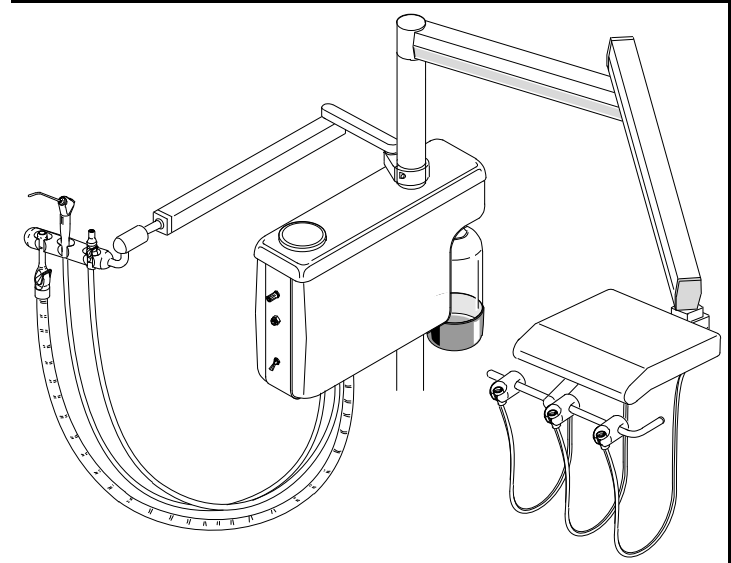




*Committed To Innovation*

**Installation Instructions for the  
System 6000, Model #6510**



## *Contents*

Checklist	Page 1
Install Post on Chair Mount Bracket	Page 2
Install Post Mounted Utility Center	Page 2
Install Telescoping Arm	Page 3
Install Assistant's Instruments	Page 3
Install Arm Assembly and Control Head, 40" Post	Page 4
Install Arm Assembly and Control Head, 22" Post	Page 5
Install Light Post Extension	Page 5
Install Floor Utility Sub-Assembly	Page 6
Make Tubing Connections in the Post Mounted Utility Center	Page 6
Connect Foot Control	Page 6
Connect Assistant's Instruments	Page 8
Connect Autoclavable Syringe	Page 8
Connect Drain Tubing in Floor Box	Page 8
Turn on System and Adjust	Page 8
Install Water Heater (Optional)	Page 9
Install Fiber Optic Handpiece Tubing	Page 12

**The 6510 system comes with the following items:**

- ◆ Arm and control head assembly, including a stainless steel tray and non-skid pad, with handpiece tubings and umbilical installed.
- ◆ Telescoping assistant's arm and assistant's instrumentation including:
  - Autoclavable HVE
  - Autoclavable SE
  - Deluxe Autoclavable Syringe
- ◆ Post mounted utility center, including:
  - Vacuum canister
  - Self-contained water system
- ◆ Floor utility sub-assembly, including:
  - Two manual shut-off valves, one for air, one for water
  - Two master shut-off valves
  - Two mini-regulators
- ◆ Mounting post, either 40" or 22"
- ◆ Wet/Dry foot control
- ◆ Optional light post extension kit.
- ◆ Chair adaptor

**You will need the following tools and materials to install the system:**

Level, preferably with built-in magnet  
 5/32", 1/8", 1/4" and 3/16" hex keys  
 3/4" open end or box end wrench  
 3/32" ball driver (provided in syringe kit)  
 1/4" and 1/8" tubing sleeves and sleeve tools.  
 Teflon tape  
 Large crescent wrench  
 Appropriate hardware and tools to mount the chair adaptor.

