

2008[®] Series Extended Acid & Bicarbonate Tubing Installation Instructions

Purpose:

The purpose of these instructions is to install extended acid and bicarbonate input tubing (10 feet or less) onto a 2008[®] Series hemodialysis machine.

(Note: 2008[®] Series hemodialysis machines include the 2008K, 2008K², 2008K@home™ and 2008T.)

Required Parts:

- Silicone Tubing, 3 meter - Qty 2 (P/N M38205)
or
Silicone Tubing, 50 meter roll (P/N 545325) **Note:** only to be used in 10 foot (3 meter) sections
- Ty- Wraps – Qty 2 (P/N 368189-01)
- Band Clamp – Qty 2 (P/N 647810)
- Oetiker Crimping Tool (14100083 or equivalent)

Reference Document:

- Dialysate Composition Verification Procedure (P/N 490287)

Note: Reference documents are listed without revision/edition level indicated and are understood to refer to the latest version/edition of the document.

Procedure:



Warning: Do not extend acid and bicarbonate tubing beyond ten feet. Tubing longer than ten feet may not be disinfected adequately. Tubing longer than ten feet may result in inadequate disinfectant removal from the tubing during a rinse.



Warning: Tubing must be one continuous length; do not join together shorter pieces of tubing. Non-continuous tubing may not be disinfected adequately. Non-continuous tubing may result in inadequate disinfectant removal from the tubing during a rinse.

Caution: Assembly, installation, adjustment, or repair is to be performed by Fresenius Medical Care or by persons trained by Fresenius Medical Care.

Machine Preparation

1. With the machine turned off, disconnect power from machine.
2. Stabilize the machine by applying caster brake to lock wheels (see Figure 1).

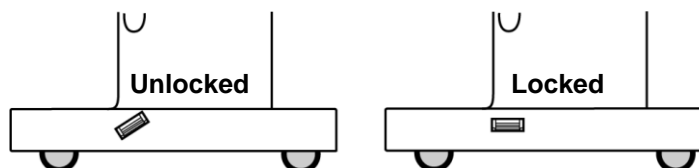


Figure 1: Apply the brake on the machine (right side)

2008[®] Series Extended Acid & Bicarbonate Tubing Installation Instructions

Hydraulics Removal

Caution: The middle and lower rear panels have ground wires attached. Take care not to damage these wires when removing these panels.

3. Remove the middle and lower rear panel covers and place in a clean work area. See Figures 2 and 3 for screw locations. Unplug each cover's ground wire.



Figure 2

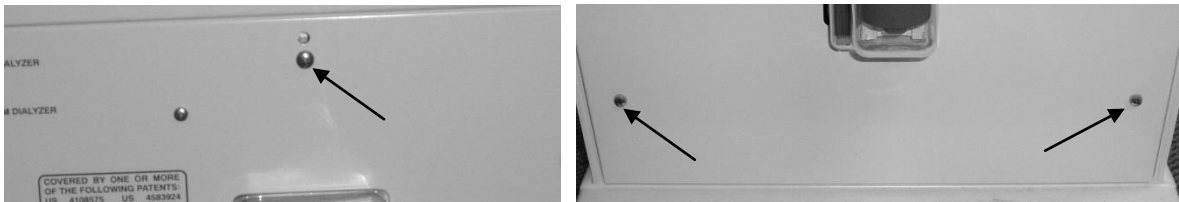


Figure 3

4. Using Figures 4 and 5, locate and remove the three (3) bolts securing the hydraulics in the cabinet.

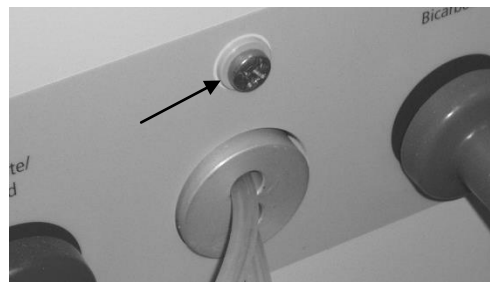


Figure 4 – Front Hydraulic Screw Location

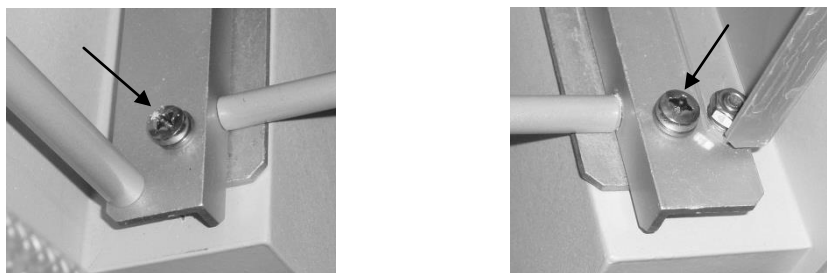


Figure 5 – Left and Right Hydraulics Rail Screw Locations

5. Remove the acid and bicarbonate connectors from their ports and disconnect the UF output from fluid sample port.

Warning: Use proper lifting technique when removing and installing hydraulic chassis.

Caution: On bibag[®] equipped machines, care must be taken to not damage the 5 pin cable connected between the bibag hydraulic assembly and the bibag holder.

6. Remove the hydraulics from the cabinet and secure it on a sturdy work bench or cart.

2008® Series Extended Acid & Bicarbonate Tubing Installation Instructions

Verify Acid and Bicarbonate Input Tubing Locations

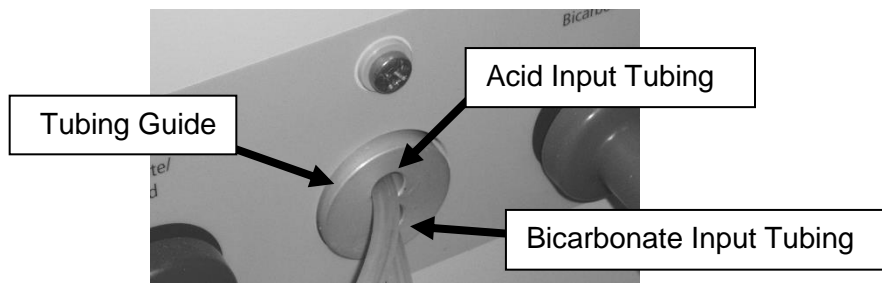


Figure 6 – Tubing Guide

7. Verify the tubing going through the top of the tubing guide (Figure 6) is connected to the input of the acid pump. The acid pump input tubing (clear) is connected to the lower port on the acid pump. This port color is white.
8. Verify that the tubing going through the bottom of the tubing guide (Figure 6) is connected to the input of the bicarbonate pump. The bicarbonate pump input tubing (clear) is connected to the lower port on the bicarbonate pump. This port color is white.

Note: If either pump is found to have the input port on the top, remove the pump and remount the pump in the correct position with the input port in the lower position.

