

# Performer Delivery System (Performer I Chair - International, and Performer III Chair)

## INSTALLATION GUIDE

### Introduction

This document contains installation instructions for the Performer Delivery System (Performer I Chair - International and Performer III Chair). This guide contains the following sections:

- Things to do before you begin
- Recommended tools
- Installation steps
- Testing
- Adjustments

**Figure 1** Performer III Chair and Delivery



## Things to Do Before You Begin

1. Install the Performer chair if it's not already installed. Refer to chair installation instructions. **Do not** install the chair upholstery until all other installations are complete.
2. If the floor box has not already been installed, install it using the floor box installation instructions.
3. Purge the air and water supplies of debris.
4. Plug in the chair, turn ON the power supply and raise the chair to full base up position.
  - Performer I Chair - move the joystick control up toward the chair.
  - Performer III Chair - push the base up button on the footswitch or touchpad.



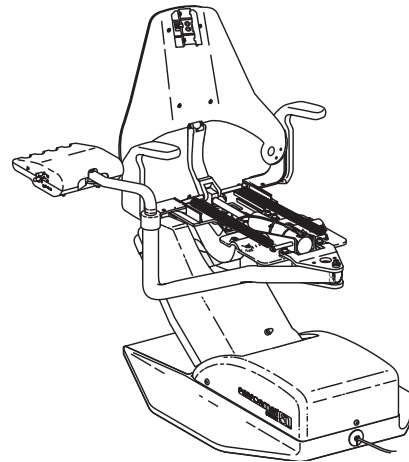
**NOTE** If installing a delivery system on the **front** of the chair, go to page 4, *Front Mounting Handpiece Delivery System on Performer III*.

**NOTE** If installing a delivery system on the **back** of the chair go to page 2, *Back Mounting Handpiece Delivery System on Performer or Performer III*.

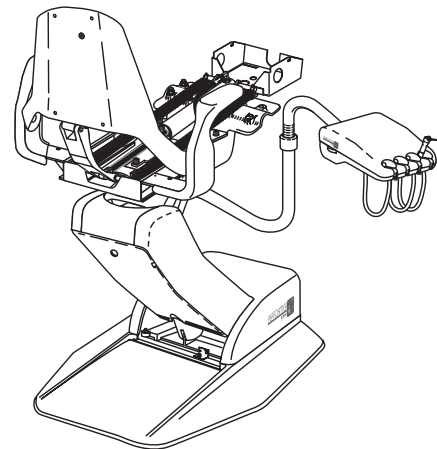
## Recommended Tools

- 3/8" open ended wrench or deep socket
- Phillips screwdriver
- Large standard screwdriver
- 3/32", 3/16", 5/16" hex keys
- Magnetic leveling device
- Pliers

**Figure 2** Front-mounted Handpiece Delivery System (Performer III only)



**Figure 3** Back-mounted Handpiece Delivery System (Performer I or Performer III)



# Back Mounting Handpiece Delivery System on Performer I or Performer III

## Installing the Lower Post

1. Locate the mounting hardware.
2. Remove the insert and bushings from the lower post.
3. Route the handpiece delivery system touchpad cable and umbilical through the lower post.

Leave the foam on the control head to protect it and lay it near the chair while routing the umbilical through the lower post. Do not install the handpiece delivery system at this time.

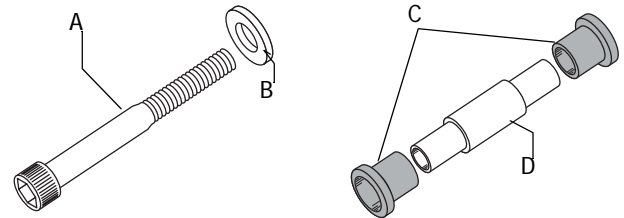
4. As you install the lower post to the back of the chair, install the insert and bushings in the lower post.



**CAUTION** The saliva ejector tubing will pinch if it is not separated from the delivery system umbilical by the bushings and insert.

