

Belmont Dental Delivery Systems

*Installation Instructions:
Over-The-Patient Units
(& Cuspidors)*

BDS-2500

BDS-2505

BDS-2510

BDS-2515

BDS-2520

X-Calibur™ Units

*Installation Instructions
for BDS-2500, 2505, 2510, 2515, 2520
X-Calibur Dental Units*

21503

2500 Series Over-the-Patient Units, Chair Mounted Style

Installation Time: Approximately 2 hours

Shipping Packages:

2 Boxes:

1- Doctor Table/Arm Assembly

1- Post Mounted Utilities Section

(3 Boxes: If Ordered with BDS-2535 Clesta Light)

Tools Needed:

4mm, 6mm, 8mm hex key wrench

13mm, 17mm socket drive

Adjustable wrench

Flat screwdriver

Phillips head screwdriver

Bubble Level

(Silicone Spray Lube)

Mounting The PMU to the Chair

- 1) Attach chair adapter to chair. Use an 8mm hex key wrench to tighten bolts and split ring washers. All adapter hardware is shipped inside of the Chair adapter hub.



CAB20 Adapter for B-20 Chair



CAB99 Adapter for B-99/S-99 AcuTrac Chair

Note: For AcuTrac chairs: Use a Phillips head screwdriver to remove the metal side cover plate from the seat rotating flange cover in order to expose the chair adapter mounting area. Lift the seat frame to attach the adapter to the chair.



Removing the side cover plate to reveal chair adapter mounting area.

- 2) Insert the unit mounting post inside the hub. Insert long bolt with lock washer and flat washer through the bottom of the chair bracket. Using a 17mm socket or adjustable wrench, partially tighten the bolt into the unit mounting post. Position unit mounting post with the large hole in the side of the post facing the back of the chair.



Unit mounting post insertion into the hub of the chair adapter.



Inserting the long bolt spring and flat washer into the bottom of the chair adapter and unit mounting post.

- 3) Level the unit mounting post by placing a Bubble Level vertically in 2 places (90° apart). Use a 4mm hex key wrench to tighten the chair adapter hub setscrews. Tighten post mounting bolt (17mm socket drive).



Leveling the unit mounting post.

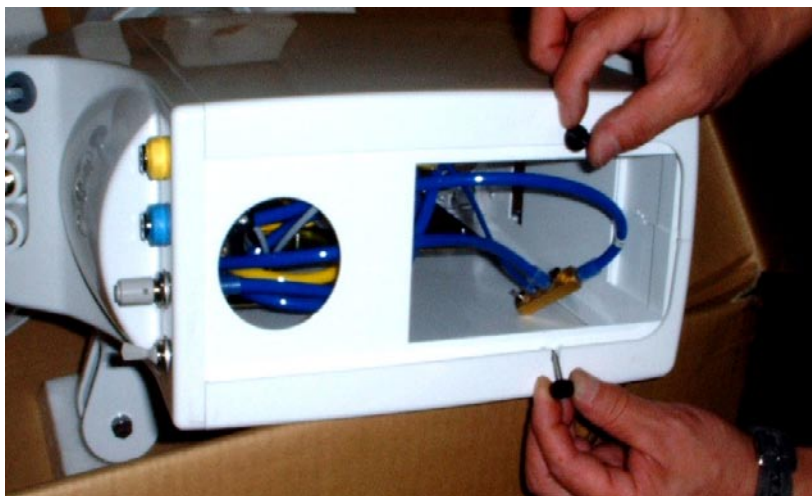


Repeat leveling at 90° to original position and tightening hub set screws.



