SAHARA
MULTI-SOLVENT
MISTER/EVAPORATOR

DROP IN

THE BUCKET

SKIMMER/PURIFIERS
EVAPORATORS

EZ TIMERS
MANUFACTURING

702-376-6693 - bruce@eztimers.com - www.eztimers.com

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SECTION 1.0 PREFACE

1.2 Disclaimer

Installation and operation of your unit must comply with any pertinent federal, state of local codes, ordinances or other applicable governing data.

Instructions contained in this publication are intended only as a guide to assist you and assure the safe reliable performance of your machine. Because of the constantly changing regulations concerning waste disposal suggestions and warnings in this publication may change at any time without further notice.

1.3 Warranty

EZtimers Manufacturing will supply new or rebuilt parts at no cost based upon the following time periods after the shipping date:

1. 3 years-plastic parts
2. 3 year-pneumatic parts
3. 3 year electronic parts.
4. There is no warranty on carbon granules, filters, or filter bags.

The time begins at the date of shipment from the EZtimers Manufacturing facility.

This warranty extends only to the original purchaser. A receipt or other proof of purchase is required before any warranty action can be taken. This warranty only covers failures due to defects in materials and workmanship. It does not cover damage which is the result of accident, misuse, abuse, neglect, mishandling, misapplication, alteration or damage attributed to acts of God. ***EZtimers Manufacturing*** assumes no responsibility for any special, incidental, or consequential damages.

In order to obtain warranty service the following conditions must be met:
1. Provide proof of the date of purchase.
2. Return the defective part by return mail or other means.

SECTION 2.0 SPECIFICATIONS

Processing volume	Approximately 2 1/2 Gallon/Hr.
Compressed air consumption	Approximately .25 SCFM @ 65 PSI
Electrical consumption	.1 Amp @ 110V
Foot print	12 inch x 10 inch
Net weight	22 Lbs.
Crated weight	35 Lbs.

SECTION 3.0 RECEIVING THE EVAPORATOR

3.1 Checking for damage

3.1.1 Pre-Uncrating inspection

Before removing the unit from the cardboard carton inspect for damage to the exterior of the carton. If there is damage, contact the shipping company immediately. EZtimers Manufacturing products are very tough and probably are undamaged if the carton does not show signs of damage.

3.2 Shipping inventory

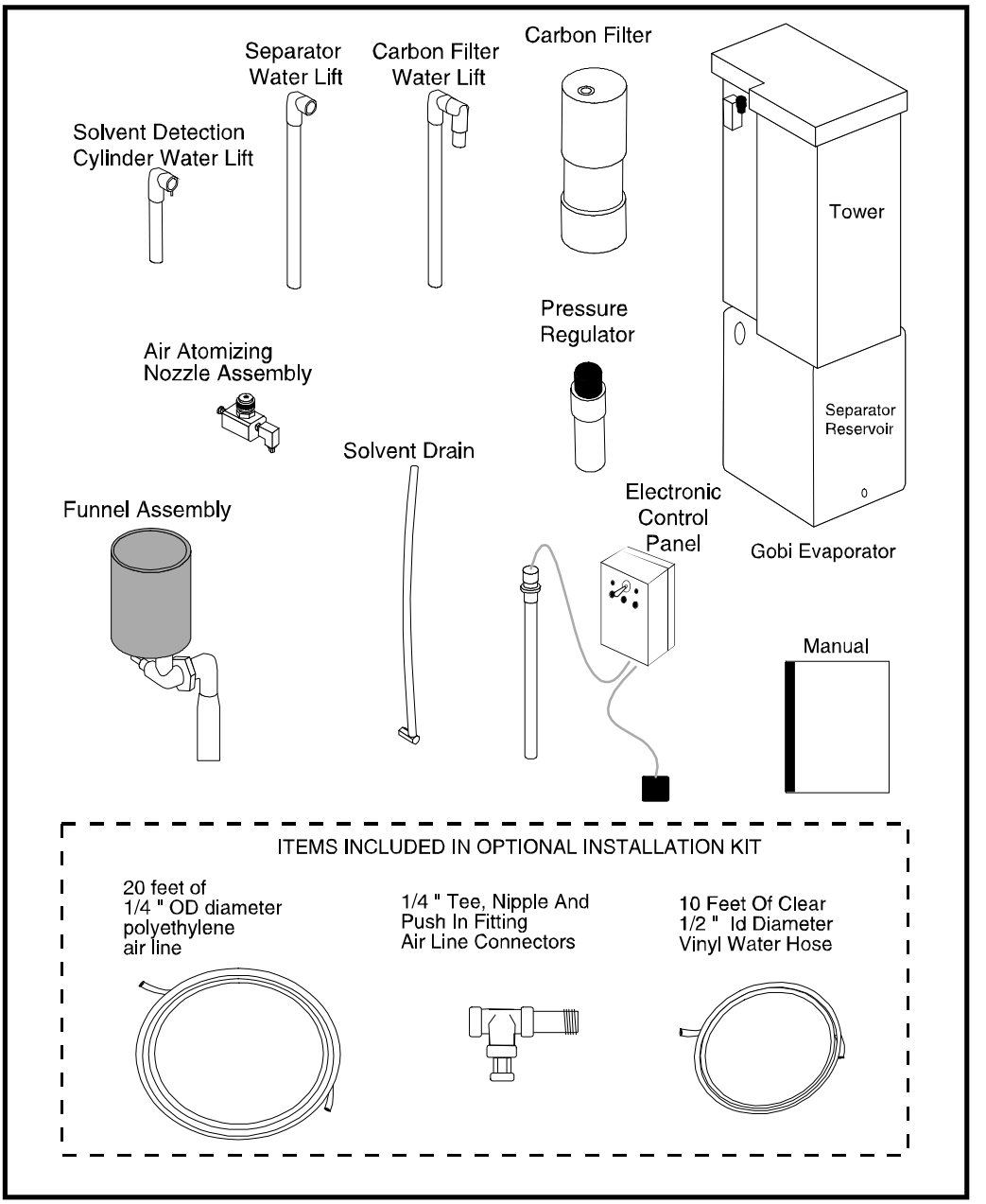


Fig. 3-1

3.3 Component identification

3.3.1 Left view of unit

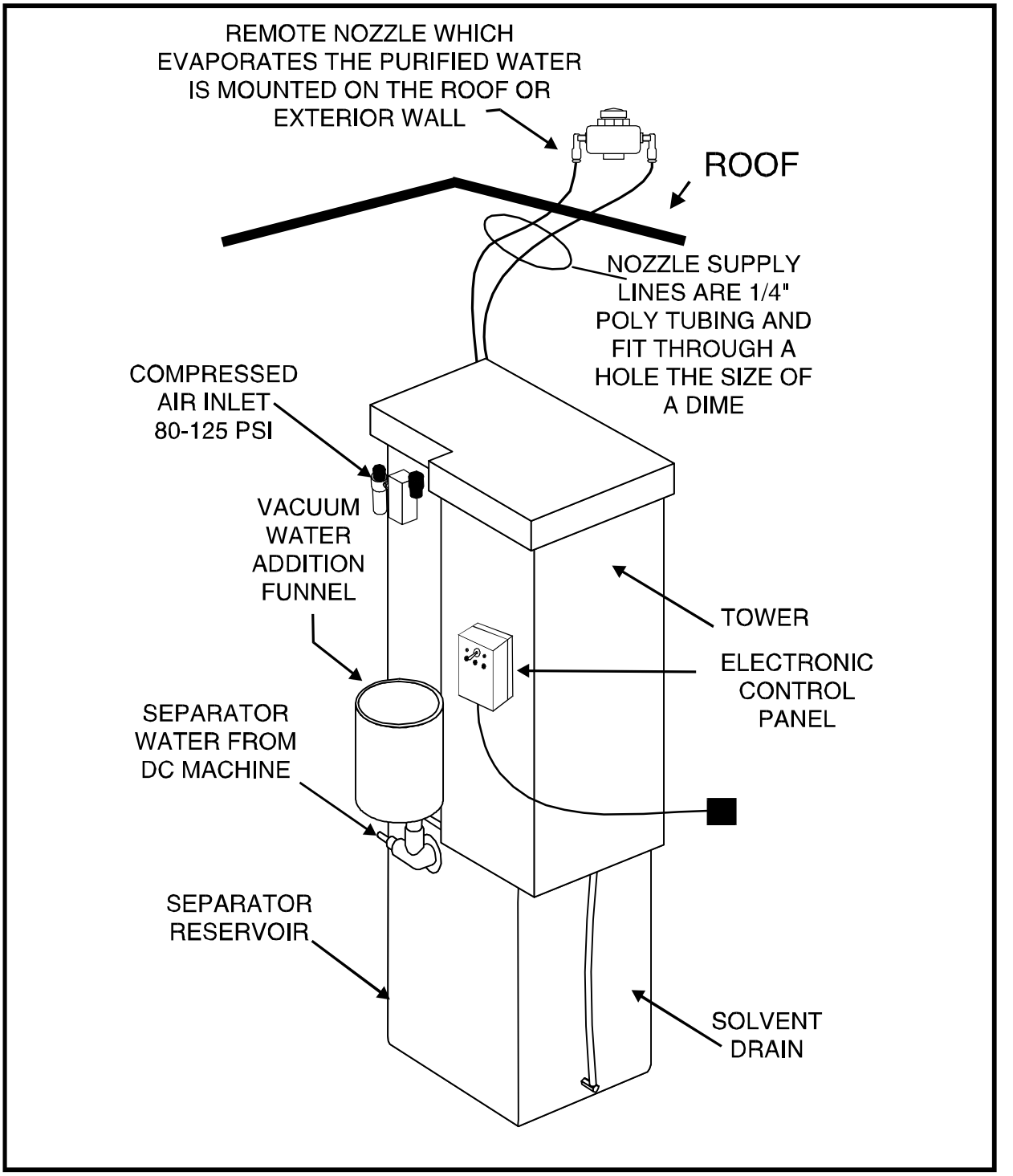


Fig. 3-2

SECTION 4.0 INSTALLATION

4.1 Locating the unit

The evaporator unit should be located as close to the dry cleaning machine as possible. The left side of the unit as well as the front should be easily accessible. All tubing and hose runs to the unit should have about 18 inches of spare length in order to be able to move the unit for cleaning. Care must be taken not to contact steam piping or damage to the unit will occur.