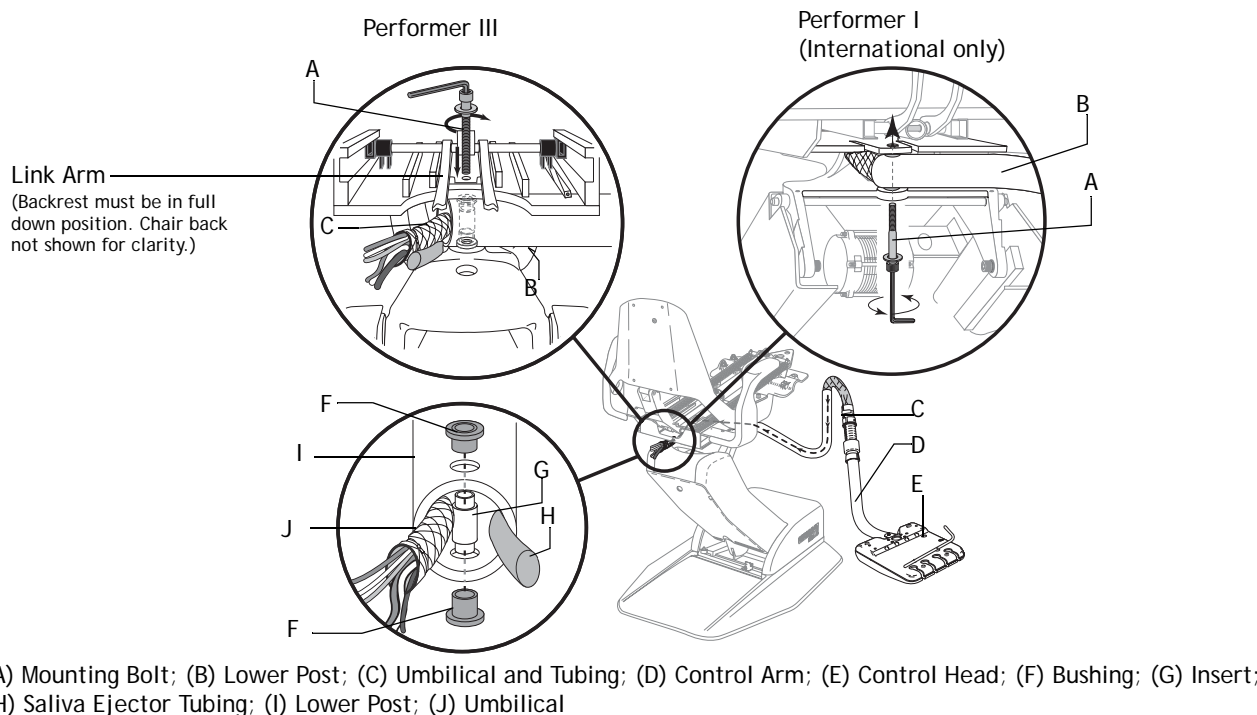
5. Tighten the bolt so the arm rotates easily without vertical play and does not drift.
  - To tighten bolts on Performer III Chair:
    1. Lower the chair backrest to full down
    2. Insert the mounting bolt down through the mounting hub and lower post
    3. Tighten the bolt
  - To tighten bolts on Performer I Chair:
    1. Remove the chair lift arm covers
    2. Insert the mounting bolt up through the mounting hub and lower post
    3. Tighten the bolt

Figure 4 Mounting Hardware



(A) Mounting Bolt; (B) Washer; (C) Bushings; (D) Insert

Figure 5 Installing Back Mounted Handpiece Delivery System



## Installing the Handpiece Delivery System

1. Pull the umbilical through the lower post.
2. Insert the control arm into the lower post and install the rotation stop pin.



**NOTE** The rotation stop pin may be difficult to install.

- For right-hand delivery (shown):
    1. Align the groove just to the right of the tension adjustment setscrews.
    2. Insert the rotation stop pin.
  - For left-hand delivery:
    1. Align the groove just to the left of the tension adjustment setscrews.
    2. Insert the rotation stop pin.
3. Align the hole in the control arm bushing with the tension adjustment setscrew. Insert the

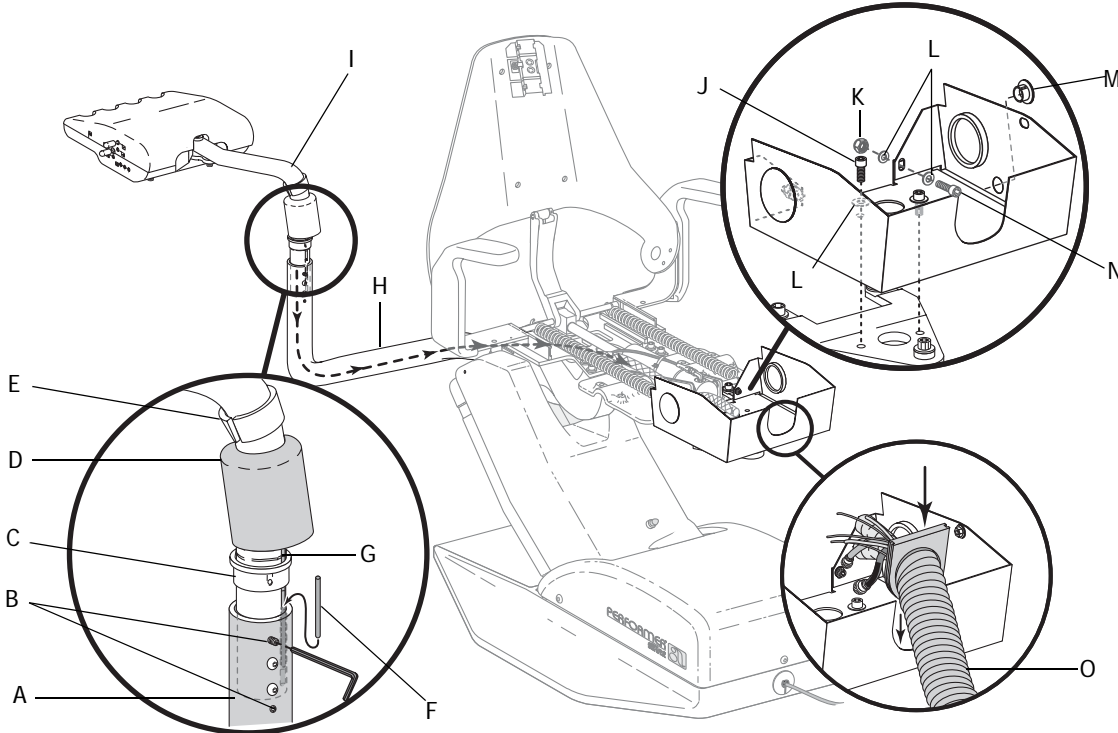
bushing into the lower post and secure with the setscrew. Do not fully tighten the setscrew.

