



# A-dec® 332pro/333pro/336pro and A-dec 332/333/336 Delivery System on A-dec 511 Dental Chair

## INSTALLATION GUIDE

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A-dec 332pro Traditional Delivery System on an A-dec 511A Dental Chair

### Product Models and Versions Covered in this Document\*

Model	Versions	Description
332pro/333pro/336pro	n/a	Delivery System
332/333/336	A	Delivery System
511	A	Dental Chair

\*Some product models, versions, and options in this document may not be available in certain regions.

## Before You Begin

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**WARNING** Shock hazard. When you remove or replace the covers, take care not to damage any wiring or tubing. Verify that the covers are secure after you replace them.

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**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.

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

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- 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 specific to your location.

## Recommended Tools

- |  |  |                            |
|--|--|----------------------------|
| • Hex key set  | • Wood block                           | • Sleeve pusher            |
| • Torque wrench with 5/8" and 3/4" open-end adaptors | • Phillips head screwdriver            | • Voltmeter                |
| • 5/8", 3/4", and 15/16" sockets and ratchet         | • Diagonal cutters                     | • Level                    |
| • Torque wrench with 5/8" and 3/4" open-end adaptors | • 3/8" and 15/16" combination wrenches | • Handpiece pressure gauge |

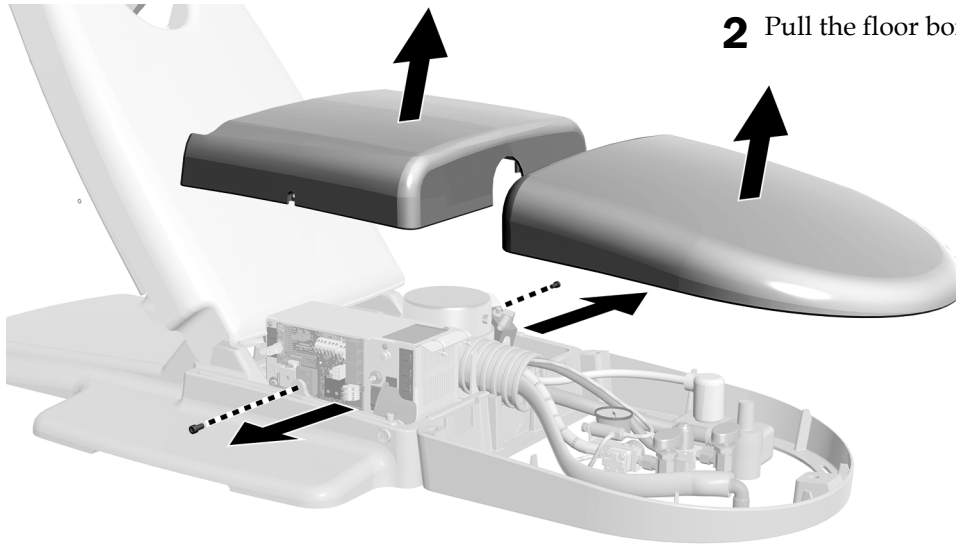
## Prepare the Chair

### Recommended Tool

- 3/16" hex key

### Task 1.

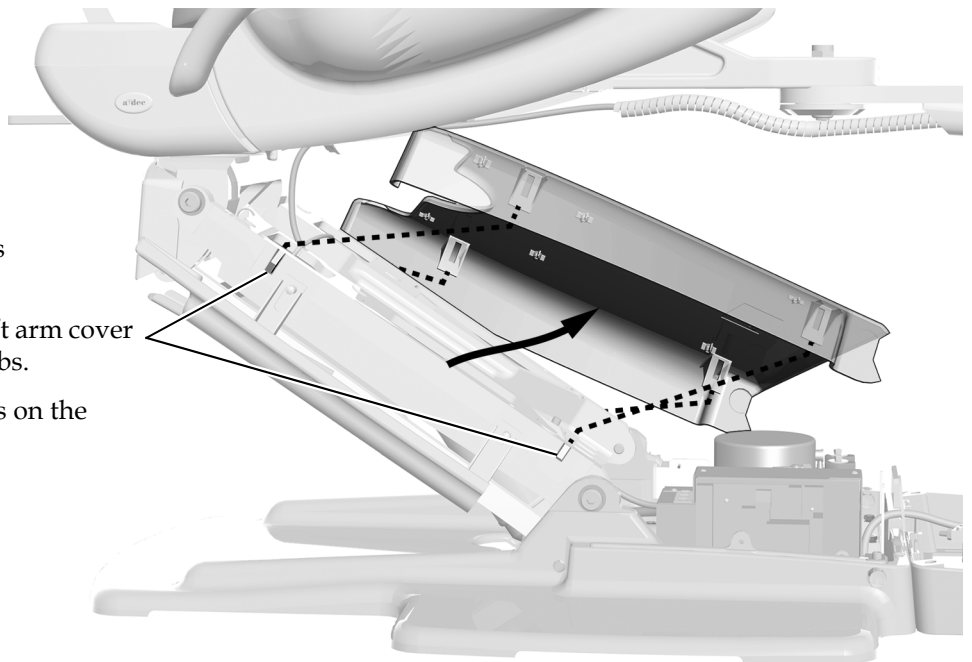
**1** Remove the pump cover.



**2** Pull the floor box cover up and off of its frame.

### Task 2.

- 1** Position the chair so that it is raised halfway up.
- 2** Pull out on one side of the lift arm cover to raise the slots off of the tabs.
- 3** Slide the cover off of the tabs on the other side of the lift arm.



## Install the Front Mount

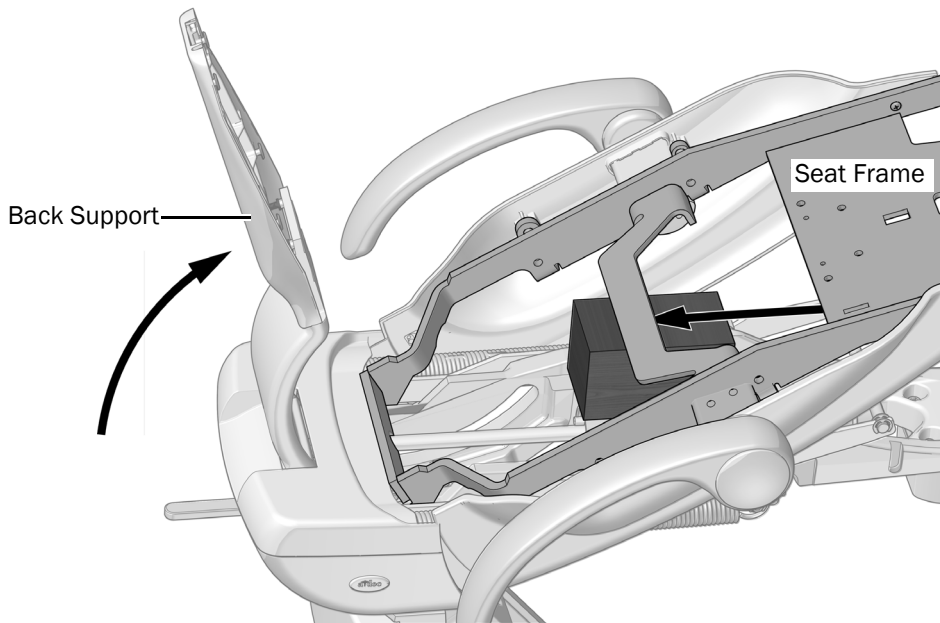
### Recommended Tools

- Wood block
- 1/4" and 3/8" hex keys
- 5/8" and 3/4" socket and ratchet
- Torque wrench with a 5/8" open-end adaptor
- Torque wrench with a 3/4" open-end adaptor

### Task 1.



**READ THIS!** If the system includes equipment mounted to a front mount, the modules and the front mount need to be uninstalled before completing this procedure.



**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** Turn on power to the chair.
- 2** Fully raise the back support.
- 3** Lift the seat frame and place a wood block between the seat frame and the upper structure. This provides better access to the front of the upper structure for attaching the rigid arms.

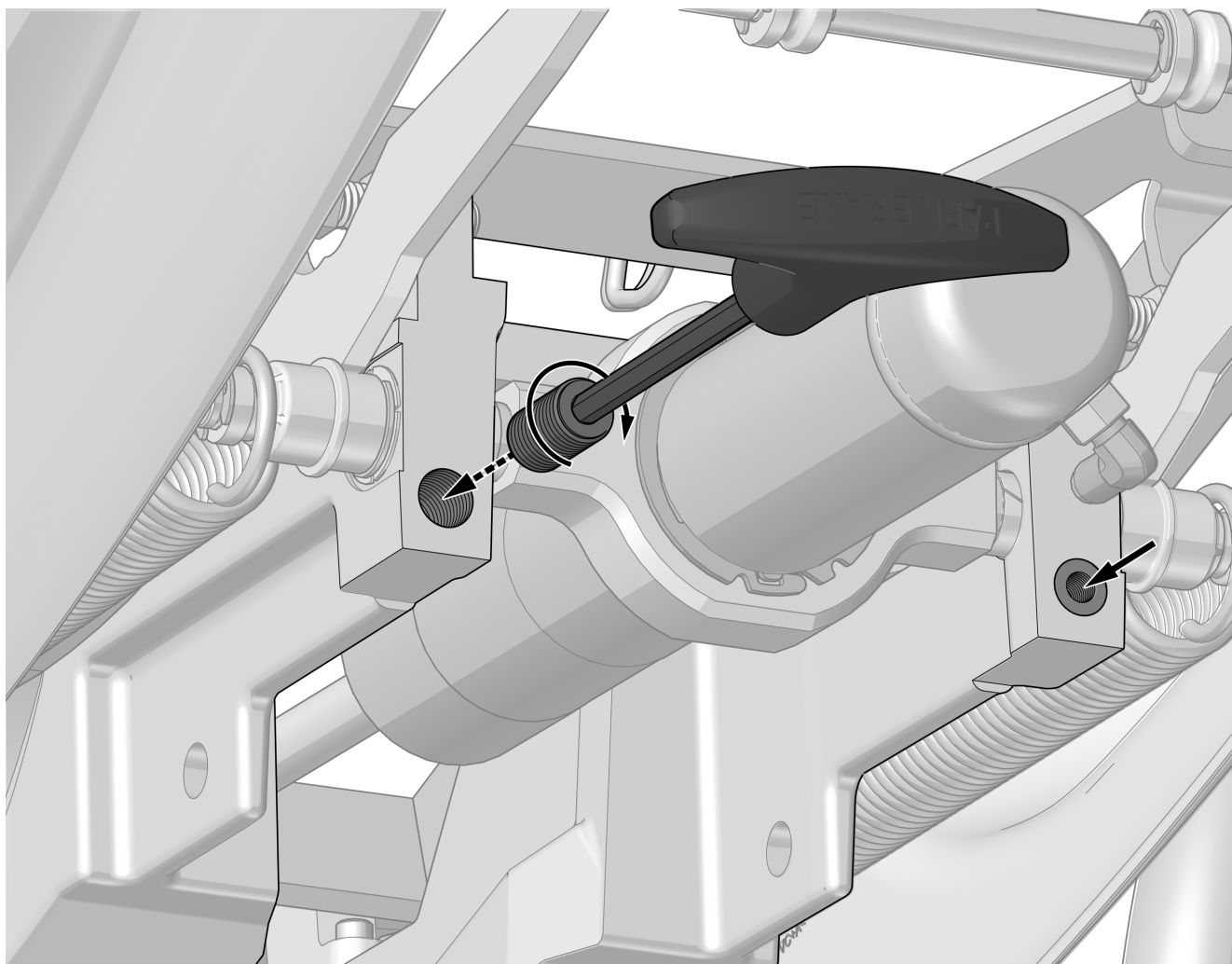


## Task 2.

- 1 Use a 1/4" hex key to screw two adaptors into the holes in the upper structure until the adaptors are flush with the surface of the upper structure.

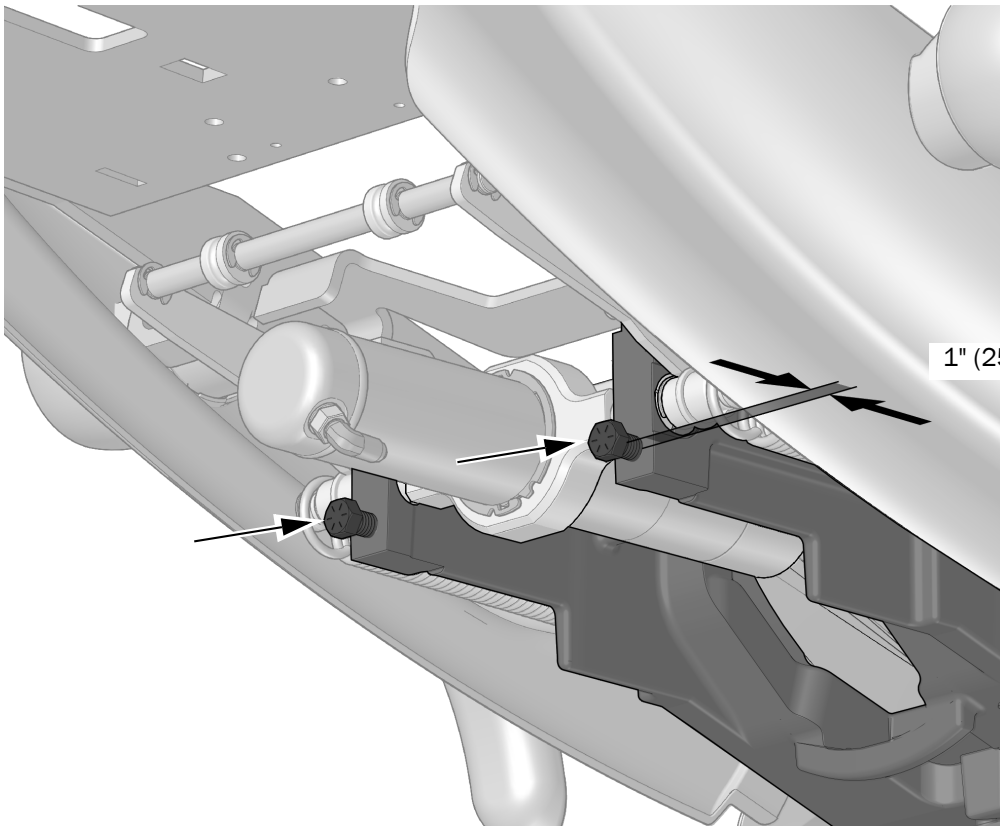


**NOTE** Insert the hex key through the open end of the adaptor to engage the hex interface at the back of the adaptor.



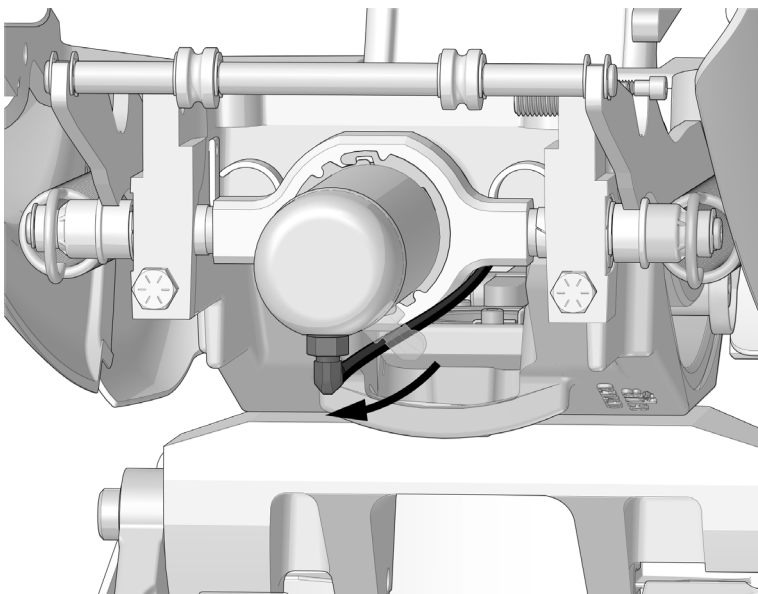
### Task 3.

- 1 Screw two 7/16-14 x 1-1/2" bolts into the adaptors until the head of the bolts are approximately 1" (25 mm) from the upper structure.



Actual Size

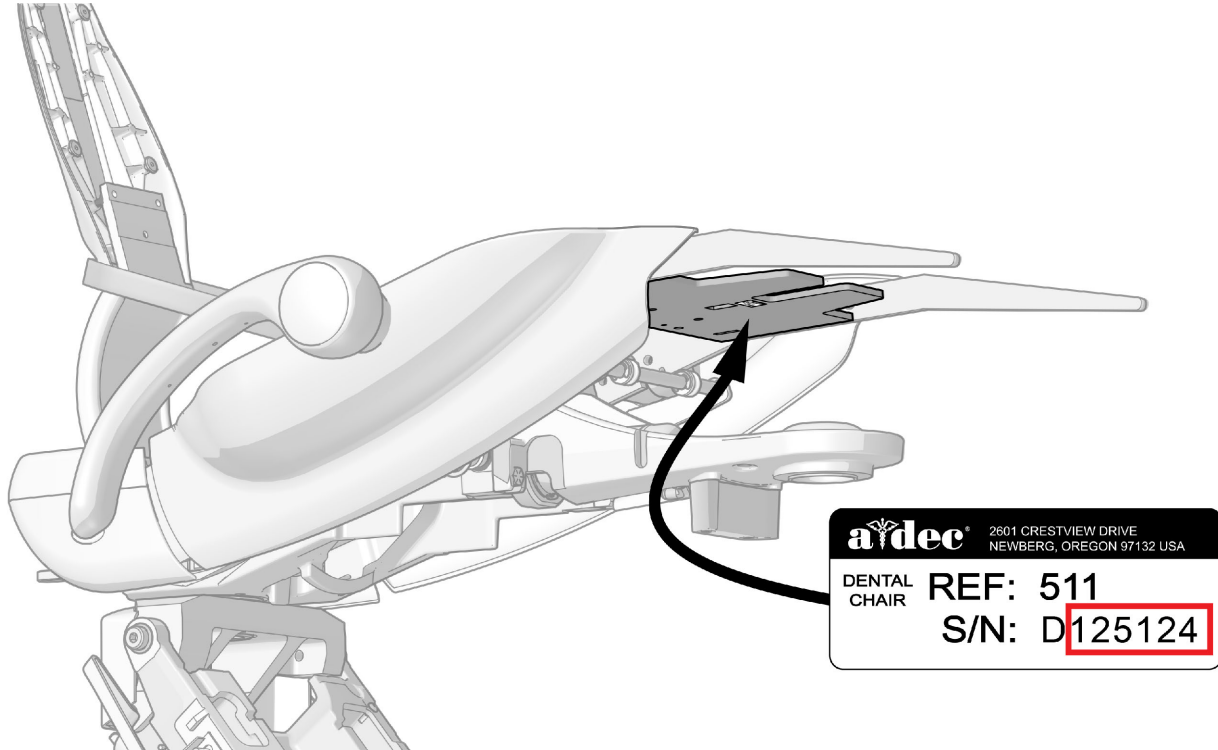
- 2 Rotate the hydraulic cylinder so the hydraulic fitting is at the 6 o'clock position.



#### Task 4.

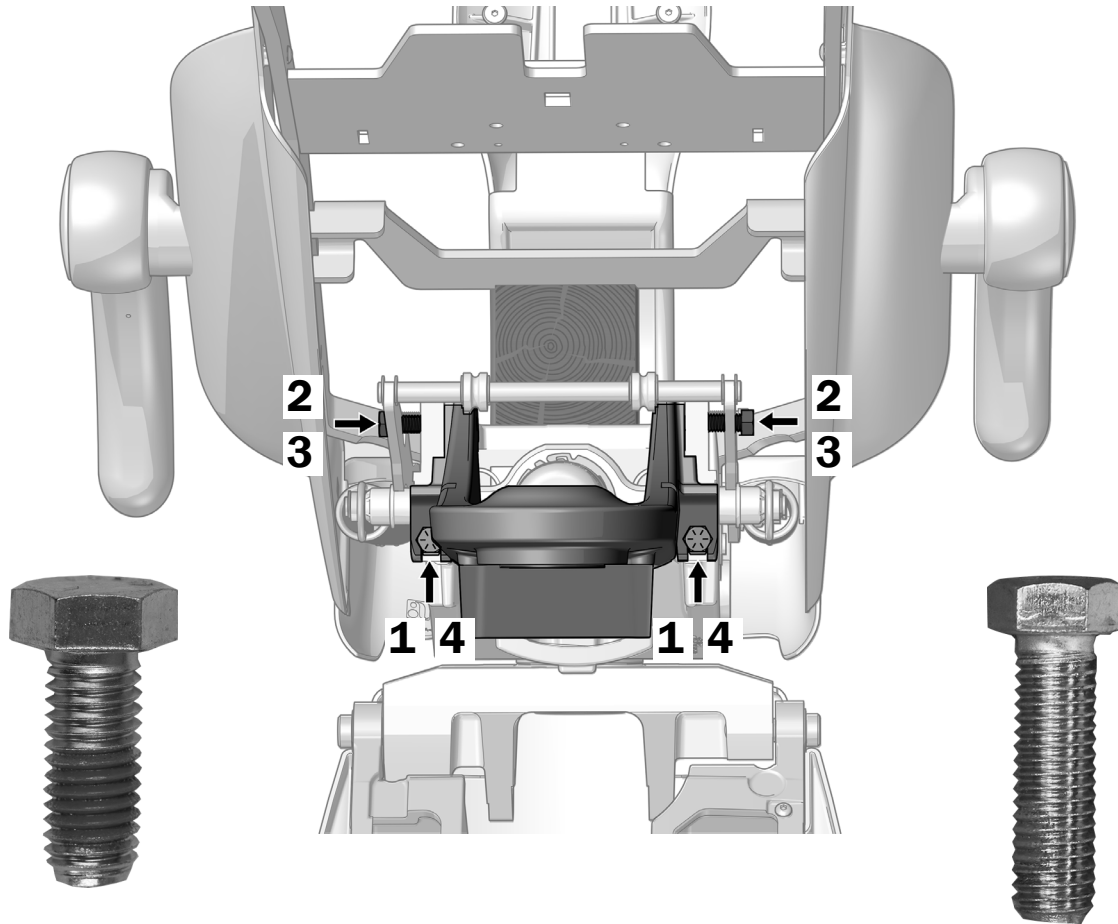
When completing steps 2 and 3 in the following instructions, install the bolts according to when the chair was manufactured.

