

# LAFFERTY EQUIPMENT MFG., INC.

## INSTALLATION / OPERATION INSTRUCTIONS

# LOW PRESSURE SPRAY-ALLS



**Requirements**  
35 – 100 PSI Water  
1/2" I.D. Discharge Hose

**Water Temperature**  
Ambient to 140° F

## OPTIONS

- *Backflow Preventer*
- *1 Gallon Stainless Steel Jug Rack (round OR square)*
- *2 ½ Gallon Stainless Steel Jug Rack (inside dimensions 8 ½" x 10 ½")*
- *5 Gallon Stainless Steel Jug Rack (inside dimensions 12" x 12")*
- *Stainless Steel Hose Rack*
- *Stainless Steel Injector Body and Check Valve*

## CHOOSE FROM FOUR DIFFERENT WATER FLOW RATES:

Model # 974010, W-10 Spray-All  
Model # 974020, W-20 Spray-All  
Model # 974030, W-30 Spray-All  
Model # 974050, W-50 Spray-All  
(with nozzle only)

Model # 974510, W-10 Spray-All Complete  
Model # 974520, W-20 Spray-All Complete  
Model # 974530, W-30 Spray-All Complete  
Model # 974550, W-50 Spray-All Complete  
(with 50' hose, ball valve, 14" spray wand, and spray nozzle)

Ask about our *Acid Spray-Alls* for Applying Corrosive Chemicals

# INSTALLATION AND OPERATION INSTRUCTIONS

## LOW PRESSURE SPRAY-ALLS

### IMPORTANT: SPRAY-ALL SUPPLIED WITHOUT A BACKFLOW PREVENTER

TO PREVENT POSSIBLE CHEMICAL BACK UP INTO THE WATER SYSTEM, COMPLY WITH LOCAL PLUMBING CODES AND INSTALL APPROPRIATE BACKFLOW PREVENTER.

CAUTION: ALWAYS OBSERVE GOOD SAFETY HABITS. WEAR PROTECTIVE CLOTHING, GLOVES, AND EYE WEAR. DIRECT DISCHARGE AWAY FROM YOURSELF AND OTHERS.

### TO INSTALL *(See Parts Diagram, Facing Page)*

1. Mount the spray-all to a suitable surface.
  2. **Spray-All supplied without a backflow preventer. To prevent possible chemical back up into the water system, comply with local plumbing codes and install appropriate backflow preventer.** Then, connect your 35-100 PSI water line to the spray-all.
  3. Connect the hose to the spray-all and secure with the clamp. **[Hose must be 1/2" I. D.]**
  4. Connect the wand assembly to the hose. **[Use only the nozzle supplied with the spray-all. (See chart below.)]**
  5. *Stapled to these instructions, with a matching color-coded chart, are metering tips which control your chemical to water dilutions. You will need to know the water pressure and the number of ounces of chemical needed per gallon of water to determine the correct tip color. (See label for manufacturer's recommendation.)*
- A. Locate your water pressure in the chart. The number below it is your water flow rate in **gallons per minute**.
- B. Multiply the **gallons per minute** by the number of **ounces of chemical needed per gallon** of water.
- C. Match your answer to the *nearest* number in the metering tip selection chart. **[The tip selection chart is based on water-thin chemical. Thicker chemicals will require a larger metering tip. If selected metering tip does not produce desired chemical ratio, increase tip size until desired chemical ratio is achieved.]**
- D. Open cover. Install selected metering tip into solution check valve. Next, push the chemical tube over the check valve and close cover. Immerse the chemical strainer into your chemical concentrate.

### EXAMPLE OF METERING TIP SELECTION W-20 Spray-All at 60 PSI

- 60 PSI = 1.00 GPM
- 4 ounces of chemical per gallon of water
- 1.00 x 4 = 4.0 ounces of chemical
- 4.0  $\cong$  4.0 for thin chemical (Dark Green tip) (thicker chemicals will require a larger tip)

### TO APPLY CHEMICAL

1. Make sure the discharge ball valve is closed. Then, completely open the water ball valve. Move to the area to be cleaned.
2. While firmly holding the spray wand, completely open the discharge ball valve and begin applying chemical. Apply chemical from the bottom and work up to prevent streaking.
3. When finished, close the discharge ball valve. Return to the spray-all and close the water ball valve.
4. Re-open, then close the discharge ball valve to relieve pressure on the hose! Store hose – optional hose rack is available.
5. Allow sufficient time for chemical solution to work. Then, rinse the work surface.

