CHECK WITH LOCAL CODE AUTHORITIES ABOUT INSTALLATION REQUIREMENTS FOR THIS PRODUCT

INSTALLATION INSTRUCTIONS

RADIUS® ASSISTANT'S INSTRUMENTATION FOR CASCADE® AND DECADE® CHAIRS

ELECTRICAL WARNING
Unplug all power connections from the power mains before installing the product.

YOU WILL NEED:

- Hex key set
- Level
- Large flat head screwdriver
- Pliers
- 7/16", 1/2", and 9/16" wrench
- Cutters
- Torque wrench, 0–100 ft. lbs. (0–150 N·m)

BEFORE BEGINNING THIS INSTALLATION

WARNING

Do not install the Radius assistant's instrumentation unless the chair is anchored to the floor. Refer to the installation instructions for the ***Radius Continental®- and Traditional®- Style Delivery System***, *A-dec Publication No. 85.2877.00* or the ***Radius Floor Box***, *A-dec Publication No. 85.2885.00* for chair anchoring instructions.

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.* **Purge the air and water supplies of debris.**

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. 85.0464.00 or the **Decade® 1011/1021 Chair**, A-dec Publication No. 85.2852.00.)*

3. If a delivery system is being installed, do so now following the instructions found with the delivery system. *(Refer to the installation instructions for the **Radius Continental®- and Traditional®-Style Delivery System**, A-dec Publication No. 85.2877.00.)*

RAISE THE CHAIR

1. Raise the chair base completely up using the footswitch (*see Figure 1)* or the touch pad on the delivery system (*see Figure 2)*.
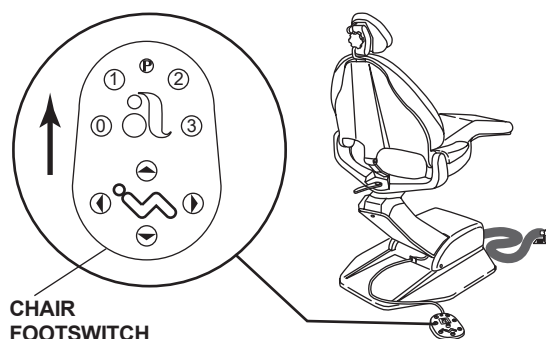

CHAIR FOOTSWITCH

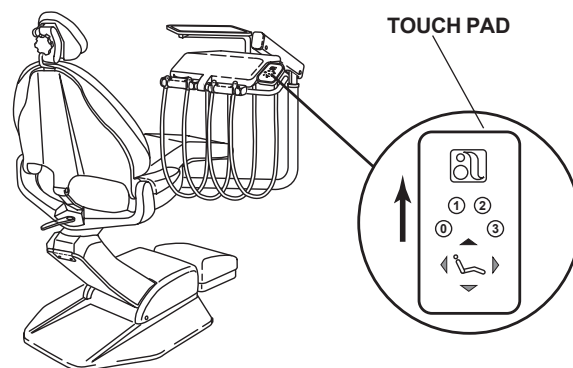**FIGURE 1**

TOUCH PAD

FIGURE 2

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 safety stop plate *(see Figure 3)*.

   If you have a non-Radius chair, discard the safety stop plate. Go to step 2.

   If you have a Radius chair, remove and discard the cover on the safety stop plate. Go to step 2.
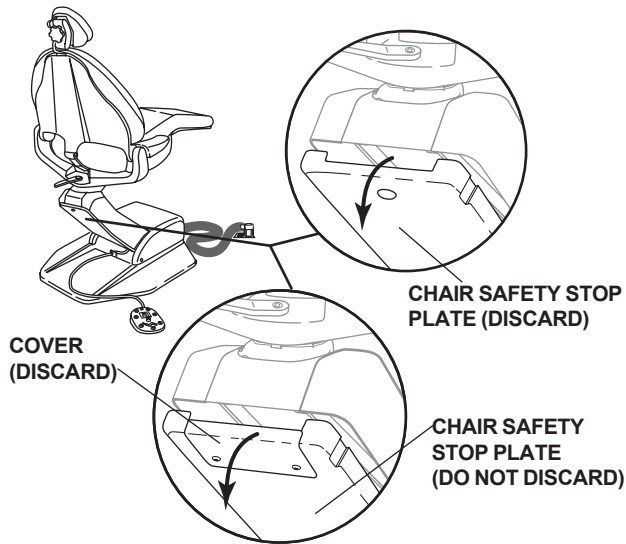

