



A-dec® 332/333/336 Delivery System on Cascade®/Decade® Dental Chair

INSTALLATION GUIDE

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A-dec 333 Continental® Delivery System on a Cascade Dental Chair

Product Models and Versions Covered in This Document

Models	Versions	Description
332/333/336	A	Delivery System
Cascade/Decade	A	Dental Chair

Before You Begin



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.



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

Recommended Tools

- Hex key set
- 5/16" socket and ratchet
- Diagonal cutters
- Handpiece pressure gauge
- Umbilical snake
- Sleeve pusher
- Phillips head screwdriver
- Wood block
- 5/16" combination wrench
- Level
- Voltmeter

Uninstall the Current Equipment

The procedure for uninstalling equipment is the same for both Cascade and Decade chairs.

Recommended Tools

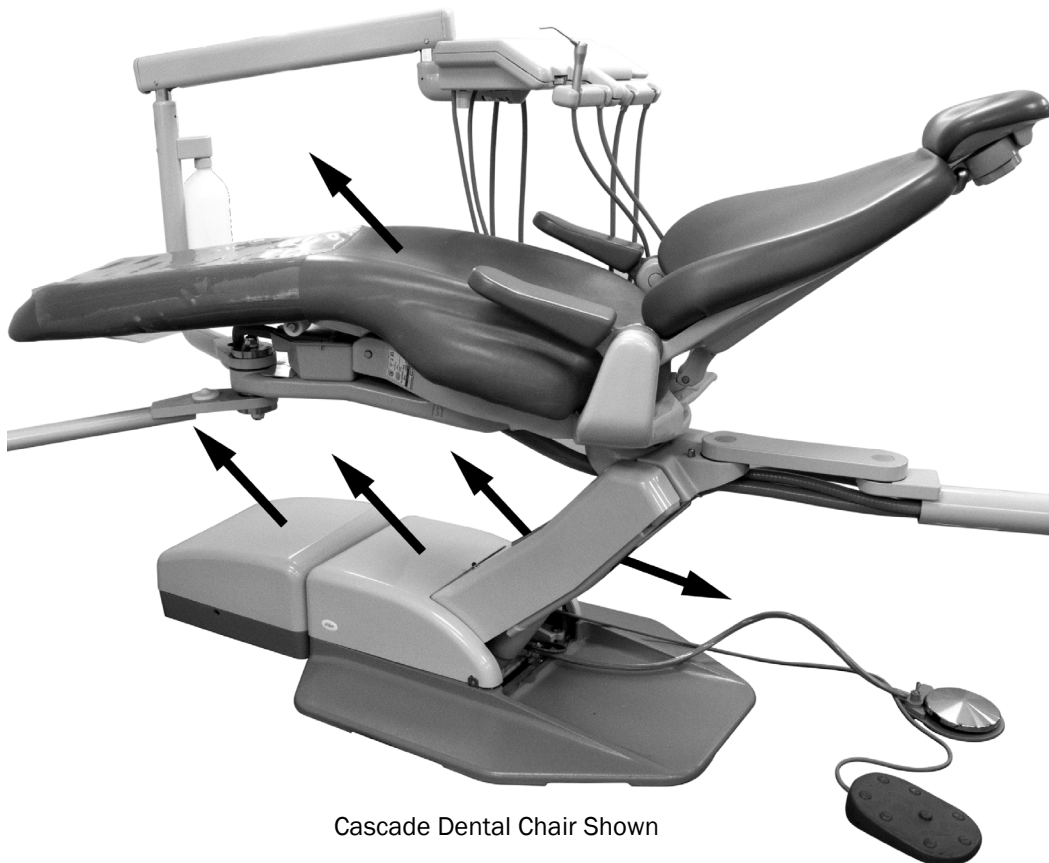
- 3/16" hex key
- 15/16" socket and ratchet

1 Fully raise the chair.



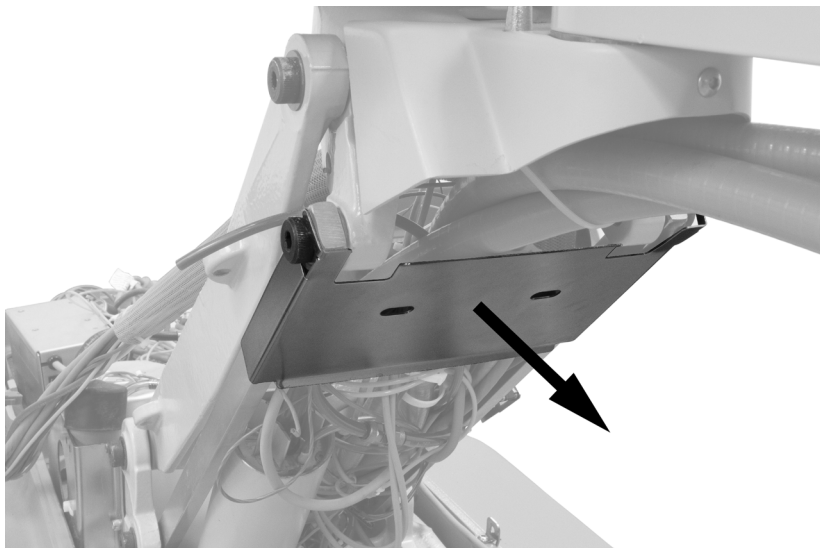
WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.

2 Turn off the power and air.



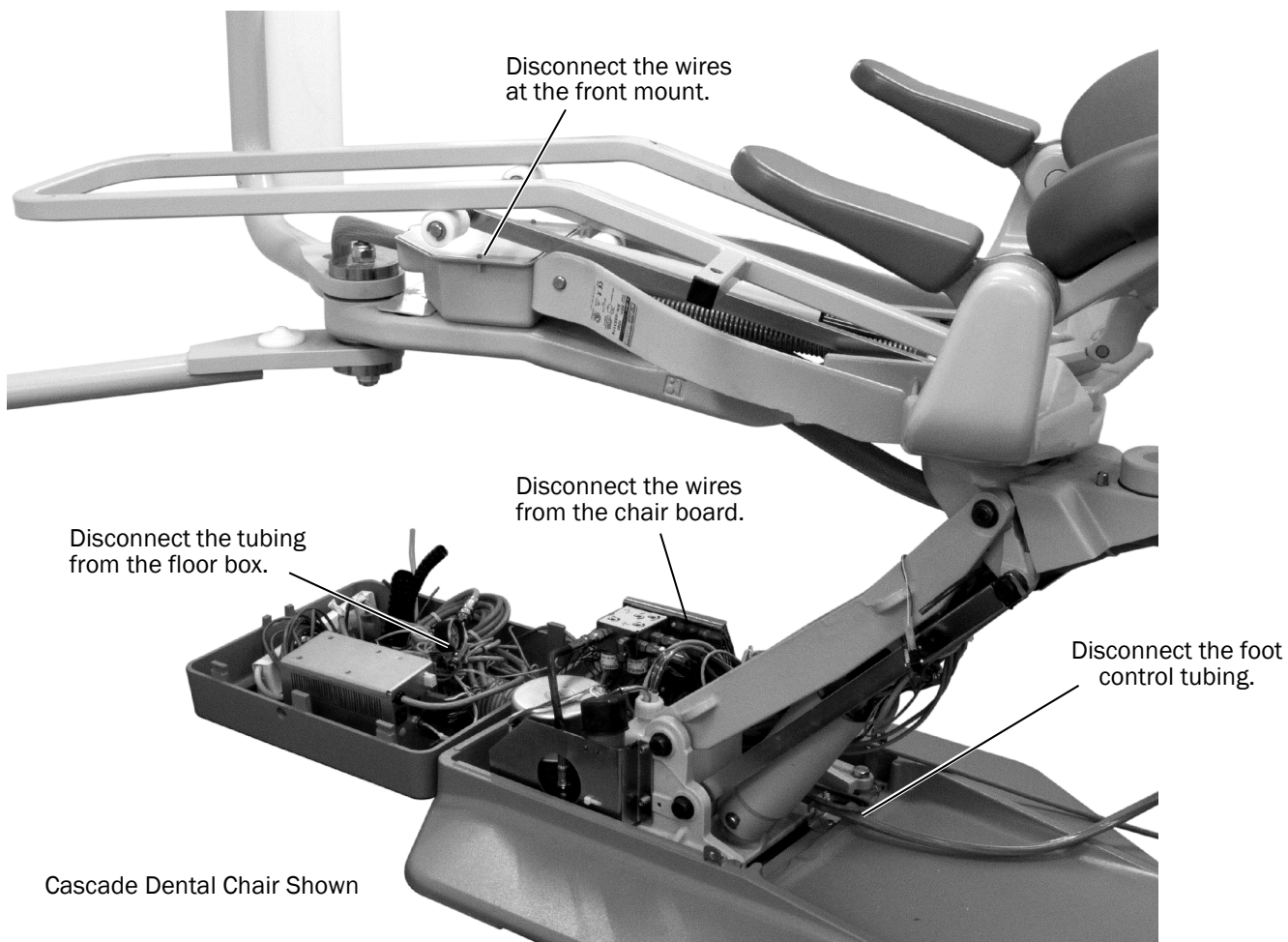
Cascade Dental Chair Shown

3 Remove the seat upholstery. Remove the floor box, pump, and lift arm covers. The upholstery and covers are all secured with fasteners, except for the floor box cover. To remove the lift arm covers, disconnect the light on the front and the two limit switches on the back.



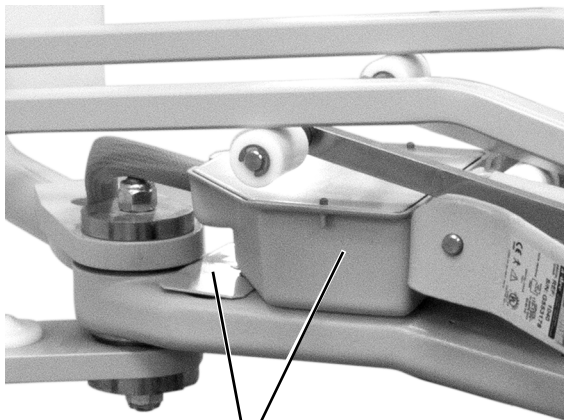
4 Pry the shield off from the back of the lift arm.

5 Disconnect the tubing and wires.



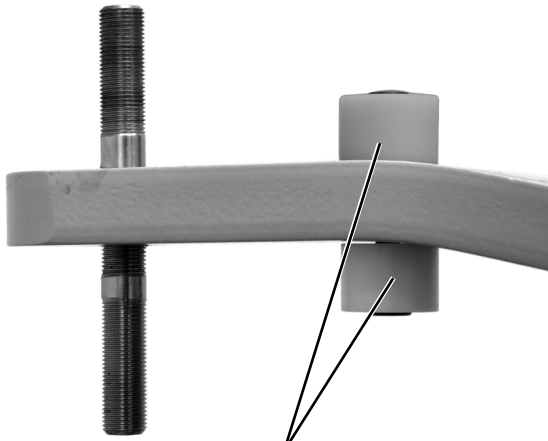
6 Uninstall the following according to the type of chair.

Cascade Dental Chair



Remove the metal plate, hex standoff under the plate, and junction box from the front mount.

Decade Dental Chair



Remove the white stops and mounting hardware from the front mount.

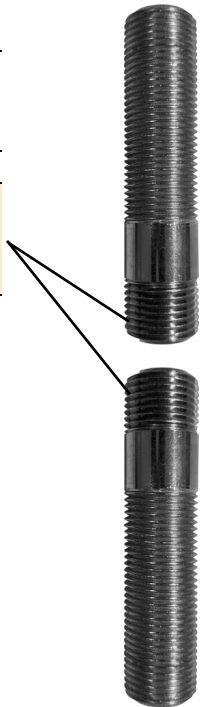
7 Use a 15/16" socket and ratchet to remove the delivery system and dental light modules and rigid arms.



CAUTION Failure to use red Loctite[®] when reinstalling a pivot stud could result in the rigid arm falling off of the front mount.

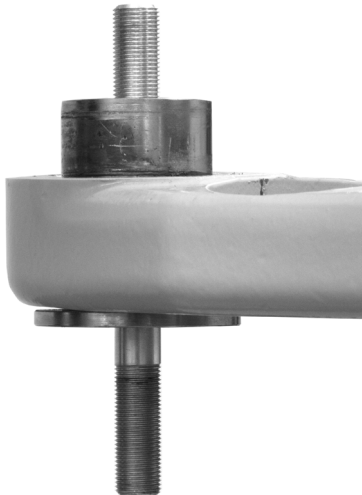


NOTE If the pivot stud comes out of the front mount and is stuck to the nut, there are replacement studs in the kit. Apply red Loctite to the end of the replacement stud with less threads and install that end into the front mount.



When everything is uninstalled the front mounts should look like the following.

Cascade Front Mount
Ready for Installation



Decade Front Mount
Ready for Installation



Install the Rigid Arms

Complete the instructions for the system's model of chair.

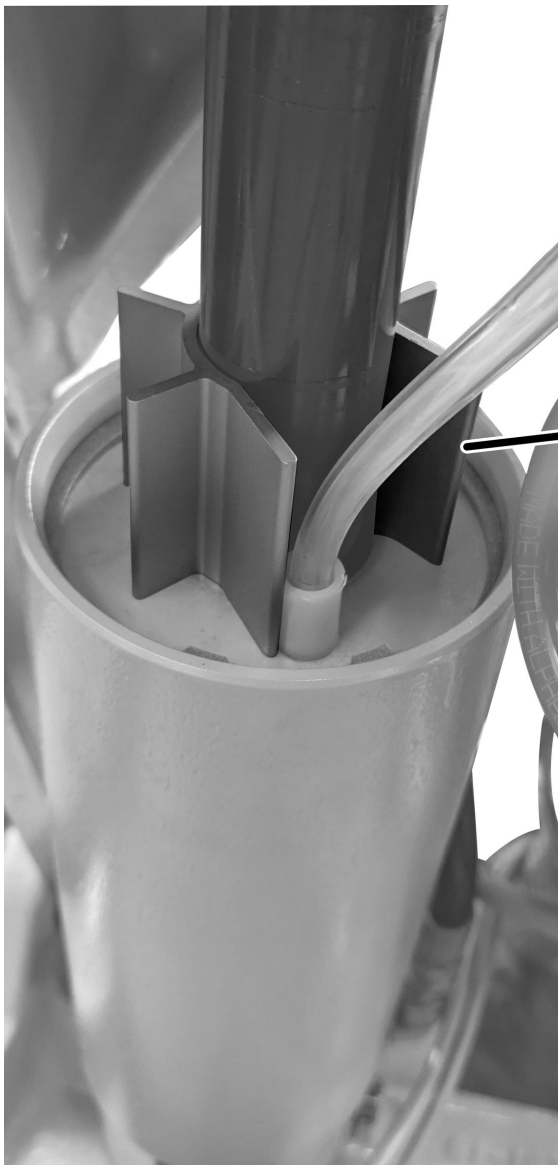
Install the Delivery System Rigid Arm on a Cascade Dental Chair 6
Install the Delivery System Rigid Arm on a Decade Dental Chair 11

Install the Delivery System Rigid Arm on a Cascade Dental Chair

Install the Delivery System Rigid Arm

Recommended Tool

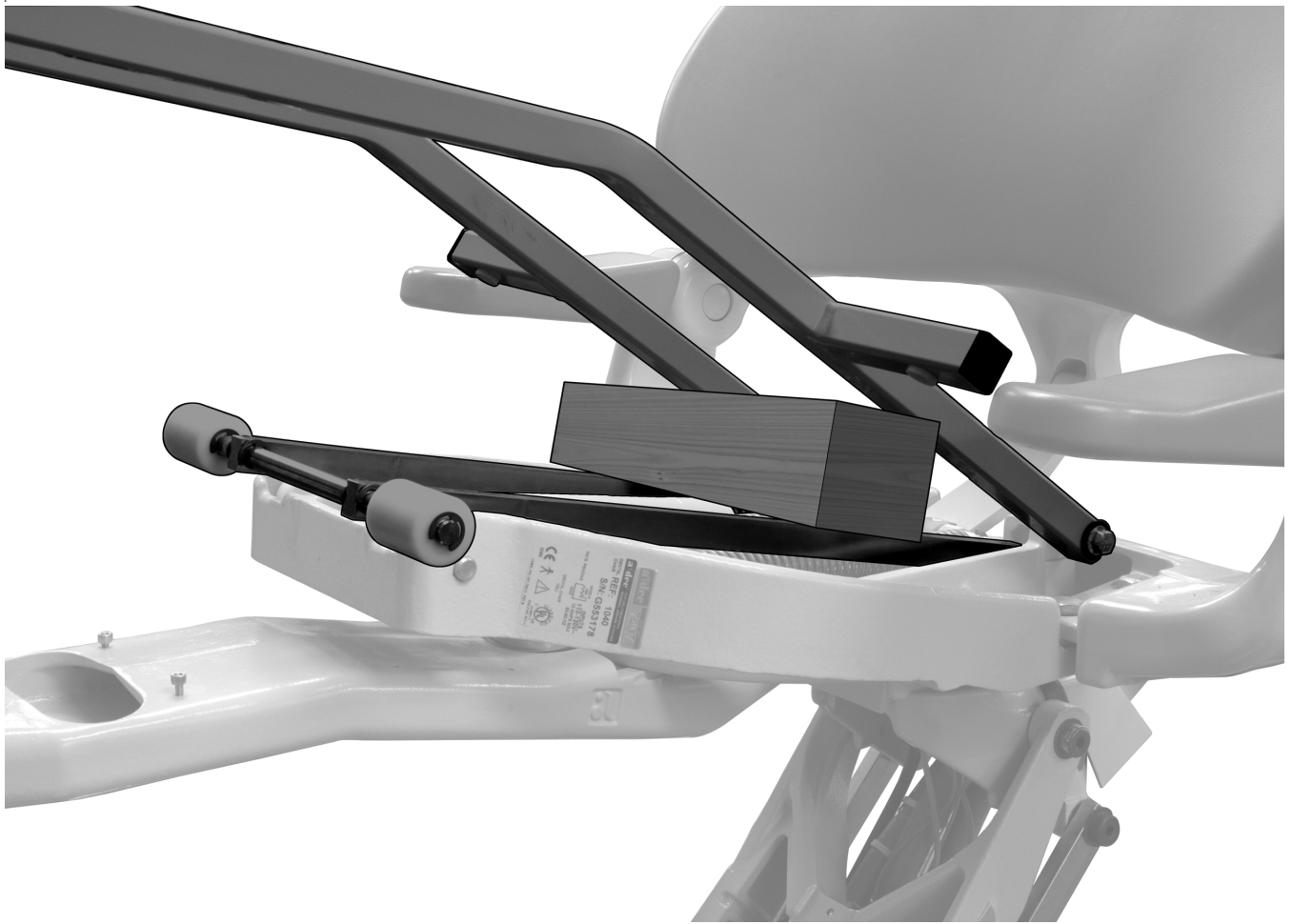
- 15/16" socket and ratchet
- Wood block



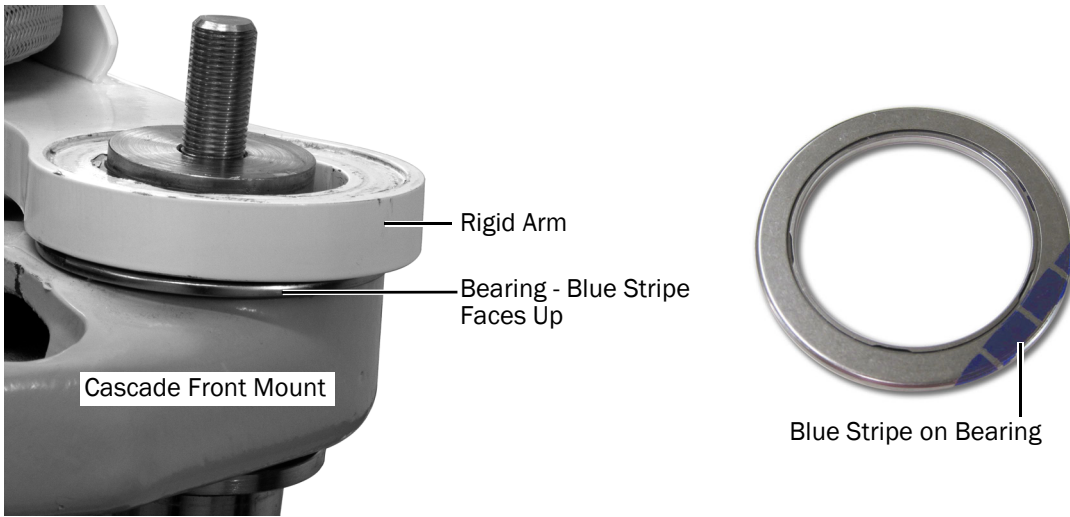
- 1** Configurations that include a light or monitor mount only. If the system includes a dental light or monitor mount, place the spacer on top of the hydraulic cylinder with its opening toward the low pressure tubing.



