



# A-dec® 411 Dental Chair

## INSTALLATION GUIDE

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### Product Models and Versions Covered in this Document

Model	Version	Description
411	A	Dental Chair

## Before You Begin

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

- Clear the room of all debris and thoroughly clean the floors.
- Verify that manual air and water shut-offs are installed.
- Purge any debris from air and water lines then turn both lines off.
- Check with local building and code authorities about installation requirements specific to your location.

### Recommended Tools

- Combination wrenches: 3/8", 1/2"
- Ratchet and sockets: 5/16", 9/16", 3/4"
- Drill bits: 3/8" (9.5 mm), 1/2" (12.5 mm)
- Anti-static wrist strap
- Hex key set
- Phillips head screwdriver
- Rotary hammer
- Drill
- Tape measure
- Diagonal cutters

# Install the Chair

## Position the Chair

### Recommended Tools

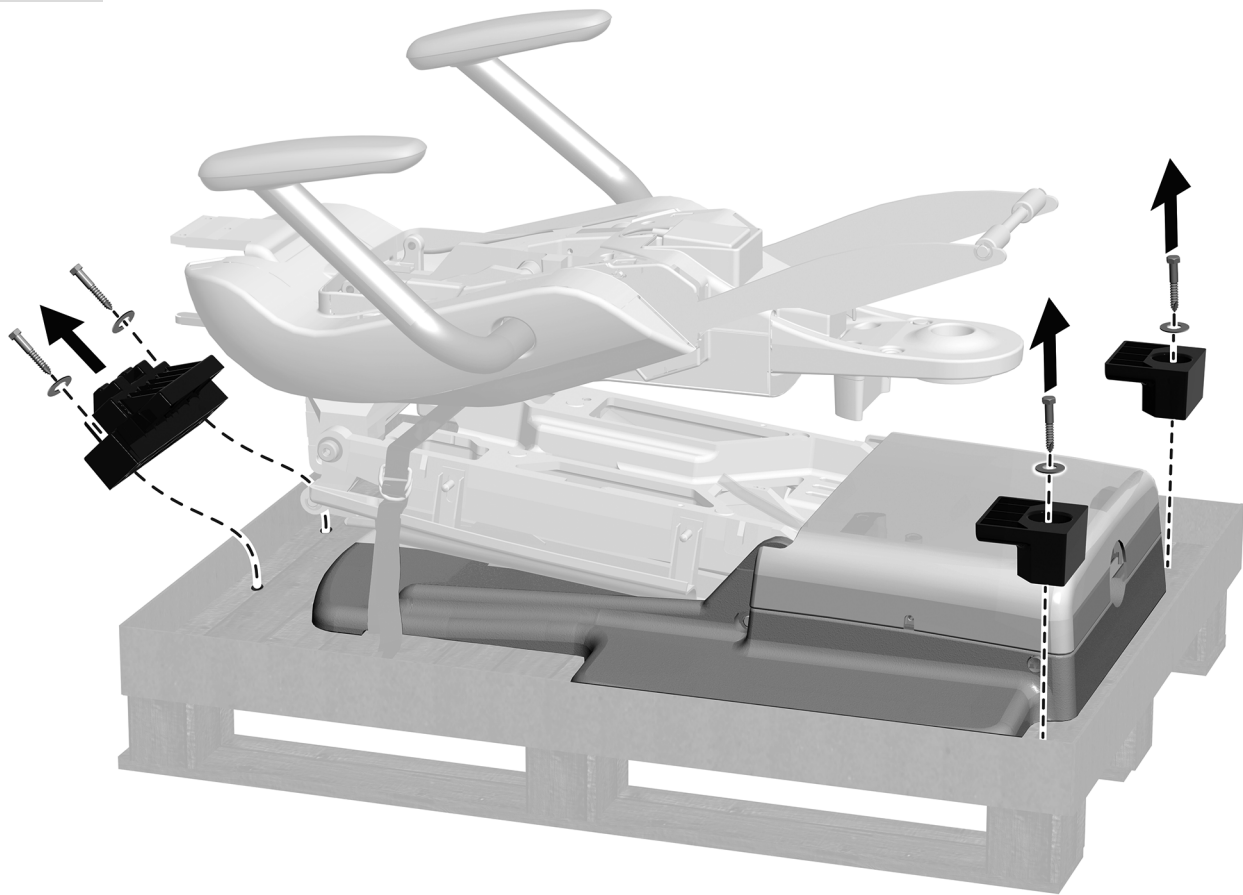
- 3/16" hex key
- 9/16" socket and ratchet

**Task 1.** Remove packaging material and any loose items from around the chair.



**NOTE** Set aside any kits and manuals included for the doctor (such as the *A-dec 311 and 411 Dental Chairs Instructions For Use*, p/n 86.0546.00).

**Task 2.**



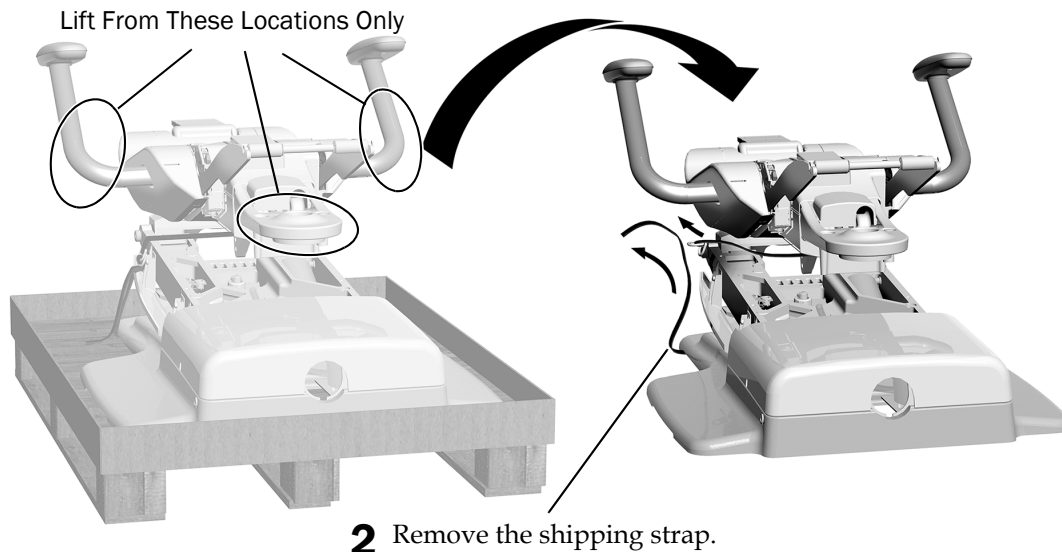
**1** Use a 9/16" socket and ratchet to remove the bolts and brackets securing the chair to the pallet.

