ROGERS SPRAYERS INC.

141—105th Street East
Saskatoon, SK S7N 1Z2
Canada

Toll Free: 1-888-975-8294
Phone: (306) 975-0500
Fax: (306) 975-0499

Email: info@rogerssprayers.com
Web: www.rogerssprayers.com

BB3 Blueberry Sprayer

Covered Hose-fed Sprayer

Assembly, Parts and Operator's Manual

Table of Contents

Safety

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.

Minimize Chemical Drift

The ***WINDFOIL*** 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 WIND*FOIL* 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

Application Tips

Always use clean filtered water in the sprayer tank.

Your ***Windfoil*** Drift Containment Spray System (DCSS) comes standard with Albuz ceramic insert tips. These tips are considered by most to be the best in the industry for wear resistance and spray pattern coefficient of variation. Please contact your manufacturer 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. 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.

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 ***Windfoil*** 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.

Typically as a tip wears the spray pattern distorts output volumes usually increase and the droplet characteristics change. Recalibration may correct for output changes, but cannot correct for spray pattern changes or the drop size generated.

Caution: 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.

Diaphragm Check Valve Nozzle Bodies

Diaphragm check valves close at 15 psi 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.

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.

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. 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 Rate Table, 10" (25cm) Spacing

80 Deg. Tips

Rogers Part #	Tip Number	Liquid Press psi	Capacity 1 nozzle gpm	U. S. GALLONS PER ACRE 2.5 mph	3 mph	4 mph	5 mph	7 mph	U. S. GALLONS PER 1000 SQ. FT. 2.5 mph	3 mph	4 mph	5 mph	7 mph	Press bars
05872	800067SS	30	0.058	13.8	11.5	8.6	6.9	4.9	0.32	0.26	0.20	0.16	0.11	2.07
	(200 mesh)	40	0.067	15.9	13.3	9.9	8.0	5.7	0.36	0.30	0.23	0.18	0.13	2.76
		50	0.075	17.8	14.8	11.1	8.9	6.4	0.41	0.34	0.25	0.20	0.15	3.45
		60	0.082	19.5	16.2	12.2	9.7	7.0	0.45	0.37	0.28	0.22	0.16	4.14
01369	8001VS	30	0.087	20.6	17.1	12.9	10.3	7.3	0.47	0.39	0.29	0.24	0.17	2.07
	(100 mesh)	40	0.100	23.8	19.8	14.9	11.9	8.5	0.54	0.45	0.34	0.27	0.19	2.76
		50	0.112	26.6	22.1	16.6	13.3	9.5	0.61	0.51	0.38	0.30	0.22	3.45
		60	0.122	29.1	24.2	18.2	14.5	10.4	0.67	0.56	0.42	0.33	0.24	4.14
00827	80015VS	30	0.130	30.9	25.7	19.3	15.4	11.0	0.71	0.59	0.44	0.35	0.25	2.07
	or	40	0.150	35.6	29.7	22.3	17.8	12.7	0.82	0.68	0.51	0.41	0.29	2.76
15287	AXI-80015	50	0.168	39.8	33.2	24.9	19.9	14.2	0.91	0.76	0.57	0.46	0.33	3.45