FIGURE 3

2. 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 4).*
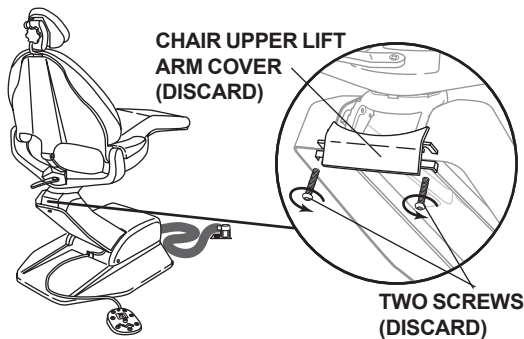

FIGURE 4

3. If there is a support bracket, remove it using a large screwdriver *(see Figure 5)*. Set it aside.
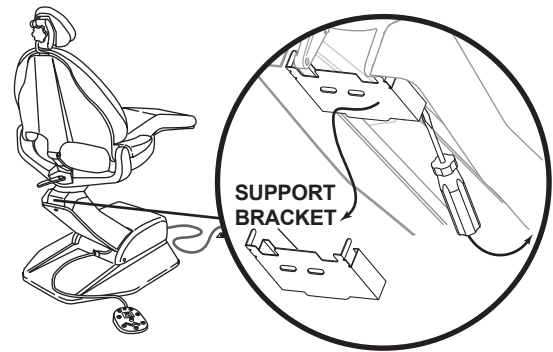

FIGURE 5

INSTALL THE ARM MOUNT

1. Remove the arm mount from the shipping carton. Disassemble the mounting bar from the mount by removing the two mounting screws *(see Figure 6).*
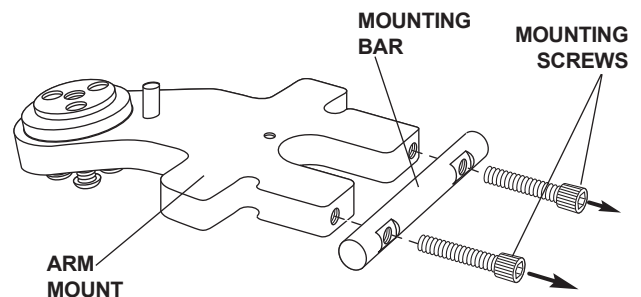

FIGURE 6

2. Place the arm mount onto the chair swivel casting. Center the arm mount within the flat grooves of the chair swivel casting *(see Figure 7)*. Be sure that the limit switch cable is beneath the arm mount.
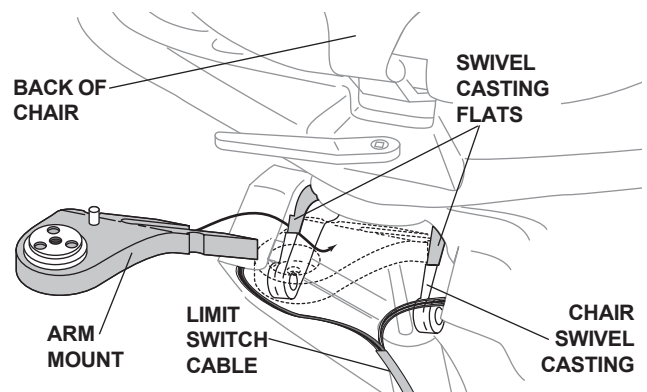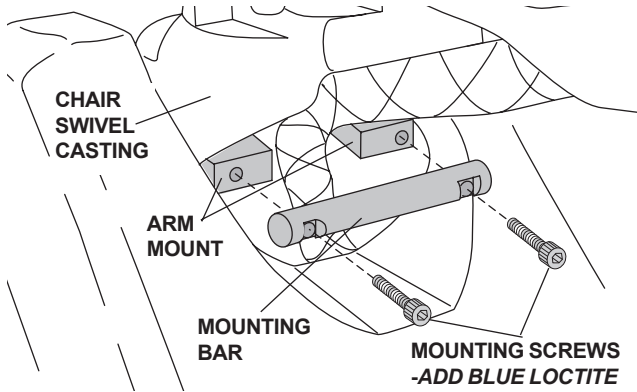