1. **Install the chair adaptor.** Follow the chair manufacturer's recommendations.
2. **Install the post on the chair mount bracket (*Figure 1*).**

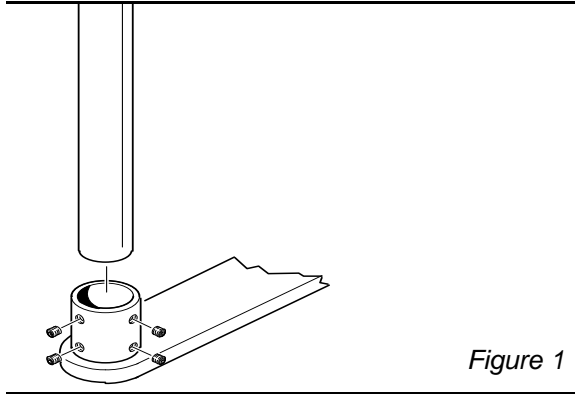


Figure 1

Place the post in the chair mount collar. Make sure the end of the post with the aluminum crush bearing goes into the collar.

Position the post in the collar so that the slot for the umbilical faces the head of the chair. This will ensure proper placement of the PMU and other components

when they are installed.

With a level and a hex key, adjust the eight set screws in the chair mount bracket to set the post in a perfectly vertical position. Tighten the set screws.

**3. Install the post mount utility center on the post (Figure 2).**

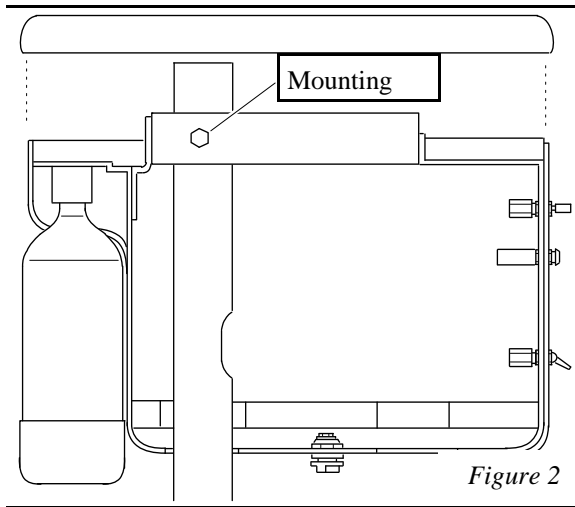


Figure 2

In order to install the post mount utility center (PMU), you will need to remove the side covers:

On the bottom of the PMU, locate two black, 1/2" diameter knobs. Turn these counterclockwise to loosen. Loosen the knobs until you feel the threads disengage; they are held in place with a washer so they will not fall out.

Pull the side covers off of the PMU and set

them aside.

4. Remove the end cap from the rigid arm, as shown in **Figure 5** (1/8" hex key).
5. In the open end of the rigid arm, locate the unused 1/8" orange line. This line is unconnected in the control head. Pull it out from the

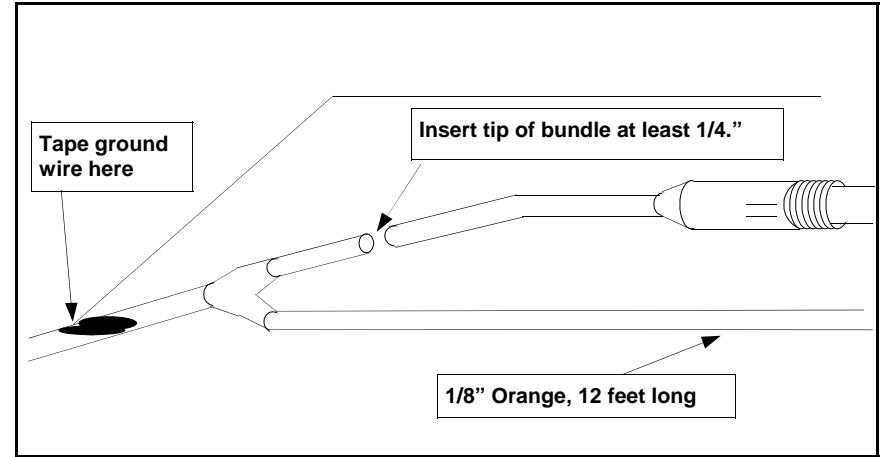


Figure 7

control head until it hangs free from the open end of the rigid arm (There are two 1/8" orange lines. The unused line is labelled "A" in the control head).

