

PREP UNIT

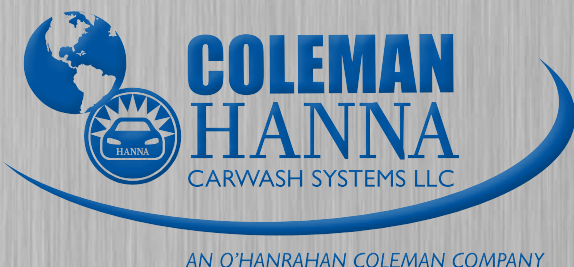
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Bay 1 Upper

Auto Prep Unit

Service Manual



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Hanna Auto Prep



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INTRODUCTION

Purpose of Equipment

The Auto Prep Unit is a fast, effective high pressure cleaning system designed to provide 650 PSI of oscillating cleaning action to vehicle grills, front and rear, as well as rocker panels, wheel wells and bumper area.

Design Features

The Auto Prep System utilizes a 20 gpm high pressure pump suitable for use with reclaimed water, driven by a 10 HP motor. Two applicator cabinets are provided, each unit is equipped with two oscillating manifolds; each manifold utilizes 6 jets. A hydraulic motor and linkage supplies the oscillating motion for the manifolds. Solenoid valves are utilized to switch the high pressure water supply from front to rear manifolds.

Three functions of a computer (not supplied with system) are needed for controls.

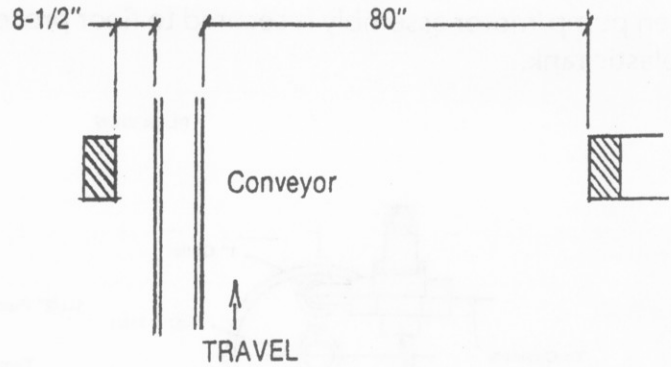
The Auto Prep Unit is available with two 20 gpm pumps, one for each side.

Principle of Operation

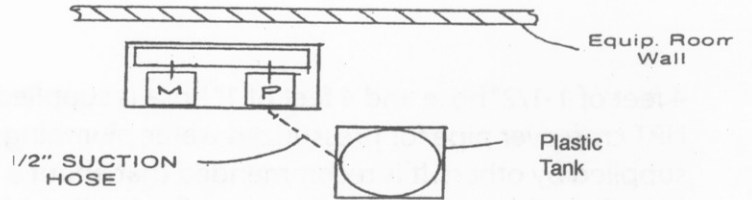
A computer impulse starts the high pressure pump and activates the hydraulic motor to oscillate manifolds. These events occur when the front of the vehicle is about 5 feet away from the installed applicator cabinets. The front manifold continues spraying until the center of the front wheel reaches the applicator cabinet. At this point the water is switched to the rear manifold and remains at this position as the vehicle passes and continues to spray until the vehicle is 4 feet downstream from the applicator.

INSTALLATION

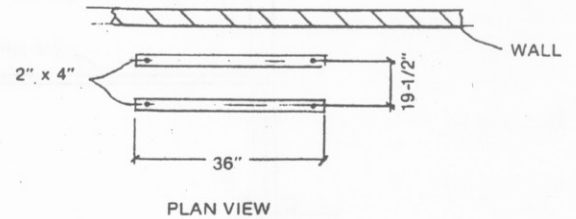
Remove applicator units from and position in tunnel to dimensions shown, mark location of the 2 anchor bolts in each applicator. Remove applicator and with Rotohammer prepare 2 holes for 1/2" x 3" kwick bolts. Secure both driver and passenger side applicators to floor.



Locate pump/motor assembly and plastic tank in equipment room; place as close to the applicators as practicable. Position the plastic water tank so that suction hose to pump is a direct line. An optional tank stand is available to elevate pump suction line above pump.