	(100 mesh)	60	0.184	43.6	36.4	27.3	21.8	15.6	1.00	0.83	0.62	0.50	0.36	4.14
05876	8002VS	30	0.173	41.2	34.3	25.7	20.6	14.7	0.94	0.79	0.59	0.47	0.34	2.07
	or	40	0.200	47.5	39.6	29.7	23.8	17.0	1.09	0.91	0.68	0.54	0.39	2.76
14384	AXI-8002	50	0.224	53.1	44.3	33.2	26.6	19.0	1.22	1.01	0.76	0.61	0.43	3.45
	(50 mesh)	60	0.245	58.2	48.5	36.4	29.1	20.8	1.33	1.11	0.83	0.67	0.48	4.14
05877	8003VS	30	0.260	61.7	51.4	38.6	30.9	22.0	1.41	1.18	0.88	0.71	0.50	2.07
	or	40	0.300	71.3	59.4	44.6	35.6	25.5	1.63	1.36	1.02	0.82	0.58	2.76
14385	AXI-8003	50	0.335	79.7	66.4	49.8	39.8	28.5	1.82	1.52	1.14	0.91	0.65	3.45
	(50 mesh)	60	0.367	87.3	72.7	54.6	43.6	31.2	2.00	1.67	1.25	1.00	0.71	4.14
05878	8004VS	30	0.346	82.3	68.6	51.4	41.2	29.4	1.88	1.57	1.18	0.94	0.67	2.07
	or	40	0.400	95.0	79.2	59.4	47.5	33.9	2.18	1.81	1.36	1.09	0.78	2.76
14061	AXI-8004	50	0.447	106.3	88.5	66.4	53.1	37.9	2.43	2.03	1.52	1.22	0.87	3.45
	(50 mesh)	60	0.490	116.4	97.0	72.7	58.2	41.6	2.67	2.22	1.67	1.33	0.95	4.14
05879	8005VS	30	0.433	102.9	85.7	64.3	51.4	36.7	2.36	1.96	1.47	1.18	0.84	2.07
	or	40	0.500	118.8	99.0	74.3	59.4	42.4	2.72	2.27	1.70	1.36	0.97	2.76
14386	AXI-8005	50	0.559	132.8	110.7	83.0	66.4	47.4	3.04	2.53	1.90	1.52	1.09	3.45
	(50 mesh)	60	0.612	145.5	121.2	90.9	72.7	52.0	3.33	2.78	2.08	1.67	1.19	4.14
05880	8006VS	30	0.520	123.5	102.9	77.2	61.7	44.1	2.83	2.36	1.77	1.41	1.01	2.07
	or	40	0.600	142.6	118.8	89.1	71.3	50.9	3.26	2.72	2.04	1.63	1.17	2.76
14387	AXI-8006	50	0.671	159.4	132.8	99.6	79.7	56.9	3.65	3.04	2.28	1.82	1.30	3.45
	(50 mesh)	60	0.735	174.6	145.5	109.1	87.3	62.4	4.00	3.33	2.50	2.00	1.43	4.14
05881	8008VS	30	0.693	164.6	137.2	102.9	82.3	58.8	3.77	3.14	2.36	1.88	1.35	2.07
	(50 mesh)	40	0.800	190.1	158.4	118.8	95.0	67.9	4.35	3.63	2.72	2.18	1.55	2.76
		50	0.894	212.5	177.1	132.8	106.3	75.9	4.87	4.05	3.04	2.43	1.74	3.45
		60	0.980	232.8	194.0	145.5	116.4	83.1	5.33	4.44	3.33	2.67	1.90	4.14

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.

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.

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 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.

Operation

The *Windfoil* has four 80° Flat Fan spray tips. AXI tips are supplied with the *Windfoil*; it can also use Spraying Systems TP800XVS tips that give an actual 80º spray pattern.

The supply pressure of the fluid should be between 40 and 60 psi. A rough estimate due to losses in the system is that when you have 45psi at the spryaer, you probably have 40psi at the tips. Each of the balls in the spray monitor should raise to an equal level as the flow increases. 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.

Maintenance

Cleaning and Flushing with clear water after using.