NOTE The spacer ships with the light or monitor mount.



- 2** 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.

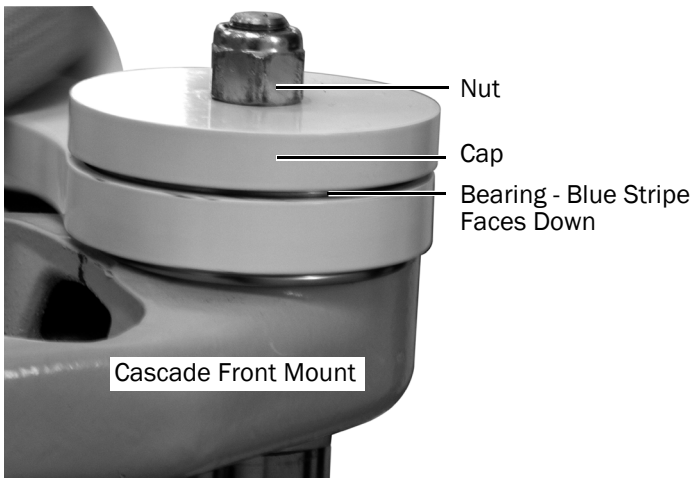


CAUTION For the arm to rotate properly, the bearings must be fully seated in the grooves in the arm with the blue stripe in the correct position. Proceed with care to ensure that the bearings do not shift out of position during tightening.

- 3 Place a bearing (blue stripe up), and the delivery system rigid arm over the hub on the front mount.



CAUTION Make sure to use the correct cap with the ridge to prevent damaging the hub.



- 4 Place a bearing (blue stripe down), cap, and nut on top of the rigid arm, then use a 15/16" socket and ratchet to secure the stack to the front mount.

Install the Delivery System Rotation Stop on a Cascade Chair

Recommended Tool

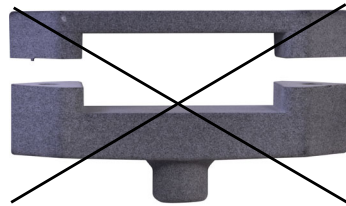
- 3/16" hex key



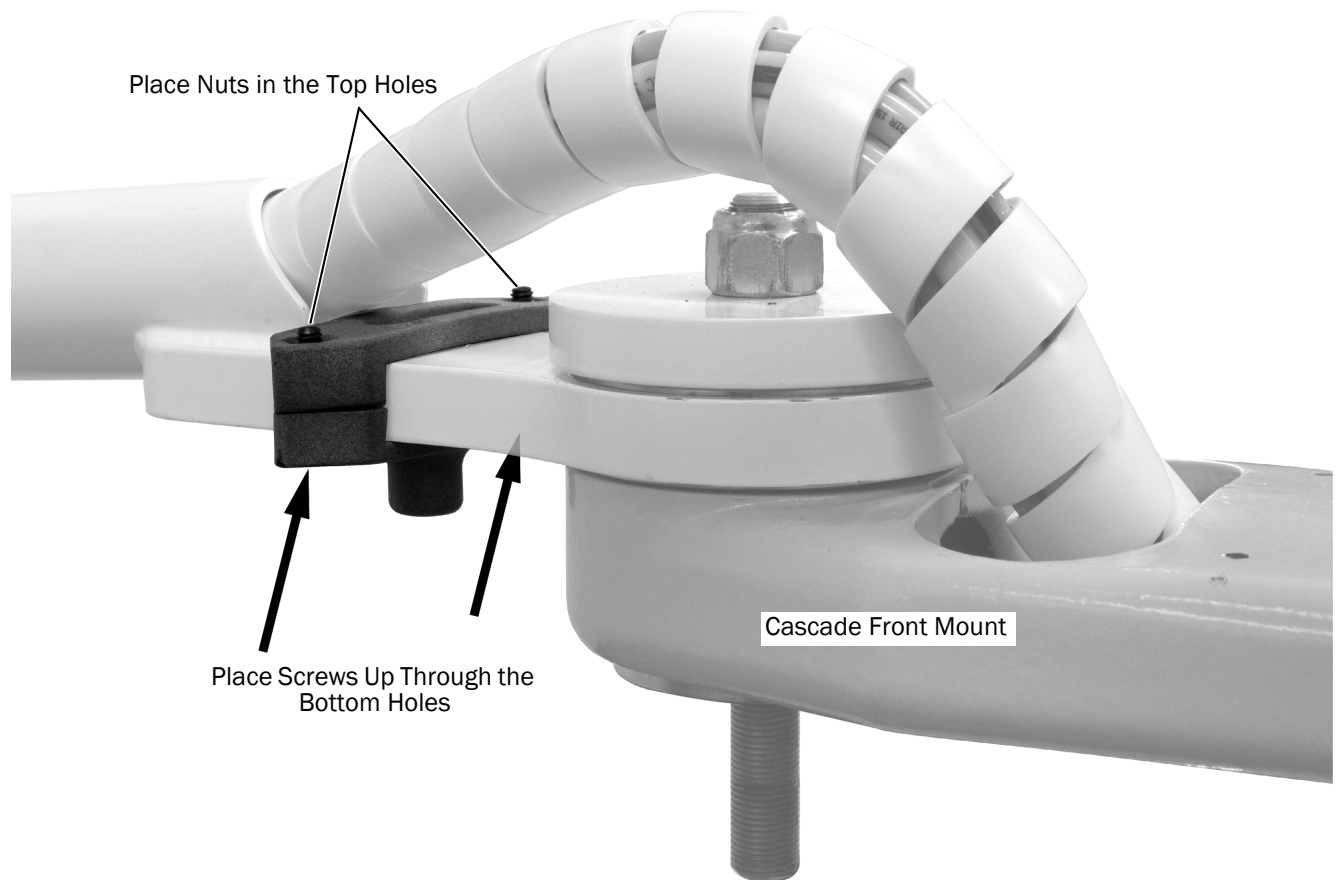
NOTE If the system includes both a delivery system and a dental light, be sure to use the thin rotation stop on the delivery system rigid arm.



Use the thin rotation stop.

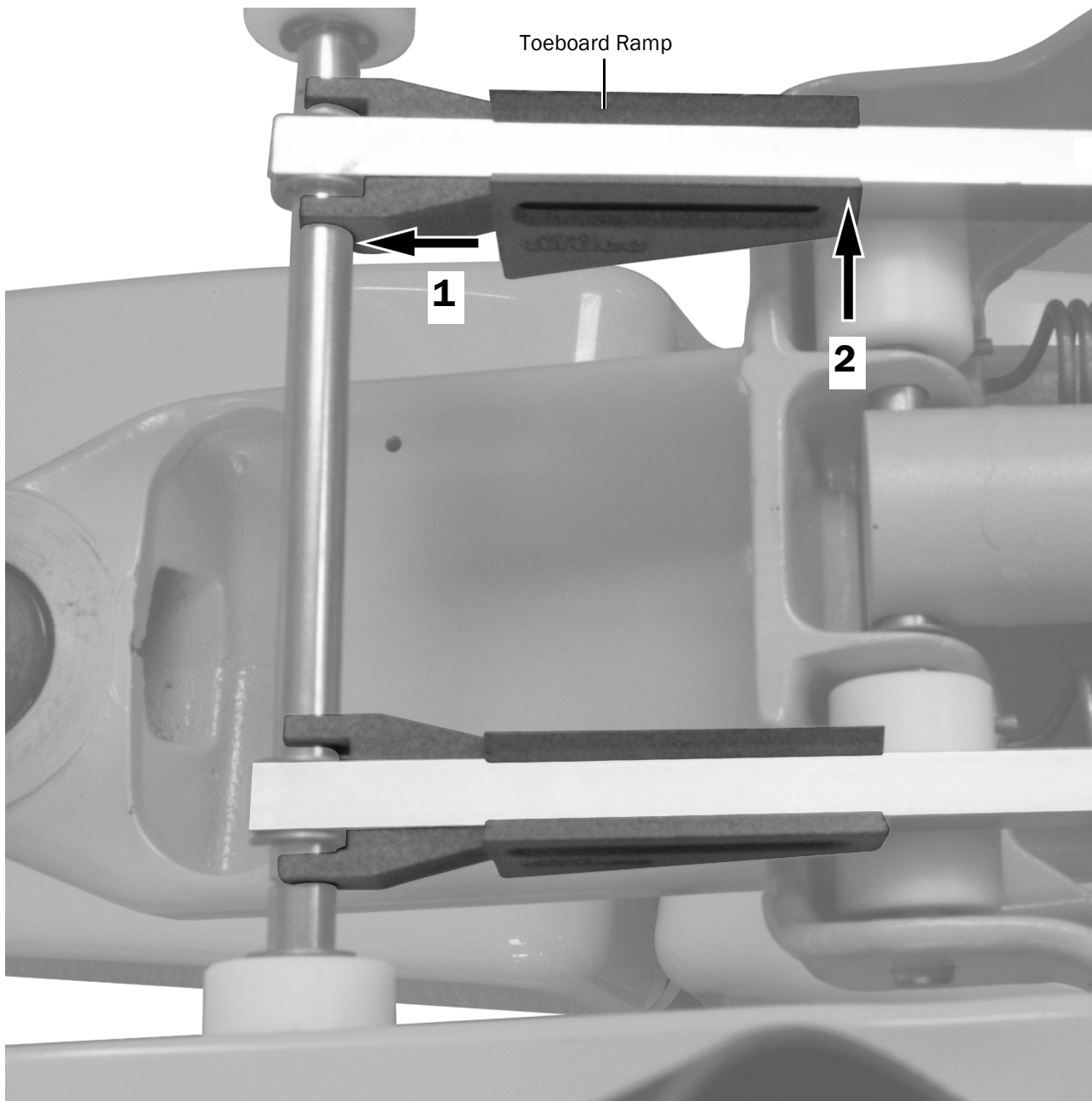


Do not use the thick rotation stop.



- 1** Place the two pieces of the rotation stop around the flat part of the rigid arm, up against the round pipe and with the knob of the stop on the bottom.
- 2** Place a nut in each of the holes in the top piece of the rotation stop.
- 3** From the bottom of the stop, use a 3/16" hex key and two screws to secure the stop to the rigid arm.

Install the Toeboard Ramps on a Cascade Chair



- 1** Slide the fork of the ramp onto the axle for the seat rollers.
- 2** Push the ramp up into place on the link arms.
- 3** Repeat steps 1 and 2 for the other ramp.

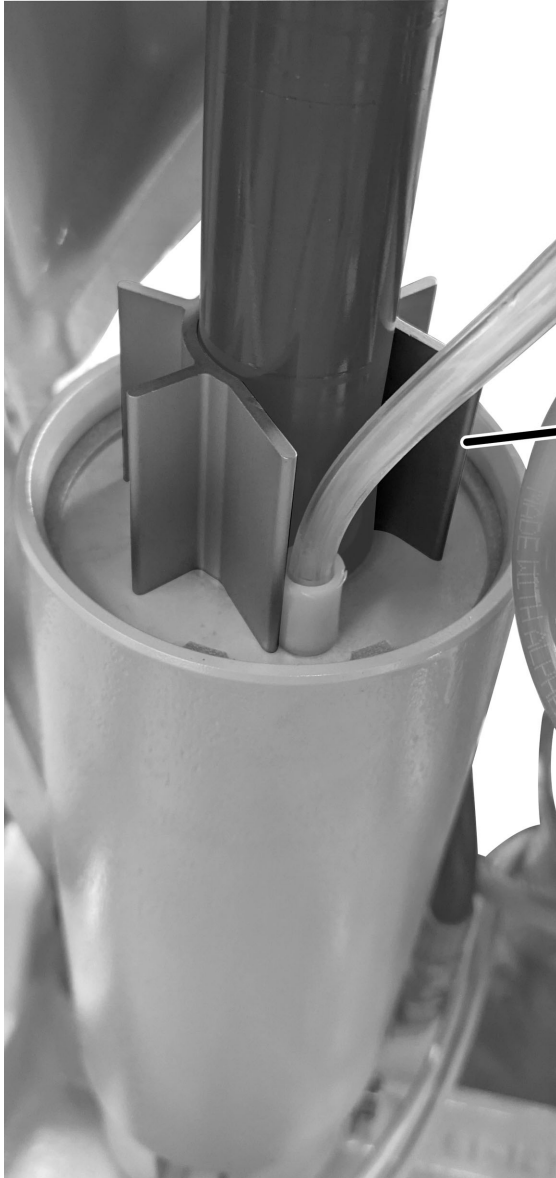
Next Step See "Install the Delivery System" on page 15.

Install the Delivery System Rigid Arm on a Decade Dental Chair

Install the Delivery System Rigid Arm

Recommended Tool

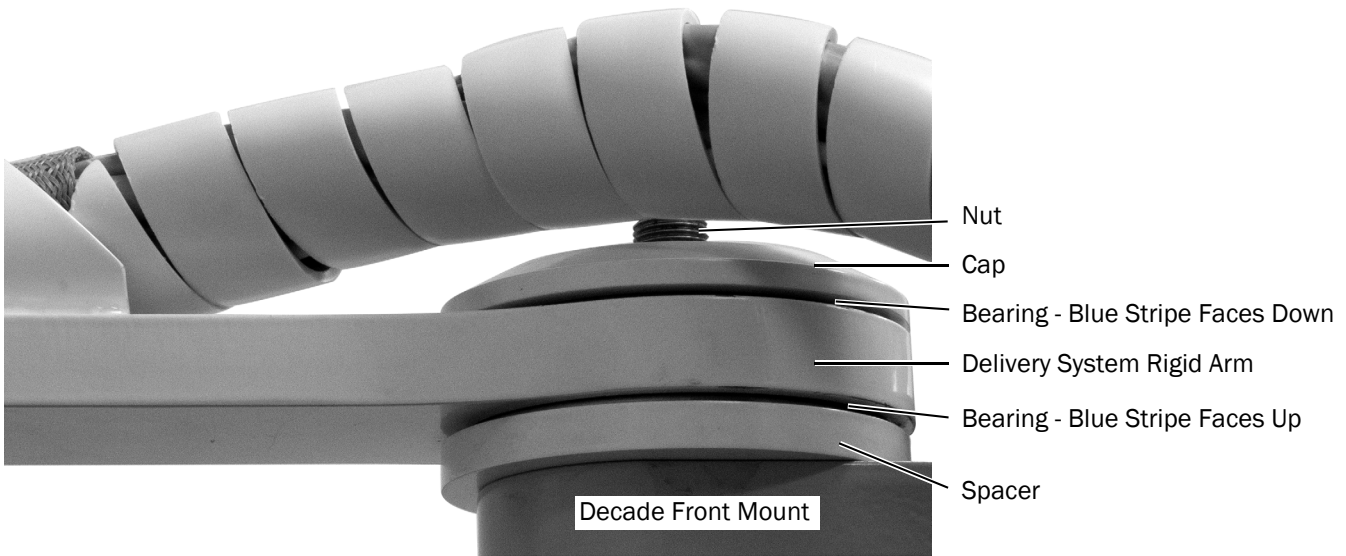
- 15/16" socket and ratchet



- 1** Configurations that include a light or monitor mount only. If the system includes a dental light or monitor mount, place the spacer on top of the hydraulic cylinder with its opening toward the low pressure tubing.



NOTE The spacer ships with the light or monitor mount.



- 2 On the bolt above the front mount, install the spacer, bearings, rigid arm, cap, and nut.



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.