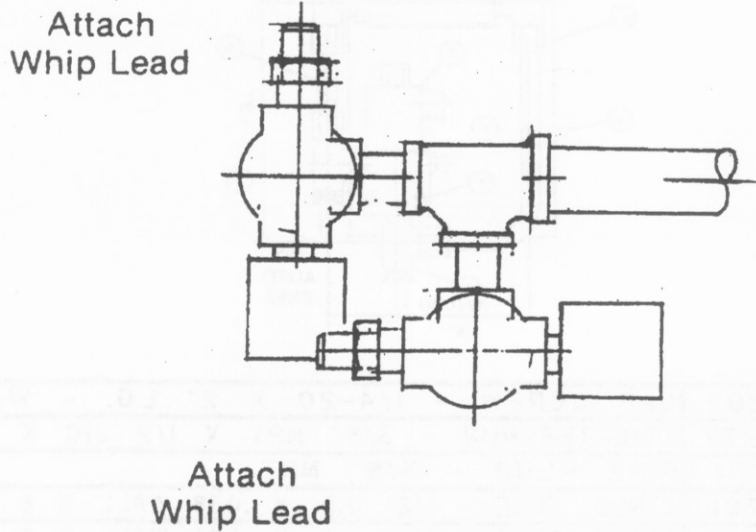
For optimum noise reduction the pump/motor base should be placed on 2" x 4" which has been anchored to the concrete floor. Lag bolt the base to the 2" x 4". A thin (1/16) piece of hard rubber placed between the pump base and 2" x 4" will further reduce vibrations.



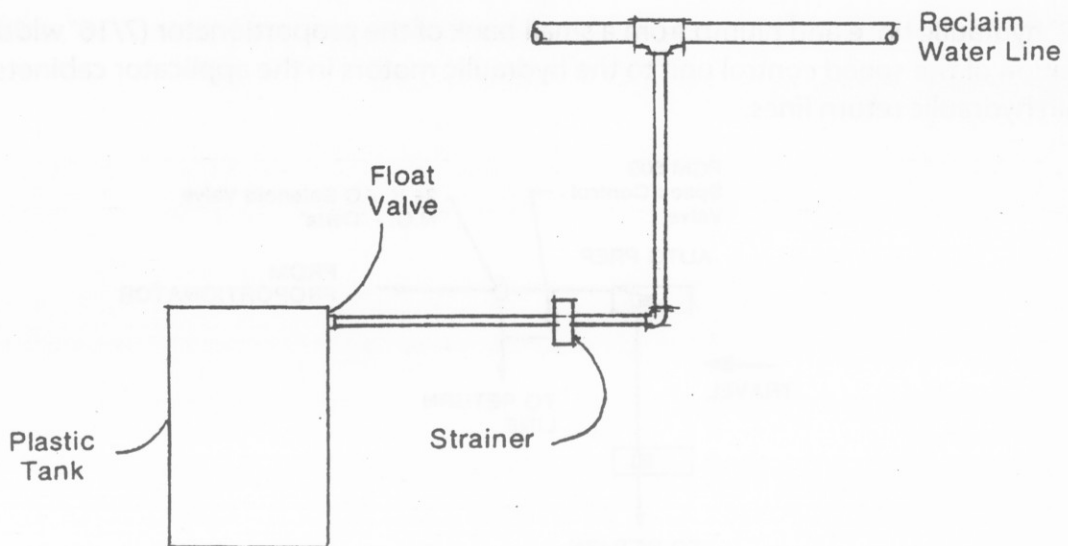
WATER PLUMBING

Install the 3/4 NPT downers which feed driver and passenger side applicators, then the driver and passenger side valve manifolds.

Attach high pressure hose whip leads from solenoid valves to applicator manifolds.

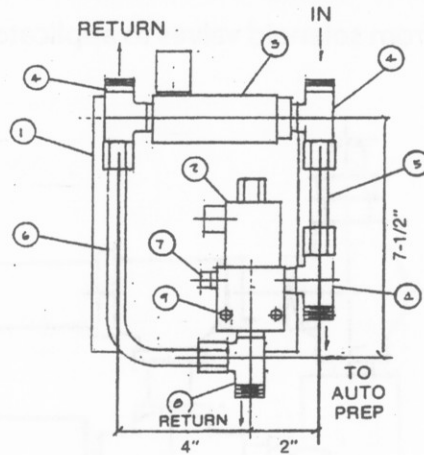


Water for the Auto Prep tank is taken from the car wash main reclaim system. Locate the nearest line and plumb with 3/4" pipe into the float valve in the plastic tank. Install a strainer (20 mesh) between the plastic tank and the water source; the strainer should be wall or in line mounted at a location easily accessible for daily cleaning.



HYDRAULICS

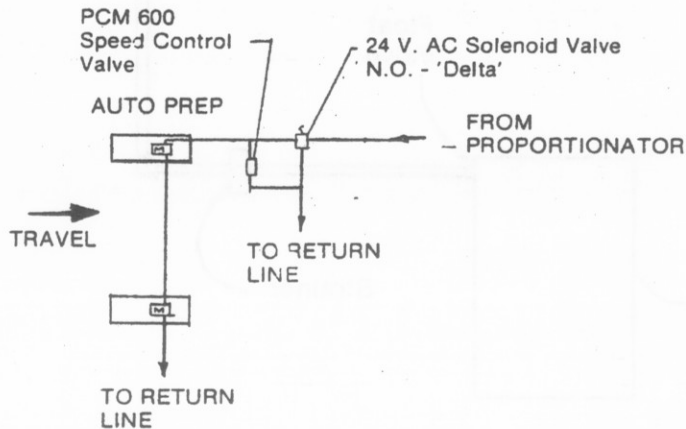
Hydraulics are required for the Auto Prep unit. Hydraulics are provided as option because of the different alternatives. A separate proportionator and speed control maybe required depending on the pump size of the central hydraulic unit. The illustration shows a independent speed control.