**CAUTION: SHUT DOWN AFTER EACH USE! NEVER LEAVE SPRAY-ALL UNATTENDED WITHOUT CLOSING THE INCOMING VALVE AND RELIEVING PRESSURE IN THE HOSE.**

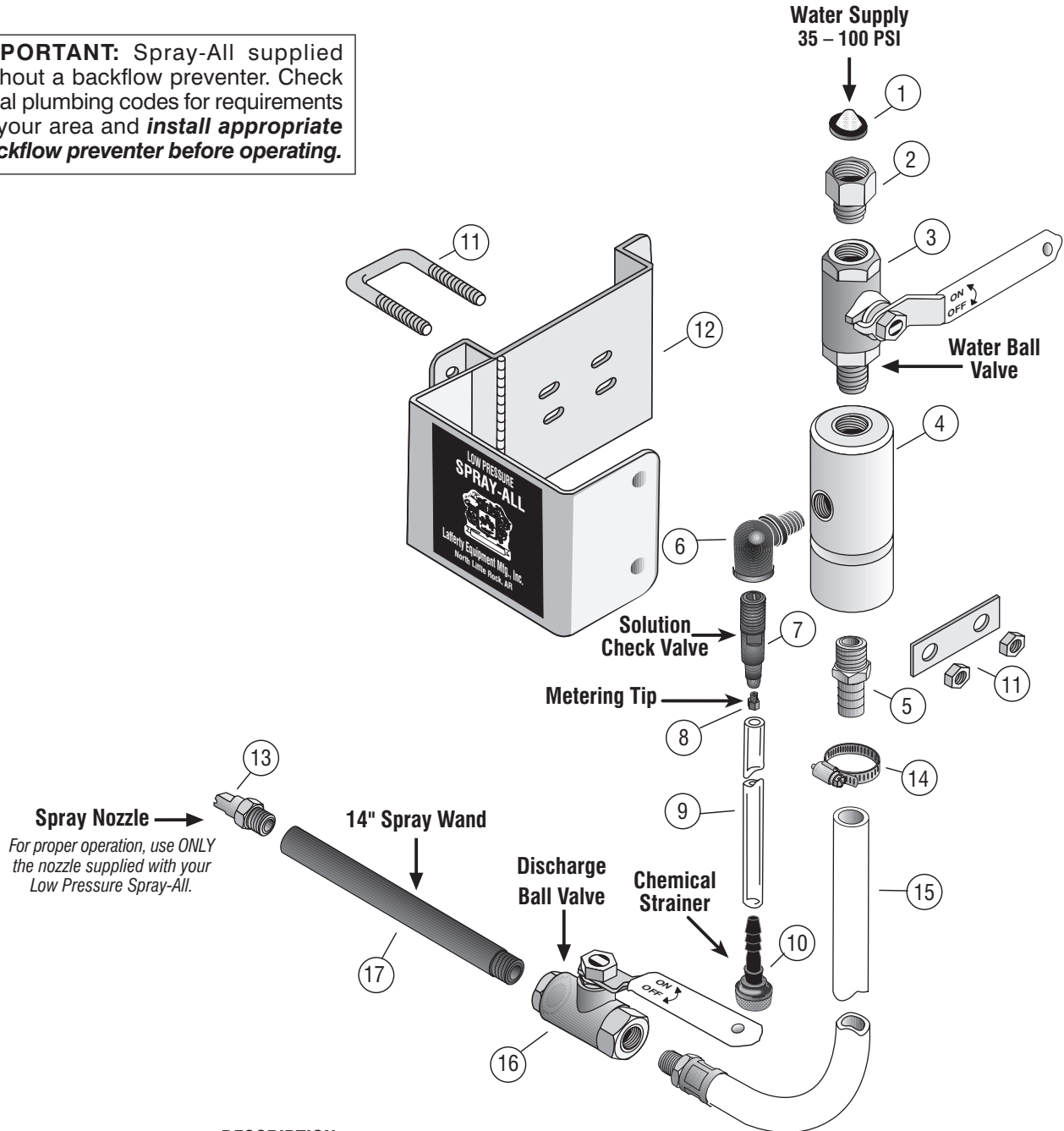
SPRAY-ALL FLOW CHART			WATER PRESSURE IN POUNDS PER SQUARE INCH (PSI)						
			40 PSI	50 PSI	60 PSI	70 PSI	80 PSI	90 PSI	100 PSI
Model	Nozzle	Hose Size	SPRAY-ALL WATER FLOW RATE (GPM)						
W-10	2510	1/2"	0.41	0.44	0.45	0.49	0.50	0.53	0.56
W-20	2520	1/2"	0.84	0.91	1.00	1.12	1.15	1.19	1.22
W-30	2530	1/2"	1.68	1.85	1.97	2.09	2.21	2.33	2.46
W-50	2550	1/2"	2.1	2.28	2.49	2.67	2.8	3.0	3.2

The number under each color in the chart below represents the **average ounces of water-thin chemical which will pass through the tip per minute.**

METERING TIP SELECTION IN OUNCES PER MINUTE (AVERAGE)																				
COLOR	Brown	Clear	Bright Purple	White	Pink	Corn Yellow	Dark Green	Orange	Gray	Light Green	Medium Green	Clear Pink	Yellow Green	Burgundy	Pale Pink	Light Blue	Dark Purple	Navy Blue	Clear Aqua	Black
Thin Chemical	0.84	1.16	1.4	2.0	2.7	3.4	4.0	5.3	6.1	7.0	8.5	9.2	11.2	12.5	12.9	14.2	17.6	21.4	30.2	40.4

