



A-dec 300 INSTALLATION GUIDE

CONTENTS

Introduction	1
Install the Chair	3
Install the Support Center ..	9
Install the Assistant's Instrumentation	15
Install the Delivery System	22
Install the Dental Light	34
Install the Contoured Floor Box	36
Install the Remote Floor Box	38
Connect the Utilities	39
Install the Cuspidor	61
Install Upholstery	62
Prepare and Adjust the System	65
Level the System	79
Touchpad Settings	82
Test the System	95
Verify Proper Clearance Between the Cuspidor Bowl and the Armrest	96
Install the Covers	98
Appendix: Install the Air Vacuum System (AVS)	107
Regulatory Information .	112



NOTE Information that is critical to a successful and safe installation is shaded like this note throughout the guide.

INTRODUCTION

This document contains installation instructions for the A-dec 300.



CAUTION When removing or replacing covers, take care not to damage any wiring. Verify that the covers are secure after replacing them.

Before you begin:

- Clear the room of all debris and thoroughly clean the floors.
- Check that manual air and water shut-offs are installed.
- Purge any debris from air and water lines.
- Check with local building and code authorities about installation requirements. They differ from state to state and internationally.

Your installation may not require all components described in this document. Before you begin:

1. Assess what modules you will install.
2. Use “Installation Sequence” on page 2 to note the order of the modules that are to be installed.

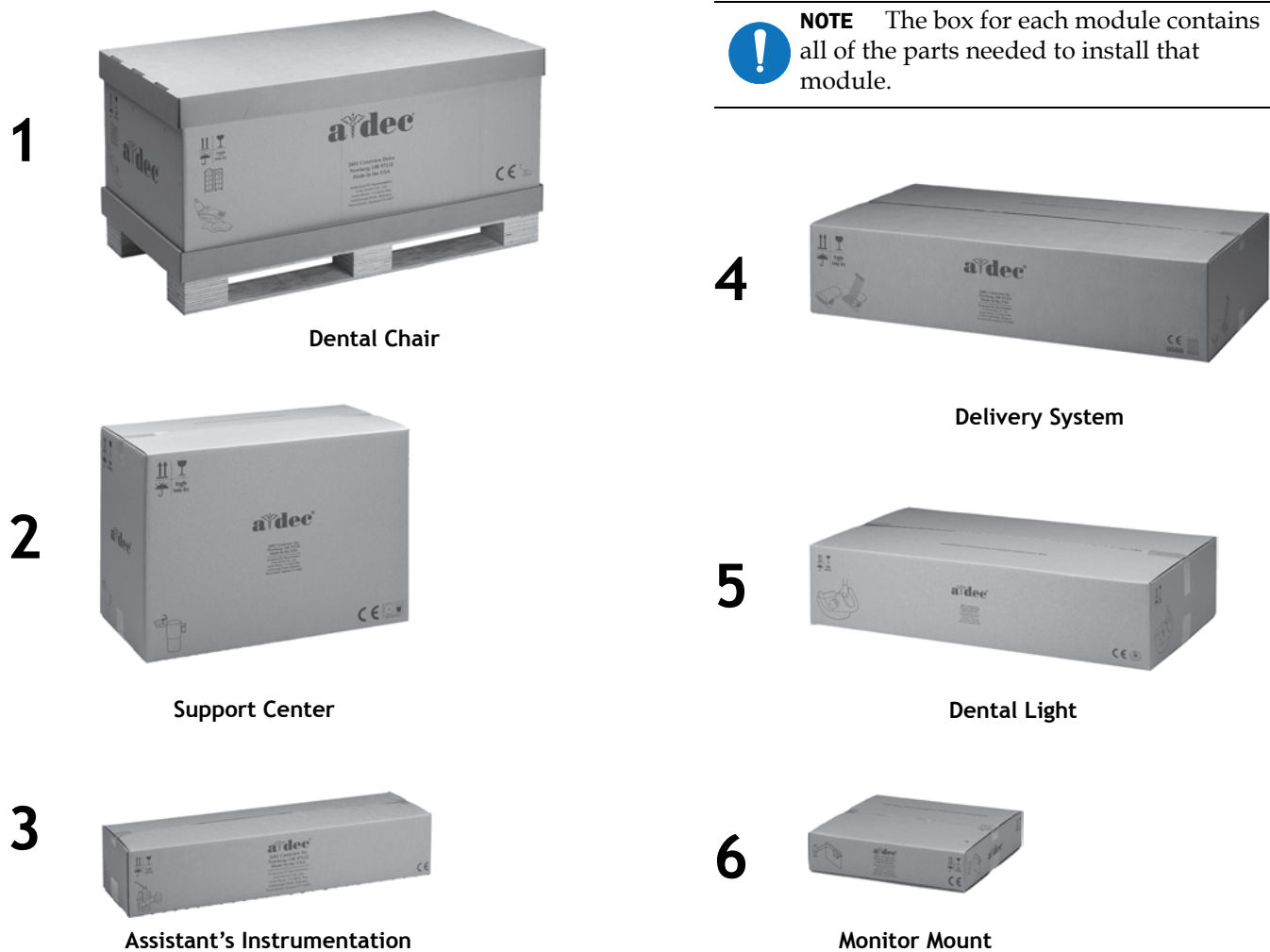
Recommended Tools

Tools Needed For This Installation		
Hex key set	Drill	Drill bits: 3/8" wood, 1/4" and 1/2" masonry
5/16" hex key driver	Diagonal cutters	A-dec silicone lubricant
Ball driver set	Needle nose and standard pliers	Umbilical snake
Adjustable wrench	Phillips head screwdriver	Rubber mallet
3/4" and 9/16" socket and ratchets	Roto hammer drill	Sleeve pusher
1/4", 1/2", and 3/4" combination wrenches	Magnetic level	Voltmeter
Tape measure	Pliers	

Installation Sequence

Modules for the A-dec 300 installation are shown in Figure 1. Install the modules for your configuration in the order they are listed.

Figure 1. A-dec 300 Shipping Boxes



INSTALL THE CHAIR



NOTE If you have a post mount system, skip this section and go to “Install the Support Center” on page 9.

Position the Chair

1. Remove all items and cardboard from around the chair.



NOTE When removing modules from their packaging, watch for kits and manuals included for the doctor (such as the *A-dec 311 Dental Chair Instructions For Use*). Set these aside during installation.

2. Remove the covers.
3. Use a 3/4" socket and ratchet to remove the bolts securing the chair to the pallet.
4. Grasp an armrest and the front of the chair frame. Lift and place the chair in position in the treatment room.



CAUTION If the system includes a contoured floor box, failure to provide enough space between the utilities and the contoured floor box cover will prevent the installation of the power supply cover. For more information, see “Install the Contoured Floor Box Frame” on page 36.

5. Remove the shipping strap and the packaging from the armrests.

Tools Needed For This Section

3/4" and 9/16" socket and ratchets	3/8" wood drill bit or 1/4" and 1/2" masonry drill bits
Drill	3/16" hex key
Roto hammer drill	3/4" combination wrench
Phillips head screwdriver	

Figure 2. Place the Chair

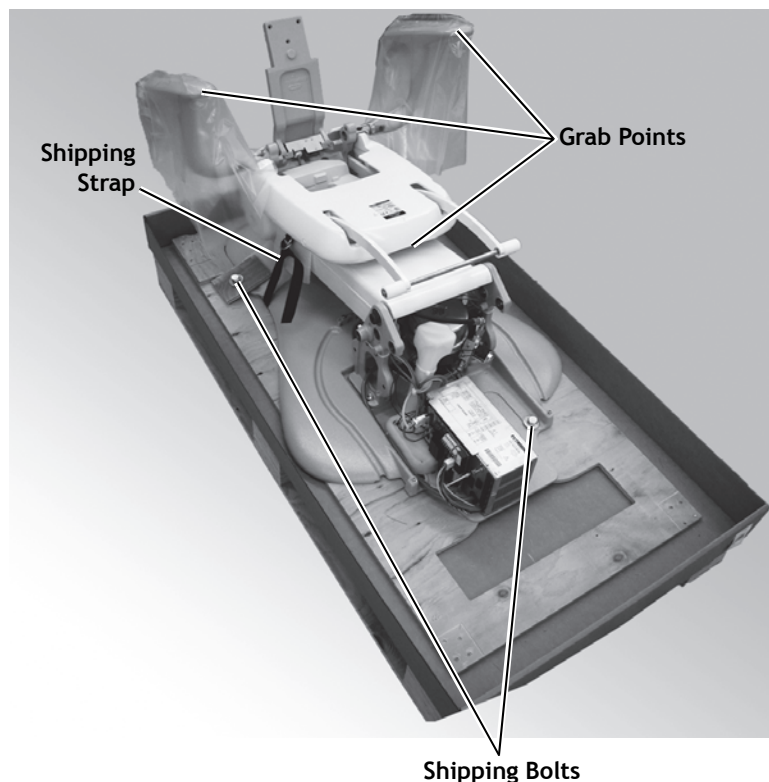
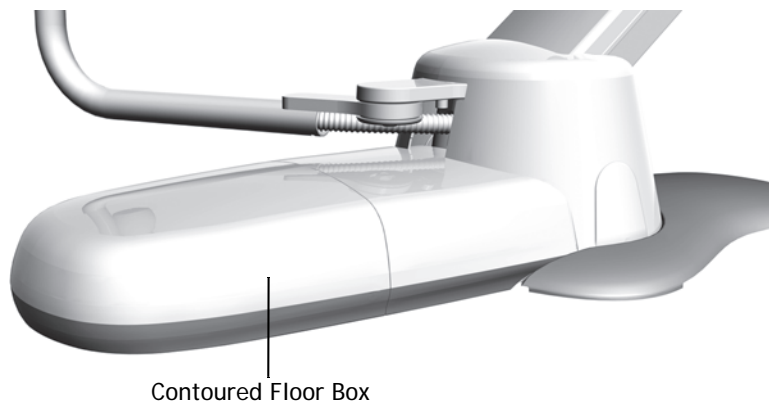


Figure 3. Contoured Floor Box



Anchor the Chair

Use the lag screw or masonry anchor with the cleat to anchor the chair to the floor. Select the procedure for your type of flooring structure.



WARNING Anchoring the chair to the floor is required for mechanical stability. Failure to anchor properly could result in damage, serious injury, or death.



CAUTION Check the flooring and/or framing material where you will anchor the chair. If it is not at least 3-1/4" (82 mm) thick, contact a licensed contractor about reinforcing the floor.

Anchor to a Concrete Floor

Prepare the Installation Area

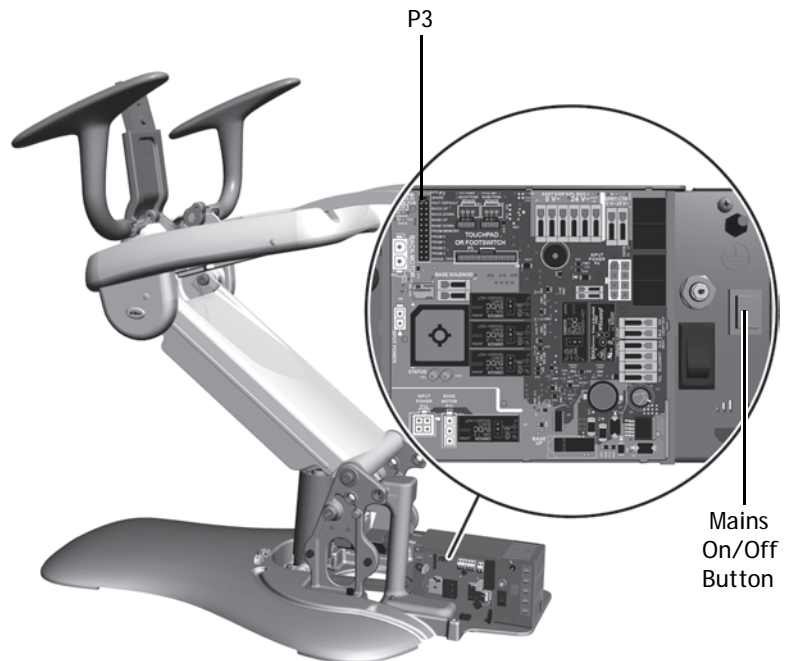
1. Plug in the chair and press the Mains On/Off button on the lower right of the power supply to turn it on.



CAUTION Electric components on the circuit board are static sensitive and require handling precautions.

2. Move the jumper in P3 of the chair circuit board to the Base Up position. Once the chair is raised, return the jumper to the Spare position.
3. Turn off the power.
4. Unplug the chair.

Figure 4. Prepare the Chair

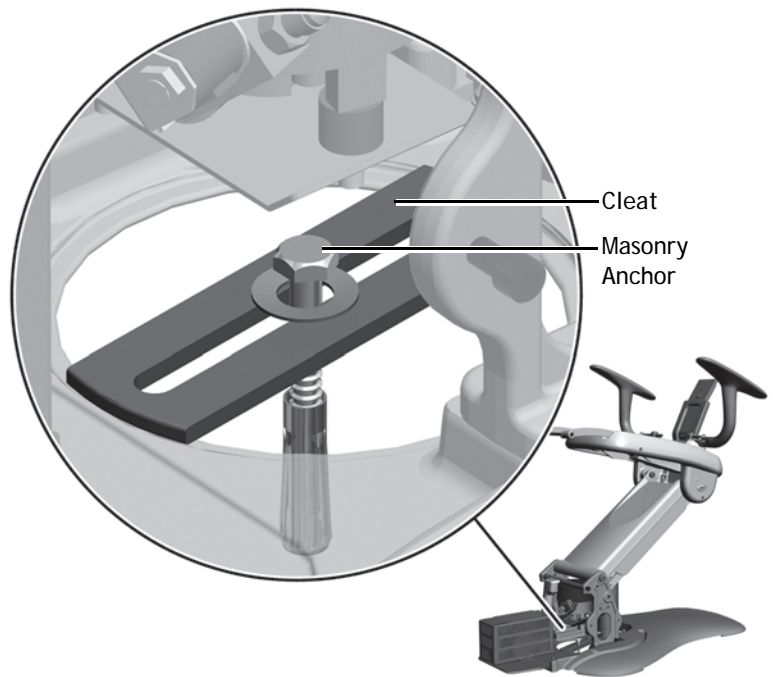


5. Place the cleat in the large circle in the chair base (see Figure 5).
6. Mark where to drill the hole for the masonry anchor and move the chair.
7. Use a 1/2" bit and roto hammer to drill a 4" (101 mm) deep hole; then remove any debris.

Secure the Chair

1. Drive the 3-1/2" masonry anchor into the hole until the washer is flush with the floor.
2. Use a 9/16" socket and ratchet to tighten the anchor until it is securely fixed in the hole then remove the screw and washer.
3. Return the chair to position.
4. From the left front of the chair, place the screw through the washer and cleat and into the hole.
5. Use a 9/16" socket and ratchet to tighten the bolt against the cleat until it firmly holds the chair to the floor.

Figure 5. Anchor the Chair to a Concrete Floor



Anchor to a Wood Floor

Prepare the Installation Area

1. Plug in the chair and press the Mains On/Off button on the lower right of the power supply to turn it on (see Figure 4 on page 4).



CAUTION Electric components on the circuit board are static sensitive and require handling precautions.

2. Move the jumper in P3 of the chair circuit board to the Base Up position. Once the chair is raised, return the jumper to the Spare position.
3. Turn off the power and unplug the chair.
4. Place the cleat in the large circle in the chair base.
5. Mark where to drill the hole for the lag screw and move the chair.
6. Use a 3/8" bit to drill a 2" (50 mm) deep hole; then remove any debris.
7. To thread the hole, use a 3/4" socket and ratchet to drive the 2-1/2" lag screw about 1/2" (12.8 mm) into the hole; then remove the lag screw.

Secure the Chair

1. Put the chair back into position so that the hole is positioned on the right rear edge of the circle in the chair base (see Figure 6).
2. From the right rear of the chair, place the lag screw through the cleat and into the hole.
3. With your fingers, start the lag screw as far as you can; then use a 3/4" socket and ratchet with a short extension to tighten the lag screw until it is almost flush against the cleat.
4. Move the chair into position and use a 3/4" combination wrench to tighten the lag screw against the cleat until it firmly holds the chair to the floor.

Figure 6. Start the Lag Screw

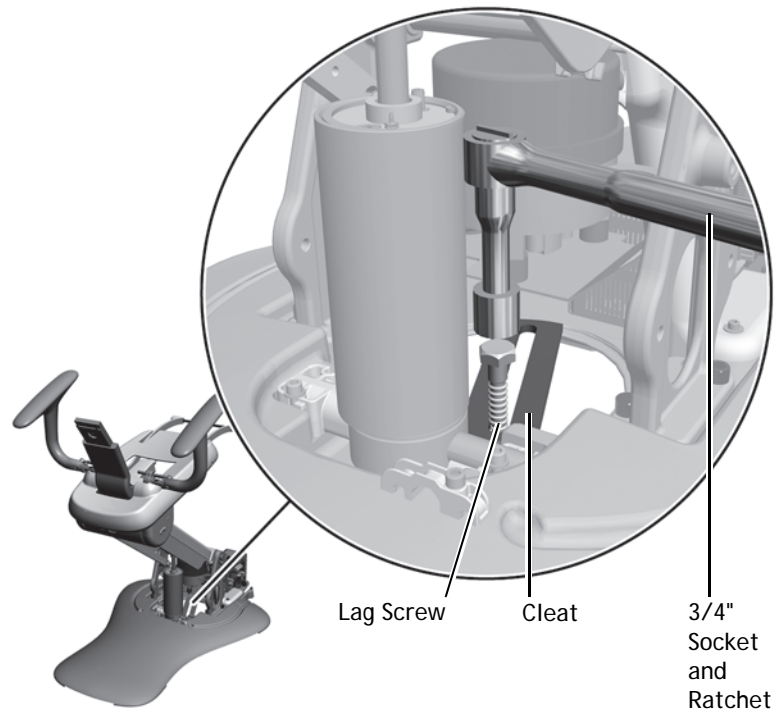
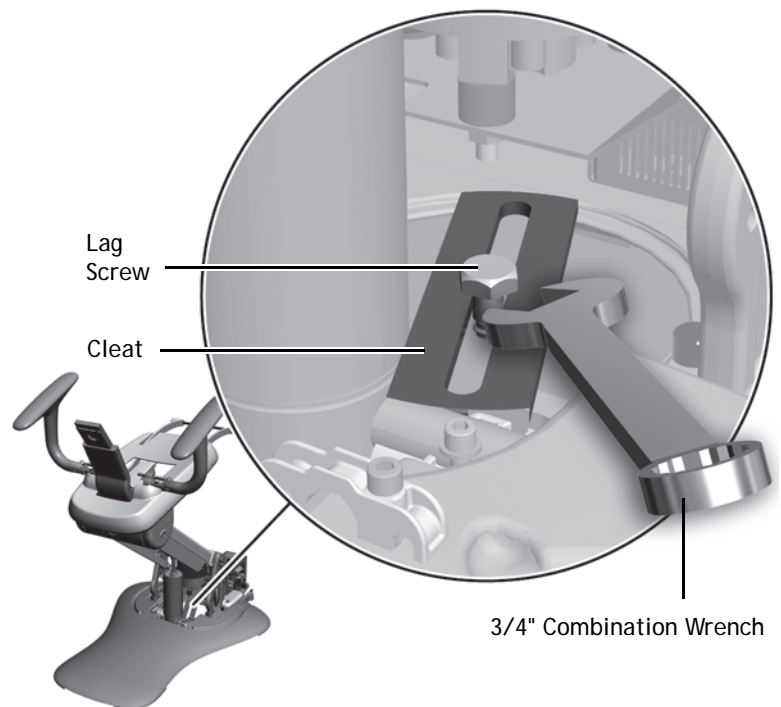


Figure 7. Tighten the Lag Screw



Install the Power Supply or Integrated Floor Box Cover Frames

A-dec 300 systems come with either a power supply cover or an integrated floor box cover.



NOTE The power supply cover frame ships attached to the power supply cover.

The steps for installing their frames are the same.

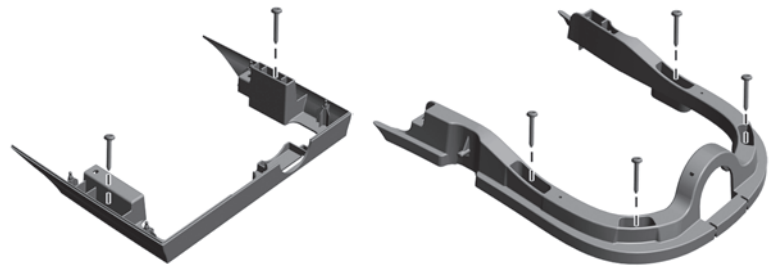
1. With the chair fully raised, use a 3/16" hex key to remove the two mounting screws from the chair base.
2. Attach the cover frame to the chair base with the two mounting screws.



CAUTION Never use a cover frame as a handle when moving the chair.

3. Attach the cover frame to the floor.
 - If the floor is made of wood, use a Phillips head screwdriver and 1-1/4" size #10 screws.
 - If it is a concrete floor, use a 1/4" masonry drill bit to make holes where the screws fit through the frame. Insert the plastic anchors in the holes then use a Phillips head screwdriver and 1-1/4" size #10 screws.

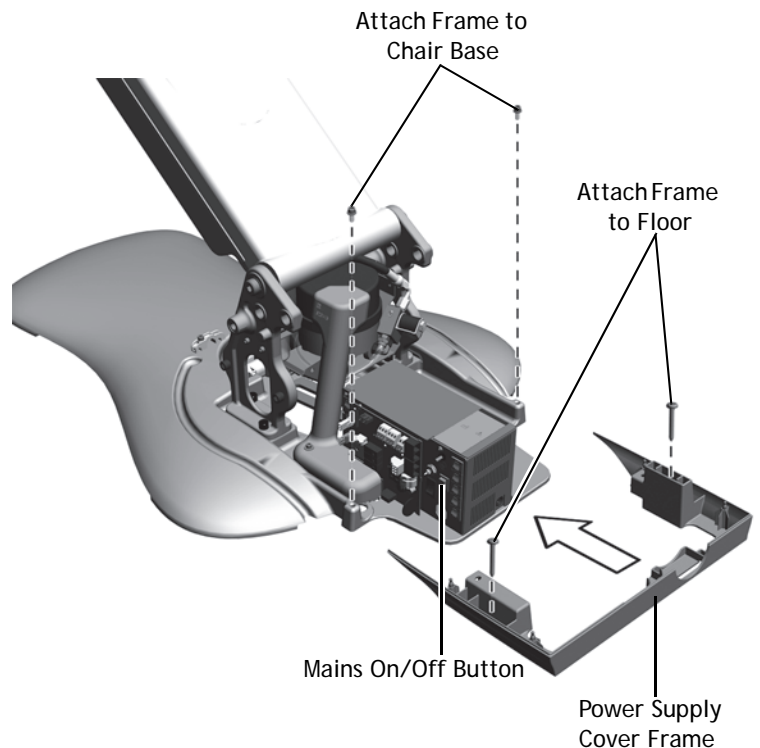
Figure 8. Cover Frames



Power Supply Cover Frame

Integrated Floor Box Cover Frame

Figure 9. Install the Cover Frame



Install the Back Support

1. Use a 3/16" hex key to remove the 3 mounting screws from the back support.
2. Attach the back support to the chair back with the mounting screws.

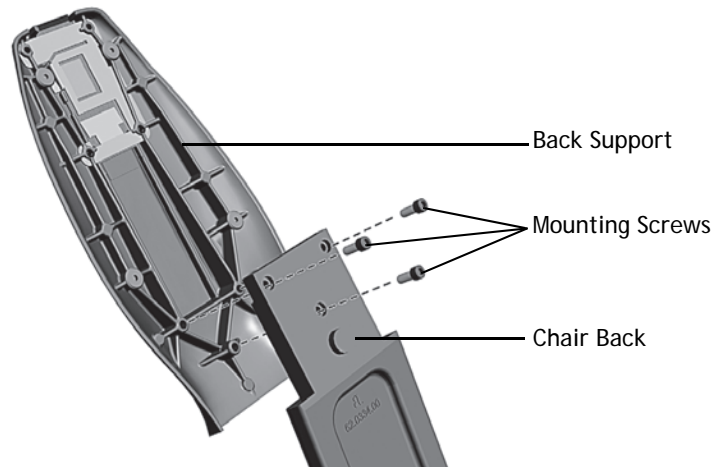


TIP Start all three screws before tightening them.



CAUTION Be sure to tighten the screws firmly to avoid the back becoming loose during use.

Figure 10. Install the Back Support



INSTALL THE SUPPORT CENTER



WARNING If the system includes a cuspidor, do not remove the positioning guide that is cable tied to the cuspidor bowl support until the support center is properly aligned. Complete the following section to ensure proper alignment of the support center.

You can mount the support center on either side of the chair. This section describes how to install the support center and connect the utilities.

Install the Chair-Base Mount



NOTE If you have a post mount system, skip this procedure and follow the directions provided with the chair adaptor kit. Then go to "Install the Support Center Post" on the next page.

Use a 5/16" hex key driver and two 1-1/2" socket head screws to attach the chair-base mount to the side of the chair frame.



CAUTION Be sure to tighten the screws securely (approximately 30 ft-lb [40.67 N · m] of torque) so the mount does not loosen during use.

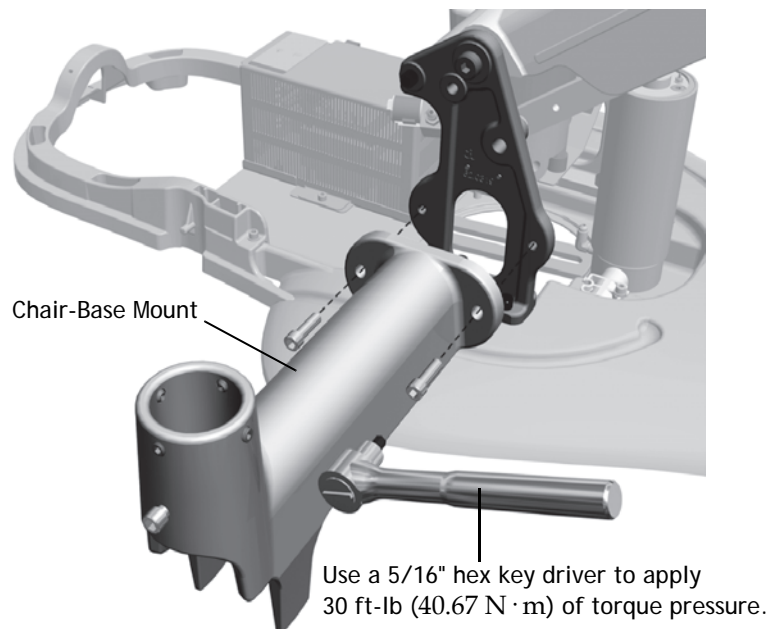
Tools Needed For This Section

5/16" hex key driver	3/16" hex key
Level	Diagonal cutters
Adjustable wrench	Sleeve pusher

Figure 11. A-dec 361 Support Center and Cuspidor



Figure 12. Install the Chair-Base Mount



Install the Support Center Post

1. Place the support center post in the chair-base mount with the notched bottom over the screw near the base of the mount.



NOTE If you have a post mount system, the support center post installs into a chair adaptor instead of the chair-base mount and the post does not have notches in the bottom.



WARNING If you're installing a post mount system, anchoring the chair to the floor is required for mechanical stability. Failure to anchor properly could result in damage, serious injury, or death.

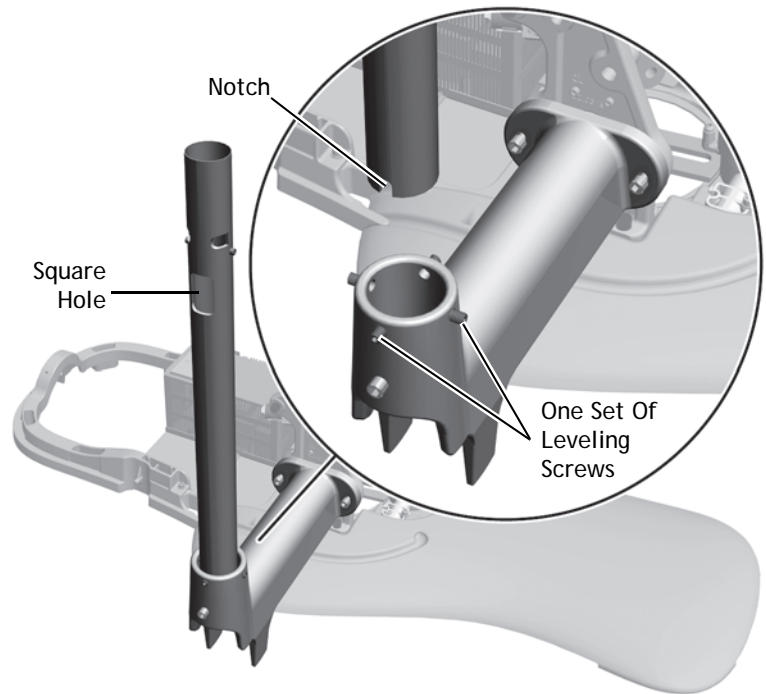
If the support center is installed to the left of the patient, face the square hole away from the chair. If the support center is installed to the right of the patient, face the square hole toward the chair.

2. Place a level vertically against the post and align it with the four leveling screws near the top of the chair-base mount.



NOTE If you have a post mount system on an A-dec 511 chair, the chair adaptor has eight leveling screws.

Figure 13. Install the Support Center Post



3. Use a 3/16" hex key to adjust the screws, switching from one set of leveling screws to the other until the post is level. Always align the level with the screws you are adjusting.
4. Once the post is level, evenly tighten the leveling screws to secure it.



NOTE This is the initial leveling of the post. The system requires a final level after everything is installed. For final leveling instructions, see "Level the System" on page 79.

Install the Support Center

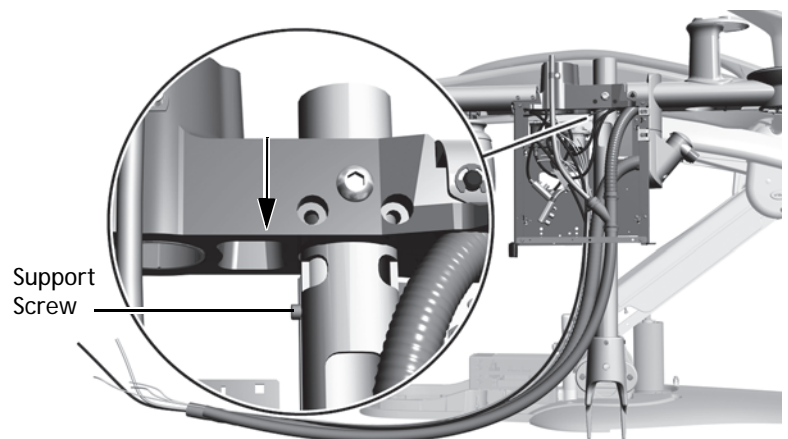
1. Wrap the support center tubing bundle around your arm and lift the support center out of the box.
2. Remove the covers from the support center.
3. Place the support center over the support center post with the water bottle connection toward the toe of the chair.



CAUTION Be careful to clear all wires and tubing so they stay on the open side of the support center frame and do not get pinched or kinked.

4. Slide the support center down the post until its frame rests on the support screws on the support center post.

Figure 14. Position the Support Center



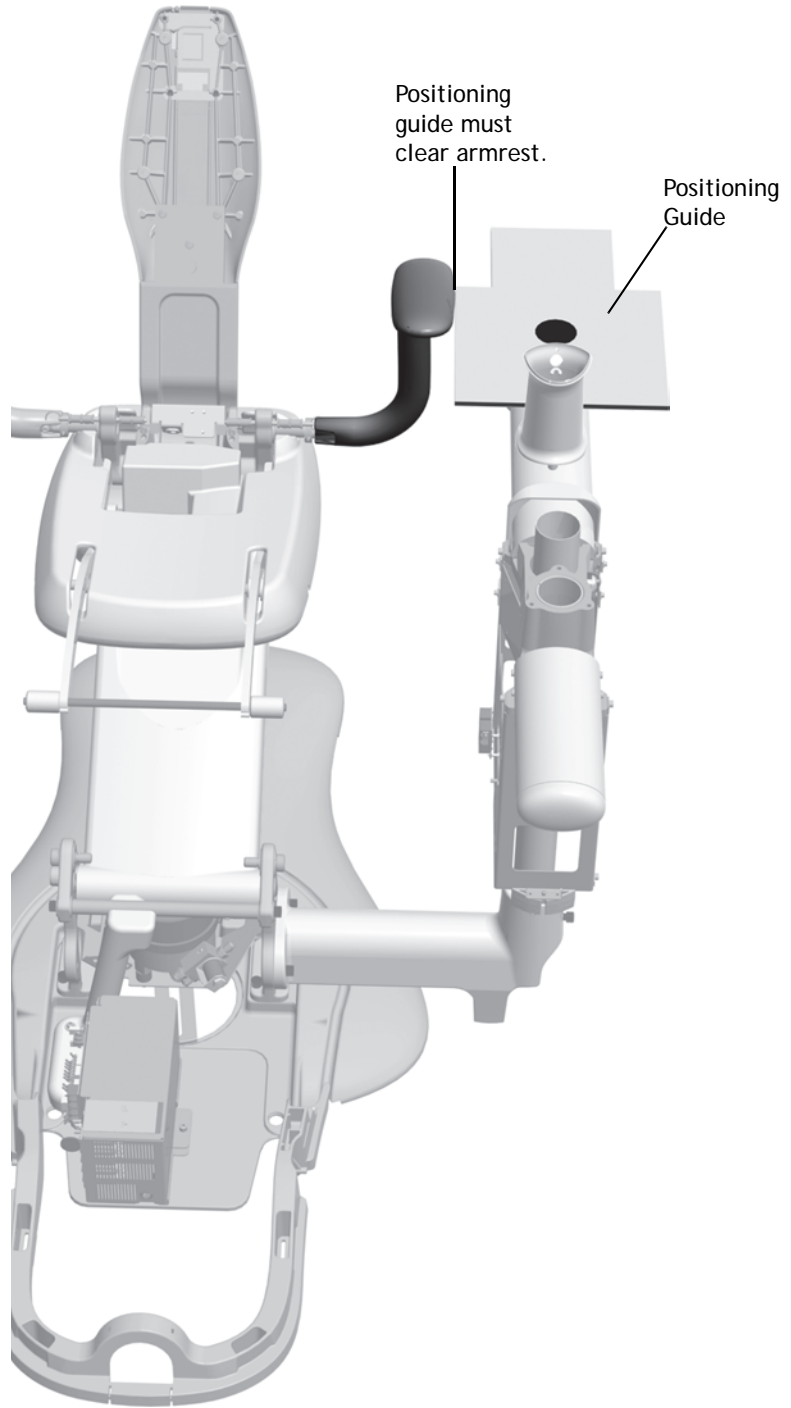
5. Align the support center depending on the configuration of the system:
- If you have an A-dec 300 that includes a cuspidor, align the support center so the positioning guide clears the armrest. Use the jumper and test points to move the chair up and down when testing clearance.



WARNING The positioning guide must clear the armrest to provide the proper clearance of 1-1/8" (29 mm) between the cuspidor bowl and armrest.

- If you have a base mount system **without** a cuspidor, or a post mount system, align the support center so it is parallel to the dental chair.

Figure 15. Ensure the Positioning Guide Clears the Armrest



- Use a 5/16" hex key driver to tighten the button-head screw. While tightening the screw, ensure the positioning guide retains its clearance of the armrest.



CAUTION To ensure that the button-head screw is properly tightened, use approximately 13 ft-lb (17.63 N·m) of torque.



NOTE If you have a post mount system, you are finished installing the support center. Skip to the note after step 9 for instructions on routing tubing and wiring.

- Use a 5/16" hex key driver to install each of the two 1-1/2" socket head screws until they are touching the back of the holes in the support center post.
- Alternately tighten both socket head screws until they are firmly secure (use approximately 13 ft-lb [17.63 N·m] of torque). While tightening the screws, ensure the positioning guide retains its clearance of the armrest.
- Route the support center tubing and wiring through the chair-base mount into the utilities area at the base of the chair.



NOTE If you are installing a post mount system, remove the Y-connector from the data line before routing the tubing. (The Y-connector is provided to connect to multiple data communication system devices.)

Route the tubing and wiring from the bottom of the support center through the convolute into the remote floor box.