To tell when the chair was manufactured, look at the serial number on the underside of the seat frame.



Serial number D125124 is the cutoff for chairs manufactured after April 2011.

- **April 2011 and Before Chairs** - The numerical part of the serial number is equal to or less than **125124**.
- **After April 2011 Chairs** - The numerical part of the serial number is higher than **125124** or has more than 7 digits.



Chairs Manufactured  
in April 2011 or Before  
1/2-13 x 1-1/4"  
Actual Size

Chairs Manufactured  
after April 2011  
7/16-14 x 1-1/2"  
Actual Size

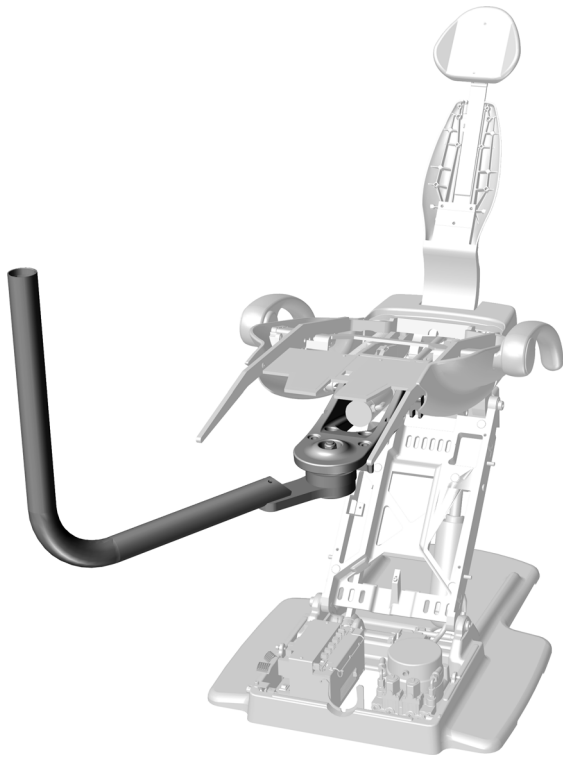
- 1** Set the front mount assembly onto the two bolts in the front of the upper structure.
- 2** Align the holes in the top of the front mount with the holes in the upper structure and do one of the following:
  - **Chairs Manufactured in April 2011 or Before** - Use a 3/4" socket and ratchet to install two 1/2-13 x 1-1/4" bolts through the holes.
  - **Chairs Manufactured After April 2011** - Use a 5/8" socket and ratchet to install two 7/16-14 x 1-1/2" bolts through the holes.
- 3** Do one of the following:
  - **Chairs Manufactured in April 2011 or Before** - Use torque wrench with a 3/4" open-end adaptor to securely tighten the two top bolts to 50 ft-lbs (68 Nm).
  - **Chairs Manufactured After April 2011** - Use torque wrench with a 5/8" open-end adaptor to securely tighten the two top bolts to 50 ft-lbs (68 Nm).
- 4** Use torque wrench with a 5/8" open-end adaptor to securely tighten the two bottom bolts to 50 ft-lbs (68 Nm).
- 5** Rotate the hydraulic cylinder back to its original position.

## Install the Rigid Arms

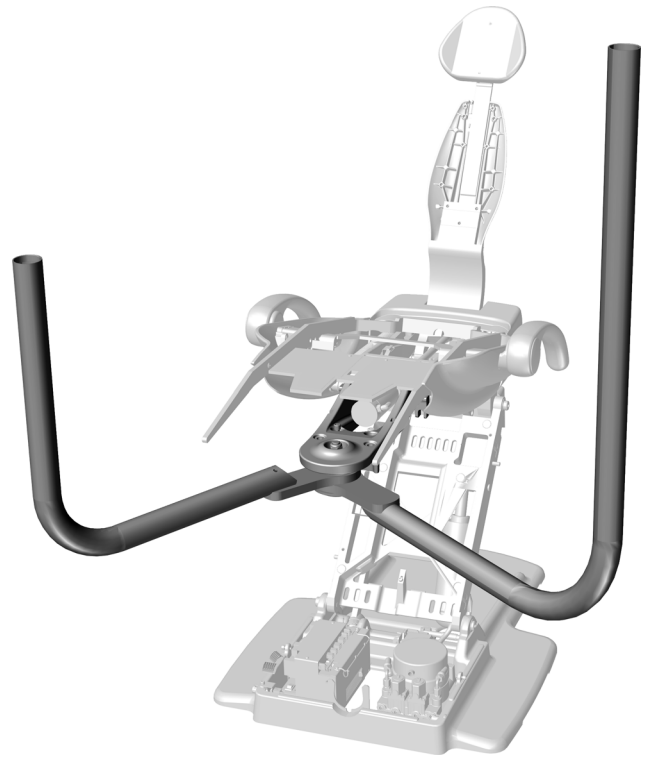
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The procedures for installing the rigid arms are the same for all A-dec 511A Dental Chairs. Complete the instructions for the system's configuration.

<b>Install the Delivery System Rigid Arm Only .....</b>	<b>10</b>
<b>Install Dual Rigid Arms .....</b>	<b>12</b>



**Delivery System Rigid Arm Only**



**Dual Rigid Arms**

## Install the Delivery System Rigid Arm Only

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

### Recommended Tool

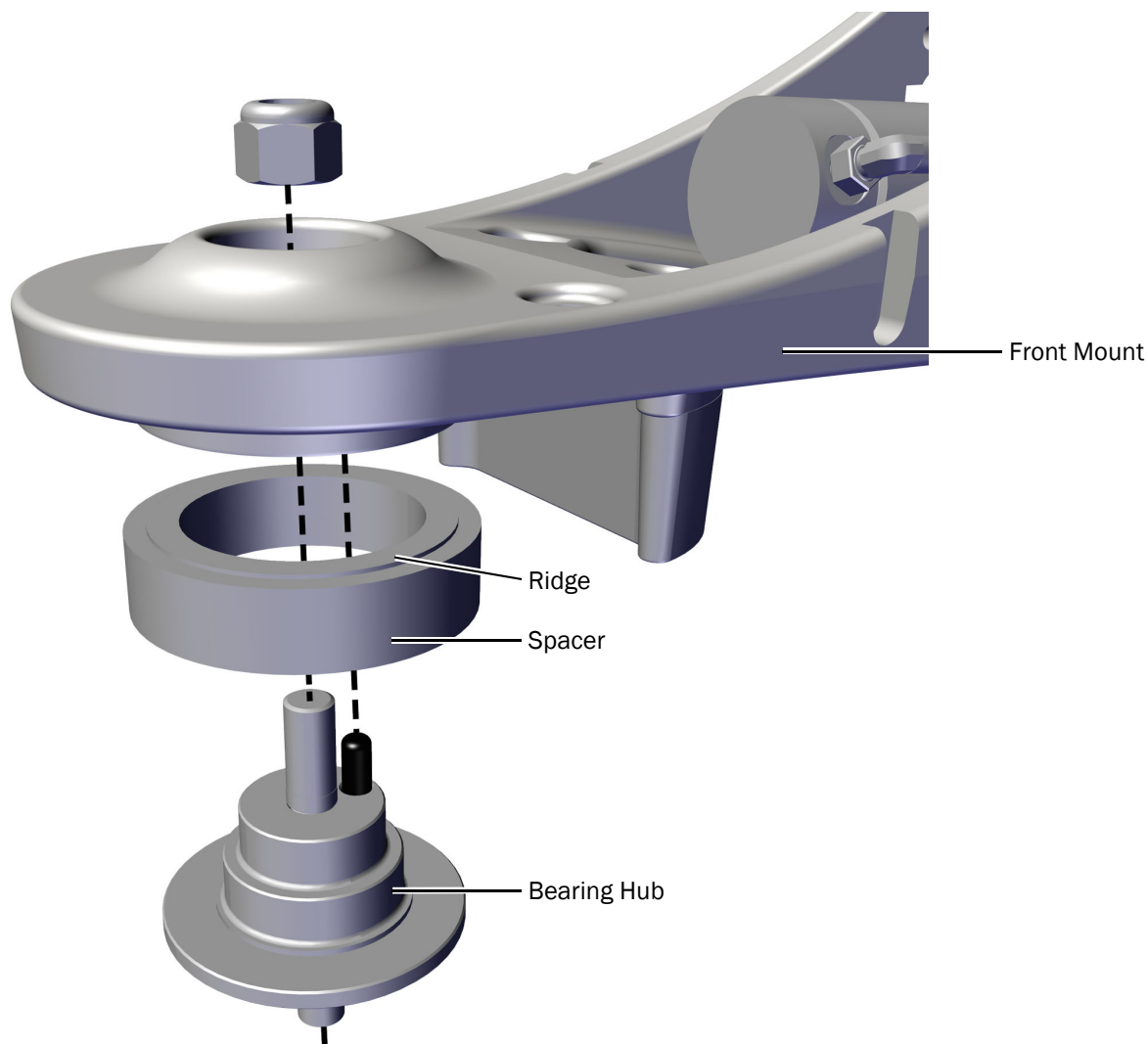
- 15/16" socket and ratchet

### Task 1.



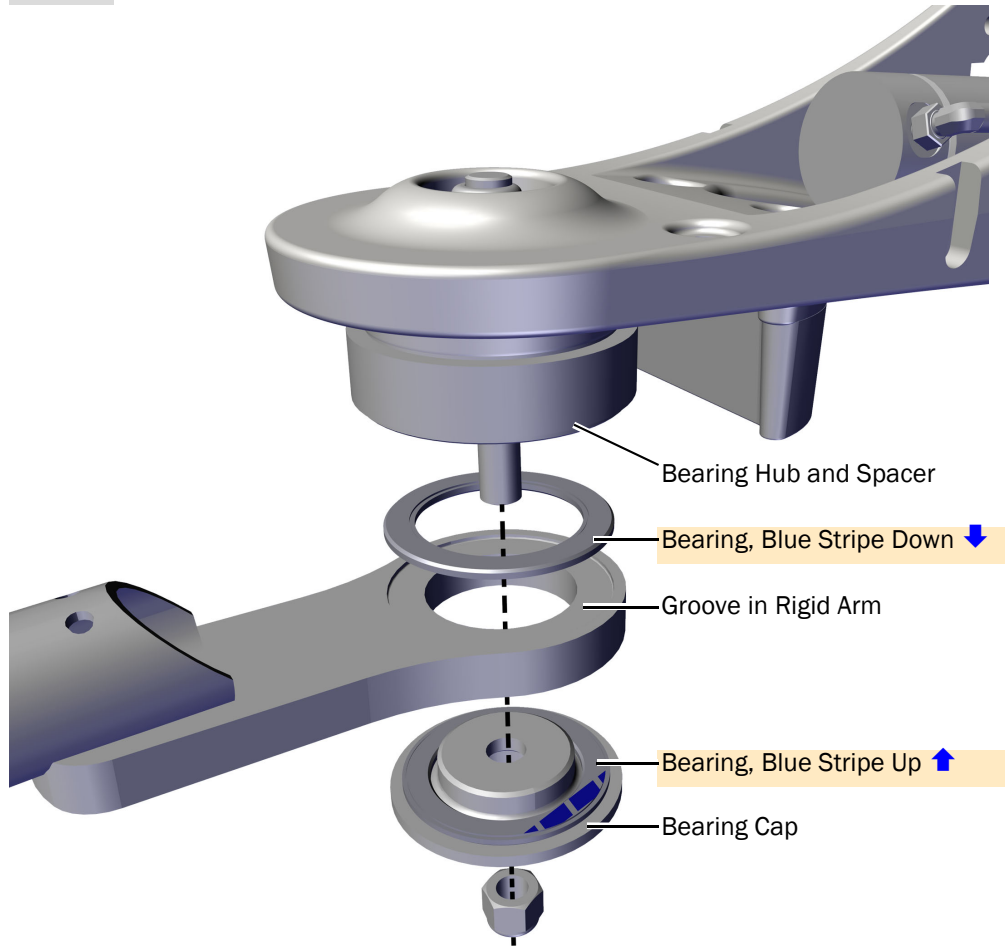
**NOTE** The bearing hub ships in its own box with the delivery system.

- 1 Securely install the bearing hub and spacer onto the front mount. The ridge on the spacer faces up.



A-dec 511A Chair Manufactured After April 2011 Shown

## Task 2.



- 1 Install the bearings, rigid arm, and bearing cap onto the bearing hub.



**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.



Blue Stripe on Bearing

- 2 Tighten the nut securely so that the joint does not sag.
- 3 If the system includes a support center, install the 511 rotation stop. The stop and instructions ship with the support center.



511 Rotation Stop

## Install Dual Rigid Arms

Use these instructions if the system includes a delivery system and a dental light or a monitor mount attached to the front mount.

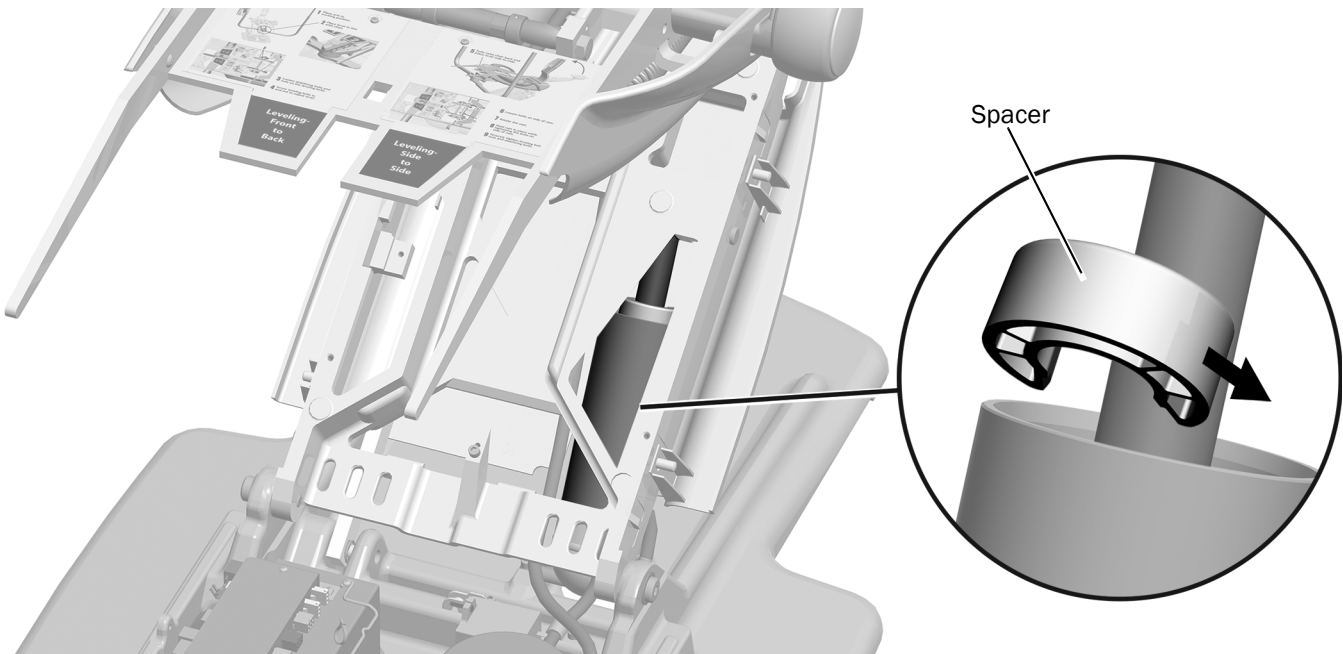
### Recommended Tools

- 15/16" socket and ratchet
- Phillips head screwdriver

## Install the Spacer and Toeboard Ramps

### Task 1.

- 1 Fully raise the chair base.



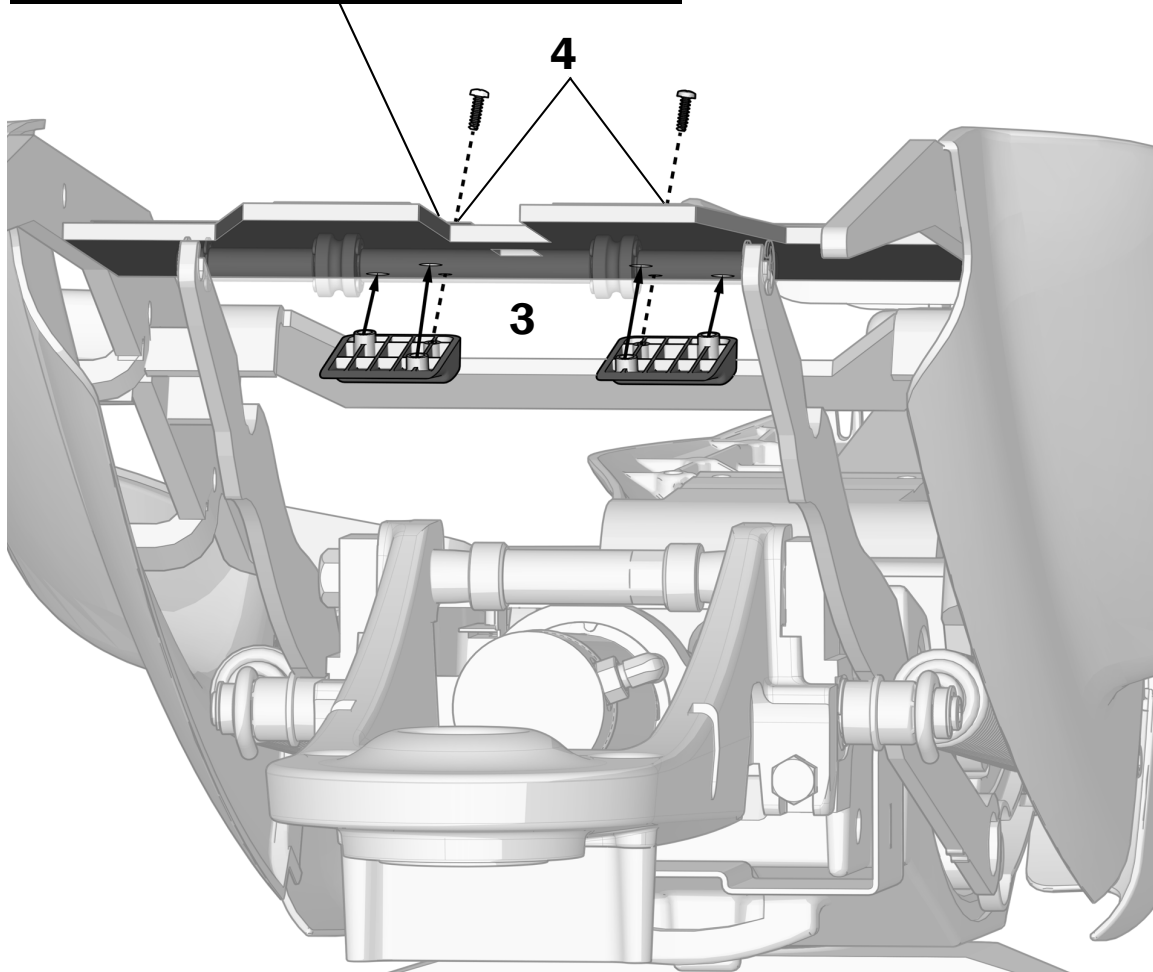
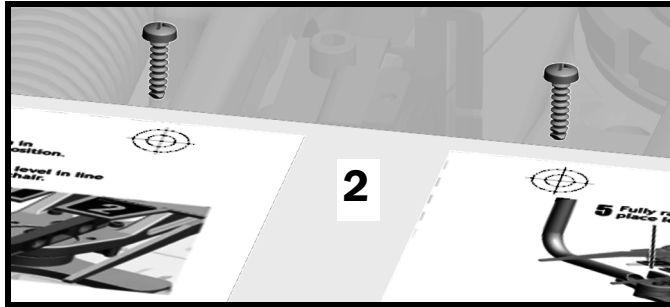
**CAUTION** The spacer must be correctly installed to prevent the rigid arms from damaging the covers when the chair is lowered.