# LOW PRESSURE SPRAY-ALLS

**IMPORTANT:** Spray-All supplied without a backflow preventer. Check local plumbing codes for requirements in your area and **install appropriate backflow preventer before operating.**



QTY	CALL #	DESCRIPTION	PART #
1	1	ADAPTER, WASHER, GH W/ SCREEN	102050
1	2	ADAPTER, FGH X 3/8" MPT	102023
1	3	BALL VALVE, NPB, 3/8" FM(A)	413626
1	4	INJECTOR BODY, 3/8" POLY	
1	5	HOSE BARB, 1/2" x 3/8" MPT	119266
1	6	ELBOW, ST., POLY, 1/4"	257379
1	7	CHECK VALVE, SOL., VITON BALL, 1/4"	491311
1	8	METERING TIPS, SET (20)	443798
1	9	TUBE, CHEMICAL, 1/4" x 6'	474745
1	10	STRAINER, CHEMICAL, SS (BLUE), 1/4" W/ ADAPTER	150113
1	11	U-BOLT ASSEMBLY, # 6 SQUARE	392486
1	12	BASE & COVER, STANDARD-HINGED	222111
1	13	NOZZLE, SPRAY, 1/4"	
1	14	HOSE CLAMP, 1/2"	134302
1	15	HOSE, 1/2" x 50', 3/8" MPT	803550
1	16	BALL VALVE, NPB, 3/8" FF(A)	413623
1	17	WAND, SPRAY-ALL, 14"	536608

These 4 items are **not** included with Model #s 974010, 974020, 974030, and 974050.

**SEE FLOW CHART (FACING PAGE)**

PART #	DESCRIPTION	NOZZLE
381010	INJECTOR BODY, 3/8", W-10	2510
381020	INJECTOR BODY, 3/8", W-20	2520
381030	INJECTOR BODY, 3/8", W-30	2530
381050	INJECTOR BODY, 3/8", W-50	2550

**NOZZLES MUST MATCH INJECTORS**

PART #	DESCRIPTION	MODEL
180126	NOZZLE, SS, 1/4" - 2510	W-10
180131	NOZZLE, SS, 1/4" - 2520	W-20
180133	NOZZLE, SS, 1/4" - 2530	W-30
180137	NOZZLE, SS, 1/4" - 2550	W-50

# TROUBLESHOOTING GUIDE

for

## LOW PRESSURE SPRAY-ALLS

**PREVENTIVE MAINTENANCE:** When the spray-all will be out of service for extended periods, the risk of residual chemical build-up is increased. To prevent build-up, remove chemical tube from chemical concentrate and place it in warm water. Completely open the water supply valve on the spray-all, then the discharge ball valve, for approximately 30 seconds to flush. Check and/or clean the chemical strainer periodically; replace if missing (see diagram pg. 3).

PROBLEMS	POSSIBLE CAUSE / SOLUTION												
	1	2	3	4	5	6	7	8	9	10	11	12	13
A) Spray-All will not draw chemical.	•	•	•	•	•	•	•	•	•	•			•
B) Water flowing into chemical container.						•							
C) Spray-All draws too much chemical.											•		
D) Spray does not clean properly.												•	

## POSSIBLE CAUSE / SOLUTION

- Water pressure too low or temperature too high** – Increase water pressure if possible. If necessary, decrease water temperature.
- Hose too long or wrong size or kinked; must be 1/2" I.D.** – For pressures under 65 PSI, maximum recommended hose length is 50'. For pressures over 65 PSI, 75' is the maximum. Straighten the hose.
- Nozzle size too small** – Nozzle must match injector. See chart, page 2.
- Water inlet and discharge ball valves not completely open** – Completely open the water and discharge ball valves.
- Water inlet screen clogged** – Disconnect spray-all from water source. Clean or replace screen.
- Solution check valve clogged or failed** – Clean or replace solution check valve.
- Chemical tube not immersed in chemical or chemical depleted** – Immerse tube or replenish.
- Chemical strainer or metering tip blocked** – Clean or replace chemical strainer and/or tip.
- Chemical tube stretched out where tube slides over check valve or pin hole/cut in chemical tube** – Cut approximately 1/2" off end of tube or replace tube.
- Vacuum leak in chemical pick-up assembly** – Tighten the connection(s).
- Chemical to water ratio too high** – Install smaller tip.
- Chemical to water ratio too low** – Install larger tip.
- Water scale or chemical build-up may have formed in the injector body causing poor pick-up** – To descale, carefully remove body and soak *entire* body in descaling acid.

**Lafferty Equipment Manufacturing, Inc.**

5614 Oak Grove Road  
 North Little Rock, AR 72118  
 Telephone: (501) 851-2820 — FAX: (501) 851-3719

**Made in the USA**

Distributed by: