

F1000

***Installation
and
Operating
Manual***

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INSTALLATION

1.0

Usually the Foampro dispenser is shipped to customers with the hose assembly already connected to the dispenser. If your Foampro dispenser is not connected to the hose assembly:

Attach the red "A" hose to the Hose Connection Fitting (D507) on the left side of the dispenser, just behind the red valve. **(See diagram 3A)**

Attach the blue "B" hose to the Hose Connection Fitting (D507) on the right side of the dispenser, just behind the blue valve. **(See diagram 3A)**

Attach the gray air pressure line to the quick connect fitting at the rear of the dispenser. **(See diagram 3A)**

1.1

Connecting the hose/dispenser assembly to the chemical cylinders:

Lay out the dispenser/hose assembly.

Place the cylinders of "A" chemical and "B" chemical in a position where the hoses can be connected without strain.

CAUTION :

Be sure all valves on both of the cylinders, and the hoses are closed before connecting or disconnecting hoses, or removing caps or plugs from cylinder.

1.2

Connecting the red "A" hose to the "A" chemical cylinder:

After checking to be sure all valves on the cylinder are closed, remove the cap from the outlet of the chemical valve. **(See diagram 3B)** Keep the cap handy so that it can be refitted to the cylinder after the cylinder is empty.

Remove the plug from the filter end of the red "A" hose **(See diagram 3B)**. Keep the plug handy- it will be needed to reseal the hose after the hose is disconnected from the cylinder.

Connect the red "A" hose to the outlet of the chemical valve on the "A" component cylinder.

Diagram **3A**

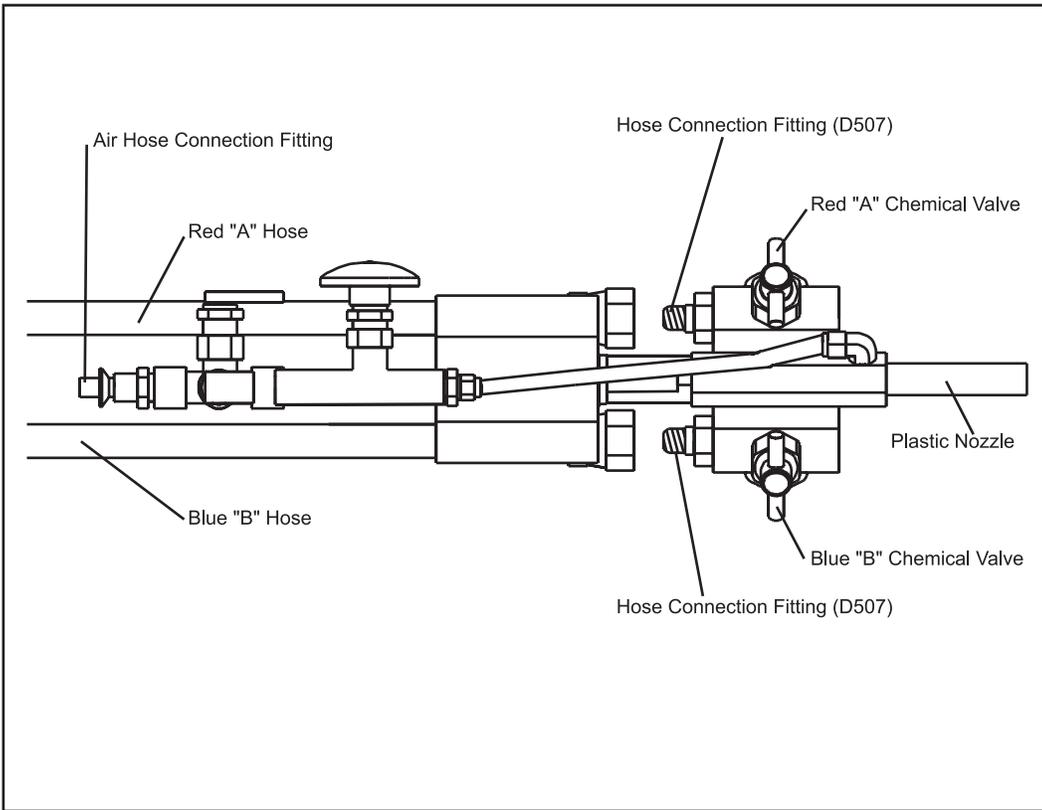
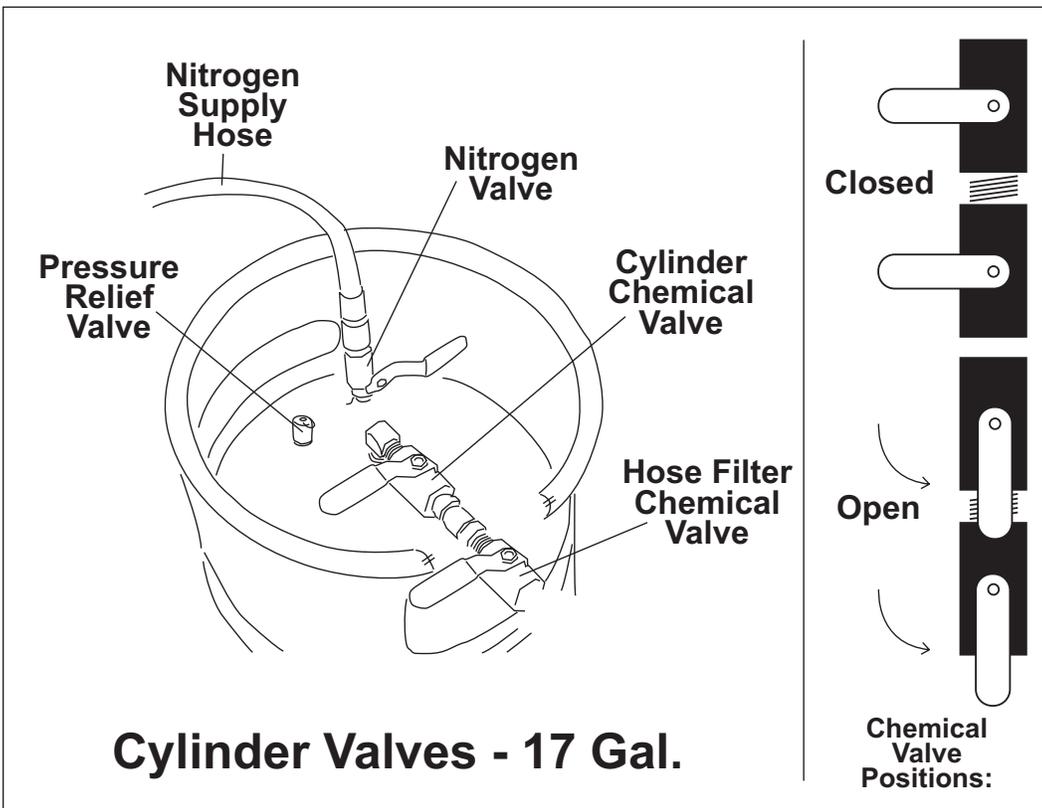


Diagram **3B**



Cylinder Valves - 17 Gal.

INSTALLATION

1.2

Connecting the blue "B" hose to the "B" chemical cylinder:

To connect the blue "B" hose to the "B" chemical cylinder: After checking to be sure that all valves on the cylinder are closed, remove the plug from the outlet of the chemical valve **(See diagram 5A)**. Keep the plug handy so that it can be refitted to the cylinder after the cylinder is empty.

Remove the cap from the filter end of the blue "B" hose. Keep the plug handy it will be needed to reseal the hose after the hose is disconnected from the cylinder.

Connect the blue "B" hose to the outlet of the chemical valve on the "B" chemical cylinder.

Connect the dispenser air line to an air regulator 100 to 125 psi with moisture separator and filter.

N O T E :

Compressed air that contains high levels of water or oil can adversely affect the performance and service life of some of the parts of the Foampro dispenser. This is particularly important when using portable compressors. Be sure to drain the compressor of any water prior to use. Also, it is recommended that an in line air filter and moisture separator are used to remove oil from the compressed air source.

1.3

Connecting the nitrogen hoses:

Place the nitrogen cylinder near the chemical cylinders, being sure to secure the nitrogen cylinder so that it cannot be accidentally knocked over.

Connect the nitrogen regulator to the nitrogen cylinder using the threaded pressure fitting on the rear of the nitrogen regulator assembly. **(See diagram 5B)**

Connect the red hose leading from the nitrogen regulator assembly to the nitrogen fitting on the "A" chemical cylinder . It will be fitted with a quick connect fitting that will simply snap into place. **(See diagram 3B, previous page)**

Connect the blue hose leading from the nitrogen regulator assembly to the nitrogen fitting on the "B" chemical cylinder. It will be fitted with a quick connect fitting that will simply snap into place. **(See diagram 5A)**

Diagram 5A

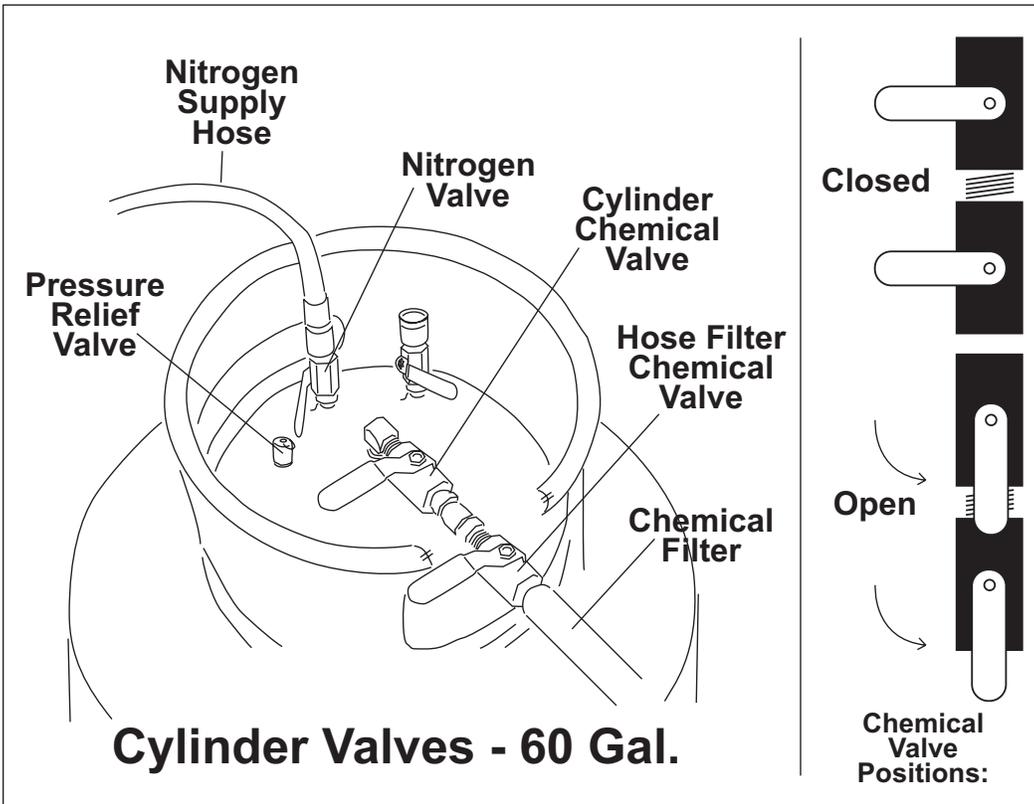
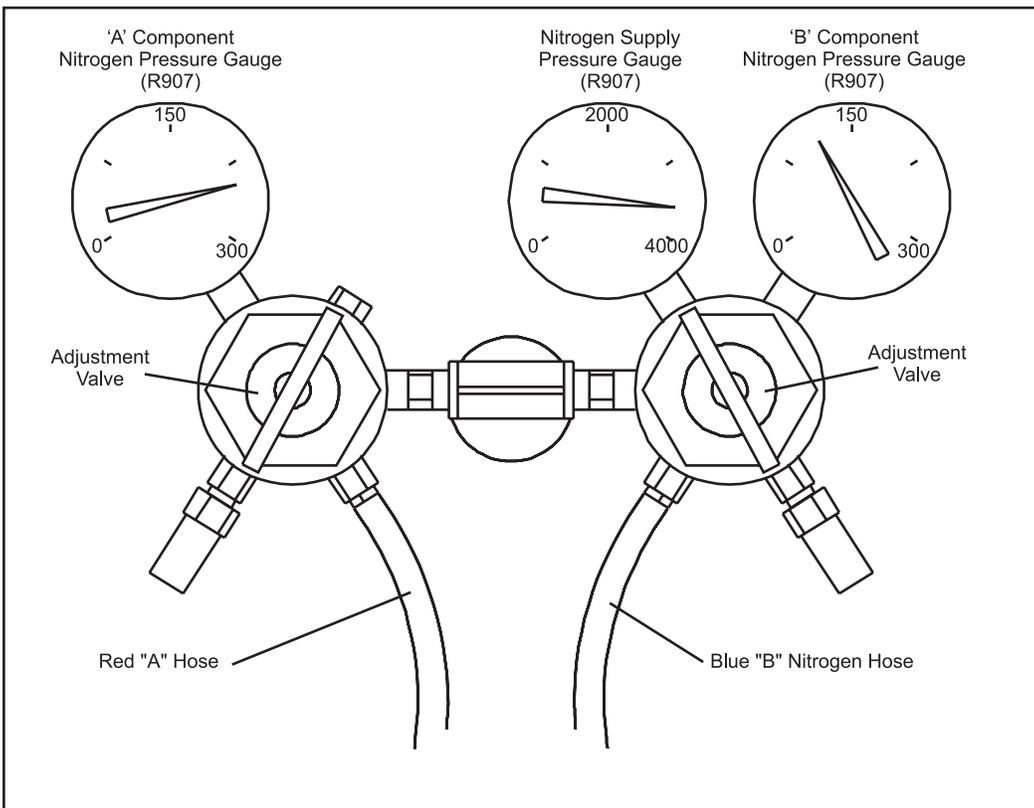


Diagram 5B



STARTUP | CALIBRATION

2.0

Make sure all installation steps have been completed prior to startup and calibration. Make sure that the chemicals are at the correct operating temperature, usually 70° to 90° F.

2.1

Startup:

1 | Be sure that all valves are closed. *(See diagrams for valve locations)* This would include: The valve on top of the nitrogen cylinder. The nitrogen valve on top of both chemical cylinders ("A" Chemical and "B" Chemical). *(See diagrams 6A & 7A)* The chemical outlet valve on top of both chemical cylinders ("A" chemical and "B" chemical) *(See diagrams 6A & 7A)* The chemical valve on the filter end of both the red "A" component hose and the blue "B" component hose. *(See diagram 6A & 7A)* Both the red chemical valve and the blue chemical valve on the F1000 dispenser *(See diagram 7B)*.

Diagram 6A

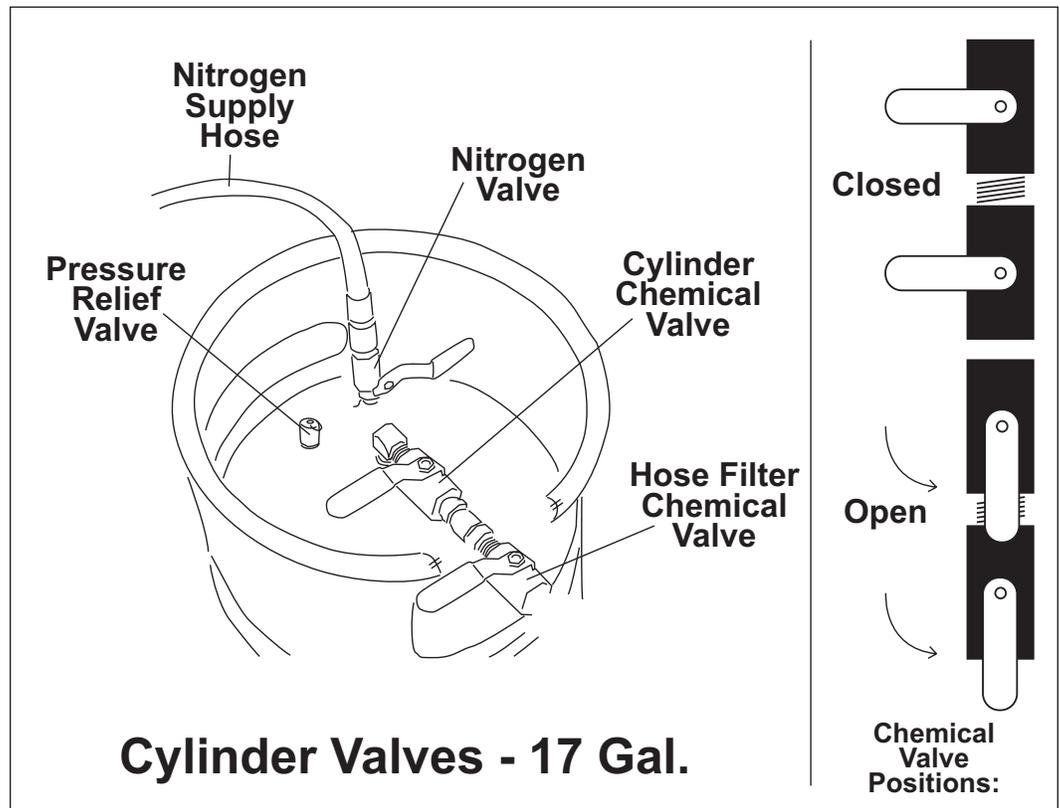


Diagram 7A

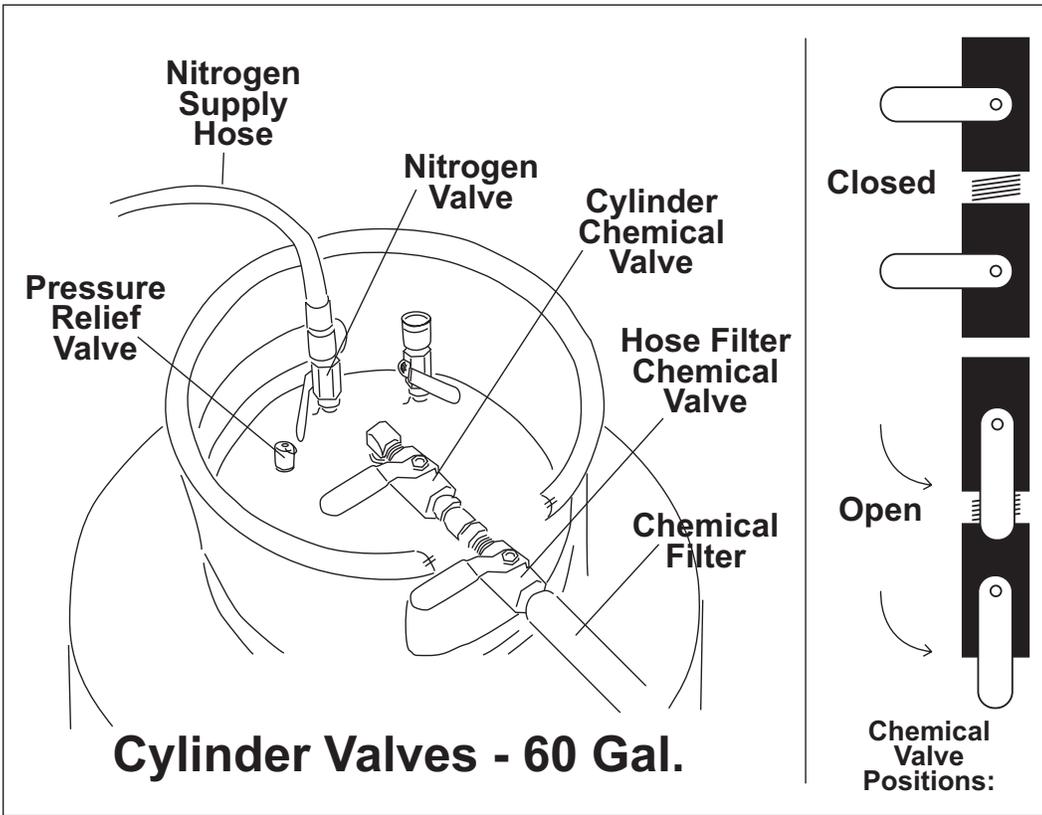
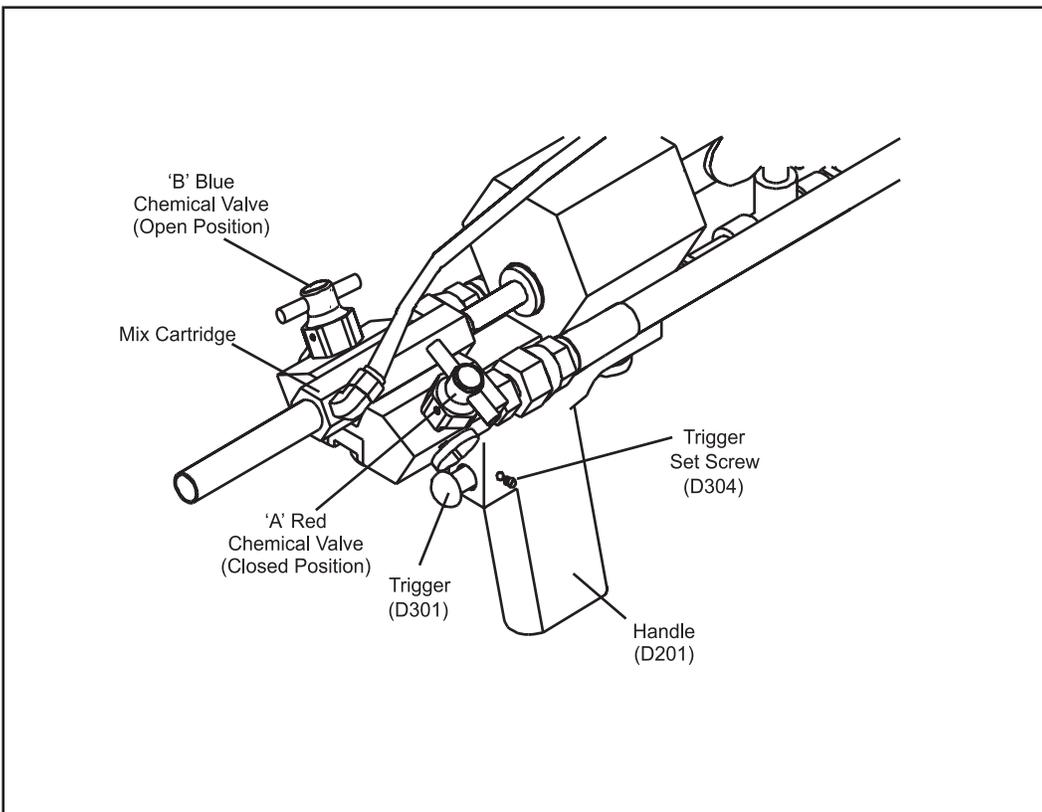


Diagram 7B



STARTUP | CALIBRATION

2.1

- 2 | Turn on the air supply to the dispenser, and check for leaks.
- 3 | Remove Mix Cartridge Plug (D620) if one is in place. Do not install nozzle until calibration steps are completed.
- 4 | Open both of the air injection valves (D704, D705) (**See diagram 9A**) to see if the air passes freely through the dispenser. Re-close both of the air injection valves, as they must be closed to complete the calibration of the dispenser.
- 5 | Turn the adjustment valves on both nitrogen regulators leading to the "A" chemical and the "B" chemical counterclockwise two full turns. (**See diagram 9B**)
- 6 | Open the valve on top of the nitrogen cylinder, and check for leaks.
- 7 | Adjust the "A" component nitrogen regulator (one with the red hose) to 190 psi (starting point) by turning clockwise (**See diagram 9B**)
- 8 | Adjust the "B" component nitrogen regulator (one with the blue hose) to 140 psi (starting point) by turning clockwise (**See diagram 9B**)

N O T E :

The chemical cylinders are equipped with a pressure overload relief valve that will open if the pressure of the cylinder exceeds approximately 220 psi. Do not adjust nitrogen pressure on the chemical cylinders to approach 220 psi.

