

LAFFERTY EQUIPMENT MFG., INC. INSTALLATION / OPERATION INSTRUCTIONS

RADAR™ FOAM SYSTEM

Requirements

Clean, Dry Compressed Air (60 PSI Minimum)
110 V Grounded A.C. Outlet (GFI Recommended)
10 - 100 PSI Water



**Model # 977941, Rapid Drive Thru Asphalt Release
(RADAR) Foam System**

INSTALLATION AND OPERATION INSTRUCTIONS

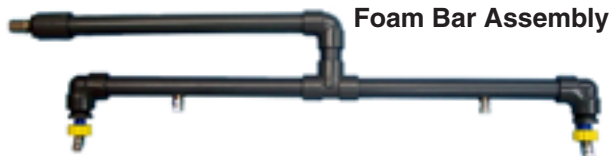
RADAR FOAM SYSTEM

CAUTION! Installer is responsible for all equipment and detailing required by local codes. Always observe good safety habits. Wear protective clothing, gloves, and eye wear when working with chemicals. Always follow your chemical supplier's safe handling instructions. Regular maintenance should include checking the discharge hose, hose clamp and chemical tubes for damage and/or loosening.



TO INSTALL (Refer to Illustration.)

1. Mount the unit to a suitable surface within 15' of the drive thru.
2. Construct a mounting pole/arch, then mount the foam bar assembly and electric eyes as shown in the illustration on page 3. Choose between Option 1 or 2.



3. Position the electric eyes so that they are pointed toward each other, creating a "beam." (You may want to use a string to "line up" the eyes.) The electric eye housing brackets have pre-drilled holes for angled mounting against level surfaces.
4. Install the float valve assembly into your water tank as shown in the illustration on page 3. **Once backflow requirements are met**, attach your water supply hose to the float valve and turn on the water to fill the tank.
5. Measure and cut the chemical suction tube into two sections of suitable length and connect them to the hose barbs under the check valves as shown in the photo. Connect the chemical strainers and immerse them into a container of water for testing.
6. Connect your **clean, dry compressed air supply** to the system as shown in the illustration. (Air Extractor / Dryer is recommended.)
7. Make sure the system **is not** plugged in to a power source. Remove control box cover. Unwrap the timers. Install the **Delay Timer** (#BMR14S) in the delay socket, which is on the **left** as you look into the enclosure. The time on the delay timer should be set to the approximate number of seconds needed from the time the truck breaks the "beam" of the electric eyes until the bed of the truck is positioned in the discharge path. Set the timer by pushing the combination of dip switches that will equal the approximate total number of seconds you need the system to delay (approximately 5-8 seconds).
8. Install the **Override Timer** (#BIR14S) in the override socket, which is on the **right** as you look into the enclosure. [The safety override timer prevents chemical overuse by allowing a maximum foam time. It will automatically shut off the foam cycle, even if the truck remains in the area longer than the preset foam time.] The time on the safety override timer should be set for the approximate amount of time it takes the **longest** truck to pass through. Set the timer by pushing the combination of dip switches that will equal the maximum total number of seconds you want the system to foam. Replace the control box cover.
9. Plug the power cord into your 110V power outlet. Activate your air supply.

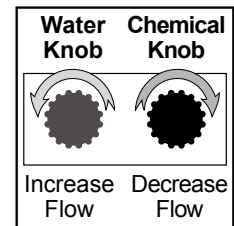
TO TEST

1. Before first-time activation, make sure that the water knob is completely opened (**counterclockwise**) and the chemical knob is completely closed (**clockwise**).
2. Perform "**test runs**" with water only and make any necessary timer adjustments, and any nozzle and electric eye position adjustments.

NOTE: Once the electronic beam is restored, the system automatically shuts off. Make sure to position the electric eyes so that any gap between the cab and truck bed does not cause the system to shut off.

3. Immerse chemical strainers into their respective water/chemical containers

METERING CHEMICAL: Use the water/chemical adjustment knobs to control the amounts of water and chemical that flow through the unit. The adjustment knobs allow you to achieve virtually any chemical-to-water ratio. Turn the adjustment knobs **counterclockwise** to increase flow or **clockwise** to decrease flow.

