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# FE3 Falcon Electric 3-ft Covered Walking Sprayer



## Assembly, Parts and Operator's Manual

Version FE1010

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# Safety

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Many people die or suffer serious injury in job related accidents every year due to carelessness. Know your machinery and be aware of potential hazards. Put safety first in all your operations.

Review all instructions and procedures outlined in this manual annually. Every operator must familiarize himself with the operating instructions of the sprayer.

## Operational Safety

Shut down sprayer and power unit and wait for all parts to stop before adjusting, cleaning, or lubricating the power unit or sprayer.

Before spraying a field familiarize yourself with any rocks, debris, trees, ditches or gullies that may be potentially dangerous. Plan the spraying route to avoid these hazards.

Spray only chemicals that unit was designed for, (ie turf application). Do not use products for which unit was not designed, (ie PAINT, sealants, cleaning fluids, dust inhibitors, ice surfaces).

## Minimize Chemical Drift

The **Falcon** sprayer was designed in a wind tunnel to control air flow around and behind the sprayer minimizing drift to allow safer spraying in windy conditions.

Drift can blow off a field after it has been sprayed, especially in high winds. Reasonable caution should be taken in order to spray effectively and safely.

**For maximum drift control, keep curtain in contact with the ground to ensure a seal to it. Drift control of the Falcon is less effective when the wind blows the curtain off the crop canopy breaking the seal between the curtain and the crop.**

# General Spraying Information

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## Application Tips

Always use clean filtered water in the sprayer tank.

Your **Falcon** Drift Containment Spray System (DCSS) comes standard with stainless steel insert tips. Please contact your manufacturer or see the application rate table in this manual for various sizes of tips available for your machine.

Check the flow rate from all nozzles using the capacity calibration technique; see the Calibration section for tables and instructions. Use clean filtered water for all calibration testing. Adjust the sprayer pressure to get the proper flow rate. The flow meters are not accurate enough in absolute terms to be used as a flow meter. In relative terms they are very accurate.

<b>Caution:</b> Conventional tips are rated at 40 psi (3 bar), for example a 8004 tip at 40 psi (3 bar) delivers 0.4 US gal/min (1.5 litres/min) . Only conventional 80° tips are recommended for the <b>Falcon FE</b> series. Wider angle tips (110°) have a wider pattern than 80° and will hit the curtain at the ends of the boom and are not recommended.
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## Nozzles

Despite being the most important component for accurate uniform spraying application, nozzles are often neglected and abused.

Nozzle flow rate depends on effective orifice size and pressure. Spray tip manufacturers have supplied tables of nozzle application rates at various pressures, for the best results it is recommended that you follow these guidelines.

The rule of thumb is that as you increase the pressure to your unit the average droplet size decreases. Normally with conventional open boom sprayers large droplets are used to control drift but large droplets can roll off plants without sticking. With the **Falcon** covered spray system you will be able spray with smaller droplets, increase coverage and not worry about drift.

The spray patterns must overlap for even coverage but should not interfere with one another. Nozzles are set at a 10° angle so that one edge of its pattern will be just behind the edge of its adjacent spray pattern, evading interference with each other.

<p><b>Caution:</b> When spraying next to a flower bed, do not spray over the turf edge as the spray will go under the curtain and onto the flowers</p>
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## Diaphragm Check Valve Nozzle Bodies

Diaphragm check valves close at approximately 15 psi (1 bar) to prevent excessive dripping. Should the cap on the valve loosen or the check valve diaphragm become misaligned, the body may leak. Stop the leak by, tightening the check valve cap or remove the cap and inspect the seal for damage or improper assembly.

To check for defective check valves when the spraying stop control has been actuated, the volume that drips from each nozzle should not exceed 2ml timed over a 5 minute period. The measuring is to start 8 seconds after the flow to the spray boom is shut off.

Nozzle caps are attached by engaging the cap and turning clockwise about a third of a turn. Self-aligning caps have a slot to align the tips. Ensure that the tips fit down into the slotted hole before installing caps on the diaphragm nozzle body assembly with the tip screens.

Non-aligning caps are also available for special tips.

## Calibration

As a tip wears recalibration may be required. Collect the output from each nozzle for 60 seconds, using an accurate measuring cup. Use clear water for all testing. Record the output from each nozzle. Replace nozzles that are more than 5% above or below the average reading, or has a visibly distorted pattern.

