157.47
31	5274880	1	Pkg. (2) Handgun Clips & (2) Screws	2.85
31.1	5053096	2	Handgun Clip, for Blow-Molded Tanks	.95
31.2	5117293	2	#10-24 x 3/8" Phillips Round Head Machine Screw	.25
32	5274919	1	Frame Weldment (ATVTS-60)	221.09
33	5274955	1	Axle & Hub Assembly	130.00
34	5275405	1	Valve Mount Sub-Assembly	31.23
35	BK-70	1	7-Nozzle Boom Assembly	175.00

Axle & Hub Assembly #5274955



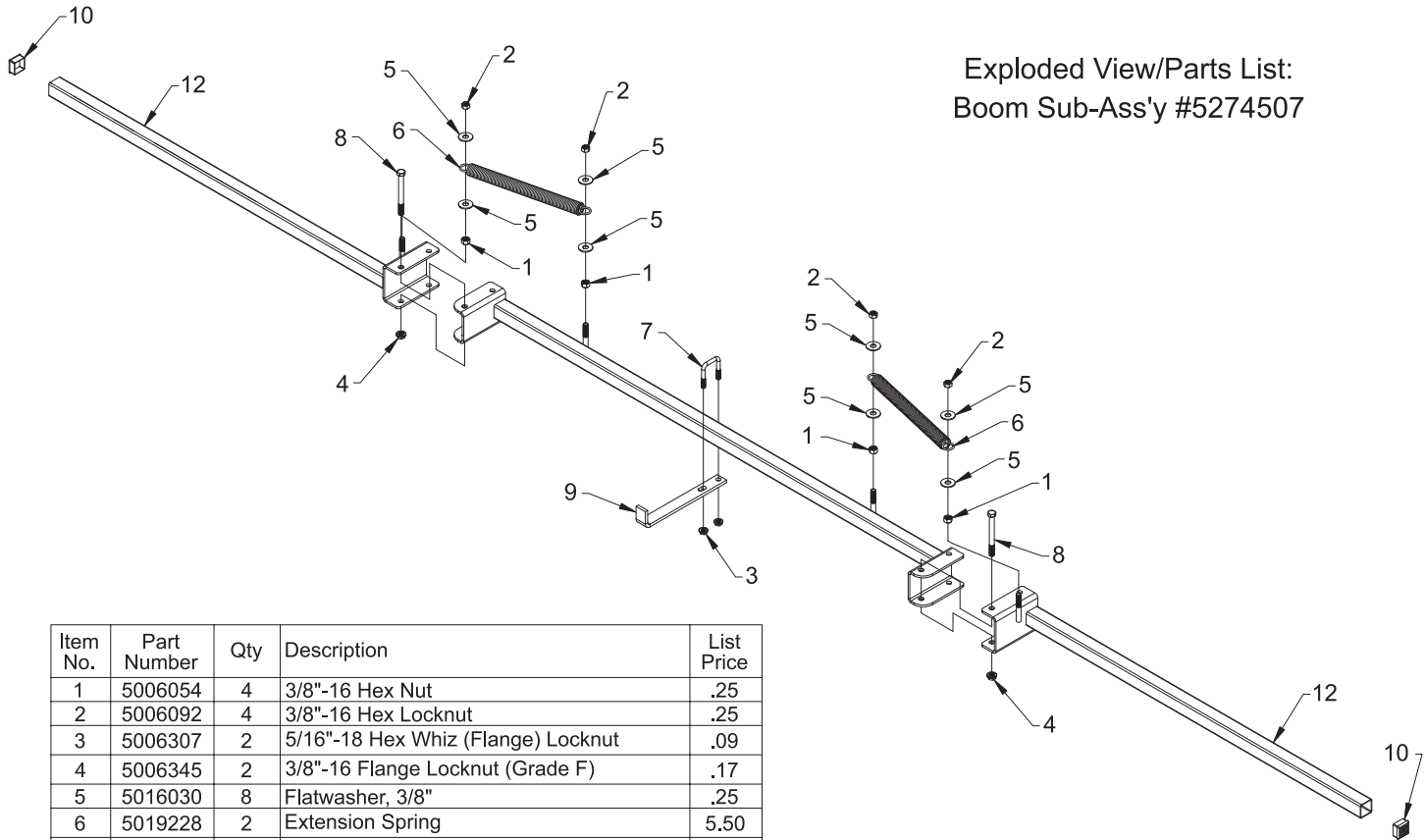
Item No.	Part Number	Qty	Description	List Price
1	5006301	8	1/2"-20 Hex Cone Wheel Nut	.50
2	5031139	4	Cone Bearing	7.70
3	5046327	2	Grease Cap	2.40
4	5072471	2	Grease Seal	2.50
5	5085018	2	Hub, 4-Stud, w/Cups	8.20
6	5274954	1	Axle Weldment	56.73
6.1	5100299	1	Axle Tube	6.05
6.2	5095132	2	Axle Mount Tab	1.39
6.3	5272466	2	Spindle Assembly	17.10
6.3.1	5024110	1	Spindle	15.39
6.3.2	5006300	1	Castle Nut, 1"	2.25
6.3.3	5101081	1	Cotter Pin, 5/32" x 2"	.18

