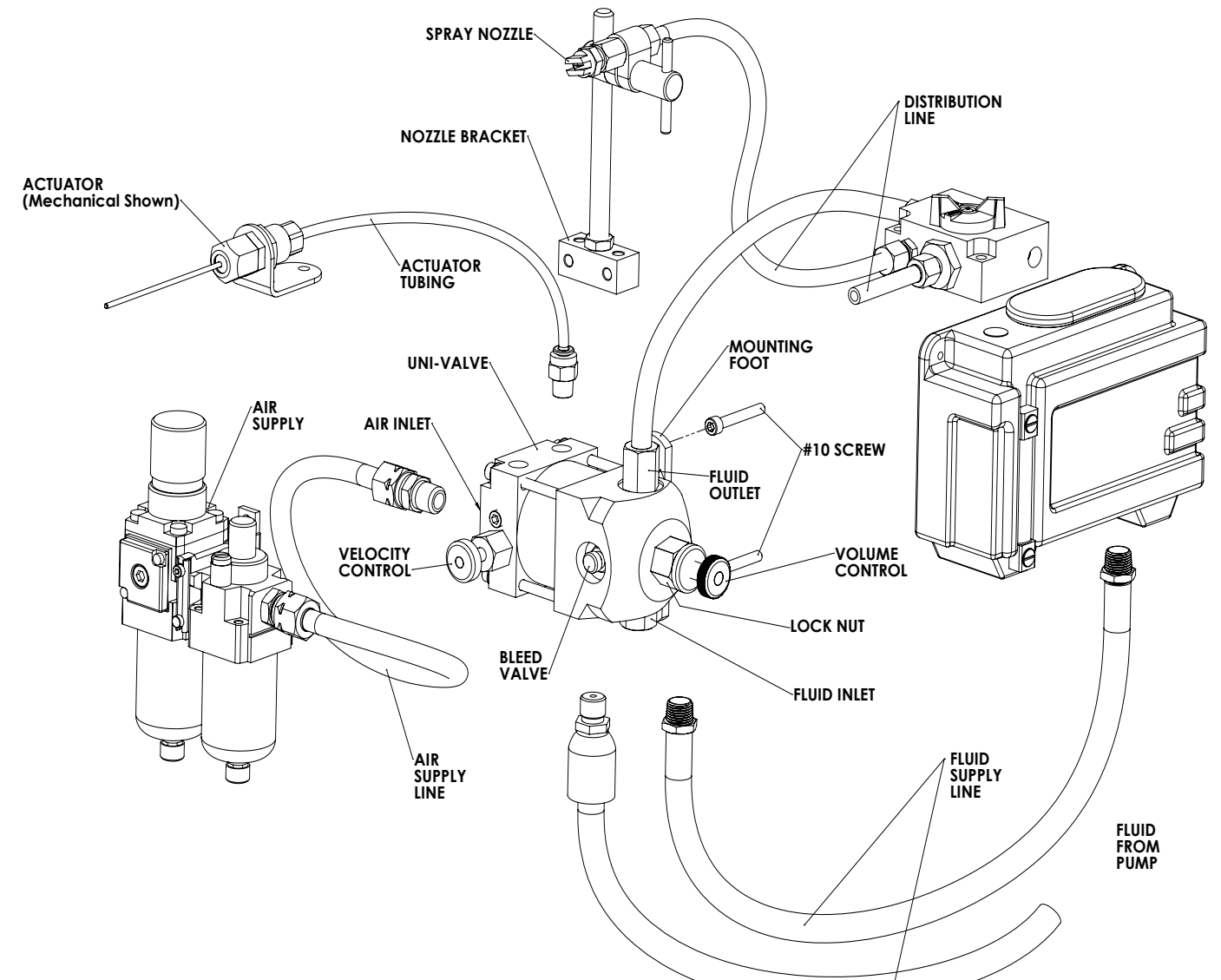


INSTALLATION, OPERATION, TROUBLESHOOTING & PARTS LIST

for MiniSpray Model No. **P-040-A**
Supersedes the P-040

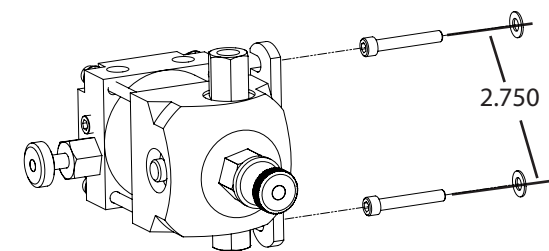


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INSTALLATION INSTRUCTIONS

The P-040-A PresSpray unit takes a predetermined amount of fluid in and then dispenses it in an instantaneous airless burst upon command.

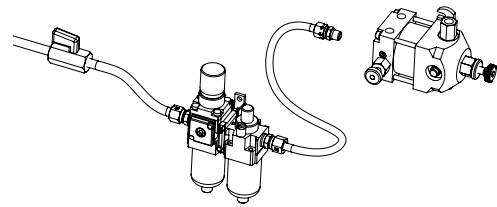


A. Installing the P040-A MiniSpray

1. Always mount the MiniSpray on a wall or a vertical plate.
 - a. The inlet fitting must always point down.
 - b. The outlet fitting must always point up.
2. Use two number 10 screws and washers for mounting.
3. For portability mount the MiniSpray to a P905 Magnet.