4. Lower the control arm cap over the lower post.
5. Set the height adjustment ring to the desired height and lower the control arm onto the lower post.

## Installing the Junction Box

1. Assemble the junction box by inserting two short, socket-head screws through the washers and junction box tabs.
2. Secure using washers and the locking hex nuts.
3. Install the junction box to the mounting hub using two short, socket-head screws and washers.
4. Insert the floor box umbilical into the junction box.
5. Plug the remaining junction box holes.

**Figure 6** Installing Back Mounted Handpiece Delivery System Control Head and Junction Box



(A) Lower Arm; (B) Tension Adjustment Screw; (C) Control Arm Bushing; (D) Control Arm Cap; (E) Height Adjustment Ring; (F) Rotation Stop Pin; (G) Groove; (H) Lower Post; (I) Control Arm; (J) Short Socket Head Screw; (K) Locking Hex Nut; (L) Washers; (M) Plug (use to plug any open holes); (N) Short Socket Head Screw; (O) Floor Box Umbilical

# Front Mounting Delivery System on Performer III

## Installing the Lower Post

1. Remove the insert and bushings from the lower post.
2. Route the handpiece delivery system touchpad cable, then the umbilical, through the lower post.

Leave the foam on the control head to protect it and lay it near the chair while routing the umbilical through the lower arm. Do not install the handpiece delivery system at this time.

3. As you align the lower post with the chair mounting hub, insert the mounting bolt and washer through the hub and lower post:
4. Tighten the mounting bolt. It will be difficult to tighten the bolt once the junction box is installed.

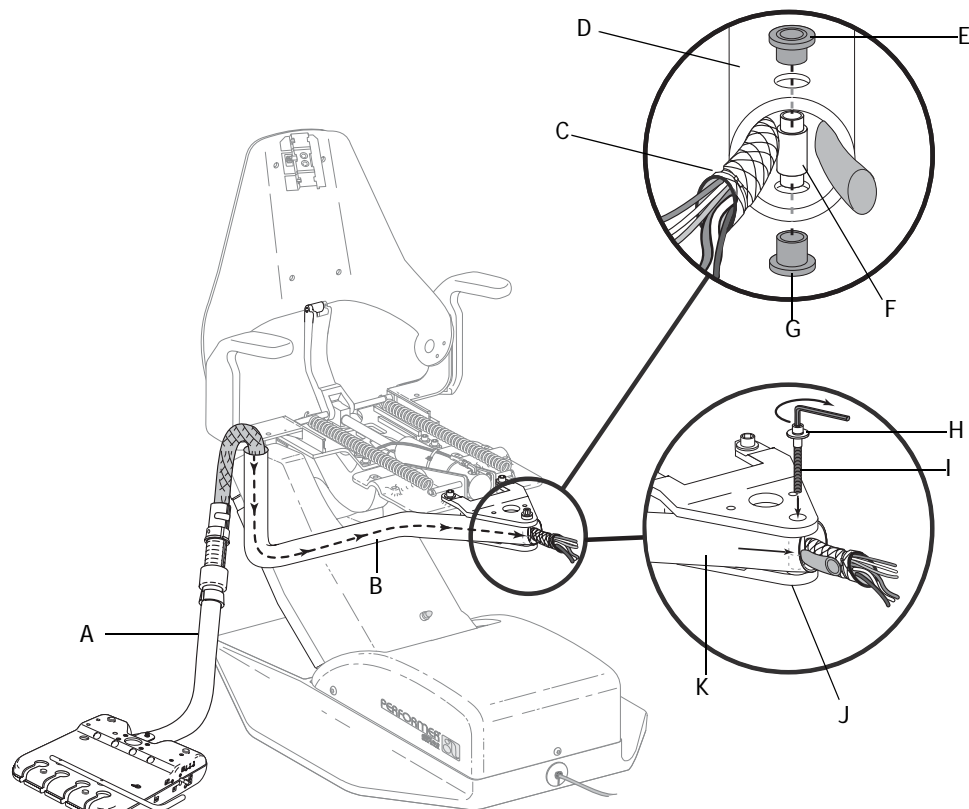


**NOTE** Tighten the bolt so the arm rotates easily without vertical play and does not drift.



**CAUTION** The saliva ejector tubing will pinch if it is not separated from the delivery system umbilical by the bushings and insert.