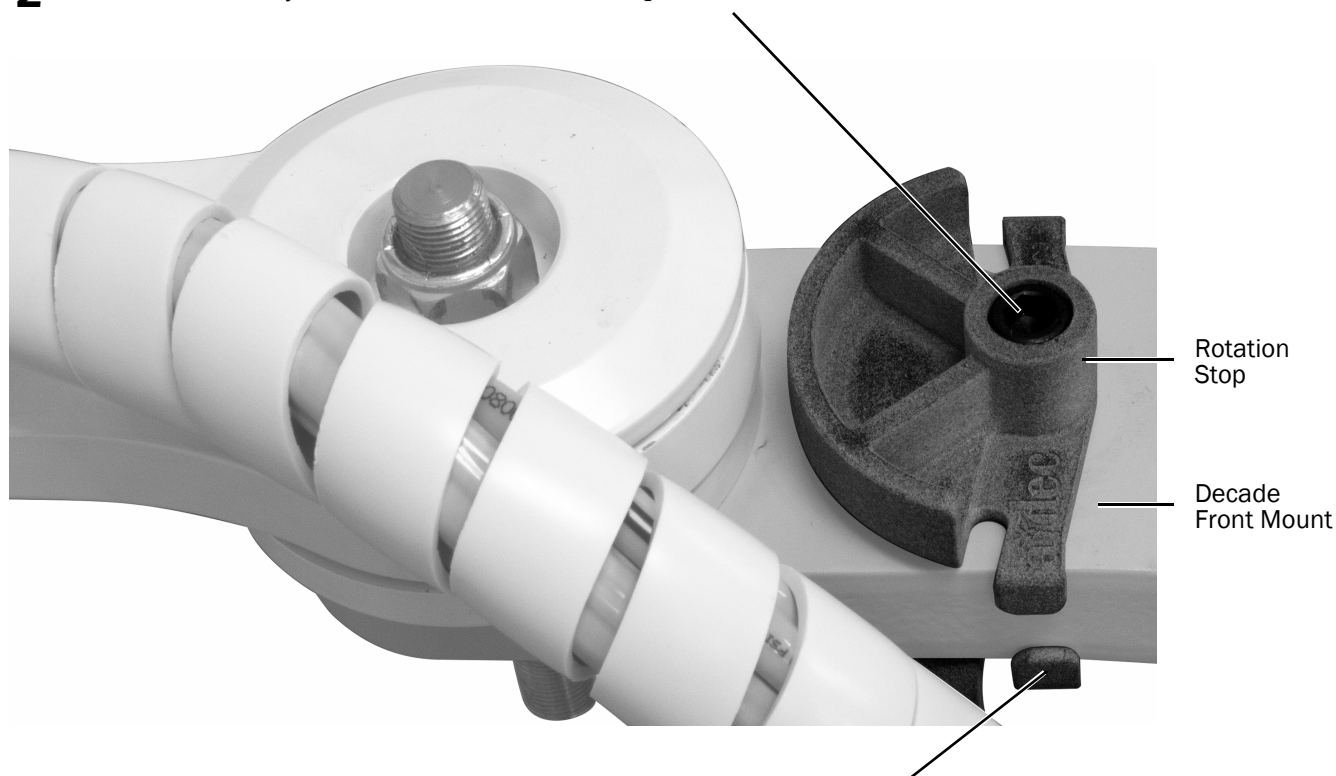
- 3 Use a 15/16" socket and ratchet to secure the stack to the front mount.

Install the Rotation Stops on the Front Mount on a Decade Chair

Recommended Tool

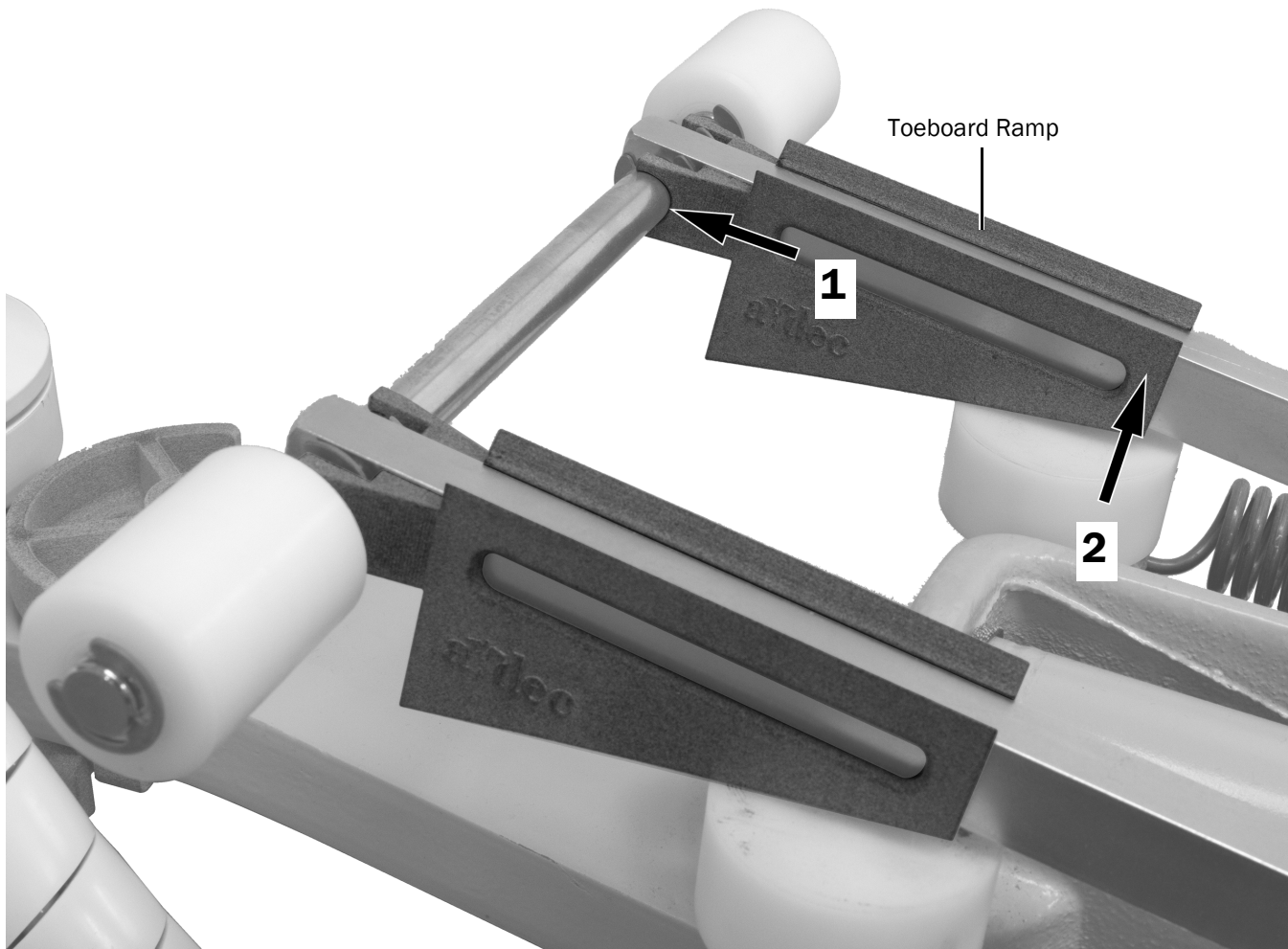
- 5/16" hex key

- 1** Place the rotation stop on top of the front mount with the round end toward the rigid arm.
- 2** Use a 5/16" hex key and a screw to secure the stop to the front mount.



- 3** Place the rotation stop on the bottom of the front mount with the round end toward the rigid arm.
- 4** Use a 5/16" hex key and a screw to secure the stop to the front mount.

Install the Toeboard Ramps on a Decade Chair



- 1** Slide the fork of the ramp onto the axle for the seat rollers.
- 2** Push the ramp up onto the seat roller frame.
- 3** Repeat steps 1 and 2 for the other ramp.

Next Step See "Install the Delivery System" on page 15.

Install the Delivery System

The instructions for installing an A-dec 332/333/336 apply to both Cascade and Decade dental chairs.



**A-dec 333 Continental Delivery System
on a Cascade Dental Chair**

Install the Water Bottle Mount on the Delivery System Rigid Arm (A-dec 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 336 Delivery System" on page 20.



READ THIS! If you are installing a remote water bottle or a support center with a water bottle, do not complete this procedure. Instead, remove the plate from the delivery system rigid arm, and insert the plug from the kit into the hole.

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 332/333 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 20.

Recommended Tool

- 5/32" hex key

Task 1.

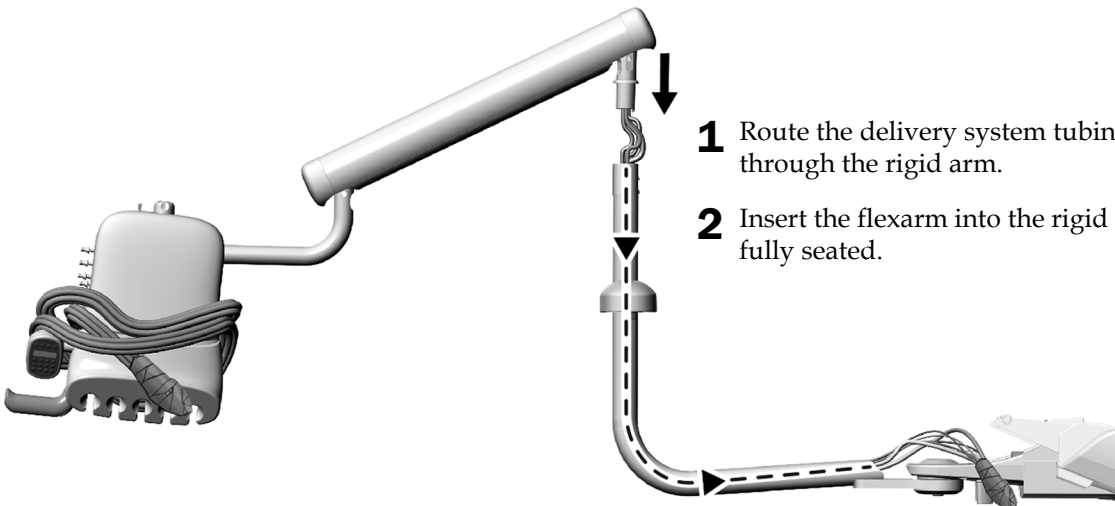


- 1** Pick up the delivery system and put it over your shoulder so one hand is free to route the tubing bundle.



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.

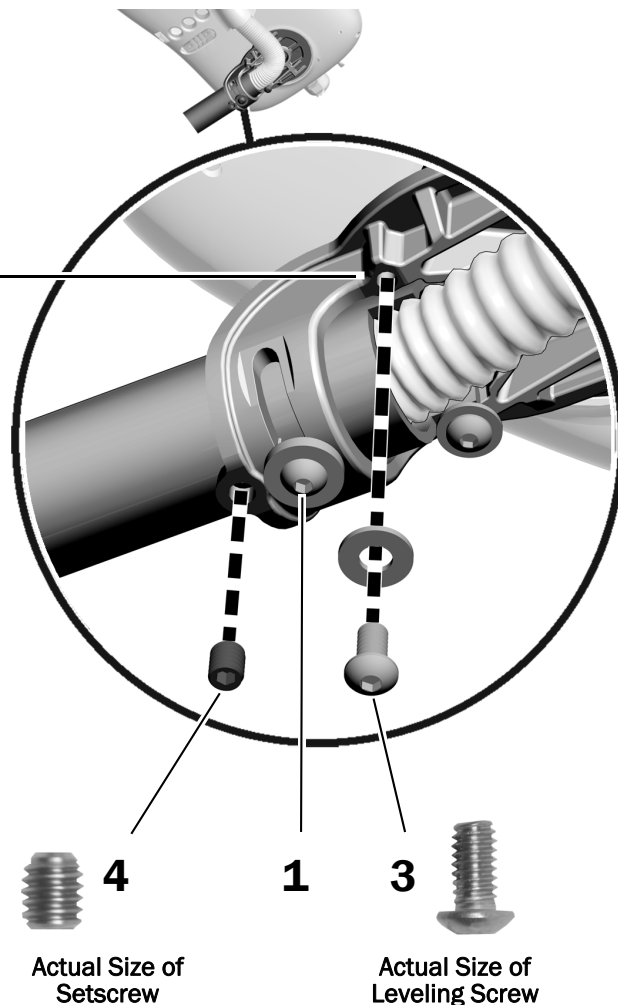
Task 3.

1. Loosen the button head screw.



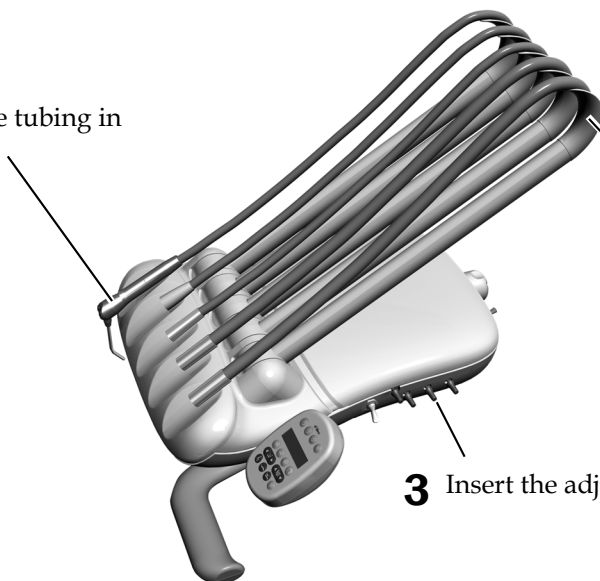
NOTE Do not back out the button head screw all of the way. Only loosen it enough to be able to move the control head.

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



Task 4.

- 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.

Install the A-dec 336 Delivery System

Recommended Tool

- 3/32" hex key

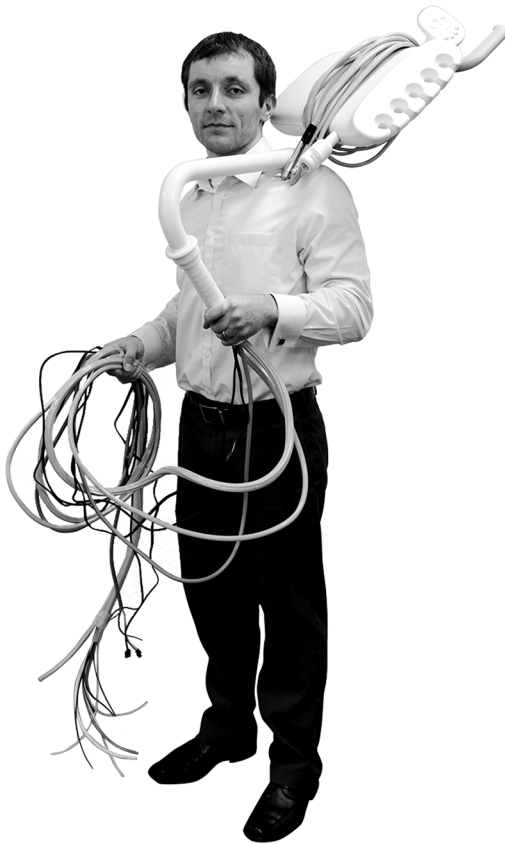


NOTE To avoid problems, read all of this procedure before attempting to install the delivery system.

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.

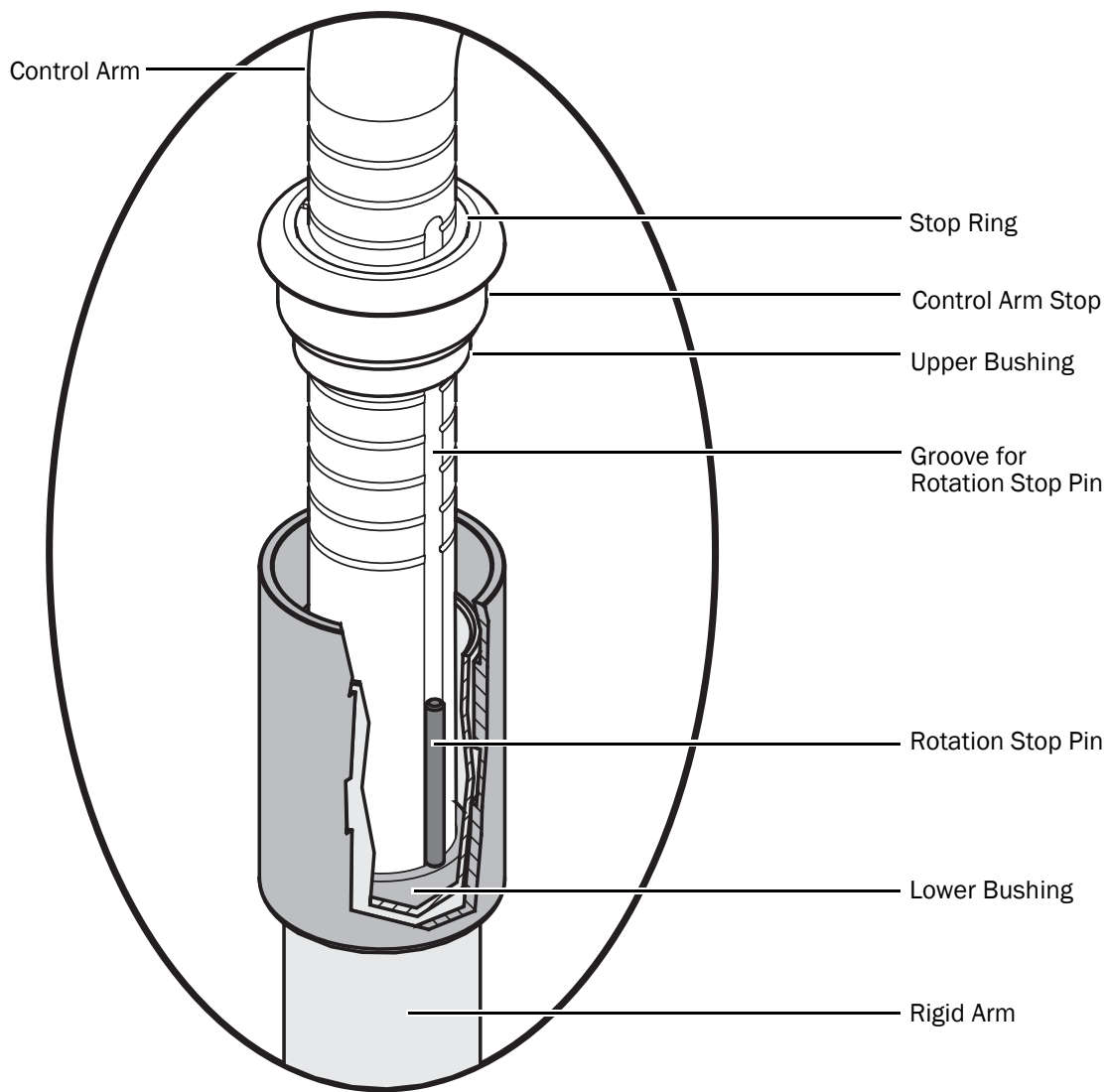


TIP To make it easier to handle, wrap the delivery system handpiece tubing around the control head before picking up the delivery system.

Task 3.