9	017202	CAP SCREW - 1/4-20 X 2" LG. - W/NUT	2
8	324277	FTG.-TEE-RUN - 3/8" NPT X 1/2 JIC X 1/2 JIC	1
7	019174	PIPE PLUG - 3/8" NPT	1
6	195701	STNLS. TUBE - 1/2" O.D. X .036 WALL X 8 1/2" LG.	1
5	195701	STNLS. TUBE - 1/2" O.D. X .036 WALL X 2 1/2" LG.	1
4	324277	FTG.-TEE-BRANCH - 1/2 JIC X 1/2 JIC X 3/8 NPT	3
3	197830	FLOW CONTROL VALVE - PCM 600	1
2	324285	SOLENOID VALVE - 24VAC - N.O. "DELTA"	1
1	706457	MOUNTING PLATE	1
ITEM NO.	PART NO.	DESCRIPTION	REQ'D

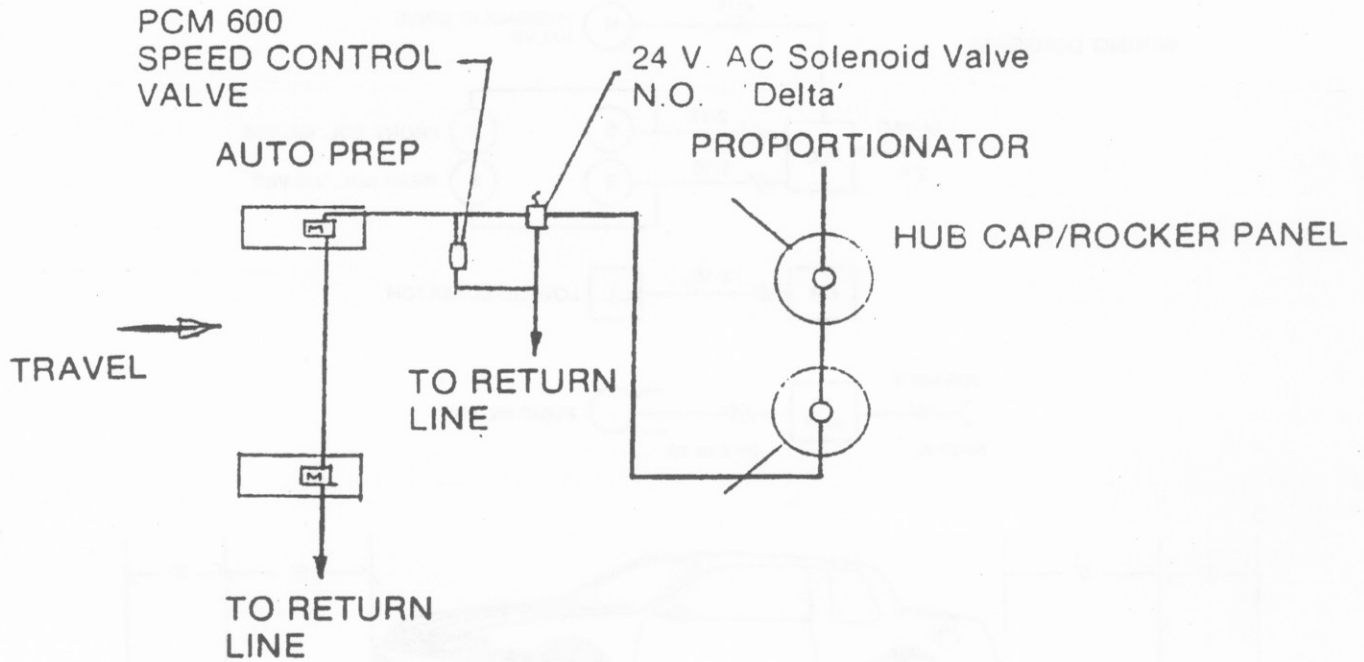
LIST OF MATERIAL

Use 1/2" hydraulic hose and plumb from a small bank of the proportionator (7/16" width) to the "in" position of the speed control unit to the hydraulic motors in the applicator cabinets then to maintain hydraulic return lines.



HYDRAULIC PLUMBING

In the event that no spare proportionator bank is available, plumb from the hub-cap/rocker panel motor circuit to the hydraulic speed control unit.