**Figure 7** Installing the Handpiece Delivery System Lower Post to the Front of the Chair



(A) Control Arm; (B) Lower Post; (C) Control Umbilical; (D) Lower Post; (E) Bushing; (F) Insert; (G) Bushing; (H) Washer; (I) Mounting Bolt; (J) Mounting Hub; (K) Lower Post

## Installing the Handpiece Delivery System

1. Pull the umbilical through the lower post.
2. Insert the control arm into the lower post and install the rotation stop pin.



**NOTE** The rotation stop pin maybe difficult to install.

- For right-hand delivery (shown): Align the groove just to the right of the tension adjustment setscrews and insert the rotation stop pin.
- For left-hand delivery: Align the groove just to the left of the tension adjustment setscrews and insert the rotation stop pin.

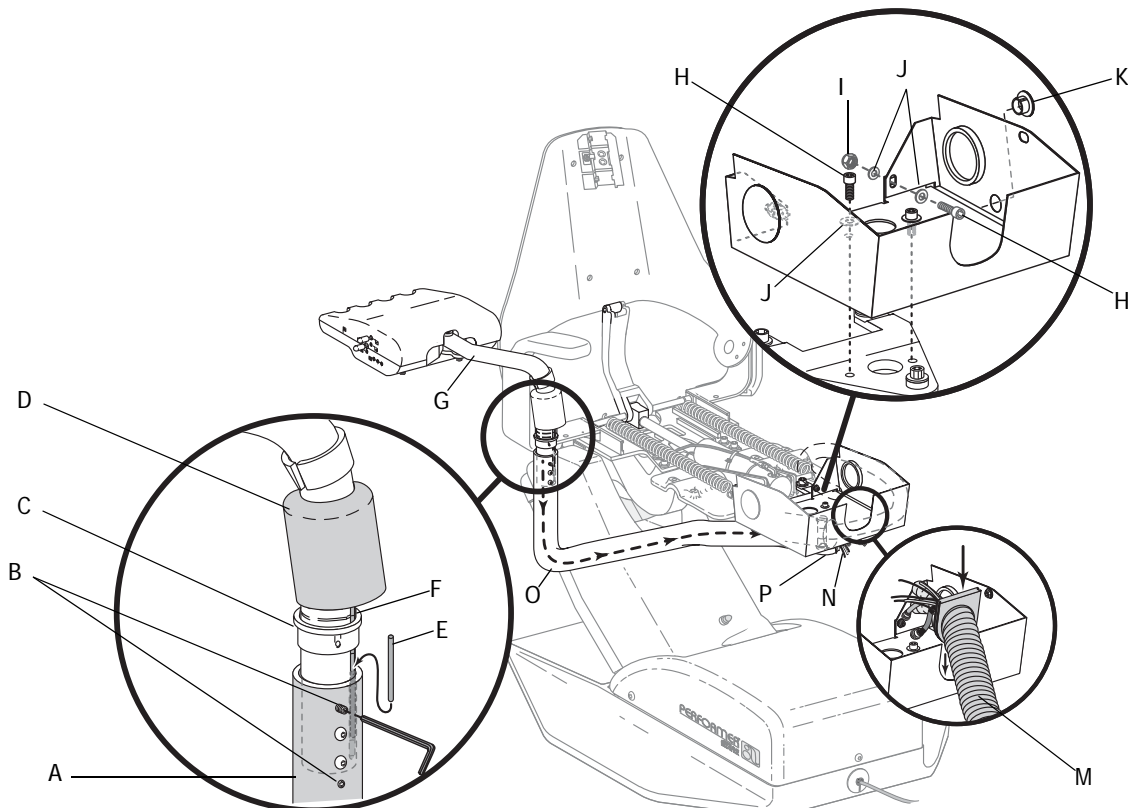
3. Align the hole in the control arm bushing with the tension adjustment setscrew. Insert the bushing into the lower post and secure with the setscrew. Do not fully tighten the setscrew.

4. Lower the control arm cap over the lower post.
5. Set the height adjustment ring to the desired height and lower the control arm onto the lower post.

## Installing the Junction Box

1. Assemble the junction box by inserting two short, socket-head screws through the washers and junction box tabs.
2. Secure using washers and the locking hex nuts.
3. Install the junction box to the mounting hub using two short, socket-head screws and washers.
4. Insert the floor box umbilical into the junction box.
5. Plug the remaining junction box holes.

