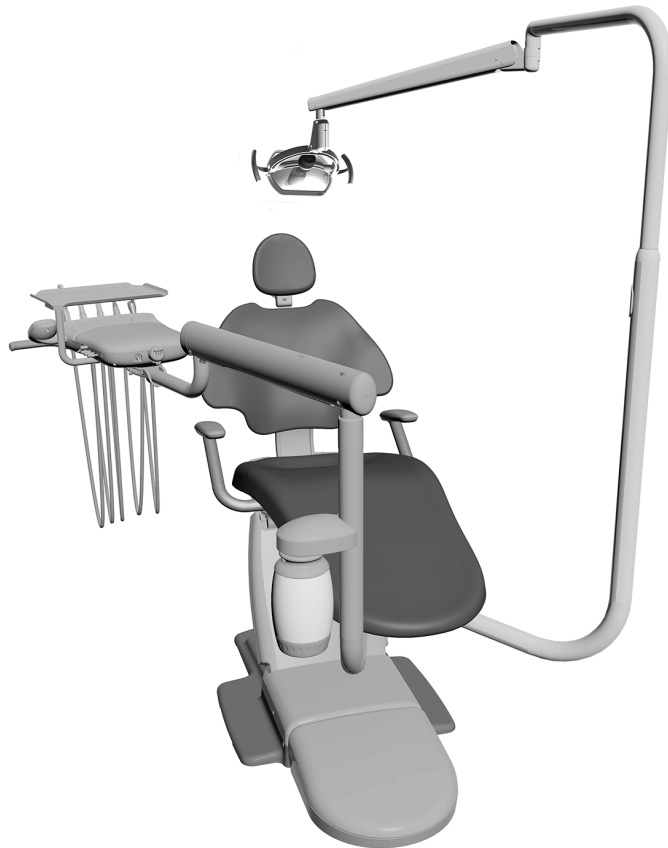




A-dec 411 Dental Chair with A-dec 332/333/336 Delivery System and A-dec 572 Dental Light


INSTALLATION GUIDE

- Install the Chair 3
- Install the Assistant's
Instrumentation 9
- Install the Support Center ... 9
- Install the Rigid Arms 10
- Install the Delivery System . 18
- Install the Monitor Mount .. 31
- Install the A-dec 572 Dental
Light 32
- Install the Floor Box 35
- Connect the Wires and
Data Line37
- Connect the Tubing 40
- Connect the Floor Box
Utilities.....46
- Install the Upholstery 48
- Prepare and Adjust
the System.....51
- Adjust the Chair Base Down
Speed 68
- Touchpad Settings 69
- Test the System 78
- Install the Covers 79



Product Models and Versions Covered in this Document

Models	Versions	Description
332/333/336	A	Delivery System
411	A	Dental Chair
572	A	Dental Light

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

Introduction

Use this document to install an A-dec 411 dental chair and its associated modules. Your installation may not require all of the modules described in this document. Install the chair then see the sections for the modules included in the system.



NOTE The box for each module contains all of the parts needed to install that module.

Before You Begin



ATTENTION Circuit boards are sensitive to static electricity. Electrostatic Discharge (ESD) precautions are required when touching a circuit board or making connections to or from the circuit board. Circuit boards should be installed only by an electrician or qualified service person.



NOTE If there are any manuals shipped with the equipment to be installed on this system, follow those instructions instead of the instructions in this guide.



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

- Clear the room of all debris and thoroughly clean the floors.
- Verify 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.

Recommended Tools

- | | | |
|---|---|-----------------|
| • Hex key set | • Rotary hammer | • Drill |
| • 5/16", 9/16" and 3/4 " socket and ratchets | • Phillips head and standard screwdrivers | • Wire stripper |
| • 3/8" (9.5 mm) and 1/2" (12.5 mm) drill bits | • Diagonal cutters | • Sleeve pusher |
| • 3/8" and 1/2" combination wrenches | • Tape measure | • Voltmeter |
-

Install the Chair

Position the Chair

Recommended Tools

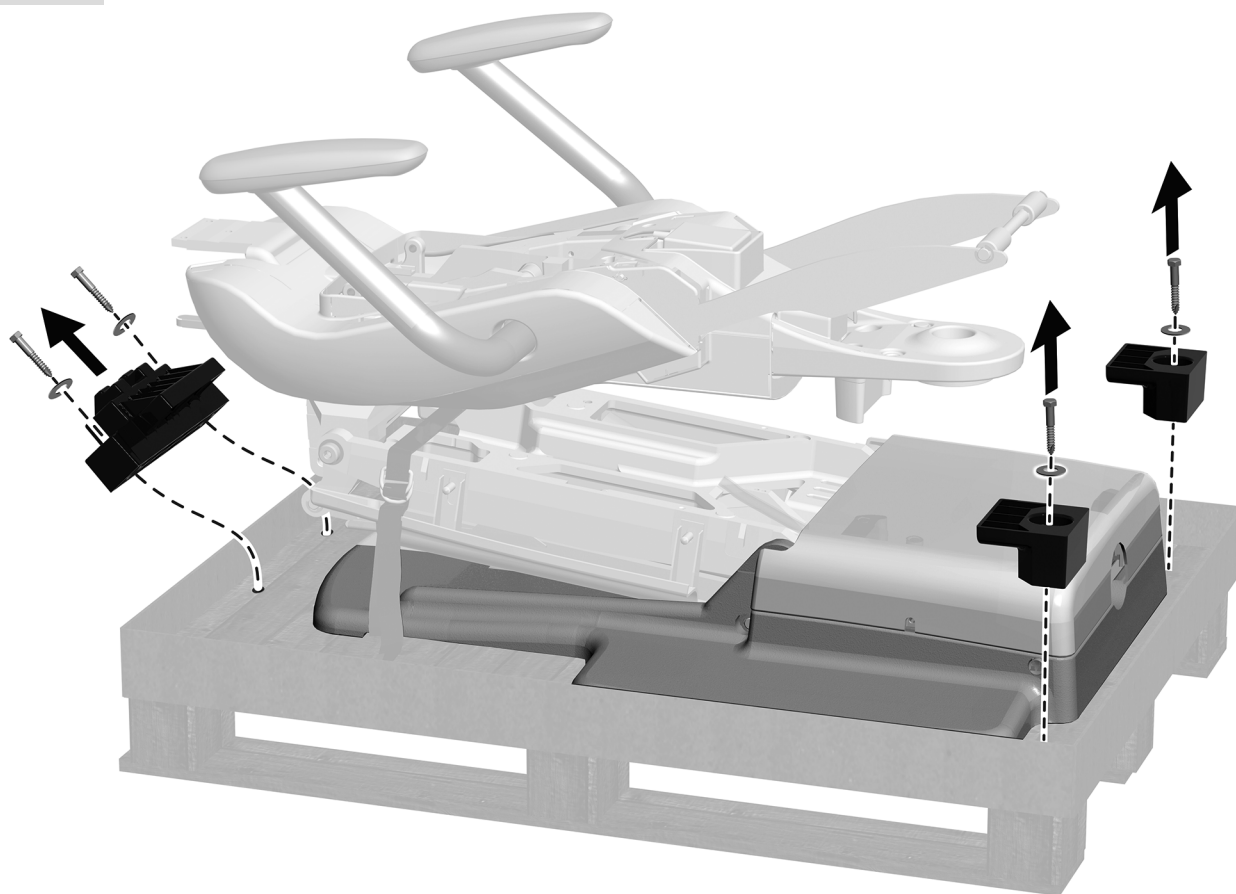
- 3/16" hex key
- 9/16" socket and ratchet

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



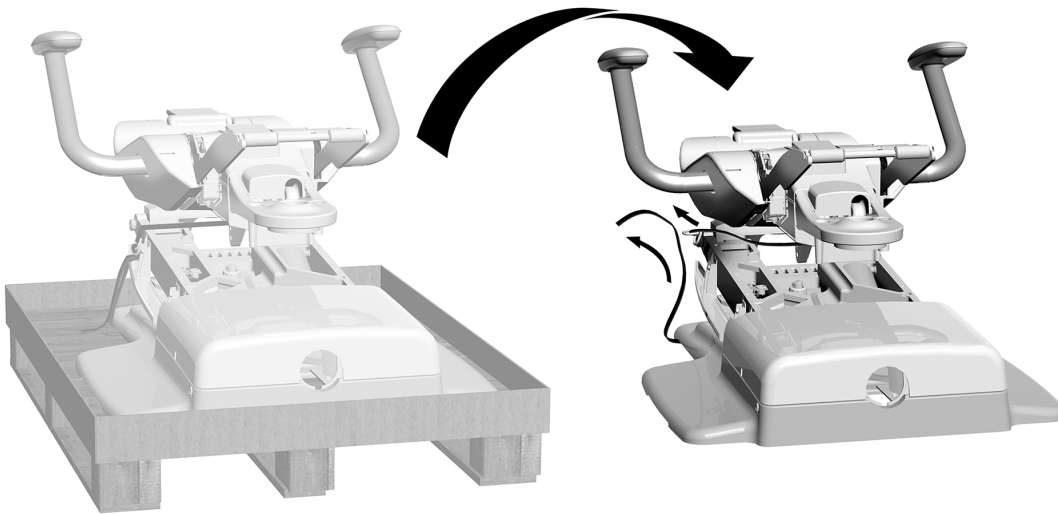
NOTE When removing modules from their packaging, watch for kits and manuals included for the doctor (e.g. *A-dec 311 and 411 Dental Chairs Instructions For Use*). Set these aside during installation.

Task 2.



1 Use a 9/16" socket and ratchet to remove the bolts and brackets securing the chair to the pallet.

Task 3.



- 1** Grasp an armrest and the front mount. Lift and place the chair in position in the treatment room.



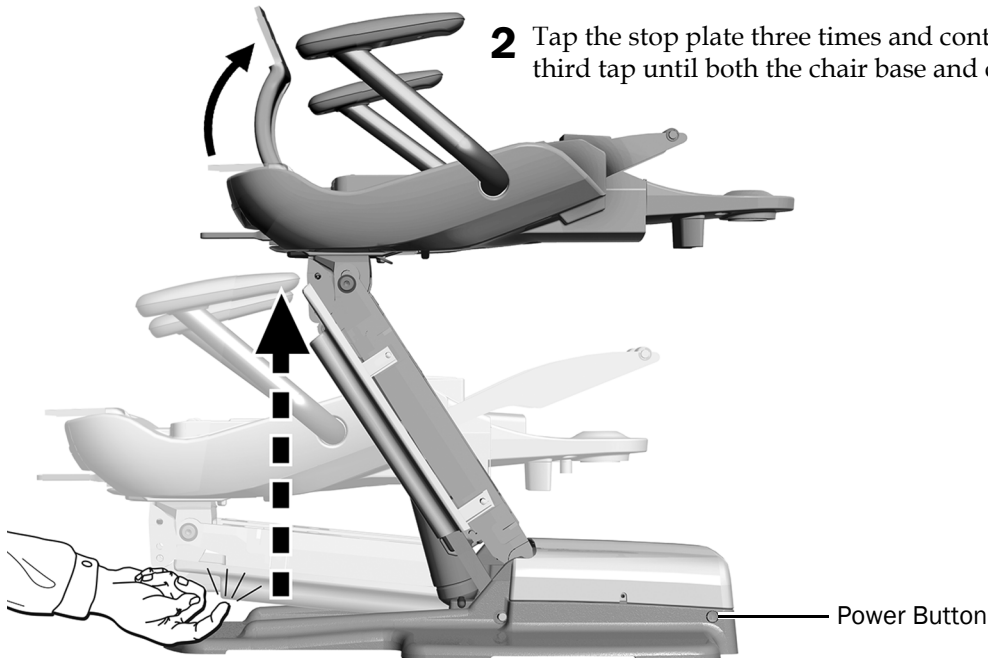
CAUTION To avoid damaging the chair, do not pull on the chair back to remove the chair from the pallet.

- 2** Remove the shipping strap.

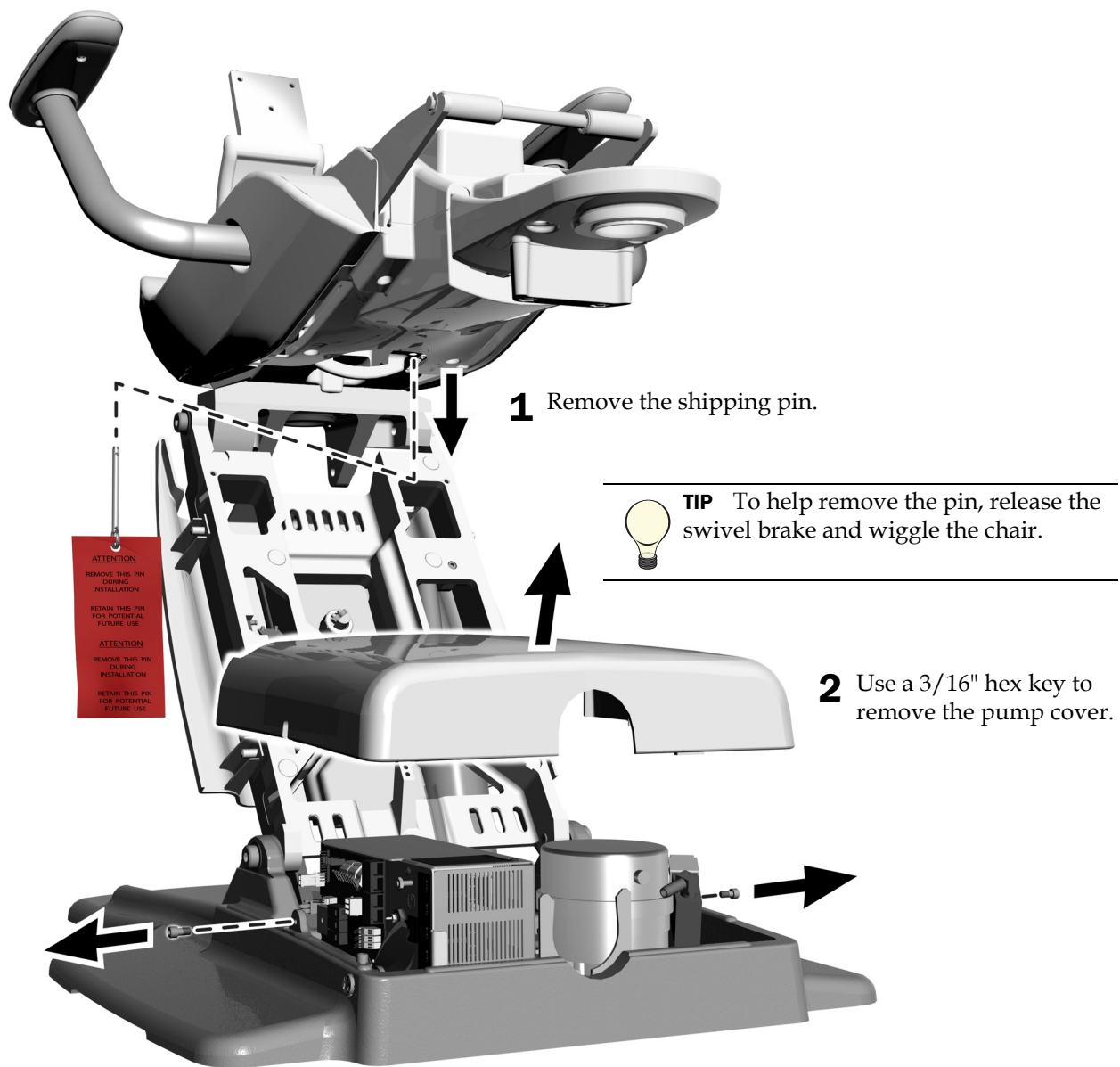
Task 4.

- 1** Plug in the chair and turn on the power.

- 2** Tap the stop plate three times and continue to hold the plate on the third tap until both the chair base and chair back rise.



Task 5.



Anchor the Chair



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.

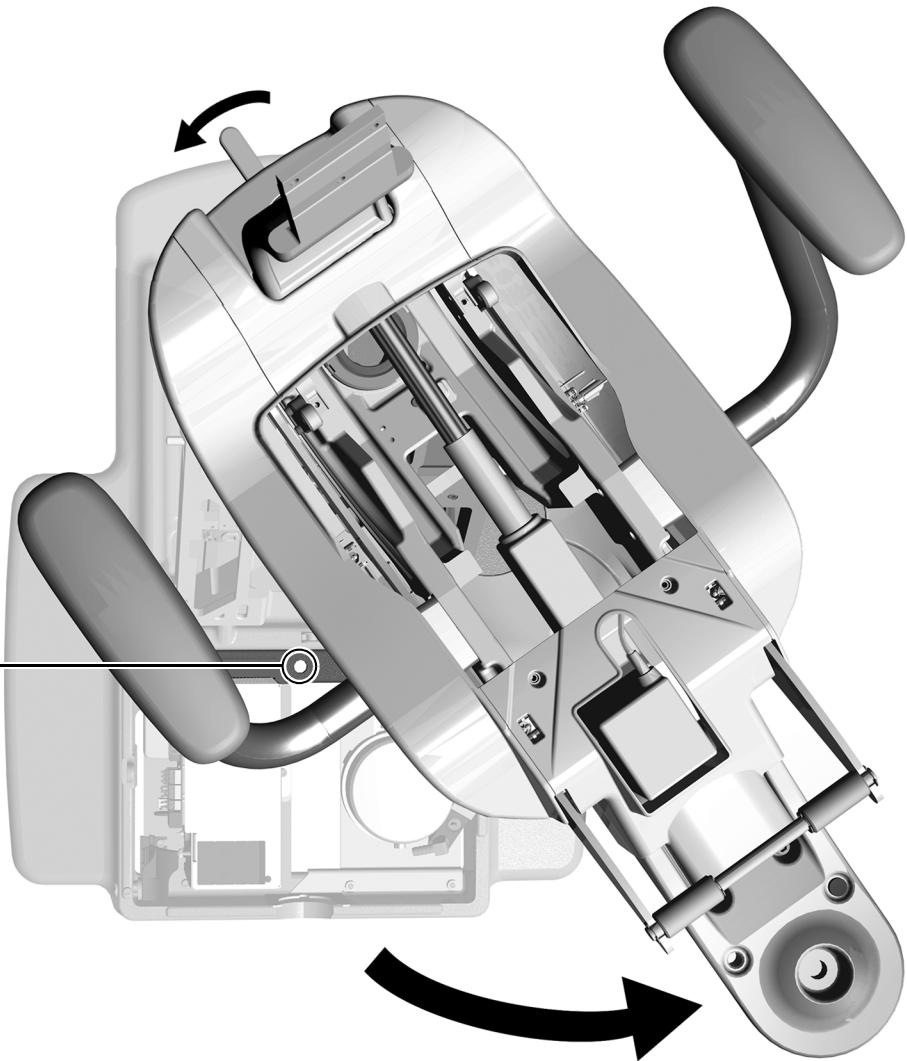
Recommended Tools

- Drill
- **Concrete floor:** 1/2" (12.5 mm) drill bit and 9/16" socket and ratchet
- **Wood floor:** 3/8" (9.5 mm) drill bit and 3/4" socket and ratchet

Task 1.

- 1** Loosen the swivel brake.

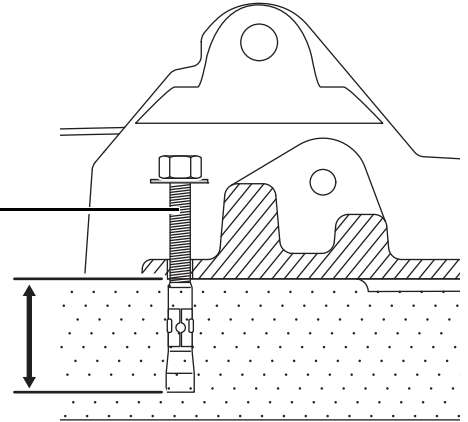
- 2** Rotate the chair to expose the anchoring hole.



Task 2. Complete the procedure for the type of flooring in the treatment room.

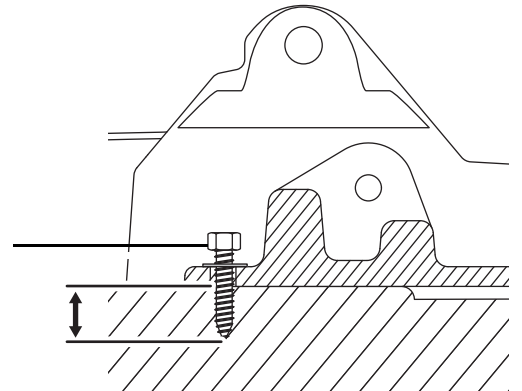
Anchor the Chair to a Concrete Floor

- 1** Use a rotary hammer with a 1/2" (12.5 mm) bit to drill a 4" (101 mm) deep hole through the anchoring hole in the baseplate.
- 2** Remove any debris.
- 3** Drive the anchor bolt into the hole until the bolt head seats against the chair base.
- 4** Use a 9/16" socket and ratchet to tighten the bolt until it is tight against the washer and firmly holds the baseplate to the floor.



Anchor the Chair to a Wood Floor

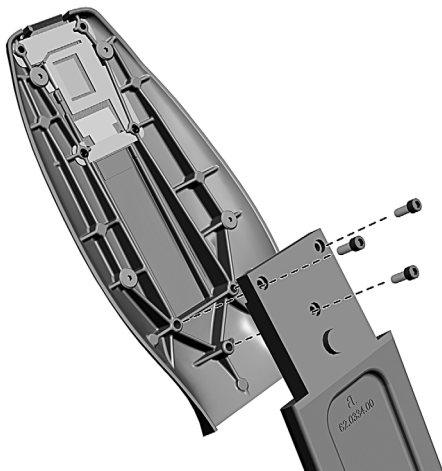
- 1** Use a 3/8" (9.5 mm) bit to drill a 2" (50 mm) deep hole through the anchoring hole in the baseplate.
- 2** Remove any debris.
- 3** Use a 3/4" socket and ratchet tighten the bolt until it is tight against the washer and firmly holds the baseplate to the floor.



Install the Back Support

Recommended Tool

- 3/16" hex key



- 1** Remove the three mounting screws from the back support.



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

- 2** Attach the back support to the chair back with the mounting screws.



TIP Start all three screws before tightening them.

Install the Footswitch (optional)

Recommended Tool

- 3/16" hex key



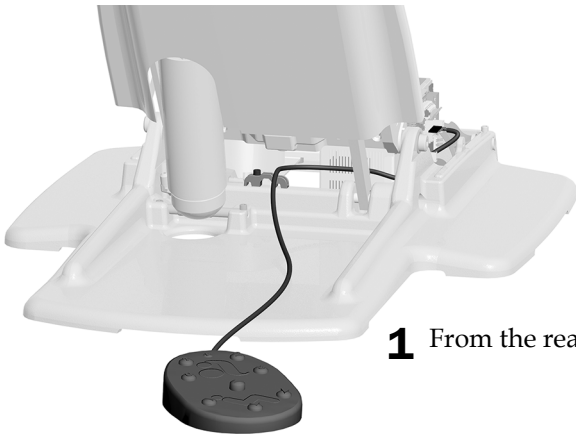
WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.



ATTENTION Circuit boards are sensitive to static electricity. Electrostatic Discharge (ESD) precautions are required when touching a circuit board or making connections to or from the circuit board. Circuit boards should be installed only by an electrician or qualified service person.

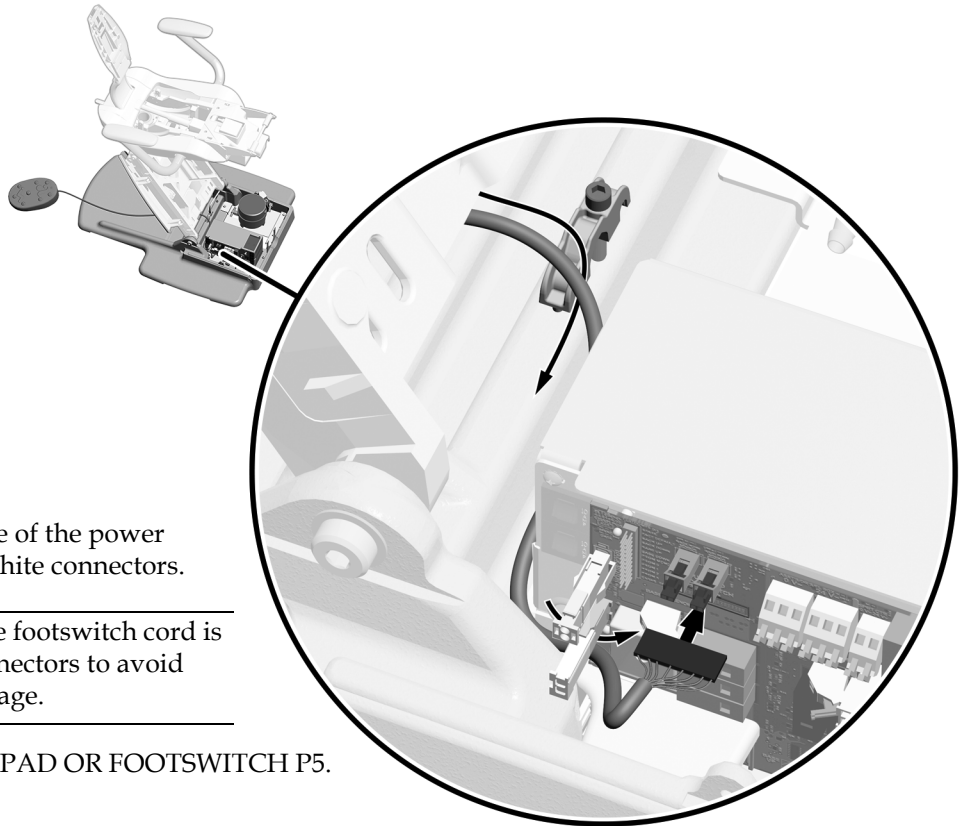
Task 1. Turn off the power to the system.

Task 2.



1 From the rear of the chair, route the cord over the strain relief.

Task 3.



- 1 Route the cord along the side of the power supply and under the two white connectors.



CAUTION Be sure the footswitch cord is under the white connectors to avoid potential water damage.

- 2 Connect the cord to TOUCHPAD OR FOOTSWITCH P5.
- 3 Use a 3/16" hex key to secure the cord in the strain relief.

Install the Assistant's Instrumentation

If the chair includes an A-dec 351 or A-dec 551 Assistant's Instrumentation, follow the instructions that ship with the assistant's instrumentation to install it. When you complete the installation of the assistant's instrumentation, return to this installation guide and continue the installation with "Install the Rigid Arms" on page 10.

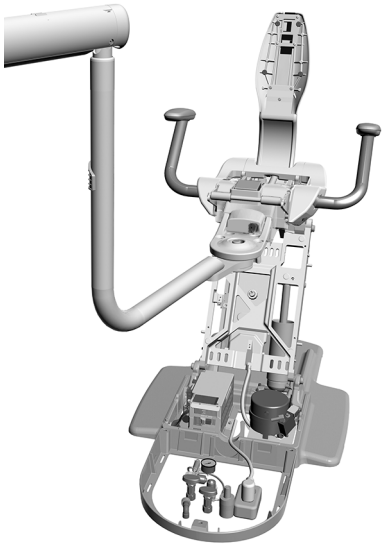
Install the Support Center

If the chair includes an A-dec 362 or A-dec 461 support center, follow the instructions that ship with the support center to install it. If you install an A-dec 362 support center, return to this installation guide and continue the installation with "Install the Floor Box" on page 35. If you install an A-dec 461 support center, return to this installation guide and continue the installation with "Install the Rigid Arms" on page 10.

