

INSTALLATION INSTRUCTIONS

Radius® Cuspidor

(for Cascade® 1040 or Decade® 1011/1021 Chairs)

You Will Need:

- Hex key set
- Level
- Large flat head screwdriver
- Pliers
- 1/2" and 9/16" wrench
- Cutters

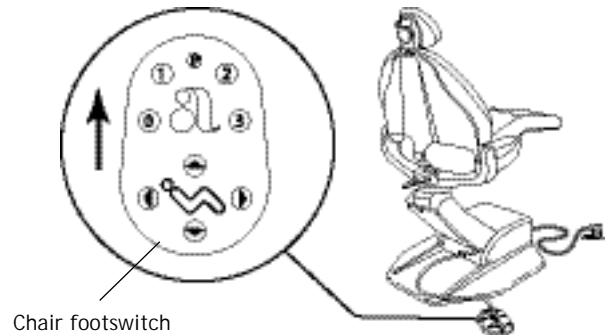


Figure 1

Before Beginning this Install

1. Install the air and water manual shutoff valves. Refer to the *Floor Box Template* (A-dec Publication No. 85.0472.00). Purge the air and water supplies of debris.
2. Install the dental chair. Refer to *Cascade 1040 chair Installation Instructions* (A-dec Publication No. 86.0157.00) or *Decade 1011/1021 Chair Installation Instructions* (A-dec Publication No. 86.0156.00).

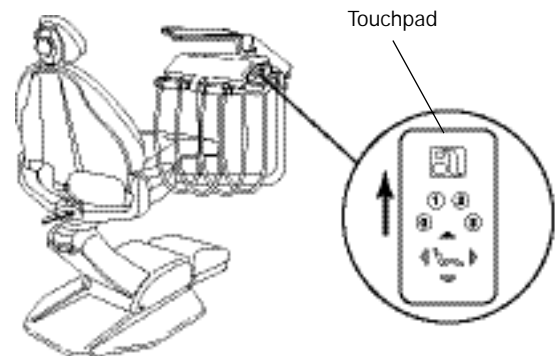


Figure 2

WARNING

The chair must be anchored to the floor to meet agency requirements. Refer to the *Radius Floor Box Installation Instructions* (A-dec Publication No. 85.2885.00) or the *Radius 2122/2132 Delivery System Installation Instructions* (A-dec Publication No. 85.2877.00) for chair anchoring instructions.

3. If a delivery system is being installed, do so now. Refer to *Radius Delivery System Installation Instructions* (A-dec Publication No. 85.2877.00).

Raise the Chair

- Raise the chair base completely up using the footswitch (see Figure 1) or the touchpad on the control head (see Figure 2).
- Unplug the chair.



ELECTRICAL WARNING

Failure to disconnect the chair from its power source can result in serious injury.

Remove the Chair Covers

1. Remove the chair stop plate (see Figure 3).
 - If you have a non-Radius chair, discard the stop plate. Go to step 2.
 - If you have a Radius chair, remove and discard the cover on the stop plate. Go to step 2.