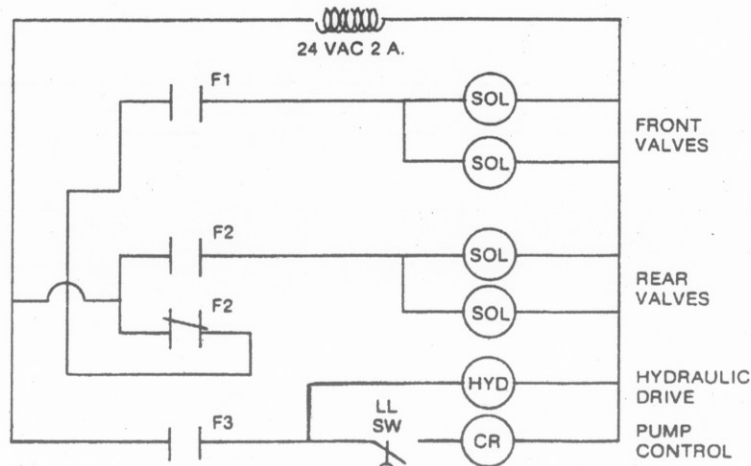
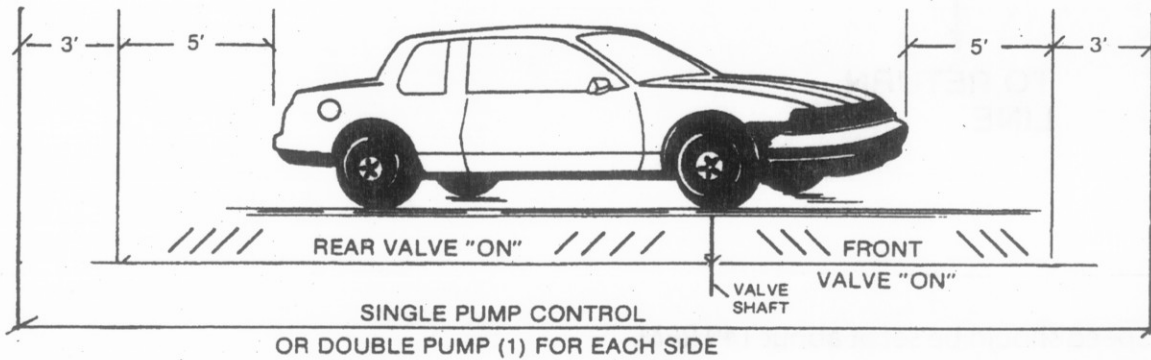
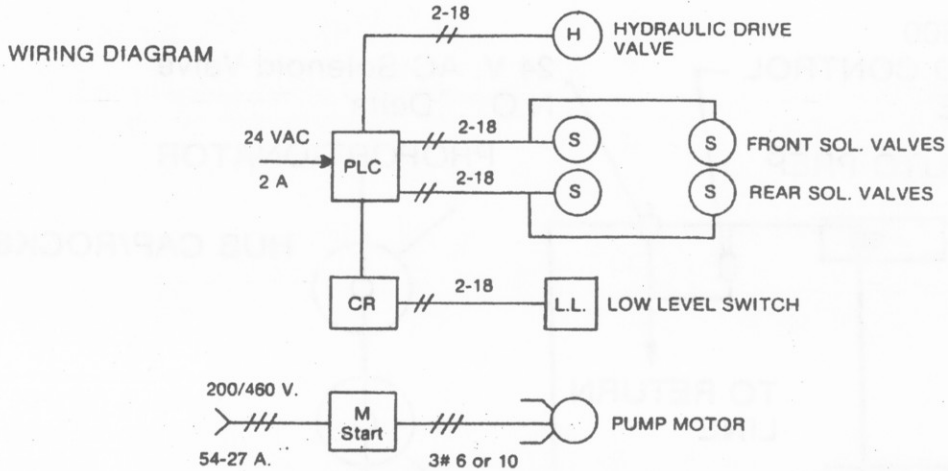


Oscillating speed should be set at about 140 RPM.

ELECTRICAL CONTROLS

The system requires three functions of your programmable controller to operate:

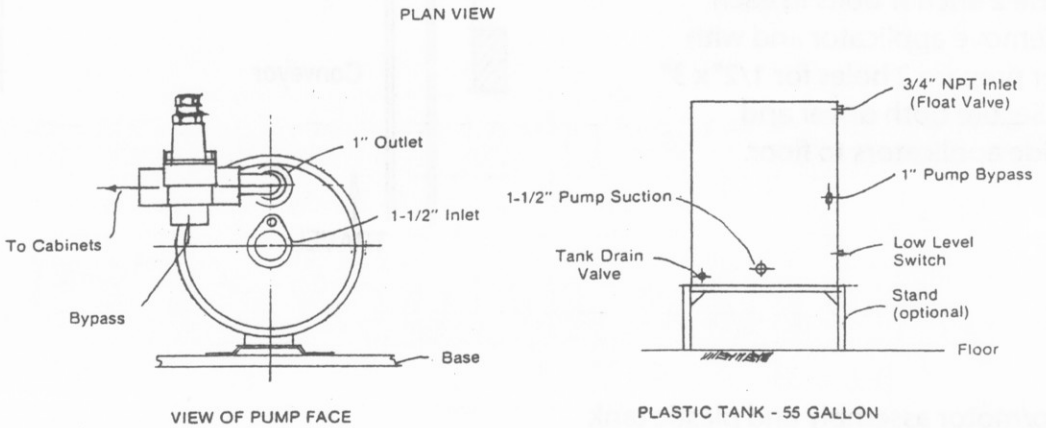
- One function to turn on water pump and activate solenoid valve on hydraulic speed control unit.
- One function to activate solenoid valve for water to fronts and sides.
- One function to activate solenoid valve for water to rear and sides.



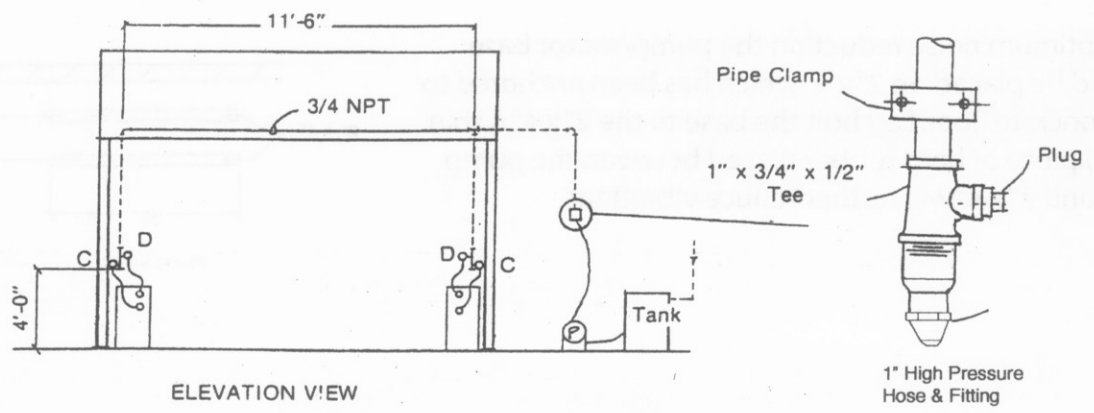
(3) PLC FUNCTIONS REQUIRED

INSTALLATION

When pump/motor assembly is secured to floor proceed with plumbing into and out of the pump to plastic tank.



4 feet of 1-1/2" hose and 4 feet of 1" hose is supplied with the equipment. HSI supplies a 3/4 NPT crossover pipe for pressurized water, plumbing from pump discharge to the crossover is supplied by others. It is recommended that about a 7 foot piece of 100 RI high pressure hose be utilized from pump discharge to pipe feeding 3/4" crossover pipe. Make sure the junction of pipe and hose occurs at or near a clamp which secures pipe to wall. All pipe and fittings need to be schedule 80.