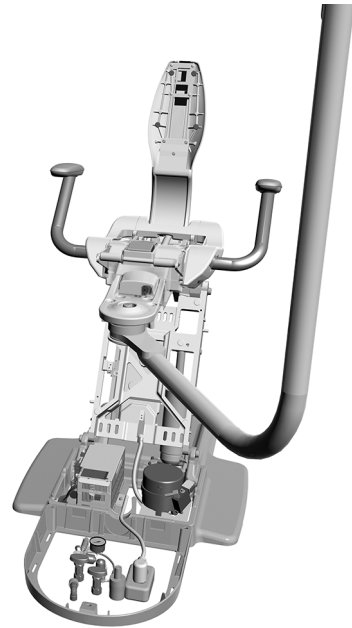
Install the Rigid Arms

There are three types of rigid arm installations.

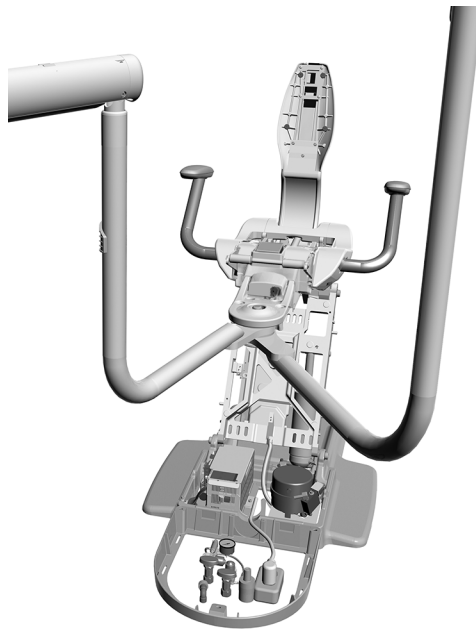
Install the Delivery System Rigid Arm Only	11
Install the Dental Light or Monitor Mount Rigid Arm Only	13
Install Dual Rigid Arms	15



Delivery System Rigid Arm Only
(page 11)



Dental Light or Monitor Mount Rigid Arm Only
(page 13)



Dual Rigid Arms
(page 15)

Install the Delivery System Rigid Arm Only

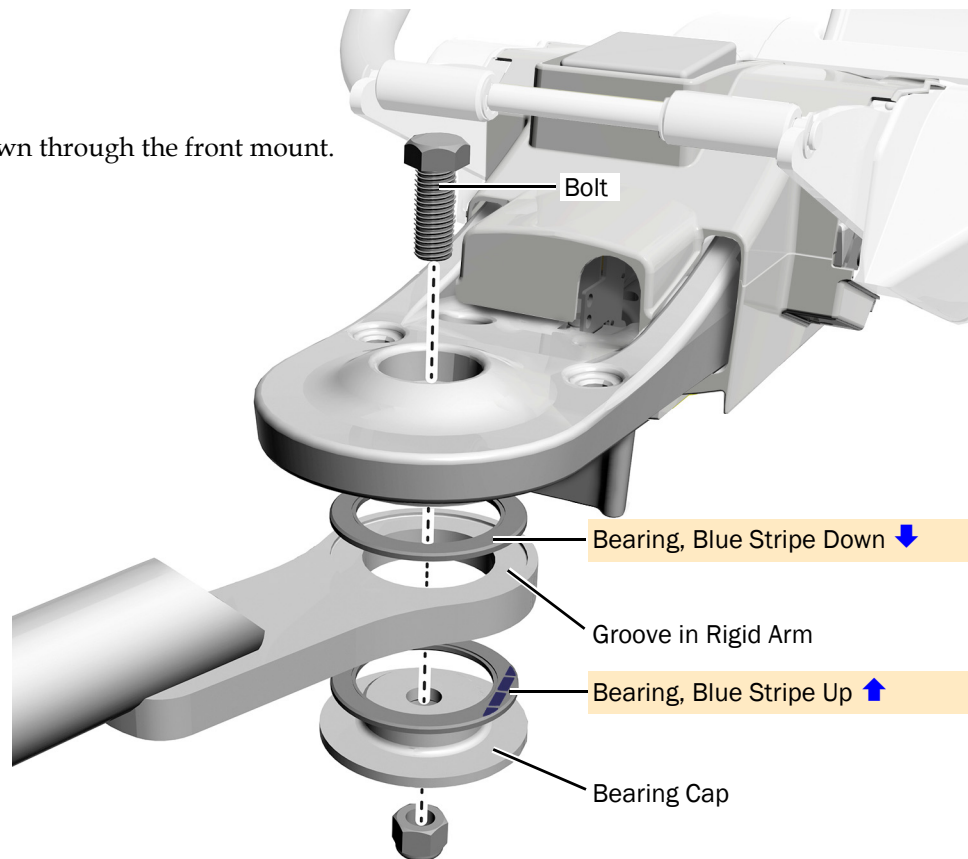
Use these instructions if the system includes only a delivery system attached to the front mount.

Recommended Tools

- 15/16" socket and ratchet (2)

Task 1.

- 1 Insert the bolt down through the front mount.

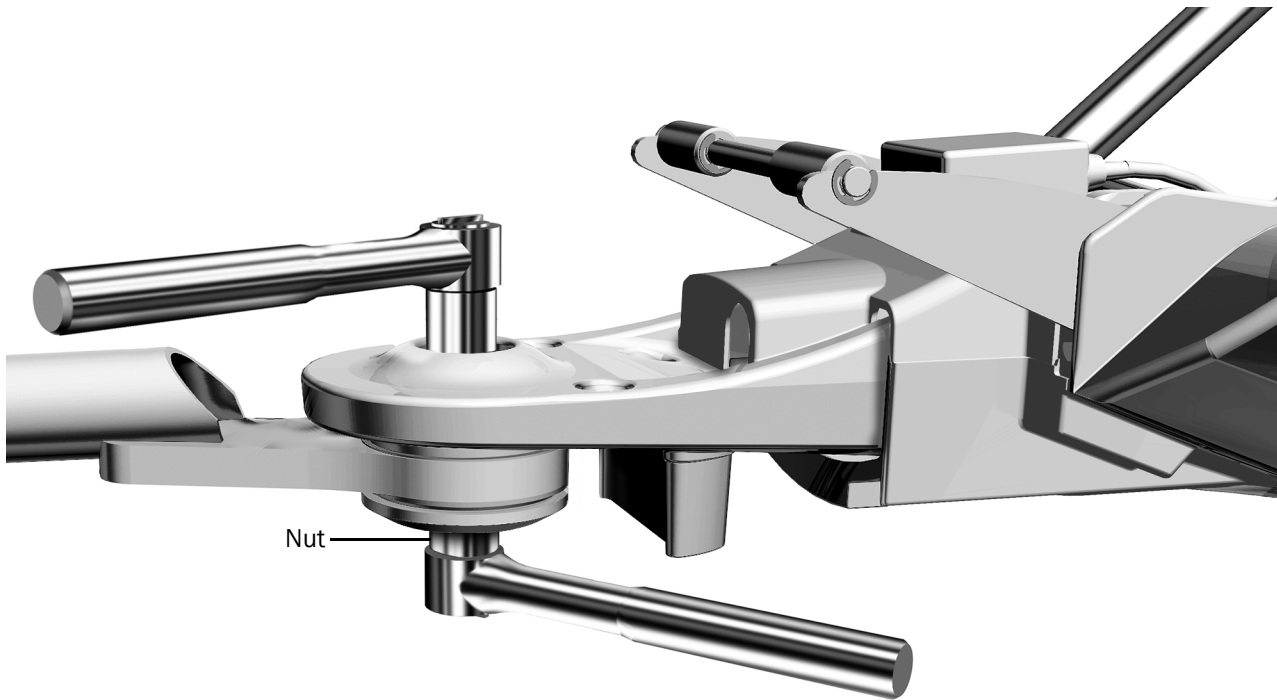


CAUTION For the arm to rotate properly the bearings must be fully seated in the grooves in the arm, with the blue stripe in the correct position. Proceed with care to ensure that the bearings do not shift out of position during tightening.

- 2 Install the bearings, rigid arm, and bearing cap onto the bolt.



Task 2.



- 1** Tighten the nut until the arm can move smoothly but is not loose and does not drift.

Next Step Continue with “Install the Delivery System” on page 18.

Install the Dental Light or Monitor Mount Rigid Arm Only

Use these instructions if the system includes only a dental light or monitor mount attached to the front mount. The procedure is the same for mounting both the dental light rigid arm and the monitor mount rigid arm.



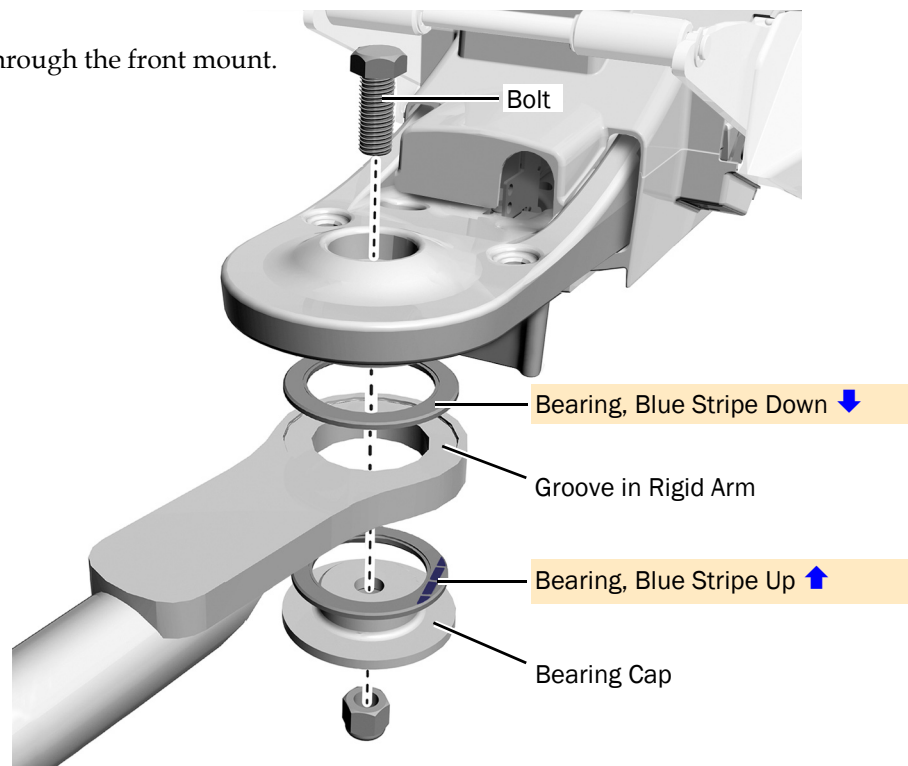
READ THIS! If the system includes a support center, do not use the instructions in this section for installing the rigid arm. You will need a special kit, p/n 90.1422.00, which includes the correct instructions for that configuration.

Recommended Tools

- 15/16" socket and ratchet (2)

Task 1.

- 1 Insert the bolt down through the front mount.

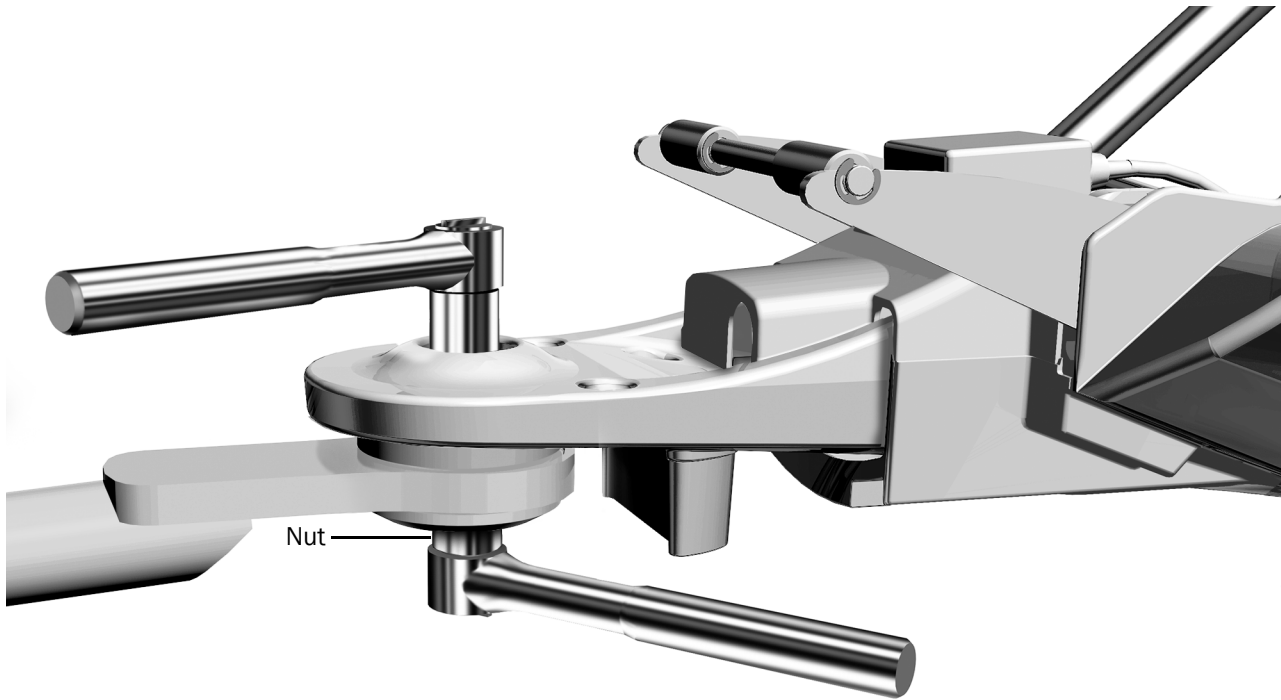


CAUTION For the arm to rotate properly the bearings must be fully seated in the grooves in the arm, with the blue stripe in the correct position. Proceed with care to ensure that the bearings do not shift out of position during tightening.

- 2 Install the bearings, rigid arm, and bearing cap onto the bolt.



Task 2.



- 1 Tighten the nut until the arm can move smoothly but is not loose and does not drift.

Next Step If you are installing a dental light, continue with “Install the A-dec 572 Dental Light” on page 32.
If you are installing a monitor mount, continue with “Install the Monitor Mount” on page 31.

Install Dual Rigid Arms

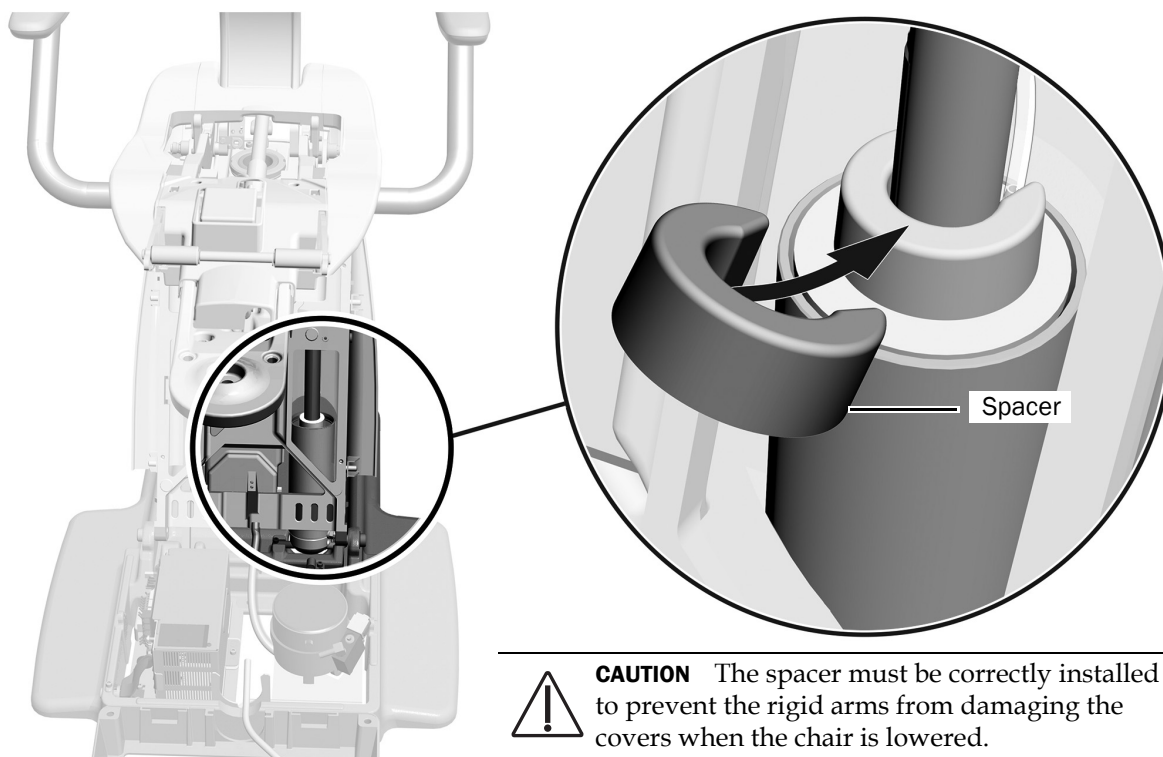
Use these instructions if the system includes a delivery system and a dental light or monitor mount attached to the front mount. The instructions are the same for both configurations.

Recommended Tool

- 15/16" socket and ratchet

Task 1.

- 1 Fully raise the chair base.



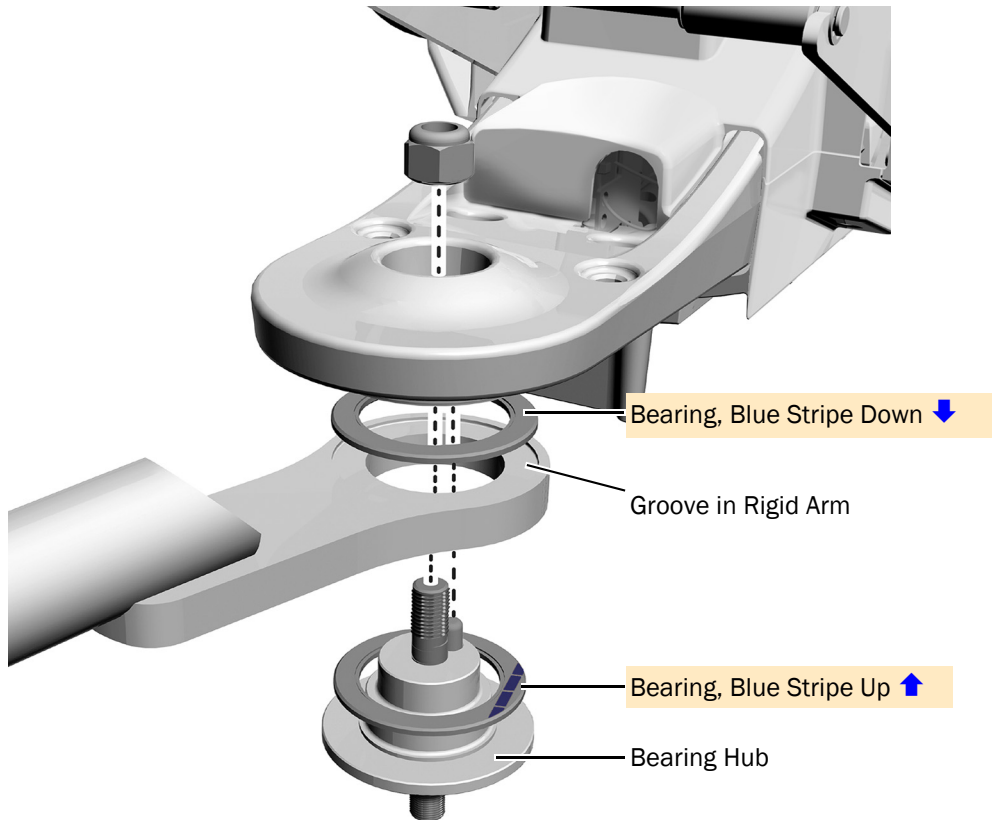
- 2 Place the spacer (which ships with the light and the monitor mount) with its solid side up and its opening toward the low-pressure tubing.

Task 2.

- 1 Securely install the delivery system rigid arm, bearings, and bearing hub onto the front mount.



NOTE The bearing hub ships in its own box with the delivery system.



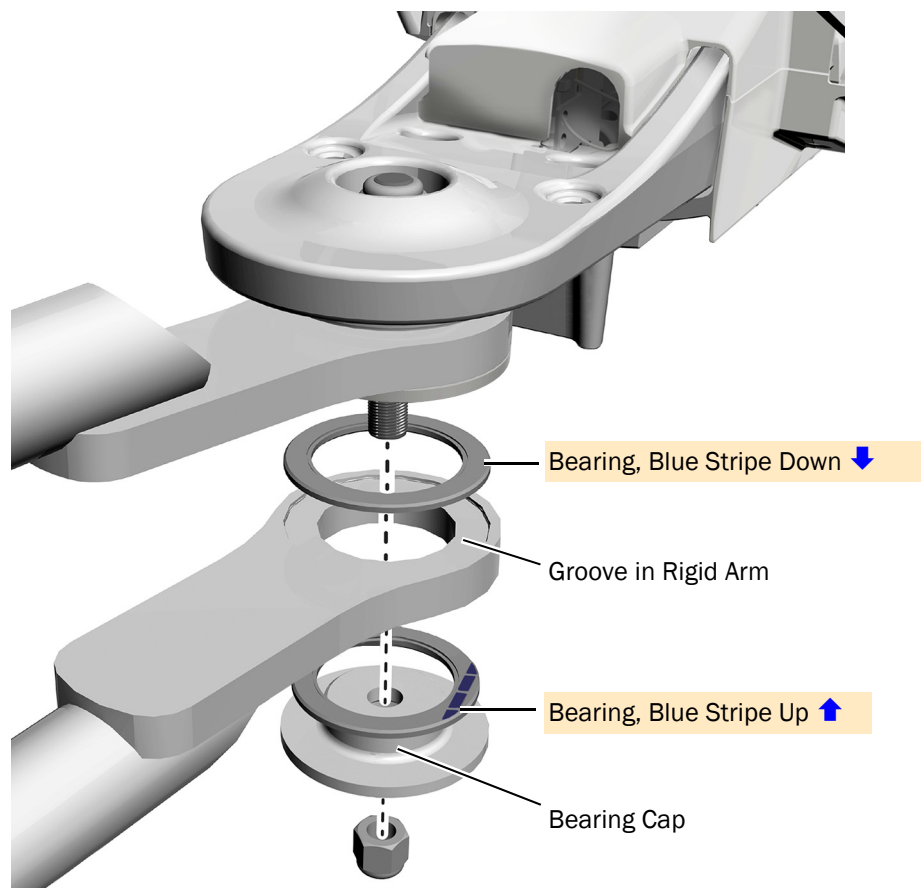
CAUTION For the arm to rotate properly the bearings must be fully seated in the grooves in the arm, with the blue stripe in the correct position. Proceed with care to ensure that the bearings do not shift out of position during tightening.

- 2 Tighten the nut until the arm can move smoothly but is not loose and does not drift.



Task 3.

- 1** Install the dental light/monitor mount rigid arm, bearings, and bearing cap onto the bearing hub.

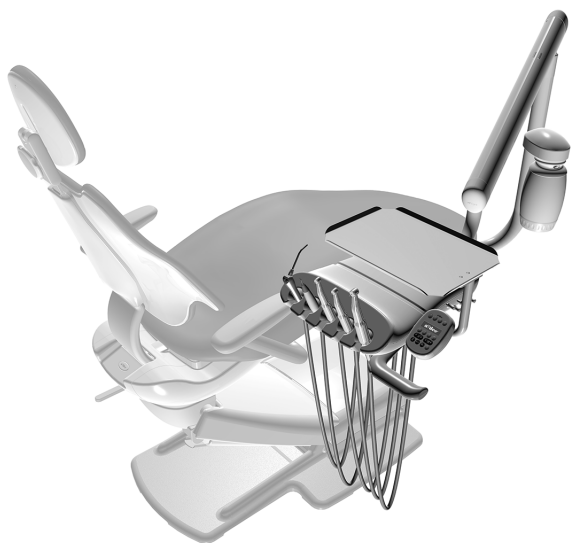


- 2** Tighten the nut until the arm can move smoothly but is not loose and does not drift.

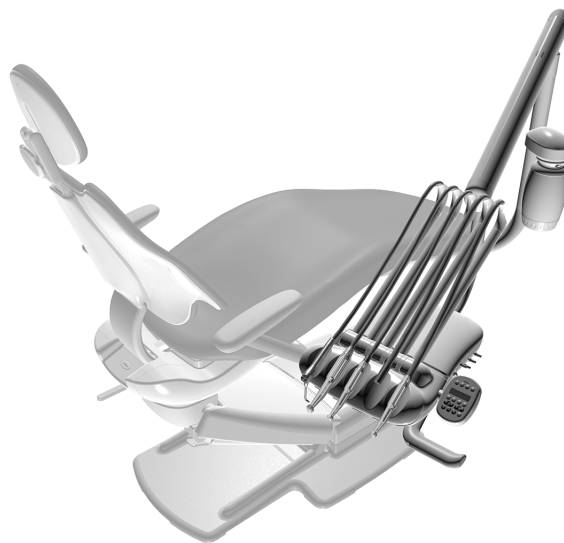
Install the Delivery System

The delivery system rigid arm must be installed before completing these procedures. If the rigid arm is not installed, see one of the following:

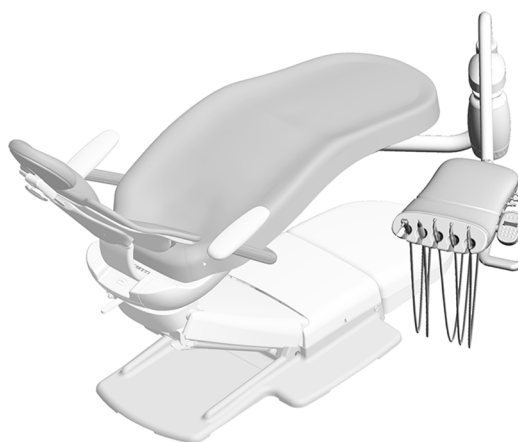
- “Install the Delivery System Rigid Arm Only” on page 11
- “Install Dual Rigid Arms” on page 15



**A-dec 332 Traditional Delivery System
on an A-dec 411 Dental Chair**



**A-dec 333 Continental Delivery System
on an A-dec 411 Dental Chair**



**A-dec 336 Traditional Delivery System
on an A-dec 411 Dental Chair**

Install the Water Bottle on the A-dec 332 or 333 Rigid Arm



READ THIS! If you are installing an A-dec 336 delivery system with manual height adjustment, the water bottle is installed at the factory. Continue with “Install the A-dec 336 Delivery System” on page 23.

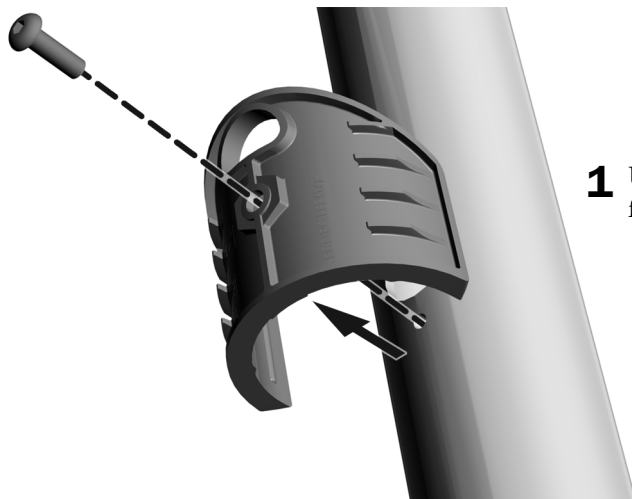


READ THIS! If you are installing a remote water bottle or a support center with a water bottle, do not complete this procedure. Perform Task 1 and then use the included plug to cover the hole in the rigid arm.

Recommended Tool

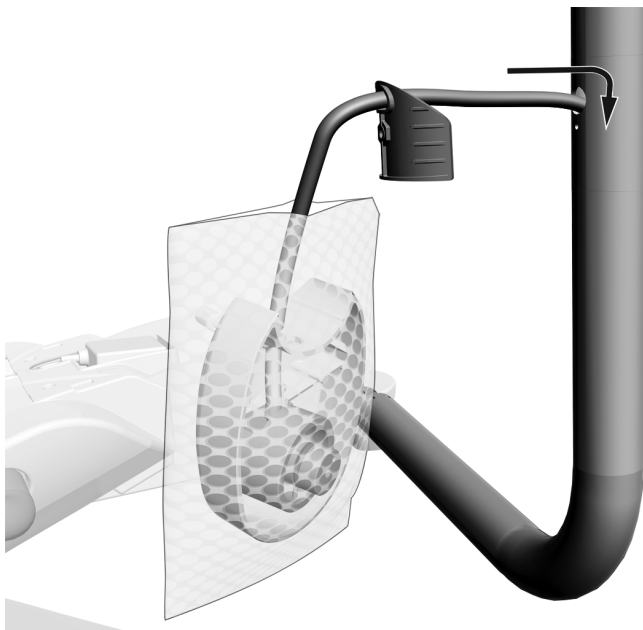
- 1/8" hex key

Task 1.



- 1** Use a 1/8" hex key to remove the mount screw and plate from the rigid arm.

Task 2.

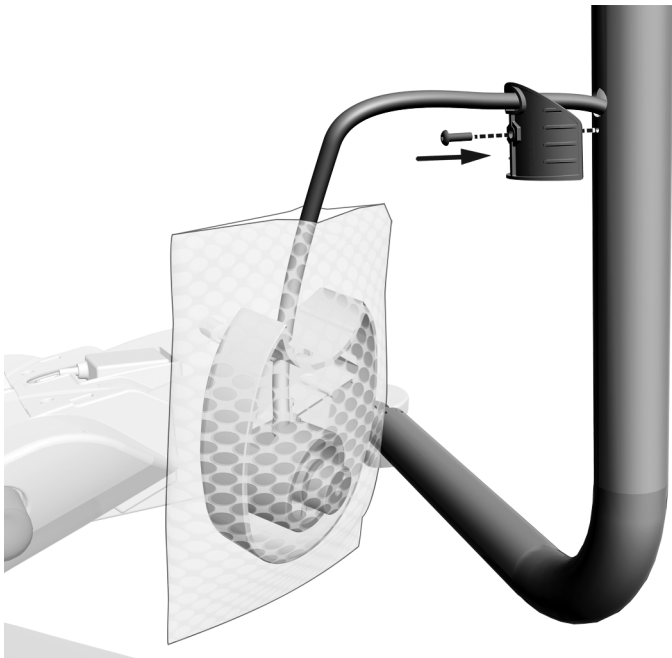


- 1** Route the water bottle tubing through the plate, into the hole in the rigid arm, and out the bottom of the arm.



TIP Leave the water bottle housing in the bubble wrap to protect the post.

Task 3.



- 1** Reinstall the plate. Leave the screw protruding enough for the water bottle housing to slide over it.

Task 4.



- 1** Slide the water bottle housing down over the mount screw and secure it to the arm.

Install the A-dec 332 or 333 Delivery System



READ THIS! If you are installing an A-dec 336 delivery system, do not use this procedure. See "Install the A-dec 336 Delivery System" on page 23.

Recommended Tool

- 5/32" hex key

Task 1.

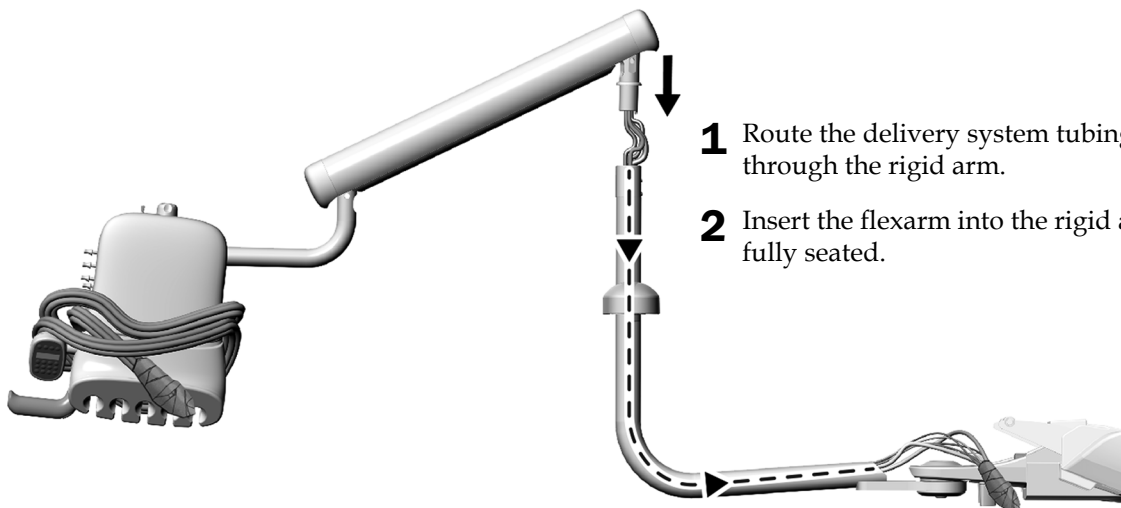


- 1** Pick up the delivery system and put it over your shoulder so one hand is free to route the tubing bundle.



TIP To make it easier to handle, wrap the Traditional delivery system handpiece tubing around the control head before picking up the delivery system.

Task 2.



- 1** Route the delivery system tubing down through the rigid arm.
- 2** Insert the flexarm into the rigid arm until it is fully seated.

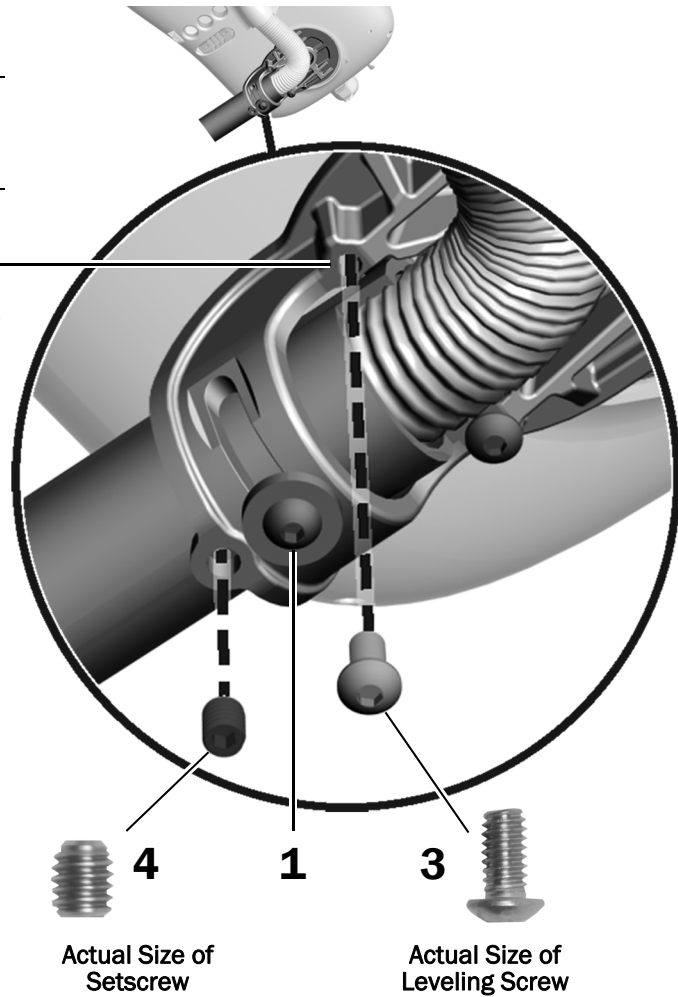
Task 3.

1. Loosen the button head screw.



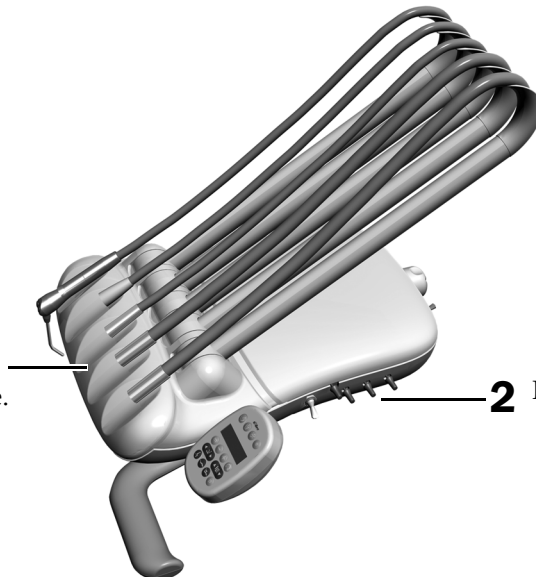
NOTE Do not back out the button head screw all of the way. Only loosen it enough to be able to move the control head.

2. Rotate the control head so it is positioned over the hole for the missing leveling screw.
3. Install and tighten the 1/4-20 x 1/2" leveling screw.
4. Install the 3/8" setscrew.



Task 4.

- 1 Place the handpiece tubing in position for use.
- 2 Insert the adjustment keys.



Install the A-dec 336 Delivery System

Recommended Tool

- 3/32" hex key

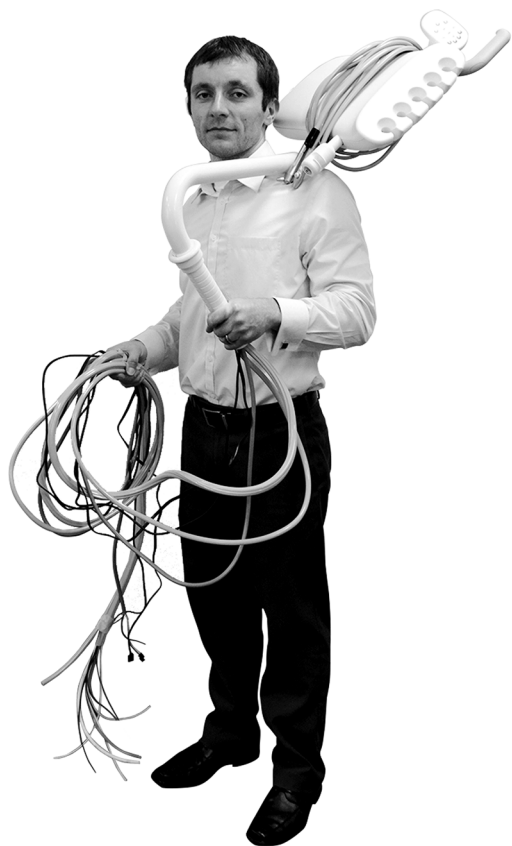


NOTE To avoid problems, read all of this procedure before attempting to install the delivery system.

Task 1.

- 1** If there is room, place the box containing the delivery system next to the chair. If you can't place the box next to the chair, proceed with Task 2.
- 2** Route as much of the tubing into the rigid arm as you can.

Task 2.



- 1** Pick up the delivery system and put it over your shoulder so one hand is free to route the tubing bundle.



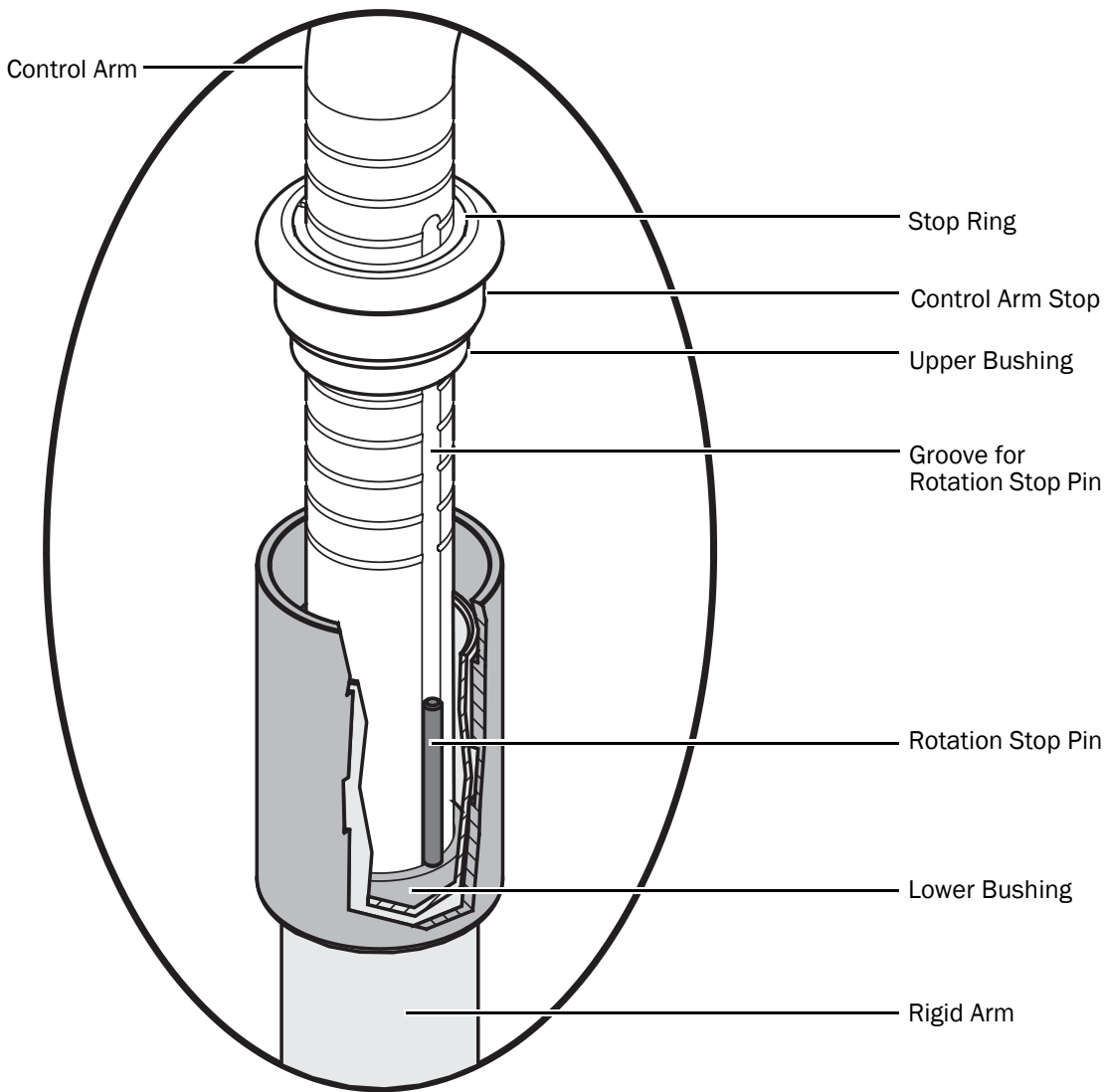
TIP To make it easier to handle, wrap the delivery system handpiece tubing around the control head before picking up the delivery system.

Task 3.

- 1 Remove the rotation stop pin (that is taped to the control arm) from the control arm.
- 2 Route the delivery system tubing through the rigid arm.
- 3 Carefully lower the control arm into the rigid arm until the end of the control arm is past the top of the lower bushing.

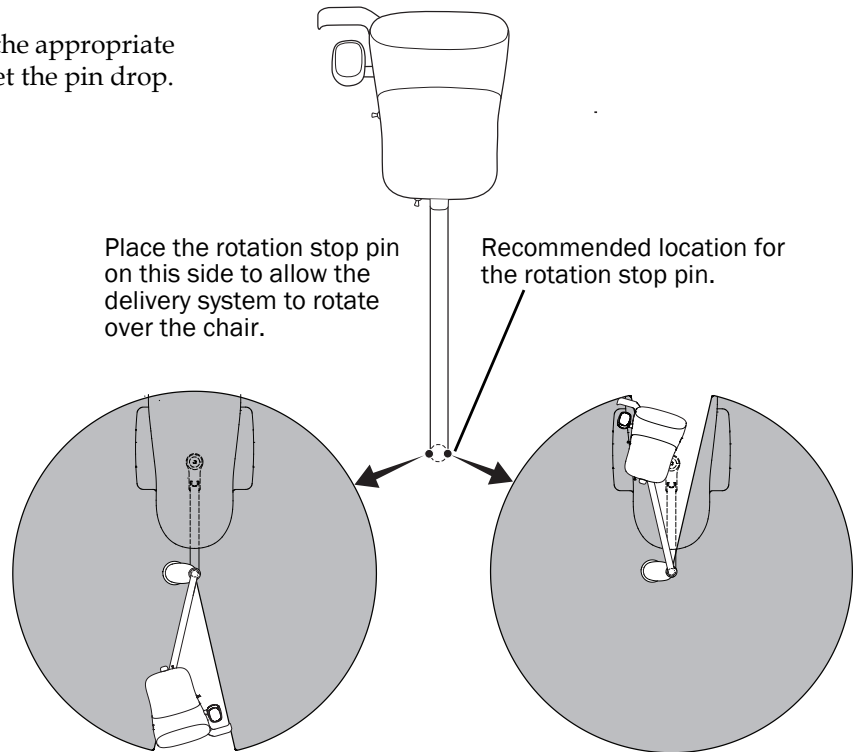


NOTE If the end of the control arm is not inserted past the lower bushing, the rotation stop pin can fall into the rigid arm. The rotation stop pin prevents the delivery system from rotating continuously and twisting the delivery system tubing.



Task 4.

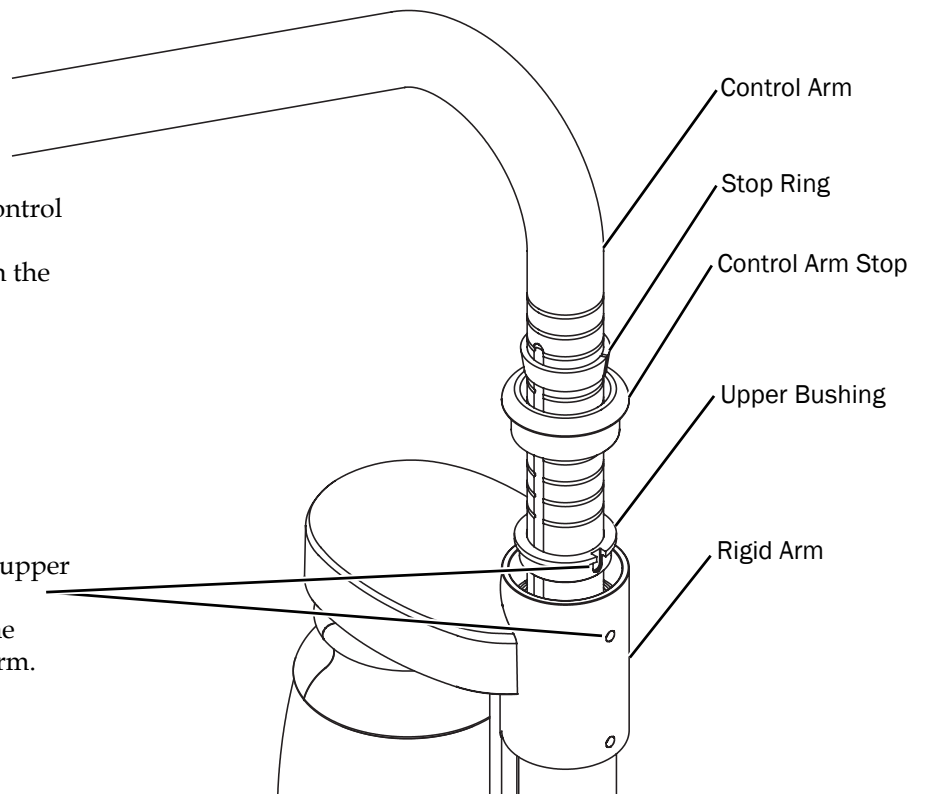
- 1** Place the rotation stop pin into the appropriate groove in the control arm and let the pin drop.



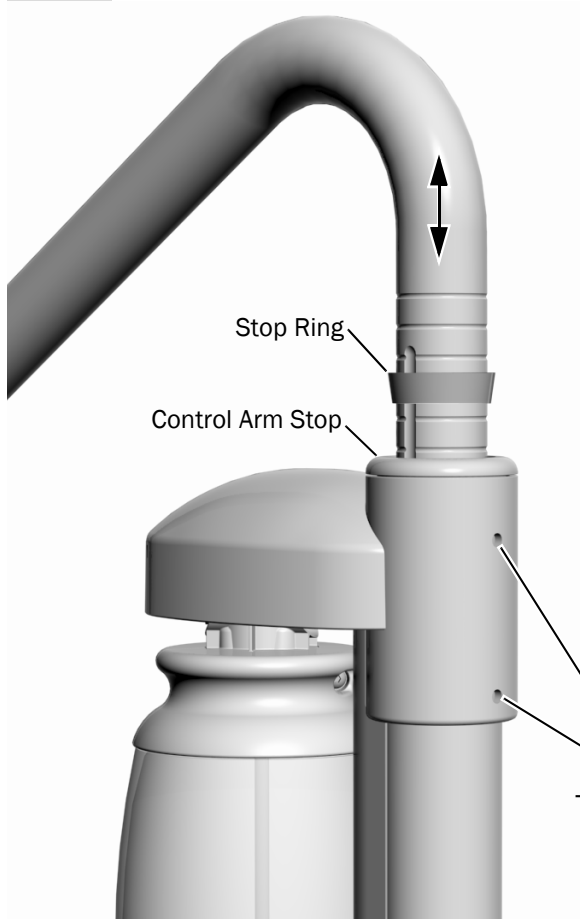
Task 5.

- 1** While holding the stop ring, control arm stop, and upper bushing together, remove the tape from the control arm.

- 2** Carefully align the hole in the upper bushing with the top tension adjustment setscrew. Lower the upper bushing into the rigid arm.



Task 6.

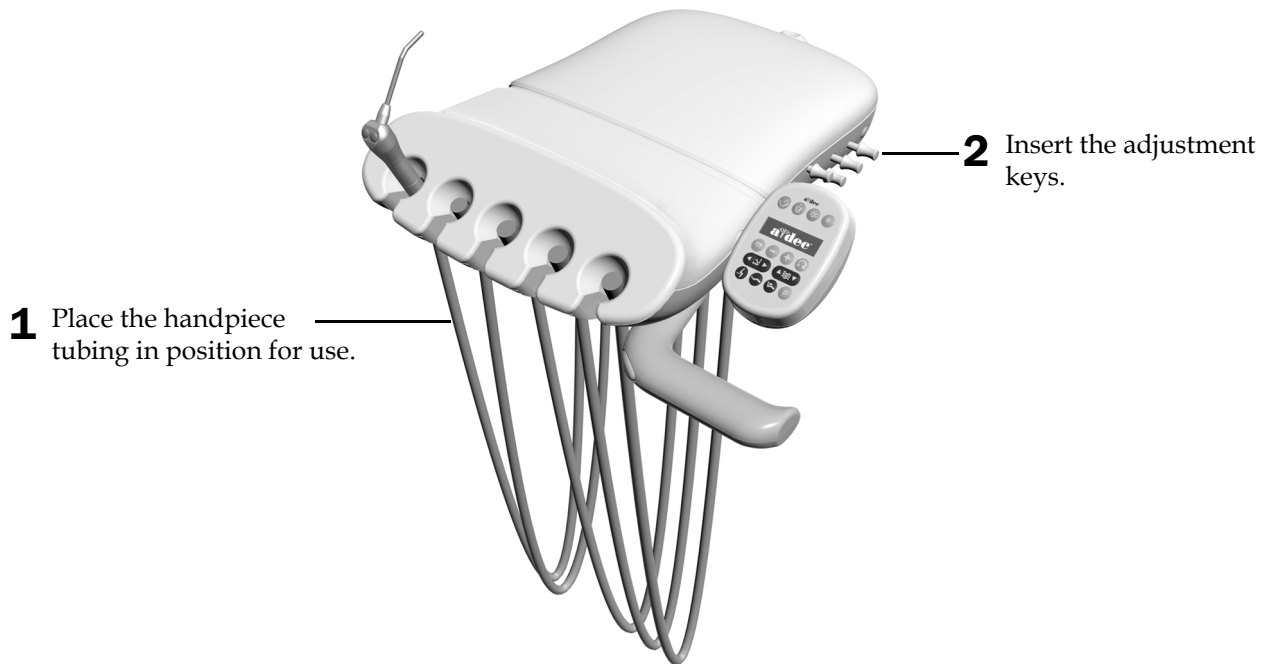


- 1** Tighten the top tension adjustment setscrew.
- 2** Lower the control arm stop into the rigid arm.
- 3** Move the stop ring to the lowest position along the control arm to set the maximum height of the delivery system.

NOTE Position the control arm at its maximum height before trimming the tubing to ensure enough tubing remains for the control head to move through its full range of motion.

- 4** Lower the upper control arm until the stop ring fits into the upper control arm stop.
- 5** Use a 3/32" hex key to tighten the upper and lower tension setscrews.
- 6** Check for drift and tighten the setscrews, if necessary.

Task 7.



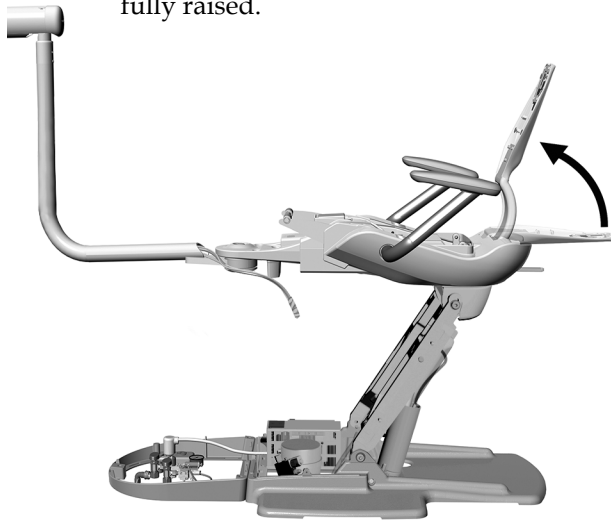
Route the Tubing and Wiring

Recommended Tools

- 3/16" hex key
- Diagonal cutters

Task 1.

- 1** Make sure the chair back and base are fully raised.



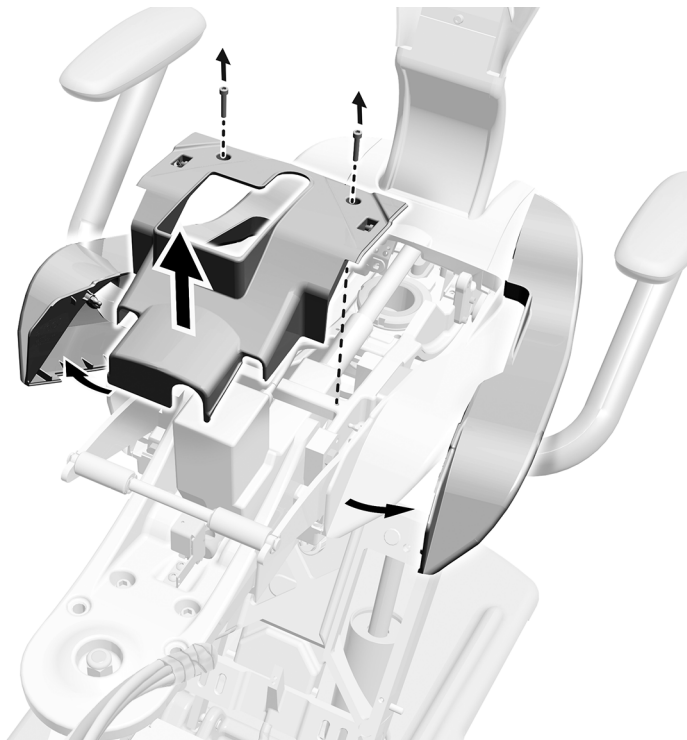
WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.