INSTALLATION INSTRUCTIONS CONTINUED

B. Installing the Air supply

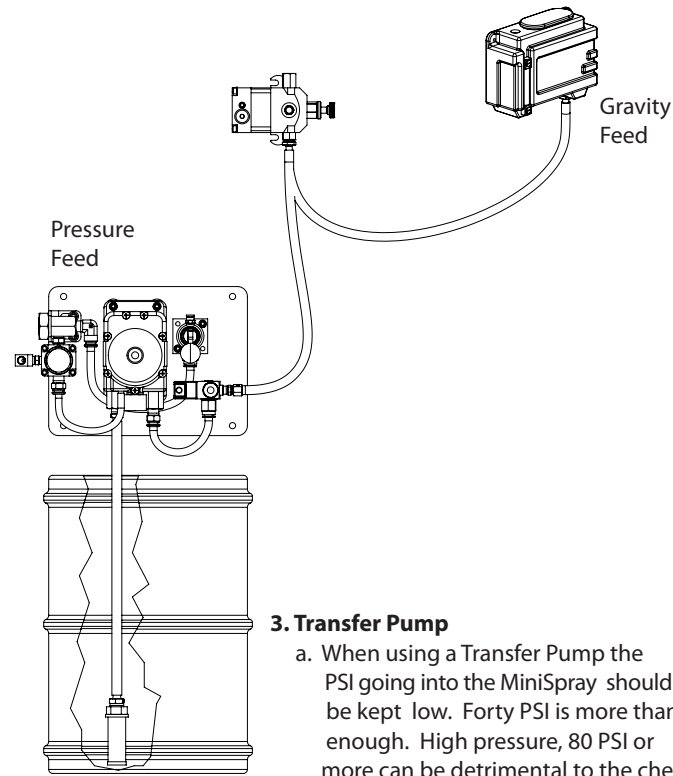
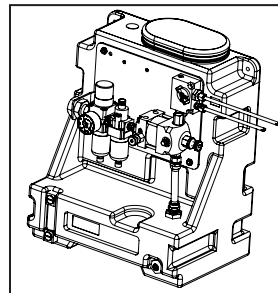


1. Air Supply Line must have at least a 1/4" I.D.
2. Air pressure 40 - 80 PSI. Much pressure beyond 80 PSI is a waste of air.
3. It is recommended that an On/Off Valve be inserted in the airline to shut off air during servicing of the unit.
4. Insert airline into the port in the bottom of the back plate.
5. Filter, Regulator, Oiler is recommended.

C. Installing the Fluid Supply System.

Fluid can be supplied in three ways, Modular System, Gravity Feed or Transfer Pump.

1. Modular System
 - a. Attach Actuating System.
 - b. Install Nozzle Assemblies as described on the facing page.
 - c. Use only LSP P940 tubing or copper tubing Other tubing can give bad spray patterns and after-drip.
 - d. To prime the unit the fluid must be higher than the Bleeder Valve.
2. Gravity Feed System
 - a. The Reservoir must be higher than the MiniSpray Ejector.
 - b. Recommended Reservoir for this unit is the P312-C, 1-1/2 gallon or the P315-C, 5 gallon Reservoir.



3. Transfer Pump

- a. When using a Transfer Pump the PSI going into the MiniSpray should be kept low. Forty PSI is more than enough. High pressure, 80 PSI or more can be detrimental to the check

balls and can cause leaking of the nozzles. Forty PSI is more than enough pressure to ensure keeping the lines full while preventing extra fluid from being used.

- b. For feeding one unit a short distance polyethylene tubing is fine. When feeding multiple units long distances it is recommended that rigid tubing be used.