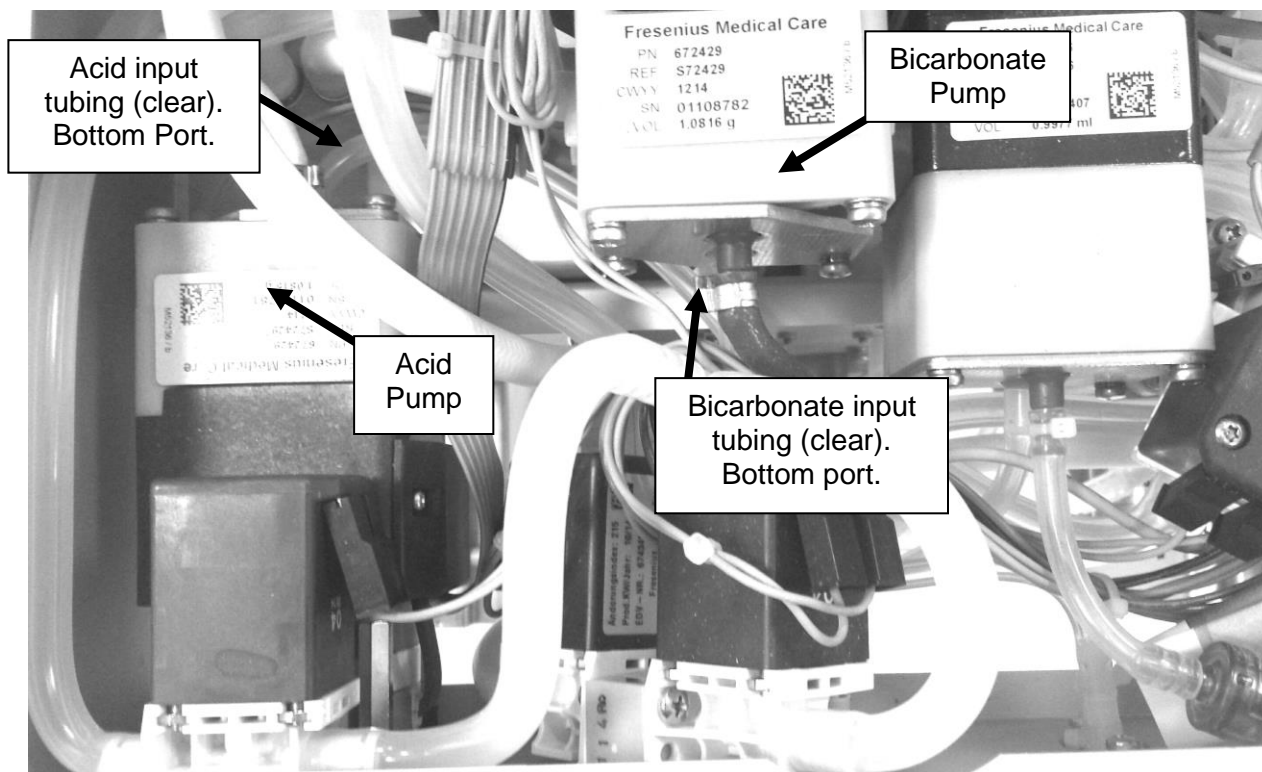


Figure 7 – Top View of Hydraulics

2008[®] Series Extended Acid & Bicarbonate Tubing Installation Instructions

Remove Acid Pump Tubing From Tubing Guide

9. Locate the back side of the tubing guide (Figure 6). Behind the tubing guide there will be an inline tubing connector (Figure 8).
10. Remove ty-wrap from the acid pump input tubing and remove the tubing from the inline connector (see Figure 8).

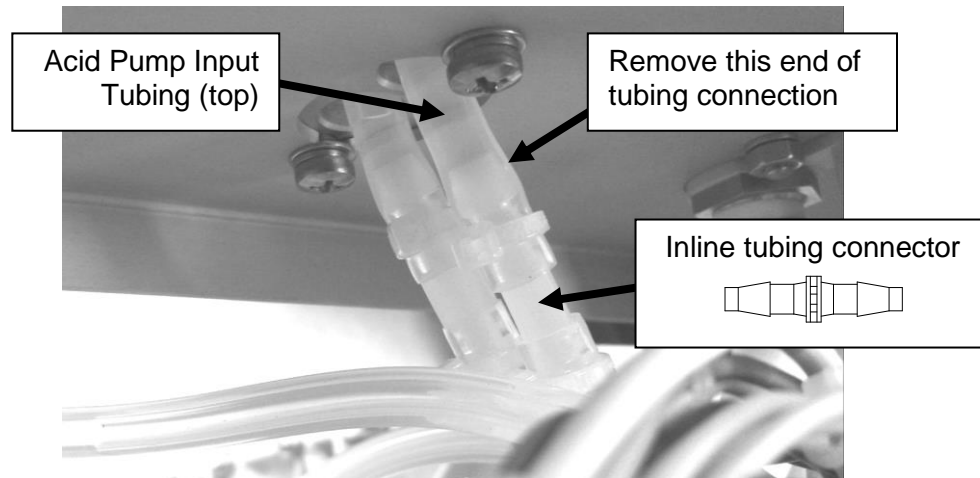


Figure 8

Remove Tubing From Acid (Red) Connector

Note: Refer to Figure 9 for item numbers indicated in the following steps.

11. Unscrew the red nut (item 2) from the acid connector. Save the filter (item 4) and O-ring (item 5) under the barb fitting (item 3).

Note: In the next step, there are three possible configurations for the tubing connecting to item 3. A plastic clamp which tightens around the tubing when the red nut is tightened, a band clamp, or a single ty-wrap, in which case there will not be a plastic clamp.