FIGURE 7

CAUTION

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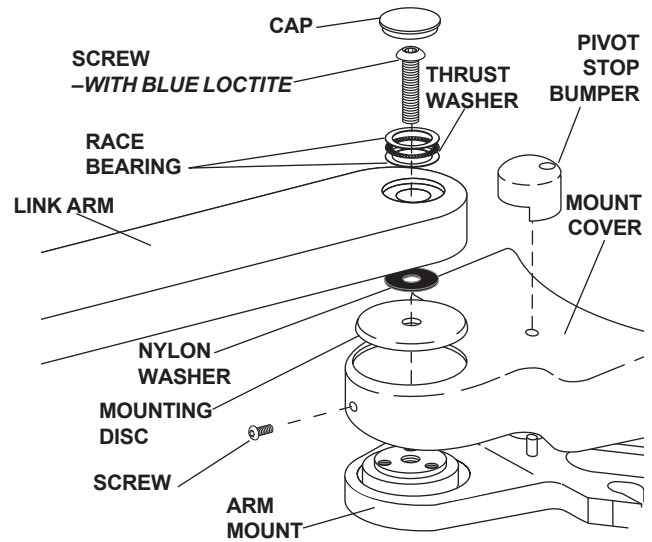

85.2872.00

3. Place a small amount of blue loctite® on the threads of the mounting screws *(see Figure 8)*.

4. From the front of the chair, install the two mounting screws through the mounting bar and into the arm mount. Torque the screws to 45 ft. lbs. (61.01 N·m) *(see Figure 8)*.

CHAIR SWIVEL CASTING

ARM MOUNT

MOUNTING BAR

MOUNTING SCREWS -ADD BLUE LOCTITE

FIGURE 8

INSTALL THE MOUNTING ARM

1. Remove the assistant's instrumentation module from the shipping carton.

2. Install the link arm to the arm mount as shown in Figure 9.

CAP

SCREW –WITH BLUE LOCTITE

THRUST WASHER

PIVOT STOP BUMPER

RACE BEARING

LINK ARM

MOUNT COVER

NYLON WASHER

MOUNTING DISC

SCREW

ARM MOUNT

FIGURE 9

3. Level the link arm by adjusting the three leveling screws under the arm mount *(see Figure 10)*. Rotate the link arm to the left, center, and right to ensure it is level.

LEVEL

ADJUSTMENT SCREWS
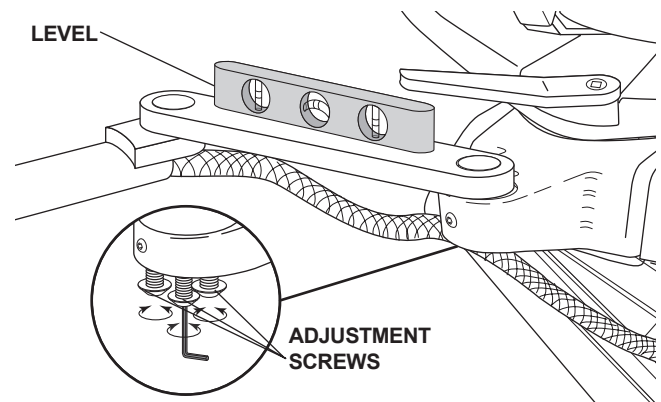
FIGURE 10

85.2872.00

AIR AND WATER CONNECTIONS

1. Position the assistant's instrumentation module to the right or left of the chair according to the doctor's requests before connecting the tubings.

