



A-dec® 461 Support Center

INSTALLATION GUIDE

Contents

- Before You Begin 2**
- Install the Rotation Stop 2**
- Install the Support Link and Arm . . 3**
- Install the Support Center 4**
- Connect the Wires and Data Line . 6**
- Connect the Tubing 10**
- Install the Cuspidor 15**
- Prepare and Adjust the System . . 15**
- Operate the Cuspidor 19**
- Install the Covers 21**
- Test the System 23**
- Regulatory Information and
Warranty 24**



A-dec 461 Support Center on an A-dec 411 Dental Chair

Product Models and Versions Covered in this Document*

| Model | Versions | Description |
|-------------|----------|----------------|
| 311ft/511ft | n/a | Dental Chair |
| 311 | B | Dental Chair |
| 411 | A | Dental Chair |
| 511 | A/B | Dental Chair |
| 461 | A | Support Center |

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

Before You Begin



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



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.

Recommended Tools

- 3/4" socket and ratchet
- Hex key set
- Diagonal cutters
- Level
- 3/8" combination wrench
- Sleeve pusher
- Phillips head screwdriver

Install the Rotation Stop

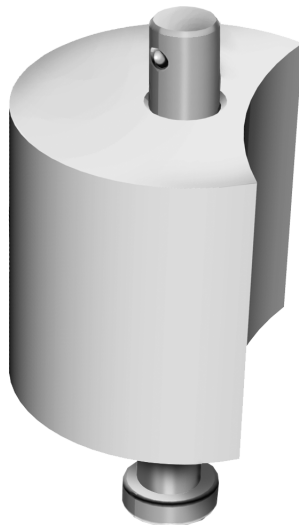
If the system includes the following, install the rotation stop for the system's type of chair:

- **A-dec 311ft/311B** - When the system includes a delivery system and support center.
- **A-dec 411** - When the system includes a delivery system and support center.
- **A-dec 511ft/511A/B** - When the system includes any A-dec 300/300 Pro delivery system and a support center.

The instructions for installing the rotation stops ship with the stops.



A-dec 311B /411
Rotation Stop



A-dec 511A/B Rotation Stop

Install the Support Link and Arm

The support link and arm installation procedure is the same on an A-dec 311ft/311B, 411, 511A and 511ft/511B.

Recommended Tools

- 3/4" socket and ratchet
- Level

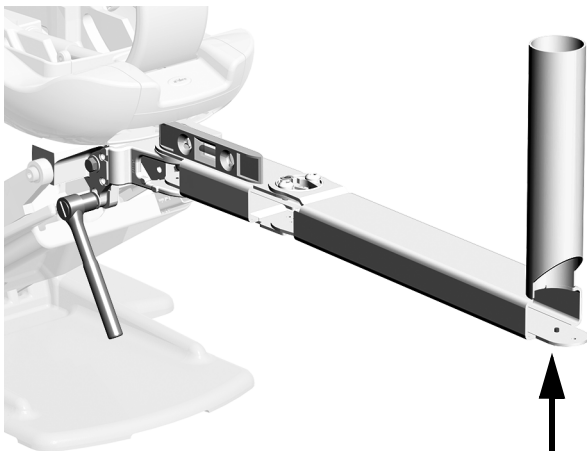
Task 1.



A-dec 411 Dental Chair Shown

- 1** Use the touchpad, footswitch, or jumper to raise the chair base and chair back.
- 2** Get four bolts and washers from the kit.
- 3** Attach the support link and arm to the chair with the four bolts and washers but only finger tighten the bolts.

Task 2.



- 1** Position the support link and arm straight out from the chair.
- 2** Place a level on the support link.
- 3** Tighten the bolts to secure the support link while keeping it as level as possible.

Install the Support Center

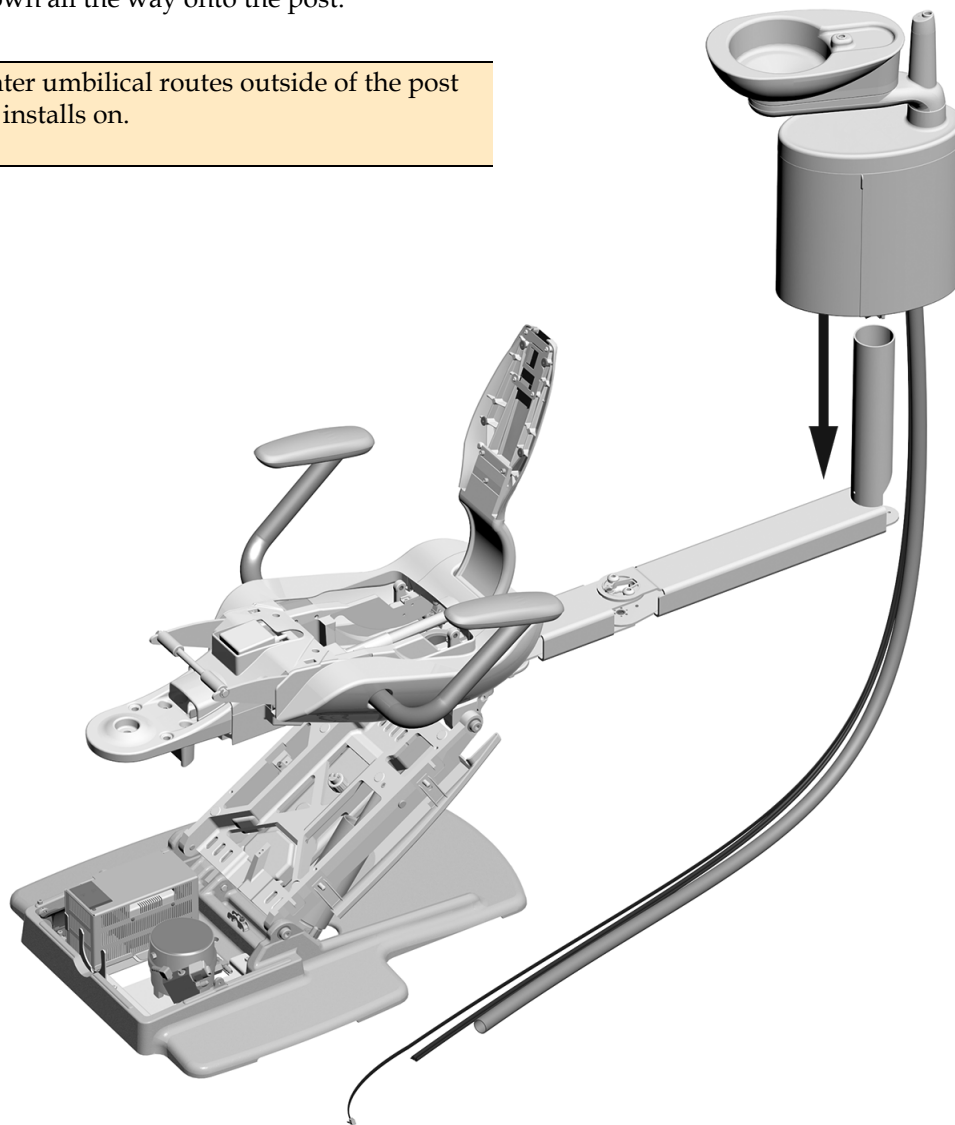
The support center installation procedure is the same on an A-dec 311flt/311B, 411, 511A and 511flt/511B.

Task 1.

