INSTALLATION INSTRUCTIONS

Floor Box

(for 7285 Radius® Cuspidor and 7115 Radius Assistant's Instrumentation without a delivery system)

You Will Need:

- Hex key set
- Pliers
- 7/16", 1/2", and 9/16" wrench
- Cutters
- Phillips screwdriver

Before Beginning this Installation

1. If the air and water manual shutoff valves have not been installed, do so now. Refer to the *Floor Box Template*, A-dec Publication No. 85.0472.00 for product specifications.

2. If the dental chair has not been installed, do so now following the instructions supplied with the chair (refer to the installation instructions for the *Cascade® 1040 Chair*, A-dec Publication No. 86.0157.00 or the *Decade® 1011/1021 Chair*, A-dec Publication No. 86.0156.00).

3. Anchor the chair.

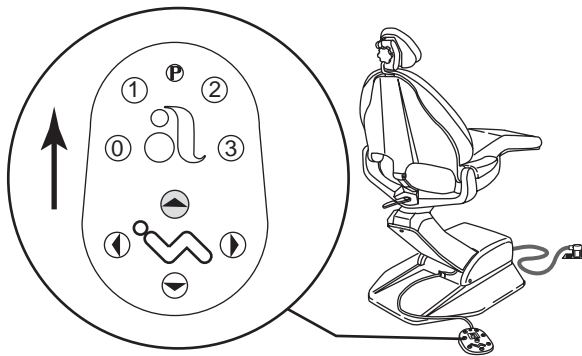4. Raise the chair base completely up using the footswitch (see Figure 1).

Figure 1

Removing the Chair Covers

1. Unplug the chair.

> ⚠ **ELECTRICAL WARNING**
> Failure to disconnect the chair from its power source can result in serious injury.

2. Remove and discard the chair safety stop plate (see Figure 2).
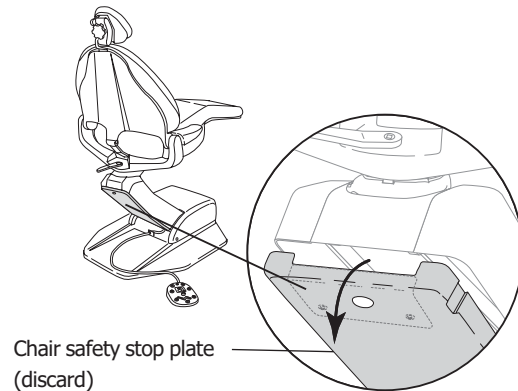

Chair safety stop plate (discard)

Figure 2

3. Remove the chair upper lift arm cover by removing the two screws. Discard both the screws and the chair upper lift arm cover (see Figure 3).
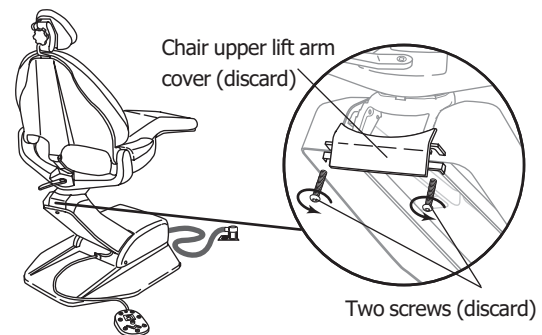

Chair upper lift arm cover (discard)

Two screws (discard)

Figure 3

4. Remove the chair motor/pump cover (see Figure 4) and, if present, the printed circuit board cover.
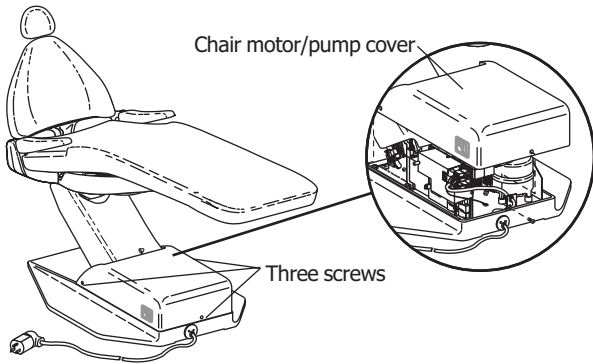