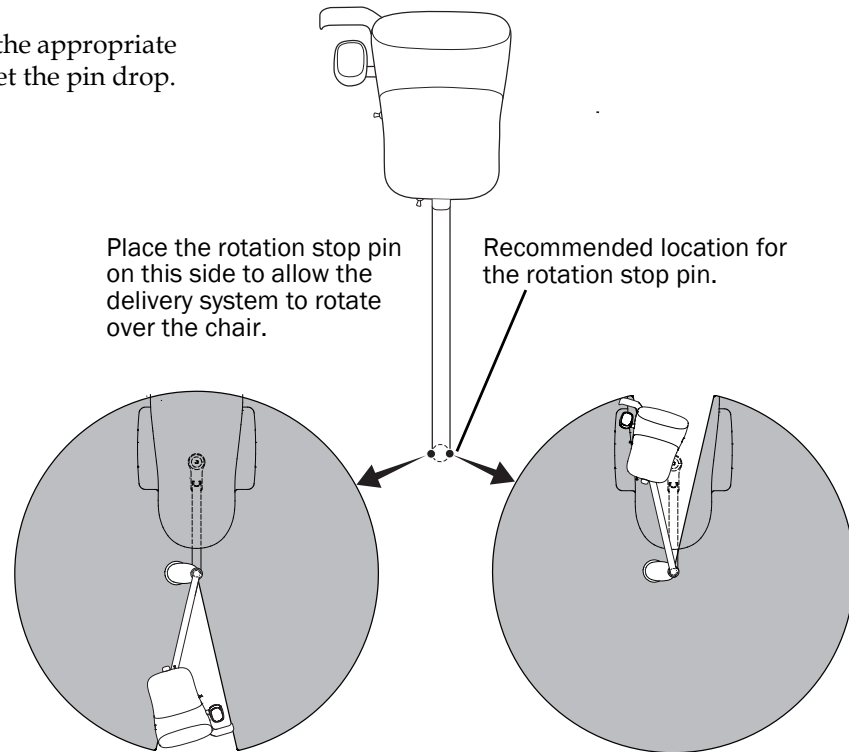
- 1** Remove the rotation stop pin (that is taped to the control arm) from the control arm.
- 2** Route the delivery system tubing through the rigid arm.
- 3** Carefully lower the control arm into the rigid arm until the end of the control arm is past the top of the lower bushing.

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.

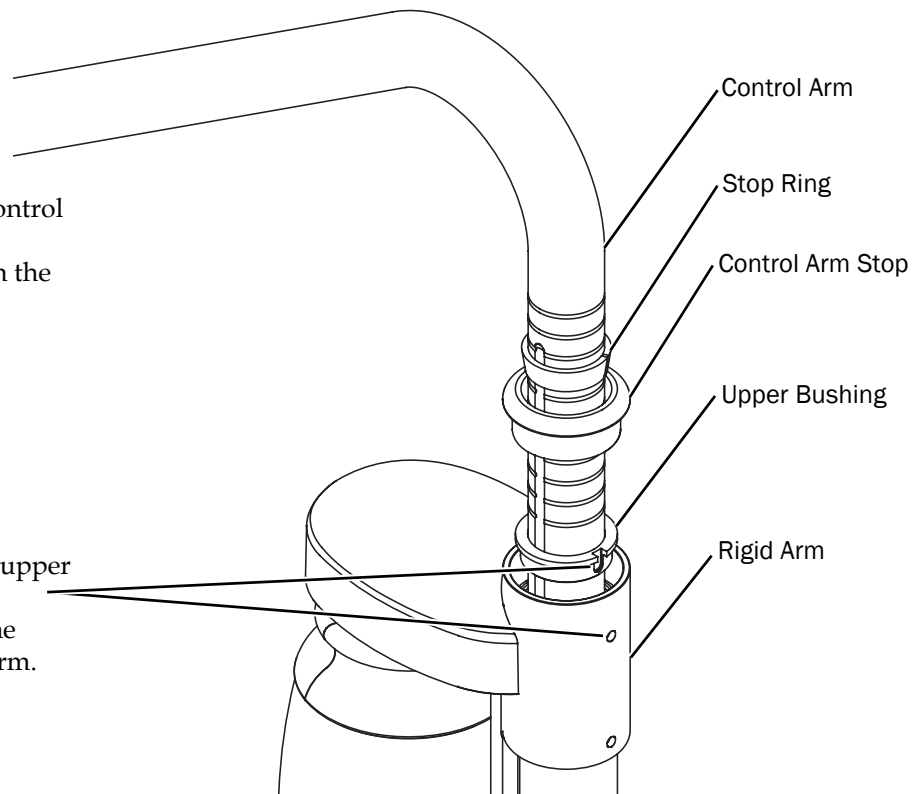
- 1 Place the rotation stop pin into the appropriate groove in the control arm and let the pin drop.



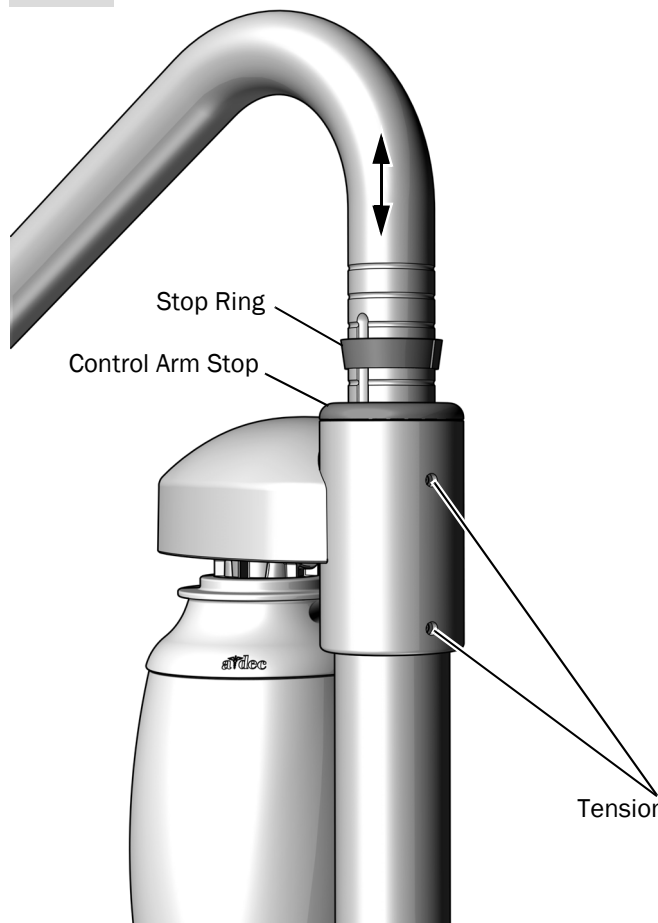
Task 5.

- 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.

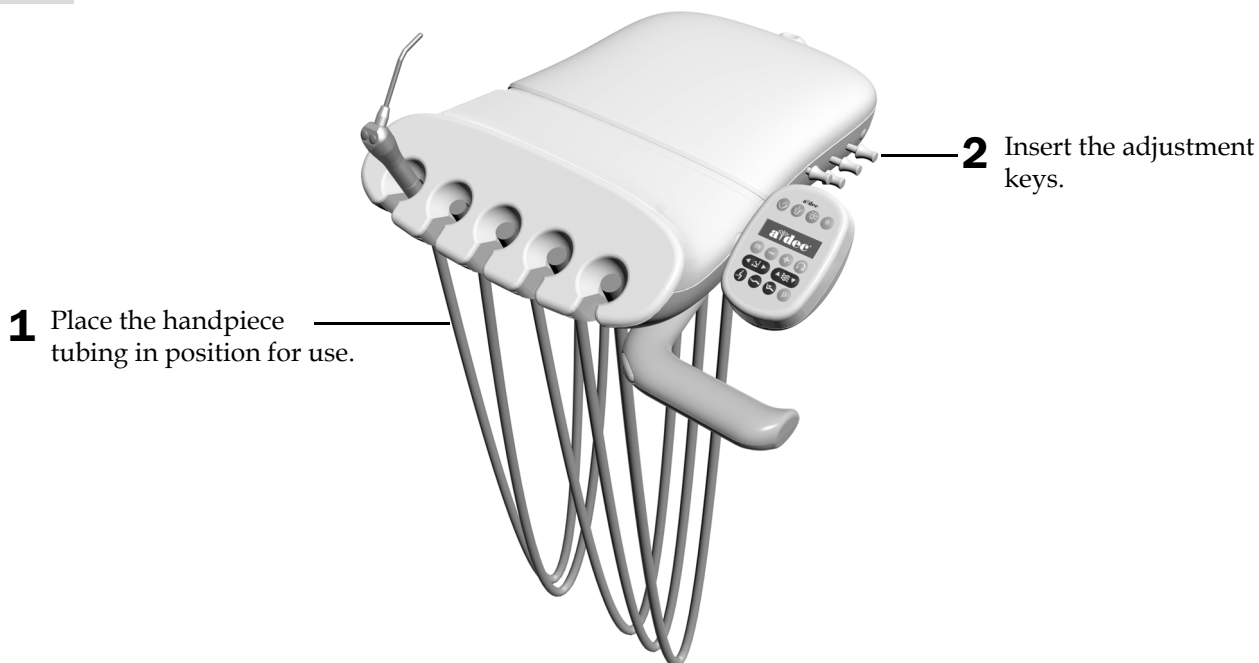


- 1** Tighten the top tension adjustment setscrew.
- 2** Lower the control arm stop into the rigid arm.
- 3** Move the stop ring to the lowest position along the control arm to set the maximum height of the delivery system.

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.



1 Place the handpiece tubing in position for use.

2 Insert the adjustment keys.

Route the Tubing and Wiring

Complete the instructions for the system's configuration.

Route the Tubing and Wiring on a Cascade Dental Chair 24

Route the Tubing and Wiring on a Decade Dental Chair 27

Route the Tubing and Wiring on a Cascade Dental Chair

Recommended Tools

- 3/16" hex key
- Diagonal cutters
- Umbilical snake

Task 1.

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



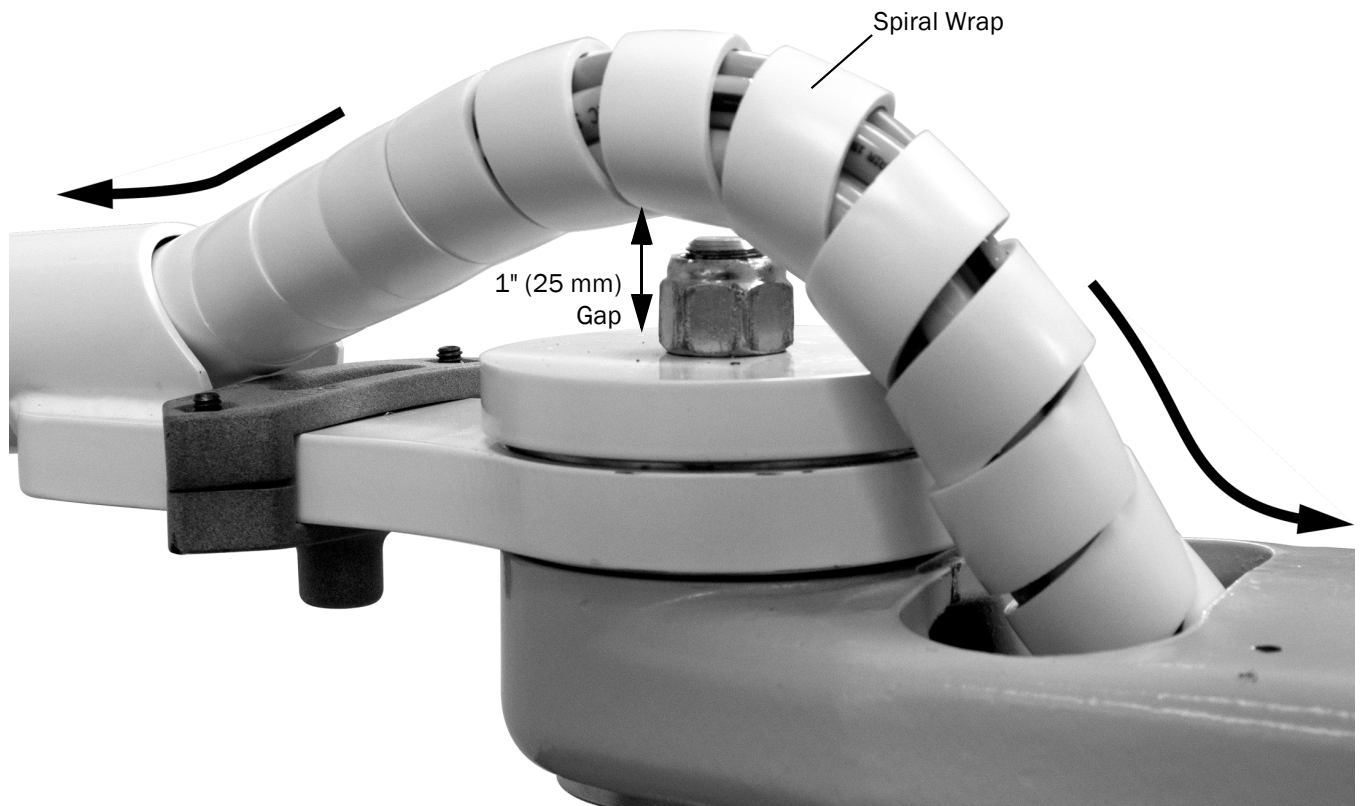
WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.



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 power to the chair.

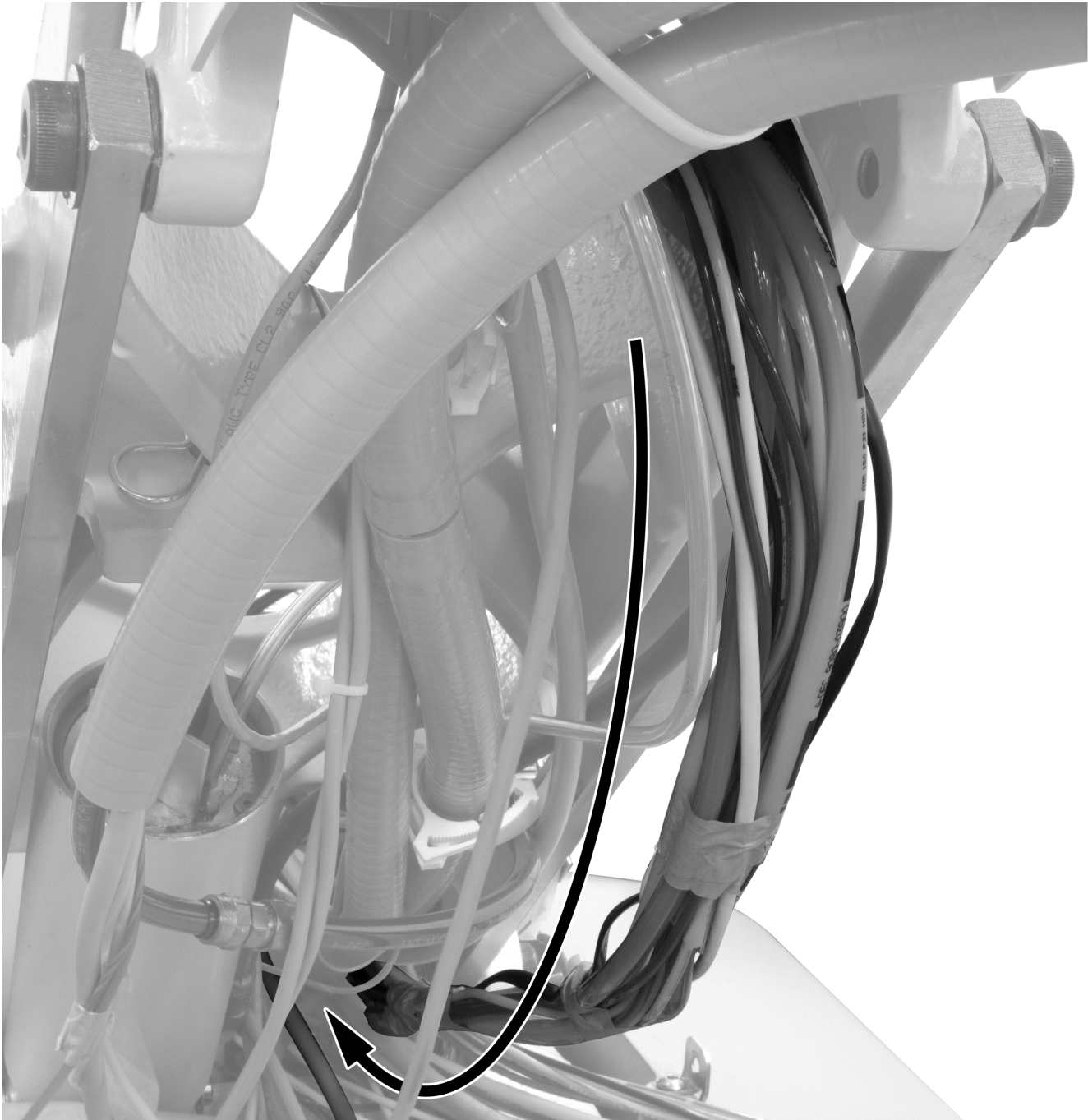
Task 2.



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

- 1** Install the spiral wrap around the tubing for the water bottle and delivery system.
- 2** Slide the wrap slightly into the rigid arm.
- 3** Route the umbilical through the front mount to the lift arm. Ensure there is a 1" (25 mm) gap between the umbilical and the top of the front mount.

Task 3.



1 Route the umbilical to the back of the lift arm, then down to the bottom and into the pump area.

Next Step See "Install the Tray Holder (optional)" on page 30.

Route the Tubing and Wiring on a Decade Dental Chair

Recommended Tools

- 3/16" hex key
- Diagonal cutters
- Umbilical snake

Task 1.