6. One end of the fiber optic handpiece tubing has a nut attached. Hang the nut in one of the handpiece holders on the control head. Route the other end of the tubing (with the fiber optic bundle and ground wire) into the control head, through the hole indicated in **Figure 2**. Cut the handpiece tubing to the desired length and connect to the handpiece block.

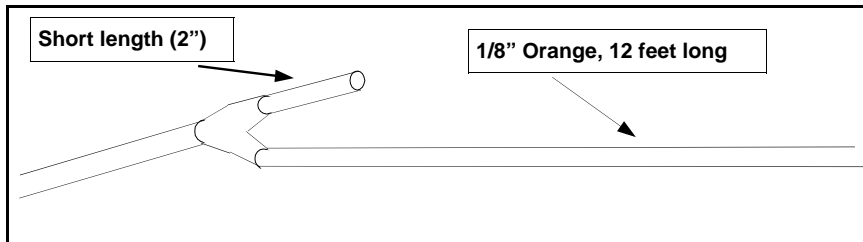
**Note:**

**Handle the fiber optic bundle with care. Excessive bending can damage the fibers.**

7. Route the fiber optic bundle and ground wire through the hole indicated in **Figure 2**, along the short control arm, through the knuckle at the end and along the bottom of the flex arm. Feed them through the knuckle at the end of the flex arm and bring them out through the open end of the rigid arm, next to the 1/8"orange tubing.

arm, as shown in **Figure 3** (3/32" hex key).

3. Remove the bottom access strip from the flex arm, as shown in **Figure 4** (5/64" hex key).



*Figure 6*

Slide the PMU onto the mounting post and position it so that:  
 The slot in the post for the umbilical is inside the PMU.  
 There is 1½" clearance between the bottom of the PMU housing and the chair mount collar.  
 The cuspidor clears the chair arm  
 The cup filler clears the delivery system arm.

Within these limits, height of the PMU can be set to the user's preference.

Tighten the set screw with a 3/4" wrench. Leave the covers off so you can make tubing connections after all of the system components are installed.

#### 4 Install telescoping arm and assistant's instruments (*Figure 3*):

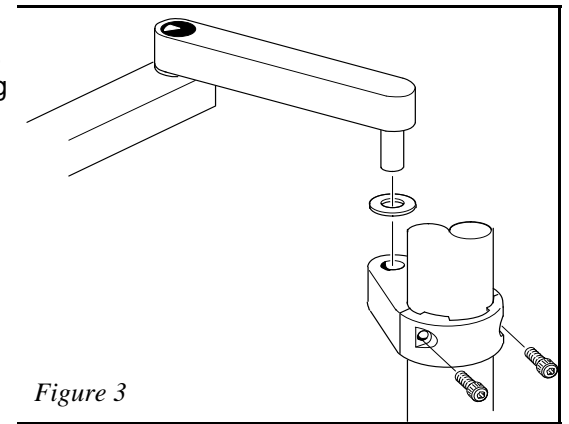
##### Warning

**Use care when handling the telescoping arm assembly.  
 If the arm is tilted with the extension facing down,  
 the extension may slide out unexpectedly.**

Slide the post mounting clamp off of the pin on the arm assembly, being careful not to lose the thrust washer.

Use a 3/16" hex key to loosen the screws on the post mounting clamp so that it fits over the post. Locate the clamp at the desired height and tighten the screws.

Position the thrust washer over the mounting hole in the clamp. Slide the pin on the end of the telescoping arm through the washer and into the hole.



Place the HVE, the SE and the autoclavable syringe in the three position holder.

