



RTF1000

Installation

and

Operating

Manual

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“Polyurethanes are all around us, playing a vital role in many industries - from ship building to footwear; construction to cars. They appear in an astonishing variety of forms, a variety that is continuously increasing.” Polyurethanes can be manufactured with an extremely wide range of properties and polymer stiffnesses from very flexible elastomers to rigid, hard plastics.

All polyurethanes are based on the exothermic (heat releasing) reaction of polyisocyanate “A” with hydroxy (-OH) terminated poly “B” molecules. When an iso “A” molecule meets a poly “B” molecule they bond chemically to make a new compound, a urethane. In practice, the iso “A” and poly “B” molecules are actually relatively long molecules with more than a single place where bonding can occur. This allows crosslinking, or molecules bonded together at several places, yielding a stronger final product.

Along with the iso “A” and poly “B” molecules are other types of chemical additives performing different functions. Blowing agents are molecules that utilize the heat generated in the reaction by boiling. Surfactants are cell makers, similar to soaps, trapping the vaporized blowing agents. Catalysts are additives that help control the rate of the reaction, allowing it to be tuned for specific applications.

These characteristics, tunability and durability, contribute to polyurethanes' wide acceptance. The applications are as varied as the industries served: housing, automotive, manufacturing, aerospace and construction. From insulation to adhesives and sealants, polyurethanes have made their mark and are continuing to find applications in almost all of man's endeavours.

RTF1000

Introduction

The FOAMPRO® RTF1000 is designed for quick setup, ease of use and minimal maintenance. A complete FOAMPRO® RTF1000 system includes:

- Installation and Operating Manual.
- Troubleshooting Placard.
- RTF1000 dispenser.
- Pressure gauge/regulator assembly.
- Red "A" hose assembly.
- Blue "B" hose assembly.
- Calibration Scale.
- Replacement Parts Kit.



Shown are the RTF1000 dispenser, the replacement parts kit, the calibration scale and some paper cups used for checking the A/B ratio.



Above is the nitrogen bottle gauge and valve manifold with supply hoses.

- Chemical temperature should be maintained at 70 to 90 °F. Ambient temperature should be a minimum of 45 °F. Substrate and/or roofing component surface should be a minimum of 55 °F.

- Lay out the dispenser/timer/hose assembly.

- Place the chemical cylinders in a position where the hoses can be connected without strain.

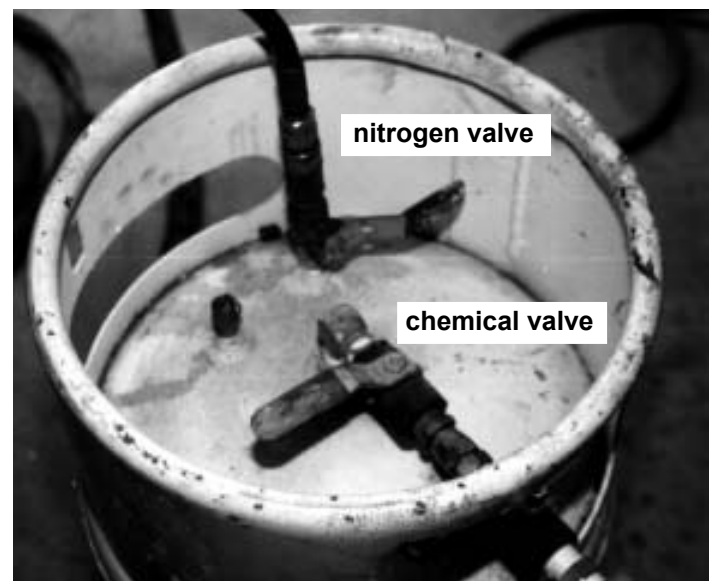
CAUTION: BE SURE THAT ALL CYLINDER VALVES AND HOSE VALVES ARE CLOSED BEFORE CONNECTING OR DISCONNECTING HOSES AND CYLINDERS!

- Remove the plugs and caps from hoses and cylinders. **KEEP THE CAPS AND PLUGS WHERE THEY CAN BE REFITTED TO THE CYLINDERS AND HOSES!** Connect the RED hose assembly to the “A” cylinder. Connect the BLUE hose assembly to the “B” cylinder. The “A” cylinder has a MALE fitting and the “B” cylinder has a FEMALE fitting.

- Place the nitrogen bottle in a convenient location near the chemical cylinders, and secure to suitable support. Connect the nitrogen regulator assembly to the cylinder. The “A” regulator is on the left, facing the gauges, and the “B” regulator is on the right. Connect the RED-marked “A” hose to the fitting on the “A” cylinder. Connect the BLUE-marked “B” hose to the fitting on the “B” cylinder.