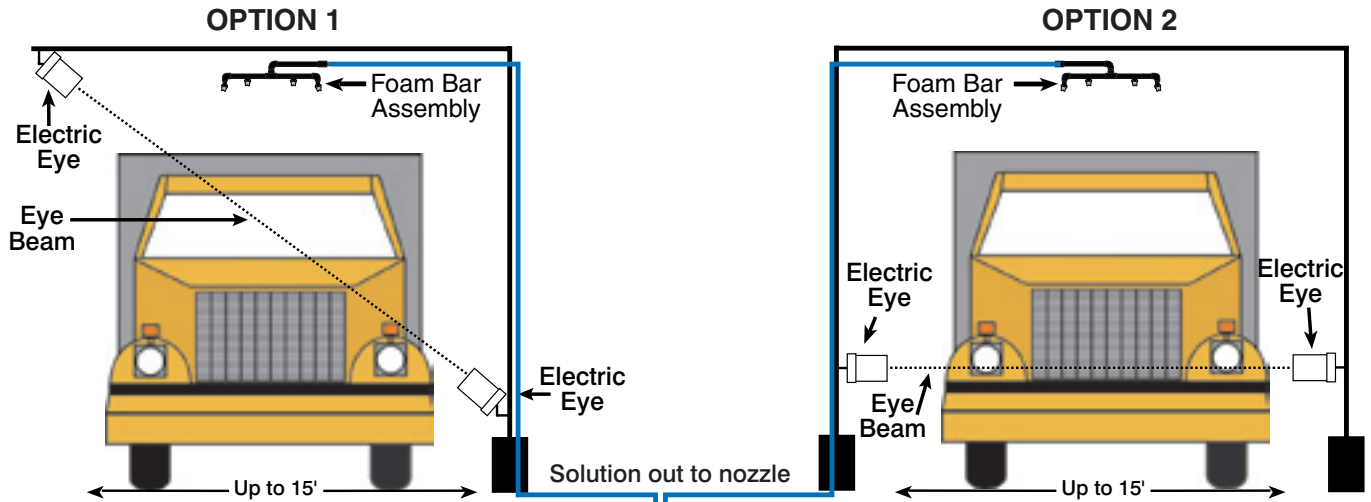


Use a refractometer or judge by cleaning results to achieve desired dilution ratio.

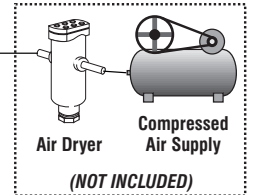
FOAM CONSISTENCY ADJUSTMENT: Slightly adjust the chemical knob **ONLY a degree or two counterclockwise at a time. WAIT SEVERAL SECONDS** for foam output to stabilize. **If the foam is too wet**, slightly turn the chemical knob **counterclockwise**, or pull out adjustment knob on the foam consistency air regulator and turn it **clockwise only 1/16 of a revolution at a time. Wait to see the results before continuing.** If the flow of foam becomes too dry or starts to surge, turn the foam consistency air regulator **slightly counterclockwise** until the flow of foam stabilizes or see Troubleshooting Guide (page 4).

Do not use any chemicals that are not compatible with the SANTOPRENE components in the pump. Do not use DELIMONENE with this unit. MANUFACTURER ASSUMES NO LIABILITY FOR USE OR MISUSE OF THIS UNIT. CLEAN, DRY AIR IS REQUIRED! Air extractor/dryer is highly recommended. The pump may temporarily stall if Air Extractor/Dryer is not used.

INSTALLATION DIAGRAM RADAR FOAM SYSTEM



Model # 977941



(NOT INCLUDED)
Air Extractor/Dryer or equivalent is recommended.