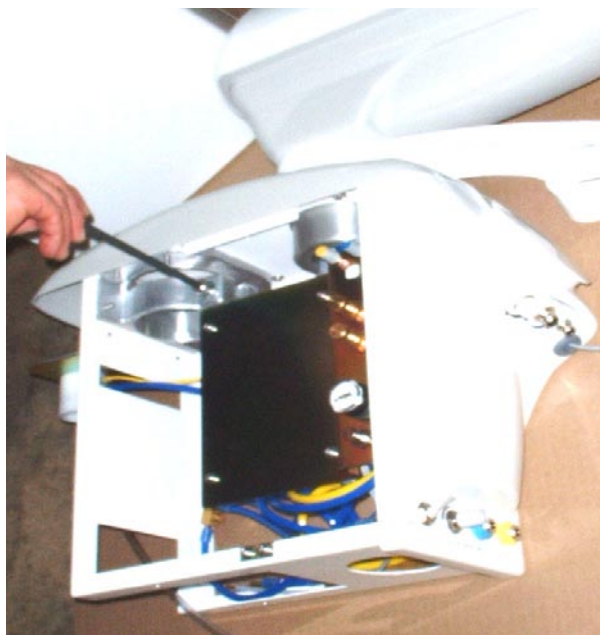
Tightening the long bolt into the unit mounting post.

- 4) Remove the 2 thumbscrews from the bottom of the PMU. Remove PMU side cover.



Removing the thumbscrews from the bottom of the PMU.

5) Loosen PMU mounting clamp bolt with a 6mm hex key wrench.



Loosening the PMU mounting clamp.

6) Hang the PMU onto the unit mounting post with the water system end toward the toe board side of the chair. Set the PMU at the desired height and tighten clamp bolt with a 6mm hex key wrench.



Tightening the PMU mounting clamp to the unit mounting post.

Mounting The Doctor Table/Arm Assembly to the PMU

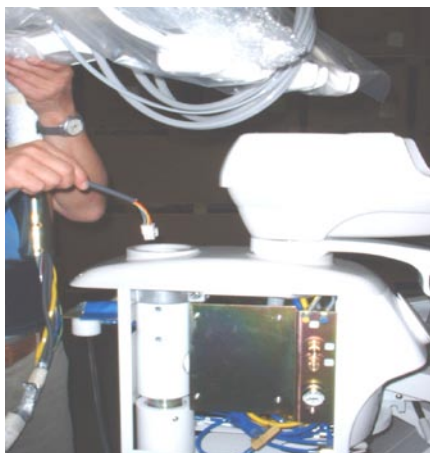
Caution: Do not remove yellow plastic restraint straps from the arm assembly until after it has been secured to the Unit Mounting Post. The Balance Arm spring is pre-tensioned at the factory. Un-strap the arm assembly carefully to avoid potential injury or damage to the dental unit.

- 1) Remove the bag of tubing collars from the end of the touchpad wire harness.



Removing bag of tubing collars from the umbilical prior to insertion into the PMU

- 2) Align the two threaded holes at the bottom of the arm assembly with the holes on the unit mounting post. Insert the umbilical from the arm assembly into the top of the unit mounting post. Pull the umbilical through side hole of post inside of the PMU.



Inserting the upper umbilical from the Dr. Table/ Arm assembly into the top of the unit mounting post.

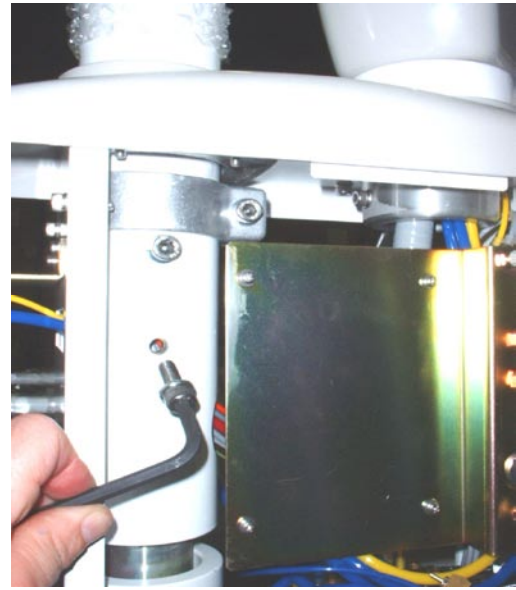


Pulling the upper umbilical tubing into the PMU.