**Task 3.**

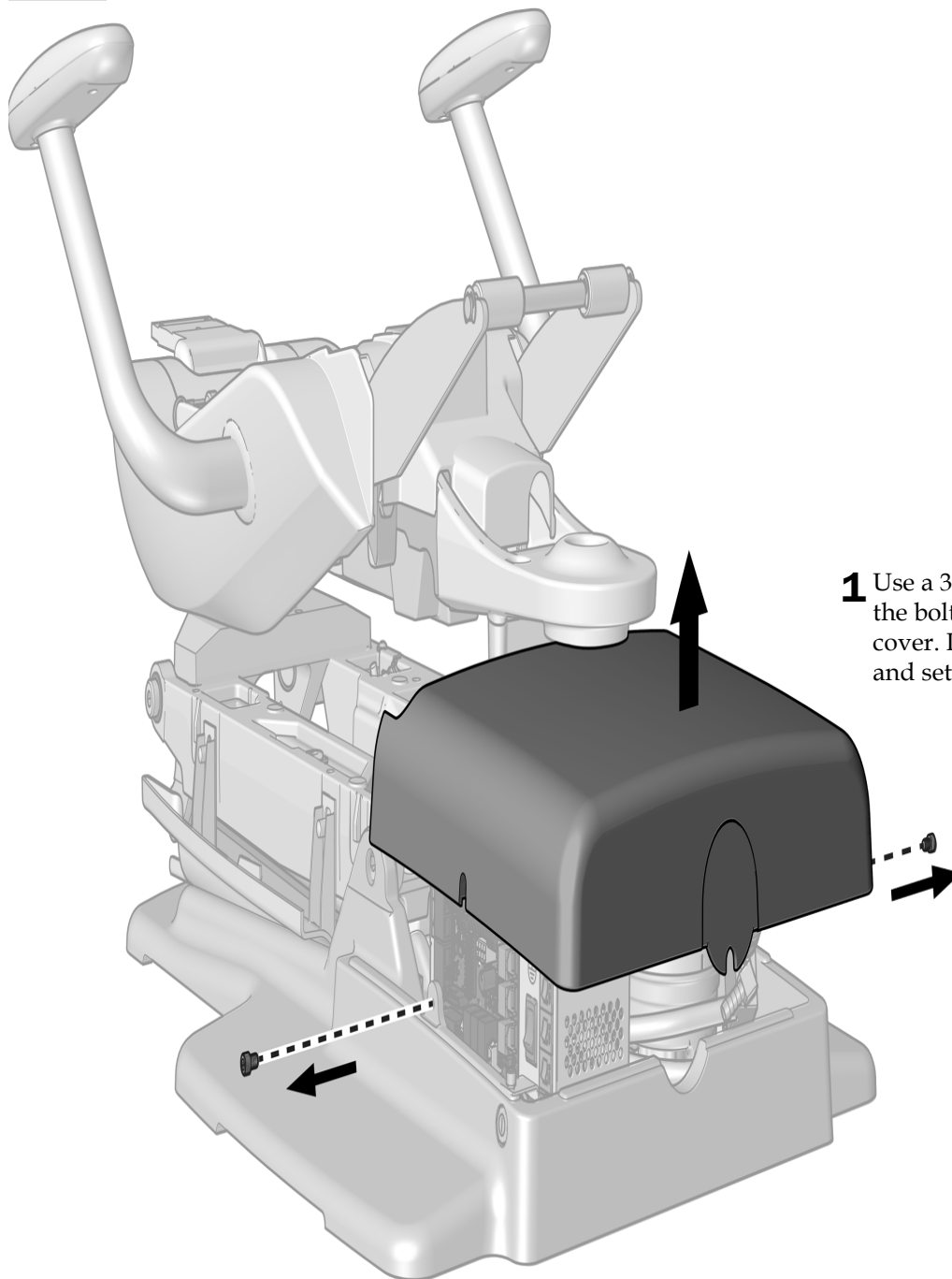


**CAUTION** To avoid damaging the chair, do not lift from the chair back when removing it from the pallet.

- 1** Grasp the chair by an armrest and the front mount to lift it from the pallet and position it on the treatment room floor.




**Task 4.**



- 1** Use a 3/16" hex key to remove the bolts securing the pump cover. Remove the pump cover and set it aside.

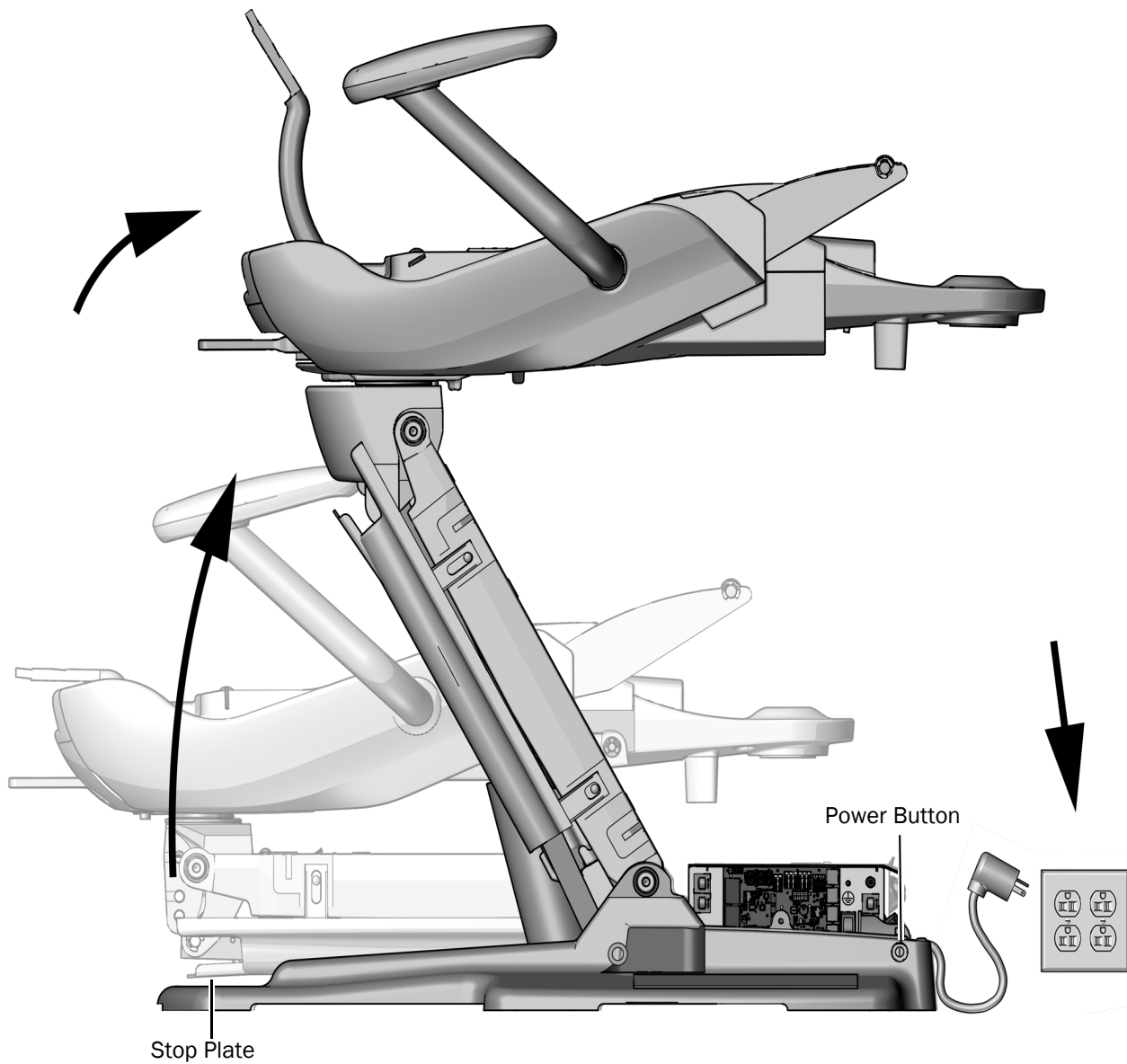
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 **NOTE** If the chair doesn't rise on the third tap, turn off power to the chair and wait 10 seconds before turning the power back on. A few seconds after returning power to the chair, repeat the three tap procedure. Be sure to hold the stop plate on the third tap.