DELIVERY SYSTEM TUBINGS NOT SHOWN FOR CLARITY

MUNICIPAL WATER TUBING CONNECTIONS

TO THE DELIVERY SYSTEM *(IF PRESENT)*

ASSISTANT'S INSTRUMENTATION UMBILICAL

SELF-CONTAINED WATER TUBING CONNECTIONS

RED (1/8" [3.2 mm]) TUBING

TOUCH PAD CABLE

YELLOW (1/8" [3.2 mm]) TUBING

BLUE (3/8" [6.4 mm]) TUBING

VACUUM TUBING

MUNICIPAL WATER TUBING CONNECTIONS -NO DELIVERY SYSTEM

TO THE ASSISTANT'S INSTRUMENTATION

TOUCH PAD CABLE
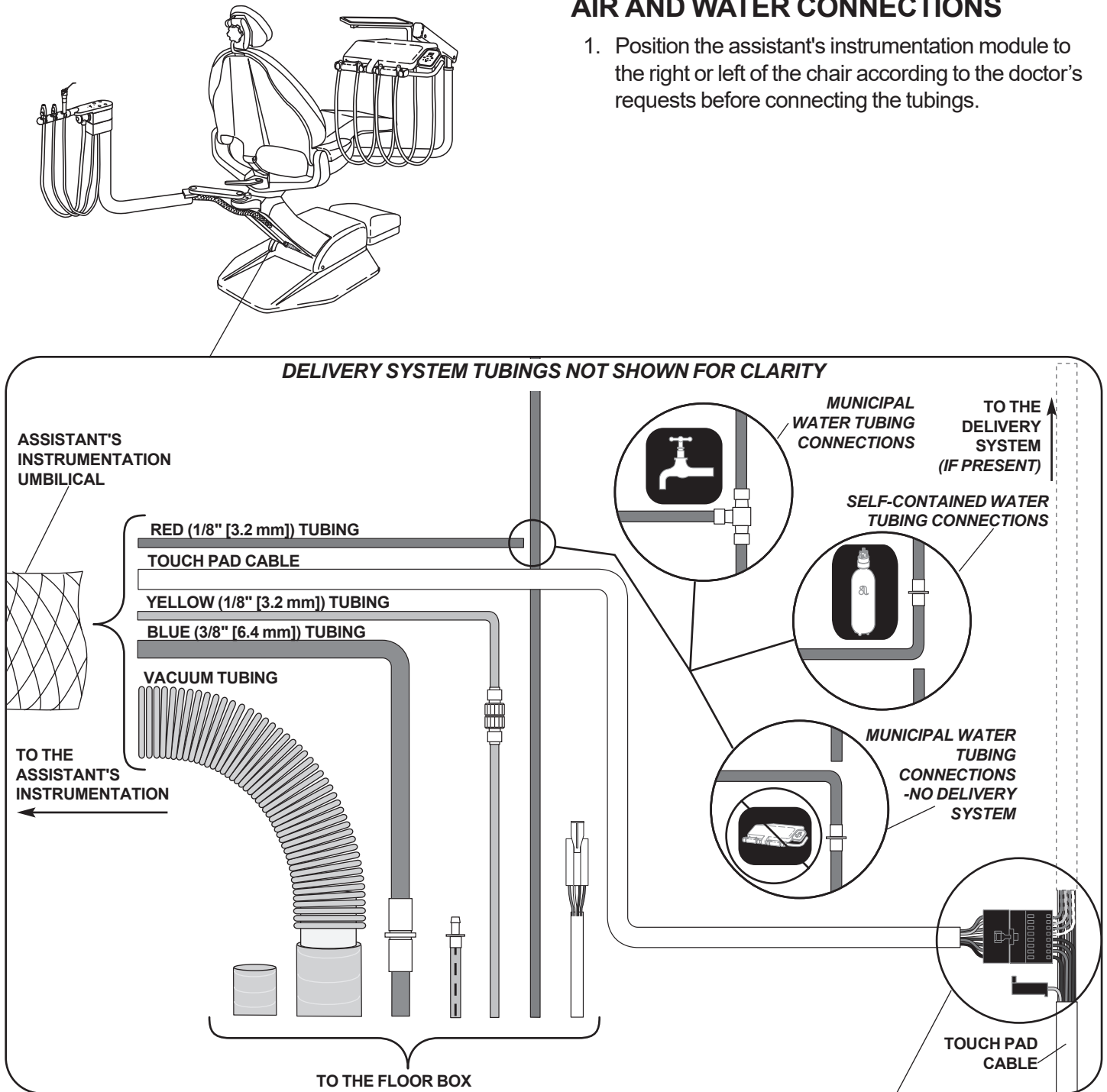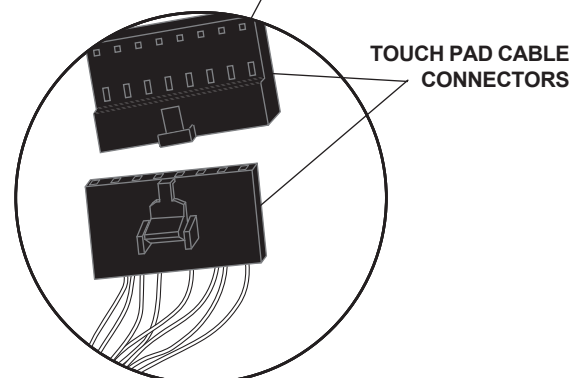
TO THE FLOOR BOX