## Application Rates, 12" Spacing

### 80 Deg. Tips

Rogers Part #	Tip Number	Liquid Press psi	Capacity 1 nozzle gpm	U. S. GALLONS PER ACRE					U. S. GALLONS PER 1000 SQ. FT.					Press bars
				2.5	3	4	5	7	2.5	3	4	5	7	
				mph	mph	mph	mph	mph	mph	mph	mph	mph	mph	
05872	800067SS (200 mesh)	30	0.058	11.5	9.6	7.2	5.7	4.1	0.26	0.22	0.16	0.13	0.09	2.07
		40	0.067	13.3	11.1	8.3	6.6	4.7	0.30	0.25	0.19	0.15	0.11	2.76
		50	0.075	14.8	12.4	9.3	7.4	5.3	0.34	0.28	0.21	0.17	0.12	3.45
		60	0.082	16.2	13.5	10.2	8.1	5.8	0.37	0.31	0.23	0.19	0.13	4.14
01369	8001VS (100 mesh)	30	0.087	17.1	14.3	10.7	8.6	6.1	0.39	0.33	0.25	0.20	0.14	2.07
		40	0.100	19.8	16.5	12.4	9.9	7.1	0.45	0.38	0.28	0.23	0.16	2.76
		50	0.112	22.1	18.4	13.8	11.1	7.9	0.51	0.42	0.32	0.25	0.18	3.45
		60	0.122	24.2	20.2	15.2	12.1	8.7	0.56	0.46	0.35	0.28	0.20	4.14
00827 13351	80015VS or API-80015 (100 mesh)	30	0.130	25.7	21.4	16.1	12.9	9.2	0.59	0.49	0.37	0.29	0.21	2.07
		40	0.150	29.7	24.8	18.6	14.9	10.6	0.68	0.57	0.43	0.34	0.24	2.76
		50	0.168	33.2	27.7	20.8	16.6	11.9	0.76	0.63	0.48	0.38	0.27	3.45
		60	0.184	36.4	30.3	22.7	18.2	13.0	0.83	0.69	0.52	0.42	0.30	4.14
05876 14384	8002VS or AXI-8002 (50 mesh)	30	0.173	34.3	28.6	21.4	17.1	12.2	0.79	0.65	0.49	0.39	0.28	2.07
		40	0.200	39.6	33.0	24.8	19.8	14.1	0.91	0.76	0.57	0.45	0.32	2.76
		50	0.224	44.3	36.9	27.7	22.1	15.8	1.01	0.84	0.63	0.51	0.36	3.45
		60	0.245	48.5	40.4	30.3	24.2	17.3	1.11	0.93	0.69	0.56	0.40	4.14
05877 14385	8003VS or AXI-8003 (50 mesh)	30	0.260	51.4	42.9	32.2	25.7	18.4	1.18	0.98	0.74	0.59	0.42	2.07
		40	0.300	59.4	49.5	37.1	29.7	21.2	1.36	1.13	0.85	0.68	0.49	2.76
		50	0.335	66.4	55.3	41.5	33.2	23.7	1.52	1.27	0.95	0.76	0.54	3.45
		60	0.367	72.7	60.6	45.5	36.4	26.0	1.67	1.39	1.04	0.83	0.59	4.14
05878 14061	8004VS or AXI-8004 (50 mesh)	30	0.346	68.6	57.2	42.9	34.3	24.5	1.57	1.31	0.98	0.79	0.56	2.07
		40	0.400	79.2	66.0	49.5	39.6	28.3	1.81	1.51	1.13	0.91	0.65	2.76
		50	0.447	88.5	73.8	55.3	44.3	31.6	2.03	1.69	1.27	1.01	0.72	3.45
		60	0.490	97.0	80.8	60.6	48.5	34.6	2.22	1.85	1.39	1.11	0.79	4.14
05879 14386	8005VS or AXI-8005 (50 mesh)	30	0.433	85.7	71.4	53.6	42.9	30.6	1.96	1.64	1.23	0.98	0.70	2.07
		40	0.500	99.0	82.5	61.9	49.5	35.4	2.27	1.89	1.42	1.13	0.81	2.76
		50	0.559	110.7	92.2	69.2	55.3	39.5	2.53	2.11	1.58	1.27	0.91	3.45
		60	0.612	121.2	101.0	75.8	60.6	43.3	2.78	2.31	1.74	1.39	0.99	4.14
05880 14387	8006VS or AXI-8006 (50 mesh)	30	0.520	102.9	85.7	64.3	51.4	36.7	2.36	1.96	1.47	1.18	0.84	2.07
		40	0.600	118.8	99.0	74.3	59.4	42.4	2.72	2.27	1.70	1.36	0.97	2.76
		50	0.671	132.8	110.7	83.0	66.4	47.4	3.04	2.53	1.90	1.52	1.09	3.45
		60	0.735	145.5	121.2	90.9	72.7	52.0	3.33	2.78	2.08	1.67	1.19	4.14
05881	8008VS (50 mesh)	30	0.693	137.2	114.3	85.7	68.6	49.0	3.14	2.62	1.96	1.57	1.12	2.07
		40	0.800	158.4	132.0	99.0	79.2	56.6	3.63	3.02	2.27	1.81	1.30	2.76
		50	0.894	177.1	147.6	110.7	88.5	63.2	4.05	3.38	2.53	2.03	1.45	3.45
		60	0.980	194.0	161.7	121.2	97.0	69.3	4.44	3.70	2.78	2.22	1.59	4.14
13674	MR8010 (50 mesh)	30	0.866	171.5	142.9	107.2	85.7	61.2	3.93	3.27	2.45	1.96	1.40	2.07
		40	1.000	198.0	165.0	123.8	99.0	70.7	4.53	3.78	2.83	2.27	1.62	2.76
		50	1.118	221.4	184.5	138.4	110.7	79.1	5.07	4.22	3.17	2.53	1.81	3.45
		60	1.225	242.5	202.1	151.6	121.2	86.6	5.55	4.63	3.47	2.78	1.98	4.14
14010	MR8015 (50 mesh)	30	1.299	257.2	214.3	160.8	128.6	91.9	5.89	4.91	3.68	2.94	2.10	2.07
		40	1.500	297.0	247.5	185.6	148.5	106.1	6.80	5.67	4.25	3.40	2.43	2.76
		50	1.677	332.1	276.7	207.5	166.0	118.6	7.60	6.34	4.75	3.80	2.72	3.45
		60	1.837	363.7	303.1	227.3	181.9	129.9	8.33	6.94	5.21	4.16	2.97	4.14
14195	MR8020 (50 mesh)	30	1.732	342.9	285.8	214.3	171.5	122.5	7.85	6.54	4.91	3.93	2.80	2.07
		40	2.000	396.0	330.0	247.5	198.0	141.4	9.07	7.56	5.67	4.53	3.24	2.76
		50	2.236	442.7	369.0	276.7	221.4	158.1	10.14	8.45	6.34	5.07	3.62	3.45
		60	2.449	485.0	404.2	303.1	242.5	173.2	11.10	9.25	6.94	5.55	3.97	4.14