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**Task 5.**

- 1** Plug in and turn on the power to the chair.
- 2** Tap the stop plate three times and continue to hold the plate on the third tap until both the chair base and chair back rise to their highest position.



## Anchor the Chair



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



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

### Recommended Tools

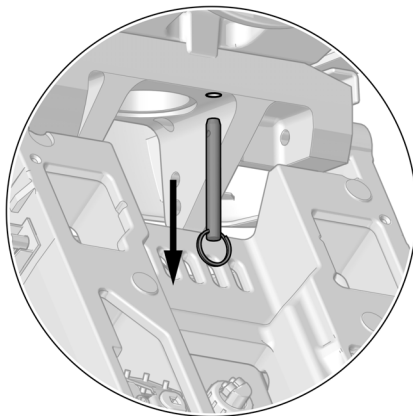
- Drill
- Rotary hammer
- **Concrete floor:** 1/2" (12.5 mm) drill bit and 9/16" socket and ratchet
- **Wood floor:** 3/8" (9.5 mm) drill bit and 3/4" socket and ratchet

### Task 1.

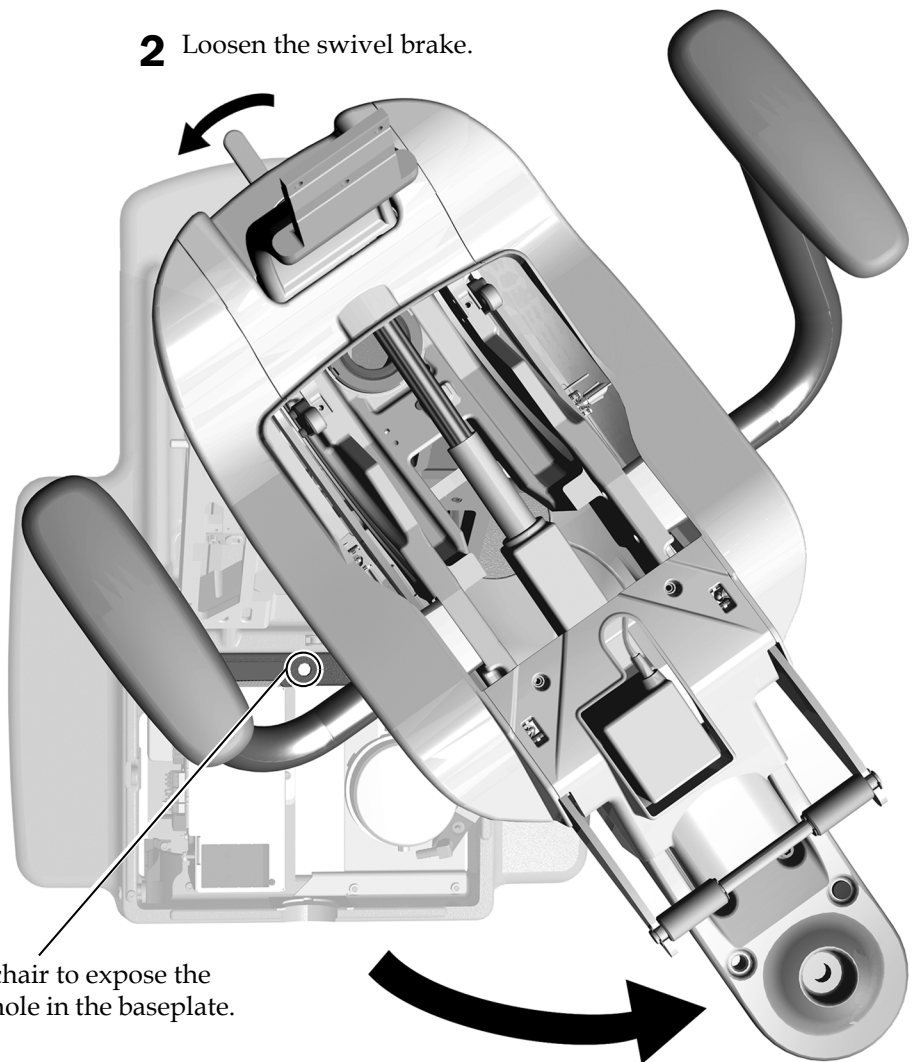
**1** Remove the shipping pin.



**TIP** To help remove the pin, release the swivel brake and wiggle the chair.



**2** Loosen the swivel brake.

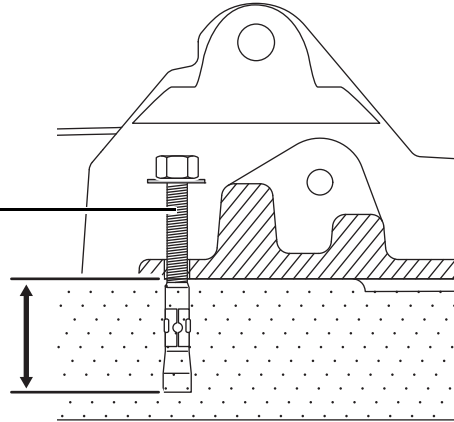


**3** Rotate the chair to expose the anchoring hole in the baseplate.

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

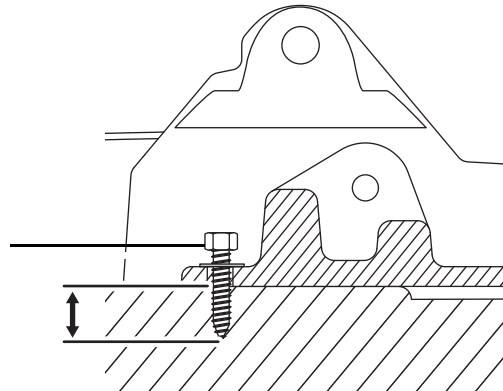
**Anchor the Chair to a Concrete Floor**