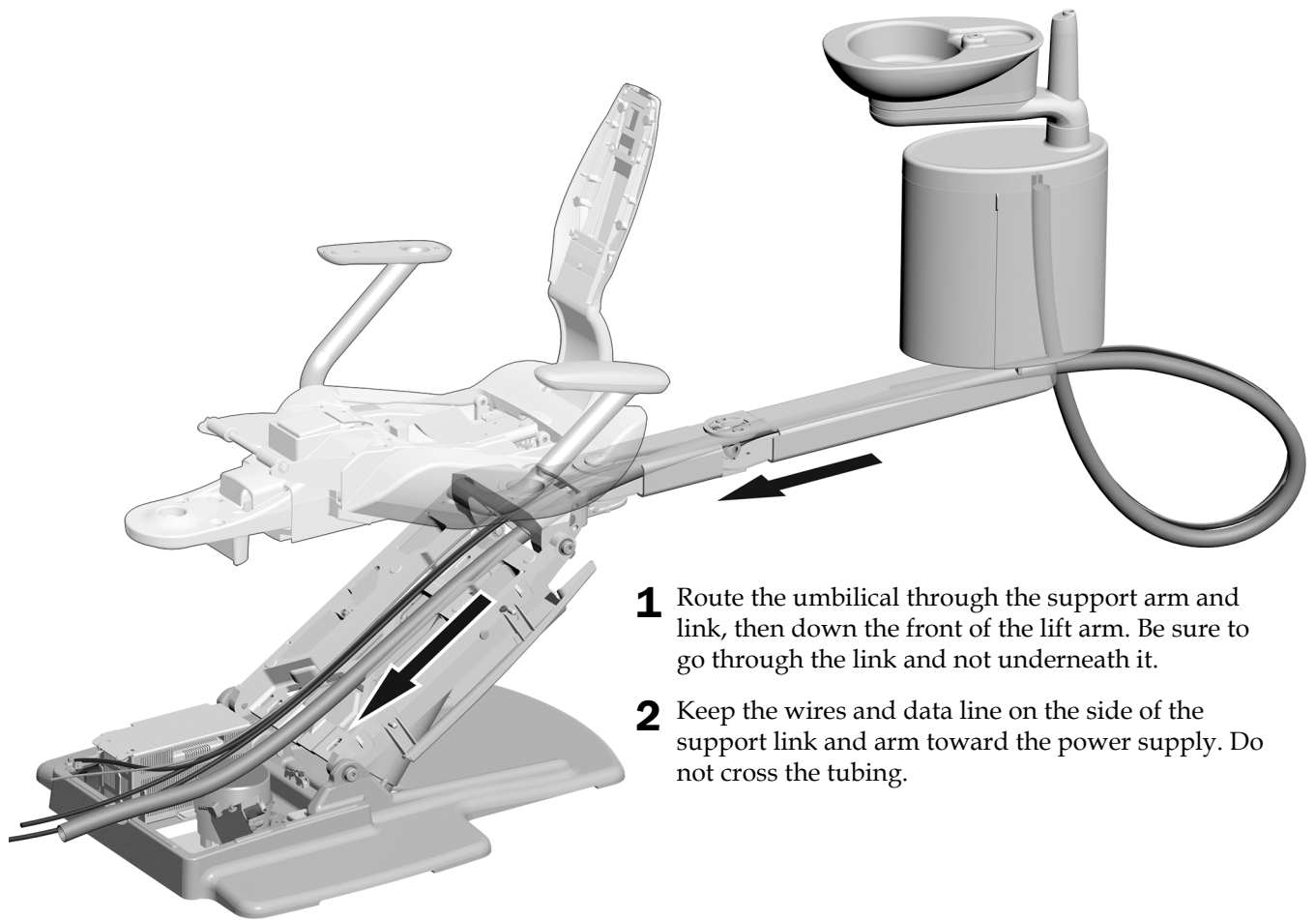
- 1 Position the cuspidor so it faces and is aligned with the support arm. Slide the support center down all the way onto the post.



NOTE The support center umbilical routes outside of the post that the support center installs on.



Task 2.



- 1** Route the umbilical through the support arm and link, then down the front of the lift arm. Be sure to go through the link and not underneath it.
- 2** Keep the wires and data line on the side of the support link and arm toward the power supply. Do not cross the tubing.

A-dec 411 Dental Chair Shown

Connect the Wires and Data Line



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.



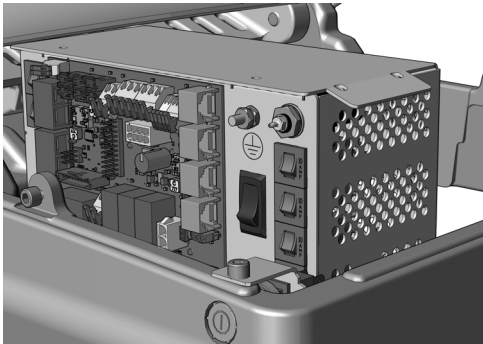
WARNING Shock hazard. When you remove or replace the covers, take care not to damage any wiring or tubing. Verify that the covers are secure after you replace them.



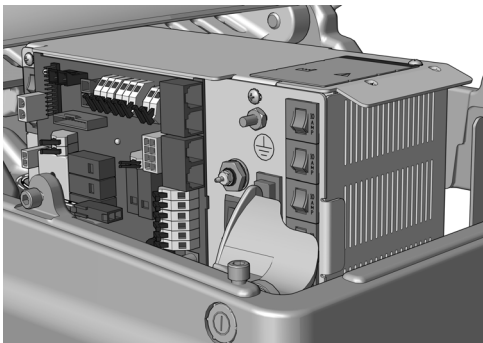
WARNING Failure to turn off or disconnect the power before you begin this procedure can lead to product damage and result in serious injury or death.

1. Turn off the power to the chair.

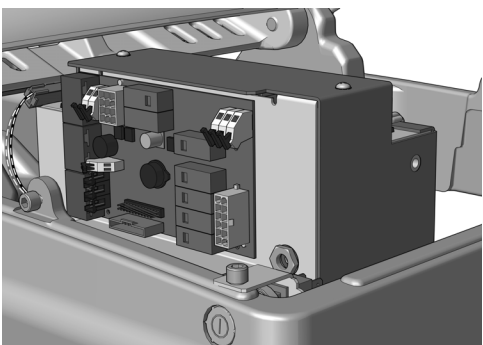
Complete the following section according to which power supply the system includes.



Connect Wires and Data Line to an A-dec Universal Power Supply Manufactured After June 2023 7



Connect Wires and Data Line to an A-dec 311/411 Power Supply Manufactured Before June 2023 8



Connect Wires and Data Line to an A-dec 511 Power Supply Manufactured Before June 2023 9

Connect Wires and Data Line to an A-dec Universal Power Supply Manufactured After June 2023

Recommended Tools

- Diagonal cutters
- 3/8" combination wrench

1. Turn off the power to the system.
2. Attach the support center's ground wire.
3. Connect the black wire to the support center 0 V.
4. Connect the gray wire to the support center 24 V.