**Figure 8** Installing the Handpiece Delivery System Lower Post to the Front of the Chair with Junction Box



(A) Lower Post; (B) Tension Adjustment Setscrew; (C) Control Arm Cap; (D) Height Adjustment Ring; (E) Rotation Stop Pin; (F) Groove; (G) Control Arm; (H) Short Socket Head Screw; (I) Locking HexNut; (J) Washers; (K) Plug(use to plug any open holes); (L) Floor Box Umbilical; (M) Delivery System Umbilical; (N) Lower Post; (O) Mounting Hub



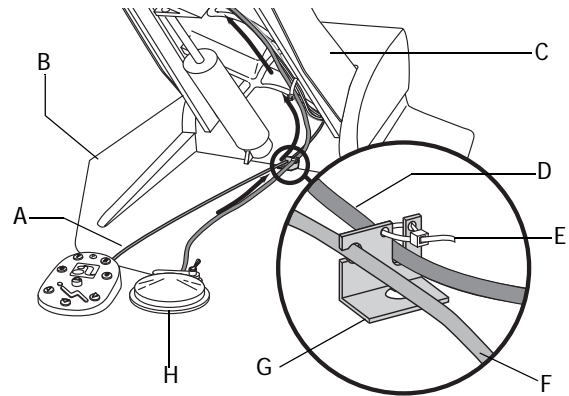
## Installing the Foot Control

1. Remove the chair stop plate.
2. Route the foot control up through the chair lift arm and into the junction box.
3. Insert the foot control tubing in the strain relief bracket on the chair base plate.
4. Secure the foot control to the strain relief bracket with a cable tie. Insert the cable tie through the two holes at the top of the bracket and secure.

## Connecting Umbilicals and Tubings

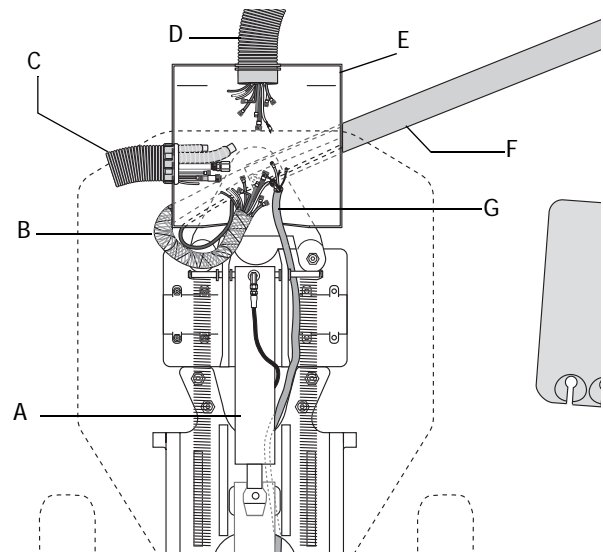
1. Route the delivery system umbilical and saliva ejector tubing into the junction box. Leave enough slack to allow for delivery system rotation and height adjustment. Be careful not to pinch or kink the tubings.
- **FRONT-MOUNTED handpiece delivery systems:** Route the umbilical from the control arm into the junction box see *Connecting umbilicals and foot control Performer III – Front-mount* page 6. Route the umbilical opposite the doctor's delivery side, this will prevent the tubing from being pinched.

**Figure 9** Securing the Foot Control Strain Relief Bracket



(A) Chair Footswitch Cable; (B) Baseplate; (C) Chair Lift Arm; (D) Foot Control Tubing; (E) Cable Tie; (F) Footswitch Cable; (G) Strain Relief Bracket; (H) Foot Control

**Figure 10** Connecting Umbilicals and Foot Control Performer III - Front Mount

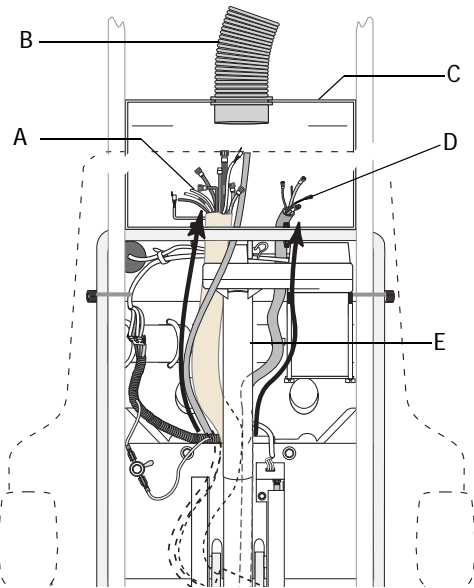


(A) Tilt Cylinder; (B) Handpiece Delivery System Umbilical and Saliva Ejector Tubing; (C) Cuspidor Umbilical(optional); (D) Floor Box Umbilical; (E) Junction Box(F) Control Arm(front mount); (G) Foot Control of the Junction Box