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



**Anchor the Chair to a Wood Floor**

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

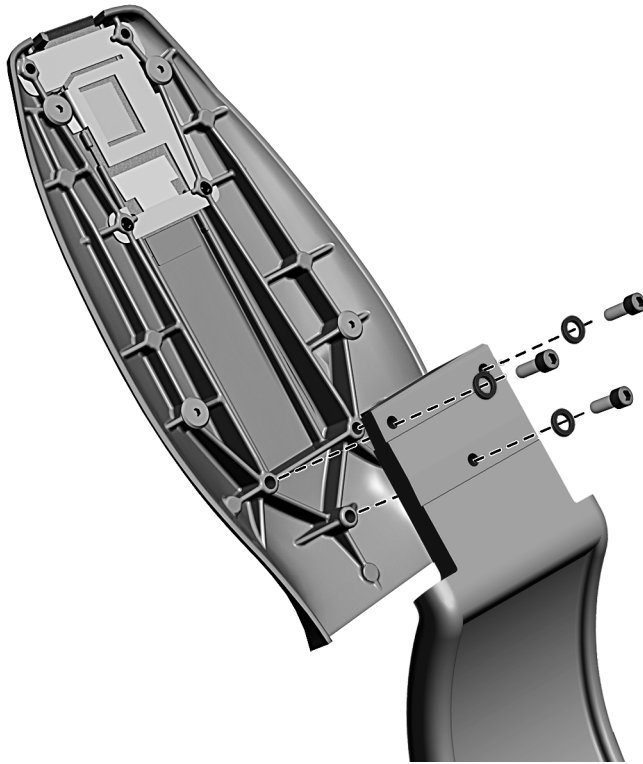




## Install the Back Support

### Recommended Tool

- 3/16" hex key



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



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

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



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**TIP** Start all three screws before tightening them.

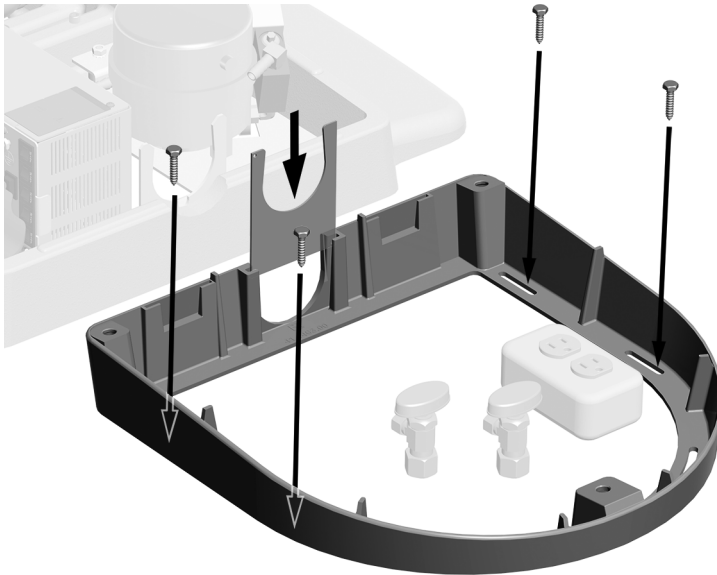
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## Install the Floor Box

### Recommended Tools

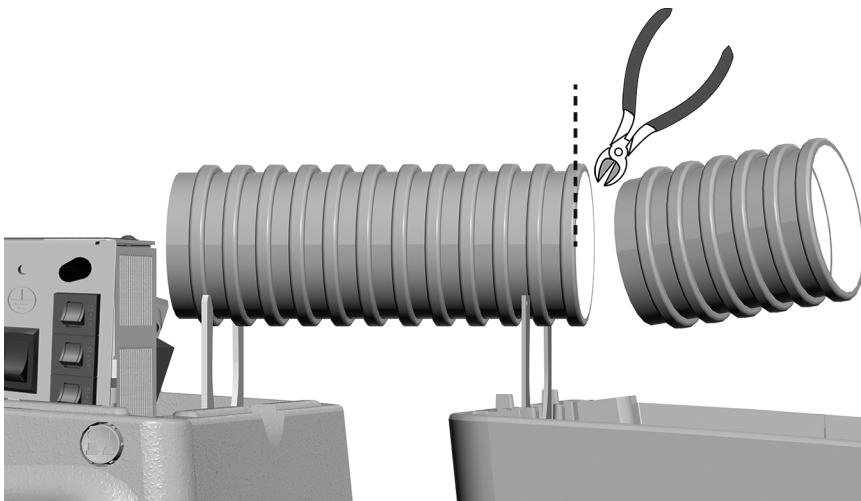
- Phillips head screwdriver
- Diagonal cutters
- Tape measure

### Task 1.



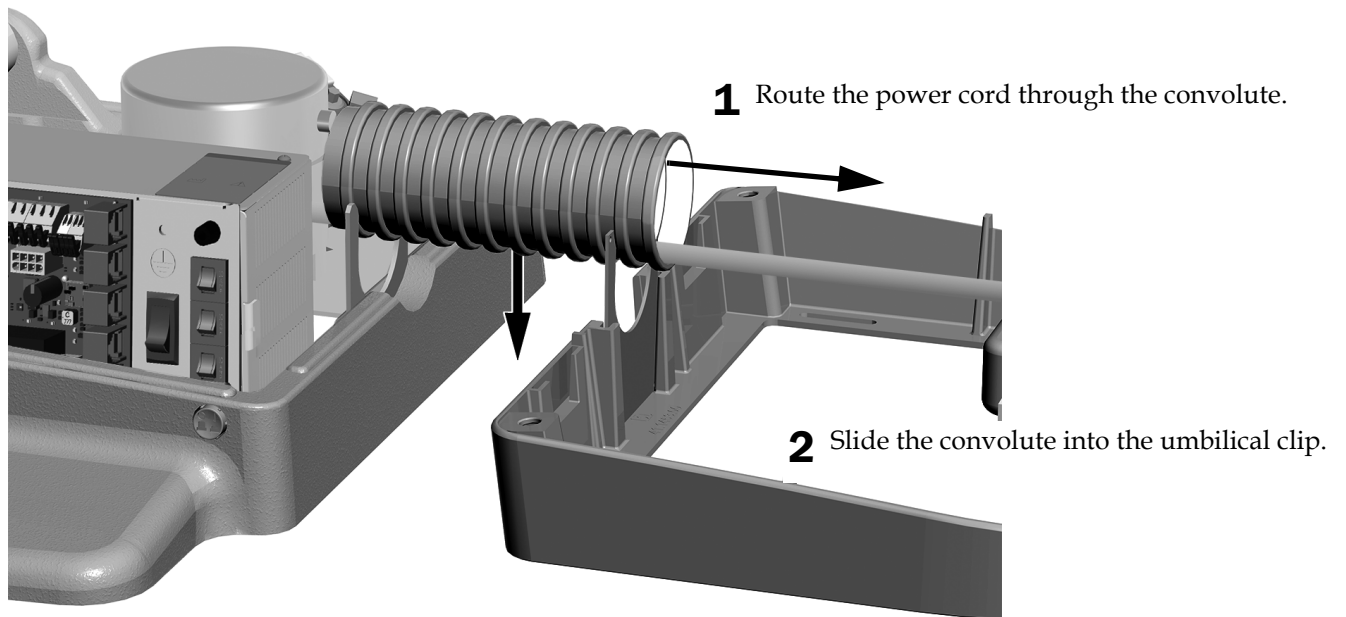
- 1** Place the floor box frame around the utilities.
- 2** Use four of the following to attach the frame to the floor:
  - **Wood floors:** 1-1/4" screws
  - **Concrete floors:** 2" anchors
- 3** Slide the umbilical clip into the slot in the frame.