If you are installing a post mount system on an A-dec 511 chair,

Figure 16. Secure the Support Center

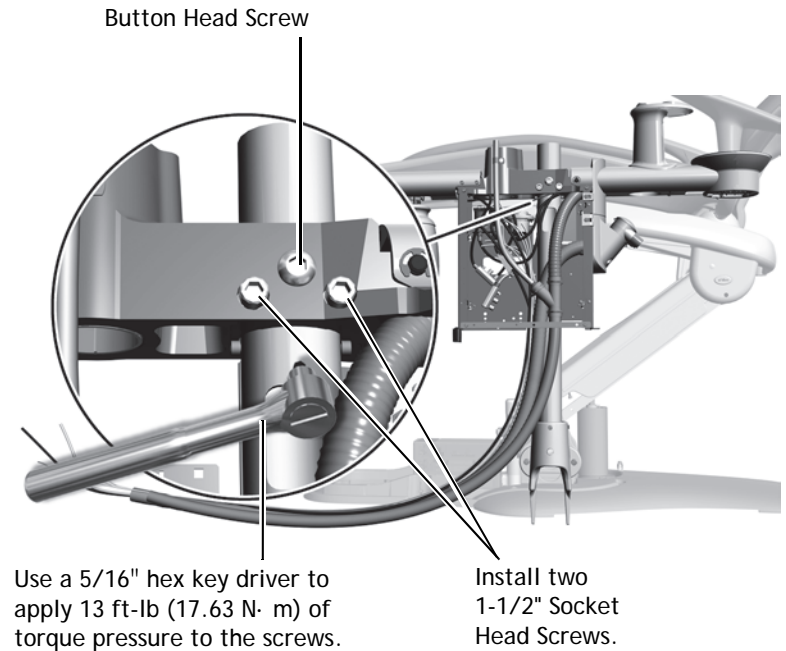
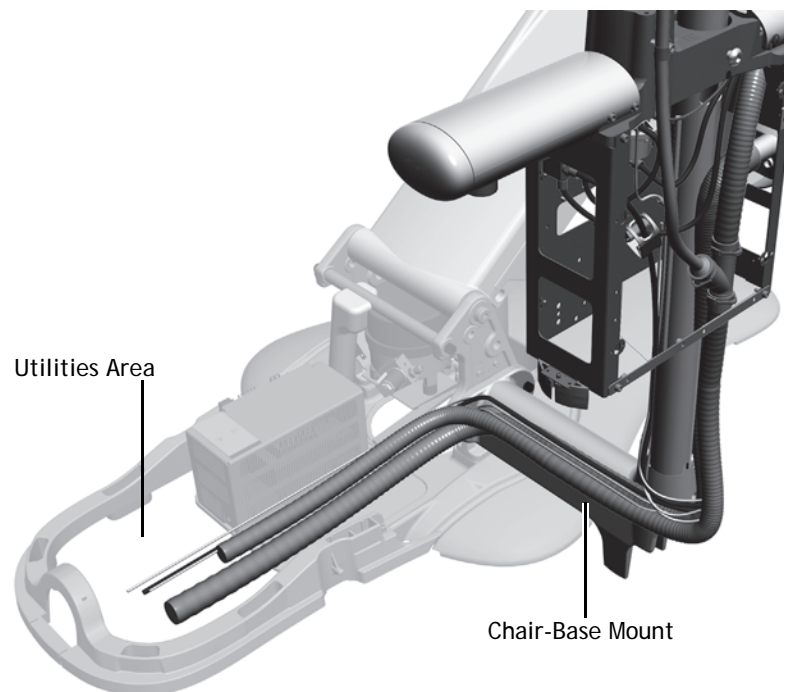


Figure 17. Route the Support Center Tubing Bundle



separate the power cables and data line from the tubing group and route them from the support center, underneath the mount, and down the lift arm to the power supply. Route the rest of the tubing bundle through the convolute into the remote floor box.

For information about installing the remote floor box, see "Install the Remote Floor Box" on page 38.

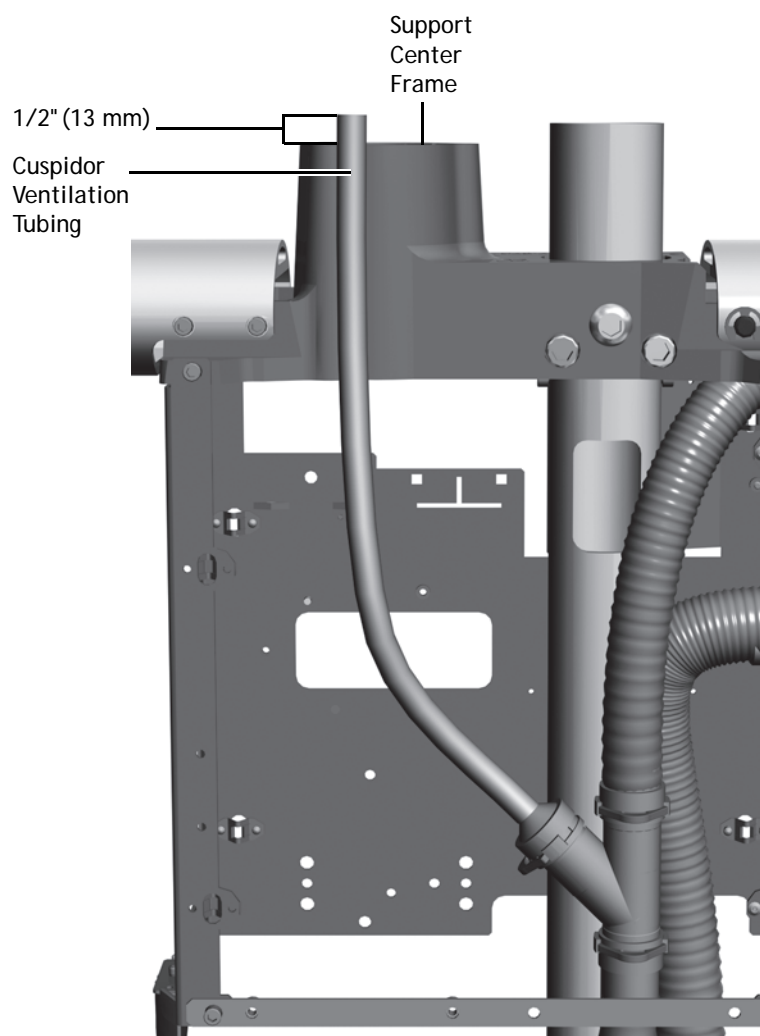


CAUTION Once you've completed installing the support center, verify that the end of the cuspidor ventilation tubing is 1/2" (13 mm) above the support center frame. This ensures that the cuspidor drains properly.

Install the Moisture Separator (Optional)

To install the moisture separator, use the directions included in the moisture separator kit (p/n 41.1477.00); then see "Connect the Utilities" on page 39.

Figure 18. Verify the Cuspidor Ventilation Tubing Position



INSTALL THE ASSISTANT'S INSTRUMENTATION

Assistant's instrumentation can be mounted three ways.

Radius®-Style (351)	16
Cuspidor-Mounted (353)	18
Telescoping (352)	20

Figure 19. Assistant's Instrumentation



A-dec 351 Radius-Style Assistant's Instrumentation with Touchpad



A-dec 352 Telescoping Assistant's Instrumentation with Optional Touchpad



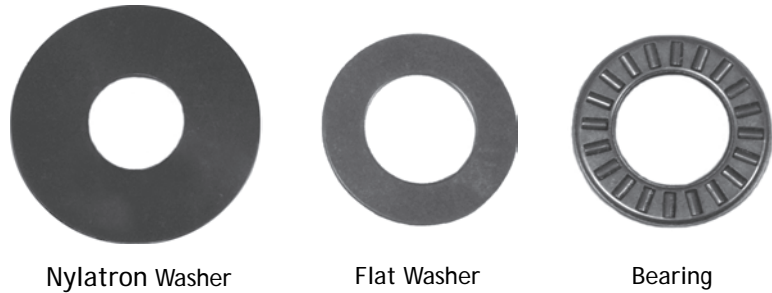
A-dec 353 Cuspidor-Mounted Assistant's Instrumentation with Optional Touchpad

Install a Radius-Style Assistant's Instrumentation (351)

Tools Needed For This Section

Hex key set

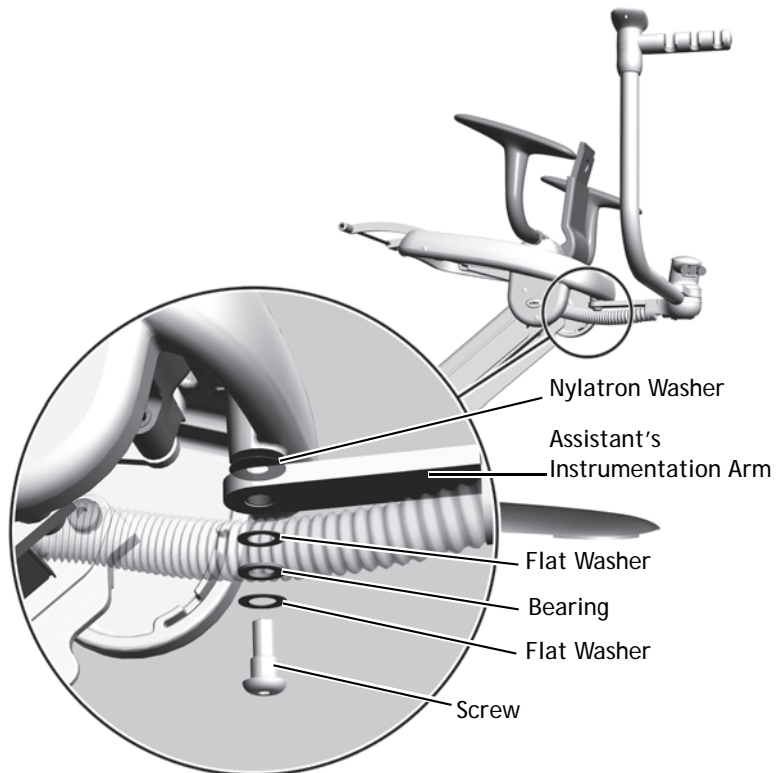
Figure 20. Types of Washers Used



Install the Assistant's Instrumentation Arm

1. Slide the bearing and two washers from the kit onto the screw.
2. Insert the screw through the hole in the assistant's instrumentation arm.
3. Slide the Nylatron® washer onto the screw.
4. Put Loctite® on the end of the screw.
5. Use a 1/4" hex key to securely tighten the arm to the chair. The arm should rotate smoothly and not drift.
6. Place the syringe in its holder on the assistant's instrumentation.
7. Place the high volume evacuation (HVE) and saliva ejector in their holders; then attach their tubing to the vacuum canister.

Figure 21. Install the Assistant's Instrumentation Arm



Route the Tubing, Cables, and Lines

1. From the back of the chair, route the vacuum line to the left of the lift cylinder and above the clear hydraulic tubing.
2. Route the tubing, power cables, and data line to the right of the lift cylinder and above the overflow bottle.
3. Use a 3/16" hex key to loosen the socket head screw securing the middle white mounting block.
4. Remove the top screw and mounting block.
5. Slide the notch in the plate between the middle mounting block and the lift arm.
6. Replace the top screw and mounting block. Make sure the screw is securely tightened.
7. Tighten the middle socket head screw.
8. Cable tie the tubing, power cables, and data line to the bottom two mounting blocks.
9. Route the syringe tubing between the motor pump and the wire cover, then behind the power supply.
10. Route the power cables and data line to the chair circuit board.



NOTE If the system does not include other modules, go to "Install the Contoured Floor Box" on page 36.

Figure 22. Install the Assistant's Instrumentation Plate

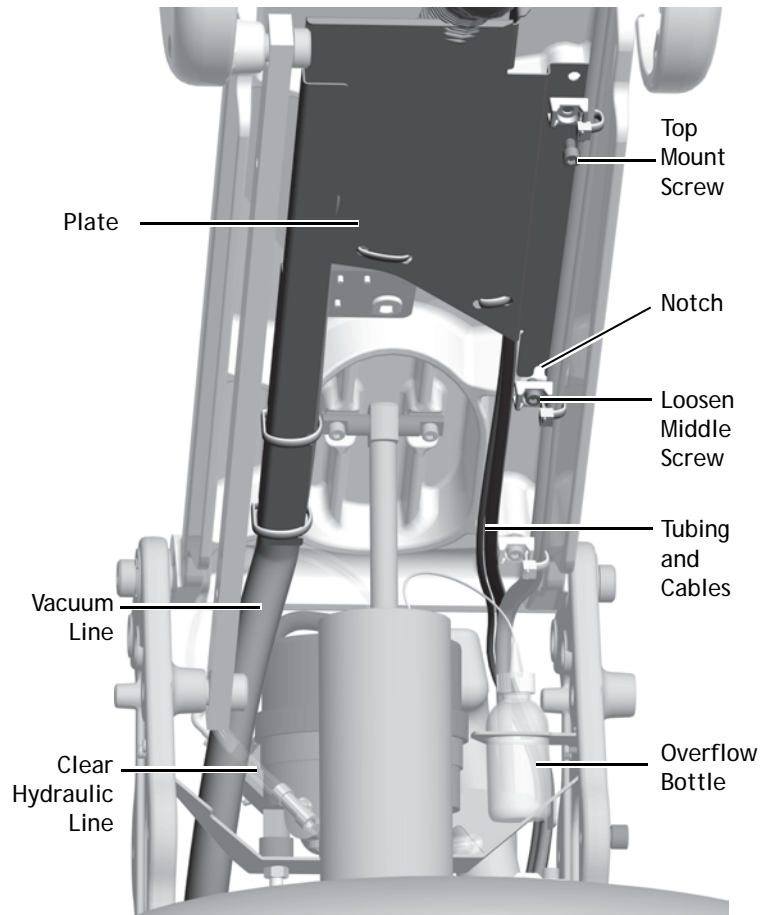
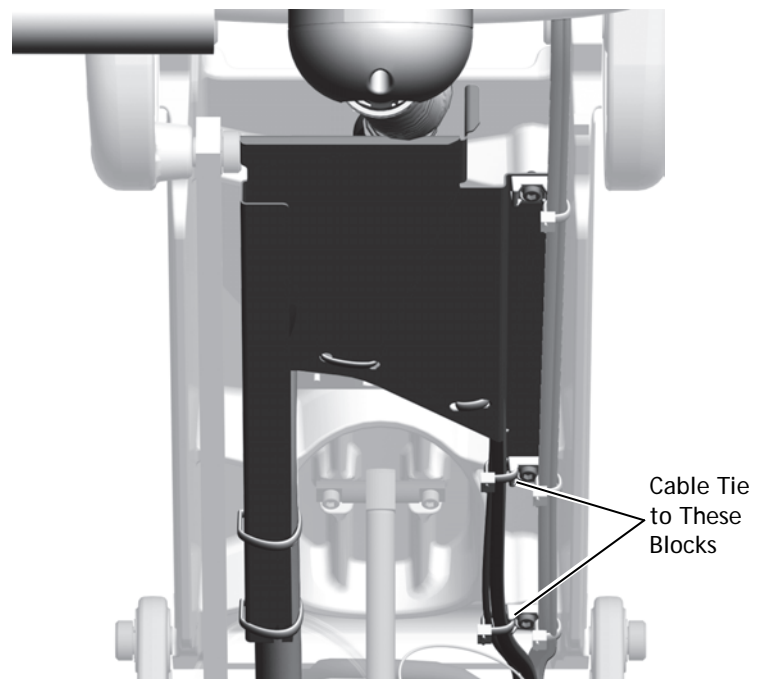


Figure 23. Cable Tie the Tubing and Wires



Install a Cuspidor-Mounted Assistant's Instrumentation (353)

1. Use diagonal cutters to cut the cable tie and remove the positioning guide.



NOTE Save the positioning guide and the foam plug holding it in the cuspidor bowl support. You will need it later to verify proper clearance between the cuspidor bowl and armrest. For more information, see "Verify Proper Clearance Between the Cuspidor Bowl and the Armrest" on page 96.

2. If the system includes an AVS, use a 1/8" hex key to remove the two screws connecting the toggle assembly to the bottom of the cuspidor bowl support.
3. If the assistant's instrumentation includes a touchpad, route the power cable and data line up through the cuspidor holder. For the wires to fit properly, place the power cable into the grooves first then the data line.
4. Place the assistant's instrumentation under the cuspidor holder and angle it away from the chair so that the post fits into the hole in the bottom of the cuspidor bowl support.
5. To attach the assistant's instrumentation to the bottom of the cuspidor holder, use a 3/16" hex key to install the 1/4-20 x 1" screw in the middle and a 5/32" hex key to install the 10-32 x 5/8" screw in the large recessed hole that is off center.
6. If you disconnected the AVS toggle assembly in step 2, reconnect it now.

Tools Needed For This Section

Diagonal cutters	Sleeve pusher
Hex key set	

Figure 24. Routing with a Touchpad Viewed From Below

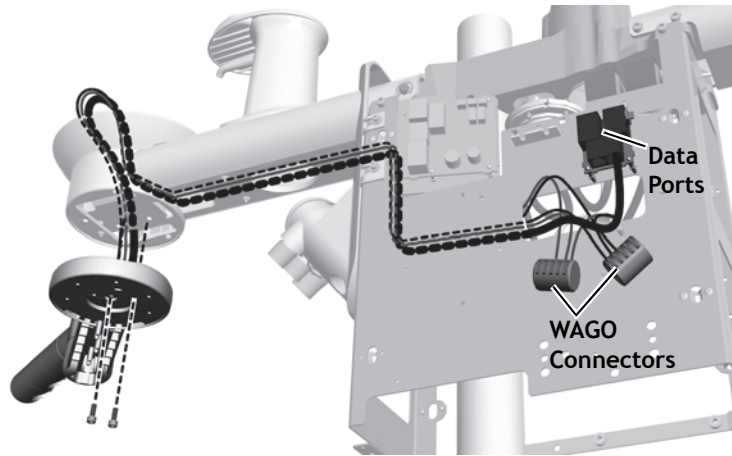


Figure 25. Routing with a Touchpad Viewed From Above

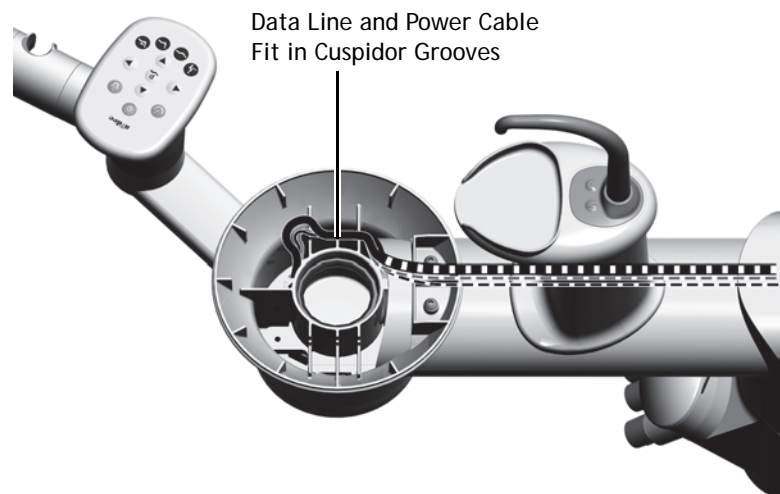
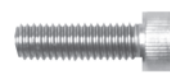


Figure 26. Socket Head Screws (Actual Size Shown)



1/4-20 x 1" - Goes in the Middle Hole



10-32 x 5/8" - Goes in the Recessed Hole

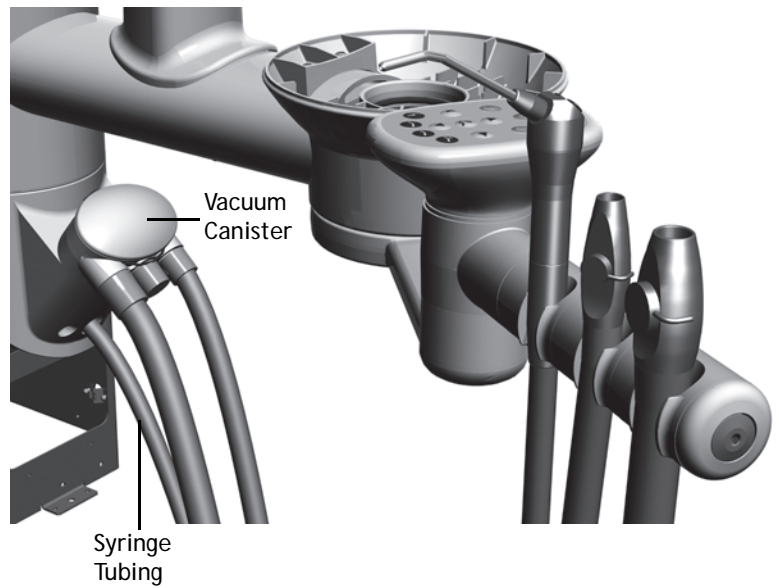
7. If the system includes a touchpad, route the data line and power cable through the support center (see Figure 24 on page 18).
8. Place the high volume evacuation (HVE) and saliva ejector in their holders; then attach their tubing to the vacuum canister.



NOTE If the system includes an AVS, the HVE and saliva ejector are installed before the product is shipped and cannot be removed.

9. Place the syringe in the holder and route its tubing under the vacuum canister through the center hole.

Figure 27. Route the HVE, Saliva Ejector, and Syringe Tubing



10. Use a cable tie and a washer to create a strain relief for the syringe tubing. Make a double loop with the cable tie to firmly hold the tubing.



TIP When setting the strain relief, leave enough tubing to match the drape of the instrument tubing.



NOTE If the system does not include other modules, go to the section for the system's configuration:

- **Base Mount System** - "Install the Contoured Floor Box" on page 36
- **Post Mount System** - "Install the Remote Floor Box" on page 38

Figure 28. Install the Strain Relief for the Assistant's Syringe



Install an Assistant's Instrumentation Mounted on a Telescoping Arm (352)

1. Use a 3/16" hex key and three 1" socket head screws to mount the hub for the telescoping arm on the support center. The stop on the hub goes toward the toe of the chair.

2. Push the sheath onto the barb on the bottom of the assistant's holder assembly.
3. Set the assistant's arm on the hub.
4. Push down one end of the wave washer and catch it on the hub ridge. Continue to work systematically around the hub to push the washer down until it is completely installed.
5. Place the HVE and saliva ejector in their holders; then attach their tubing to the vacuum canister.
6. If the system includes a touchpad:
 - (1) Route the touchpad tubing under the vacuum canister through the hole on the right (it is the largest hole).
 - (2) Install the strain relief by placing the washer on the tubing then inserting the bushing into the tubing.



TIP When setting the strain relief, leave enough tubing to match the drape of the instrument tubing.

Tools Needed For This Section

- | | |
|------------------|---------------|
| 3/16" hex key | Sleeve pusher |
| Diagonal cutters | |

Figure 29. Install the Telescoping Arm Hub

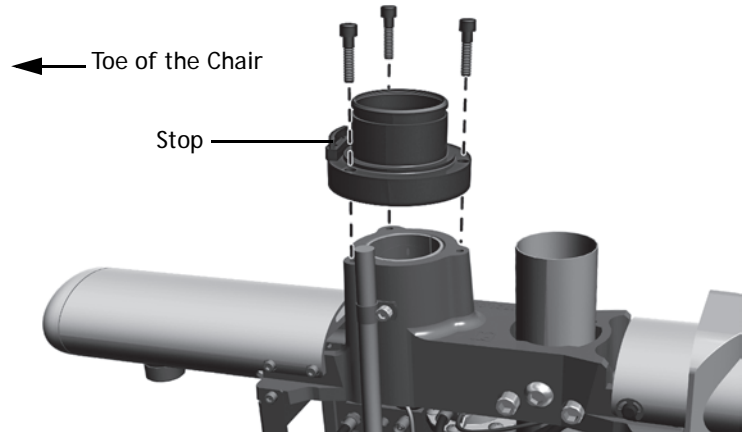


Figure 30. Install the Telescoping Arm

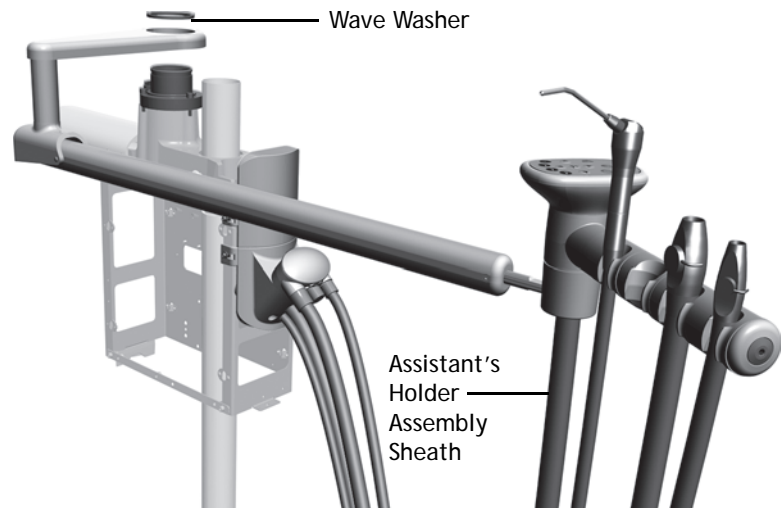
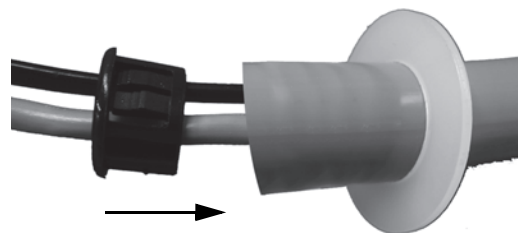
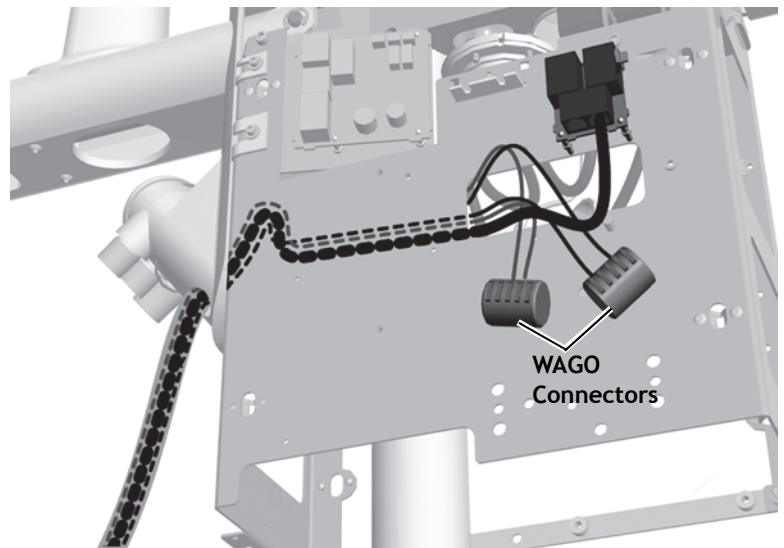


Figure 31. Install the Strain Relief for the Touchpad Tubing



- (3) Route the data line and power cables through the support center.

Figure 32. Route the Data Line and Power Cables



7. Place the syringe in the holder and route its tubing under the vacuum canister through the center hole (see Figure 30 on page 20).

Figure 33. Route the Syringe Tubing



8. Use a cable tie and a washer to create a strain relief for the syringe tubing. Make a double loop with the cable tie to firmly hold the tubing.



TIP When setting the strain relief, leave enough tubing to match the drape of the instrument tubing.



NOTE If the system does not include other modules, go to the section for the system's configuration:

- **Base Mount System** - "Install the Contoured Floor Box" on page 36
- **Post Mount System** - "Install the Remote Floor Box" on page 38

Figure 34. Install the Strain Relief for the Assistant's Syringe



INSTALL THE DELIVERY SYSTEM

The A-dec 300 can be configured with a Traditional or Continental delivery system. The installation steps are the same for both of them.

Delivery systems can be Radius-style or mounted on a support center.

- Radius-Style (332 & 333) 23**
- Support Center Mounted (354 & 335) . 29**

Figure 35. Delivery Systems



A-dec 332 Radius-Style Traditional Delivery System



A-dec 335 Continental Delivery System
mounted on a Support Center

Install a Radius-Style Delivery System (332 & 333)

Install the Rigid Arm

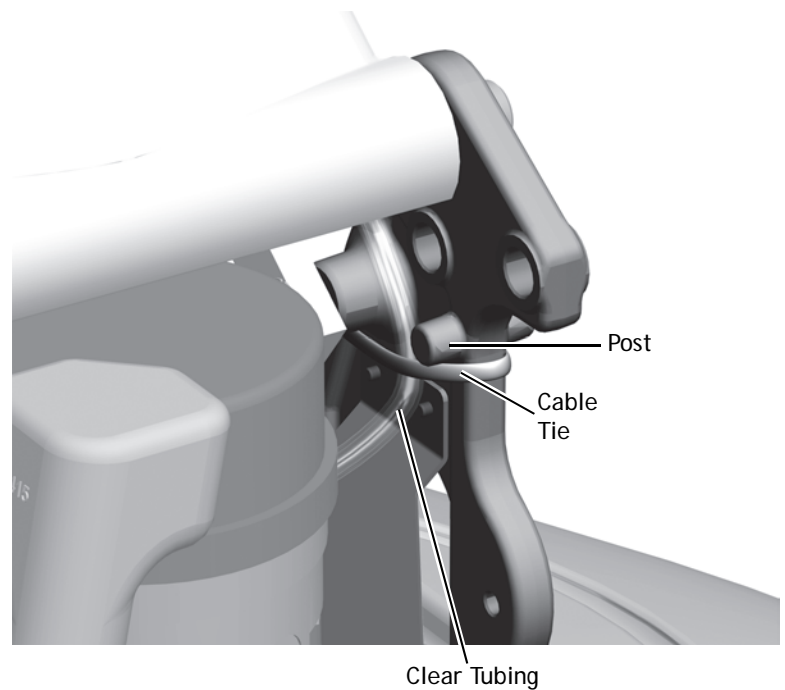
1. Raise the chair all the way up.
2. Turn off the power.

3. Cut the cable tie holding the clear hydraulic tubing that goes from the lift cylinder to the motor pump.
4. Push the tubing back so that it is behind the post on the chair tower.


Tools Needed For This Section

Hex key set	Diagonal cutters
Sleeve pusher	Adjustable wrench
Tape measure	

Figure 36. Prepare the Chair Tower

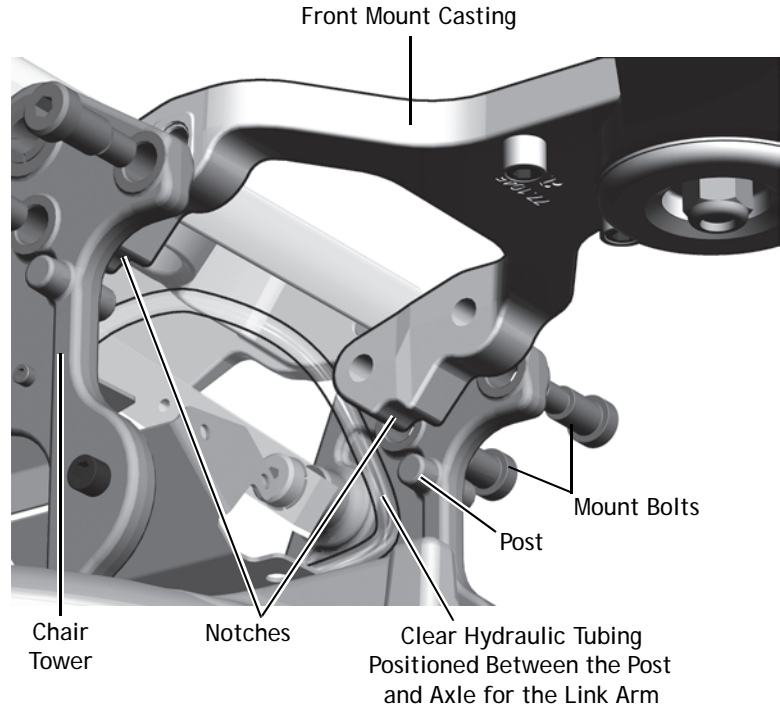


5. Place the notches in the front mount casting over the posts on the chair towers.

 **CAUTION** Make sure all tubing and wiring are away from the posts so they do not get pinched.

6. While holding the rigid arm in place, install the front bolt then the back bolt on one side and finger tighten.
7. Install the bolts on the other side; then use a 5/16" hex key to securely tighten all bolts.

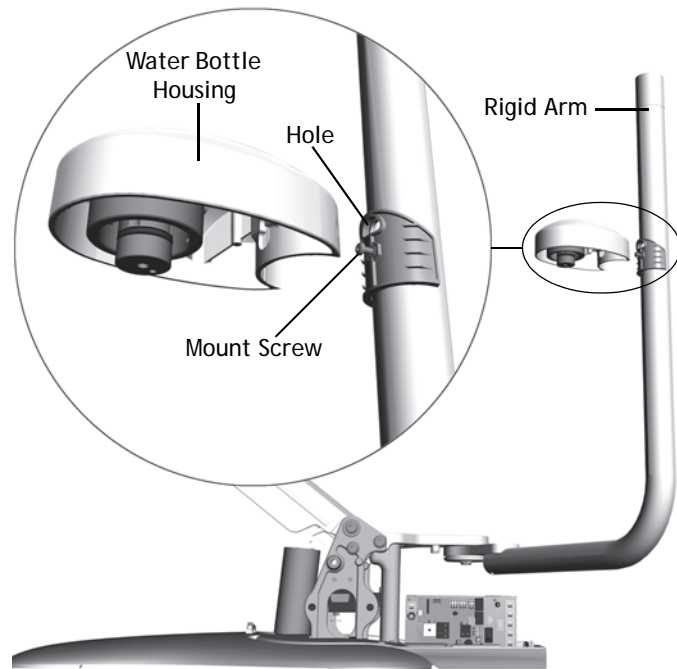
Figure 37. Install the Rigid Arm



Install the Water Bottle

1. Use a 1/8" hex key to loosen the screw below the hole in the rigid arm.
2. Route the water bottle tubing into the hole, through the arm and out the bottom.
3. Slide the water bottle housing down over the mount screw and secure it to the arm.

Figure 38. Install the Water Bottle



Install the Flexarm and Control Head

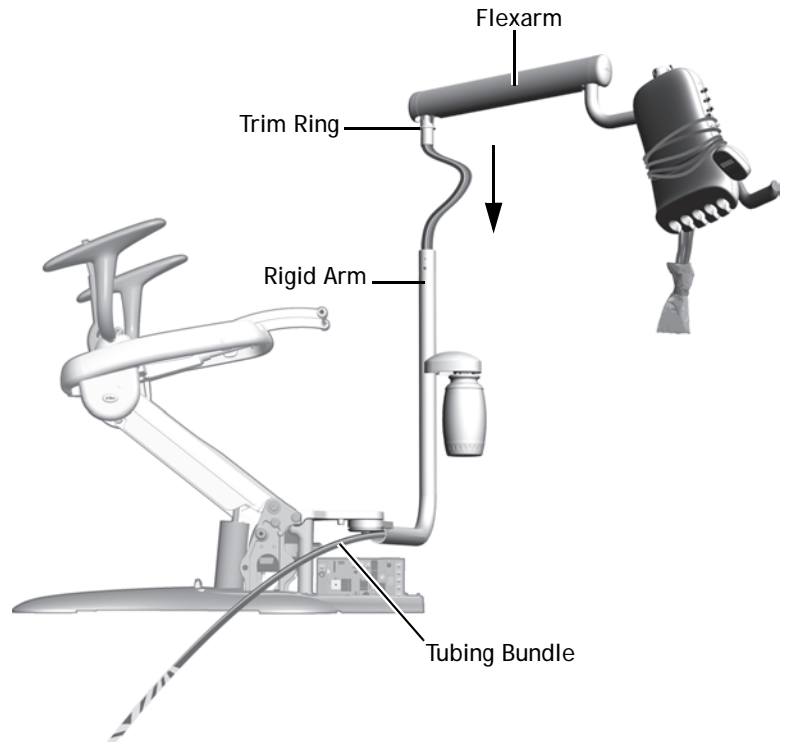
1. Cut the cable tie holding the trim ring to the delivery system tubing bundle.
2. Remove the delivery system from the box and balance it over your shoulder, with the control head in back of you, so one hand is free to route the tubing bundle.
3. Route the delivery system tubing bundle down through the rigid arm.



TIP To keep Traditional delivery system handpiece tubing out of the way, wrap them around the control head before installing the flexarm.

4. Insert the flex arm into the rigid arm until it is fully seated.

Figure 39. Install the Flexarm



5. Use a 5/32" hex key to loosen the button-head screw.
6. Rotate the control head so it is positioned over the hole for the missing leveling screw.

7. Use a 5/32" hex key to install and tighten the 1/4-20 x 1/2" leveling screw.
8. Use a 5/32" hex key to install the 3/8" setscrew.

9. Place the handpiece tubing in their holders and insert the adjustment keys into their holes on the side of the control head.

Figure 40. Install the Control Head

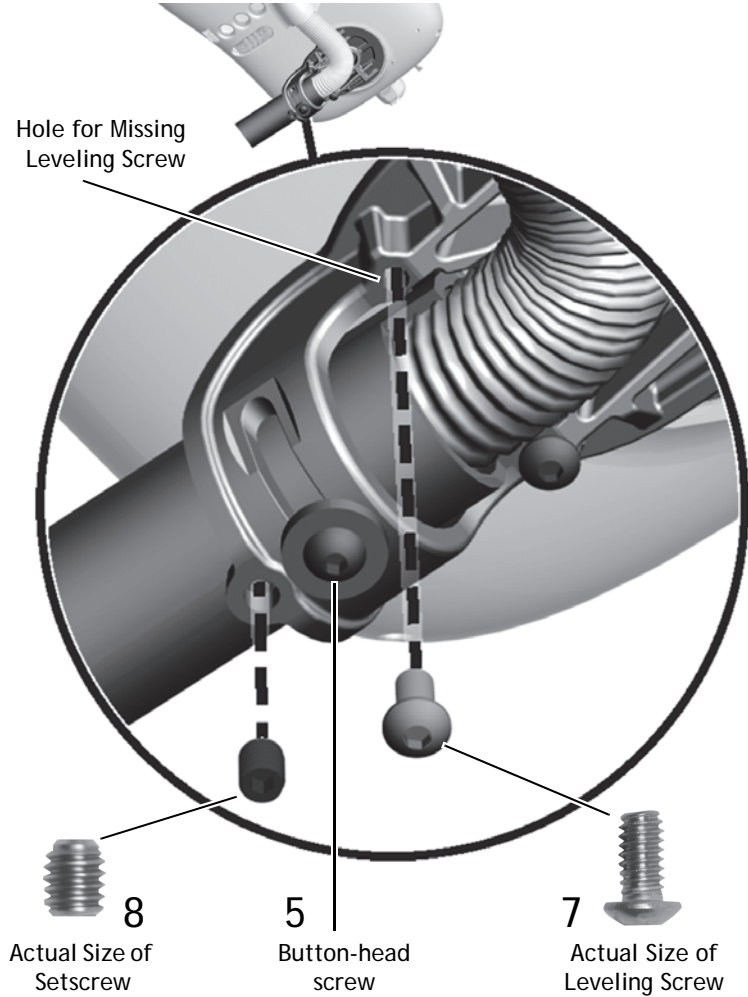


Figure 41. Insert Whip Hooks and Adjustment Keys



NOTE If you are installing a Continental delivery system, insert the whip hooks into the whips. The top ends of the whip hooks face the front of the control head.