D. Actuators

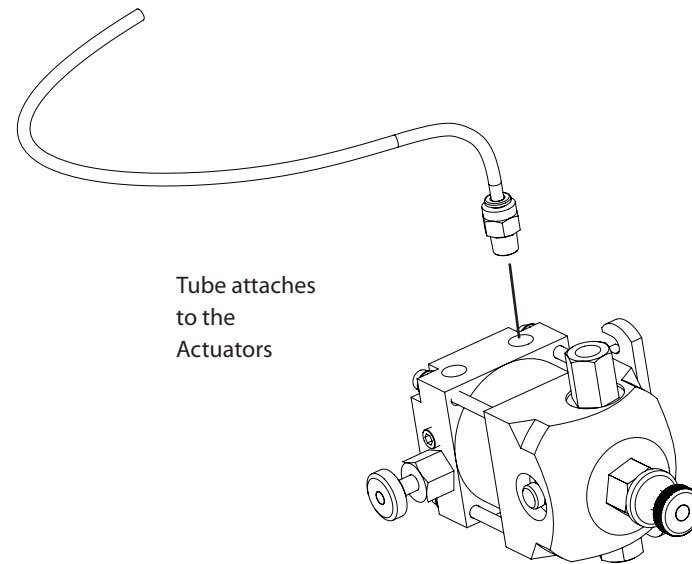


P901
Mechanical
Actuator

P912 & E230
110 V & 24 V

P908
AIR TIMER

E3000
ELECTRONIC
CONTROLLER

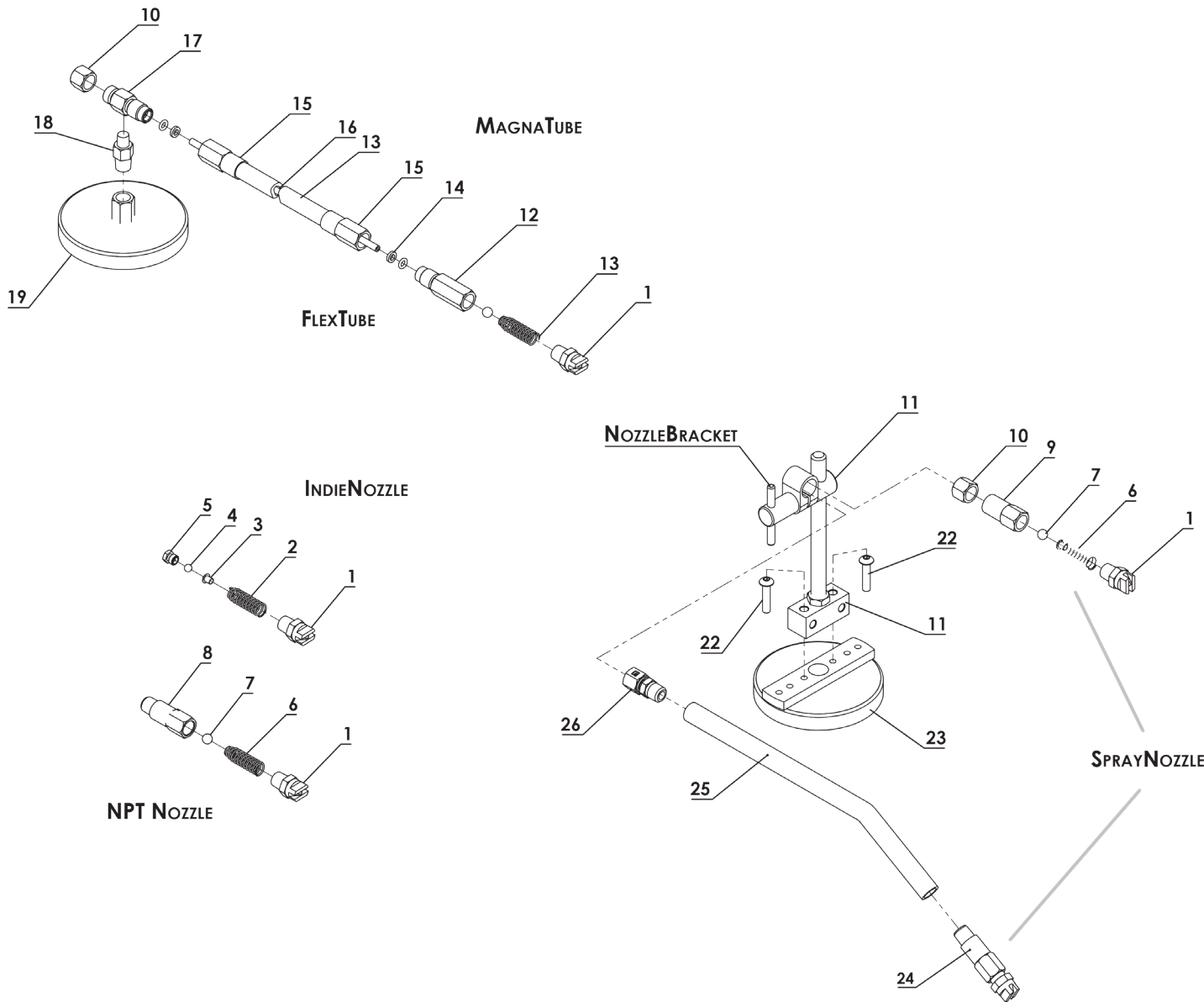


1. The unit can be actuated with different Actuators
2. The Actuator is attached to the Relief Port on the top side of the back plate of the unit.
3. The Mechanical Actuator is used remote, up to 5 feet away from the MiniSpray.
 - a. Use only 3/16" polyethylene tubing from MiniSpray to Actuator.
 - b. If supplied with a One Way Trip Bracket
 - c. To actuate the unit the wand must travel 30° in any direction. The One Way Trip Bracket allows just one actuation per cycle of the press. If two actuations per cycle is needed replace the One Way Trip Bracket with an angle bracket so that the wand strikes it on both the up stroke and down stroke of the press.
 - d. Either the Mechanical Actuator or the One Way Trip Bracket can be mounted on Magnetics for easy set ups.
4. A Solenoid can be used in place of the Mechanical Actuator.
 - a. Attach the Solenoid remote, using the 3/16" tubing supplied with the valve.
 - b. Or inserted directly into the Relief Port with the fitting supplied. Mounting directly to the Relief Port is the recommended installation.
5. The third means of actuating is the LSP Air timer. Set the speed for the frequency you want the MiniSpray to actuate and it will actuate until disengaged.
6. The fourth means of actuation is the LSP Electronic Controller. Reference the LSP Electronic Controller Operating Instructions for installation and operating instructions.