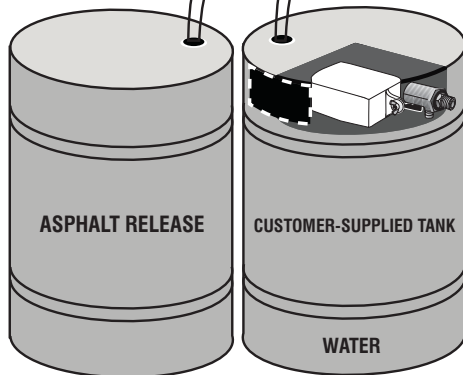
To electric eyes

110 V Power



Chemical Suction Tube

Water Suction Tube



INCLUDED:
Float Valve Assembly
Model # 710491

Lift drum lid or cut a hole in side of drum to insert the float valve. Cut a 7/8" round hole in the drum for the male fitting.

TROUBLESHOOTING GUIDE

for RADAR FOAM SYSTEM

PROBLEM	POSSIBLE CAUSE / SOLUTION																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A) Air pump will not run/pump.	•		•	•	•	•	•		•	•	•										•	•	•
B) Unit will not draw chemical.	•	•	•		•				•	•	•	•	•	•	•	•	•	•			•	•	
C) Foam surges an/or hose "bucks".		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•			
D) Foam output too wet.	•		•	•	•	•	•						•	•	•	•	•	•		•			
E) Foam output too dry.		•			•	•		•	•	•	•	•		•					•				
F) Water tube will not stay primed.									•														
G) Chemical tube will not stay primed.														•									
H) Using too much chemical.																			•				
I) Asphalt continues to stick to truck.														•	•	•	•	•		•			

POSSIBLE CAUSE / SOLUTION

- | | |
|---|--|
| <ol style="list-style-type: none"> 1. Problem with air pump – Refer to pump manual. 2. Air volume too high for available solution pressure – Adjust the foam consistency air regulator <i>slowly</i> counterclockwise. See page 2. 3. Use of an oiler in the airline will cause poor foam quality – Use only clean, dry air. 4. Inadequate air supply – Adjust pump air regulator <i>slowly</i> clockwise. Requires 60 PSI air pressure. 5. Air regulator clogged or failed – Clean or replace. 6. Air check valve clogged or failed – Clean or replace. 7. Discharge hose wrong size or kinked – Hose size must be 1" I.D., 40' maximum length. Straighten the hose. 8. Water knob on metering manifold not adequately opened – Turn water knob counterclockwise. 9. Water check valve clogged or failed – Clean or replace. 10. Water strainer blocked – Clean or replace. 11. Water tube not immersed in container or container empty. 12. Water tube stretched out where tube slides over check valve or pin hole/cut in water tube (sucking air in) – Cut off end of tube or replace. 13. Chemical knob on metering manifold not adequately opened – Turn chemical knob <i>slightly</i> counterclockwise. | <ol style="list-style-type: none"> 14. Chemical check valve clogged or failed – Clean or replace. 15. Chemical strainer blocked – Clean or replace.. 16. Chemical tube not immersed in chemical or chemical depleted. 17. Chemical/water tube(s) stretched out where tube slides over check valve or pin hole/cut in chemical tube (sucking air in) – Cut off end of tube(s) or replace. 18. Vacuum leak in water/chemical pick-up assemblies – Tighten the connection(s). 19. Chemical to water ratio too high – Turn chemical knob <i>slightly</i> clockwise or water knob counterclockwise. 20. Chemical to water ratio too low – Turn chemical knob <i>slightly</i> counterclockwise or water knob clockwise. 21. Electric eye out of alignment – Use a string to help align the sensors. Make sure they are not more than 15' apart. 22. May have electrical problems – Have a qualified electrician check to be certain you have 120 volts coming in to L1 and L2. Ensure fuse (3 amp) is good; fuse holder is located next to L1 and L2. Make sure electric solenoid is functioning properly. 23. Timer(s) not set properly or malfunctioned – See step #s 7 & 8 on page 2 or replace timer(s). |
|---|--|

PREVENTATIVE MAINTENANCE: When the system will be out of service for extended periods, place the chemical suction tube in water. Activate your air supply for a few seconds to flush chemical and prevent chemical build-up. Check and/or clean water strainer and chemical strainer; replace if missing.

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