### Task 2.



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

**Task 3.**



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**NOTE** Ensure the bottom of the convolute is fully seated into the clip so that the covers install properly.

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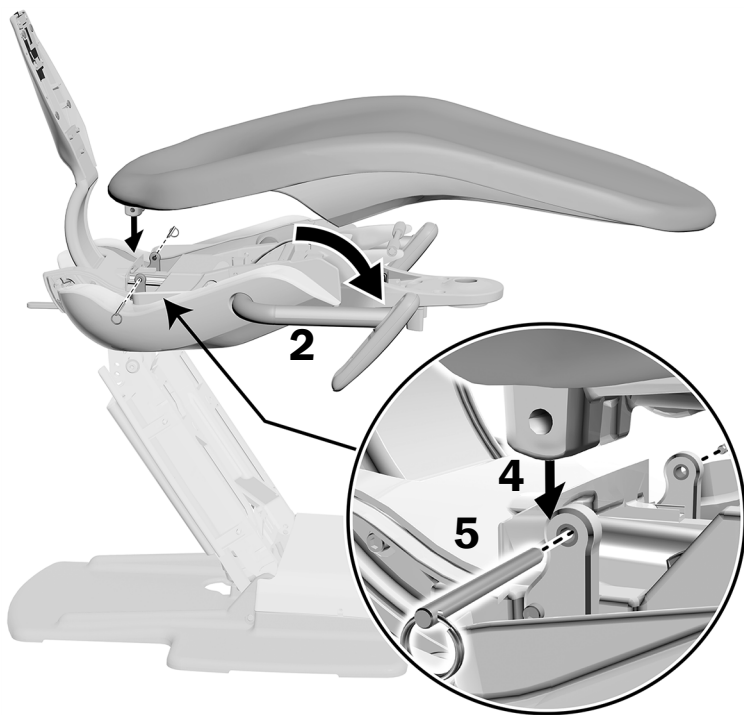
## Install the Upholstery

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

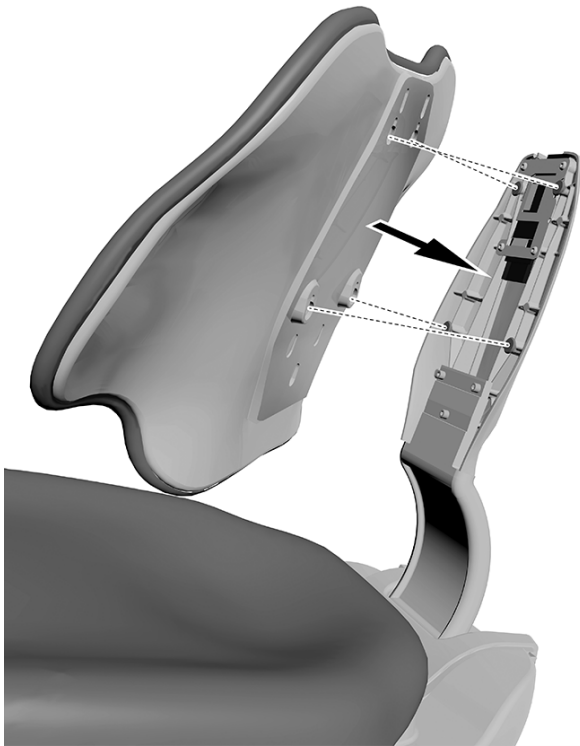


### Install the Seat Upholstery



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

## Install the Back Upholstery



- 1** Ensure the chair back is fully raised and the chair base is fully lowered.
- 2** Place the key holes in the back upholstery over the fastener posts on the chair back.
- 3** Push down until the top of the back upholstery aligns with the chair back.

## Install the Headrest Upholstery

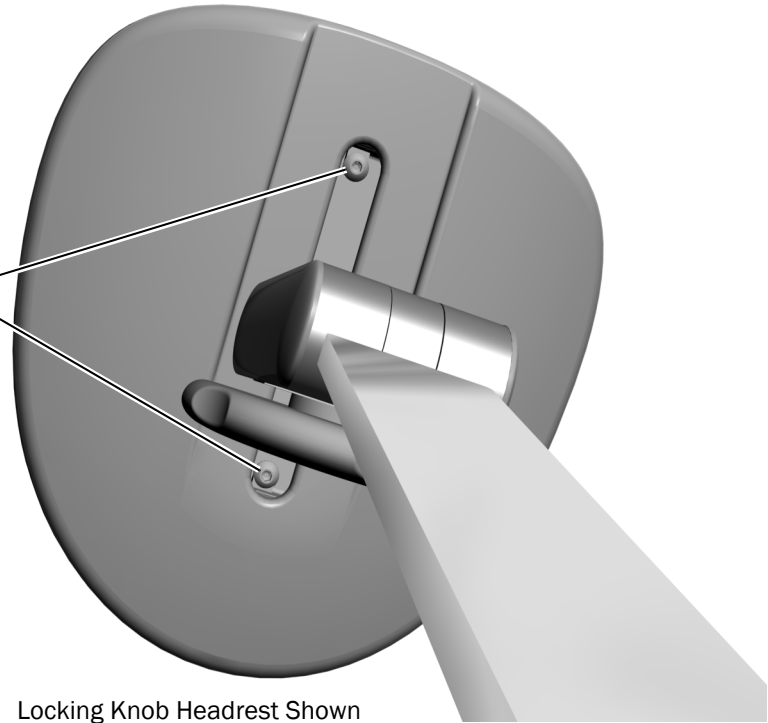
Locking knob and lever-release headrests are both available for the A-dec 411 Dental Chair. The headrest upholstery installs the same way for both styles.

### Recommended Tools

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

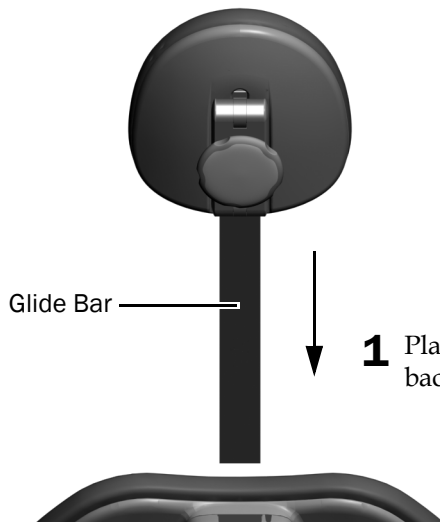
### Task 1.