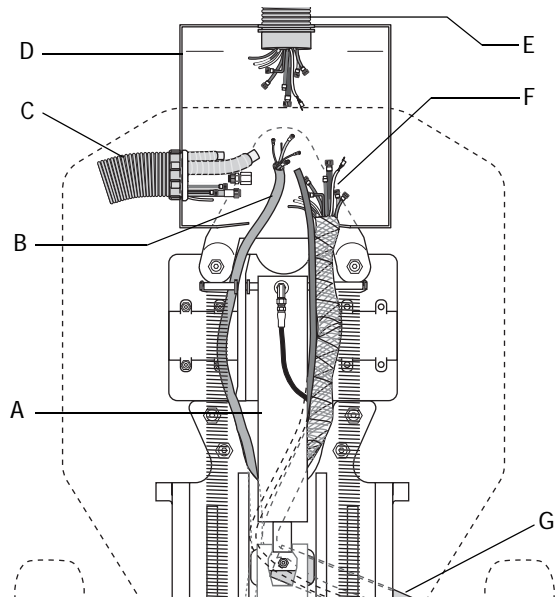
- **BACK-MOUNTED handpiece delivery systems:** Route the umbilical through the chair upper structure, alongside the tilt cylinder, and into the junction box.
  - For Performer I Chair (International only), see *Connecting umbilical and foot control Performer I Chair – Back-Mount* on page 6.
  - For Performer III Chair, see *Connecting umbilical and foot control Performer III – Back-mount* on page 7.
2. Match the tubing color and dash pattern. Connect and secure the tubing in the junction box.
  3. Connect the wiring harness connector to the matching connector. Refer to *Junction box connections* on page 7.

**Figure 11** Connecting Umbilicals and Foot Control Performer I (International Only) Back Mount



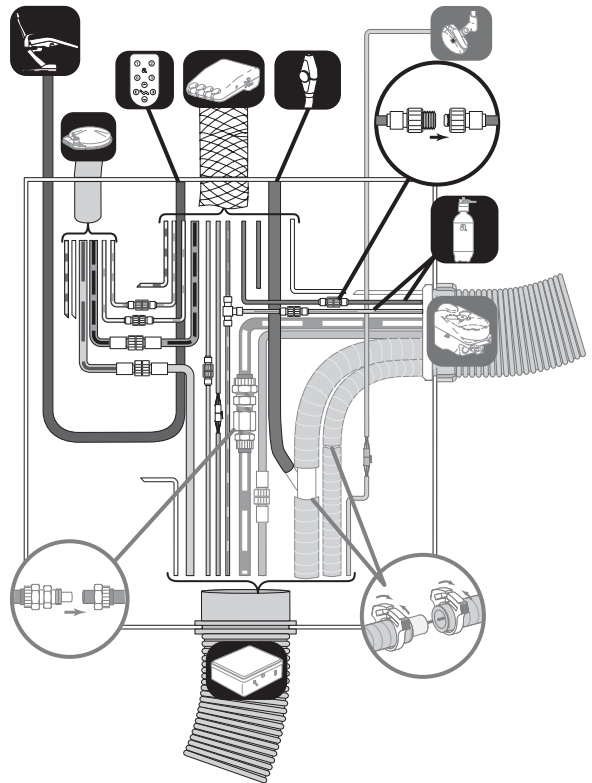
(A) Umbilical; (B) Floor Box Umbilical; (C) Junction Box; (D) Foot Control; (E) Tilt Cylinder

**Figure 12** Connecting Umbilicals and Foot Control Performer III Back Mount



(A) Tilt Cylinder; (B) Foot Control; (C) Cuspidor Umbilical (optional); (D) Junction Box; (E) Floor Box Umbilical; (F) Handpiece Delivery System Umbilical and Saliva Ejector Tubing; (G) Control Arm

**Figure 13** Junction Box Connections





## Installing the Handpiece Tubing

1. Remove the control head cover.
2. If three handpieces are installed, the first position hanger valve must be activated by rotating the spring 90° counterclockwise.
3. Route the handpiece tubing through the appropriate access hole in the bottom of the control head.
4. Adjust the length of the handpiece tubing to match the length of the syringe and trim the handpiece tubing.
5. Connect each handpiece to the corresponding handpiece position on the control block.
  - Drive air tubing (D) with rib to the clear tubing from the control block. Secure the connection with a cable tie.
  - Water coolant tubing (W) to the blue tubing.
  - Air coolant tubing (A) to the yellow tubing.
  - Exhaust tubing (E) to the oil collector. Position the tubings with wide bends to prevent restriction to flow. Secure with cable ties.
6. Install the accessories now.
7. If you have a cuspidor, install it now, referencing the installation instructions.