FIGURE 11

TOUCH PAD CABLE CONNECTORS

2. Connect the vacuum hose and tubings to the corresponding hose and tubings behind the chair lift arm *(see Figure 11)*. Use the clamps provided to secure the vacuum and cuspidor drain hoses.

   • *If you have self-contained water*, cut the red tubing coming from the floor box to the delivery system. Connect the red tubing coming from the assistant's instrumentation module to the red tubing coming from the delivery system with an inline barb and sleeve clamps.

   • *If you have municipal water*, cut the red tubing coming from the floor box to the delivery system. Connect the red tubings coming from the delivery system, assistant's instrumentation module, and the floor box together using a tee and sleeve clamps *(see Figure 11)*.

   • *If you do not have a delivery system,* cut the red tubing coming from the floor box to a suitable length. Connect the red tubing coming from the assistant's instrumentation module to the red tubing coming from the floor box with an inline barb and sleeve clamps.

3. Connect the touch pad cable connector from the assistant's instrumentation module to the delivery system touch pad cable *(see Figure 11)*.

   If a delivery system is not present, connect the touch pad cable connector to the corresponding cable from the floor box *(see Figure 11)*.

If you are not connecting self-contained water to the assistant's instrumentation module, go to INSTALL THE UTILITIES on page 6.

Self-Contained Water Connections

> ### *NOTE*
> **The self-contained water option is not available on Radius assistant's instrumentation modules without a delivery system.**

1. Connect the red tubing to red tubing already present in the junction box using an inline barb and uni-clamps *(see Figure 12)*.
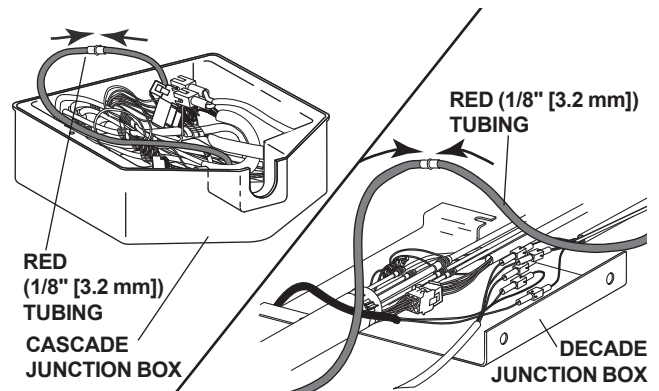

FIGURE 12

SELF-CONTAINED WATER CONNECTIONS

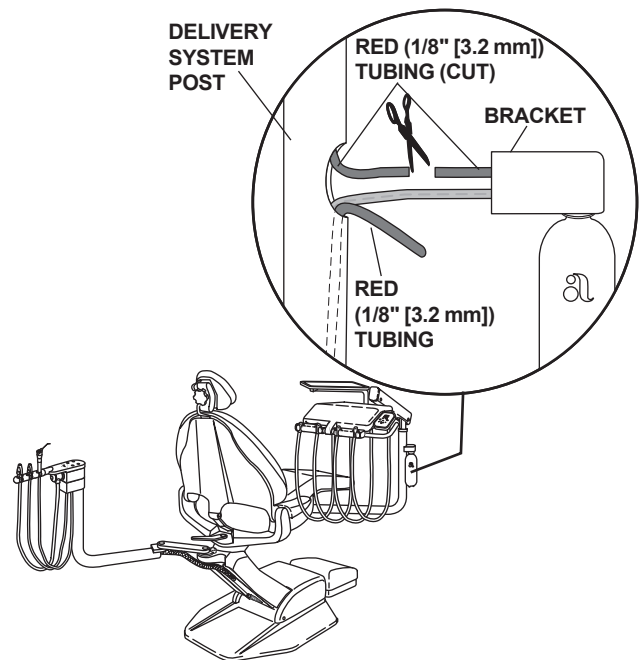1. Remove the water bottle bracket from the delivery system post and cut the red tubing *(see Figure 13)*.