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



## Task 2.

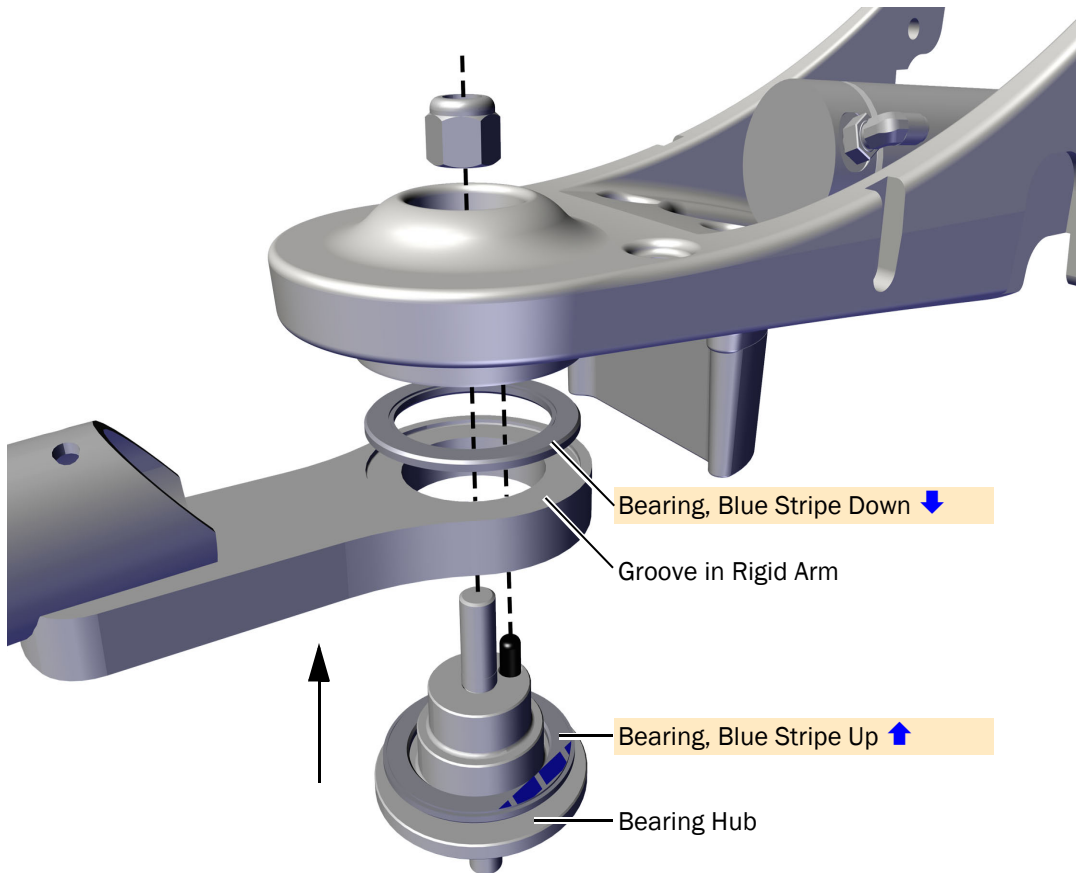
1. Fully lower the chair back.
2. Use a screw to poke through the two cross-hair targets at the top of the sticker.
3. Insert the posts of the ramps into the larger holes so that the ramp sits flush to the cam platform. The ramps ship with the light and monitor mount.
4. Secure each ramp with a screw.



## Attach the Rigid Arms

### Task 1.

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



A-dec 511A Chair Manufactured After April 2011 Shown



**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.

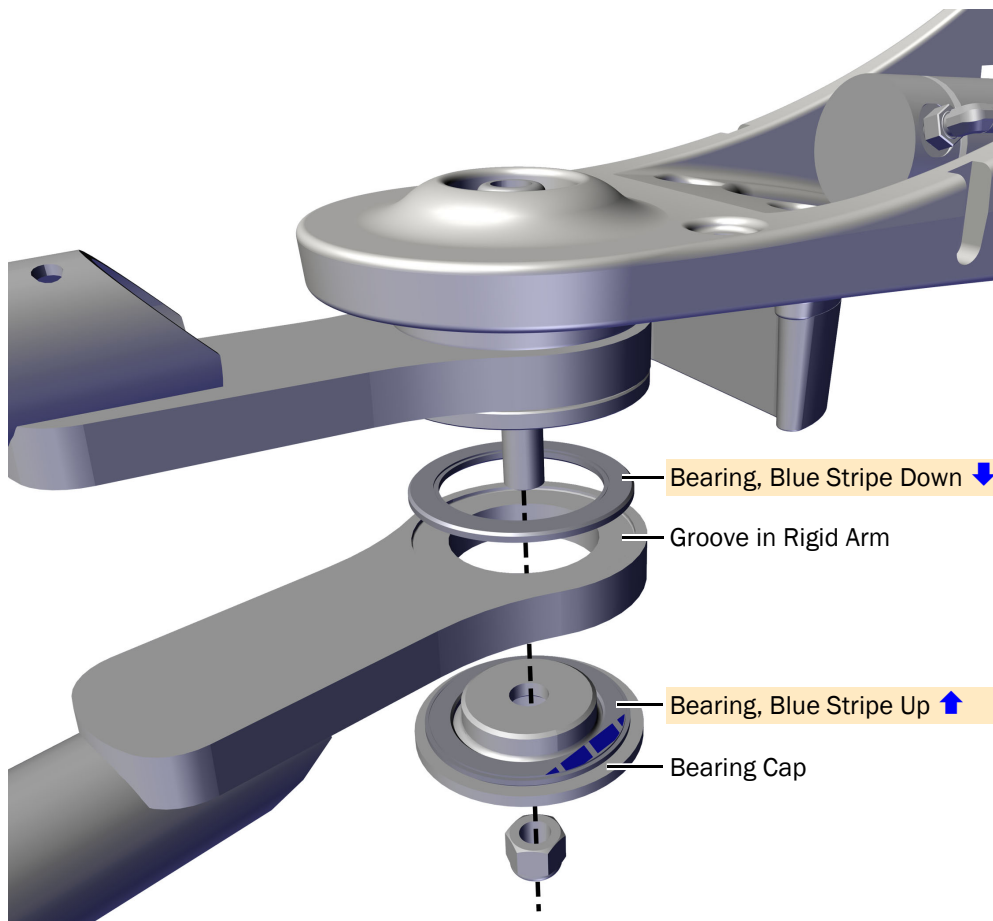
- 2 Tighten the nut securely so that the joint does not sag.



Blue Stripe on Bearing

## Task 2.

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



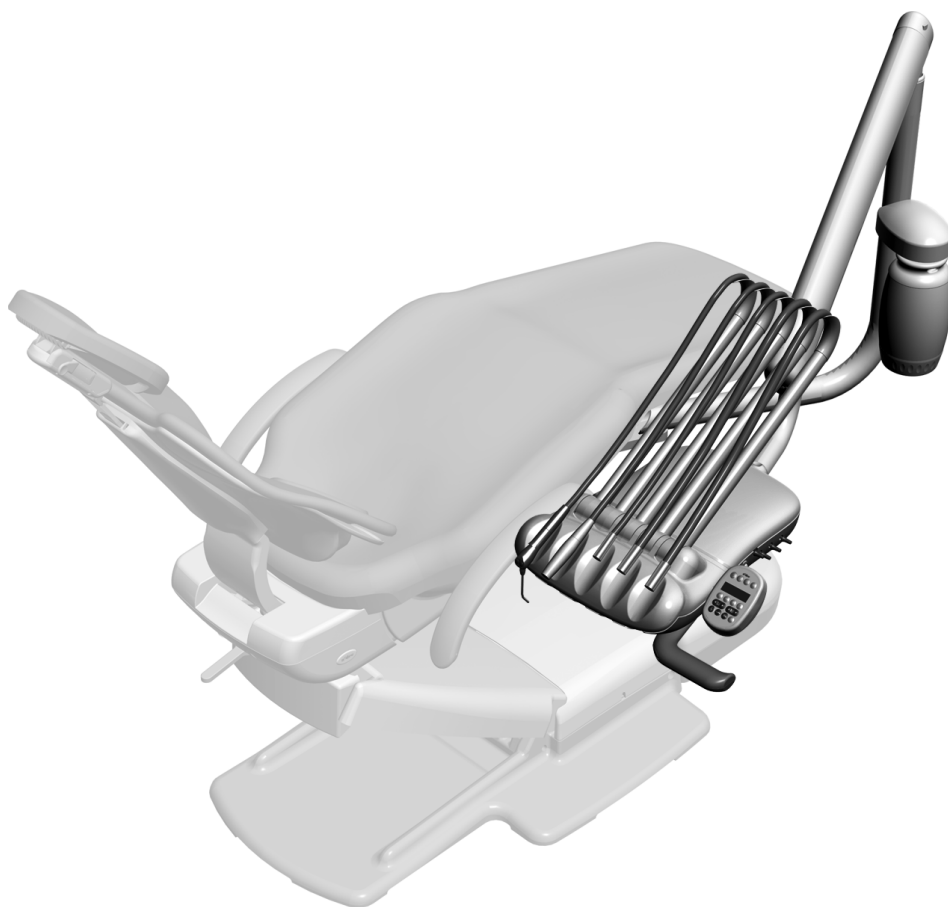
- 2 Tighten the nut securely so that the joint does not sag.
- 3 If the system includes a support center, install the 511 rotation stop. The stop and instructions ship with the support center.



511 Rotation Stop

## Install the Delivery System

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A-dec 333 Continental<sup>®</sup> Delivery System on an A-dec 511 Dental Chair

## Install the Water Bottle Mount on the Delivery System Rigid Arm (A-dec 332pro/333pro/332/333 only)



**READ THIS!** If you are installing an A-dec 336 delivery system, the water bottle mount is installed at the factory. Continue with "Install the A-dec 336pro/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. Insert the plug from the kit into the hole in the delivery system rigid arm.

### Recommended Tool

- 5/16" combination wrench

### Task 1.



- 1 Use a 5/16" combination wrench to remove the mount screw, washer, and plate from the rigid arm.

### Task 2.

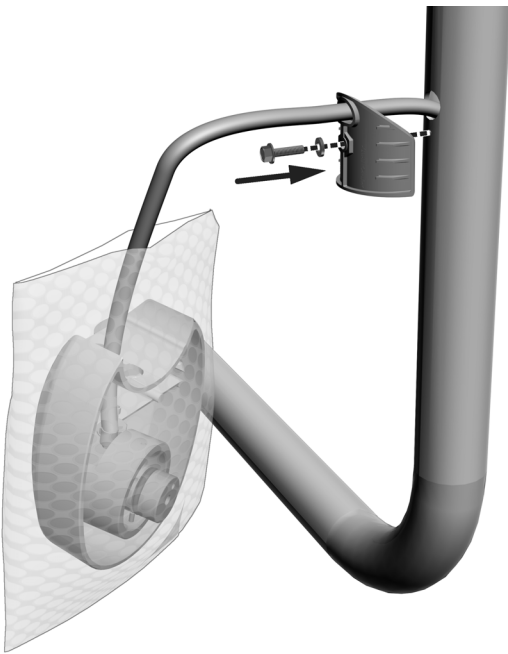


- 1 Route the water bottle tubing through the plate, into the hole in the rigid arm, and out the bottom of the arm.



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

**Task 3.**



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

**Task 4.**



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

## Install the A-dec 332pro/333pro/332/333 Delivery System

### Recommended Tools

- 3/8" and 5/32" hex keys



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

### Task 1.



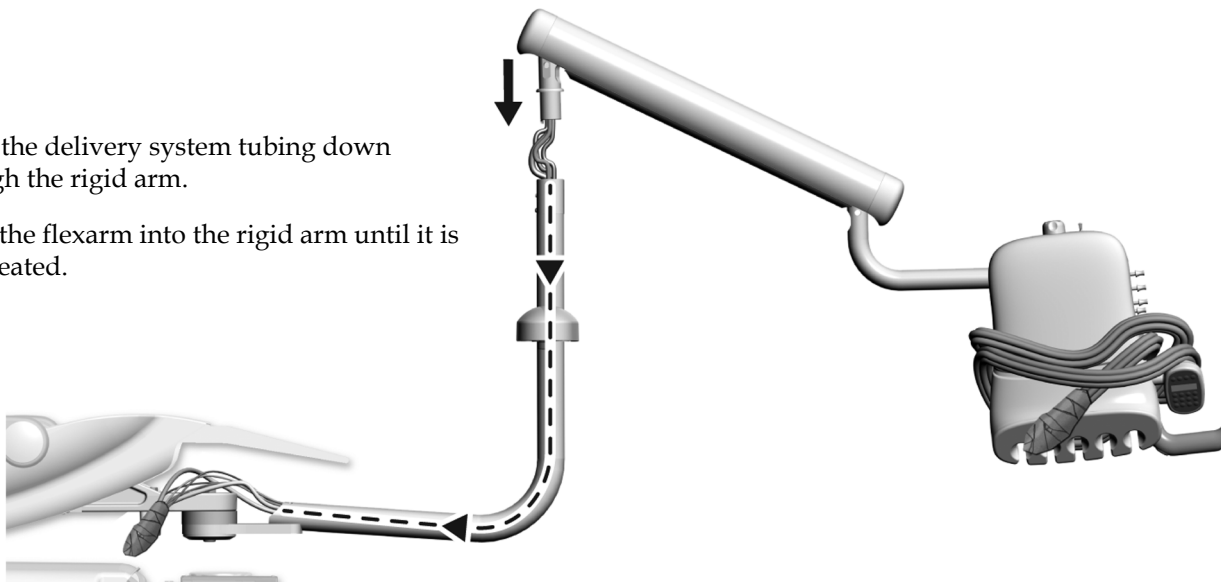
- 1** Fully lower the chair base.
- 2** Pick up the delivery system and put it over your shoulder so one hand is free to route the tubing bundle.



**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.



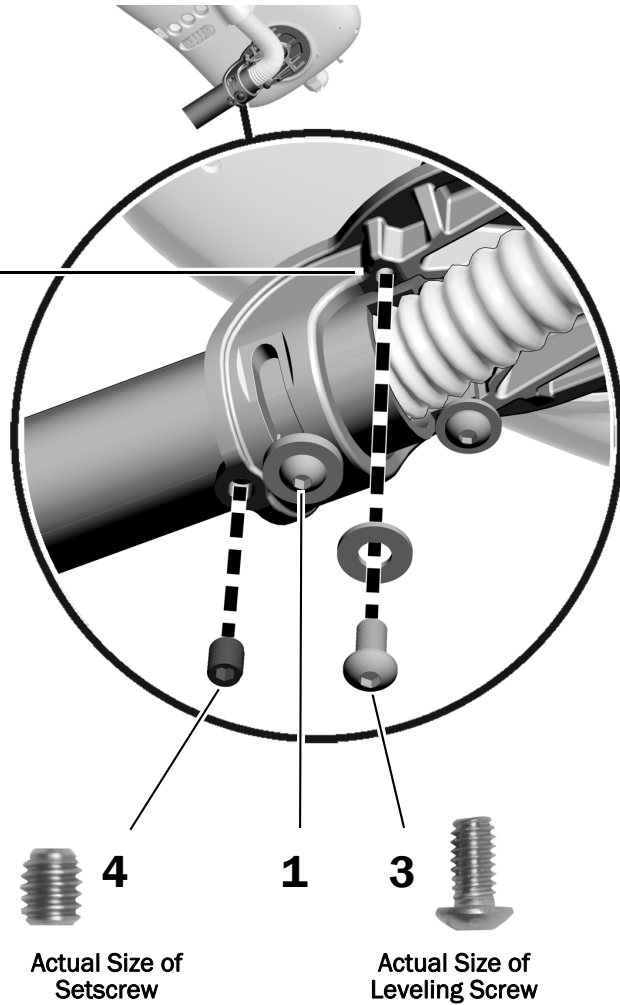
### Task 3.

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 and washer.
4. Install the 3/8" setscrew.
5. Tighten the button head screw.



### Task 4.

#### Install the Handpiece Tubing and Adjustment Keys (A-dec 332pro/336pro/332/333/336 only)

- 1 Place the handpiece tubing in position for use.

- 2 A-dec 333 Continental delivery systems only. Insert the whip hooks.

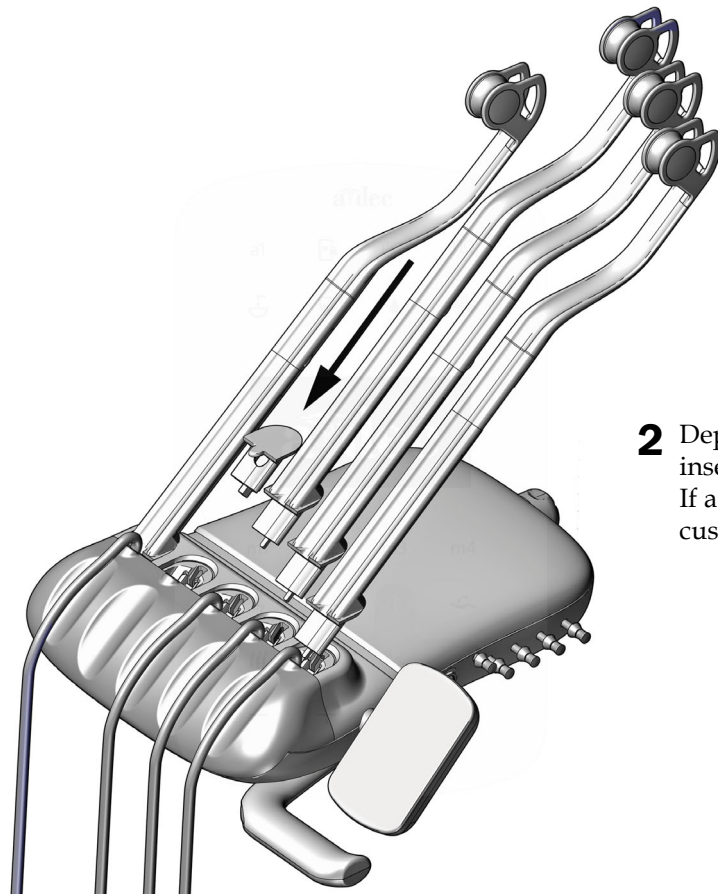
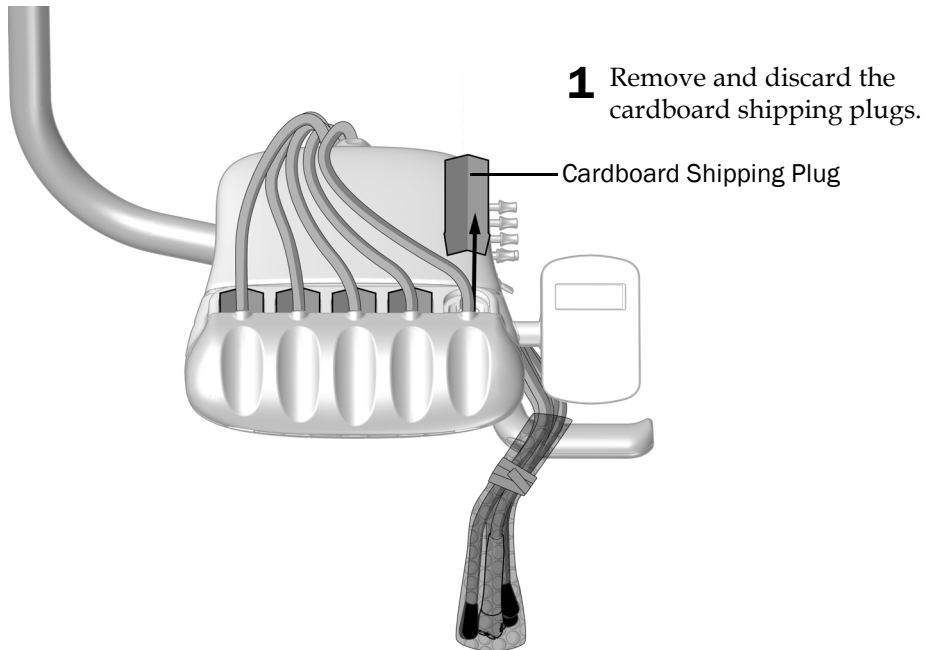
- 3 Insert the adjustment keys.

A-dec 333 Shown

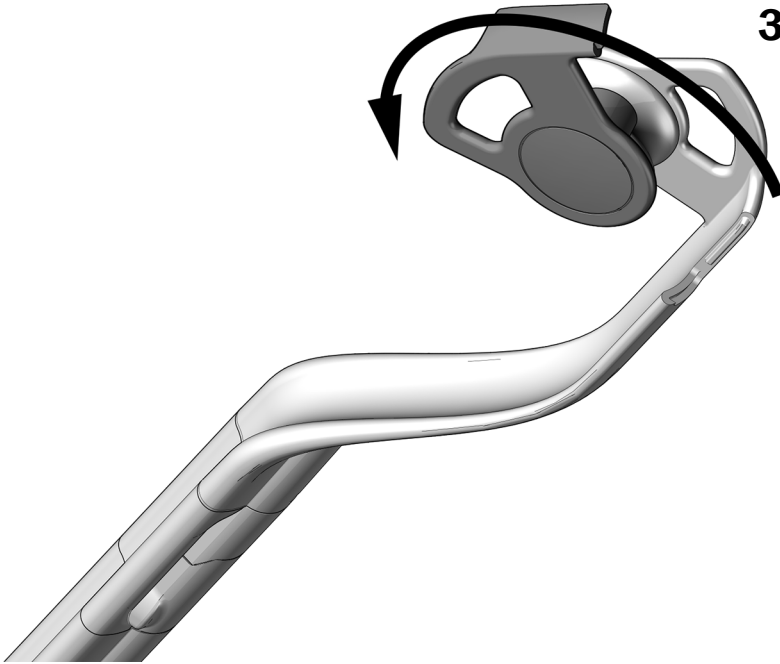


## Task 5.

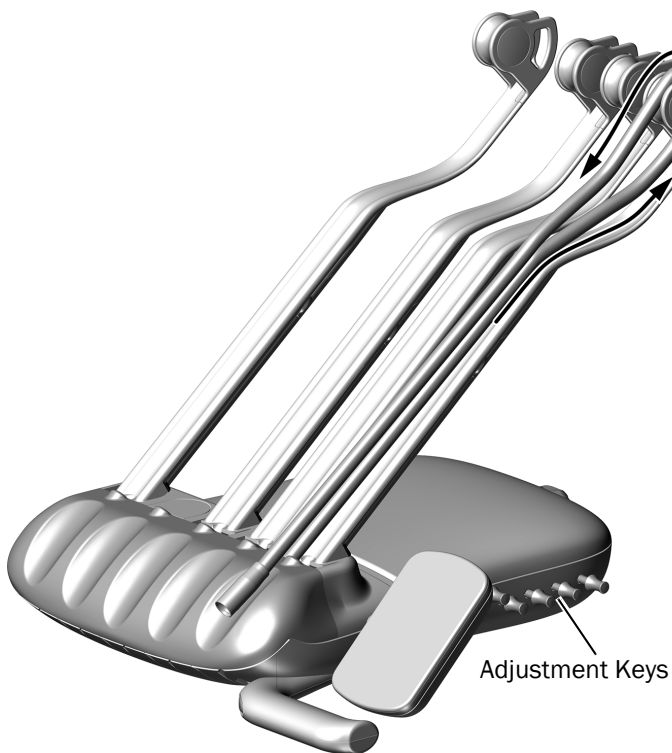
### Install the Continental Whips and Adjustment Keys (A-dec 333pro only)



- 3** To open the whip, rotate the tubing guide 90° counterclockwise.