Figure 4

Removing the Chair Power Cord

1. Disconnect the power cord from the chair-printed circuit board (PCB) (see Figure 5).
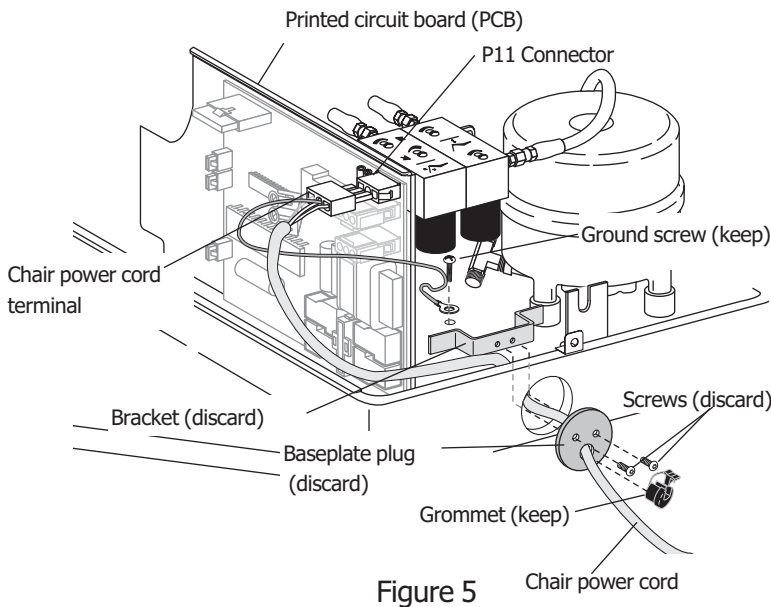

Figure 5

2. Remove the ground screw securing the power cord to the motor housing (see Figure 5). Keep the ground screw.

3. Remove the grommet securing the power cord to the baseplate plug (see Figure 5). Keep the grommet.

4. Remove the screws and bracket securing the baseplate plug to the baseplate (see Figure 5). Discard the bracket, baseplate plug, and screws.

5. Remove and set aside the power cord, grommet, and ground screw.

Installing the Floor Box

1. Remove the floor box from the shipping carton.

   NOTE: The ship kit with the floor box is used for various products and contains items that may not be necessary for this installation. Disregard any excess items.

2. Remove the floor box cover. The cover on a stainless steel floor box simply lifts off the box. To remove the cover from a contoured floor box, slide the cover forward, then lift it off the floor box base (see Figure 6).

3. Set the floor box in place over the utility stubs. Do not secure the floor box to the floor at this time.
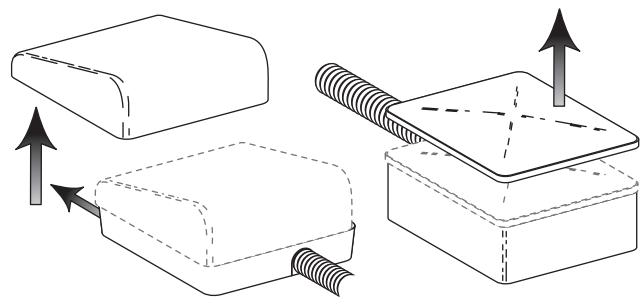

Figure 6

Installing the Umbilical

1. Route the chair power cord through the umbilical so that the PCB terminal is on the chair end of the umbilical (see Figure 7).
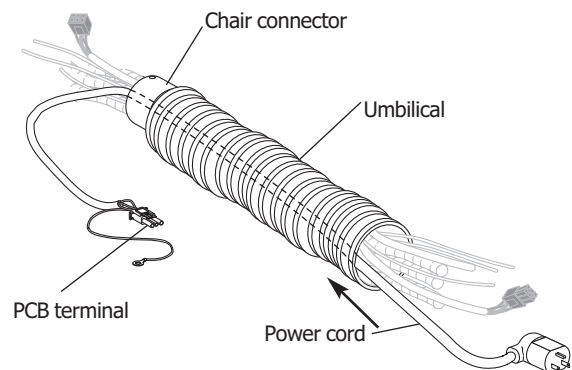

Figure 7

2. Insert the umbilical into the chair baseplate. Install the retainer clip over the chair connector and secure with the screw provided from the umbilical kit (see Figure 8).
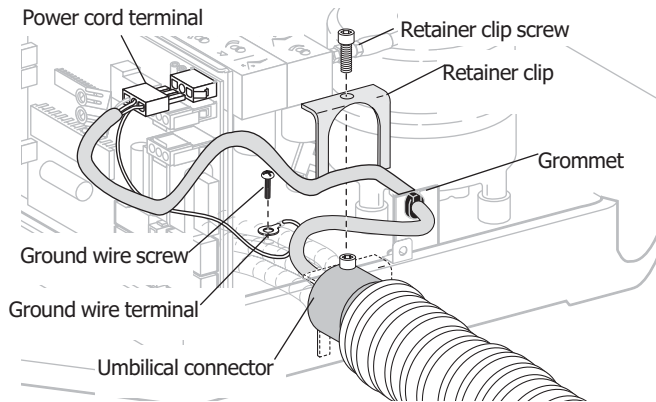
Power cord terminal
Retainer clip screw
Retainer clip
Grommet
Ground wire screw
Ground wire terminal
Umbilical connector