TROUBLESHOOTING INSTRUCTIONS

PROBLEMS	SOLUTIONS
I. Fluid will not flow from the Bleed Valve when opened.	<p>A. Insure the BLEED VALVE is open far enough. Unscrew until the VALVE SCREW comes completely out. Inspect the VALVES passage for obstruction.</p> <p>B. Insure that fluid is getting to the MiniSpray. Check below per method of fluid supply being used.</p> <ol style="list-style-type: none"> 1. If using a RESERVOIR (Gravity Feed) <ol style="list-style-type: none"> a) Insure the RESERVOIR is full, and the fill-level is above the top of the MiniSpray. b) If the fluid is very heavy, it may be too viscous to run through the FLUID SUPPLY LINE. 2. If using a PUMP (Pressure Feed) <ol style="list-style-type: none"> a) Insure the PUMP is "on" and is pumping at a good pressure. b) Make sure any valve in the FLUID SUPPLY LINE is open. <p>C. Insure the FLUID INLET is not obstructed. See "INSPECTING the MiniSpray". Look for a clogged FLUID INLET.</p>
II. The built-in air valve (UniValve) does not actuate when the Actuator is cycled.	<p>A. Check the operating air pressure. It should be at least 40 P.S.I.</p> <p>B. Ascertain if the problem is with the UNIVALVE or ACTUATOR as follows.</p> <ol style="list-style-type: none"> 1. Turn off the AIR SUPPLY and disconnect the ACTUATOR from the MiniSpray. (If ACTUATOR TUBING is being used, disconnect it at the ACTUATOR not at the MiiniSpray.) 2. Turn AIR SUPPLY back on. Air should be escaping where the ACTUATOR was disconnected. 3. Prevent this air escaping by placing your thumb over the vent hole. 4. If the MiiniSpray operates when you plug and unplug this hole, the problem is with the ACTUATOR. Continue with the "INSTRUCTIONS" supplied with that ACTUATOR. 5. If the MiniSpray will not operate by this method, check the ACTUATOR TUBE and/or UNIVALVE described below. <p>C. If ACTUATOR TUBING is being used, do the following: Else, go on to Step D.</p> <ol style="list-style-type: none"> 1. Insure the TUBE has been installed properly. See the "INSTRUCTIONS" for the ACTUATOR being used. 2. Inspect the TUBE for leakage (cuts, cracks, bad connections, etc.) 3. Inspect the TUBE for blockage (obstructions, kinks, crimps, etc.) 4. An ACTUATOR TUBE longer than four feet will affect response. If too long, the UNIVALVE will not operate. <p>D. Investigate the UNIVALVE. See "INSPECTING the UniValve" for direction. If simple cleaning and lubrication solves the problem, but if it repeats consistently, installing an AIR FILTER AND AIR LUBRICATOR would probably cure the problem for good.</p>
III. Fluid does not eject from Spray Nozzle when the MiniSpray is activated.	<p>A. Insure fluid is present. Check per PROBLEM I. at Steps B. and C.</p> <p>B. Insure the UNIVALVE is operating. If not, see PROBLEM II.</p> <p>C. The VOLUME CONTROL may be set too far in to allow operation. Open by turning counter-clockwise.</p> <p>D. The MiniSpray may require priming. See "OPERATING INSTRUCTIONS" at Step B. NOTE: If priming solves the problem, but it reoccurs often, see PROBLEM V.</p> <p>E. Ascertain if the problem is with the MiiniSpray or SPRAY NOZZLE as follows.</p> <ol style="list-style-type: none"> 1. Disconnect the DISTRIBUTION LINE at the MiniSprays FLUID OUTLET. 2. Operate the MiiniSpray and check the ejection from the FLUID OUTLET. 3. If an appropriate amount of fluid is forcefully ejected, see "INSPECTING the Spray Nozzle". Look for an obstruction in the DISTRIBUTION LINE or SPRAY NOZZLE. 4. If no fluid is ejected, or very little is with little force, see "INSPECTING the MiniSpray". Check everything as directed.
IV. The pattern of the spray ejected from the Spray Nozzle is unsatisfactory.	<p>A. If the SPRAY NOZZLE drips during or after ejection: This indicates there is air in the system or "soft" DISTRIBUTION TUBING is being used. See "OPERATING INSTRUCTIONS" at Step H.</p> <p>B. If the spray is erratic, off-center, or unevenly dispersed: See "INSPECTING the Spray Nozzle", and look for a contaminated NOZZLE TIP.</p> <p>C. If the spray is not atomized finely enough: Indicates not enough power for the weight of fluid being used. Increase air pressure, or use lighter fluid.</p>
V. The MiniSpray must be primed frequently to maintain good performance	<p>A. This indicates air is getting into the MiniSpray somehow. The more common causes of this are listed below.</p> <p>B. If a PUMP is being used to supply the fluid, it may be introducing air into the system.</p> <p>C. The FLUID SUPPLY LINE may be cracked or punctured, or it's connections may be loose.</p> <p>D. An O-RING Seal may be bad, allowing air to be drawn into the MiniSpray.</p> <p>See "INSPECTING the MiniSpray" and check O-RING(2), (18), and (20), and those in SEAL ASSEMBLY(25). If these O-RINGS are good and the problem still exists, then disassemble the MiniSpray and check those in SEAL ASSEMBLY(25).</p>