Route the Tubing and Wiring

1. From the back of the chair, route the foot control tubing over the strain relief and behind the power supply.
2. Measure three feet of the water bottle tubing from where it comes out of the rigid arm. Cut off the excess.
3. Strip the sheath around the water bottle tubing back to the rigid arm.



TIP Mark the ends of the water bottle tubing to distinguish them from the delivery system tubing when connecting the utilities.

4. Route both the water bottle and delivery system tubing bundles through the convolute (see Figure 43).

5. Form a loop with a cable tie through the two holes in the rigid arm.
6. Push the convolute about an inch (a few centimeters) through the loop into the rigid arm.
7. Tighten the cable tie to secure the convolute.

Figure 42. Route the Foot Control Tubing

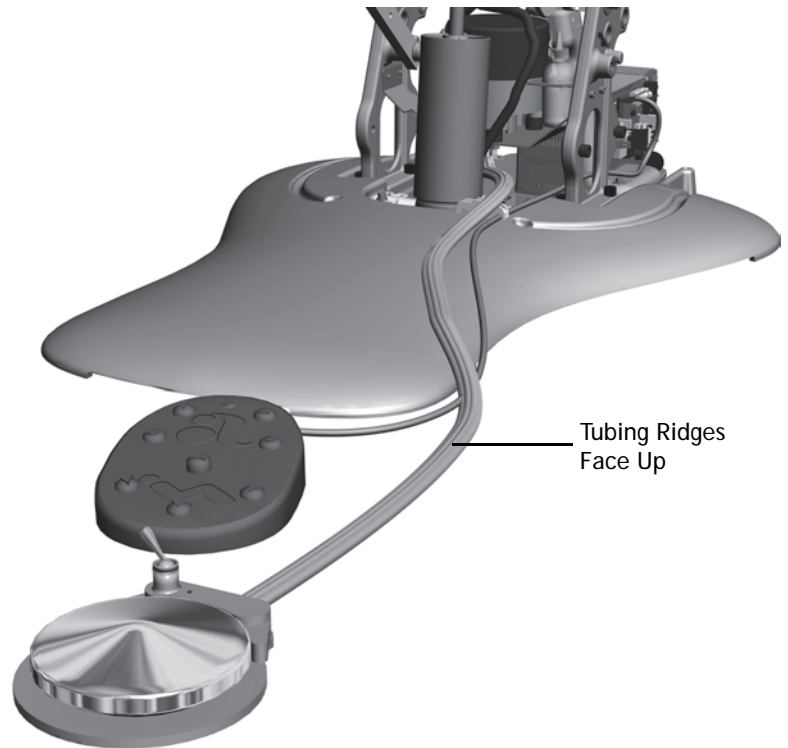
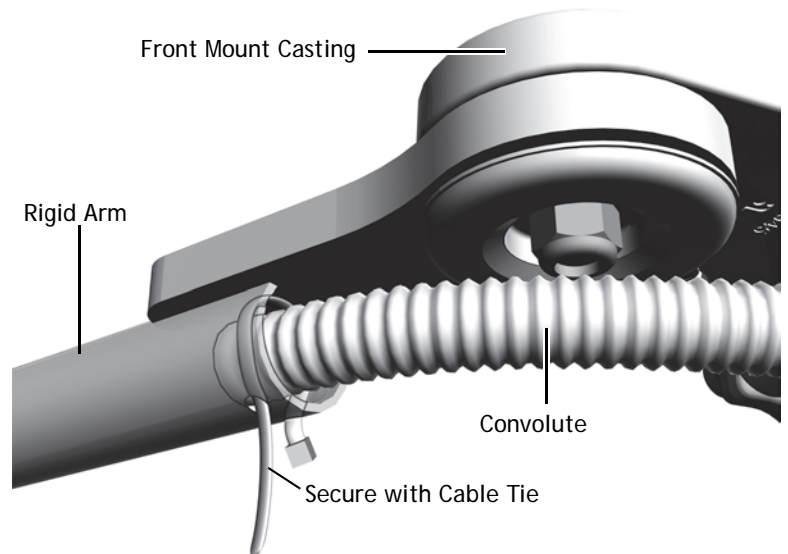


Figure 43. Route the Tubing Bundles Through the Convolute



8. Remove the tape from the ends of the water bottle and delivery system tubing.

9. Route the water bottle and delivery system tubing up through the front mount (be sure to go behind the black hydraulic tubing) then down to behind the power supply.



NOTE Improper routing of the tubing can hinder the movement of the delivery system rigid arm.

10. Route the delivery system power cables, ground wire, and data line up through the front mount and down to the chair circuit board on the power supply.

11. If the system includes an assistant's instrumentation, route its syringe tubing around the lift cylinder to behind the power supply.

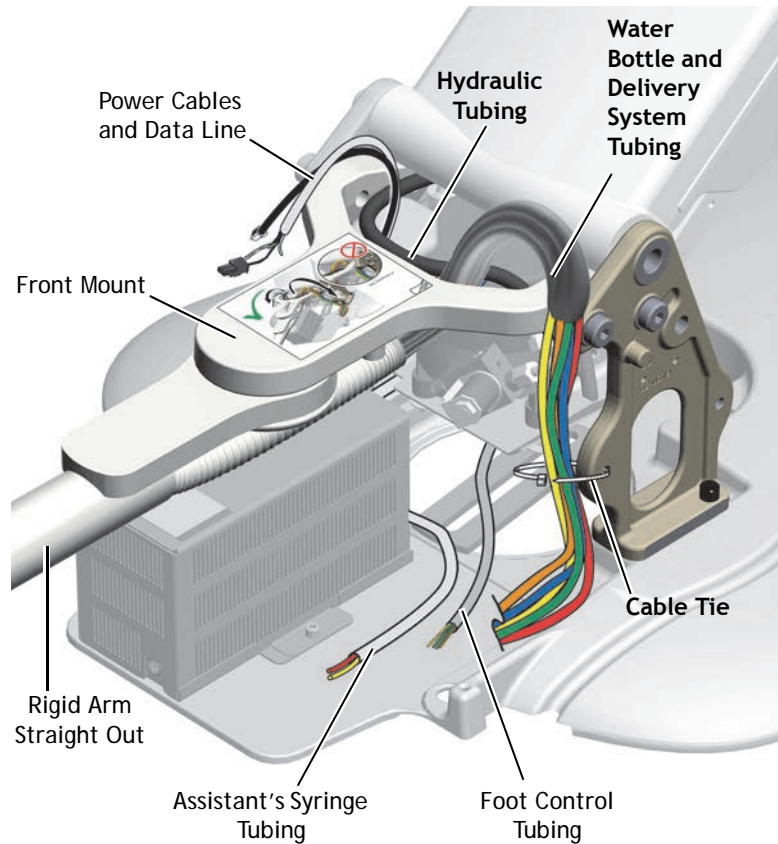
Arrange the Tubing

1. Position the rigid arm so that it is straight out from the middle of the chair, in line with the front mount.
2. Neatly gather the tubing. Cable tie it to the chair tower.



NOTE If the system includes a tray holder, see "Install the Tray Holder (Optional)" on page 32. If not, go to "Install the Contoured Floor Box" on page 36.

Figure 44. Route the Tubing and Wires



Install a Delivery System Mounted on a Support Center (334 & 335)

Install the Components

1. Lower the chair. Turn off the power.
2. Ensure the correct trim ring is on the delivery system post.
 - If the system includes a delivery system but no assistant's instrumentation mounted on a telescoping arm, use the top trim ring in Figure 45.
 - If the system includes a delivery system and assistant's instrumentation mounted on a telescoping arm, use the bottom trim ring in Figure 45.

Tools Needed For This Section

Hex key set	Diagonal cutters
Adjustable wrench	Sleeve pusher

Figure 45. Delivery System Post Trim Rings

This trim ring ships on the delivery system post.



Trim Ring Used With Delivery System

This trim ring ships in the assistant's instrumentation box.



Trim Ring Used With Delivery System and Assistant's Instrumentation Mounted on a Telescoping Arm

3. Remove the delivery system from the box and balance it over your shoulder so one hand is free to route the tubing bundle.

The delivery system post inserts into the support center in the post hole toward the toe of the chair.

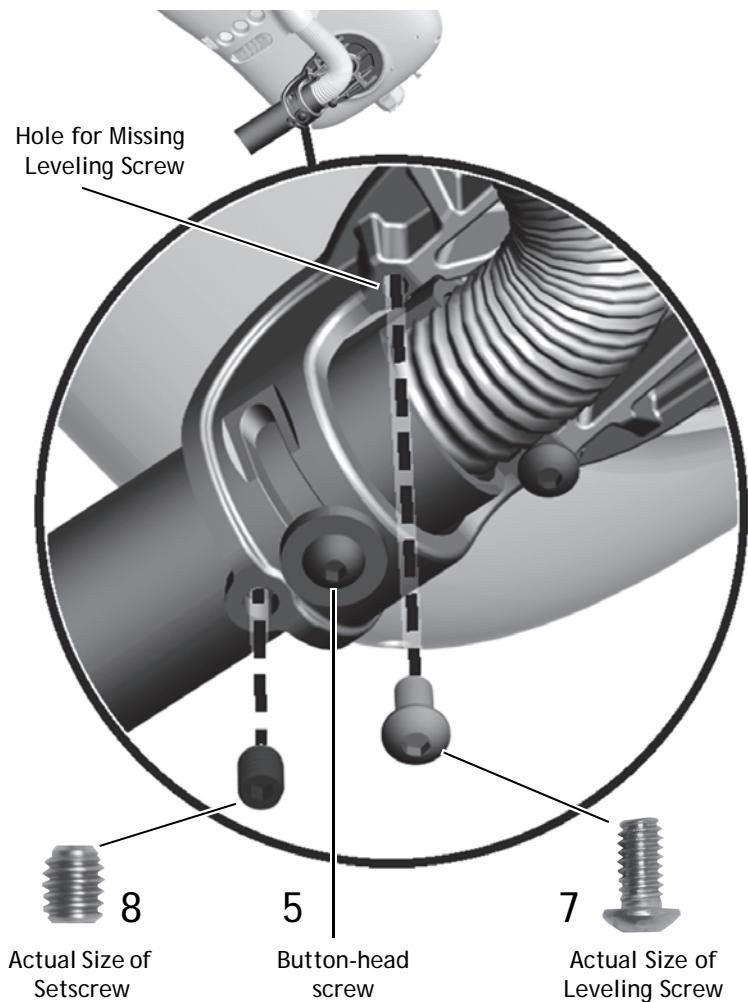
4. Route the tubing bundle into the support center then insert the delivery system post into the support center until it is fully seated.

Figure 46. Carry the Delivery System



5. Use a 5/32" hex key to loosen the button-head screw.
6. Rotate the control head so it is positioned over the hole for the missing leveling screw.

Figure 47. Install the Control Head



7. Use a 5/32" hex key to install and tighten the 1/4-20 x 1/2" leveling screw.
8. Use a 5/32" hex key to install the 3/8" setscrew.

- Place the handpiece tubing in their holders and insert the adjustment keys into their holes on the side of the control head.



NOTE If you are installing a Continental delivery system, insert the whip hooks into the whips. The top ends of the whip hooks face the front of the control head.

Figure 48. Insert Whip Hooks and Adjustment Keys



Route the Foot Control Tubing

- Raise the chair all the way up.
- From the back of the chair, route the foot control tubing through the chair-base mount and up into the support center.



NOTE If you have a post mount system, the foot control tubing routes through a hole in the bracket in the bottom of the support center that holds the convolute.

Figure 49. Route the Foot Control Tubing



If the system includes a tray holder, see "Install the Tray Holder (Optional)" on the next page. If not, go to the section for the system configuration:

- **Base Mount System** - "Install the Contoured Floor Box" on page 36
- **Post Mount System** - "Install the Remote Floor Box" on page 38

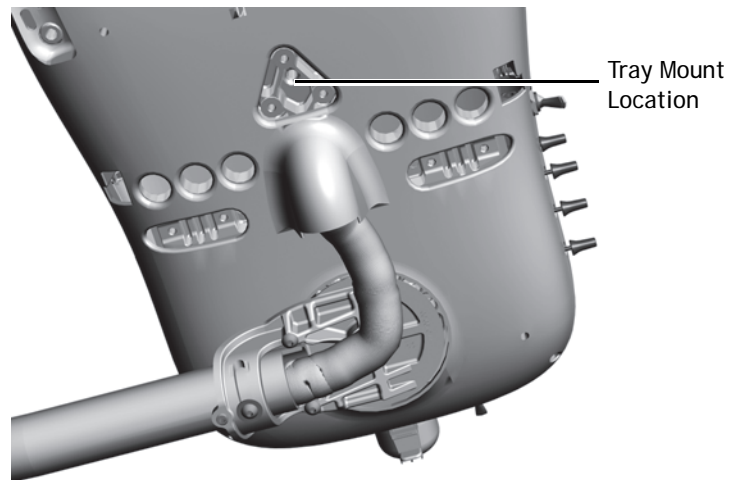
Install the Tray Holder (Optional)

To install the tray holder, select the type of delivery system and complete the steps.

Continental Delivery System

Use a 5/32" hex key and three 10-32 x 3/4" screws to attach the mount arm to the middle of the bottom of the control head.

Figure 50. Tray Mount Position on a Continental Control Head



Traditional Delivery System



NOTE Large tray holders attach to mount arms in a different orientation than small tray holders. For proper orientation, see Figure 51 and Figure 52.

1. Use a 1/8" hex key and the 10-32 x 1/2" screws to attach the bottom of the tray holder to the mount arm.



CAUTION Do not over tighten the screws or you may damage the surface of the tray or break the mount.

2. Use a 1/8" hex key and two 10-32 x 1" button head screws to attach the mount arm to the side of the bottom of the control head.



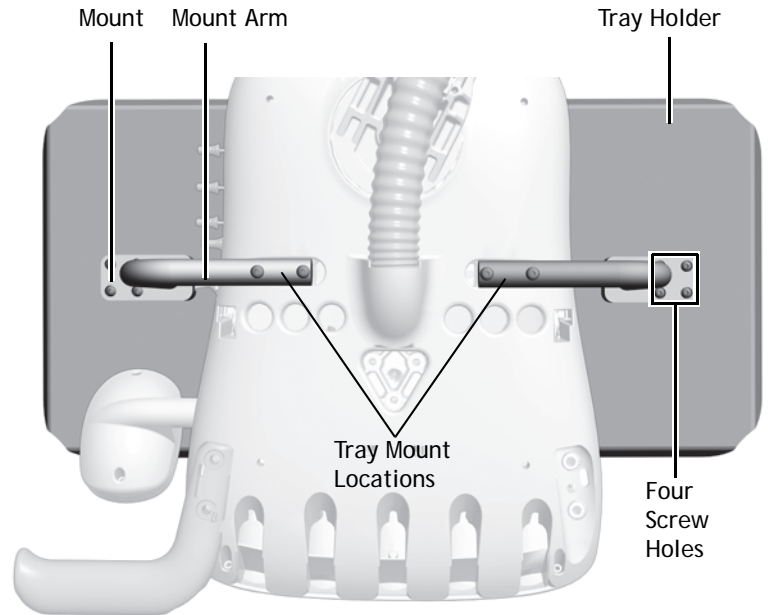
TIP While the tray holder can be installed on either side of the control head, it is helpful to mount it on the side opposite of the adjustment keys to provide better access to the keys.



NOTE If the system does not include other modules, go to the section for the system's configuration:

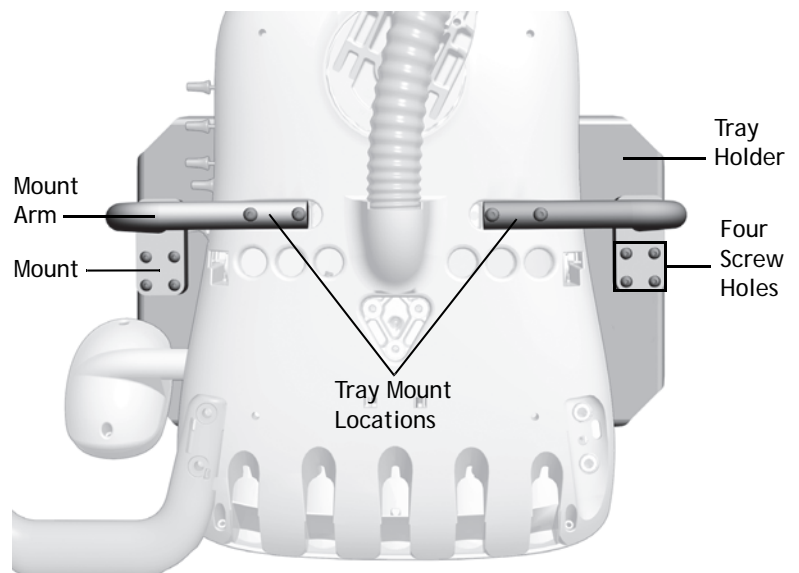
- **Base Mount System** - "Install the Contoured Floor Box" on page 36
- **Post Mount System** - "Install the Remote Floor Box" on page 38

Figure 51. Install a Large Tray Holder



When installing a large tray holder, face the four screw holes in the mount away from the side of the control head.

Figure 52. Install a Small Tray Holder



When installing a small tray holder, face the four screw holes in the mount toward the front of the control head.

INSTALL THE DENTAL LIGHT

The procedure for installing A-dec 371 or A-dec 571 for 300 dental light components is the same regardless of the type of chair they are installed on. Routing and connecting the light cable varies depending on the system you are installing.

Install the Dental Light Components

1. Slide the trim ring onto the top of the support center post then insert the intermediate post into the support center post.

Orient the plugged hole in the intermediate post so it faces the chair.

If you are installing an A-dec 382 dental light, orient the plugged hole in the intermediate post so it faces in the same direction as the toeboard.



NOTE When the post is fully seated, there is still a gap between the white painted sections. The gap will be behind the support center covers.

2. Lightly tap the top of the intermediate post with a rubber mallet. Do not hit it too hard or it will be difficult to remove.
3. Insert the plastic bearing into the intermediate post.
4. Place the trim cover on the light post.
5. Route the light cable into the intermediate post.
6. Insert the light post into the intermediate post until fully seated and slip the trim cover down over the bearing and intermediate post.

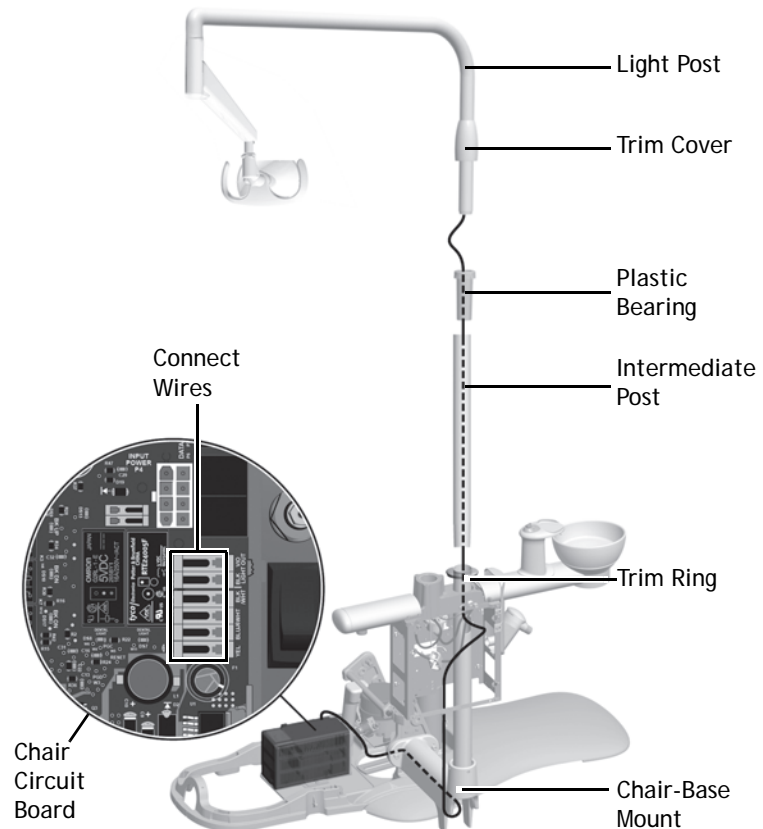
Tools Needed For This Section

Rubber mallet

Figure 53. A-dec 371 Dental Light



Figure 54. Install the Dental Light



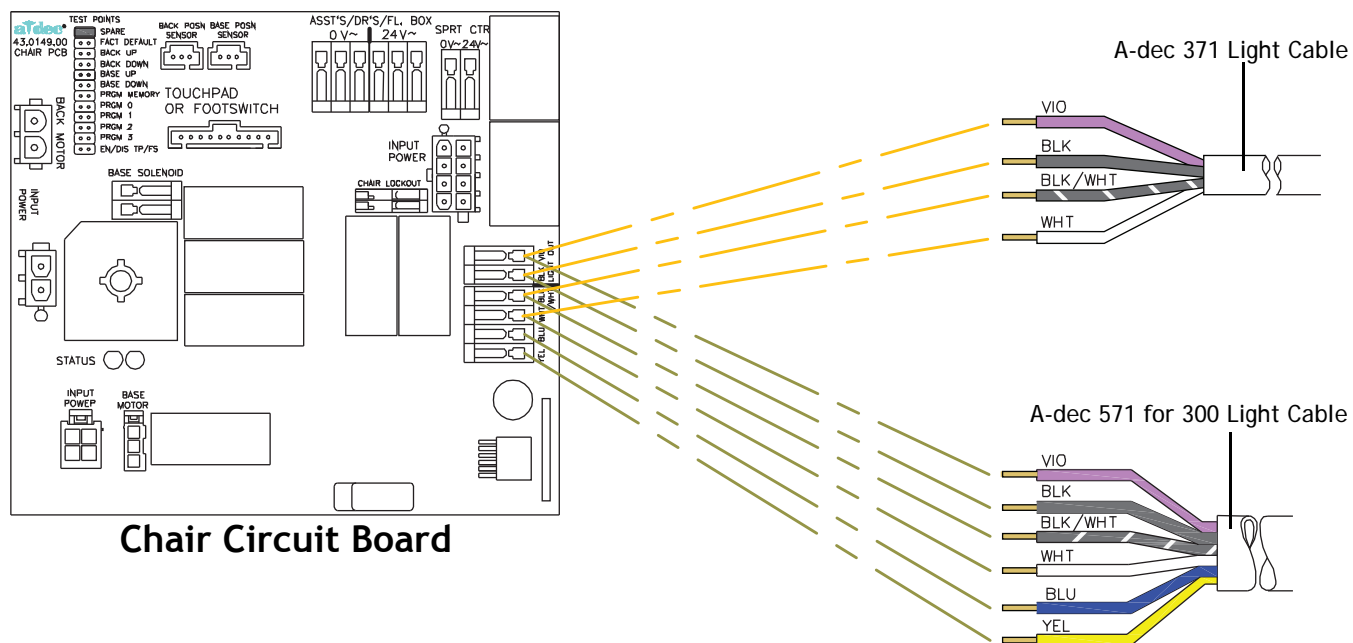
Route and Connect the Dental Light Cables



CAUTION Electric components on the circuit board are static sensitive and require handling precautions.

1. With the dental light components installed, finish routing the light cable through the bottom of the support center and the chair-base mount to the chair circuit board in the utilities area below the chair (see Figure 54 on the previous page).
2. Turn off the power.
3. Attach the dental light wires for the system's type of light to their corresponding connections on the chair circuit board.
 - **A-dec 371** has black and violet wires which connect to terminal strip J5 plus black/white and white wires that connect to terminal strip J6.
 - **A-dec 571 for 300** has black and violet wires which connect to terminal strip J5 plus black/white, white, blue, and yellow wires that connect to terminal strip J6.

Figure 55. Dental Light Wire Connections



NOTE If you have a post mount system, see the following documents that come with the kit for installing the A-dec 371 or A-dec 571 for 300 light on those chairs:

- A-dec 511 Dental Chair - p/n 86.0119.00
- A-dec Cascade, Decade, Performer, or Priority Dental Chairs - p/n 86.0118.00

INSTALL THE CONTOURED FLOOR BOX

Install the Contoured Floor Box Frame

1. Place the contoured floor box frame around the utilities, leaving at least 3" (76 mm) between any object that is taller than 4.5" (114 mm) and the back of the frame. Make sure that nothing extends into the gray striped area in Figure 56.



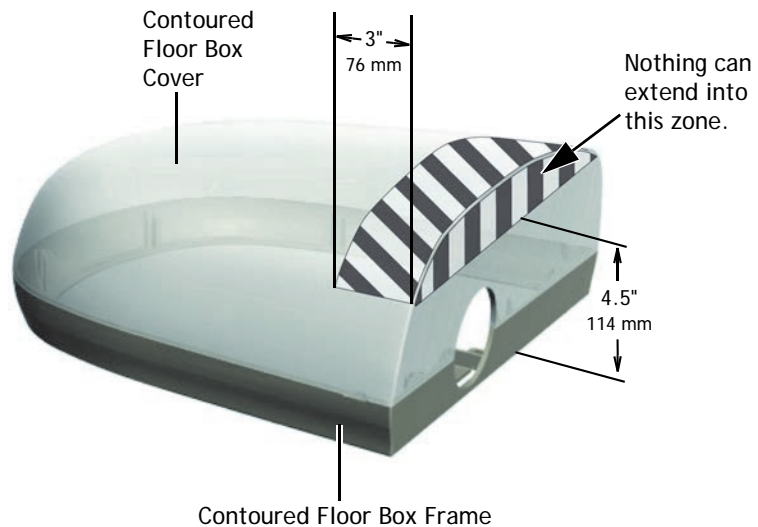
CAUTION Failure to provide adequate space as described above will prevent installation of the power supply cover.

2. Attach the frame to the floor.
 - On a wood floor, use a Phillips head screwdriver and 1-1/4" size #10 screws.
 - On a concrete floor, use a 1/4" masonry drill bit to make holes where the screws fit through the frame. Insert the plastic anchors into the holes; then use a Phillips head screwdriver and 1-1/4" size #10 screws.

Tools Needed For This Section

Tape measure	1/4" masonry drill bit
Phillips head screwdriver	Sleeve pusher
Diagonal cutters	Pliers

Figure 56. Contoured Floor Box Cover and Frame



Install the Convolute

1. Unplug the chair.
2. Measure the distance between the power supply cover frame and the contoured floor box cover frame and cut the convolute to size.

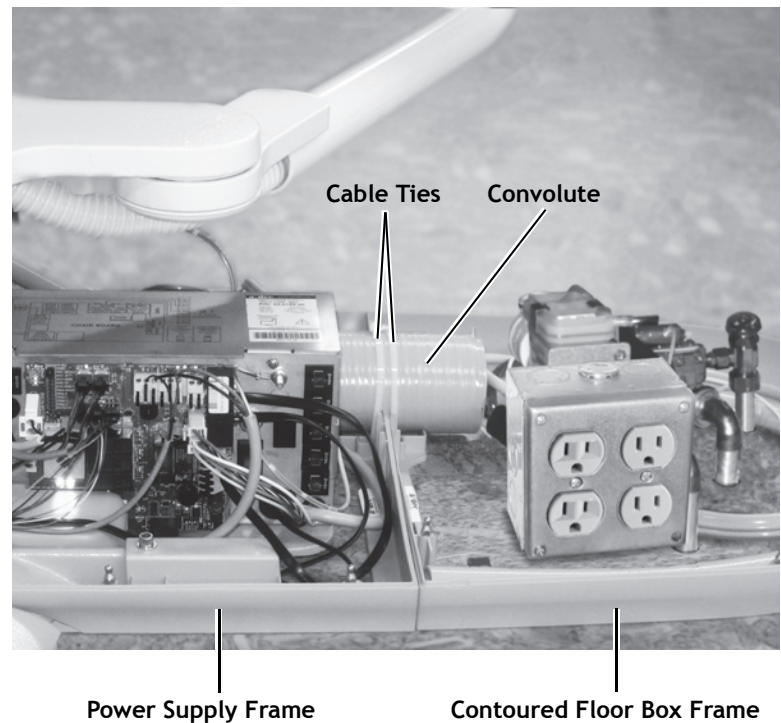


TIP The convolute should extend a few inches past each frame so you can secure it to the frames.

3. Route the convolute through the cable tie in the power supply frame until it is 2" (5 cm) past the cable tie.
4. Use pliers to tighten the cable tie so it securely holds the convolute. Trim the excess tie.
5. Route the convolute through the cable tie in the contoured floor box frame until it is 2" (5 cm) past the cable tie.
6. Use pliers to tighten the cable tie so it securely holds the convolute. Trim the excess tie.
7. Route the tubing, power cord, and vacuum line through the convolute.

You are ready to connect the system. See "Connect the Utilities" on page 39 for further instructions.

Figure 57. Install the Convolute and Route the Utilities



INSTALL THE REMOTE FLOOR BOX

1. Remove the protective layer from the remote floor box; then position the floor box over the utilities.
2. Measure the distance from the floor box to the bottom of the support center and cut the convolute to match that distance.
3. Use a Phillips head screwdriver and 6 size #10 screws to secure the floor box to the floor.

You are ready to connect the system. See “Connect the Utilities” on the next page for further instructions.

Tools Needed For This Section	
Diagonal cutters	Phillips head screwdriver
5/64" hex key	Sleeve pusher

Figure 58. Remote Floor Box



CONNECT THE UTILITIES

See the section for the system's configuration.

Radius-Style Floor Box Utilities 39
 Radius-Style Modules 41
 Radius-Style Assistant's Instrumentation (only). 45
 Support Center Power and Data 46
 Support Center Floor Box Utilities 55
 Support Center Modules 57

Radius-Style Floor Box Utilities

Radius-style modules connect to the utilities in the contoured floor box. Use the umbilical from the kit to complete the air and water connections pictured in Figure 60.


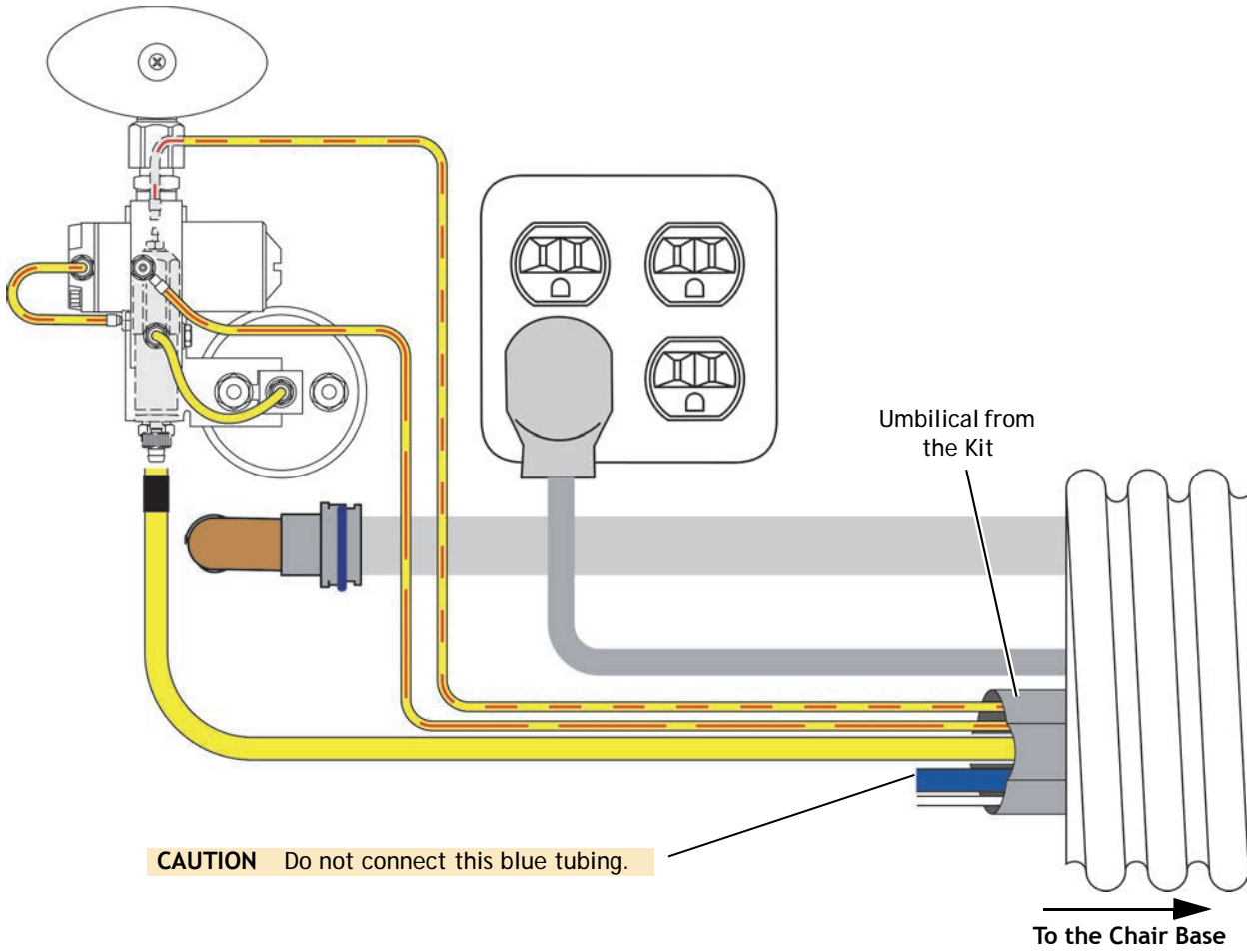
 **CAUTION** There is a blue tubing in the umbilical from the kit. Do not connect the blue tubing.

Figure 59. Radius-Style Modules with Contoured Floor Box Set



Figure 60. Floor Box Tubing Connections for Radius-Style Modules



Radius-Style Modules

Connect the Power and Data



CAUTION Electric components on the circuit board are static sensitive and require handling precautions.



NOTE This procedure is for both the assistant's instrumentation and the delivery system.

1. Turn off the power.
2. Use an adjustable wrench to attach the delivery system's ground wire to the post on the power supply.
3. Connect the ground wire to the power supply, black wire to OVAC, and gray wire to 24VAC of the chair board's terminal strip J2.
4. Connect the two-position black connector to the two-position black 24VAC isolated lead on the power supply.
5. Plug the data lines into any data port.



NOTE The top of the 311 power supply has a diagram of the electrical connections for the chair circuit board.

6. Gather and cable tie the wiring.



NOTE Make sure the power cables and data lines do not come between the power indicator light and the lens in the power supply cover.

Figure 61. Electrical and Data Line Connections

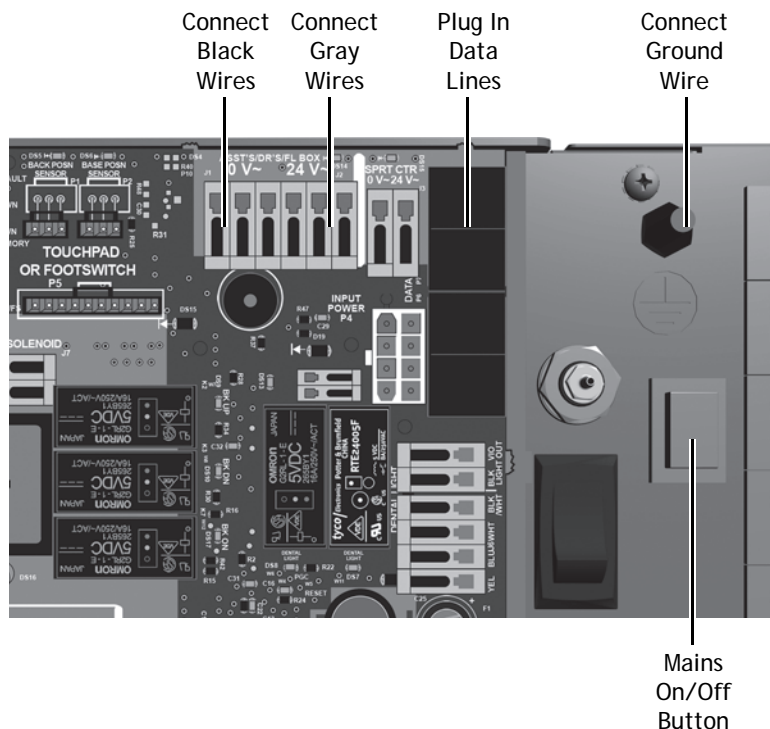
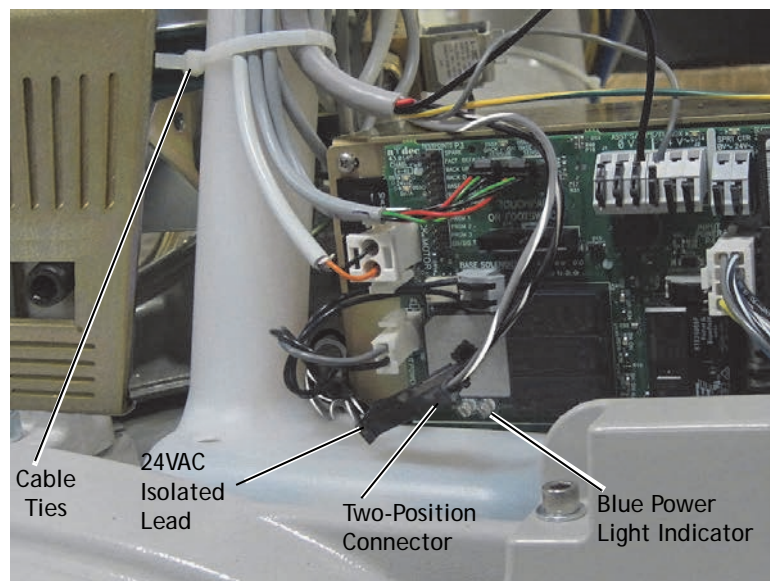


Figure 62. Properly Tied Wiring



Connect the Tubing

Use the umbilical from the kit to complete the air and water connections pictured in Figure 63.