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

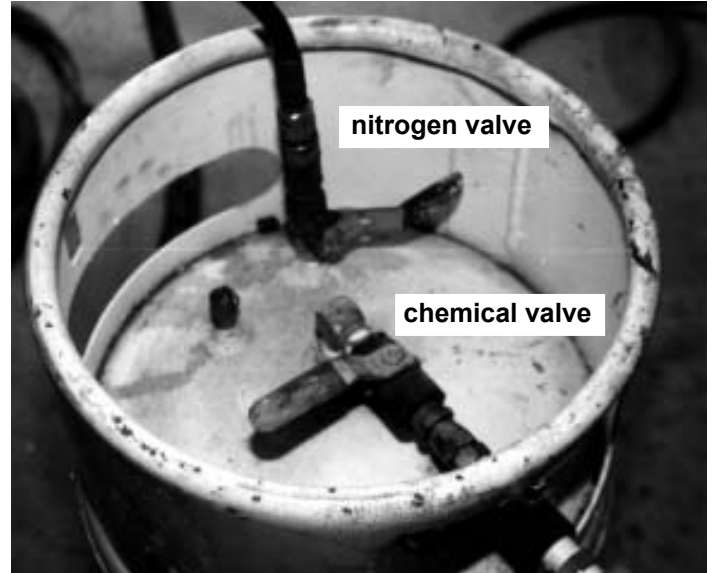
- Recheck all hose connections!



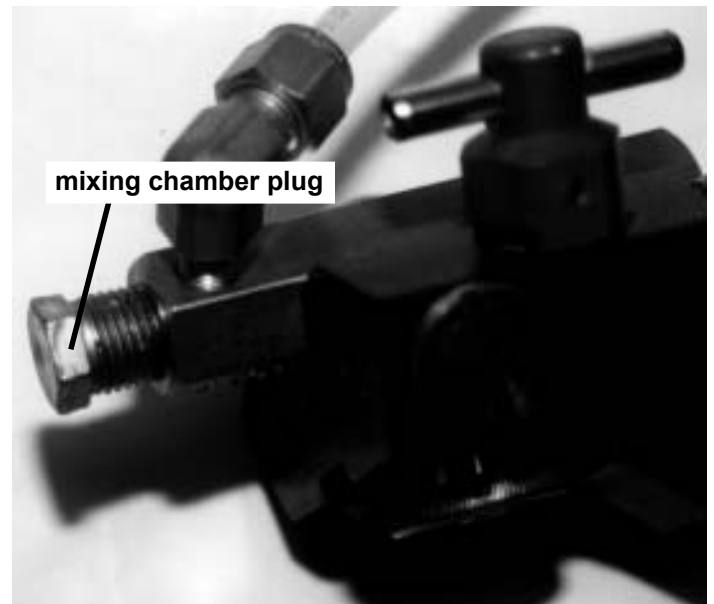
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Startup

- Be sure that all valves are closed.
- Turn on supply air to the dispenser and check for leaks. Trigger the dispenser several times to be sure that it operates properly.
- Open the valve on the nitrogen bottle, and check for leaks.
- Adjust the “A” regulator to 170 psi.
- Adjust the “B” regulator to 130 psi.
- Open the nitrogen valves to both chemical cylinders marked “A” and “B”. Check for leaks.
- Open the chemical valves to both chemical cylinders marked “A” and “B”. Check for leaks.
- Open the chemical valves on “A” and “B” cylinders to the hose assembly. Check for leaks.
- Position a garbage can with a plastic liner at the work area.
- Remove mixing chamber plug on dispenser.
- Open the red and blue valves on the dispenser.
- Trigger the dispenser into the trash can liner for 3 seconds. (New equipment startup requires dispensing for 30 seconds to remove air in system.)

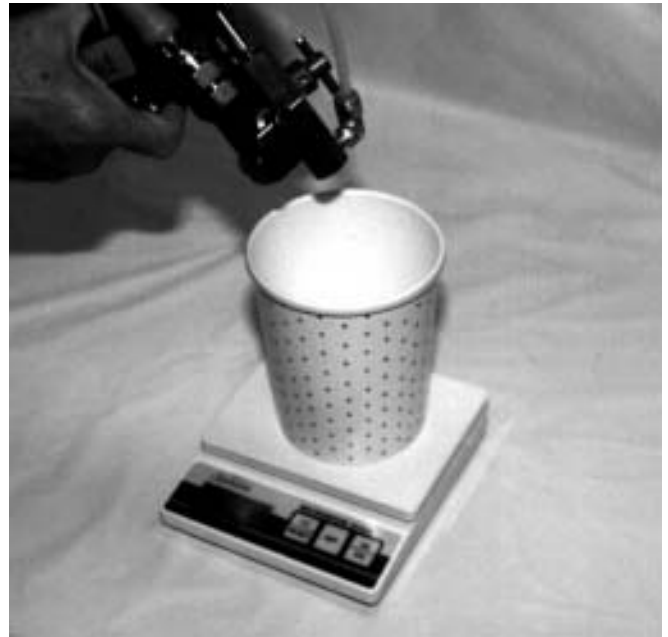


Above is a typical cylinder showing the nitrogen supply valve and the chemical supply valve locations. In this photo both valves are in the closed position.



Remove the mixing chamber plug on the dispenser.

- Make sure that the chemicals are at the proper operating temperature (70 to 90 °F).
- Make sure that the chemical cylinders are at the proper operating pressures (130 to 170 psi).
- Weigh and tare (or record) the empty weight of a 32 oz. paper cup or a paper bag using the scale.
- After checking that both valves on the dispenser are closed, open the “A” valve only.
- Using a stopwatch or clock, dispense for a period (usually 3 seconds) into the paper bag.
- Open the “B” valve and dispense both “A” and “B” to purge mix chamber orifices by activating dispenser while holding trigger. **PURGING IS CRITICAL TO AVOID PLUGGING!** This action causes the dispenser to activate and deactivate momentarily.
- Close the “A” valve in the dispenser.
- Again, weigh the paper bag and record the “A” weight.
- Repeat this procedure for the “B” valve only, weighing, dispensing, purging and weighing again as before.
- The proper chemical mix ratio should be maintained at 1.0 to 1.15 parts “A” to 1.00 parts “B” by weight (see “Ratio Calculation”).
- If the mix ratio is not within this range, increase or decrease the “B” chemical pressure 5 psi. Calibrate once more. If the system is still off-ratio, continue varying the cylinder pressure until the proper mix ratio is attained.
- Calculate “A”/”B” ratio.