- 4** Route the tubing through the whip assemblies.
- 5** Close the tubing guide and make sure it snaps shut.
- 6** Place the handpiece tubing in the holders and insert the adjustment keys into the holes on the side of the control head.



## Install the A-dec 336pro/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.

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### 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.

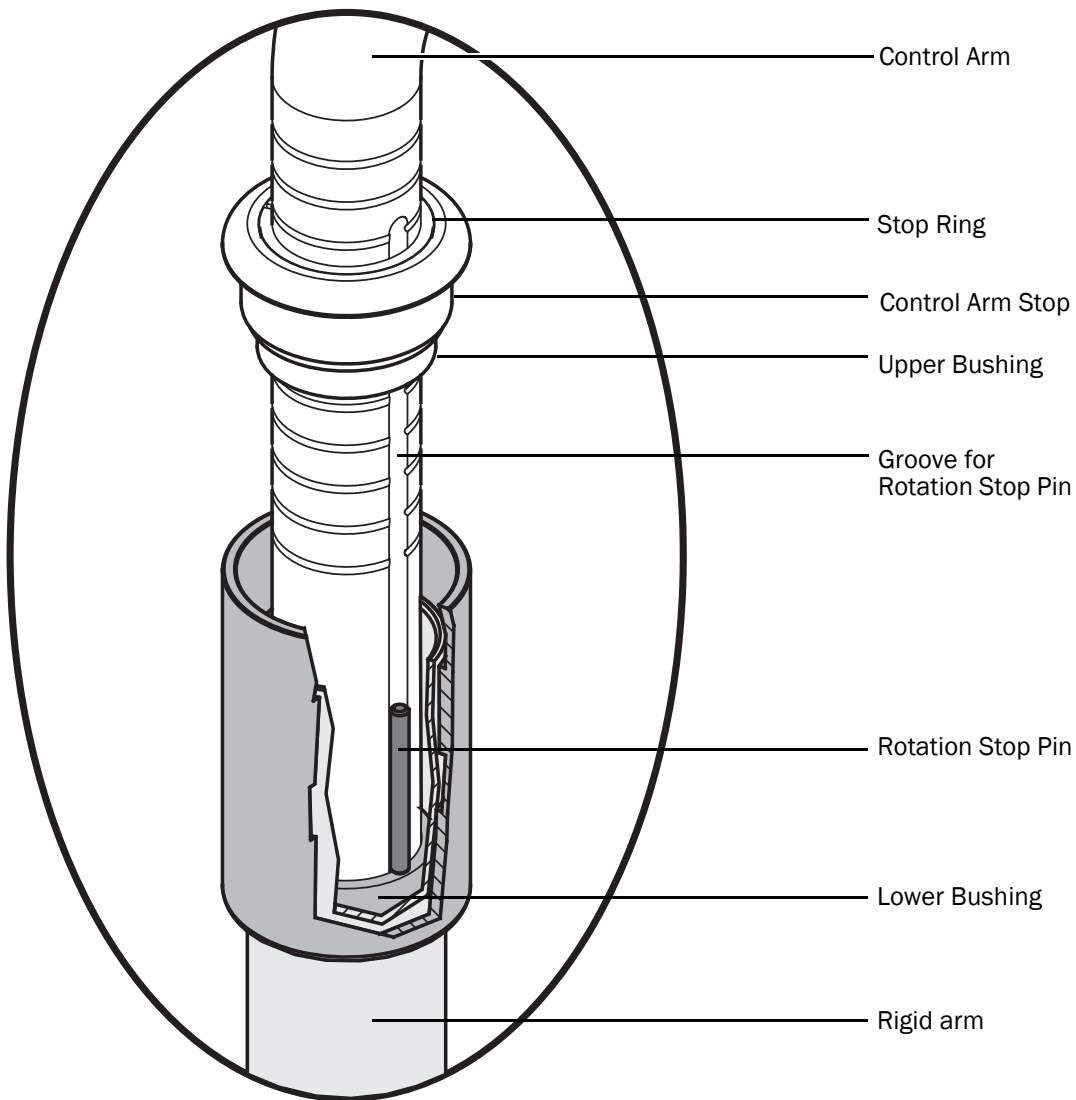
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### Task 3.

- 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.

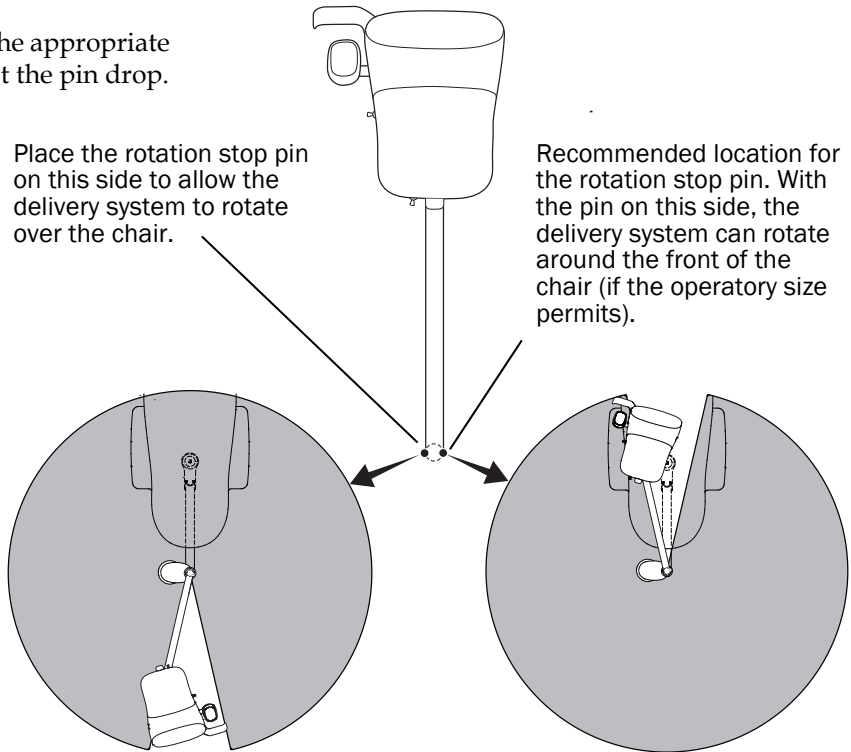


**NOTE** If the end of the control arm is not inserted past the lower bushing, the rotation stop pin can fall into the rigid arm. The rotation stop pin prevents the delivery system from rotating continuously and twisting the delivery system tubing.



### Task 4.

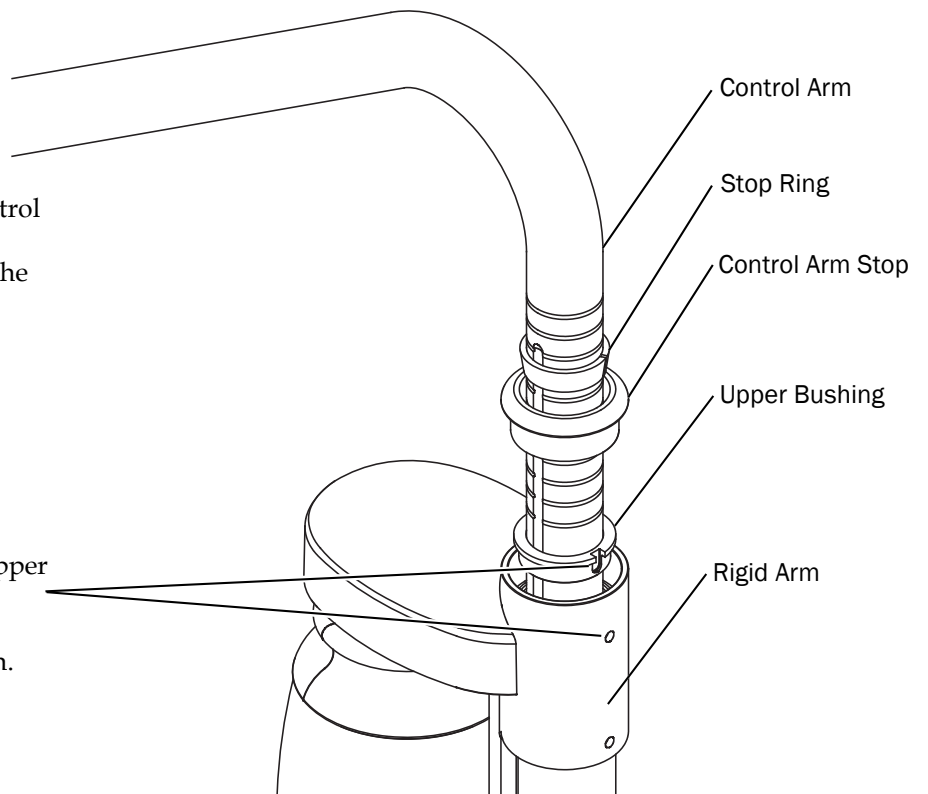
- 1 Place the rotation stop pin into the appropriate groove in the control arm and let the pin drop.



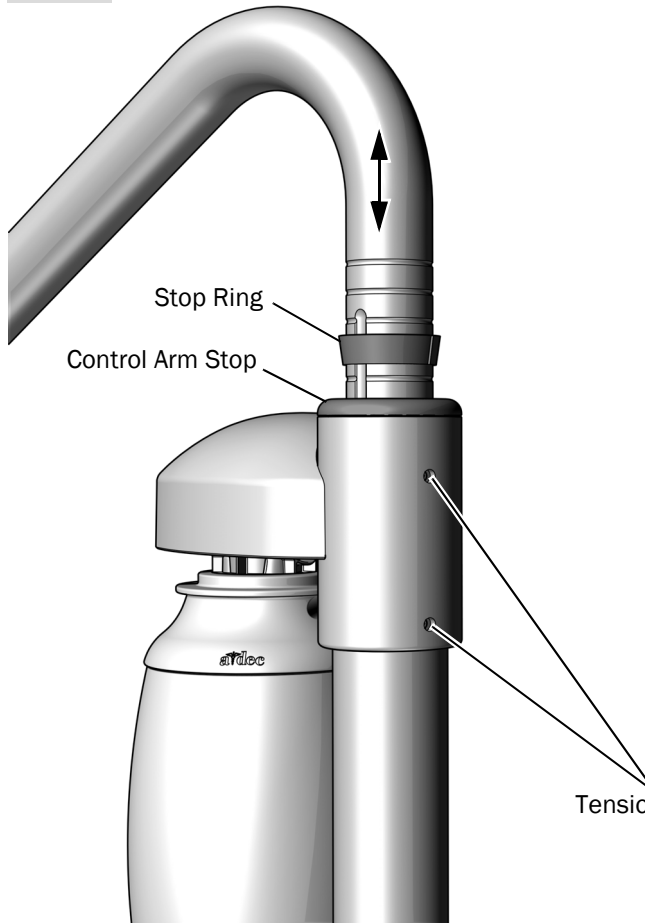
### Task 5.

- 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.**



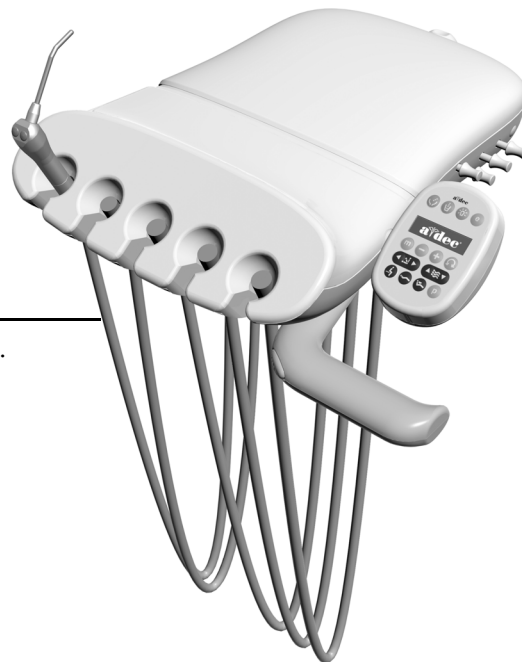
- 1** Tighten the top tension adjustment setscrew.
- 2** Lower the control arm stop into the rigid arm.
- 3** Move the stop ring to the lowest position along the control arm to set the maximum height of the delivery system.

**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.

Tension Adjustment Setscrews

**Task 7.**



- 1** Place the handpiece tubing in position for use.

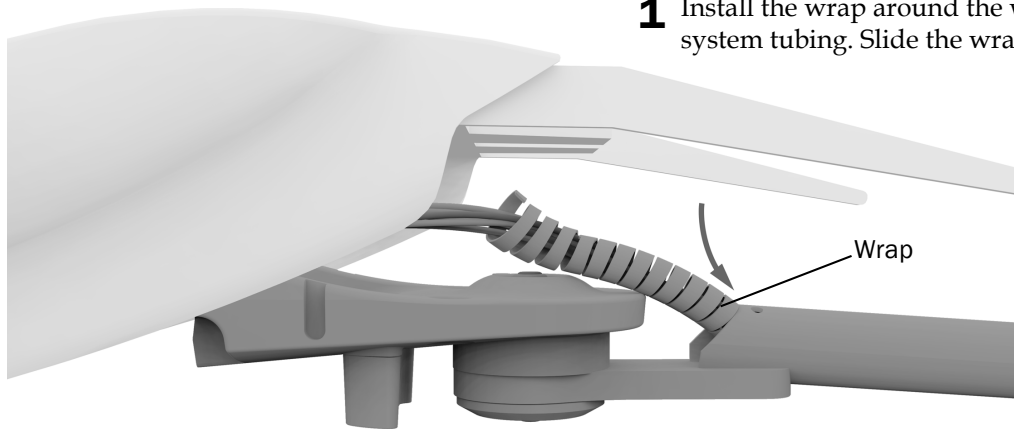
- 2** Insert the adjustment keys.

## Route the Tubing and Wiring

### Task 1.

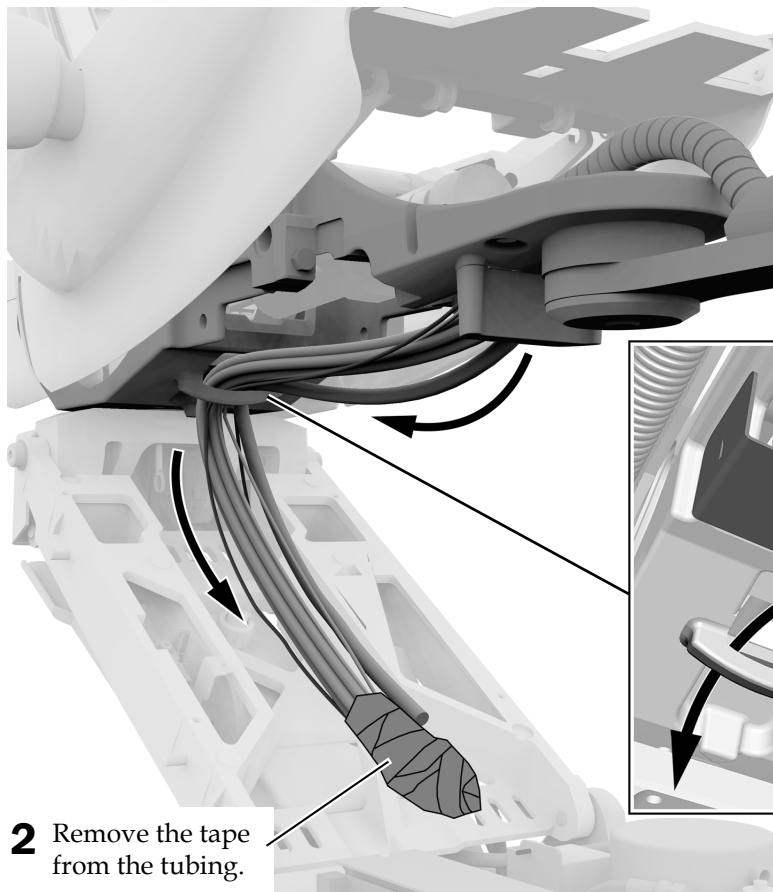


**NOTE** To provide proper range of motion and prevent the umbilical from interfering with the flexarm cover, do not pull the umbilical completely tight when routing through the rigid arm.



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

### Task 2.



**CAUTION** To avoid damaging tubing and cables, route all tubing and cables below the shield.

- 1 Route the tubing and wiring under the shield and through the loop.

- 2 Remove the tape from the tubing.

## Install the Tray Holder Mount (optional)

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

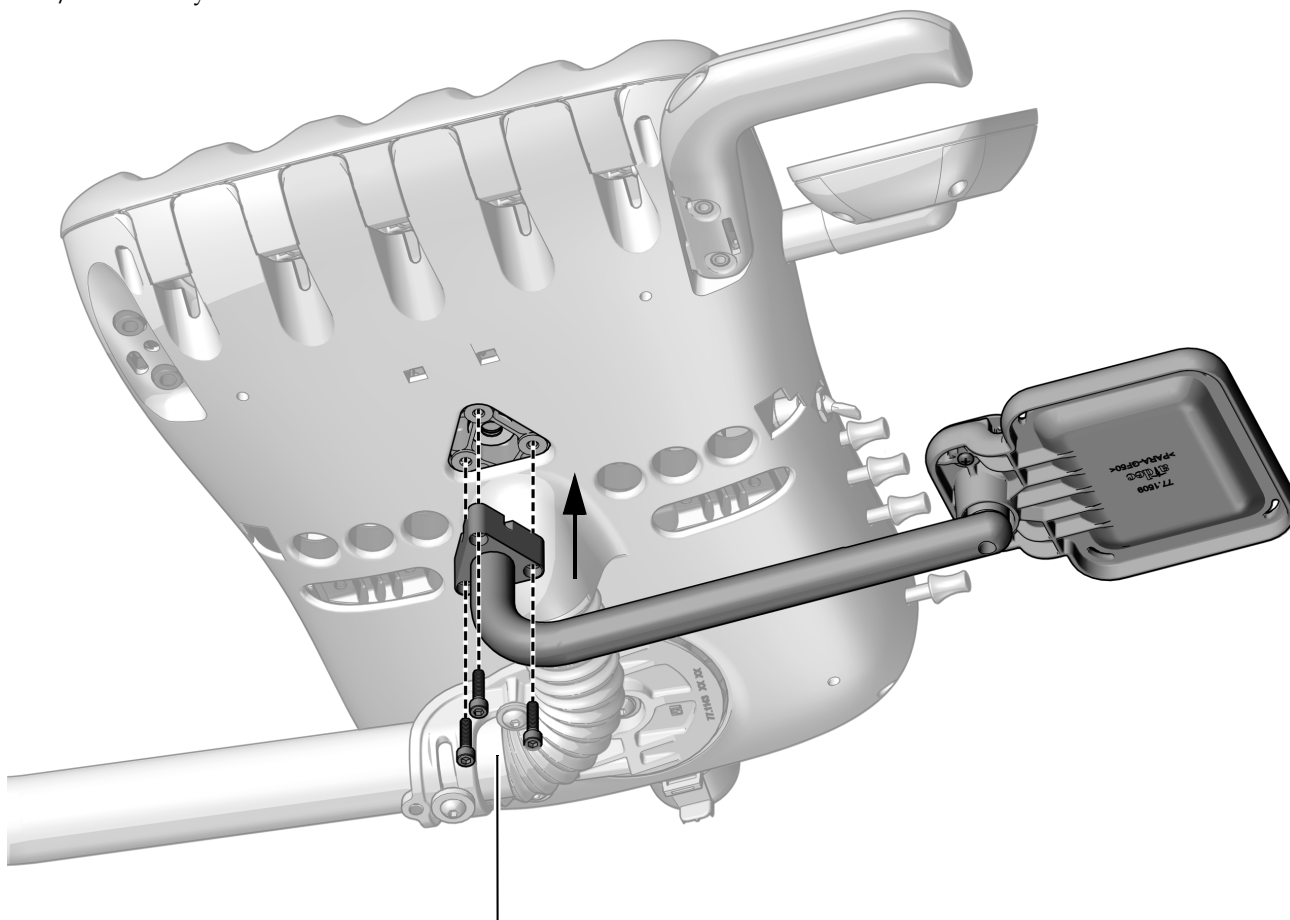
**Install the Tray Holder Mount on a Continental Delivery System . . . . . 28**

**Install the Tray Holder Mount on a Traditional Delivery System . . . . . 29**

### Install the Tray Holder Mount on a Continental Delivery System

#### Recommended Tool

- 5/32" hex key



- 1** Use three 10-32 x 3/4" screws to attach the mount arm.