ATTENTION Circuit boards are sensitive to static electricity. Electrostatic Discharge (ESD) precautions are required when touching a circuit board or making connections to or from the circuit board. Circuit boards should be installed only by an electrician or qualified service person.

- 2** Turn off the power to the chair.

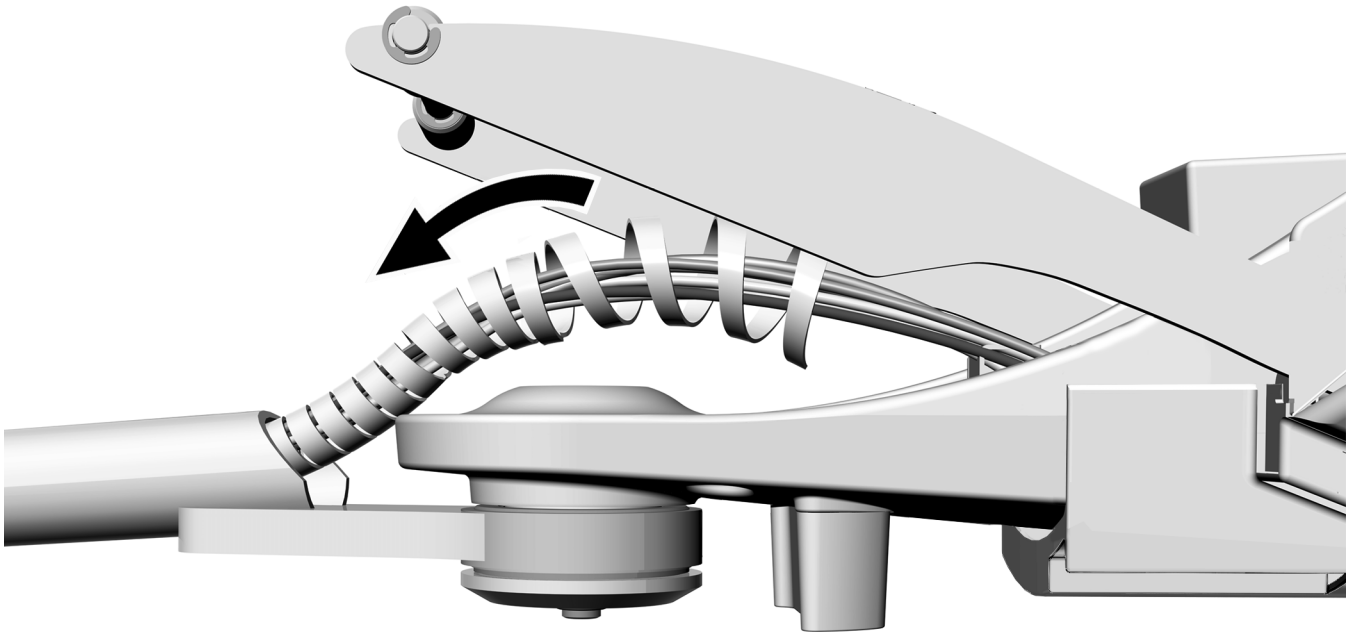
Task 2.



- 1** Remove the two screws securing the guard.
- 2** Pull out the side covers.
- 3** Remove the guard.

Task 3.

- 1** Install the wrap around the tubing for the water bottle and delivery system.
- 2** Slide the wrap slightly into the rigid arm.

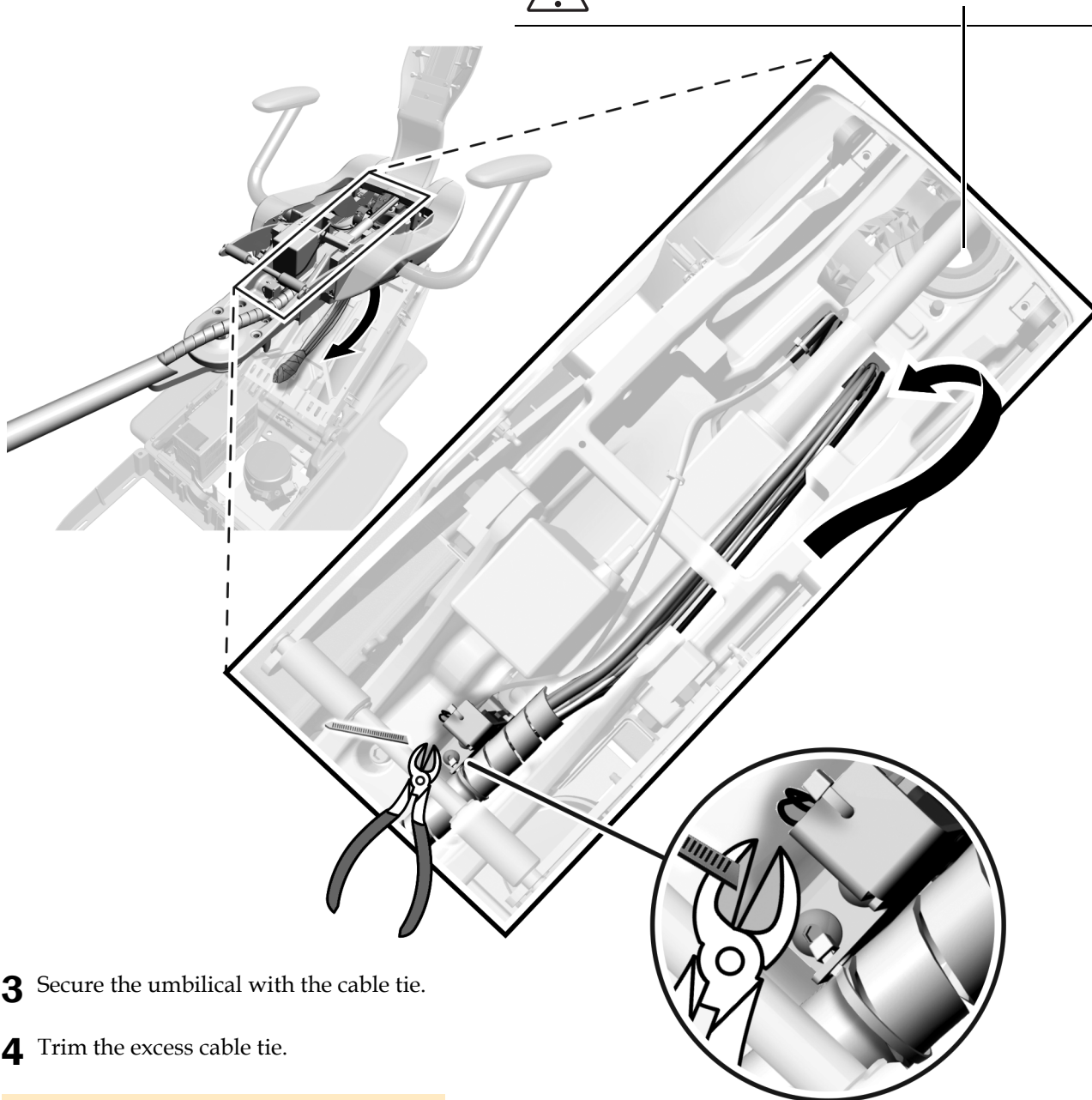


Task 4.

- 1 Route the umbilical, over the mount, through the cable tie, and down the lift arm.
- 2 Remove the tape from the umbilical.



CAUTION Do not route the umbilical down this hole. It will interfere with the chair back movement.



- 3 Secure the umbilical with the cable tie.
- 4 Trim the excess cable tie.
- 5 Reinstall the guard and side covers (they were removed on page 27).



CAUTION Failure to reinstall the side covers could cause damage to the equipment.

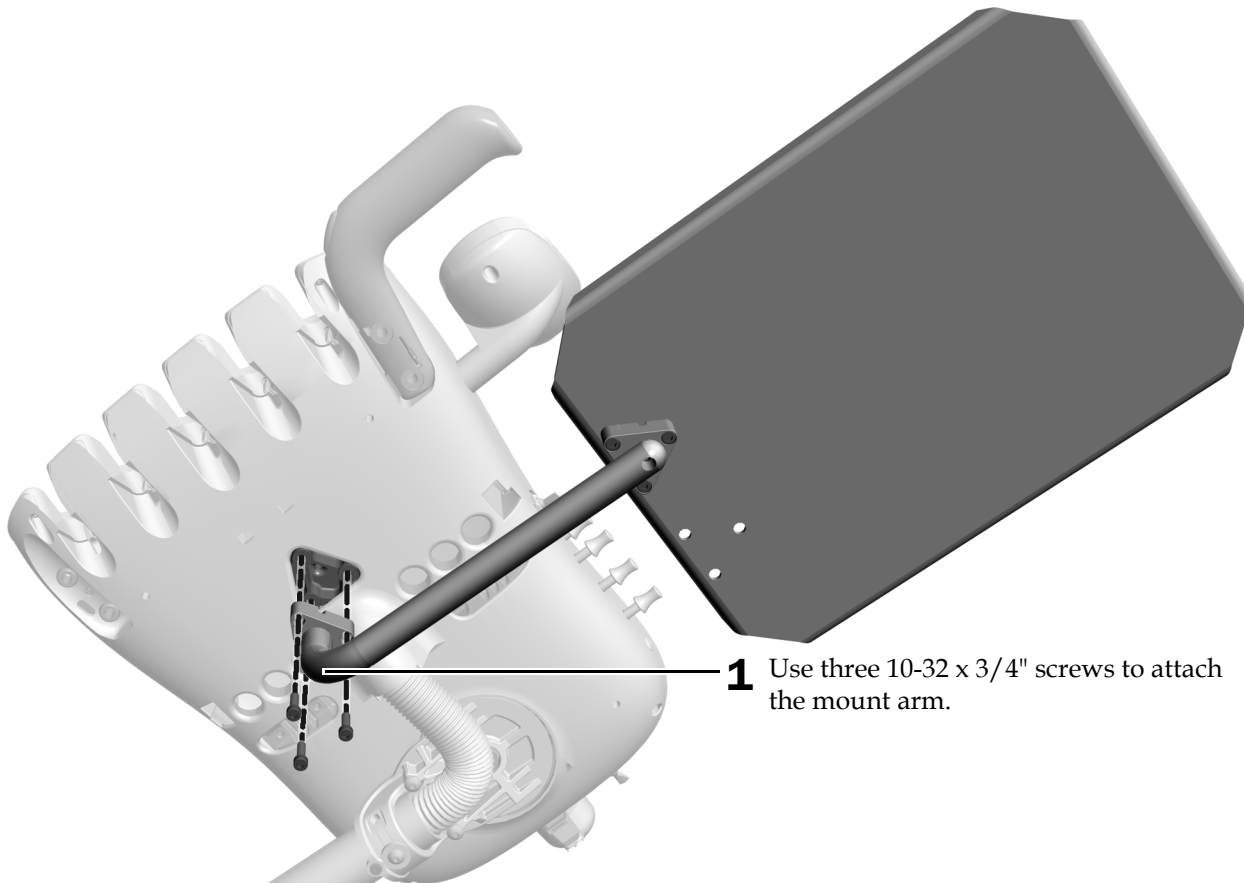
Install the Tray Holder (optional)

Select the procedure for the system's type of control head.

Continental Delivery System

Recommended Tool

- 5/32" hex key



Traditional Delivery System

Recommended Tool

- 1/8" hex key



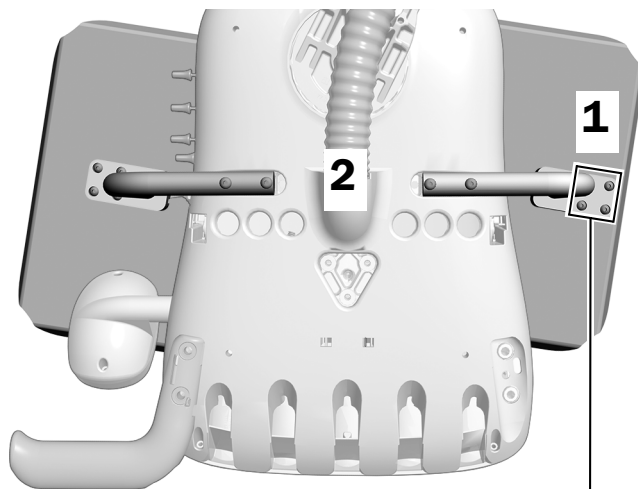
TIP To provide better access to the adjustment keys, mount the tray holder on the side of the control head opposite of the keys.



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

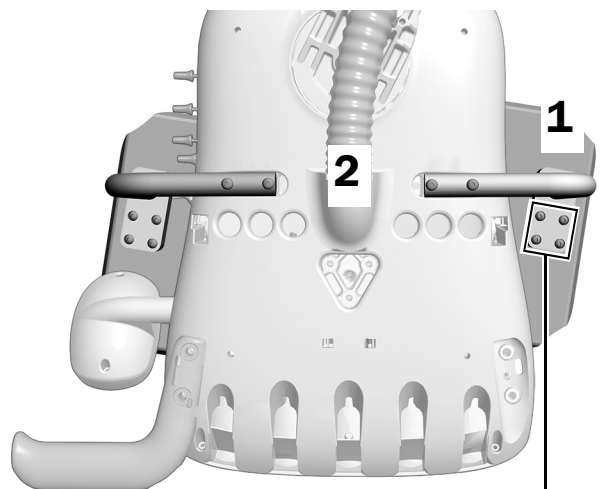
1. Use the 10-32 x 1/2" screws to attach the mount arm to the bottom of the tray holder. For the proper mounting position, see the image below for the size of the tray to be mounted.
2. Use two 10-32 x 1" button head screws to attach the mount arm to either side of the bottom of the control head.

Large Tray Holder



Face the four screw holes on the side opposite the control head.

Small Tray Holder



Face the four screw holes toward the front of the control head.

Install the Monitor Mount

If the chair includes a monitor mount, (A-dec 381, 382, or 482), follow the instructions that ship with the monitor mount to install it.

Install the A-dec 572 Dental Light



READ THIS! If the system includes an LED light, follow the instructions that are shipped with the LED light instead of the following section.

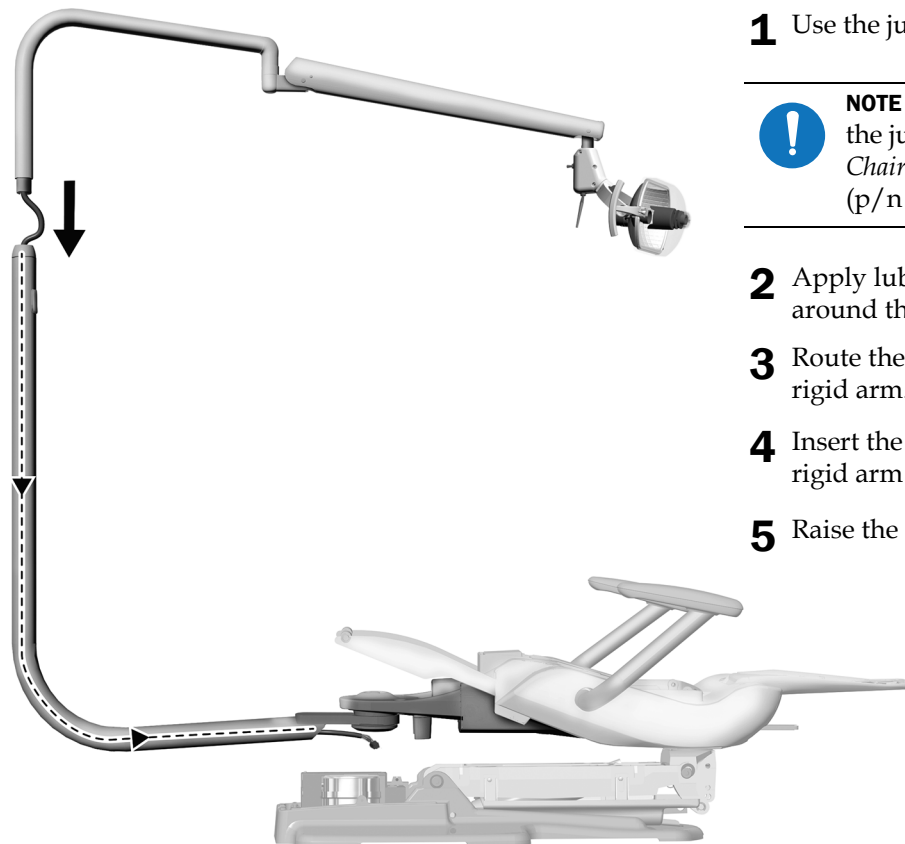
The dental light rigid arm must be installed before completing these procedures. If the rigid arm is not installed, see one of the following:

- “Install the Dental Light or Monitor Mount Rigid Arm Only” on page 13
- “Install Dual Rigid Arms” on page 15

Recommended Tool

- Diagonal cutters

Task 1.



A-dec 572 Dental Light

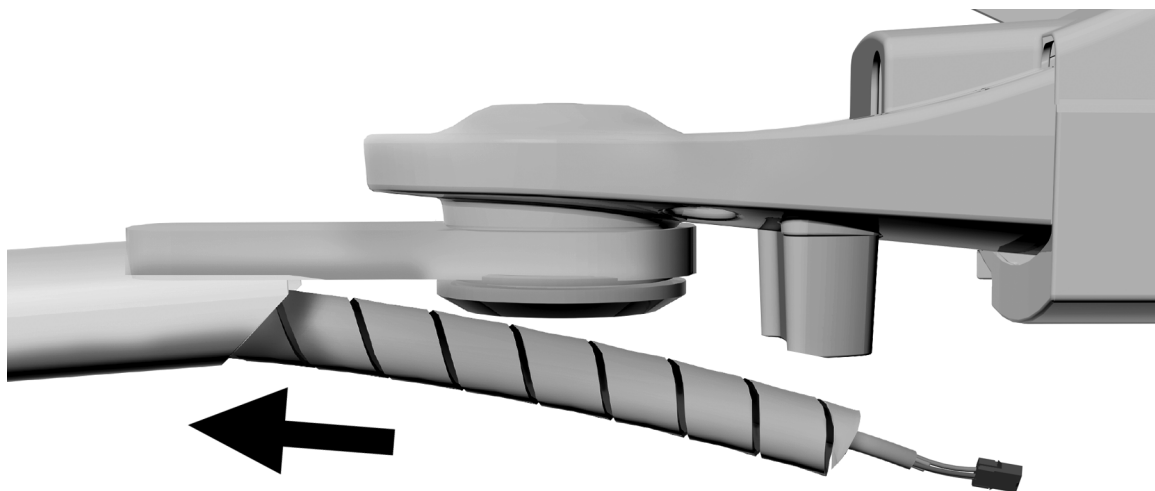
- 1 Use the jumper to fully lower the chair base.



NOTE For information on how to use the jumpers with the test points, see *Chair Circuit Board Test Point Reference* (p/n 86.0680.00).

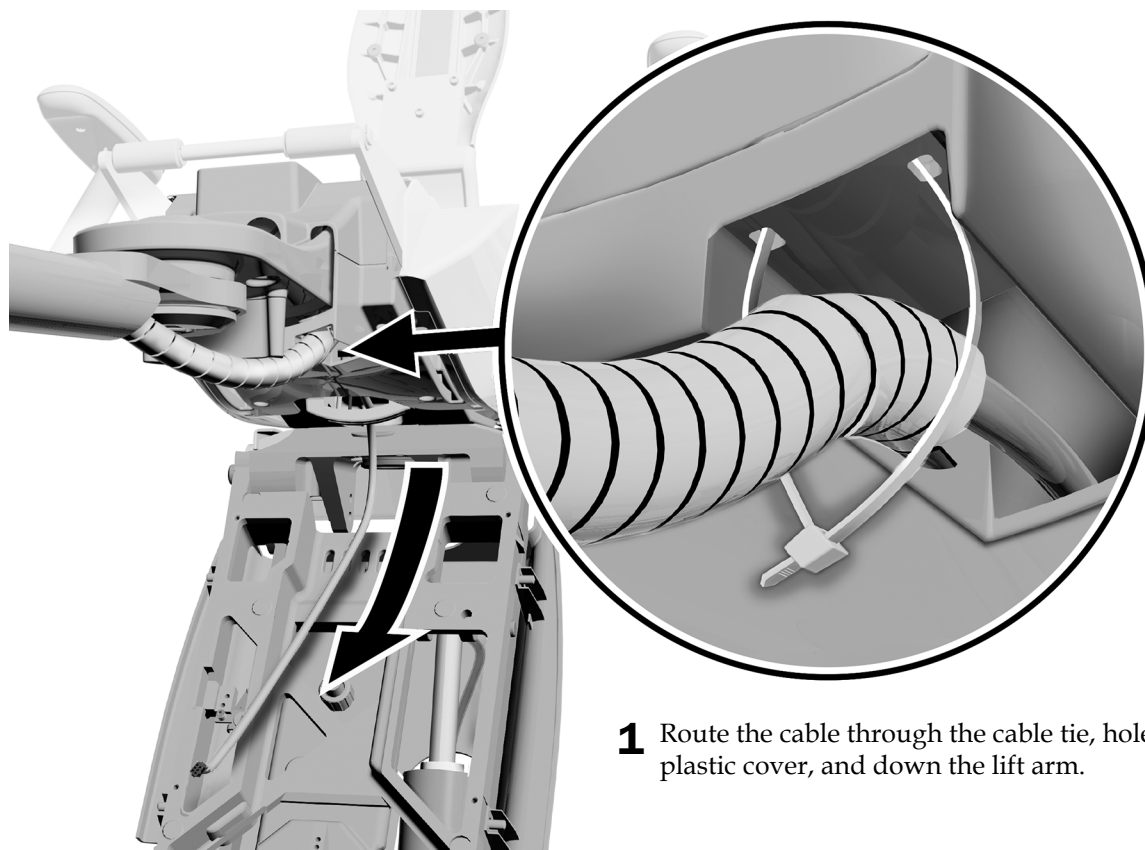
- 2 Apply lubricant, from the kit, all the way around the end of the upper rigid arm.
- 3 Route the light cable through the lower rigid arm.
- 4 Insert the upper rigid arm into the lower rigid arm until fully seated.
- 5 Raise the chair.

Task 2.



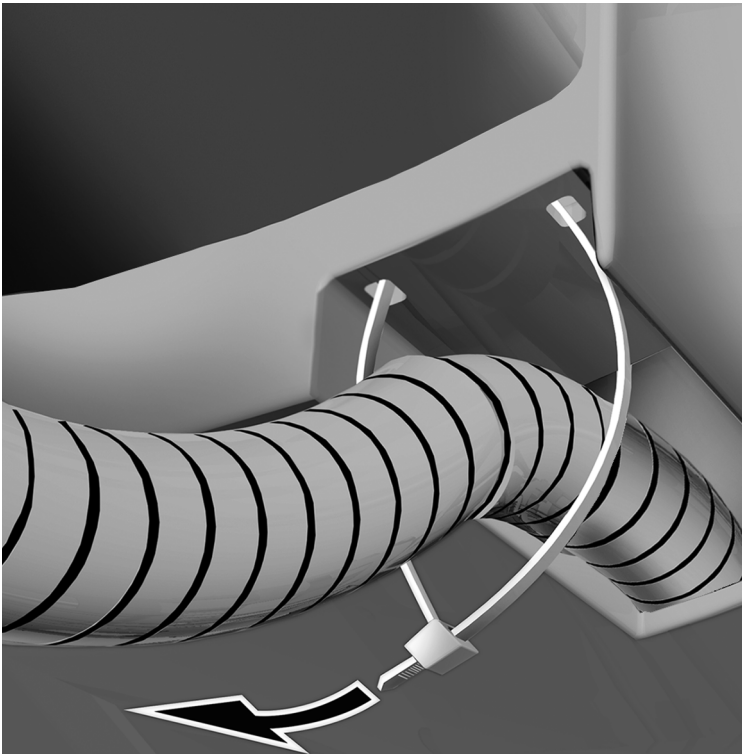
- 1** Install the wrap around the cable.

Task 3.



- 1** Route the cable through the cable tie, hole in the plastic cover, and down the lift arm.

Task 4.



- 1** Position the wrap so it is an inch past the hole in the plastic cover.
- 2** Secure the wrap with the cable tie.

Task 5.



- 1** Rotate the cable tie connector toward the middle of the chair.
- 2** Trim the excess cable tie.

Install the Floor Box

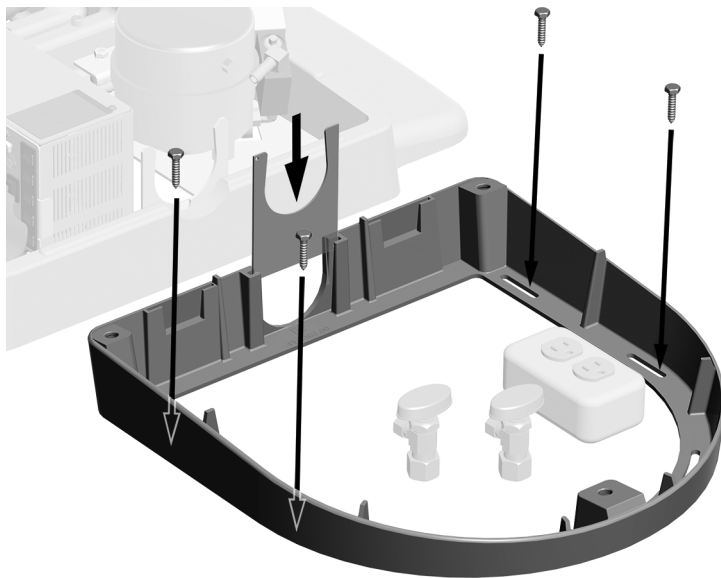


NOTE Install all of the system's modules before completing this procedure.

Recommended Tools

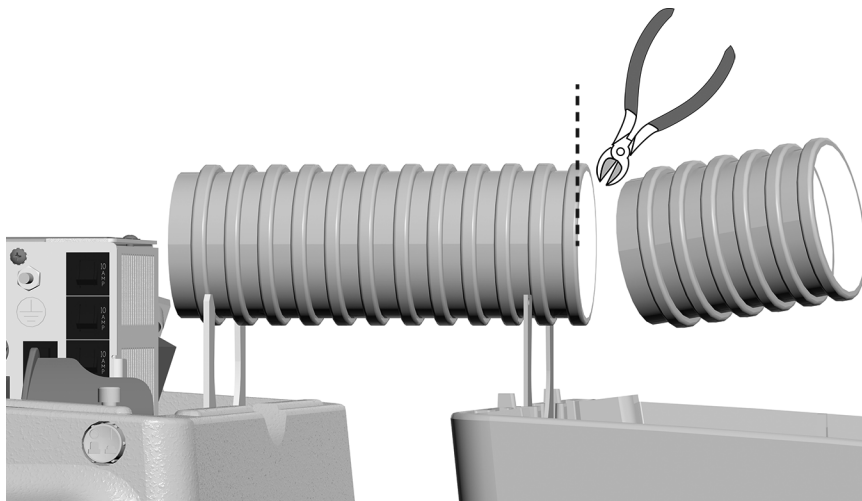
- Phillips head screwdriver
- Diagonal cutters
- Tape measure

Task 1.