REPLACEMENT PARTS LISTING



PARTS LIST "E"

USING THE KEY NO. AND TABLE BELOW, FIND THE PART NUMBER, NO. OF PIECES USED, AND THE DESCRIPTION OF THE PART NEEDED.

KEY PART NO.	NO. NUMBER	DESCRIPTION -OR- PART NAME
	NOZ-101	1 NOZZLE, 110° FAN:
	NOZ-102	1 NOZZLE, 80° FAN:
1	NOZ-103	1 NOZZLE, 65° FAN:
	NOZ-104	1 NOZZLE, 25° FAN:
	NOZ-105	1 NOZZLE, 55° ROUND:
	NOZ-106	1 NOZZLE, SIDE FAN:
2	SPG-005	1 SPRING,CHECK:
3	EYE-001	1 EYELET,CHECK
4	BAL-021	1 BALL,CHECK:

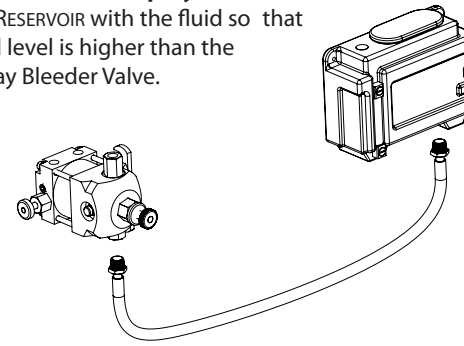
KEY PART NO.	NO. NUMBER	DESCRIPTION NO. -OR- PART NAME
5	SET-019	1 SEAT,CHECK:
6	280-SPG-01	1 SPRING ASSEMBLY:
7	BAL-022	1 BALL,CHECK:
8	HSG-050	1 HOUSING,CHECK
9	HSG-020	1 HOUSING,CHECK
10	FIT-017	1 FITTING,NUT:
11	290-BRK-02	1 BRACKET ASSY:
12	HSG-036	1 HOUSING,CHECK:
13	RGO-006	2 O-RING,SEAL:
14	RGB-006	2 RING,Backup

KEY PART NO.	NO. NUMBER	DESCRIPTION NO. -OR- PART NAME
15	281-TUB-01	1 FLEXTUBE ASSY:
16	TUB-011	1 TUBE,COPPER:
17	ADP-041	1 ADAPTER,MOUNTING:
18	BRK-014	1 BRACKET,MOUNTING
19	282-BAS-07	1 MAGNETIC BASE
22	SCR022	1 SCREW, BUTTON HD:
23	290BAS05	1 MAGNETIC BASE
	P251	1 NOZZLE, ASSEMBL 110°
	P252	1 NOZZLE, ASSEMBL 80°
24	P253	1 NOZZLE, ASSEMBL 65°
	P255	1 NOZZLE, ASSEMBL 25°
	P257	1 NOZZLE, ASSEMBL RT. AGL
25	PIP926	1 EXTENDER. NOZZLE
26	FIT	1 Fitting, Compression

OPERATING INSTRUCTIONS

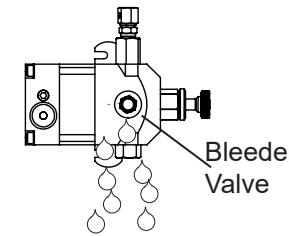
A. Supply the Fluid to be Sprayed

1. Fill the RESERVOIR with the fluid so that the fluid level is higher than the MiniSpray Bleeder Valve.



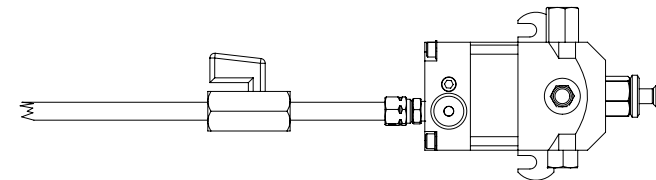
B. Prime the MiniSpray

1. Open the Bleed Valve by turning it's knob counter clockwise. Keep the Bleeder Valve open until fluid flows from the hole in it's side. When the fluid is void of air bubbles close the Bleeder Valve and tighten securely.
2. This process may have to be repeated if when the MiniSpray is activated fluid stops moving to the nozzle.