Diagram 9A

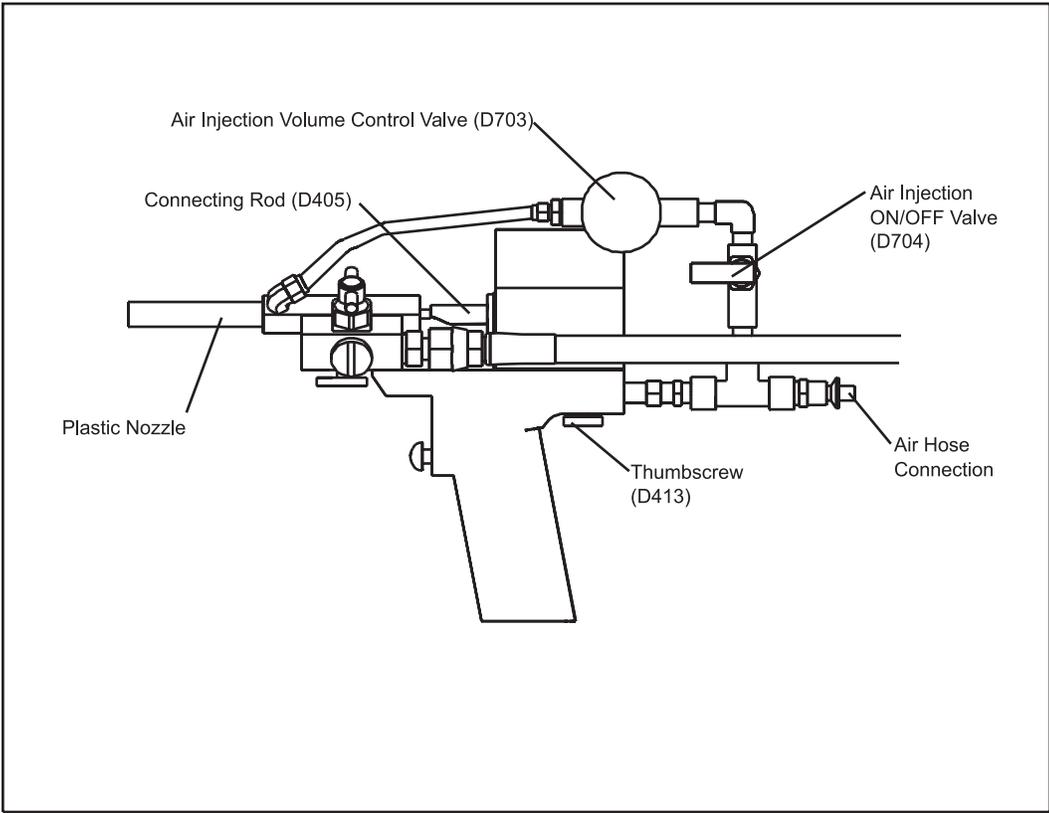
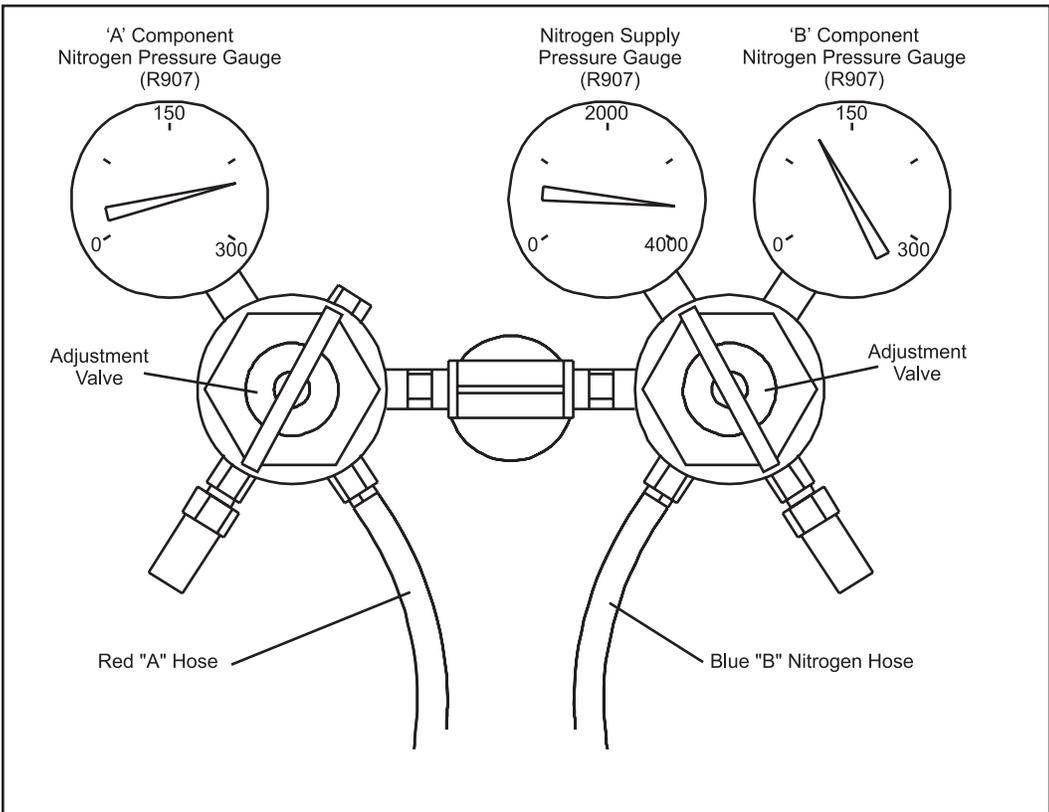


Diagram 9B



STARTUP | CALIBRATION

2.1

9 | Open the nitrogen valves on both chemical cylinders ("A" component and "B" component). **(See diagram 11A & 11B)**

10 | Open the chemical valves on both chemical cylinders ("A" component and "B" component). **(See diagram 11A & 11B)** Check for leaks. Tighten any leaking fittings.

11 | Open the chemical valves on the filter end of the hose assembly for both the "A" component and "B" component. **(See diagram 11A & 11B)** Check for leaks. Tighten any leaking fittings.

12 | Position a garbage can with a plastic liner at the work area.

13 | Make sure mixing cartridge plug is removed.

14 | Open the red valve and the blue valve on the F1000 dispenser. **(See diagram 10A)**

15 | While aiming the F1000 into the trash can, pull the trigger on the F1000 dispenser for 10 seconds, dispensing the foam into the trash can liner. If your F1000 is brand new, you may have to pull the trigger for a longer period to purge the air out of the hoses. If your F1000 dispenser was put into storage with the hoses full of chemicals, you may have to dispense foam for longer than 10 seconds to be sure that the chemicals that were stored in the hoses is fully flushed out by fresh chemicals from the chemical cylinders.

Diagram **10A**

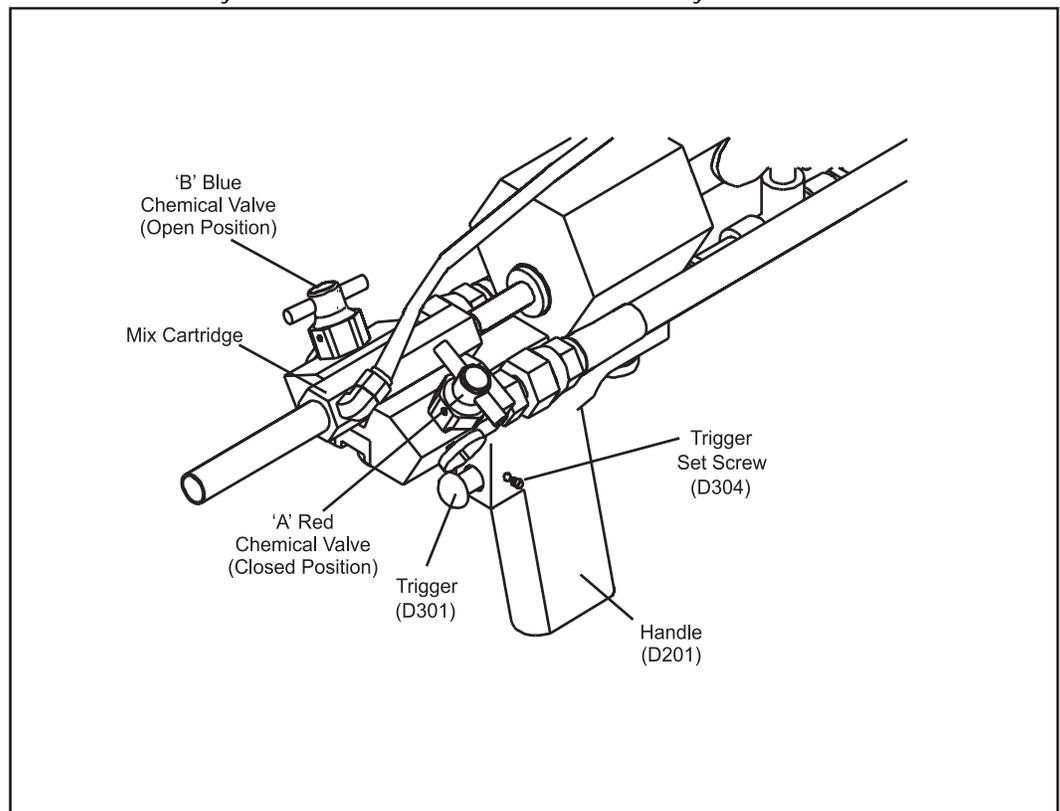


Diagram 11A

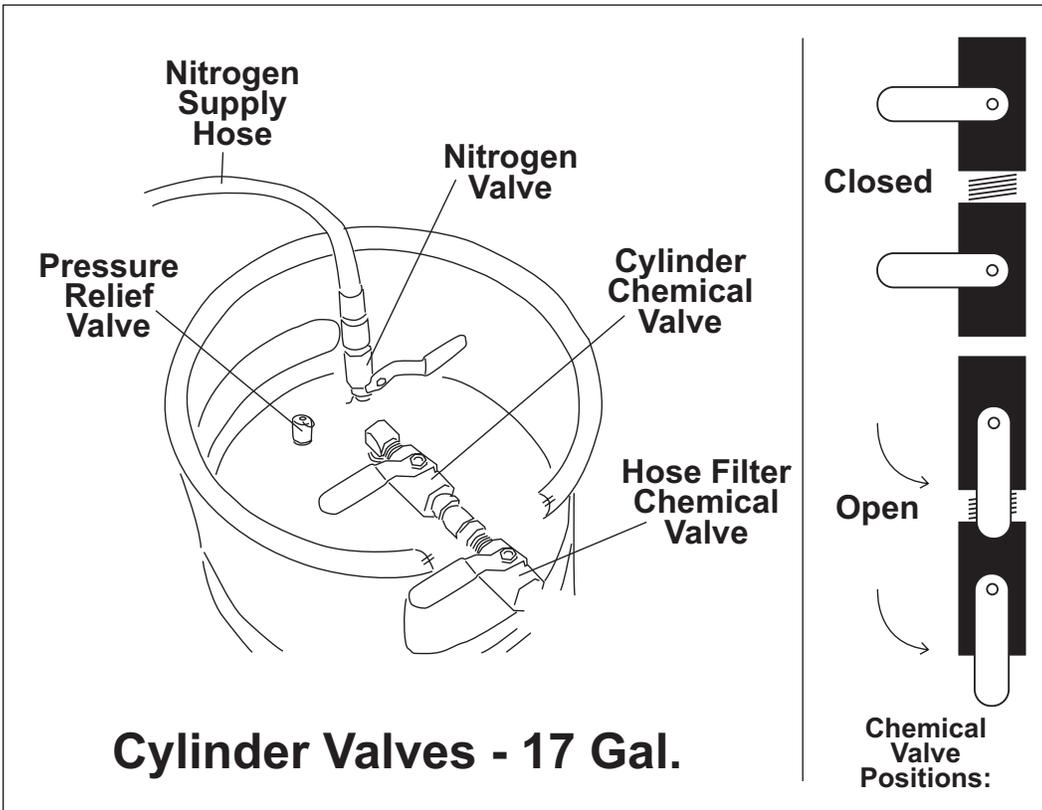
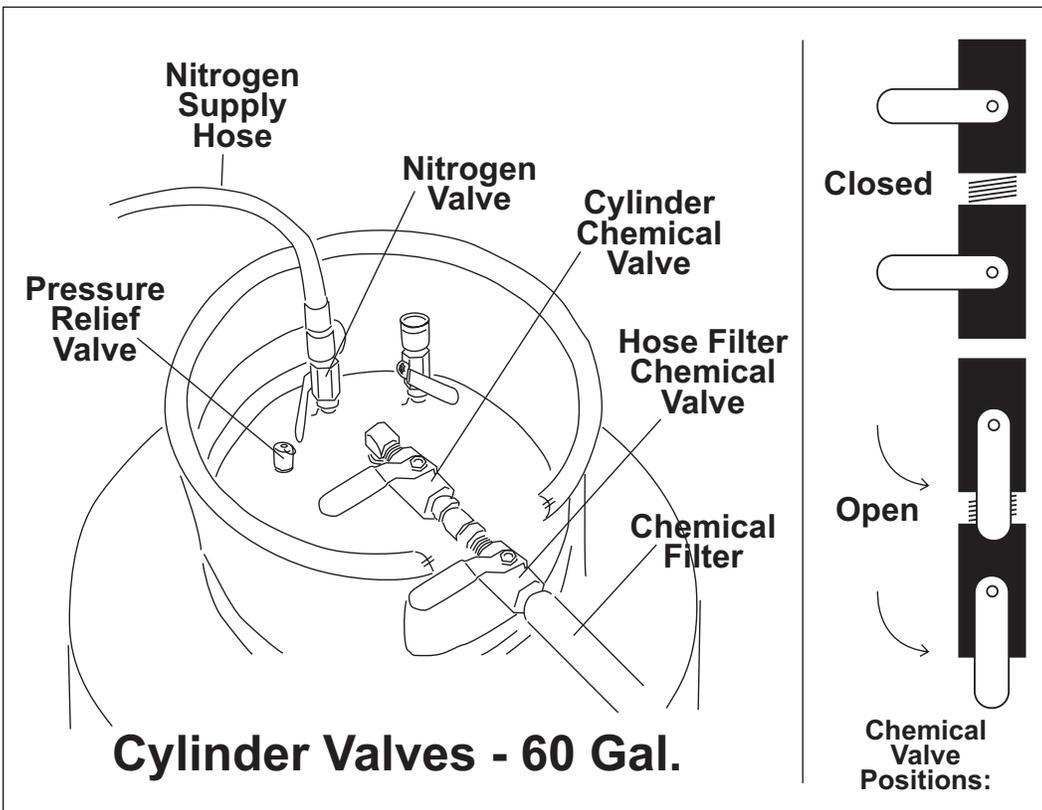


Diagram 11B



Calibration of A:B ratio:

Proper mixing of the "A" and "B" component chemicals in the correct proportions is important in producing foam. Foams produced with an improper proportion of "A" to "B" chemical can in some cases affect foam properties.

When and how often should the A:B ratio be checked?

- At the beginning of the workday.
- When a new cylinder of "A" or "B" component is installed.
- When a new cylinder of nitrogen is installed.
- About halfway through the normal workday.
- When the temperature in the work area increases or decreases by more than 10 degrees. If the temperature of the chemicals changes, the viscosity of the chemicals changes. This viscosity change can have an effect on the A:B ratio.
- If a noticeable change takes place in the foam being produced.
- After any restriction in the chemical flow is removed, for example cleaning the filters or the ports in the mixing cartridge in the F1000 will likely increase the flow of chemical which in turn may change the A:B ratio.
- When a new mixing cartridge is installed.

1 | Make sure that the F1000 dispenser is correctly installed to the chemical cylinders, nitrogen cylinders, and compressed air supply as described in the Startup procedures above. Check all hose connections to be sure that there are no leaks. Make sure the air injection on/off valve is closed. For calibration, remove the plastic nozzle. **(See diagram 13A)**

2 | Place a 32oz paper cup on a scale, and tare the scale to read zero.

3 | Open the "A" (red) chemical valve and close the "B" chemical (blue) valve on the F1000 dispenser. **(See diagram 13B)**

4 | Using a stop watch, or optional timer, trigger the F1000 dispenser for exactly 3 seconds, directing the flow of the "A" chemical into the paper cup on the scale. Record the weight of "A" chemical dispensed.

5 | **Critical Step- Purging the mix cartridge:** After measuring the weight of the dispensed "A" chemical in step 4, open the both "B" chemical (blue) valve and the "A" chemical (red) valve on the F1000 dispenser. **(See diagram 13B)** Then, while directing the flow of the dispenser into a trash can, trigger the F1000 dispenser for a few seconds to dispense a mixture of "A" and "B" chemicals into the trash can. This step is important because it will reduce plugging of the mix cartridge.

Diagram 13A

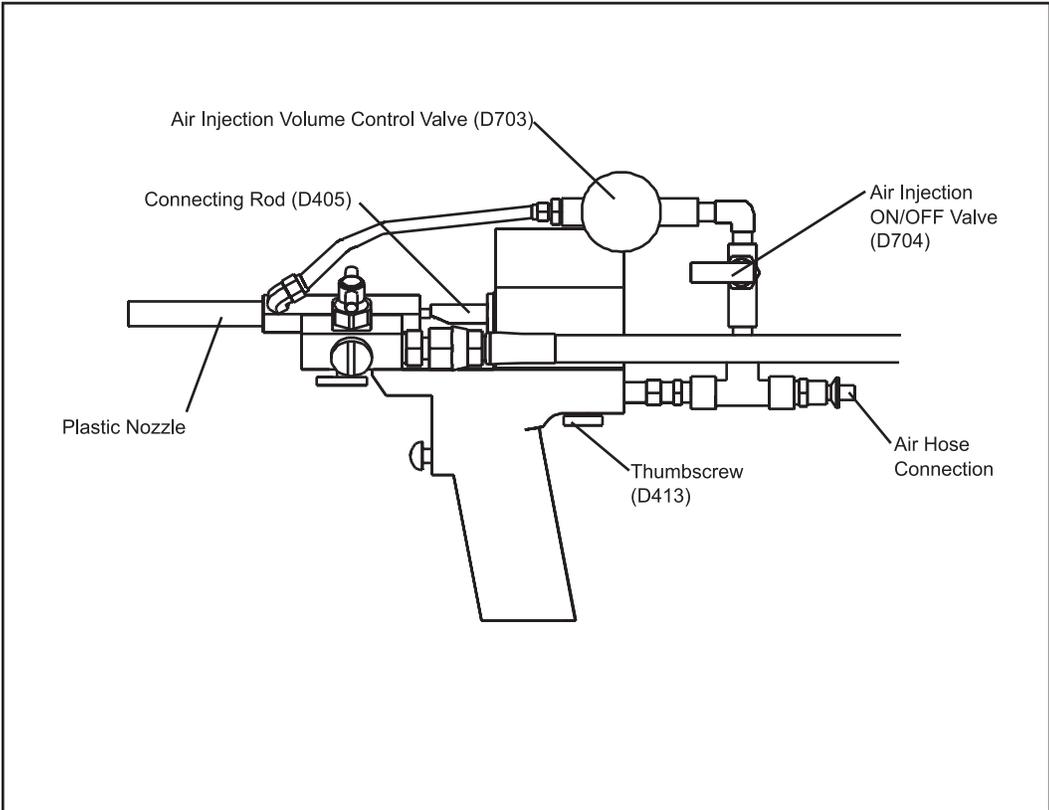
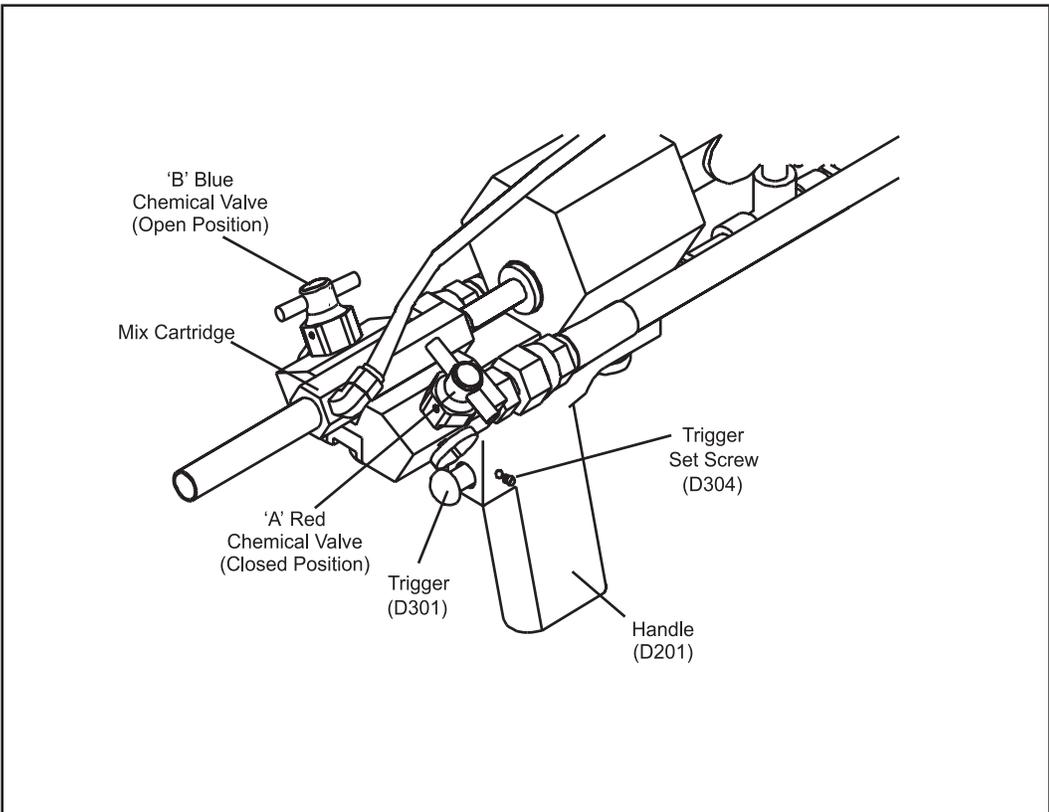


Diagram 13B



STARTUP | CALIBRATION

2.2

6 | Close the "A" chemical (red) valve on the F1000 dispenser, leaving the "B" chemical (blue) valve open. **(See diagram 15A)**

7 | Place a 32 oz. paper cup on a scale, and tare the scale to read zero.