With only the “A” valve open, dispense a brief timed shot into a paper cup or bag. Then repeat the procedure for the “B” component.



Vary the chemical cylinder pressure in 5 psi increments until the desired ratio is achieved.

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Ratio Calculation

Below are a few examples illustrating how the chemical ("A"/"B") ratio is calculated.

Example #1:

"A", 170 psi, 3 secs. = 41 gm.
"B", 130 psi, 3 secs. = 33 gm.
 $41 / 33 = 1.24$ "A"/"B" ratio
Too much "A"

$$\begin{array}{ccc} \boxed{41} & \div & \boxed{33} = 1.24 \\ \text{Grams of "A"} & & \text{Grams of "B"} \quad \text{"A"/"B" Ratio} \end{array}$$

Example #2:

"A", 170 psi, 3 secs. = 41 gm.
"B", 135 psi, 3 secs. = 35 gm.
 $41 / 35 = 1.17$ "A"/"B" ratio
Too much "A"

$$\begin{array}{ccc} \boxed{41} & \div & \boxed{35} = 1.17 \\ \text{Grams of "A"} & & \text{Grams of "B"} \quad \text{"A"/"B" Ratio} \end{array}$$

Example #3:

"A", 170 psi, 3 secs. = 41 gm.
"B", 140 psi, 3 secs. = 39 gm.
 $41 / 39 = 1.05$ "A"/"B" ratio
System is in ratio and ready to dispense material.

$$\begin{array}{ccc} \boxed{41} & \div & \boxed{39} = 1.05 \\ \text{Grams of "A"} & & \text{Grams of "B"} \quad \text{"A"/"B" Ratio} \end{array}$$

CALCULATING THROUGHPUT FOR TIMER: (Using figures from Example #3 above)

Total material in 3 secs.:
 $41 + 39 = 80$ gm.

Total material in 1 sec.:
 $80 / 3 = 26.67$ gm.

Convert to pounds by dividing by 453.6:
 $26.67 / 453.6 = .058$ pounds per sec.

Product approval requires 0.10 - 0.13 pounds per tile.*

Dividing 0.10 by 0.058 = 1.7 secs.
Set timer for 1.7 secs. for 0.10 lbs. per tile.

*It may be necessary to increase the quantity of adhesive in low temperature applications. Product approval requires a cured pad of 5 inches by 12 inches which results in a minimum of 20 squared inches contact with the tile.

Ratio Calibration Chart

Ratio Calibration Chart

Note: Below is a chart which will predetermine the 3-second shot weight of the 'B' Chemical once you have weighed a 3-second shot weight of the 'A' Chemical. The pressure for the 'A' Chemical should be set at 170 psi. Set the 'B' pressure at 130 psi. Adjust the 'B' pressure up or down to keep the number within the range on the chart. If the pressure changes don't accomplish this, check and/or clean the filters and orifices in the Foampro® dispenser.

(Weights are in grams)

If the Weight of 3 Seconds of 'A' Chemical is:	The 3-second shot 'B' Chemical must weigh between:		If the Weight of 3 Seconds of 'A' Chemical is:	The 3-second shot 'B' Chemical must weigh between:
25	22 - 25		51	45 - 51
26	23 - 26		52	46 - 52
27	24 - 27		53	46 - 53
28	25 - 28		54	47 - 54
29	26 - 29		55	48 - 55
30	26 - 30		56	49 - 56
31	27 - 31		57	50 - 57
32	28 - 32		58	51 - 58
33	29 - 33		59	52 - 59
34	30 - 34		60	52 - 60
35	31 - 35		61	53 - 61
36	32 - 36		62	54 - 62
37	33 - 37		63	55 - 63
38	33 - 38		64	56 - 64
39	34 - 39		65	57 - 65
40	35 - 40		66	58 - 66
41	36 - 41		67	59 - 67
42	37 - 42		68	59 - 68
43	38 - 43		69	60 - 69
44	39 - 44		70	61 - 70
45	39 - 45		71	62 - 71
46	40 - 46		72	63 - 72
47	41 - 47		73	64 - 73
48	42 - 48		74	65 - 74
49	43 - 49		75	66 - 75
50	44 - 50		76	66 - 76

RTF1000

Timer Settings

TIMER SETTINGS

(IN SECONDS)