4.2 Water flow and compressed air

The unit is designed to be connected directly to the outlet of the water separator on the dry cleaning machine. ***When the outlet of the dry cleaning machine water separator is above 13 inches and local regulations permit it, we strongly advise you to take advantage of this feature.*** Locate the unit in such a way that the routing of the tubing from the dry cleaning machine water separator outlet to the vacuum water addition funnel on the evaporator unit will not rise higher than the height of the outlet of the dry cleaning machine water separator, will not contact hot pipes and will not be subject to kinking or crushing. A compressed air supply is generally available at the dry cleaning machine. If this is not the case find the closest convenient access to the compressed air header.

4.3 Tubing installation

The tubing supplied in the installation kit is polyethylene or vinyl both of which are sensitive to high temperature damage. Be sure not to let the tubing contact any steam, return or hot water lines. ***When routing the tubing through a hole be sure there are no sharp edges that might cut or fray the tubing. Avoid pulling tubing around sharp corners.***

4.4 Assembling the major components

4.4.1 Assembling the external parts of the Evaporator

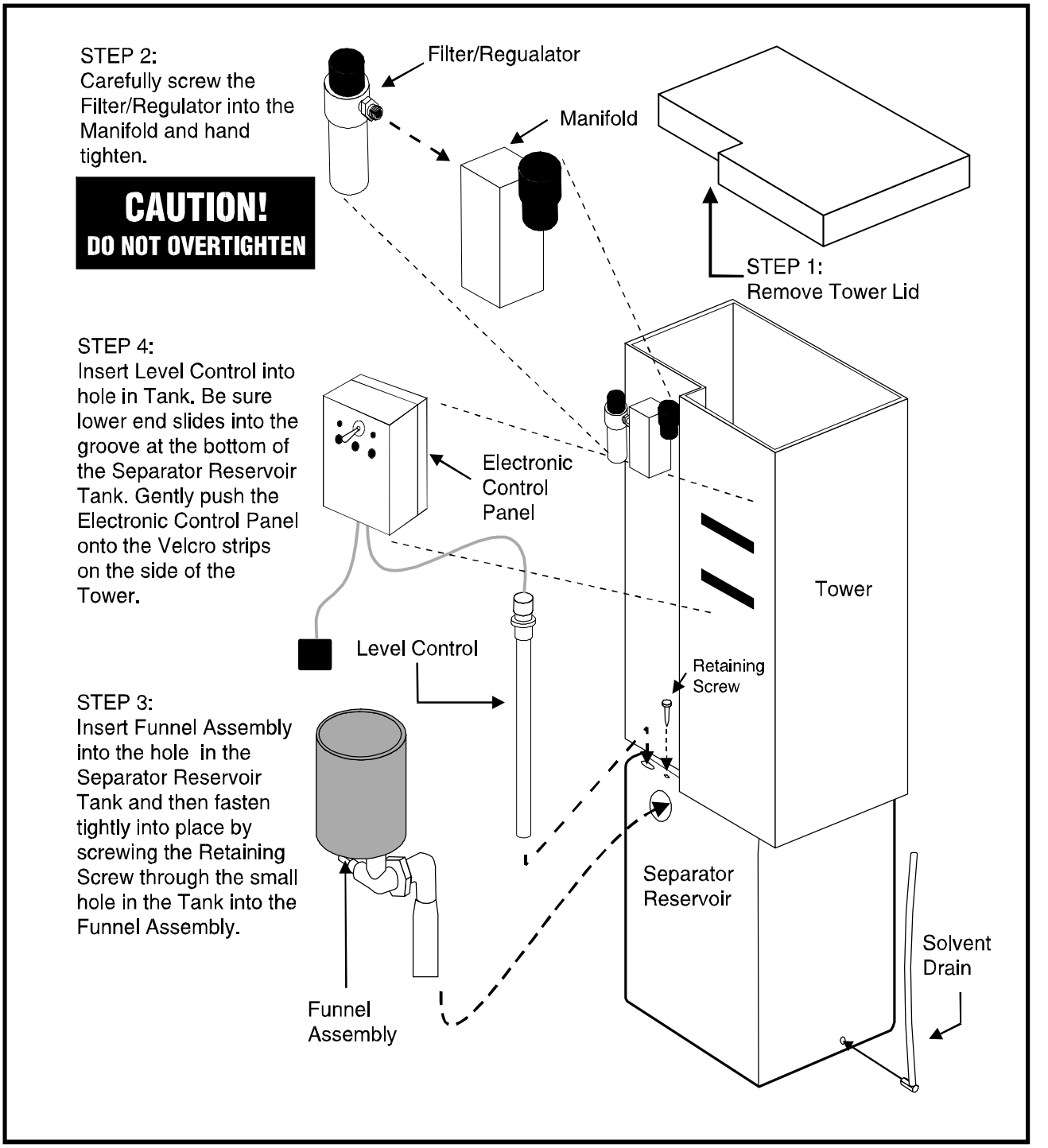


Fig. 4-1

4.4.2 Assembling the internal parts of the Evaporator

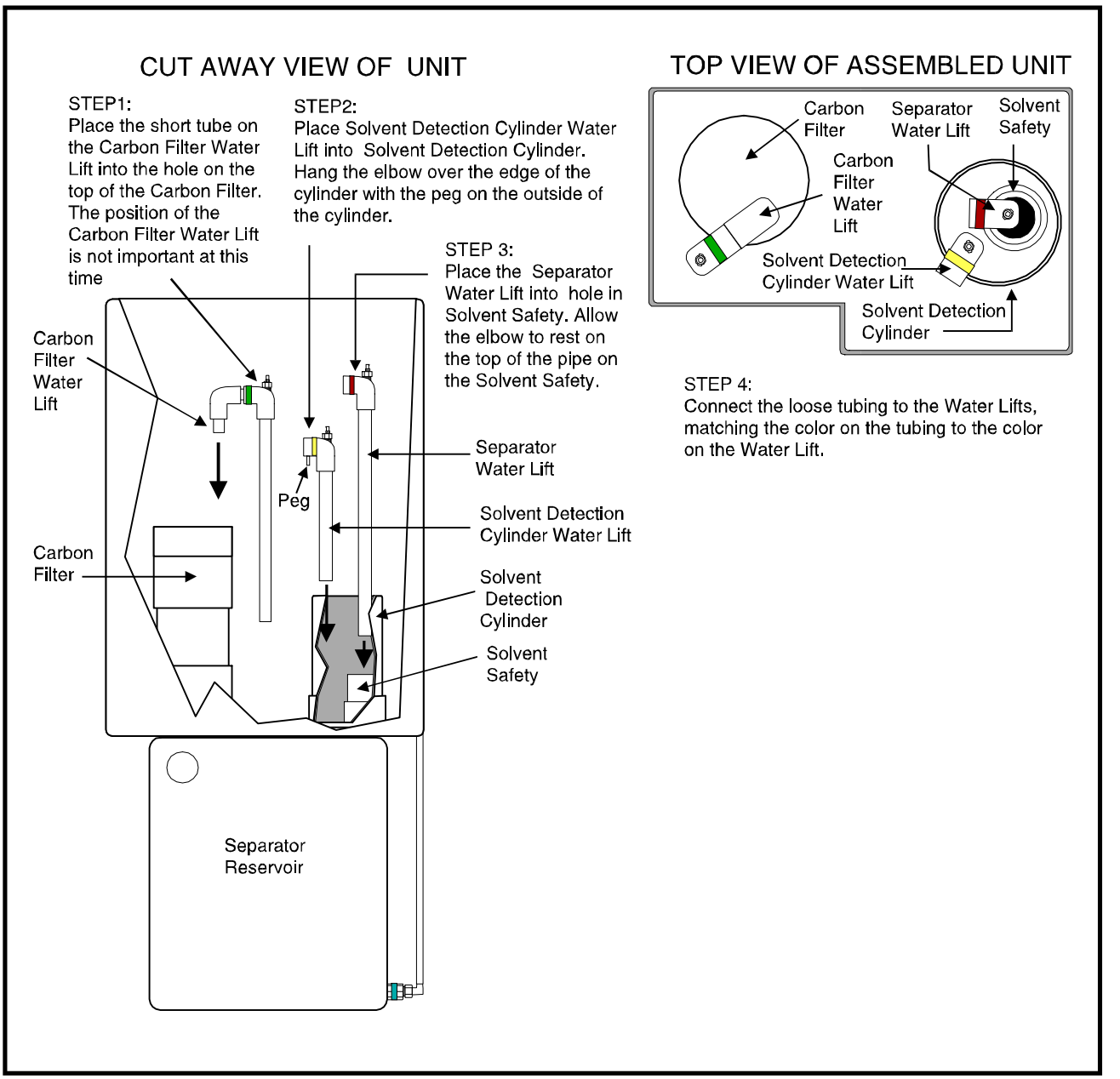


Fig. 4-1a

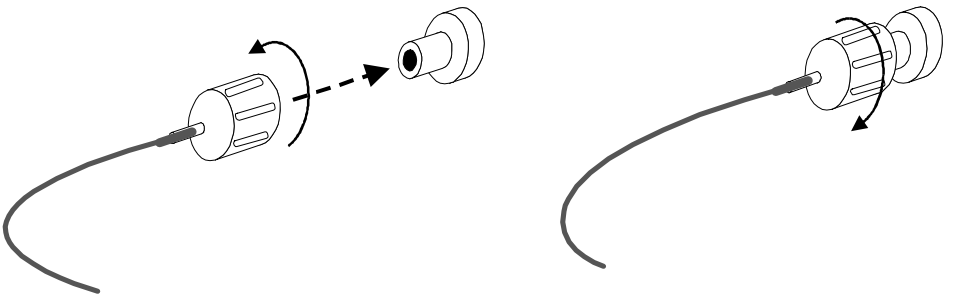
4.5 Unit inter connections

4.5.1 Types of tubing connectors

WORKING WITH LEUR CONNECTORS

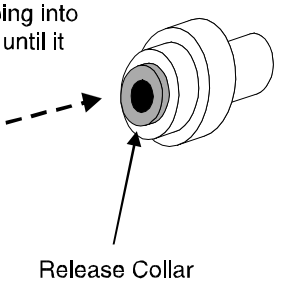
STEP 1:
Turn the female side of the leur connector (side with the hose attached) counter clockwise about 1/4 turn and push over the male side.