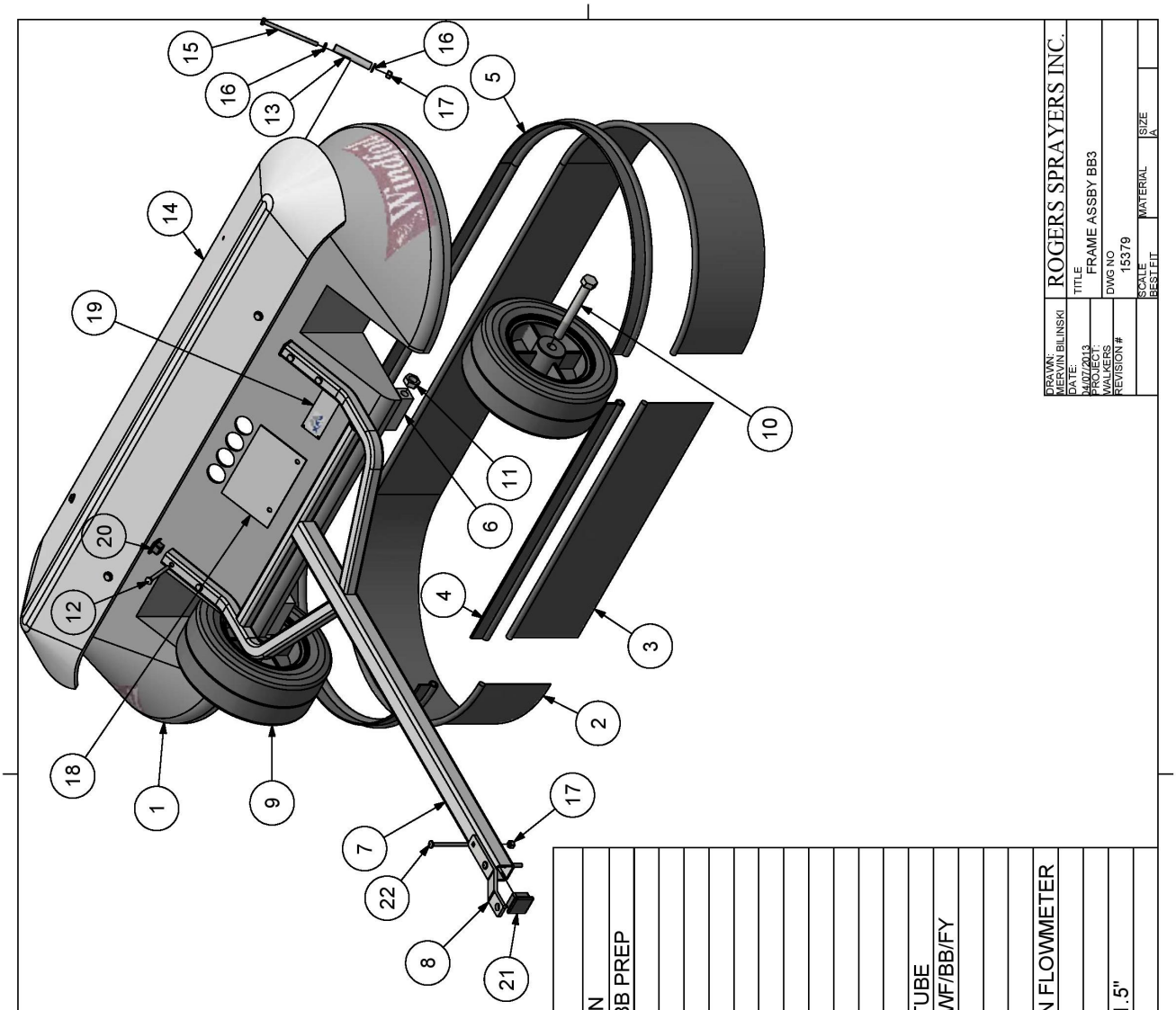
Do not leave water in the unit at freezing temperatures. When storing the sprayer at freezing temperatures, run some windshield washer antifreeze through to prevent ice damage in the plastic parts.

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

Keep the unit covered or stored indoors.