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



Locking Knob Headrest Shown

### Task 2.



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

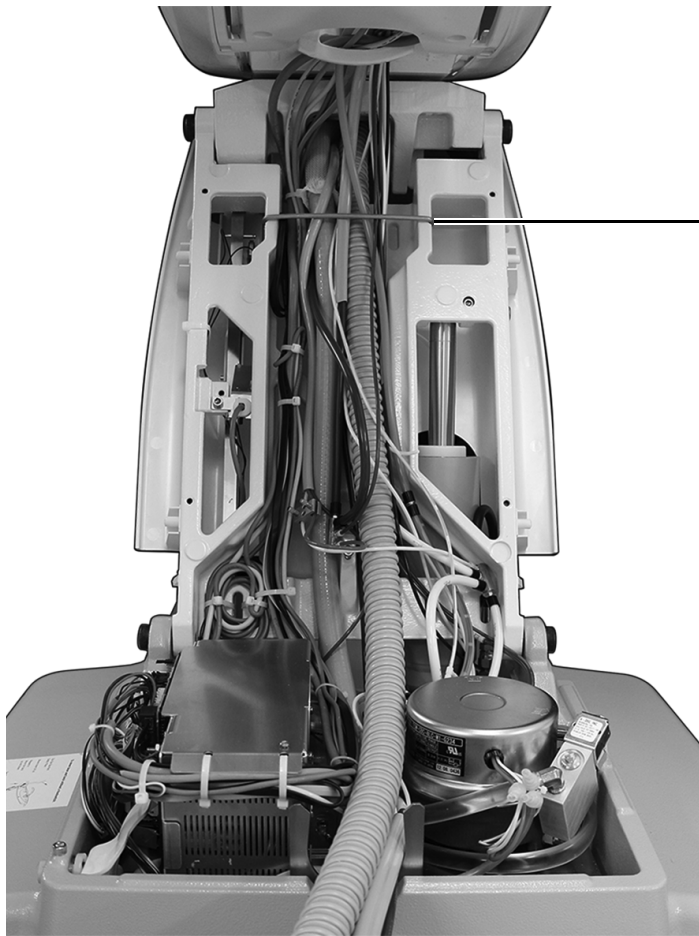
## Prepare and Adjust the System

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### Secure the Wires and Tubing

#### Recommended 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.

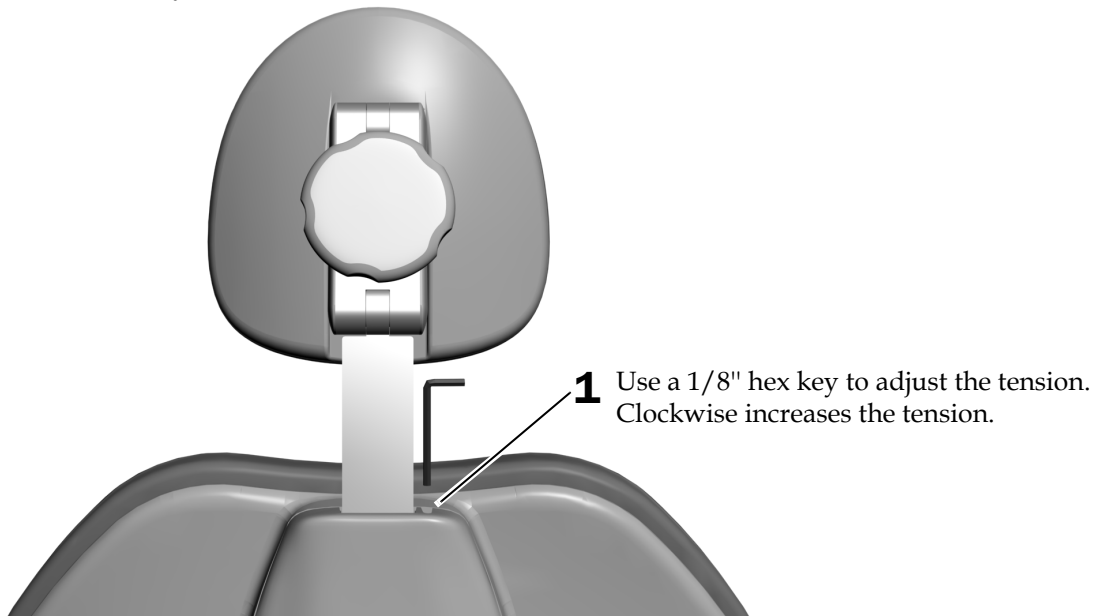
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- 2** Use cable ties to group the tubing and wiring for a neat appearance.

## Adjust the Glide Bar Tension

### Recommended Tool

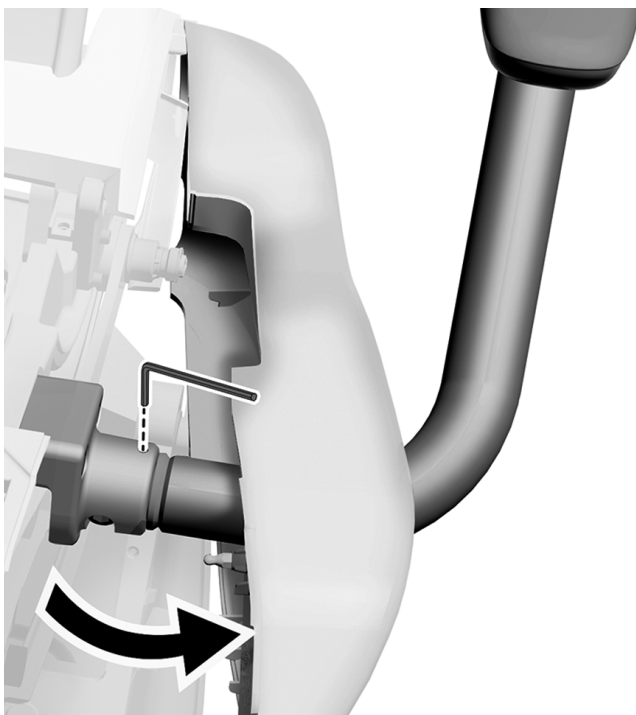
- 1/8" hex key



## Adjust the Armrest Tension

### Recommended Tool

- 5/32" hex key



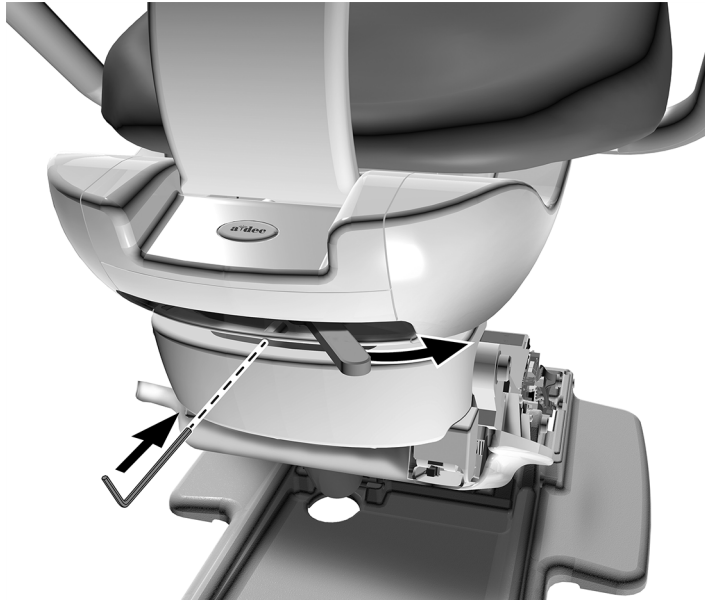
- 1** Pull out the side cover.
- 2** Lift up the seat upholstery.
- 3** Use a hex key to adjust the tension. Clockwise increases the tension.
- 4** Reinstall the side cover.