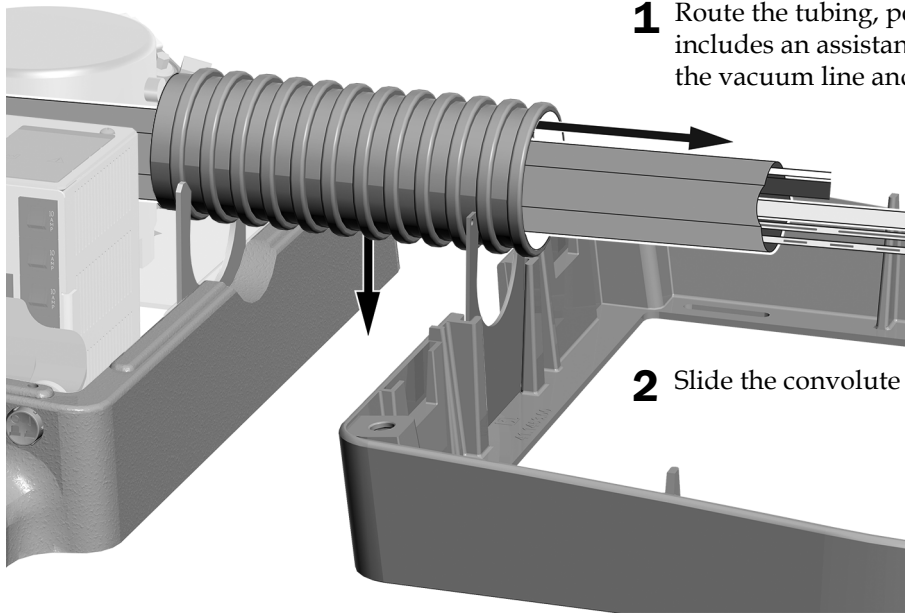
- 1** Place the floor box frame around the utilities.
- 2** Use four of the following to attach the frame to the floor:
 - **Wood floors:** 1-1/4" screws
 - **Concrete floors:** 2" anchors
- 3** Slide the umbilical clip into the slot in the frame.

Task 2.



- 1** Measure the distance between the chair and the floor box.
- 2** Cut the convolute to size.

Task 3.



1 Route the tubing, power cord, and if the system includes an assistant's instrumentation or cuspidor, the vacuum line and drain tubing.

2 Slide the convolute into the clips.

Connect the Wires and Data Line

1. Turn off the power to the system.



CAUTION To avoid damaging or disconnecting wires and tubing, don't connect anything until all of the system's modules are installed.



WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.



ATTENTION Circuit boards are sensitive to static electricity. Electrostatic Discharge (ESD) precautions are required when touching a circuit board or making connections to or from the circuit board. Circuit boards should be installed only by an electrician or qualified service person.

Connect the Dental Light Electrical Wires

Recommended Tools

- Diagonal cutters
- Wire stripper

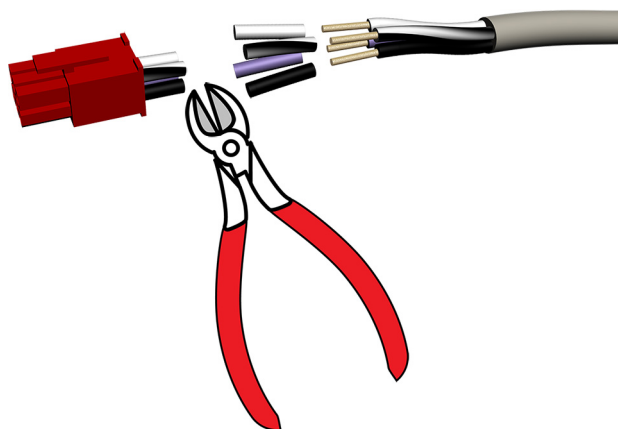
Task 1.

- 1 Cut the red connector from the end of the dental light cable.
- 2 If the light cable is too long, trim the cable to the correct length.

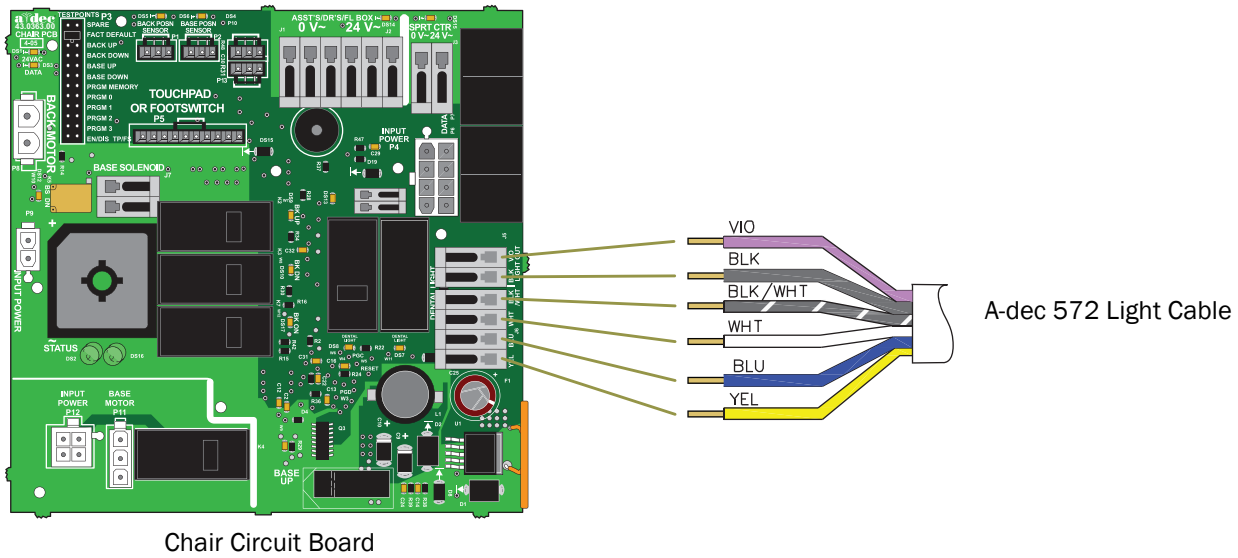


CAUTION To prevent damaging stranded core conductors by the unintended removal of outer strands, use wire strippers that are properly sized for stranded core conductors.

- 3 Strip back the wires 3/8" (10 mm). The wires are 16 AWG (1.31 mm²).



Task 2.



- 1 Attach the black and violet wires to terminal strip J5.
- 2 Connect the black/white, white, blue, and yellow wires to terminal strip J6.

Connect the Delivery System Electrical Wires and Data Line



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

Recommended Tools

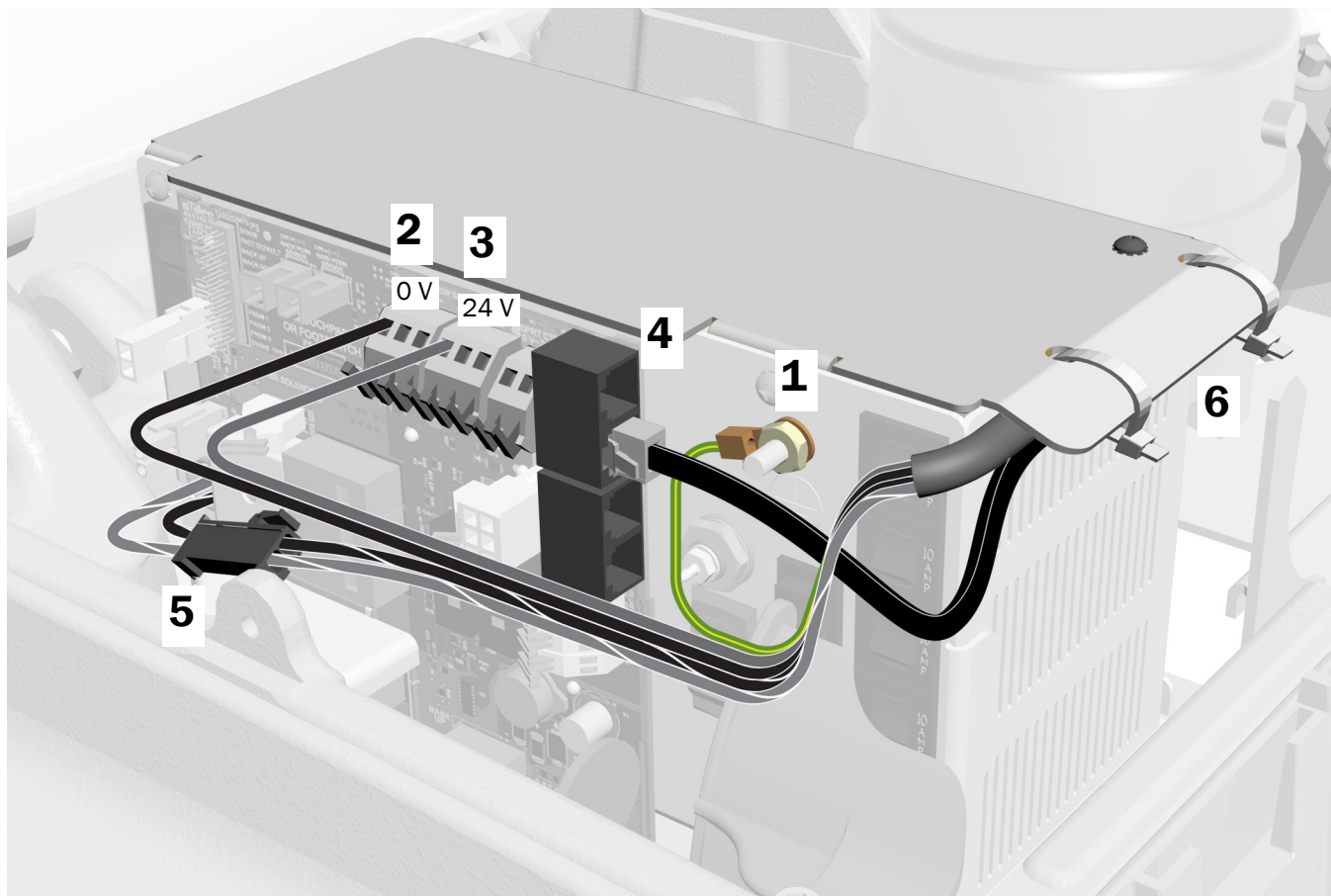
- 3/8" combination wrench
- Diagonal cutters

1. Attach the delivery system's ground wire.
2. Connect the black wire from the delivery system cable to the 0 V connector.
3. Connect the gray wire from the delivery system cable to the 24 V connector.



NOTE If needed, you can connect more than one wire to a single terminal.

4. Plug the data line into any data port.
5. Connect the two-position black connector to the black 24 VAC isolated lead.
6. After all of the electrical connections have been made for the system's modules, secure the wires under the lip on the power supply.



Connect the Tubing



CAUTION To avoid damaging or disconnecting wires and tubing, don't connect anything until all of the system's modules are installed.

Route the Foot Control Tubing

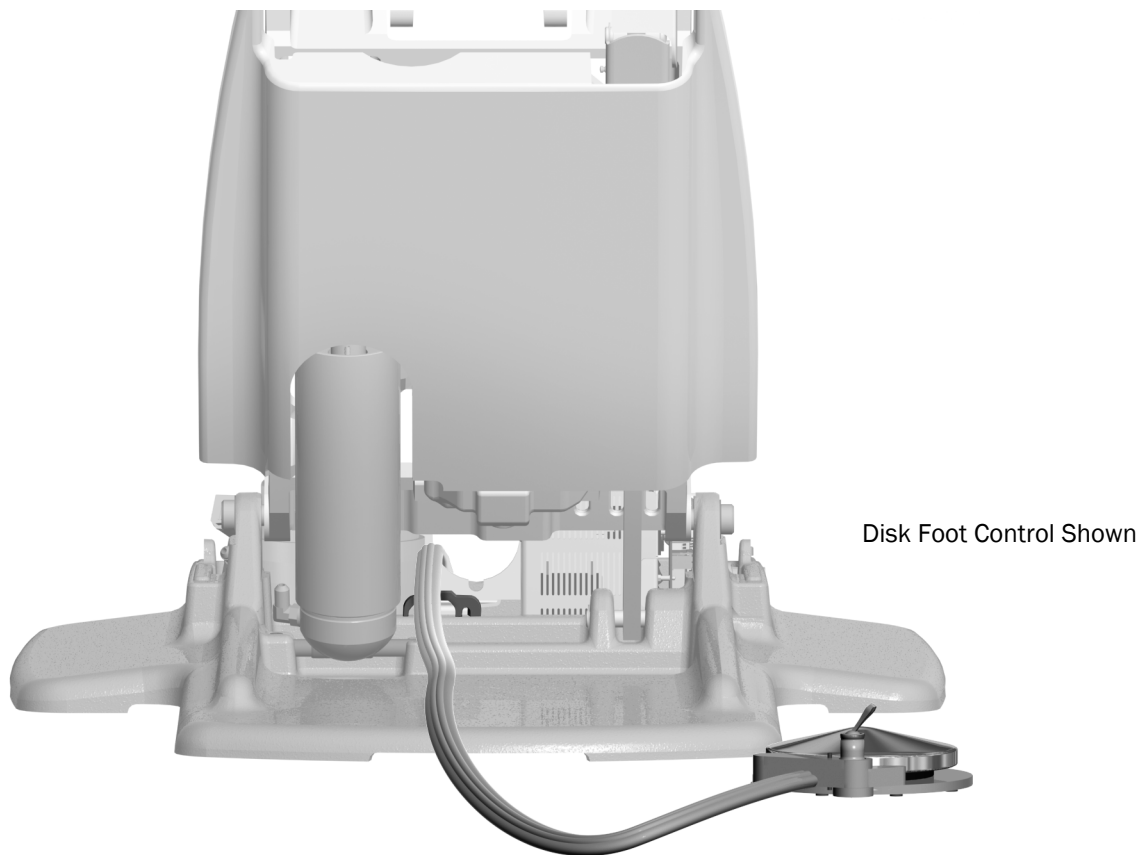


NOTE The connections for the disk foot control and the lever foot control are the same.

Recommended Tool

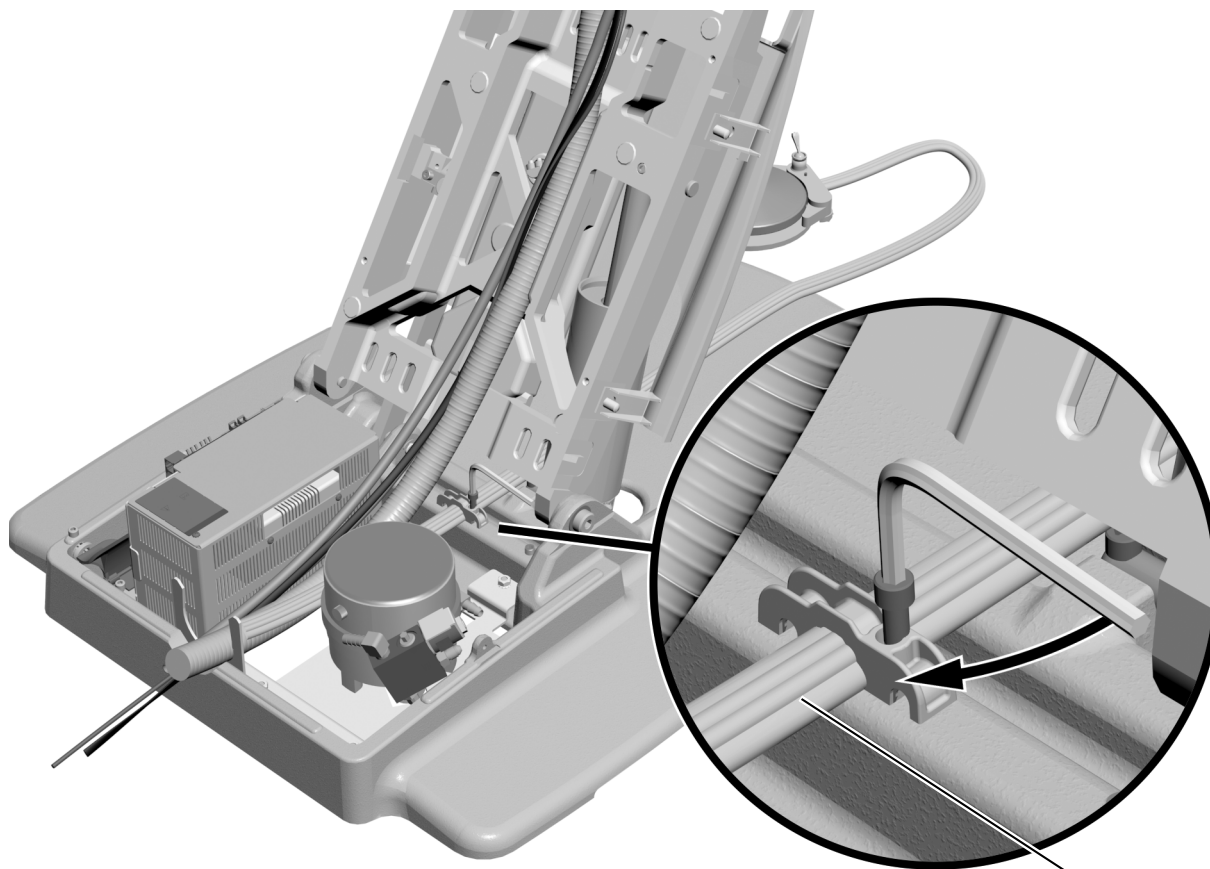
- 3/16" hex key

Task 1.



- 1** From the back of the chair, route the foot control tubing over the strain relief and behind the power supply.

Task 2.



- 1** 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.

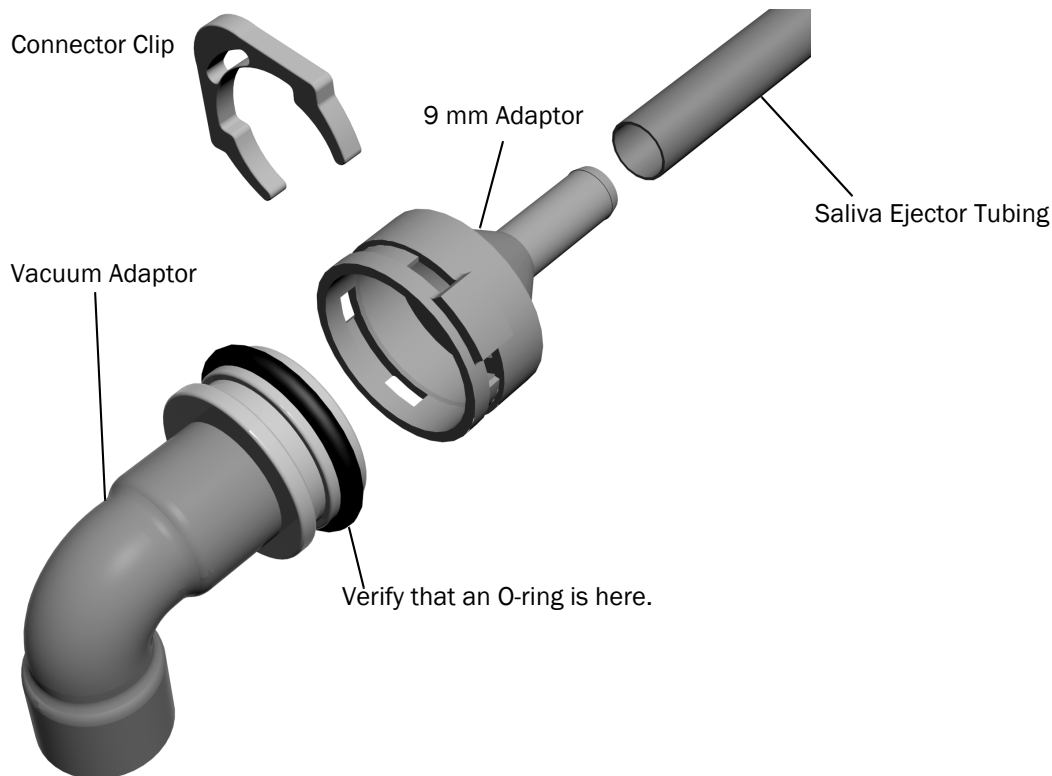
Connect the A-dec 336 Saliva Ejector (Optional) Tubing

If you installed an A-dec 336 Delivery System with the optional saliva ejector, follow this procedure to connect the vacuum line for it.

Connect the Saliva Ejector Tubing on a Chair Without Assistant's Instrumentation

Task 1.

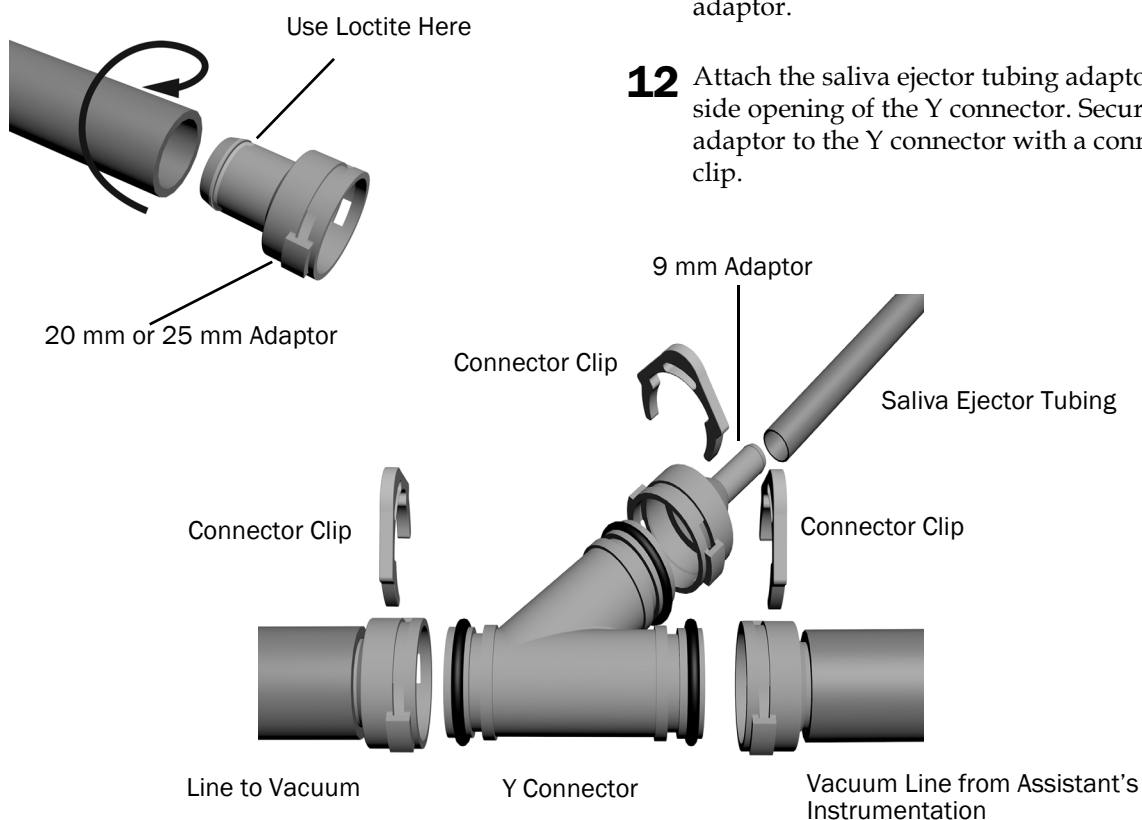
- 1** Locate the 5/16" saliva ejector tubing in the delivery system tubing bundle.
- 2** Route the saliva ejector tubing through the convolute into the floor box.
- 3** Connect the vacuum adaptor (copper with a brass collar attached) to the vacuum line.
- 4** Route the saliva ejector tubing to the vacuum adaptor. Trim the tubing to remove excess tubing leaving enough tubing for a service loop.
- 5** Push the saliva ejector tubing onto the 9 mm adaptor.
- 6** Verify that an O-ring is installed on the vacuum adaptor. If it is not, install an O-ring in the first groove on the adaptor.
- 7** Attach the saliva ejector 9 mm adaptor to the vacuum adaptor. Secure the tubing connector to the vacuum adaptor with the connector clip.



Connect the Saliva Ejector Tubing on a Chair With A-dec 351 or 551 Assistant's Instrumentation

Task 1.

- 1** Route the assistant's instrumentation vacuum line through the convolute into the floor box.
- 2** Route the saliva ejector tubing through the convolute into the floor box.
- 3** Position the Y connector in the floor box next to the assistant's instrumentation vacuum line. Cut the vacuum line at a point next to the top of the Y connector.
- 4** Spread Loctite® 411 around the lip on one of the adaptors. If a 351 is installed, use 20 mm adaptors. If a 551 is installed, use 25 mm adaptors.
- 5** Use a twisting motion to push the side of the vacuum line that comes from the convolute onto the adaptor.
- 6** Attach the adaptor to the main top opening of the Y connector. Secure the adaptor to the Y connector with a connector clip.
- 7** Spread Loctite 411 around the lip on one of the remaining adaptors.
- 8** Use a twisting motion to push the remaining piece of vacuum line onto the adaptor.
- 9** Connect the vacuum line to the vacuum source.
- 10** Attach the adaptor to the lower opening of the Y connector. Secure the adaptor to the Y connector with a connector clip.
- 11** Push the saliva ejector tubing onto the 9 mm adaptor.
- 12** Attach the saliva ejector tubing adaptor to the side opening of the Y connector. Secure the adaptor to the Y connector with a connector clip.