STEP 2:
Turn the female side of leur connector clockwise about 1/4 turn to the right to tighten the connector halves together. ***DO NOT OVER TIGHTEN***

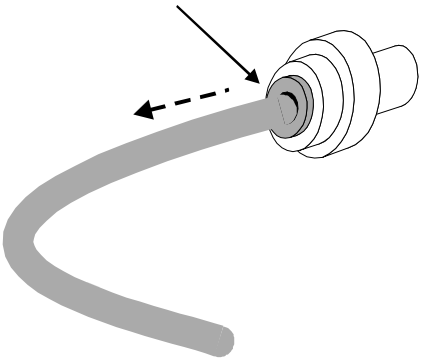


WORKING WITH PUSH IN TUBING CONNECTORS

CONNECTING TUBING:
Use a sharp knife or razor blade to cut the tubing without distorting the shape. Firmly push the tubing into the Release Collar until it bottoms out.



REMOVING TUBING:
Push the Release Collar firmly towards the body of the fitting. With the Release Collar pushed towards the body of the fitting, push the tubing towards the body of the fitting then pull it away from the body of the fitting.



BE SURE THE TUBING AND FITTING ARE FREE FROM DIRT AND GRIT AND THERE IS NO PRESSURE IN THE TUBING WHEN CONNECTING OR DISCONNECTING TUBING FROM PUSH IN FITTINGS.

Fig. 4-2

4.6 Unit external connections

4.6.1 Compressed air supply to the unit

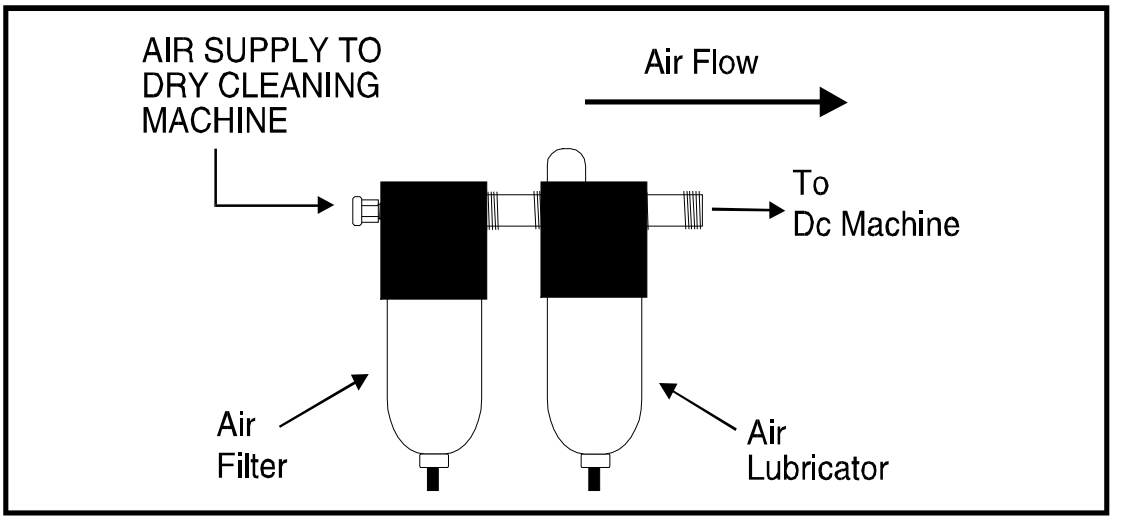


Fig. 4-3

During the installation of the compressed air supply to the evaporator the dry cleaning machine will be inoperable for about 20 minutes. Shut off the air supply to the air inlet filter on the dry cleaning machine and bleed off any remaining pressure. Gently unscrew the existing air inlet connector and install the tee with the push in fitting from the installation kit. Screw the original air inlet connector into the into the tee. Be sure the connector to the unit faces up and use teflon tape when installing the fittings.

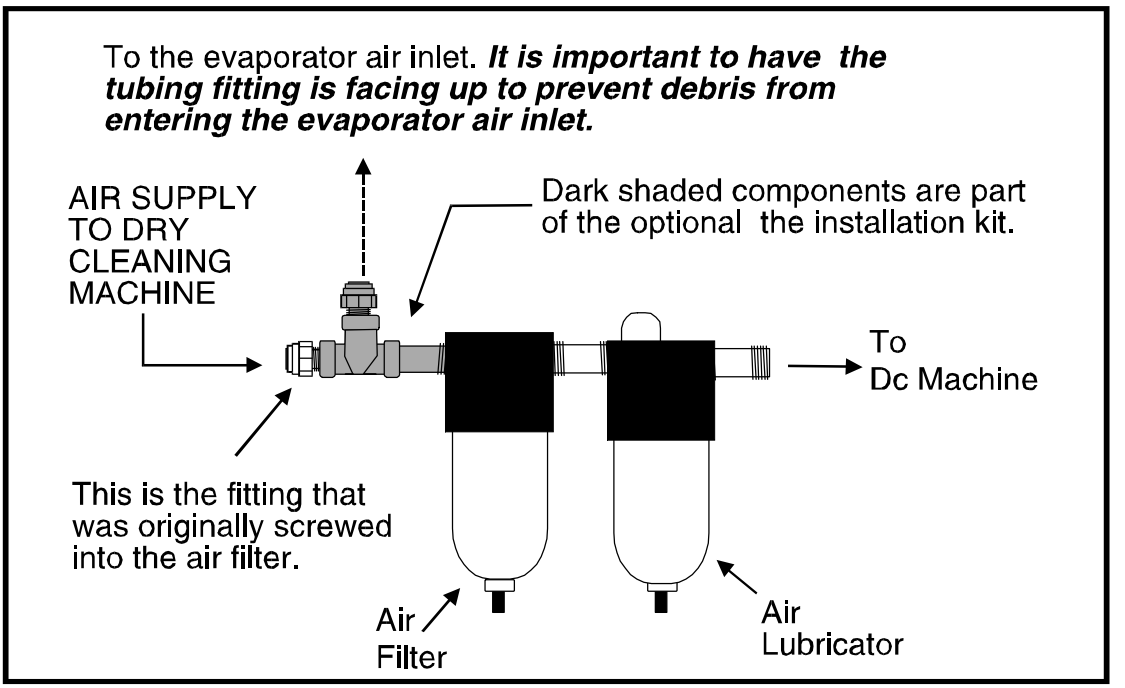


Fig. 4-4

4.6.2 Connecting the air inlet to the unit

Be sure the air inlet valve is closed. Connect the tubing between the push in fitting on the dry cleaning machine and the push in flitting on the air inlet valve on the unit. The pressure of the air should be ***80-125 PSI.*** Turn on the air supply at the dry cleaning machine and check for leaks.