Total A & B Material Shot in 3 seconds	POUNDS PER TILE									
	Spanish 'S' Clay & Concrete Tile, 9" Flat, Rustic Flat, Sm. Flat Tile		Two Piece Barrel Clay & Concrete Tile		Shake & Slate, Skandia, Nordic Flat, Lg. Flat Tile, Rustic Shake & Slate		Villa, Roll tile, Hacienda, Estate, Palema, Capri, & Wave Tile		Mission 'S', Regal & Espana	
	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
39	2.1	2.4	2.8	3.1	3.5	3.8	4.2	4.5	4.9	5.2
40	2.0	2.4	2.7	3.1	3.4	3.7	4.1	4.1	4.8	5.1
41	2.0	2.3	2.7	3.0	3.3	3.7	4.0	4.0	4.7	5.0
42	1.9	2.3	2.6	2.9	3.2	3.6	3.9	3.9	4.5	4.9
43	1.9	2.2	2.5	2.9	3.2	3.5	3.8	3.8	4.4	4.8
44	1.9	2.2	2.5	2.8	3.1	3.4	3.7	3.7	4.3	4.6
45	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.6	4.2	4.5
46	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.6	4.1	4.4
47	1.7	2.0	2.3	2.6	2.9	3.2	3.5	3.5	4.1	4.3
48	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.4	4.0	4.3
49	1.7	1.9	2.2	2.5	2.8	3.1	3.3	3.3	3.9	4.2
50	1.6	1.9	2.2	2.5	2.7	3.0	3.3	3.3	3.8	4.1
51	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.2	3.7	4.0
52	1.6	1.8	2.1	2.4	2.6	2.9	3.1	3.1	3.7	3.9
53	1.5	1.8	2.1	2.3	2.6	2.8	3.1	3.1	3.6	3.9
54	1.5	1.8	2.0	2.3	2.5	2.8	3.0	3.0	3.5	3.8
55	1.5	1.7	2.0	2.2	2.5	2.7	3.0	3.0	3.5	3.7
56	1.5	1.7	1.9	2.2	2.4	2.7	2.9	2.9	3.4	3.7
57	1.4	1.7	1.9	2.2	2.4	2.6	2.9	2.9	3.3	3.6
58	1.4	1.6	1.9	2.1	2.4	2.6	2.8	2.8	3.3	3.5
59	1.4	1.6	1.9	2.1	2.3	2.5	2.8	2.8	3.2	3.5
60	1.4	1.6	1.8	2.0	2.3	2.5	2.7	2.7	3.2	3.4
61	1.3	1.6	1.8	2.0	2.2	2.5	2.7	2.7	3.1	3.4
62	1.3	1.5	1.8	2.0	2.2	2.4	2.6	2.6	3.1	3.3
63	1.3	1.5	1.7	1.9	2.2	2.4	2.6	2.6	3.0	3.2
64	1.3	1.5	1.7	1.9	2.1	2.3	2.6	2.6	3.0	3.2
65	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.5	2.9	3.1
66	1.2	1.4	1.7	1.9	2.1	2.3	2.5	2.5	2.9	3.1
67	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.4	2.8	3.1
68	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.4	2.8	3.0
69	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.4	2.8	3.0

Note: This chart is a quick reference chart for ambient temperatures of 80 degrees and higher. At lower temperatures it may be necessary to increase the timer setting higher as indicated in the chart due to an increase in foam density. Insure 17 to 23 sq. in. of adhesive is in contact with the tile.

Timer Settings (cont.)

TIMER SETTINGS (IN SECONDS)

Total A & B Material Shot in 3 seconds	POUNDS PER TILE									
	Spanish 'S' Clay & Concrete Tile, 9" Flat, Rustic Flat. Sm. Flat Tile		Two Piece Barrel Clay & Concrete Tile		Shake & Slate, Skandia, Nordic Flat, Lg. Flat Tile, Rustic Shake & Slate		Villa, Roll tile, Hacienda, Estate, Palema, Capri, & Wave Tile		Mission 'S', Regal & Espania	
	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
70	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.5	2.7	2.9
71	1.2	1.3	1.5	1.7	1.9	2.1	2.3	2.3	2.7	2.9
72	1.1	1.3	1.5	1.7	1.9	2.1	2.3	2.3	2.7	2.8
73	1.1	1.3	1.5	1.7	1.9	2.1	2.2	2.2	2.6	2.8
74	1.1	1.3	1.5	1.7	1.8	2.0	2.2	2.2	2.6	2.8
75	1.1	1.3	1.5	1.6	1.8	2.0	2.2	2.2	2.5	2.7
76	1.1	1.3	1.4	1.6	1.8	2.0	2.2	2.2	2.5	2.7
77	1.1	1.2	1.4	1.6	1.8	1.9	2.1	2.1	2.5	2.7
78	1.1	1.2	1.4	1.6	1.7	1.9	2.1	2.1	2.4	2.6
79	1.0	1.2	1.4	1.6	1.7	1.9	2.1	2.1	2.4	2.6
80	1.0	1.2	1.4	1.5	1.7	1.9	2.0	2.0	2.4	2.6
81	1.0	1.2	1.3	1.5	1.7	1.9	2.0	2.0	2.4	2.5
82	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.0	2.3	2.5
83	1.0	1.2	1.3	1.5	1.6	1.8	2.0	2.0	2.3	2.5
84	1.0	1.1	1.3	1.5	1.6	1.8	1.9	1.9	2.3	2.4
85	1.0	1.1	1.3	1.4	1.6	1.8	1.9	1.9	2.2	2.4
86	1.0	1.1	1.3	1.4	1.6	1.7	1.9	1.9	2.2	2.4
87	0.9	1.1	1.3	1.4	1.6	1.7	1.9	1.9	2.2	2.4
88	0.9	1.1	1.2	1.4	1.6	1.7	1.9	1.9	2.2	2.3
89	0.9	1.1	1.2	1.4	1.5	1.7	1.8	1.8	2.1	2.3
90	0.9	1.1	1.2	1.4	1.5	1.7	1.8	1.8	2.1	2.3
91	0.9	1.1	1.2	1.4	1.5	1.6	1.8	1.8	2.1	2.2
92	0.9	1.0	1.2	1.3	1.5	1.6	1.8	1.8	2.1	2.2
93	0.9	1.0	1.2	1.3	1.5	1.6	1.8	1.8	2.1	2.2
94	0.9	1.0	1.2	1.3	1.5	1.6	1.7	1.7	2.0	2.2
95	0.9	1.0	1.2	1.3	1.4	1.6	1.7	1.7	2.0	2.2
96	0.9	1.0	1.1	1.3	1.4	1.6	1.7	1.7	2.0	2.1
97	0.8	1.0	1.1	1.3	1.4	1.5	1.7	1.7	2.0	2.1
98	0.8	1.0	1.1	1.3	1.4	1.5	1.7	1.7	1.9	2.1
99	0.8	1.0	1.1	1.2	1.4	1.5	1.7	1.7	1.9	2.1
100	0.8	1.0	1.1	1.2	1.4	1.5	1.6	1.6	1.9	2.0