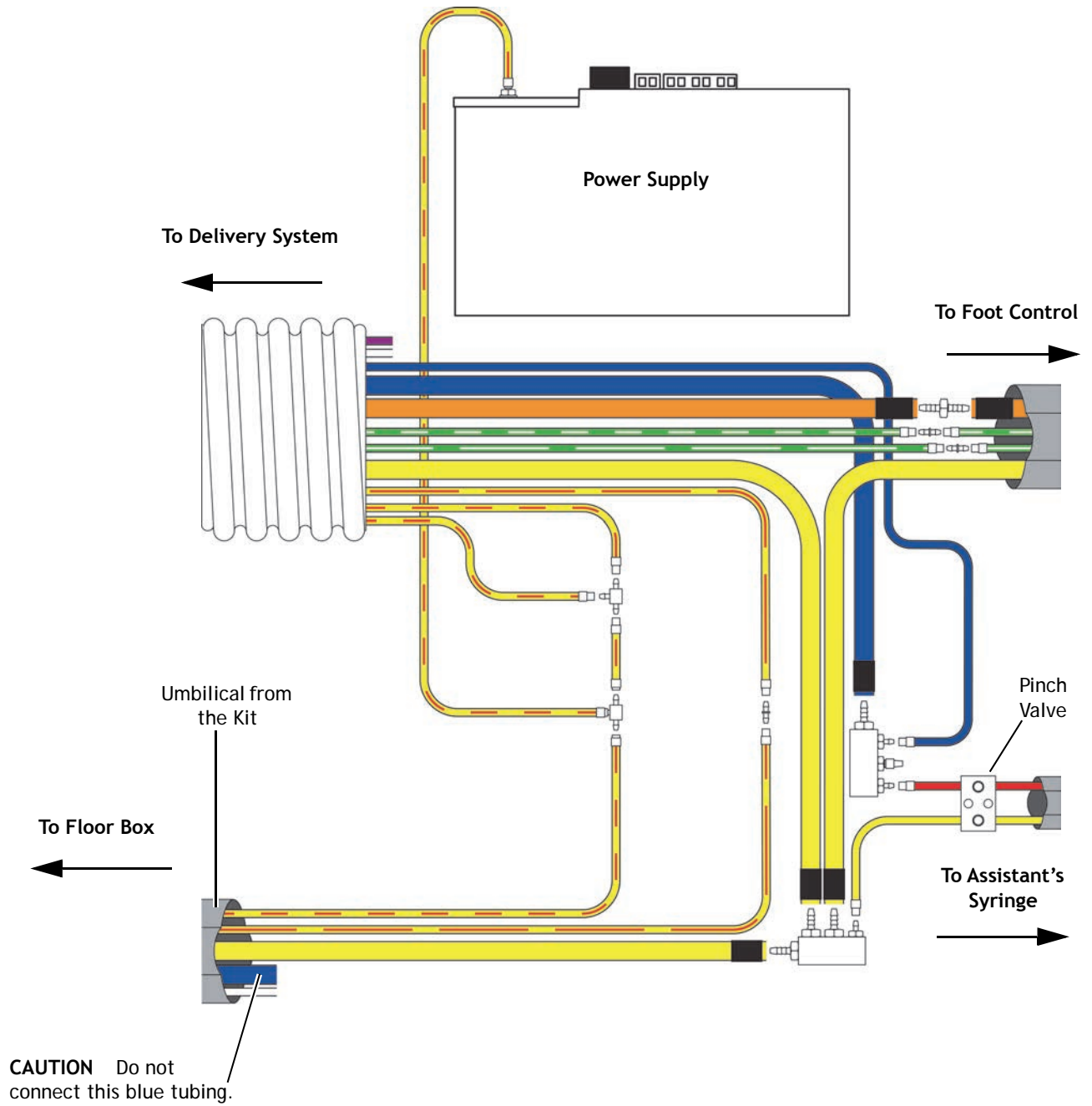


CAUTION There is a blue tubing in the umbilical from the kit. Do not connect the blue tubing.



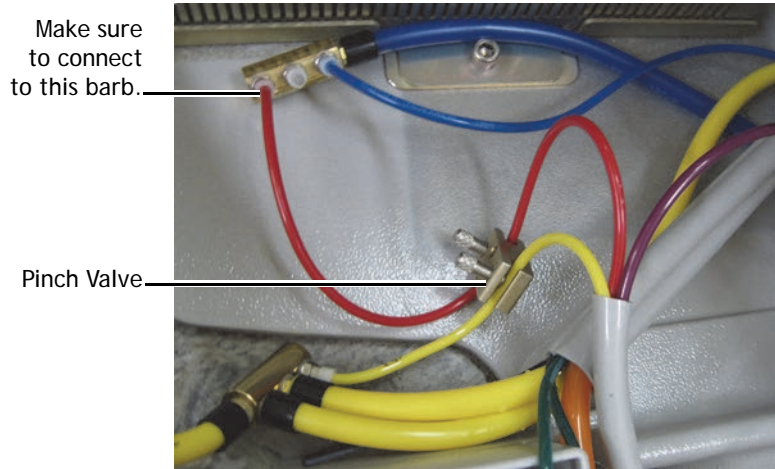
NOTE When installing the water manifold, be sure to connect to the barb on the end to prevent standing water in the manifold (see Figure 64 on page 44).

Figure 63. Radius-Style Modules Utility Connections



7. If the system has an assistant's instrumentation, install the pinch valve on the syringe yellow and red tubing.

Figure 64. Install the Pinch Valve

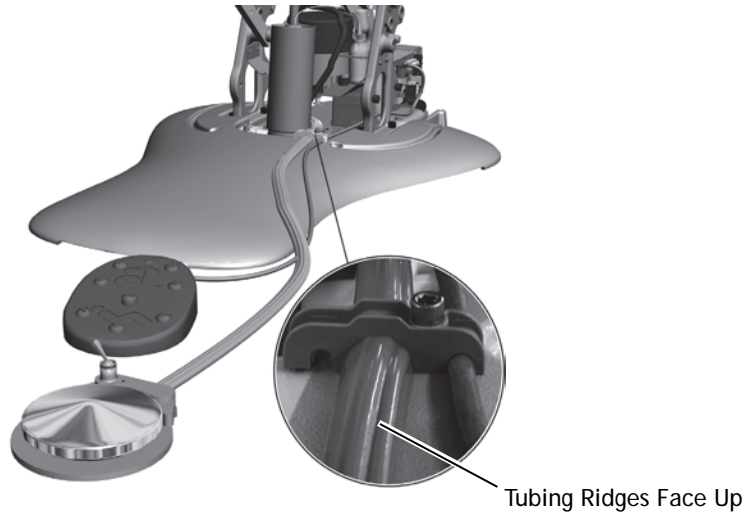


8. Use a 3/16" hex key to secure the foot control tubing to the chair base in the strain relief.

Figure 65. Secure the Foot Control Tubing



NOTE For proper positioning, the ridges on the foot control tubing face up to match the grooves in the strain relief.



9. Carefully remove the sticker from the top of the front mount.

Figure 66. Remove the Routing Sticker



Radius-Style Assistant's Instrumentation (only)

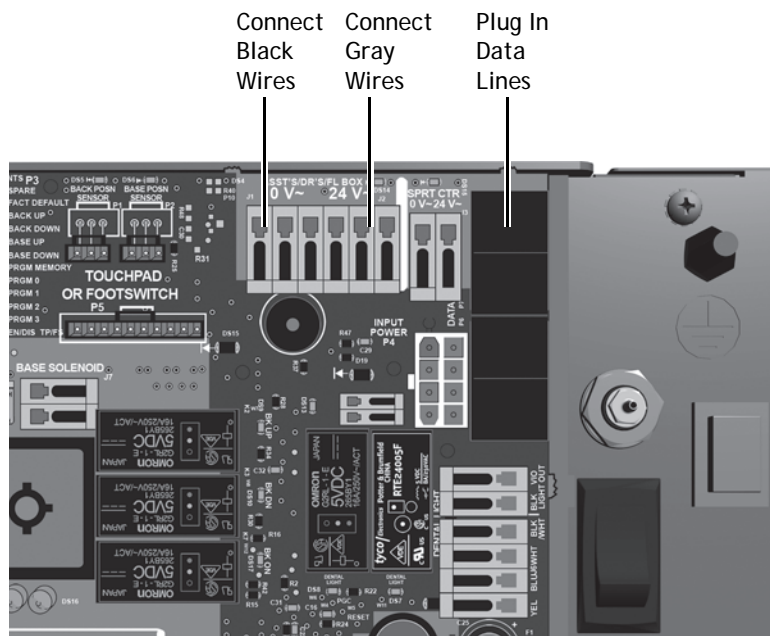
Connect the Power and Data



CAUTION Electric components on the circuit board are static sensitive and require handling precautions.

1. Turn off the power.
2. Connect the power cables to the chair circuit board. The black wire connects to 0 VAC and the gray wire to 24 VAC.
3. Plug the data lines into any data port.

Figure 67. Electrical and Data Line Connections



Connect the Tubing

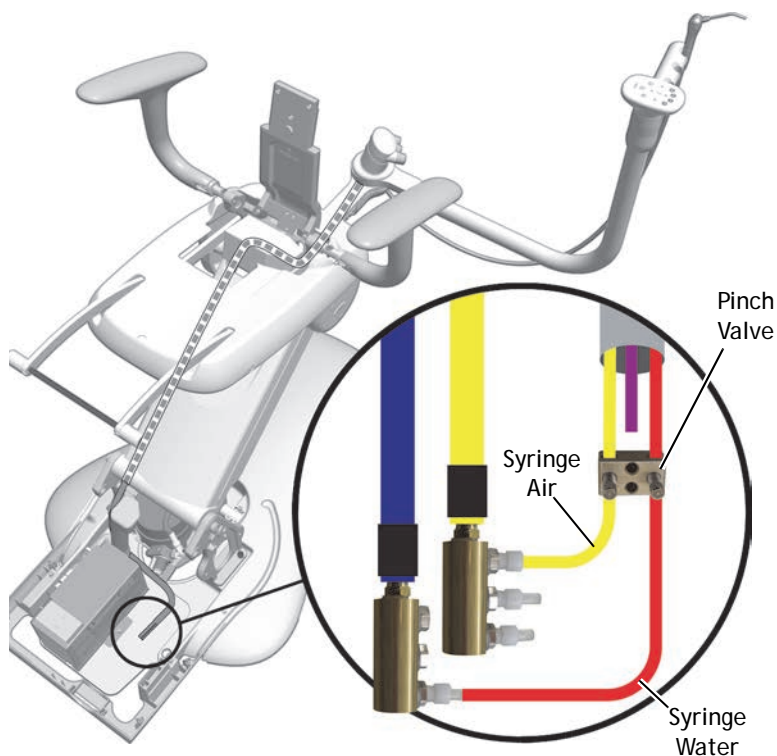
1. Connect the utilities as shown in Figure 68:
 - Use the umbilical from the kit to complete the air connection.
 - Connect the water manifold to a remote water bottle.



NOTE When installing the water manifold, be sure to connect to the barb on the end to prevent standing water in the manifold.

2. Install the pinch valve on the syringe tubing.
3. For the rest of the utility connections, see "Install the Contoured Floor Box" on page 36 and the instructions that come with the remote water bottle.

Figure 68. Route and Connect the Syringe Tubing



Support Center Power and Data



CAUTION Electric components on the circuit board are static sensitive and require handling precautions.

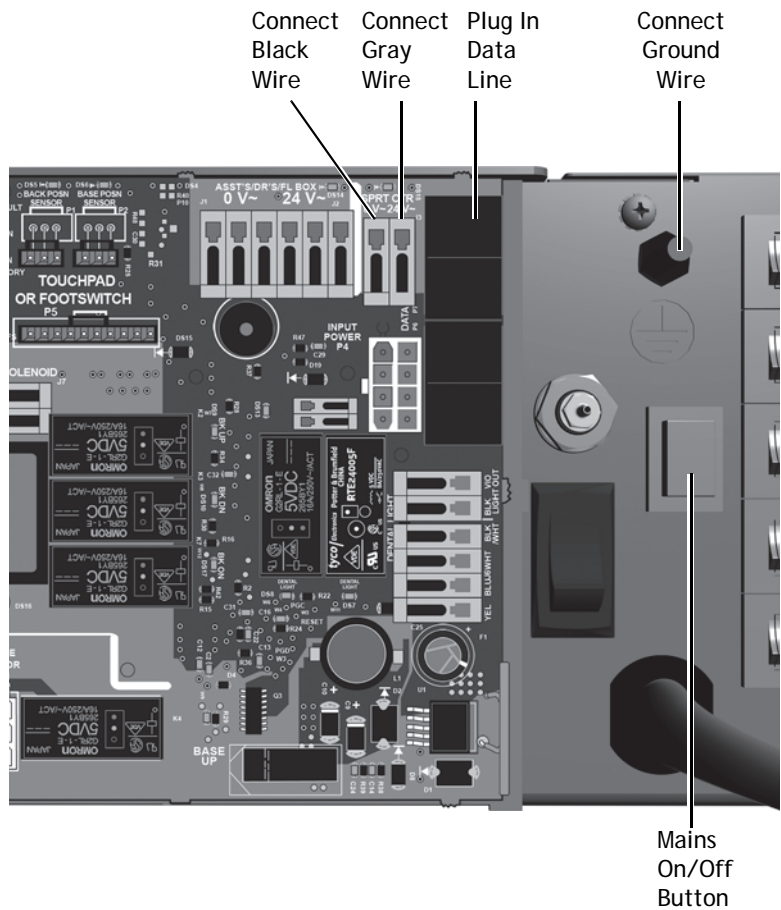
Base Mount Systems

1. Turn off the power.
2. Use an adjustable wrench to connect the ground wire.
3. Connect the power cables to the chair circuit board terminal strip J3. The black wire connects to 0 VAC and the gray wire to 24 VAC.
4. Plug the data line into any data port.



NOTE The top of the 311 power supply has a diagram of the electrical connections for the chair circuit board.

Figure 69. Electrical and Data Line Connections



Post Mount System on an A-dec 511 Dental Chair

1. Route the power cable and data line through the bottom of the support center.
2. Route the power cable and data line underneath the adapter arm and down the lift arm to the power supply.
3. Install the umbilical wrap around the power cable and data line.
4. Use two cable ties to secure the cables to the adapter arm.
5. Turn off the power.
6. Use a Phillips head screwdriver to connect the ground wire to the screw on top of the power supply.
7. Connect the power wires to the chair circuit board terminal strip J2. The black wire connects to 0 VAC and the gray wire to 24 VAC.
8. Connect the two-position black connector to the two-position black 24 VAC isolated lead on the power supply.
9. Plug the data line into a data port on the chair circuit board.

Figure 70. Route Cables

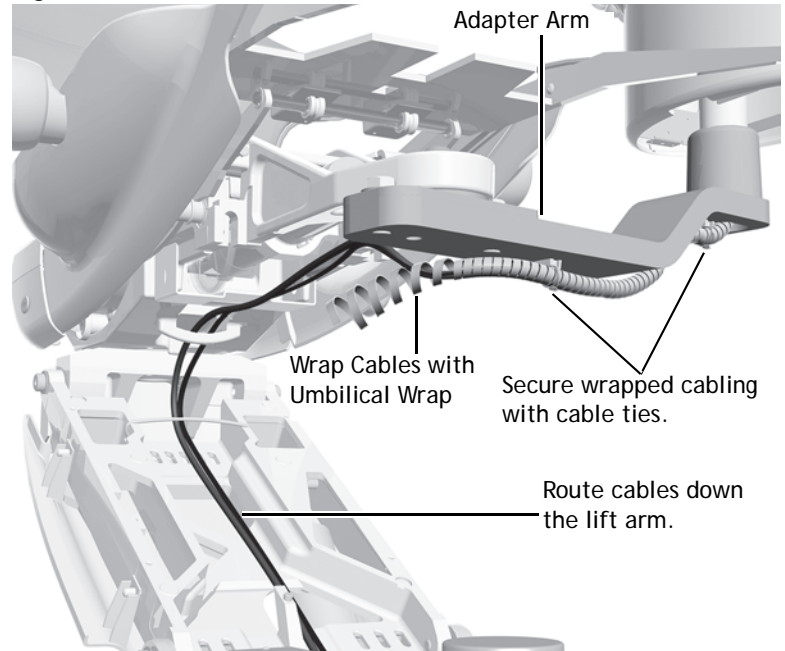
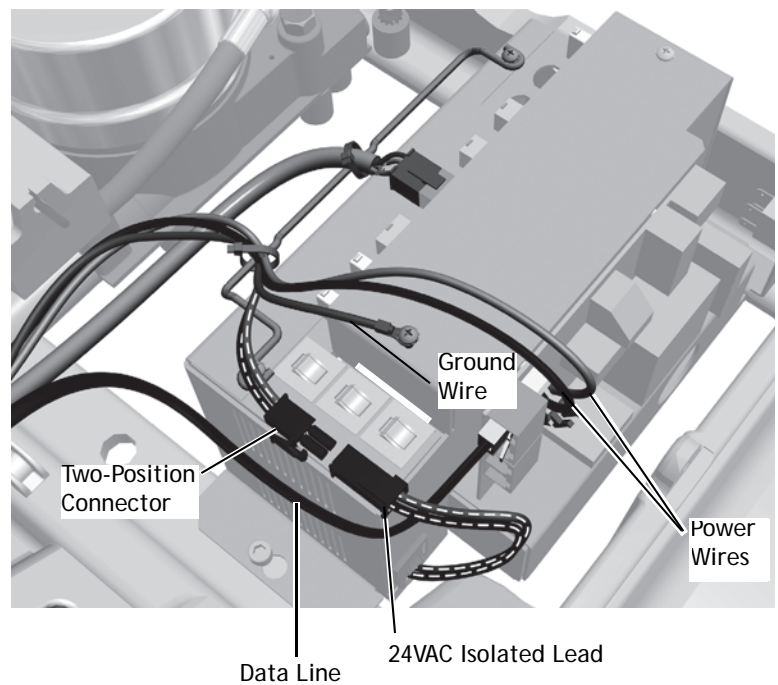
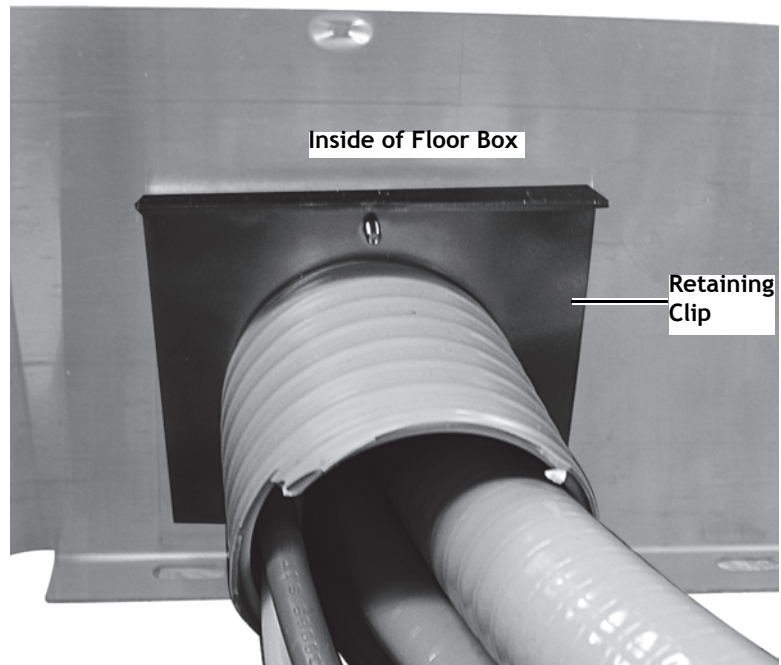


Figure 71. A-dec 511 Power and Data Connections



10. Route the support center tubing group through the convolute.
11. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.
12. Connect master toggle to power supply air electric switch.
13. Route the umbilical into the floor box.
14. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.
15. Insert the plugs into the unused holes in the floor box.

Figure 72. Attach the Retaining Clip Inside the Remote Floor Box



Post Mount System on an A-dec 411 Dental Chair

1. Route the power cables and data line through the bottom of the support center.
2. Route the power cables and data line underneath the adaptor arm, through the opening in the lower cover and down the lift arm to where the power supply is located.
3. Wrap the power cables and data line with the umbilical wrap. If the system includes a dental light, also wrap the dental light cables.
4. Use three cable ties to secure the wrapped cabling to the adaptor arm and the plastic cover.
5. Turn off the power.
6. Use a 3/8" combination wrench to attach the ground wire.
7. Connect the black wire to the support center (SPRT CTR) 0 VAC connection on the chair circuit board.
8. Connect the gray wire to the support center (SPRT CTR) 24 VAC connection on the chair circuit board.
9. Plug the data line into a data port on the chair circuit board.
10. Connect the two-position black connector to the black 24 VAC isolated lead.
11. Once all of the electrical connections have been made for the system's modules, secure the cables under the lip on the power supply.
12. Route the support center tubing group through the convolute.
13. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.
14. Connect master toggle to power supply air electric switch.

Figure 73. Route Cables

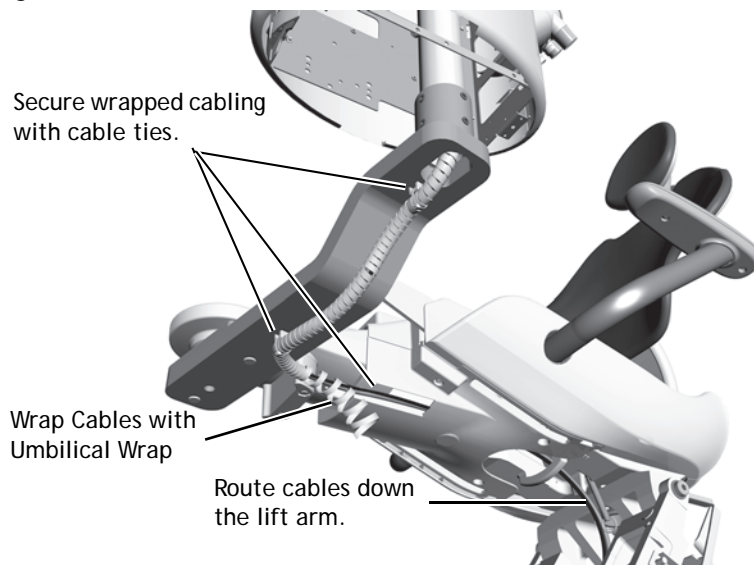
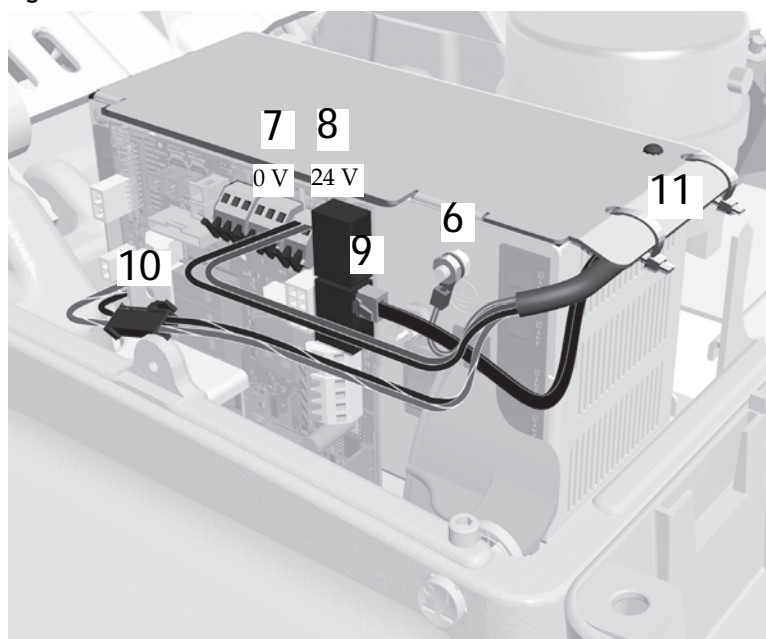
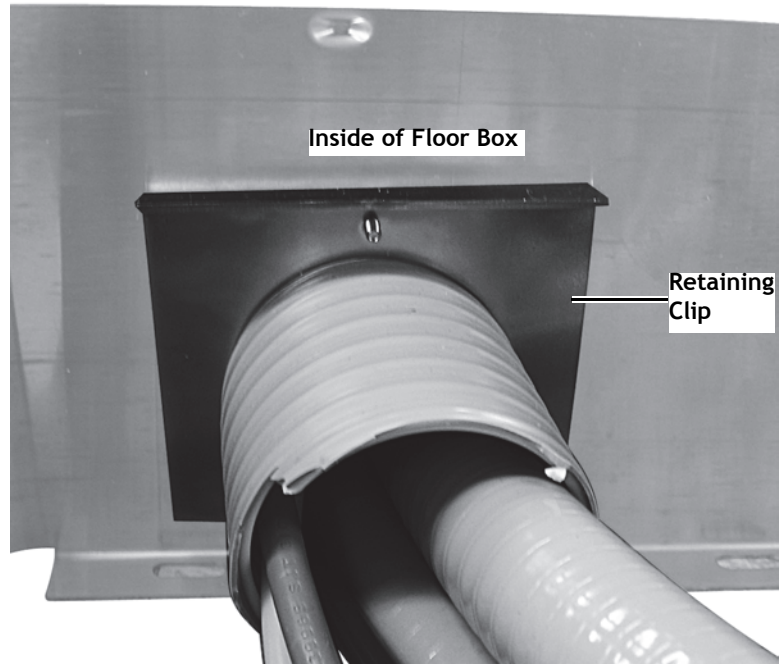


Figure 74. A-dec 411 Power and Data Connections



15. Route the umbilical into the floor box.
16. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.
17. Insert the plugs into the unused holes in the floor box.

Figure 75. Attach the Retaining Clip Inside the Remote Floor Box



Post Mount System on an A-dec Cascade, Decade, or Performer Dental Chair

Complete the procedure for the system's type of chair circuit board.

Chair Circuit Board Without Data Ports



NOTE A-dec 300 touchpads **cannot** operate the auto dental light and chair movements when using this chair circuit board.

1. Route the tubing group and wires from the bottom of the support center through the convolute.
2. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.
3. Route the umbilical into the floor box.
4. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.
5. Turn off the power.
6. In the floor box, use a Phillips head screwdriver to connect the ground wire to the top of the power supply.
7. Connect the power cables to the power supply. The black wire connects to 0 VAC and the gray wire to 24 VAC.
8. Connect the two-position black connector to the two-position black 24 VAC isolated lead on the power supply.
9. Insert the plugs into the unused holes in the floor box.

Figure 76. Chair Circuit Board Without Data Ports

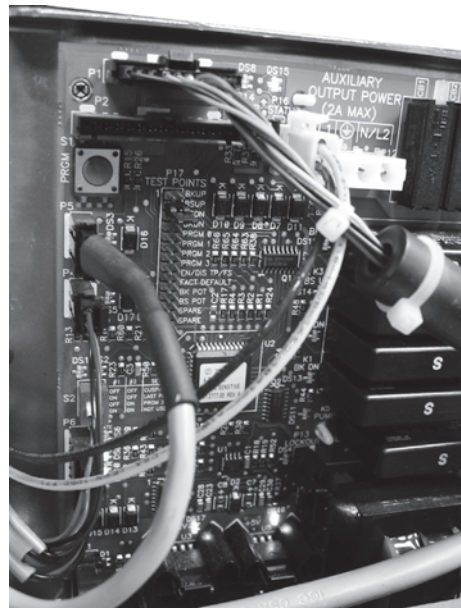


Figure 77. Attach the Retaining Clip Inside the Remote Floor Box

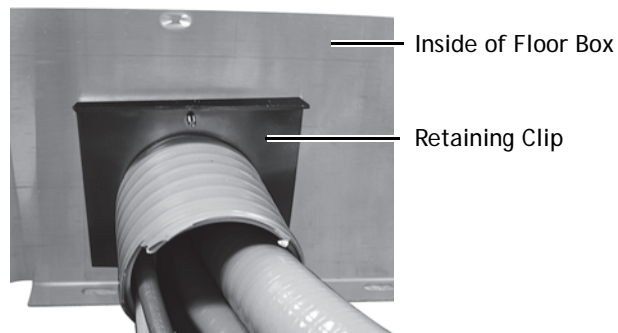
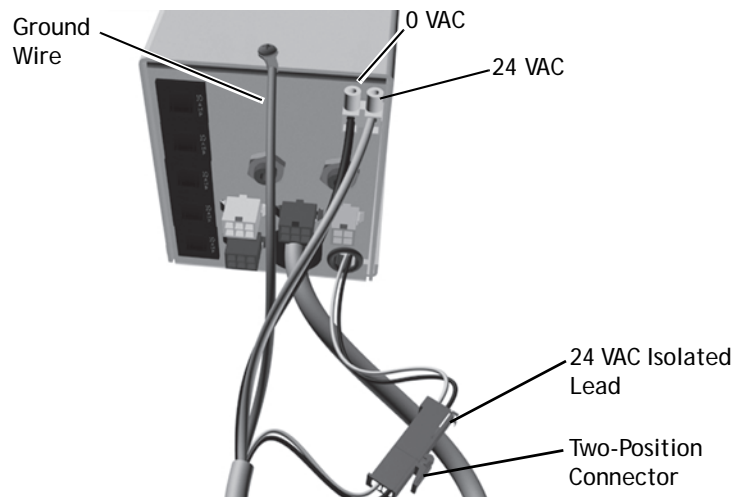


Figure 78. Power Supply Connections



Chair Circuit Board With Data Ports



NOTE A-dec 300 touchpads **can** operate the auto dental light and chair positions when using this chair circuit board.

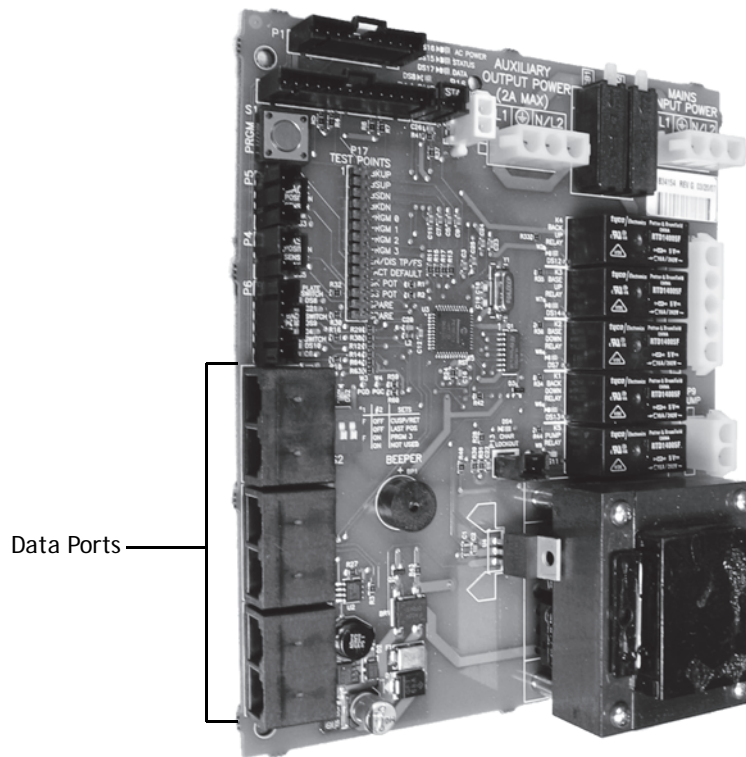
1. Take the extra data line from the floor box kit and plug it into a data port on the support center port board.
2. Route the data line under the support center mount and through the chair to the chair circuit board.



NOTE Cable ties and adhesive-backed mounts are provided with the Performer post mount chair adaptor (p/n 77.0922.00). Use them to secure the data line under the chair adaptor.

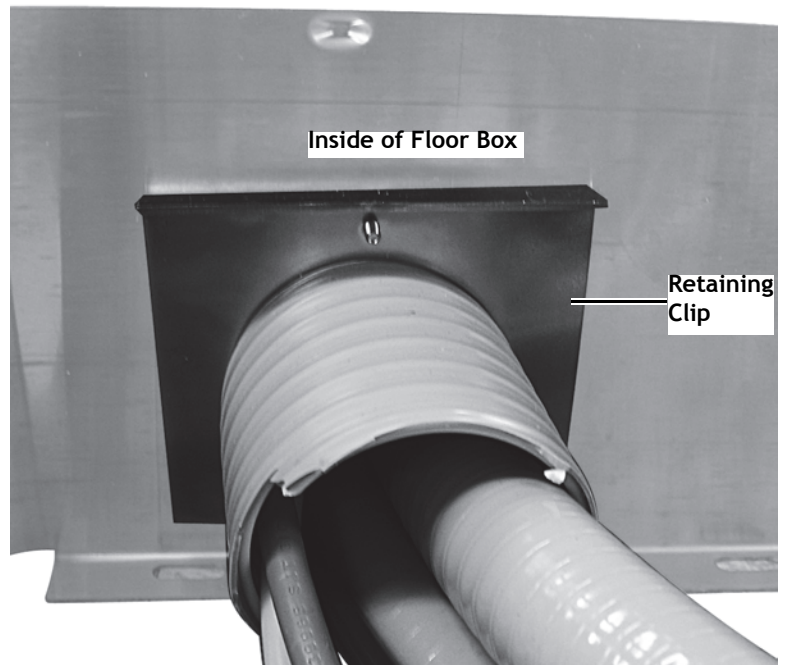
3. Plug the data line into a data port on the chair circuit board.
4. Route the tubing group and wires from the bottom of the support center through the convolute.
5. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.

Figure 79. Chair Circuit Board With Data Ports



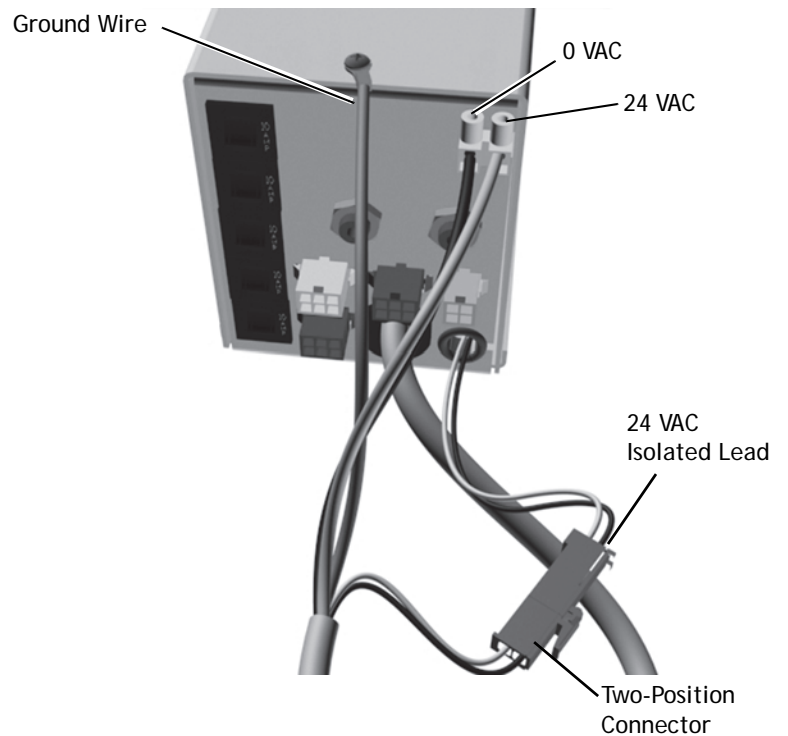
6. Route the umbilical into the floor box.
7. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.

Figure 80. Attach the Retaining Clip Inside the Remote Floor Box



8. Turn off the power.
9. In the floor box, use a Phillips head screwdriver to connect the ground wire to the top of the power supply.
10. Connect the power cables to the power supply. The black wire connects to 0 VAC and the gray wire to 24 VAC.
11. Connect the two-position black connector to the two-position black 24 VAC isolated lead on the power supply.
12. Insert the plugs into the unused holes in the floor box.