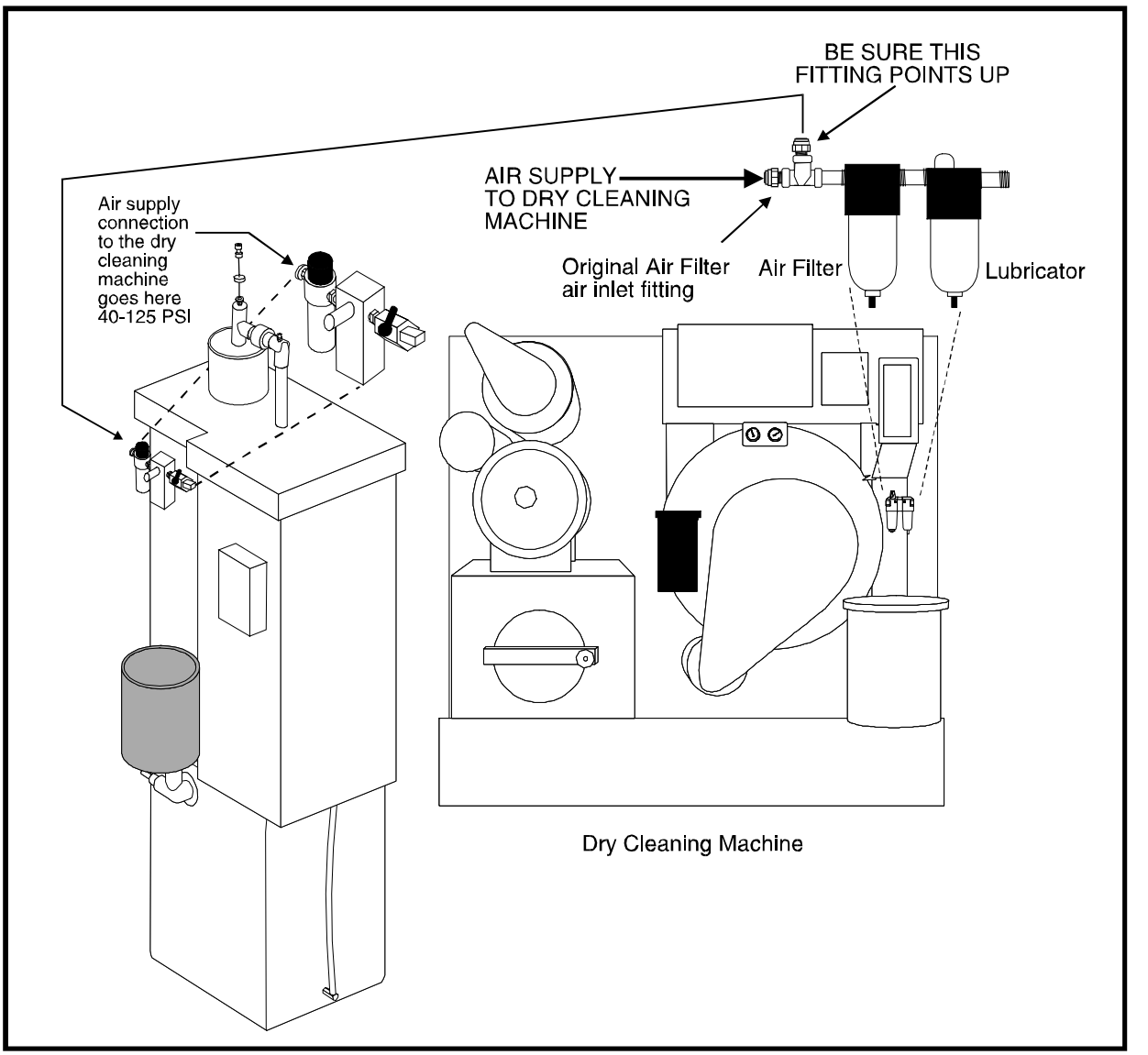


Fig. 4-5

4.6.3 Connecting the separator water inlet to unit

The height of the dry cleaning machine separator must be higher than the inlet to the unit. With the unit on the ground that would be 13 inches. There are dry cleaning machines which have the separator water outlet lower then the separator itself. When connecting to this type of machine use the height of the water level in the separator itself. ***If you route the water line across the floor avoid sharp or hot surfaces. Avoid kinks or bends which would collapse the water line and protect areas where the tubing is exposed to foot traffic.*** The water flow from the dry cleaning machine is driven by gravity so you cannot take the tubing higher than the separator.

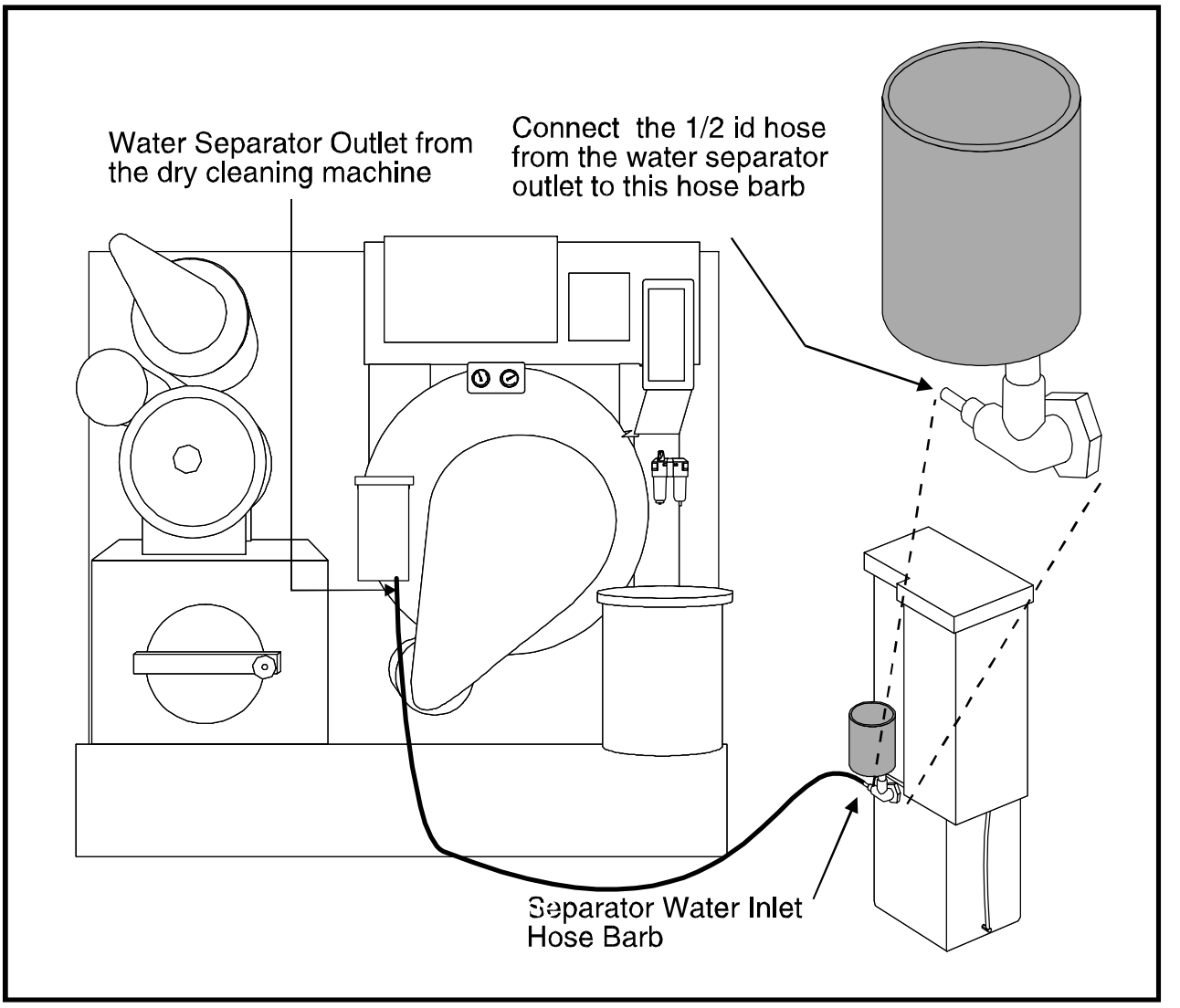


Fig. 4-6

4.6.4 Nozzle installation

4.6.4.1 Preparing the twin nozzle tubing

Obtain a 100 foot roll of poly-ethylene pneumatic tubing. Stretch out the full 100 Ft. and bend it in the middle to form twin 50 foot sections. Every 5' tape the sections together using electrical tape.

4.6.4.2 Nozzle mounting

The Nozzle comes with an attached strip which can easily be fastened to a pipe, roof or exterior wall using sheet metal screws or wire ties. ***Do not push in the nozzle tubes at this time.***

4.6.4.3 Getting tubing to the Nozzle

The twin 1/4 inch tubing will fit through a hole slightly larger than 1/2 inch in diameter. Ventilation duct work, boiler room make up air shafts, evaporative cooler drops, along side of water tower pipes, unused vents from venting dry cleaning machines are all possible means of access for running the Nozzle tubing.

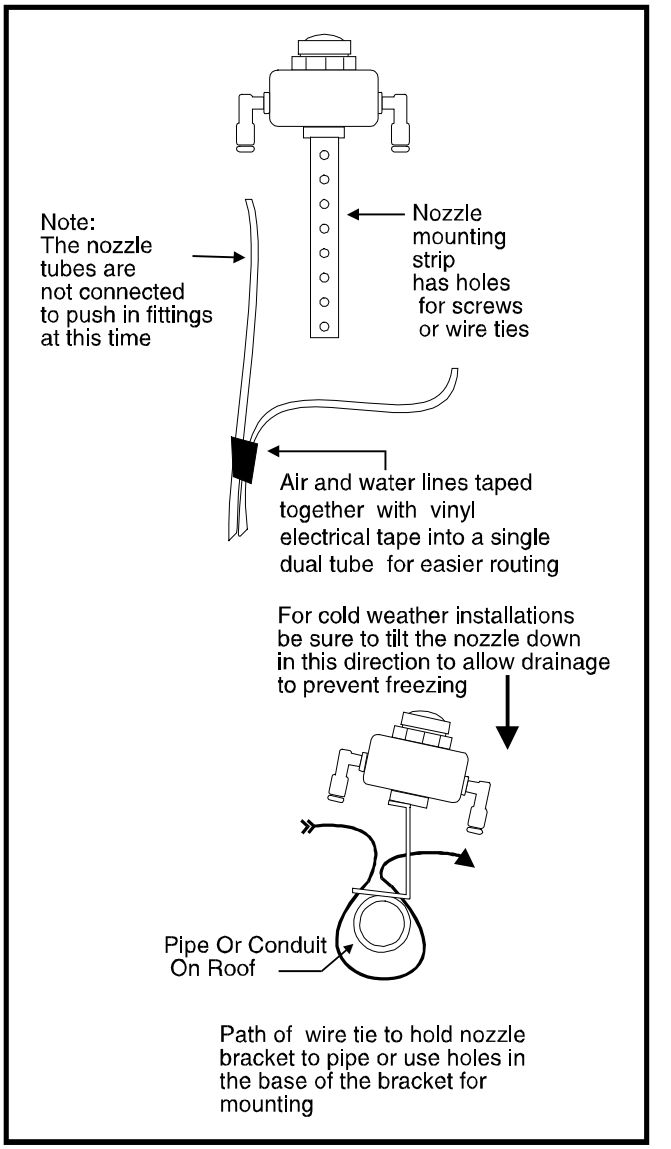


Fig. 4-7

4.6.4.4 Routing the twin tubing

If your working alone start on the outside of the cleaning plant routing the dual tubing down and towards the unit. ***Be sure to follow the precautions in paragraph 4.3***

4.6.5 Freezing weather installations (OPTIONAL NOZZLE HEATER KIT IS AVAILABLE FOR THESE AREAS)

In areas where freezing may occur keep the nozzle tubing running downhill and minimize length of the exposed tubing. Tilt the liquid side of the nozzle down towards the tubing. ***Do not install horizontal tubing runs in areas where freezing occurs.***