Note: This chart is a quick reference chart for ambient temperatures of 80 degrees and higher.
At lower temperatures it may be necessary to increase the timer setting higher as indicated in the chart due to an increase in foam density. Insure 17 to 23 sq. in. of adhesive is in contact with the tile.

RTF1000

Timer Settings (cont.)

TIMER SETTINGS

(IN SECONDS)

Total A & B Material Shot in 3 seconds	POUNDS PER TILE									
	Spanish 'S' Clay & Concrete Tile, 9" Flat, Rustic Flat. Sm. Flat Tile		Two Piece Barrel Clay & Concrete Tile		Shake & Slate, Skandia, Nordic Flat, Lg. Flat Tile, Rustic Shake & Slate		Villa, Roll tile, Hacienda, Estate, Palema, Capri, & WaveTile		Mission 'S', Regal & Espania	
	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
101	0.8	0.9	1.1	1.2	1.4	1.5	1.6	1.8	1.9	2.0
102	0.8	0.9	1.1	1.2	1.3	1.5	1.6	1.7	1.9	2.0
103	0.8	0.9	1.1	1.2	1.3	1.5	1.6	1.7	1.9	2.0
104	0.8	0.9	1.1	1.2	1.3	1.4	1.6	1.7	1.8	2.0
105	0.8	0.9	1.0	1.2	1.3	1.4	1.6	1.7	1.8	1.9
106	0.8	0.9	1.0	1.2	1.3	1.4	1.5	1.7	1.8	1.9
107	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.7	1.8	1.9
108	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.6	1.8	1.9
109	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.6	1.8	1.9
110	0.7	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.9
111	0.7	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7	1.8
112	0.7	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7	1.8
113	0.7	0.8	1.0	1.1	1.2	1.3	1.5	1.6	1.7	1.8
114	0.7	0.8	1.0	1.1	1.2	1.3	1.4	1.6	1.7	1.8
115	0.7	0.8	1.0	1.1	1.2	1.3	1.4	1.5	1.7	1.8
116	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.8
117	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6	1.7
118	0.7	0.8	0.9	1.0	1.2	1.3	1.4	1.5	1.6	1.7
119	0.7	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.6	1.7
120	0.7	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.6	1.7
121	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.7
122	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7
123	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.6	1.7
124	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.7
125	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
126	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
127	0.6	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
128	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
129	0.6	0.7	0.8	1.0	1.1	1.2	1.3	1.4	1.5	1.6
130	0.6	0.7	0.8	0.9	1.1	1.2	1.3	1.4	1.5	1.6

Note: This chart is a quick reference chart for ambient temperatures of 80 degrees and higher. At lower temperatures it may be necessary to increase the timer setting higher as indicated in the chart due to an increase in foam density. Insure 17 to 23 sq. in. of adhesive is in contact with the tile.

Timer Settings (cont.)

TIMER SETTINGS

(IN SECONDS)

Total A & B Material Shot in 3 seconds	POUNDS PER TILE									
	Spanish 'S' Clay & Concrete Tile, 9" Flat, Rustic Flat, Sm. Flat Tile		Two Piece Barrel Clay & Concrete Tile		Shake & Slate, Skandia, Nordic Flat, Lg. Flat Tile, Rustic Shake & Slate		Villa, Roll tile, Hacienda, Estate, Palema, Capri, & WaveTile		Mission 'S', Regal & Espania	
	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
131	0.6	0.7	0.8	0.9	1.0	1.1	1.3	1.4	1.5	1.6
132	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.6
133	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
134	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
135	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
136	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
137	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
138	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
139	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
140	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
141	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.4	1.5
142	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.2	1.3	1.4
143	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.1	1.3	1.4
144	0.6	0.7	0.8	0.9	1.0	1.0	1.1	1.1	1.3	1.4
145	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.3	1.4
146	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.3	1.4
147	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.1	1.3	1.4
148	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.3	1.4
149	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.3	1.4
150	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.3	1.4
151	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.3	1.4
152	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.3	1.3
153	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.3	1.3
154	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
155	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
156	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3
157	0.5	0.6	0.7	0.8	0.9	1.0	1.0	1.0	1.2	1.3
158	0.5	0.6	0.7	0.8	0.9	1.0	1.0	1.0	1.2	1.3
159	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.0	1.2	1.3
160	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.0	1.2	1.3
161	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.0	1.2	1.3