Prepare and Connect the Tubing

Recommended Tools

- Diagonal cutters
- Sleeve pusher

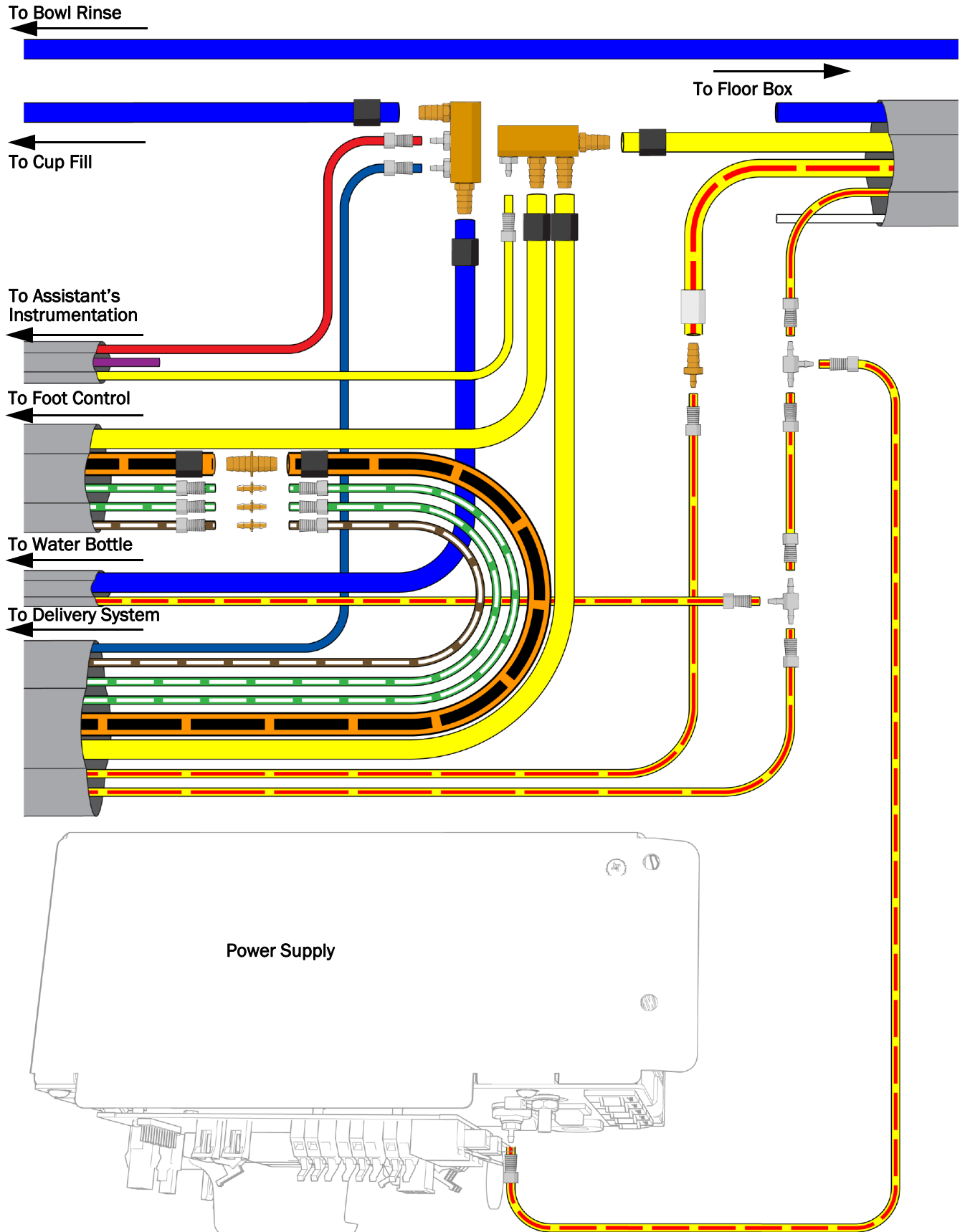
1. Strip and remove three feet (1 m) of the sheath from around the water bottle tubing.
2. Connect the tubing according to the flow diagram on the following page.



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



READ THIS! Be sure to position the control arm at its maximum height before trimming tubing to retain the full range of motion for the control head. For instructions on setting the control head height, see “Adjust the Control Head Height” on page 56.



Connect the Floor Box Utilities

Complete the connections for the system's configuration.

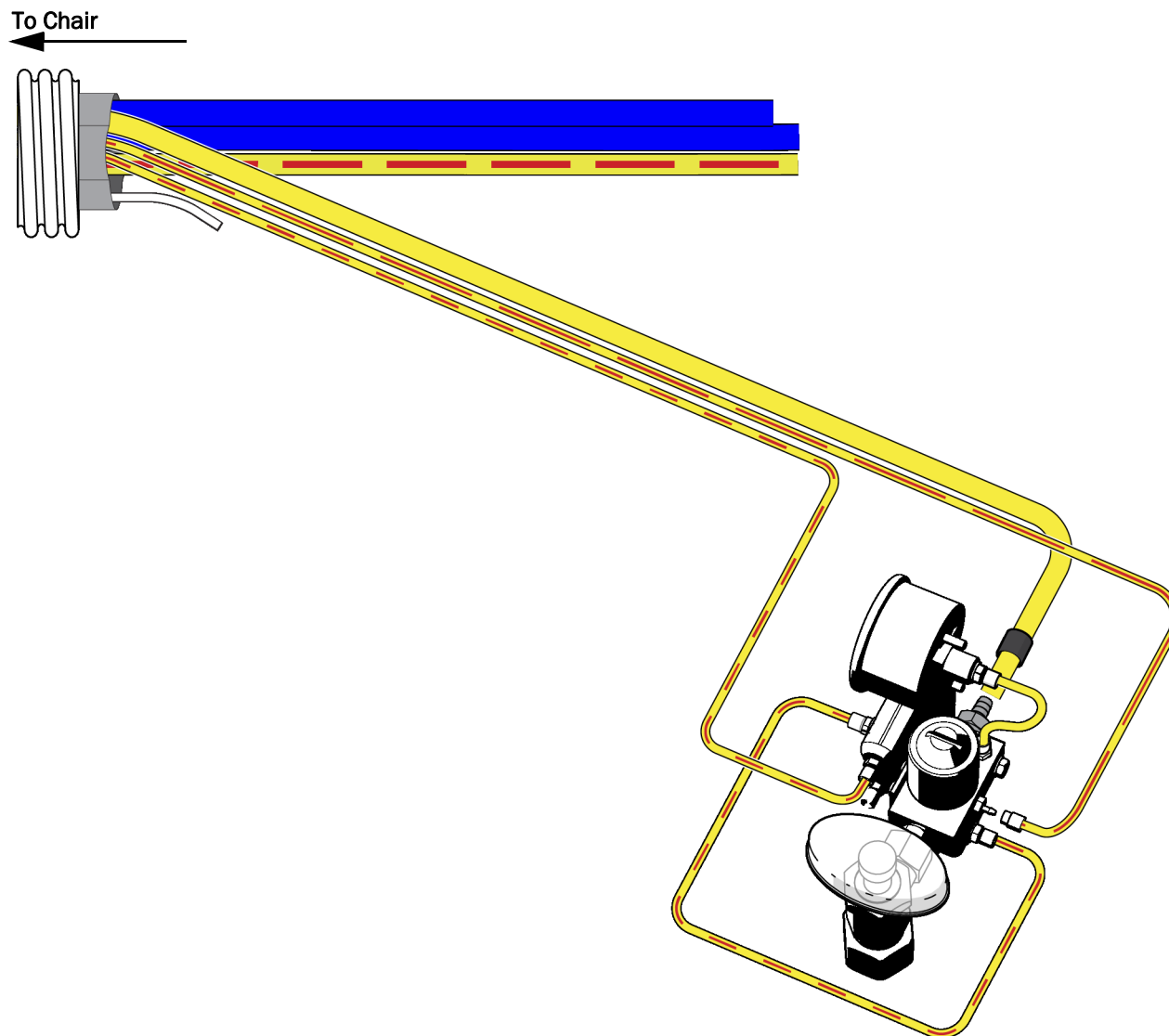
Connect a Delivery System Only	46
Connect a System with Multiple Modules	47

Connect a Delivery System Only

Use this diagram if the system does not include any other modules except a delivery system.

Recommended Tools

- Diagonal cutters
- Sleeve pusher

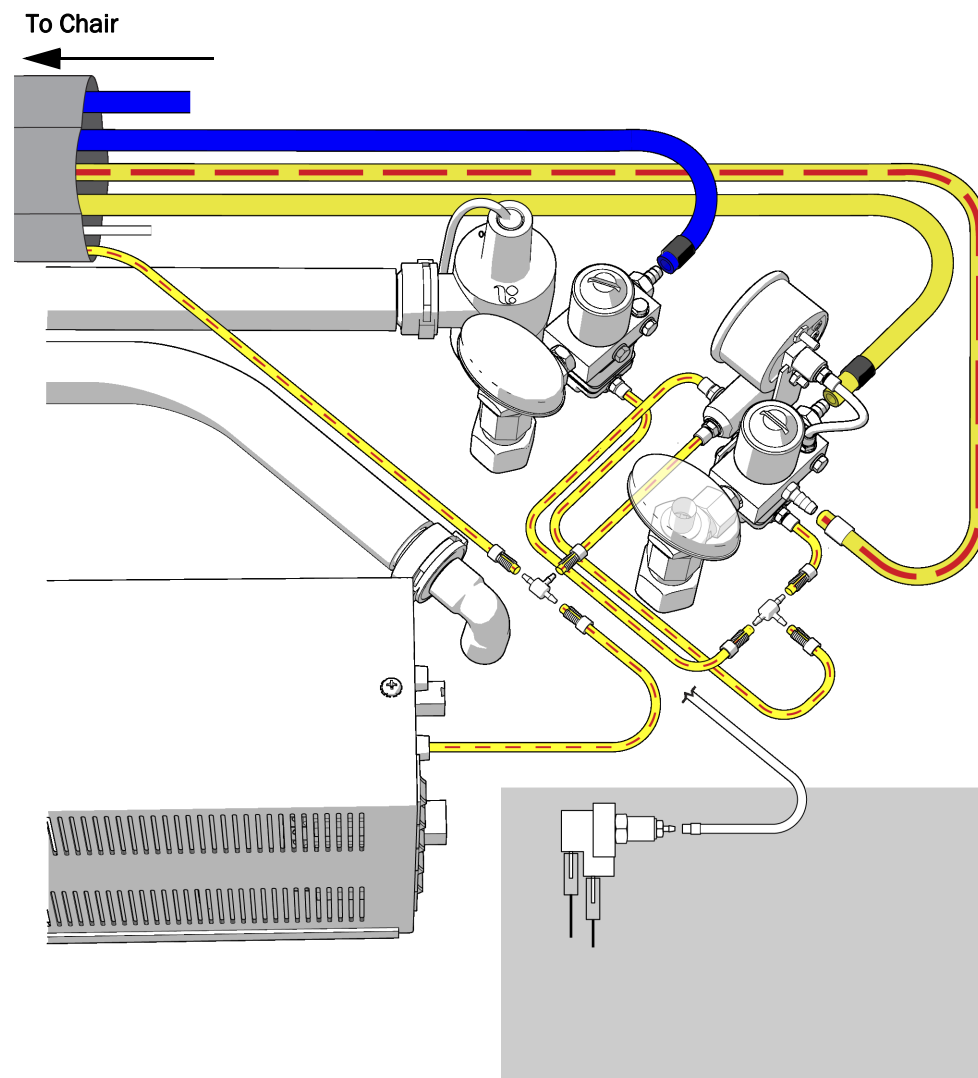


Connect a System with Multiple Modules

Use this diagram if the system includes any modules in addition to a delivery system.

Recommended Tools

- Diagonal cutters
- Sleeve pusher



Install the Moisture Separator (Optional)

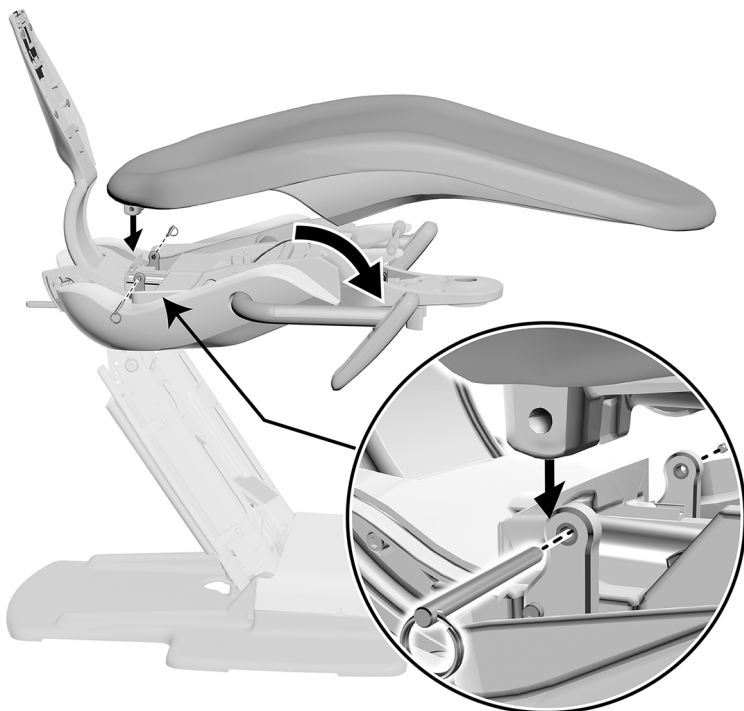
To install the moisture separator, follow the directions included in the moisture separator kit.

Install the Upholstery

The upholstery for the A-dec 411 Dental Chair includes the seat, back, and a dual-articulating headrest.

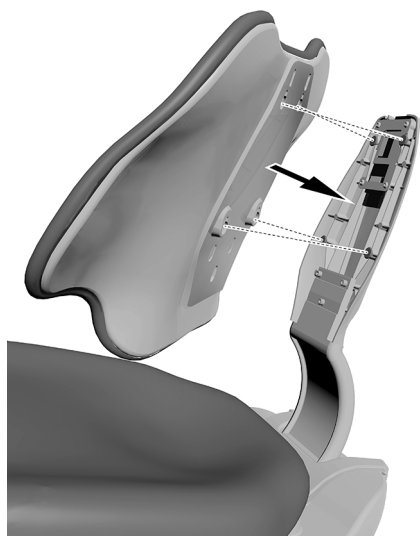


Install the Seat Upholstery



- 1** Raise the chair.
- 2** Move the armrests forward.
- 3** Pull out the side covers.
- 4** Line up the holes in the seat upholstery with the holes in the chair frame.
- 5** Push the pins through the seat upholstery and chair frame until the rings touch the seat.
- 6** Reinstall the side covers.

Install the Back Upholstery



- 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** Push down until the top of the back upholstery aligns with the chair back.

Install the Headrest Upholstery

Locking knob and lever release headrests are used with the A-dec 411. The headrest upholstery installs the same way for both styles.

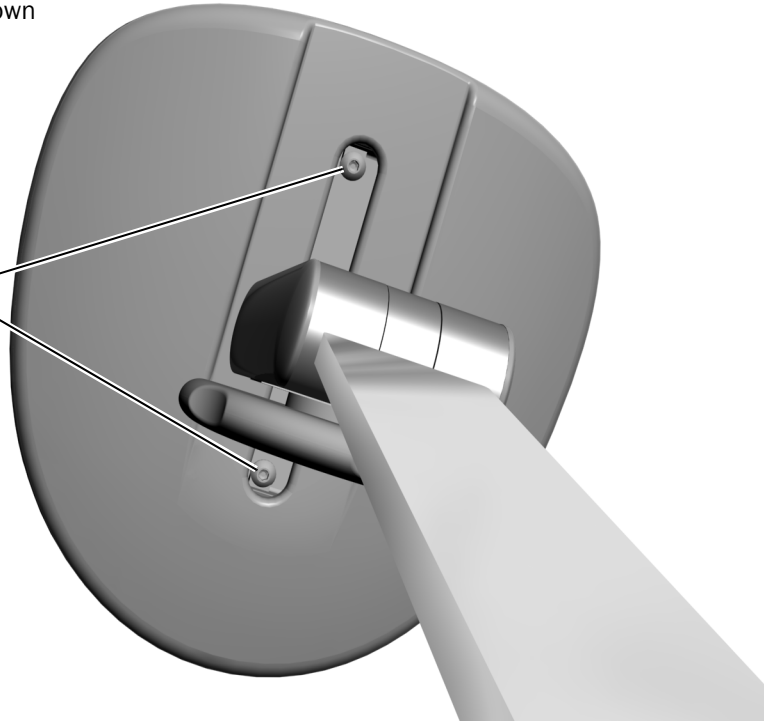
Recommended Tools

- **Locking Knob:** 1/8" hex key
- **Lever Release:** 7/64" hex key

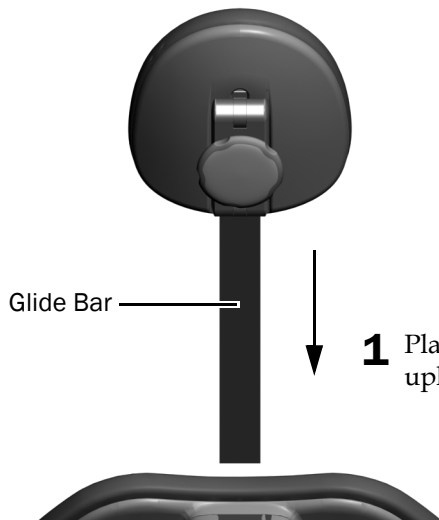
Task 1.

Locking Knob Headrest Shown

- 1** Line up the holes in the headrest upholstery with those in the headrest cover.
- 2** Insert and tighten the mounting screws.



Task 2.



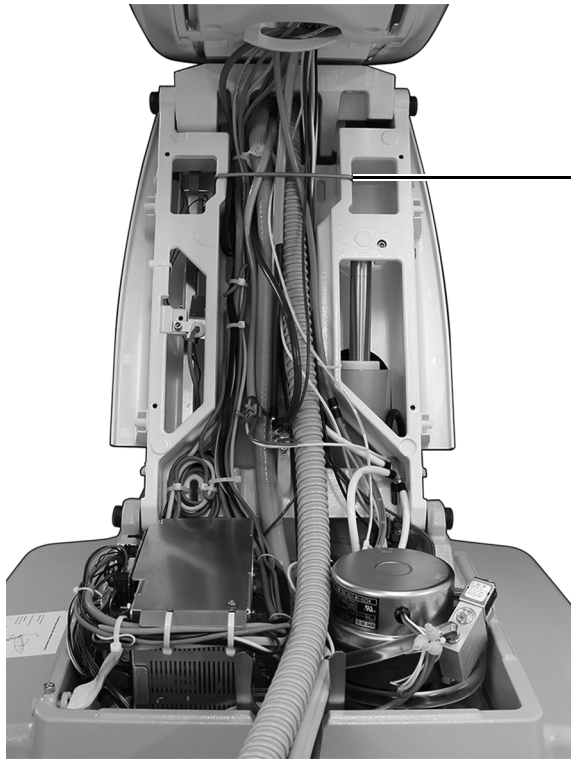
- 1** Place the glide bar into the slot at the top of the back upholstery and push it down into place.

Prepare and Adjust the System

Secure the Wires and Tubing

Recommend Tool

- Diagonal cutters



- 1** Install the bail. It ships in the floor box kit.



CAUTION Do not secure the tubing to the lift arm. The tubing needs to move freely when the chair moves.

- 2** Use cable ties to group the tubing and wiring for a neat appearance.

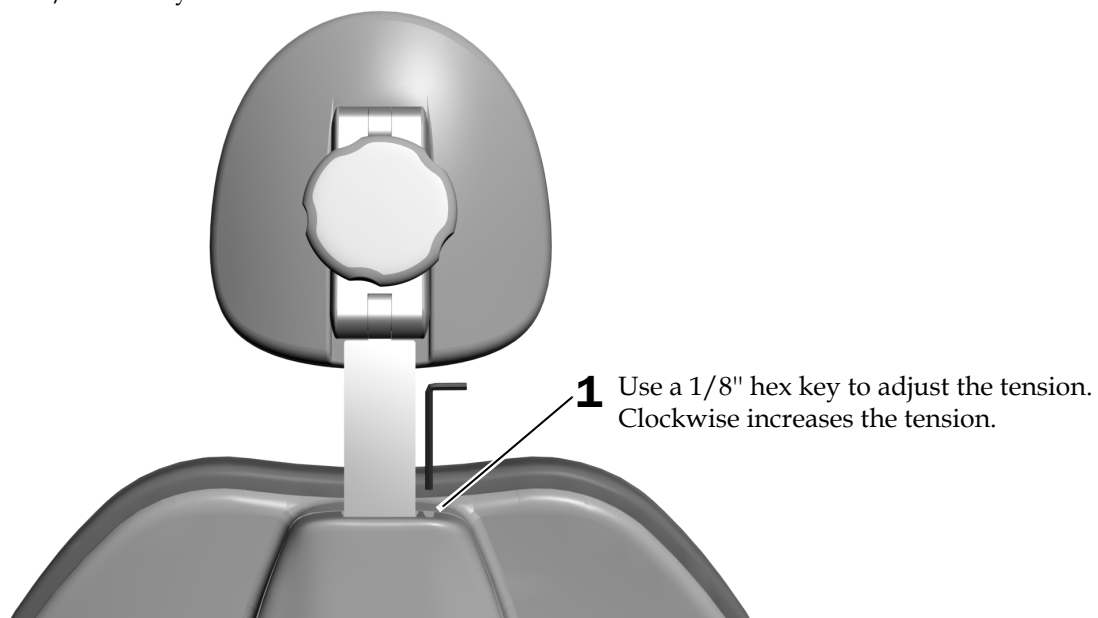


NOTE Once the tubing is connected and secured, set the height of the control arm to the doctor's preferred height. For instructions on setting the control head height, see "Adjust the Control Head Height" on page 56.

Adjust the Glide Bar Tension

Recommended Tool

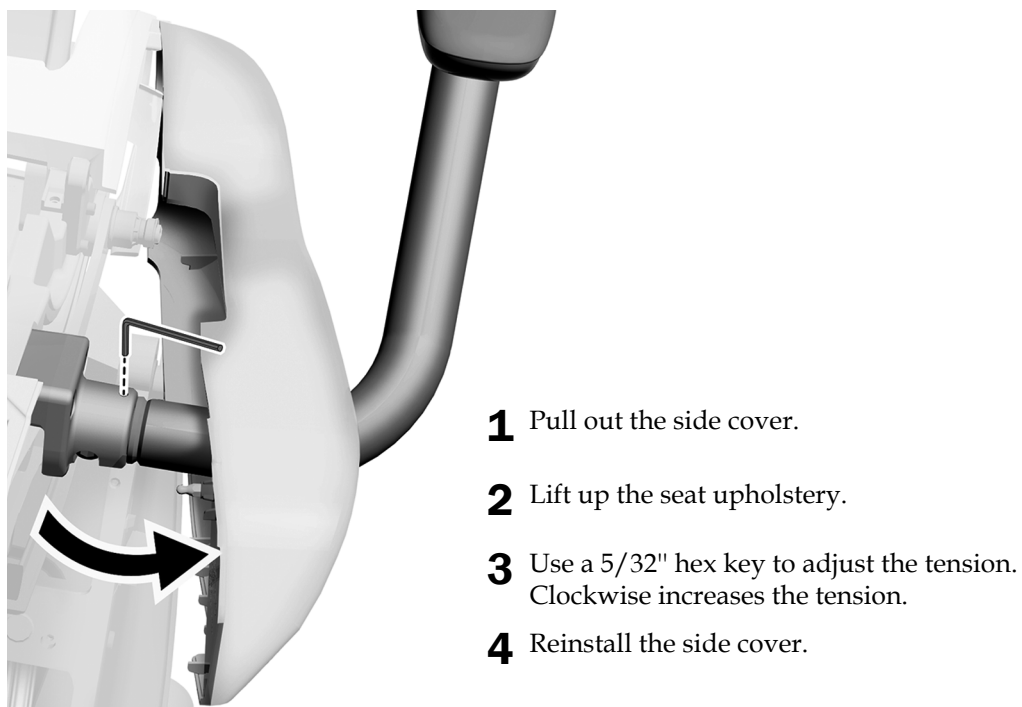
- 1/8" hex key



Adjust the Armrest Tension

Recommended Tool

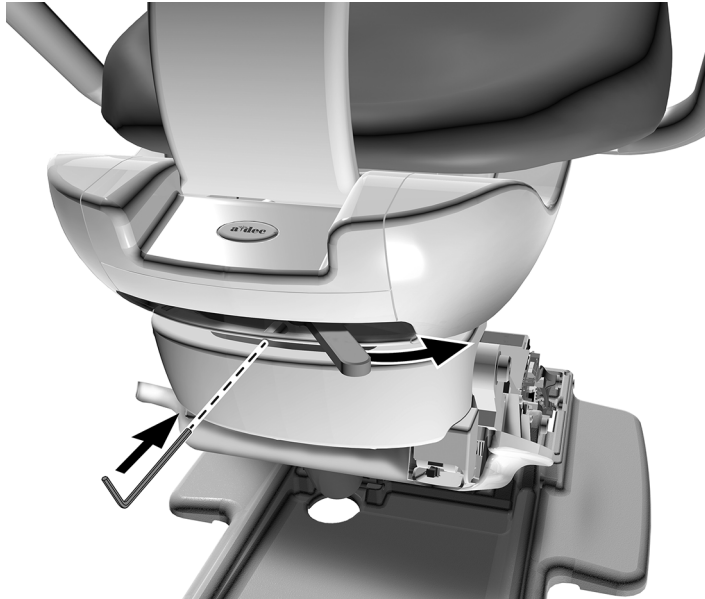
- 5/32" hex key



Adjust the Chair Brake Tension

Recommended Tool

- 7/64" hex key



- 1 Move the brake handle to the right.



NOTE If the chair includes a back mount module, swivel the chair to access the adjustment screw.

- 2 Use a 7/64" hex key to adjust the tension. Clockwise increases the tension. A small adjustment significantly increases or decreases tension.

Install the Water Bottle



WARNING Avoid touching the A-dec ICX[®] waterline treatment tablet with unprotected skin. For more details, please refer to the instructions for use provided with the ICX tablets (p/n 86.0613.00).

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



- 2 Fill the bottle with water.

- 3 Apply A-dec silicone lubricant on the receptacle O-ring.

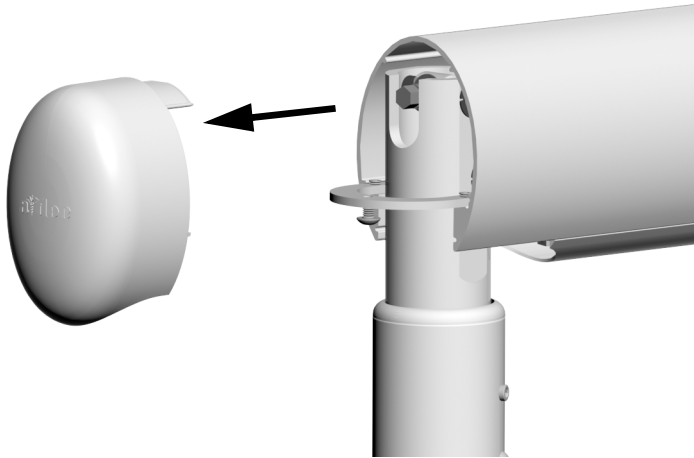
- 4 Push the water bottle up onto the water bottle receptacle and turn it to the right.

Adjust the Delivery System Spring-Assisted Flexarm

Recommended Tools

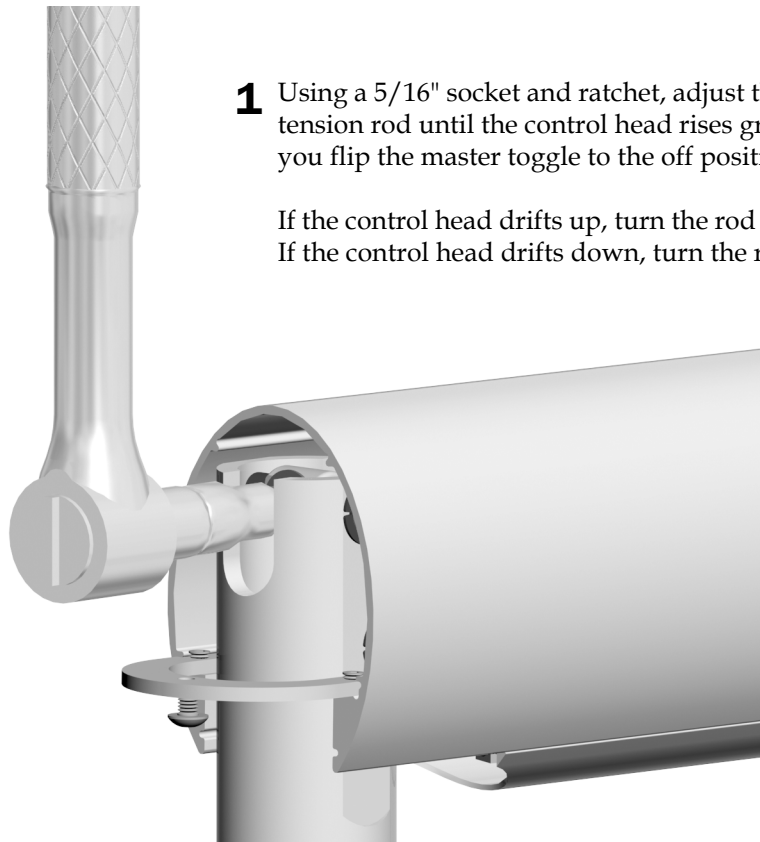
- 1/8" hex key
- 5/16" socket and ratchet

Task 1.