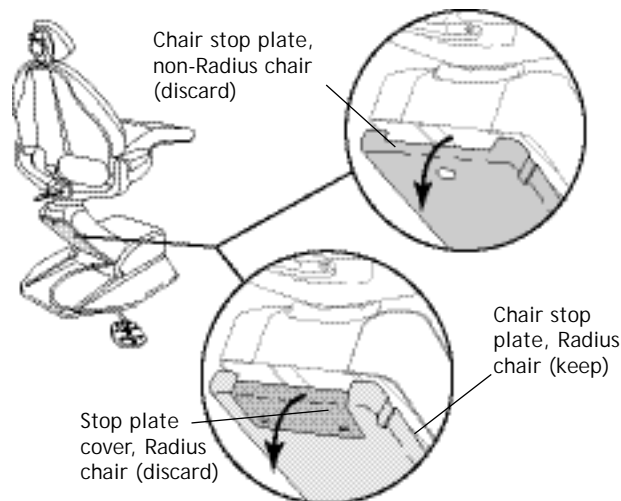


Figure 3

2. Remove and discard the chair upper lift arm cover (see Figure 4).

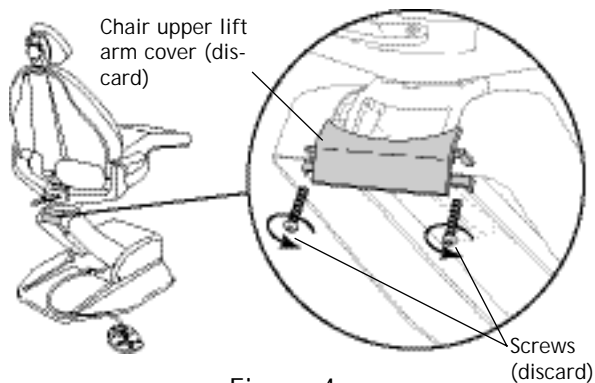


Figure 4

3. Remove the support bracket using a large screwdriver (see Figure 5). Set it aside.

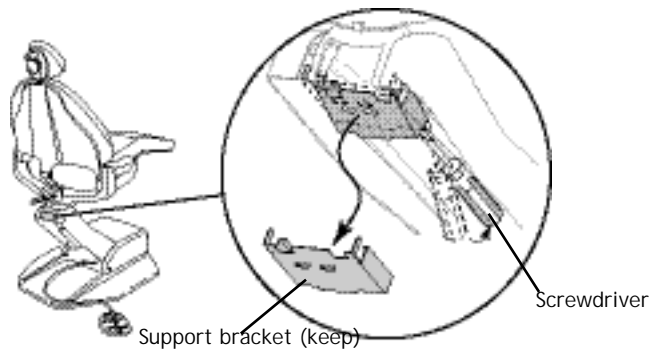


Figure 5

Install the Arm Mount

1. Remove the arm mount from the shipping carton. Loosen the bolt almost all the way (see Figure 6).
2. Place a small amount of blue Loctite® on the threads of the bolt (see Figure 6).

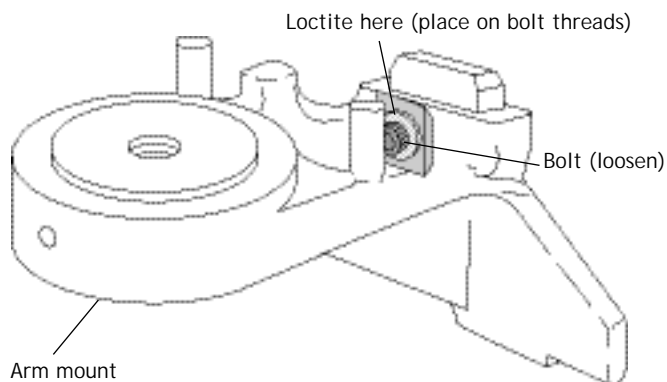


Figure 6

3. Move the brake handle to the right. Place the arm mount onto the chair swivel casting. Center the arm mount within the grooves of the chair swivel casting and under the lip of the swivel casting (see Figure 7). Be sure that the limit switch cable is beneath the arm mount.

CAUTION

Be careful not to damage the limit switch cable while installing the arm mount.