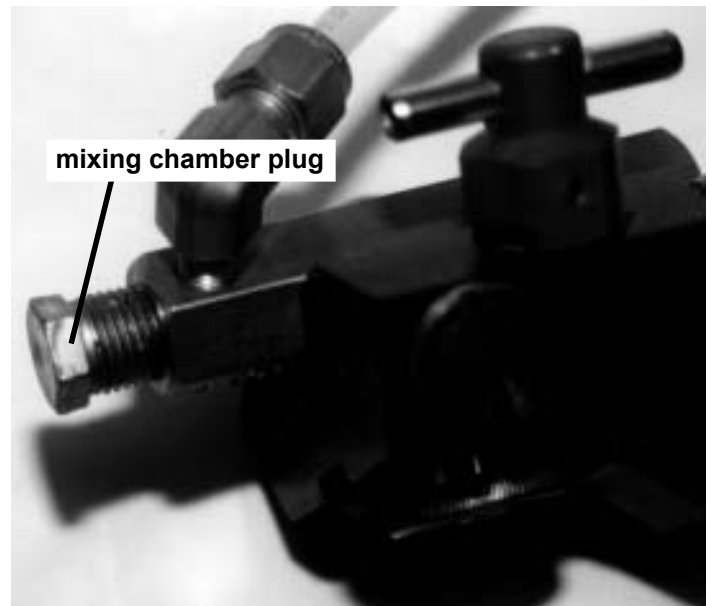
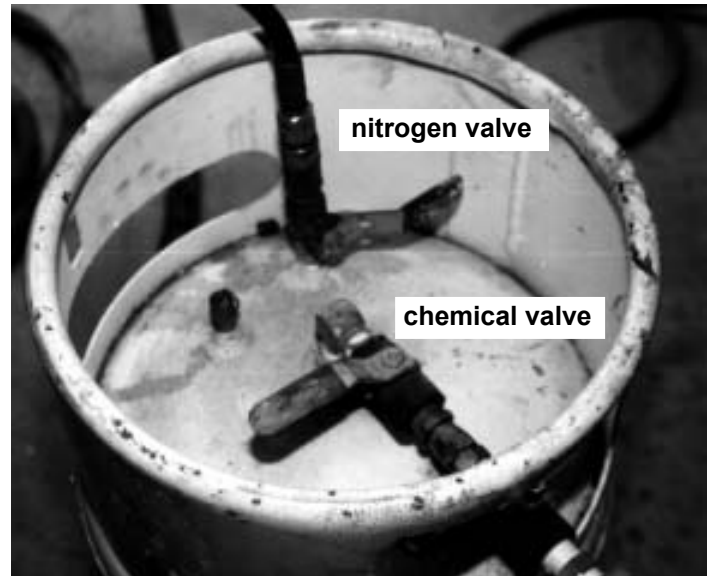
Note: This chart is a quick reference chart for ambient temperatures of 80 degrees and higher. At lower temperatures it may be necessary to increase the timer setting higher as indicated in the chart due to an increase in foam density. Insure 17 to 23 sq. in. of adhesive is in contact with the tile.

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Shutdown and Storage

- Close all chemical valves.
- Close nitrogen valves and nitrogen cylinder valve.
- Remove plastic mix nozzle and place in jar of solvent.
- Fill threaded cartridge area with solvent and re-install storage plug.

DO NOT ATTEMPT TO FLUSH MATERIAL HOSES.
IT IS NOT NECESSARY.



Changing Cylinders

- When a cylinder becomes empty, the dispenser will begin to spray a mixture of chemical and nitrogen, similar to running out of product in an aerosol paint dispenser. When this happens, shut off all valves on the dispenser and cylinders.

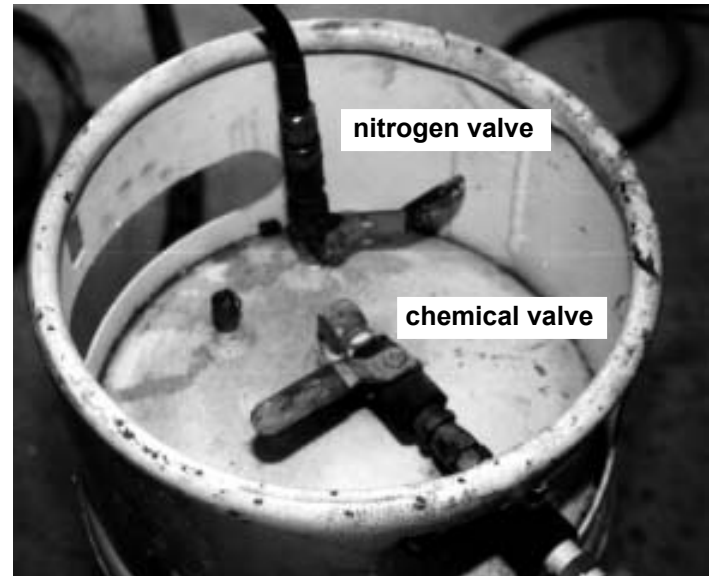
- Turn off:
 - Dispenser valves (red and blue)
 - Nitrogen tank
 - Chemical valves on the cylinders
 - Chemical valves on the hoses
 - Nitrogen valves on the cylinders

CAUTION: SAFETY GLASSES, GLOVES AND PROTECTIVE CLOTHING SHOULD BE WORN WHENEVER CYLINDER HOSES ARE CONNECTED AND DISCONNECTED!