## Application Rates, 12" Spacing 80 Deg. Tips

Rogers Part #	Tip Number	Liquid Press psi	Capacity 1 nozzle gpm	U. S. GALLONS PER ACRE					Liters/Hectare (L/Ha)					Press bars
				2.5	3	4	5	7	4	4.8	6.4	8	11.2	
				mph	mph	mph	mph	mph	kph	kph	kph	kph	kph	
05872	800067SS (200 mesh)	30	0.058	11.5	9.6	7.2	5.7	4.1	107.42	89.52	67.14	53.71	38.36	0.28
		40	0.067	13.3	11.1	8.3	6.6	4.7	124.04	103.36	77.52	62.02	44.30	0.33
		50	0.075	14.8	12.4	9.3	7.4	5.3	138.68	115.56	86.67	69.34	49.53	0.37
		60	0.082	16.2	13.5	10.2	8.1	5.8	151.91	126.59	94.95	75.96	54.25	0.40
01369	8001VS (100 mesh)	30	0.087	17.1	14.3	10.7	8.6	6.1	160.33	133.61	100.20	80.16	57.26	0.42
		40	0.100	19.8	16.5	12.4	9.9	7.1	185.13	154.28	115.71	92.57	66.12	0.49
		50	0.112	22.1	18.4	13.8	11.1	7.9	206.98	172.48	129.36	103.49	73.92	0.55
		60	0.122	24.2	20.2	15.2	12.1	8.7	226.74	188.95	141.71	113.37	80.98	0.60
00827	80015VS or	30	0.130	25.7	21.4	16.1	12.9	9.2	240.49	200.41	150.31	120.25	85.89	0.63
		40	0.150	29.7	24.8	18.6	14.9	10.6	277.70	231.41	173.56	138.85	99.18	0.73
13351	API-80015 (100 mesh)	50	0.168	33.2	27.7	20.8	16.6	11.9	310.47	258.73	194.05	155.24	110.88	0.82
		60	0.184	36.4	30.3	22.7	18.2	13.0	340.11	283.42	212.57	170.05	121.47	0.90
05876	8002VS or	30	0.173	34.3	28.6	21.4	17.1	12.2	320.65	267.21	200.41	160.33	114.52	0.85
		40	0.200	39.6	33.0	24.8	19.8	14.1	370.26	308.55	231.41	185.13	132.24	0.98
14384	AXI-8002 (50 mesh)	50	0.224	44.3	36.9	27.7	22.1	15.8	413.96	344.97	258.73	206.98	147.84	1.09
		60	0.245	48.5	40.4	30.3	24.2	17.3	453.47	377.90	283.42	226.74	161.96	1.20
05877	8003VS or	30	0.260	51.4	42.9	32.2	25.7	18.4	480.98	400.82	300.61	240.49	171.78	1.27
		40	0.300	59.4	49.5	37.1	29.7	21.2	555.39	462.83	347.12	277.70	198.35	1.46
14385	AXI-8003 (50 mesh)	50	0.335	66.4	55.3	41.5	33.2	23.7	620.94	517.45	388.09	310.47	221.77	1.64
		60	0.367	72.7	60.6	45.5	36.4	26.0	680.21	566.84	425.13	340.11	242.93	1.79
05878	8004VS or	30	0.346	68.6	57.2	42.9	34.3	24.5	641.31	534.42	400.82	320.65	229.04	1.69
		40	0.400	79.2	66.0	49.5	39.6	28.3	740.52	617.10	462.83	370.26	264.47	1.95
14061	AXI-8004 (50 mesh)	50	0.447	88.5	73.8	55.3	44.3	31.6	827.93	689.94	517.45	413.96	295.69	2.18
		60	0.490	97.0	80.8	60.6	48.5	34.6	906.95	755.79	566.84	453.47	323.91	2.39
05879	8005VS or	30	0.433	85.7	71.4	53.6	42.9	30.6	801.64	668.03	501.02	400.82	286.30	2.11
		40	0.500	99.0	82.5	61.9	49.5	35.4	925.65	771.38	578.53	462.83	330.59	2.44
14386	AXI-8005 (50 mesh)	50	0.559	110.7	92.2	69.2	55.3	39.5	1034.91	862.42	646.82	517.45	369.61	2.73
		60	0.612	121.2	101.0	75.8	60.6	43.3	1133.69	944.74	708.55	566.84	404.89	2.99
05880	8006VS or	30	0.520	102.9	85.7	64.3	51.4	36.7	961.96	801.64	601.23	480.98	343.56	2.54
		40	0.600	118.8	99.0	74.3	59.4	42.4	1110.78	925.65	694.24	555.39	396.71	2.93
14387	AXI-8006 (50 mesh)	50	0.671	132.8	110.7	83.0	66.4	47.4	1241.89	1034.91	776.18	620.94	443.53	3.27
		60	0.735	145.5	121.2	90.9	72.7	52.0	1360.42	1133.69	850.26	680.21	485.87	3.59
05881	8008VS (50 mesh)	30	0.693	137.2	114.3	85.7	68.6	49.0	1282.62	1068.85	801.64	641.31	458.08	3.38
		40	0.800	158.4	132.0	99.0	79.2	56.6	1481.04	1234.20	925.65	740.52	528.94	3.90
		50	0.894	177.1	147.6	110.7	88.5	63.2	1655.85	1379.88	1034.91	827.93	591.38	4.36
		60	0.980	194.0	161.7	121.2	97.0	69.3	1813.90	1511.58	1133.69	906.95	647.82	4.78
13674	MR8010 (50 mesh)	30	0.866	171.5	142.9	107.2	85.7	61.2	1603.27	1336.06	1002.05	801.64	572.60	4.23
		40	1.000	198.0	165.0	123.8	99.0	70.7	1851.30	1542.75	1157.06	925.65	661.18	4.88
		50	1.118	221.4	184.5	138.4	110.7	79.1	2069.82	1724.85	1293.64	1034.91	739.22	5.46
		60	1.225	242.5	202.1	151.6	121.2	86.6	2267.37	1889.48	1417.11	1133.69	809.78	5.98
14010	MR8015 (50 mesh)	30	1.299	257.2	214.3	160.8	128.6	91.9	2404.91	2004.09	1503.07	1202.45	858.90	6.34
		40	1.500	297.0	247.5	185.6	148.5	106.1	2776.95	2314.13	1735.59	1388.48	991.77	7.32
		50	1.677	332.1	276.7	207.5	166.0	118.6	3104.72	2587.27	1940.45	1552.36	1108.83	8.18
		60	1.837	363.7	303.1	227.3	181.9	129.9	3401.06	2834.21	2125.66	1700.53	1214.66	8.96
14195	MR8020 (50 mesh)	30	1.732	342.9	285.8	214.3	171.5	122.5	3206.55	2672.12	2004.09	1603.27	1145.19	8.45
		40	2.000	396.0	330.0	247.5	198.0	141.4	3702.60	3085.50	2314.13	1851.30	1322.36	9.76
		50	2.236	442.7	369.0	276.7	221.4	158.1	4139.63	3449.69	2587.27	2069.82	1478.44	10.91
		60	2.449	485.0	404.2	303.1	242.5	173.2	4534.74	3778.95	2834.21	2267.37	1619.55	11.95

Run a speed test in the area to be sprayed. The sprayer must be up to speed before starting the test run. To determine the speed mark off a distance as found on one of the tables. Push the sprayer over this distance carefully noting and recording the time to cover the distance. The speed traveled can be found for the specific distance and time to travel using the tables below.

After the nozzles have been individually checked and matched, the sprayer should be calibrated to determine the correct speed for the desired application volume. To get area covered multiply the width (FE3 – 3ft(.91m), FE4 – 4ft(1.22m), FE6 – 6ft(1.83m)) x distance.

**Table 3:** Time in Seconds to Travel Distance of:

	10	25	50	100	200
mph	(ft)	(ft)	(ft)	(ft)	(ft)
1	6.8	17.0	34.1	68.2	136.0
1.5	4.5	11.4	22.7	45.5	90.9
2	3.4	8.5	17.0	34.1	68.2
2.5	2.7	6.8	13.6	27.3	54.5
3	2.3	5.7	11.4	22.7	45.5
4	1.7	4.3	8.5	17.0	34.1
5	1.4	3.4	6.8	13.6	27.3
6	1.1	2.8	5.7	11.4	22.7

**Table 4:** Time in Seconds to Travel a Distance of:

	10	25	50	100	200
Km/h	(m)	(m)	(m)	(m)	(m)
1	36.0	90.0	180.0	360.0	720.0
1.5	24.0	60.0	120.0	240.0	480.0
2	18.0	45.0	90.0	180.0	360.0
2.5	14.4	36.0	72.0	144.0	288.0
3	12.0	30.0	60.0	120.0	240.0
4	9.0	22.5	45.0	90.0	180.0
5	7.2	18.0	36.0	72.0	144.0
6	6.0	15.0	30.0	60.0	120.0

**Note:** Tip pressure is usually less than the pressure at the pump. Losses occur in valves, hoses, etc. Always check the flow by the above calibration method.

## General Maintenance

### Cleaning

Sprayers need to be cleaned to prevent corrosion and cross contamination of chemicals. Trace amounts of one chemical can react with another or carry over to the next spraying and cause crop damage, especially with pesticides. Long exposures with even small amounts of some chemicals can damage sprayer components either by corrosion or gum deposits. If you spray crops that are very susceptible to injury from the last chemical used (ie vegetables, turf, and ornamentals) clean the unit especially well.

Always try to end the day with an empty tank; avoid contamination of water supplies and injury to plants or animals. Do not make puddles that might be accessible to children, pets, farm animals, or wildlife. Flush with clean water preferably after each day's operation. If you plan to use the same material over several days most chemicals may be kept in the tank overnight, labels on the chemical usually indicates which may not. Rinse the outside of the sprayer. Surfactants combined with chemicals, when they are compatible, will provide some cleaning action in the sprayer.