- 1** Flip the master toggle to the on position.
- 2** Load the control head for normal use, attaching handpieces and placing a tray on the tray holder.
- 3** Position the control head so the flexarm is level.
- 4** Use a 1/8" hex key to remove the end cap farthest from the control head.
- 5** Flip the master toggle to the off position.

Task 2.



- 1** Using a 5/16" socket and ratchet, adjust the flexarm spring tension rod until the control head rises gradually when you flip the master toggle to the off position.

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

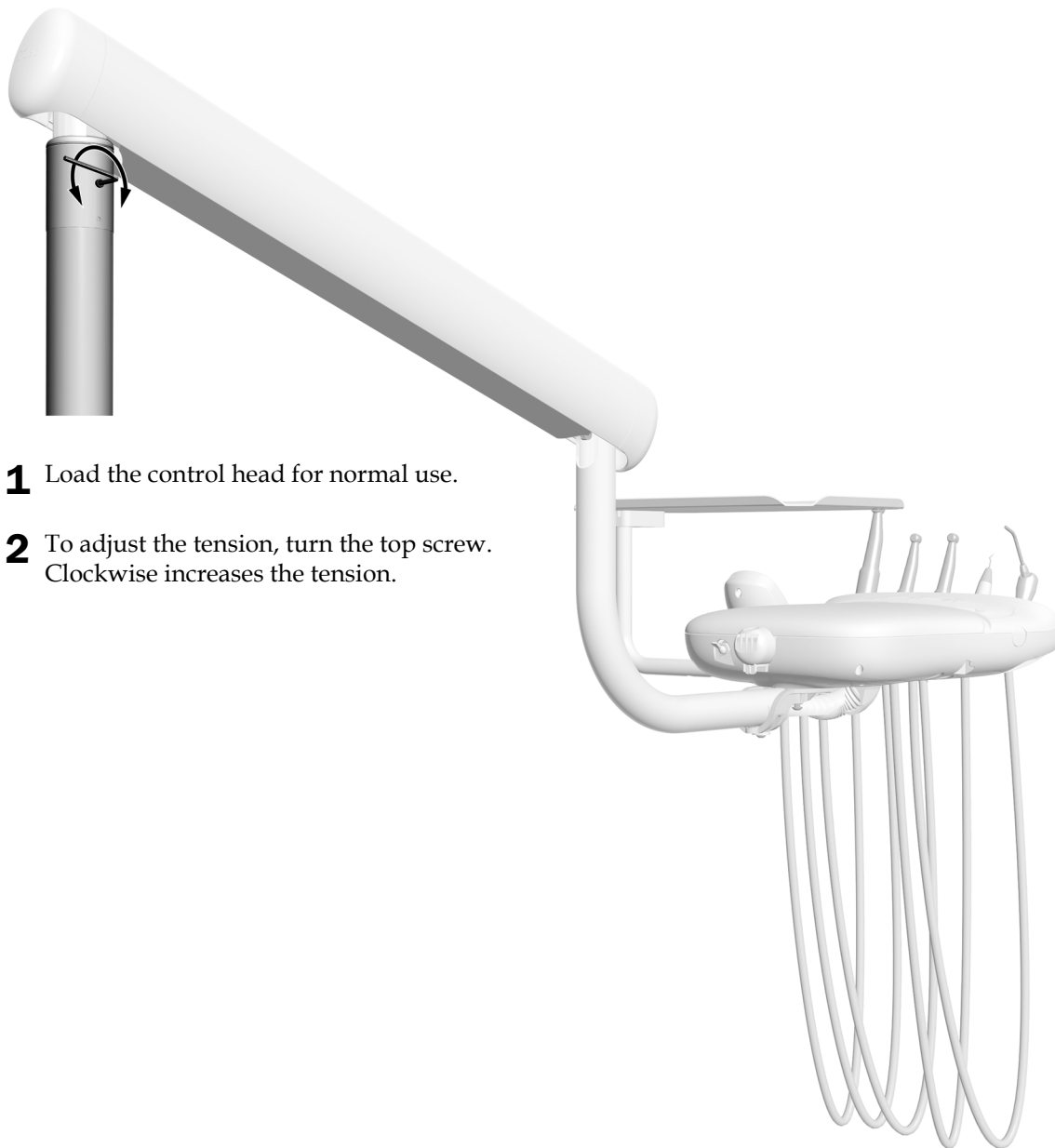
Adjust the Delivery System Flexarm Rotation Tension

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

Recommended Tool

- 1/8" hex key

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



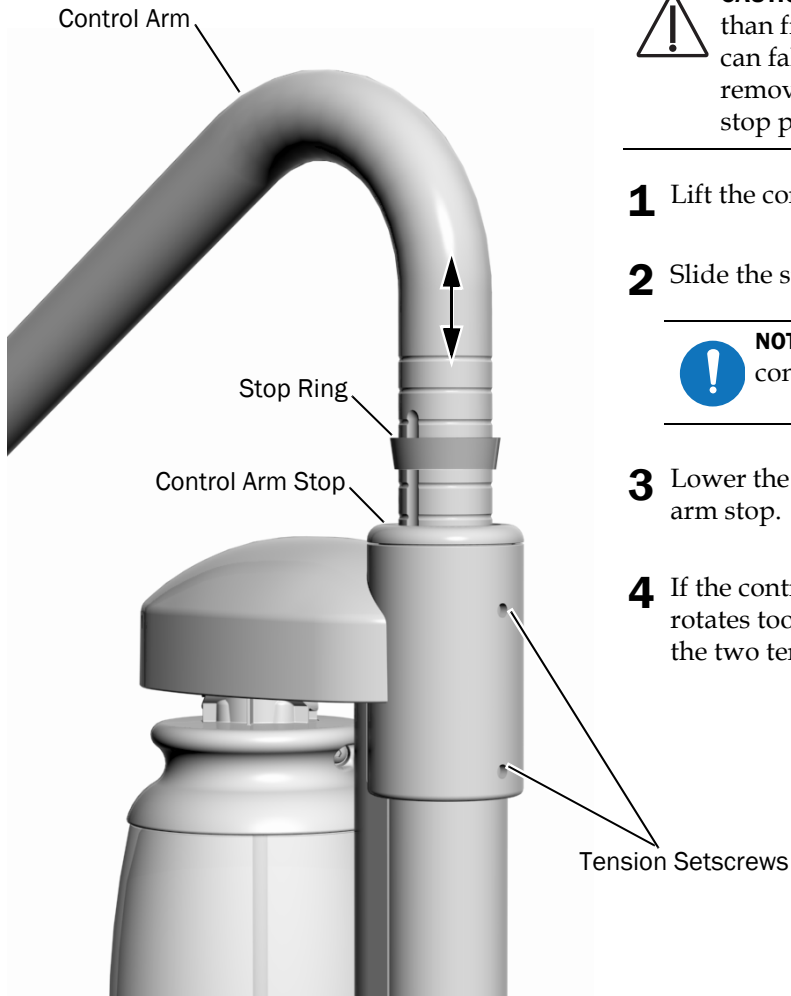
- 1** Load the control head for normal use.
- 2** To adjust the tension, turn the top screw. Clockwise increases the tension.

Adjust the Control Head Height

Check the height of the manual height adjustment delivery system. Use the following procedure if it needs to be adjusted.

Recommended Tool

- 3/32" hex key



CAUTION Do not raise the control arm more than five inches. If you do, the rotation stop pin can fall into the rigid arm and you will have to remove the rigid arm to recover the rotation stop pin.

- 1** Lift the control arm.
- 2** Slide the stop ring to the desired height groove.



NOTE The height adjustment range for the control arm is 5" (127 mm).

- 3** Lower the control arm and stop ring into the control arm stop.
- 4** If the control arm is difficult to lift or rotate, or rotates too freely, use a hex key to loosen or tighten the two tension setscrews.

Install the Delivery System Flexarm Rotation Stop Screw

Recommended Tool

- 1/8" hex key

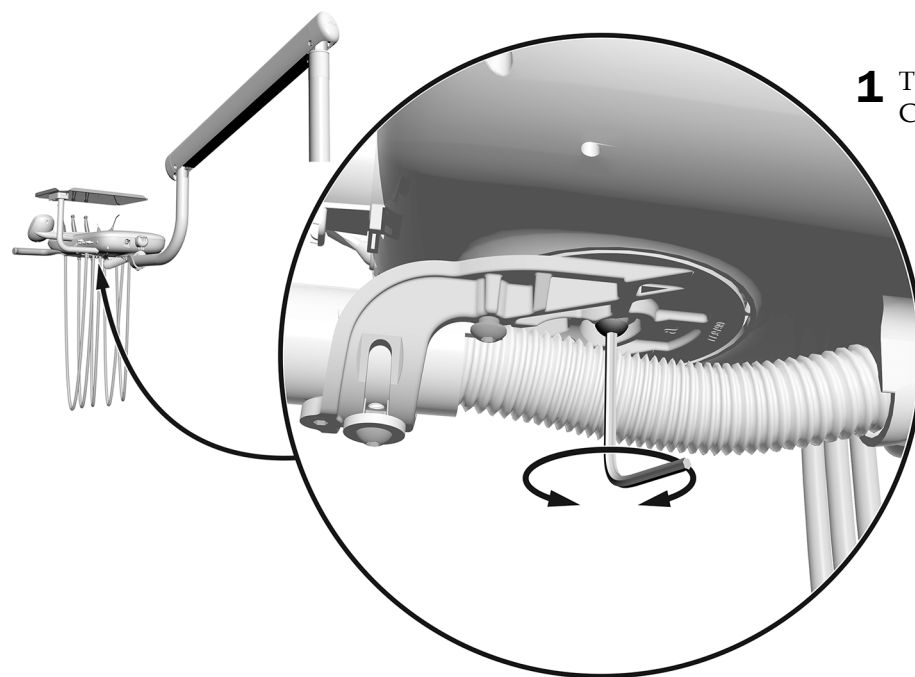
- 1** Install the 10-32 x 1/2" button head screw in the bottom hole then tighten it all the way down.



Adjust the Control Head Rotation Tension

Recommended Tool

- 5/32" hex key



- 1** To adjust the tension, turn the screw. Clockwise increases the tension.

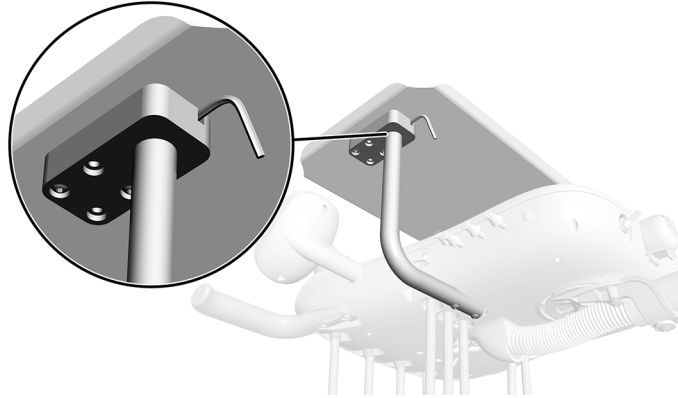
Adjust the Tray Rotation Tension

Recommended Tool

- 1/8" hex key

Traditional Control Head

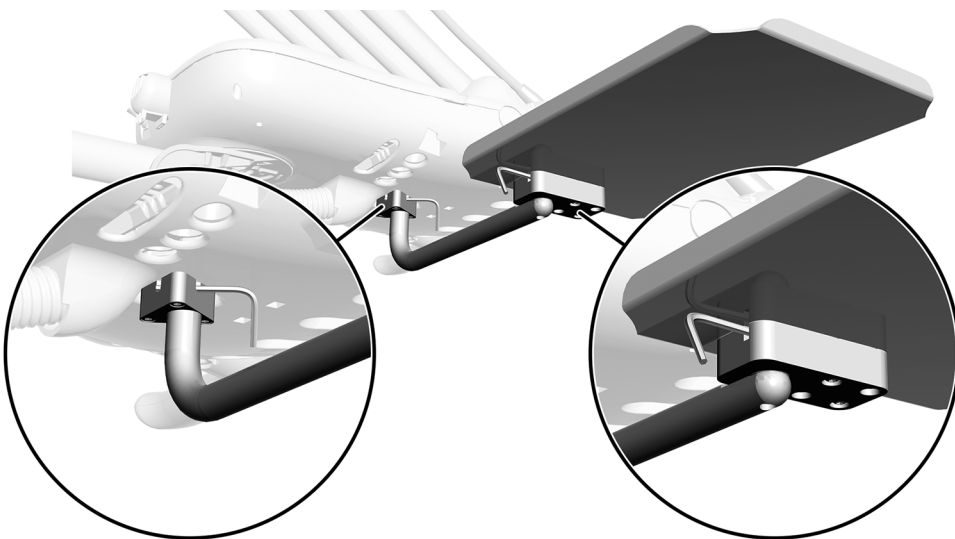
- 1** Insert the hex key through the mounting bracket. If necessary, rotate the holder or arm until the key slides completely into the mounting bracket.
- 2** To adjust the tension, rotate the tray. Clockwise increases the tension.



Continental Control Head

Continental control heads can be adjusted in two places.

- 1** Insert the hex key through the mounting bracket. If necessary, rotate the holder or arm until the key slides completely into the mounting bracket.
- 2** To adjust the tension, rotate the tray. Clockwise increases the tension.



Adjust the Intraoral Light Source Voltage

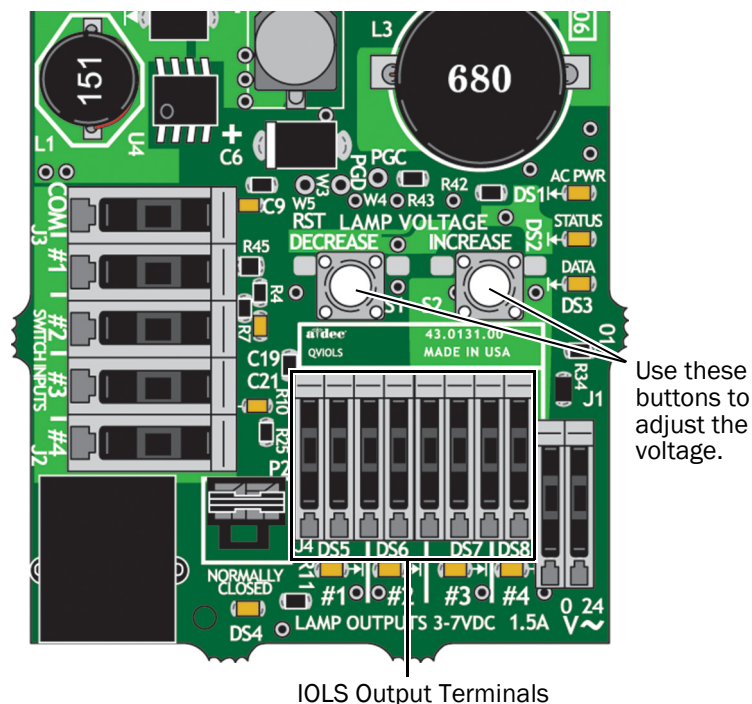
Recommended Tools

- 7/64" hex key
- Voltmeter



ATTENTION Circuit boards are sensitive to static electricity. Electrostatic Discharge (ESD) precautions are required when touching a circuit board or making connections to or from the circuit board. Circuit boards should be installed only by an electrician or qualified service person.

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 table on the following page.



CAUTION 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 bulb

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

Length and Voltage Table for A-dec Bulbs Rated at 3.2V

Wire length in A-dec tubing		Voltage at terminal strip resulting in recommended 3.2V at the bulb	Wire length in A-dec tubing		Voltage at terminal strip resulting in recommended 3.2V 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 the Handpiece Drive Air Pressure

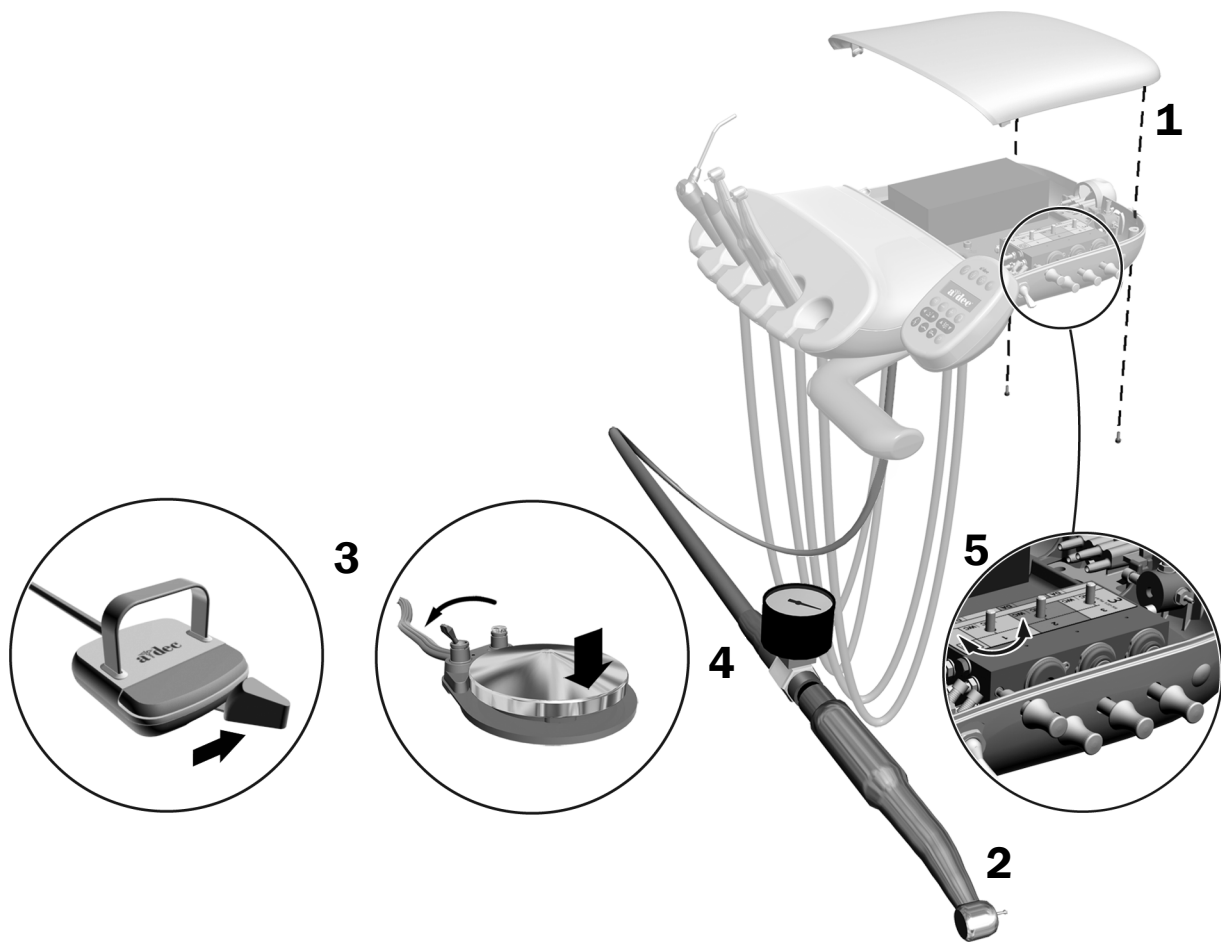
Recommended Tool

- 7/64" hex key



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

1. Use a hex key to remove the control head cover screws. Remove the cover and locate the drive air pressure controls inside.
2. Lift the handpiece from the holder or pull the whip forward.
3. Do one of the following:
 - On a disc foot control: flip the toggle to dry (away from the blue dot) and step on the disc.
 - On a lever foot control: move the lever all the way to the right.
4. With the handpiece running, check the handpiece pressure gauge.
5. Adjust the drive air pressure to meet the manufacturer's specifications. Turn the stem clockwise to decrease pressure.

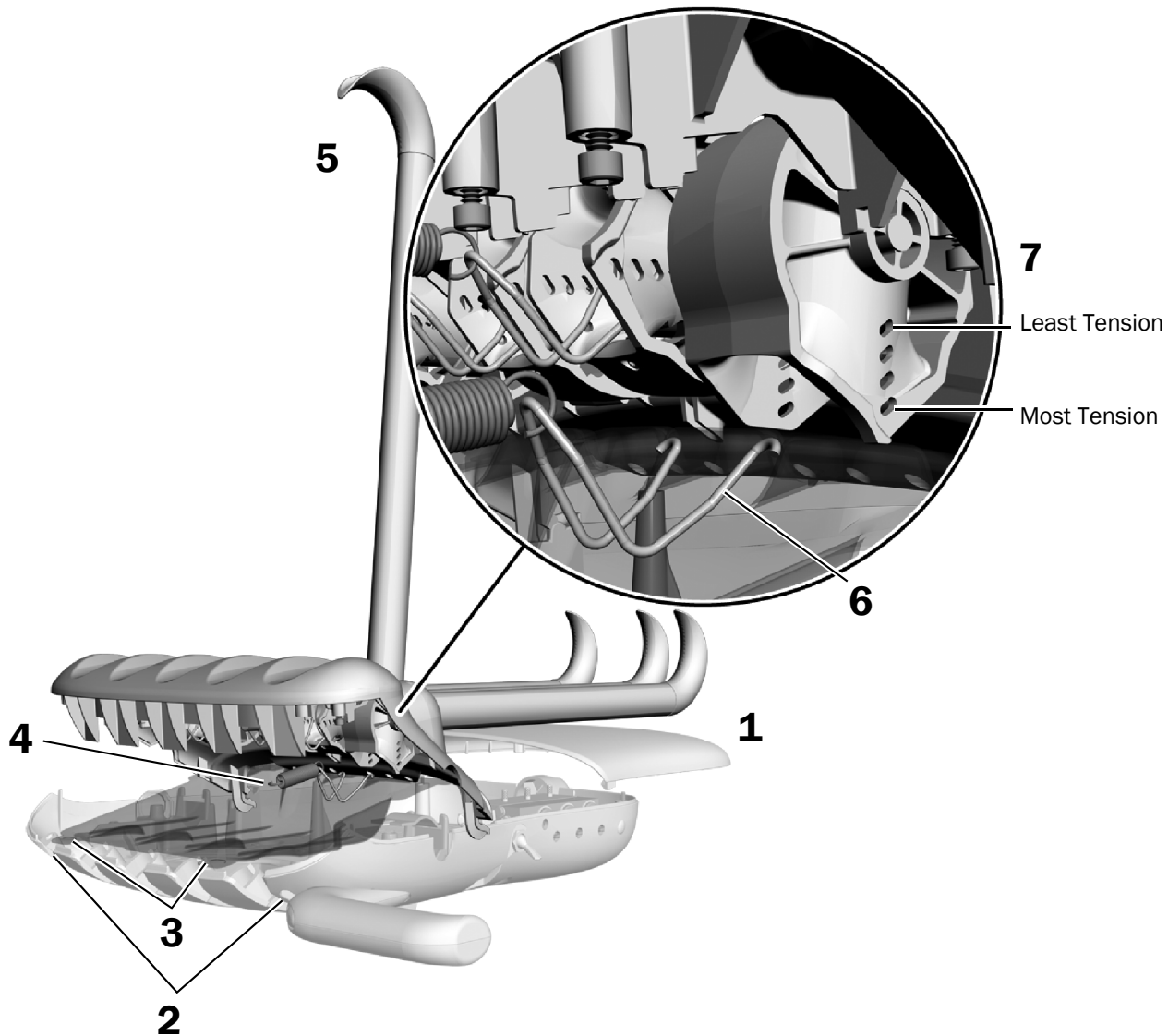


Adjust the Continental Whip Tension

Recommended Tool

- 7/64" hex key

1. Remove the control head back cover.
2. Undo the two screws holding the control head front cover and raise up the cover.
3. Pull out the two tabs on the top of the drip shield; then pull down the shield.
4. Remove the spring from the front cover.
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.
7. Insert the ends of the bail into the holes for the desired whip tension; then reattach the spring.
8. Repeat steps 4 through 7 for each whip to be adjusted.
9. Reinstall the control head back cover.

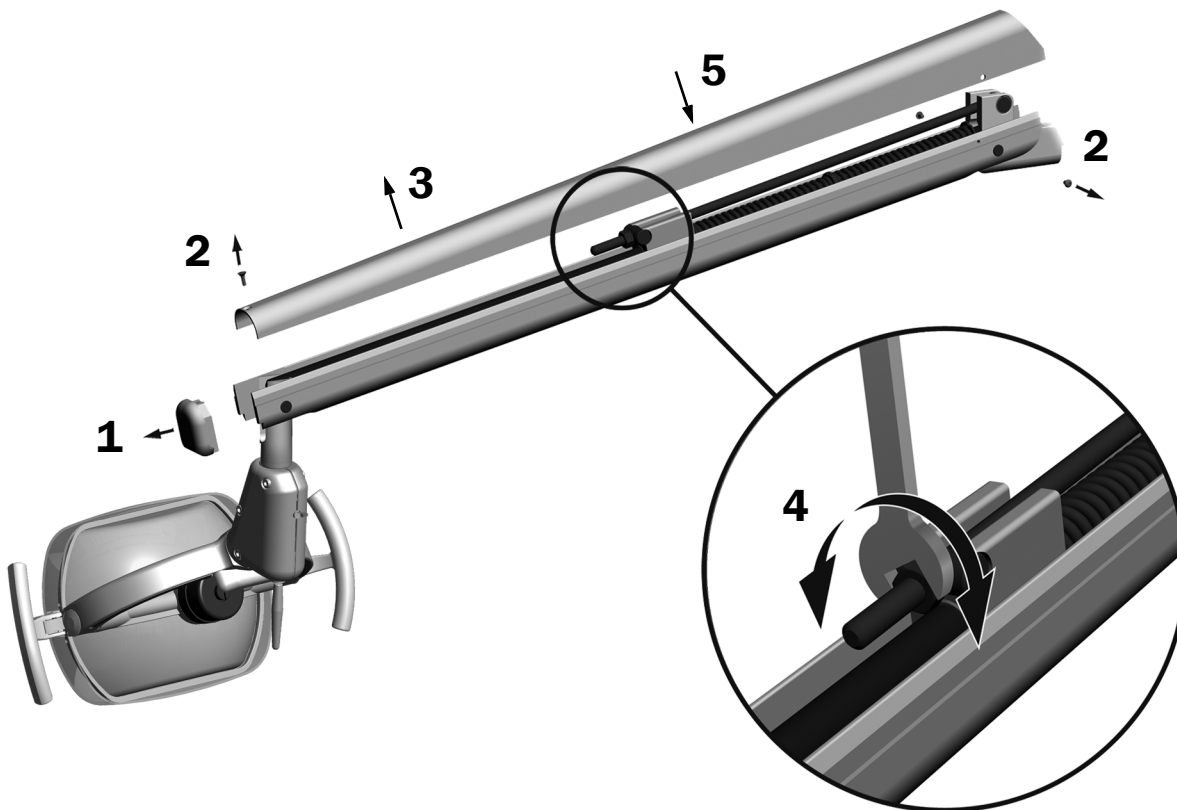


Adjust the Dental Light Flexarm Counterbalance

Recommended Tools

- Phillips head screwdriver
- 5/16" hex key
- 1/2" combination wrench

1. Remove the end cap.
2. Remove the three screws that secure the cover.
3. Remove the cover.
4. 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 4 and 5 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.

