PRE-SPRAY AND TRAFFIC LANE APPLICATIONS:

Hydro-Force injection sprayers eliminate 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 sprayers automatically mix 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.

Hydro-Force injection sprayers offer better penetration and overall coverage than other sprayers. It is therefore possible to pre-spray your jobs up to 45 minutes before that area needs to be cleaned. An effective way to use the Hydro-Force sprayer for pre-conditioning is to start at the door coming into the house; spraying all the traffic areas and work 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.

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 injection sprayers bypass these hassles and encourage you to apply carpet protectors. 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 acid or vinegar will help) to your Hydro-Force injection sprayer unit. Take off your traffic lane bottle and put on clean water. Run your Hydro-Force injection sprayer 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 them with a Hydro-Force injection sprayer. Whether you use Tuft Guard II 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 injection sprayer 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.

TROUBLE SHOOTING GUIDE			
PROBLEM: Will Not Draw Chemical			
CAUSES			SOLUTIONS
Inlet Strainer Clogged			Clean or Replace
Wrong Teejet Size			Replace
Acorn Strainer Clogged			Clean or Replace
Metering Tip Clogged			Clean or Replace
Water Nozzle Clogged or Worn			Clean or Replace
Injector Valve Needs Major Rebuild			Install Kit
Bad Injector Valve			Replace
PROBLEM: Container Backfills			
Injector Valve Needs Rebuild			Install Backflow Kit
Bad Injector Valve			Replace
PROBLEM: Does Not Shut Off or Leaks From Gun			
Worn Gun			Replace
Valve Needs Rebuild			Replace
Worn Valve in Gun			Replace

HYDRO-FORCE™ PRO

Injection

Part Number: 776-114

Patent Number: 6,182,911 B1

The Hydro-Force injection sprayer is used to quickly, and evenly apply pre-spray, protector and other chemicals over large areas. A specially designed valve injects chemical into the high-pressure water flow coming from the machine and automatically dilutes it at the desired ratio. A Hydro-Force injection sprayer can be used at pressures as low as 50 PSI or as high as 1,000 PSI. All Hydro-Force sprayers are set at the factory to be used at water pressures of 400 P.S.I. for a dilution ratio of 1:8 but can easily be configured to work at lower pressures by simply changing the metering tip (see Metering Instructions below). 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%.

Esteam Cleaning Systems

HYDRO-FORCE™
Innovating since 1974

METERING INSTRUCTIONS

Your solution hose pressure affects how much chemical is drawn from the Hydro-Force injection sprayer. Higher pressures decrease the ratio of chemical to water and lower pressures increase the ratio of chemical to water. To ensure your dilution ratios are accurate, use the chart below to determine what metering tip to use at your specified pressure. 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 viscosity similar to water. The injection ratio can also be slightly affected by your main flow water temperature. This generally only changes the dilution ratio slightly, however.

To change metering tips and dilution ratios, remove the clear tube at the bottom of the injection valve and remove the metering tip by turning counterclockwise. Insert the new tip and replace the tubing. Be sure that the screen filter is present at the end of the tubing.

Read the dilution instructions on the label of your chemical, then add the chemical full strength to your Hydro-Force container. Your chemical will then be diluted automatically at the ratio specified in the charts below based on your PSI and metering tip.

If the recommended dilution ratio does not match exactly to a Hydro-Force metering tip, choose the tip that is closest and slightly adjust your rate of application by moving the sprayer faster or slower.

WHEN USED AT 50 PSI		
Oz. of Solution per Gallon of Water	1 Part Solution to () Parts Water	Hydro-Force Metering Tip
32	4	Blue
21	6	White
16	8	Brown
WHEN USED AT 100 PSI		
32	4	Yellow
26	5	Blue
21	6	White
16	8	Brown
WHEN USED AT 150 PSI		
32	4	Yellow
21	6	Blue
16	8	White
11	12	Brown
WHEN USED AT 200 PSI		
32	4	Black
26	5	Yellow
21	6	Blue
16	8	White
9	14	Brown

Oz. of Solution per Gallon of Water	1 Part Solution to () Parts Water	Hydro-Force Metering Tip
32	4	No Tip
26	5	Grey
21	6	Black
16	8	Yellow
13	10	Blue
8	16	White
4	32	Brown

Metering Tips

Part # 1601-1203

PID # 110021

	PART DESCRIPTION	PART #	PID
A	1/4" Male QD To Strainer	2680-6784	268870
B	Strainer	1679-0875	107789
C	Strainer Adapter	1671-0079	107701
D	Insulated Handle	2695-0877	207985
E	Backup Washer	1601-0884	108081
F	Water Nozzle with O-Ring	1664-4635	143664
G	Injector Valve Complete	2687-2224	207985
H	Viton O-Ring	1606-2325	122036
I	Check Valve Spring	1647-2728	122477
J	Formed Bottle Cap	1685-0378	107835
K	Cap Liner	1676-2128	122716
L	Steel Ball	1632-3267	136322
M	Spacer	1698-2201	120928
N	Viton O-Ring	1605-2324	122035
O	Suction Nut	1653-0180	108513
P	Metering Tip	1662-0799	109672
Q	Clamp HF Draw Tube	1631-2922	122391
R	Tubing	1660-0090	109600
S	¼" x 1/8" Hose Barb	1629-1510	111259
T	Acorn Strainer	1604-0786	108074
U	Retainer Side Cap	1670-2627	122760
V	Cap Sideport	1652-2815	121582
W	5 Quart Container	1691-2584	128951
X	Hose Assembly (HP)	2687-6281	228867
Y	Quick connect ¼ F/M	1630-0891	109380
a	Veejet Brass 1/4" Female	1694-0898	109984
b	18" Extension	1667-0895	109687
c	1/4" Male Flow Thru	1629-0583	108259
d	Spray Gun	1658-0678	107568
e	Velcro Strap	1691-2483	128941