#### 5. Install the arm assembly and the control head on the mounting

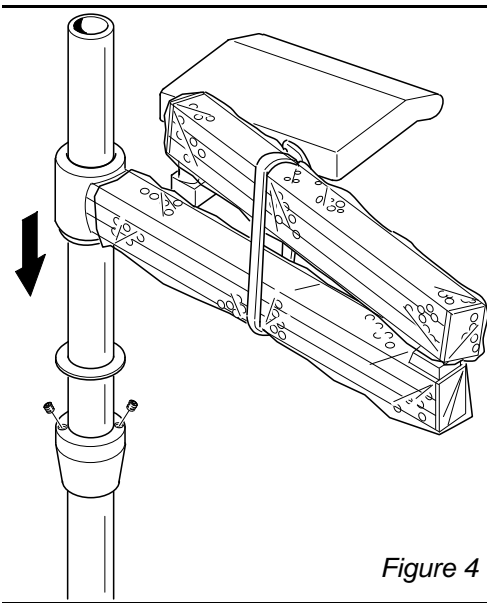
post.

**WARNING**

The arm assembly for this unit is spring loaded. Do not remove the shipping strap from the arm assembly until the unit is fully installed. Bodily injury could result from working with the arm assembly unrestrained.

- A. Follow these instructions if your system came with a 40" post and a post mounted flex arm (*Figure 4*).

If your system came with a 22" post and a top mounted flex arm (and optional light post extension kit), skip to section "B".



Leave the shipping strap on the arm assembly during installation.

Slide the collar over the post. Position the collar at the desired height and tighten the set screws using a 3/32" hex key.

Slide the thrust washer over the post and down onto the top of the collar.

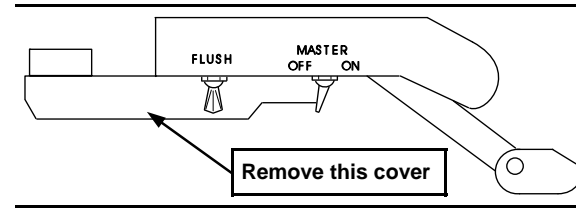
Install the arm assembly on the post and slide it down on top of the thrust washer.

Route the umbilical from the rigid arm into the hole in the post, down to the slot, and out

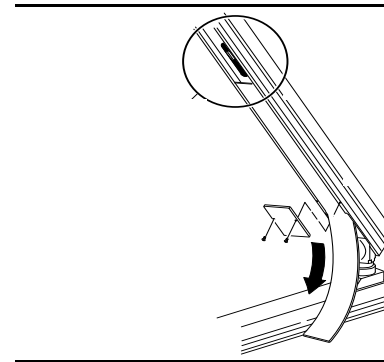
*Figure 4*

of the post into the PMU.

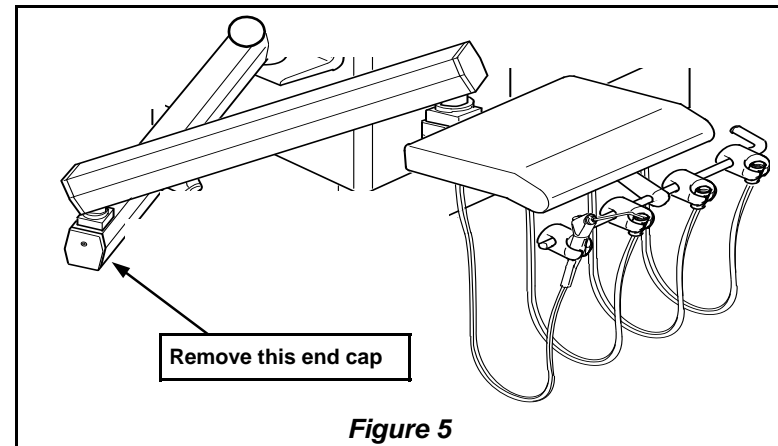
- B. 22" post and top mounted arm (*Figure 5*).



*Figure 3*



*Figure 4*



*Figure 5*

2.