Figure 8

3. Plug the power cord terminal into the circuit board and secure the ground wire to the motor housing (see Figure 8).

4. Wrap the grommet around the chair power cord. Squeeze the grommet to close and insert it into the motor housing (see Figure 9).
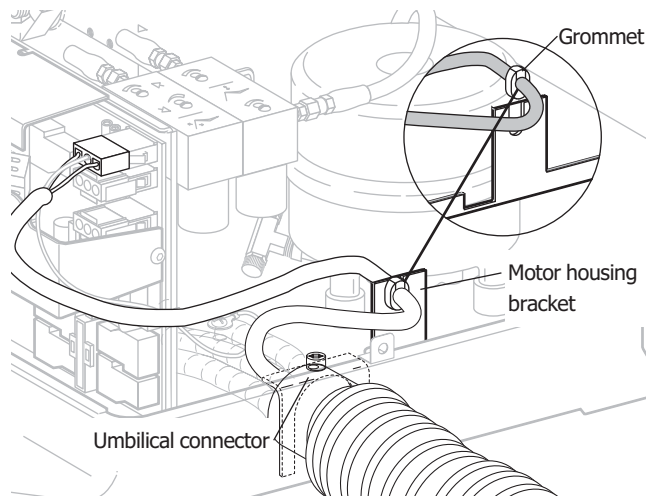
Grommet
Motor housing bracket
Umbilical connector

Figure 9

5. Route the umbilical tubing and wiring beneath the lift arm and to the back of the lift arm (see Figure 10).

Cable tie (inside chair lift arm)
Chair lift arm
P2 Connector (for touchpad harness)
Tubing and wiring (from the umbilical)
PCB
Touchpad harness
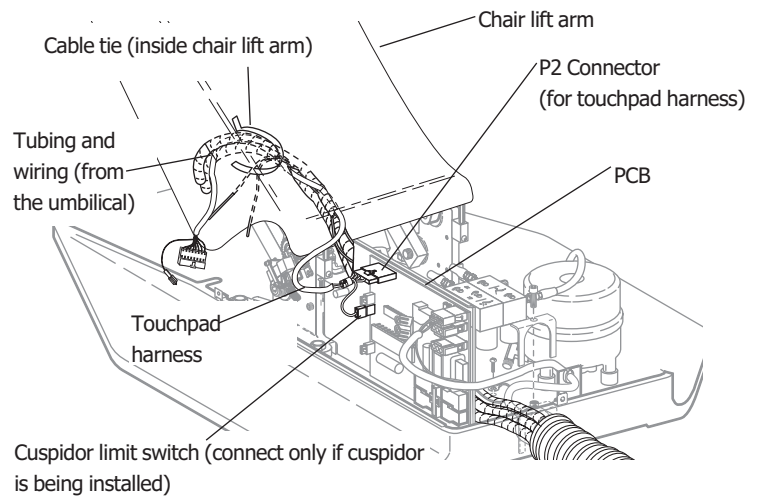Cuspidor limit switch (connect only if cuspidor is being installed)

Figure 10

6. Plug the touchpad harness (10-pin terminal) into PCB position P2 (see Figure 10).

7. Route the touchpad harness to the back of the lift arm with the umbilical tubing (see Figure 10).

8. Using the cable ties, secure the umbilical tubing and touchpad harness to the chair lift arm casting (see Figure 10).

9. If the chair umbilical is too long, it can be shortened to an appropriate length.

   a. Determine how long the umbilical needs to be and mark it where it will be cut.

   b. Slit the excess umbilical convolute sheathing lengthwise and around the circumference (see Figure 11). Do not cut the internal tubing or wiring. Discard the excess sheathing.
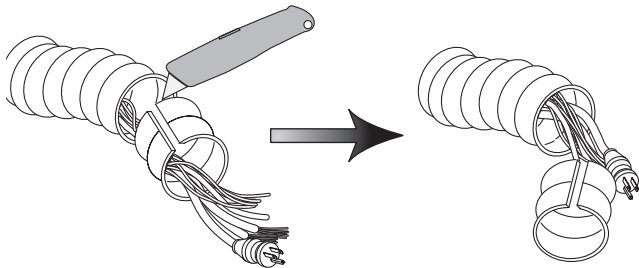

Figure 11

10. Install the umblical convolute tubing into the floor box and then install the retaining clip (see Figures 12 and 13).
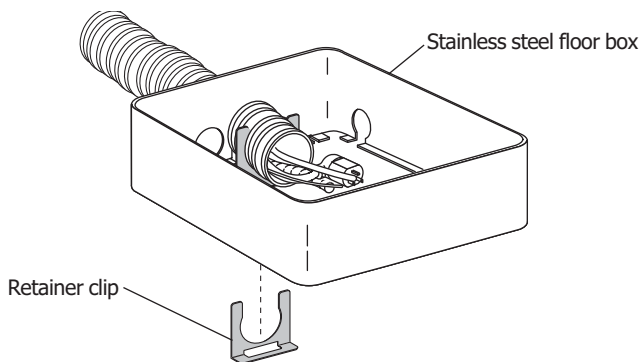