FIGURE 13

2. Locate and pull out the end of the existing red tubing from within the delivery system post *(see Figure 13)*.

3. Connect all three ends of the red tubing using a tee and sleeve clamps. Push the tee into the water bottle bracket. Reinstall it to the delivery system post *(see Figure 14)*.
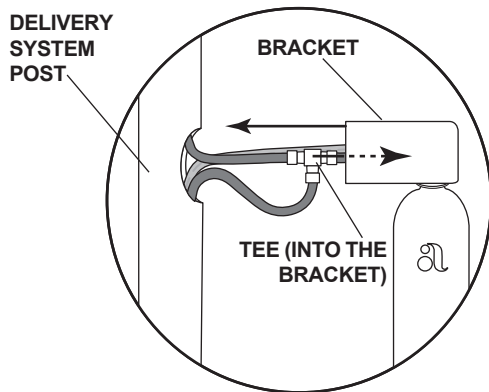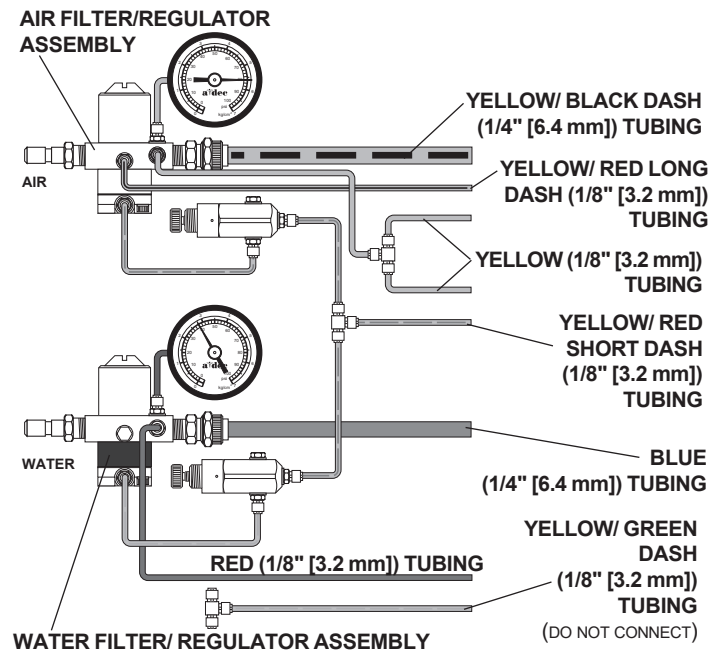

DELIVERY SYSTEM POST
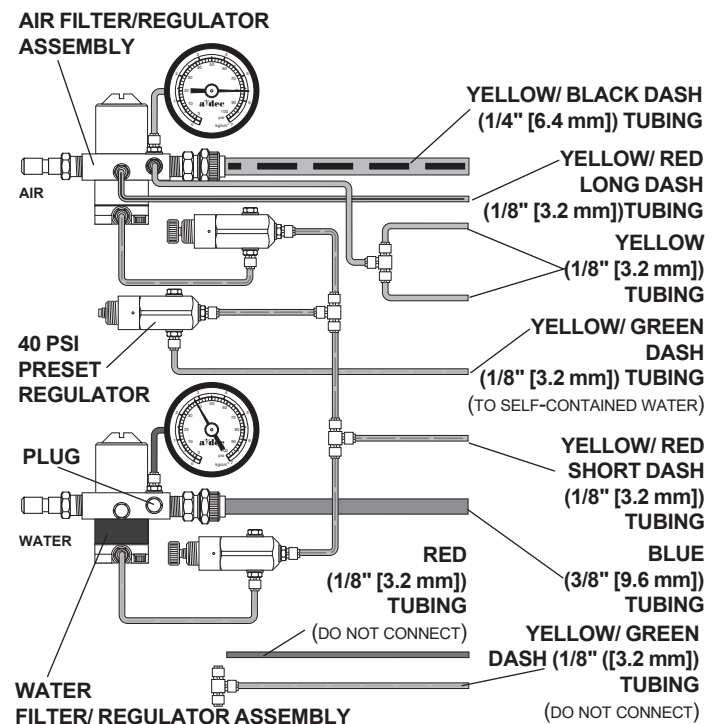
BRACKET

TEE (INTO THE BRACKET)