## Adjust the Swivel Brake Tension

### Recommended Tool

- 7/64" hex key



- 1** Move the swivel brake handle to the right.



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

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- 2** Use a 7/64" hex key to adjust the tension. Clockwise increases the tension.



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**NOTE** A small adjustment significantly increases or decreases the tension.

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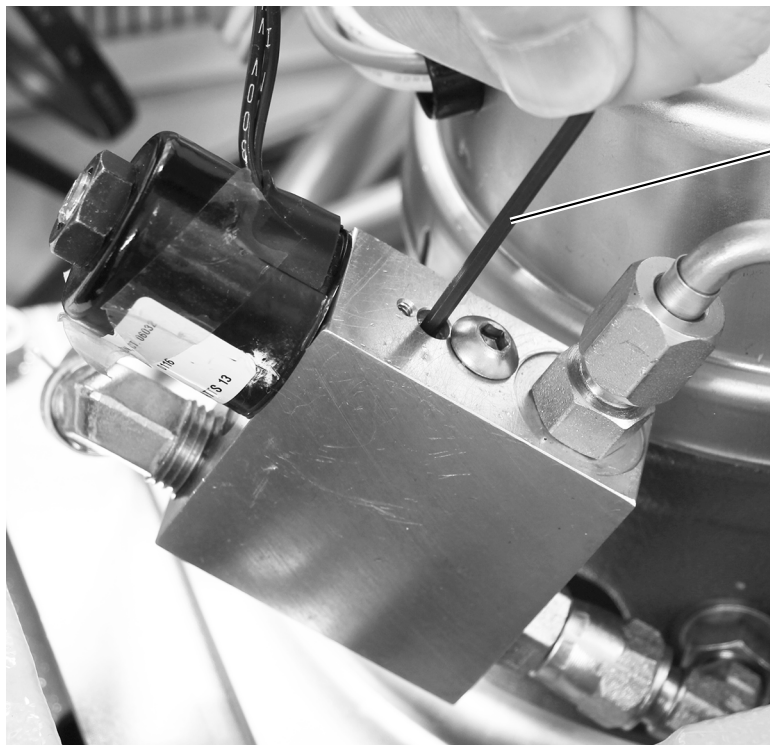
## Adjust the Chair Base Down Speed

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### Recommended Tool

- 3/32" hex key

Adjust the speed that the chair lowers by turning the setscrew on the flow control stem of the hydraulic manifold.



- 1** Use a 3/32" hex key to turn the setscrew on the flow control stem.  
Turning the setscrew clockwise reduces the chair base down speed.



**NOTE** If it takes longer than 45 seconds for the chair to reach its lowest position, some programmed positions may time out and the chair may not function correctly.

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# Customize Dental Chair Settings

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

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

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## CP5i/CP5 Control Pads



For touchscreen and control pad use, see the *A-dec Touchscreens and Control Pads 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+™ Instructions for Use* (p/n 86.1030.00) at [a-dec.com/connectivity-manual](http://a-dec.com/connectivity-manual).



## Standard Touchpad

Use the touchpad to customize commonly used settings for the system.

### Customize Chair Preset Positions

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

1. Move the chair into the desired position.
2. Press and release **p** and you will hear a beep indicating program mode.
3. Within a few seconds, press the button you want to customize. Three beeps confirms the setting is saved. If you take too long to press the button, the system times out and you will need to press and release **p** again.




Standard Touchpad

### Customize X-Ray/Rinse Button

The X-ray/Rinse button toggles the chair between its current position and the x-ray/rinse position. It can also be programmed as a third preset chair position (Treatment 3).





To configure the x-ray/rinse button as a third preset chair position:

1. Press and hold **p** and  at the same time for three seconds.
  - One beep indicates the button is configured as Treatment 3.
  - Three beeps indicate that the button is configured as the X-ray/Rinse preset.
2. When the button is configured as the Treatment 3 preset, customize the chair position as instructed in the previous section, "Customize Chair Preset Positions".



**TIP** When the X-ray/Rinse button is configured as a third preset, it functions the same as Treatment 1 and 2 buttons.

### Chair Preset Positions

Button	Factory Setting
	<b>Entry/Exit:</b> Positions the chair for entry/exit of patient and turns off the dental light.
	<b>Treatment 1:</b> Lowers the chair base and back and turns on the dental light.
	<b>Treatment 2:</b> Positions the chair base and back and turns on the dental light.
	<b>X-ray/Rinse:</b> Toggles between X-ray/Rinse and current position. The dental light turns off when the chair is positioned for X-ray/Rinse and turns on when it returns to the previous position.



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

## Test the System

Complete the following checklist to test the system, then follow up with the customer.

### Dental Chair

- Dental chair is securely anchored to the floor
- Chair functions properly, including the chair's lift, tilt, and programmable functions controlled by the touchscreen and foot switch
- Armrests function properly
- Swivel brake functions properly
- Headrest functions properly
- Upholstery is securely installed

### Utilities

- Regulated air pressure is at 80 psi
- Floor box is free of air and water leaks
- Excess wires are coiled and stored away from moving parts

## Install the Covers



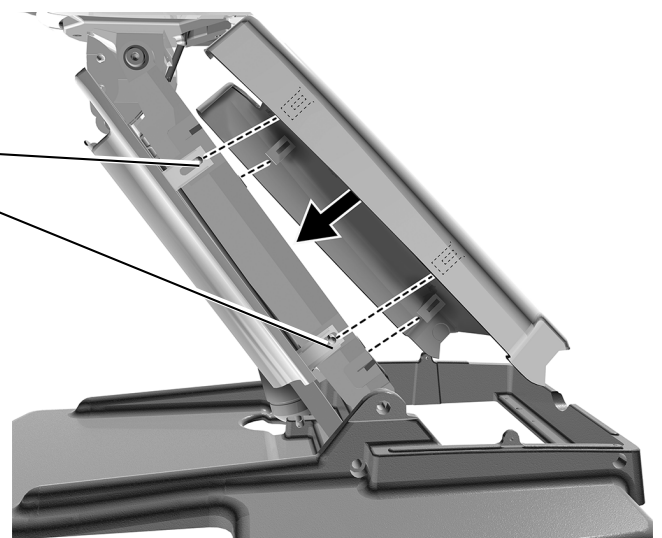
**NOTE** Be sure to adjust and test the system before installing the covers.