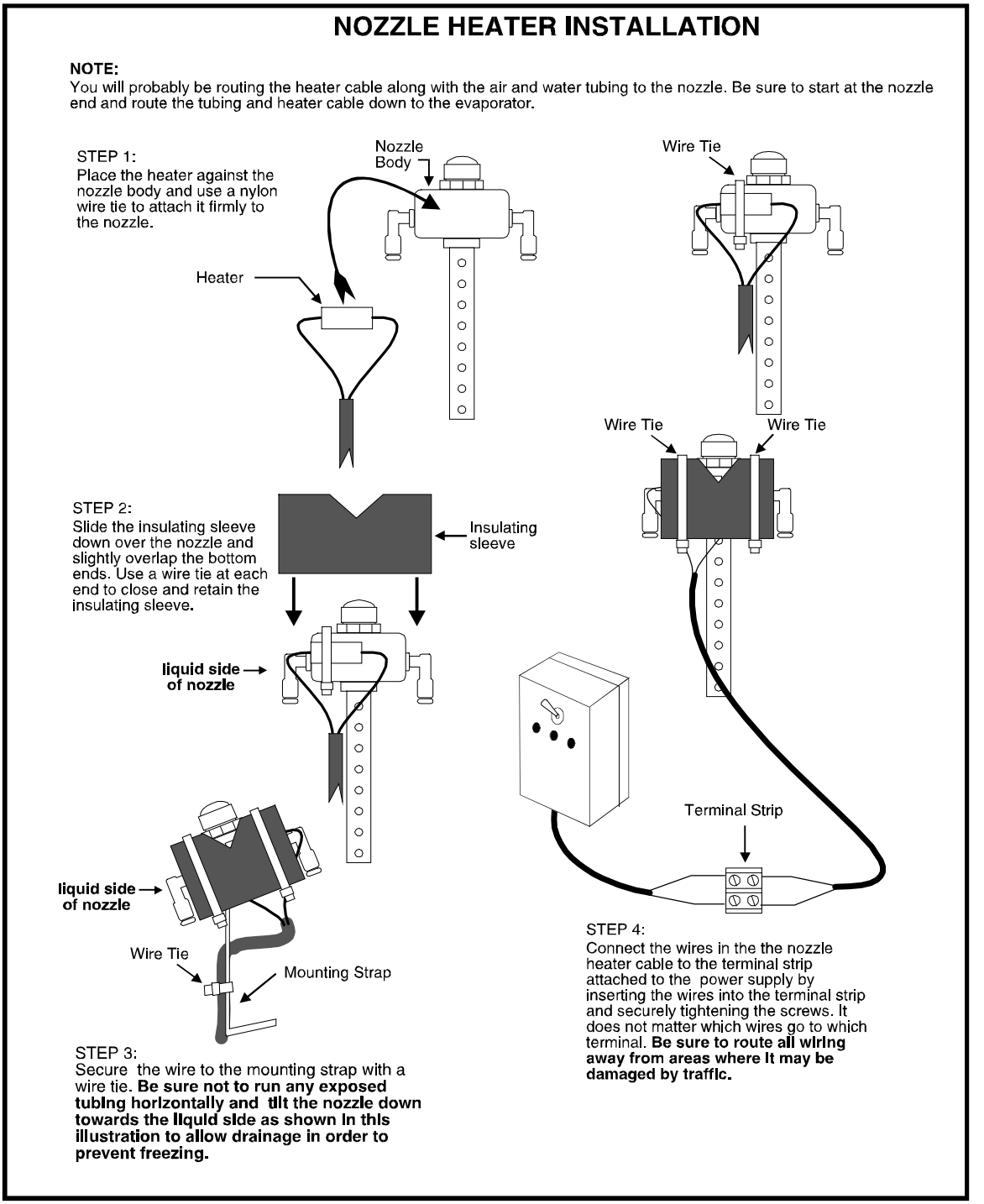


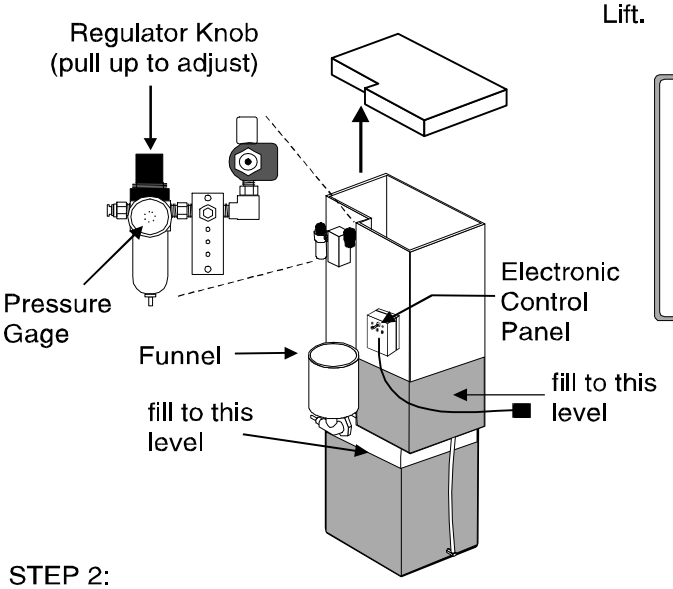
Fig. 4-8

4.7 Final set up and testing

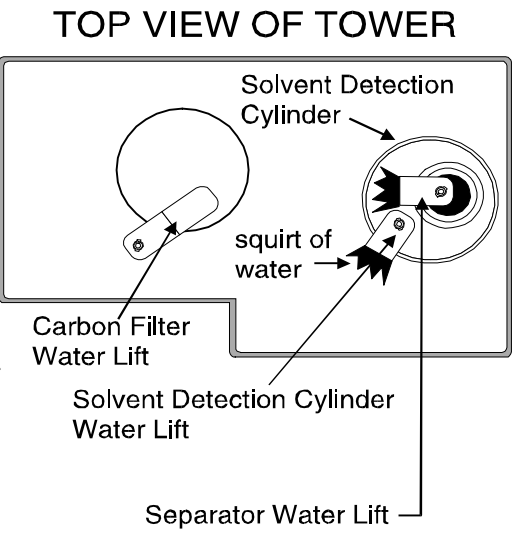
4.7.1 Setting up the pneumatic controls and checking Lift Pumps

CAUTION!
BE SURE THE ELECTRONIC CONTROL PANEL IS UNPLUGGED FOR THESE OPERATIONS

STEP 1:
Remove Tower Lid.



STEP 4:
Observe the operation of the Separator Water Lift. Every few seconds a squirt of water should exit the elbow. After the Solvent Detection Cylinder fills water should squirt from the Solvent Detection Cylinder Water Lift in a similar manner. Lift the Carbon Filter Water Lift off the top of the Carbon Filter and then lower it to the level of the top of the Carbon Filter. Water should be squirting from the end of the Carbon Filter Water Lift.



STEP 2:
Add tap water to the Tower until it overflows into the Solvent Detection Cylinder. Add tap water through the Funnel until it reaches the 4 gallon mark in the Separator..

STEP 3:
Turn on the air supply to the evaporator. Be sure the Pressure Gage reads 55 lbs. If not pull up on the regulator knob and adjust the air pressure by turning clockwise (to the right) to increase the pressure, counter-clockwise (to the left) to decrease the pressure. When the adjustment is complete push the knob down to lock the regulator setting.