- 3) Remove the socket cap screws taped to the top of the water system bracket and insert into the 2 holes on the unit mounting post. Tighten screws using a 6mm hex key wrench. This will fasten the arm assembly to the unit mounting post.



Socket cap screws are taped to the top of the water system bracket prior to shipment from the factory. (Blue tape)



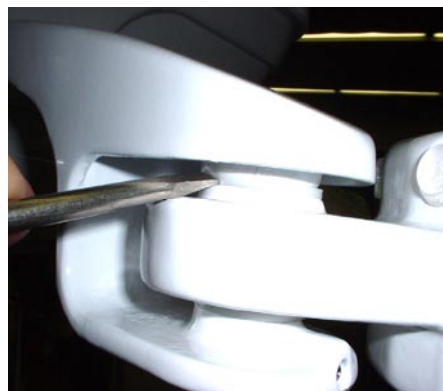
Inserting the socket cap screws to secure the arm assembly to the unit mounting post.

Attaching the Telescoping Arm Assembly to the PMU

- 1) Remove the bolt, brass bushing and 2 white spacers from the yoke of the assistant rotation bracket.
- 2) Insert Brass bushing into pivot hole on telescoping arm assembly.
- 3) Place 1 white plastic bushing over each end of the brass bushing. Insert arm assembly into the yoke of the assistant rotation bracket.
Note: the edge of a flat screwdriver can be used to squeeze against 1 white plastic washer, while inserting the telescoping arm into the assistant rotation bracket.



The brass bushing is inserted through the telescoping arm joint. A plastic washer is placed over each end of the bushing.



A flat screwdriver blade may be used to press down on the plastic washer while the telescoping arm joint is inserted into the yoke of the rotation bracket.

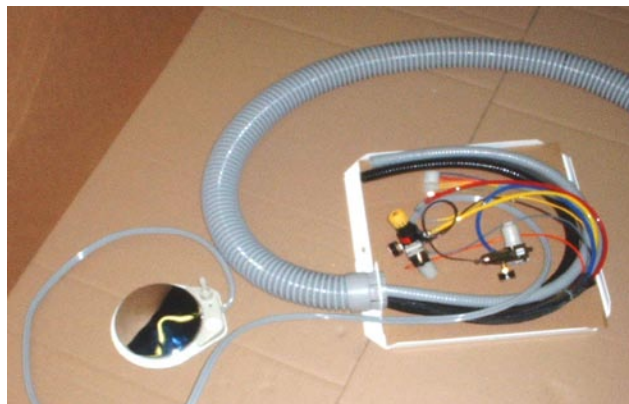
- 4) Re-insert bolt into the bottom of the rotation yoke and tighten until the desired friction on the telescoping arm joint is reached.



Tightening the bolt to secure the telescoping arm to the assistant rotation adapter.

Connecting the J-Box, Umbilical, and Doctor Table Arm Assembly.

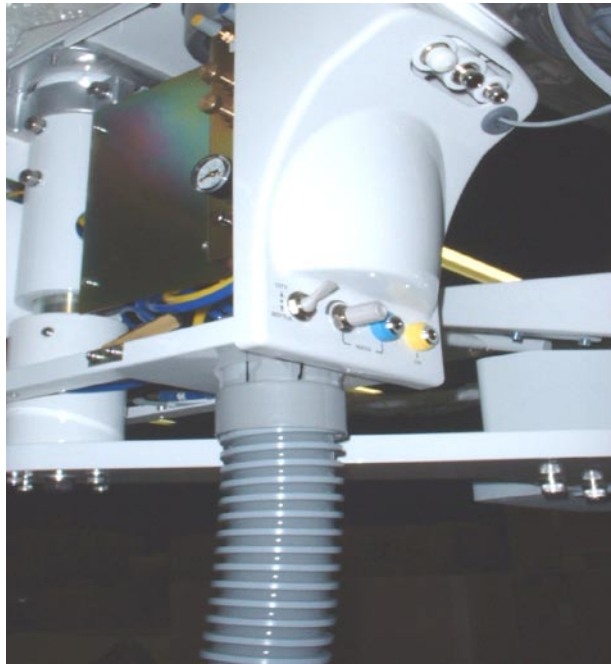
- 1) The lower end of the umbilical and the foot control are connected at the factory and attached to the J-Box frame before shipment. Remove the entire assembly from the shipping box and place the frame over the location for the J-Box.