8 | Using a stop watch, or optional timer, trigger the F1000 dispenser for exactly 3 seconds, directing the flow of the "B" chemical into the paper cup on the scale. Record the weight of "B" chemical dispensed.

9 | Purge the mix cartridge once again as outlined in step 5 above.

10 | Calculate the A:B chemical ratio by dividing the weight of the "A" chemical obtained from step 4 by the weight of the "B" chemical obtained in step 8.

Example:

"A" chemical (3 second shot) weighs 41 grams

"B" chemical (3 second shot) weighs 37 grams

$41 \text{ grams} \div 37 \text{ grams} = 1.11 \text{ A:B ratio}$

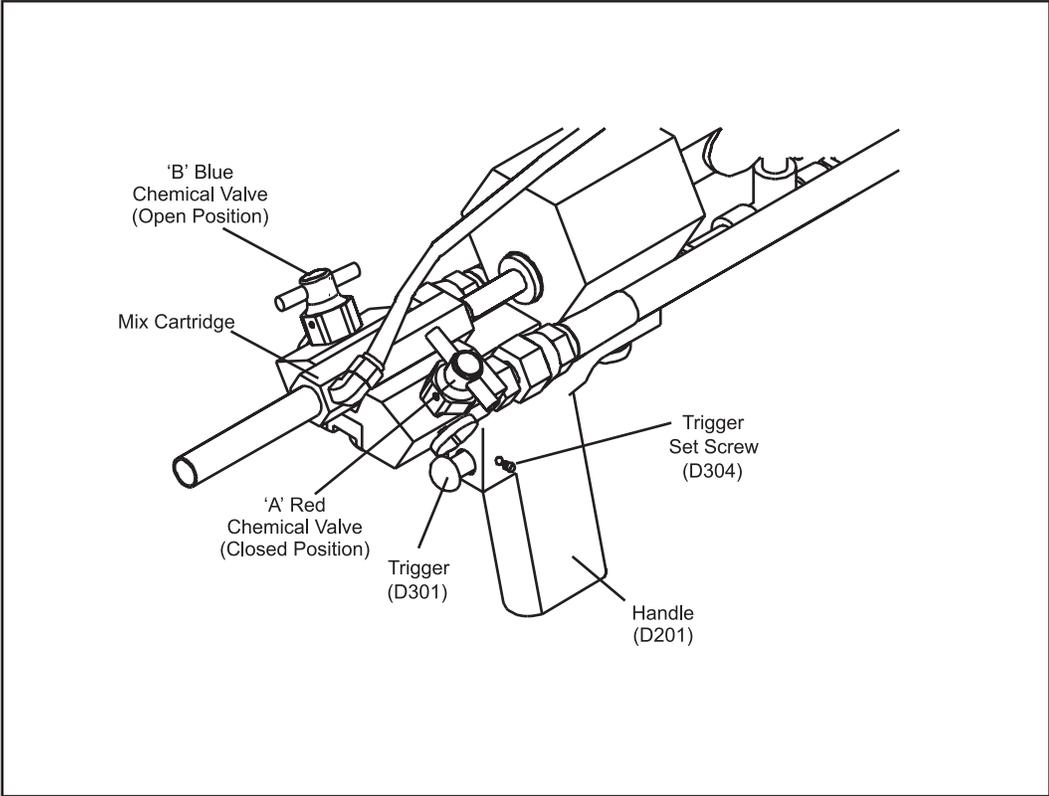
Most Polypro formulations should be run with an A:B ratio in the range of 1.00 to 1.15. Consult the technical data sheet for the Polypro formulation you are running- it will list the best A:B ratio for that particular product **(See Ratio Calibration Charts on pages 18 - 21)**.

11 | If the A:B chemical ratio obtained in step 10 is too high, ie above 1.15, adjust the nitrogen pressure on the "B" chemical up by 10 psi and repeat the calibration procedure starting at step 1. If the A:B ratio obtained in step 10 was too low, ie below 1.00, the adjust the nitrogen pressure on the "A" chemical up by 10 psi and repeat the calibration procedure. It may be necessary make more than one adjustment to the nitrogen pressure of the "B" chemical before reaching the correct A:B ratio. It is advisable to adjust the nitrogen pressure on the B" component in order to adjust the A:B ratio, not the nitrogen pressure on the "A" chemical.

12 | It may be necessary during the calibration process to reduce the nitrogen pressure on one of the chemical cylinders. This situation occurs when the proper A:B component ratio cannot be achieved without raising the pressure on one of the cylinders to its maximum pressure of 220 psi. **REMEMBER: Each of the chemical cylinders is equipped with a pressure relief valve that will automatically open if the nitrogen pressure on the cylinder exceeds 220 psi.**

Use the following steps to reduce nitrogen pressure on the cylinder. **SAFETY GLASSES SHOULD BE WORN DURING THIS PROCEDURE.**

Diagram 15A



STARTUP | CALIBRATION

2.2

- 1 - Close nitrogen valve on the chemical cylinder. **(See diagrams 16A & 16B)**
- 2 - Using the nitrogen pressure adjustment valve for the chemical cylinder being adjusted, turn the adjustment valve counterclockwise two full turns. **(See diagram 17A)**
- 3 - Locate the pressure relief valve on the chemical cylinder being adjusted. **(See diagrams 16A & 16B)**
- 4 - Pull upward on the ring of the pressure relief valve for 2 or 3 seconds, then release the ring to allow the valve to close. A burst of pressure will escape from the valve.
- 5 - Open the nitrogen valve on the chemical cylinder. **(See diagrams 16A & 16B)**
- 6 - Using the nitrogen pressure adjustment valve for the chemical cylinder being adjusted, turn the valve clockwise to the desired pressure. **(See diagram 17A)**

NOTE :

Following these steps should result in a decrease in the pressure on the chemical cylinder.

The chemical cylinders are equipped with a pressure overload relief valve that will open if the pressure of the cylinder exceeds approximately 220 psi. Do not adjust nitrogen pressure on the cylinders to approach 220 psi.

Before using the F1000 dispenser, you will need to install the plastic nozzle onto the Mix Cartridge. The valves on the Air Injection System will have to be opened so that air is passing freely.

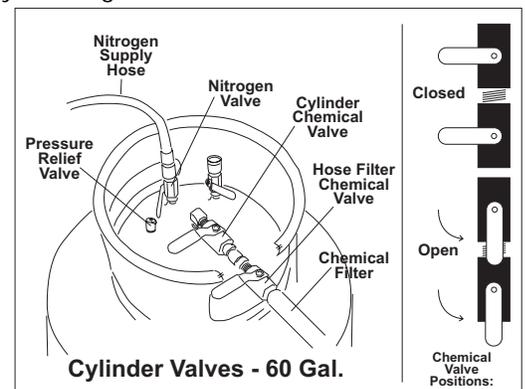
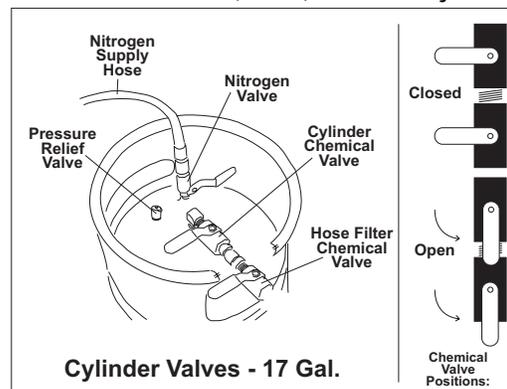
The Air Injection System is comprised of two valves, an On/Off Valve (D704) and a Needle Valve (D703) that are connected to the F1000 by a series of simple 1/8" fittings. (See Diagram 17B) The Air Injection System serves three purposes. The air flowing into the Mix Cartridge (D603) helps:

- the mixing of the "A" and "B" chemicals
- propel the chemicals out of the nozzle,
- keep the Mix Cartridge (D603) clear of curing foam.

The Needle Valve (D703) can be adjusted by turning the knob to control the amount

Diagram 16A
(Left)

Diagram 16B
(Right)



of air flowing through the system. Different uses of the F1000, for example spraying foam, may require a higher flow of air than pouring foam. Experience in using the F1000 will help the user determine what air flow level suits their needs.

Once the proper amount of airflow through the Air Injection System has been achieved, the F1000 dispenser is ready for use. Foam product can be dispensed by depressing the trigger.

After using the F1000 dispenser, if it is to momentarily sit idle for more than a few minutes, either let air flow through the Air Injection System, or place a few drops of solvent into the open end of the plastic nozzle. Keep the plastic nozzle pointed upward so the solvent remains and prevents any foam product from curing in the end of the nozzle or mix cartridge. If the F1000 dispenser is to be shut down or stored for a long period of time, follow the procedure for Shutdown described in Section 4.1.

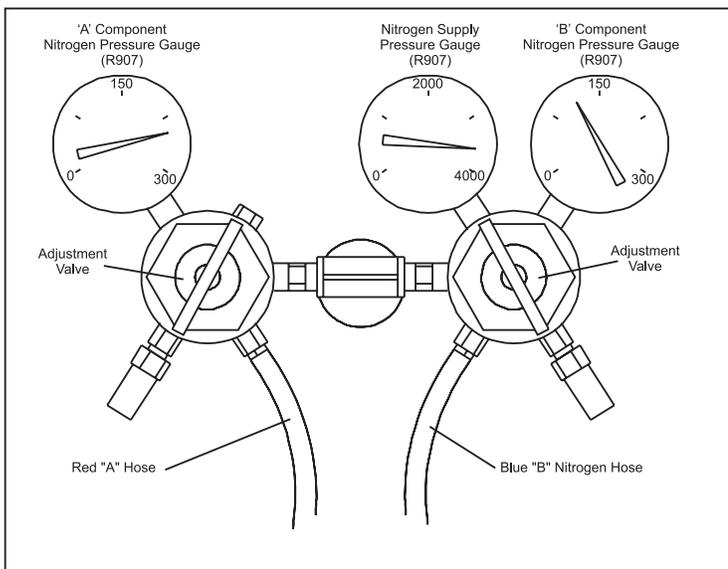


Diagram 17A

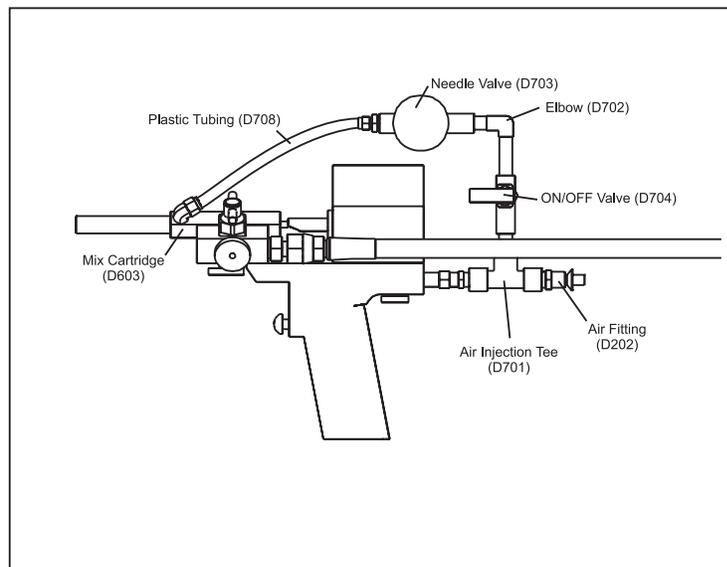


Diagram 17B

STARTUP | CALIBRATION

2.2

Three second shot of "A" Grams of "A" Component	Three second shot of "B" FROM - Grams of "B" component - TO		Approximate Total Output in Pounds per minute
30	26.1	28.6	2.5
31	27.0	29.5	2.6
32	27.8	30.5	2.7
33	28.7	31.4	2.8
34	29.6	32.4	2.9
35	30.4	33.3	2.9
36	31.3	34.3	3.0
37	32.2	35.2	3.1
38	33.0	36.2	3.2
39	33.9	37.1	3.3
40	34.8	38.1	3.4
41	35.7	39.0	3.4
42	36.5	40.0	3.5
43	37.4	41.0	3.6
44	38.3	41.9	3.7
45	39.1	42.9	3.8
46	40.0	43.8	3.9
47	40.9	44.8	4.0
48	41.7	45.7	4.0
49	42.6	46.7	4.1
50	43.5	47.6	4.2
51	44.3	48.6	4.3
52	45.2	49.5	4.4
53	46.1	50.5	4.5
54	47.0	51.4	4.5
55	47.8	52.4	4.6
56	48.7	53.3	4.7
57	49.6	54.3	4.8
58	50.4	55.2	4.9
59	51.3	56.2	5.0
60	52.2	57.1	5.0
61	53.0	58.1	5.1
62	53.9	59.0	5.2
63	54.8	60.0	5.3
64	55.7	61.0	5.4
65	56.5	61.9	5.5
66	57.4	62.9	5.6
67	58.3	63.8	5.6
68	59.1	64.8	5.7
69	60.0	65.7	5.8
70	60.9	66.7	5.9

Three second shot of "A" Grams of "A" Component	Three second shot of "B" FROM - Grams of "B" component - TO		Approximate Total Output in Pounds per minute
71	61.7	67.6	6.0
72	62.6	68.6	6.1
73	63.5	69.5	6.1
74	64.3	70.5	6.2
75	65.2	71.4	6.3
76	66.1	72.4	6.4
77	67.0	73.3	6.5
78	67.8	74.3	6.6
79	68.7	75.2	6.6
80	69.6	76.2	6.7
81	70.4	77.1	6.8
82	71.3	78.1	6.9
83	72.2	79.0	7.0
84	73.0	80.0	7.1
85	73.9	81.0	7.1
86	74.8	81.9	7.2
87	75.7	82.9	7.3
88	76.5	83.8	7.4
89	77.4	84.8	7.5
90	78.3	85.7	7.6
91	79.1	86.7	7.7
92	80.0	87.6	7.7
93	80.9	88.6	7.8
94	81.7	89.5	7.9
95	82.6	90.5	8.0
96	83.5	91.4	8.1
97	84.3	92.4	8.2
98	85.2	93.3	8.2
99	86.1	94.3	8.3
100	87.0	95.2	8.4
101	87.8	96.2	8.5
102	88.7	97.1	8.6
103	89.6	98.1	8.7
104	90.4	99.0	8.7
105	91.3	100.0	8.8
106	92.2	101.0	8.9
107	93.0	101.9	9.0
108	93.9	102.9	9.1
109	94.8	103.8	9.2
110	95.7	104.8	9.3
111	96.5	105.7	9.3

STARTUP | CALIBRATION

2.2

Three second shot of "A" Grams of "A" Component	Three second shot of "B" FROM - Grams of "B" component - TO	Approximate Total Output in Pounds per minute	
112	97.4	106.7	9.4
113	98.3	107.6	9.5
114	99.1	108.6	9.6
115	100.0	109.5	9.7
116	100.9	110.5	9.8
117	101.7	111.4	9.8
118	102.6	112.4	9.9
119	103.5	113.3	10.0
120	104.3	114.3	10.1
121	105.2	115.2	10.2
122	106.1	116.2	10.3
123	107.0	117.1	10.3
124	107.8	118.1	10.4
125	108.7	119.0	10.5
126	109.6	120.0	10.6
127	110.4	121.0	10.7
128	111.3	121.9	10.8
129	112.2	122.9	10.8
130	113.0	123.8	10.9
131	113.9	124.8	11.0
132	114.8	125.7	11.1
133	115.7	126.7	11.2
134	116.5	127.6	11.3
135	117.4	128.6	11.4
136	118.3	129.5	11.4
137	119.1	130.5	11.5
138	120.0	131.4	11.6
139	120.9	132.4	11.7
140	121.7	133.3	11.8
141	122.6	134.3	11.9
142	123.5	135.2	11.9
143	124.3	136.2	12.0
144	125.2	137.1	12.1
145	126.1	138.1	12.2
146	127.0	139.0	12.3
147	127.8	140.0	12.4
148	128.7	141.0	12.4
149	129.6	141.9	12.5
150	130.4	142.9	12.6
151	131.3	143.8	12.7
152	132.2	144.8	12.8
153	133.0	145.7	12.9
154	133.9	146.7	13.0

Three second shot of "A" Grams of "A" Component	Three second shot of "B" FROM - Grams of "B" component - TO		Approximate Total Output in Pounds per minute
155	134.8	147.6	13.0
156	135.7	148.6	13.1
157	136.5	149.5	13.2
158	137.4	150.5	13.3
159	138.3	151.4	13.4
160	139.1	152.4	13.5
161	140.0	153.3	13.5
162	140.9	154.3	13.6
163	141.7	155.2	13.7
164	142.6	156.2	13.8
165	143.5	157.1	13.9
166	144.3	158.1	14.0
167	145.2	159.0	14.0
168	146.1	160.0	14.1
169	147.0	161.0	14.2
170	147.8	161.9	14.3
171	148.7	162.9	14.4
172	149.6	163.8	14.5
173	150.4	164.8	14.5
174	151.3	165.7	14.6
175	152.2	166.7	14.7
176	153.0	167.6	14.8
177	153.9	168.6	14.9
178	154.8	169.5	15.0

MAINTENANCE | SERVICE

3.0

The F1000 has two parts of the mechanical system that can be serviced by the user. The first is the air pressure and flow system. This system operates the mechanical movement of the gun, and involves the following parts:

The handle, trigger, cylinder and piston assembly, and the air injection system.

SAFETY NOTE:

Prior to performing any service work on the air pressure and flow system of the F1000, be sure that the air hose to the dispenser is disconnected.

The second system of the F1000 that can be serviced by the user is the chemical flow system, and involves the following parts:

The mix cartridge, the carrier, the on/off valves for the "A" and "B" chemicals, hose connections and check valve assembly, and replaceable O rings and filters.

SAFETY NOTE:

Prior to performing any service work on the chemical flow system of the F1000, be sure that all chemical pressure on the hoses and in the gun has been relieved. The procedure to relieve the pressure on the hoses is described in the section of this manual that covers maintenance and service of the chemical flow system.