Figure 14 Removing the Control Head Cover

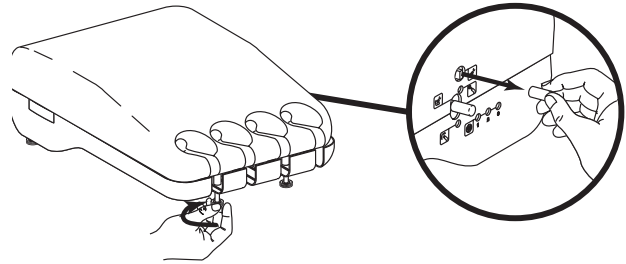
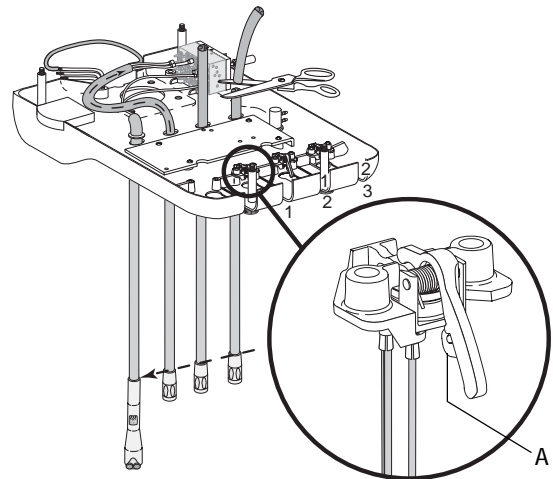
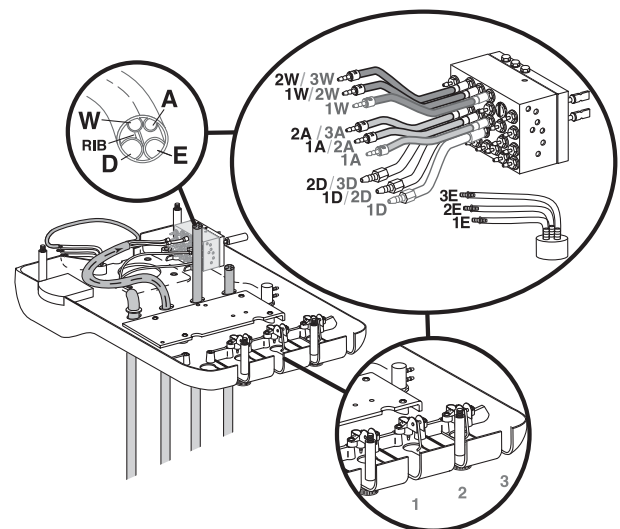


Figure 15 Install Handpiece Tubing



(A) Activate optional handpiece. Unlock the valve by disengaging the tab.

Figure 16 Connecting the Handpieces



## Testing the Delivery System

1. Fill and install the water bottle. Refer to the *Self-contained Water Bottle to Performer Handpiece Control Head* installation instructions.
    - For a delivery system with cuspidor: Install the water bottle to the cuspidor.
    - Delivery system without cuspidor: Install the water bottle to the control head. Refer to the *Self-Contained Water Bottle to Performer Handpiece Control Head* installation instructions.
  2. Fully open the air manual shutoff valve. If the unit is equipped with a cuspidor, fully open the water manual shutoff valve.
  3. Turn the system ON.
  4. Check all connections for air or water leakage.
  5. Operate the syringe while checking all plumbing connections for leakage.
  6. Adjust the syringe water flow.
    - Turn clockwise to increase flow.
    - Turn counterclockwise to decrease flow.
  7. Adjust the syringe air flow:
    - Turn clockwise to increase spray.
    - Turn counterclockwise to decrease spray.
  8. Adjust and test the handpieces and accessories, (refer to the appropriate handpiece and accessory *Owner's Guides*).
  9. Plug in the power supply if applicable.
- Adjust and test the all optional instrumentation (refer to the appropriate *Owner's Guide*).

Figure 17 Turning the System ON

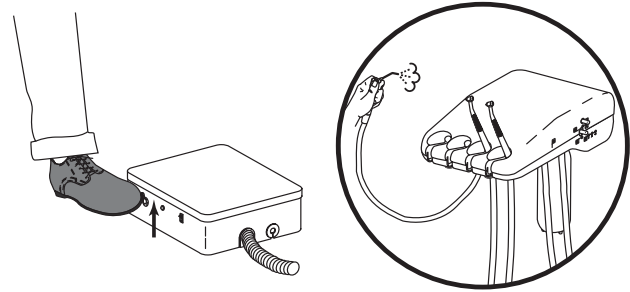
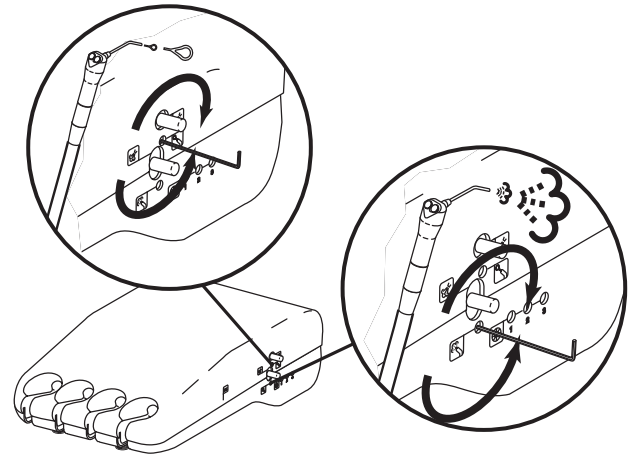