Fig. 4-9

4.7.2 Making the final tubing connections to the Nozzle and starting operations

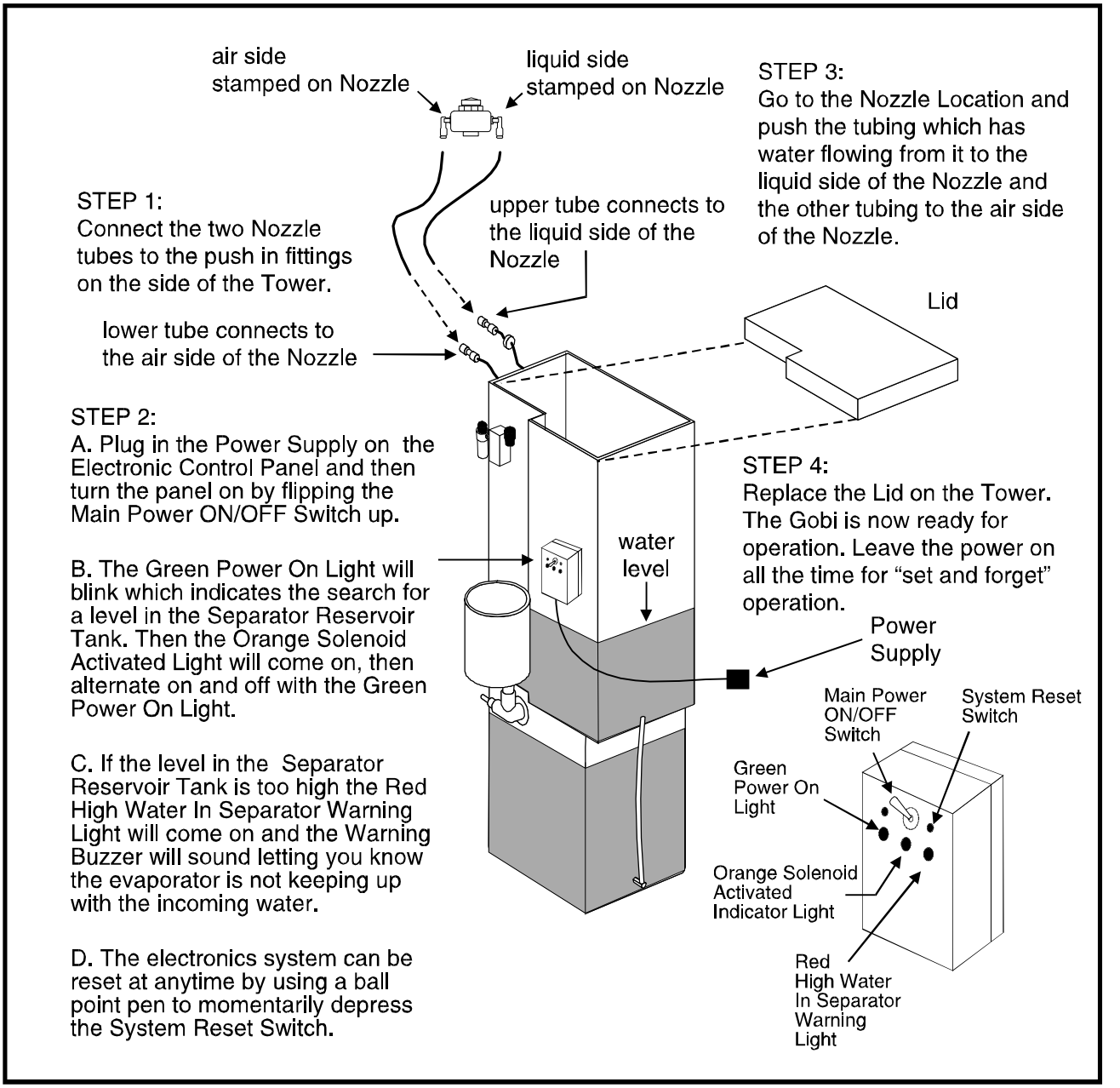


Fig. 4-10

SECTION 5.0 MACHINE OPERATIONS

5.1 Set and forget operations- Control Box functions

The SAHARA evaporator has been designed for set and forget operation. What this means is that you just turn on the compressed air supply and electrical power to the evaporator. It will monitor it's own performance, warning you when attention is required. The utilities consumed are remarkably small. ***Just .5 SCFM of compressed air and an electrical current drain of .025 AMPS during idling.***

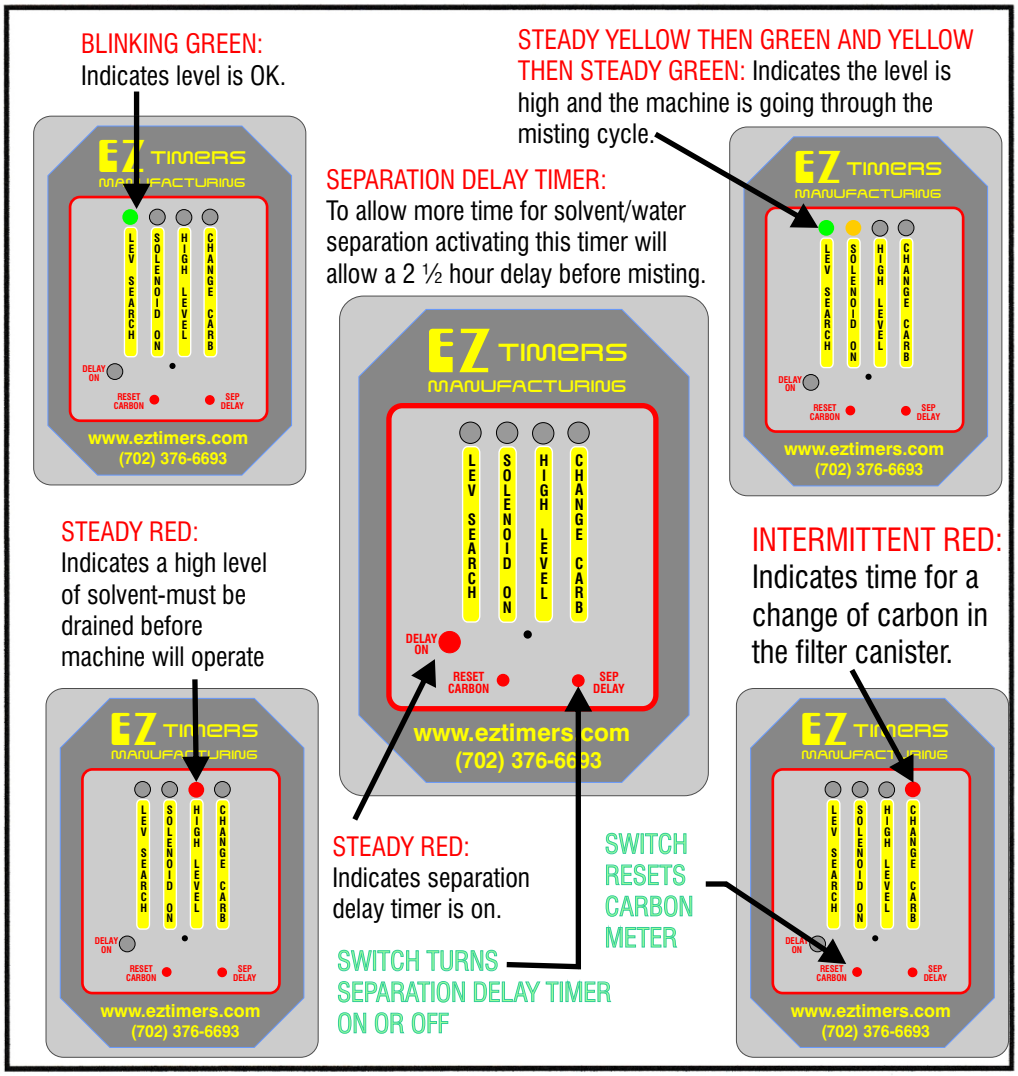


Fig. 5-1

SECTION 6.0 MAINTENANCE

6.1 Weekly maintenance

6.1.1 Draining solvent from the Separator

Draining solvent from the Separator should be done at least weekly. If you should have a still boilover immediately shut off the air inlet valve and allow 24 hours for the mixture in the Separator to settle. Then drain as much solvent/water mixture out as possible before turning the unit back on by opening the air inlet valve.

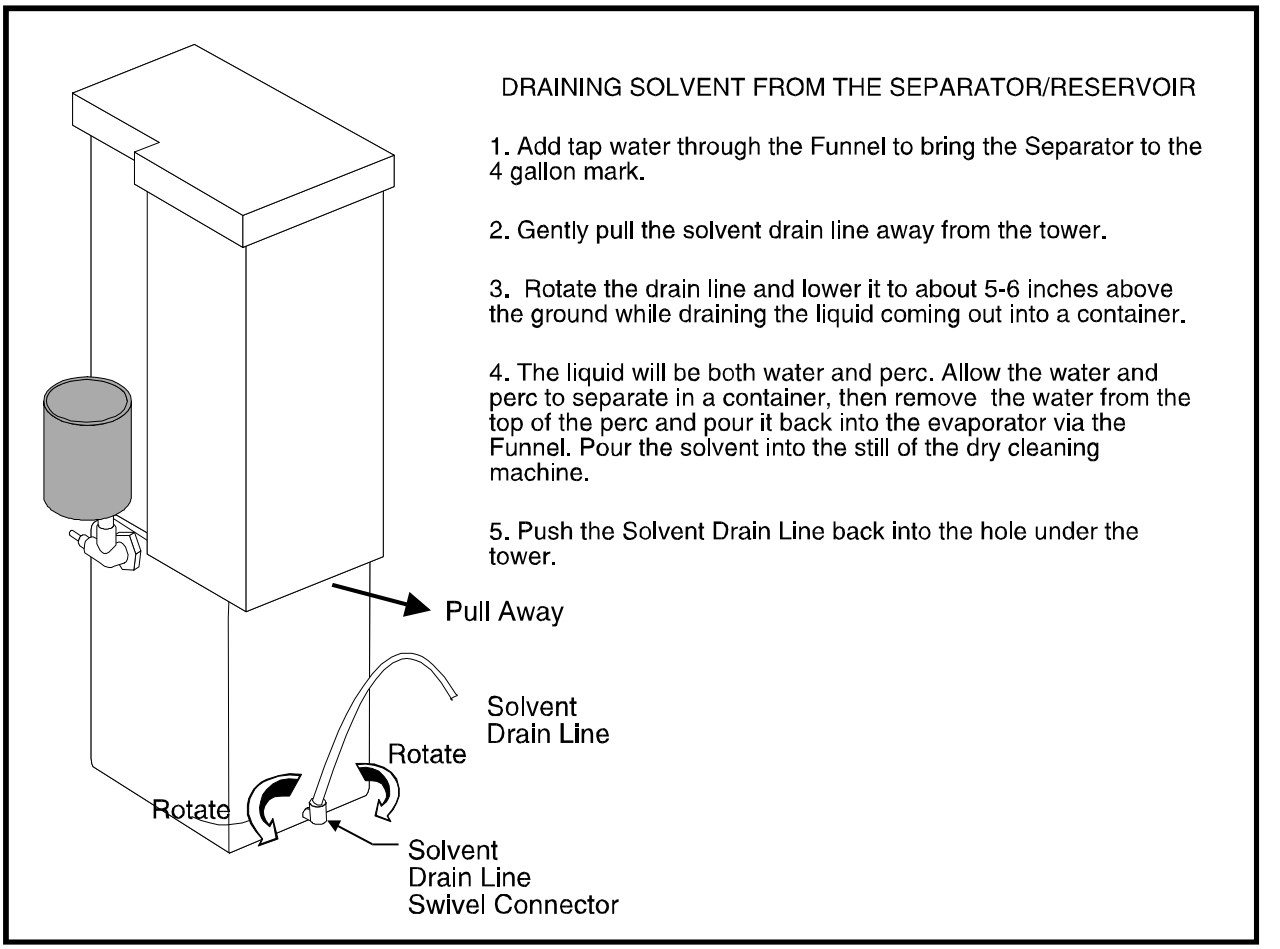


Fig. 6-1

6.2 Carbon Filter maintenance

6.2.1 When to replace the carbon granules

Since the regulations concerning the evaporation of separator water vary considerably in different areas there is no hard fast rule for replacing carbon granules. If your local regulations require a purity of less than 1 ppm for dissolved solvent schedule a change monthly. Otherwise every 3-6 months could possibly be fine.