3.1

Air Injection System

The Air Injection System is comprised of two valves, an On/Off Valve (D704) and a Needle Valve (D703) that are connected to the F1000 by a series of simple 1/8" fittings. **(See diagram 23A)** The Air Injection System serves three purposes:

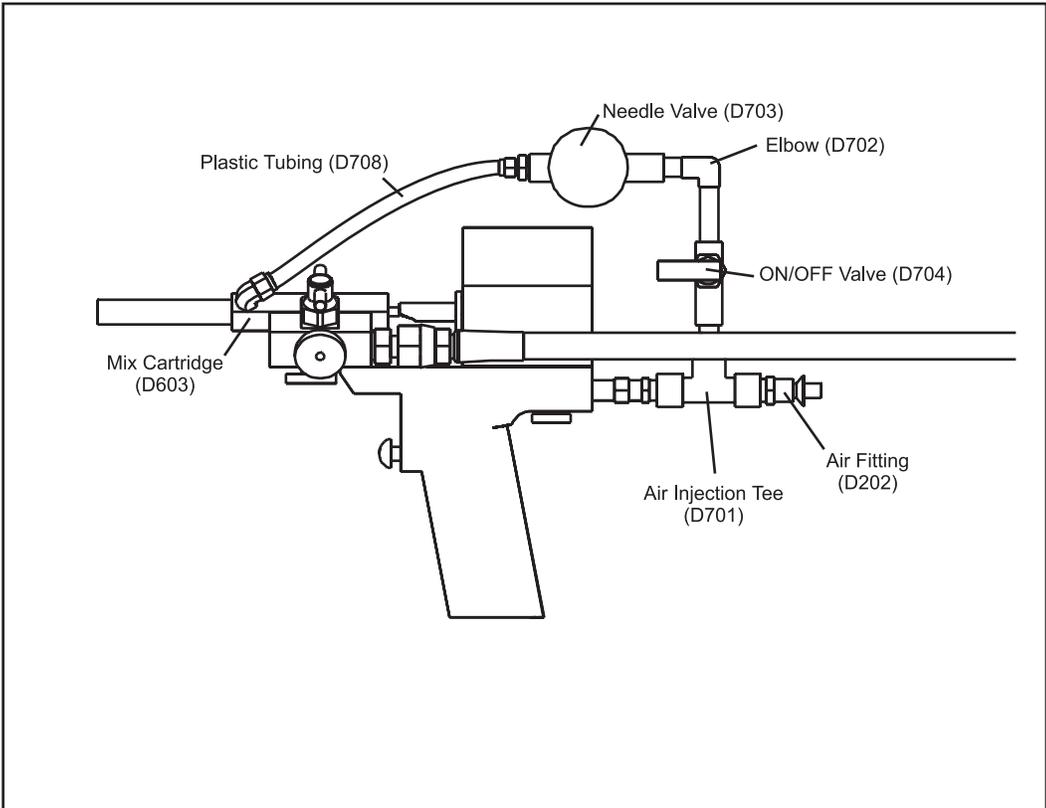
- * The air flowing into the Mix Cartridge (D603) helps the mixing of the "A" and "B" chemicals.
- * The air flowing into the Mix Cartridge (D603) helps propel the chemicals out of the nozzle, and also helps to keep the nozzle clear of curing foam.

The Needle Valve (D703) can be adjusted by turning the knob to control the amount of air flowing through the system. Different uses of the F1000, for example spraying foam, may require a higher flow of air than pouring foam. Experience in using the F1000 will help the user determine what air flow level suits their needs.

The Air Injection System should require no routine maintenance. The two valves can be replaced if they should wear out. Care should be taken to keep the Air Injection System free of obstructions. Triggering the F1000 without removing the Mix Cartridge Plug (D620) can cause foam to back flow into the Air Injection System, which will block it. In this situation the two Valves (D703, D704), and associated air fittings have to be replaced. Extreme cases of this backflow have caused foam to flow back through the Air Injection System, and into other components of the F1000.

AIR INJECTION SYSTEM

Diagram **23A**



MAINTENANCE | SERVICE

3.1.1

Trigger (D300)

The trigger assembly is composed of six parts that fit into the handle: **(See diagram 25A)**. The trigger itself (D301), the three O rings (D303) that fit onto the trigger, the trigger spring (D302), and the trigger set screw (D304). Usually the only service required of the trigger assembly is general cleaning, replacement and lubrication of the D303 O rings or replacement of the D302 spring.

(Refer to diagram 25A)

1 | Using an Allen wrench, remove Trigger Set Screw (D304). The Trigger (D301) and Trigger Spring (D302) should be easily removed. If it is stuck, gently pull it loose, but be careful not to damage the grooves that hold the O rings.

2 | Using a dental pick or similar tool, remove the three O rings (D303) on the Trigger (D301).

3 | Clean the Trigger (D301) and Trigger Spring (D302) of any dirt or debris. Clean the opening in the Handle (D201) that the Trigger(D301) fits into.

4 | Replace the three O rings (D303), and lubricate them with a small amount of O ring lubricant.

5 | Insert the Trigger Spring (D302) into the back of the Trigger (D301).

6 | Insert the Trigger/Spring assembly into the opening in the Handle (D201), and hold it in place, positioning it so that when the Trigger Set Screw (D304) is reinserted into the Handle (D201) it is positioned in the groove in the Trigger/Spring assembly.

7 | Insert the Trigger Set Screw (D304), but do not overtighten. The Trigger Set Screw must be loose enough to allow free movement of the Trigger.

3.1.2

Handle (D201)

(See diagram 25B) The Handle (D201) is a machined part. It will have two metal pins protruding from the top that act as alignment aids for the Air Cylinder (D401) and the Carrier (D501). These pins should not be removed.

There are also two air passageways machined into the handle that channel air from the Trigger to the Air Cylinder (D400). The only service that can be done to the Handle is to be sure that these air passageways do not become blocked with debris. If the Air Cylinder (D400) is removed from the Handle (D201) for any reason it is recommended that the two O rings (D414) that fit between the Air Cylinder and the Handle be replaced.

AIR INJECTION SYSTEM

Diagram 25A

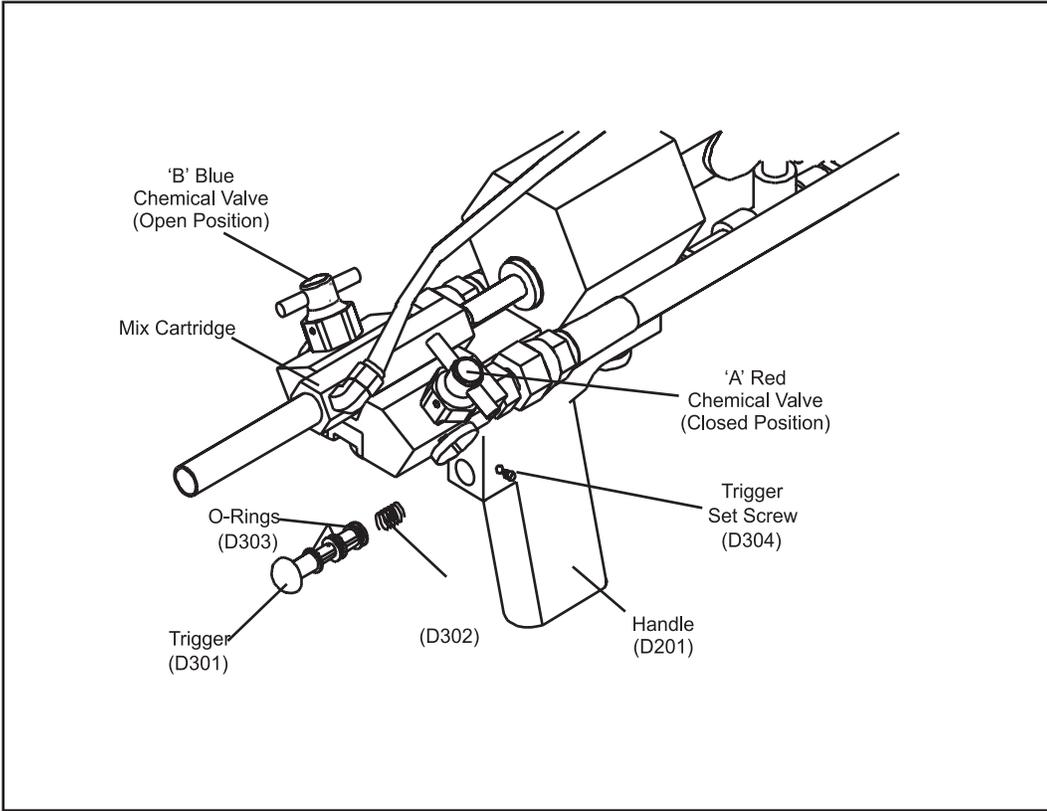
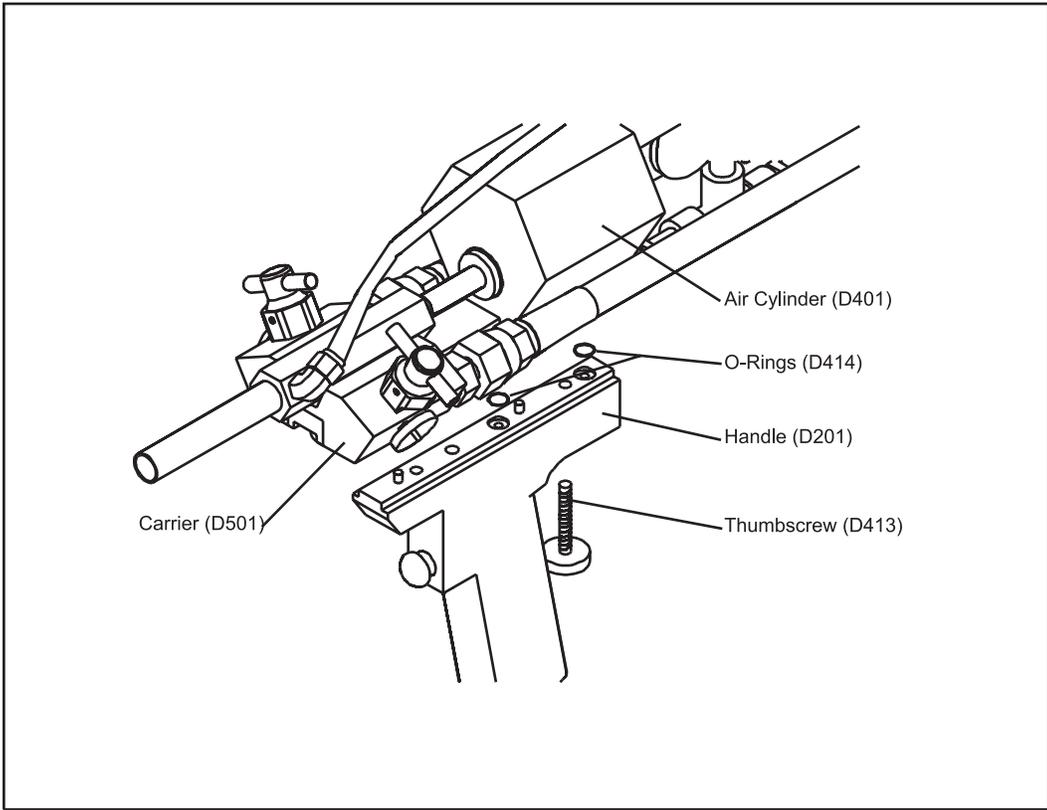


Diagram 25B



3.1.3

Air Cylinder/ Piston Assembly (D400)

(See diagram 27A, 27B) The Air Cylinder/ Piston Assembly (D400) is composed of eight basic parts:

The Cylinder Body (D401)

The Piston (D402)

The Piston Set Screw (D403)

The Connecting Rod (D405)

The Back Plate (D410)

The Back Plate Retaining Ring (D412)

The Bushing (D406)

The Bushing C-Clip (D409)

The Thumbscrew (D413)

There are six O rings associated with this assembly:

Inside Bushing O Ring (D407)

Outside Bushing O ring (D408)

(2) Piston O Rings (D404)

Connecting Rod O Ring (D602)

Back Plate O Ring (D410)

AIR INJECTION SYSTEM

Diagram 27A

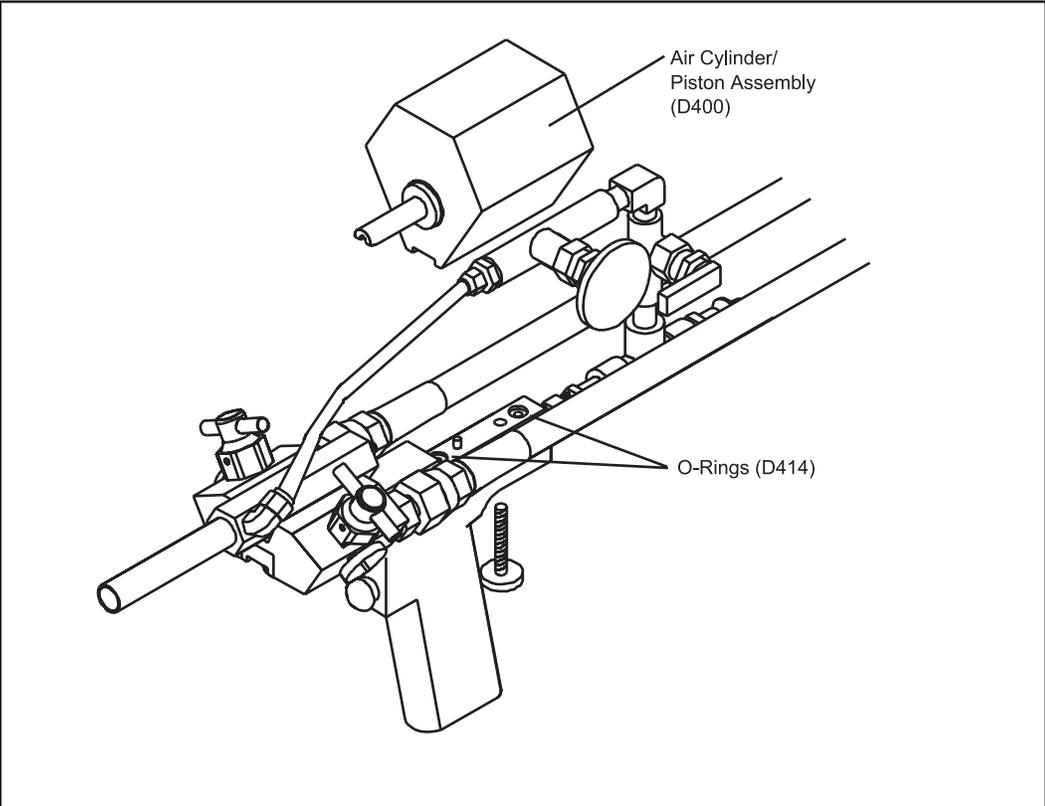
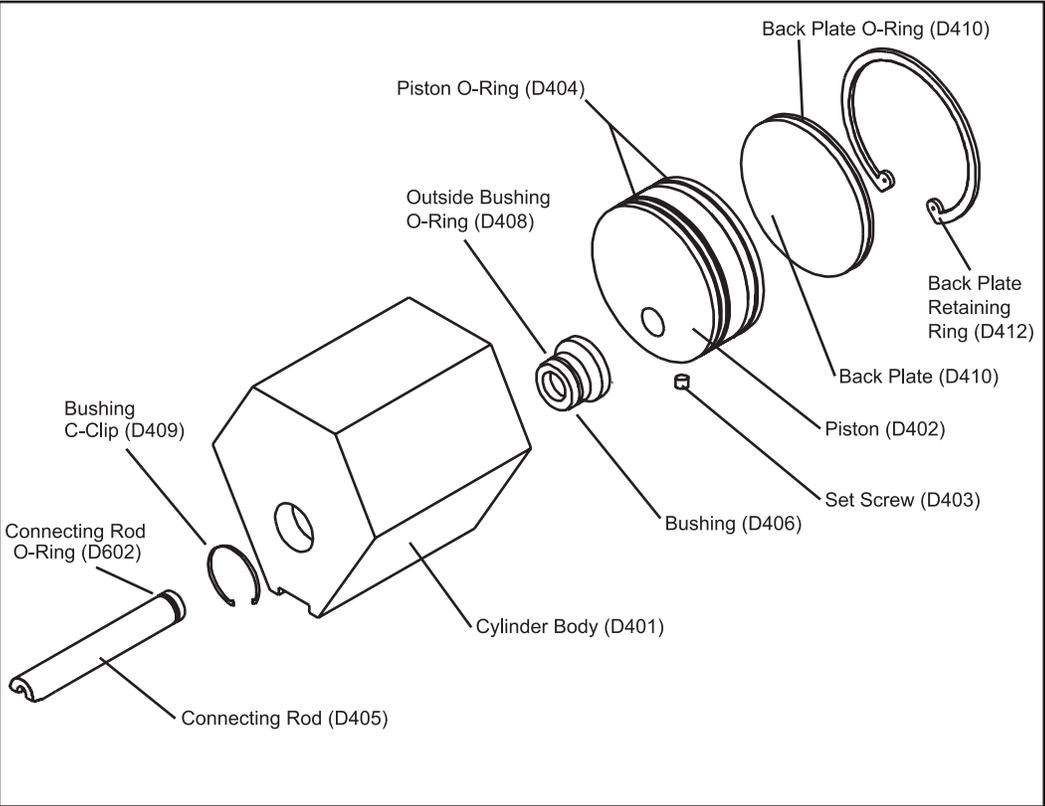


Diagram 27B



3.1.3

Air Cylinder/ Piston Assembly (D400)

1 | Before removing the Air Cylinder/Piston Assembly (D400) from the F1000, first be sure that the Connecting Rod (D405) is fully extended out from the Air Cylinder Body (D401). This would be its normal position when the F1000 is NOT dispensing foam. **(See diagram 29A)**

2 | On the Air Injection System, disconnect the plastic tubing where it enters the air fitting on the side of the Mix Cartridge (D603 or other optional Mix Cartridge) Do this by loosening the ferrule connection on the Tubing Elbow (D706) and slipping the Plastic Tubing (D708) out of the ferrule. It is not necessary to remove the Tubing Elbow (D706) from the Mix Cartridge (D603). **(See diagram 29B)**

3 | Rotate the Air Injection System so that it is perpendicular to the Handle (D201). This is done to provide clearance for removal of the Air Cylinder/Piston Assembly (D400). **(See diagram 29B)**

AIR INJECTION SYSTEM

Diagram 29A

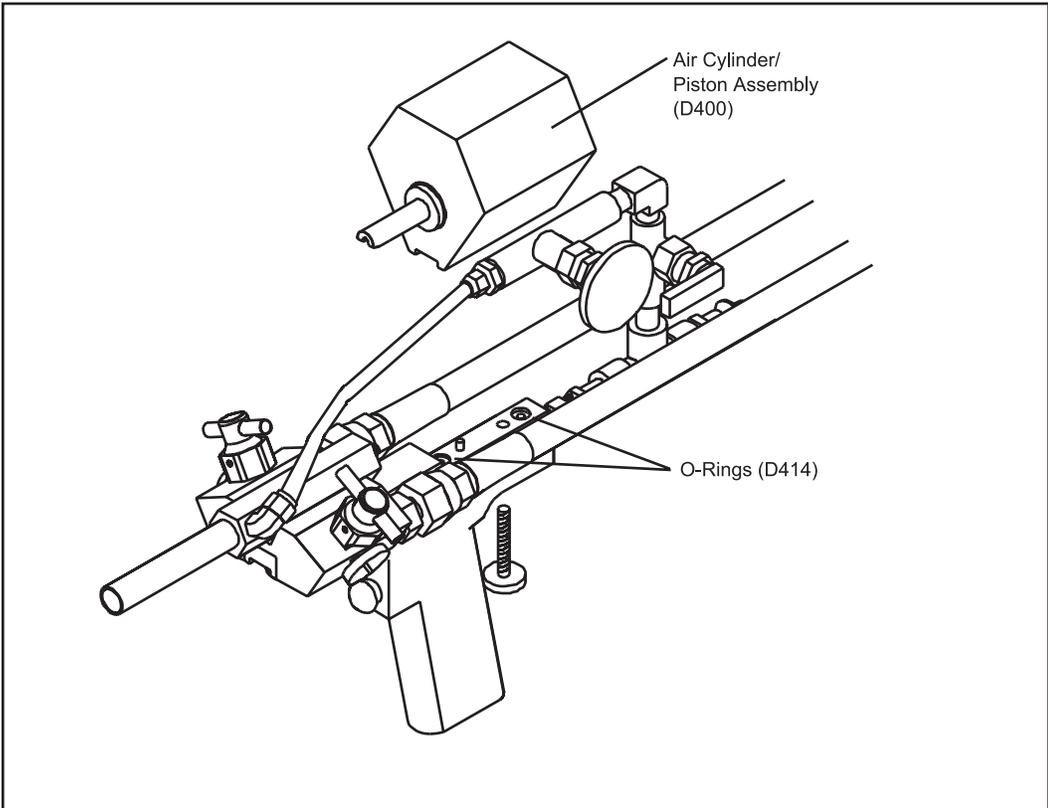
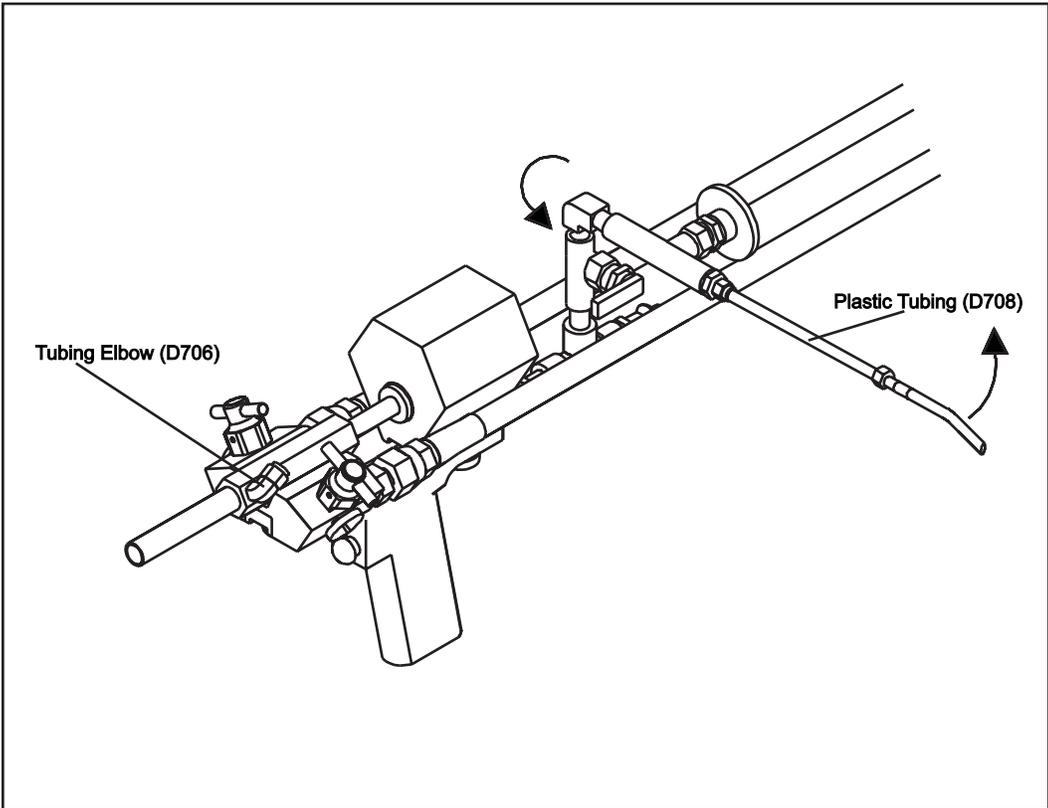