Remove the cover from the bottom of the short control

**Instructions for Installing Fiber Optic Tubing Bundle in DCI 52" Flex Arm**

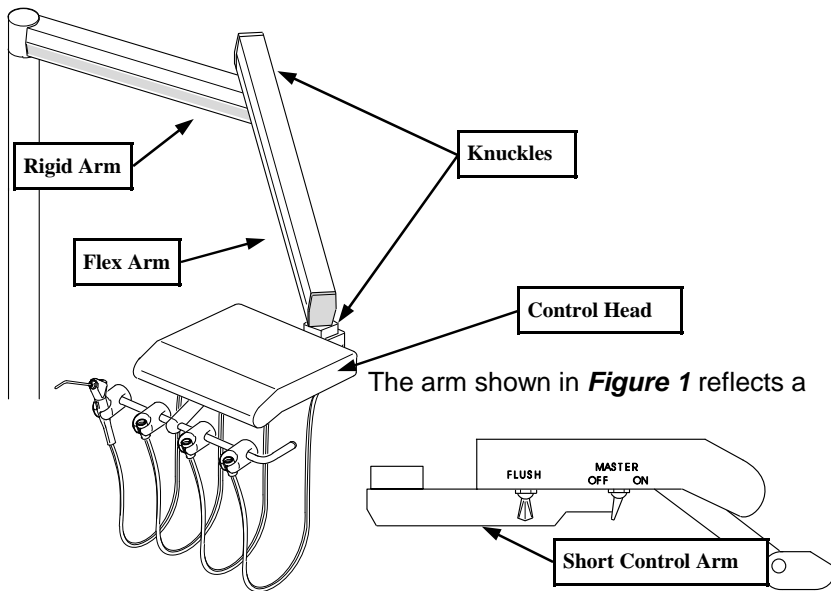


Figure 1

typical 52" flex arm, used in the production of the 6500. Terms identified in **Figure 1** will be used throughout the instruction.

To route a fiber optic bundle from the control head, through the arm and post, to the PMU, begin by disassembling as follows:

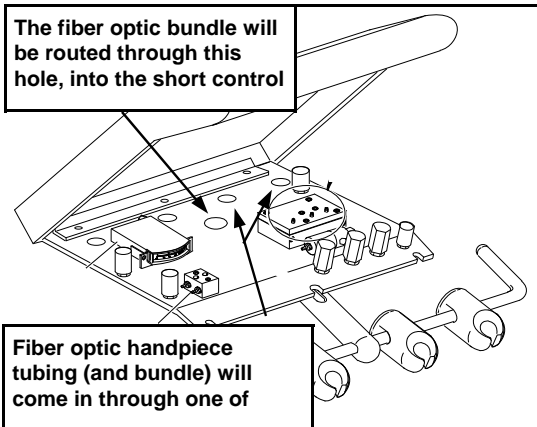


Figure 2

**Leave the shipping strap on the arm assembly during installation.**

If you have a light post extension kit, slide the extension clamp over the mounting post before installing the arm.

Position the thrust washer over the bushing in the end of the mounting post. Thread the umbilical from the end of the arm into the top of the post.

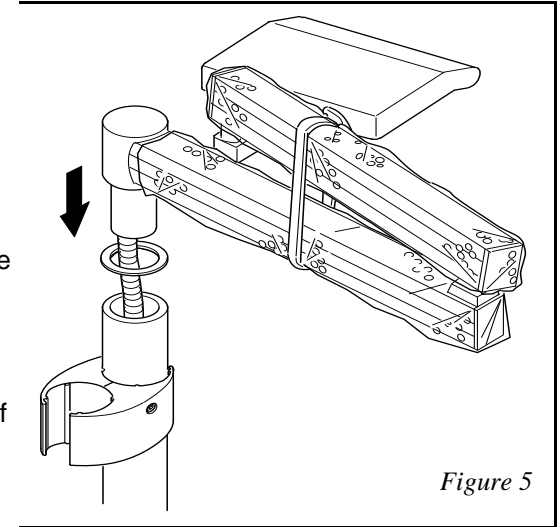


Figure 5

Slide the stud on the end of the arm through the washer and into the bushing in the top of the post.