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

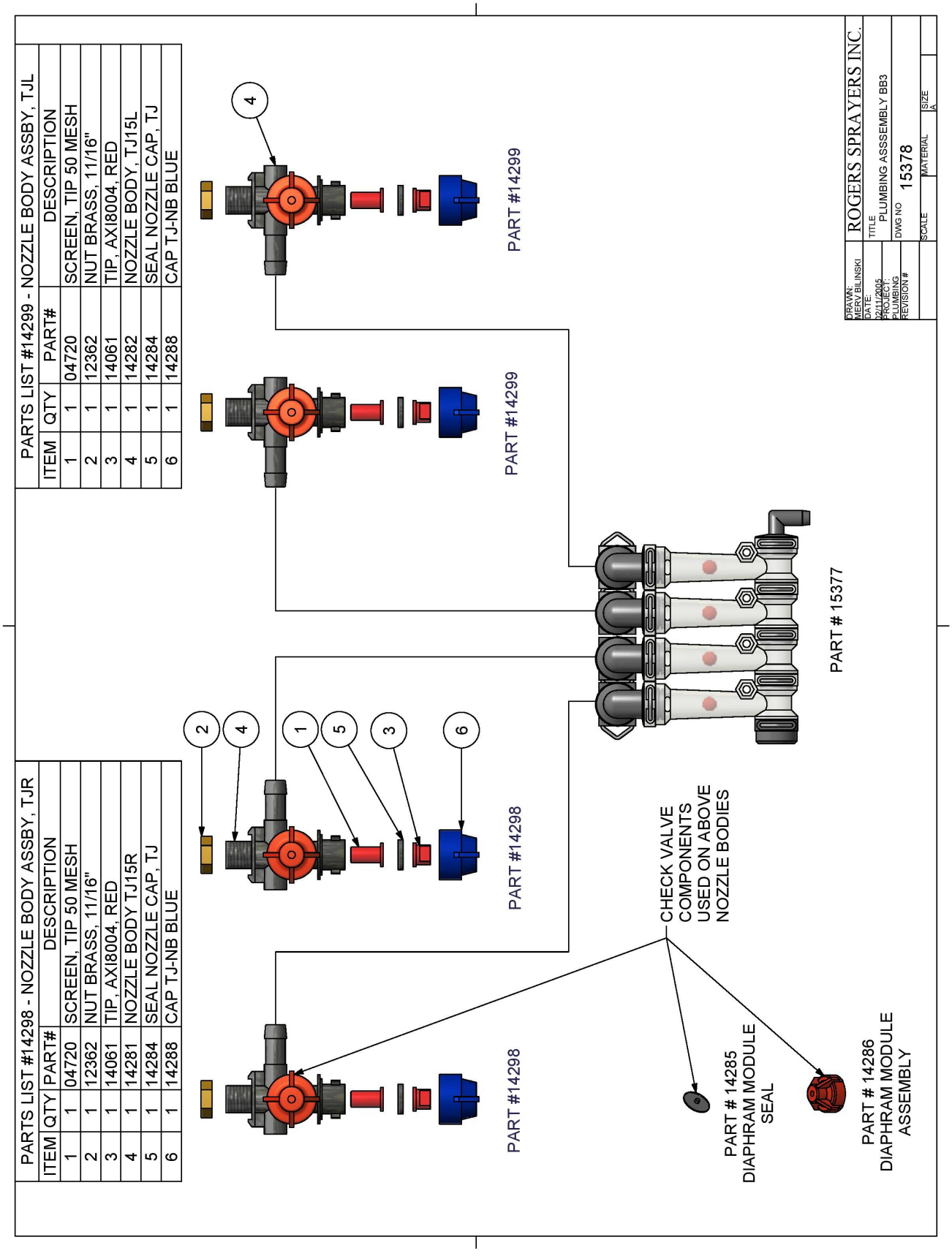
BB3 Frame Assembly



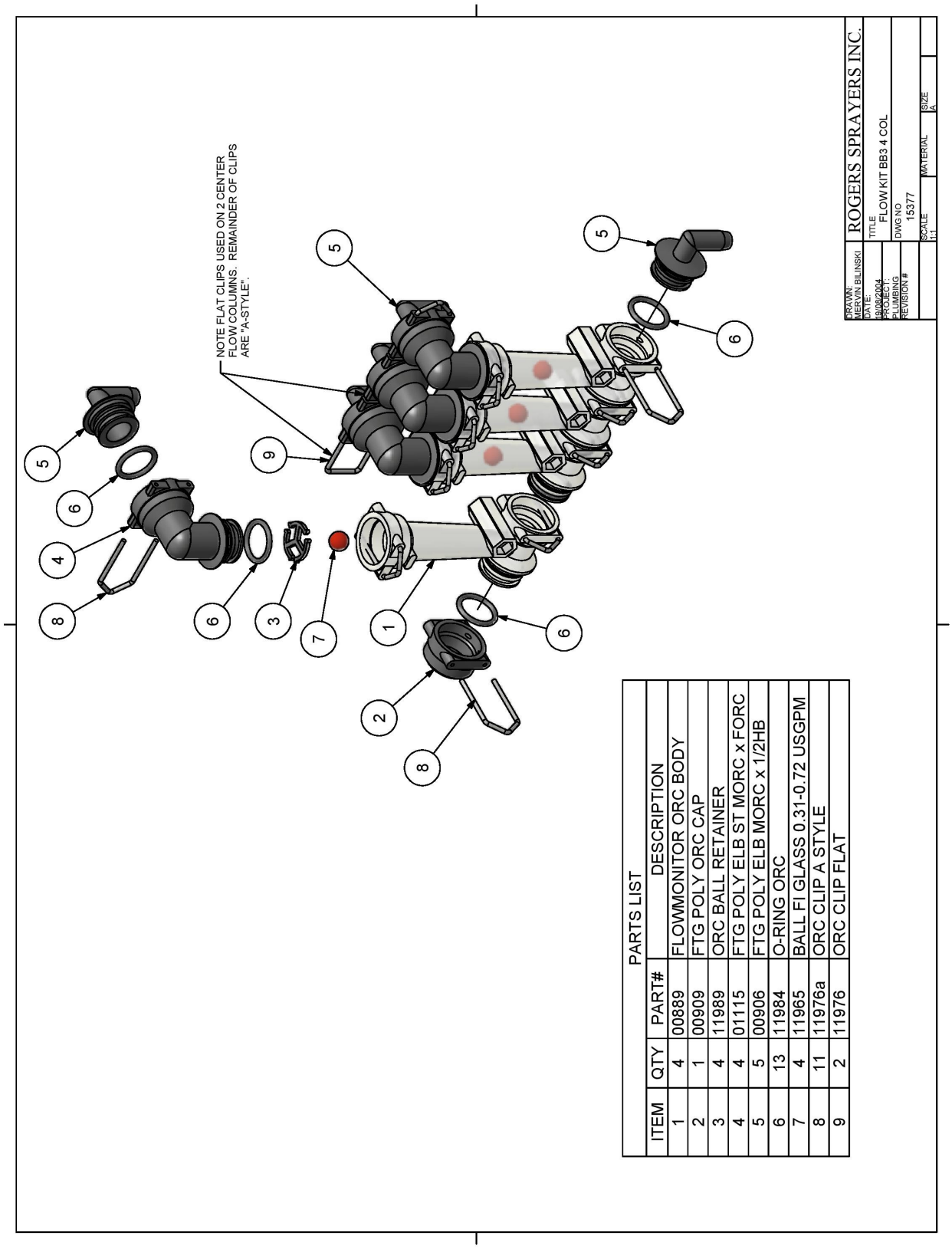
ITEM	QTY	PART#	DESCRIPTION
1	1	02590BB	SHROUD LP 40 WW GREY BB PREP
2	1	01638	CURTAIN 5.5" x 90"
3	1	02976	CURTAIN 5.5" x 22.5"
4	1	02550	CURTAIN HANGER, 22.5"
5	1	02566	FLEXISHIELD HANGER 91"
6	1	15370	FRAME ASBY BB3
7	1	14006	HITCH, ETT/BB
8	1	14005	HITCH PLATE, 1" TUBE
9	2	14475	WHEEL POLY LD
10	2	12387	BOLT 5/8NCx5 PLD
11	2	13709	NUT, JAM 5/8NC, Pld
12	4	00966	BOLT, 1/4NCx2.5, PLD
13	4	14843	AIRFOIL STANDOFF BACK TUBE
14	1	01500	AIRFOIL 48" WE/WG/TE/GF/WF/BB/FY
15	4	05415	BOLT, 1/4NCx4, PLD
16	8	01157	WASHER FLAT, 1/4"
17	6	00968	NUT NYLOCK 1/4" PLD
18	1	14053	PLATE, BACKING 4 COLUMN FLOWMETER
19	1	01398	SERIAL PLATE
20	2	01056	PLUG, 1" SQ. PLASTIC
21	1	01057	PLUG, TUBE, SQ. PLASTIC 1.5"
22	2	15014	BOLT CARRIAGE 1/4NCx3