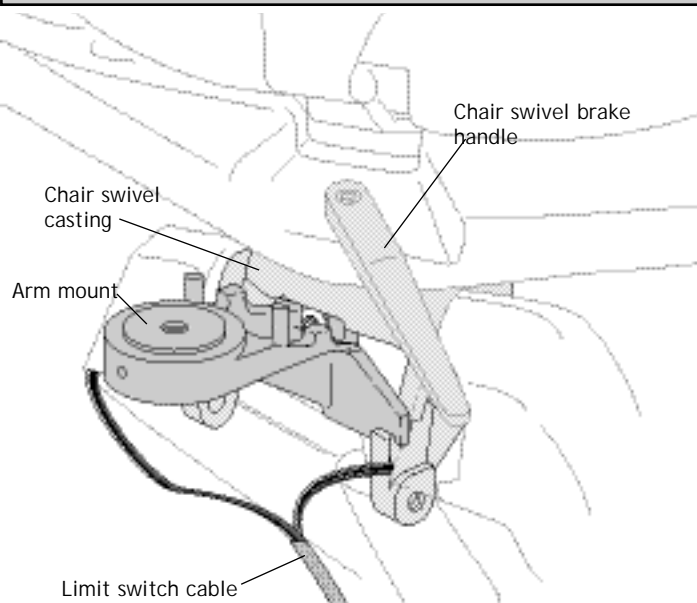


Figure 7

4. Tighten the bolt securing the mounting block to the swivel casting (see Figure 6 and Figure 8).

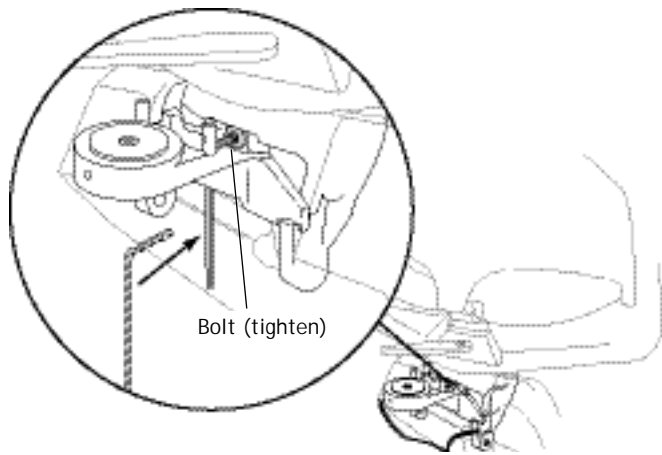


Figure 8

Install the Mounting Arm

1. Remove the link arm from the shipping carton.
2. Install the link arm to the arm mount as shown in Figure 9.

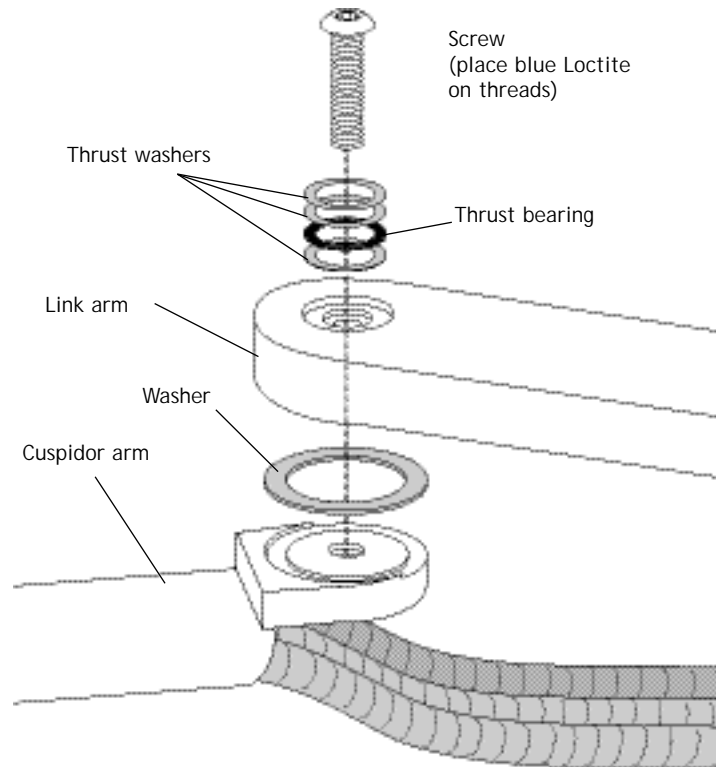


Figure 10

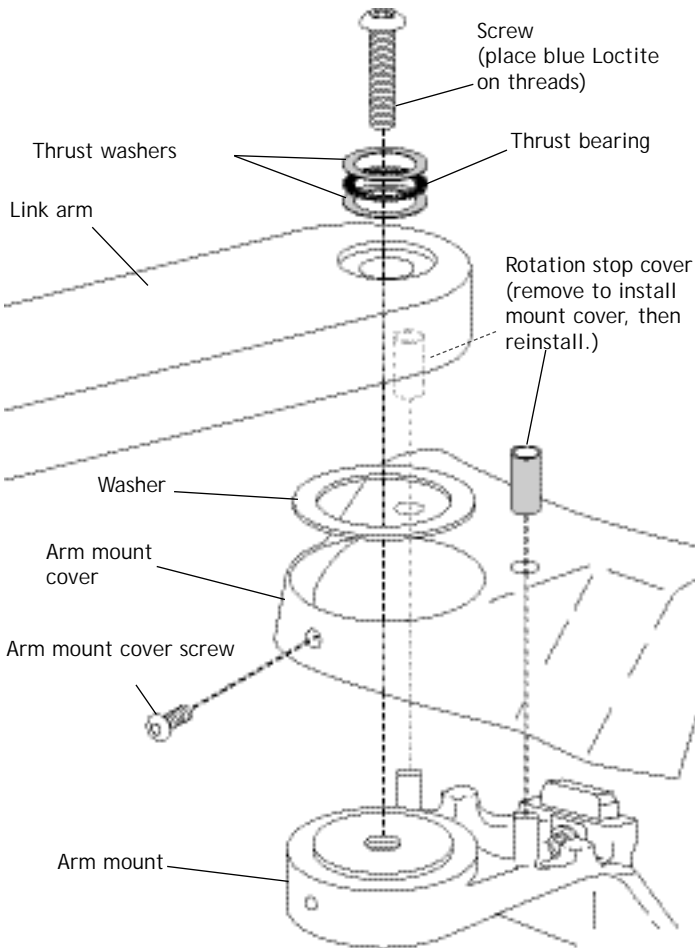


Figure 9

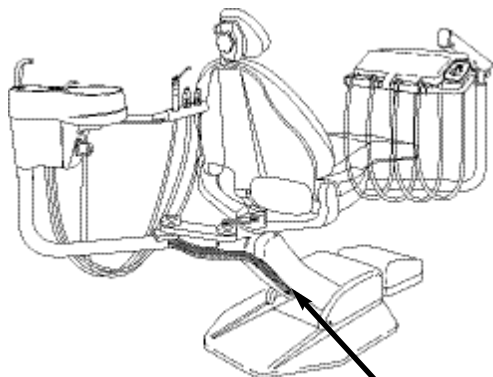
3. Install the Radius cuspidor arm as shown in Figure 10. Prop the packaging insert under the cuspidor to help support it while installing.

Connect the Cuspidor Umbilical

Position the cuspidor to the right or left of the chair according to the doctor's requests before connecting the tubings.

Connect the Limit Switch and Touchpad Cable

1. Remove the jumper from the cuspidor limit switch terminal. Tape the jumper inside the chair stop plate in case of any future need.