Stainless steel floor box

Retainer clip
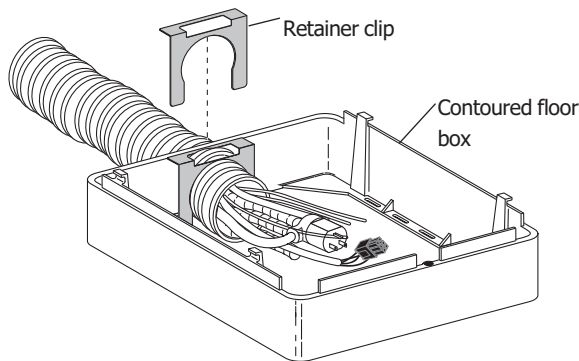
Figure 12

Retainer clip

Contoured floor box

Figure 13

11. Secure the floor box to the floor. Refer to the *Floor Box Installation Instructions,* A-dec Publication No. 85.0472.00.

Connecting the Floor Box

Install the Filter/Regulator Fitting

1. Install the water filter/regulator pipe fitting (see Figure 14).

   a. Locate the water filter/regulator and pipe fitting.

   b. Place a small amount of blue Loctite® on the pipefitting threads (see Figure 14.)

   c. Thread the fitting into the manifold and tighten.

   d. Allow the Loctite to cure for two hours before turning ON the water supply.

Manifold   Loctite here
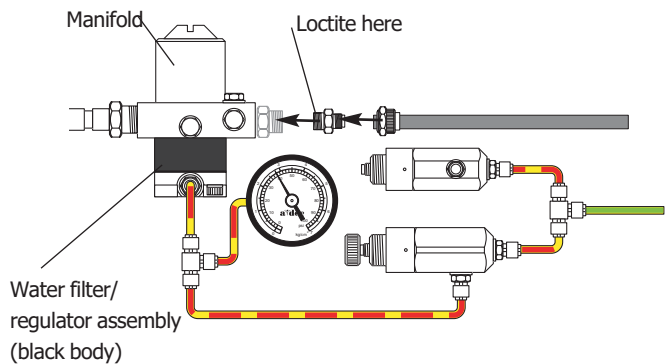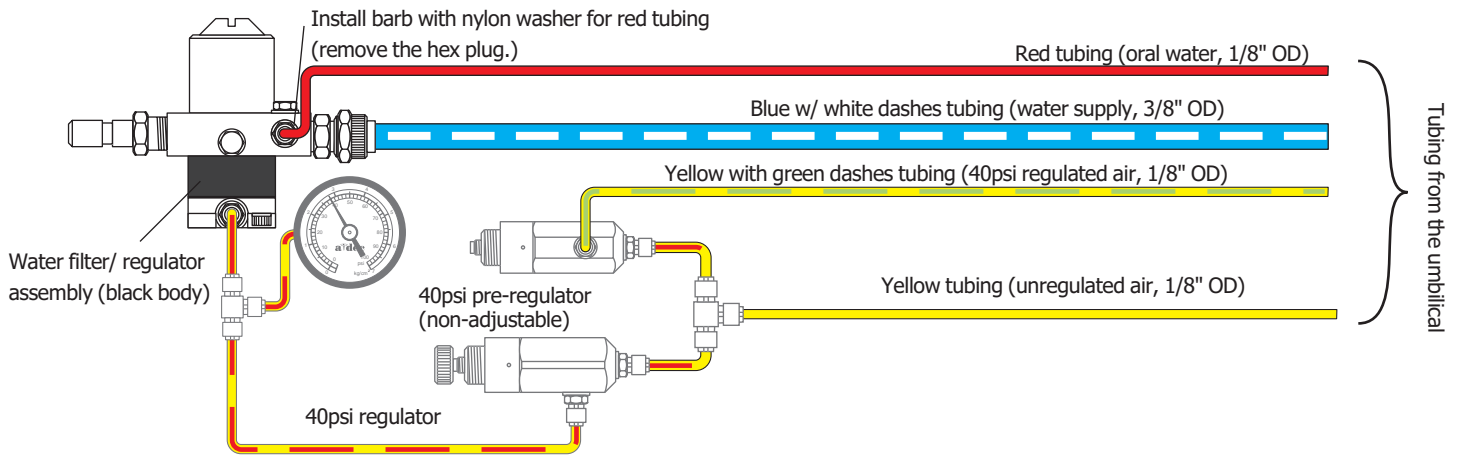
Water filter/ regulator assembly (black body)