Some chemical combinations (especially if oil is used) may produce a putty type paste (buttering out) in the sprayer tank and components; flushing with water after each load may prevent an accumulation. If water alone does not dissolve and remove the buildup, add solvent, kerosene, or other low flammable solvent; allow paste to dissolve, then agitate and flush. Next, flush with detergent and finally with clean water. Check with your chemical agent.

Whenever pesticides are changed, or before sprayer storage, clean sprayers thoroughly with a cleaning solution. The solution used depends on the chemical to be removed from the sprayer. Check the chemical label for cleaning instructions.

First flush with water, then add the cleaning solution to the tank and thoroughly agitate before flushing. Always flush with clean water to remove the cleaning solution. Remove nozzle tips and screens; clean them in a strong detergent solution or kerosene, using a soft brush such as an old toothbrush. Never use a metal probe to clean the orifice of a spray tip!

Follow the same safety precautions during cleaning as for applications. Use a respirator, rubber gloves, or other protective gear as may be directed by label instructions.

If a nozzle becomes blocked, turn the sprayer off. Note that the spray lines could still be pressurized therefore prior to removing the cap on the nozzle body, proper safety equipment should be worn, (ie gloves, eye protection, etc).

## Sunshine

Many plastic sprayer parts are degraded by ultra violet light, especially the nozzle flow indicators. Store the sprayer in the shade to extend the length of service.

## Winterizing

After the sprayer is thoroughly cleaned, put 2-5 gallons (7-19 litres) of rust inhibitor or antifreeze in the tank prior to the final flushing to help prevent corrosion. As the water is pumped from the sprayer, the antifreeze will leave a protective coating on the inside of the tank, pump, and plumbing. Remove nozzle tips, screens and no-drip valves (if used) and store them in a can of light oil such as diesel fuel or kerosene to prevent corrosion. Close nozzle openings with tape to prevent dirt, insects, mice, or other contaminants from entering.

During the final cleaning, completely check the sprayer. Look at the hoses, clamps, connections, nozzle tips, and screens for needed replacements. Store the sprayer in a reasonably clean and dry building.

## Assembly

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There is more than one way to successfully assemble your **Falcon** sprayer. Following the outlined steps will help to ensure a simple, trouble free assembly. All assembly references to left and right are referring to the sprayer left and right when facing the rear of the sprayer. Two people are required to remove sprayer from carton, or for any general lifting of the equipment (ie lifting into transport).

### Front Wheel Installation

- ⇒ See General Assembly drawing for layout.
- ⇒ Locate four, (4) holes on the front of the sprayer, two, (2) to each side of the Windfoil logo.
- ⇒ Bolt the front wheel mount to these holes.
- ⇒ Slide front castor fork through castor bushing and insert cotter pins to secure.
- ⇒ Grease castor prior to use if required.
- ⇒ Install all three poly wheels.

### Handle Attachment

- ⇒ Place the handle in position so that the tube is on the outside of the mounting plates.
- ⇒ Bolt handle into place.
- ⇒ Plug in pump wire harness

### Hose & Tank

- ⇒ Thread one end of hose (1/2"FNPT) into bottom fitting on tank (if required). Insert other end into input on pump (left side), slide lock down to clamp into place.
- ⇒ Set tank on brackets, studs in tank should line up with holes on brackets. Secure with 1/4" nylock nuts.

### Last Check

- ⇒ Recheck all assembled parts for completeness and secure connections.
- ⇒ Locate the grease nipple on the front caster wheel and grease it.
- ⇒ Your sprayer is now ready for a wet test, to ensure complete operation.

## Operation

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Stainless Steel insert tips are supplied with the **Falcon FE series**; it can also use ceramic, brass or plastic insert tips that give an actual 80° spray pattern.

With the unit fully assembled, attach the battery clips to the battery on the front of the unit. (be sure that the toggle switch on the handle bar is off, pump should not run once clips are on battery). (NOTE: red clip is for positive post on battery). With liquid in the tank, loosen the pressure regulator fully, ie loosen lock nut on regulator and turn top knob on pressure regulator counter clockwise. Next turn unit on by flipping the switch on the handle bar, slowly tighten pressure regulator (turn clockwise) until pressure on gauge rises to 40 psi (3 bar). (NOTE: to obtain optimum pattern, you should always try and operate your spray nozzles as close to 40 psi (3bar) as possible). Due to losses in the system you might want to run your system at 42-43 psi, this should give you close to 40 psi at the tip. (NOTE: Be careful not to run the pump on an empty tank, this could cause a vapour lock in the system. To fix the problem, make sure there is something in the tank, remove the output supply hose on the pump and start the system, take precautions as your chemical will start coming through the pump, once the liquid starts flowing shut the system off, reconnect the line and continue spraying). Watch each of the balls in the flow indicator as you spray, they should all raise to an equal level. If they are not equal the lower ball(s) indicated tips that are plugged or partially plugged. Check and clean the appropriate tip(s). If the balls are right at the top, the flow rate is too high for them. Replace them with the required balls for the tips (see the flow monitor page).

Test the unit using clear water on a firm surface such as asphalt or concrete before using spray solution. This will illustrate the effectiveness of the individual spray patterns.

Note: As this is a self contained sprayer with a small tank and does not have a separate fresh water tank, it is recommended that when filling and working with chemicals a fresh water supply is always kept in close proximity for safety reasons.

## Battery

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A 12 volt battery is not supplied with the sprayer. The recommended battery is a sealed, deep cycle battery with bolt on connections, but any small utility battery will work. Recommended battery dimensions are approximately 8" long x 5" wide x 6" high.

## Maintenance

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Cleaning and flushing with clear water after using.

Do not leave water in the unit at freezing temperatures. When storing the sprayer at freezing temperatures, run some windshield washer antifreeze through to prevent ice damage in the plastic parts.

Avoid storage of your sprayer in direct sunlight for prolonged periods. Certain plastic parts on the **Falcon FE** are not UV resistant.

Keep the unit covered or stored indoors.

## Approximate Weight of Units

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MODEL	Weight Dry lbs	Weight Dry kg	Wt w/5usg tank full (lbs)	Wt w/5usg tank full (kg)	Wt w/10usg tank full (lbs)	Wt w/10usg tank full (kg)
FE3	57.6	26.1	99.3	45	141	63.9
FE4	63.4	28.8	105.1	47.7	146.8	66.6
FE6	71.4	32.4	113.1	51.3	154.8	70.2