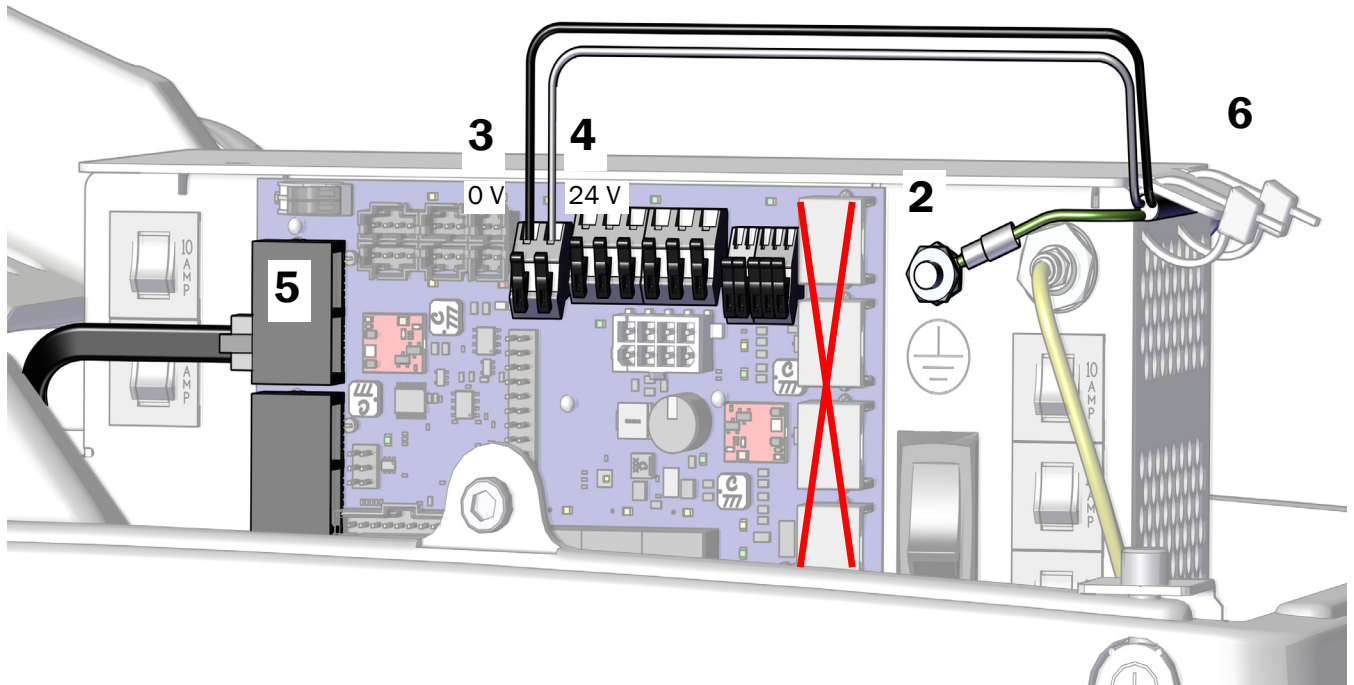
CAUTION Plugging the black DCS1 data line into a DCS2 port toward the toe of the chair can damage the product.

5. Plug the data line into any DCS1 data port.



NOTE Perform the next step only if all chair modules have been installed and all other electrical connections have been made. Otherwise, wait to perform this step until all other electrical connections to the power supply have been completed.

6. Once all of the electrical connections have been made for the system's modules, secure the wires under the lip on the power supply.



Next Step Continue with "Connect the Tubing" on page 10.

Connect Wires and Data Line to an A-dec 311/411 Power Supply Manufactured Before June 2023

Recommended Tools

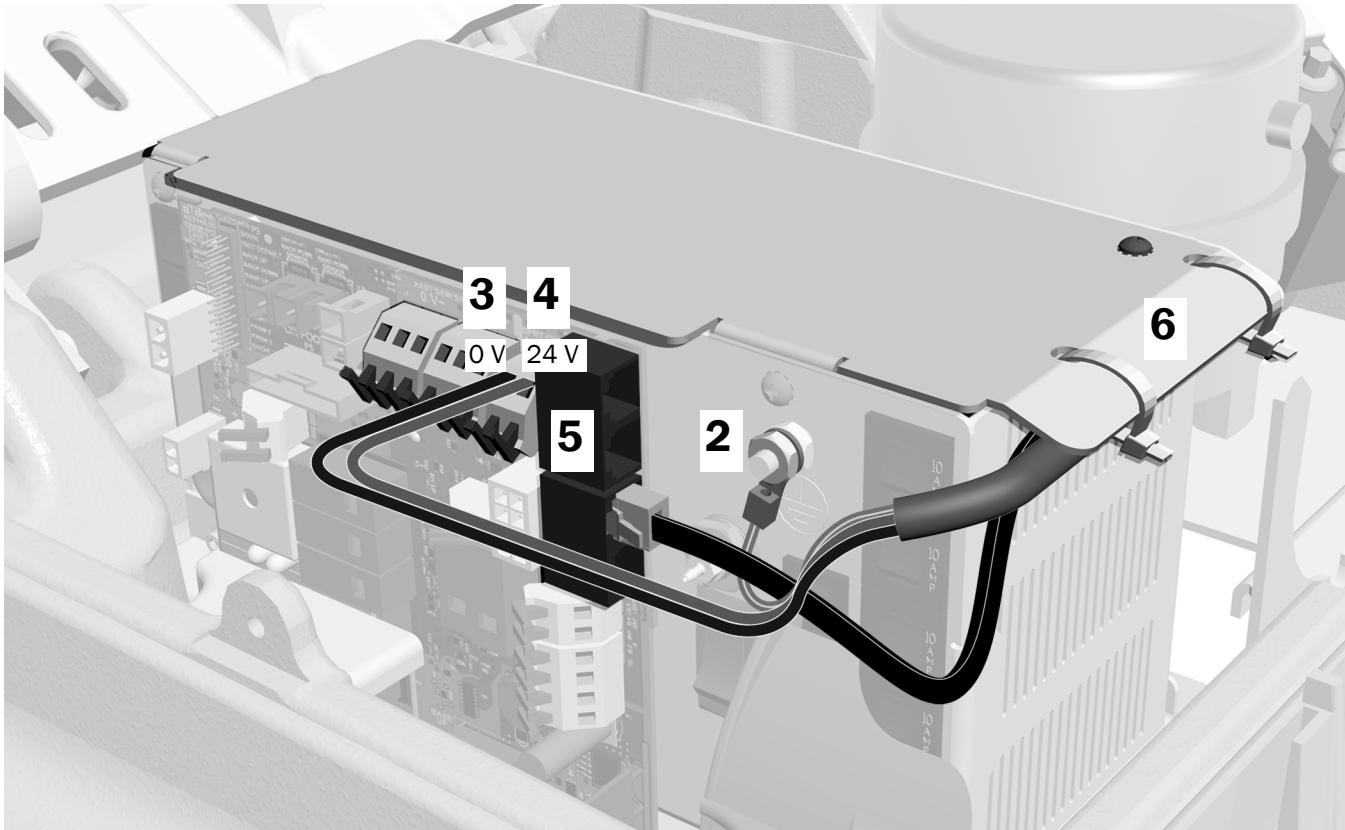
- Diagonal cutters
- 3/8" combination wrench

1. Turn off the power to the system.
2. Attach the support center's ground wire.
3. Connect the black wire to the support center 0 V.
4. Connect the gray wire to the support center 24 V.
5. Plug the data line into any data port.



NOTE Perform the next step only if all chair modules have been installed and all other electrical connections have been made. Otherwise, wait to perform this step until all other electrical connections to the power supply have been completed.

6. Once all of the electrical connections have been made for the system's modules, secure the wires under the lip on the power supply.



Next Step Continue with "Connect the Tubing" on page 10.