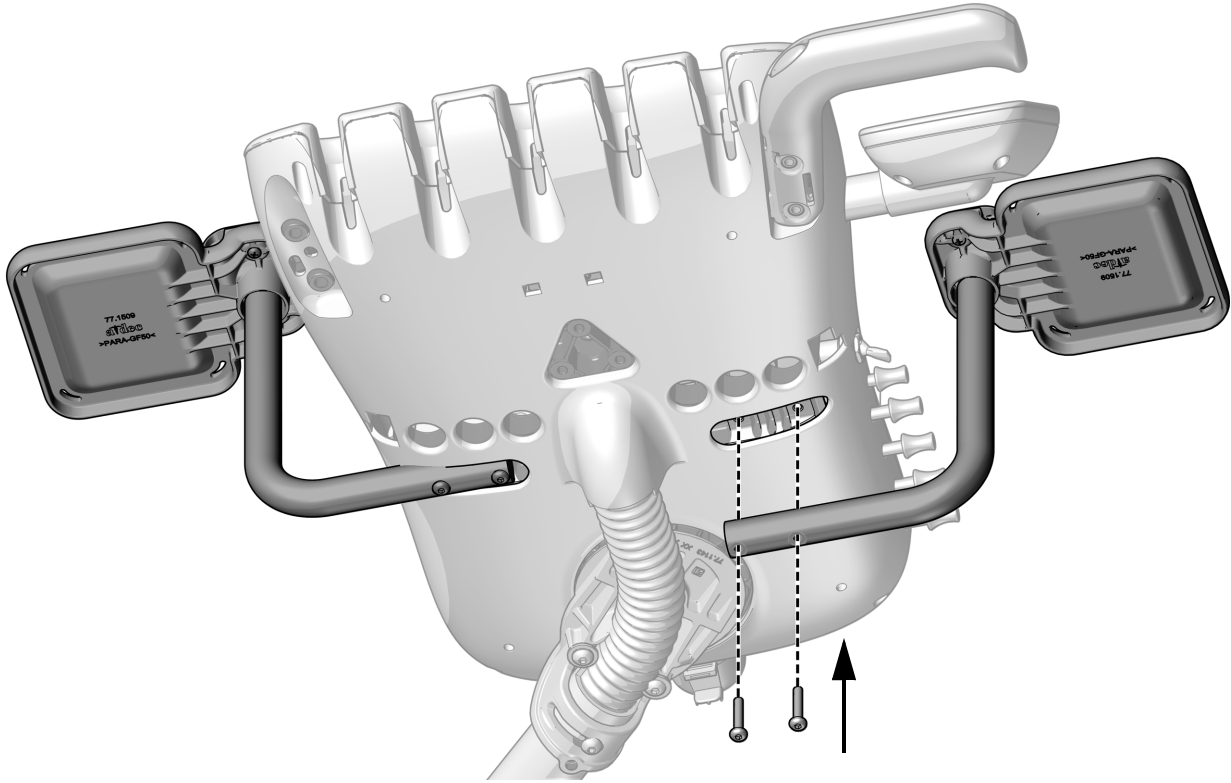
## Install the Tray Holder Mount on a Traditional Delivery System

### Recommended Tool

- 1/8" hex key



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



- 1** Use two 10-32 x 1" button head screws to attach the mount arm to either side of the bottom of the control head.

## Connect the Wires and Data Line

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**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.

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**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.

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

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

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Complete the instructions for the system's configuration.

<b>Connect the A-dec 332pro/333pro/336pro Wires and Data Line</b> .....	<b>31</b>
<b>Connect the A-dec 332/333/336 Wires and Data Line</b> .....	<b>33</b>

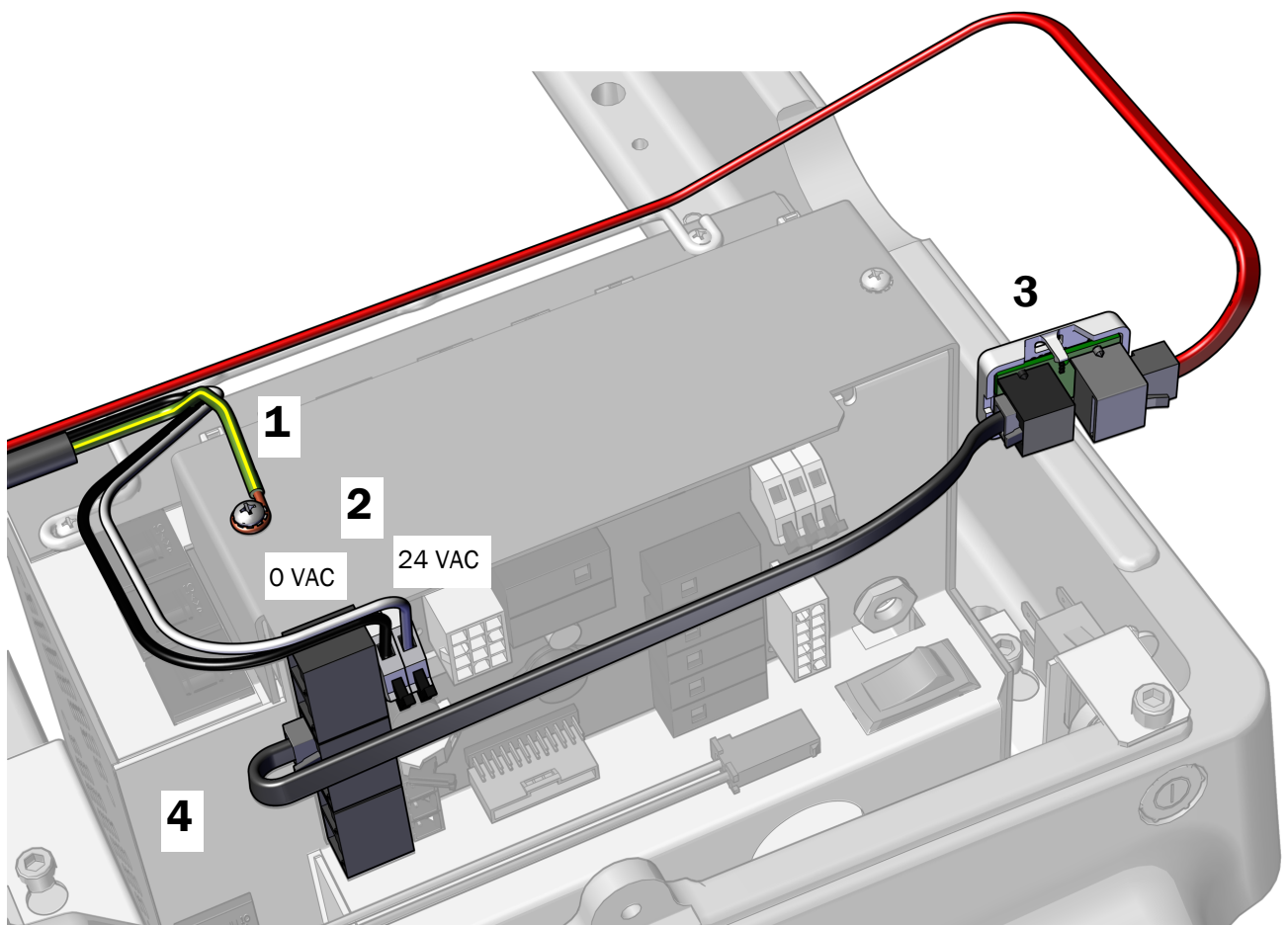
## Connect the A-dec 332pro/333pro/336pro Wires and Data Line

### Recommended Tools

- Phillips head screwdriver
- Diagonal cutters

### Task 1.

1. Use a Phillips head screwdriver to connect the ground wire to the top of the power supply.
2. Connect the black wire to 0 VAC, and gray wire to 24 VAC of the chair board's terminal strip.
3. Position the translator board with the gray DCS2 port toward the toe of the chair and connect the red DCS2 data line to the gray port.
4. Connect the black DCS1 data line from the black port on the translator board to the port on the power supply.



## Task 2.



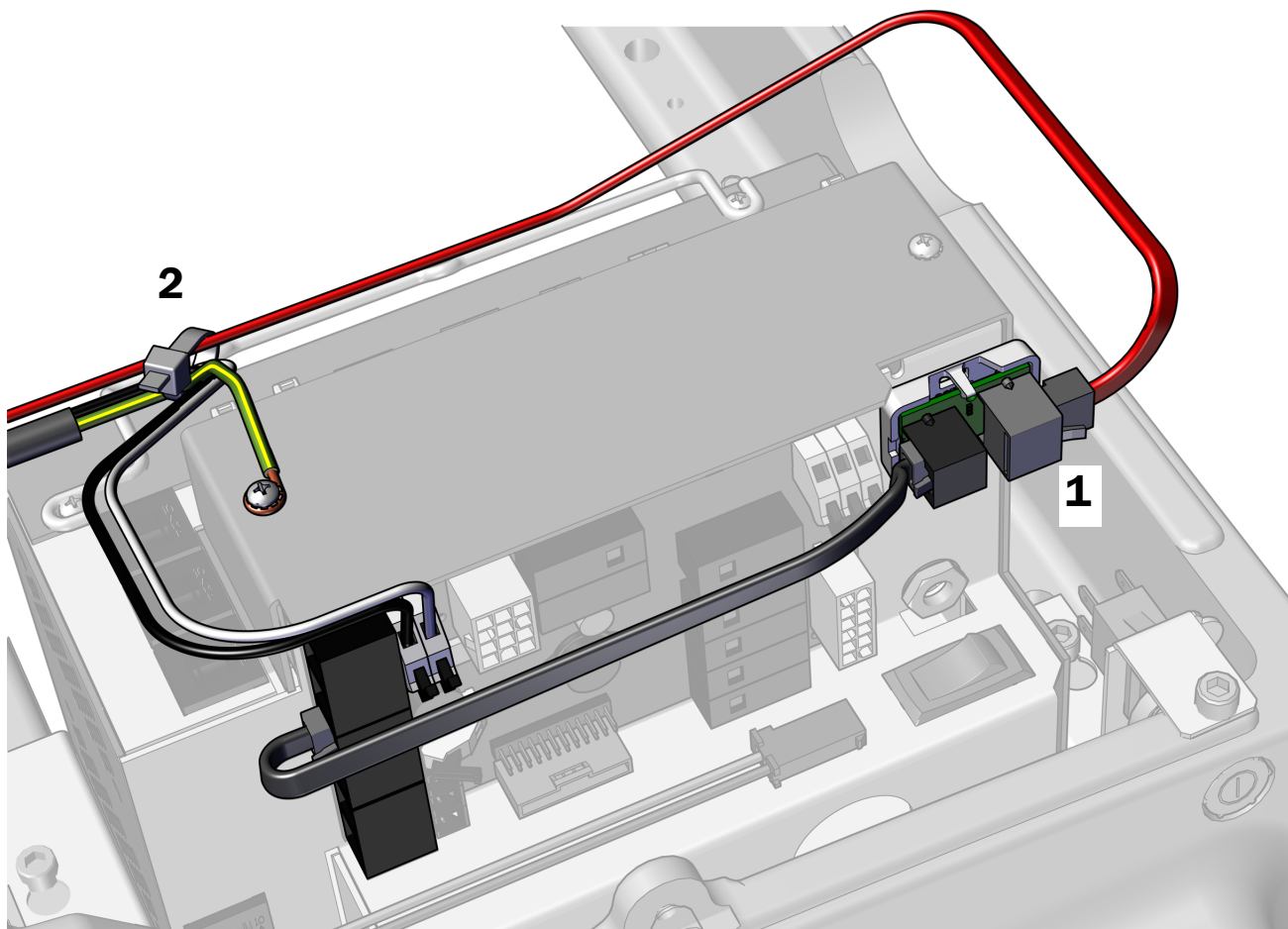
**CAUTION** Do not attach the translator board to the top of the power supply chassis. The pump cover will not fit.

1. Peel off the protective paper from the translator board. Attach the translator board to the front of the power supply in the upper right corner.



**NOTE** If there is already an adaptor board for an LED light attached to the power supply, stack the translator board below it.

2. Secure the wiring to the bail with cable ties.



### Next Step

See "Connect the Tubing" on page 34.

## Connect the A-dec 332/333/336 Wires and Data Line

### Recommended Tool

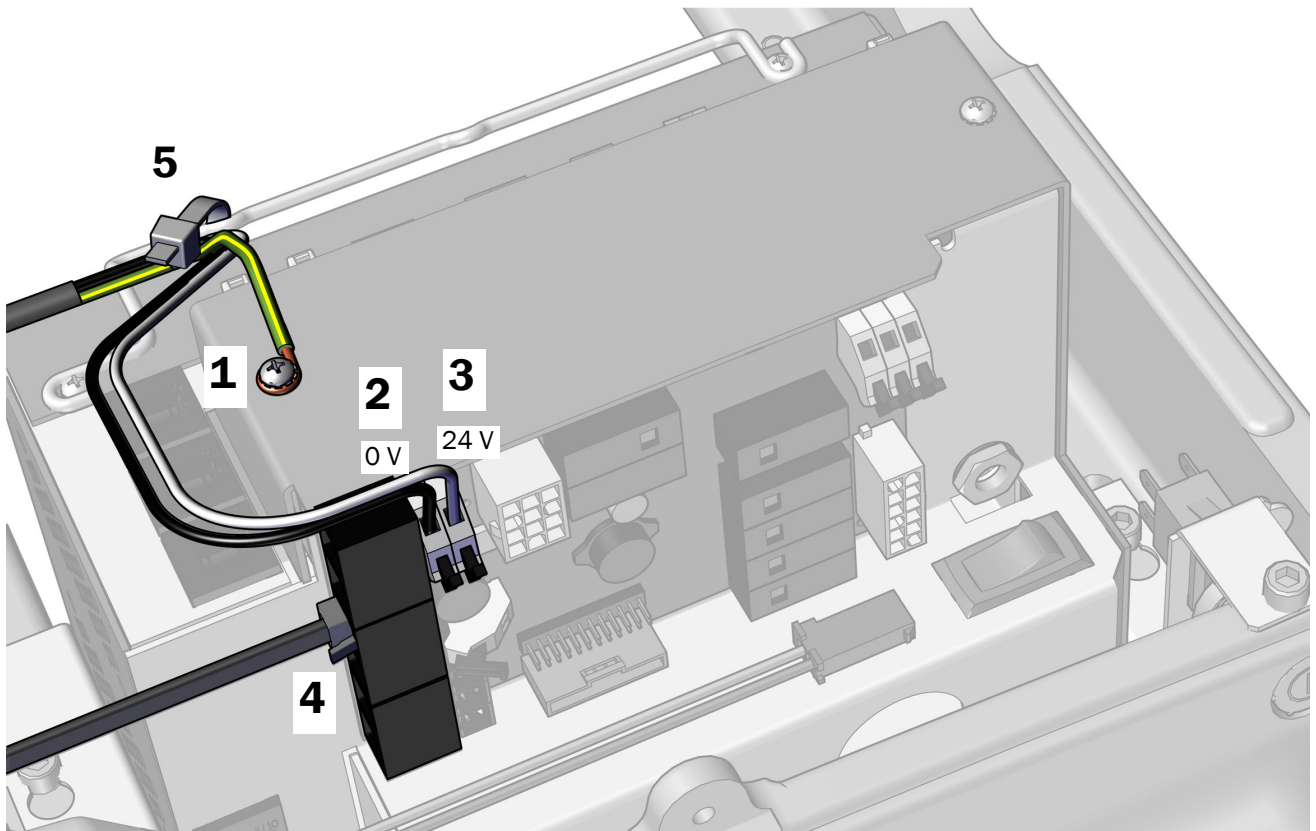
- Phillips head screwdriver
- Diagonal cutters

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. After all of the electrical connections have been made for the system's modules, secure the wires to the bail on the power supply.



## Connect the Tubing

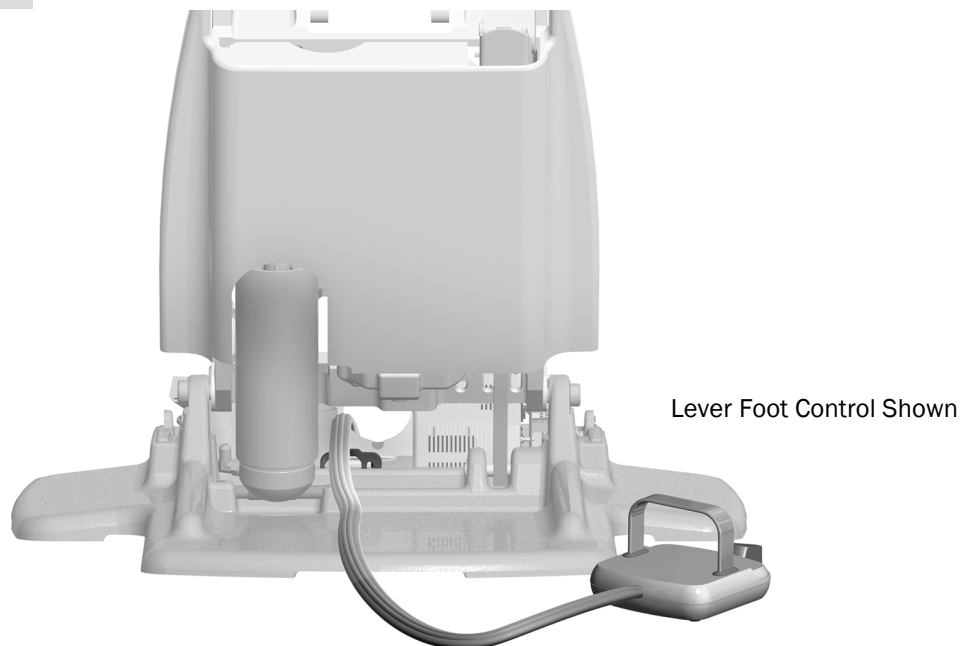
---

### Install the Foot Control

#### Recommended Tool

- 3/16" hex key

#### Task 1.

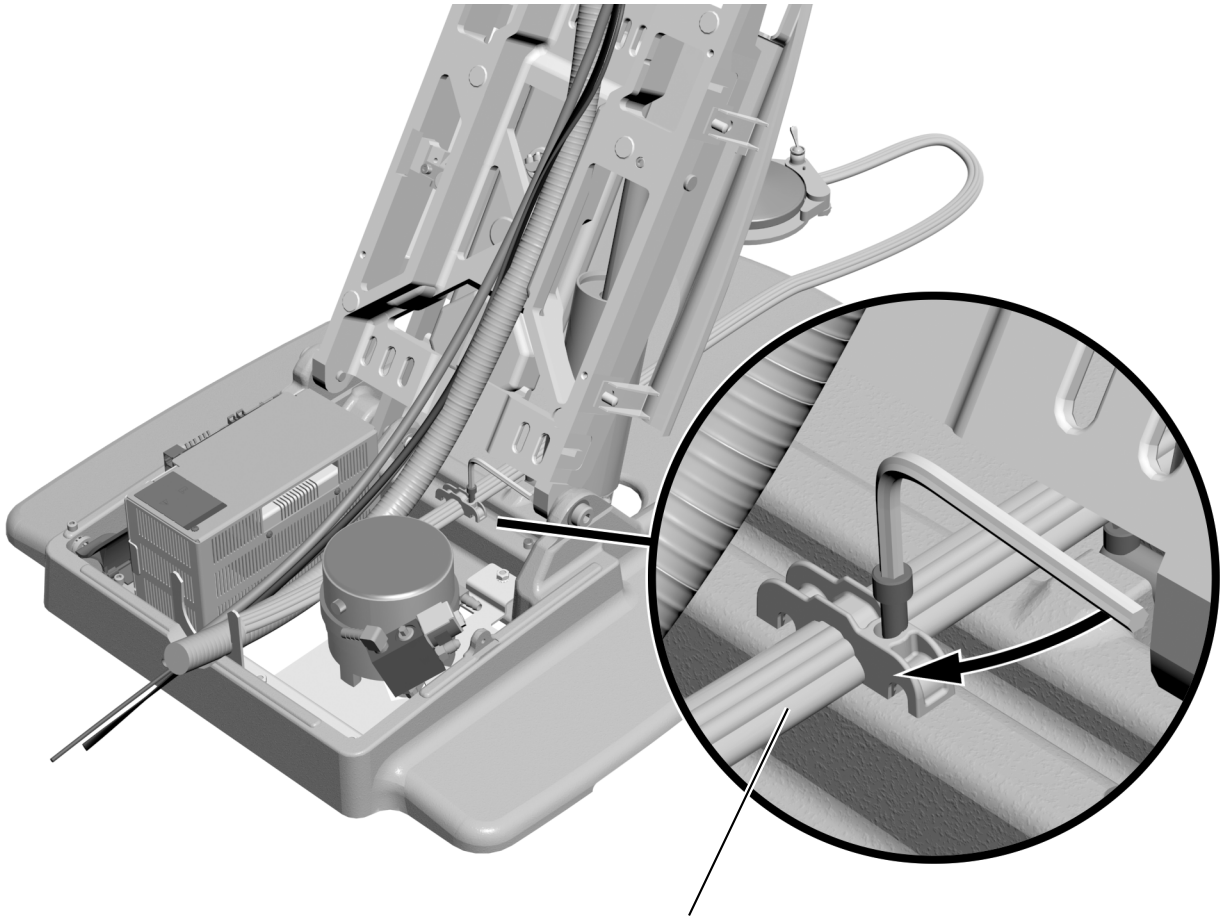


**CAUTION** To prevent damaging the equipment while the chair is in use, do not route the foot control tubing under the hydraulic tubing.