Figure 18 Syringe Adjustments



## Before Leaving the Facility

1. Complete the delivery system adjustments.
2. Install all covers.
3. Distribute the *Owner's Guide* and instruct the dental team in the operation and maintenance of the equipment.

Figure 19 Adjust Control Head Height

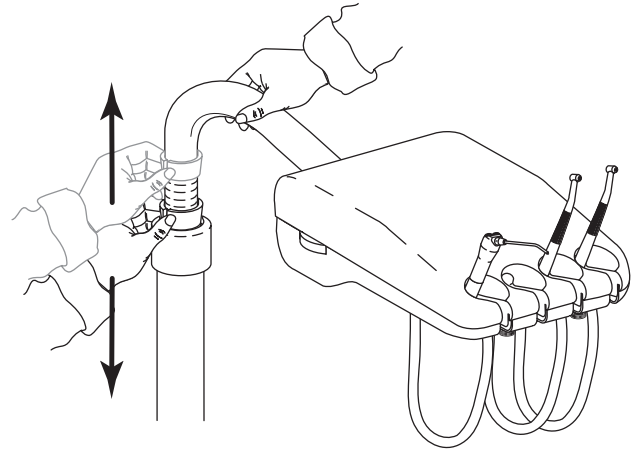
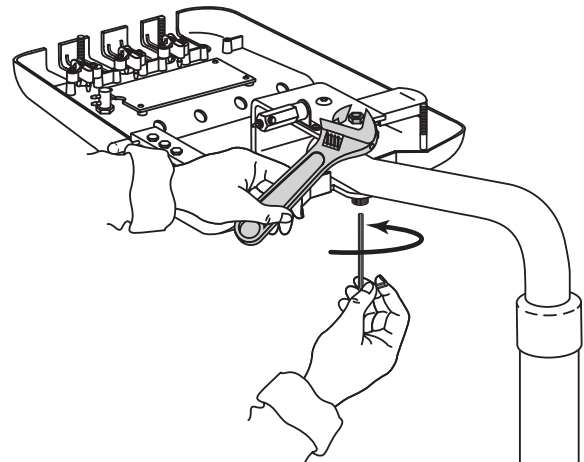










Figure 20 Adjust Control Head Pivot Tension



## Symbols and Classifications

Symbol	Description
	Recognized by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards only in accordance with UL 2601-1. Recognized with respect to electric shock, fire, mechanical and other specified hazards only in accordance with CAN/CSA C22.2, No. 601.1
	Classified by Underwriters Laboratories Inc. with respect to electric shock, fire and mechanical hazards only in accordance with UL 2601-1. Classified with respect to electric shock, fire and mechanical hazards only accordance with CAN/CSA C22.2, No. 601.1
	Conforms to European Directives (refer to Declaration Statement)
	Protective earth (ground)
	Functional earth (ground)
	Attention, consult accompanying documents
	Type B applied part
	Class II equipment

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## Classification of Equipment (EN-60601-1)

Type/Mode	Classification
Types of shock protection	CLASS I EQUIPMENT: Dental chairs, dental lights, and power supplies CLASS II EQUIPMENT: Chair, wall, and cart-mounted delivery systems
Degree of shock protection	TYPE B APPLIED PART: Delivery systems only
Degree of protection against water ingress	ORDINARY EQUIPMENT: All products
Mode of operation	CONTINUOUS OPERATION: All models except dental chairs CONTINUOUS OPERATION WITH INTERMITTENT LOADING: Dental chairs - 5% duty cycle

Temperature/Humidity	Specification
Storage Temperature:	-40°C to 70°C -40°F to 158°F
Relative Humidity:	95% maximum
Operating Temperature:	10°C to 40°C 50°F to 104°F
Relative Humidity:	95% maximum

### Electromagnetic Compatibility

This equipment has been tested and found to comply with the limits for medical devices in EN60601-1-2. These limits are designed to provide reasonable protection against harmful interference in a typical medical installation. Contact A-dec Customer Service if you have any questions.

### Flammable Gasses

Not suitable for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide, where such gasses may accumulate in concentration (closed space).