**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 Lift Arm Cover

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



## Install the Pump and Floor Box Covers

### Recommended Tool

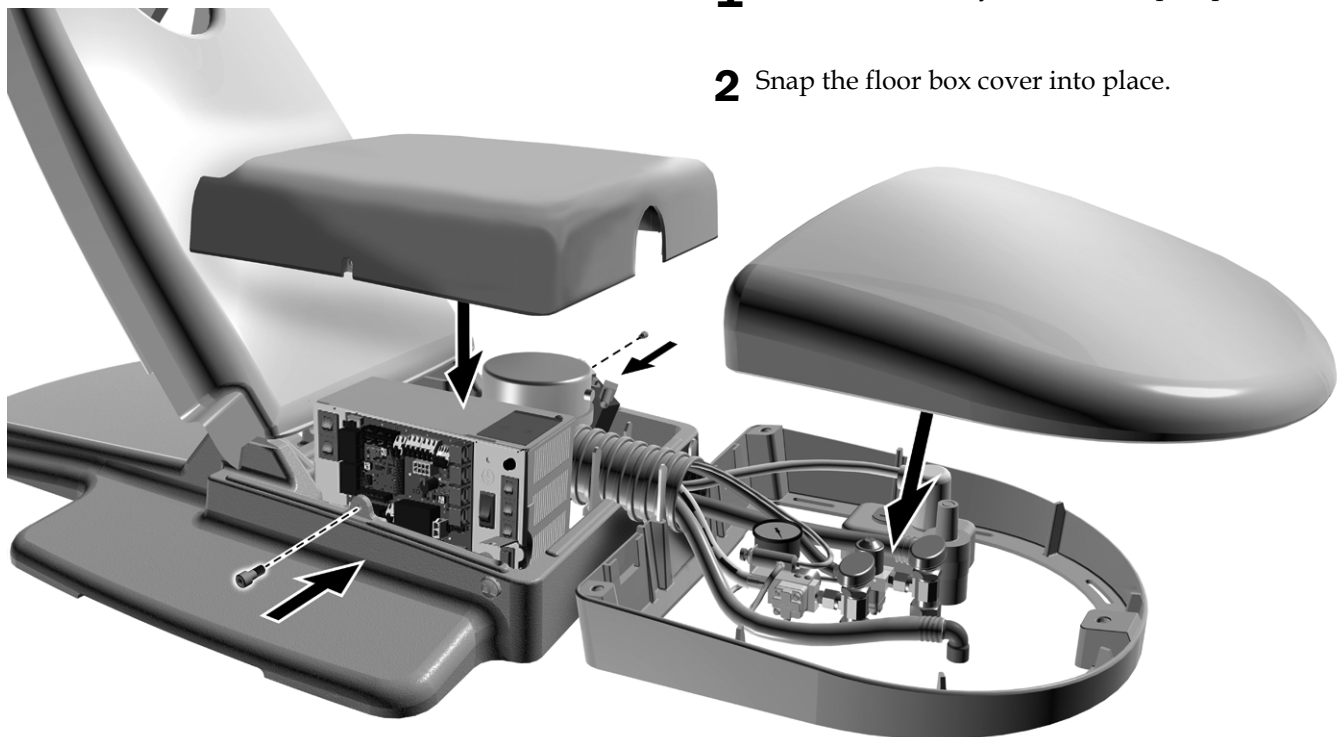
- 3/16" hex key

### Task 1.



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

### Task 2.



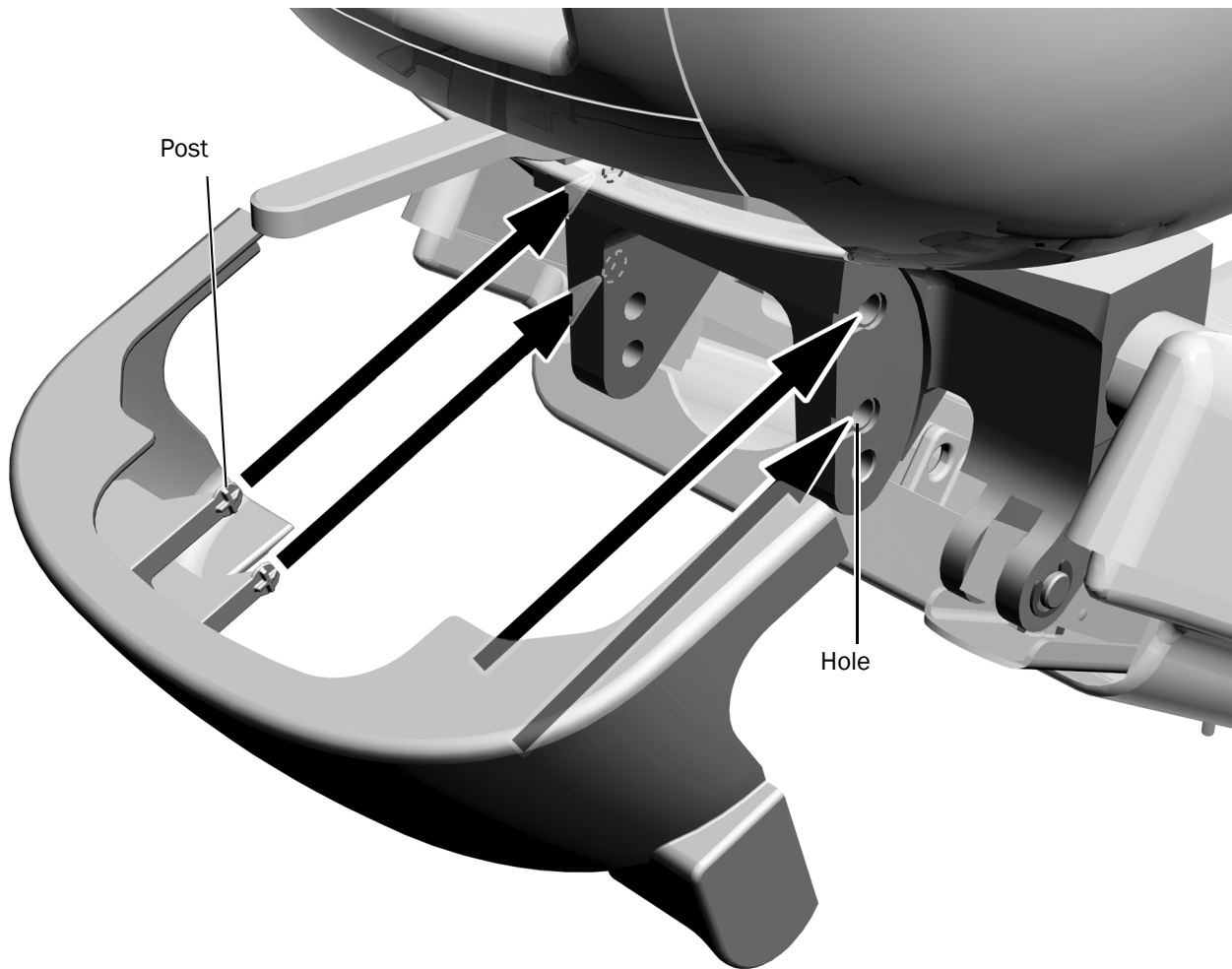
- 1** Use a 3/16" hex key to secure the pump cover.

- 2** Snap the floor box cover into place.

## Install the Mount Cover



**NOTE** If the system includes a support link, use the slotted back mount cover that fits around the link.



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

## Regulatory Information and Warranty

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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).



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