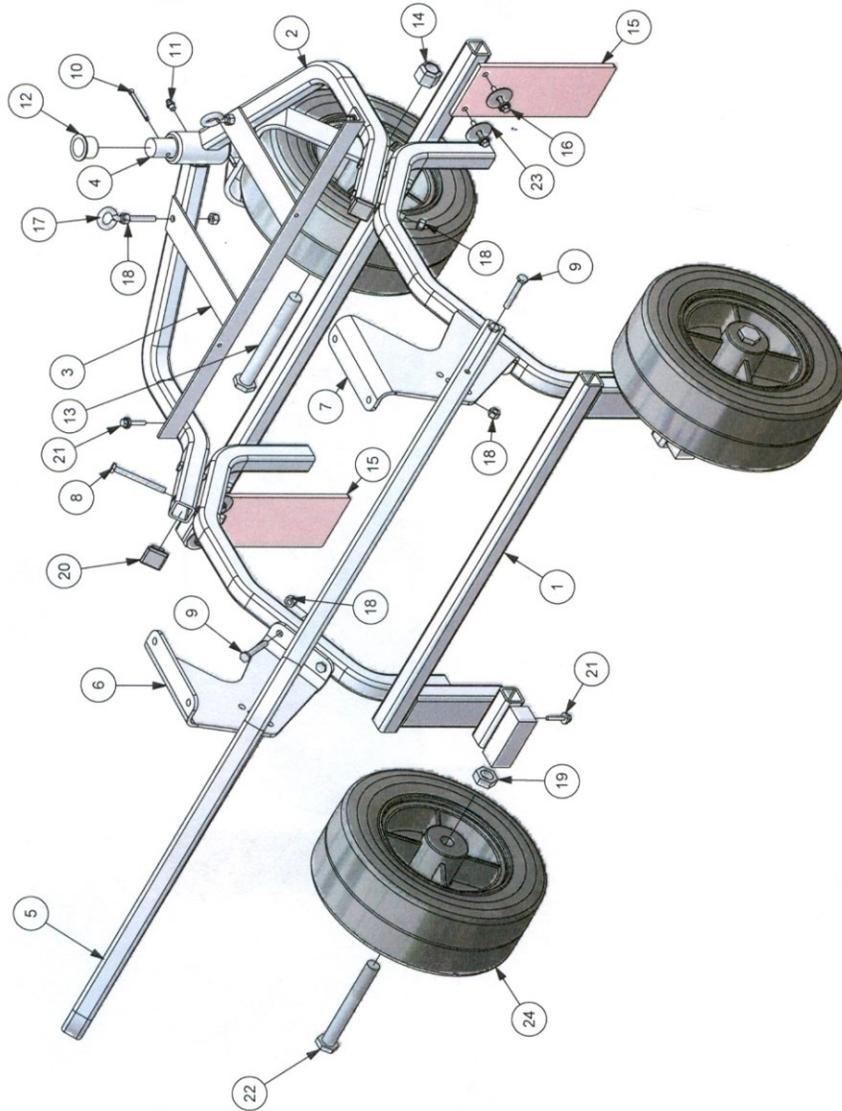
## Drawings and Replacement Parts

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See the following pages for a parts breakdown and accessories for your unit.

# FE3 Frame Assembly

Parts List		
ITEM	QTY	PART# DESCRIPTION
1	1	14256 FRAME LP3
2	1	14028 CASTOR MOUNT ASSEMBLY
3	1	14216 BATTERY SUPPORT
4	1	01599 CASTOR WHEEL, LP
5	1	14184 HANDLE ASSBY. SQR
6	1	07134L TANK MOUNT WALKER LEFT
7	1	07134R TANK MOUNT WALKER RIGHT
8	4	00966 BOLT, 1/4NCX1.75, PLD
9	8	05409 BOLT, 1/4NCX1.75, PLD
10	2	00965 PIN STL COTTER 3/16"x1-1/2"
11	1	00972 FTG. STL GREASE NIPPLE, 1/4NF
12	2	14212 BUSHING IG 1.0x.875x.75" W/FLANGE
13	1	05459 BOLT, 5/8"x5.5", PLD
14	1	01051 NUT, NYLOCK, 5/8NC, PLD
15	2	14261 CURTAIN SUPPORT LP FRONT
16	4	01156 SCREW TEK #12x1-1/4
17	2	12884 EYEBOLT 1/4-20X3/8"
18	16	00968 NUT, NYLOCK 1/4" PLD
19	2	13709 NUT, JAM 5/8NC, PLD
20	2	01056 PLUG, 1" SQ. PLASTIC
21	4	01151 SCREW TEK #12x1
22	2	12387 BOLT, 5/8"x5", PLD
23	4	09754 WASHER, 1/4" FENDER
24	3	14475 WHEEL POLY ASSY 5/8ID



DRAWN: MERV BILINSKI		ROGERS SPRAYERS INC.	
DATE: 7/18/2005	LOCATION: LOW PROFILE	TITLE: WE & FE FRAME	
REVISION #		DWG NO	
		WE & FE3 Frame	
SCALE: 1:8	MATERIAL:	SIZE: A	

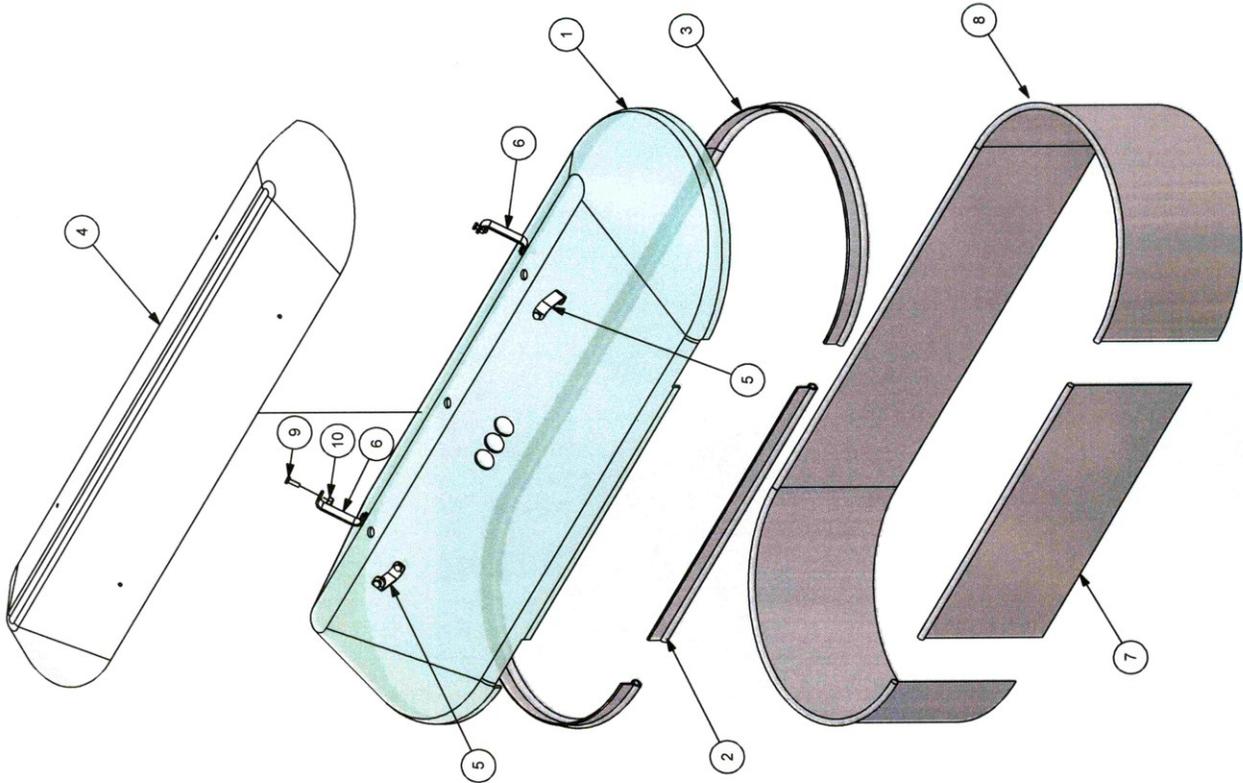
# Shroud Assembly

Parts List			
ITEM	QTY	PART#	DESCRIPTION
1	1	14265	SHROUD FE3 & FG3
2	1	14267	FLEXISHIELD HANGER, 23.5"
3	1	02566	FLEXISHIELD HANGER 91"
4	1	01500	AIRFOIL 48" w/holes
5	2	13478	STANDOFF, BACK (SHORT)
6	2	13479	STANDOFF, FRONT (LONG)
7	1	14270	FLEXISHIELD 9.625" x 23.5"
8	1	14271	FLEXISHIELD 9.625" x 91"
9	8	01154	BOLT, 1/4NCx3/4, PLD
10	8	00968	NUT, NYLOCK 1/4" PLD