Connect Wires and Data Line to an A-dec 511 Power Supply Manufactured Before June 2023

Recommended Tool

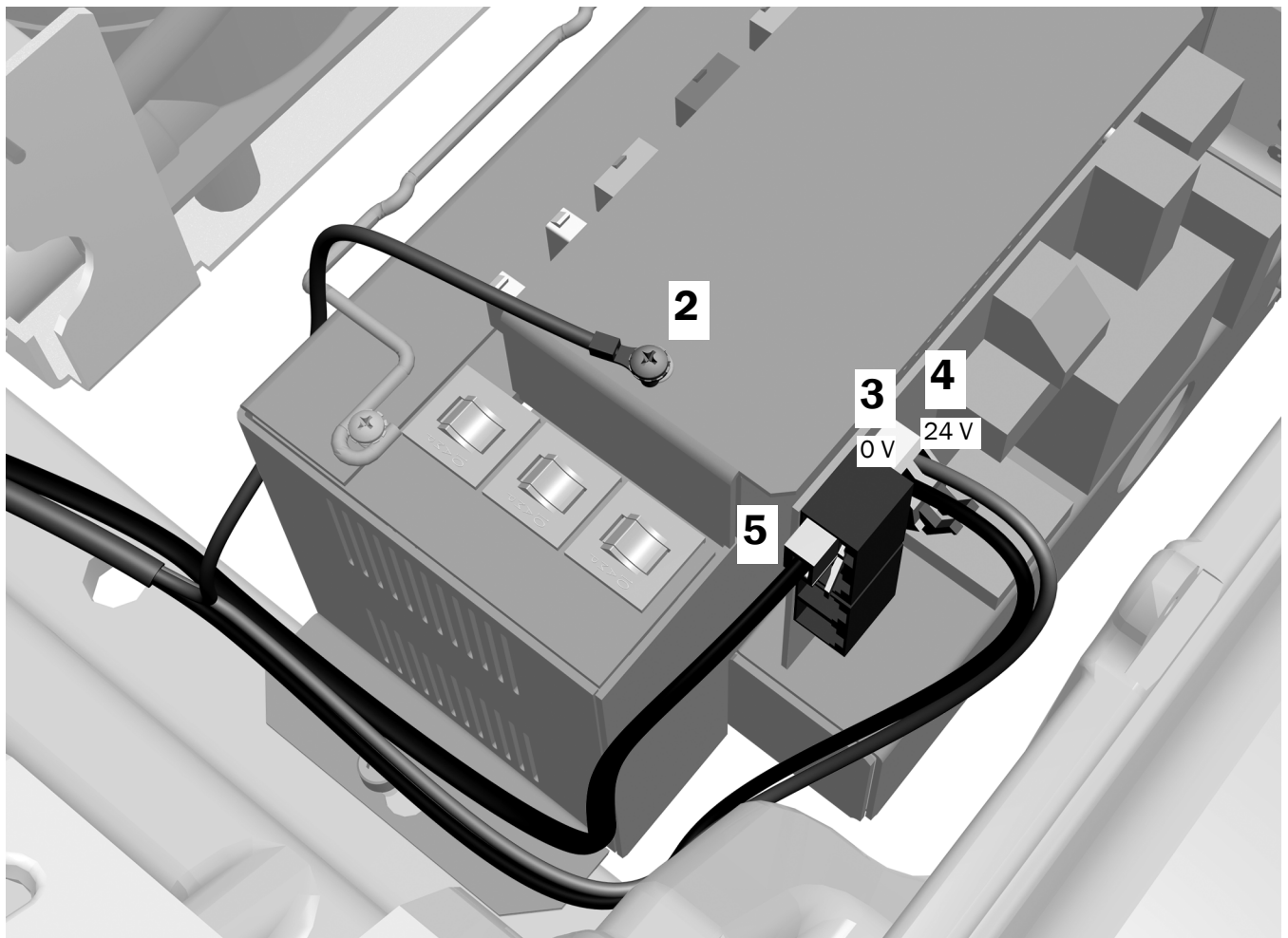
- Phillips head screwdriver

1. Turn off the power to the system.
2. Attach the support center's ground wire.
3. Connect the black wire to 0 V.
4. Connect the gray wire to 24 V.



NOTE To connect more than one module to the 0 V and 24 V terminal strips, use the jumper wires and electrical connectors from the kit.

5. Plug the data line into any data port.



Connect the Tubing

Complete the procedures for the system's configuration.

Connect the Tubing for Configurations that Include an A-dec 300 Delivery System 10
Connect the Tubing for Configurations that Include an A-dec 500 Delivery System 12