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



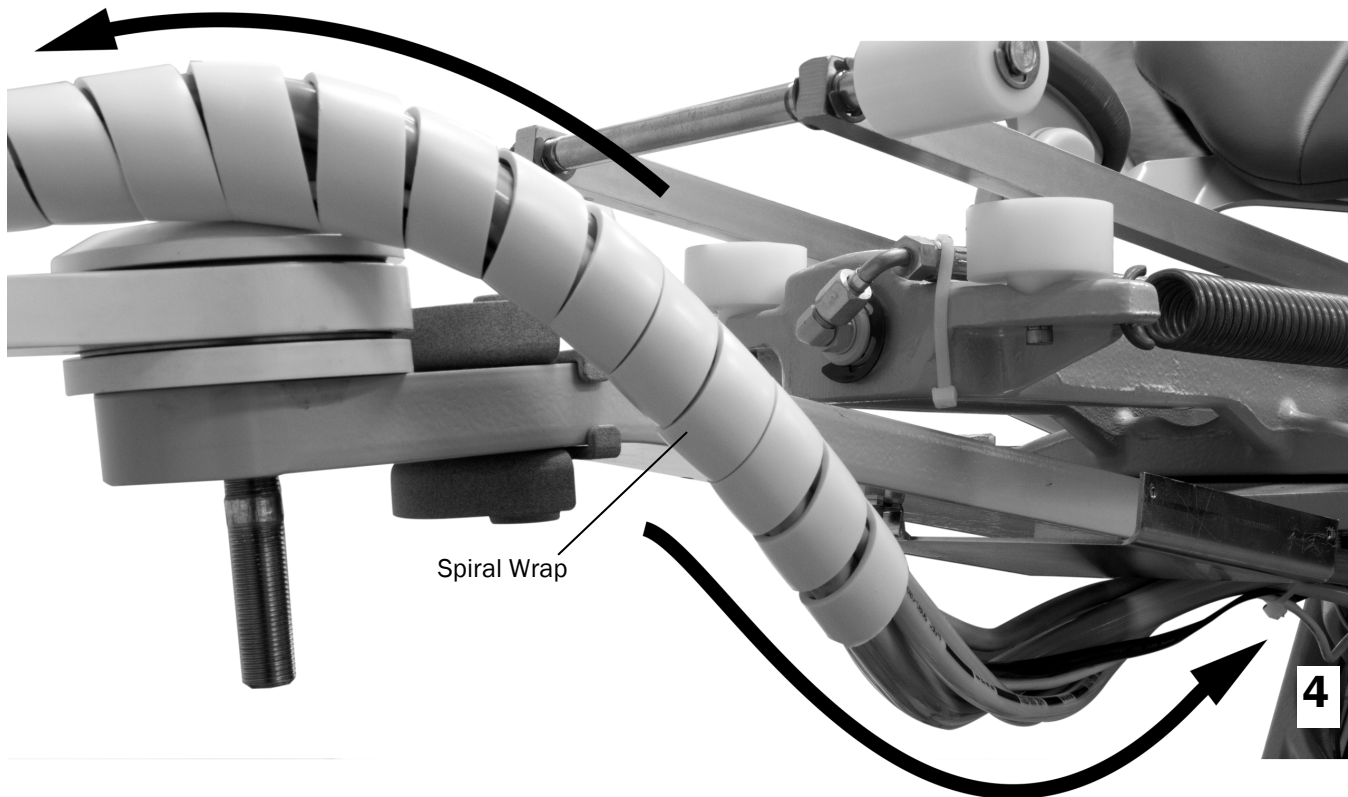
WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.



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 power to the chair.

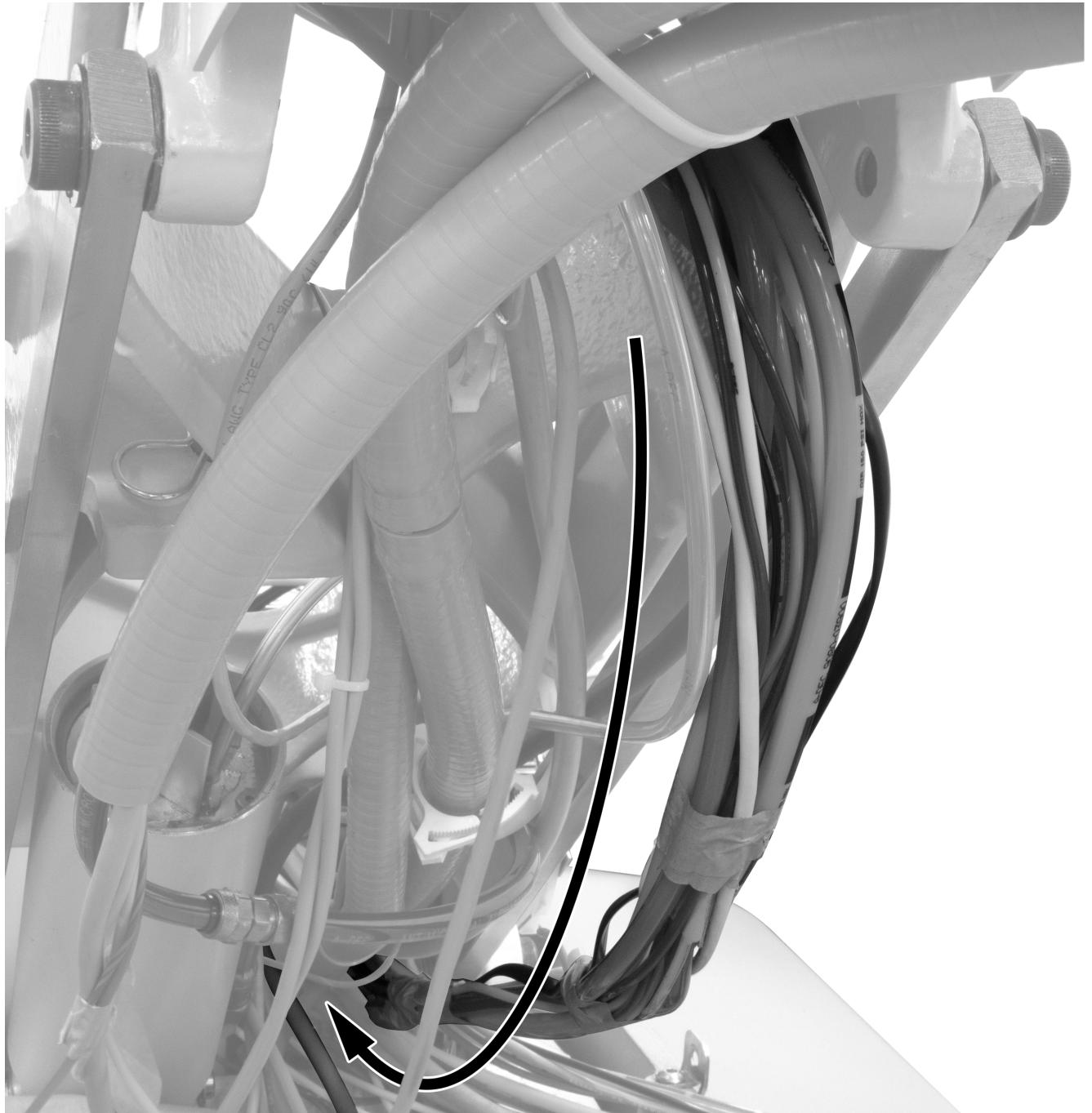
Task 2.



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

- 1** Install the spiral wrap around the tubing for the water bottle and delivery system.
- 2** Slide the wrap slightly into the rigid arm.
- 3** Route the umbilical through the front mount to the lift arm.
- 4** Ensure there is a 1" (25 mm) gap between the bottom of the umbilical and the top of the front mount, then secure the umbilical to the loop with a cable tie.

Task 3.



1 Route the umbilical to the back of the lift arm, then down to the bottom and into the pump area.

Next Step See "Install the Tray Holder (optional)" on page 30.

Install the Tray Holder (optional)

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

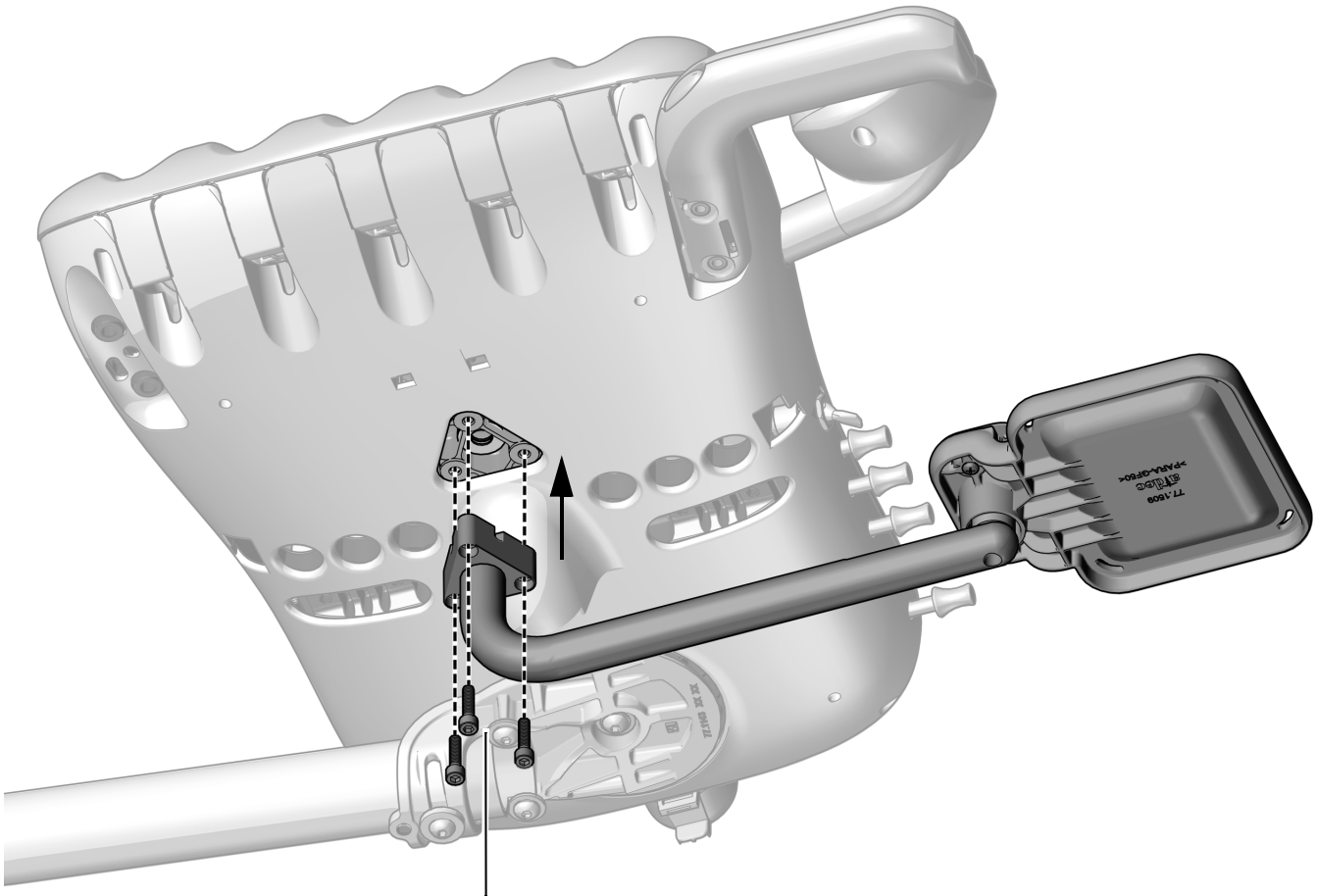
Install the Tray Holder Mount on a Continental Delivery System 30

Install the Tray Holder Mount on a Traditional Delivery System 31

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.

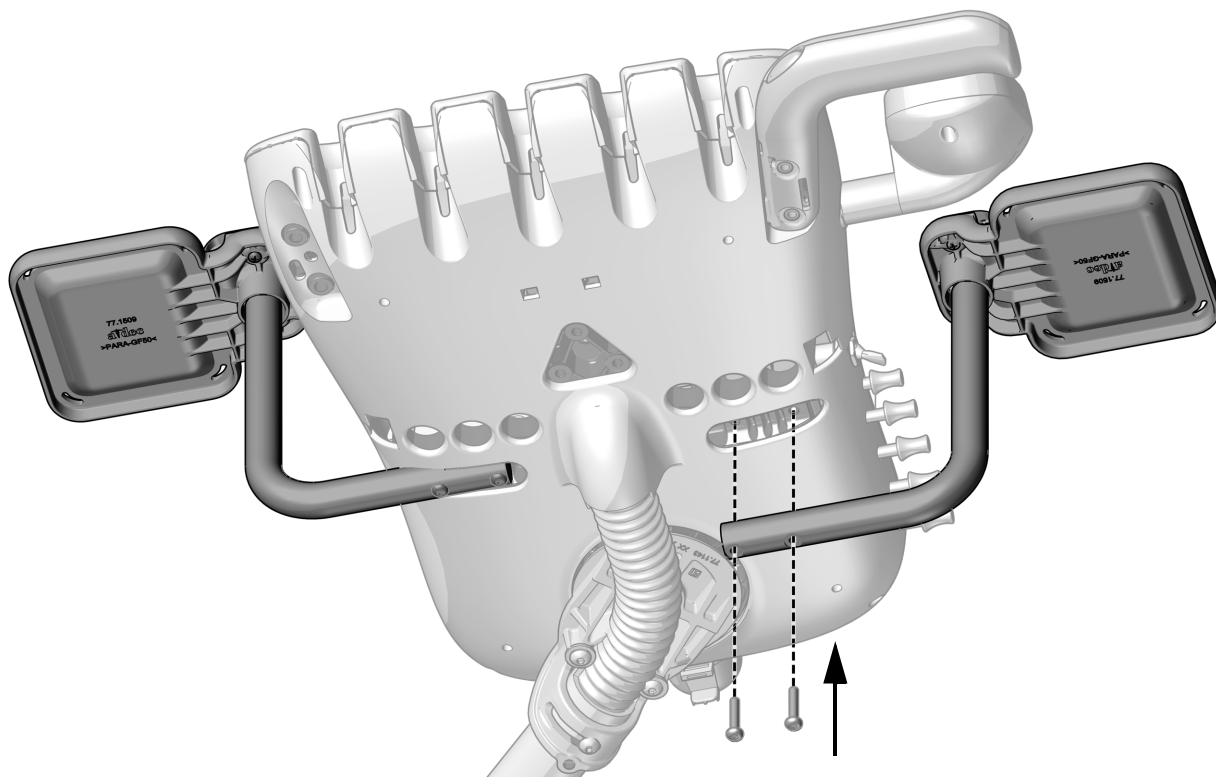
Install the Tray Holder Mount on a Traditional Delivery System

Recommended Tool

- 1/8" hex key



TIP To provide better access to the adjustment keys, mount the tray holder 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

The connections on a Cascade are the same as the connections for the Decade.



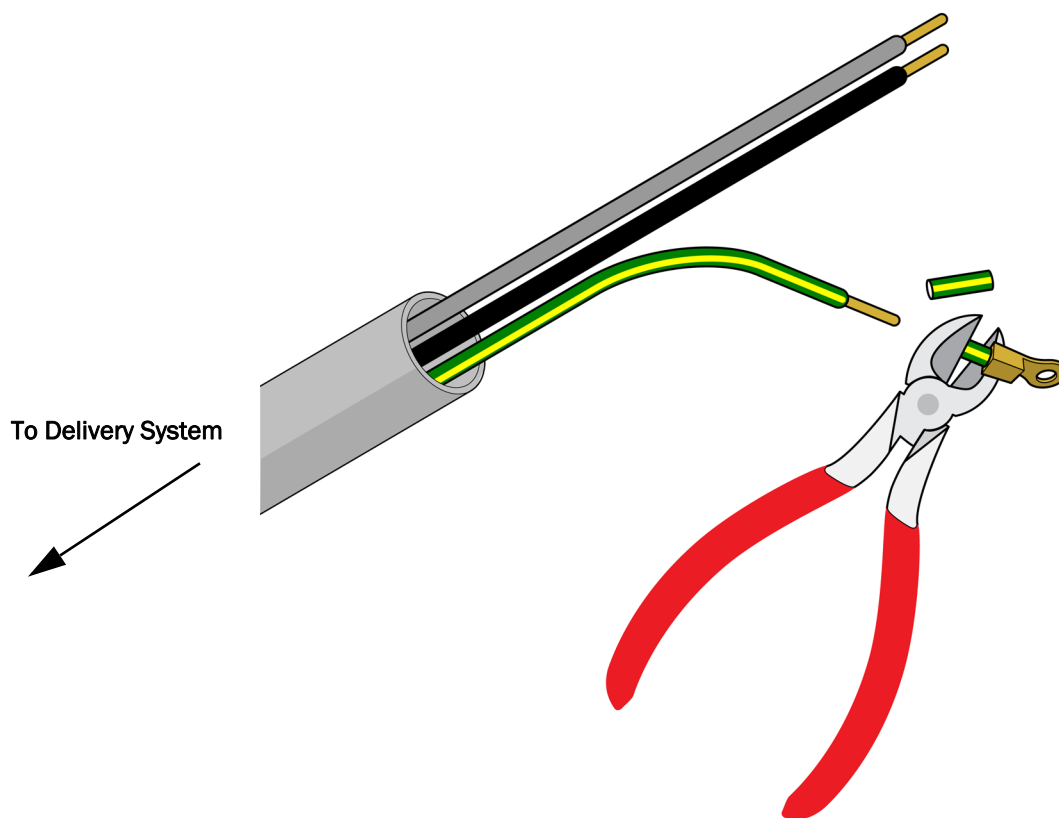
WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.

1. Turn off the power to the chair.

Recommended Tool

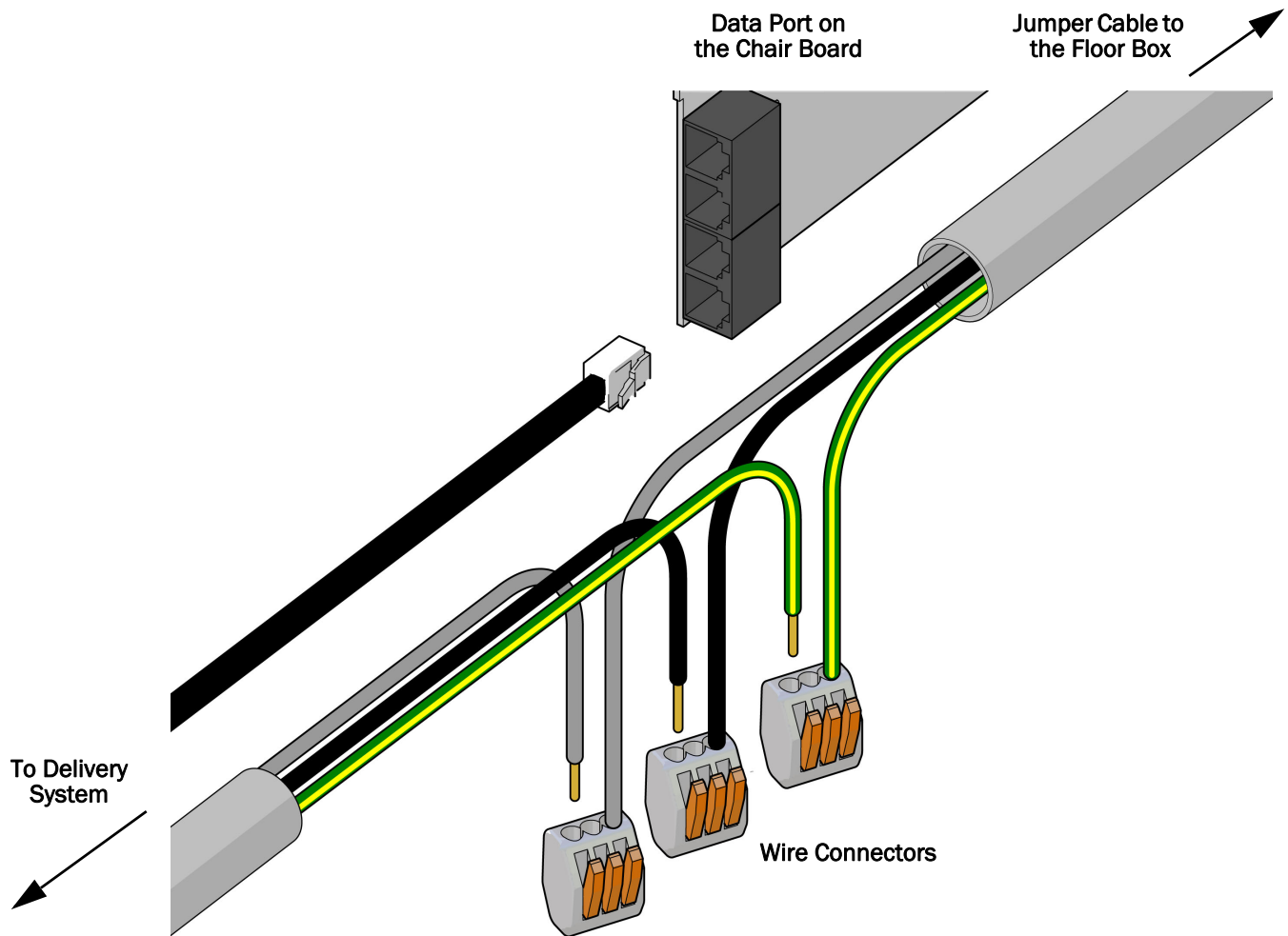
- Diagonal cutters

Task 1.