The lower end of the umbilical is connected to the air/water assemblies, foot control and J-Box frame at the factory. (If internal umbilical is ordered, lower umbilical is not attached prior to shipment).

- 2) Connect manual shutoff valves and purge lines to eliminate all residual matter prior to connecting the air/water assemblies.

3) Snap the upper end of the umbilical into the circular hole at the bottom of the PMU.



Upper umbilical snaps into the bottom of the PMU frame.

4) Connect tubing from the Doctor Table/ Arm Assembly and Umbilical inside of the PMU. Connect tubing by matching numbered tags on tubing or simply match colored tubing ends. (Refer to Schematic Diagram)

5) Test the system and verify that there is no air or water leakage prior to replacing the PMU side cover and thumb screws.

6) Place J-Box cover over frame and fasten with the (4) screws provided.

Internal Umbilical Installation (AcuTrac only)

1) Plug-in the chair and raise the seat to the highest position, while lowering the backrest as far as possible. Shut-off the chair power switch.

Warning: Pull the plug from the electrical outlet to prevent injuries caused by the accidental operation of the chair during internal umbilical installation



AcuTrac chair is raised to the upper limit of travel. The backrest is fully reclined to relieve spring tension.

2) Remove the Phillips head screws from the each side of the sub-link cover at the base of the chair. Pull lower edges of the sub-link cover outward in order to release the safety shut-off plate. (This allows access beneath the seat during installation of the umbilical).

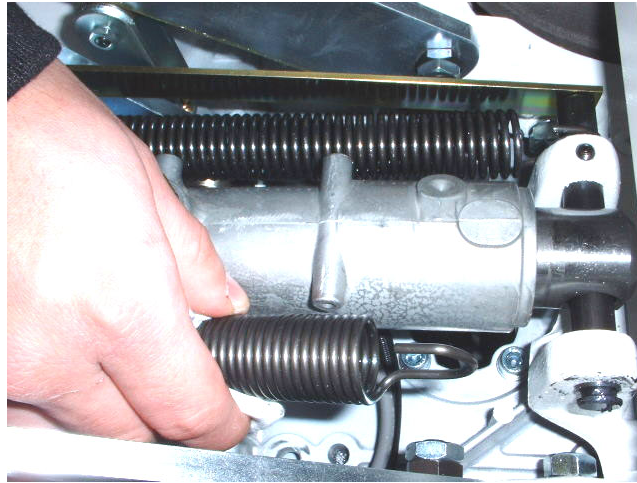


Removing the Phillips head screws to release the sub-link cover and the safety shut-off plate.

3) On the side of the chair where the unit will be mounted, remove the extension spring inside of

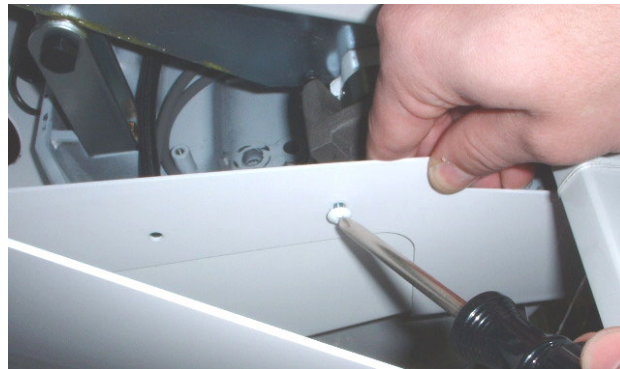
the seat casting to improve access for routing the umbilical through the center of the seat rotation pivot.