2. Connect the cuspidor limit switch terminal to the chair circuit board.
3. Connect the cuspidor touchpad cable to the Y-adapter circuit board (see Figure 11). If a delivery system is not present, connect the cuspidor touchpad cable to the chair circuit board (see Figure 11).
4. Peel the covering from the Y-adapter circuit board and adhere it to the power supply.

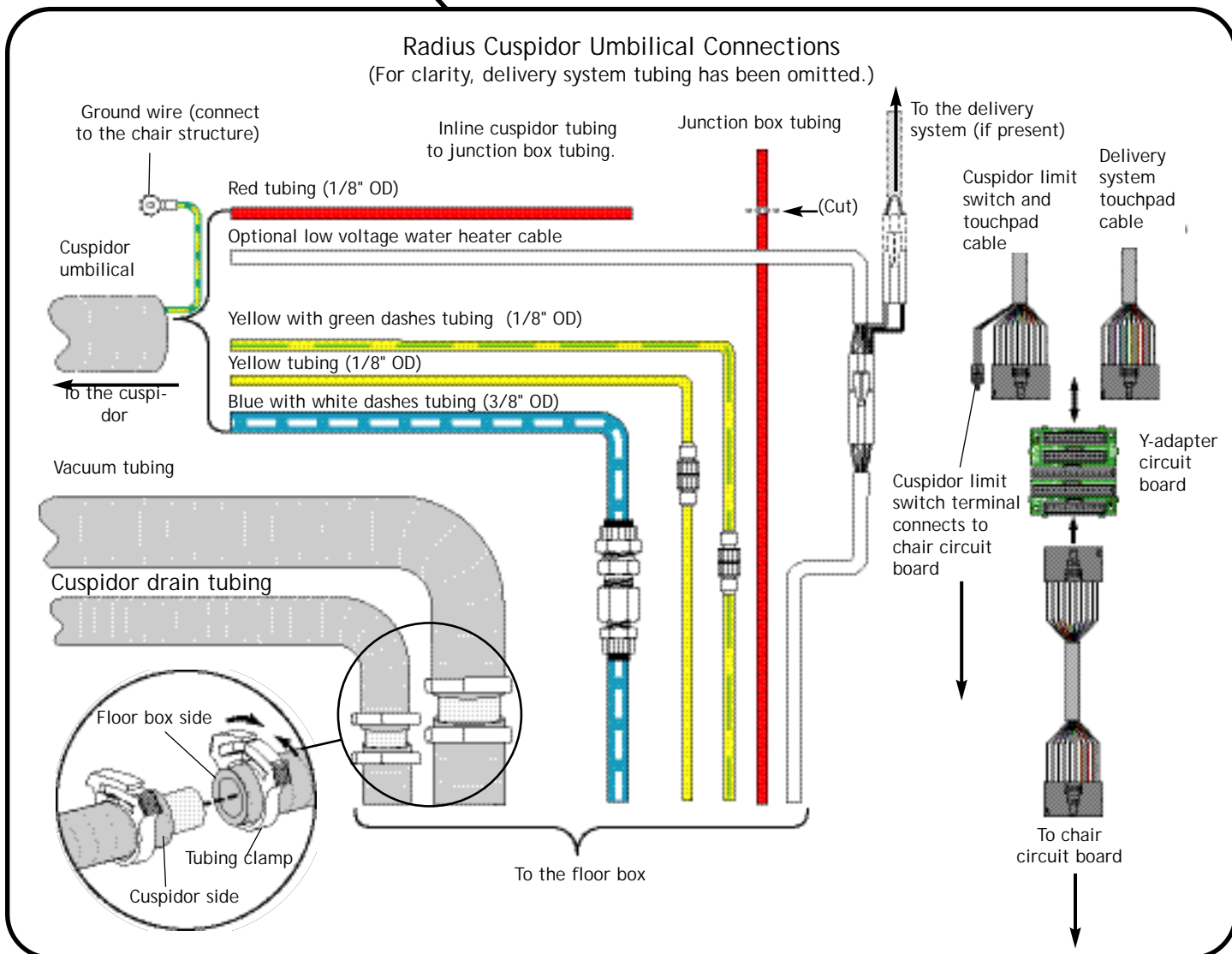
Connect the Tubing

Municipal Water Connections

1. Go to *Install the Utilities*, if you are installing municipal water connections.

Connect the Self-Contained Water

1. Cut the red tubing from the floor box to the junction box. Inline the red cuspidor tubing to the



tubing going to the junction box (see Figure 11). Use the tubing clamps provided to secure the cuspidor drain and vacuum drain tubing.

NOTE: The self-contained water option is not available on Radius cuspidors without a delivery system.