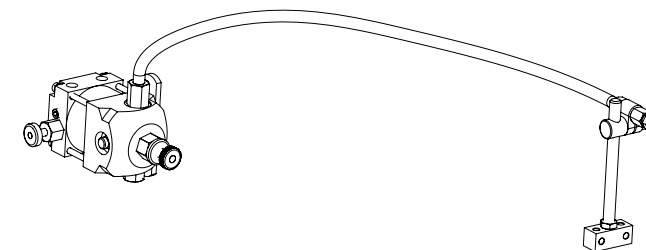
C. Activate the Operating Air

1. Turn the air on
2. Adjust air pressure to 60 PSI to start. After the MiniSpray is activated adjust pressure up and down to desired spray pattern and velocity.



D. Install the Nozzle Distribution System

Distribution System is already on and ready to perform. Go to step E.



NOTE: LSP High Pressure Tubing.

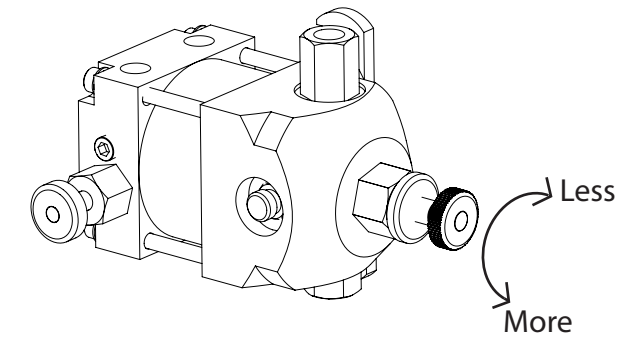
The ONLY non-metal tubing to use for distribution to the nozzles is the P940 for the MiniSpray. This will give a good spray pattern without after-drip.

NOTE: Compression Fittings, LSP uses only compression fittings with built-in sleeves. These fittings secure the LSP Heavy Wall Tubing with out bending or deforming it. The cap number is FIT017.

E. Dispensing Fluid from the Nozzles

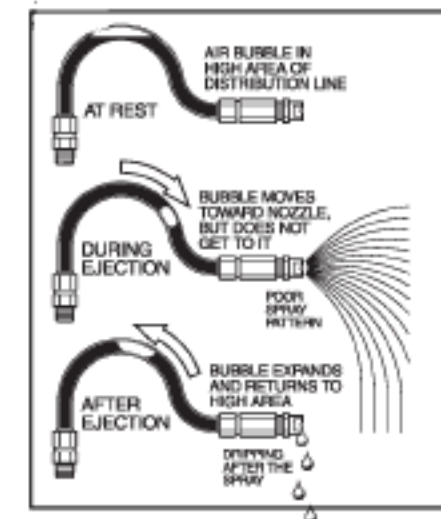
Unit has been bleed and must be actuated to dispense fluid. This is done with the actuator that is being used. Easiest way to start is to actuate by hand.

1. Open Volume control all the way.
 - a. The Electronic Controller - Hit the Prime Button.
 - b. The Solenoid - Hit the Over-Ride Button.
 - c. The Mechanical Actuator - Move the Wand 30 degrees.
2. Do fast actuations to move fluids.
3. If no fluid movement prime, (bleed), the unit again.
4. If fluid moves and then stops again, prime again.
5. When fluid comes out the nozzle continue actuating until spray comes in a sharp explosion.
6. When spray pattern is good reset Actuator if it has been moved and go into the run mode.
7. Set volume control to desired volume.



E. Remove Trapped Air

1. Trapped Air will give bad spray patters and after-drip
2. A high area in the Distribution Line can keep an air bubble from being ejected.
 - a. Cycle fast to eject bubble and get a good spray pattern.
 - b. Or hold nozzle straight up and cycle to eject bubble.



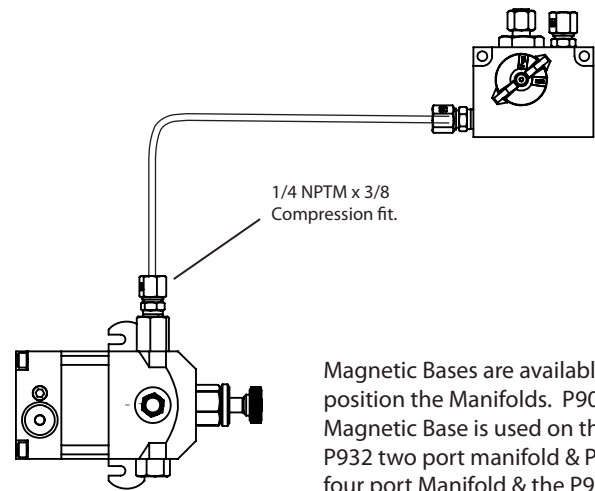
INSTALLATION FOR THE NOZZLE DISTRIBUTION SYSTEM

Instructions for Matching the Manifold with the PresSpray

Attach the Manifold to the Presspray-1 or remote from the PresSpray-1, All fittings needed for the installation of the Manifold, either direct or remote, are included with the PresSpray-1

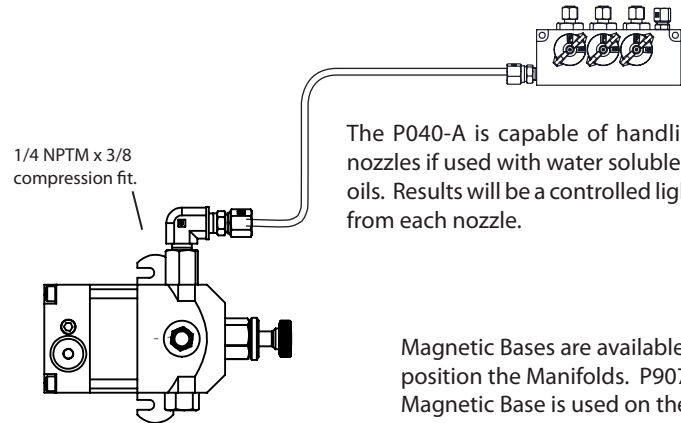
Shown below are two different ways of mounting the Manifold REMOTE.