- 1 Cut the eyelet off of the green/yellow wire and strip back its sheath 0.25" (6 mm) to match the gray and black wires.

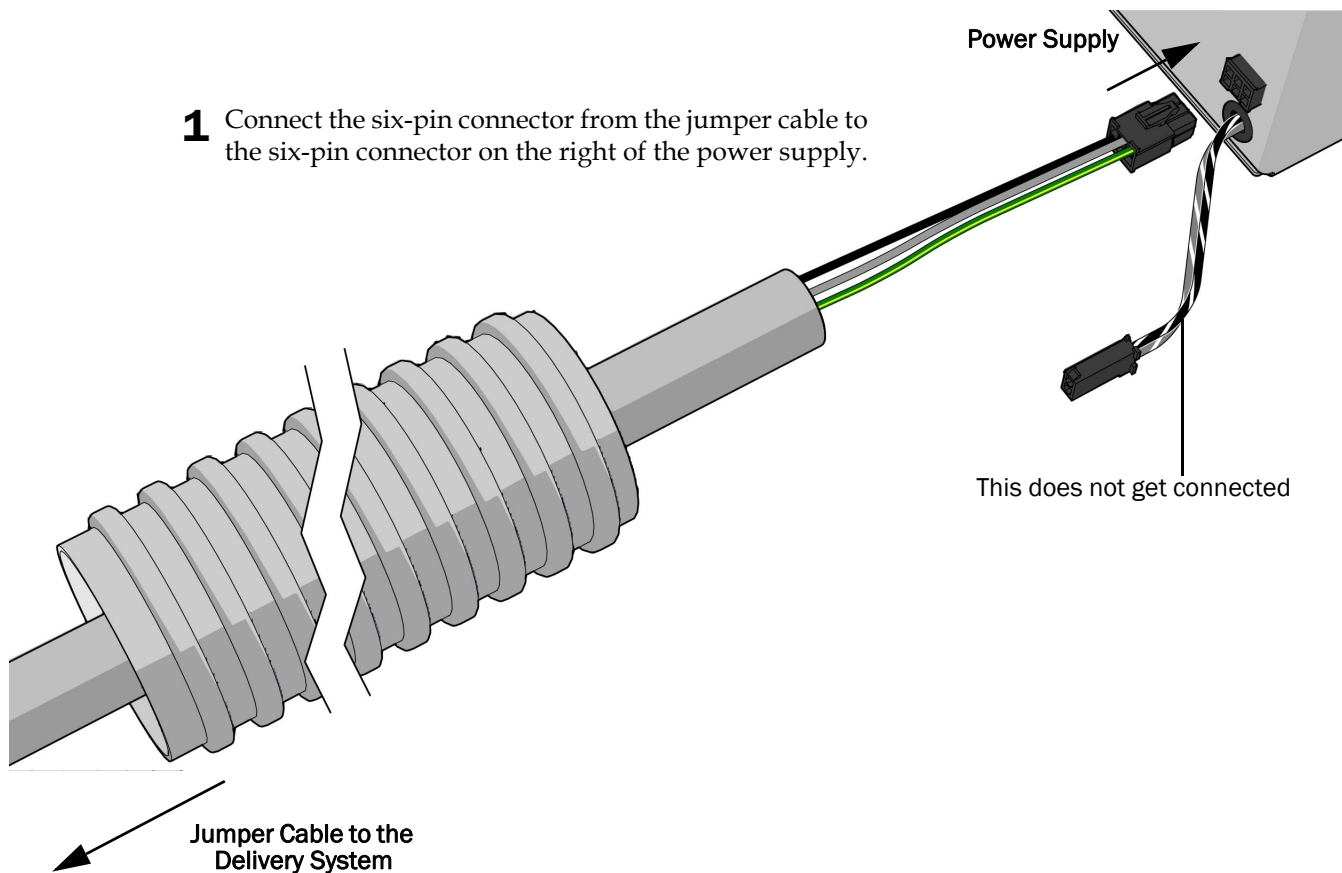
Task 2.



- 1** Connect the black data line from the delivery system to any port on the chair board.
- 2** Connect the gray, black, and green/yellow wires from the delivery system to the three wire connectors from the jumper cable, matching gray to gray, black to black, and green/yellow to green/yellow.

Task 3.

- 1** Connect the six-pin connector from the jumper cable to the six-pin connector on the right of the power supply.



Connect the Tubing

Route the Foot Control Tubing



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

Task 1.



- 1** From the back of the chair, route the foot control tubing over the strain relief to the pump area.
- 2** Use a cable tie to secure the tubing to one of the holes in the strain relief.



NOTE The cable tie secures the tubing through a hole in the strain relief because the tubing does not fit into the slots in the strain relief.

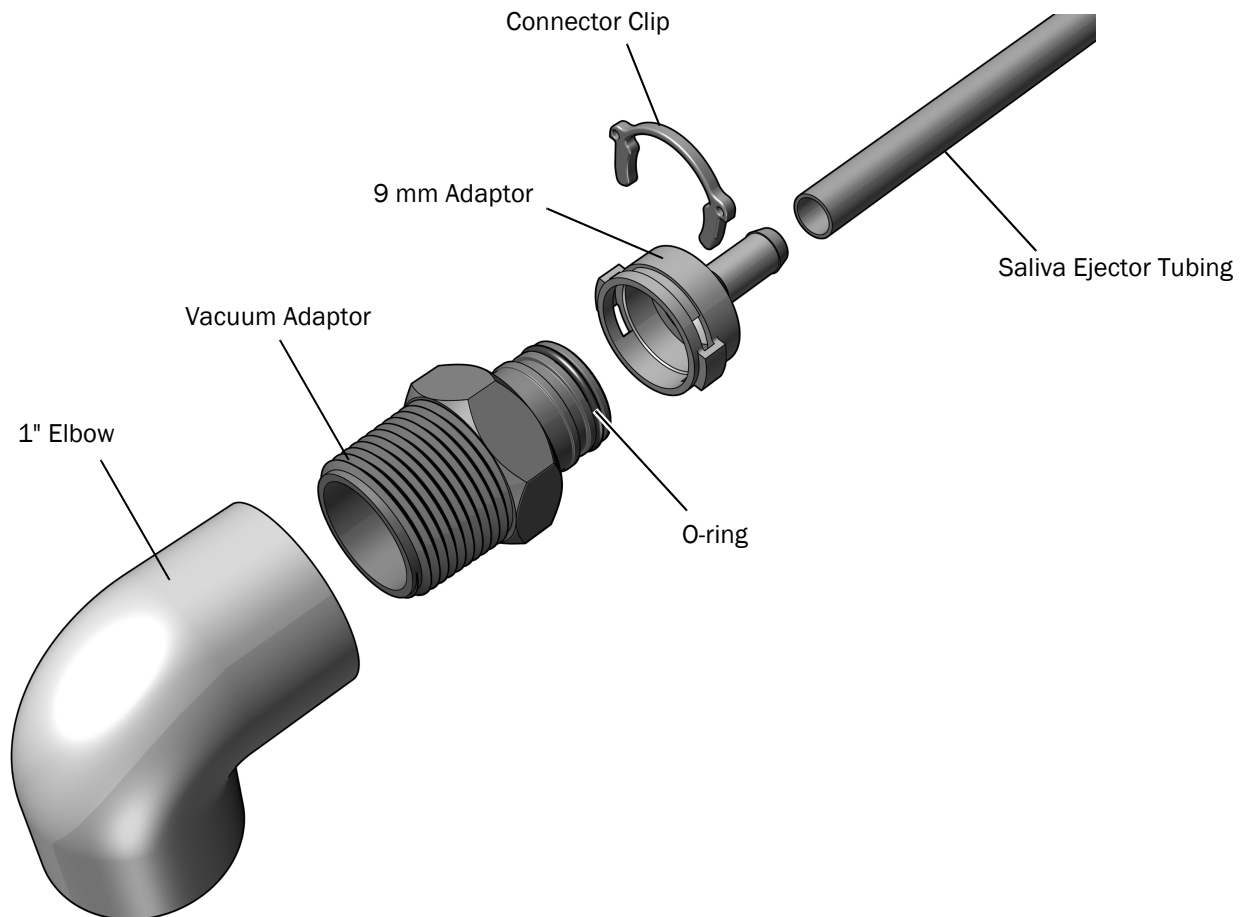
Connect the A-dec 336 Saliva Ejector Tubing (optional)

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.

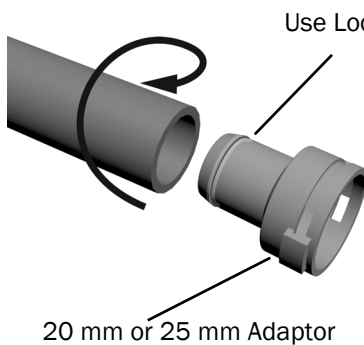
- 1** Locate the 5/16" saliva ejector tubing in the delivery system tubing bundle.
- 2** Route the saliva ejector tubing through the convolute into the floor box.
- 3** Connect the vacuum adaptor (copper with a brass collar attached) to the vacuum line.
- 4** Route the saliva ejector tubing to the vacuum 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.



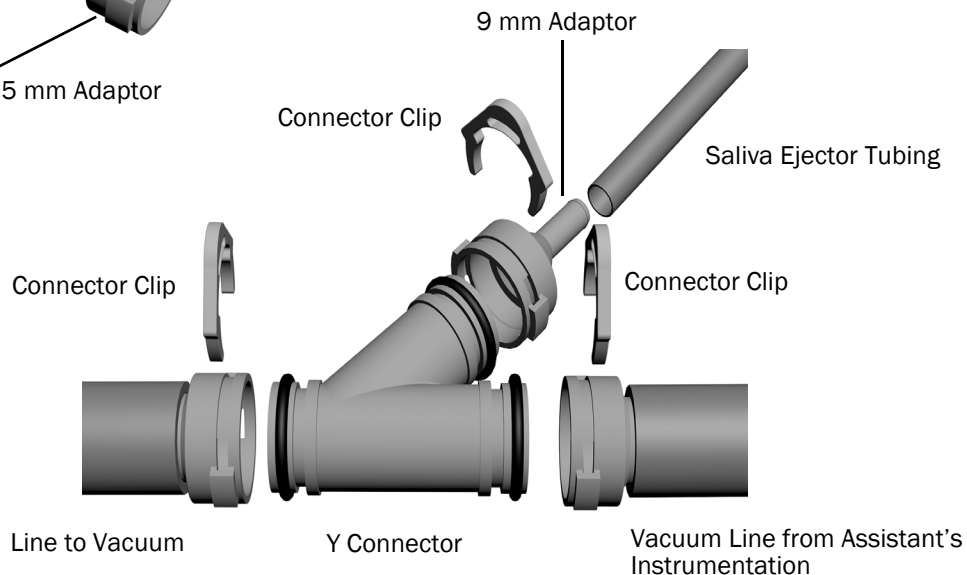
Connect the Saliva Ejector Tubing on a Chair With A-dec 351 or 551 Assistant's Instrumentation

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 3' (1 m) of the sheath from around the water bottle tubing.
2. Connect the tubing according to the flow diagram on the following page.



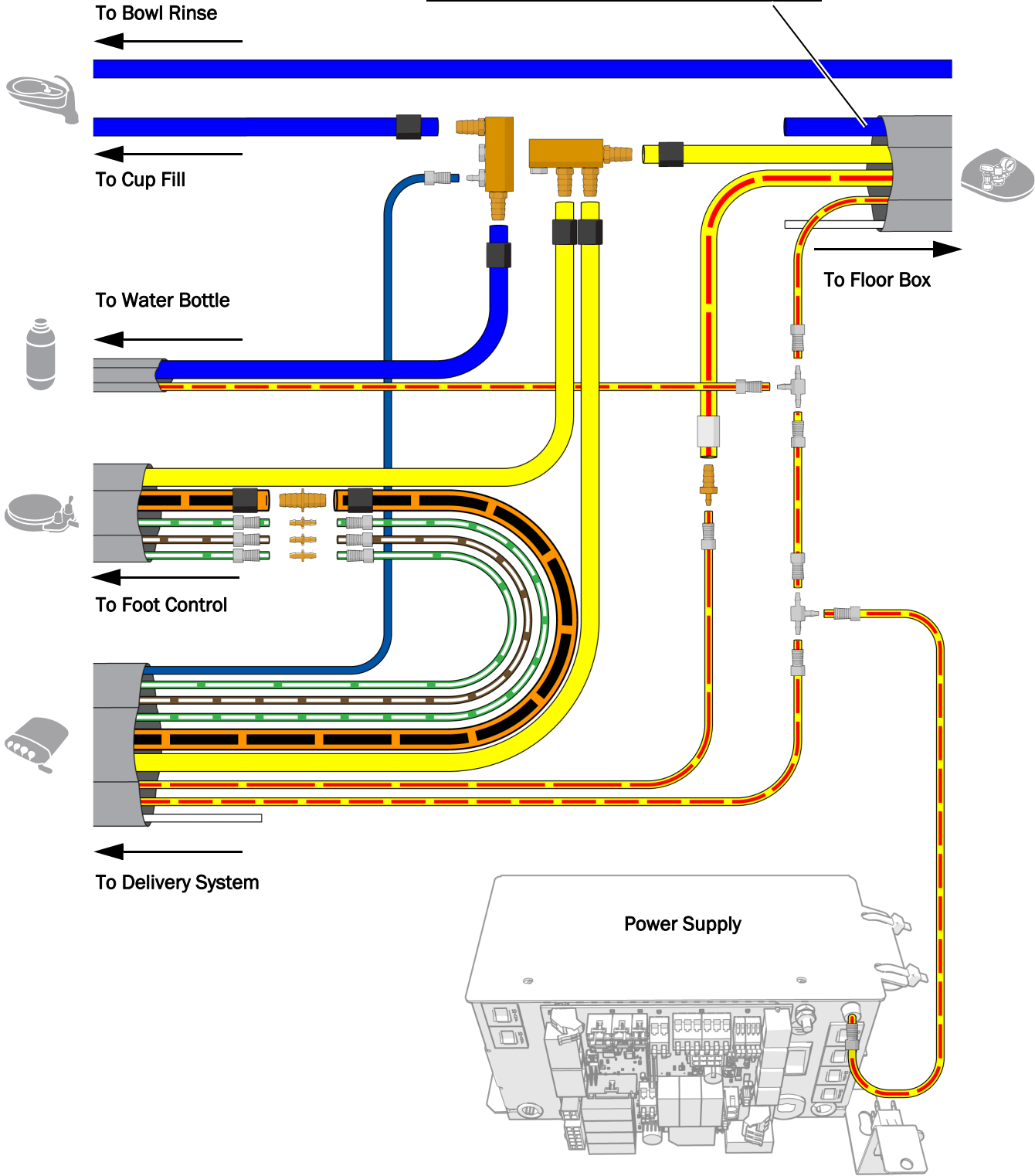
READ THIS! Be sure to position the control arm of the A-dec 336 at its maximum height before trimming its tubing to retain the full range of motion for the control head. For instructions on setting the control arm to its maximum height, see "Adjust the Control Head Height" on page 45.



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



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



Connect the Floor Box Utilities

Complete the connections for the system's configuration.