Connect the Tubing for Configurations that Include an A-dec 300 Delivery System

Recommended Tools

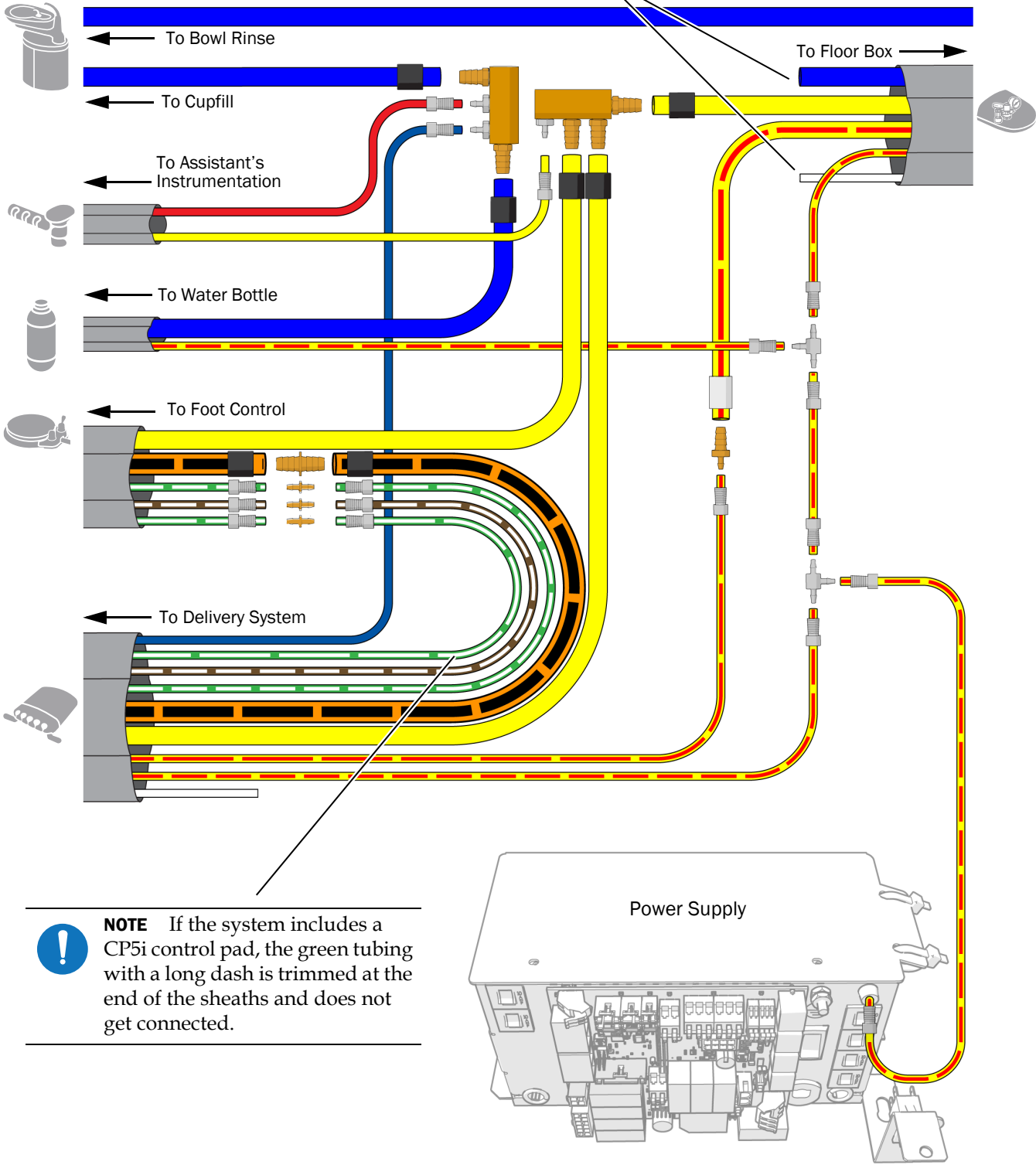
- Diagonal cutters
- Sleeve pusher

1. If the system includes a delivery system, 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.



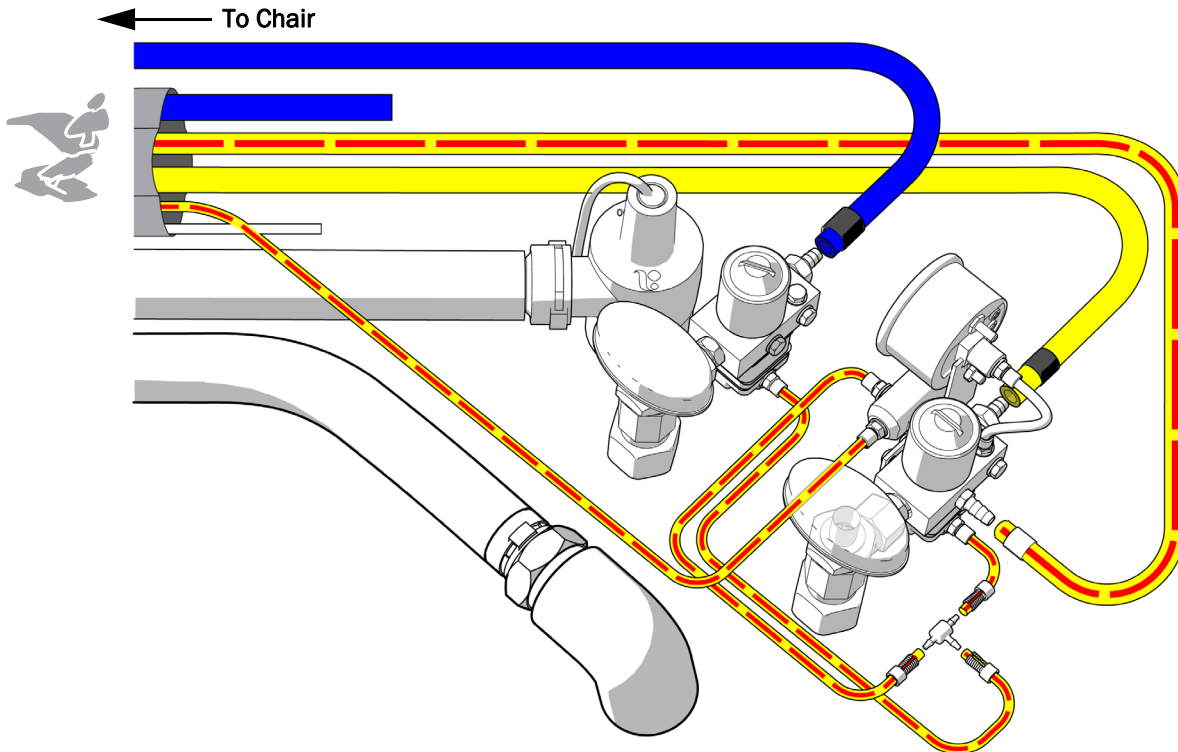
NOTE When installing the water manifold, be sure to connect to the barb on the end to prevent standing water in the manifold.

NOTE Do not connect the blue or white tubing.





NOTE When cutting the tubing to length for the connections, be sure to leave enough room for the gravity drain to move a few inches without kinking.



Configurations that Include a Moisture Separator (Optional)

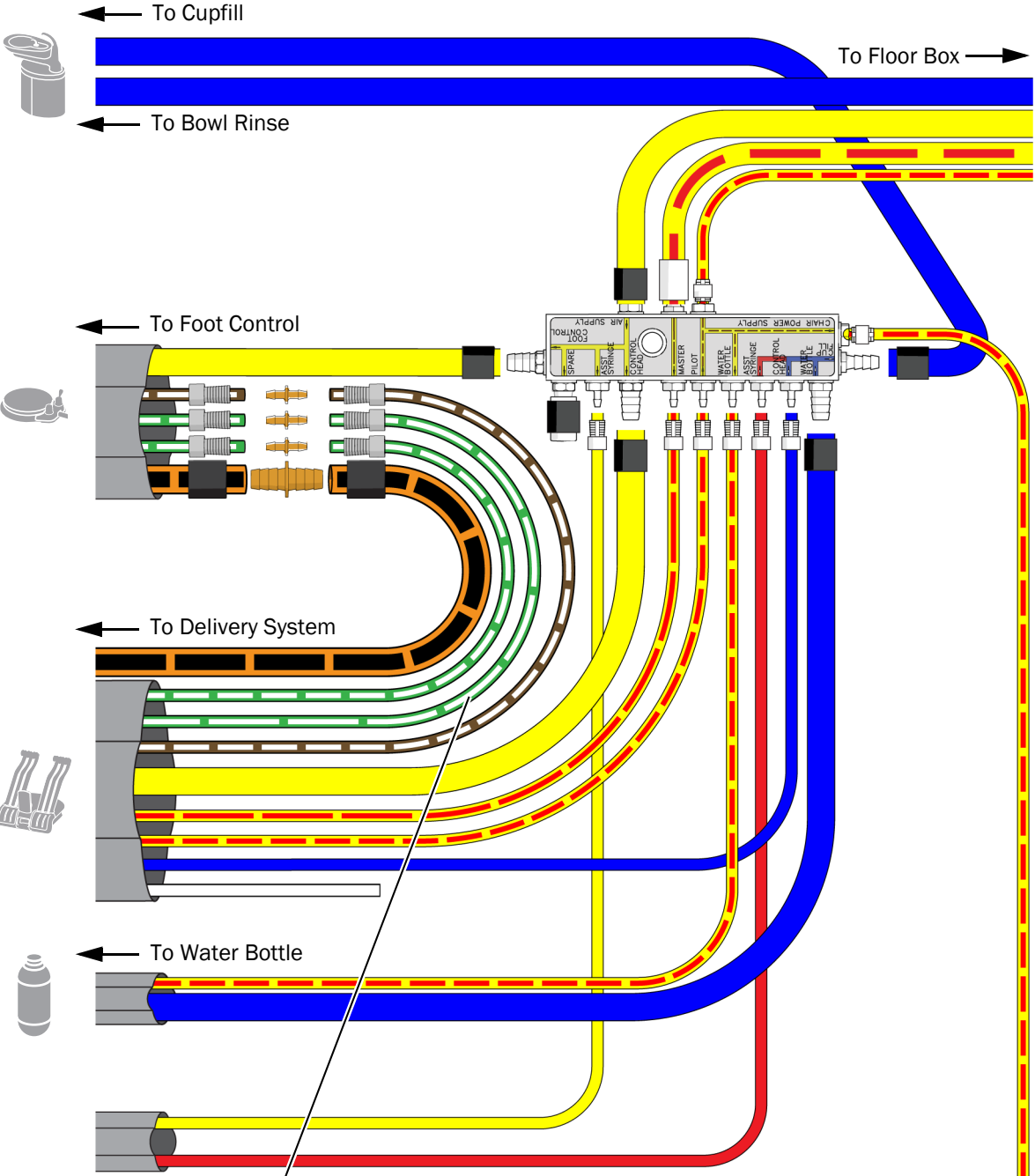
For moisture separator information, see the *Moisture Separator on an A-dec 200, A-dec 300, A-dec 400 or A-dec 500 Dental Chair Installation Guide* (p/n 86.0285.00).

Next Step See "Install the Cuspidor" on page 15.