Grasp the spring with a rag. Stretch the spring slightly and un-hook it.



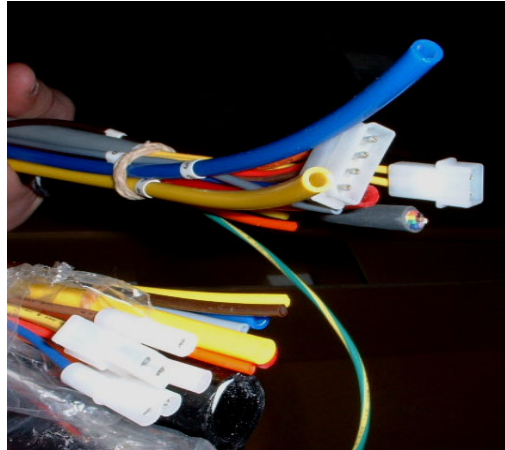
Removal of the spring on the side of the chair which the unit will be mounted. This allows access for routing the umbilical through the center of the seat rotation pivot.

- 4) Remove the cover on the side of the chair where the chair adapter is to be installed using a Phillips head screwdriver.



Removing the side cover plate to reveal the chair adapter mounting area.

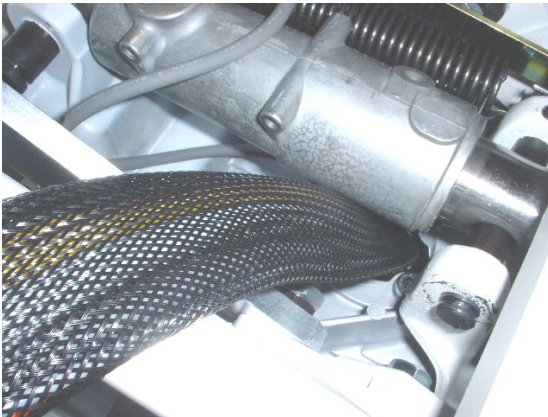
- 5) Identify the upper end of the umbilical as the end with cylindrical plastic electrical connectors. Separate the larger gravity drain and/or vacuum tubing from the umbilical tubing/ wire harness assembly.



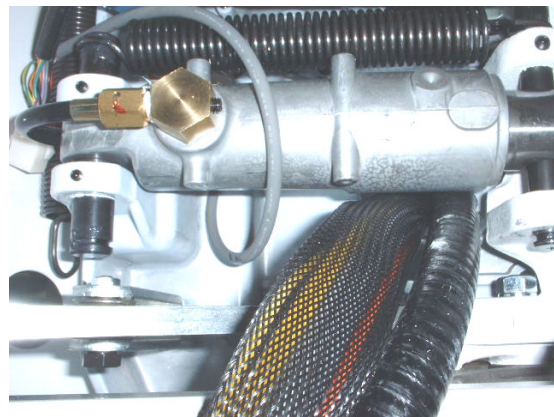
*Lower umbilical harness has 2 rectangular wire harness connectors.
Upper Umbilical has 4 cylindrical light harness connectors and 1 rectangular wire harness connector.*

- 6) Push lower umbilical end through the seat rotation pivot. Repeat step with vacuum hose (and drain hose, if model has a cuspidor).

Note: It is useful to use a flat screwdriver to squeeze the vacuum and drain hoses while pushing through the central pivot hole.