---

- 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.

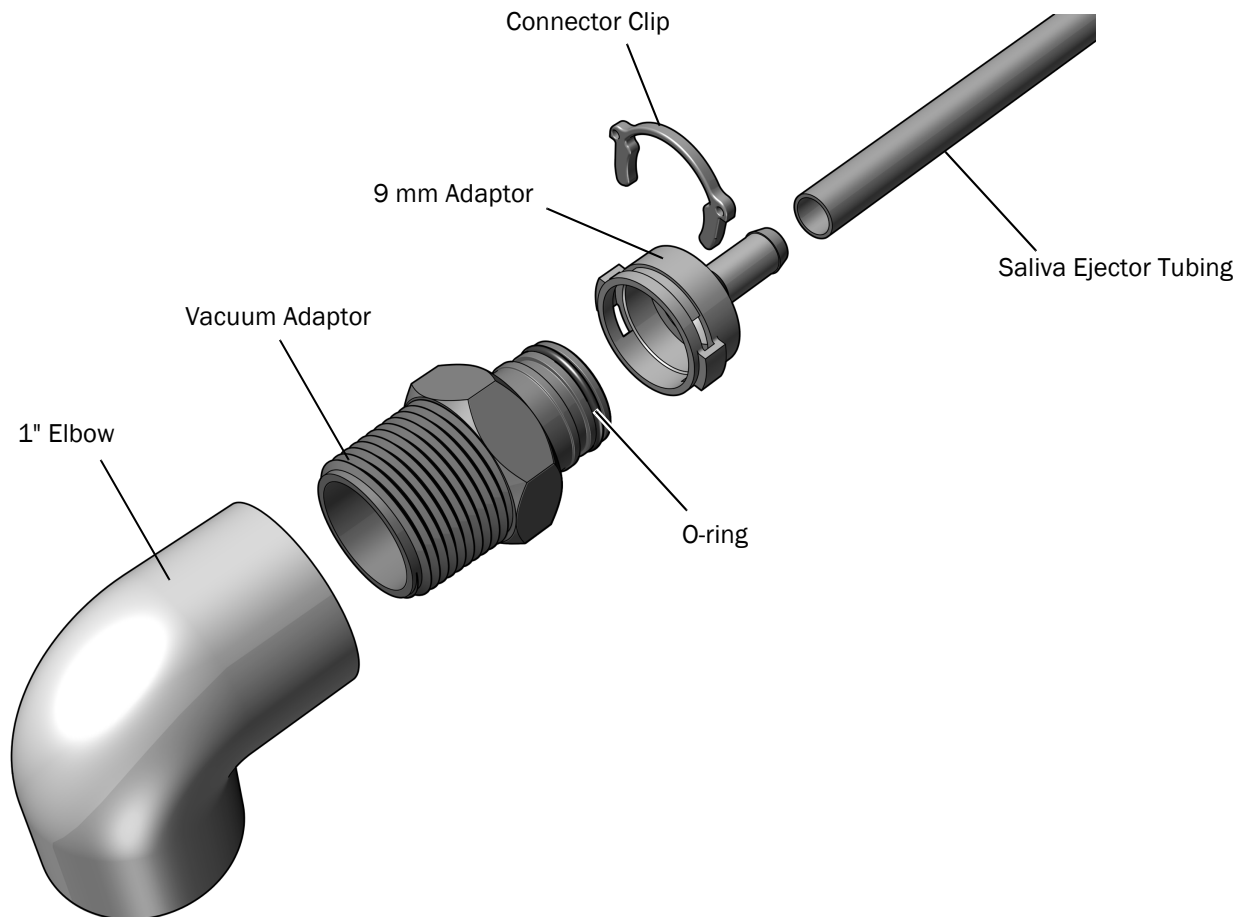
## Connect the A-dec 336 Saliva Ejector (Optional) Tubing

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

### 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.

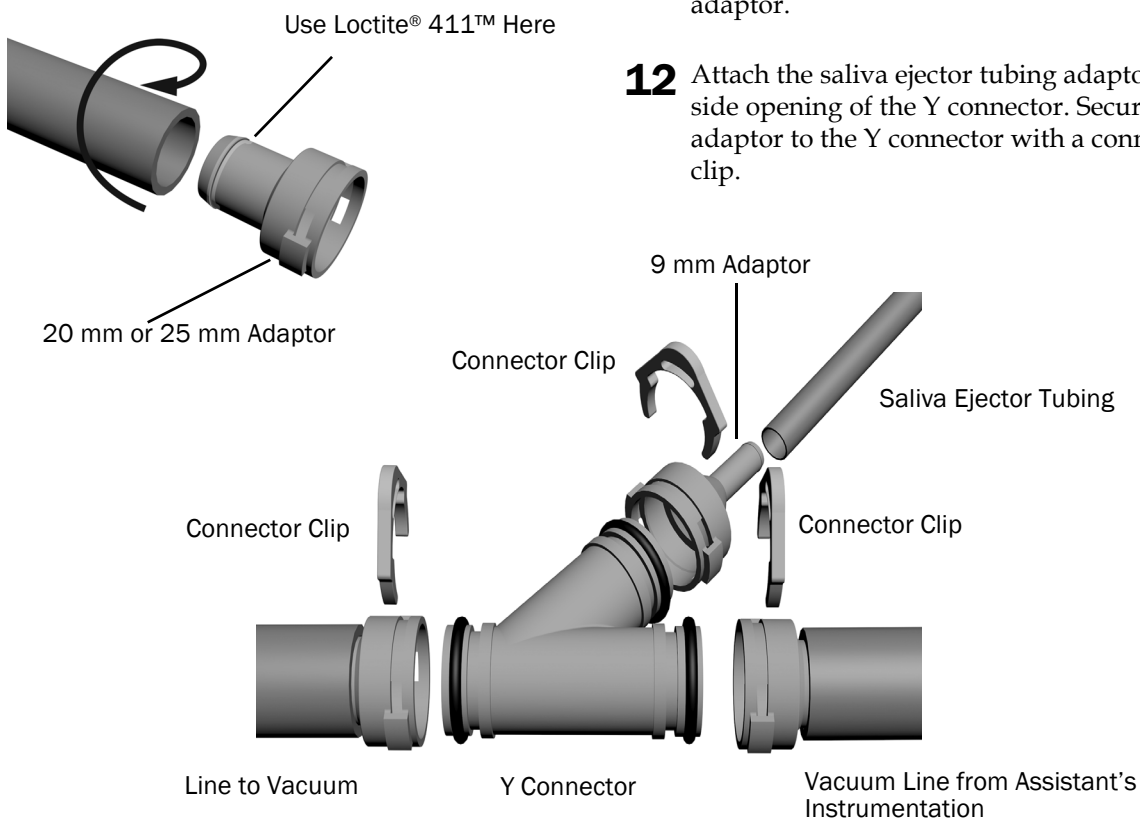




## Connect the Saliva Ejector Tubing on a Chair With A-dec 351 or 551 Assistant's Instrumentation

### 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 of the sheath from around the water bottle tubing.
2. Connect the tubing according to the flow diagram on the following page.



**CAUTION** Do not connect the blue tubing that comes from the floor box.

---



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

---

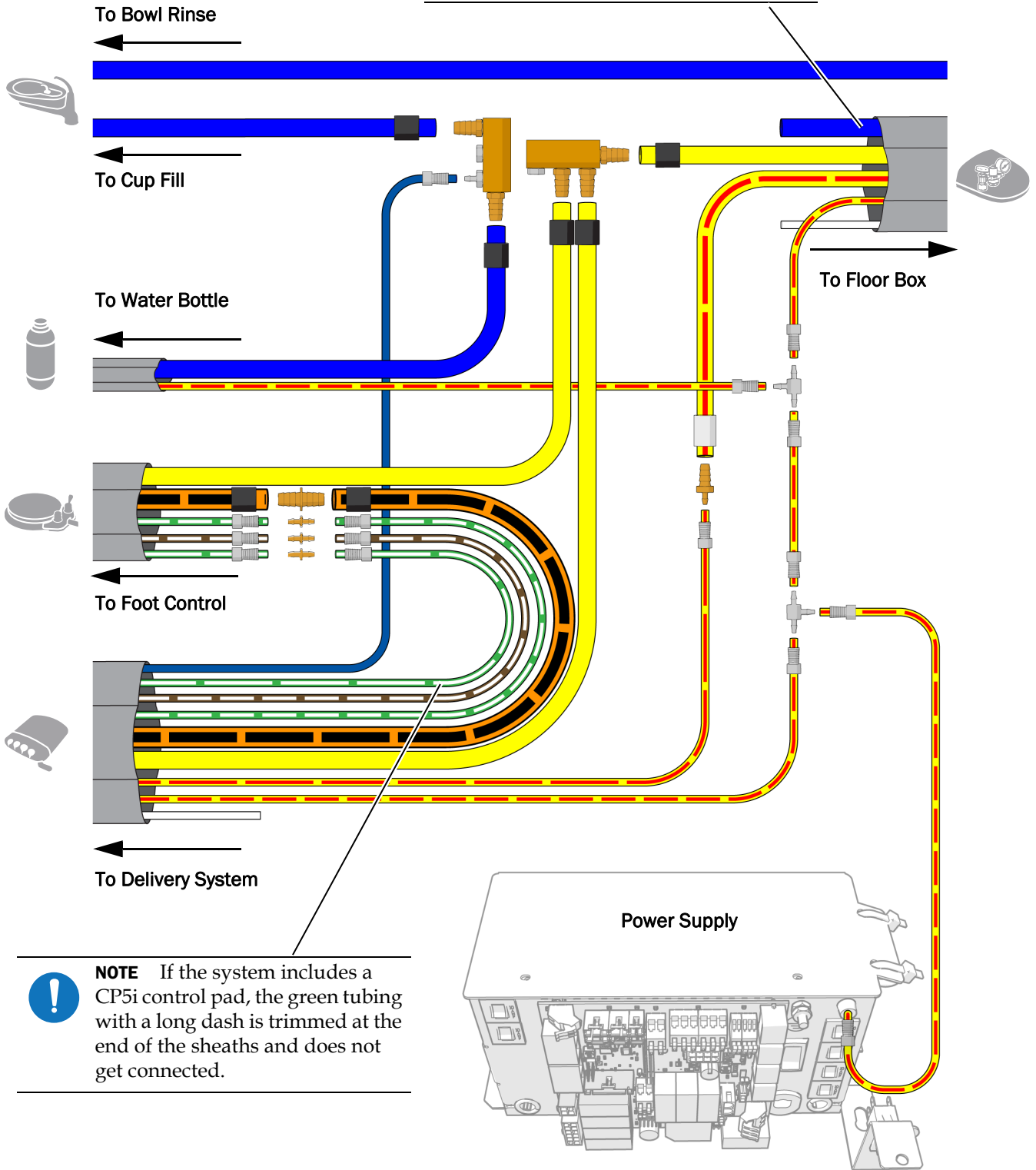


**READ THIS!** Be sure to position the control arm at its maximum height before trimming tubing to retain the full range of motion for the control head. For instructions on setting the control arm to its maximum height, see “Adjust the Control Head Height (A-dec 336pro/336 only)” on page 45.

---



**NOTE** Do not connect the blue or white tubing in the sheath.



**NOTE** If the system includes a CP5i control pad, the green tubing with a long dash is trimmed at the end of the sheaths and does not get connected.

## Connect the Floor Box Utilities

Complete the connections for the system's configuration.

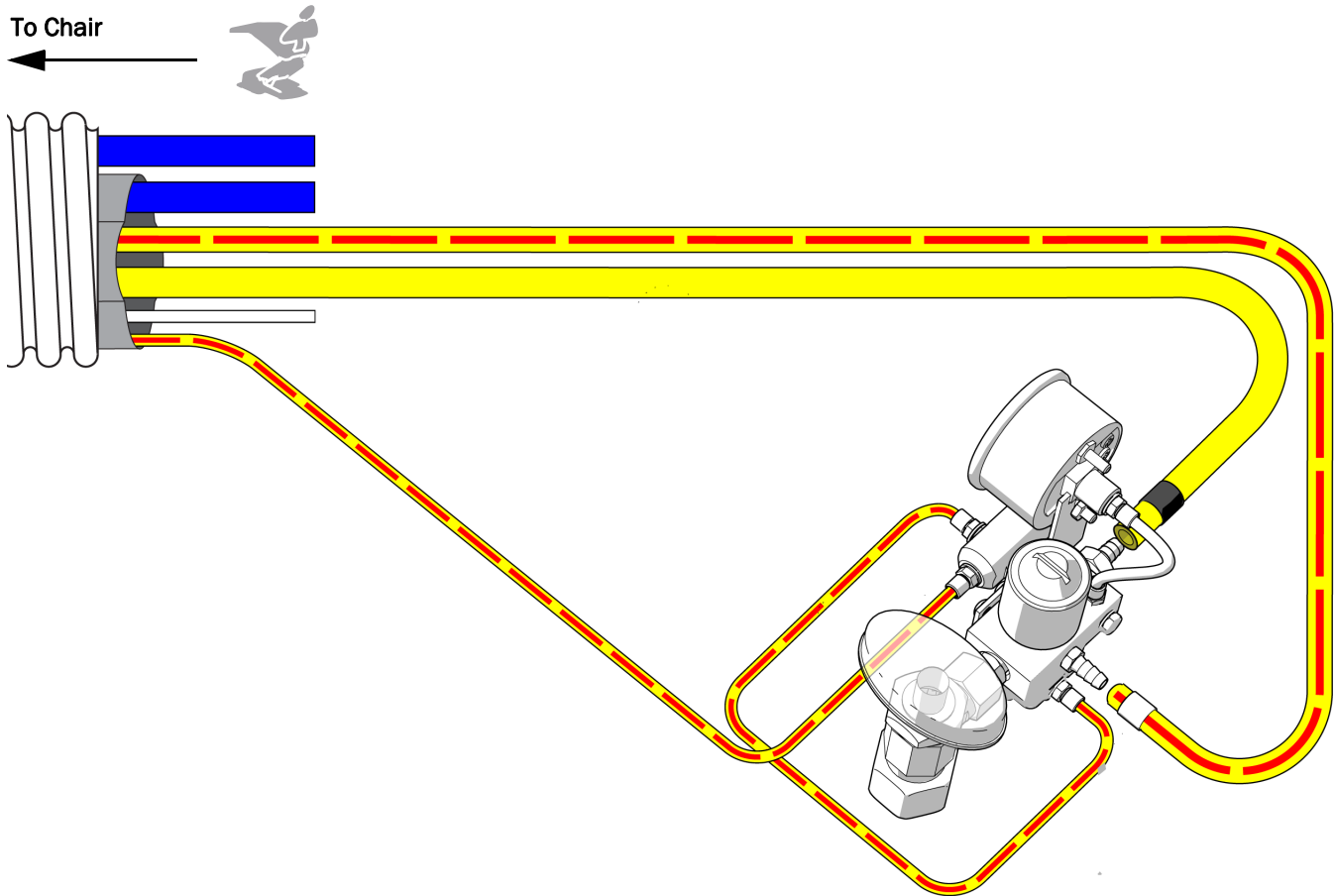
<b>Connect a Delivery System Only</b> .....	<b>40</b>
<b>Connect a System with Multiple Modules</b> .....	<b>41</b>

### 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

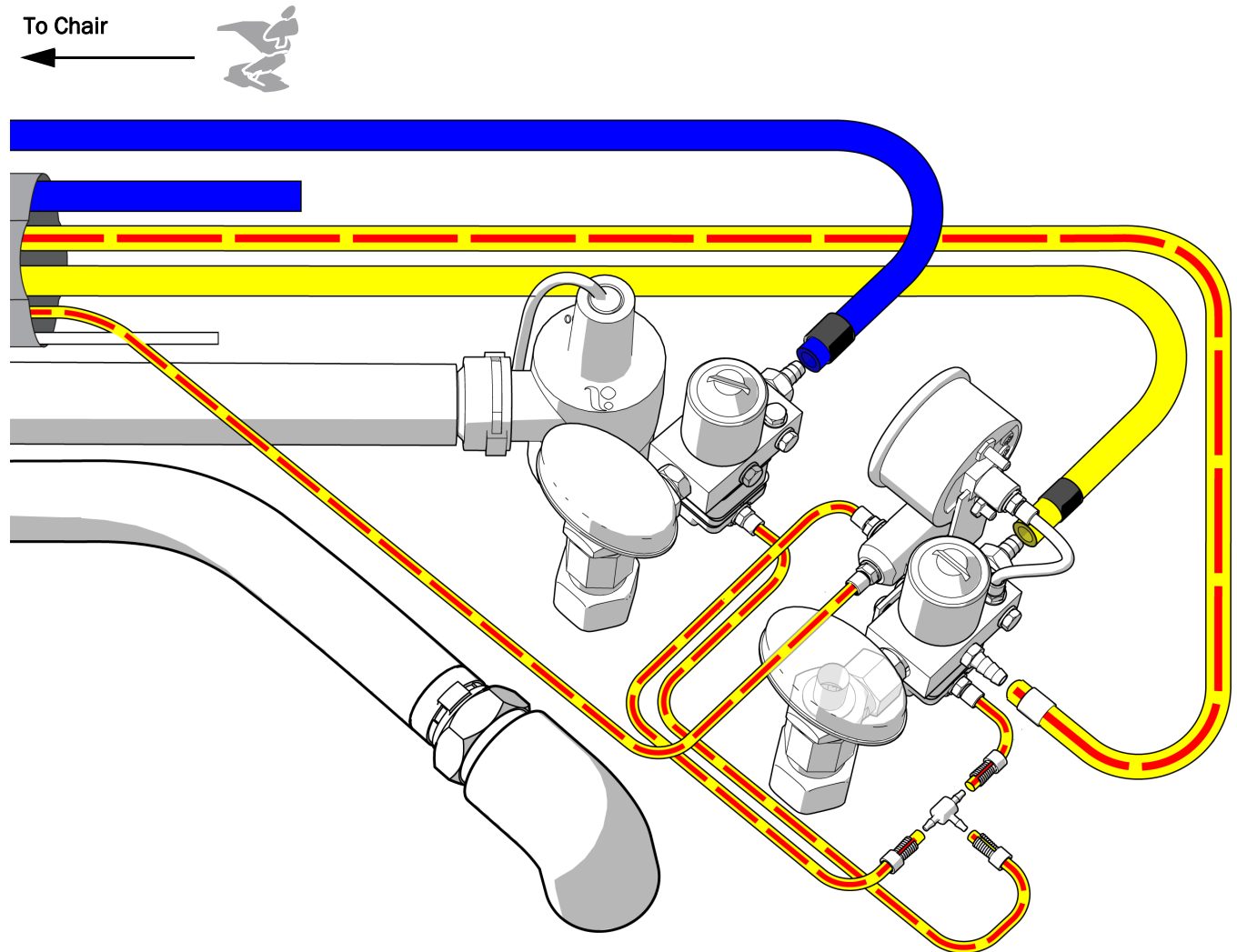


## Connect a System with Multiple Modules

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

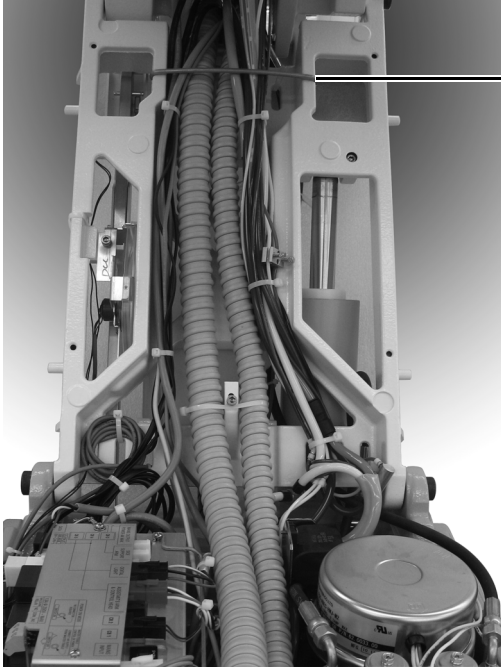
### Recommended Tools

- Diagonal cutters
- Sleeve pusher



## Prepare and Adjust the System

### Secure the Tubing and Wires



- 1 Install the bail. It ships with 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.



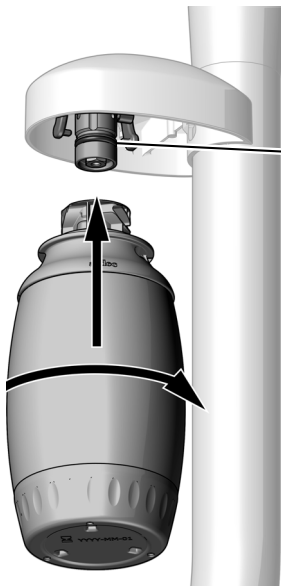
**NOTE 336 only** - Once the tubing is connected and secured, set the control arm to the doctor's preferred height.