Connect a Delivery System Only	40
Connect a System with Multiple Modules	41

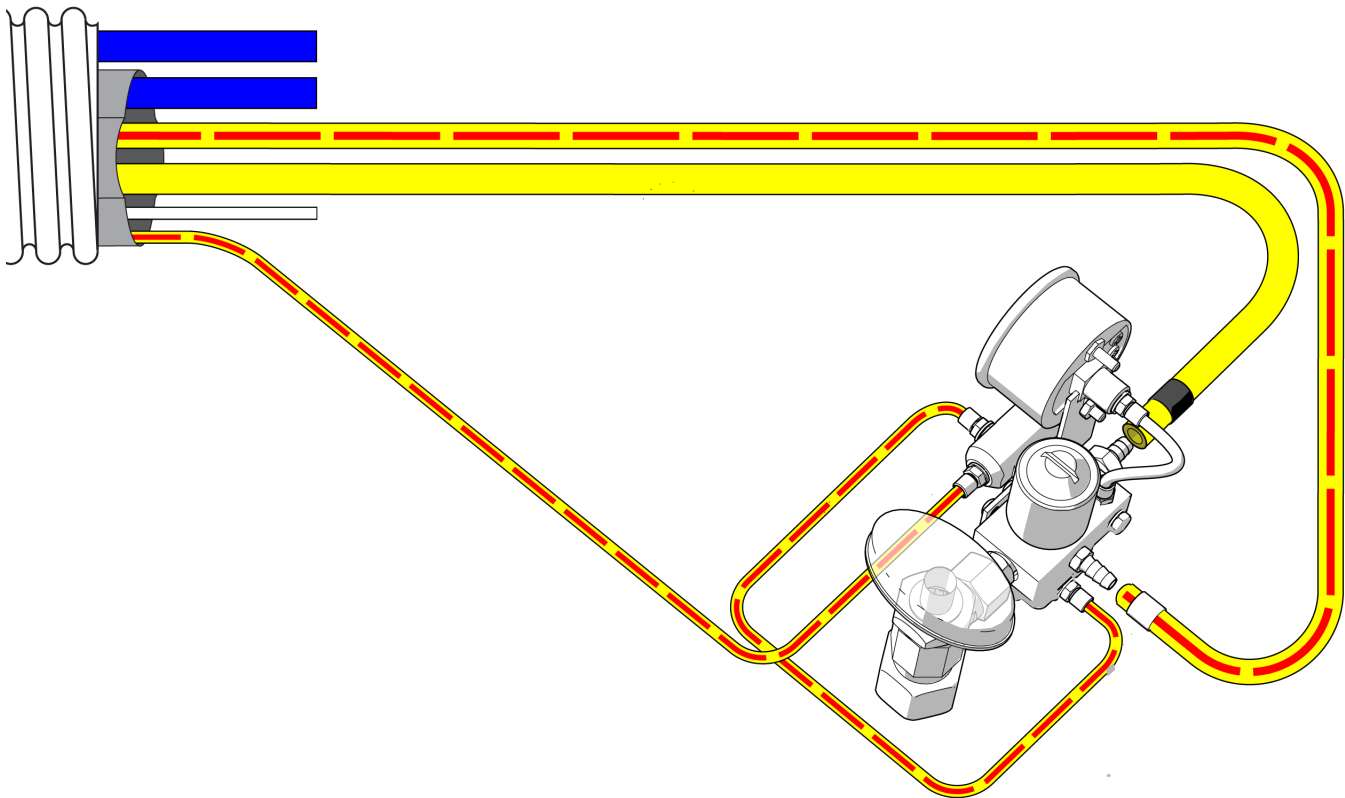
Connect a Delivery System Only

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

Recommended Tools

- Diagonal cutters
- Sleeve pusher

To Chair

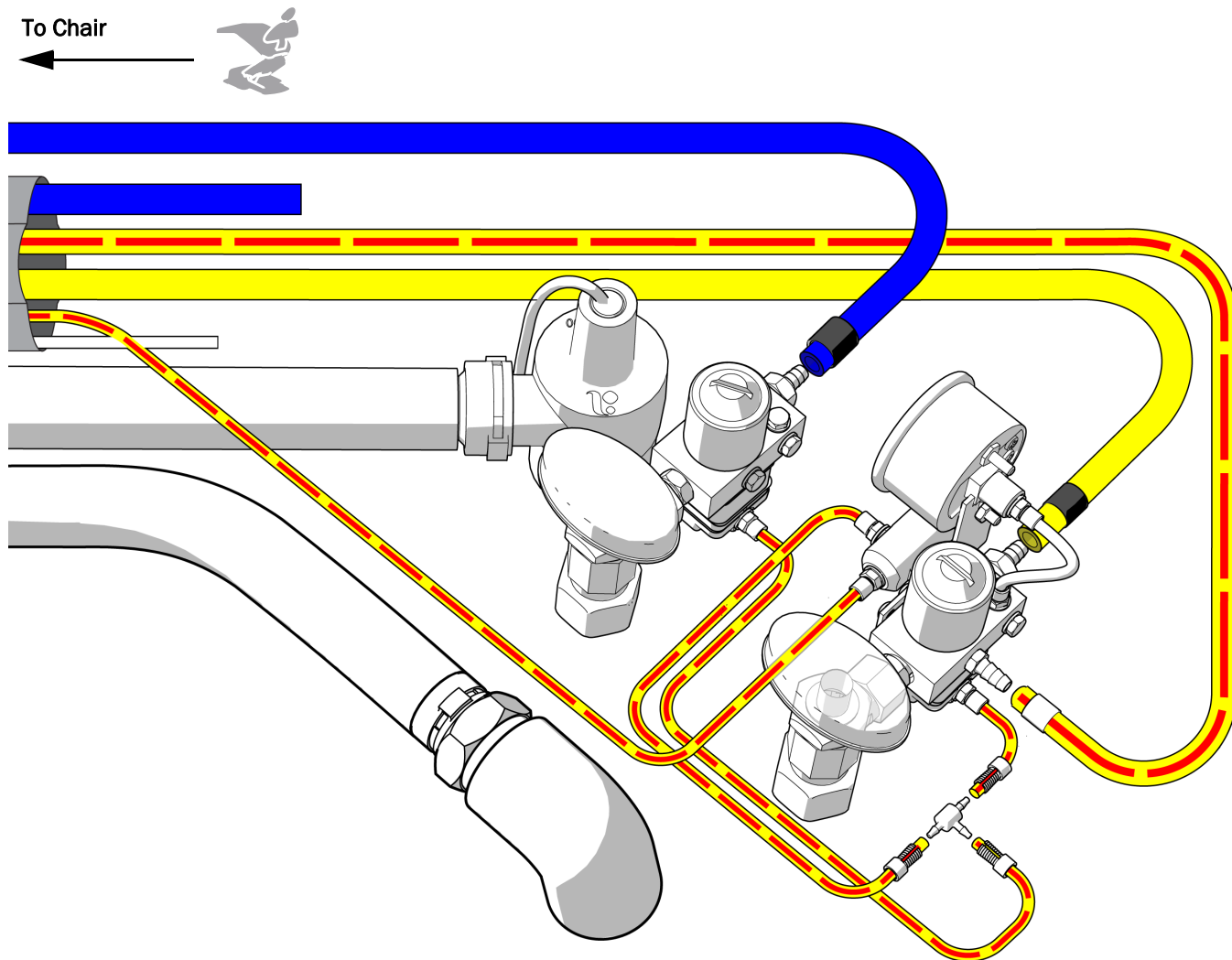


Connect a System with Multiple Modules

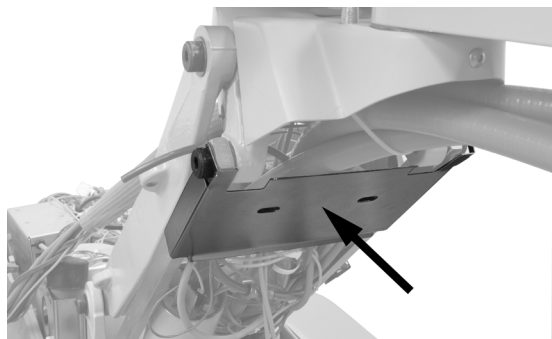
Use this diagram if the system includes any modules in addition to a delivery system.

Recommended Tools

- Diagonal cutters
- Sleeve pusher



Replace the Shield



NOTE Complete this step once the tubing and wires are connected for all of the modules in the system's configuration.

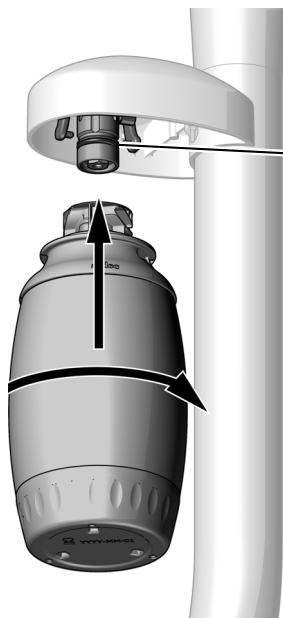
- 1** To prevent the chair from making noises when adjusting its height, make sure to replace the shield to the back of the lift arm.

Prepare and Adjust the System

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).



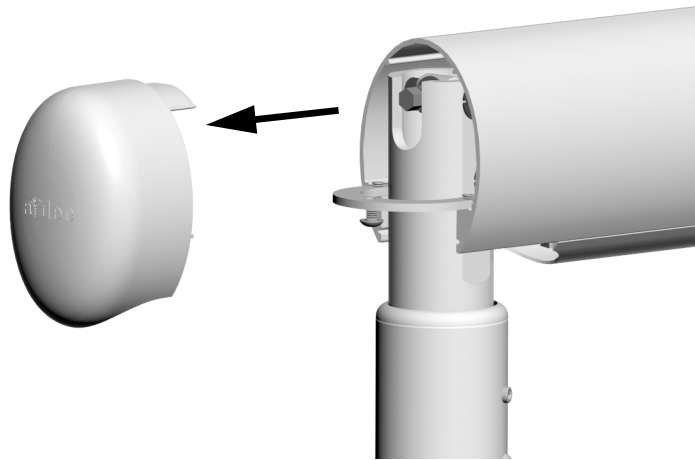
- 1** Apply A-dec silicone lubricant on the receptacle O-ring.
- 2** Push the water bottle up onto the water bottle receptacle and turn it to the right.

Adjust the Delivery System Spring-Assisted Flexarm

Recommended Tools

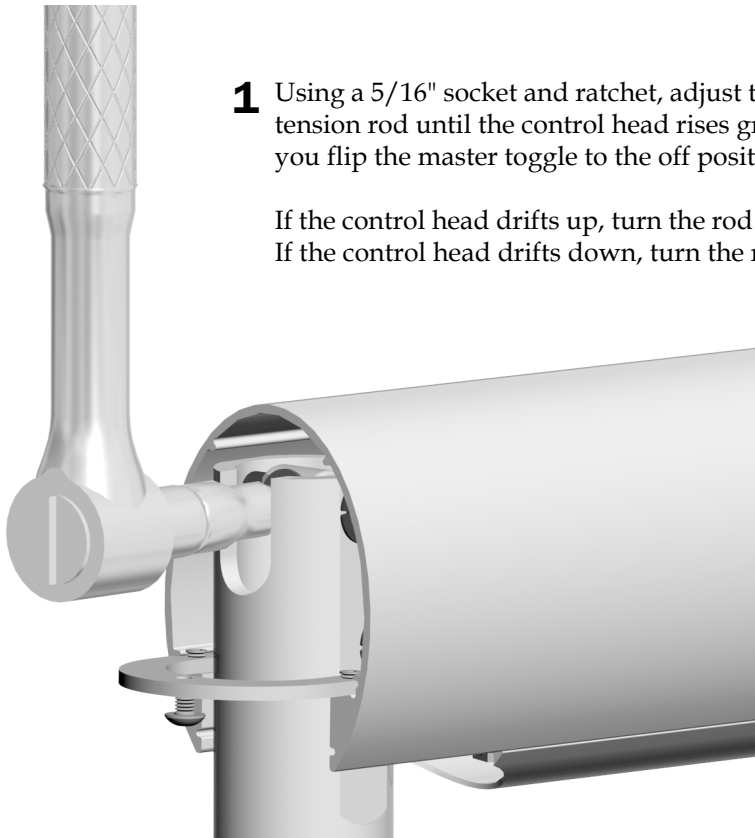
- 1/8" hex key
- 5/16" socket and ratchet

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.

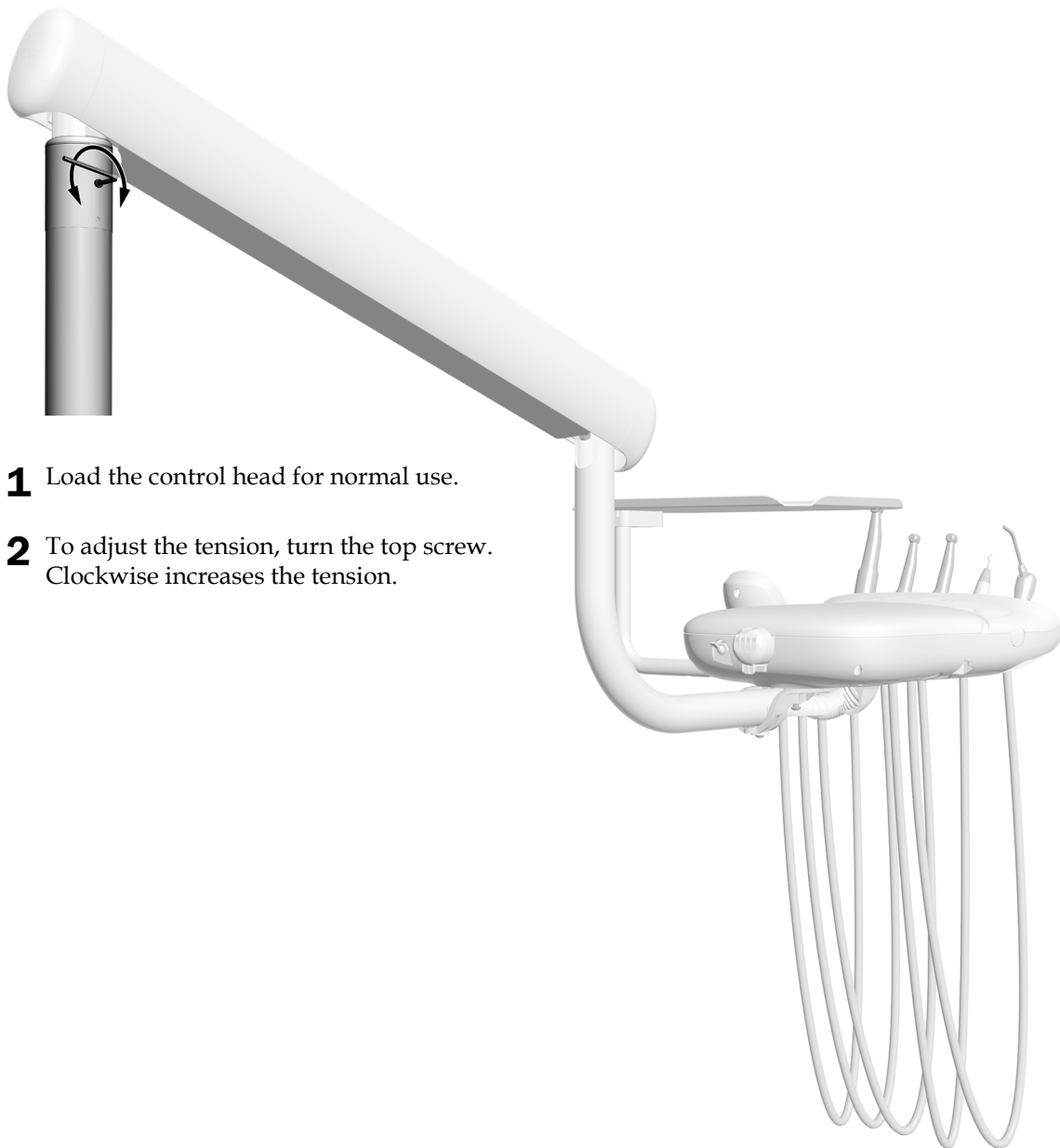
Adjust the Delivery System Flexarm Rotation Tension

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.



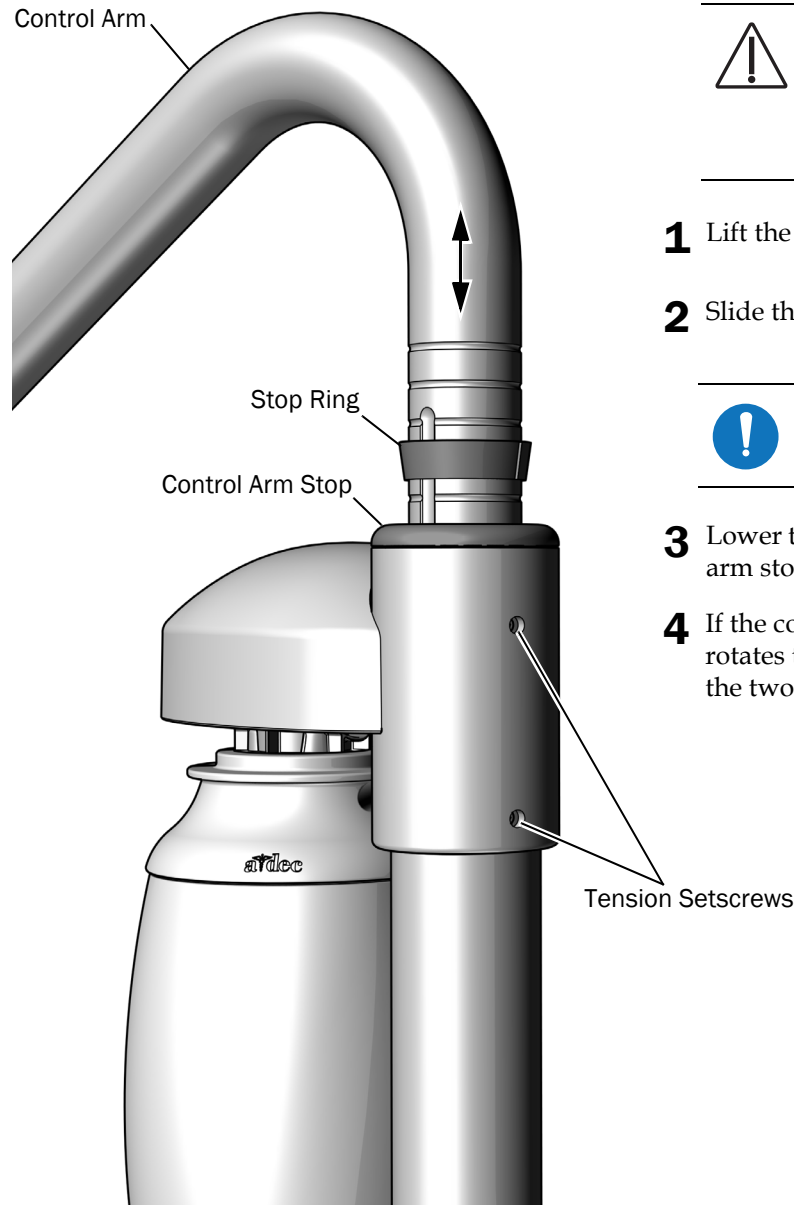
- 1** Load the control head for normal use.
- 2** To adjust the tension, turn the top screw. Clockwise increases the tension.

Adjust the Control Head Height (A-dec 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).