2. Connect the red tubing (1/8" OD) to the matching red tubing in the junction box using an in-line barb and uni-clamps (see Figure 12)
3. Remove the water bottle bracket from the Radius delivery system post. Cut the red tubing (1/8"

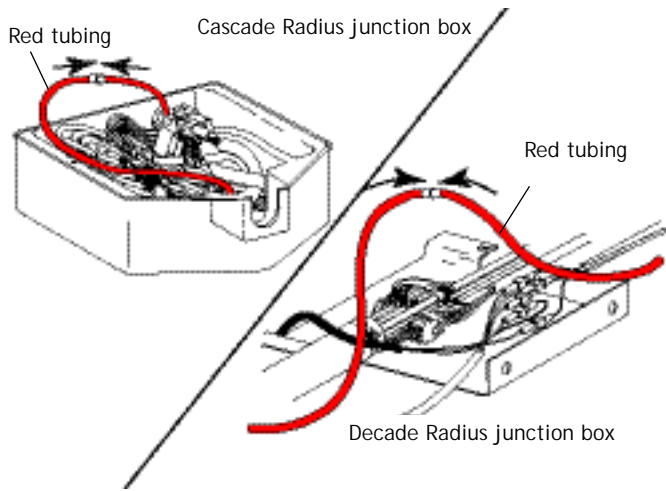


Figure 12

OD) connected to the bracket (see Figure 13).

4. Pull out the end of the red tubing (1/8" OD)

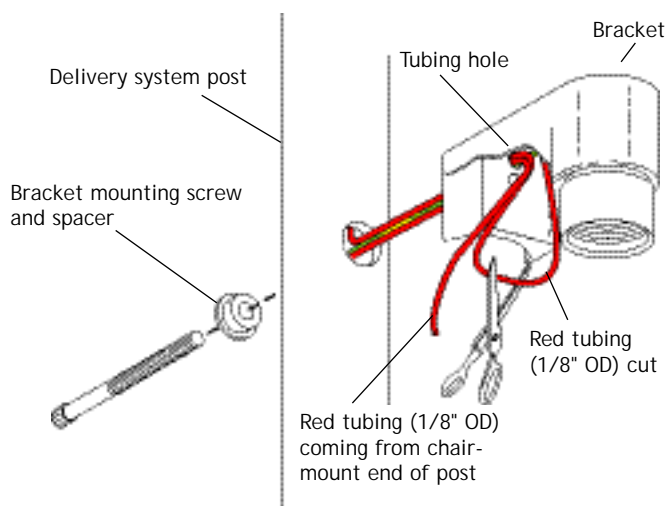


Figure 13

coming from the chair-mount end of the delivery system post (see Figure 14) and route the tubing through the tubing hole in the bracket

(see Figure 15).

5. Connect the three lengths of red tubing (1/8" OD) using a tee and uni-clamps (see Figure 14). Push

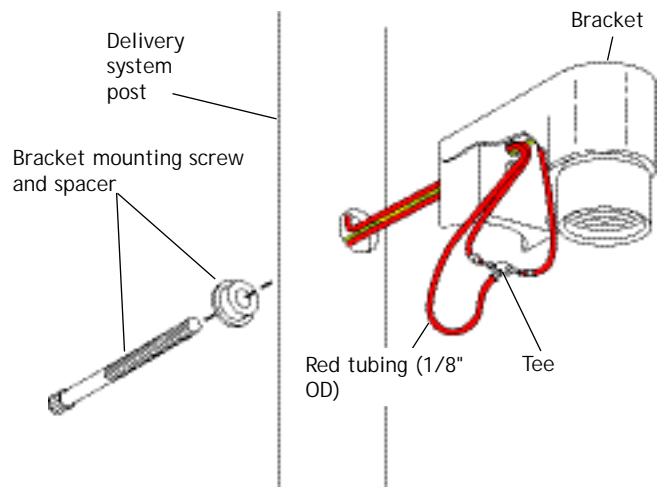


Figure 14

the tee into the water bottle bracket.

6. Reinstall the bracket to the delivery system post.
7. Remove the thumbscrew underneath the cuspidor and slide the cover down (see Figure 15).

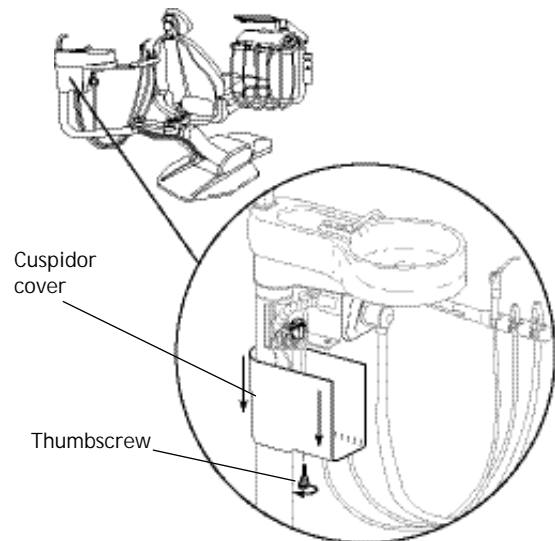


Figure 15

8. Disconnect the red syringe tubing from the water manifold. Install a barb plug onto the barb and secure with a uni-clamp (see Figure 16).