TO ATTACH SHROUD TO FRAME AND EXTRUSION USE:

QTY	PART #	DESCRIPTION
7	01196	SCREW TEK #12 x 1-1/4"
8	01152	SCREW MACH. #10-24x3/4"
8	01153	NUT NYLOCK #10 PLD
4	05804	RIVET, POP

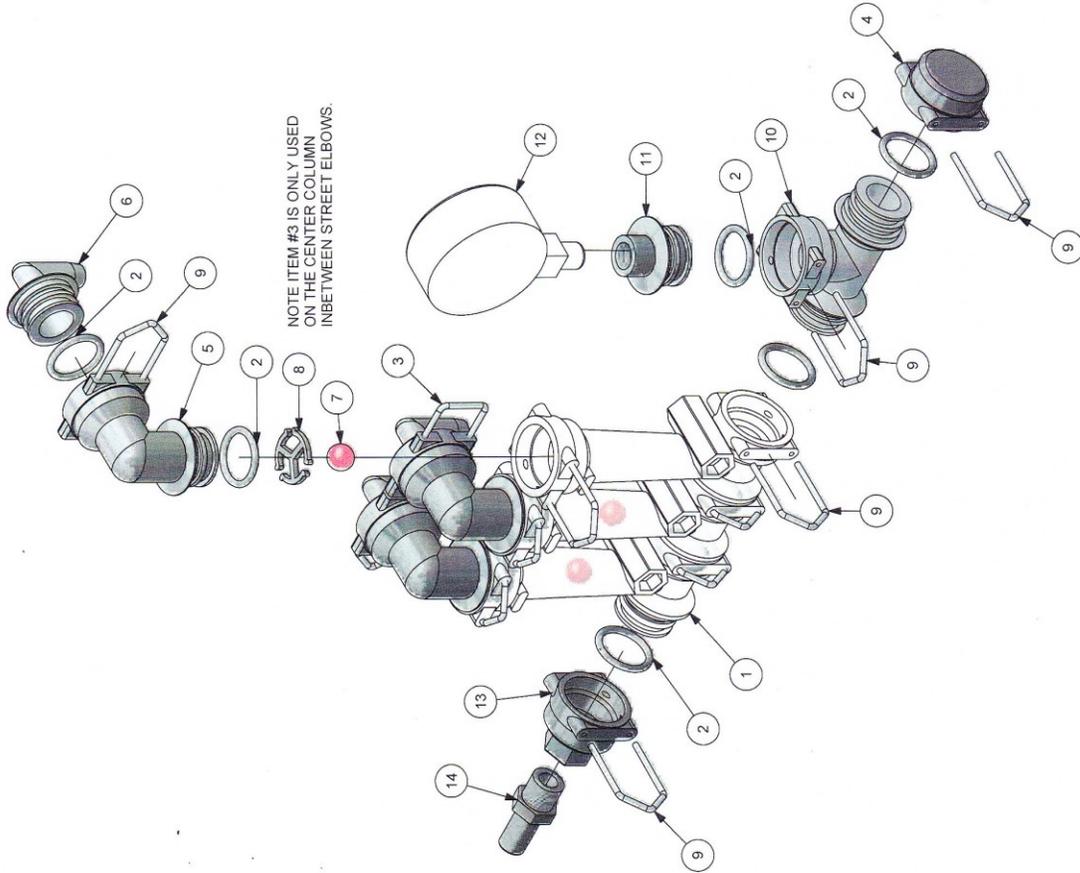
Decals:	
2	01396 DECAL, WINDFOIL LOGO
1	01397J DECAL, FALCON



DRAWN:	MERV BILINSKI	TITLE	SHROUD ASSBY FE3 & FG3
DATE:		DWG. NO.	Shroud Assembly FE3
DESIGNED:		SCALE	MATERIAL
CHECKED:		SIZE	A
LOW PROFILE			
REVISION #			

ROGERS SPRAYERS INC.

# Flow Monitor Assembly (Part# 14826)



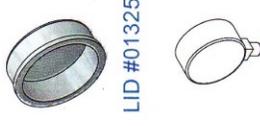
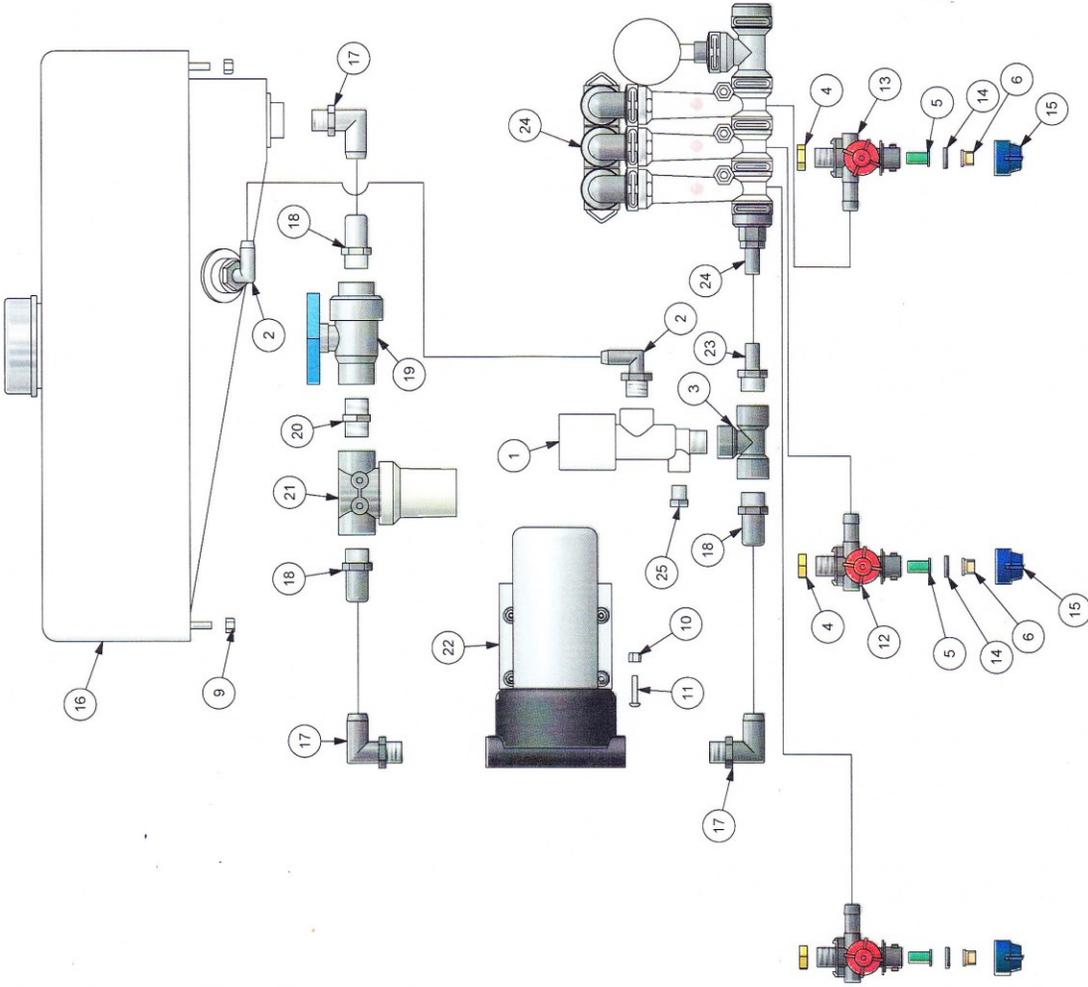
ITEM	QTY	PART#	DESCRIPTION
1	3	00889	FLOWMONITOR ORC BODY
2	12	11984	O-RING ORC
3	1	11976	ORC CLIP FLAT
4	1	00909	FTG POLY ORC CAP
5	3	01115	FTG POLY ELB ST. MORC x FORC
6	3	00906	FTG POLY ELB MORC x 1/2HB
7	3	11990	BALL FL CELCON 0.09-0.3 USGPM
8	3	11989	ORC BALL RETAINER
9	11	11976a	ORC CLIP A STYLE
10	1	13675	FTG POLY TEE ORC MIF
11	1	12727	FTG POLY ADPT MORC x 1/4FNPT
12	1	01281	PRESSURE GAUGE
13	1	14424	FTG WIL POLY CAP W-3/8FNPT
14	1	01206	FTG POLY ADPT 3/8MNPTx1/2HB