Exploded View:
BK-70

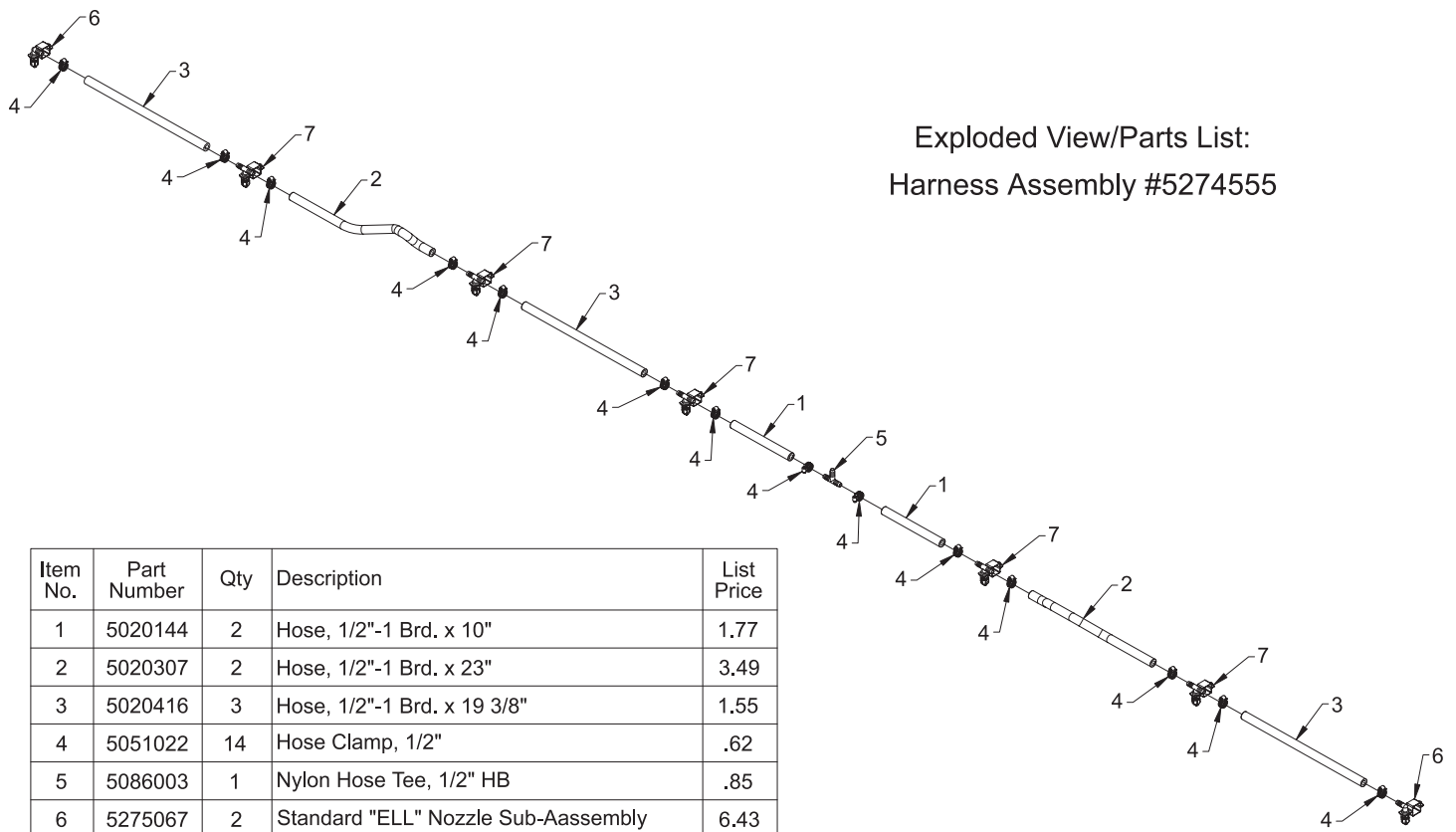


Item No.	Part Number	Qty	Description	List Price
1	5274507	1	Boom Sub-Assembly (7-Nozzle)	87.02
2	5274555	1	Harness Assembly (BK-70)	70.38