CAUTION

If the water manifold barb is not plugged, flooding will occur.

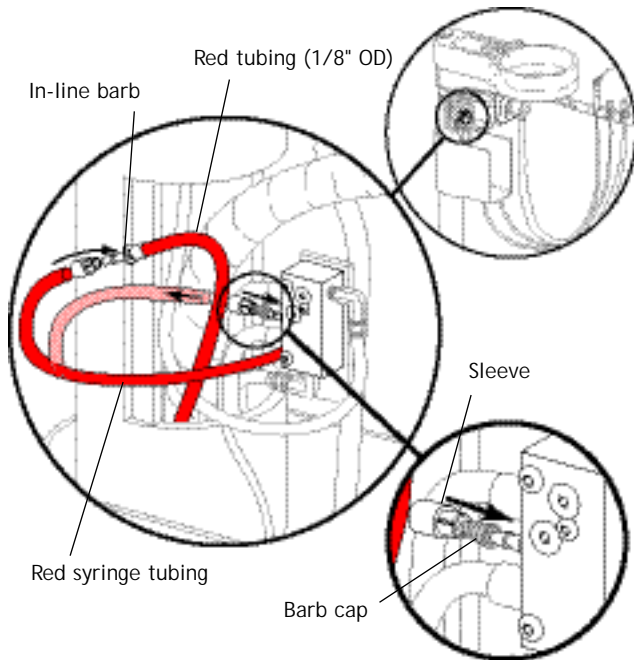


Figure 16

9. Connect the red syringe tubing to the red tubing using an in-line barb and uni-clamps (see Figure 16).
10. Slide up the cover and tighten the thumb screw (see Figure 17). Pull on the saliva ejector and syringe tubing while sliding up the cover to make sure they do not get pinched.

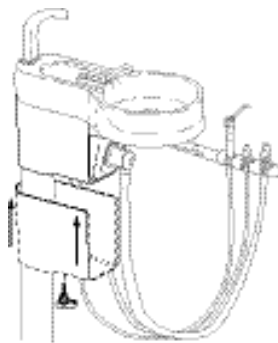


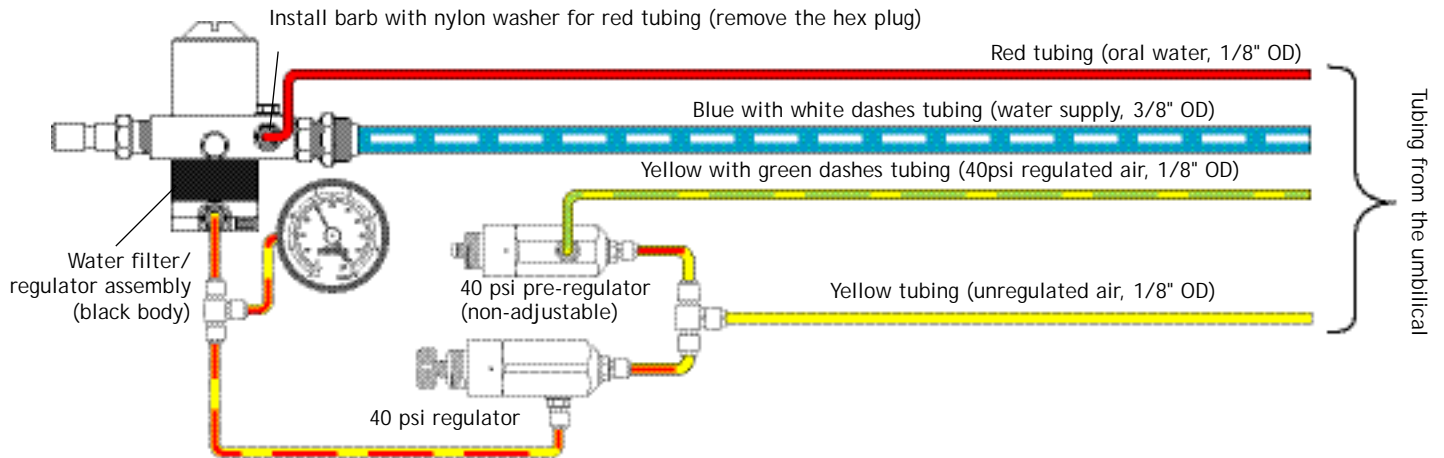
Figure 17

Install the Utilities

Refer to the appropriate Plumbing Diagram (Figure 18 or 19). Also refer to *Radius Floor Box Installation Instructions* (A-dec Publication No. 85.2885.00) or *Radius 2122/2132 Delivery System Installation Instructions* (A-dec Publication No. 85.2877.00) for utility connections.