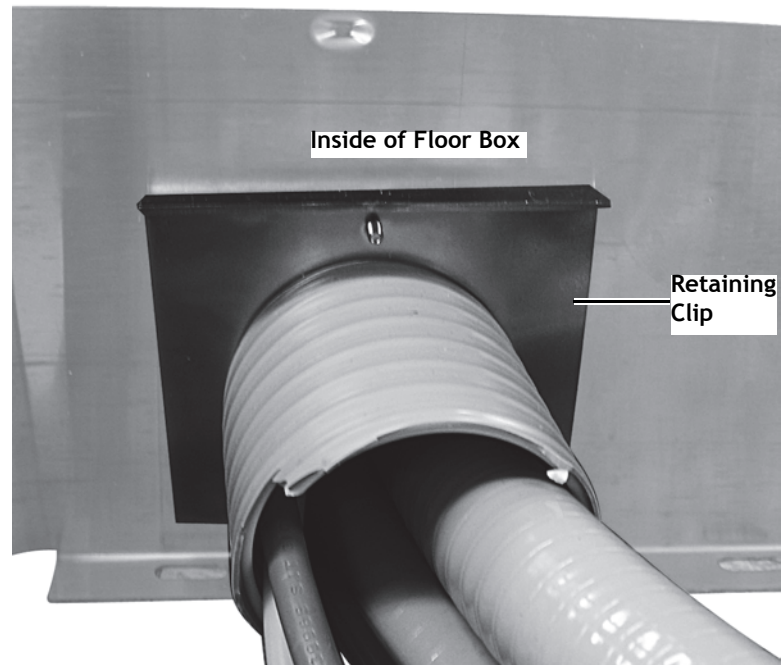
Figure 81. Power Supply Connections



Post Mount System on an A-dec Priority Dental Chair

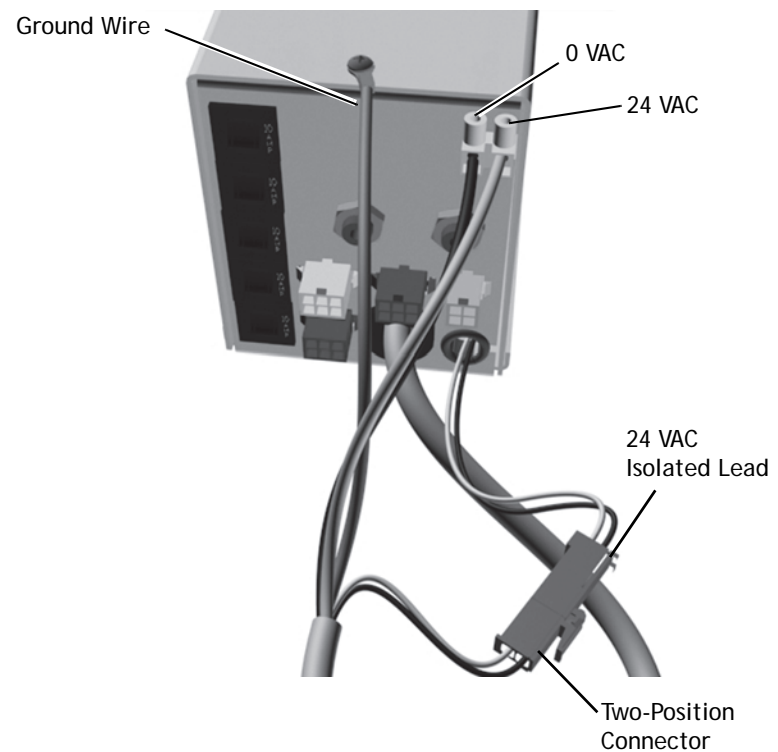
1. Route the tubing group, power cables, and data line from the support center through the convolute.
2. Push the convolute up several inches through the bracket in the bottom of the support center frame until it is securely attached.
3. Route the umbilical into the floor box.
4. Use a 5/64" hex key to attach the retaining clip to the floor box and secure the convolute.

Figure 82. Attach the Retaining Clip Inside the Remote Floor Box



5. In the floor box, plug in the data line.
6. Turn off the power.
7. Connect the power cables to the power supply. The black wire connects to 0 VAC and the gray wire to 24 VAC.
8. Connect the two-position black connector to the two-position black 24 VAC isolated lead on the power supply.
9. Insert the plugs into the unused holes in the floor box.

Figure 83. Power Supply Connections



Support Center Floor Box Utilities

The following instructions are for both base mount and post mount systems.

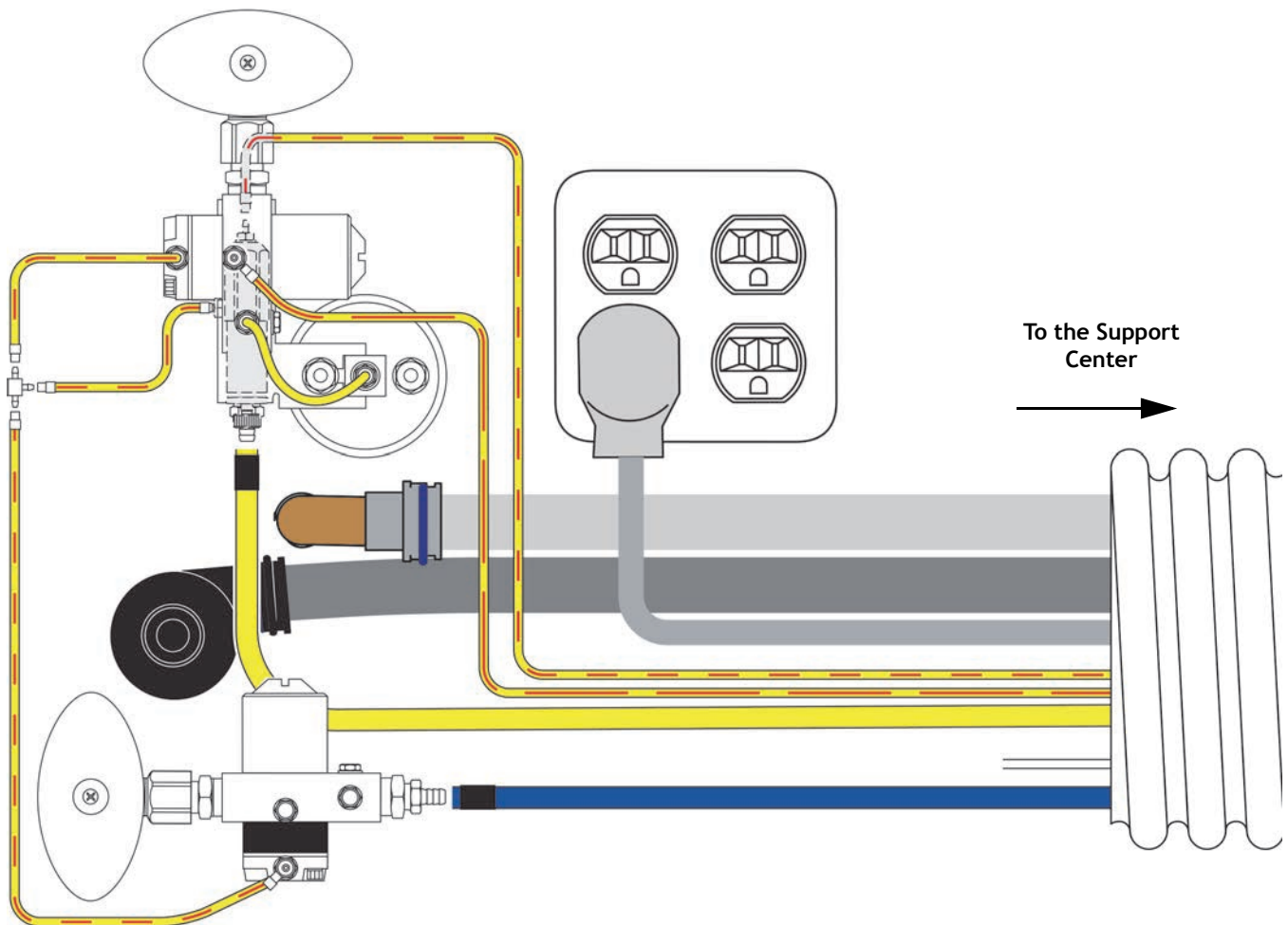
Support Center tubing can connect in several locations. See the section that applies to where your system's utilities are located.

- **Contoured Floor Box** – See Figure 84 below.
- **Integrated Floor Box and Remote Floor Box** – See Figure 85 on page 56.

NOTE There is an overall flow diagram on the inside of the support center cover.

Contoured Floor Box

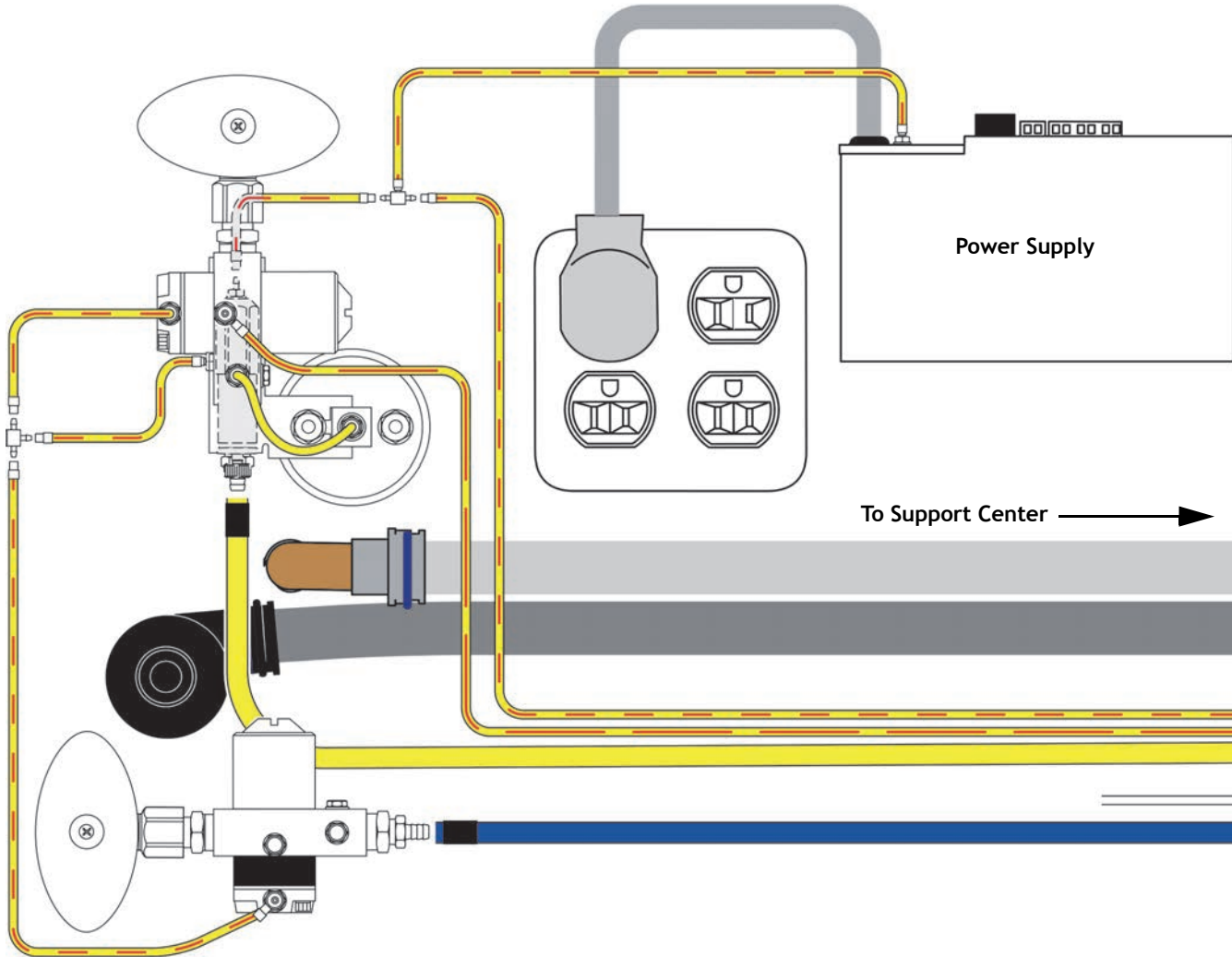
Figure 84. Support Center Utility Connections in a Contoured Floor Box



Integrated and Remote Floor Boxes

Support center utilities in integrated and remote floor boxes connect in the same way.

Figure 85. Support Center Utility Connections in Integrated and Remote Floor Boxes



Support Center Modules

Connect the Power and Data



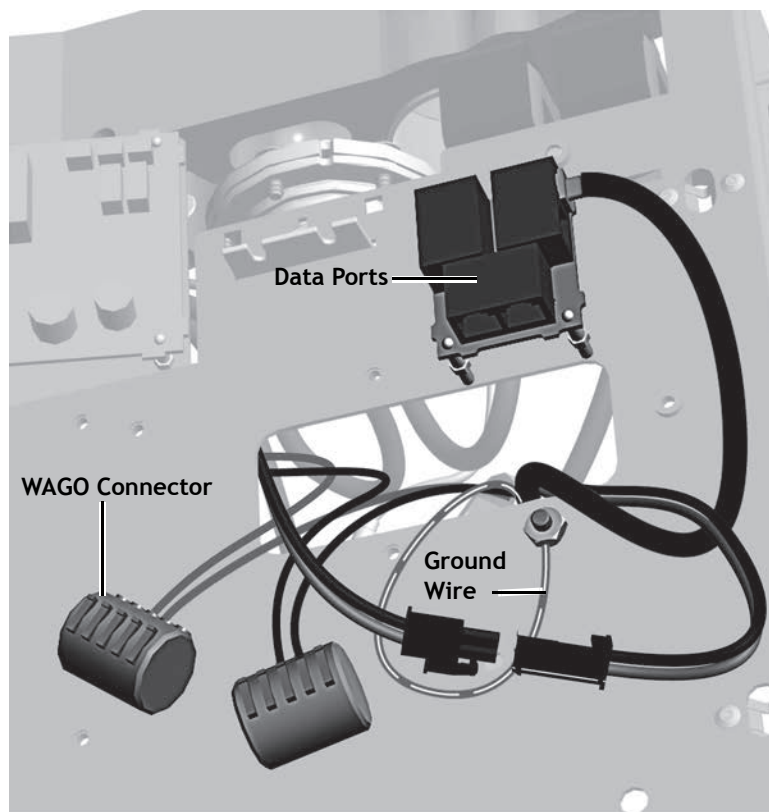
CAUTION Electric components on the circuit board are static sensitive and require handling precautions.



NOTE This procedure is for both the assistant's instrumentation and the delivery system.

1. Turn off the power.
2. Use an adjustable wrench to attach the delivery system's ground wire to the post below the window in the support center frame.
3. Attach the power cables to the WAGO connectors, keeping the gray wires with gray wires (24 VAC) and black wires (0 VAC) with black.
4. Connect all ground wires to the ground stud, and connect the two-position black connector from the delivery system to the two-position black connector coming from the support center umbilical.
5. Plug the data line into any data port.

Figure 86. Delivery System Electrical and Data Line Connections



Connect the Tubing

1. For utility connections, see the diagram for your system's configuration:
 - System **without** a cuspidor - Figure 87 on page 58
 - System **with** a cuspidor - Figure 88 on page 59



NOTE When making the connections, be sure the tubing is routed through the bottom of the support center frame and you make all connections inside of the support center frame.

Figure 87. Support Center Modules Utility Connections - No Cuspidor

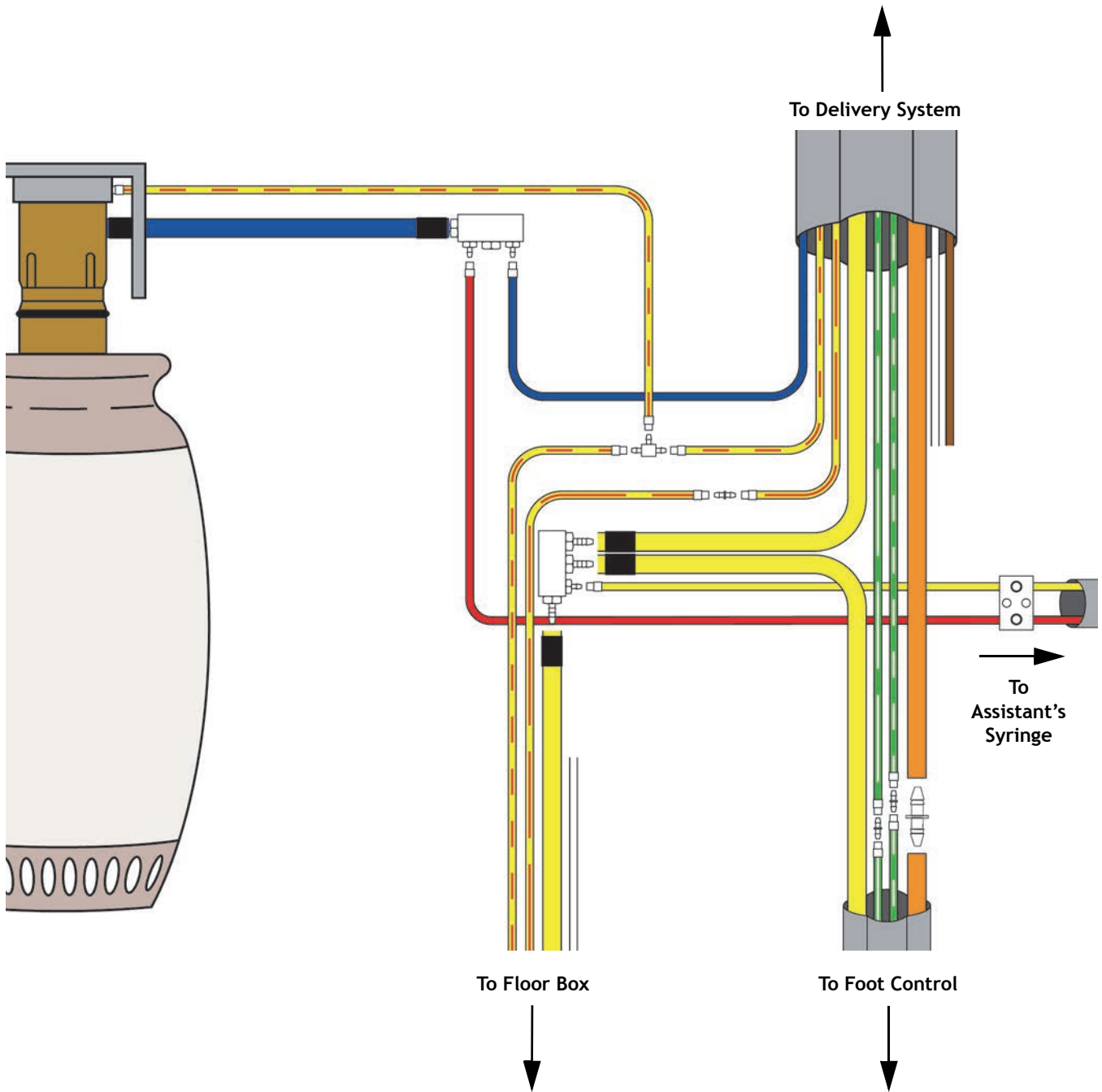
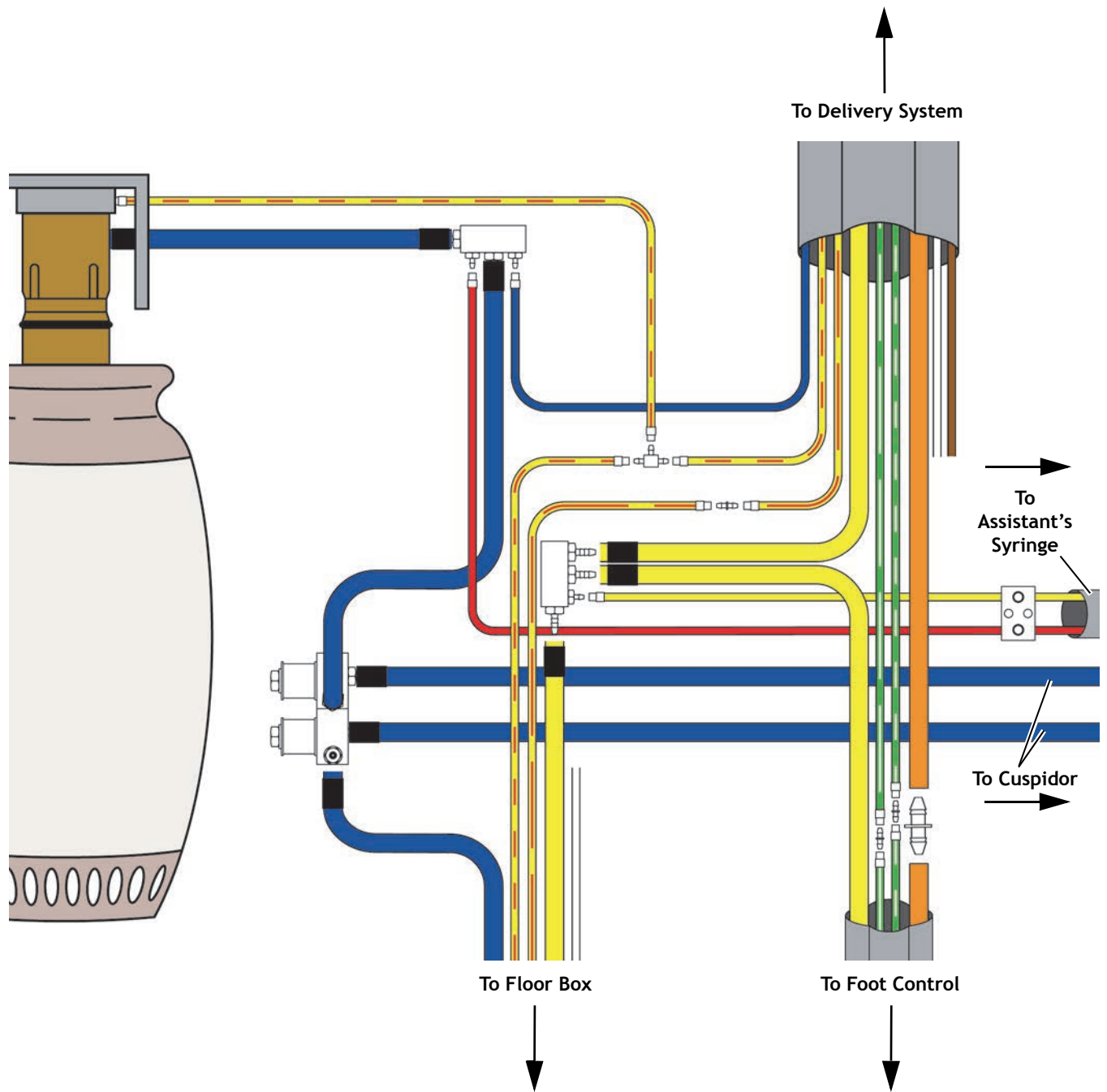
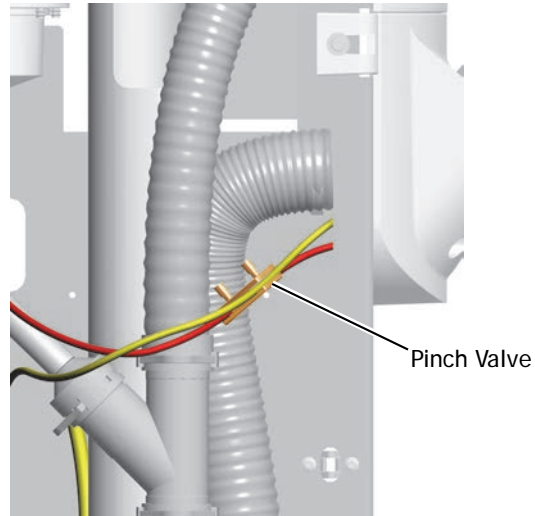


Figure 88. Support Center Modules Utility Connections - With Cuspidor



2. If the system has an assistant's instrumentation, install the pinch valve on the syringe yellow and red tubing.

Figure 89. Install the Pinch Valve



3. Use a 3/16" hex key to secure the foot control tubing to the chair base in the strain relief.



NOTE For proper positioning, the ridges on the foot control tubing face up to match the grooves in the strain relief.

Figure 90. Secure the Foot Control Tubing



INSTALL THE CUSPIDOR

If the system has a cuspidor, install its components.

Install the Cupfill Spout

To install the cupfill spout, push it straight down.



CAUTION When installing the cupfill spout, do not rotate it or it may break.

Install the Bowl Rinse Spout

To install the bowl rinse spout, push it straight in.

Install the Cuspidor Bowl and Bowl Strainer

1. Use diagonal cutters to cut the cable tie and remove the positioning guide.



NOTE Save the positioning guide and the foam plug holding it in the cuspidor bowl support. You will need them later to verify proper clearance between the cuspidor bowl and armrest. For more information, see "Verify Proper Clearance Between the Cuspidor Bowl and the Armrest" on page 96.

2. Place the cuspidor bowl in its holder with the high side away from the patient.
3. Place the bowl strainer in the bottom of the bowl.

Tools Needed For This Section

Diagonal cutters

Figure 91. A-dec 361 Support Center with Cuspidor

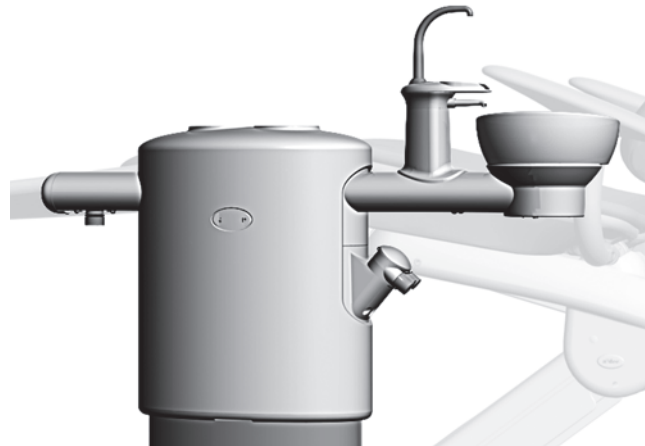
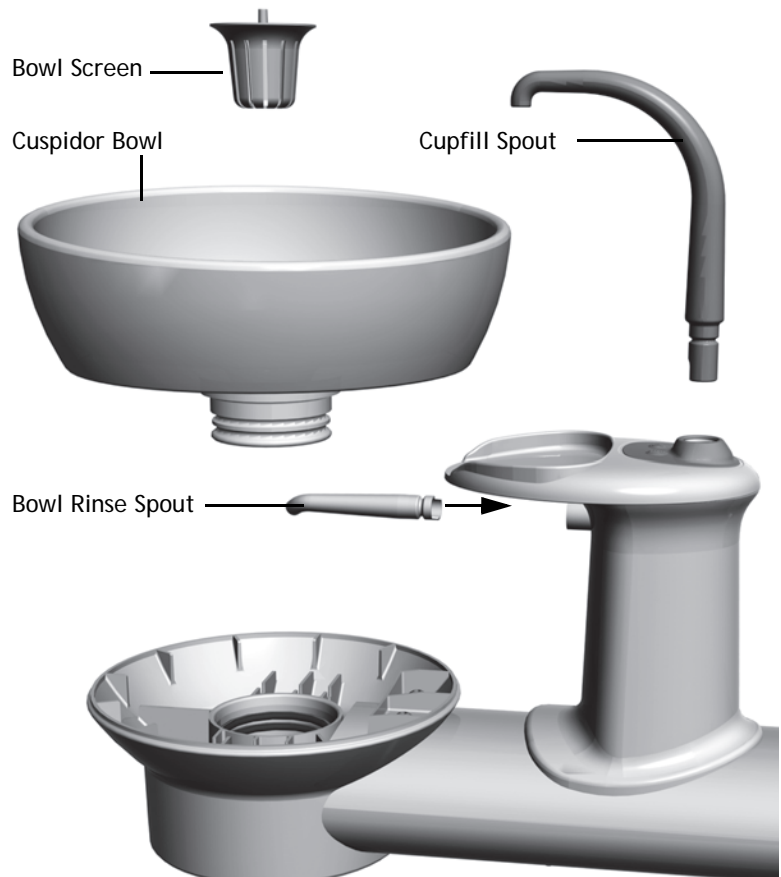


Figure 92. Cuspidor Components



INSTALL UPHOLSTERY

The upholstery for the A-dec 311 Dental Chair includes the seat, back, and either a patient-adjustable neck support or double-articulating headrest.

Tools Needed For This Section

7/64" hex key

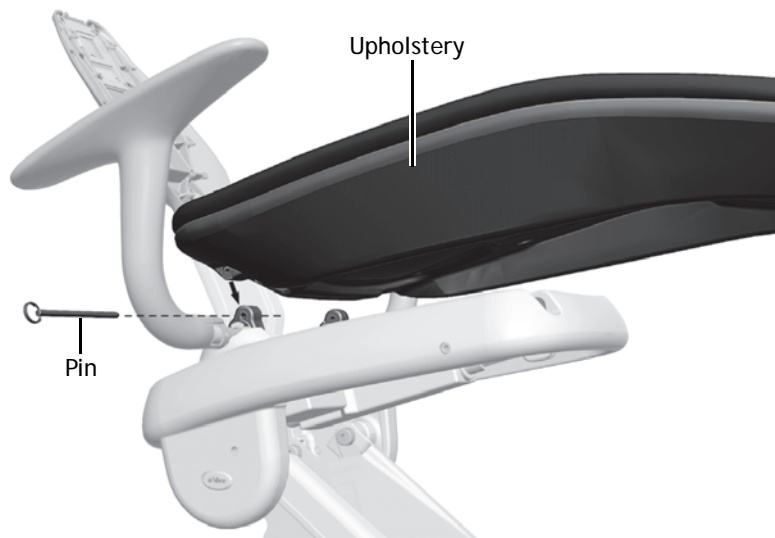
Figure 93. A-dec 311 Thin-Line Back with Adjustable Neck Support



Install the Seat Upholstery

1. Raise the chair and lower the chair back until the holes in the chair frame are accessible.
2. Move the armrests back.
3. Pull the pins out of the upholstery far enough so the seat upholstery can sit properly on the chair frame.
4. Place the seat upholstery in position and line up its holes for the pins with the holes in the chair frame.
5. Push the pins back through the seat upholstery and chair frame until the rings touch the seat.

Figure 94. Install the Seat Upholstery



Install the Back Upholstery



NOTE Back upholstery installation is the same for both back styles.

1. Put the chair back up and lower the chair.
2. Place the key holes in the back upholstery over the fastener posts on the chair back.
3. Slide the back upholstery into place and push down until the back upholstery aligns with the chair back.

Figure 95. Install the Back Upholstery



Install the Neck Support or Headrest

Install a Patient-Adjustable Neck Support

Snap the neck support armature into the neck support track. Be sure to orient the neck support as indicated on the neck support armature.

Figure 96. Install the Patient-Adjustable Neck Support



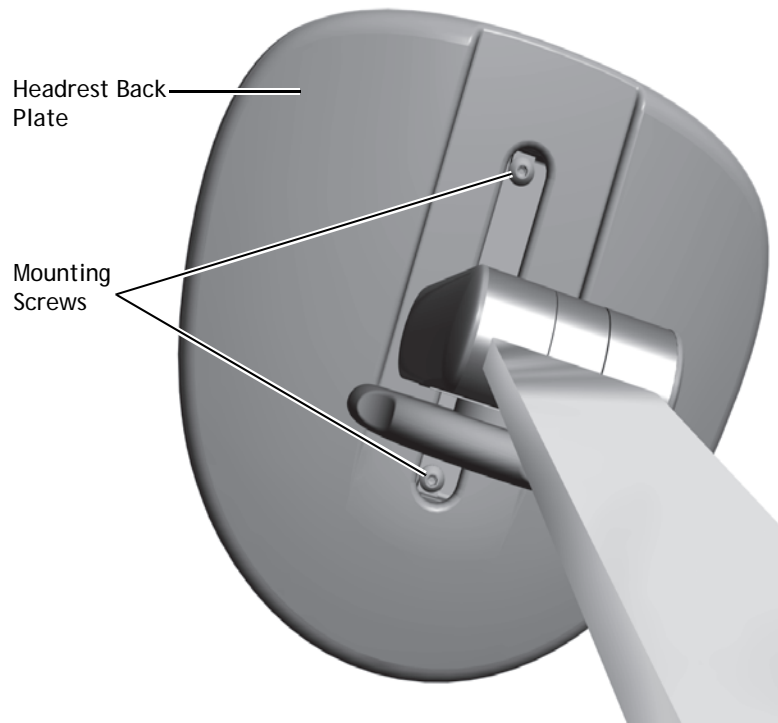
Top



Install the Double-Articulating Headrest

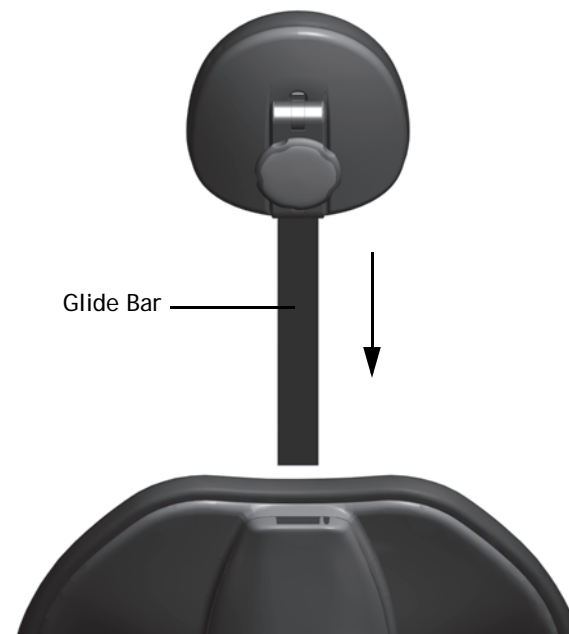
1. Use a 1/8" hex key to remove the mounting screws from the headrest upholstery.
2. Line up the holes in the headrest upholstery with those in the headrest back plate.
3. Insert and tighten the mounting screws.

Figure 97. Install the Double-Articulating Headrest Upholstery



4. Place the glide bar into the slot at the top of the back upholstery and push it down into place.

Figure 98. Install the Double-Articulating Headrest



PREPARE AND ADJUST THE SYSTEM

Secure the Base Mount System Tubing Bundle

1. Loosely loop a cable tie around the tubing bundle and slide the tie under the chair-base mount.
2. From the utilities area, pull the tubing bundle to take up any slack.
3. Tighten the cable tie under the mount and push the tubing bundle up into the mount so it is not visible.
4. Use a cable tie around the corner of the mount to secure the wires and tubing so nothing is hanging down under the mount.
5. Use a cable tie to secure the tubing group to the support center post so it does not push against the lower covers.

Install the Water Bottle

The instructions for installing a water bottle are the same regardless of where it is located.

1. Following ICX instructions, place an ICX tablet (p/n 90.1065.00) in the water bottle.



WARNING Do not let the ICX tablet directly touch your skin. Please refer to the instructions provided with the ICX tablets for more details.

2. Fill the bottle with water.
3. Put A-dec silicone lubricant on the receptacle O-ring.



CAUTION Use only A-dec silicone lubricant or the O-ring may be damaged.

4. Push the water bottle up onto the water bottle receptacle and turn it to the right.

Tools Needed For This Section

1/2" combination wrench	Voltmeter
Hex key set	Phillips head screwdriver

Figure 99. Secure the Tubing Bundle

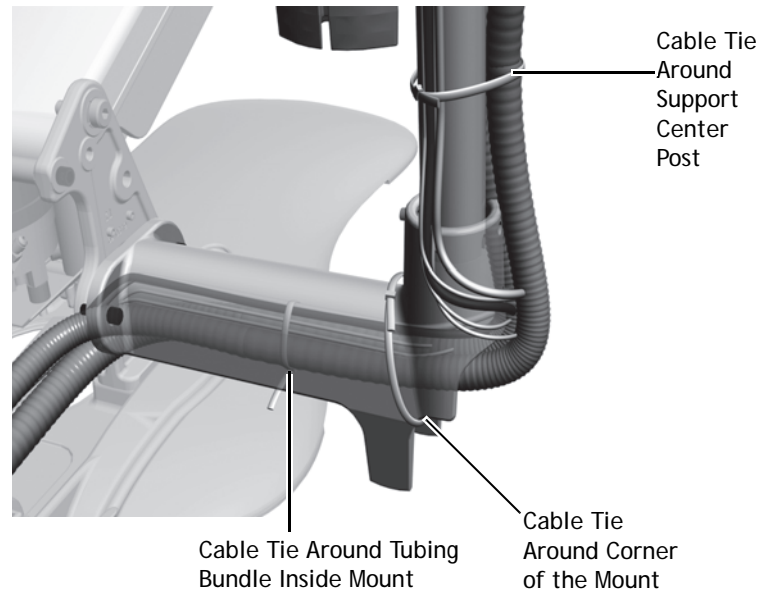
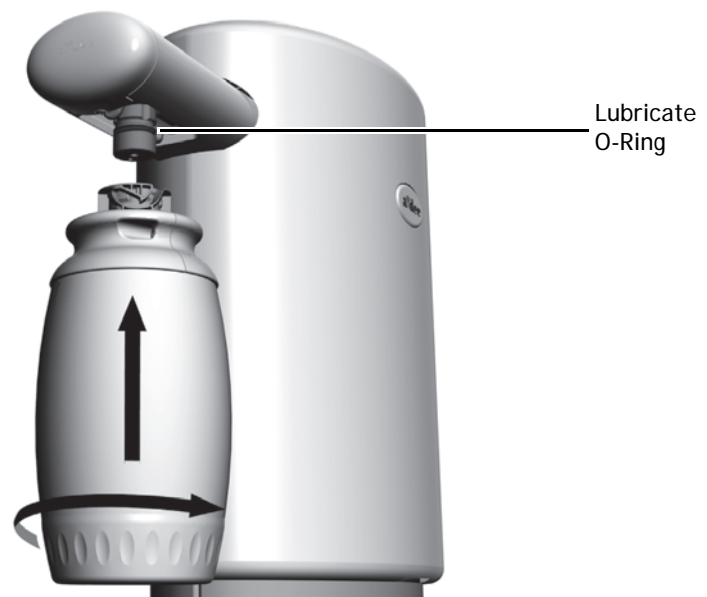


Figure 100. Install the Water Bottle



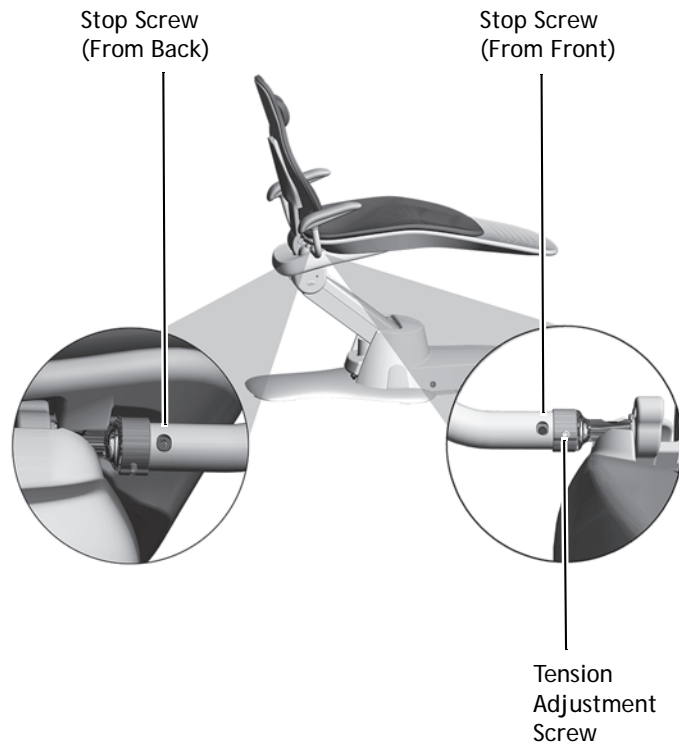
Adjustments

Unlock the Armrests (Optional)

When the dental chair is shipped, the armrests are locked in the upright position. The armrests can be unlocked, which allows them to rotate back and forth if preferred. To unlock an armrest:

1. Use a 3/16" hex key to remove the stop screw from the back of the armrest.
2. Install the stop screw in the front of the armrest.
3. Use a 1/8" hex key to tighten the tension adjustment screw on the front of the armrest.