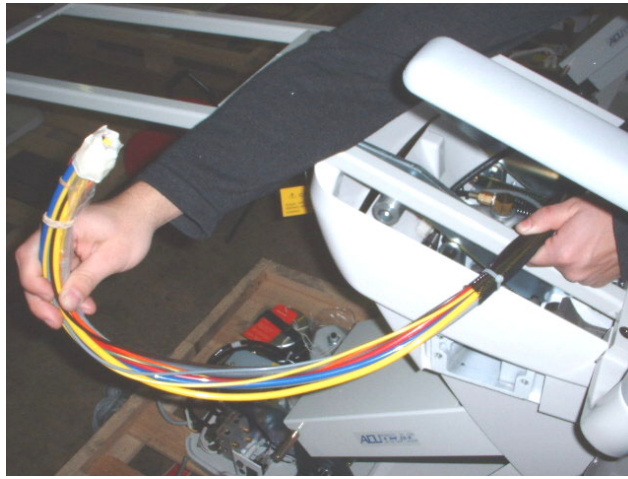


Routing umbilical down through the seat rotation pivot.



Route the vacuum hose (and drain hose if installing a cuspidor) down through the seat rotation pivot.

- 7) Pull umbilical tubing and vacuum (and drain) hose down through chair until approximately 25" extends beyond the edge of the chair side.



Umbilical tubing and hose(s) should extend approximately 25" from the side of the seat.

- 8) Route tubing through the side of the chair, where chair adapter will be attached.
- 9) Spray silicone lube into the chair adapter to lubricate umbilical insertion. Pull umbilical tubing and hose(s) through the chair adapter and up through the cut-out on top of the chair adapter pipe. Use an 8mm hex key wrench to bolt the chair adapter to the side of the chair.



Spray silicone into chair adapter prior to umbilical insertion and mounting to the side of the chair.

10) Route tubing through the chair adapter, out through the top cut-out in the pipe.



Umbilical and hoses exit the top of the chair adapter pipe.

11) Re-attach the extension spring for the backrest inside of the seat casting.

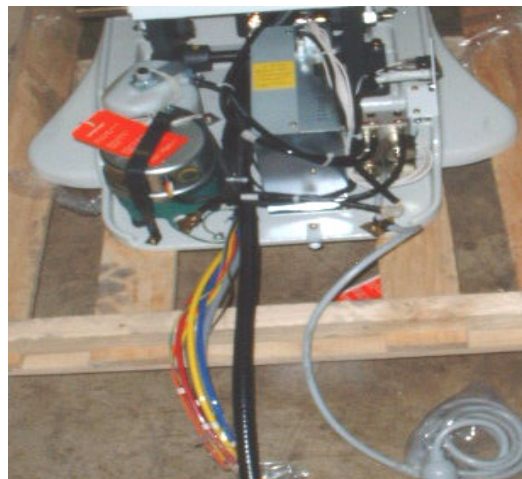
12) Attach and level the unit mounting post as described in the section **Mounting The PMU To The Chair**. Attach the PMU and route the umbilical and hose(s) through large rectangular opening at the bottom of the PMU box.

13) Route the lower end of internal umbilical underneath the lift arm pivot, along the chair base between the control box and the pump and out through the front of the chair to the J-Box.

Umbilical and hoses can be secured to the chair lift arm frame with a cable tie.



Umbilical and hoses are routed under the lift arm pivot. A cable tie may be used to secure the hoses to the side of the sub-link arm. Note: safety plate is in the down position.



Umbilical and hoses are routed between the relay box and pump to the location of the J-Box.

- 14) Replace the safety shut-off plate inside of the sub-link cover, and refasten cover to the base of the chair.
- 15) Connect the upper umbilical tubing to the PMU and Doctor Table/Arm Assembly (Match tubing number and color).
- 16) Attach the manual shut-off valves to the J-Box air and water feed pipes. Purge lines prior to attaching air/ water assemblies and lower umbilical. Attach gravity drain and vacuum to floor plumbing. Attach electric lines from umbilical, as required.

Note: Consult Floor Template supplied with each delivery system.
It is the dealer's responsibility to install the delivery system in accordance with all state and local codes.

- 17) Test the Delivery System to verify that there is no air or water leakage and that the unit is fully functional.

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