Pull the umbilical out of the post through the slot and into the PMU.

**6. To install the light post extension (Figure 6):**

Insert the extension post into the extension clamp. Make sure the bushing for the top mounted light faces up. Position the extension clamp and post at the desired height on the mounting post. Tighten one set screw on each side of the clamp, using a 1/4" hex key.

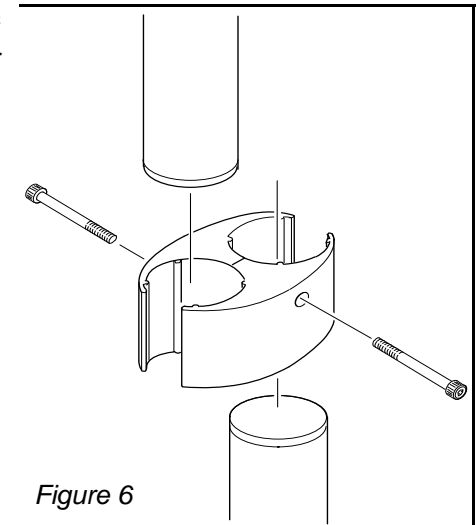


Figure 6

**7. Install the floor utility sub-assembly**

Route the umbilical (and the floor utility sub-assembly) from the PMU to the floor box. Thread the manual shut-off valves for air and water onto the air and water supply pipes (these should be sealed, for example with Teflon tape).

## 8. Make Tubing Connections in the PMU

### Control Head

- ◆ 1\8" yellow from the control head to 1\8" yellow (pilot air). Both of these lines are labelled "5."
- ◆ 1\8" clear from the control head to 1\8" clear (Unregulated air). Both of these lines are labelled "4."
- ◆ 1\8" gray from the control head to regulated air (multi-connector).
- ◆ 1\8" red from the control head to 1\8" red (regulated water).
- ◆ The 1/8" orange line, labelled "A", is unconnected in the control head. It can be used for any application. To use this line for a chip blower, see the section below on foot control connections.
- ◆ The 1/8" red line in the umbilical, labelled "W", is unconnected too. It is intended to be used when installing a syringe water heater in the system.

### Foot Control

**Use figure 6 if your foot control has 4-hole tubing. Use figure 7 if it has 5-hole tubing.**

Route the free end of the foot control tubing through the bottom of the PMU and connect:

- ◆ 1\4" gray ribbed from foot control (air supply) to regulated air in the PMU (multi-connector).
- ◆ 1\4" gray unribbed from foot control (drive air) to 1\4" gray from the control head. Both of these lines are labelled "1."
- ◆ 1\8" water coolant signal line from foot control to 1\8" orange from the control head. Both of these lines are labelled "3."
- ◆ 1\8" air coolant line from the foot control to 1\8" white from the control head. Both of these lines are labelled "2."
- ◆ 1\8" chip blower/scaler line from foot control to the unconnected 1\8" orange line from the control head (if applicable). This line is labelled "A." If used for chip blower, connect to air coolant in the control head.

### Assistant's Instruments

1. Locate the cross connector with four 1/4" blue lines and one 1/8" blue line. The 1/8" blue line goes to the city/bottle routing valve. Remove this line and plug the port in the cross connector.
2. Locate the 1/8" red line in the umbilical (the one that's connected to the water outlet barb on the water heater). Connect this line to the city/bottle routing valve in place of the 1/8" blue.

### Note:

**The water heater and the water lines must be purged of air before turning on the heater.**

3. Flip the master toggle on your system to the on position.
4. Press on the syringe water button until a steady stream of water comes out of the syringe.
5. Connect the power cord to 110VAC. If you have purchased the 220 \240 VAC water heater (3112), you will need to install a plug on the end of the power cord. Connect the wires as follows:

Green - Ground  
Black - High  
White - Low

6. If your water heater is air actuated, it will turn on when you flip the master air toggle on your delivery system to the on position. Manually controlled water heaters have a power switch, located just above the DCI label.
7. Water temperature is adjusted by turning the screw on top of the water heater. Turning the screw clockwise increases water temperature. Turning the screw counter-clockwise decreases the temperature.