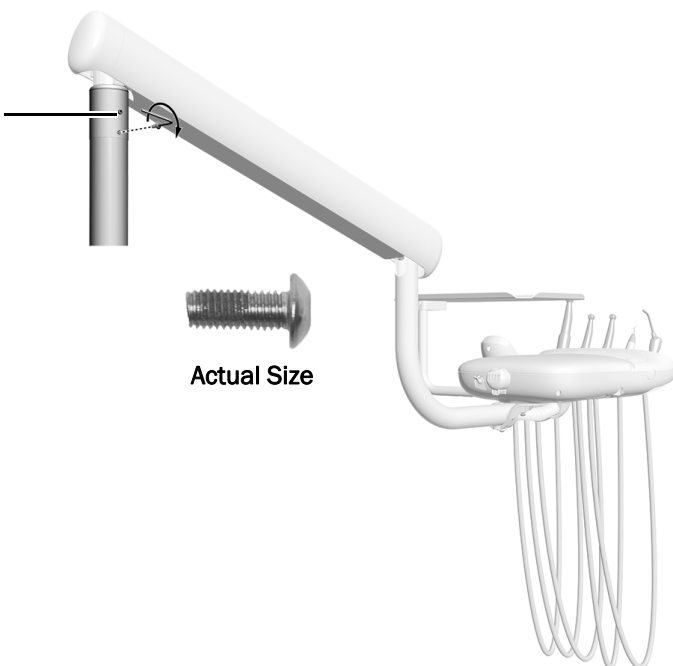
- 3** Lower the control arm and stop ring into the control arm stop.
- 4** If the control arm is difficult to lift or rotate, or rotates too freely, use a hex key to loosen or tighten the two tension setscrews.

Install the Delivery System Flexarm Rotation Stop Screw

Recommended Tool

- 1/8" hex key

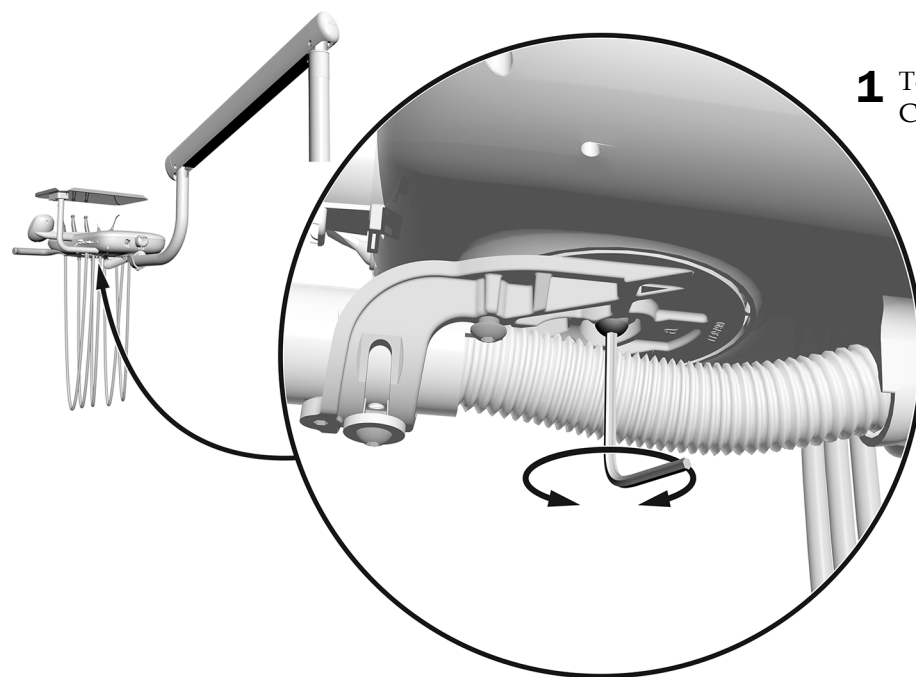
- 1** Install the 10-32 x 1/2" button head screw in the bottom hole.
Tighten it all the way down.



Adjust the Control Head Rotation Tension

Recommended Tool

- 5/32" hex key

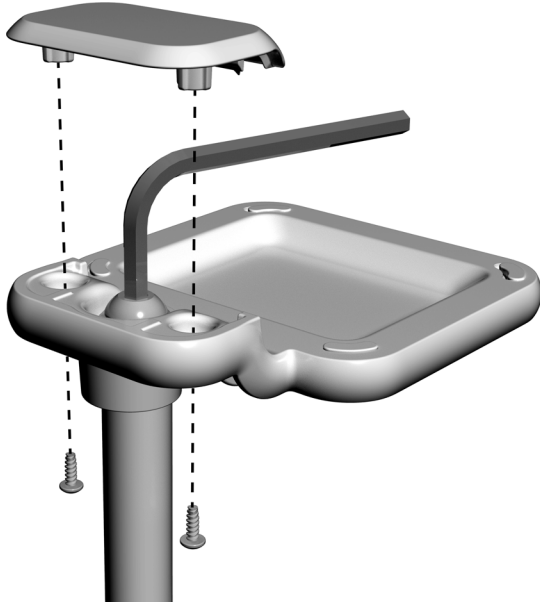


- 1** To adjust the tension, turn the screw.
Clockwise increases the tension.

Adjust the Tray Holder Mount Rotation Tension

Recommended Tool

- Phillips head screwdriver
- 7/32" hex key

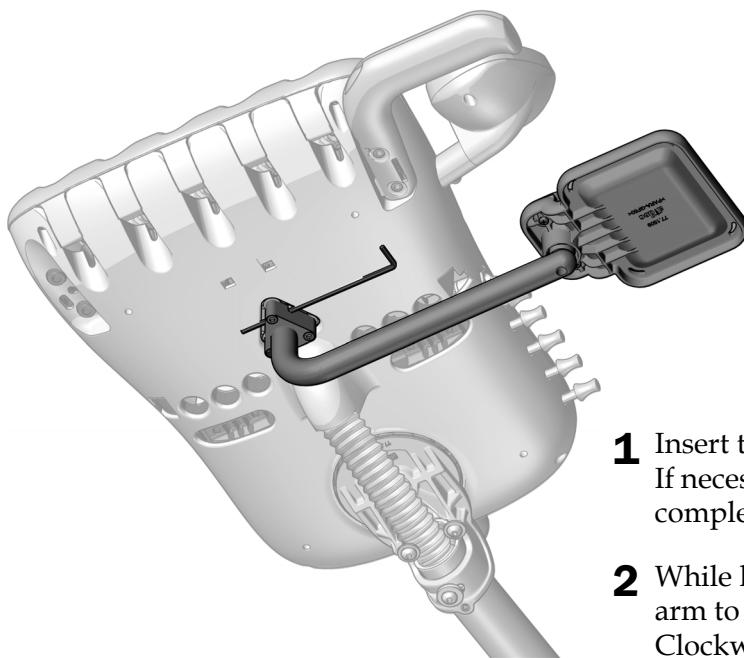


- 1** Use a Phillips head screwdriver to remove the cap screws. Remove the cap.
- 2** Insert the hex key into the tension bolt and turn clockwise to increase the tension.

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 Intraoral Light Source Voltage

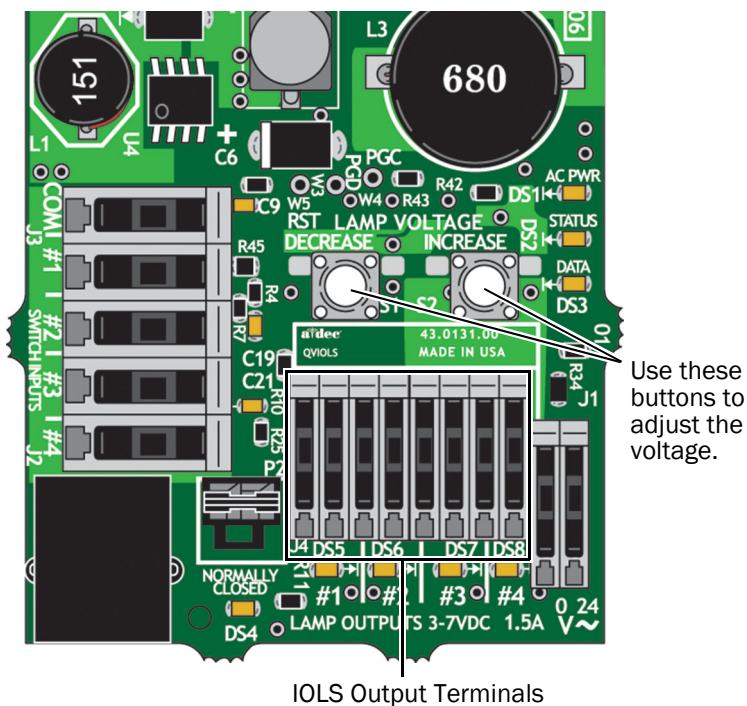
Recommended Tools

- 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.

Table 1.

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 \pm 0.02	(in)	(cm)	VDC \pm 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 Handpiece Drive Air Pressure

Recommended Tool

- 7/64" hex key
- Handpiece pressure gauge



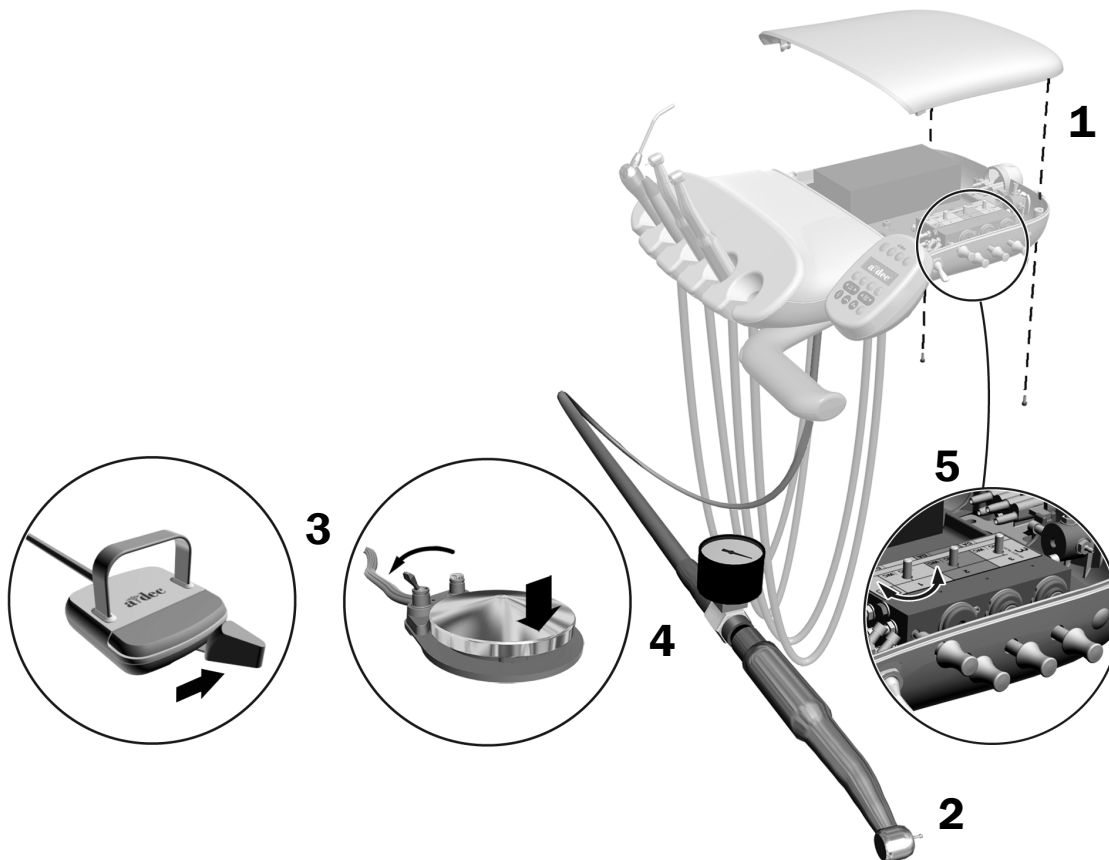
NOTE Use a handpiece pressure gauge attached to the handpiece tubing for exact drive air measurement. One bar equals 14.5 psi.

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.

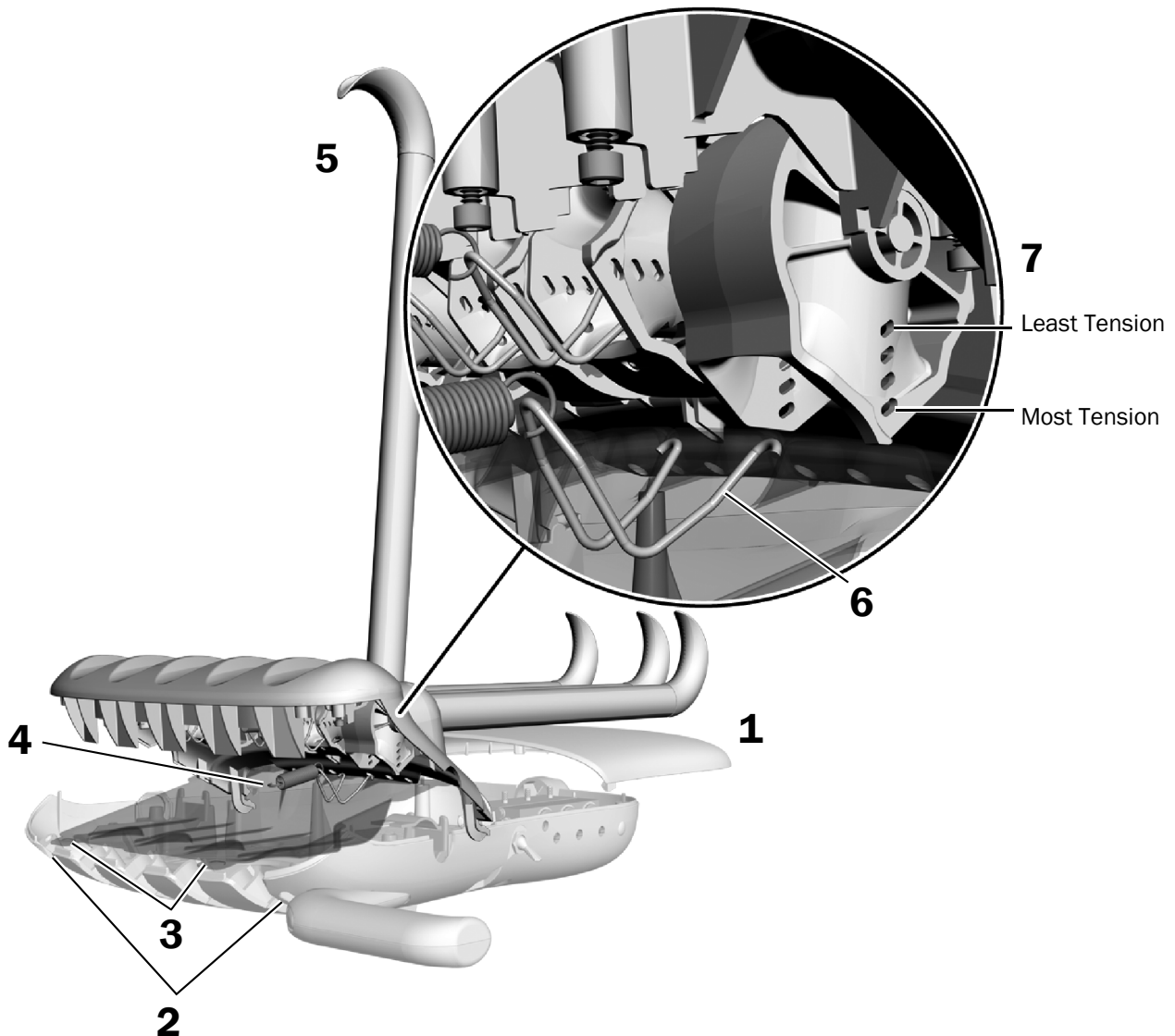


Adjust the Continental Whip Tension

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.

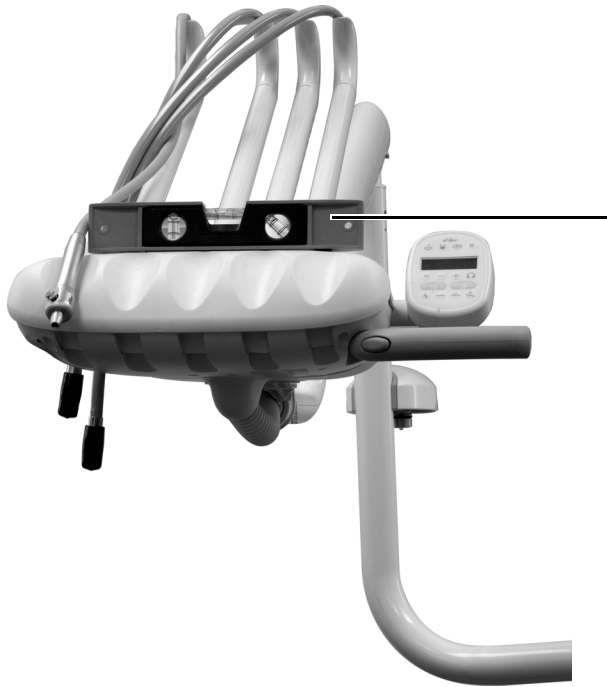


Level the Control Head

Recommended Tools

- 5/32" hex key
- Level

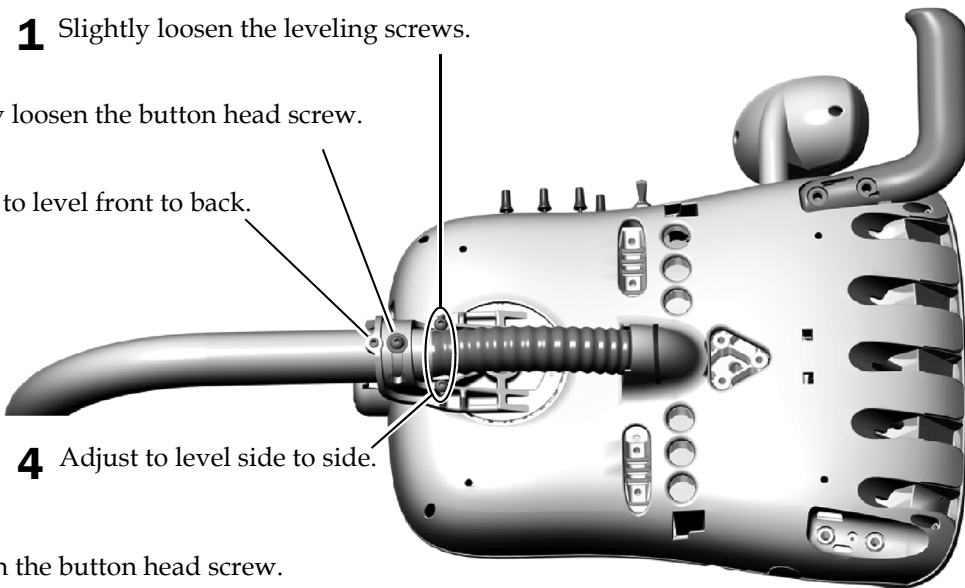
Task 1.



- 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.



Customize Touchpad and Handpiece Settings



NOTE Touchpad symbols and icons are proprietary to A-dec, Inc.

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.

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

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.



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

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