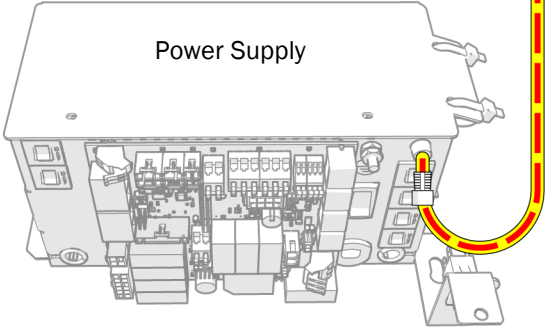
Connect the Tubing for Configurations that Include an A-dec 500 Delivery System

Recommended Tools

- Diagonal cutters
- Sleeve pusher

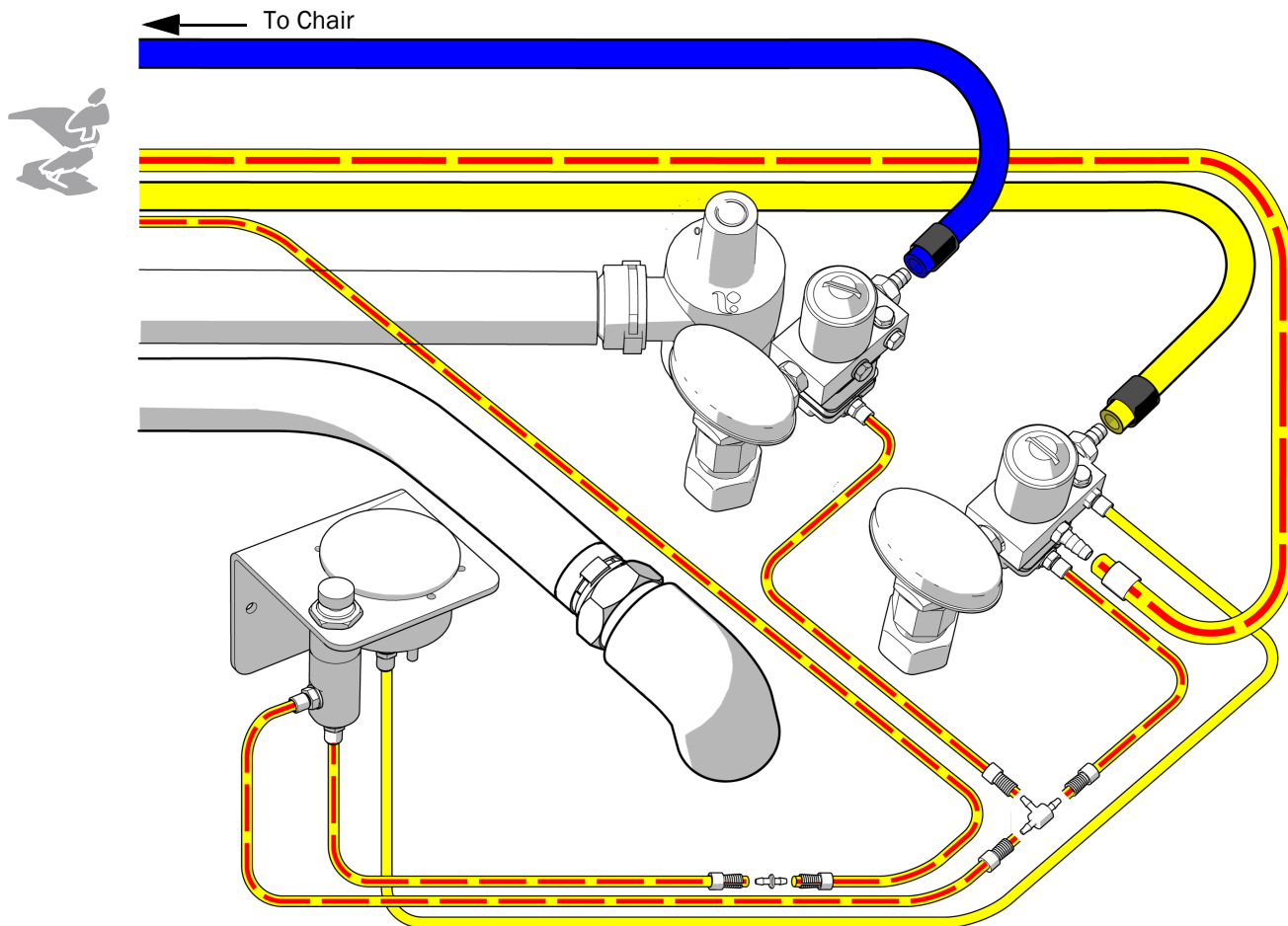


NOTE If the system includes a DS7 touchscreen, the green tubing with a long dash is trimmed at the end of the sheaths and does not get connected.





NOTE When cutting the tubing to length for the connections, be sure to leave enough room for the gravity drain to move a few inches without kinking.



With a Moisture Separator (Optional)

For moisture separator information, see the *Moisture Separator on an A-dec 200, A-dec 300, A-dec 400 or A-dec 500 Dental Chair Installation Guide* (p/n 86.0285.00).

Install the Cuspidor



CAUTION Do not rotate the cupfill spout or it may break.

- 1** Insert the cupfill spout.
- 2** Insert the bowl rinse spout.
- 3** Insert the bowl screen.

Prepare and Adjust the System

Secure the Wires and Tubing

Recommend Tool

- Diagonal cutters



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



Bail



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

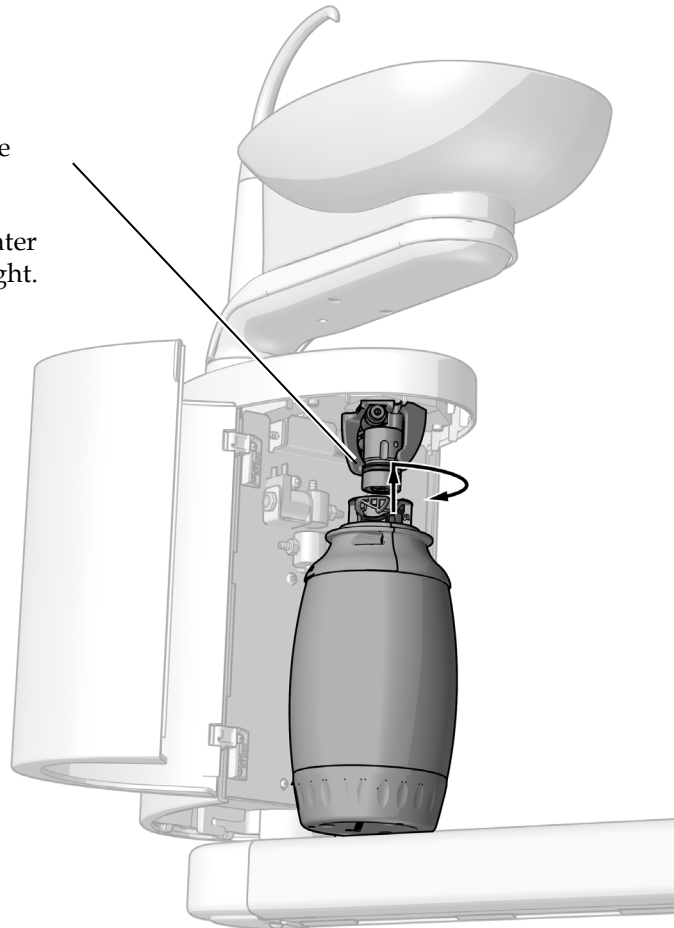
- 2** Use cable ties to group the tubing and wiring for a neat appearance.