Figure 101. Adjust the Armrest Position

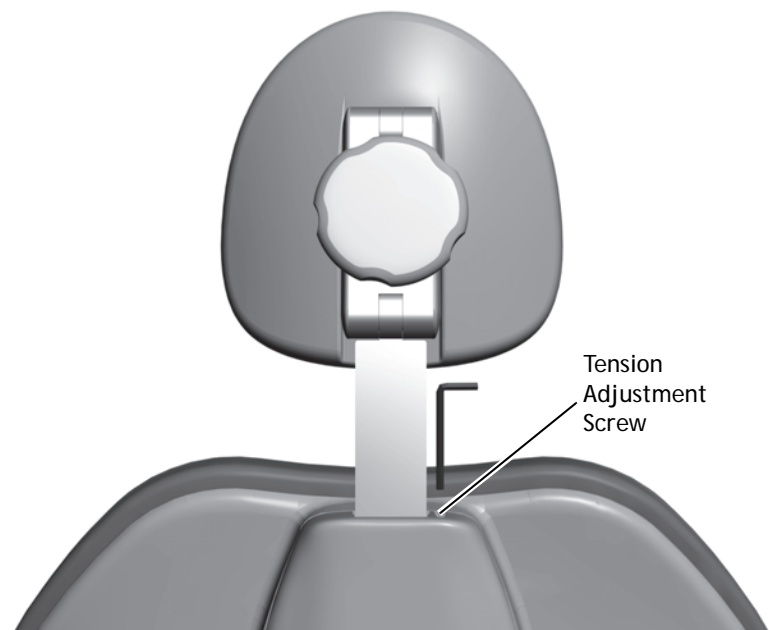


Adjust the Double-Articulating Headrest Glide Bar Tension

A double-articulating headrest may be difficult to move or may drift downward because of the amount of tension on the glide bar.

To adjust the tension, use a 1/8" hex key and turn the tension adjustment screw clockwise to increase friction or counterclockwise to decrease friction.

Figure 102. Adjust the Double-Articulating Headrest Glide Bar Tension



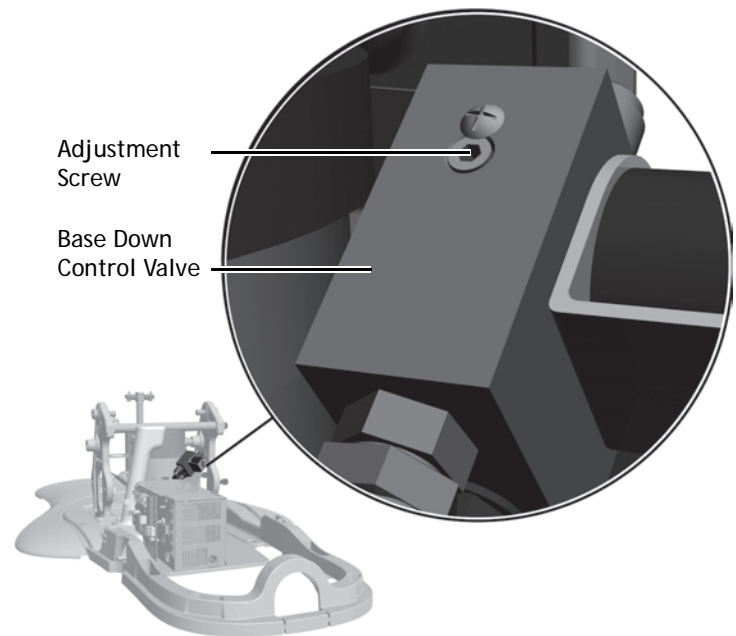
Adjust the Speed for Lowering the Chair

To adjust the speed at which the chair lowers, raise the chair and use a 3/32" hex key to adjust the base down control valve. Turn the screw clockwise to decrease speed or counterclockwise to increase speed.



TIP For an accurate estimate of down travel speed, have someone sit in the chair when making the adjustments.

Figure 103. Adjust the Base Down Control Valve



Adjust the Delivery System Spring-Assisted Flexarm

If the control head drifts up or down, complete the following steps to adjust the spring-assisted flexarm.



NOTE After adjusting the flexarm, test for balance at its normal working position.

1. Turn off the power.
2. Load the control head for normal use, attaching handpieces and placing a tray with instruments on the tray holder.
3. Use a 1/8" hex key to loosen the screw that secures the end cap.



TIP Lower the control head for easier access to the button head screw.

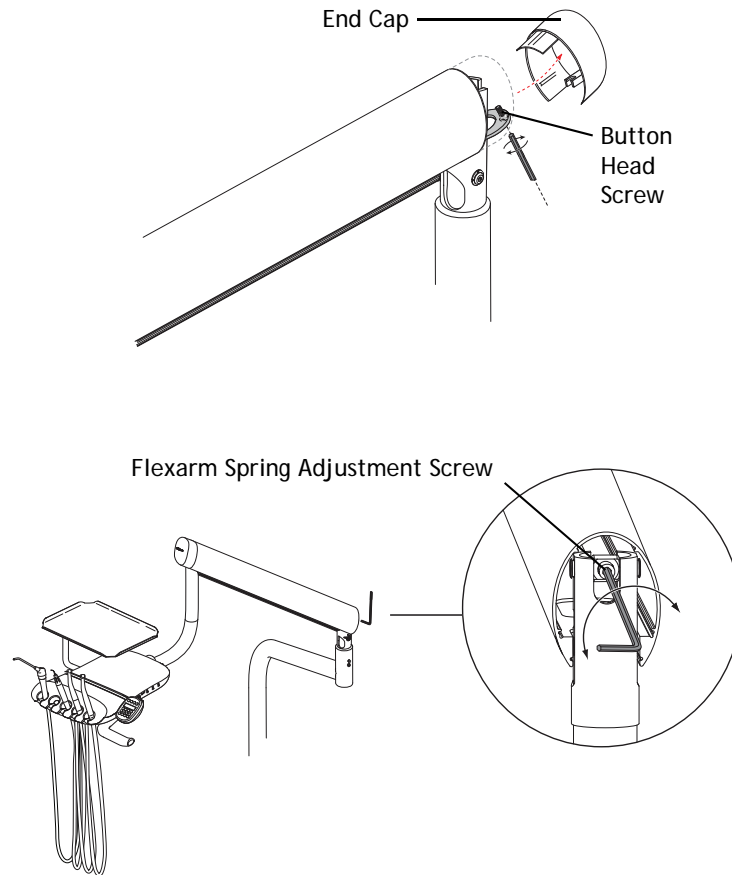
4. Remove the flexarm end cap.
5. Use a 3/16" hex key to adjust the flexarm spring adjustment screw until the control head maintains position at the normal working position.



TIP To make it easier to adjust the spring, raise the control head to the highest point.

- If the control head drifts up, turn the screw counterclockwise.
- If the control head drifts down, turn the screw clockwise.

Figure 104. Adjust the Spring-Assisted Flexarm



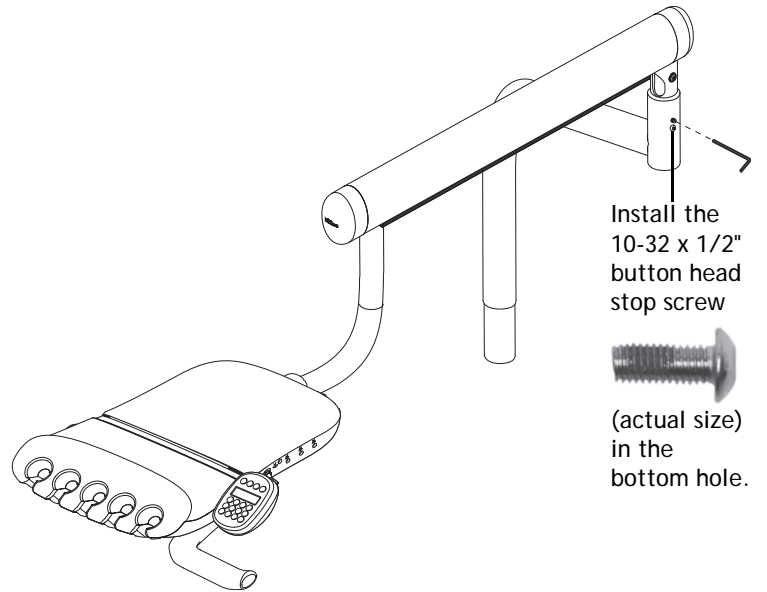
Adjust the Delivery System Flexarm Rotation Tension

Do not adjust the flexarm rotation tension until the system has been leveled. For information on adjusting the flexarm rotation, see "Adjust the Delivery System Flexarm Rotation Tension" on page 81.

Install the Delivery System Flexarm Rotation Stop Screw

Use a 1/8" hex key to install the 10-32 x 1/2" button head screw in the bottom hole on the knuckle of the delivery system. Tighten it all the way down.

Figure 105. Install the Flexarm Rotation Stop Screw

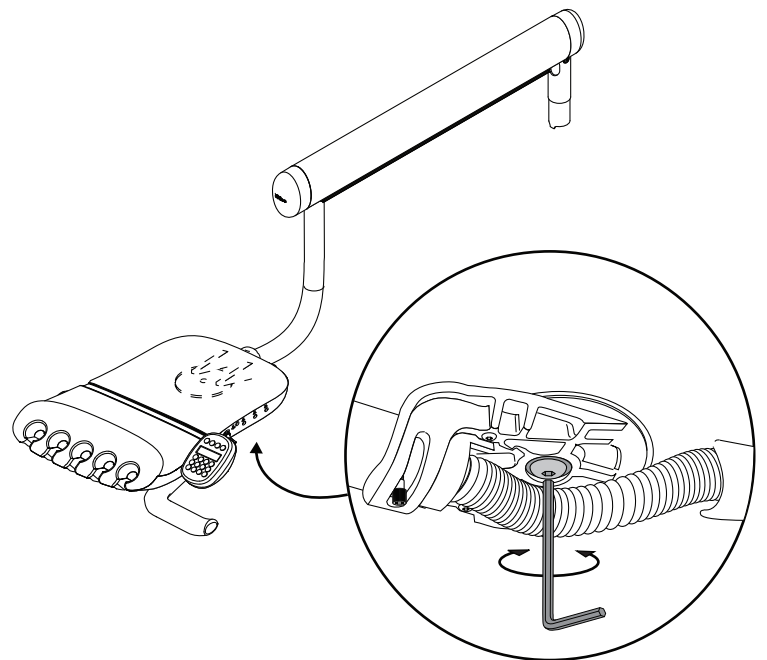


Adjust the Control Head Rotation Tension

If the control head rotation is too tight or too loose, adjust the rotation tension by tightening or loosening the screw under the control head.

Use a 5/32" hex key to turn the screw clockwise to increase tension and counterclockwise to decrease tension.

Figure 106. Adjust the Control Head Rotation Tension

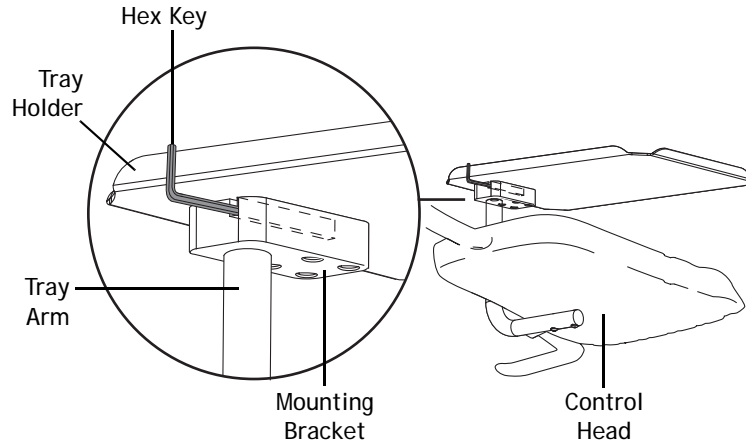


Adjust the Tray Rotation Tension

If the tray holder rotation is too tight or too loose, adjust the tray rotation tension.

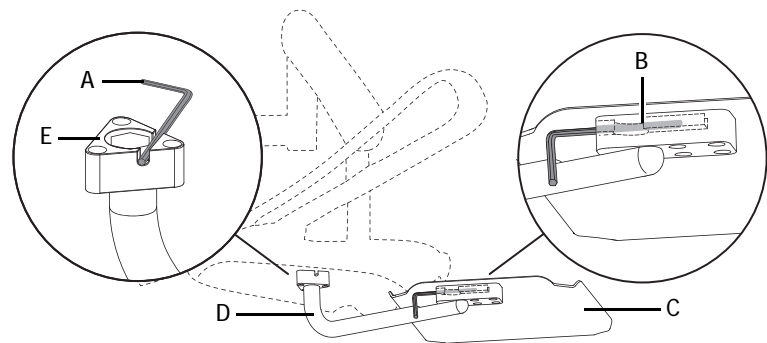
1. Insert a 1/8" hex key through the mounting bracket. If necessary, rotate the holder or arm until the key slides completely into the mounting bracket.
2. While holding the hex key in the bracket, rotate the tray clockwise to increase the tension and counterclockwise to decrease tension.

Figure 107. Adjust the Tray Holder on a Traditional Control Head



For Continental-style delivery, you may need to make this adjustment in two locations: under the control head and under the tray holder.

Figure 108. Adjust the Tray Holder on a Continental Control Head



(A) Hex Key; (B) Tray Holder Mounting Bracket; (C) Tray Holder;
(D) Tray Arm; (E) Control Head Mounting Bracket

Adjust the Handpieces

Recommended Tool

7/64" hex key

Task 1. Adjust the Water Coolant Flow

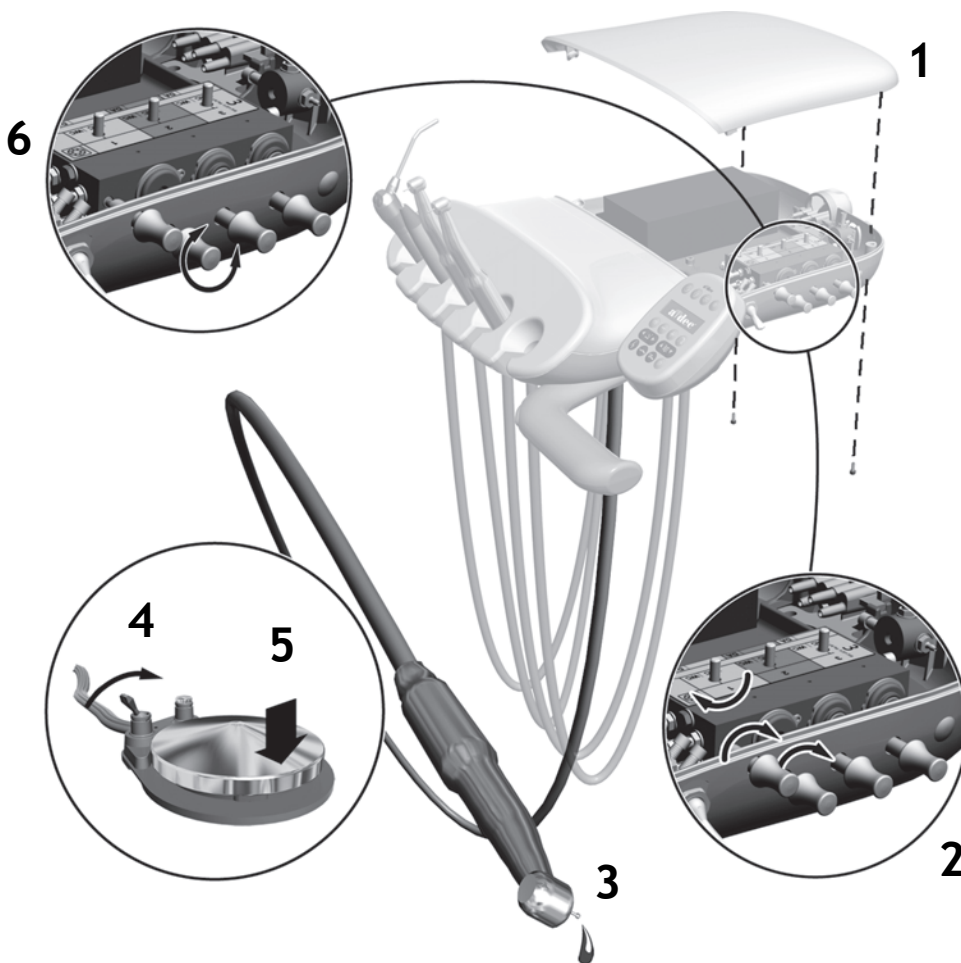
The A-dec 300 delivery system includes a water coolant flow control for each handpiece.

1. Remove the back cover.
2. Turn the air coolant, water coolant, and drive air controls clockwise to turn them all the way down.



CAUTION Air and water adjustment keys are not intended to completely shut off flow.

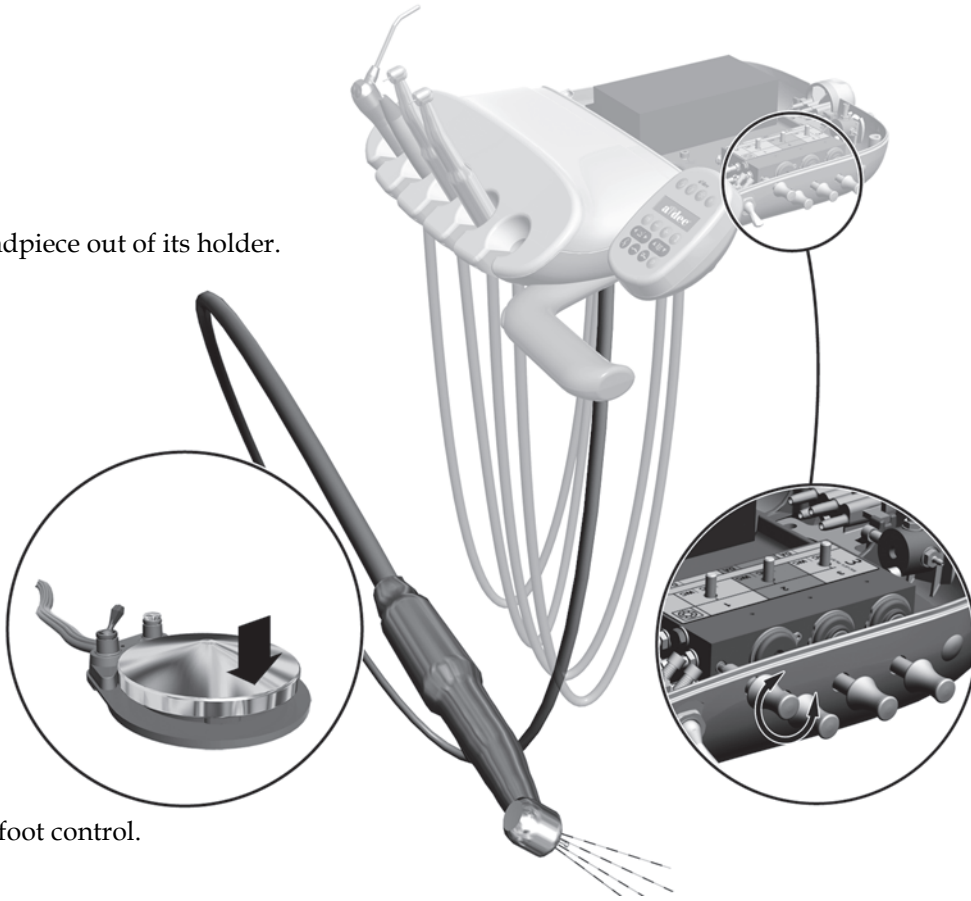
3. Lift a handpiece from the holder.
4. Flip the toggle to water.
5. Step on the foot control.
6. Adjust the water coolant flow until there is 1 drop every 2 seconds.



Task 2. Adjust the Air Coolant Flow

The air coolant flow control adjusts the air coolant flow to all handpieces.

- 1 Lift the handpiece out of its holder.



- 2 Step on the foot control.

- 3 Adjust the air coolant flow until the spray is a fine mist.
To increase flow, turn the key counterclockwise.
To decrease flow, turn the key clockwise.



CAUTION Do not continue turning the air coolant adjustment key left when the flow is no longer increasing. The stem may come out completely.

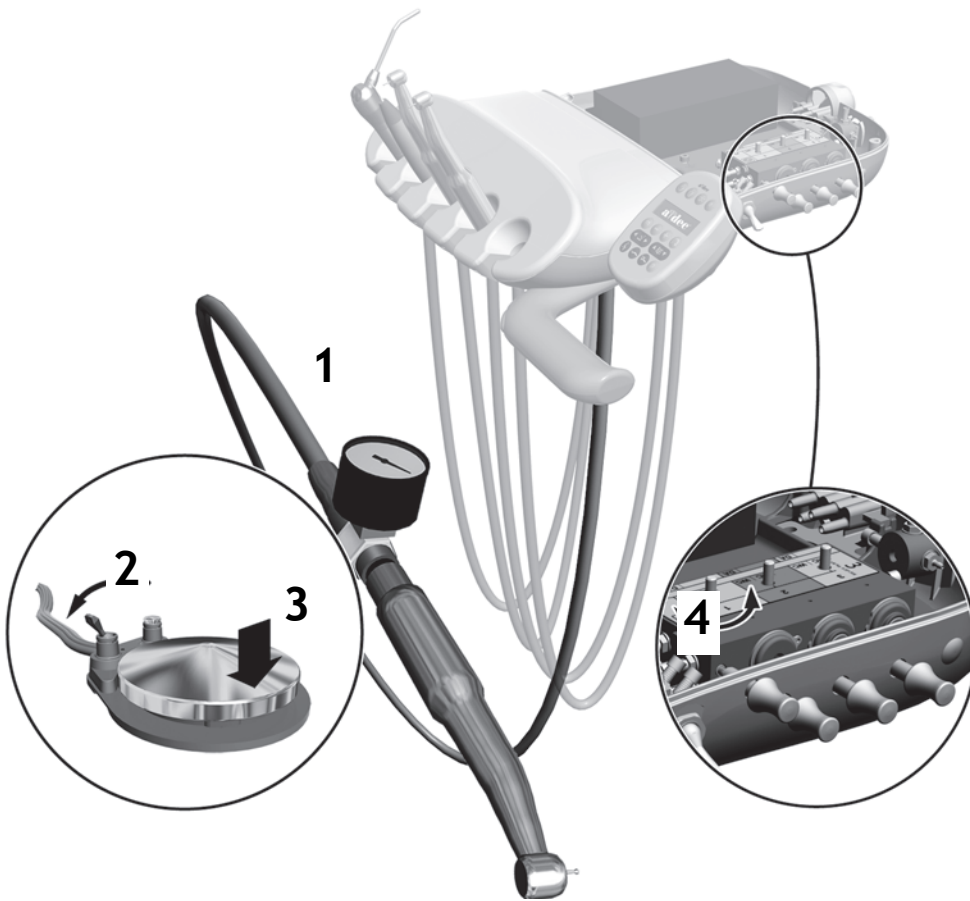
Task 1. Adjust the Drive Air Pressure



NOTE Use a handpiece pressure gauge attached to the handpiece tubing for exact drive air measurement. One bar equals 14.5 psi.

1. Lift the handpiece from the holder.
2. Set the toggle to dry.
3. Press the foot control.
4. With the handpiece running, adjust the handpiece drive air pressure to meet manufacturer's specifications. See the handpiece documentation for the drive air pressure specification.

To adjust the pressure, turn the stem. Clockwise increases the pressure.



Adjust the Intraoral Light Source Voltage

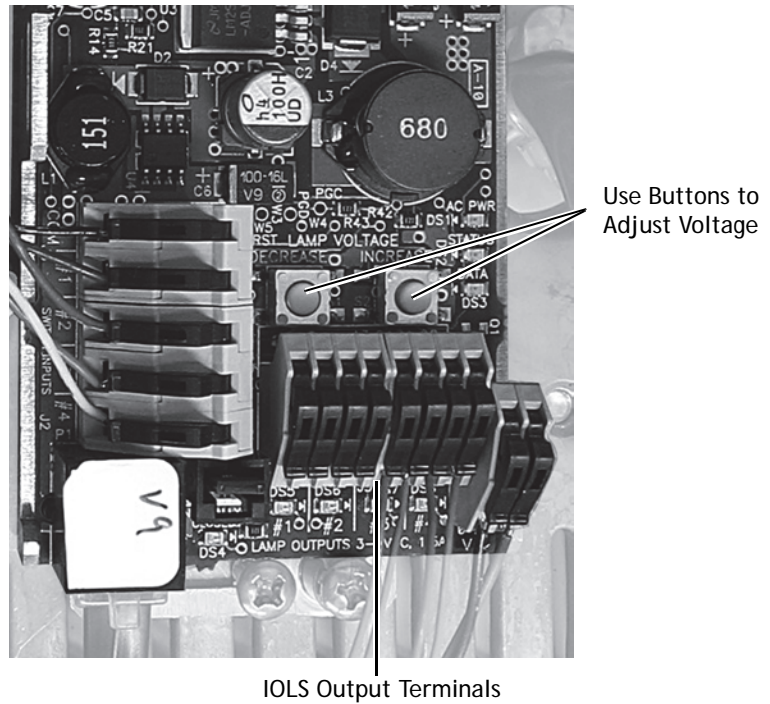
Recommended Tools

- 7/64" hex key
- Voltmeter

To adjust the intraoral light source, complete the following steps.

1. Use a 7/64" hex key to remove the control head back cover.
2. Set the voltmeter to DC voltage and place its probes on the IOLS output terminals for the handpiece you're adjusting.
3. Lift the handpiece from its holder and turn the light on.
4. Use the buttons behind the terminal to adjust the voltage according to the following table.

Figure 109. Adjust the Intraoral Light Source Voltage



NOTE The values in the following table are valid only for fiber optics with 26 AWG wires, 750 mA loads, and the recommended 3.2 VDC at the bulb. For fiber optics powered with 26 AWG wires and other ratings, use the equation $T = (Z \times 0.006 \times Y) + X$ where:

T = Terminal strip voltage (VDC)

X = Desired voltage at bulb (VDC)

Y = Rated lamp/load current (in Amps)

Z = Length of 26 AWG wire (inches) from terminal strip to lamp

For devices with a wire gauge other than 26 AWG, please contact A-dec Customer Service.

Length and Voltage Table for A-dec | W&H, Bien Air, or Other Bulbs Rated at 3.2 V

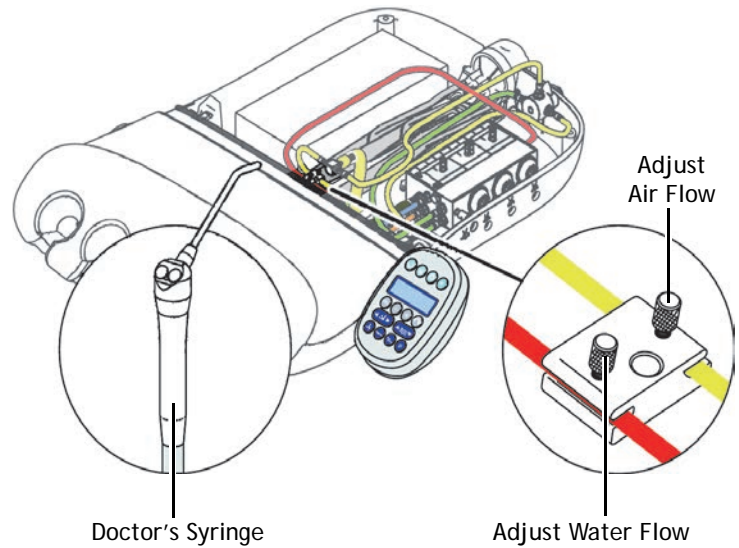
Wire length in A-dec tubing		Voltage at terminal strip resulting in recommended 3.2 V at the bulb	Wire length in A-dec tubing		Voltage at terminal strip resulting in recommended 3.2 V at the bulb
(in)	(cm)	VDC +/- .02	(in)	(cm)	VDC +/- .02
48	122	3.40	108	274	3.69
54	137	3.43	114	290	3.72
60	152	3.46	120	305	3.75
66	168	3.49	126	320	3.78
72	183	3.52	132	335	3.81
78	198	3.55	138	351	3.84
84	213	3.58	144	366	3.87
90	229	3.61	150	381	3.90
96	244	3.64	156	396	3.93
102	259	3.67			

Adjust Syringes

To adjust the water and air flow for syringes, complete the following steps.

1. Access the pinch valve:
 - For the doctor's syringe, use a 7/64" hex key to remove the control head back cover.
 - For the assistant's syringe, go to the support center.
2. On the syringe, push the water button.
3. Tighten or loosen the screw on the pinch valve to adjust the water flow.
4. Push both buttons on the syringe.
5. Tighten or loosen the screw on the pinch valve to adjust the air flow until there is a fine mist.

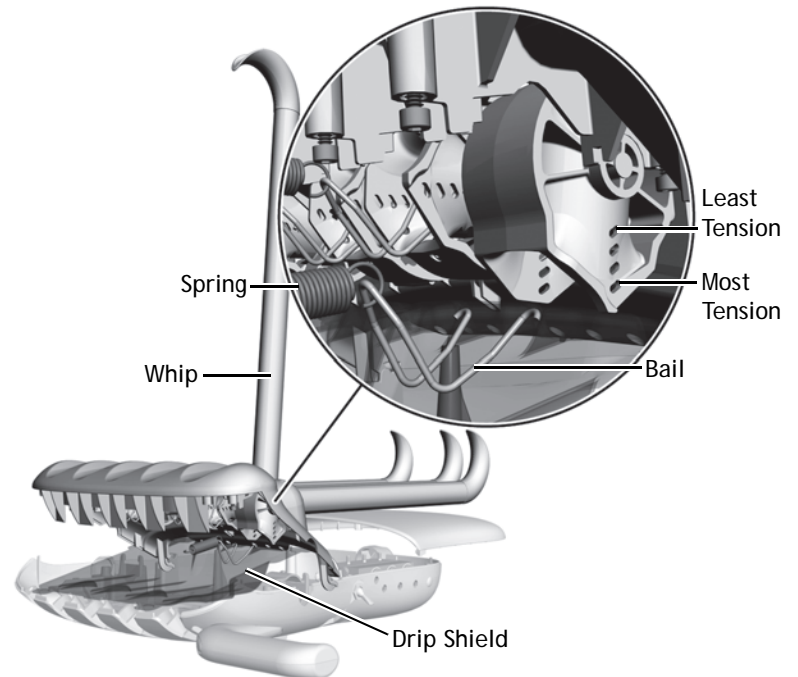
Figure 110. Adjust the Syringe Flow



Adjust the Continental Whip Tension

1. Use a 7/64" hex key to remove the control head back cover.
2. Use a 7/64" hex key to undo the two screws holding the control head front cover and raise the cover up.
3. Pull the two tabs on the top of the drip shield out; then pull down the shield.
4. Remove the spring from the front cover and the bail.
5. Pull the whip forward.
6. To remove the bail from the control head, squeeze its sides until its ends clear the holes in the frame holding the bail.
7. Insert the ends of the bail into the holes for the desired whip tension; then replace the spring. The deepest hole provides the least tension.
8. Repeat steps 4 through 7 for each whip to be adjusted.
9. Replace the drip shield and control head covers.

Figure 111. Adjust the Continental Whip Tension



Adjust the Dental Light Flexarm Counterbalance

If the dental light drifts up or down, complete the following steps to adjust the flexarm counterbalance.

1. Use a Phillips head screwdriver to remove the end cap.
2. Use a 5/16" hex key to remove the two screws that secure the cover.
3. Remove the cover.
4. Use a 1/2" combination wrench to adjust the nut on the end of the spring.

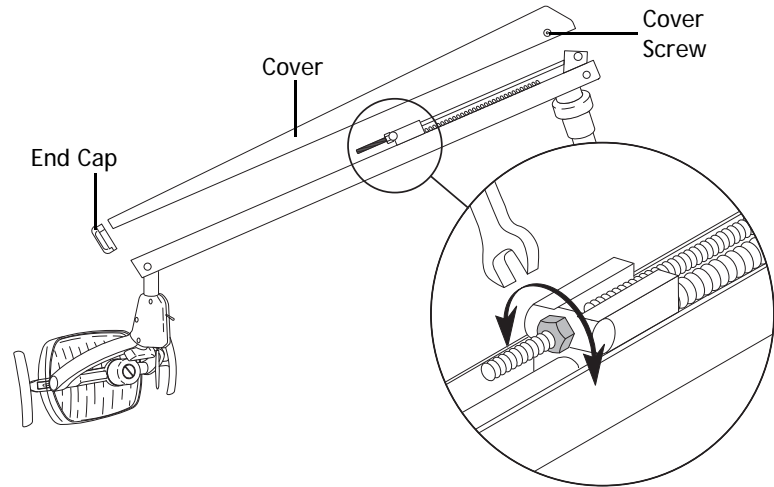
If the dental light drifts up, turn the nut counterclockwise. If the dental light drifts down, turn the nut clockwise.

5. Set the cover back onto the flexarm (but do not reattach it yet), and check for drift.
6. Repeat steps 3 and 4 until drift is eliminated.



NOTE An optional travel stop limit kit (p/n 90.1044.00) can be installed to limit the upward and downward motion of the flexarm.

Figure 112. Adjust the Dental Light Flexarm Counterbalance



Adjust the A-dec 371 Dental Light Swivel Tension and Vertical Drift

If the light head is difficult to position, moves too easily, or tends to drift out of position, complete the following steps to adjust the horizontal and vertical tension.

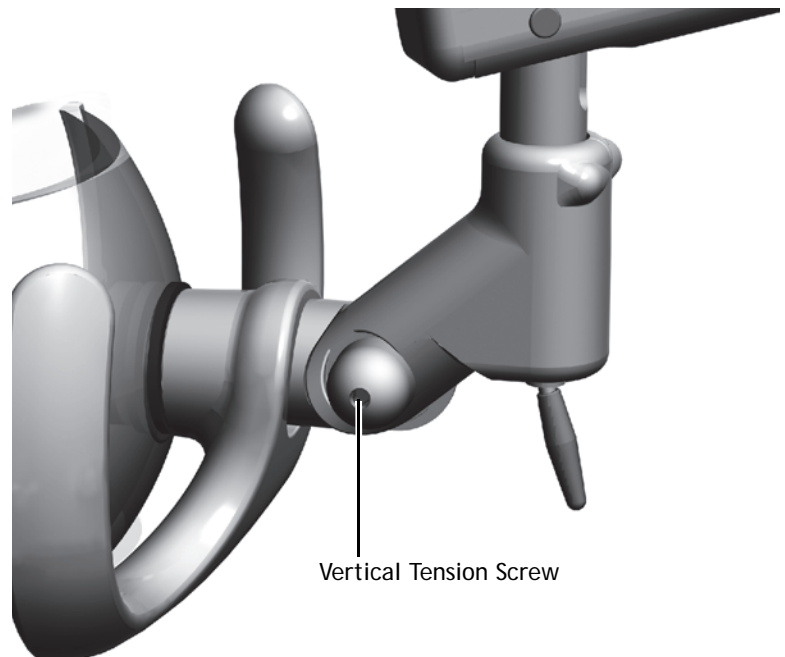
- For horizontal rotation, use a 5/32" hex key to adjust the screw at the top of the switch housing.
Turn the screw clockwise to increase tension and counterclockwise to decrease tension.

Figure 113. Horizontal Rotation Adjustments



Figure 114. Vertical Rotation Adjustments

- For vertical rotation, use a 3/16" hex key to adjust the tension.
Turn the screw clockwise to increase tension and counterclockwise to decrease tension.



Adjust the Cupidor Bowl Rinse Flow Settings

Complete the following steps to adjust the bowl rinse flow, located inside the support center.

1. Remove the upper support center cover by pulling out on the lower edges of the cover.
2. With the cuspidor bowl rinse on, tighten or loosen the pinch valve to adjust the flow.
3. Rotate the bowl rinse spout to adjust the flow pattern and achieve the best rinsing action.
4. Use the touchpad buttons to set the length of cupfill and bowl rinse flow (see "Cupfill and Bowl Rinse Presets" on page 83 for more information).