FIGURE 14

INSTALL THE UTILITIES

> ### *NOTE*
>
> **If you do not have a delivery system, the air filter/ regulator is not the same as illustrated in Figures 15 and 16. Refer to the Radius Floor Box Installation Instructions, 85.2885.00 for tubing connections.**

1. A short length of tubing of the correct color is factory installed on each fitting or barb. When installing the filter/regulator remove the short length of tubing (note its color and dash length) from the fitting or barb. Connect the matching tubing coming from the umbilical to the fitting or barb. Connect the filter/regulators to the umbilical *(see Figures 15 or 16 if equipped with self-contained water)*. Install plugs where indicated.

AIR FILTER/REGULATOR ASSEMBLY

AIR

WATER

YELLOW/ BLACK DASH (1/4" [6.4 mm]) TUBING

YELLOW/ RED LONG DASH (1/8" [3.2 mm]) TUBING

YELLOW (1/8" [3.2 mm]) TUBING

YELLOW/ RED SHORT DASH (1/8" [3.2 mm]) TUBING

BLUE (1/4" [6.4 mm]) TUBING

YELLOW/ GREEN DASH (1/8" [3.2 mm]) TUBING (DO NOT CONNECT)

RED (1/8" [3.2 mm]) TUBING

WATER FILTER/ REGULATOR ASSEMBLY

STANDARD RADIUS FILTER/ REGULATOR PLUMBING
FIGURE 15

AIR FILTER/REGULATOR ASSEMBLY

AIR

40 PSI PRESET REGULATOR

PLUG

WATER

YELLOW/ BLACK DASH (1/4" [6.4 mm]) TUBING

YELLOW/ RED LONG DASH (1/8" [3.2 mm])TUBING

YELLOW (1/8" [3.2 mm]) TUBING

YELLOW/ GREEN DASH (1/8" [3.2 mm]) TUBING (TO SELF-CONTAINED WATER)

YELLOW/ RED SHORT DASH (1/8" [3.2 mm]) TUBING

BLUE (3/8" [9.6 mm]) TUBING

RED (1/8" [3.2 mm]) TUBING (DO NOT CONNECT)

YELLOW/ GREEN DASH (1/8" ([3.2 mm]) TUBING (DO NOT CONNECT)

WATER FILTER/ REGULATOR ASSEMBLY

STANDARD RADIUS FILTER/REGULATOR PLUMBING WITH SELF-CONTAINED WATER
FIGURE 16

2. If not already done, connect the air and water/ filter regulators to the manual shutoff valves. *(Refer to the installation instructions for the **Radius Delivery System**, 85.2877.00, or the **Radius Floor Box**, 85.2885.00.)*

TEST THE ASSISTANT'S INSTRUMENTATION FUNCTIONS

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. Connect the power supply to its electrical source.

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 *(refer to the **Autoclavable Syringe Owner's Guide**, A-dec Publication No. 85.0680.00, for operation instructions)*.

6. Operate the HVE and saliva ejector to check that they are functioning *(refer to the **Assistant's Instrumentation Owner's Guide**, A-dec Publication No. 85.2610.00, for operation instructions).*

7. Using the touch pad on the assistant's instrumentation module, move the position of the chair. *(Refer to the **1011/1021 Decade Chair Owner's Guide**, A-dec Publication No. 85.2635.00, or the **1040 Cascade Chair Owner's Guide**, A-dec Publication No. 85.2605.00, for operation instructions.)*