Remove the plug from one of the extra ports, and install a 1/8" barb fitting.

3. Connect the water inlet barb on the syringe water heater to the 1/8 barb on the water regulator.

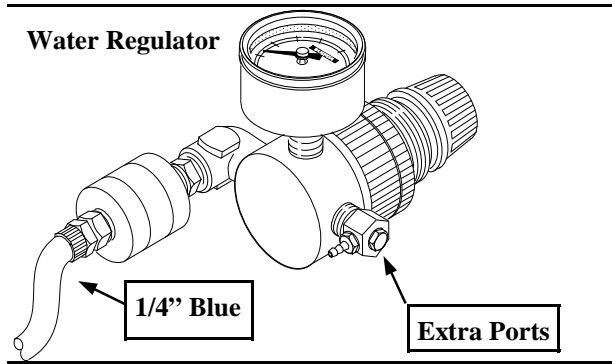


Figure 2

4. Connect the water outlet barb on the water heater to the 1/8" red line in the umbilical.

5. If your water heater is air actuated (model #3111), you will need to connect the air actuated switch to master air. Run a 1/8" line from the barb fitting on the air actuated switch to a tee connection in the master air line (1/8" yellow).

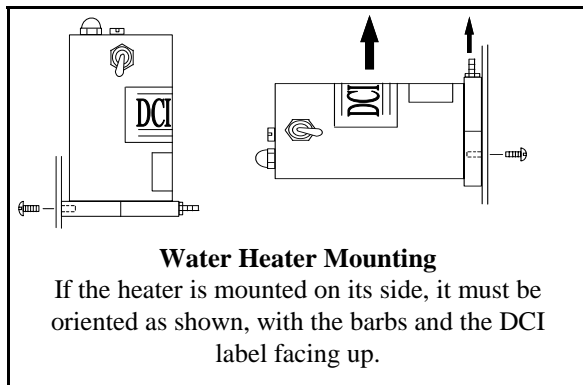
**Do not connect the power cord at this time.**

**Note:**

The water heater must be mounted in order to operate safely. It can be mounted either upright or on its side. However, if the water heater is mounted on its side, it must be oriented with the inlet and outlet barbs, and the DCI label, facing up. Orienting the heater any other way could cause it to fail (see figure 3).

6. Mount the water heater in the floor box using the screws provided.

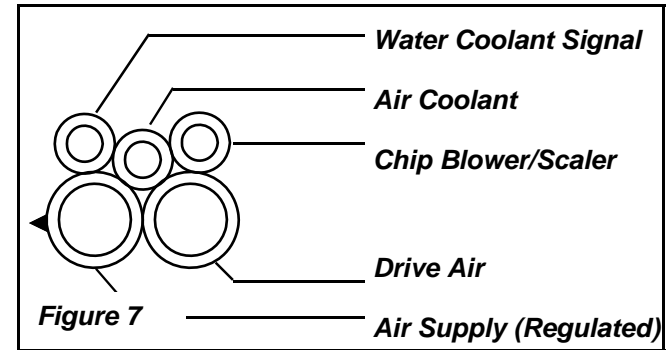
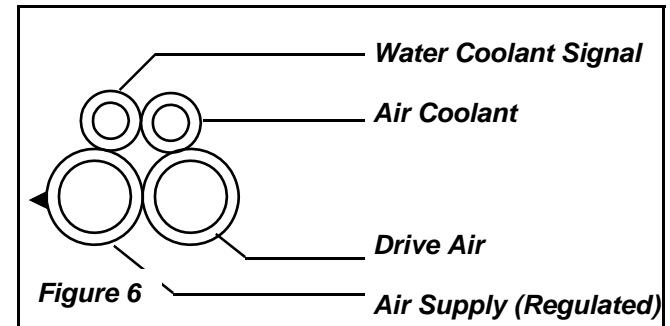
**In the PMU:**