DRAWN: MERVYN BILINSKI	ROGERS SPRAYERS INC.
DATE: 04/07/2013	TITLE: FRAME ASSBY BB3
PROJECT: WALKERS	DWG NO: 15379
REVISION #	SCALE: BEST FIT / MATERIAL / SIZE: A

BB3 Plumbing Assembly



Flow Kit Part # 15377



PARTS LIST

ITEM	QTY	PART#	DESCRIPTION
1	4	00889	FLOWMONITOR ORC BODY
2	1	00909	FTG POLY ORC CAP
3	4	11989	ORC BALL RETAINER
4	4	01115	FTG POLY ELB ST MORC x FORC
5	5	00906	FTG POLY ELB MORC x 1/2HB
6	13	11984	O-RING ORC
7	4	11965	BALL FI GLASS 0.31-0.72 USGPM
8	11	11976a	ORC CLIP A STYLE
9	2	11976	ORC CLIP FLAT

Rogers Sprayers Inc. (RSI)
141 - 105th Street East
Saskatoon, SK S7N 1Z2 Canada

Tel.: (306) 975-0500 or (888) 975-8294
Fax: (306) 975-0499
Email: info@rogerssprayers.com

ROGERS SPRAYERS INC OWNER WARRANTY AGREEMENT

Windfoil Drift Containment Spray Systems (DCSS) are warranted to be free of factory defects under normal and intended use for a period of one (1) year from date of purchase to the original purchaser. Equipment must be setup in accordance with factory instructions and operated, maintained and used in accordance with the operator's manual. Equipment used for rental has a warranty period of forty five (45) days. Any customization or modifications to the original equipment voids warranty immediately.

RSI reserves the right not to warranty any items that are not directly manufactured by RSI. Such components need to be returned to the factory for inspection and tested by either RSI or the original manufacturer for defects. Examples of these parts include actuators, engines, pumps and electrical systems.

All warranty Claims must be pre-authorized by the factory!

To obtain warranty, all defective parts must be returned to the factory; in some cases, location of part might require only photo of defective part. RSI must be contacted to determine which route is required. RSI through its designated dealer or factory appointed representative will repair or replace, at its option, any or all parts that are proven to be defective free of charge.

RSI DOES NOT pay or reimburse for any travel time or investigation time to determine the defective part. Warranty labor will be based on the time required for RSI to replace only the part. Warranty labor rates and replacement times will be assessed yearly and will be included in a labor replacement sheet.

This warranty does not apply to damage caused by misuse, accident, acts of god, and/or operation without proper servicing. RSI will not be responsible for consequential damages; its liability is limited to replacement of parts.

Standard wear components (see list) such as belts, nozzles, screens, bearings, wheels, flow indicator bodies or flow indicator parts are only warranted for 30 days after original purchase.

RSI makes no other expressed, implied or statutory warranty; nor is anyone authorized to make any on our behalf.

Complete your Warranty Registration online at www.rogerssprayers.com

The warranty registration is found on the Contact page of our website. The warranty registration **MUST** be filled out completely and submitted to RSI to activate the warranty. If you would prefer, a printable copy is also available online.

It is our intention to manufacture durable, user-friendly products. Any suggestions you have as to how we may improve our equipment are greatly appreciated.

ROGERS SPRAYERS INC.

141-105th Street East
Saskatoon, SK S7N 1Z2
Canada

Phone: (306) 975-0500
Fax: (306) 975-0499
Email: info@rogerssprayers.com
Web: www.rogerssprayers.com