- Disconnect the nitrogen hoses from the cylinders by removing the quick-disconnect couplings.
- Be sure all the valves are closed!
- Place a paper towel under each cylinder-to-hose assembly swivel fitting, and CAREFULLY unscrew the fitting. Replace the safety cap ("A" cylinder) and safety plug ("B" cylinder) IMMEDIATELY.

SAFETY CAUTION: THE SAFETY CAPS AND PLUGS ON THE CYLINDERS ARE CRITICAL TO PREVENTING A CHEMICAL SPILL IF A VALVE IS ACCIDENTALLY OPENED! CYLINDERS MUST HAVE CAPS AND PLUGS INSTALLED BEFORE SHIPPING THEM BACK FOR REFILLING.

- Replace the empty cylinders with full ones. Be sure all valves are closed on the new cylinders.



Changing Cylinders (cont.)

- Remove the safety cap from the “A” cylinder. Connect the RED hose assembly to the “A” cylinder.
- Remove the safety plug from the “B” cylinder. Connect the BLUE hose assembly to the “B” cylinder.
- Attach the RED-marked “A” nitrogen hose to the “A” cylinder. Attach the BLUE-marked “B” nitrogen hose to the “B” cylinder.
- Follow normal start-up procedures and inspect for leaks.
- Replace cap and plug in empty cylinders.

Troubleshooting

CONDITION:

- Cured material is too soft, sponge-like feel:
- Cured material is too hard, brittle:
- Unable to ratio; not enough “A” component flow:
- Unable to ratio; not enough “B” component flow:

CAUSE / ACTION:

- Off ratio; not enough “A” component.
Check ratio.
- Off ratio; not enough “B” component.
Check ratio.
- Check for blockage in “A” filter chamber and “A” orifice in cartridge.
- Check for blockage in “A” filter chamber and “A” orifice in cartridge.

Mini-Timer

- Does not dispense when trigger depressed:
- Red power indicator light is not illuminated:
- Does not dispense in Auto selection when trigger is depressed and held:

- Timer must be in “Auto” or “Man” selection to activate.
- Timer must be in “Auto” or “Man” selection. If light is not on, check power supply. AC transformers must output 14 to 17 volts. DC operation is 12 to 14 volts.
- Depress trigger only briefly when in “Auto” mode for operation. Holding trigger is a safety default mode and will cancel shot.

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Maintenance

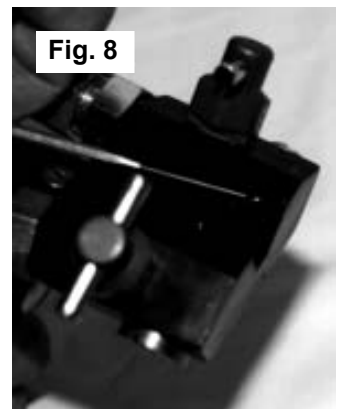
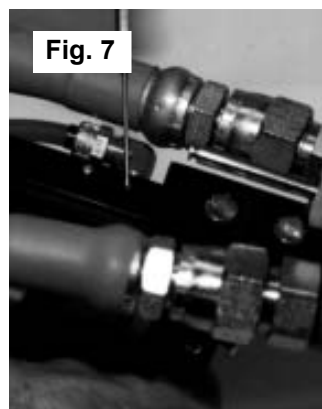
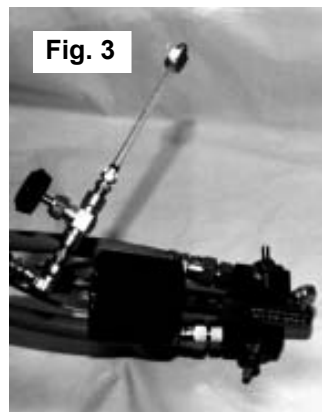
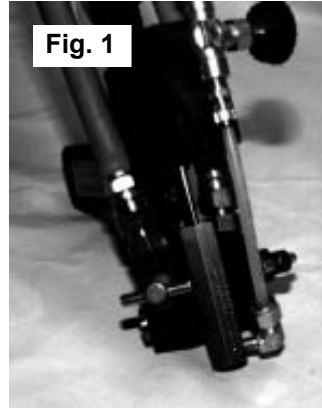
MIXING CARTRIDGE

- The mixing cartridge cannot be rebuilt.
- Do not remove orifices from the cartridge body.
- Do not remove the valve rod from the cartridge body.

MIXING CARTRIDGE CLEANING

Component orifices may be cleaned:

- Close material valves on product containers.
- Close the RED and BLUE plug valves on the gun carriage located to the sides of the cartridge.
- Activate the gun and disconnect the air supply allowing the unit to remain in the open or shot position (Fig. 1).
- Disconnect the air supply tubing to the cartridge (Fig. 2).
- Position cartridge air supply to facilitate removal of the air cylinder (Fig. 3).
- Remove air cylinder by removing thumb screw (Fig. 4).
- Remove cartridge by removing thumb wheel from cartridge stud (Fig. 5).
- Using foam pick in spare kit, clean orifices of any material (Fig. 6).
- Reassemble in reverse order. Be sure to observe and insure o-rings are in place under the cartridge and air cylinder during reassembly (Figs. 7 & 8).