Install the Water Bottle

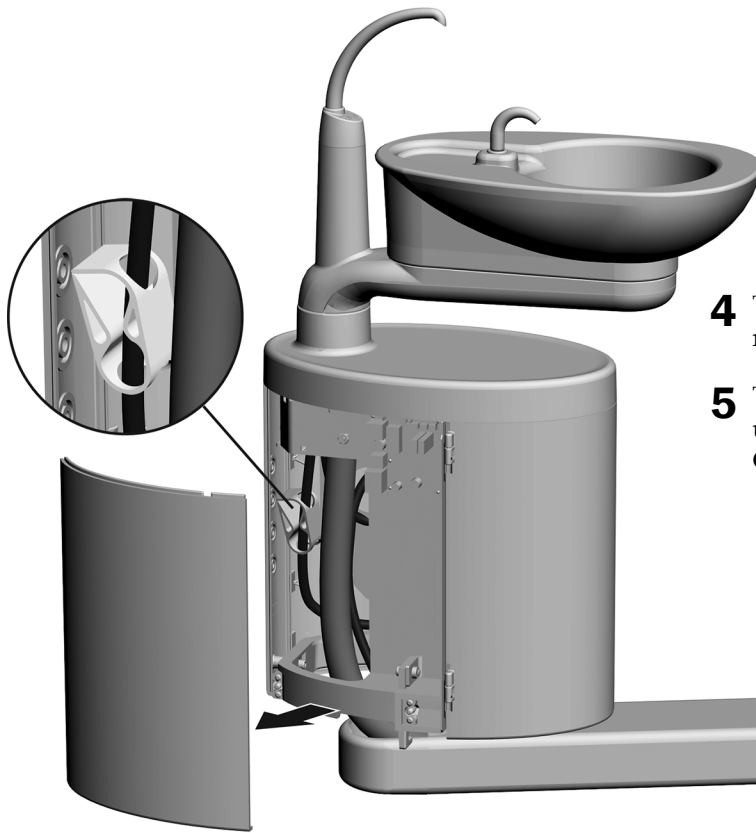


IMPORTANT A-dec recommends that the dental team perform a shock treatment on the dental unit waterlines before they use the system for the first time, and establish an ongoing waterline maintenance program. For more information, see the *Waterline Maintenance Guide* (p/n 85.0983.00) and the *A-dec Self-Contained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

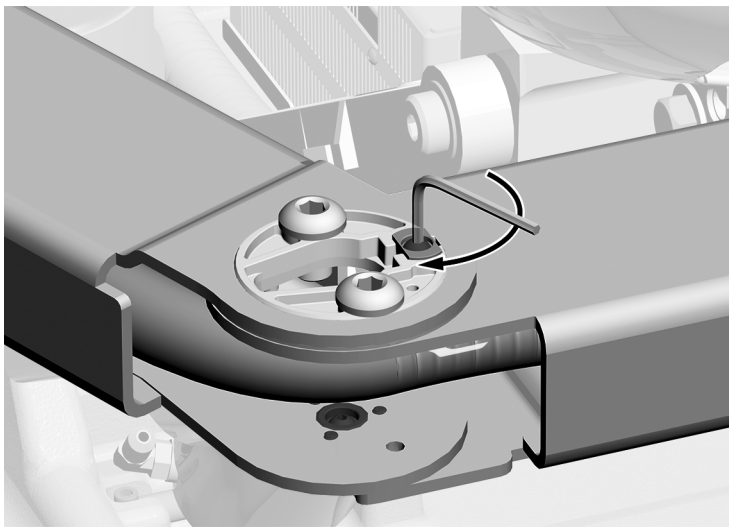


- 1** Remove the support center cover.
- 2** Turn on the bowl rinse.
- 3** Tighten or loosen the pinch valve to adjust the flow.
- 4** To adjust the flow pattern and achieve the best rinsing action, rotate the bowl rinse spout.
- 5** To set the length of cupfill and bowl rinse flow, use the touchpad buttons. See "Operate the Cuspidor" on page 19.

Adjust the Support Arm Rotation Tension (Optional)

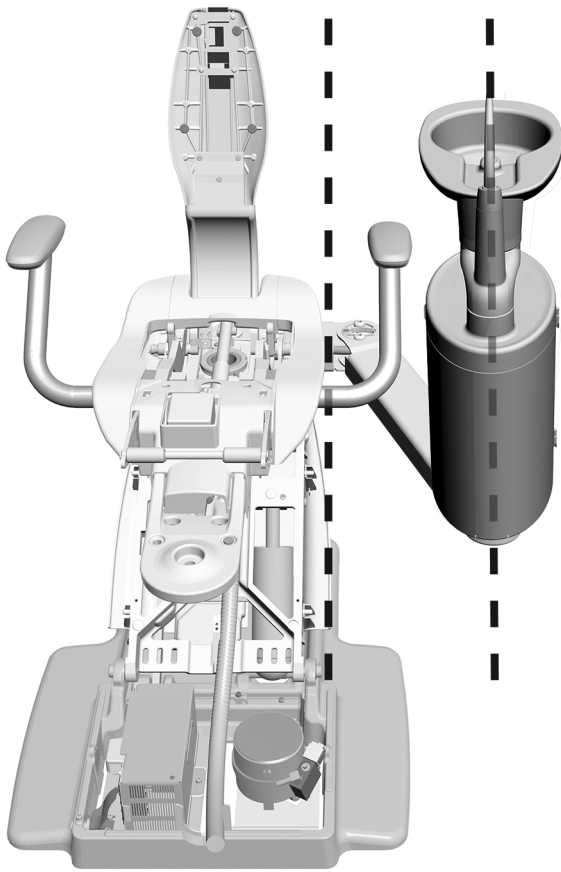
Recommended Tool

- 1/8" hex key



- 1** Use a hex key to adjust the tension so that the arm moves smoothly but holds position when the cuspidor is moved. Clockwise increases the tension.

Align the Support Center



- 1** Rotate the support center so that it is aligned with the dental chair.

Operate the Cuspidor



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

See the section for the type of touch control on your system:

Operate the Cuspidor with a CP5i/CP5 Control Pad **19**
Operate the Cuspidor with an A-dec 300 Deluxe/Standard Touchpad **20**

Operate the Cuspidor with a CP5i/CP5 Control Pad



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.



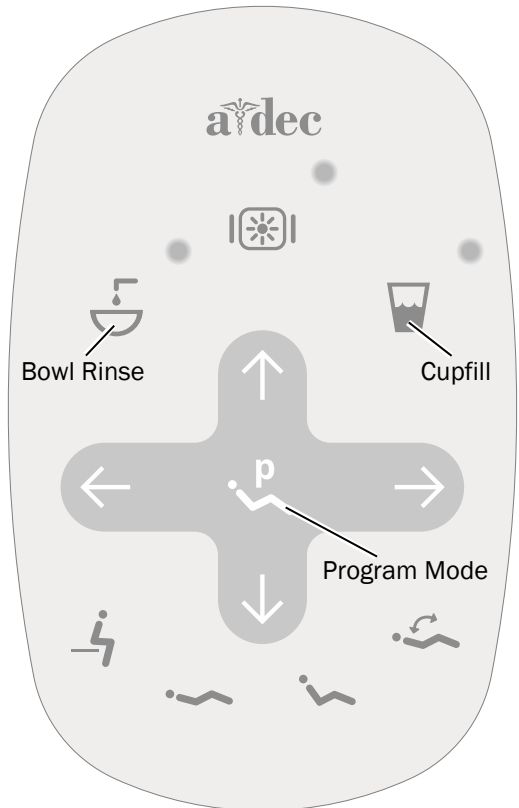
For configuring connectivity features, see the *A-dec+™ Software Platform Instructions for Use* (p/n 86.1030.00) at a-dec.com/connectivity-manual.