For instructions, see "Adjust the Control Head Height (A-dec 336pro/336 only)" on page 45.

### Install the Water Bottle



**IMPORTANT** A-dec recommends that the dental team perform a shock treatment on the dental unit waterlines before they use the system for the first time, and establish an ongoing waterline maintenance program. For more information, see the *Waterline Maintenance Guide* (p/n 85.0983.00) and *A-dec Self-Contained Water System Instructions For Use* (p/n 86.0609.00).



- 1 Apply A-dec silicone lubricant on the receptacle O-ring.
- 2 Push the water bottle up onto the water bottle receptacle and turn it to the right.

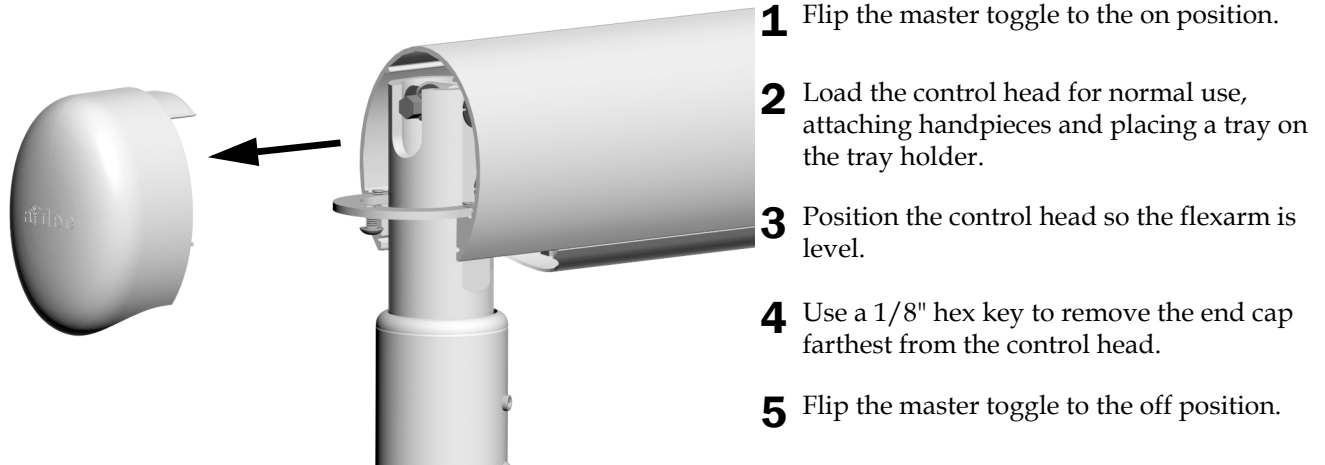
## Adjust the Delivery System Spring-Assisted Flexarm

If the control head falls or rises rapidly when you turn off the master toggle, complete these steps to adjust the flexarm spring tension.

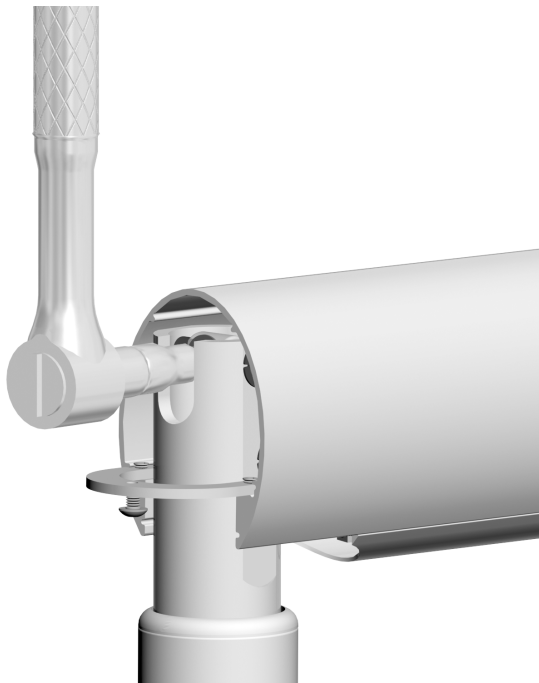
### Recommended Tools

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

### Task 1.



### Task 2.

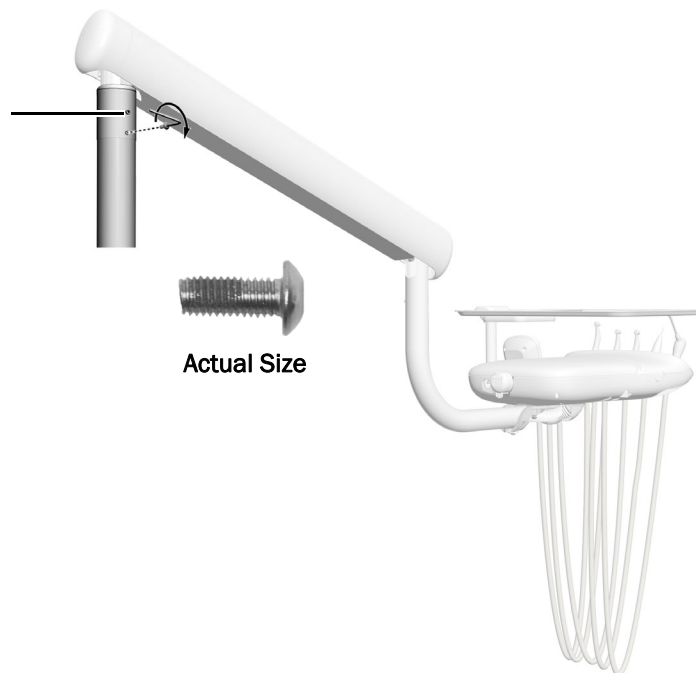


## Install the Delivery System Flexarm Rotation Stop Screw

### Recommended Tool

- 1/8" hex key

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

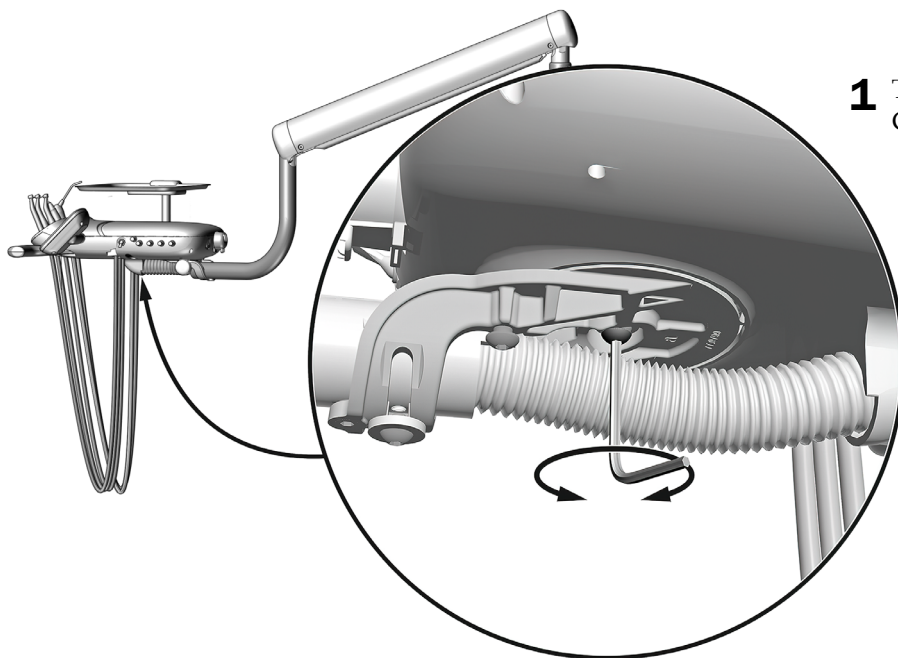


## Adjust the Control Head Rotation Tension

### Recommended Tool

- 5/32" hex key

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



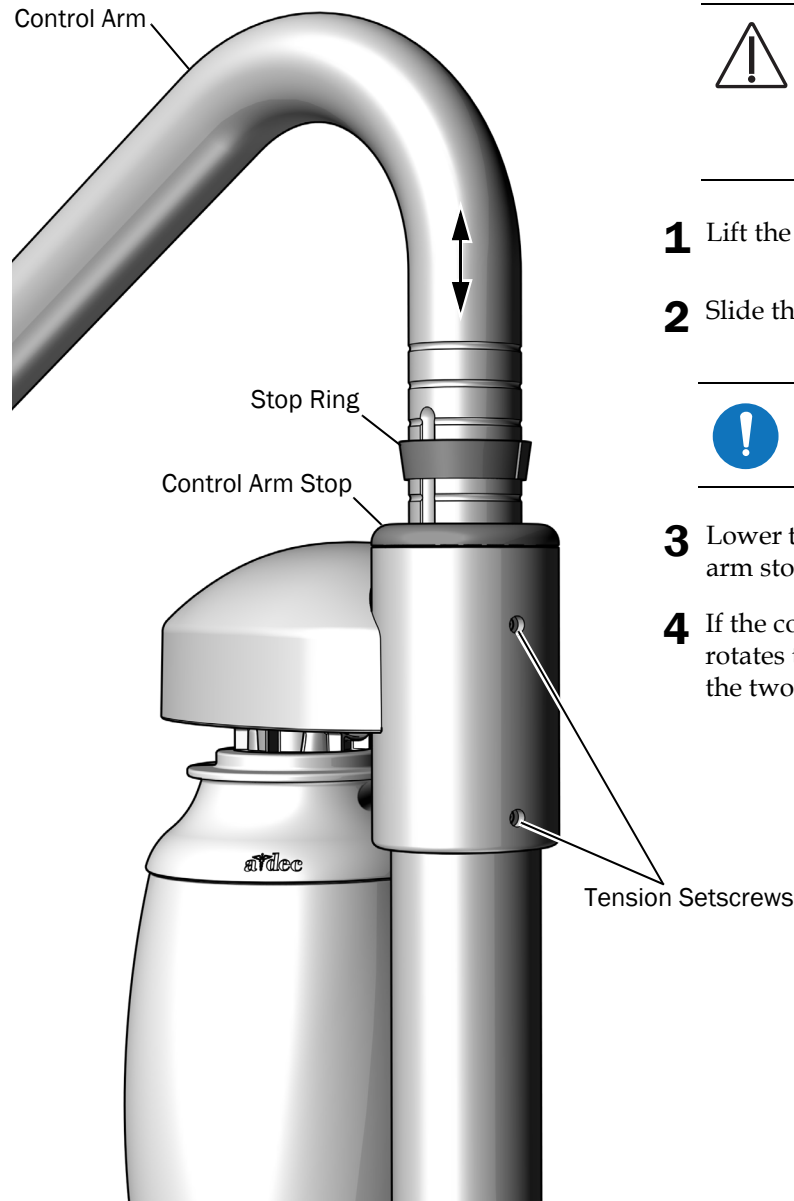


## Adjust the Control Head Height (A-dec 336pro/336 only)

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 arm to recover the rotation stop pin.

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



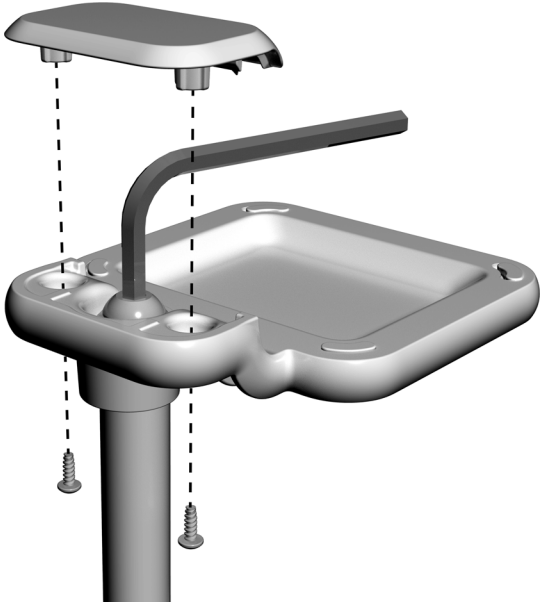
**NOTE** The height adjustment range for the control arm is 5" (127 mm).

- 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.

## Adjust the Tray Holder Mount Rotation Tension

### Recommended Tool

- Phillips head screwdriver
- 7/32" hex key

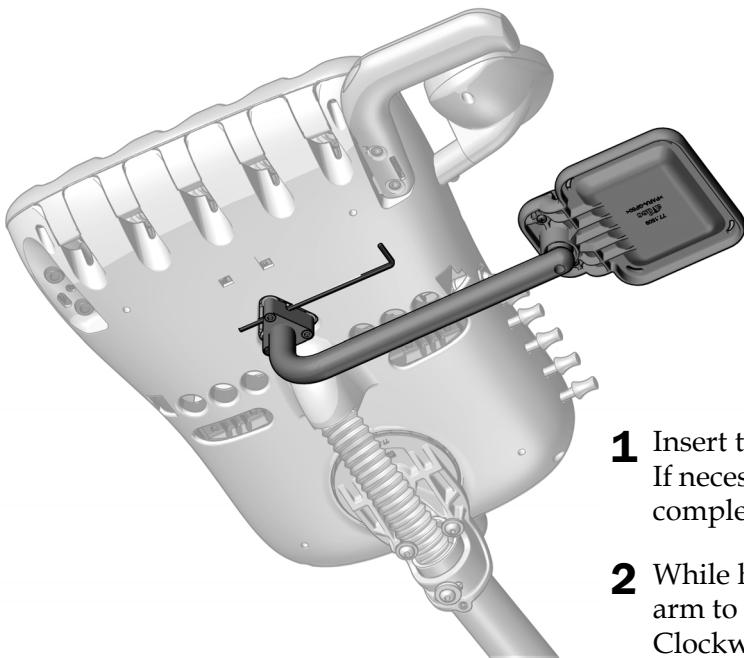


- 1** Use a Phillips head screwdriver to remove the cap screws. Remove the cap.
- 2** Insert the hex key into the tension bolt and turn clockwise to increase the tension.

## Adjust the Tray Holder Mount Arm Rotation Tension (Continental only)

### Recommended Tool

- 9/64" hex key



- 1** Insert the hex key through the mounting bracket. If necessary, rotate the arm until the hex key slides completely into the mounting bracket.
- 2** While holding the bracket stationary, turn the arm to adjust the tension. Clockwise increases the tension.

## Adjust the Handpiece Drive Air Pressure

Complete the instructions for the system's configuration.

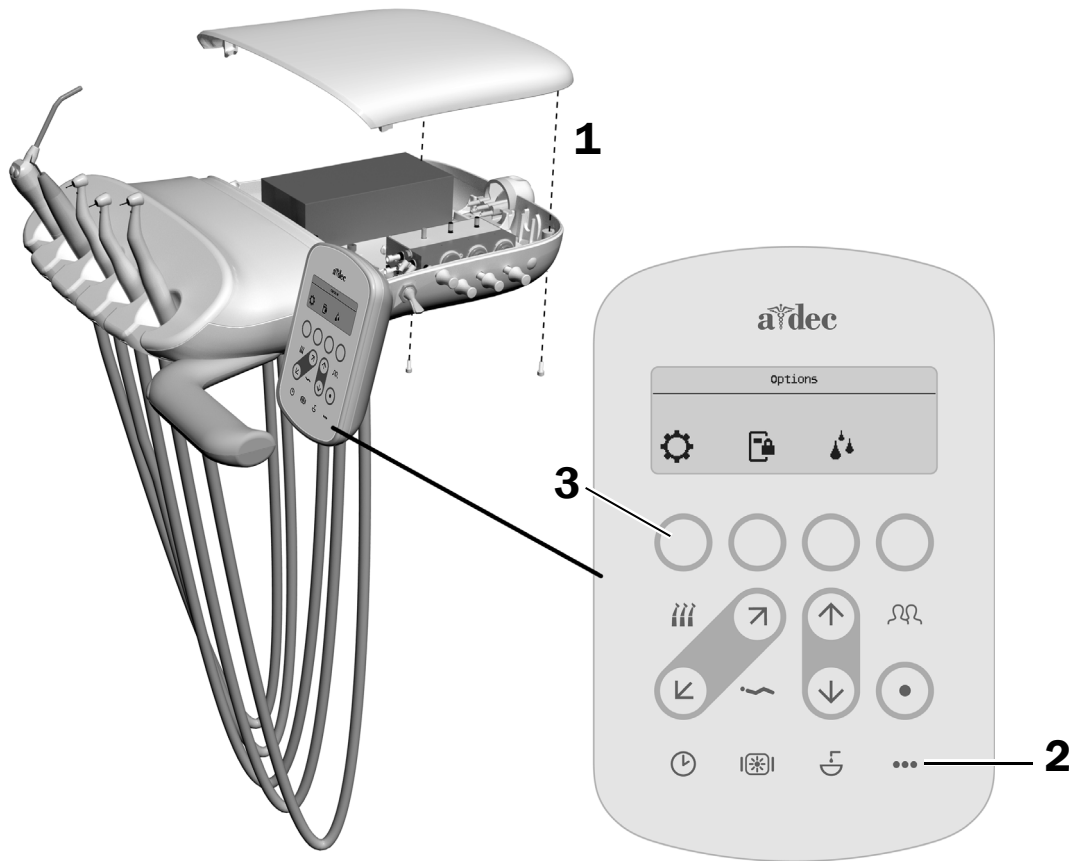
**Adjust the Handpiece Drive Air Pressure From an A-dec 332pro/333pro/336pro** ..... 47  
**Adjust the Handpiece Drive Air Pressure From an A-dec 332/333/336** ..... 49

### Adjust the Handpiece Drive Air Pressure From an A-dec 332pro/333pro/336pro

#### Recommended Tools

- 7/64" hex key

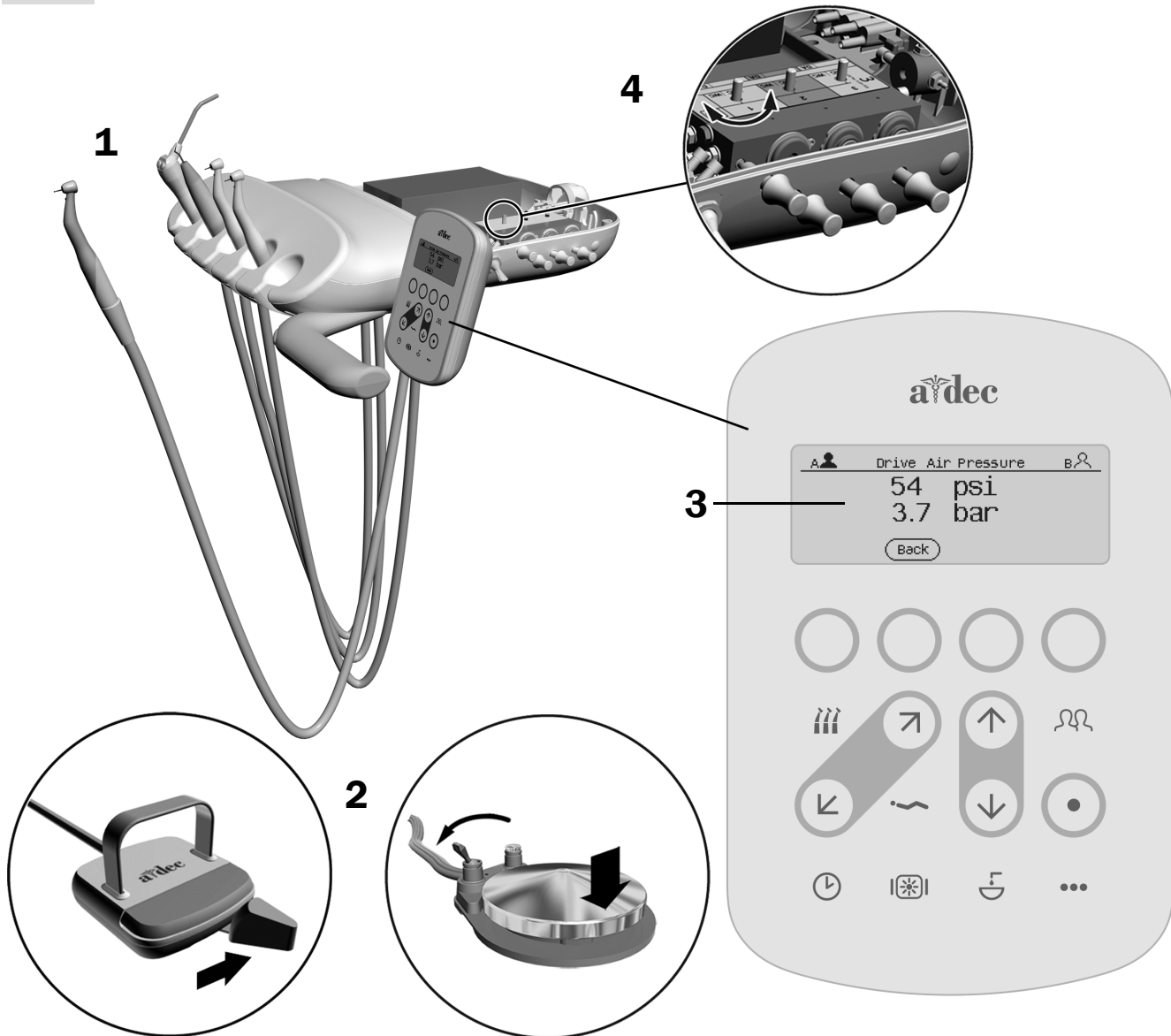
#### Task 1.



**NOTE** Drive air pressure may be lower at the handpiece than what is shown on the touch control. Pressure can also be measured with a handpiece pressure gauge.