Figure 14

Connect the Utilities

2. Connect the umbilical to the water filter/ regulator (see Figure 15 on page 5 if installing a Radius Assistant's Instrumentation).
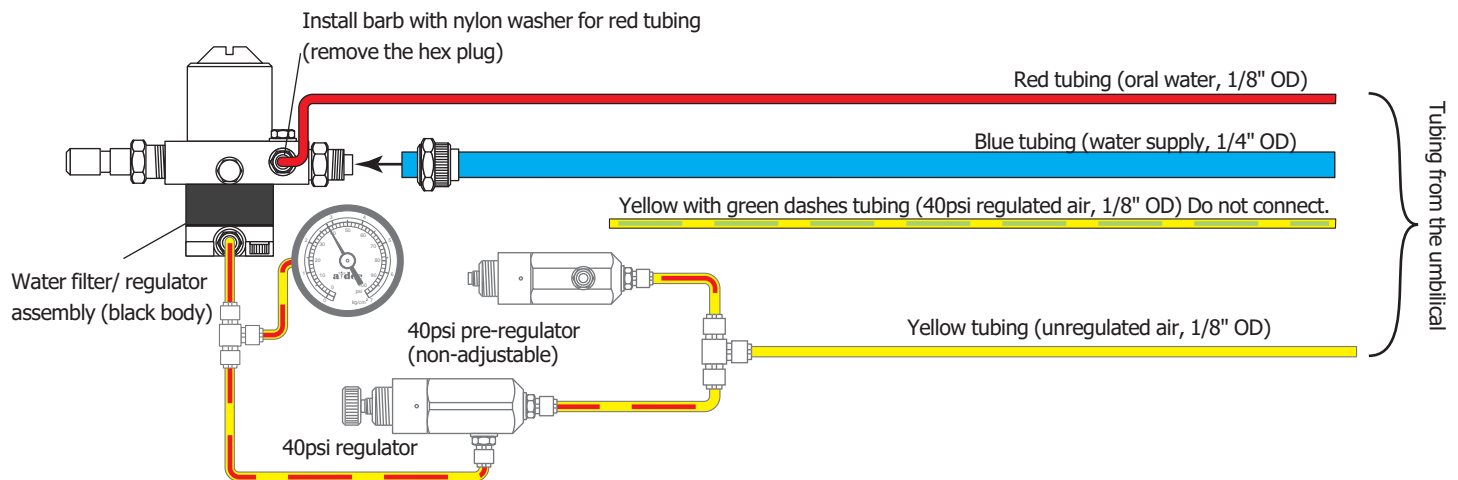
Radius Cuspidor Utility Connections (see Figure 15)

   a. Remove the hex plug and nylon washer from the water manifold water port. Install a 1/8" barb and nylon washer to the open water port. Slide a uni-clamp onto the red tubing (1/8" OD). Push the tubing onto the water port barb. Secure the connection with the uni-clamp.

   b. Slide the nut with the plastic sleeve onto the blue tubing (3/8" OD). Push the tubing onto the water filder/regulator manifold and secure with the nut. Do not overtighten.

   c. Remove the barb plug from the non-adjustable 40 psi pre-regulator. Slide the uni-clamp onto the yellow with green dashes tubing (1/8" OD). Push the tubing onto the pre-regulator. Secure the tubing with a uni-clamp.

   d. Remove the barb plug from the 4-way tee. Slide a uni-clamp onto the yellow tubing (1/8" OD). Push the tubing onto the 4-way tee. Secure the connection with the uni-clamp.

Install barb with nylon washer for red tubing (remove the hex plug.)

Red tubing (oral water, 1/8" OD)

Blue w/ white dashes tubing (water supply, 3/8" OD)

Yellow with green dashes tubing (40psi regulated air, 1/8" OD)

Yellow tubing (unregulated air, 1/8" OD)

Tubing from the umbilical

Water filter/ regulator assembly (black body)

40psi pre-regulator (non-adjustable)

40psi regulator

Radius Cuspidor (without Radius delivery system)

Figure 15

Install barb with nylon washer for red tubing (remove the hex plug)

Red tubing (oral water, 1/8" OD)

Blue tubing (water supply, 1/4" OD)

Yellow with green dashes tubing (40psi regulated air, 1/8" OD) Do not connect.