If the tube from the Ejector is to be aimed straight up out of the Ejector use the STRAIGHT 1/4 NPT x 3/8 compression fitting.



Magnetic Bases are available to position the Manifolds. P907 Magnetic Base is used on the P932 two port manifold & P934 four port Manifold & the P904, Magnetic Base is used on the P932 two port Manifold.

If the tube from the Ejector is to be aimed forward out of the Ejector use the 1/4 NPT x 3/8 ELBOW Compression fitting.



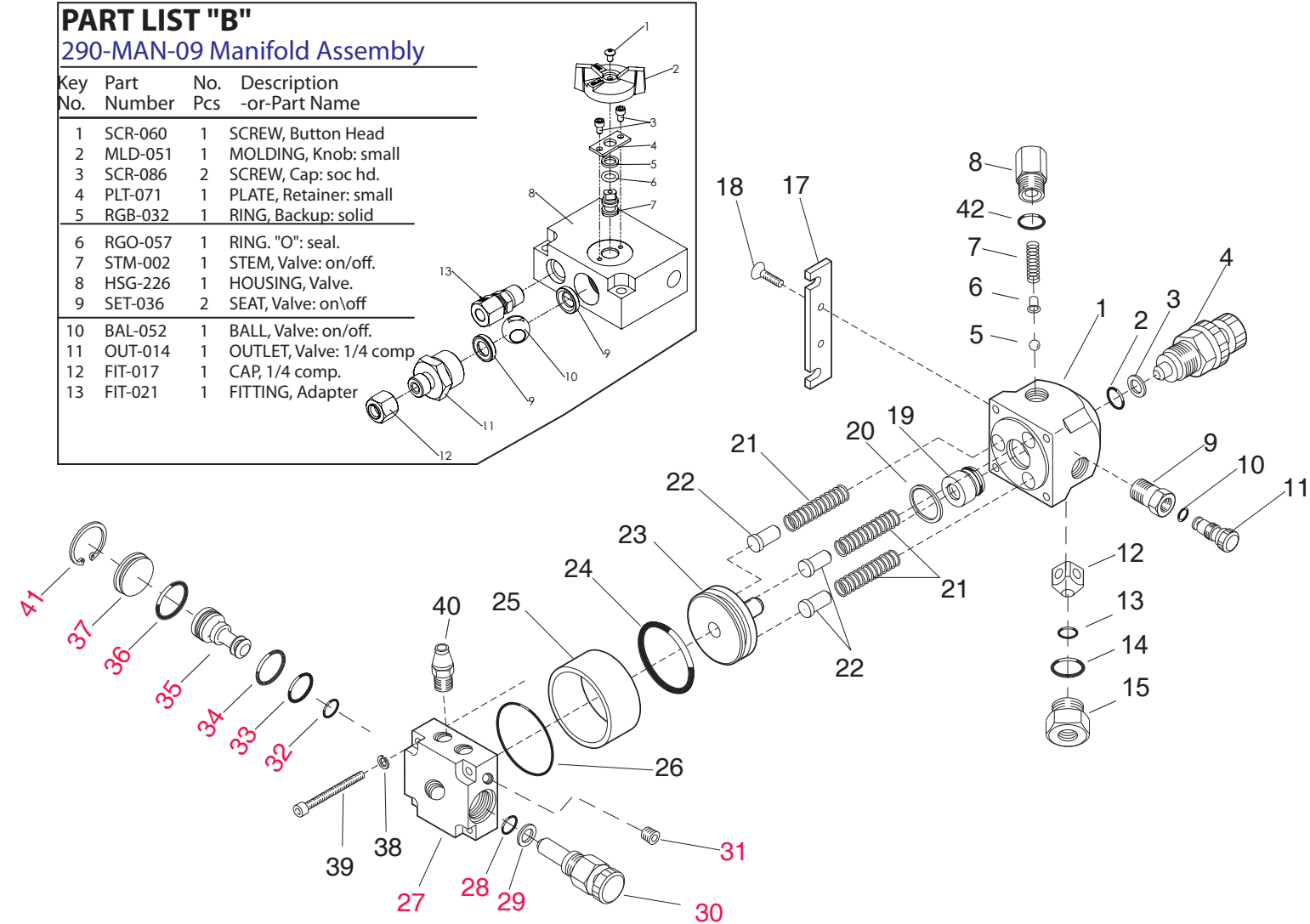
The P040-A is capable of handling four nozzles if used with water soluble or light oils. Results will be a controlled light spray from each nozzle.