6.2.2 Replacing the carbon granules

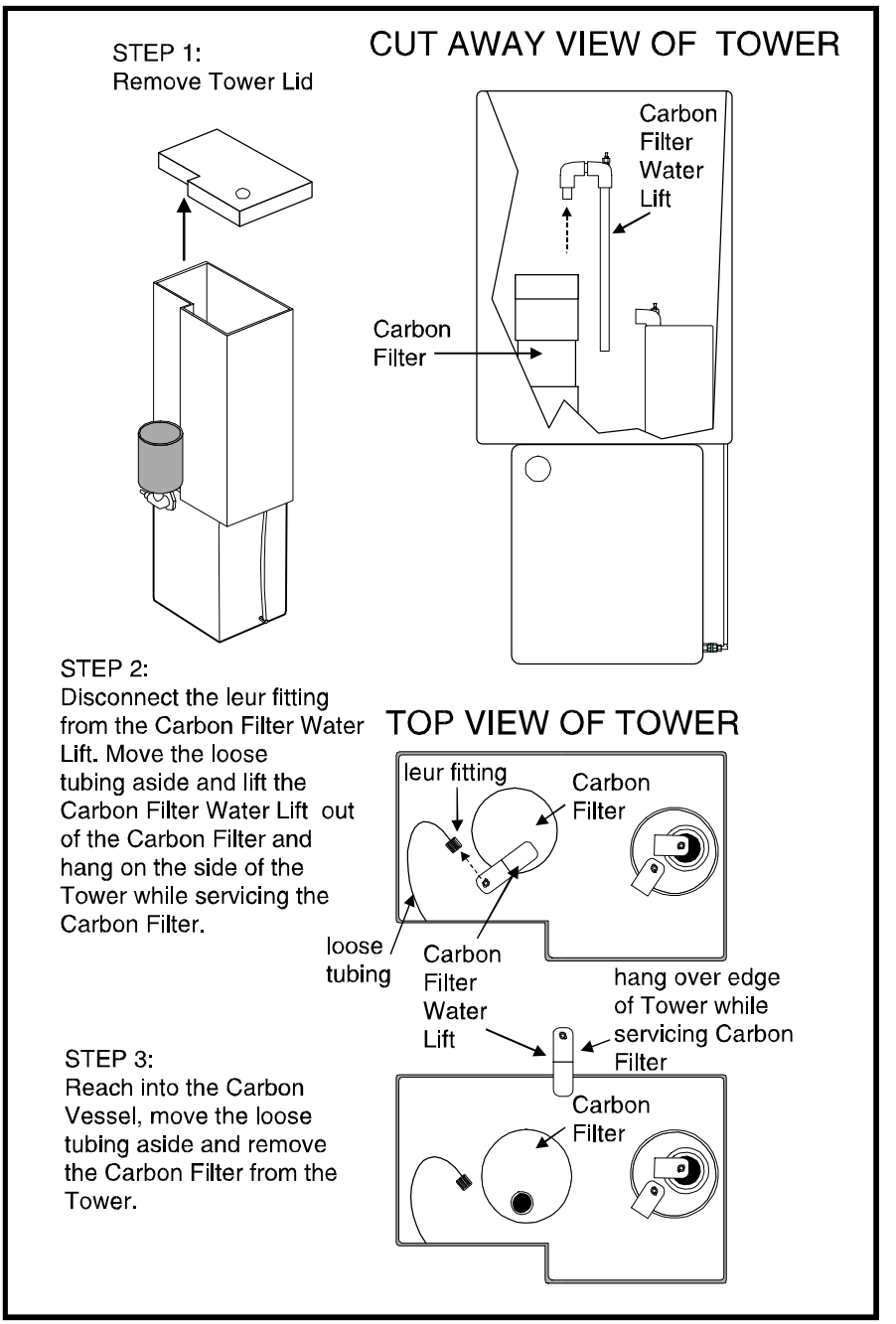


Fig. 6-2

6.2.3 Replacing the carbon granules page 2

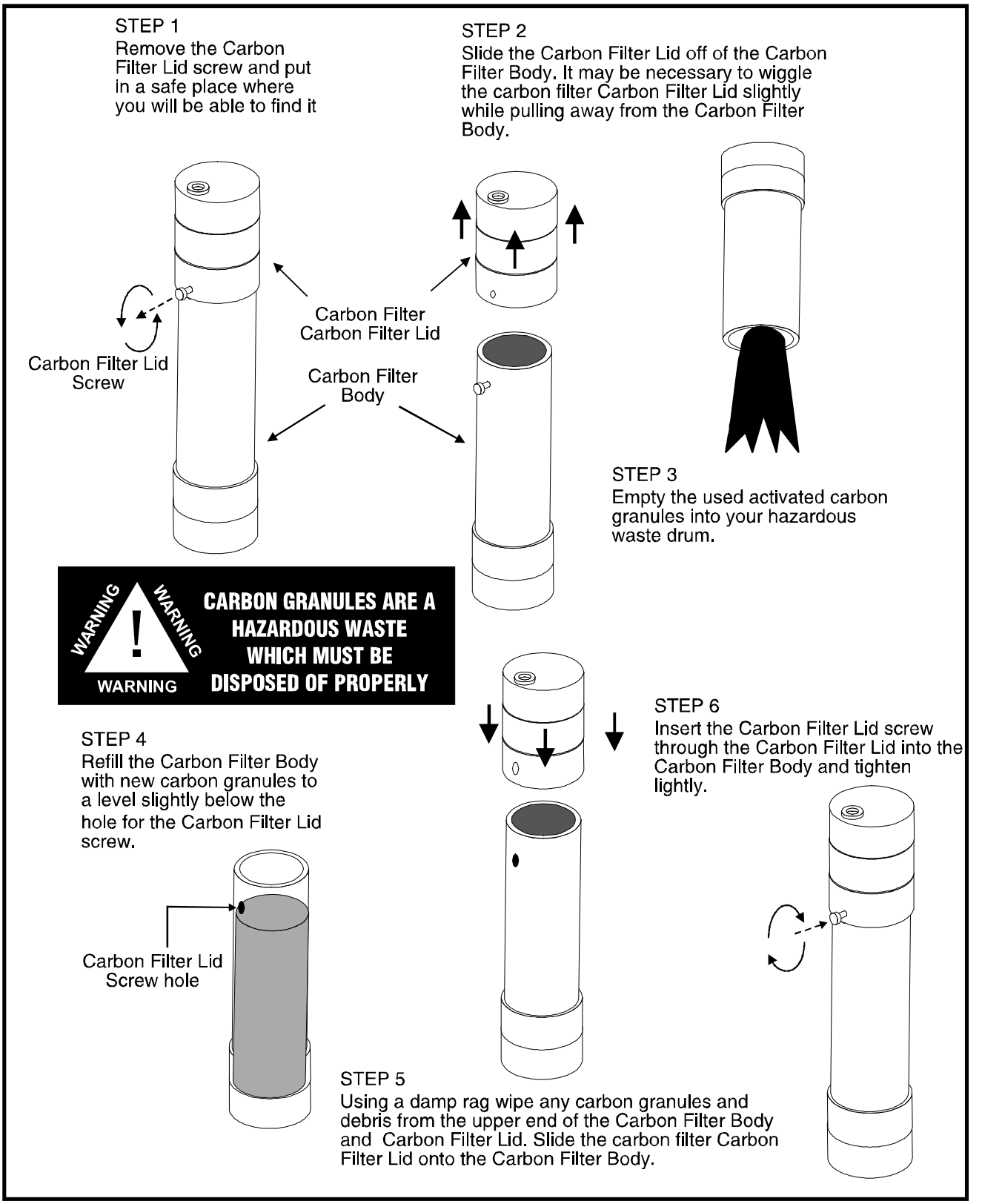


Fig. 6-3

6.3 Solvent Safety maintenance

6.3.1 Rebuilding the Solvent Safety

6.3.1.1 Still boilover recovery

If you have a still boilover and solvent enters the Carbon Vessel the styrafoam piece in the Solvent Safety will dissolve, draining the Solvent Detection Cylinder back into the Separator Reservoir and disabling the flow of water. When this occurs you will need to rebuild the Solvent Safety.