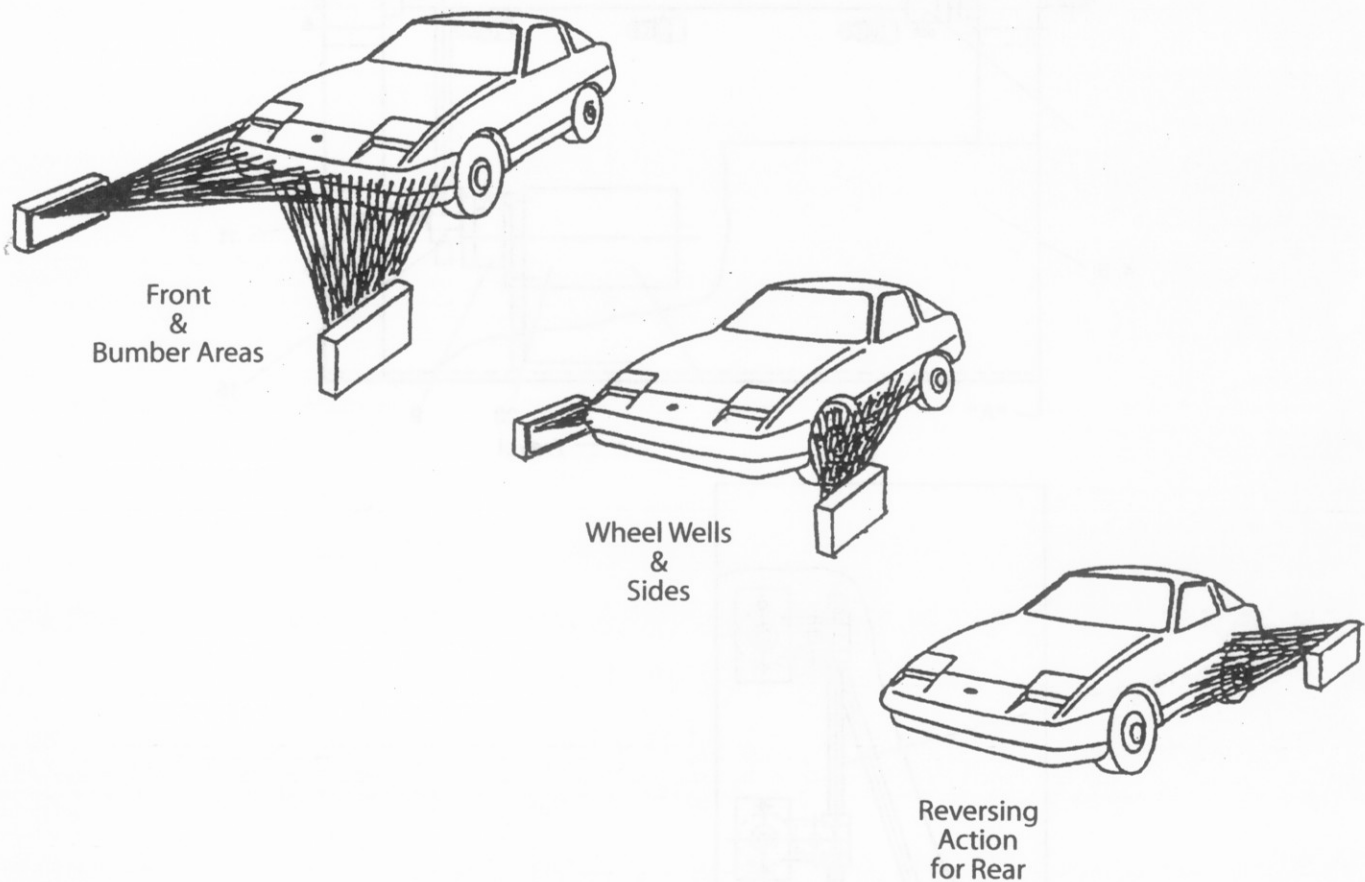
FINE TUNING AND ADJUSTMENTS

The preset oscillating arc is about 48°; if the arc pattern is too high or low it can be adjusted.

Release the set screws on the eccentric collar on each end of top manifold, and adjust manifold to desired position; then tighten set screws again.