1. Use a hex key to remove the control head cover screws. Remove the cover and locate the drive air pressure controls inside.
2. On the control pad, press ●●● to access the **Options** menu.
3. Press the soft key under the ⚙ icon.
4. Select **Diagnostics**.
5. Scroll down and select **Drive Air Pressure**.

## Task 2.



1. Withdraw a handpiece.
2. Turn off the water coolant and press the foot control or move the lever until the handpiece is running at full speed.
3. Check the control pad screen to see the pressure reading.



**CAUTION** Exceeding the manufacturer's recommended drive air pressure increases the risk of damage and may significantly decrease the life of your handpiece components.  
For the proper drive air pressure, see the handpiece manufacturer's Instructions for Use.

4. Adjust the pressure to meet the manufacturer's specifications. Turn the stem clockwise to decrease pressure.

## Adjust the Handpiece Drive Air Pressure From an A-dec 332/333/336

### Recommended Tool

- 7/64" hex key
- Handpiece pressure gauge



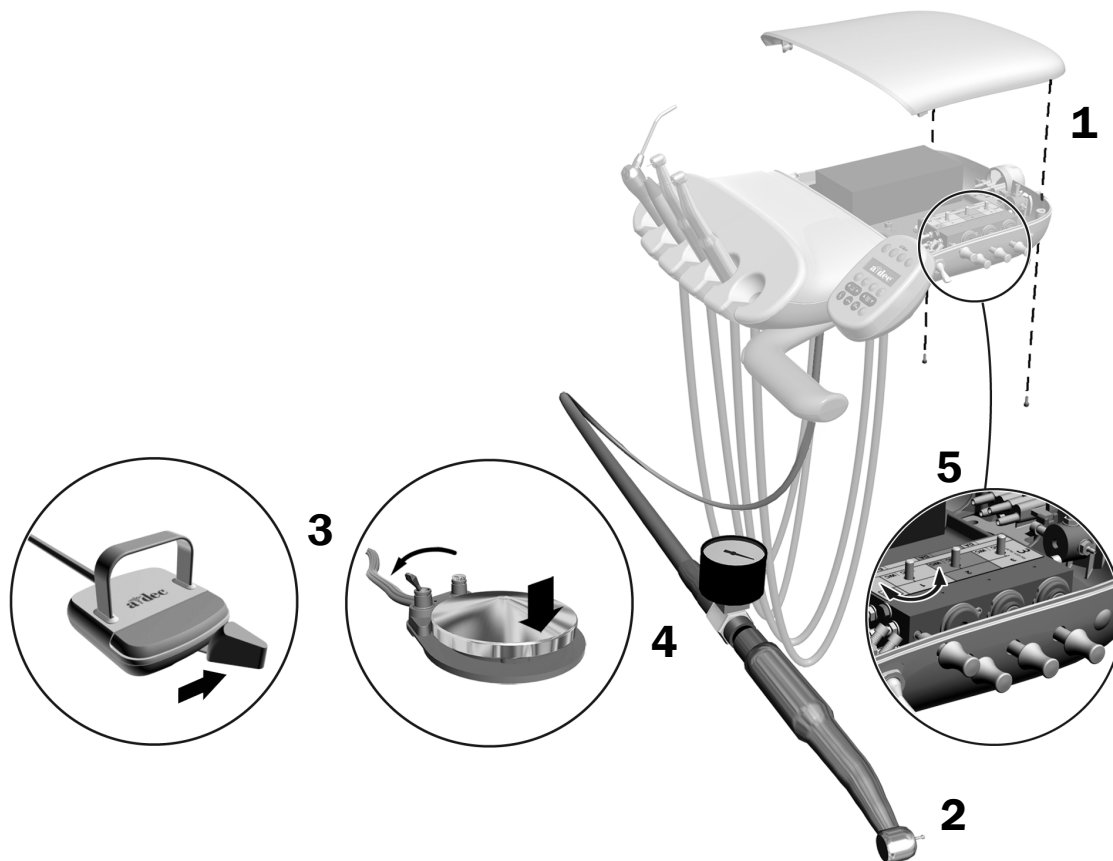
**NOTE** Use a handpiece pressure gauge attached to the handpiece tubing for exact drive air measurement. One bar equals 14.5 psi.

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.



**CAUTION** Exceeding the manufacturer's recommended drive air pressure increases the risk of damage and may significantly decrease the life of your handpiece components. For the proper drive air pressure, see the handpiece manufacturer's Instructions for Use.

5. Adjust the drive air pressure to meet the manufacturer's specifications. Turn the stem clockwise to decrease pressure.



## Adjust the Intraoral Light Source Voltage

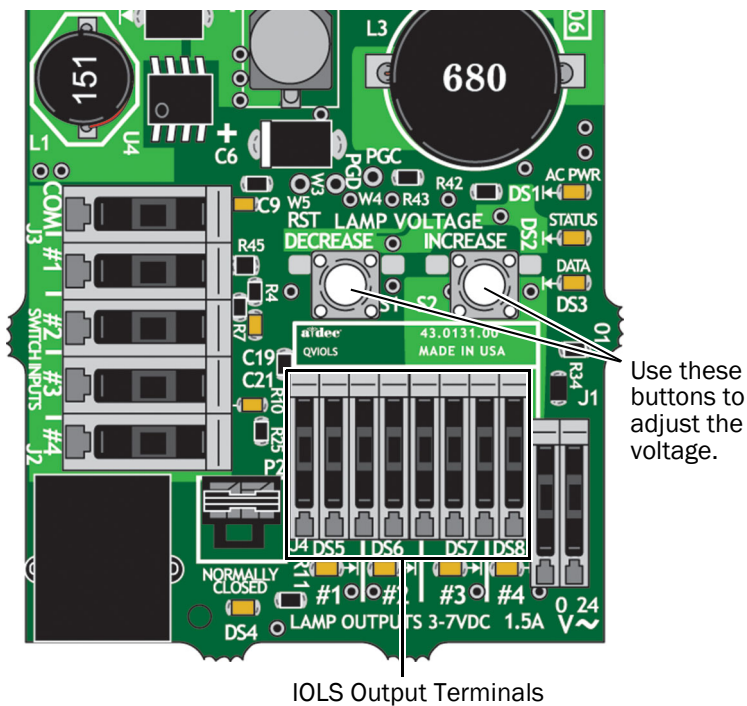
### Recommended Tool

- 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. 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 step on the foot control.
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**

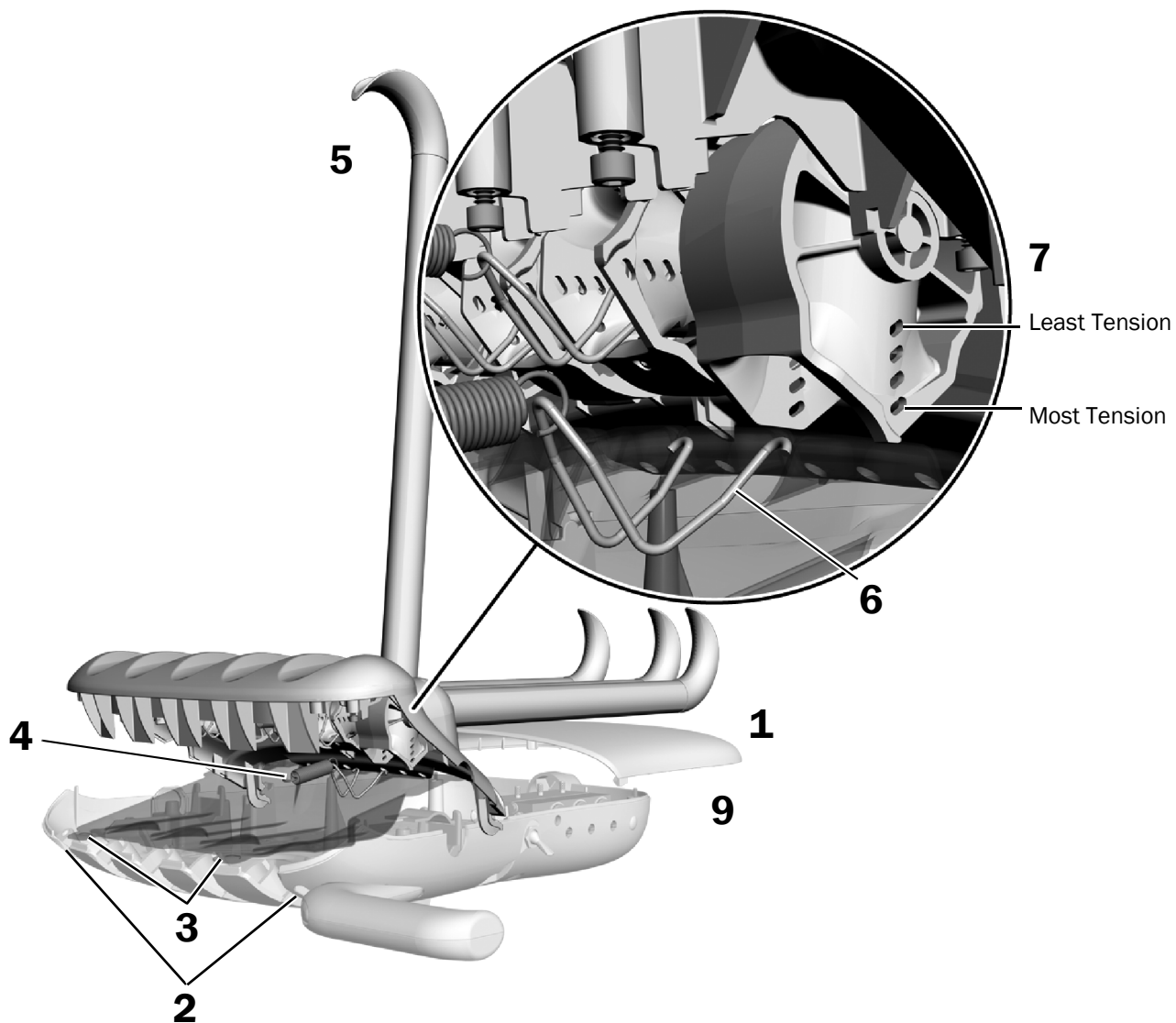
Wire length in A-dec tubing		Voltage at terminal strip resulting in recommended 3.2 V at the bulb	Wire length in A-dec tubing		Voltage at terminal strip resulting in recommended 3.2 V at the bulb
(in)	(cm)	VDC ± 0.02	(in)	(cm)	VDC ± 0.02
48	122	3.40	108	274	3.69
54	137	3.43	114	290	3.72
60	152	3.46	120	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 Continental Whip Tension (A-dec 333 only)

### Recommended Tool

- 7/64" hex key

1. Remove the control head back cover.
2. Loosen 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.



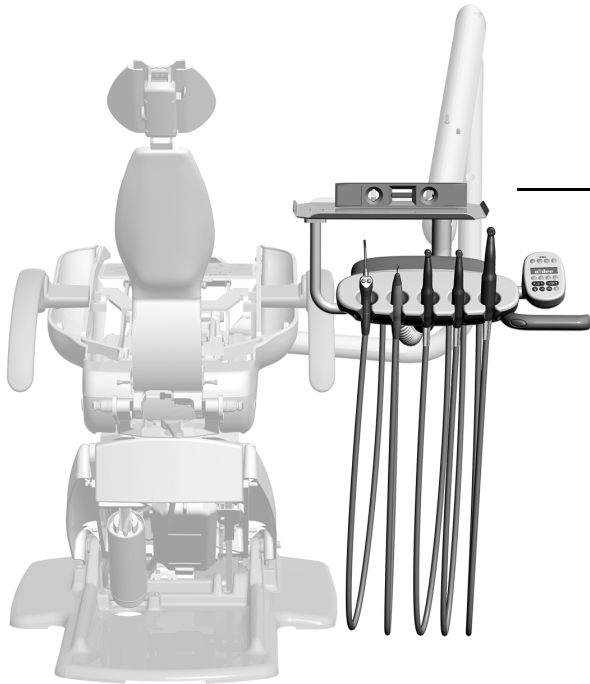


## Level the Control Head

### Recommended Tool

- 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.

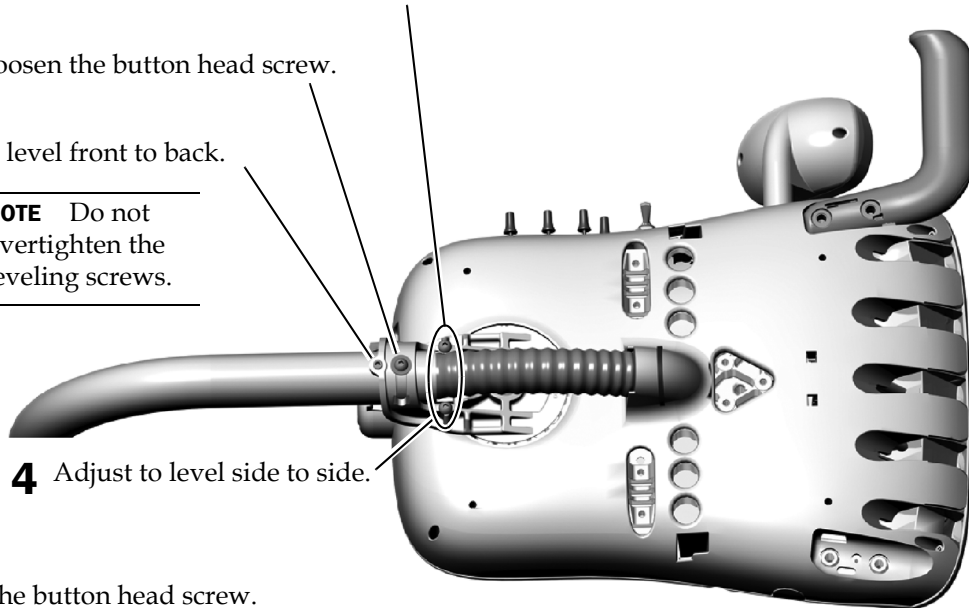
- 3** Adjust to level front to back.



**NOTE** Do not overtighten the leveling screws.

- 4** Adjust to level side to side.

- 5** Tighten the button head screw.

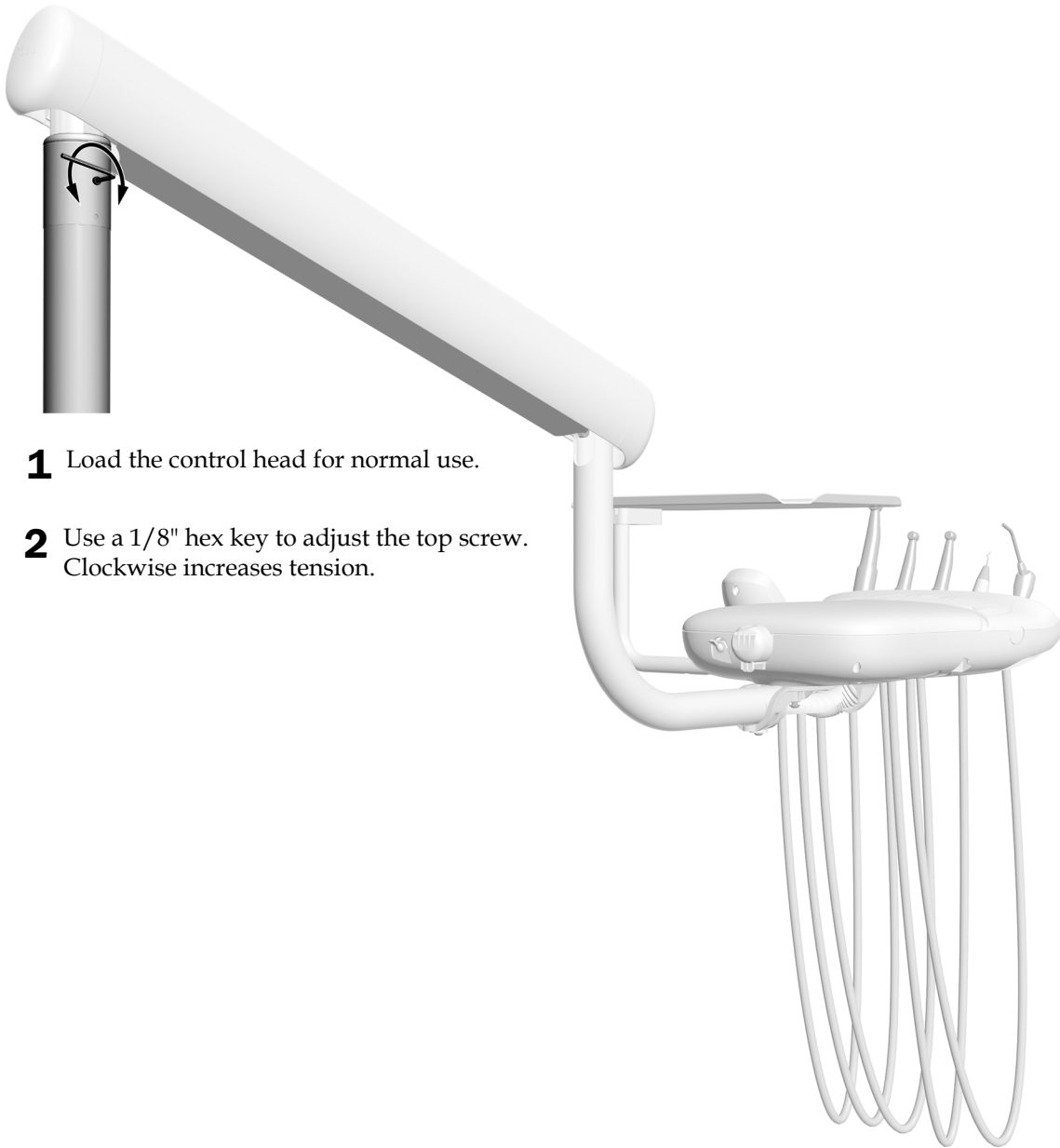


## Adjust the Delivery System Flexarm Rotation Tension

### 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** Use a 1/8" hex key to adjust the top screw. Clockwise increases tension.

## Customize Touch Control and Handpiece Settings

See the section for the type of control interface on your system.



**NOTE** Touch control symbols and icons are proprietary to A-dec, Inc.

### CP5i/CP5 Control Pads



For touchscreen and control pad use, see the *A-dec DS7/CP5i/CP5 Touch Controls Instructions for Use* (p/n 86.0857.00) at [a-dec.com/touchscreen-manual](http://a-dec.com/touchscreen-manual).



For configuring connectivity features, see the *A-dec+™ Software Platform Instructions for Use* (p/n 86.1030.00) at [a-dec.com/connectivity-manual](http://a-dec.com/connectivity-manual).



## A-dec 300 Deluxe Touchpad

### Technician Touchpad Setup

To adjust handpiece and touchpad settings for user preferences, press and hold **m** and **e** at the same time. When the **System Setup** screen appears, press **▶**.

### A-dec 300 Deluxe Touchpad Setup Screen Example



### Navigate with Touchpad Buttons

Chair button functions become navigation buttons while you are in setup mode. Use the back up **▶**, back down **◀**, base up **▲**, base down **▼**, also the minus **—** and plus **+** buttons to navigate, and make adjustments and selections on the setup screens.

### Contrast/Help Messages Setup

To adjust the touchpad screen contrast or turn on/off the help messages:

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 **+** until **Contrast Adjust** or **Help Messages:** is displayed on the screen, then press **▶** to enter the **Contrast Adjust Setup** or **Help Messages Setup** screen.
  - In the **Contrast Adjust Setup** screen: Press **—** or **+** to adjust the contrast, then press **▶** to save the setting. Three beeps confirms the setting is saved.
  - In the **Help Messages Setup** screen: Press **—** or **+** to turn **On** or **Off** help messages, then press **▶** to save the setting. Three beeps confirms the setting is saved.
4. When finished making adjustments to touchpad settings, press **◀** until the A-dec logo is displayed.



**NOTE** For a listing of help messages, see the *Regulatory Information, Specifications, and Warranty* document (p/n 86.0221.00) in the Resource Center at [www.a-dec.com](http://www.a-dec.com).

## Handpiece Holder Setup

You can set up how handpieces are configured for each handpiece holder. Handpiece types include Basic Air, Camera, Electric, Other, Ultrasonic, Vacuum, and Turbine.

To set up handpiece holders:

1. Press and hold **m** and **e** at the same time until a **System Setup** screen appears, then press **▶**.
2. On the **System Setup** screen press **—** or **+** to highlight **Handpieces**, then press **▶**.
3. On the **Handpiece Setup** screen press **—** or **+** to highlight **Holder Setup**, then press **▶**.
4. Lift the desired handpiece from the holder.
5. On the **Holder Setup** screen press **—** or **+** to select the handpiece type, then do one of the following depending on the type of handpiece:
  - **Electric:** For setup instructions, see the installation information that ships with the control module.
  - **All other Types:** Press **▶**. Three beeps confirms the setting is saved.
6. Return the handpiece to the holder.
7. Repeat steps 4 through 6 to set up each active handpiece.
8. When you are finished setting up the handpieces, press **◀** until you see the A-dec logo.

## Intraoral 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 intraoral 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.

## Test the System

---

Complete the following checklist, then follow up with the customer.

### Delivery System

- The handpieces function properly and are set to the 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.

### Utilities

- Regulated air pressure is at 80 psi (552 kPa).
- 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.

## Regulatory Information and Warranty


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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](http://www.a-dec.com).



For quick access to this document online, scan, tap, or click this QR code, which points to [a-dec.com/regulatory-guide](http://a-dec.com/regulatory-guide).

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