Exploded View/Parts List:
Boom Sub-Ass'y #5274507



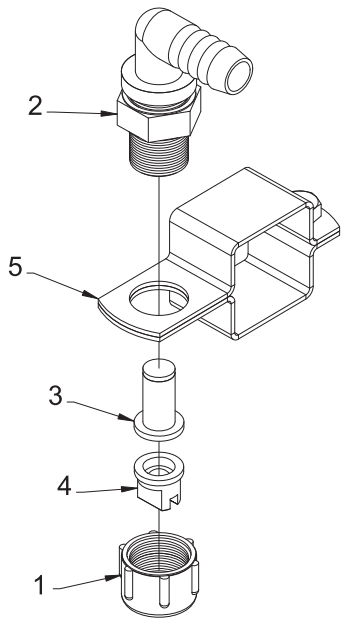
Item No.	Part Number	Qty	Description	List Price
1	5006054	4	3/8"-16 Hex Nut	.25
2	5006092	4	3/8"-16 Hex Locknut	.25
3	5006307	2	5/16"-18 Hex Whiz (Flange) Locknut	.09
4	5006345	2	3/8"-16 Flange Locknut (Grade F)	.17
5	5016030	8	Flatwasher, 3/8"	.25
6	5019228	2	Extension Spring	5.50
7	5034159	1	Square U-Bolt, 5/16" x 1 5/16" x 1 7/8"	.65
8	5034563	2	H.H.C.S., 3/8"-16 X 3 3/4"	.44
9	5038620	1	Boom Retainer Bracket	2.60
10	5046344	2	Square Cap, Black (1 1/4" Square Tube)	.21
11	5274458	1	Center Boom Weldment (BK-70)	24.06
12	5274459	2	Outer Boom Weldment	14.11



Exploded View/Parts List:
 Harness Assembly #5274555

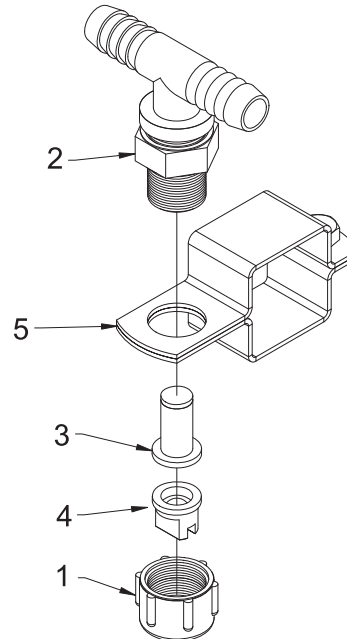
Item No.	Part Number	Qty	Description	List Price
1	5020144	2	Hose, 1/2"-1 Brd. x 10"	1.77
2	5020307	2	Hose, 1/2"-1 Brd. x 23"	3.49
3	5020416	3	Hose, 1/2"-1 Brd. x 19 3/8"	1.55
4	5051022	14	Hose Clamp, 1/2"	.62
5	5086003	1	Nylon Hose Tee, 1/2" HB	.85
6	5275067	2	Standard "ELL" Nozzle Sub-Aassembly	6.43
7	5275068	5	Standard "Tee" Nozzle Sub-Aassembly	6.47

Nozzle Assembly #5275067



Item No.	Part Number	Qty	Description	List Price
1	5046052	1	Nylon Nozzle Cap, 11/16" U.N.F. Thread	.35
2	5056023	1	Nylon Elbow, 11/16" U.N.F. x 1/2" HB	.79
3	5116019	1	50 Mesh Nozzle Strainer, Red	.93
4	5138571	1	Nylon Standard Flat Tip, 80 Degree, Yellow	.82
5	5273796	1	1 1/4" Square Boom Nozzle Clamp (BC114)	1.70

Nozzle Assembly #5275068



Item No.	Part Number	Qty	Description	List Price
1	5046052	1	Nylon Nozzle Cap, 11/16" U.N.F. Thread	.35
2	5056027	1	Nylon Tee, 11/16" U.N.F. x 1/2" HB-1/2" HB	.83
3	5116019	1	50 Mesh Nozzle Strainer, Red	.93
4	5138571	1	Nylon Standard Flat Tip, 80 Degree, Yellow	.82
5	5273796	1	1 1/4" Square Boom Nozzle Clamp (BC114)	1.70