Adjust the Rigid Arm Tension

Recommended Tools

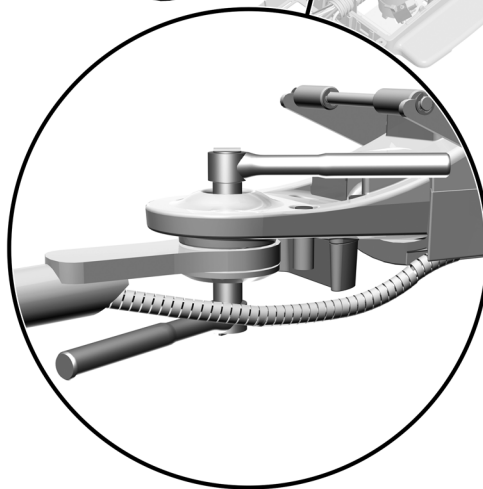
- 15/16" socket and ratchets (2)

Move the dental light to several positions and check that the rigid arm does not move easily when you move the dental light. If the rigid arm moves easily, perform this procedure to minimize unintentional rigid arm movement.

- 1** Place the dental light in working position.



- 2** Tighten the lower nut.



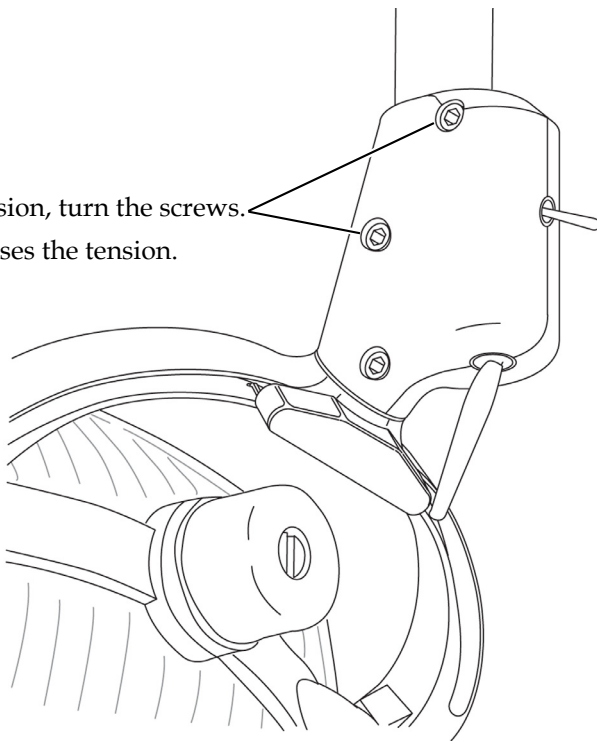
Adjust the A-dec 572 Dental Light

Adjust the Horizontal Rotation

Recommended Tool

- 5/32" hex key

- 1** To adjust the tension, turn the screws.
Clockwise increases the tension.

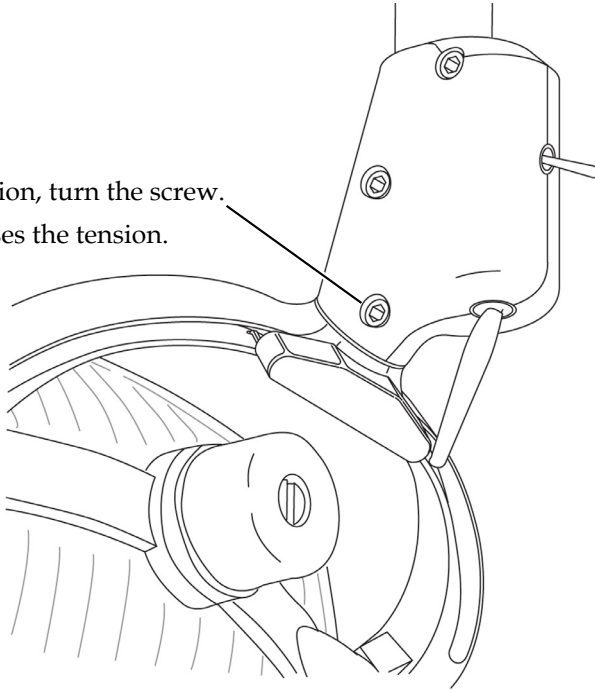


Adjust the Diagonal Rotation

Recommended Tool

- 5/32" hex key

- 1** To adjust the tension, turn the screw.
Clockwise increases the tension.



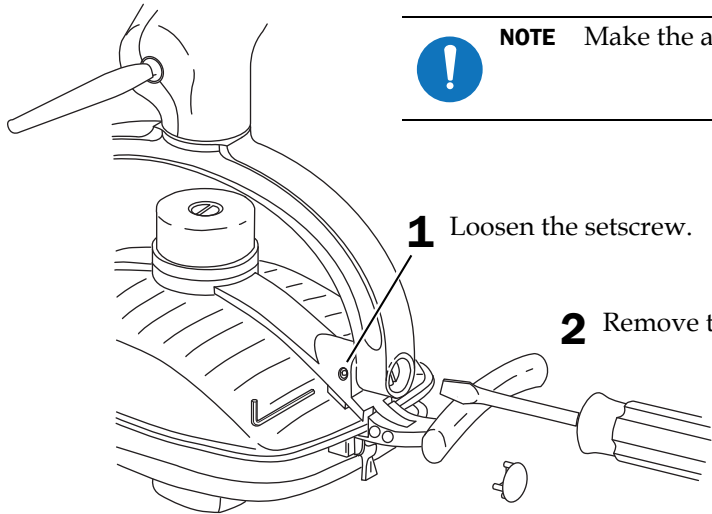
Adjust the Vertical Rotation

Recommended Tools

- 5/64" hex key
- Standard screwdriver



NOTE Make the adjustment to only one side of the light head.



- 1** Loosen the setscrew.

- 2** Remove the light yoke plug.

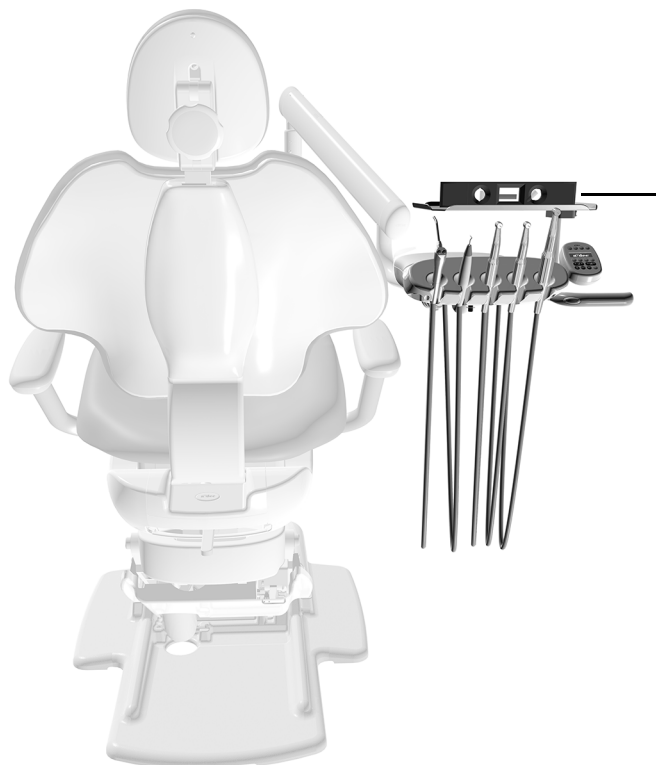
- 3** To adjust the tension, turn the screw.
Clockwise increases the tension.

Level the Delivery System

Recommended Tools

- 5/32" hex key
- Level

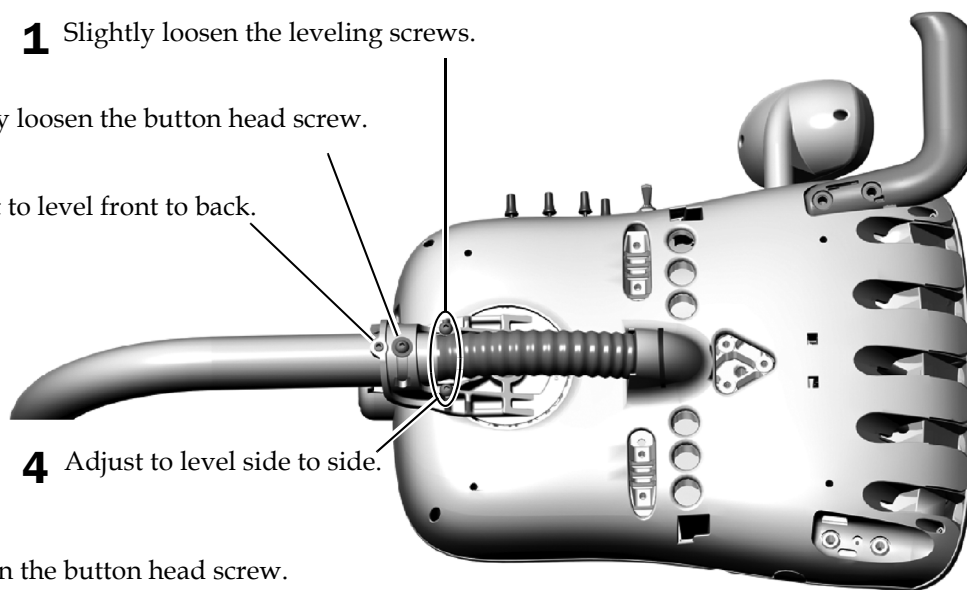
Task 1.



- 1** With the control head in the normal working position, turn it so it faces straight out from the flexarm.
- 2** Place a level on the tray holder or on top of the control head.

Task 2.

- 1** Slightly loosen the leveling screws.
- 2** Slightly loosen the button head screw.
- 3** Adjust to level front to back.
- 4** Adjust to level side to side.
- 5** Tighten the button head screw.

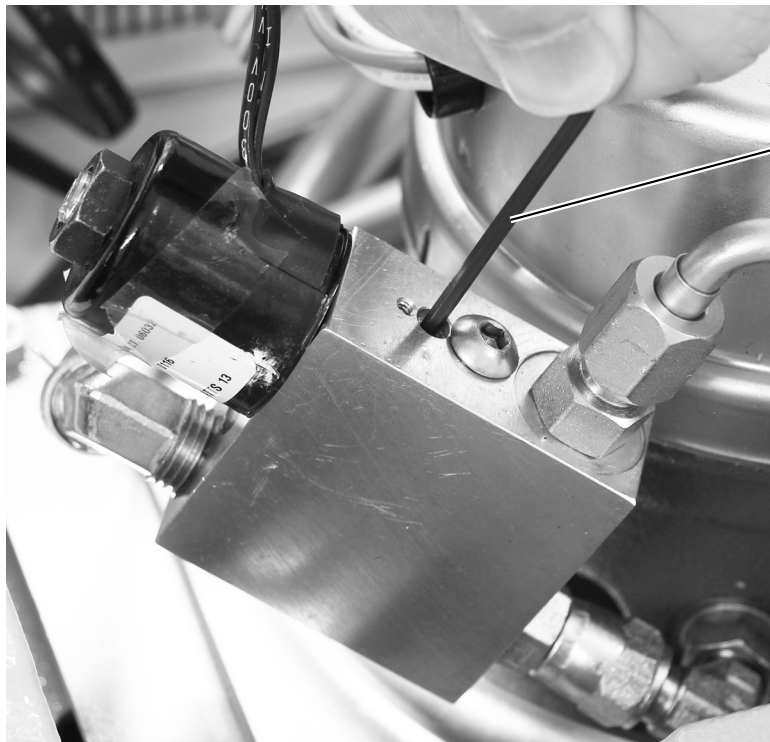


Adjust the Chair Base Down Speed

Recommended Tool

- 3/32" hex key

Change the speed at which the chair lowers by adjusting the flow control stem on the hydraulic manifold.



1 Use a hex key to turn the flow control stem.

2 Turn the setscrew to adjust the speed at which the chair lowers. Clockwise reduces the speed.



NOTE If the base down speed is set too slow (if the chair takes longer than 45 seconds to reach the full base down position), programmed positions may time out and the chair may not function correctly.

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 will 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 1. 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 (<i>Standard touchpad only</i>): 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 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 button controls water flow from the water bottle into a cup. The bowl rinse button provides rinse water for the cuspidor. See Table 2 for their preset run times.

To change the timing for cupfill or 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.



Halogen Dental Lights: 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.

Dental Light Auto On/Off 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 reactivate 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.

Technician Touchpad Setup

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 (▶), back down (◀), and **-** or **+** buttons to navigate the setup screens.

Figure 2. A-dec 300 Deluxe Touchpad Setup Screen Example



Holder Setup

You can set up how handpieces are configured for each handpiece holder. Handpiece types include Electric, Ultrasonic, Vacuum, Other, and Turbine. 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; and press ▶ to begin.
2. From the **System Setup** screen, press **-** or **+** to highlight **Handpieces** and press ▶.
3. From the **Handpiece Setup** screen, press **-** or **+** to highlight **Holder Setup** and press ▶.
4. Lift the desired handpiece from the holder.
5. From the **Holder Setup** screen, press **-** or **+** to select the handpiece type.
6. Press ▶. Three beeps confirm the setup for the handpiece is complete.
7. Return the handpiece to the holder.
8. Repeat steps 4 through 7 to set up each handpiece.
9. When you are finished setting up handpieces, press ◀ until you see the A-dec logo.

Light Source Setup



NOTE With the A-dec 300 Deluxe Touchpad, you can set up various intraoral light source settings if a quad voltage intraoral light source (QVIOLS) or electric motor controller with built-in IOLS control is installed.

The following settings 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 and press **▶** to begin.
2. From the **System Setup** screen, press **−** or **+** to highlight **Handpieces** and press **▶**.
3. From the **Handpiece Setup** screen, press **−** or **+** to highlight **Intraoral Lt Source** and press **▶**.
4. Lift the desired handpiece from the holder.
5. From the **Light Source Setup** screen, press **−** or **+** to display the desired setting and press **▶**.
6. Specify settings for the handpiece by pressing **−** or **+** and **▶** to move through the screens. Once the setup is complete, three beeps confirm the setting.
7. Repeat steps 5 and 6 for each setting.
8. Return the handpiece to the holder.
9. Repeat steps 3 through 8 to configure each handpiece.
10. When you are finished setting up the handpieces, press **◀** until you see the A-dec logo.

Ultrasonic Setup

Specify whether to turn the ultrasonic colors on or off.

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 **−** or **+** to select **Handpieces** and press **▶**.
3. From the **Handpiece Setup** screen, press **−** or **+** to select **Ultrasonic Setup** and press **▶**.
4. Press **−** or **+** to display **On** or **Off**, and press **▶**. Three beeps confirm the setting.
5. Press **◀** until you see the A-dec logo.

Electric Setup

You can change display information and the electric functions. The following settings are available: Torque Units, Torque Warning Beep, Auto Reverse Beep, and Auto Mode. See Table 5 on page 77 for information about each setting.

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 and press **▶** to begin.
2. From the **System Setup** screen, press **−** or **+** to select **Handpieces** and press **▶**.
3. From the **Handpiece Setup** screen, press **−** or **+** to highlight **Electric Setup** and press **▶**.
4. From the **Electric Setup** screen, press **−** or **+** to display the desired setting and press **▶** to select the setting.
5. Specify options for the setting by pressing **−** or **+** and **▶** to move through the screens. Once the setup is complete, three beeps confirm the setting.
6. Repeat steps 4 and 5 for each setting.
7. When all settings are complete, press **◀** until you see the A-dec logo.

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 settings:

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 **−** or **+** to select **Touchpad** and press **▶** to begin.
3. From the **Touchpad Setup** screen, press **−** or **+** to highlight **Contrast Adjust** or **Help Messages**:
 - **Contrast Adjust:** Press **−** or **+** to adjust the contrast. Press **▶** to save the setting; three beeps confirm the setting.
 - **Help Messages:** Press **−** or **+** to turn **On** or **Off** the help messages. Press **▶** to save the setting; three beeps confirm the setting.
4. When settings are complete, press **◀** until you see the A-dec logo.



NOTE For a listing of help messages, see the *Regulatory Information, Specifications, and Warranty* document (p/n 86.0221.00) in the Document Library at www.a-dec.com.

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 setting, press the **-** or **+**. You see the rpm values on the screen. See Figure 3.
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 3. 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 3. 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 the Electric Handpieces in Endodontics (Endo) Mode

In addition to handpiece speed adjustments, the Endodontics mode allows you to change a number of settings based on the specific file and desired handpiece behavior. Icons on the touchpad screen reflect the settings.

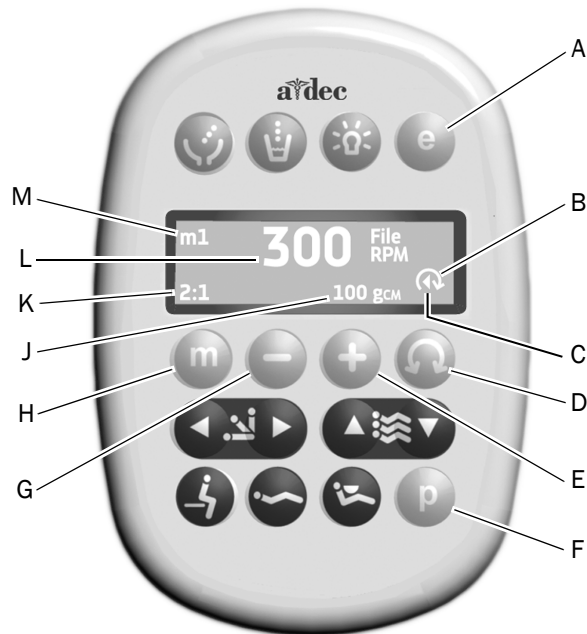


NOTE For more information regarding speed and torque limits for a specific file, consult the file manufacturer.

To program the handpiece setting:

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 **-** or **+**. A white reverse video box is displayed on the touchpad screen.
4. Use the chair positioning buttons to move from setting to setting on the touchpad screen.
5. Press **-** or **+** to change the setting as desired.
6. To set the speed limit, torque limit, or 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 4. Endodontics Mode Touchpad Screen



Item	Description	Item	Description
A	Endodontics Mode Button	G	Minus Button
B	Forward/Reverse Indicator	H	Memory Button
C	Auto-Mode Indicator	J	Torque Value Indicator
D	Forward/Reverse Button	K	Handpiece Ratio Setting
E	Plus Button	L	File Speed Indicator
F	Program Button	M	Memory Setting Indicator

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

Table 5. Endodontics Mode Touchpad Screen Icons

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 N-cm (Newton centimeters) and g-cm (Gram centimeters). Adjusting this setting for one handpiece changes it for all handpiece settings. Note: 1 N-cm = 102 g-cm.
	Ratio	Sets the handpiece ratio. For more information, consult your handpiece manufacturer.
	Auto Modes	Adjusting this setting for one handpiece changes it for all handpiece settings. The auto mode indicator displays inside of the forward/reverse indicator.
	Auto Stop	When the file reaches the torque limit, The motor shuts off.
	Auto Reverse	When the file reaches the torque limit, the motor stops and reverses direction.
	Auto Forward	When the file reaches the torque limit, the motor stops, reverses direction 3 turns, then changes back to forward again. Note: If the file is stuck, this cycle repeats three times before the motor stops.

Test the System

After you have completed the installation of the A-dec 411 dental chair, 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 footswitch.
- Headrest is functioning properly.
- Armrests function properly.

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 is counter-balanced properly.
- Rotation stop pin is installed and functioning properly.
- Flexarm air brake functions properly.
- Height of manual adjustment arm and rotation tension is set.
- 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.
- A spare bulb is included (A-dec p/n 041.709.00).
- Dental light flexarm and head tension are properly adjusted.

Utilities

- Regulated air pressure is at 80 psi.
- Floor box is free of air and water leaks.
- 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.

Install the Covers



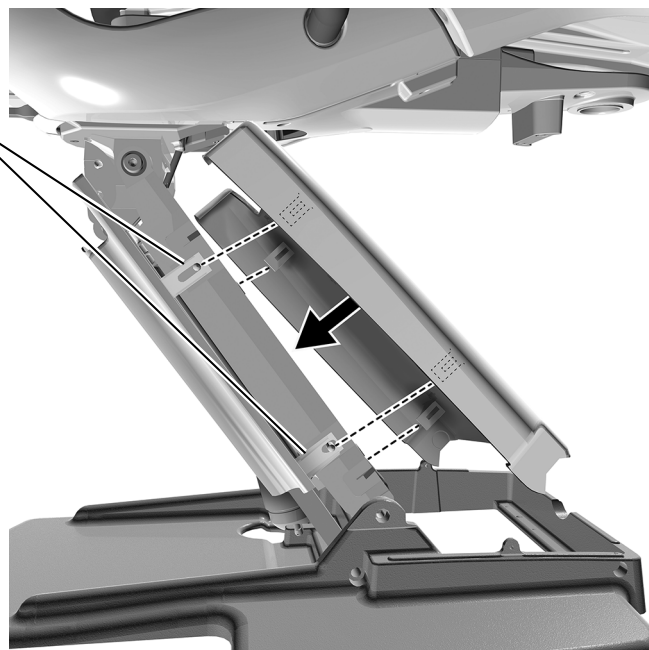
NOTE Be sure to adjust and test the system before installing the covers.



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

Install the Lift Arm Cover

- 1** Position the chair so that it is raised halfway up.
- 2** Insert the posts on the lift arm into the slots on one side of the cover.
- 3** Insert the posts into the slots on the other side of the cover.



Install the Pump and Floor Box Covers

Recommended Tool

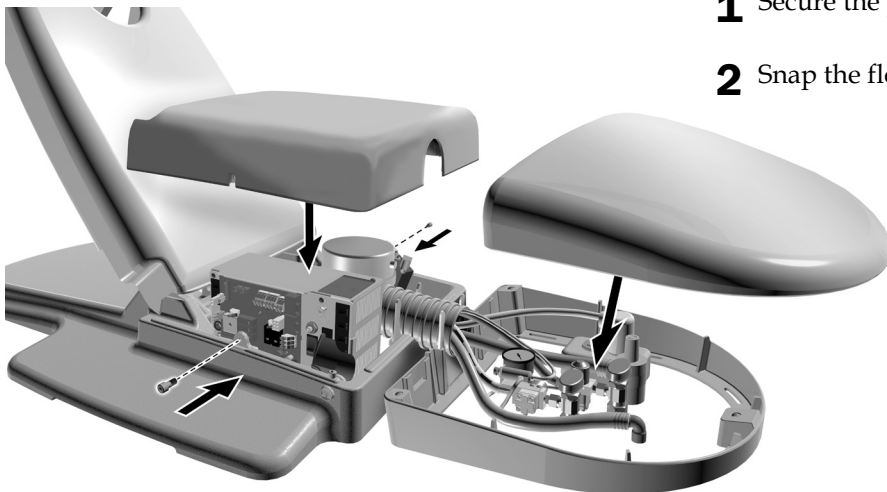
- 3/16" hex key

Task 1.



- 1** If the system includes a floor box, remove the slot from the front of the pump cover.

Task 2.

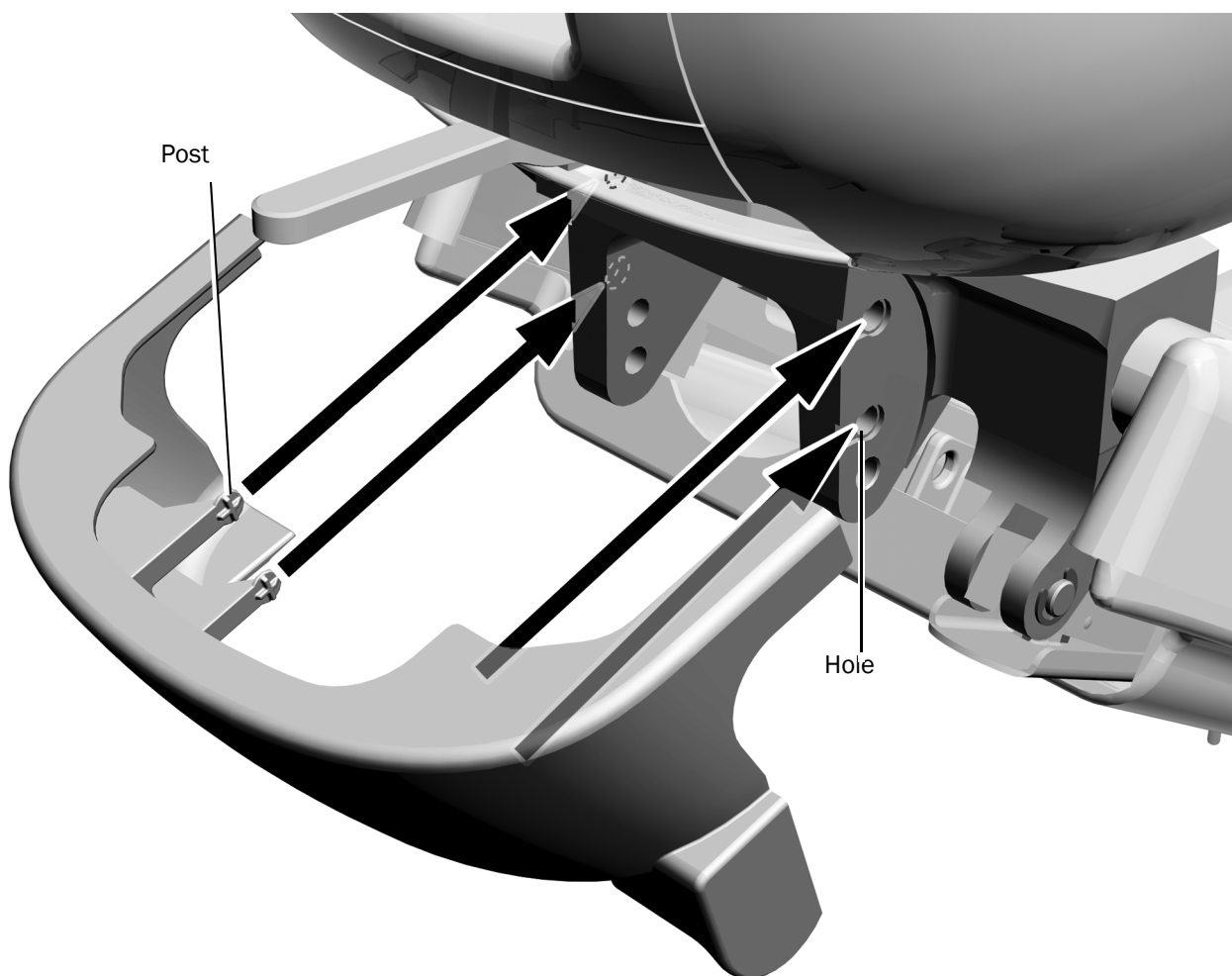


- 1** Secure the pump cover.
- 2** Snap the floor box cover into place.

Install the Mount Cover



NOTE Wait to install this cover until after all modules are installed. If the system includes a support link, use the slotted back mount cover that fits around the link.



- 1** Snap the mount cover in place. The four posts go into the holes on the mount.

Regulatory Information and Warranty

For required regulatory information and the A-dec warranty, see the *Regulatory Information, Specifications, and Warranty* document (p/n 86.0221.00) available in the Resource Center at www.a-dec.com.

All trademarks cited herein are the property of their respected owners.



2601 Crestview Drive
Newberg, OR 97132 USA
Tel: 1.800.547.1883 Within USA/CAN
Tel: +1.503.538.7478 Outside USA/CAN
www.a-dec.com

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.



86.0378.00 Rev F
Date of Issue 2021-06-01
Copyright 2021 A-dec, Inc.
All rights reserved.
IGrphpor22