Figure 115. Bowl Rinse Flow Pinch Valve Location

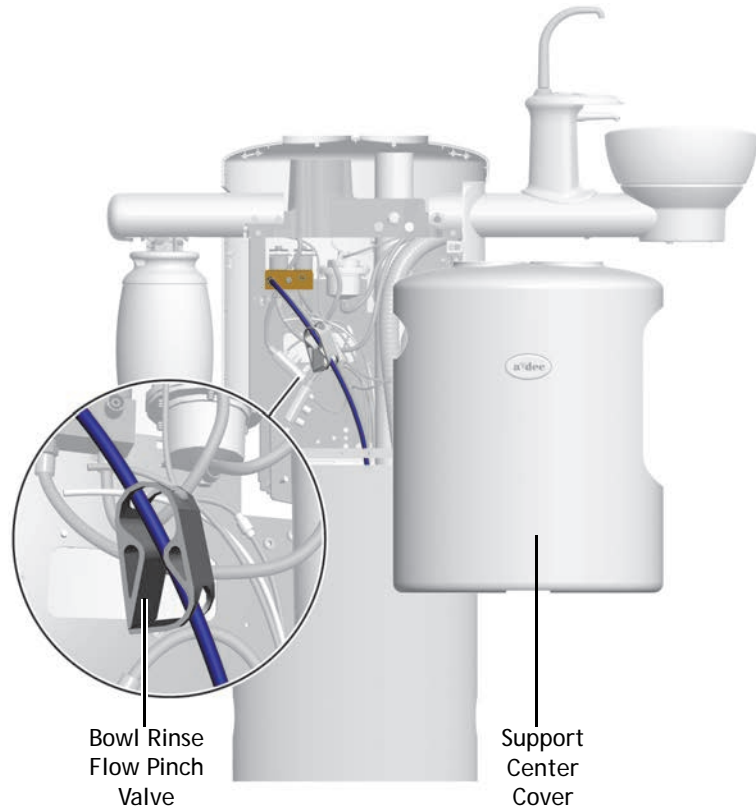
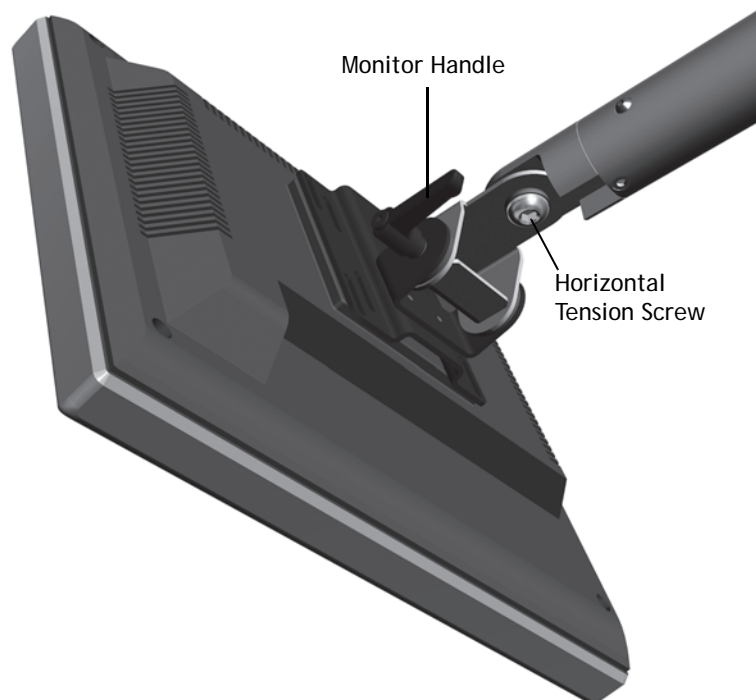


Figure 116. Adjust the Monitor Mount Tilt and Drift

Adjust the Monitor Tilt and Drift

If you want to change the tilt of the monitor or if it tends to drift out of position, complete the following steps to make adjustments.

- To adjust the tilt of the monitor, turn the monitor handle to the left, adjust the angle of the monitor; then turn the handle to the right to lock it in position.
- To adjust the horizontal drift of the monitor, use a 5/16" hex key to tighten or loosen the horizontal tension screw.



LEVEL THE SYSTEM

Complete the following sections to level the system. A level system prevents the modules from drifting and instruments from rolling around the tray.



NOTE To successfully level the system, it is important to complete the following sections in the order that they are listed.

1. Level the Support Center

1. Move the control head and dental light into the normal working position for the doctor.
2. Place a magnetic level vertically on the knuckle of the delivery system's rigid arm. Align the level with a set of leveling screws that are on opposite sides of the chair-base mount.



TIP If needed, use a piece of tape to help hold the level in place.

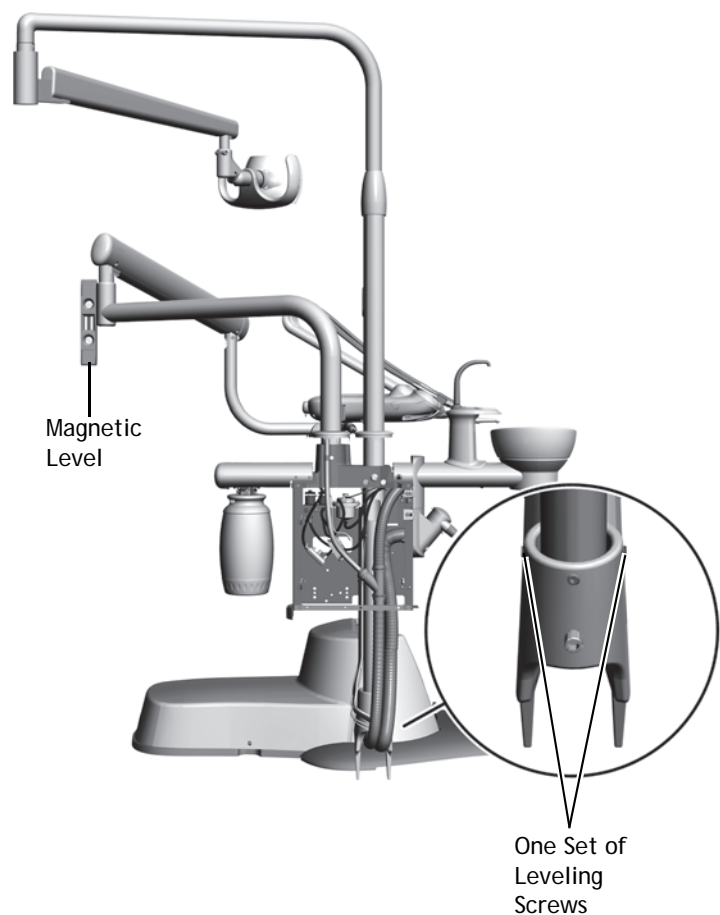
3. Use a 3/16" hex key to adjust the 4 leveling screws while moving the level's alignment from one set of screws to the other.
4. Once the system is level, securely tighten the leveling screws.

Tools Needed For This Section

Magnetic level

Hex key set

Figure 117. Level the Support Center



2. Level the Delivery System

1. With the control head in the normal working position for the doctor, turn it so it faces straight out from the flex arm.
2. Place a level on the tray holder, if the system has one, or on top of the control head.
3. Use a 5/32" hex key to loosen the button-head screw holding the control head in place.
4. Make the following adjustments to level the control head. When making adjustments, align the level with the screws you are adjusting (see Figure 118).
 - Use a 5/32" hex key to level the control head from side to side.
 - Use a 5/32" hex key to level the control head from front to back.
5. Tighten the button-head screw to hold the control head in place.

Figure 119. Delivery System Ready to be Levelled

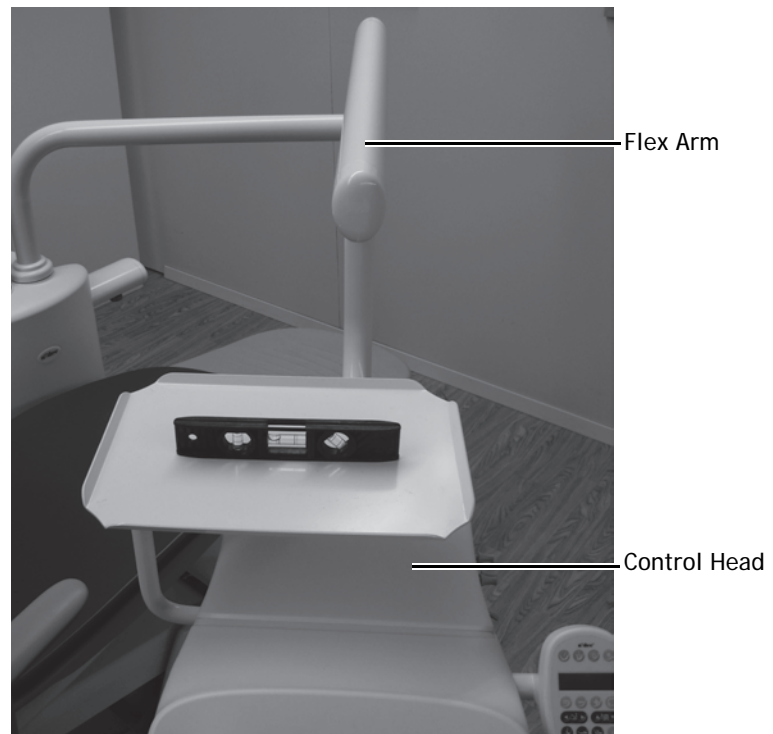
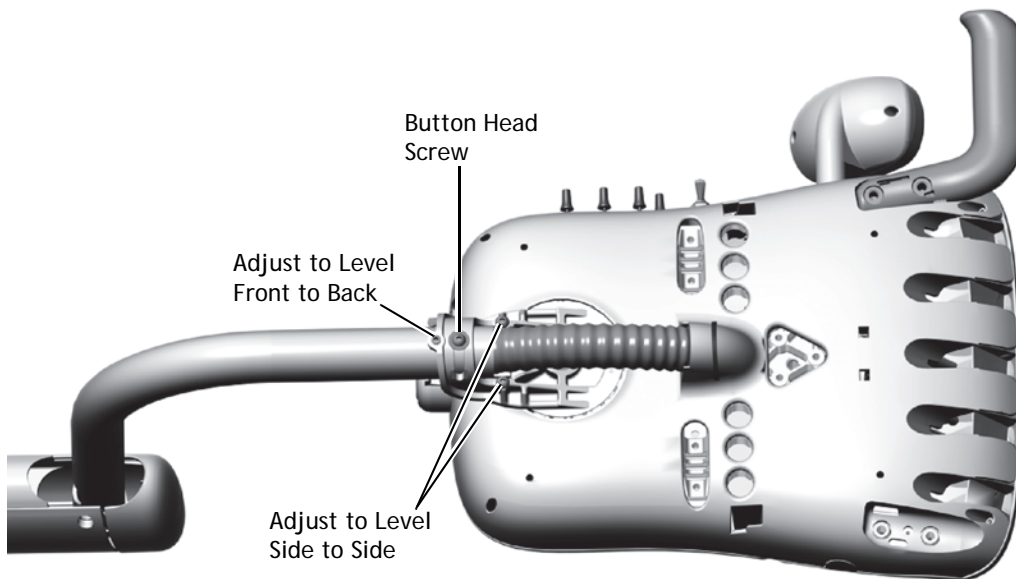


Figure 118. Level the Delivery System

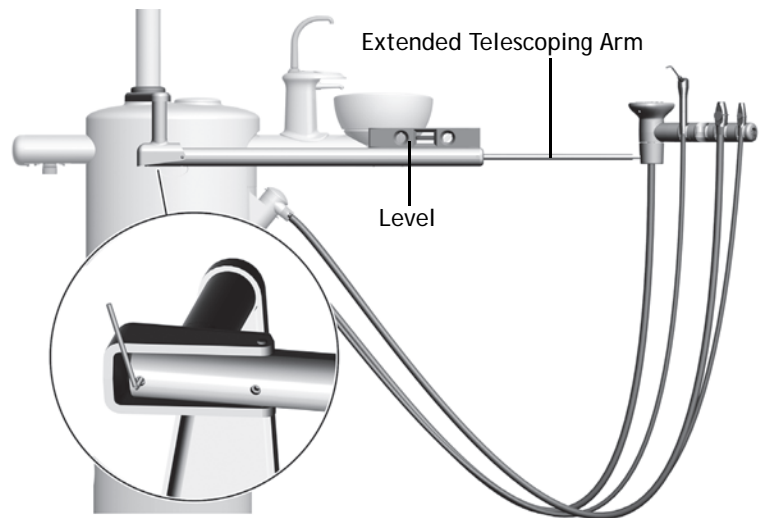


NOTE If the system does **not** have an assistant's instrumentation mounted on a telescoping arm, you have completed the leveling process and can skip to "Adjust the Delivery System Flexarm Rotation Tension" on page 81.

3. Level the Assistant's Instrumentation Telescoping Arm

1. Extend the telescoping arm and align it parallel to the chair.
2. Place a level on top of the telescoping arm.
3. Use a 1/8" hex key to level the arm.

Figure 120. Level the Assistant's Instrumentation Telescoping Arm



Adjust the Delivery System Flexarm Rotation Tension

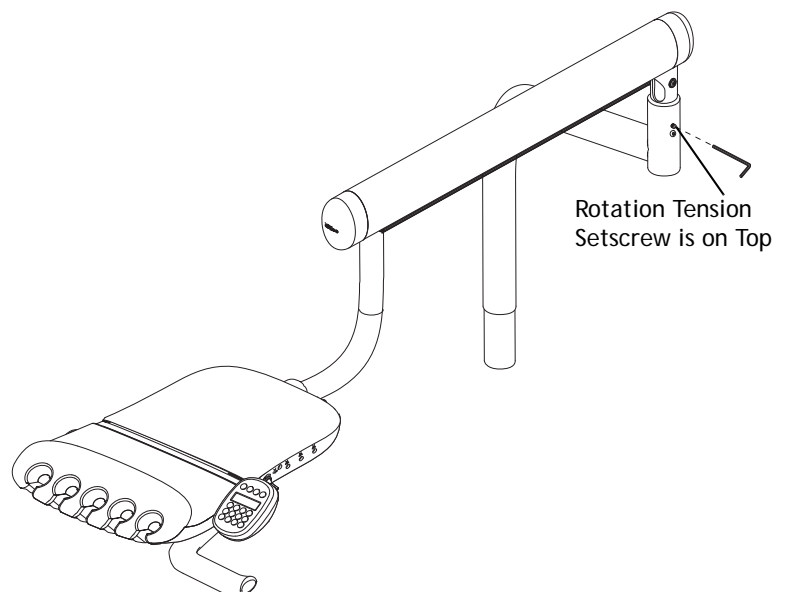


NOTE This adjustment must be made after the final leveling of the system. For information on other adjustments, see "Prepare and Adjust the System" on page 65.

If the delivery system arm drifts, complete the following steps to adjust the tension of the flexarm rotation.

1. Load the control head for normal use.
2. Use a 1/8" hex key to turn the setscrew clockwise to increase tension and counterclockwise to decrease tension.

Figure 121. Adjust the Delivery System Flexarm Rotation Tension



TOUCHPAD SETTINGS

Dental Chair and Light Settings

Use the touchpad to program commonly used settings for the system. Table 1 lists the chair preset positions.


Program the Chair Positions

To program Entry/Exit, Treatment 1, and Treatment 2 buttons:

1. Move the chair into the desired position.
2. Press and release **p** and you hear a beep indicating program mode.
3. Press the button you want to program and you hear three beeps confirming the button has been set.

Customize the X-Ray/Rinse Button

The X-ray/Rinse button functions as either x-ray/rinse or as another fully programmable preset position (Treatment 3). To change the function:

1. Press and hold buttons **p** and  at the same time for three seconds.
 - One beep indicates the button has been configured as Treatment 3.
 - Three beeps indicate that the X-ray/Rinse button has been configured as the x-ray/rinse function (alternates between the x-ray/rinse and the previous position).
2. Program the preset position as instructed in the previous section, "Program the Chair Positions"







TIP If X-ray/Rinse is changed to a fully programmable preset position, it operates the same as Treatment buttons 1 and 2.

Figure 122. Standard and Deluxe Touchpads



NOTE Touchpad symbols are proprietary to A-dec Inc.

Table 1. Chair Preset Positions

Button	Position Description
	Entry/Exit: Automatically positions chair for entry/exit and turns off the dental light.
	Treatment 1: Automatically positions the chair base and back down and turns on the dental light.
	Treatment 2 (Standard touchpad only): Automatically positions the chair base and back and turns on the dental light.
	X-ray/Rinse: Automatically toggles between the X-ray/Rinse and the current chair positions. The dental light turns off when the chair is positioned for X-ray/Rinse and turns on when it returns to its last position.




NOTE To stop the chair at any point, push any chair position button on the footswitch or touchpad.

Cupfill and Bowl Rinse

The cupfill controls water flow from the water bottle into a cup. The bowl rinse provides rinse water for the cuspidor. See Table 2 for those buttons preset run times.

To change the timing for the cupfill and bowl rinse:

1. Press and release . One beep indicates the programming mode is ready.



NOTE You can also enter the cuspidor programming mode by pressing and holding both the Cupfill and Bowl Rinse buttons located near the spout. One beep indicates the programming mode is ready.






2. Press and hold the Cupfill  or Bowl Rinse  button for the desired amount of time.
3. Release the button. Three beeps confirm the setting.


Table 2. Cupfill and Bowl Rinse Presets


Button	Description
	<p>Cupfill Button: Controls water flow from the water bottle into a cup.</p> <ul style="list-style-type: none"> • Press the Cupfill button for a timed operation. The factory preset is a 2.5 second fill. • Press and hold the Cupfill button for manual operation.
	<p>Bowl Rinse Button: Provides rinse water for the cuspidor bowl.</p> <ul style="list-style-type: none"> • Press the Bowl Rinse button for a timed operation. The factory preset is a 30 second rinse. • Press and hold the Bowl Rinse button for manual operation. • Press the Bowl Rinse button twice in less than two seconds for the operation to change to continuous rinse mode. Press the button once to end the continuous rinse mode.


Dental Light

Use the Dental Light button on the touchpad to turn the dental light on or off.



Press the Dental Light button  to toggle between intensity and composite settings.



Halogen Dental Light: Press  to toggle between high and composite or medium and composite. When the dental light is in composite mode, the indicator light blinks.



LED Dental Light: Press and release  to choose the desired intensity mode. When the light is in cure-safe mode, the indicator light blinks.

To turn off the dental light, hold down  for one second.

Auto Light Feature

When you use a programmed chair position, the dental light turns on when the chair back reaches operating position. Press  or  and the dental light automatically turns off.


To deactivate the auto light feature, press and hold  and  at the same time for three seconds. One beep confirms the auto light feature is off.

To re-activate the auto light feature, press and hold  and  at the same time for three seconds. Three beeps confirm the auto light feature is on.



TIP If X-ray/Rinse is changed to a preset position, the dental light auto feature operates the same as the Treatment buttons 1 and 2.

Table 3. Dental Light Button

Button	Description
	Dental Light Button: Press to toggle between intensity settings. Press the button to turn on the light and hold the button to turn off the light.

Electric Handpiece Operation

You can program handpieces in standard or endodontics mode.

- **Standard mode:** Handpieces are always 100% torqued for electric handpieces.
- **Endodontics mode:** If you have a motor controller that supports endodontics, you can program handpieces in this mode. Endodontics mode allows you to control torque and ratio settings.

Program the Electric Handpieces in Standard Mode

You can program memory settings on the deluxe touchpad for specific RPMs. To program the handpiece setting:

1. Lift the handpiece from the holder.
2. If the touchpad screen does not display standard mode, press **e**.
3. To adjust the RPM, press the Minus (-) or Plus (+) buttons. You see the RPM values on the screen (see Figure 123).
4. To place the setting into memory, press **p**. One beep sounds.
5. Select the desired memory setting (M1 through M4). To toggle through memory settings, press **m**.
6. When the desired memory location is selected, press **p**. Three beeps confirm the setting.

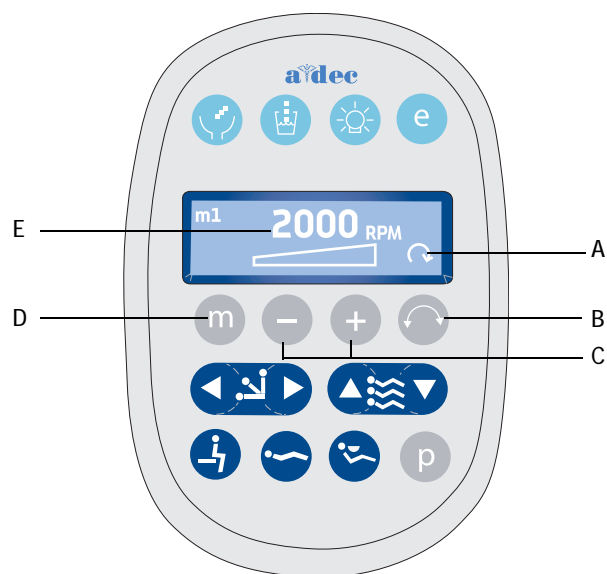
Forward/Reverse Button

Use the Forward/Reverse button to change the electric motor's direction. The system defaults to the forward position when you return the motor to the holder or turn off the power (see Figure 123). In reverse mode, the Forward/Reverse Indicator icon flashes continuously.

Table 4. Electric Motor Presets (Standard Mode)

Memory Settings	Preset Speed
M1	2,000 RPM
M2	10,000 RPM
M3	20,000 RPM
M4	36,000 RPM

Figure 123. Standard Mode Touchpad Screen



Item	Description
A	Forward/Reverse Indicator (forward is shown)
B	Forward/Reverse Button
C	Minus and Plus Buttons
D	Memory Button
E	RPM Value

Program Electric Handpieces in Endodontics Mode

The endodontics mode allows you to change settings based on the specific file and desired handpiece behavior.

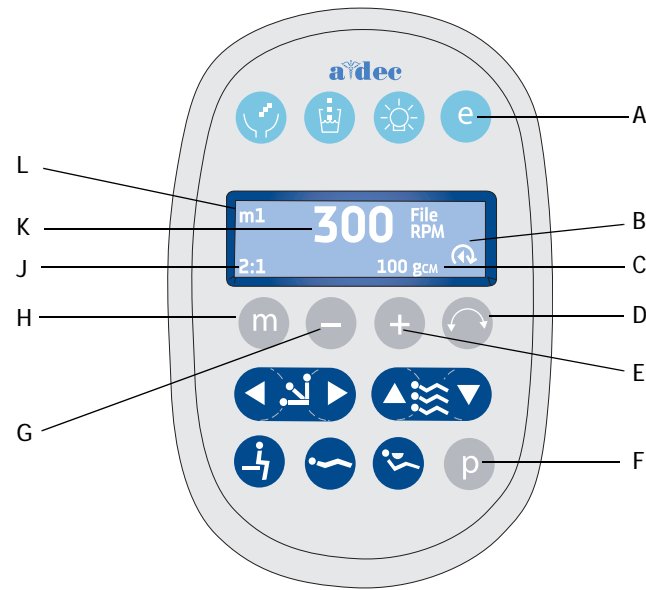


NOTE For more information regarding speed and torque limits for a specific file, consult the file manufacturer.

To program the endodontics memory settings:

1. Lift the handpiece from the holder.
2. If the touchpad screen does not display endodontics mode, press **e**.
3. To change settings in endodontics mode, press the Minus (-) or Plus (+) buttons. You see a white reverse video box on the touchpad screen.
4. To move from setting to setting on the touchpad screen, press the chair positioning buttons.
5. To change the setting, press the Minus (-) or Plus (+) buttons.
6. To set the speed limit, torque limit, and ratio into memory, press **p**. One beep sounds.
7. Select the desired memory setting (M1 through M4). To toggle through memory settings, press **m**.
8. When the desired memory location is selected, press **p**. Three beeps confirm the setting.

Figure 124. Endodontics Mode Touchpad Screen










Item	Description	Item	Description
A	Endodontics Mode Button	G	Minus Button
B	Forward/Reverse Indicator (with auto-mode indicator inside arrow)	H	Memory Button
C	File Torque Unit Indicator	J	Handpiece Ratio Setting
D	Forward/Reverse Button	K	Speed Limit Indicator
E	Plus Button	L	Memory Setting Indicator
F	Program Button		

Table 5 lists and defines the touchpad screen icons for endodontics mode.



CAUTION The A-dec | W&H endodontics attachments have special features due to their ball-bearing design. Their life-long efficiency factors are stable and known; therefore, the A-dec endodontics system is able to control and display file torque very accurately. All other attachments have unknown life-long efficiency factors and therefore stated torque values are approximate.

Table 5. Endodontics Mode Settings

Icon	Setting	Description
	Speed	Setpoint for file speed limit. For more information, consult the file manufacturer.
	Torque	Setpoint for file torque limit. For more information, consult the file manufacturer.
	Torque Units	Toggles between Ncm (Newton centimeters) and gcm (Gram centimeters). Adjusting this setting for one handpiece changes it for all handpiece settings. Note: 1 Ncm = 102 gcm.
	Ratio	Sets the handpiece ratio. For more information, consult the handpiece manufacturer.
	Auto Mode	Adjusting this setting for one handpiece changes it for all handpiece settings. This icon is displayed within the Forward/Reverse indicator.
	Auto stop	Auto stop – The motor stops when the file speed reaches the torque limit.
	Auto reverse	Auto reverse – The motor stops and reverses direction when the file reaches the torque limit.
	Auto forward	Auto forward – When the file reaches the torque limit, the motor stops, reverses three turns, then changes back to forward again. Note: If the motor exceeds the torque limit three times, it automatically stops.

Technician Touchpad Setup Options

The deluxe touchpad allows service technician access to adjust handpiece and touchpad settings for user preferences.

Navigate with Touchpad Buttons

Chair button functions become navigation buttons while you are in setup mode. You will use the back up (▶) and back down (◀) button to navigate the setup screens.

Holder Setup

You can set up how handpieces are configured for each handpiece holder.

To set up handpiece holders:

1. From the deluxe touchpad main screen, press and hold **m** and **e** at the same time for three seconds; then press ▶ to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 125), and press ▶.
3. From the **Handpiece Setup** screen, highlight **Holder Setup** (see Figure 126), and press ▶.
4. Lift the desired handpiece from the holder.

Figure 125. System Setup: Handpieces

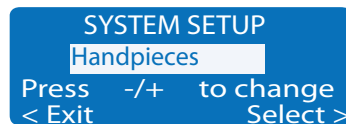
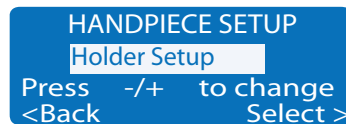
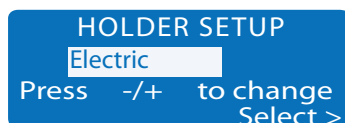


Figure 126. Handpiece Setup: Holder Setup Selection



5. From the **Holder Setup** screen, press Minus (-) or Plus (+) to highlight the handpiece type (see Figure 127).
Handpiece types include Electric, Ultrasonic, Vacuum, Other, and Turbine.

Figure 127. Holder Setup: Option Selection



6. If setting up an electric handpiece:
 - (1) Press ► then Minus (-) or Plus (+) to highlight the motor number.
 - (2) Press ► then Minus (-) or Plus (+) to highlight the motor type.
 - (3) Press ► then Minus (-) or Plus (+) to highlight the installed cable length.
7. Press ►.
Three beeps confirm the setup for the handpiece is complete.
8. Return the handpiece to the holder.
9. Repeat steps 5 through 7 to set up each handpiece.
10. When you are finished setting up handpieces, press ◀ until you see the A-dec logo.

Figure 128. Holder Setup: Motor Number Selections

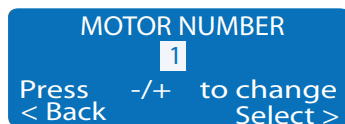


Figure 129. Holder Setup: Motor Type Selections

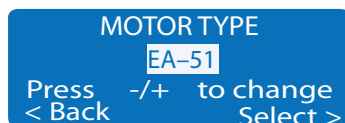
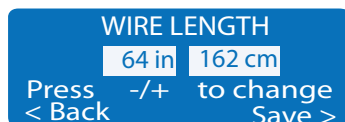


Figure 130. Holder Setup: Wire Length Selections



Light Source Setup

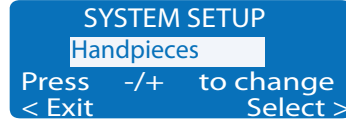
You can set up various intraoral light source options if a quad voltage intraoral light source (QVIOLS) or electric motor controller with built-in IOLS control is installed. The following options are available:

- **On When Selected:** Specify whether the intraoral light source turns on or remains off when the handpiece is removed from the holder.
- **Auto Off Delay:** Determine how long the light remains on when the foot control is released. This time is reset when you use the drive air again.
- **On in Endo:** Specify whether the intraoral light source turns on or off when in endodontics mode. Because most endodontics handpieces do not have light pipes, it is recommended that Off is selected to reduce heat and to extend bulb life.

To set up the light source:

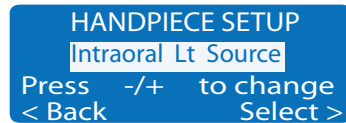
1. From the deluxe touchpad main screen, press and hold **m** and **e** at the same time for three seconds; then press **▶** to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 131), and press **▶**.

Figure 131. System Setup: Handpieces



3. From the **Handpiece Setup** screen, press Minus (-) or Plus (+) to highlight **Intraoral Lt Source** (see Figure 132), and press **▶**.
4. Lift the desired handpiece from the holder.

Figure 132. Handpiece Setup: Intraoral Lt Source Selection

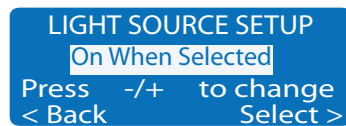


5. From the **Light Source Setup** screen, press Minus (-) or Plus (+) to highlight the desired option, such as **On When Selected** (see Figure 133), and press **▶**.
6. Specify options for the handpiece setting by pressing Minus (-), Plus(+), and **▶** to move through the screens.

Once the setup is complete, three beeps confirm the setting.

7. Return the handpiece to the holder.
8. Repeat steps 4 through 7 to configure each handpiece.
9. When you are finished setting up the handpieces, press **◀** until you see the A-dec logo.

Figure 133. Light Source Setup: Option Selection



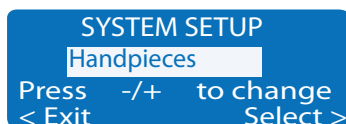
Ultrasonic Setup

Specify whether to turn on or off the ultrasonic colors.

To set up the ultrasonic:

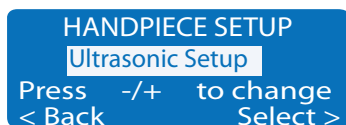
1. From the deluxe touchpad main screen, press and hold **m** and **e** at the same time for three seconds, and press **▶** to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 134), and press **▶**.

Figure 134. System Setup: Handpieces



3. From the **Handpiece Setup** screen, press Minus (-) or Plus (+) to highlight **Ultrasonic Setup** (see Figure 135), and press **▶**.
4. Press Minus (-) or Plus (+) to highlight **On** or **Off**, and press **▶**.
Three beeps confirm the setting.
5. Press **◀** until you see the A-dec logo.

Figure 135. Handpiece Setup: Ultrasonic Setup Selection



Set Up Electric Options

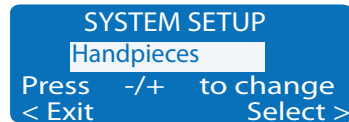
You can change display information and the electric functions. The following options are available:

- **Torque Units:** Select how to display the units, either Ncm (Newton centimeters) or gcm (gram centimeters).
- **Endo Handpiece Auto Mode:** Configure how the electric motor reacts when the torque limit is reached.
 - **Auto forward:** When the file reaches the torque limit, the motor stops, reverses three turns, then changes back to forward again.
 - **Auto reverse:** Motor stops and reverses direction when the file reaches the torque limit.
 - **Auto stop:** Motor stops when the file speed reaches the torque limit.
- **Auto Reverse Beep:** Enable to hear two beeps when the motor exceeds its torque threshold and automatically reverses direction.
- **Torque Warning Beep:** Enable to hear a continuous beep when the motor exceeds 75% of the torque threshold.

To set up electric options:

1. From the deluxe touchpad main screen, press and hold **m** and **e** at the same time for three seconds; press **▶** to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Handpieces** (see Figure 136), and press **▶**.

Figure 136. System Setup: Handpieces



3. From the **Handpiece Setup** screen, press Minus (-) or Plus (+) to highlight **Electric Setup** (see Figure 137), and press **▶**.

Figure 137. Handpiece Setup: Electric Setup Selection



4. From the **Electric Setup** screen, press Minus (-) or Plus (+) to highlight an option, such as **Torque Units** (see Figure 138), and press **▶**.
5. Specify options for the setting by pressing Minus (-), Plus(+), and **▶** to move through the screens.

Once the setup is complete, three beeps confirm the setting.

6. When all settings are complete, press **◀** until you see the A-dec logo.

Figure 138. Electric Setup: Option Selection



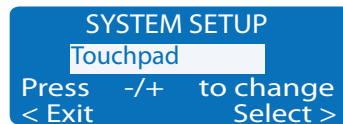
Touchpad Setup

Use the touchpad setup to change the contrast of the touchpad display and specify whether to display help messages.

To set up touchpad options:

1. From the deluxe touchpad main screen, press and hold **m** and **e** at the same time for three seconds, and press **▶** to begin.
2. From the **System Setup** screen, press Minus (-) or Plus (+) to highlight **Touchpad** (see Figure 139), and press **▶** to begin.

Figure 139. Touchpad Setup



3. From the **Touchpad Setup** screen, press Minus (-) or Plus (+) to highlight **Contrast Adjust** or **Help Messages**:
 - Select **Contrast Adjust** to adjust the contrast on the screen. Press Minus (-) or Plus (+) to adjust the contrast (see Figure 140).
 - Select **Help Messages** and press Minus (-) or Plus (+) to highlight **On** or **Off**, and press **▶** (see Figure 141).

Three beeps confirm the setting.

4. When settings are complete, press **◀** until you see the A-dec logo.

Figure 140. Touchpad Setting: Contrast Adjust

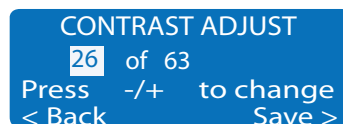
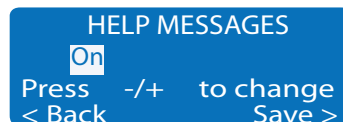


Figure 141. Touchpad Setting: Help Messages



NOTE For a listing of touchpad help messages, see the *Regulatory Information and Specifications* document at www.a-dec.com.

TEST THE SYSTEM

After you have completed the installation of the A-dec 300, use the following checklist to test the system; then follow up with the customer.

Dental Chair

- Dental chair is securely anchored to the floor.
- The chair functions properly, including the chair's lift, tilt, and programmable functions controlled by the touchpads and foot switch.
- Headrest or neck support is functioning properly.
- Armrests are fixed or positionable based on staff preference.

Delivery System

- The handpieces function properly and are set to doctor's preferences:
 - Water coolant, air coolant, and spray.
 - Handpiece tubing flush.
 - Handpiece holder valves and switches.
 - Handpiece drive air pressure.
- Spring-assisted flexarm functions properly.
- Delivery system flexarm brake functions properly.
- Control Head is level as measured on tray.
- Articulating arms do not drift.
- Foot control operates properly.

Dental Light

- All light intensity settings work properly (two settings for the 371, three for the 571).
- Dental light has a spare bulb (A-dec p/n 041.709.00).
- Dental light flexarm and head tension are properly adjusted.

Assistant's Instrumentation, Cuspidor, and Cupfill

- Vacuum/suction is set to the following specifications:
 - **Wet vacuum** - 10 ± 2 inches of Hg (34 ± 7 kPa), 9 scfm (255 sl/min) minimum.
 - **Dry/semi-dry vacuum** - 4.5 ± 1 inches of Hg (16 ± 3.5 kPa), 12 scfm (340 sl/min) minimum.
- Air and water syringe buttons operate smoothly.
- Valves on HVE and saliva ejector move freely.
- Cupfill timing is set properly.
- Cuspidor flow pattern effectively rinses the bowl, and the bowl drains properly.
- The end of the cuspidor ventilation tubing is 1/2" (13mm) above the support center frame.
- There is 1-1/8" (29 mm) clearance between the cuspidor bowl and armrest.

Utilities

- Regulated air pressure is at 80 psi (552 kPa).
- Floor box is free of air and water leaks.
- The gravity drain is functioning properly.
- Tubing and connections are not kinked and are free of air and water leaks.
- Excess tubing and wires are coiled and stored away from moving parts.

VERIFY PROPER CLEARANCE BETWEEN THE CUSPIDOR BOWL AND THE ARMREST



NOTE If you have a Radius-style system, a base mount system **without** a cuspidor, or a post mount system, skip this section and go to "Install the Covers" on page 98.