Yellow tubing (unregulated air, 1/8" OD)

Tubing from the umbilical

Water filter/ regulator assembly (black body)

40psi pre-regulator (non-adjustable)

40psi regulator

Radius Assistant's Instrumentation (without radius delivery system)

Figure 16

Radius Assistant's Instrumentation Utility
Connections (see Figure 16)

a. Remove the hex plug and nylon washer from the water manifold water port. Install a 1/8" barb and nylon washer to the open water port. Slide a uni-clamp onto the red tubing (1/8" OD). Push the tubing onto the water port barb. Secure the connection with the uni-clamp.

b. Slide the nut with plastic sleeve onto the blue tubing (3/8" OD). Push the tubing onto the water fliter/ regulator manifold and secure the nut. Do not overtighten.

c. Remove the barb plug from the 4-way tee. Slide a uni-clamp onto the yellow tubing (1/8" OD). Push the tubing onto the 4-way tee. Secure the connection with the uni-clamp.

3. Purge the air and water supplies of debris.

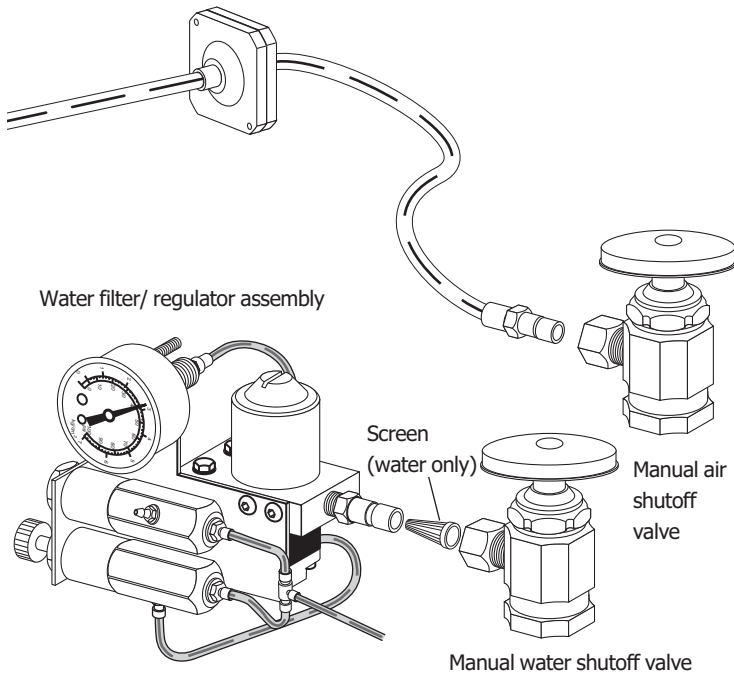4. Loosen the hex nut on the air and water manual shutoff valves (see Figure 17).

Water filter/ regulator assembly

Screen (water only)

Manual air shutoff valve

Manual water shutoff valve

Figure 17

5. Install the water screen in the water filter/ regulator, identifitied by the black valve body (see Figure 17).

6. Connect the air tubing and the water filter/ regulator to the manual shutoff valves (see Figure 17). Do not overtighten the fittings.

   The filter/regulator should be positioned and angled to provide easy access to the filter element on the filter/regulator manifold. Refer to *Floor Box Template* (A-dec Publication No. 85.0472.00) for compressor and pre-regulator specifications.

7. Secure the master ON/OFF toggle and indicator to the floor box cover (see Figure 18) using the knurl nuts found in the kit.
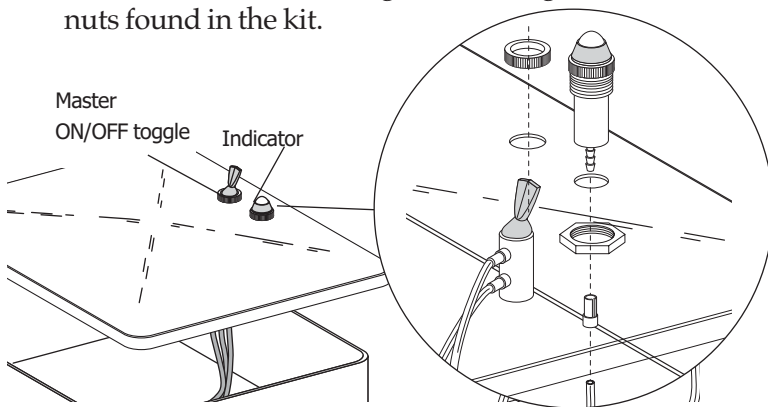
Master ON/OFF toggle   Indicator

Figure 18

Connecting the Cuspidor

NOTE: Use a water resistent adhesive to seal the gravity drain connections.

1. Attach the gravity drain "T" connector to the gravity drain stub using a water resistent adhesive (see Figure 19). The drain air vent must not be obstructed because it prevents air from being trapped in the drain system and inhibiting flow.