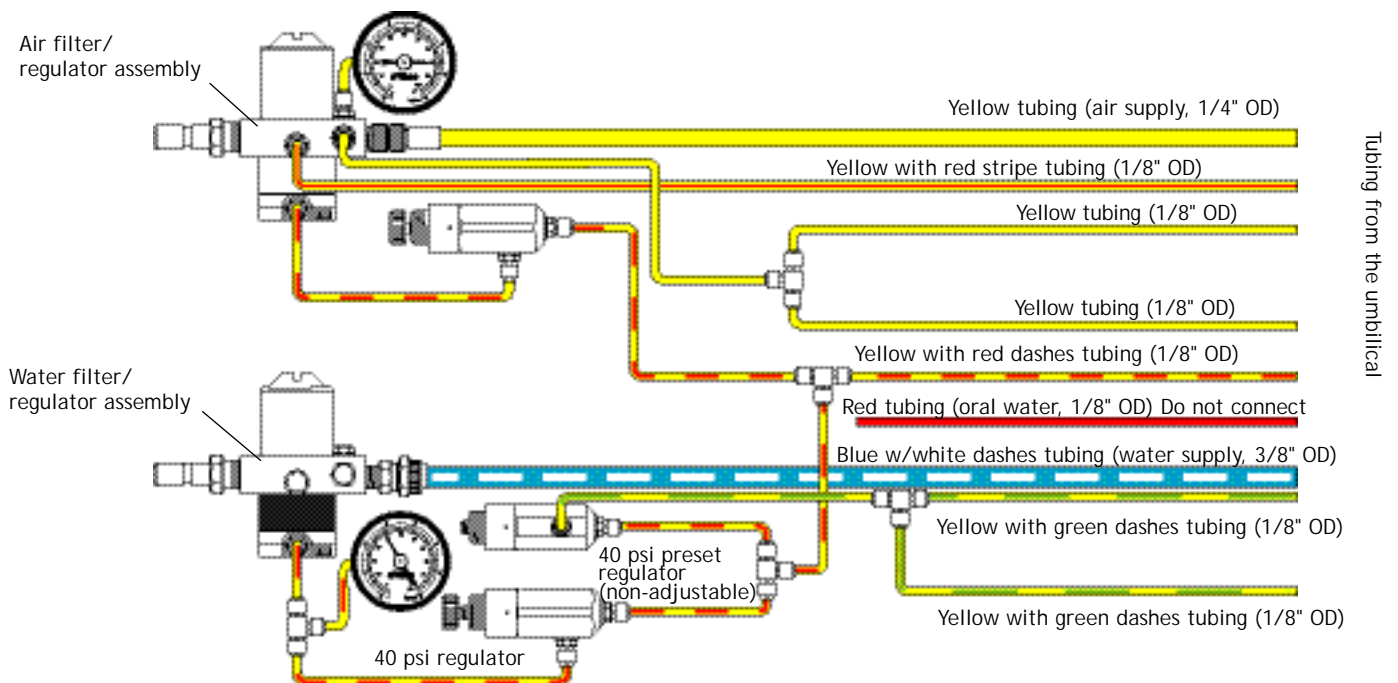
Test the Cuspidor

1. Plug in the chair.
2. Open the manual air and water shutoff valves. For air and water specifications, refer to the *Floor Box Owner's Guide* (A-dec Publication No. 85.2611.00).
3. Plug in the power supply if applicable.



Radius Cuspidor (without Radius Delivery System)

Figure 18



Radius Cuspidor Utility Plumbing Diagram (with Radius Delivery System)

Figure 19

4. Move the master on/off toggle on the delivery system or floor box to the ON position.
5. Check for air and water leakage at all connections while operating the syringe (see Figure 20).



Figure 20

6. Check for vacuum leaks while operating the HVE.

To operate the HVE, simply turn the control valve.

7. Test the cuspidor and check for water leakage at all connections. For operating instructions, refer to the *Cascade 7284* and *Radius 7285 Cuspidor Owner's Guide* (A-dec Publication No. 85.2609.00).
8. Test the touchpad operation. For operating instructions, refer to the *Decade 1011/ 1021 Chair Owner's Guide* (A-dec Publication No. 85.2635.00) or the *Cascade 1040 Chair Owner's Guide* (A-dec Publication No. 85.2605.00).

For adjustments to the cuspidor and its components, refer to the appropriate Owner's Guide.

Adjust the Tension

- Adjust the tension of the cuspidor arm to the desired resistance (see Figure 21). The cuspidor arm should rotate easily but not drift. Install caps over the screws after the tension has been adjusted.

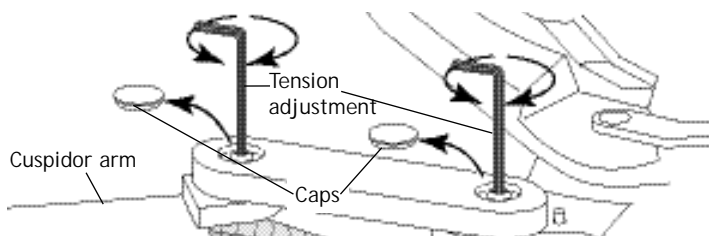


Figure 21

- Secure the cuspidor umbilical to the arm mount with a tie wrap (see Figure 22).