Diagram 29B



MAINTENANCE | SERVICE

3.1.3

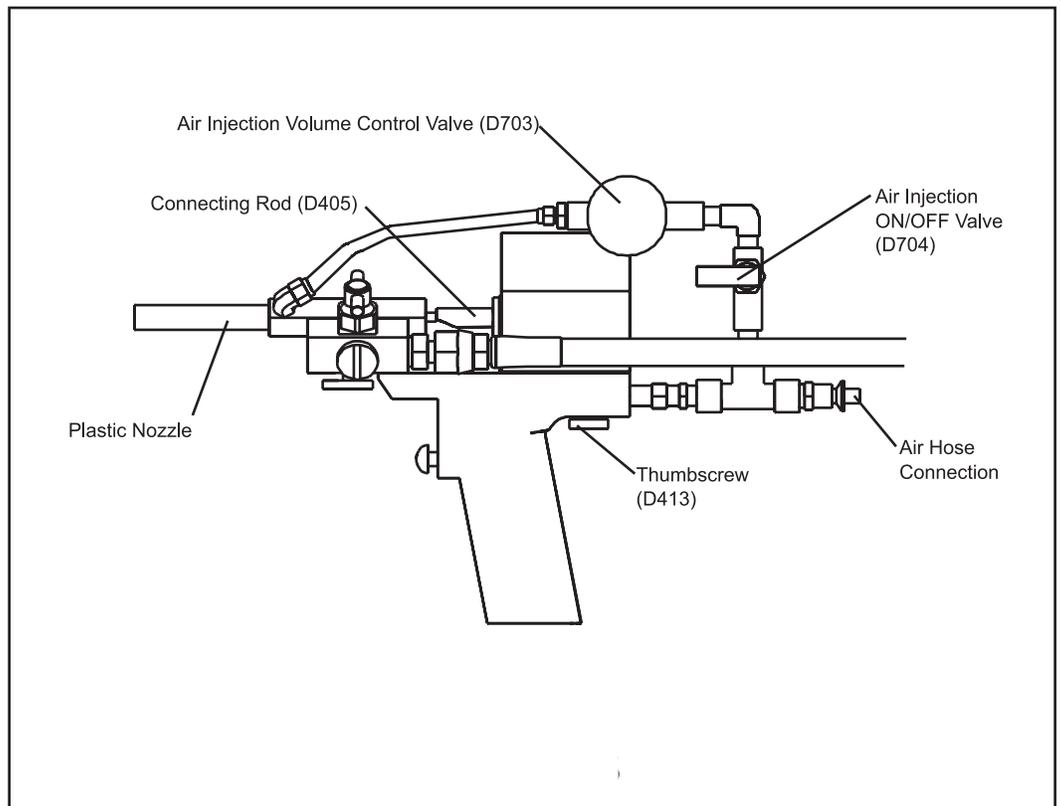
Air Cylinder/ Piston Assembly (D400)

4 | Loosen and remove the Thumbscrew (D413). *(See diagram 30A)*

5 | Gently remove the Air Cylinder/ Piston Assembly (D400) from the Handle (D201). *(See diagram 31A)*

6 | Using a pair of snap ring pliers, remove the Back Plate Retaining Ring (D412) from the Air Cylinder/Piston Assembly (D400). *(See diagram 31B)*

Diagram **30A**



AIR INJECTION SYSTEM

Diagram **31A**

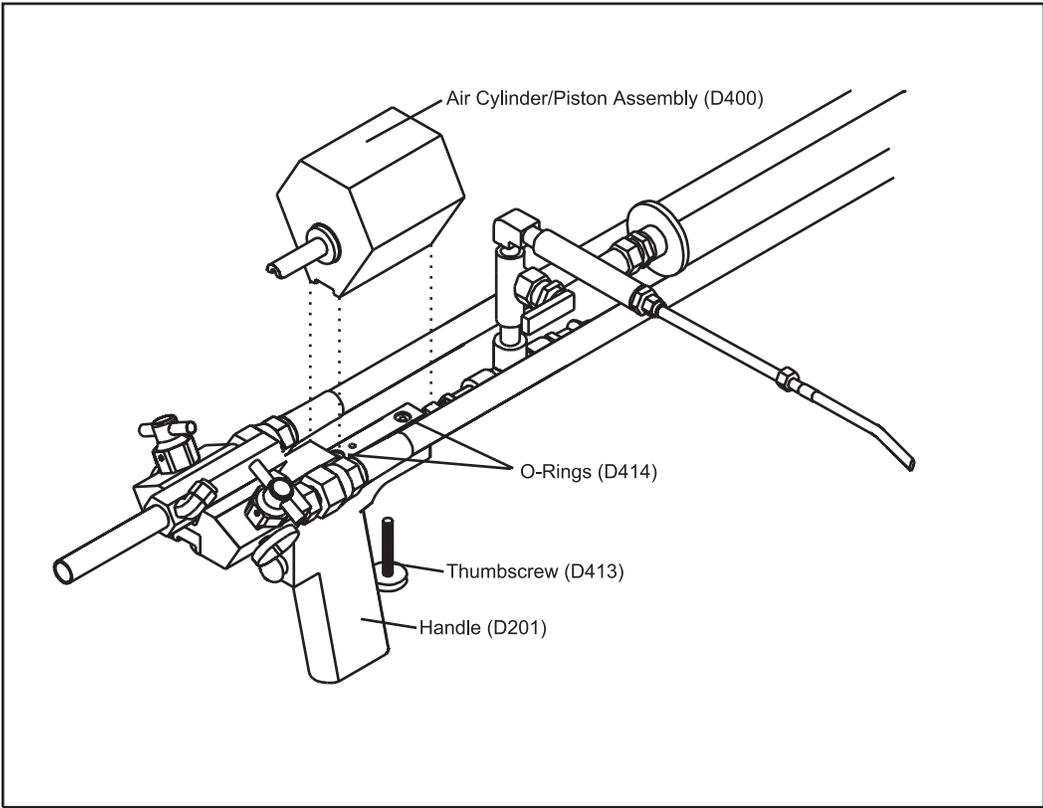
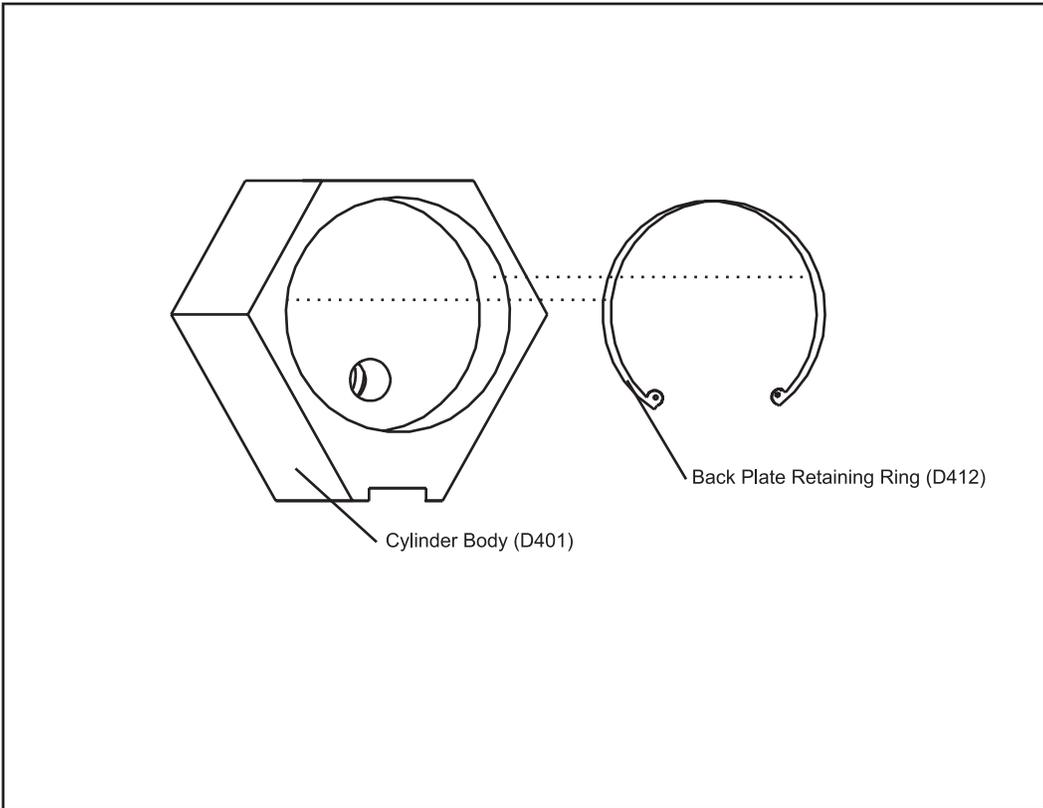


Diagram **31B**



3.1.3

Air Cylinder/ Piston Assembly (D400)

7 | Push the Connecting Rod (D405) back into the Air Cylinder Body (D401) as far as it will go. This should cause the Back Plate (D410) to be pushed out of the Air Cylinder Body (D401). The Piston (D402) should also be accessible at this point. **(See diagram 33A)**

8 | Remove the Back Plate O Ring (D411) and replace it with a new O Ring. Lubricate the new O Ring with a small amount of O Ring lubricant. **(See diagram 33A)**

9 | Remove the Piston (D402) which will have the Connecting Rod (D405) attached to it. **(See diagram 33A)**

10 | Remove the two Piston O Rings (D404) and replace them with new O Rings. Lubricate the O Rings with a small amount of O Ring lubricant. **(See diagram 33A)**

11 | If the Connecting Rod (D405) is not severely damaged or broken, do not remove it from the Piston (D402) instead, skip to step 12. If the Connecting Rod (D405) needs to be replaced: **(See diagram 33B)**

* Remove Set Screw (D403) in the side of the Piston (D402)

* Remove the Connecting Rod (D405) from the Piston (D402). This may require using a hammer and a punch to push the Connecting Rod out.

* Place a new O Ring (D602) onto the notch in the new Connecting Rod (D405) and lubricate the Ring with a small amount of O Ring lubricant.

AIR INJECTION SYSTEM

Diagram **33A**

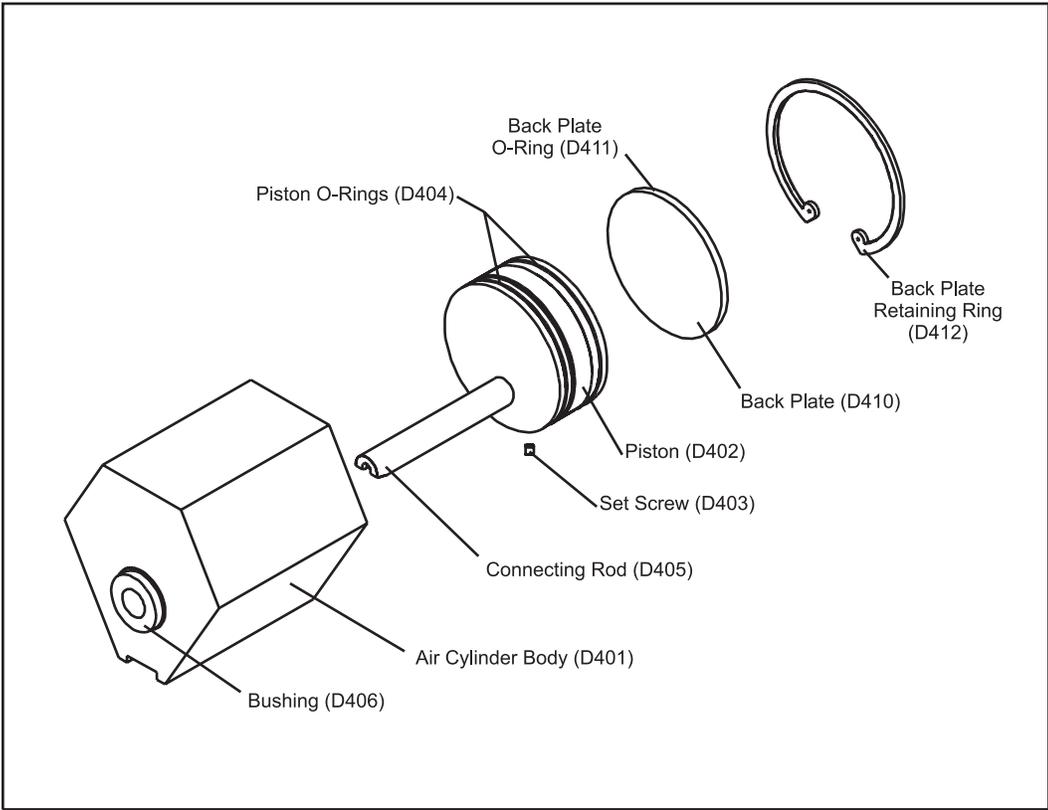
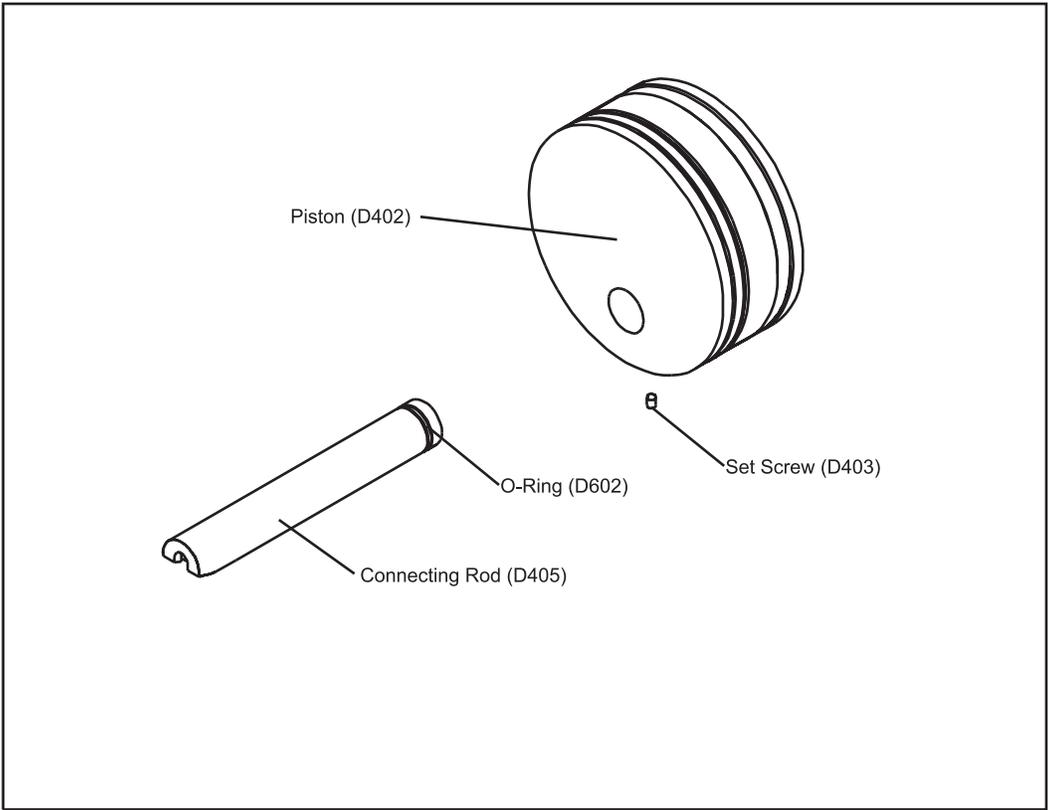


Diagram **33B**



3.1.3

Air Cylinder/ Piston Assembly (D400)

* Insert the new Connecting Rod (D405), O Ring end first, into the flat side of the Piston (D402). This may require a fair amount of force. Make sure that the Connecting Rod is oriented with the slot facing down as shown. **(See diagram 35A)**. Make sure the Connecting Rod (D405) is flush with the back of the piston surface.

* Insert Set Screw (D403) in the side of the Piston and tighten fully to lock the Connecting Rod in place.

* Lubricate the Connecting Rod (D405) with a small amount of O Ring Lubricant. This will help in re-inserting the Connecting Rod back through the Bushing (D406) and will extend the life of the O Rings in the Bushing (D406).

12 | The Bushing (D406) on the front of the Air Cylinder Body (D401) contains two O rings that may need to be replaced periodically. If the Air Cylinder/Piston Assembly has already been disassembled for service, it would be a good idea to replace the O rings in the Bushing (D406).

To replace the O Rings: **(See diagrams 35B and 35C)**

* Using a pair of snap ring pliers, remove the C Clip (D409)

* Push the Bushing (D406) out from the open end of the Air Cylinder Body (D401)

* Replace the Inner O Ring (D407) that is inside the Bushing (D406)

* Replace the Outer O Ring (D408) on the outside of the Bushing (D406)

* Insert the Bushing (D406) back into the Air Cylinder Body (D401)

* Replace the C Clip (D409) onto the Bushing (D406) to lock it in place

Diagram **35A**

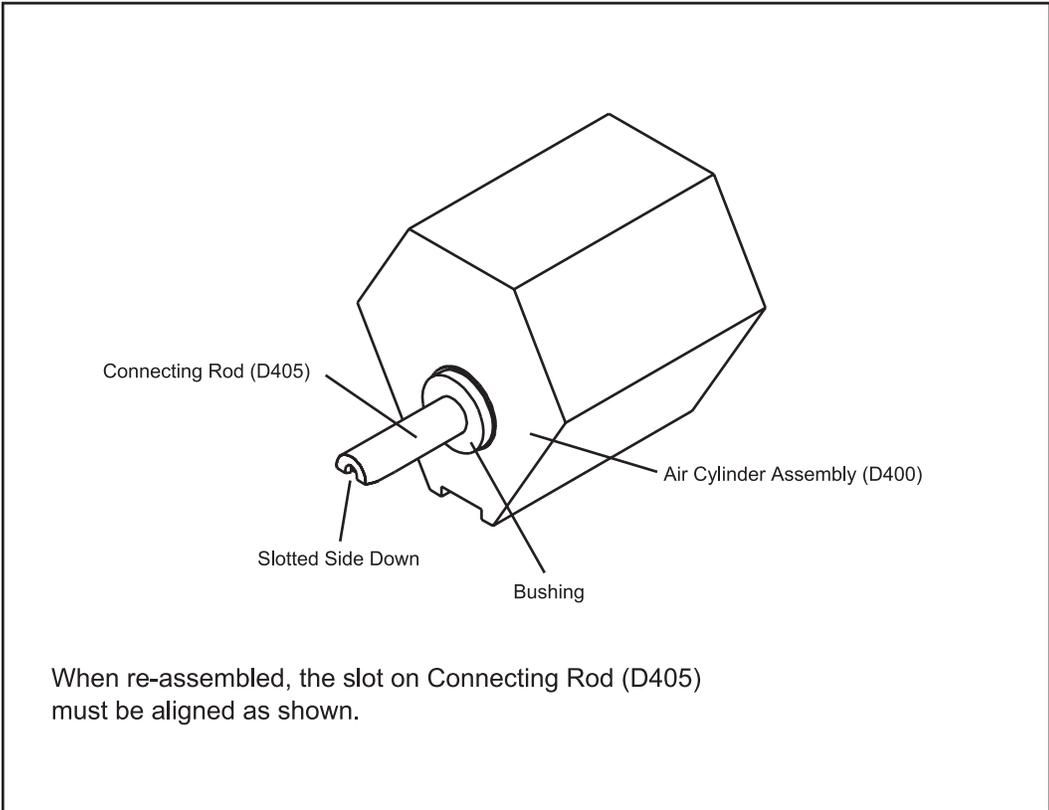


Diagram **35B**

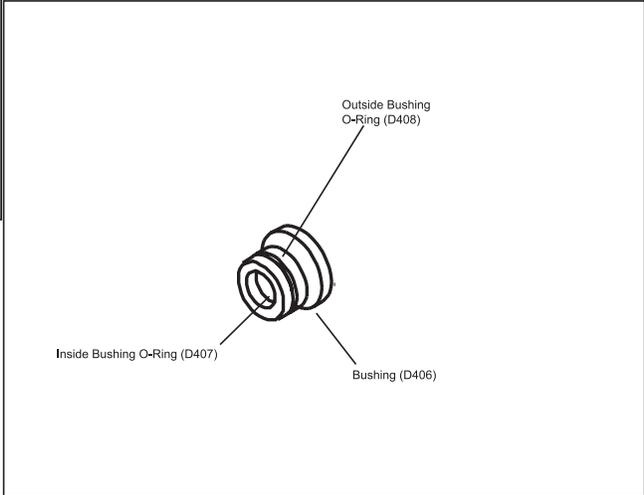
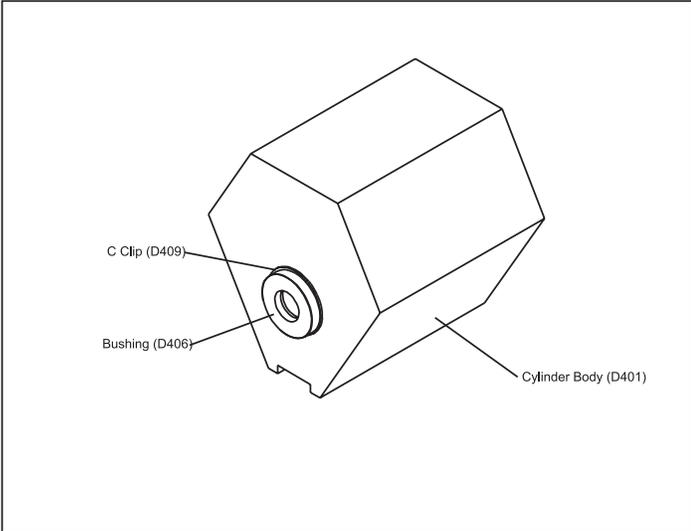


Diagram **35C**

3.1.3

Air Cylinder/ Piston Assembly (D400)

For steps 13 to 16, refer to Diagram 37A

13 | Apply a thin layer of O Ring Lubricant to the inside surface of the Air Cylinder Body (D401)

14 | Insert the Piston into the Air Cylinder Body, making sure that the Connecting Rod (D405) is positioned correctly so that it is inserted through the Bushing (D406). Push the Piston all of the way into the Air Cylinder Body (D401).