Check For Proper Clearance

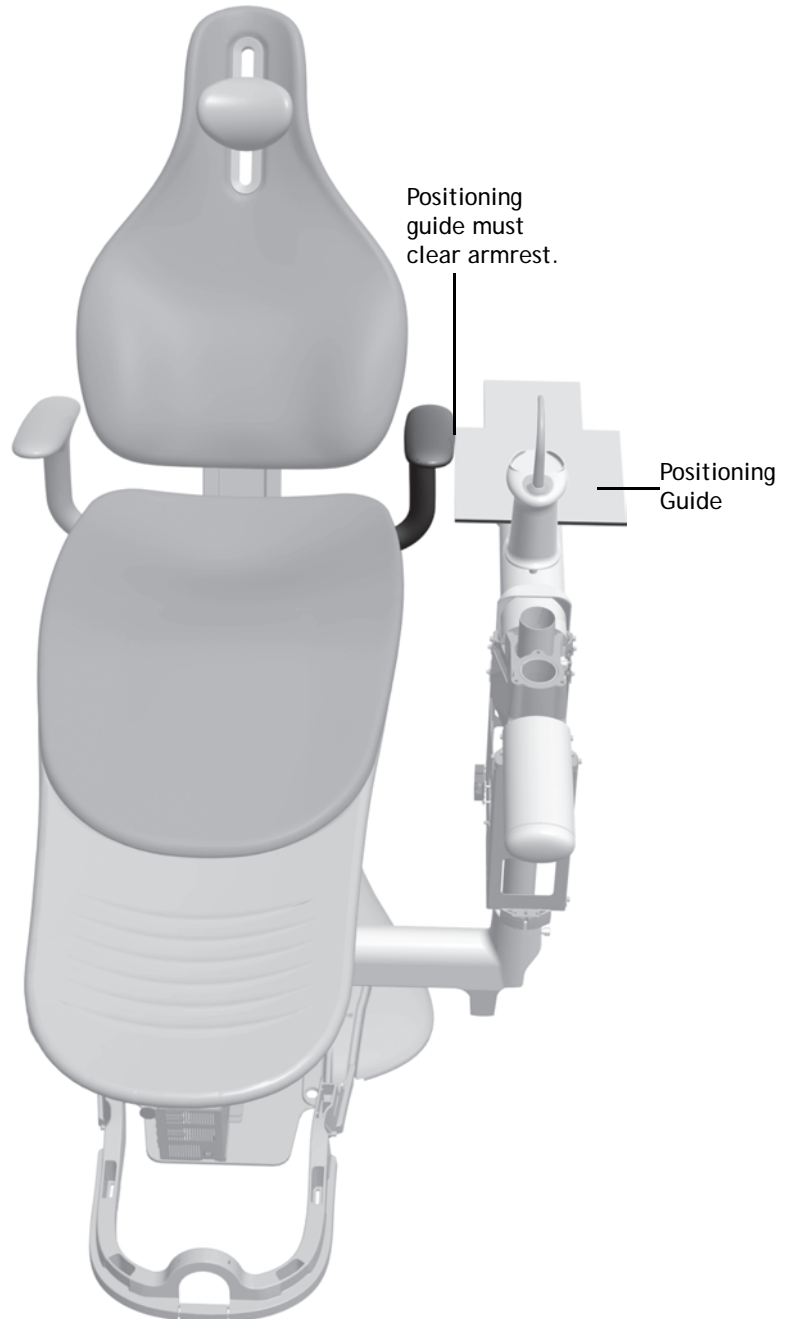
1. Remove the cuspidor bowl.
2. Place the positioning guide on the cuspidor bowl support with the tab toward the head of the chair and secure it with the foam plug in the guide's center.
3. Raise and lower the chair to check that the positioning guide clears the armrest.

If the guide does not properly clear the armrest, complete the steps on the next page to ensure proper clearance.

Tools Needed For This Section

5/16" hex key driver

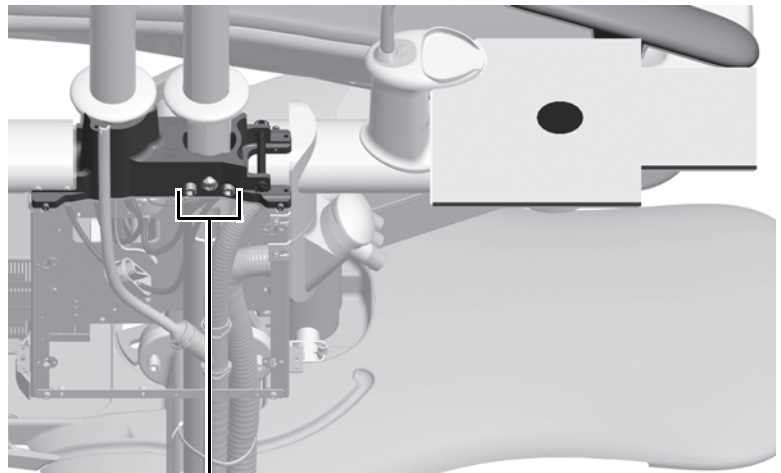
Figure 142. Ensure the Positioning Guide Clears the Armrest



Adjust the Clearance Between the Cuspidor and the Armrest

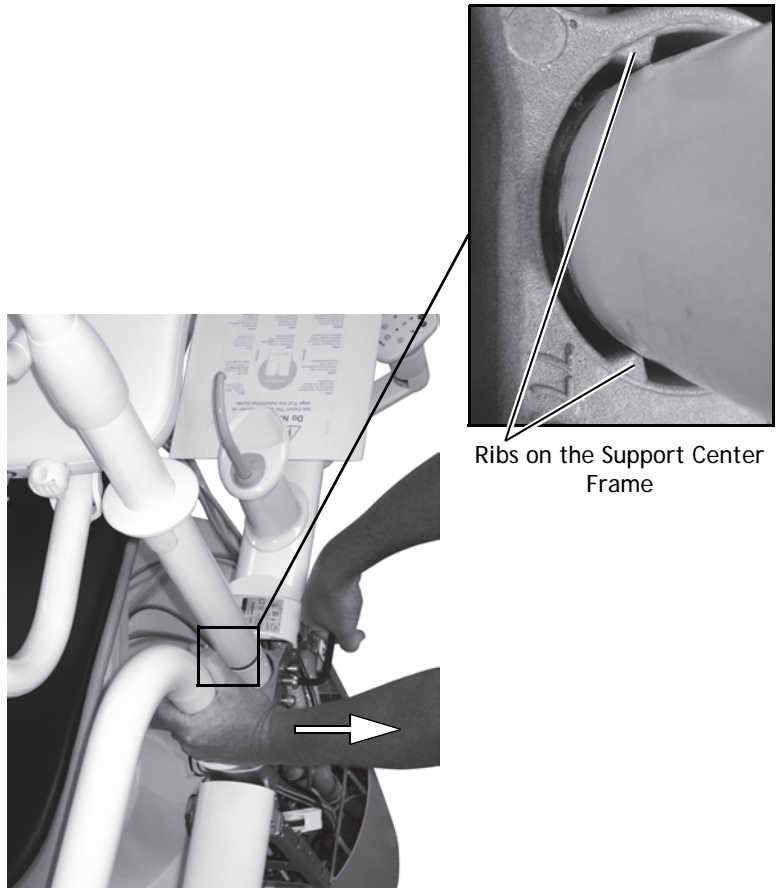
1. With the positioning guide in place, use a 5/16" hex key driver to loosen the button head and socket head screws.
2. If the system includes a delivery system and light, position them over the support center.
3. Rotate the support center until the positioning guide properly clears the armrest.
4. If the system includes a delivery system, pull its rigid arm toward the screws until the ribs on the support center frame are flush against the support center post.
5. Use approximately 13 ft-lb [13.6 N · m] of torque to tighten the button head screw.
6. Alternately tighten both socket head screws until they are firmly secure (use approximately 13 ft-lb [13.6 N · m] of torque).
7. Raise and lower the chair to check that the positioning guide clears the armrest.
8. If the guide does not properly clear the armrest, repeat steps 1 through 8.
9. Verify that the support center is level. If it needs to be adjusted, complete the steps in "1. Level the Support Center" on page 79.

Figure 143. Loosen the Support Center Screws



Button Head and Socket Head Screws

Figure 144. Secure the Support Center



Ribs on the Support Center Frame

Pull the Rigid Arm Toward the Screws

INSTALL THE COVERS

The A-dec 300 includes a variety of covers for different configurations. Depending on the system's configuration, you may need to modify the covers during installation.



NOTE Be sure to adjust and test the system before installing the covers.

Tools Needed For This Section

Diagonal cutters

Phillips head screwdriver

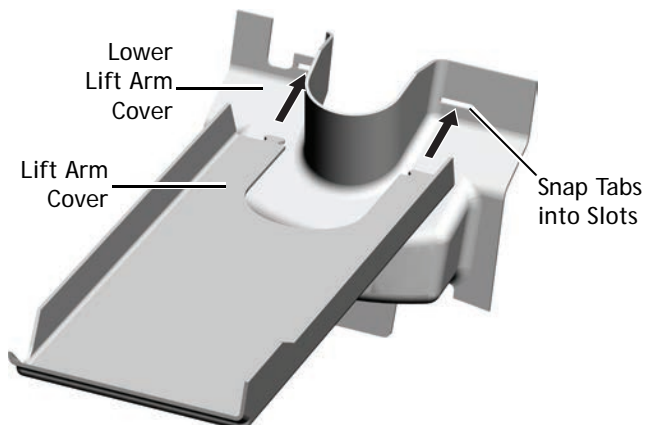
Figure 145. A-dec 300 with Support Center



Install the Lift Arm Covers

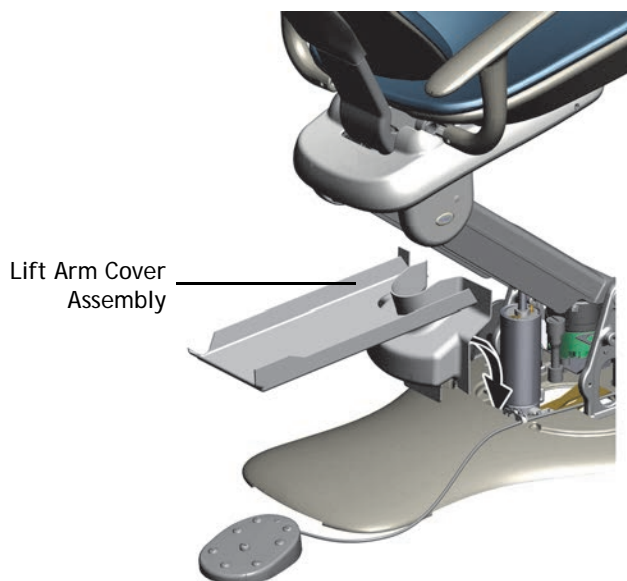
1. Raise the chair base all the way up.
2. Snap the lift arm cover tabs into the slots of the lower lift arm cover.

Figure 146. Snap the Covers Together



3. Set the lift arm cover assembly into the base of the chair.

Figure 147. Install the Lift Arm Cover Assembly



4. Select the appropriate upper lift arm cover depending on whether the dental chair has an assistant's arm.



NOTE The upper lift arm cover used with an assistant's instrumentation ships in the box for the assistant's instrumentation.

5. Raise the lift arm cover up and hold it in place.



NOTE If the lift arm cover sticks when inserted into the gap between the lift arm and the link arm, use a standard screwdriver between the lift arm and link arm to widen the gap.

6. Insert the tabs of the upper lift arm into the inside slots on the back of the chair.

7. With your thumbs on the top of the upper lift arm cover, pull down and outward until the cover is snapped into place.

Figure 148. Upper Lift Arm Covers

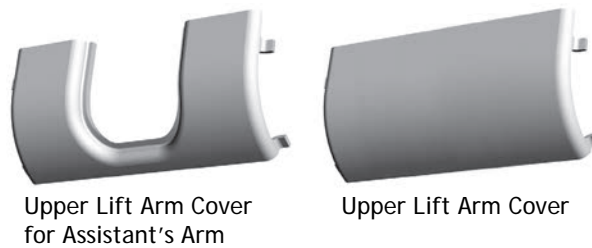


Figure 149. Install the Upper Lift Arm Cover

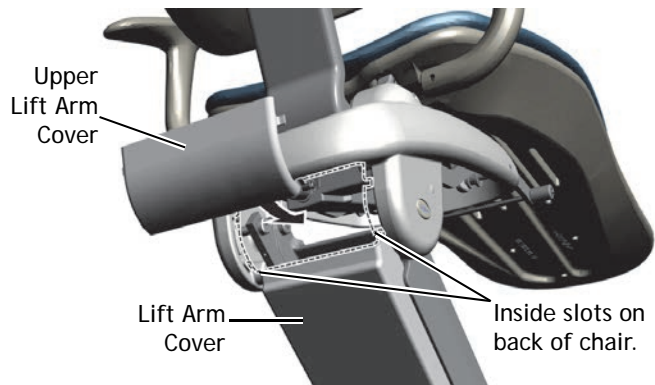
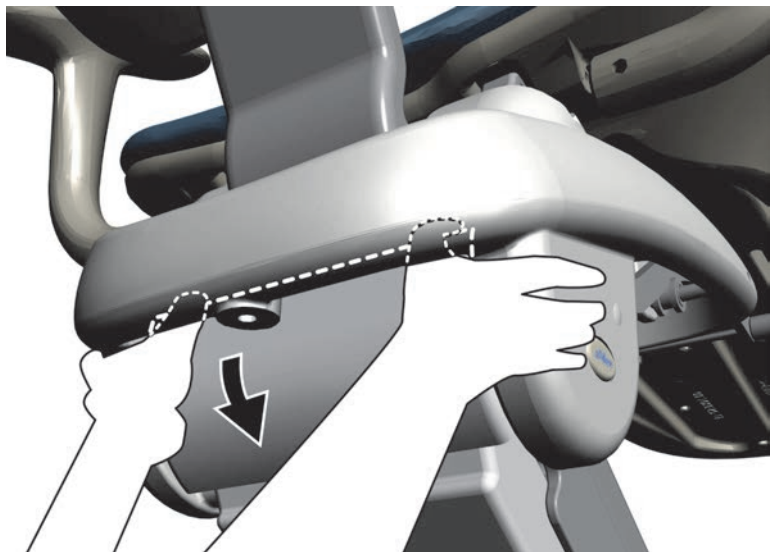


Figure 150. Insert the Upper Lift Arm Cover Tabs



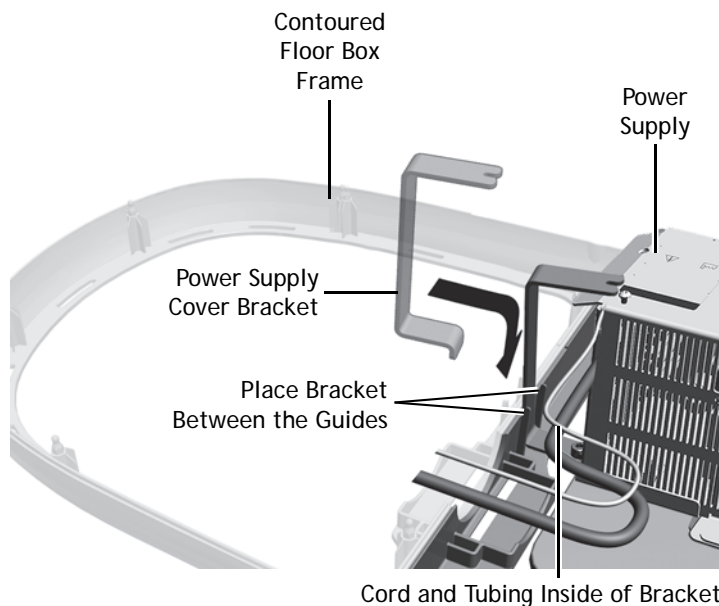
Install the Contoured Floor Box Cover Set

1. Use a Phillips head screwdriver to loosen the screw in the top of the power supply.
2. Position the power supply cover bracket against the power supply as shown in Figure 151.



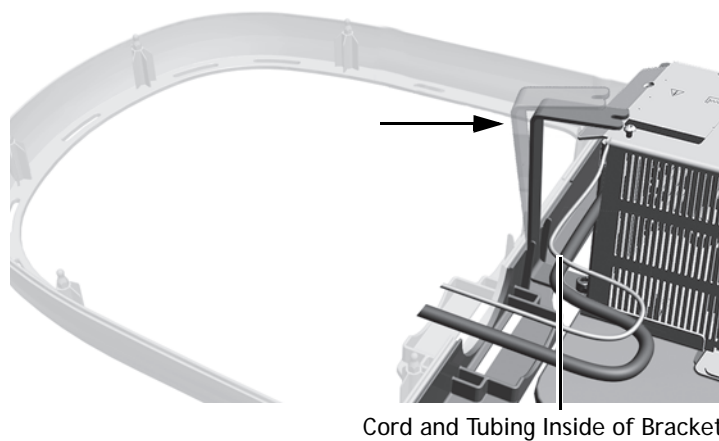
CAUTION The power cord and tubing must be inside the bracket for the cover to fit properly.

Figure 151. Install the Power Supply Cover Bracket



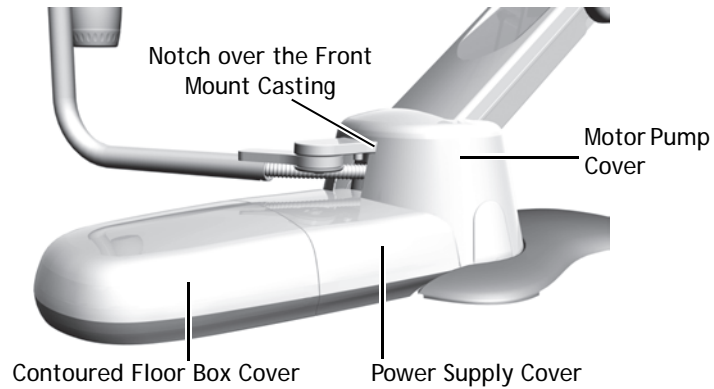
3. Slide the slot in the bracket around the screw.
4. Tighten the screw to secure the bracket.

Figure 152. Secure the Power Supply Cover Bracket



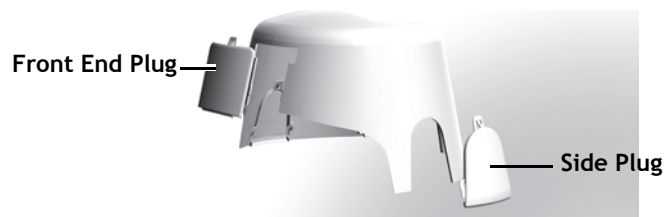
5. Align the power supply cover with the connectors on its frame and press down.
6. Line up the connectors for the contoured floor box cover and press down.

Figure 153. Covers with a Radius-Style Delivery System



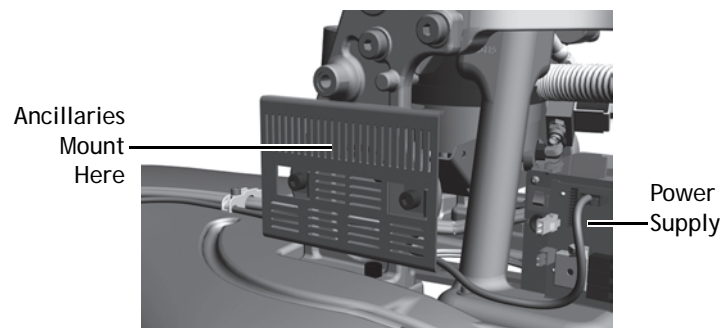
7. Modify and install the motor pump cover according to the system's configuration:
 - **No support center or Radius-style delivery system:** No modifications are needed. Slide the cover down into the grooves in the chair base plate.
 - **With a Radius-style delivery system:** Remove the plug from the front. Slide the cover over the front mount casting and down into the grooves in the chair base plate. The notch in the front goes around the front mount casting.
 - **With a support center:** Remove the plug from the side of the motor pump cover that is toward the chair-base mount. Slide the cover down over the chair-base mount and into the grooves in the base plate.

Figure 154. Modify the Motor Pump Cover



NOTE Be sure to place any ancillaries so that the motor pump cover fits properly.

Figure 155. Ancillaries Bracket Location



Install the Integrated Floor Box Cover

1. Raise the chair.
2. Modify the integrated floor box cover according to the system's configuration:
 - **Dental chair only:** No modifications are needed.
 - **Dental chair with support center:** Remove the plug from the side of the integrated floor box cover that is toward the chair-base mount.
 - **A-dec 300 with air vacuum system:** Replace the plug at the front end of the integrated floor box cover with the exhaust hole cover.
3. Slide the cover over the utilities. Align it in the grooves of the integrated floor box cover frame and chair base plate.
4. Push the cover into the grooves and lock it over the two small posts on the frame.

The cover should fit snug and secure. Make sure there are no visible cable ties, tubing, or wires.



NOTE Be sure to place any ancillaries so that the integrated floor box cover fits properly.



WARNING The integrated floor box cover needs to be securely replaced after removing. Verify that the cover is correctly re-attached and secured into place.

Figure 156. Install the Integrated Floor Box Cover

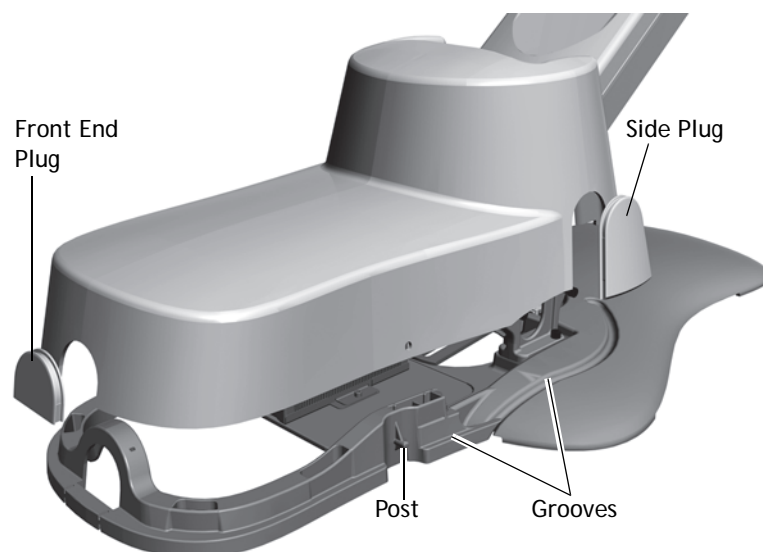
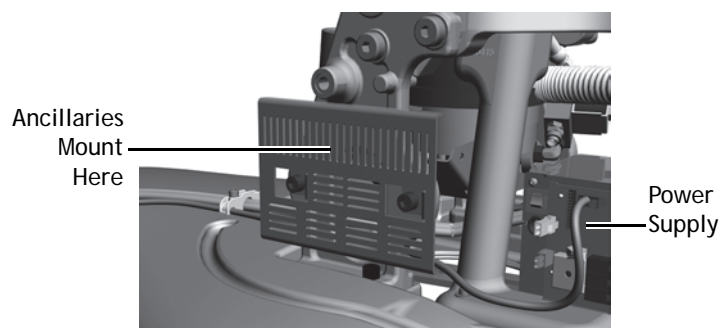


Figure 157. Ancillaries Bracket Location



Install the Post Hole Caps

If the system does not have a delivery system, dental light, or monitor, install caps to cover the post holes for those modules:

- **Support Center Post Holes:** Use a Phillips head screwdriver and a 6-19 x 1.2" screw to attach the trim cap to the support center cover that does not have the flow diagram.
- **Intermediate Post:** If the system has a monitor mounted on the intermediate post but does not include a dental light, push the trim cap onto the end of the intermediate post.
- **Assistant's Instrumentation Hub:** If the system includes an assistant's instrumentation mounted on a telescoping arm but does not include a delivery system, push the trim cap onto the top of the hub.

Figure 158. Post Hole Caps



Trim Cap for Support Center Post Holes



Trim Cap for Intermediate Post and Assistant's Instrumentation Hub

Install the Support Center Covers

1. Push the cover ring into place at the bottom of the chair-base mount until it's flush against the mount legs.

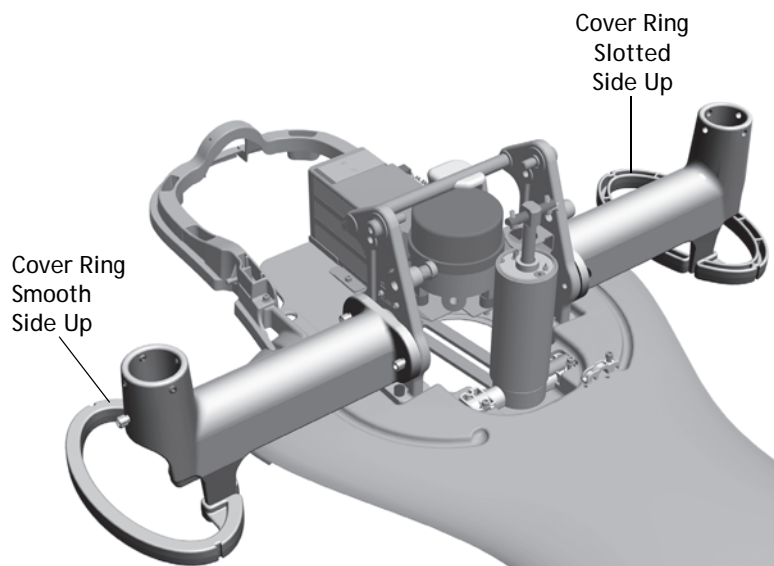
If the support center is to the left of the patient, place the ring smooth side up. If the support center is to the right of the patient, place the ring slotted side up.



TIP You may need to firmly tap the ring to get it flush against the mount legs.

2. Install the lower covers around the cover ring. The indents on the side of the covers go toward the bottom. The cover with a hole goes over the chair-base mount. If the support center is installed to the right of the patient, use diagonal cutters to widen the hole in the cover so it will fit over the mount. Push the covers' edges into the cover ring's grooves until they snap into place.

Figure 159. Cover Ring Installation Options



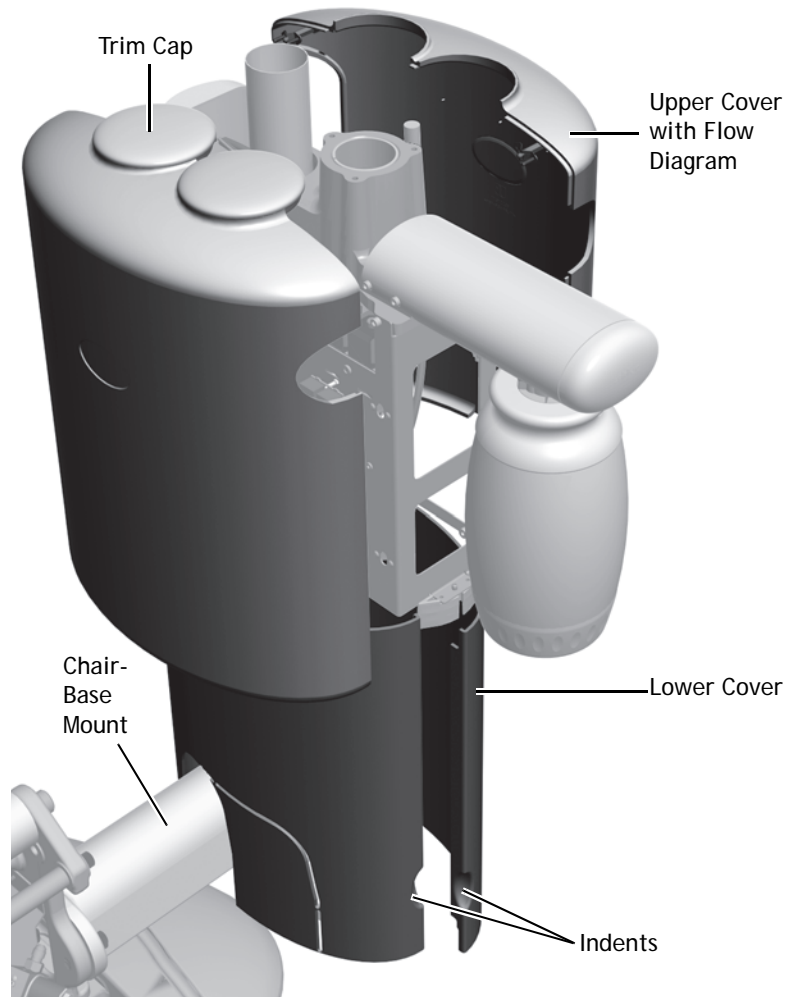
- The upper support center covers attach to the support center frame. For support centers installed to the patient's left, the cover with the flow diagram goes to the outside of the support center frame, away from the chair. For support centers installed to the patient's right, this cover goes on the side toward the chair. Insert the small pins on the covers into the holes in the frame and the larger pins on the one cover into the connectors on the other cover.



NOTE If the system includes a dental light or monitor mount, slide its trim ring up before installing the support center covers.

The covers should fit without a gap under the trim rings and cover the top of the lower covers.

Figure 160. Install the Support Center Covers



APPENDIX: INSTALL THE AIR VACUUM SYSTEM (AVS)



NOTE The Air Vacuum System (AVS) is only available with A-dec 300 systems that include a integrated floor box cover or a remote floor box.

The AVS generates a vacuum using air supply at 70 PSI minimum when a central vacuum system is not available. It also separates moisture and air that flows through the system and discharges them through a drain and air outlet.



NOTE You cannot have an AVS without a cuspidor because the cuspidor is required to mount the switch that turns on the air flow through the air saliva ejector.

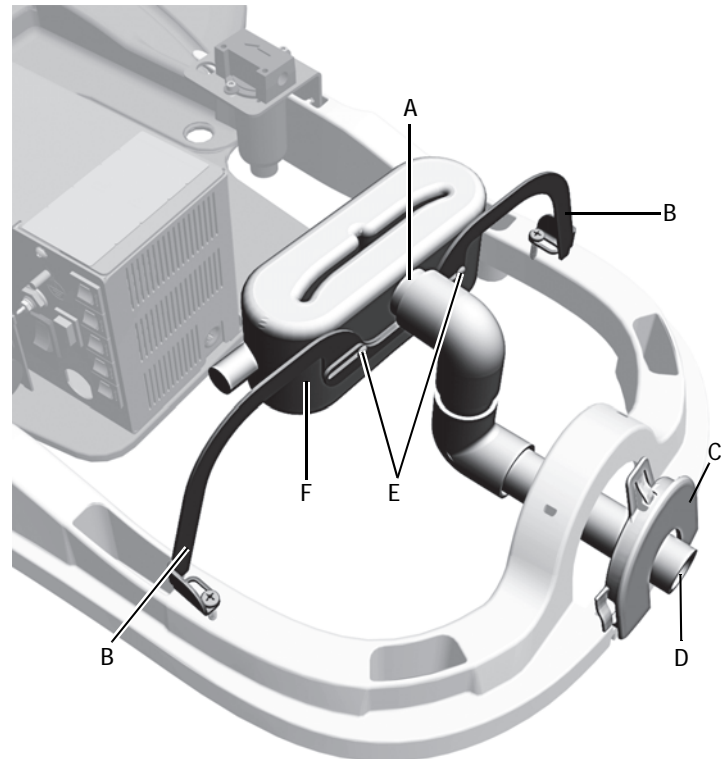
Install the AVS Tank and Exhaust Pipes

1. Line up the brackets with the pilot holes on the integrated floor box cover frame.
2. Use a Phillips head screwdriver to secure the brackets to each side of the frame with two 3/4" #10 screws.
3. Line up the slots in the brackets to the holes in the liquid separating tank under the air-out stub.
4. Use a 5/64" hex key and two 3/8" socket head screws to attach the tank to the brackets.
5. Connect an elbow to the air-out stub.
6. Connect a splicer to the elbow.
7. Connect a second elbow.
8. Connect the 25 mm tubing to the end of the splicer and route it out of the exhaust hole.

Tools Needed For This Section

5/64" hex key	Phillips head screwdriver
1/4" combination wrench	

Figure 161. AVS Air-Out Tubing Connections



Item	Description	Item	Description
A	Air-Out Stub	D	Air Exhaust
B	Bracket Screwed into the Integrated Floor Box Cover Frame	E	Brackets Screwed into Tank
C	Exhaust Hole Cover	F	Liquid Separator Tank

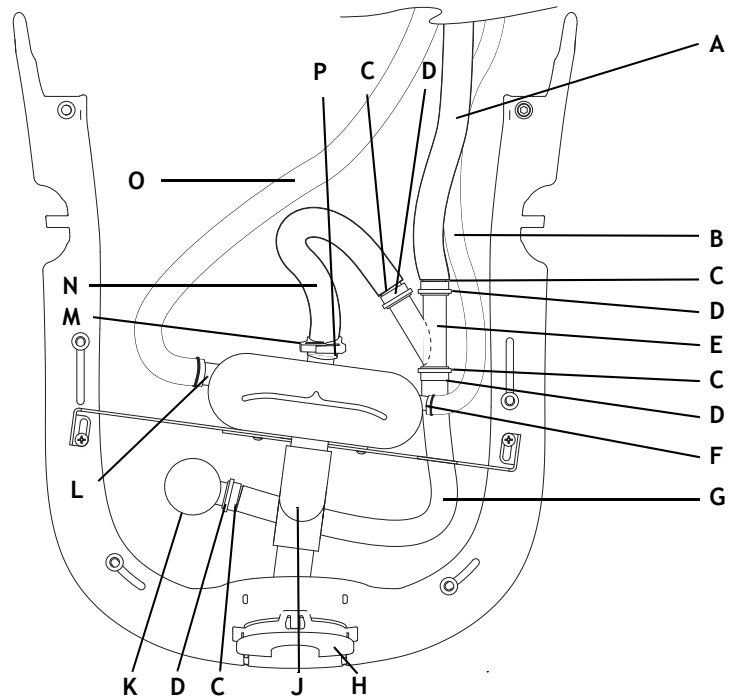
Connect the Corresponding Tubing

1. Connect the saliva ejector tubing to the saliva ejector inlet.
2. Connect the cuspidor drain tubing to one of the ends at the top of the Y using a 20 mm adapter and a connector clip.
3. Connect a 20 mm tubing to the bottom end of the Y using a 20 mm adapter and a connector clip.
4. Connect the open end of the 20 mm tubing from step 3 to the drain using a 20 mm adapter and a connector clip.
5. Connect a 20 mm tubing to the remaining open end at the top of the Y using a 20 mm adapter and a connector clip.
6. Connect the open end of the 20 mm tubing from step 5 to the liquid separator drain using a 20 mm adapter.
7. Connect the HVE/AVS exhaust tubing to the HVE inlet.



NOTE Connect the drain according to local plumbing codes.

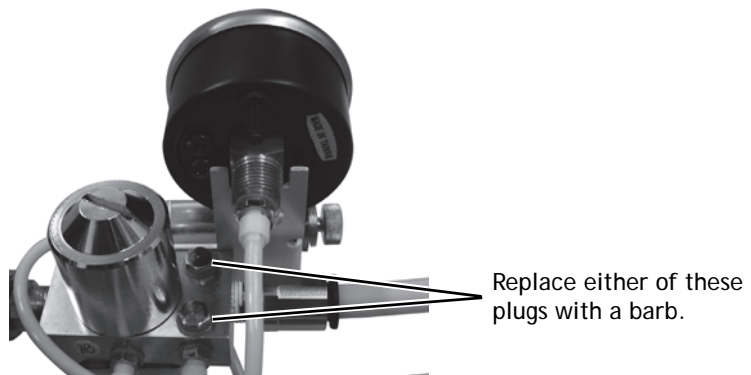
Figure 162. Overhead View of the AVS System



Item	Description	Item	Description
A	Cuspidor Drain Tubing (5/8")	J	Air Exhaust Outlet
B	Saliva Ejector Tubing (3/8")	K	Drain Outlet
C	Connector Clip (four)	L	HVE/AVS Inlet
D	20 mm Adapter (four)	M	Clamp
E	Y Connector	N	20 mm Tubing Drain to Liquid Separator
F	Saliva Ejector Inlet	O	HVE/AVS Exhaust (5/8")
G	20 mm Tubing to Drain Outlet	P	Liquid Separator Drain Outlet
H	Exhaust Hole Cover		

Figure 163. Replace Air/Filter Regulator Plug with a Barb

8. Use a 1/4" combination wrench to replace the plug on the air filter/regulator with a 5/16" barb; then connect the 5/16" yellow tubing that leads to the air vacuum generator.
9. Replace the plug in the front of the integrated floor box cover with the exhaust hole cover; then install the cover (for instructions, see "Install the Integrated Floor Box Cover" on page 103).



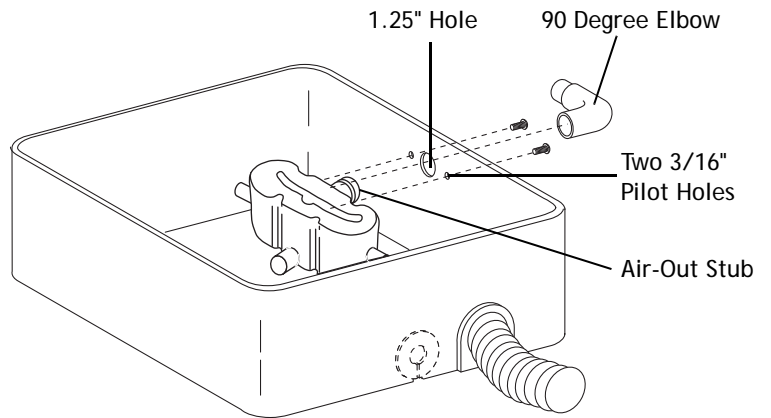
Install the AVS in a Remote Floor Box

1. Insert the air-out stub through the 1.25" hole and use a 5/64" hex key and two 3/8" socket head screws to attach the tank to the floor box.
2. Attach the 90 degree elbow to the end of the air-out valve.
3. Complete the HVE, saliva ejector, and drain connections (see "Connect the Corresponding Tubing" on page 108).



NOTE Connect the drain according to local plumbing codes.

Figure 164. Install the AVS in a Remote Floor Box



REGULATORY INFORMATION

Regulatory information is provided with A-dec equipment as mandated by agency requirements. This information is delivered in the equipment's *Instructions for Use* or the separate *Regulatory Information and Specifications* document. If you need this information, please go to the Document Library at www.a-dec.com.

A-dec® Headquarters

2601 Crestview Drive
Newberg, OR 97132 USA
Tel: 1.800.547.1883 Within USA/Canada
Tel: 1.503.538.7478 Outside USA/Canada
Fax: 1.503.538.0276
www.a-dec.com / www.a-dec.biz

A-dec Inc. makes no warranty of any kind with regard to the content in this document including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