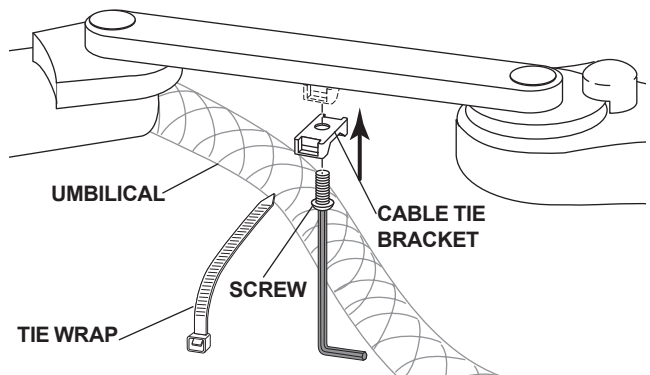**For adjustments , refer to the appropriate Owner's Guide.**

TENSION ADJUSTMENTS

1. Adjust the tension of the assistant's instrumentation module arm to the desired resistance *(see Figure 17)*. The arm should rotate easily but not drift.
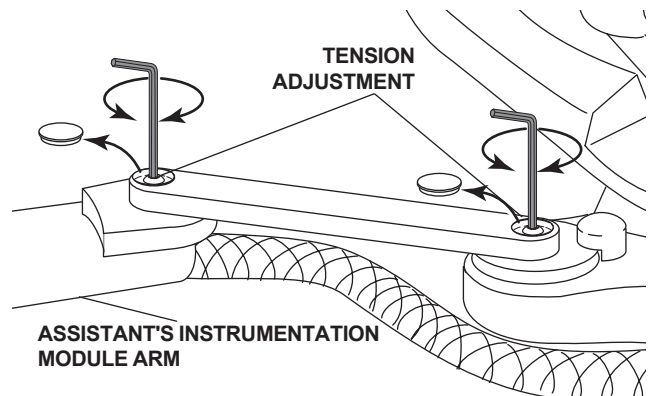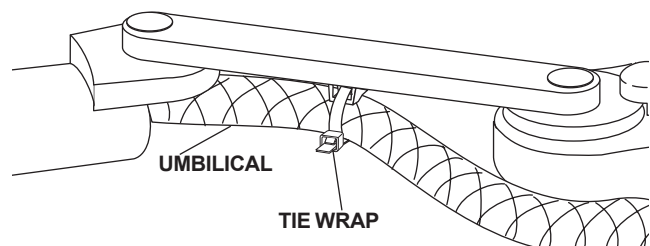

FIGURE 17

2. Install the cable tie bracket to the link arm *(see Figure 18)*.

FIGURE 18

3. Secure the umbilical to the arm mount using a cable tie *(see Figure 19)*.

FIGURE 19

INSTALL THE SUPPORT BRACKET

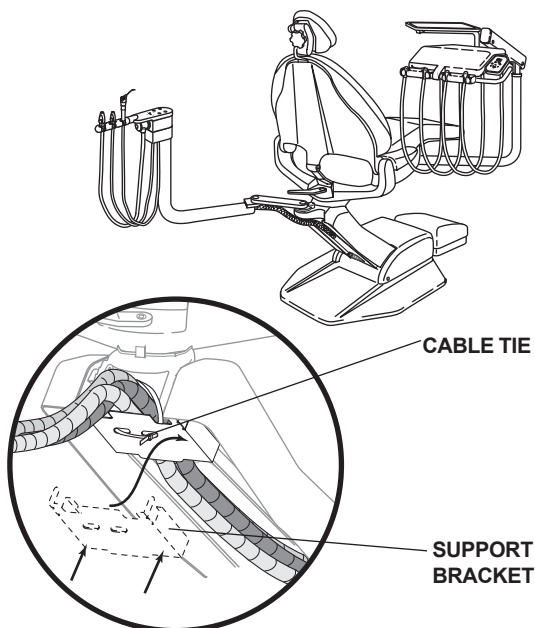1. Reinstall the support bracket by snapping the bracket onto the chair link arms *(see Figure 20).*

CABLE TIE

SUPPORT BRACKET

FIGURE 20

2. Secure all of the tubings to the support bracket using a large cable tie *(see Figure 20).*

BEFORE LEAVING THE FACILITIES

1. Reinstall the floor box cover and safety stop plate if you have a Radius chair. If not, install the new safety stop plate cover onto the chair.

2. Distribute the ***Owner's Guides*** and instruct the dental team on the operation and maintenance of the equipment.