15 | Insert the Back Plate (D410) into the Air Cylinder Body.

16 | Replace the Back Plate Retaining Ring (D412)

17 | Make sure the Mix Cartridge (D603 or other optional Cartridge) has been properly installed. Refer to Mix Cartridge Service Procedure for instructions on installing the Mix Cartridge.

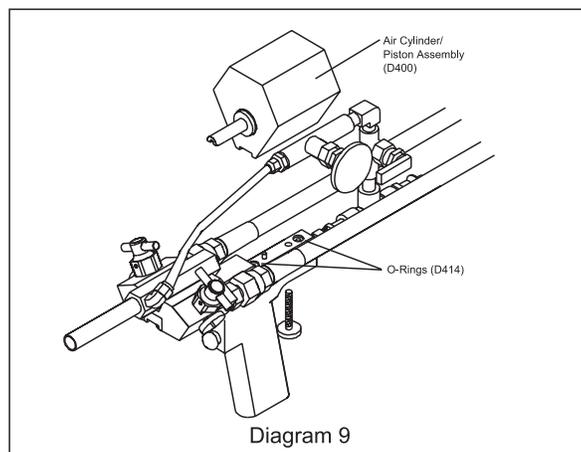
18 | Replace the Cylinder/Handle O Rings (D414) that seal between the Handle and the Cylinder/Piston Assembly

19 | After ensuring the Mix Cartridge is installed, position the Air Cylinder/ Piston Assembly (D400) on the Handle (D201) so that the appropriate holes in the bottom line up with the rear alignment pin on the Handle (D201) and that the Thumbscrew (D413) will easily thread into the bottom of the Air Cylinder/ Piston Assembly (D400). The notch in the Connecting Rod (D405) should fit over the notch in the small rod sticking out of the Mix Cartridge (D603 or other optional Mix Cartridge) (**See diagram 36A**)

20 | Tighten the Thumbscrew (D413)

21 | Realign the Air Injection System by rotating it around back into position, and re-connect the plastic tubing where it enters the air fitting on the side of the Mix Cartridge (D603 or other optional Mix Cartridge) (**See diagram 37B**)

Diagram **36A**



AIR INJECTION SYSTEM

Diagram **37A**

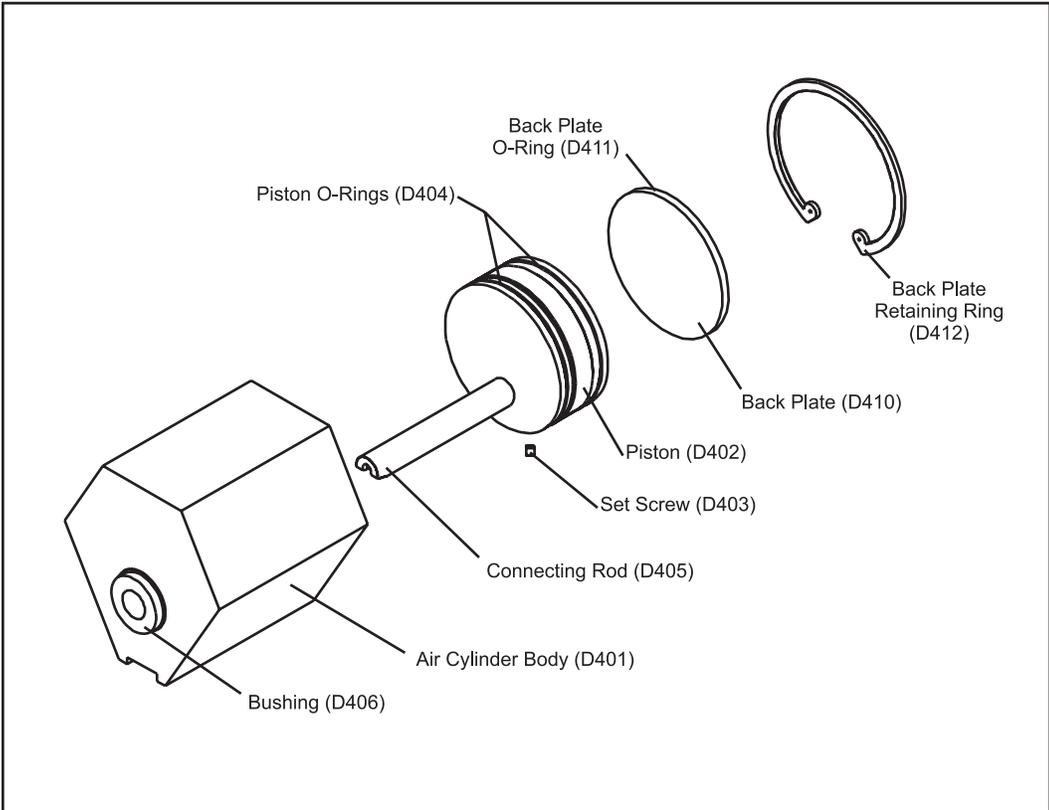
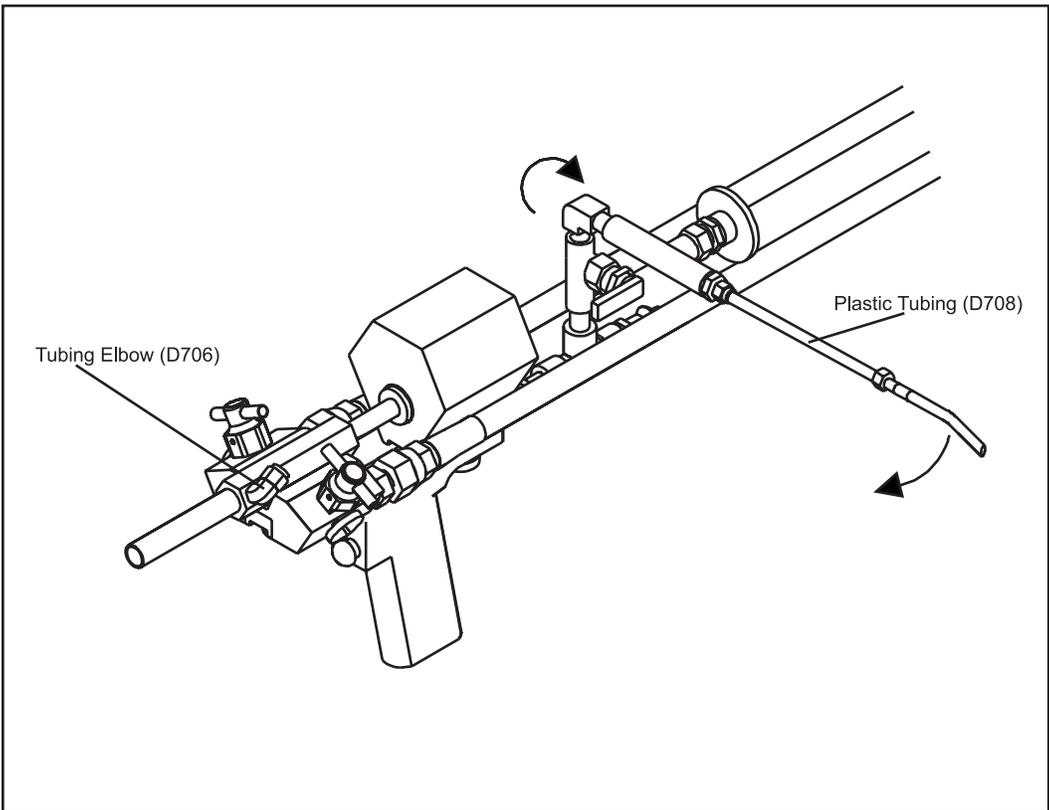


Diagram **37B**



MAINTENANCE | SERVICE

3.2

Before performing any service work on the F1000 it is CRITICAL that all pressure of the Chemical Flow System is relieved. Complete the following steps to relieve pressure on the F1000.

First, make sure all of the following valves are CLOSED. (See Diagrams for valve locations) This would include:

- The valve on top of the nitrogen cylinder
- The nitrogen valve on top of both chemical cylinders ("A" component and "B" component) **(See diagrams 39A & 39B)**
- The chemical valve on top of both chemical cylinders ("A" component and "B" component) **(See diagrams 39A & 39B)**
- The chemical valve on the filter end of both the red "A" component hose and the blue "B" component hose. **(See diagrams 39A & 39B)**
- The Red "A" Chemical valve (D503R) on the F1000 **(See diagram 39A)**
- The Blue "B" Chemical valve (D503B) on the F1000 **(See diagram 39A)**

1 | Place a paper towel under the connection between the Hose Filter End Valve and the Chemical Outlet Valve on the "A" Chemical Cylinder to catch any dripping that will result when this connection is loosened.

2 | Using a wrench, loosen the connection between the Hose Filter End Valve to the Chemical Outlet Valve on the "A" Chemical Cylinder, and remove the red "A" chemical hose from the chemical cylinder. Be sure to replace the cap on the Chemical Outlet valve.

3 | Hold the Hose Filter, directing the open end into a trash can. SLOWLY open the valve on the Hose Filter to release all of the pressure on the hose itself. Allow the valve to remain open for at least 30 seconds.

4 | Replace the plug into the end of the Hose Filter.

5 | Place a paper towel under the connection between the Hose Filter End Valve and the Chemical Outlet Valve on the "B" Chemical Cylinder to catch any dripping that will result when this connection is loosened.

6 | Using a wrench, loosen the connection between the Hose Filter End Valve and the Chemical Outlet Valve on the "B" Chemical Cylinder, and remove the blue "B" chemical hose from the chemical cylinder. Be sure to replace the plug in the Chemical Outlet valve

7 | Hold the Hose Filter, directing the open end into a trash can. SLOWLY open the valve on the Hose Filter to release all of the pressure on the hose itself. Allow the valve to remain open for at least 30 seconds.

8 | Replace the cap onto the end of the Hose Filter.

9 | The Chemical Flow System will now be de-pressurized and maintenance and service of the Chemical Flow System can be safely carried out.

CHEMICAL FLOW SYSTEM

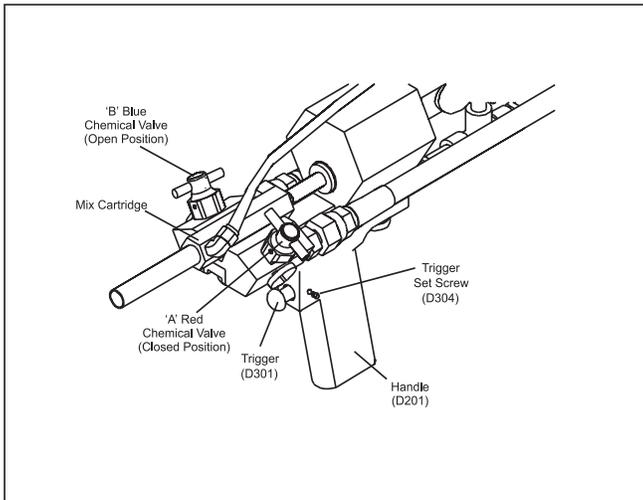


Diagram **39A**

Diagram **39B**

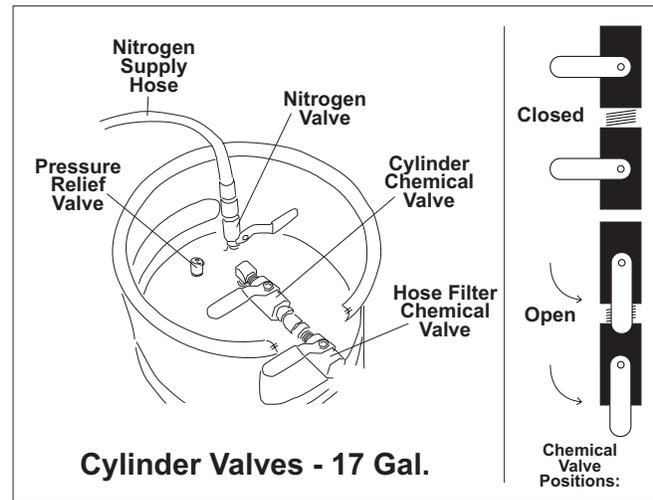
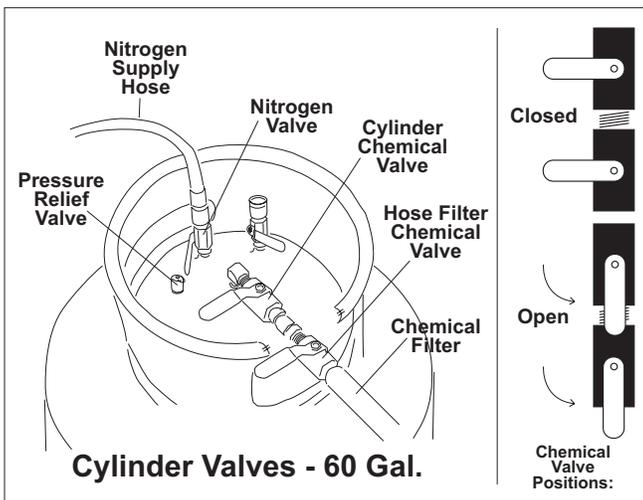
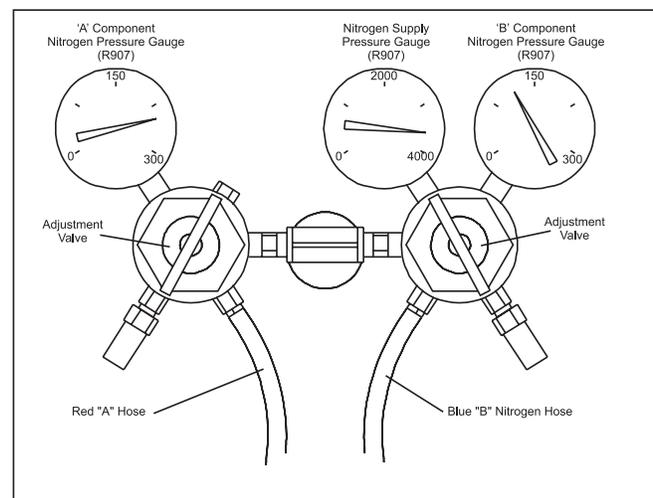


Diagram **39C**

Diagram **39D**



MAINTENANCE | SERVICE

3.2

The chemical flow in the F1000 takes place in the Carrier Assembly (D500) and the Mix Cartridge (D603 or other optional Mix Cartridge).

3.2.1

Carrier Assembly (D500)

The parts in the Carrier Assembly (D500) are (See Diagram 41A):

Carrier Body (D501)
(2) Attachment Screws (D502)
Red "A" Valve Unit (D503R)
Blue "B" Valve Unit (D503B)
(2) Filter Screens (D504)
(2) Filter Plugs (D505)
(2) Filter Plug O Rings (D506)
(2) Hose Connectors (D507)
(2) Check Springs (D508)
(2) Check Balls (D509)
Thumbnut (D513)
2) Mix Cartridge O Rings (D602)

3.2.2

Chemical Valve Service (D503R & D503B)

The Red "A" Chemical Valve (D503R) and the Blue "B" Chemical Valve (D503B) contain O rings that can be replaced. These O Rings need to be serviced if either of the chemical valves begin to leak. If either of the valves is damaged, the entire valve assembly can be replaced.

Be sure that pressure on the Chemical System has been relieved before starting this procedure. To service either of the valves:

- 1- Using snap ring pliers, remove the Snap Ring (D512) that holds the valve in place. **(See diagram 41B)**
- 2- Pull the Valve out from the Carrier
- 3- Clean the valve with solvent, then remove the three O Rings (D511) on the valve.
- 4- Replace the three O Rings (D511), and lightly lubricate them with O Ring lubricant.
- 5- Gently re-insert the valve into the Carrier (D501). You may have to hold the center O Ring in place while slowly working the valve back into the Carrier (D501). This center O Ring can be easily damaged if the valve is not gently worked into the Carrier. Make sure that the Valve is aligned correctly so that the valve pin stop on the Carrier is in the notch cut into the metal part of the valve.
- 6- Attach the Snap Ring (D512) to hold the Valve in the Carrier.

Diagram **41A**

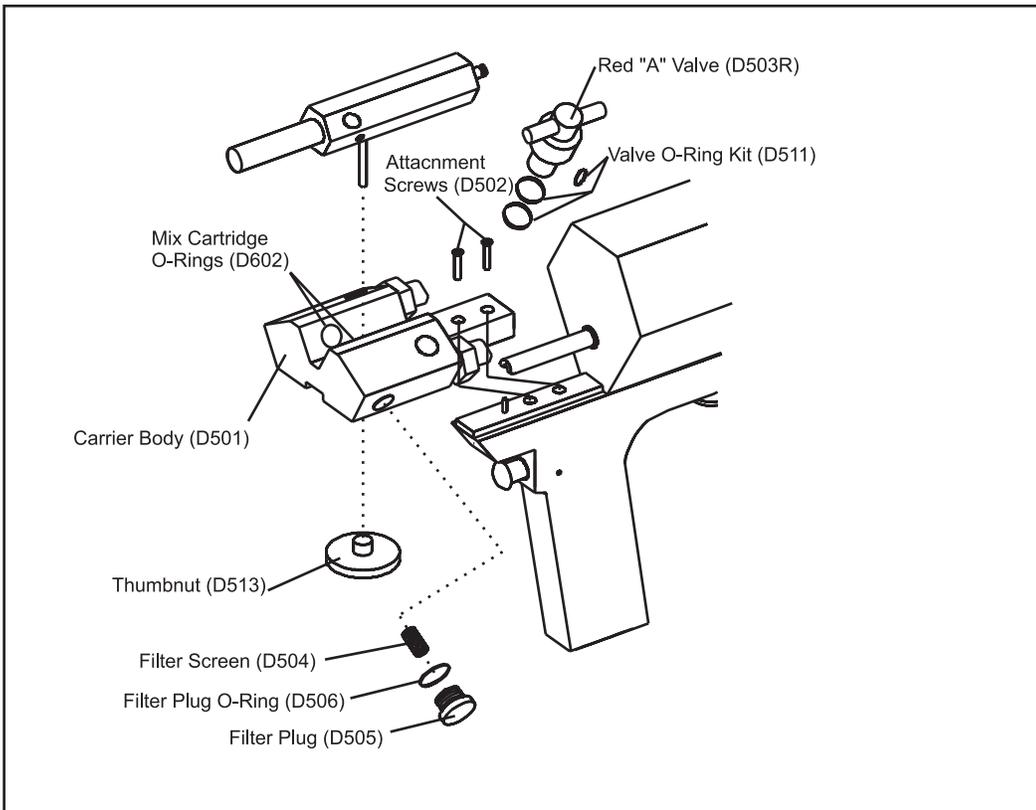


Diagram **41B**

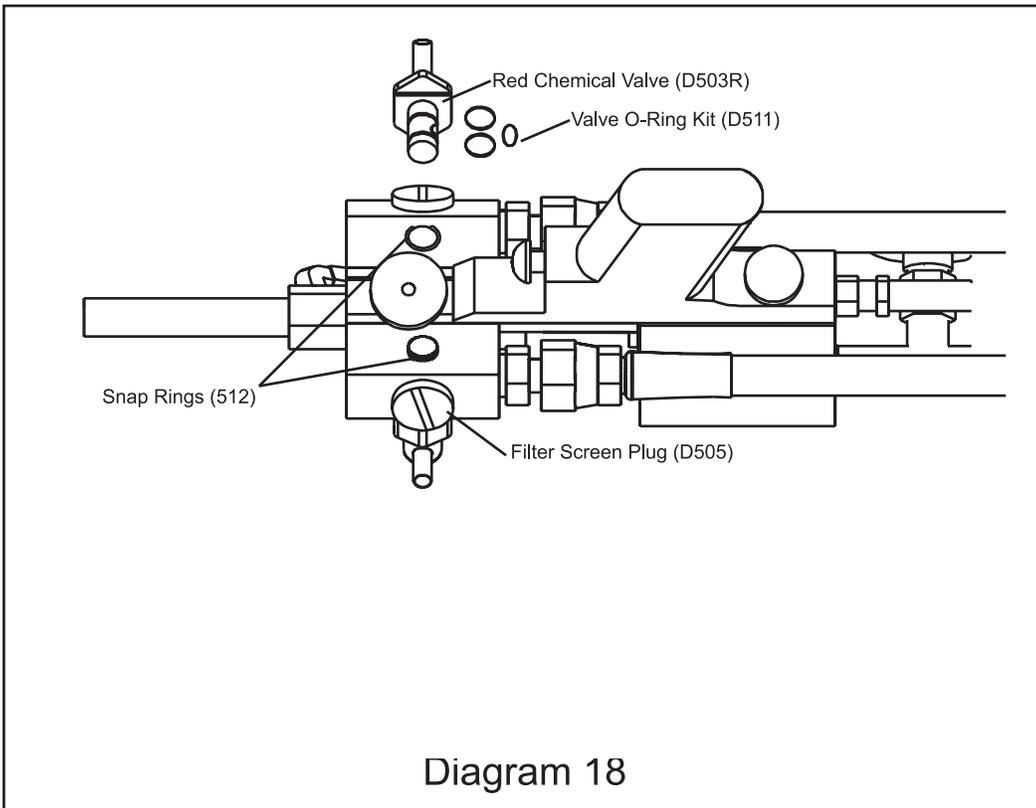


Diagram 18

MAINTENANCE | SERVICE

3.2

There are two Filter Screens (D504) in the side of the Carrier (D501). One Filter Screen is for the "A" Chemical, and the other Filter Screen is for the "B" Chemical. These Filters are designed to catch any particulate matter that may be present from getting into the Mix Cartridge (D603). The Filter Screens need to be cleaned periodically.