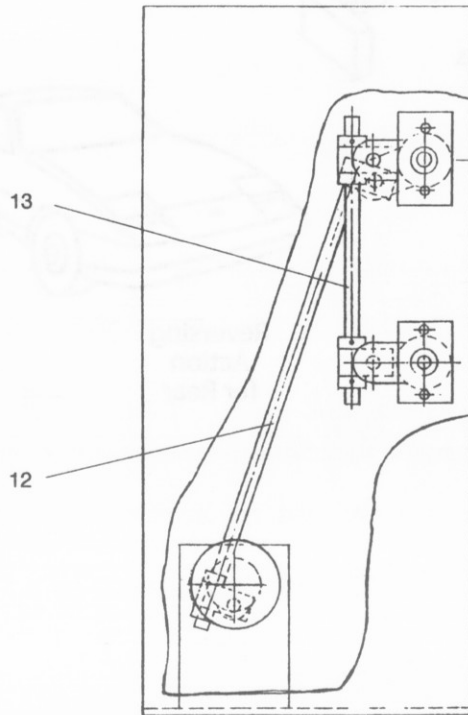
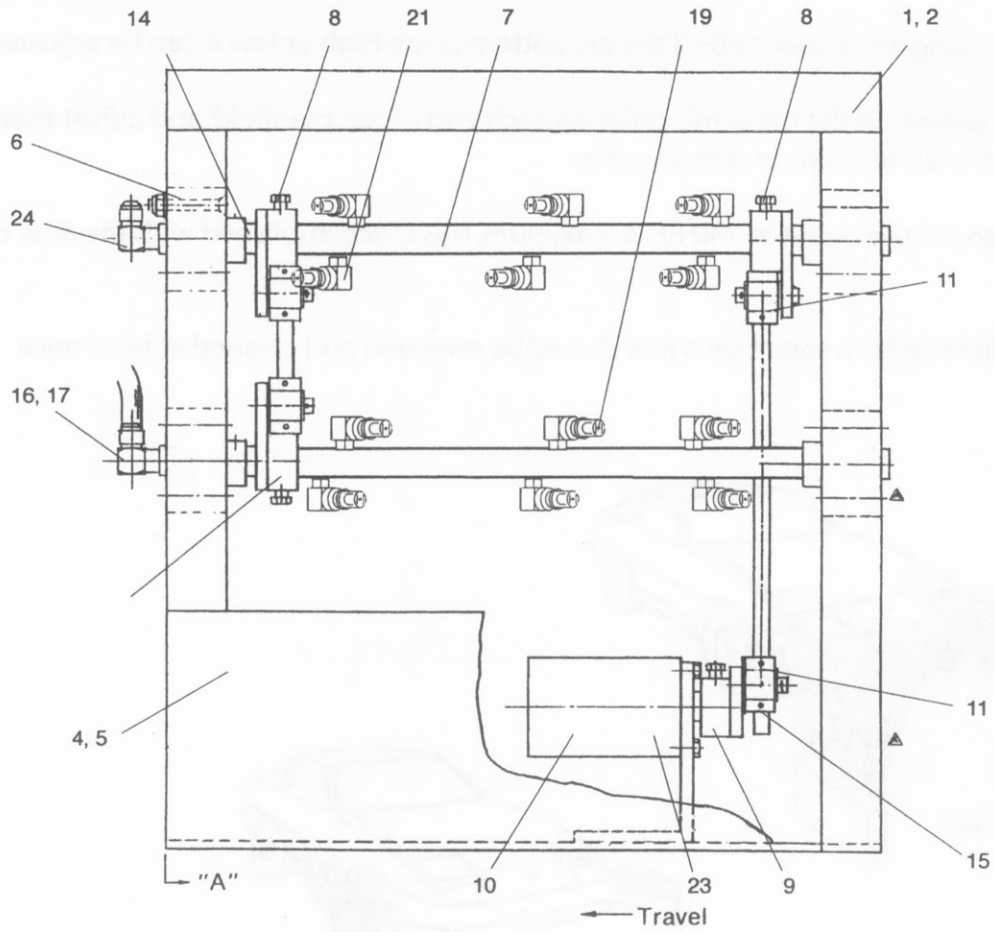
Oscillating speed should be set at 140 RPM maximum, this is accomplished with the flow control valve.

This system utilizes reclaim water; thus jets should be removed and cleaned at least once per week.