2. Identify the cuspidor gravity drain tubing. Using a water resistant adhesive, push the gravity drain tubing onto the gravity drain "T" connector (see Figure 20).
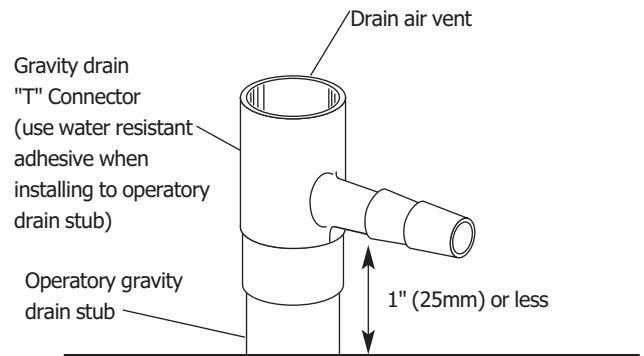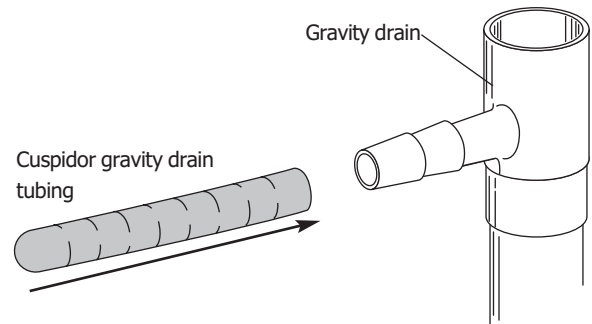
Drain air vent

Gravity drain "T" Connector (use water resistant adhesive when installing to operatory drain stub)

Operatory gravity drain stub

1" (25mm) or less

Figure 19

Gravity drain

Cuspidor gravity drain tubing

Figure 20

3. Identify the vacuum tubing and push it onto the vacuum stub (see Figure 21).

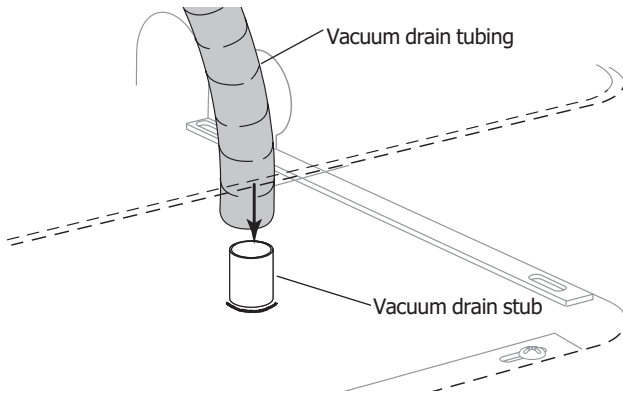
Vacuum drain tubing
Vacuum drain stub

Figure 21

Installing the Radius Cuspidor or Radius Assistant's Instrumentation

Refer to the Radius Cuspidor or Radius Assistant's Instrumentation installation instructions.

Testing the Utilities

1. Replace the chair motor / pump cover (and PCB cover if applicable).

2. Plug in the chair.

3. Fully open the air and water manual shutoff valves. Refer to the *Floor Box Owner's Guide*, (A-dec Publication No. 85.2611.00) for air and water pressure specifications.

4. Inspect all plumbing connections while testing the unit. Refer to the *Cascade 7284* and *Radius 7285 Cuspidor Owner's Guide*, (A-dec Publication No. 85.2609.00) or the *Assistant's Instrumentation Owner's Guide*, (A-dec Publication No. 85.2610.00).

5. Ensure there are no leaks.

Before Leaving the Facility

- Replace the floor box cover.
- Distribute the Owner's Guide and instruct the dental team in the operation and maintenance of the equipment.

Appendix
Chair Anchoring Instructions

You Will Need:
- Marker
- Hand drill
- 3⁄4" masonry bit or 3⁄8" drill bit

Anchor the Chair to the Floor

1. Place the chair in the desired location. Remove the chair safety stop plate.

2. Place the anchor bracket in the location to the right of the lift cylinder. (see Anchor Bracket Positioning.)

3. Mark the location to be drilled and remove the chair.
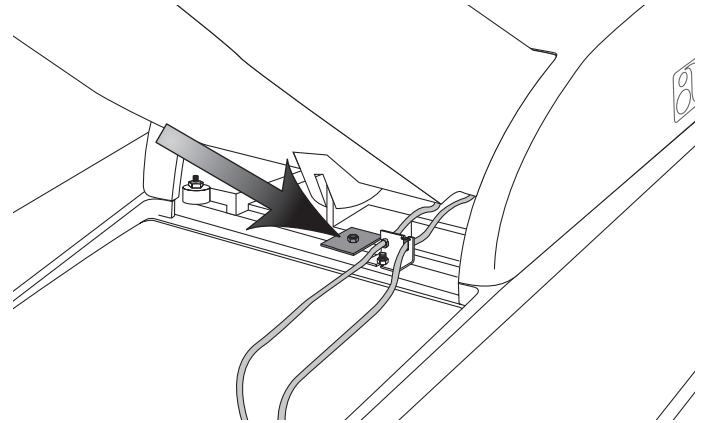
Anchor Bracket Positioning