This procedure can be performed without relieving the pressure on the Chemical Flow System, provided that the Red chemical valve (D503R) and the Blue chemical valve (D503B) remain closed during the entire procedure. (See diagram 42A for location of these valves)

3.2.3

Filter Screen Service (D504)

To clean the Filter Screens:

- 1 | Remove the Filter Plug (D505). *(See diagram 43A & 43B)* The Filter Screen (D504) is pressed onto the end of the Filter Plug (D505). The Filter Screen can be rinsed with solvent without removing it from the Filter Plug. If the Filter Screen (D504) is damaged, it can be pulled off the Filter Plug and replaced by pressing a new Filter Screen onto the Filter Plug (D505).
- 2 | Rinse with solvent the opening on the Carrier (D501) that the Filter Screen Plug (D505) fits into.
- 3 | Replace the O Ring (D506) on the Filter Plug (D505).
- 4 | Re-install the Filter Plug and Screen Assembly into the Carrier and tighten.

Diagram 42A

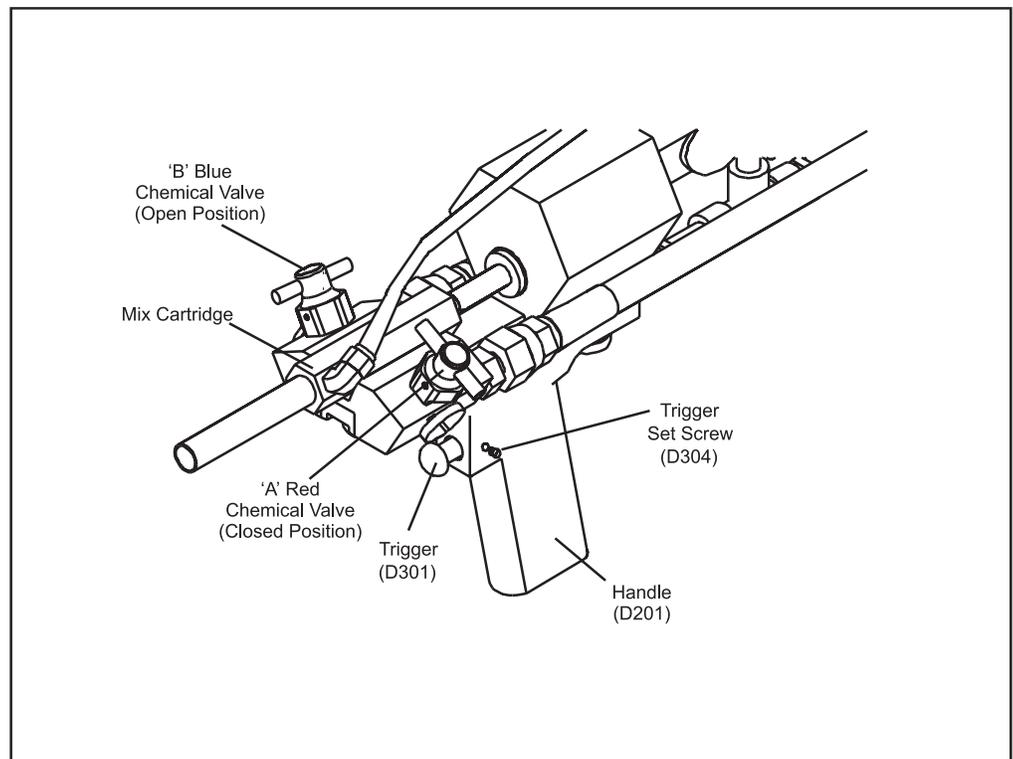


Diagram **43A**

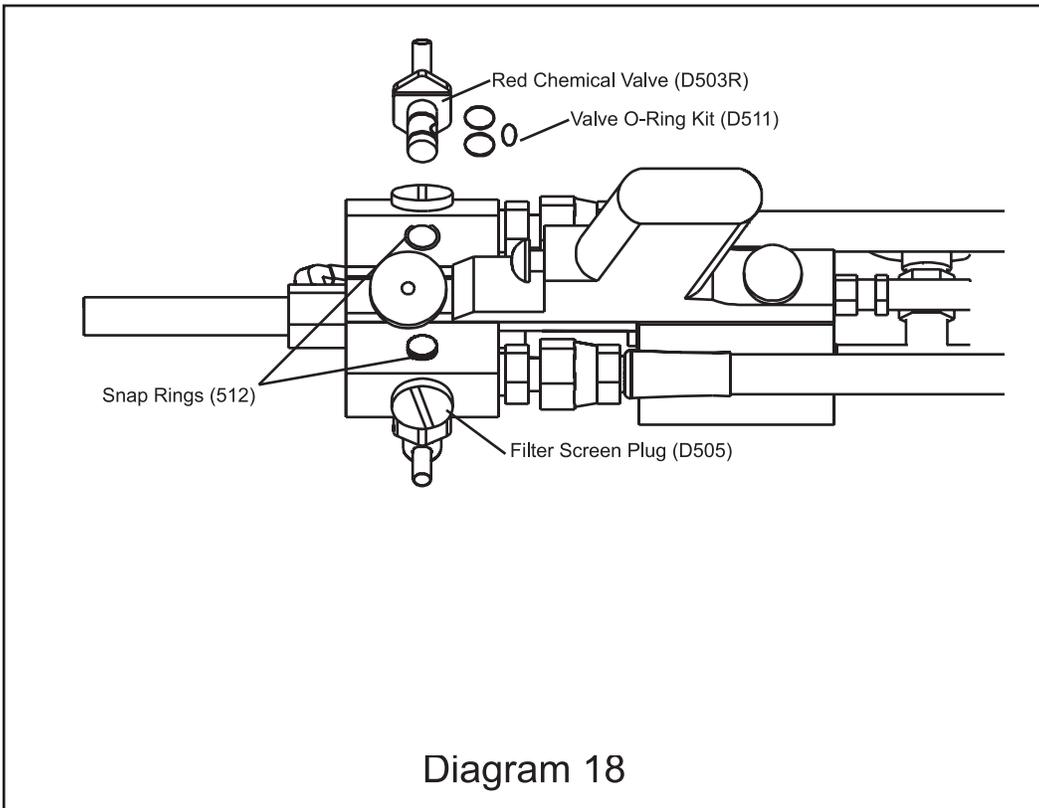
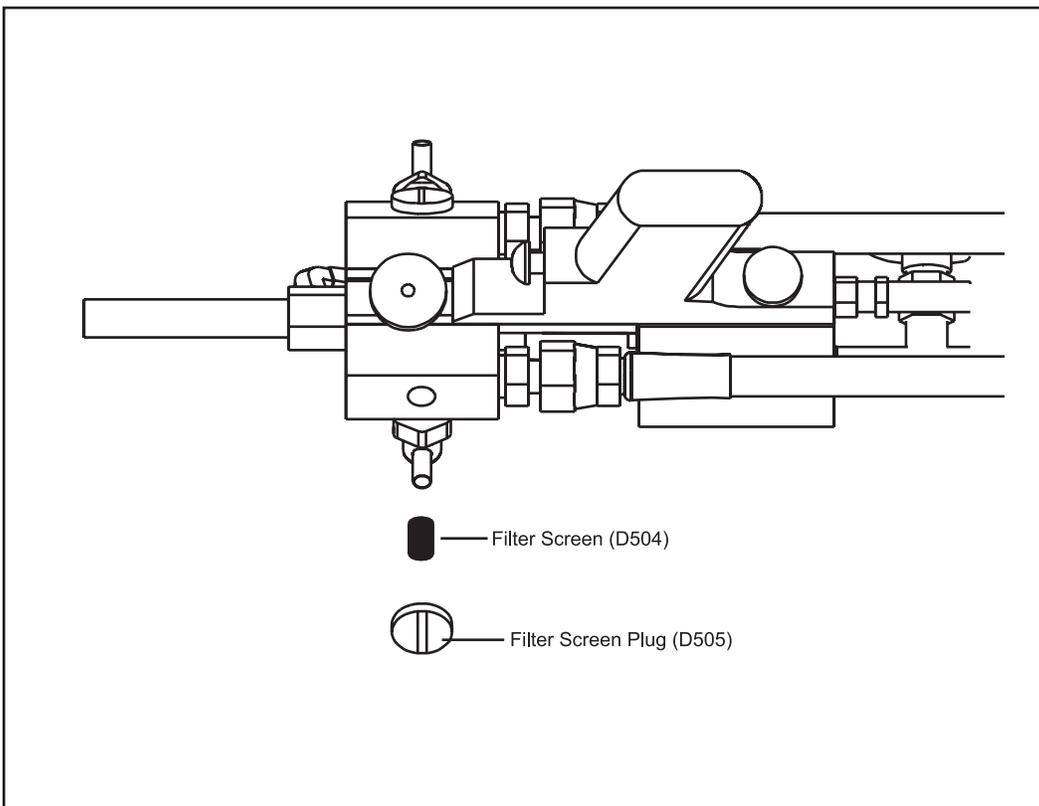


Diagram **43B**



MAINTENANCE | SERVICE

3.2

The Hose Connection Fittings (D507) that connect the “A Chemical and “B” Chemical hoses to the Carrier (D501) contain check valve mechanisms. These mechanisms can be affected by particulate matter, or can get clogged by chemicals that may have gelled in the check valve.

3.2.4

Check Valve Assembly Service

To service either of these valves:

The pressure on the Chemical Flow System must be relieved prior to performing this procedure.

- 1 | Disconnect the chemical hose from the Hose Connection Fitting (D507). Have some paper towels handy to catch any chemical that may drain from the hose. (See Diagram 45A)
- 2 | Using a wrench, remove the Hose Connection Fitting (D507) from the Carrier (D501). (See Diagram 45B)
- 3 | From the back side of the Hose Connection Fitting (D507), remove the Check Spring (D508) and the Check Ball (D509). If they are stuck you may have to push them out with a punch or similar tool.
- 4 | Thoroughly clean the Check Ball, Check Spring, Hose Connection Fitting, and the opening in the Carrier that the Hose Connection Fitting threads into with solvent. You may have to scrape off any crystallized material.
- 5 | There is a O Ring (D408) on the Hose Connection Fitting (D507) to seal it against the Carrier. Replace this O Ring when servicing the check valve. (See Diagram 45B)
- 6 | Re-insert the Check Ball (D509) and Check Spring (D508) into the Hose Connection Fitting.
- 7 | Thread the Hose Connection Fitting (D507) containing the Check Valve Mechanism into the Carrier (D501) and tighten.
- 8 | Reconnect the chemical hose to the Hose Connection Fitting (D507) and tighten.

CHEMICAL FLOW SYSTEM

Diagram 45A

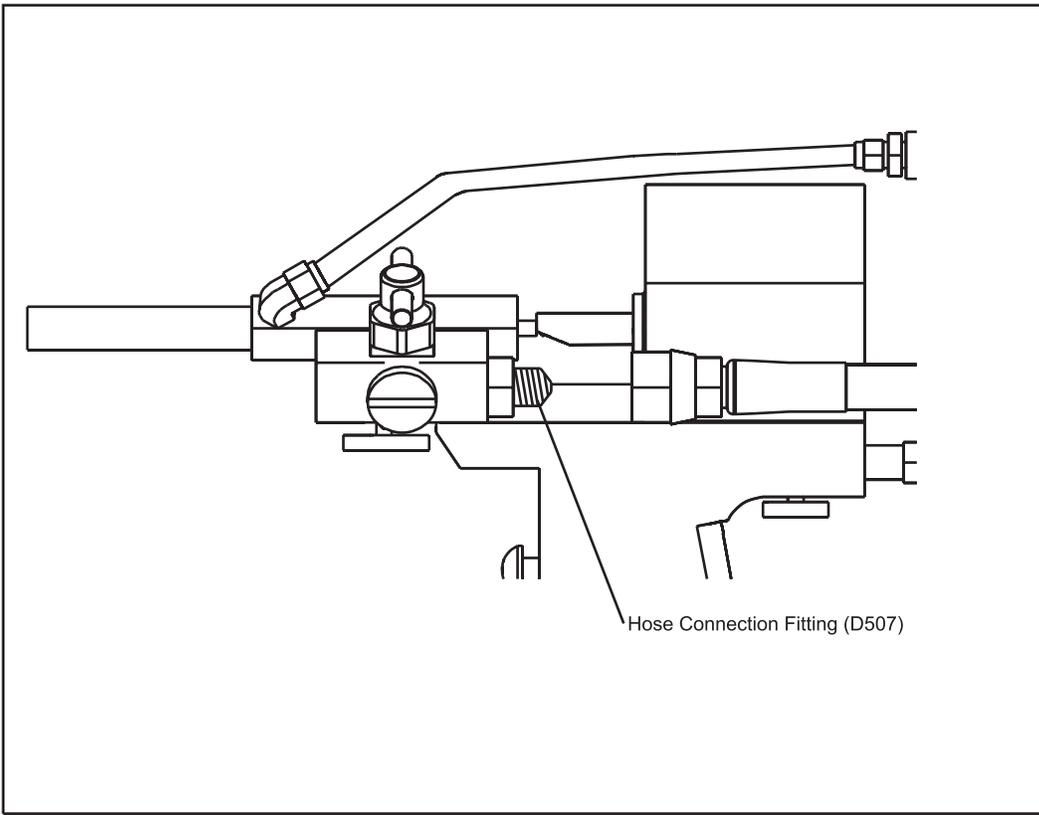
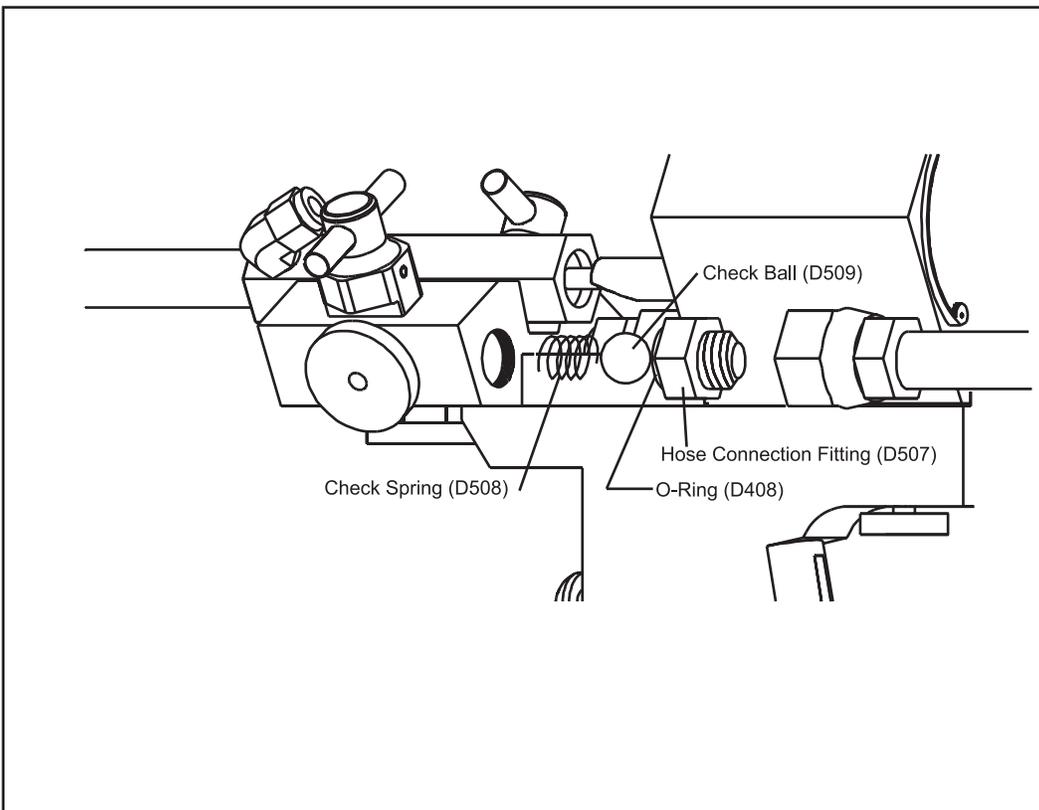


Diagram 45B



3.2

(See diagram 47A)

There are no user serviceable parts inside the Mix Cartridge (D603). Do not pull the center rod out of the Mix Cartridge. Do not attempt to disassemble the Mix Cartridge.

3.2.5

Mix Cartridge Service (D603 or Optional Cartridge)

If the Mix Cartridge seizes, the rod in the center of the Mix Cartridge will not move, and the F1000 will not operate.

If the F1000 will not move the center rod in the Mix Cartridge when the trigger is pressed, check the following items:

1 | Make sure that the F1000 is connected to a compressed air source.

2 | Make sure that the Air Cylinder/ Piston Assembly (D400) is operating correctly. This Piston operates the Mix Cartridge, and if the Piston is stuck for any reason, the F1000 will not move the rod in the Mix Cartridge. To determine if the Air Cylinder/Piston Assembly is operating correctly, remove the Mix Cartridge as described in the next section, and trigger the F1000 with the Air Cylinder/ Piston Assembly installed. If the Air Cylinder Assembly is working, but the Mix Cartridge does not work when installed, the Mix Cartridge will have to be replaced.

Diagram **47A**

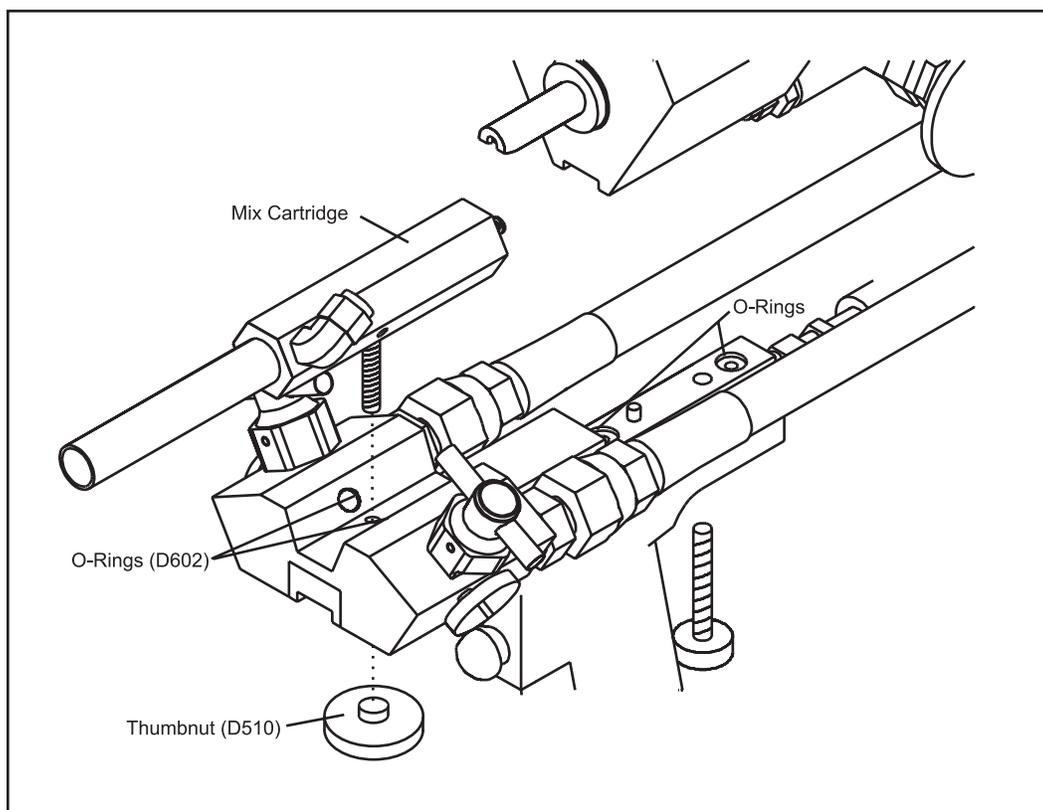
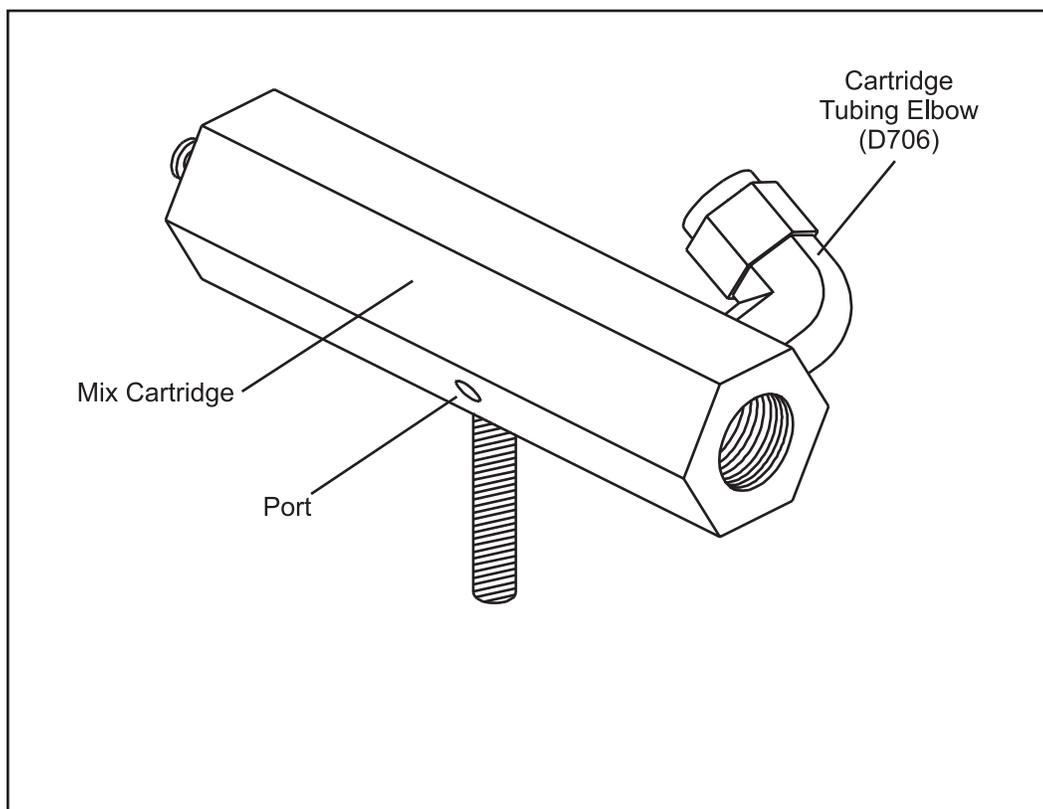


Diagram **47B**



Mix Cartridge Removal and Cleaning (D603 or Optional Cartridge)

The Ports can be cleaned by removing the Mix Cartridge from the Carrier (D501) and cleaning the ports while they are in place. *(See diagram 49A)*

This procedure can be performed without relieving the pressure on the Chemical Flow System, provided that the Red chemical valve (D503R) and the Blue chemical valve (D503B) remain closed during the entire procedure *(See diagram 49C for location of these valves)*. The Mix Cartridge has small ports on each side that can be cleaned. DO NOT REMOVE THE PORTS.

