

#### GENERAL FUNCTION:

The HYDRO-FORCE is based upon an injection system. A specially designed valve injects a concentrate chemical into the high-pressure water flow coming from the machine. HYDRO-FORCE is designed for use with incoming water pressure of 400 P.S.I. The water flow is automatically reduced as it passes through the injector valve, thus reducing the pressure approximately 64%. To obtain the actual working pressure of your HYDRO-FORCE, multiply your incoming pressure by 36%. The HYDRO-FORCE is factory set to inject chemicals at a 1 to 8 ratio. Other chemicals may be used but should be prepared for a 1 to 8 dilution. The HYDRO-FORCE pressure can be increased by putting a smaller jet at the end of the wand. This will, however, decrease the injection rate of your concentrate chemical. Your injection ratio may also change depending on the viscosity (thickness) of your concentrate chemical. The 1 to 8 ratio is based upon chemicals with a similar viscosity to water. The injection ratio can also be slightly affected by your main flow water temperature. This is generally not enough of a change to appreciably change effectiveness of your system. We do, however, recommend the water temperature be kept below 200 degrees Fahrenheit, as higher temperatures can cause problems on the injection.

#### PRE-SPRAY AND TRAFFIC LANE APPLICATIONS:

HYDRO-FORCE eliminates the hassles of measuring and mixing. We recommend you keep an extra 5-quart container or two on your truck to make sure you never run out and to facilitate quick changes of your chemical containers. Remember that HYDRO-FORCE automatically mixes at a 1 to 8 ratio. If your 5-quart container is full then that is the same as holding an 11 gallon pump sprayer of regular, ready to use pre-spray.

We have found that HYDRO-FORCE offers better penetration and overall coverage than most other sprayers. It is therefore possible to pre-spray your jobs up to 45 minutes before your reach that area to be cleaned. An effective way to use the HYDRO-FORCE for pre-conditioning or small to medium jobs is to start at the door coming into the house, spraying all the traffic areas, working your way to the farthest point back in your job. You have then completed your pre-conditioning in just seconds and are prepared to hook up your wand and start cleaning your way out.

On larger jobs, or jobs involving more than an hour of cleaning time, it is recommended that you pre-spray an area that will take no longer than 45 minutes to clean. You can then hook up your HYDRO-FORCE again and pre-spray another large area. Once you have completed your job and worked your way back out of the door, you are ready to employ your HYDRO-FORCE for other uses.

#### APPLICATION OF CARPET PROTECTORS:

This highly profitable procedure is often passed up on many jobs because it is too big of a 'hassle'. Operators will not mention the availability of protectors because they are running short on time and must hurry to their next job, or they don't want to take the time to rinse tanks then measure, mix and pump.

HYDRO-FORCE bypasses these hassles and encourages you to apply carpet protectors. We recommend that as you finish your cleaning you keep your hose at the entrance. Go to your machine, shut off the chemical and, if you prefer, your heat. You should then take a 5 quart container with clean water (adding an ounce or two of acidic acid or vinegar will help) to your HYDRO-FORCE unit. Take off your traffic lane bottle and put on clean water. Run your HYDRO-FORCE for approximately 20 seconds or until all soap is out of your lines. You may then put on your 5 quart container with carpet protector in it. Your product should be concentrated and diluted at 1 to 8 for application on damp carpet. If this is a difficult dilution to reach you may remove the metering tip to obtain a 1 to 4 ratio. If you are using Scotchgard or a Teflon product on dry carpet you should dilute them 1 to 1 with water before you use it with the HYDRO-FORCE. Whether you use Hydro-Guard or another product, you will find that a 5 qt. container will go a long way. 5 qts. diluted 1 to 8, gives you 11 gallons of ready to apply protector. With a coverage rate of 300 square. ft. per gallon, 5 qts. of protector will cover 3,000 square ft.

Keep in mind that your HYDRO-FORCE is spraying 3 to 4 times the amount of product your normal pump sprayer is putting out. This means you must move quickly to avoid over-applying. Protector should be applied in even, slightly overlapping strokes. You should proceed from the entrance again working your way toward the farthest point.