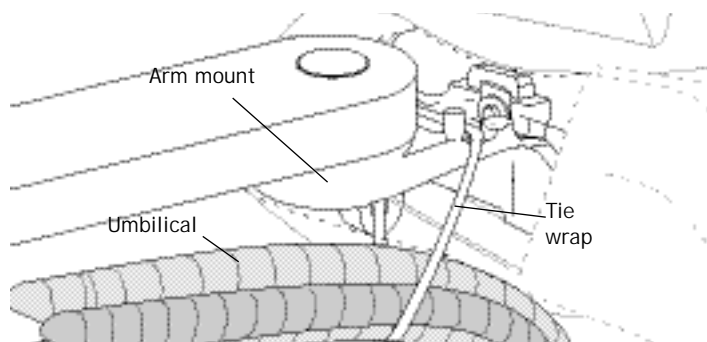


Figure 22

Install the Support Bracket

Reinstall the support bracket by snapping the bracket onto the chair link arms (see Figure 23).

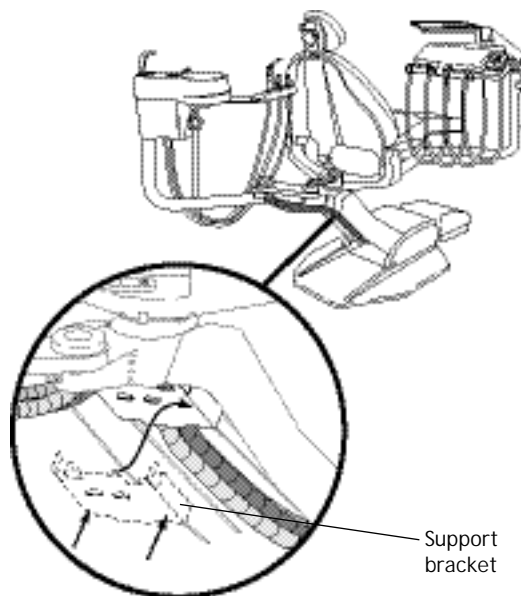












Figure 23

Before Leaving the Facility

- Reinstall the floor box cover and stop plate if you have a Radius chair. If not, install the new stop plate onto the chair. Test the operation of the stop plate.
- Distribute the Owner's Guides and instruct the dental team on the operation and maintenance of the equipment.

Identification of Symbols

| SYMBOL | DESCRIPTION |
|---|--|
|  | Recognized by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1 (2601-1) and under mutual recognition agreement with CAN/CSA C22.2, No. 601.1. |
|  | Classified by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1 (2601-1) and under mutual recognition agreement with CAN/CSA C22.2, No. 601.1. |
|  | UL listed to UL 61010A-1, BS EN 61010-2-010 and Canadian (CAN/CSA C22.2, No. 1010.1-92) safety standards. |
|  | Conforms to applicable European Directives (refer to Declaration of Conformity). |
|  | Protective earth (ground). |
|  | Functional earth (ground). |
|  | Attention, consult accompanying documents. No user serviceable parts. Attention, line voltage. Only licensed electrician should remove cover. |
|  | Type B applied part. |
|  | Class II equipment. |
|  | Caution: Metal surfaces can be hot during and following the dry cycle. |

Environmental Specifications

| TEMPERATURE/ HUMIDITY | SPECIFICATION |
|----------------------------|---|
| Storage/ Transportation | Temperature: -40C to 70xC (-40xF to 158xF) Relative humidity: 80% for up to 31xC, decreasing linearly to 50% at 40xC. |
| Operating | Temperature: 10xC to 40xC (40xF to 104xF) Relative humidity: 80% for up to 31xC, decreasing linearly to 50% at 40xC. |
| Indoor Use: | Altitude up to 2,000M (6,563 ft.), installation category II, pollution degree 2. (UL 61010A-1 and CAN/CSA C22.2, No. 1010.1-92 only) |

Classification of Equipment (EN-60601-1)

| TYPES/MODE | CLASSIFICATION |
|--|--|
| Types of shock protection | CLASS I EQUIPMENT: Dental chairs, dental lights, and power supplies CLASS II EQUIPMENT: Chair, wall, and cart-mounted delivery systems |
| Degree of shock protection | TYPE B APPLIED PART: Delivery systems only |
| Degree of protection against water ingress | ORDINARY EQUIPMENT: All products |
| Mode of operation | CONTINUOUS OPERATION: All models except dental chairs CONTINUOUS OPERATION WITH INTERMITTENT LOADING: Dental chairs - 5% duty cycle |
| Flammable gasses: | Not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide, where such gasses may accumulate in concentration (closed space). |

Electrical Rating

| TYPE | SPECIFICATION |
|------------|--|
| Volts: | 100/110-120/220-240 VAC |
| Frequency: | 50-60 Hz |
| Current: | As configured and specified in equipment manual (products labeled 15A or greater require dedicated circuit, identified in distribution panel). |