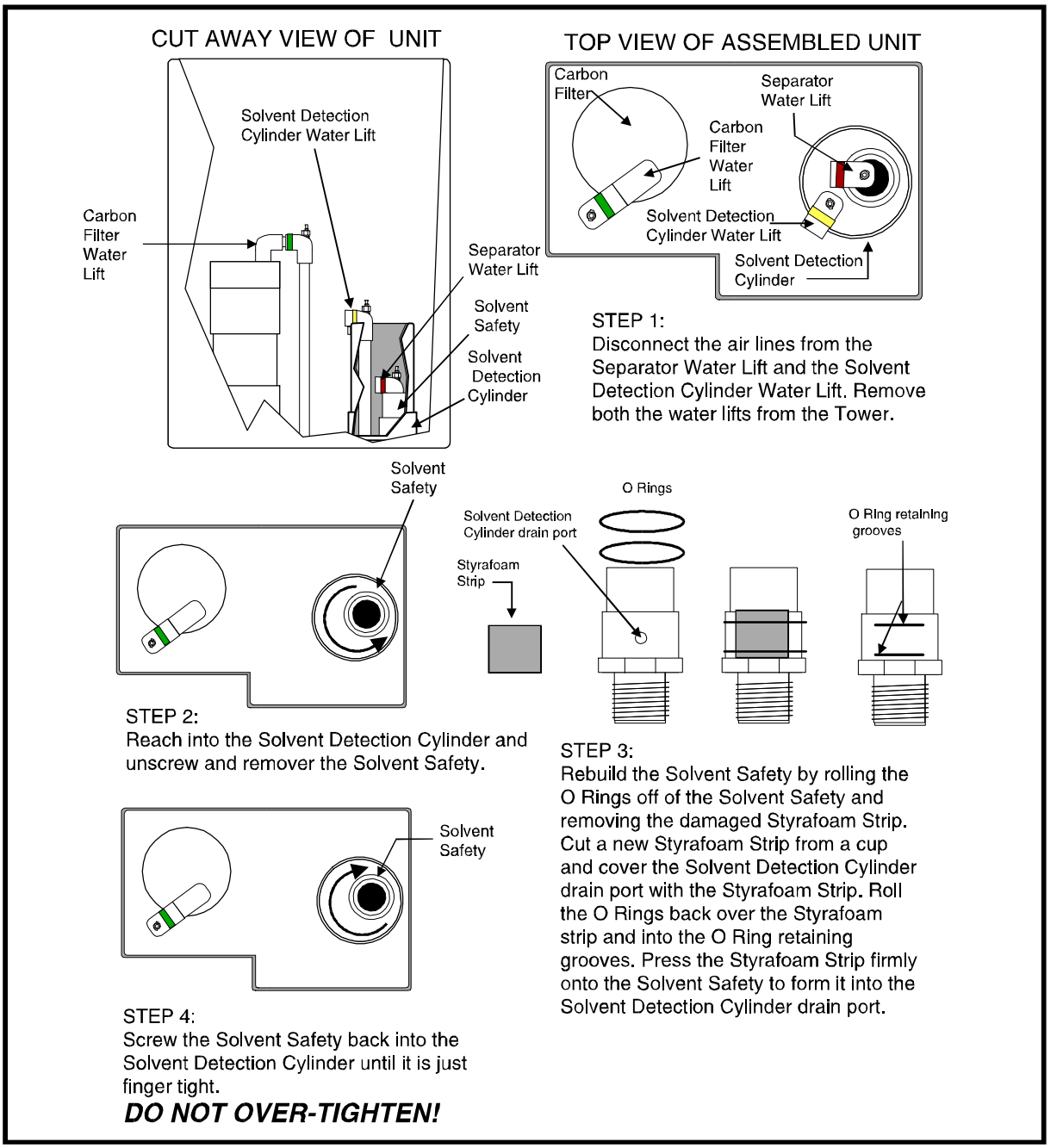
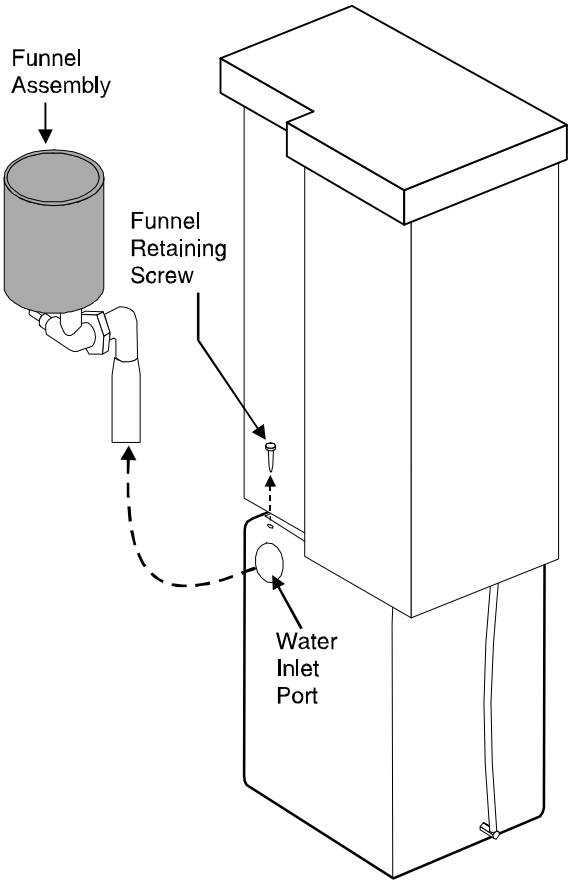


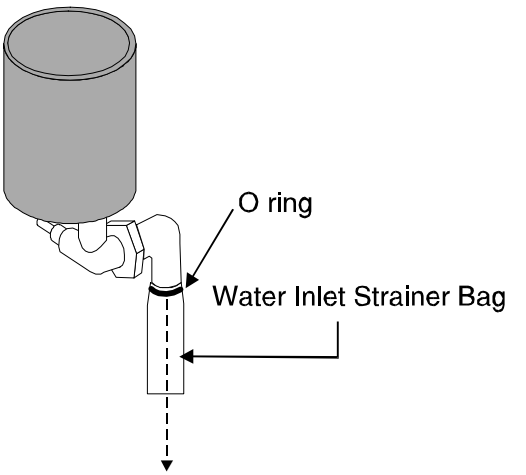
Fig. 6-4

6.4 Cleaning the Water Inlet strainer Bag

STEP 1:
Remove the Funnel Retaining Screw and rotate the Funnel Assembly out of the Water Inlet Port.



STEP 2:
Roll the retaining O Ring off away from the Funnel Assembly and off the fabric Water Inlet Strainer Bag. Remove the Water Inlet Strainer Bag for cleaning.



STEP 3:
Roll the O Ring over the bottom of the cleaned Water Inlet Strainer Bag. Slide the cleaned Water Inlet Strainer Bag over the lip on the bottom end of the Funnel Assembly then roll the O Ring up the Water Inlet Strainer Bag and over the lip on the bottom end of the Funnel Assembly. Place the Funnel Assembly through the Water Inlet Port, rotate the Funnel Assembly while pushing it through the Water Inlet Port. Push Funnel Assembly into position. With the Funnel Assembly vertical look down through the Funnel Retaining Screw hole, locate the hole in the Funnel Assembly and insert and tighten the Funnel Retaining Screw.

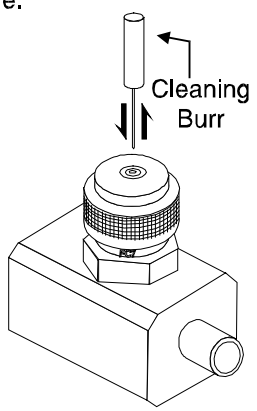
Fig. 6-5

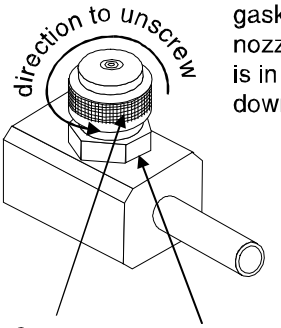
6.5 Clearing the Nozzle

Quick cleaning the nozzle
Try steps 1 and 2 a few times before performing steps 3 - 8.

Step 1
Slightly open the Nozzle Air Valve.

Step 2
With air blowing through the Nozzle slowly rotate the cleaning burr back and forth while gently moving the burr in and out.

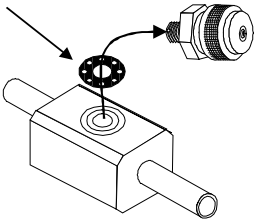




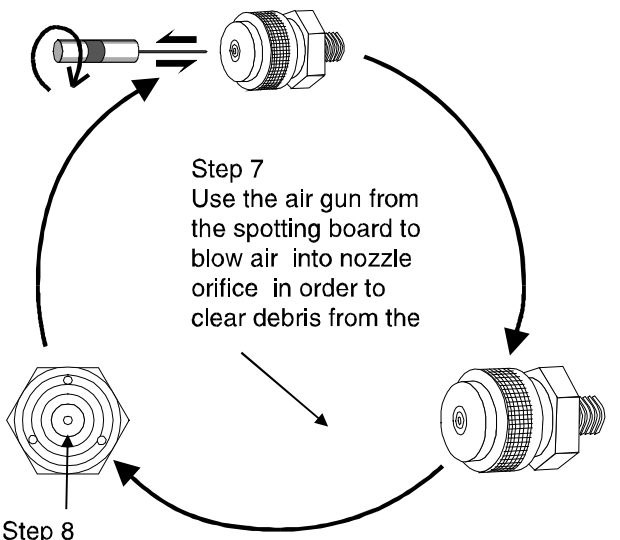
Step 3
Unscrew knurled ring to allow room for a wrench around flats on the nozzle .

Step 4
use a high quality crescent wrench to unscrew nozzle from body.

Step 5
Lift nozzle off body along with gasket. When reassembling the nozzle be sure the round gasket is in place then tighten the nozzle down firmly (do not over tighten).



Step 6
Insert the tip of the cleaning burr into the center hole of the nozzle rotate slowly clockwise while gently moving the burr in and out.



Step 7
Use the air gun from the spotting board to blow air into nozzle orifice in order to clear debris from the

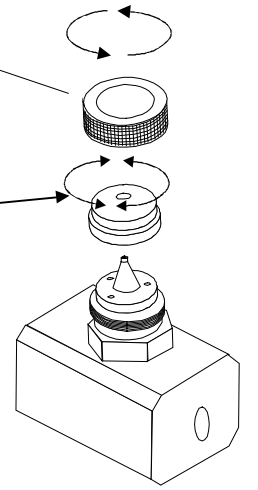
Step 8
Examine the rear or the nozzle. Be sure hole looks round and there is no debris in nozzle interior.

Cleaning The Air Cap

Try the quick clean and steps 3 - 8 first

Step 1
Unscrew knurled ring and remove. From nozzle

Step 2
Grasp air cap gently with pliers and twist back and forth while pulling cap away from nozzle body. Remove any debris or corrosion found under air cap or on nozzle body. Use a tooth brush to clean.



Exploded view of nozzle assembly

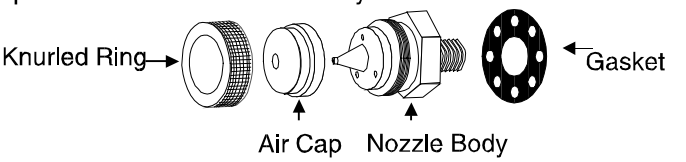


Fig. 6-6