DRAWN: MERVIN BILINSKI	ROGERS SPRAYERS INC.		
DATE: 03/20/05	TITLE: FLOWMONITOR ASSY 3 COL. ELEC.		
DESIGNER: MERVIN BILINSKI	DWG NO: 14826		
CHECKED: MERVIN BILINSKI	SCALE: 1/3		
REVISION #	MATERIAL: 304		
	SIZE: A		

# Plumbing Assembly

Parts List

ITEM	QTY	PART#	DESCRIPTION
1	1	12818	REGULATOR PRESSURE NYLON 1/2"
2	1	01235	FTG POLY ELB 1/2MNPTX1/2HB
3	1	01094	FTG POLY TEE 1/2NPT F/F
4	3	12362	NUT BRASS, 11/16"
5	3	00829	SCREEN, TIP 100 MESH
6	3	01369	TIP 8001VS ORANGE
7	1	13402	PLATE BACK FLOWMONITOR WING
8	2	01070	BOLT, 1/4NCX2, PLD
9	6	00968	NUT, NYLOCK 1/4" PLD
10	4	01153	NUT, NYLOCK #10-24 PLD
11	4	07157	SCREW MACH. #10-24X1, TRUSS
12	2	14281	NOZZLE BODY, TJ15R
13	1	14282	NOZZLE BODY, TJ15L
14	3	14284	SEAL NOZZLE CAP, TJ
15	3	14288	CAP T-LNB BLUE
16	1	14829	TANK RECT 5.0 USG WE/FE
17	3	01238	FTG POLY ELB 1/2MNPTX3/4HB
18	3	01086	FTG POLY ADPT 1/2MNPTX3/4HB
19	1	01249	VALVE BALL POLY 1/2FNPT
20	1	01095	FTG POLY NIPPLE 1/2MNPT/MNPT
21	1	14506	STRAINER LINE 1/2 COMPACT W/MT
22	1	14181	PUPM 12V DEL 5850 SERIES
23	1	05527	FTG POLY ADPT 1/2MNPTX1/2HB
24	1	14826	FLOWMONITOR ASSY 3 COL. ELEC.
25	1	06429	FTG POLY PLUG, 3/4MNPT