Anchoring to a Concrete Floor

1. Using a hand drill and a 3⁄4" masonry bit, drill a 2" (50.8 mm) deep hole where the floor is marked.

2. Insert the expandable concrete anchor from the kit into the hole.
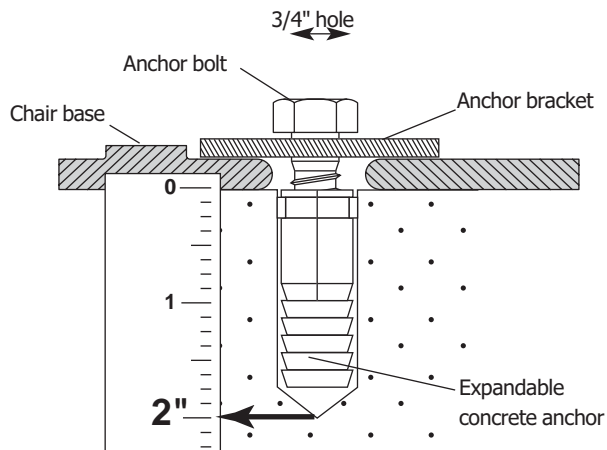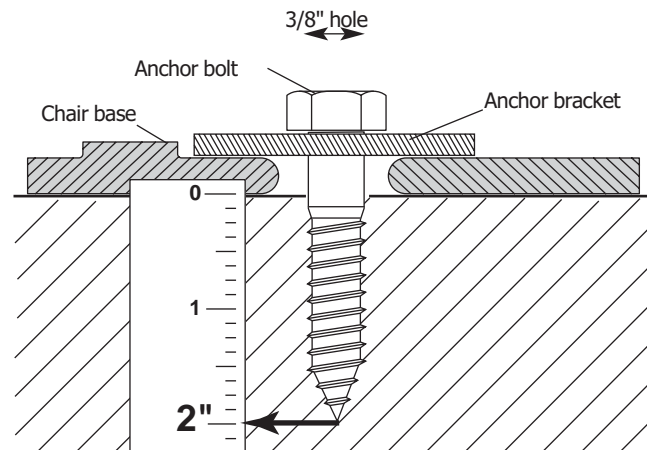

Anchoring to Concrete

3. Reposition the chair.

4. Place the anchor bracket on the chair's base and align with the expandable concrete anchor.

5. Insert the anchor bolt from the kit through the anchor bracket and into the expandable concrete anchor. Tighten the bolt until it is snug against the anchor bracket.

Anchoring to a Wood Floor

1. Using a hand drill and a 3⁄8" drill bit, drill a 2" (50.8 mm) deep hole where the floor is marked.

Anchoring to wood

2. Reposition the chair.

3. Place the anchor bracket on the chair's base and align with the hole drilled in step 1.

4. Insert the anchor bolt from the kit through the anchor bracket and into the hole. Tighten the bolt until it is snug against the anchor bracket.

Identification of Symbols

Recognized by Underwriters Laboratories Inc.® with respect to electric shock, fire and mechanical hazards only in accordance with UL 2601-1. Recognized with respect to electric shock, fire, mechanical and other specified hazards only in accordance with CAN/CSA C22.2, No. 601.1.

UL listed to US (UL 544) and Canadian (CAN/CSA C22.2, No. 125) safety standards.

Classified by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards only in accordance with UL 2601-1. Classified with respect to electric shock, fire, mechanical and other specified hazards only in accordance with CAN/CSA C22.2, No. 601.1.

Conforms to European Directives *(refer to Declaration Statement)*.

Protective earth (ground).

Functional earth (ground).

Attention, consult accompanying documents.

TYPE B APPLIED PART.

CLASS II EQUIPMENT.

Classification of Equipment (EN 60601-1)

Types of shock protection:
CLASS I EQUIPMENT
(Dental Chairs, Dental Lights, & Power Supplies)

CLASS II EQUIPMENT
(Chair, Wall, & 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)

Mode of operation:
CONTINUOUS OPERATION WITH INTERMITTENT LOADING (Dental Chairs)

Environmental

Storage -   Temperature: -40°C to 70°C (-40°F to 158°F)
               Relative Humidity: 95% maximum

Operating - Temperature: 10°C to 40°C (50°F to 104°F)
               Relative Humidity: 95% maximum

Electromagnetic Compatibility

This equipment has been tested and found to comply with the limits for medical devices inEN60601-1-2. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. Contact A-dec Customer Service if you have any questions.

Flammable Gasses

Not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide.

Recycle
Conserve
Made with 10% post-consumer fiber