1 | Close the Red "A" Chemical Valve (D503R) and the Blue "B" Chemical Valve (D503B) on the Carrier (D501) *(See diagram 49C)*

2 | Clean the threaded opening in the front of the Mix Cartridge. Rinse this opening with solvent. *(See diagram 49A)*

3 | With the F1000 connected to a compressed air source, press the trigger and hold it so that the center rod in the Mix Cartridge is pulled back. While the center rod is pulled back, disconnect the compressed air from the F1000. In this way, when the trigger is released, the center rod in the Mix Cartridge will remain pulled back to provide access to the interior of the Mix Cartridge. *(See diagram 49C)*

4 | In order to remove the Mix Cartridge, the Air Cylinder/Piston Assembly must be removed first. Follow steps 2 through 5 in the section "Air Cylinder/Piston Assembly Service Procedures" to remove the Air Cylinder/Piston Assembly.

5 | Once the Air Cylinder/Piston Assembly is removed, remove the Thumbnut (D510) on the underside of the Carrier (D501). *(See diagram 49D)*

6 | Lift the Mix Cartridge (D603) off from the Carrier (D501).

7 | Using a Port Cleaning Pick (A1009) or a paper clip clean any debris from each small port on the sides of the Mix Cartridge. *(See diagram 49A)*

8 | Holding the Mix Cartridge vertically with the threaded opening on the front of the Mix Cartridge pointed straight up, pour some solvent into the threaded opening in the front of the Mix Cartridge. This should rinse the inside of the Mix Cartridge, and solvent should exit the ports. *(See diagram 49B)*

9 | Check the ports again and make sure they are clean.

10 | Do not remove or adjust ports or damage to the mix cartridge will result.

CHEMICAL FLOW SYSTEM

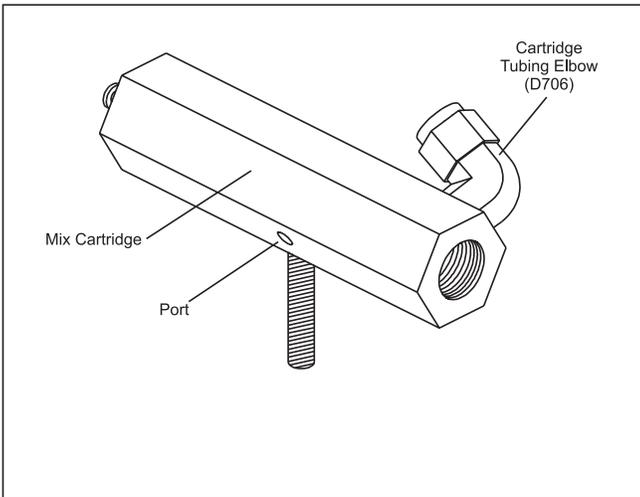


Diagram 49A

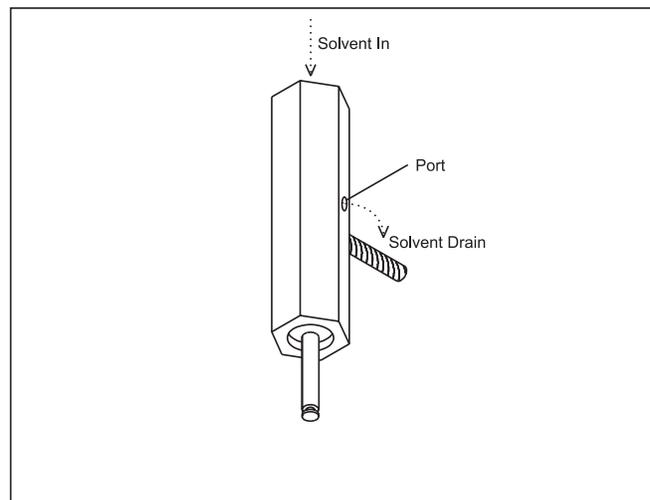


Diagram 49B

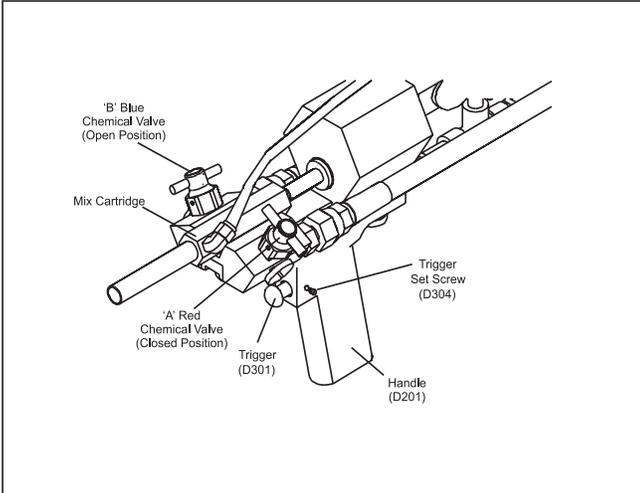


Diagram 49C

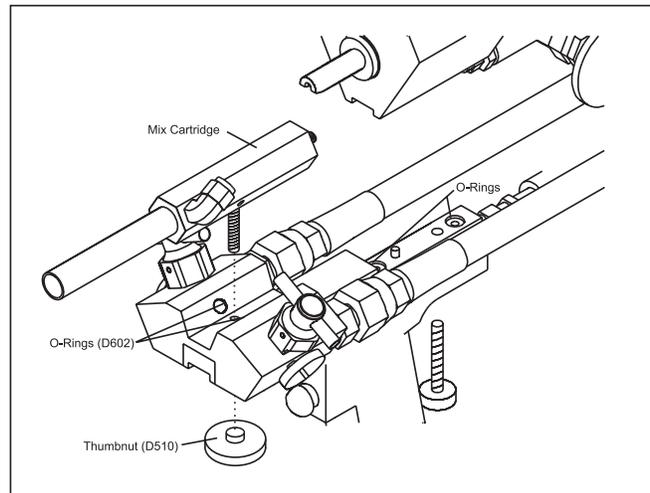


Diagram 49D

MAINTENANCE | SERVICE

3.2

3.2.6 (cont.)

Mix Cartridge Removal and Cleaning (D603 or Optional Cartridge)

11 | Remove the two small O Rings (D602) on the Carrier (D501).
(See diagram 51A)

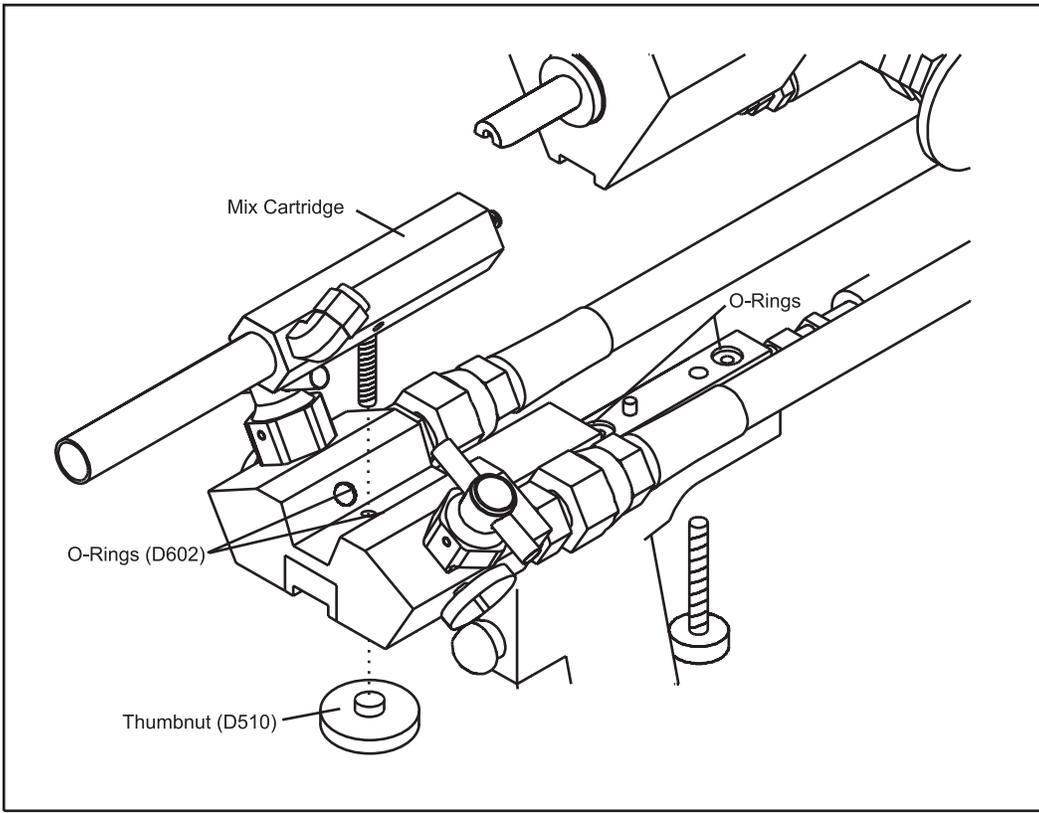
12 | Clean the surfaces of the Carrier (D501) where it comes into contact with the Mix Cartridge.

13 | Replace the two small O Rings (D602) on the Carrier (D501).
(See diagram 51A)

14 | Place the Mix Cartridge back onto the Carrier, and tighten it down using the Thumbnut (D510), turn 1/4-turn past hand-tight.

15 | Re-install the Air Cylinder/Piston Assembly as detailed in Steps 18 through 21 in the section "Air Cylinder/Piston Assembly Service Procedure". You may have to manually move the Connecting Rod (D405) so that it will be correctly positioned to attach to the center rod in the Carrier (D501).

Diagram **51A**



SHUTDOWN

4.0

One of the unique features of the Foampro F1000 is that it can be shut down for storage without disconnecting or flushing the chemical hoses or the dispensing gun itself.

4.1

Shutdown Procedure

The Foampro F1000 should be shutdown as follows:

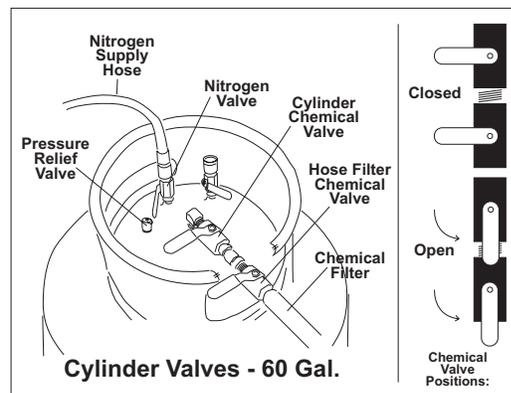
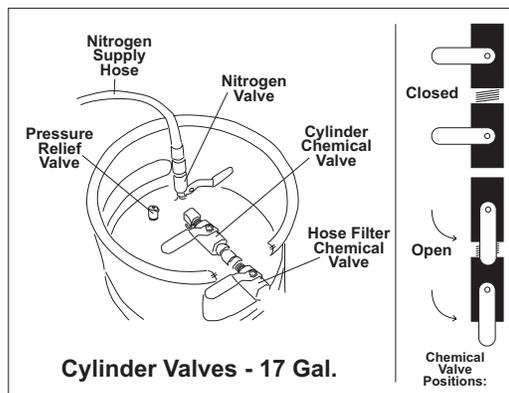
Be sure that all valves are closed. *(See diagrams for valve locations)* This would include:

- 1 | The valve on top of the nitrogen cylinder
- 2 | The nitrogen valve on top of both chemical cylinders ("A" Chemical and "B" Chemical) *(See diagrams 52A & 52B)*
- 3 | The chemical valve on top of both chemical cylinders ("A" chemical and "B" chemical) *(See diagrams 52A & 52B)*
- 4 | The Chemical valve on the filter end of both the red "A" component hose and the blue "B" component hose. *(See diagrams 52A & 52B)*
- 5 | Both the red chemical valve and the blue chemical valve on the F1000 dispenser *(See diagram 53A)*
- 6 | Remove plastic nozzle from the F1000 dispenser, and clean any buildup of product from the threads in the Mix Cartridge.
- 7 | Holding the F1000 dispenser so that the opening in the Mix Cartridge is pointing up, place a few drops of solvent inside the threaded area, then thread the Mix Cartridge plug (D620) into the end of the Mix Cartridge and tighten. The Foampro F1000 Dispenser System is now ready for storage.

The unit can be stored with the hoses connected to the chemical cylinders. If it is desired to remove the hoses from the chemical cylinders, do the following:

Diagram 52A
(Left)

Diagram 52B
(Right)



Note: It is not necessary to flush the hoses or empty them prior to storage.

- 1 | Complete the shutdown procedure detailed in Steps 1 through 7 above.
- 2 | Place a paper towel beneath the connection of the Hose Filter valve and the Chemical Outlet valve on the "A" chemical cylinder.
- 3 | Disconnect the Hose Filter from the chemical cylinder.
- 4 | Replace the cap on the chemical outlet valve on the chemical cylinder, and replace the plug in the end of the Hose Filter.
- 5 | Place a paper towel beneath the connection of the Hose Filter valve and the Chemical Outlet valve on the "B" chemical cylinder.
- 6 | Disconnect the Hose Filter from the chemical cylinder.
- 7 | Replace the plug in the chemical outlet valve on the chemical cylinder, and replace the cap on the end of the Hose Filter.

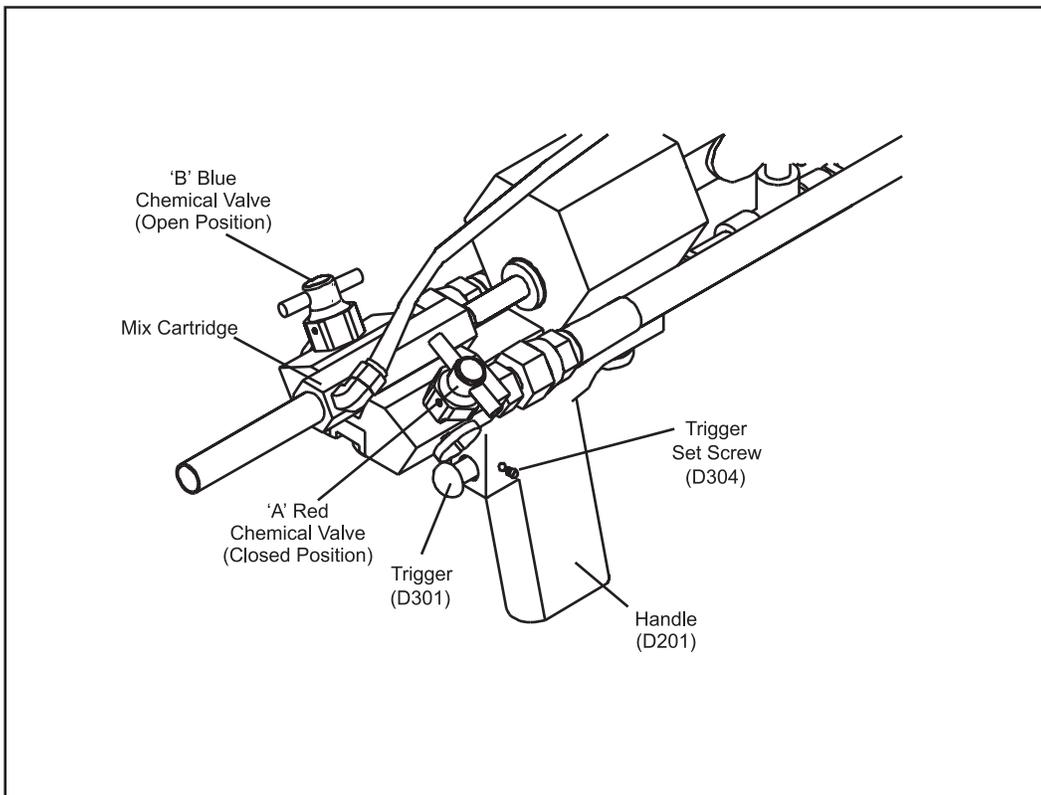


Diagram **53A**

TROUBLESHOOTING

5.0

From time to time the performance of the F1000 may vary from the optimum or the foam produced not meet the desired characteristics. Below is a list of symptoms and a series of checks to restore proper performance. (Page number references follow procedures).

- 1 | Gun doesn't activate; mixing cartridge rod does not move when the trigger is pulled:
 - Make sure the compressed air line is correctly connected and pressurized (2)
 - Check operation of air cylinder piston assembly (46)
 - Check operation of mixing cartridge (46)

- 2 | Chemicals are not dispensing, but gun is activating (mixing cartridge rod moves when trigger is pulled):
 - Make sure mixing cartridge is not plugged (48)
 - Make sure nozzle is not plugged (10, 11)
 - Make sure valves on chemical tanks and hose end filter are open (10, 11)
 - Make sure red and blue chemical valves on gun are open (10, 11)
 - Make sure nitrogen pressure is on (10, 11)
 - Check filter on gun for blockage (42)
 - Check mixing cartridge orifices for blockage (48)

- 3 | Cannot reach proper A:B chemical ratio calibration:
 - Make sure chemical valves on gun and chemical tanks are open (10, 11)
 - Make sure nitrogen is connected properly (8)
 - Make sure nitrogen valve on both "A" and "B" chemical tanks are open (10, 11)
 - Make sure proper procedure for calibration is followed (12)
 - Check for blockages in chemical flow:
 - Filter under gun (42)
 - Mixing cartridge (48)
 - Check valve assembly (44)

- 4 | Pressure relief valve on chemical tank is venting pressure:
 - Reduce nitrogen pressure on chemical tank (14, 16)

- 5 | Foam dispensed doesn't "look right":
 - Foam is sticky, spongy or is shrinking over time - check A:B ratio calibration. Usually this is caused by an excess of "B" component. (12)

 - Foam is brittle or crunchy - check A:B ratio calibration. Usually this is caused by an excess of "A" component. (12)

Assembly		Description
HANDLE	D200	Handle, Fully Assembled
	D201	FP100A handle
	D202	1/8" air fitting
	D301	Trigger
	D302	Trigger Spring
	D303	Trigger O Ring
	D304	Trigger Set Screw
	D291	Handle Cover Plate
AIR CYLINDER	D400	Air Cylinder, Assembled
	D401	Cylinder Body
	D402	Piston
	D403	Set Screw
	D404	Piston O Ring
	D405	Connecting Rod
	D406	Bushing
	D407	Inside Bushing O Ring
	D408	Outside Bushing O Ring
	D409	Bushing C Clip
	D410	Back Plate
	D411	Back Plate O Ring
	D412	Back Plate C Clip
	D413	Thumbscrew
	D414	Cylinder- Handle O Ring
	D415	Air Cylinder Repair Kit
Service Parts Service Parts	D416	Bushing Repair Kit
	D602	O Ring
CARRIER	D500	Carrier (Assembled)
	D501	Carrier Body
	D502	Attachment Screw
	D503R	Red "A" Valve Unit
	D503B	Blue "B" Valve Unit
	D504	Filter Screen
	D505	Filter Plug
	D506	Filter Plug O Ring
	D507	Hose Connector
	D508	Check Spring
	D509	Check Ball
	D510	Thumbnut
	Service Part Service Part	D511
D513		Valve Pin Stop

PARTS LIST

6.0

MIX CARTRIDGE

D603	Mix Cartridge, Standard Output
D620	1/4" Plug

AIR INJECTION

D701	1/8" Air Injection Tee
D702	1/8" Elbow
D703	Needle Valve
D704	Air On-Off Valve
D705	1/8" air nipple
D706	Cartridge Tubing Elbow
D707	1/8" Tubing Adaptor
D708	1/4" plastic tubing

HOSE SYSTEM

H806	Filter Unit
H807	1/2" Valve
H811	20 Ft Hose Bundle, 3/8"
H870	Hose End Plug
H871	Hose End Cap

REGULATOR SYSTEM

R900	Regulator System, Fully Assembled
R905	Pressure Relief Valve
R906	4000 PSI Gauge
R907	300 PSI Gauge
R908R	10 Ft. Nitrogen Hose, Red
R908B	10 Ft. Nitrogen Hose, Blue