Replacement Parts List

ASSEMBLY	PART DESCRIPTION	SUB-ASSY#	PTS REQD	PART #
DISPENSER		RTF100A		
TIMER HANDLE		D250		
	HANDLE(TIMER)		1	D251
	TRIGGER SWITCH		1	D270
	TRIGGER		1	D271
	TIMER CABLE		1	D260
	TRIGGER SPRING		1	D280
	TRIGGER STOP SCREW		1	D283
	1/8" NIPPLE		1	D273
	1/8" 90 DEG TUBE FITTING		1	D274
	HANDLE COVER PLATE		1	D291
AIR CYLINDER		D400		
	CYLINDER BODY		1	D401
	PISTON		1	D402
	SET SCREW		1	D403
	PISTON O-RINGS-224		2	D404
	CONNECTING ROD		1	D405
	BUSHING		1	D406
	INSIDE BUSHING O-RING-012		1	D407
	OUTSIDE BUSHING O-RING-014		1	D408
	BUSHING C-CLIP		1	D409
	BACK PLATE		1	D410
	BACK PLATE O-RING-032		1	D411
	BACK PLATE C-CLIP		1	D412
	THUMBSCREW		1	D413
	CYL/HANDLE O-RINGS-008		2	D414

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Replacement Parts List (cont.)

ASSEMBLY	PART DESCRIPTION	SUB-ASSY#	PTS REQD	PART #
CARRIER (ASSEMBLED)		D500		
	CARRIER BODY		1	D501
	ATTACH SCREWS		2	D502
	RED "A" VALVE UNIT		1	D503R
	BLUE "B" VALVE UNIT		1	D503B
	FILTER SCREENS		2	D504
	FILTER PLUGS		2	D505
	FILTER PLUG O-RING-012		2	D506
	HOSE CONNECTOR		2	D507
	CHECK SPRING		2	D508
	CHECK BALL		2	D509
	THUMBNUIT		1	D510
	VALVE O-RING KIT		1	D511
	VALVE SNAP RING		1	D512
CARTRIDGE				
	CARTRIDGE		1	D603L
	O-RINGS		2	D602
	1/4" PLUG		1	D620
AIR INJECTION				
	1/8" AIR MANIFOLD		1	D715
	1/8" ELBOW		1	D702
	NEEDLE VALVE		1	D703
	ON/OFF VALVE		1	D704
	1/8" NIPPLES		3	D705
	TUBING ELBOW (CARTRIDGE)		1	D706
	1/8" CHECK VALVE		1	D707
	1/4" TUBING		5 FT.	D708
	1/8" AIR TUBE COUPLING		1	D709
TIMER		RT750		
	TIMER CABLE (100')			RT755
	TIMER POWER SUPPLY (110V)			RT760
	TIMER POWER SUPPLY (12V)			RT765
	ELEC. CONNECTOR AMP FEMALE			A1098
	ELEC. CONNECTOR AMP MALE			A1099

Replacement Parts List (cont.)

ASSEMBLY	PART DESCRIPTION	SUB-ASSY#	PTS REQD	PART #
HOSE SYSTEM				
	MALE HOSE CONNECT		2	H804
	CLOSE NIPPLE 1/2"		4	H805
	FILTER UNIT		2	H806
	1/2" VALVE		2	H807
	FEMALE "A" TANK FITTING		1	H808
	MALE "B" TANK FITTING		1	H809
	HOSE FILTER SCREEN		1	H810
	SCUFF GUARD			H815
	3/8" HOSE EXTENSION SET (100 FT.)		2	H821
	1/2" HOSE EXTENSION SET (100 FT.)		2	H822
	RUBBER HOSE INSULATION			H825
QUICK CHANGE UNIT		H850		
	RED "A" HOSE		1	H855R
	BLUE "B" HOSE		1	H855B
	1/4" VALVE		2	H860
	1/4" X 1/2" MALE JIC		3	H862
	1/4" X 1/2" FEMALE JIC		1	H863
	TIMER EXTENSION WIRE		1	H865
	AIR HOSE EXTENSION		1	H867
	SCUFF GUARD			H815
	RUBBER HOSE INSULATION			H825
REGULATOR ASSEMBLY		FP900		
	REGULATOR ASSEMBLY (NO HOSES)		1	R901
	GAUGE - 5000 PSI		1	R906
	GAUGE - 300 PSI		1	R907
	RED NITROGEN HOSE (10 FT.)		1	R908R
	BLUE NITROGEN HOSE (10 FT.)		1	R908B
	TANK PRESSURE CONNECTOR		2	

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Replacement Parts List (cont.)

ASSEMBLY	PART DESCRIPTION	SUB-ASSY#	PTS REQD	PART #
ACCESSORIES				
	EMPTY SOLVENT BOTTLE		1	A1006
	SOLVENT - QUART			A1007
	SOLVENT - GALLON (SOLD IN 1 OR 5 GALLONS)			A1008
	PORT CLEANING PICK			A1009
	MANUAL			A1010
	SMALL GRAM SCALE			A1020
	SPRAY NOZZLE		1	N100
	POUR NOZZLE		1	N200
	TIE STRAPS - SMALL		1	A1021
	TIE STRAPS - LARGE		1	A1022
	O-RING LUBRICANT			A1055