

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 Maxim™ 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.

HYDRO-FORCE™ PRO

Injection



Part Number: A70109

PID: 70109

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%.

TROUBLE SHOOTING GUIDE

PROBLEM: Will Not Draw Chemical

| CAUSES | PART # | PID | SOLUTIONS |
|------------------------------------|-----------|--------|------------------|
| Inlet Strainer Clogged | 1679-0875 | 107789 | Clean or Replace |
| Wrong Teejet Size | 1694-0898 | 109984 | Replace |
| Acorn Strainer Clogged | 1604-0786 | 108074 | Clean or Replace |
| Metering Tip Clogged | 1662-0799 | 109672 | Clean or Replace |
| Water Nozzle Clogged or Worn | 1664-4635 | 143664 | Clean or Replace |
| Injector Valve Needs Major Rebuild | 1620-2816 | 121280 | Install Kit |
| Bad Injector Valve | 1600-1909 | 110090 | Replace |

PROBLEM: Container Backfills

| | | | |
|------------------------------|-----------|--------|----------------------|
| Injector Valve Needs Rebuild | 1633-0173 | 107313 | Install Backflow Kit |
| Bad Injector Valve | 1600-1909 | 110090 | Replace |

PROBLEM: Does Not Shut Off or Leaks From Gun

| | | | |
|---------------------|-----------|--------|---------|
| Worn Gun | 1658-0678 | 107568 | Replace |
| Valve Needs Rebuild | 1649-0878 | 107489 | Replace |
| Worn Valve in Gun | 1670-2211 | 121720 | Replace |

To learn how you can save time and money using a Hydro-Force sprayer call 800-637-3789 or visit www.aramsco.com

 **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 |

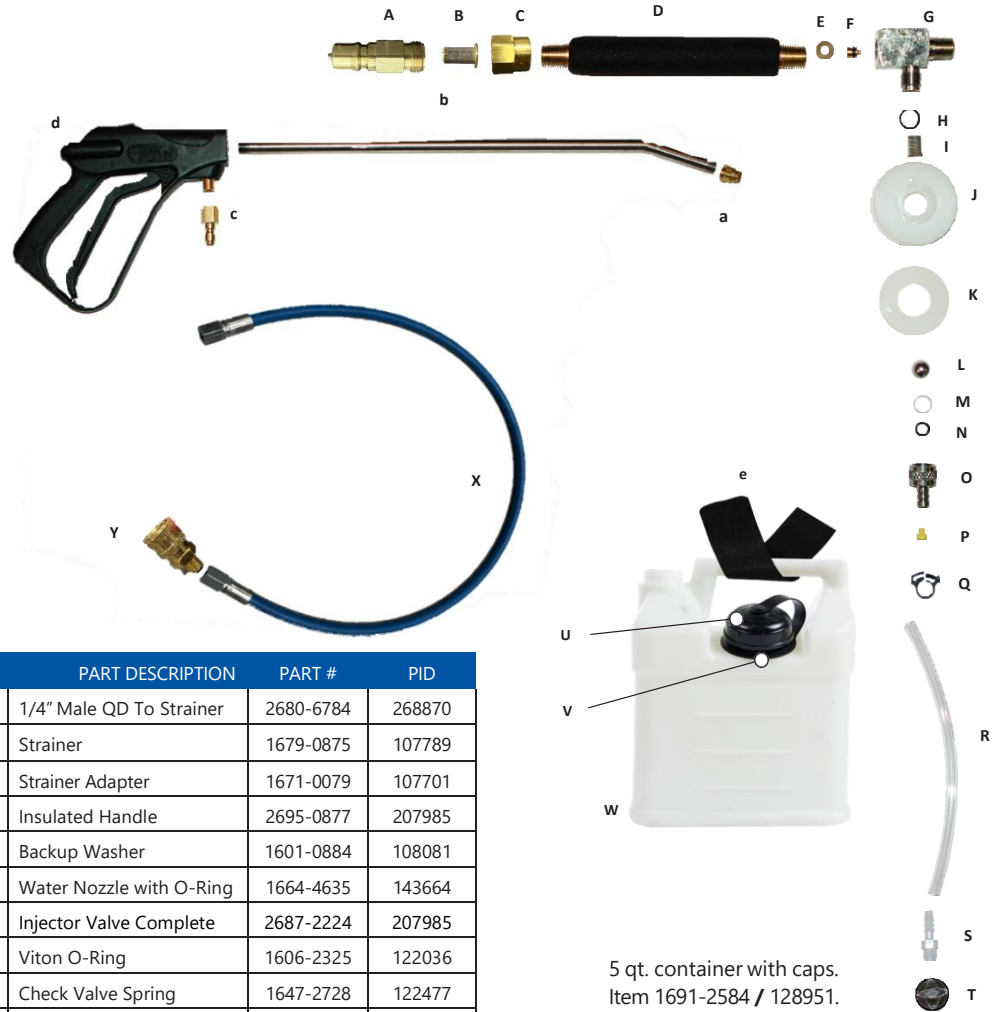
| WHEN USED AT 400 PSI | | |
|-------------------------------------|-----------------------------------|--------------------------|
| Oz. of Solution per Gallon of Water | 1 Part Solution to () Parts Water | Hydro-Force Metering Tip |
| 32 | 4 | No Tip |
| 26 | 5 | Grey |
| 21 | 6 | Black |
| 16 | 8 | Yellow |
| 13 | 10 | Blue |
| 8 | 16 | White |
| 4 | 32 | Brown |



Metering Tips

Part # 1601-1203
PID # 110021

PARTS BREAKDOWN & PARTS LIST



| | 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 | 1/4" 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 1/4 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 |