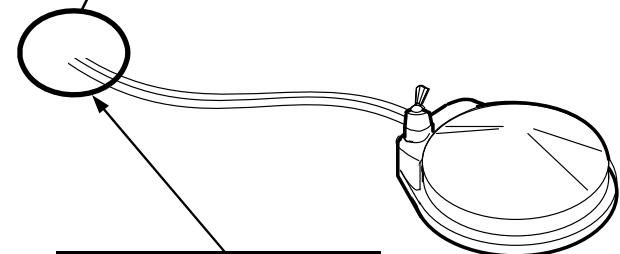
**Water Heater Mounting**

If the heater is mounted on its side, it must be oriented as shown, with the barbs and the DCI label facing up.

Figure 3



Free end of the foot control tubing will look like these diagrams as it faces



Route the free end of the foot control tubing through the bottom of the PMU.

Route the gray lines from the SE ,the HVE and the syringe through the bottom of the PMU and connect:

- ◆ 1½" gray from HVE to 1½" fitting on the solids collector.
- ◆ 1¼" gray from SE to 1¼" fitting on the solids collector.

#### To connect the autoclavable syringe:

Locate the syringe block in the PMU. One of the input barbs on the block will have a red line (water), the other will have a gray line (air). Connect the ribbed line (air) from the syringe to the barb opposite the gray line. Connect the unribbed line (water) from the syringe to the barb opposite the red line.

An instruction booklet is supplied with the syringe.

### 9. Make Tubing Connections in the Floor Box

Connect:

- ◆ 1½" gray drain tube from the solids collector to vacuum source.

### 10. Remove the shipping strap and wrapping from the arm. Install the side covers on the PMU.

### 11. Turn On and Adjust Air and Water Supply

Open the manual shut-off valves in the floor box. Adjust regulated air to 80 psi, and regulated water to 40 psi. The mini-regulators in the floor box are non-relieving. When adjusting for a lower pressure, make the knob adjustment, then press the syringe button to relieve pressure and give an accurate gauge reading.

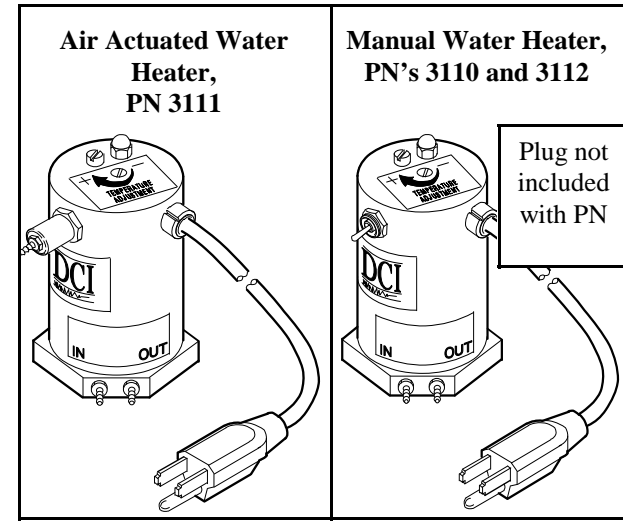


Figure 1

#### Warning:

**The syringe water heater should always be connected to city water. Do not connect your water heater to a bottled water supply. If the water supply to the heater is interrupted, the water heater may overheat, causing failure. This instruction sheet provides a connection scheme which will isolate the water heater from bottled water.**

You will need the following tools to install the Syringe Water Heater in your delivery system:

- A Phillips head screwdriver.
- A 1/8" sleeve tool.
- A 1/4" open-end or socket wrench.

It is recommended that the water heater be located in the floor box. This provides easy access to the duplex outlet. See important notes below on how to orient your water heater when mounting, to ensure safe operation.

#### *In the floor utility:*

1. Turn off air and water to your system at the manual shut-off valves before installing the water heater.
2. Locate the water regulator in the utility center (see figure 2).