Magnetic Bases are available to position the Manifolds. P907 Magnetic Base is used on the 932 two port manifold & P934 four port Manifold & the P904, Magnetic Base is used on the P932 two port Manifold.

REPLACEMENT PARTS LISTING

PART LIST "B" 290-MAN-09 Manifold Assembly

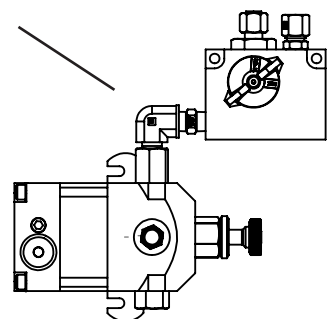
Key No.	Part Number	No. Pcs	Description -or-Part Name
1	SCR-060	1	SCREW, Button Head
2	MLD-051	1	MOLDING, Knob: small
3	SCR-086	2	SCREW, Cap: soc hd.
4	PLT-071	1	PLATE, Retainer: small
5	RGB-032	1	RING, Backup: solid
6	RGO-057	1	RING, "O": seal.
7	STM-002	1	STEM, Valve: on/off.
8	HSG-226	1	HOUSING, Valve.
9	SET-036	2	SEAT, Valve: on/off
10	BAL-052	1	BALL, Valve: on/off.
11	OUT-014	1	OUTLET, Valve: 1/4 comp
12	FIT-017	1	CAP, 1/4 comp.
13	FIT-021	1	FITTING, Adapter



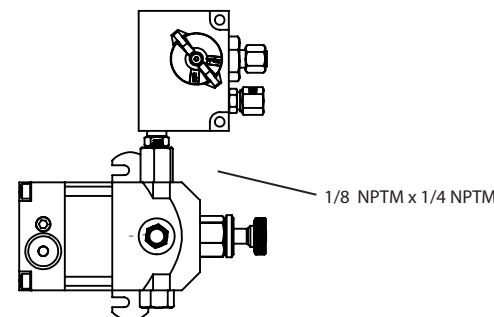
Shown below are two ways of mounting Manifolds DIRECT TO THE EJECTOR.

If the MANIFOLD is attached directly to the Ejector with the outlets aimed straight up use the 1/4 NPTM x 1/4 NPTF elbow and a 1/4 NPTM x 1/8 NPTM to attach to the MANIFOLD.

1/4 NPTM X 1/4 NPTF Elbow and 1/4 NPTM x 1/8 NPTM



If the MANIFOLD is attached directly to the Ejector with the outlets aimed straight out use the STRAIGHT 1/4 NPTM x 1/4 NPTM fitting.



Key No.	Part Number	Qty Used	Description of Part
1	BRL-032	1	Barrel
2	RGO-032	1**	O-Ring, Seal
3	RGB-005	1**	Ring, Backup
4	220-SCR-01	1	Valve, Volume Adjust
5	BAL-022	1**	Ball, Check, 1/4"
6	EYE-004	1**	Eyelet, Spring
7	SPG-023	1**	Spring, Check 1/4"
8	OUT-044	1	Outlet, Fluid
9	SET-004	1	Seat, Bleeder
10	RGO-028	1	O-Ring, Seal
11	SCR-203	1	Screw, Bleeder Valve
12	CHK-009	1**	Check, Inlet
13	RGO-008	1**	O-Ring, Seal
14	RGO-034	1**	O-Ring, Seal
15	INL-022	1	Inlet, Fluid
17	PLT-048	1	Plate, Mounting
18	SCR-019	2	Screw, Flat Head
19	220-SLV-01	1**	Seal Assembly, Ram
20	RGR-024	2**	Ring, Retainer
21	SPG-030	3**	Spring, Return

NOTE: Items marked (**) are available in a Repair Kit under the Part No. 220-ACY-01

Key No.	Part Number	Qty Used	Description of Part
22	GID-013	3	Guide, Spring
23	220-PIS-01	1	Piston & Ram
24	RGO-073	1**	O-Ring, Seal
25	CYL-042	1	Cylinder, Air
26	RGO-072	1**	O-Ring, Seal
27	220-HAI-01	1	Valve Housing
28	RGO-010	1**	O-Ring, Seal
29	RGB-019	1**	Ring, Backup
30	220-SCR-02	1	Velocity Adjust
31	FIT-022	1	Plug, Pipe
32	RGO-057	1**	O-Ring, Seal
33	RGO-050	1**	O-Ring, Seal
34	RGO-014	1**	O-Ring, Seal
35	SPL-027	1	Valve, Spool
36	RGO-035	1**	O-Ring Seal
37	PLG-022	1	Plug, Valve
38	WAS-001	4	Washer, Lock
39	SCR-090	4	Screw, Tie Rod
40	FIT-020	1	Fitting, Tube
41	RGR-024	1	Ring, Retaining
42	RGO-014	1	O-Ring, Seal

Items in RED show all Parts for a complete air valve
220VAL01 1 Air Valve, Complete