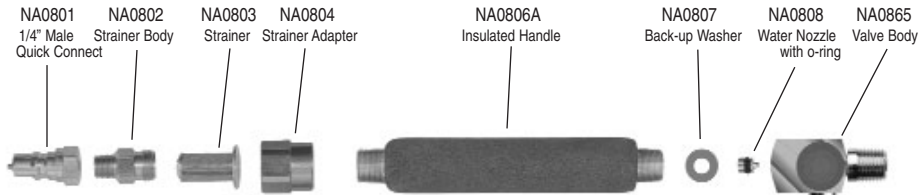
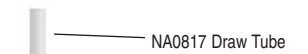
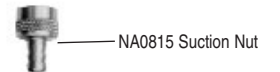
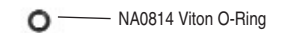
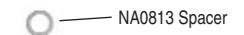
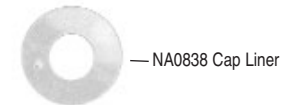
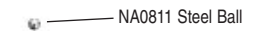
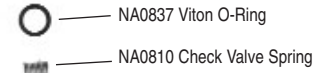




The New Hydro-Force REVOLUTION™ Injection Sprayer Upgrade Kit

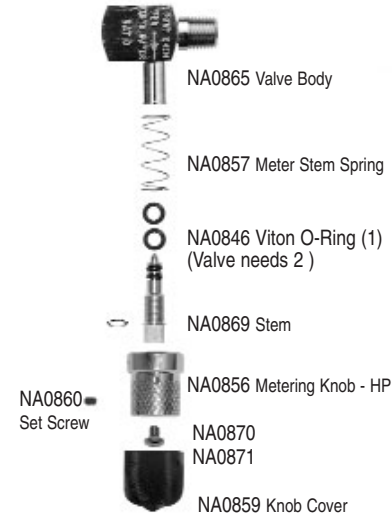


REVOLUTION VALVE RIGHT SIDE VIEW



NA0850A Injector Valve Complete Includes:
NA0807, NA0808, NA0810, NA0811, NA0813,
NA0814, NA0815, NA0846 NA0854, NA0855,
NA0856, NA0857, NA0859, NA0860

REVOLUTION VALVE - TOP VIEW



NA0862 Revolution High-Pressure Upgrade Kit Trouble Shooting Guide

PROBLEM: WILL NOT DRAW CHEMICAL

CAUSES	PART	SOLUTIONS
Inlet Strainer Clogged	NA0803	Clean or Replace
Outlet Strainer Clogged	NA0825	Replace
Wrong Teejet Size	B012	Replace
Acorn Strainer Clogged	NA0840	Clean or Replace
Water Nozzle Clogged or Worn	NA0808	Clean or Replace
Injector Valve Needs Rebuild	NA0841	Install Kit
Bad Injector Valve	NA0850A	Replace
Chemical Build-up Inside of Valve	NA0850A	Clean Thoroughly with Vinegar

PROBLEM: CONTAINER BACKFILLS

CAUSES	PART	SOLUTIONS
Injector Valve Needs Rebuild	NA0841	Install Kit
Bad Injector Valve	NA0850A	Replace



NA0862

To avoid down time keep a valve repair kit (NA0841) on hand.
Valve Repair Kit Includes: NA0837, NA0810, NA0811, NA0838, NA0813, NA0814

SUGGESTED USES FOR HYDRO-FORCE AS08R HIGH PRESSURE, and AS12R LOW PRESSURE, **REVOLUTION™** SPRAYER

The Hydro-Force **REVOLUTION™** Injection Sprayer has many potential uses. If used properly, Hydro-Force **REVOLUTION™** will greatly increase speed, efficiency and reliability of your operations. This material is designed to help you make the most of your Hydro-Force **REVOLUTION™**.

GENERAL FUNCTION:

The Hydro-Force **REVOLUTION™** Injection Sprayers are based upon a venturi injection system. A specially designed valve injects chemical into the high-pressure water flow coming from the machine. The ratio of chemical to water is set by turning the metering knob, located on the side of the **REVOLUTION™** valve, to the desired ratio. The valve creates an automatic reduction in pressure based upon restriction that occurs within the valve. There is a substantial decrease upon restriction that occurs within the valve. There is a substantial decrease from the incoming water pressure to the exit pressure leaving the spray jet at the end of the wand.