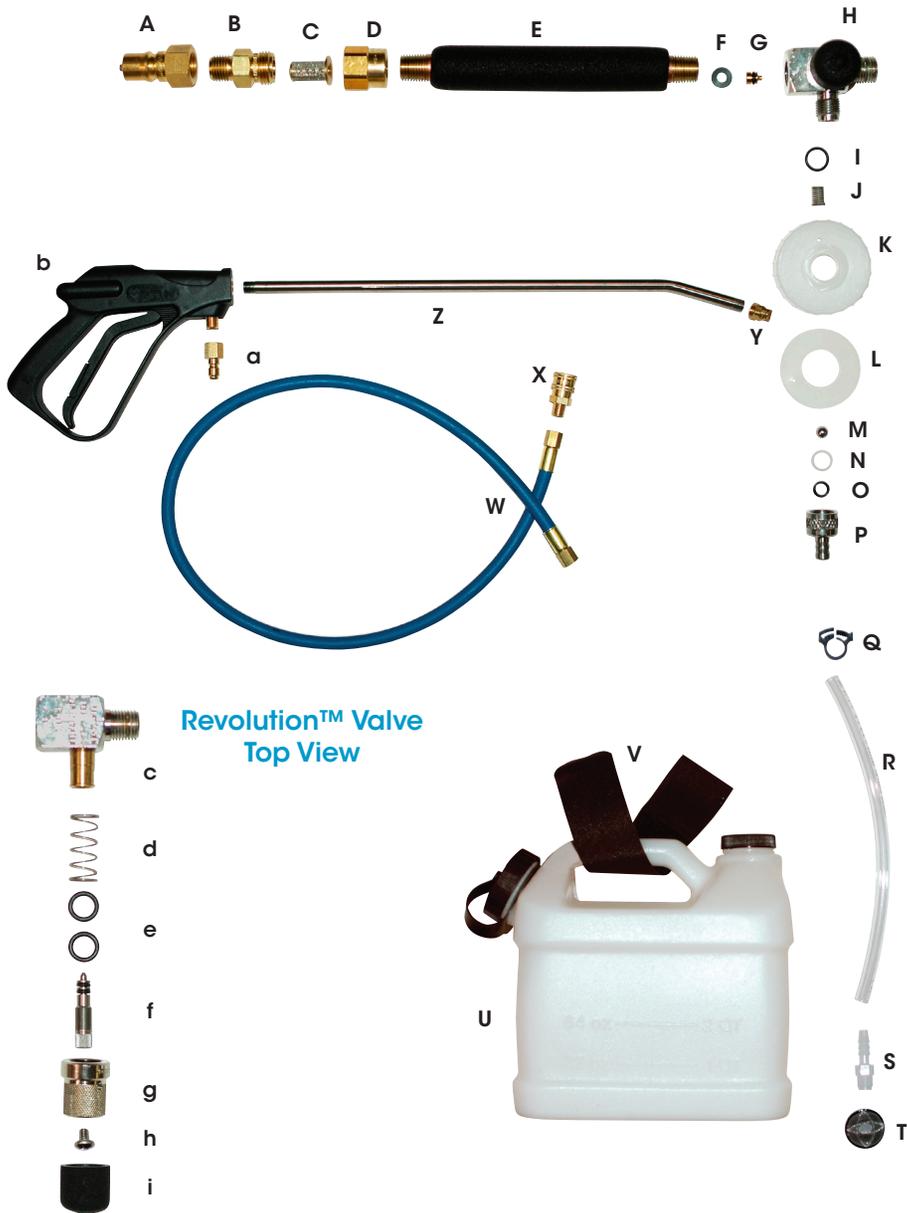
## Hydro-Force HIGH PRESSURE REVOLUTION™ INJECTION SPRAYER

[www.HydroForce.com](http://www.HydroForce.com)

## High Pressure Revolution™ Injection Sprayer

### PARTS BREAKDOWN

#AS08R



Revolution™ Valve  
Top View

## High Pressure Revolution™ Injection Sprayer PARTS LIST

PART DESCRIPTION		PART #	PART DESCRIPTION		PART #
A	1/4" Male Quick Connect	AH102B	S	1/4" x 1/8" Hose Barb	NA0839
B	Strainer Body	NA0802	T	Acorn Strainer	NA0840
C	Strainer	NA0803	U	5 Quart Container	AS65
D	Strainer Adapter	NA0804	V	Velcro Strap	NA0848
E	Insulated Handle	NA0806A	W	Hose Assembly (HP)	NA0828
F	Backup Washer	NA0807	X	1/4" Female Flow Thru	BR337
G	Water Nozzle with O-Ring	NA0808	Y	Veejet Brass 1/4" Female	B280
H	Injector Valve Complete	NA0850A	Z	18" Extension	NA0833
I	Viton O-Ring	NA0837	a	1/4" Male Flow Thru	BR335
J	Check Valve Spring	NA0810	b	Spray Gun	100010
K	Formed Bottle Cap	NA0812	c	Valve Body	NA0865
L	Cap Liner	NA0838	d	Meter Stem Spring	NA0857
M	Steel Ball	NA0811	e	Viton O-Ring	NA0874
N	Spacer	NA0813	f	Stem Assembly	NA0869
O	Viton O-Ring	NA0814	g	Metering Knob - HP	NA0867
P	Suction Nut	NA0815	h	Pan Screw	NA0871
Q	Clamp HF Draw Tube	NA0818	i	Knob Cover	NA0859
R	Tubing	NA0817			

## High Pressure Revolution™ Injection Sprayer TROUBLE SHOOTING GUIDE

PROBLEM: Will Not Draw Chemical		
CAUSES	PART	SOLUTIONS
Inlet Strainer Clogged	NA0803	Clean or Replace
Wrong Teejet Size	B280	Replace
Acorn Strainer Clogged	NA0840	Clean or Replace
Metering Tip Clogged	NA0816	Clean or Replace
Water Nozzle Clogged or Worn	NA0808	Clean or Replace
Injector Valve Needs Major Rebuild	NA0849	Install Kit
Bad Injector Valve	NA0850A	Replace
Chemical Build-up Inside of Valve	NA0850A	Clean w/ Vinegar
PROBLEM: Container Backfills		
Injector Valve Needs Rebuild	NA0841	Install Backflow Kit
Bad Injector Valve	NA0850A	Replace
PROBLEM: Does Not Shut Off or Leaks From Gun		
Worn Gun	100010	Replace
Valve Needs Rebuild	NA031A	Replace
Worn Valve in Gun	NA031	Replace