AUTO PREP APPLICATOR ASSEMBLY

Single Pump



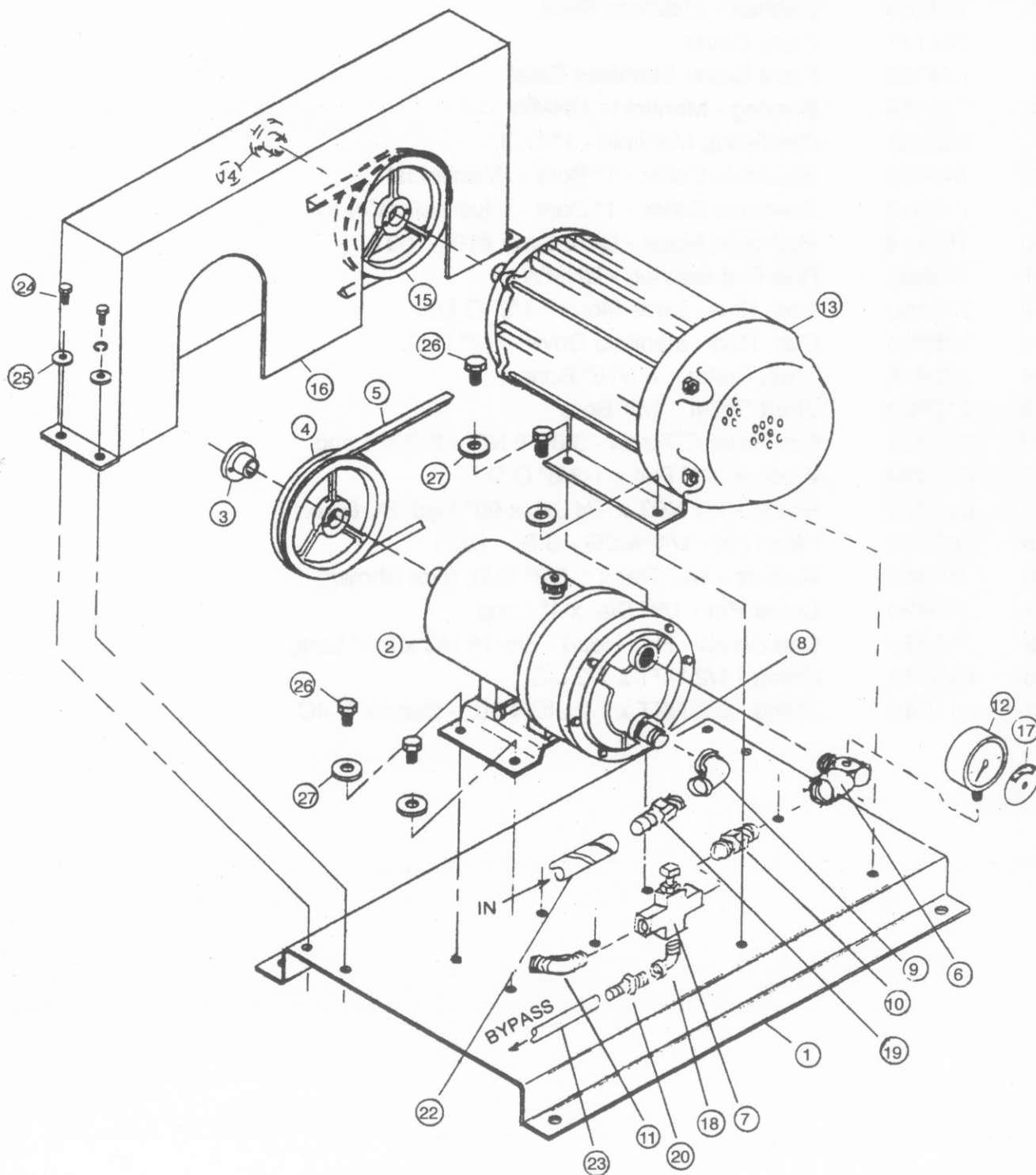
APPLICATOR ASSEMBLY PARTS BREAK DOWN

Item	Part No.	Description
1	744151	Housing Weldment - 14 GA. Galv.
2	744169	Cabinet - Stainless Steel
4	744177	Front Cover
5	744185	Front Cover Stainless Steel
6	743484	Bearing - Manifold - UHMW
7	802345	Oscillating Manifold - 1" O.D.
8	743492	Eccentric Collar - 1" Bore - (Manifolds)
9	743518	Eccentric Collar - 1" Bore - (Hydraulic Motor)
10	182444	Hydraulic Motor - Char-Lynn #101-1001
11	743880	Rod End Bearing - UHMW
12	743380	Con. Rod - Drive Motor - 1/2" O.D.
13	745398	Con. Rod - Manifold Drive - 1/2" O.D.
14	350942	Shaft Collar - 1-1/16" Bore
15	019729	Shaft Collar - 1/2" Bore
16	351403	Flat Head C'Screw - 3/8-16 NC x 2-3/4" Long
17	015438	Washer 3/8" Flat x 1-3/8" O.D.
18	014779	Fitting - 1/4 NPT x 1/4 JIC x 90° Hyd. St. Elec.
19	360638	Wash Jet - 1/4" MEG - S.S. - 1503
20	015453	Washer - 1/2" Flat x 1-3/8" O.D. (Not Shown)
21	020420	Cotter Pin - 1/8" Dia. x 1" Long
22	046888	Cap Screw - Hex Head - 3/8-16 NC x 3/4" Long
23	018648	Fitting - 1/2 NPT x 1/2 JIC
24	014845	Fitting - 3/8 NPT x 1/2 JIC x 90° - Sans x 8 JIC

PRESSURE PUMP ASSEMBLY

50 - 60 HZ - D25

20 gpm - 650 psi - 10 hp



PUMP ASSEMBLY PARTS BREAK DOWN

Item	Part No.	Description
1	717470	Base Plate - 30"
2	329532	Pump - D25 Hydracell
3	331876	Bushing TL H - 1"
4	339523	Pulley - 'Driven'
5	333724	Belt
6	014878	FTG 90° Street ELL w/ Gauge Port
7	345611	Pressure Regulator Valve - Wanner #C-23
8	116368	Nipple 1-1/2" x 2-1/2" Lg. Galv.
9	015214	Elbow 1-1/2" Galv.
10	012534	Nipple - 1" Hex
11	035550	45° EL 1" NPT x #16 JIC
12	070292	Gauge 2-1/2" Dia. 3000 psi 1/4" NPT BTM. Outlet
13	112094	Motor - HP 10 230/460 1800 RPM 60Hz
14	331868	Bushing T.L.H - 1-3/8"
15	333401	Pulley - 'Drive'
16	296764	Belt Guard Assy. - 26"
17	717892	Decal - psi 'Red Line' 700#
18	015040	Street EL 90° 1" NPT Galv.
19	324913	Hose Barb 1-1/2" NPT Galv.
20	323691	Hose Barb 1" NPT x 1" Hose
21	082834	Hose 1" x 36" R1 or R2 W/FEM JIC FTGS
22	192989	Hose 1-1/2" Dia. (Double Braided)
23	315721	Hose 1" Dia. (Double Braided)
*	190785	Clamp Screw 1-1/2" Hose
*	039487	Clamp Screw 1" Hose



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