Operate the Cuspidor with an A-dec 300 Deluxe/Standard Touchpad







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



Standard Touchpad Shown

Turn On/Turn Off Cupfill and Bowl Rinse




Use the touchpad icons or the cuspidor buttons to control cupfill and bowl rinse functions.

| Icon/Function | Actions/Options |
|---|---|
| Cupfill Touchpad  Cuspidor  | Controls water flow from the cuspidor into a cup. <ul style="list-style-type: none"> Press once for a timed operation. The factory preset is a 2.5 second fill. Press and hold for manual operation. |
| Bowl Rinse Touchpad  Cuspidor  | Provides rinse water for the cuspidor bowl. <ul style="list-style-type: none"> Press for a timed operation. The factory preset is a 30 second rinse. Press twice for continuous flow, then press once to stop the flow. Press and hold for manual operation. Release to stop the flow. |





Customize Cupfill and Bowl Rinse Timing

Cupfill and bowl rinse timing can be set at the touchpad or the cuspidor.

Customize Timing From the Touchpad

1. Press and hold  on the touchpad. Release when you hear one beep.
2. Within five seconds, press and hold  or  for the desired amount of time.
3. Three beeps indicate the new setting is saved.

Customize Timing From the Cuspidor

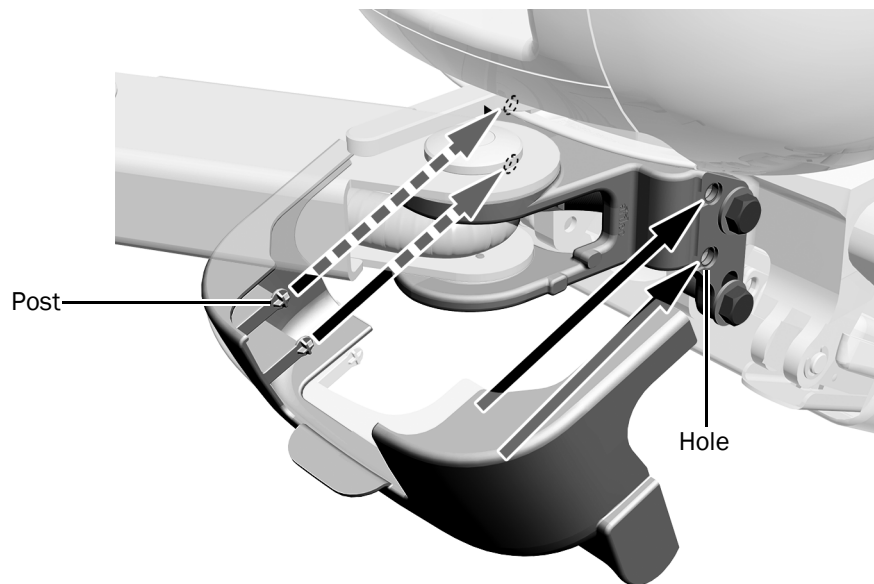
1. Press and hold  and  under the cupfill spout. Release when you hear one beep.
2. Within five seconds, press and hold  or  for the desired amount of time.
3. Three beeps indicate the new setting is saved.

Install the Covers



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.

Install the Mount Cover



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

Install the Support Arm Cap

Recommended Tool

- 5/32" hex key



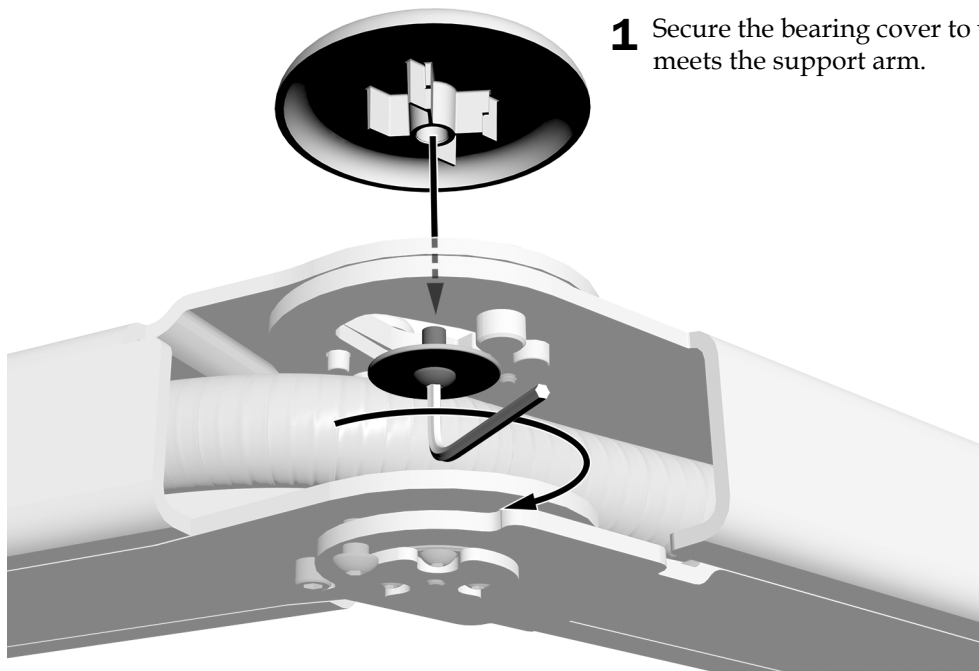
- 1** Use the 5/32" hex key to partially install the screw.
- 2** Slide the support arm cap onto the end of the arm. The screw goes into the slot in the cap.
- 3** Secure the cap.

Install the Bearing Cover (Optional)

This cap is only used with systems that do not include an assistant's instrumentation.

Recommended Tool

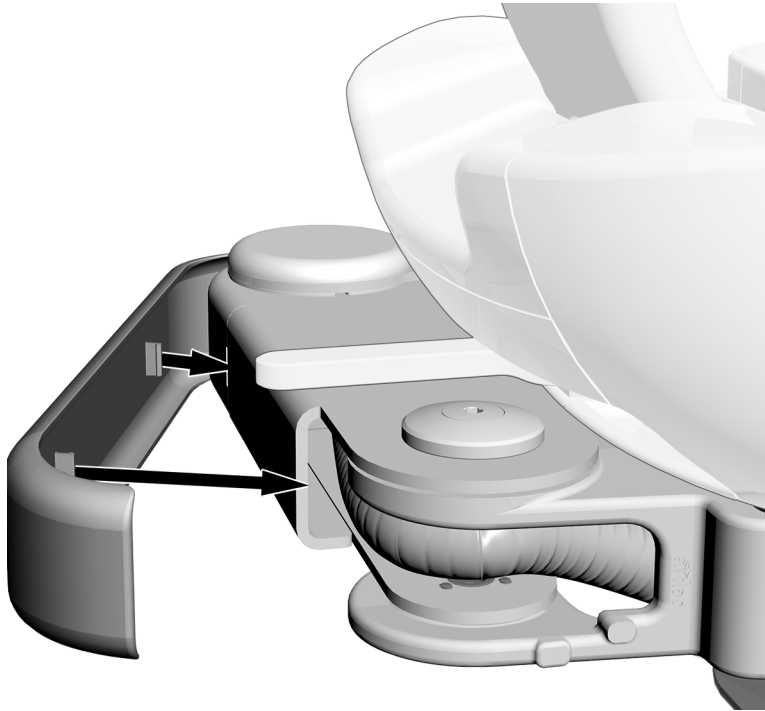
- 5/32" hex key



- 1** Secure the bearing cover to where the support link meets the support arm.

Install the Support Link Cover

The support link cover installs the same way on all systems.



1 Snap the support link cover into place.

Test the System

After you have completed the installation, use the following checklist to test the system, then follow up with the customer.

Utilities

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

Cuspidor and Cupfill

- Cupfill timing is set properly.
- Cuspidor flow pattern effectively rinses the bowl, bowl drains properly.

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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