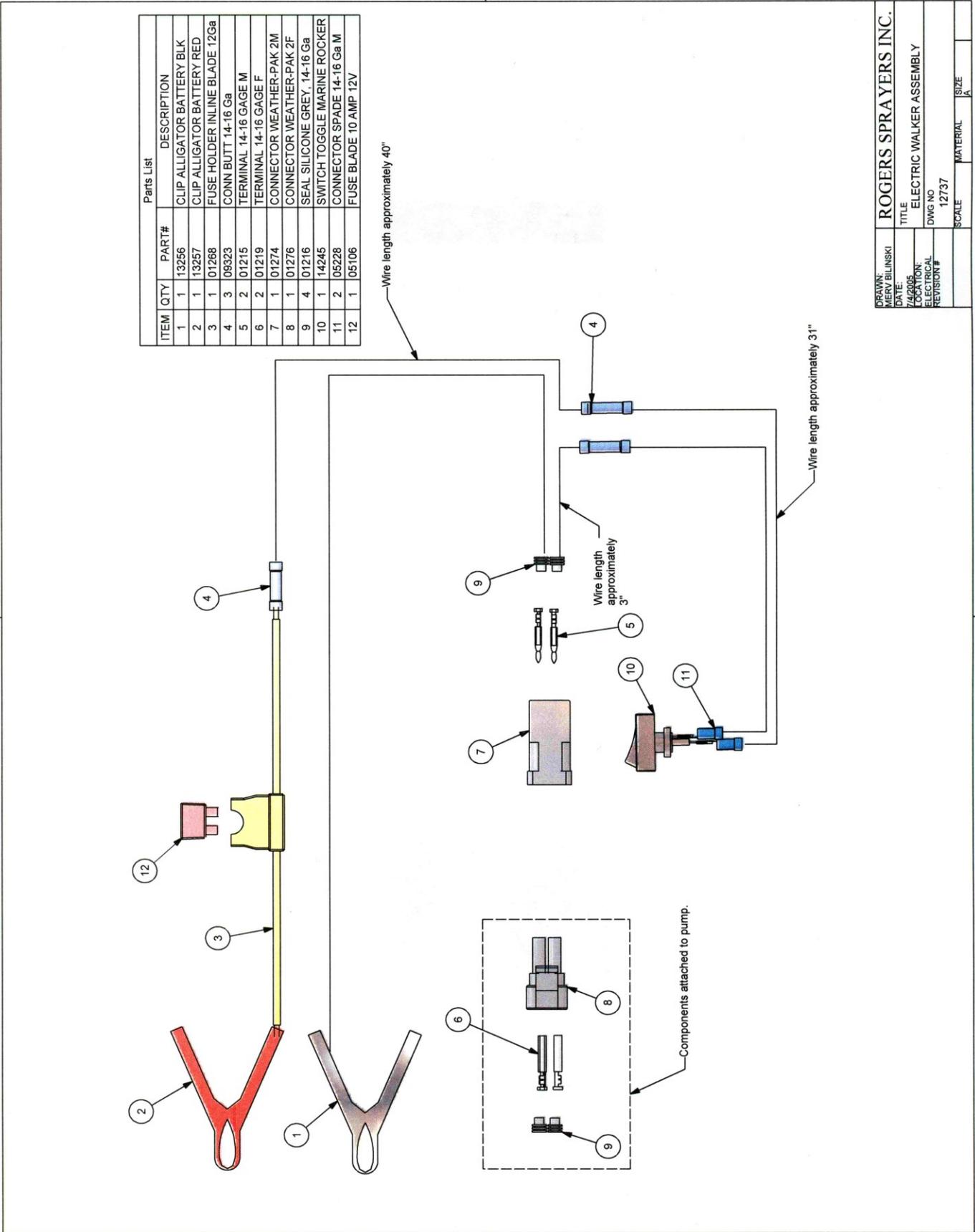


LID #01325

PRESSURE GAUGE #01281

DRAWN:	MERVIN BILINSKI
DATE:	5/26/2005
BY:	PLUMBING
REVISION #	14830
TITLE	ROGERS SPRAYERS INC.
DWG NO.	PLUMBING ASSBY FE/WE3
SCALE	BEST FIT
MATERIAL	
SIZE	A

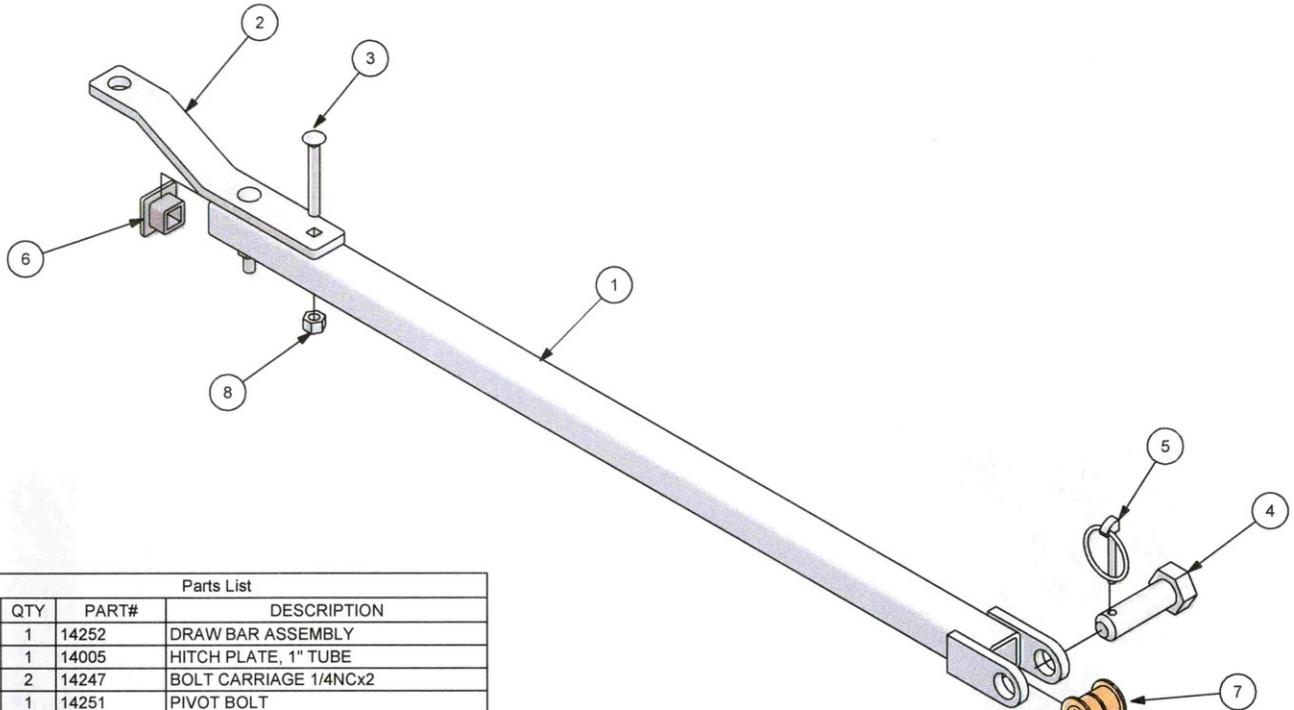
# Electrical Assembly (Part# 12737)



Parts List			
ITEM	QTY	PART#	DESCRIPTION
1	1	13256	CLIP ALLIGATOR BATTERY BLK
2	1	13257	CLIP ALLIGATOR BATTERY RED
3	1	01268	FUSE HOLDER INLINE BLADE 12Ga
4	3	09323	CONN BUTT 14-16 Ga
5	2	01215	TERMINAL 14-16 GAGE M
6	2	01219	TERMINAL 14-16 GAGE F
7	1	01274	CONNECTOR WEATHER-PAK 2M
8	1	01276	CONNECTOR WEATHER-PAK 2F
9	4	01216	SEAL SILICONE GREY, 14-16 Ga
10	1	14245	SWITCH TOGGLE MARINE ROCKER
11	2	05228	CONNECTOR SPADE 14-16 Ga M
12	1	05106	FUSE BLADE 10 AMP 12V

DRAWN:	MERV BILINSKI	ROGERS SPRAYERS INC.
DATE:		TITLE
DESIGN:		ELECTRIC WALKER ASSEMBLY
REVISION:		DWG NO
		12737
		SCALE
		MATERIAL
		SIZE
		A

# Optional F111 Tow Hitch Assembly



Parts List			
ITEM	QTY	PART#	DESCRIPTION
1	1	14252	DRAW BAR ASSEMBLY
2	1	14005	HITCH PLATE, 1" TUBE
3	2	14247	BOLT CARRIAGE 1/4NCx2
4	1	14251	PIVOT BOLT
5	1	05116	PIN LYNCH .180 x 1.25
6	1	01056	PLUG, 1" SQ. PLASTIC
7	2	14127	BUSHING, NYL, 3/4x5/8X1/2 W/FLG
8	2	00968	NUT, NYLOCK 1/4" PLD

Press bushings into castor fork on sprayer prior to inserting pin

**DECLARATION OF CONFORMITY**  
(According to ISO/IEC Guide 22 And EN 45014)

**We,** ROGERS SPRAYERS INC.  
813B 50-TH STREET EAST  
SASKATOON, SASKATCHEWAN. S7K 3Y5

**declare that the following product:**

SPRAY BOOM, MODELS WA5000, WA5000E, WA6000, WA6000E, WS5000,  
WS5000E, WS6000, WS6000E, FA5000, FA5000E, FA6000, FA6000E, FS5000,  
FS5000E, FS6000, FS6000E  
PEDESTRIAN BOOM MODELS WG3, WG4, WG6, FG3, FG4, FG6  
PEDESTRIAN SPRAYER MODELS WE3, WE4, WE6, FE3, FE4, FE6

**is in conformity with the provisions of the following European Directives:**

**Council Directive 98/37/EC; as amended by 98/79/EEC:**

**And the following standards:**

SS-EN 907

**Done at** SASKATOON, SASKATCHEWAN, CANADA **on** SEPTEMBER 25, 2006

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## **ROGERS SPRAYERS INC.**

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