The valves used on the AS08R (high pressure) and AS12R (low pressure) **REVOLUTION™** sprayers, are essentially the same, the only difference being the metering knob calibrations. On the low pressure unit, reduction in water pressure that comes to the valve from the pressure source will create better vacuum characteristics so the ratio markings on the metering knob will be different. The only way to tell the valves apart is by locating the stamped designation. The high pressure valve has an circled "H" stamped on the metering knob while the low pressure valve is stamped with an "L".

AS08R HIGH PRESSURE REVOLUTION™

This unit is designed to be used with concentrated chemicals, and is designed to work at pressures of 250 PSI to 500 PSI. The Revolution (tm) will meter ratios from 1-64* to 1-4. Applying light pressure, turn the metering knob clockwise until closed, then turn counter clockwise to the desired dilution ratio lines up with the arrow on the main body of the valve. **To achieve the 1-4 ratio, which has a slash on the right side of the number, the knob must be turned past it once - counter clockwise - continuing until the 1-4 mark is hit again.** Note: The metering ratio may change depending on the viscosity (thickness) of the concentrate chemical. The marked ratios are intended for use with chemicals with a similar viscosity to water.

AS12R LOW PRESSURE REVOLUTION™

This unit is designed to work at pressures of 50 PSI to 250 PSI. The workings of this unit are the same as the above high-pressure unit with the exception of the ratio markings on the metering knob. The **REVOLUTION™** low-pressure unit will meter chemicals from 1-64* to 1-3. To obtain ratios up to 1-3, the knob will not have to be turned any farther than one complete turn. If the user prefers the hose, gun, and wand assembly that comes standard on the high pressure unit, this is achieved by replacing the low pressure valve and extension with the high pressure hose, gun, and extension. No effect in the metering and function of the unit will be effected.

* NOTE - Due to very slight variances in the valve components, the 1-64 setting may give inconsistent metering. For more consistent metering in the high range as with a 1-64 dilution ratio, dilute the chemical with one part water and meter at the 1-32 range. Each valve is independently calibrated. The stopping (off) point will vary slightly with each valve.

The value of your Hydro-Force **REVOLUTION™** will be greatly increased if you incorporate the use of a quality shut off valve at the end of your high-pressure line. This facilitates the easy connection and removal of the Hydro-Force during your cleaning operation. These ball valves are available from your Hydro-Force Distributor.

PRE-SPRAY AND TRAFFIC LANE APPLICATIONS:

Your Hydro-Force **REVOLUTION™** will greatly increase effectiveness and speed when pre-conditioning. The 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 facilitate quick changes of your chemical containers. Remember that your Hydro-Force **REVOLUTION** automatically mixes at a high dilution ratio. For instance, if your 5-quart container is full and you are metering at a 1 to 8 ratio, you are holding enough concentrate chemical to fill a 11.25 gallon pump sprayer of regular, ready to use pre-spray.

For most applications of pre-spray, it is best to follow the manufacturer's recommended dilution ratios and application procedures. However, the professional carpet cleaner may find occasion to increase his concentrate of chemical being applied in heavily soiled areas. By doing this, he can get increased cleaning results without the risk of overwetting which can occur with regular sprayers.

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 of clean water to your Hydro-Force unit. Remove the traffic lane bottle and attach the clean water bottle. Run your Hydro-Force **REVOLUTION™** for approximately 20 seconds or until all detergent is out of your lines. You may then attach the 5 quart container containing carpet protector. Remember to adjust your dilution ratio to match the recommend ratio for your protector.

Keep in mind that your Hydro-Force **REVOLUTION™** is spraying 2 to 3 times the amount of product a normal pump sprayer will put 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. This keeps your hose out of your way. Upon completion of your spraying, you should again rinse and clear your lines so you are prepared for the next procedure. Note: You will want to re-adjust the metering knob for the next procedure.

DEODORIZING, DYING AND OTHER APPLICATIONS:

Your procedure for using Hydro-Force will vary depending of your specialty needs. It is important to remember the different features and ratio range of your Hydro-Force **REVOLUTION™** as this will help you define your needs in mixing and preparing your special chemicals.