12. Remove and discard the tubing connected to item 3.

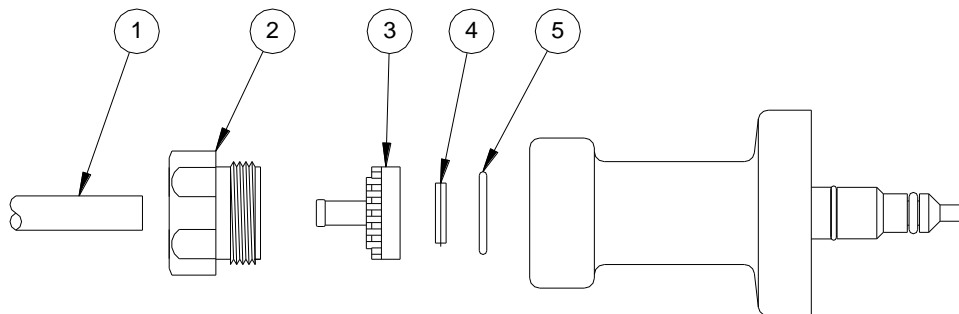


Figure 9 – Acid Connector

2008[®] Series Extended Acid & Bicarbonate Tubing Installation Instructions

Installing New Extended Tubing To Acid (Red) Connector

Note: The ty-wrap and plastic clamp methods will not be used to secure the new extended tubing to the red connector.

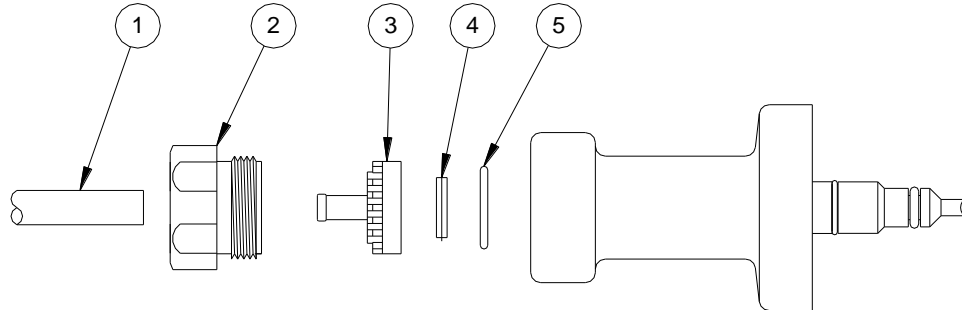


Figure 10 – Acid Connector

13. Secure the new extended tubing to the acid connector, using the following method:
 - a. Slide the red nut (item 2) and a new band clamp (P/N 647810) over the new extended tubing (item 1).
 - b. Push the new extended tubing end onto the barb fitting (item 3).
 - c. Slide the band clamp over the tubing connection and secure with the Oetiker crimping tool or equivalent.
 - d. Slide the red nut over the band clamp.
 - e. Place the filter (item 4) and O-ring (item 5) into the acid connector and thread the red nut/tubing assembly into the acid connector securing the filter and O-ring in place.
 - f. Securely tighten the red nut.

Installing Extended Tubing To Acid Pump

14. Route the other end of the new extended tubing attached to the acid connector through the top hole of the tubing guide (Figure 11).
15. Once the tubing is through the tubing guide hole, locate inline connector where the tubing was removed in step 10 earlier.
16. Push the tubing onto this open barb and secure the connection with a new ty-wrap (P/N 368189-01).

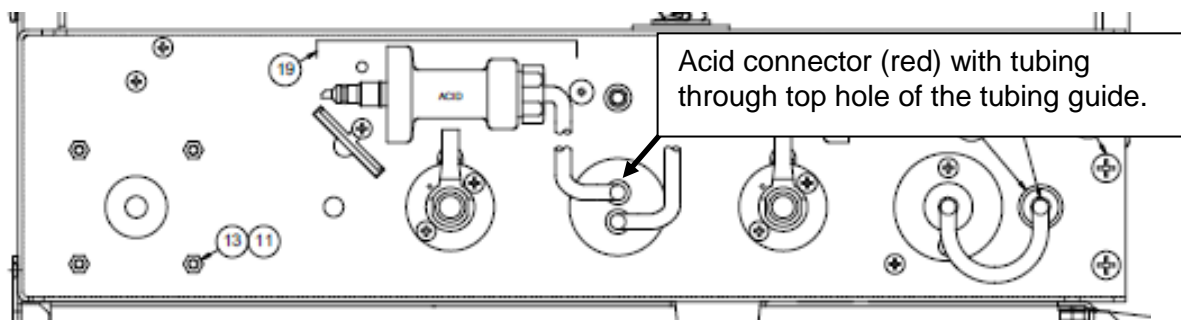


Figure 11

2008[®] Series Extended Acid & Bicarbonate Tubing Installation Instructions

Remove Bicarbonate Pump Tubing From Tubing Guide

17. Locate the back side of the tubing guide (Figure 6). Behind the tubing guide there will be an inline tubing connector (Figure 12).
18. Remove ty-wrap from bicarbonate pump input tubing and remove the tubing from the inline connector (see Figure 12).

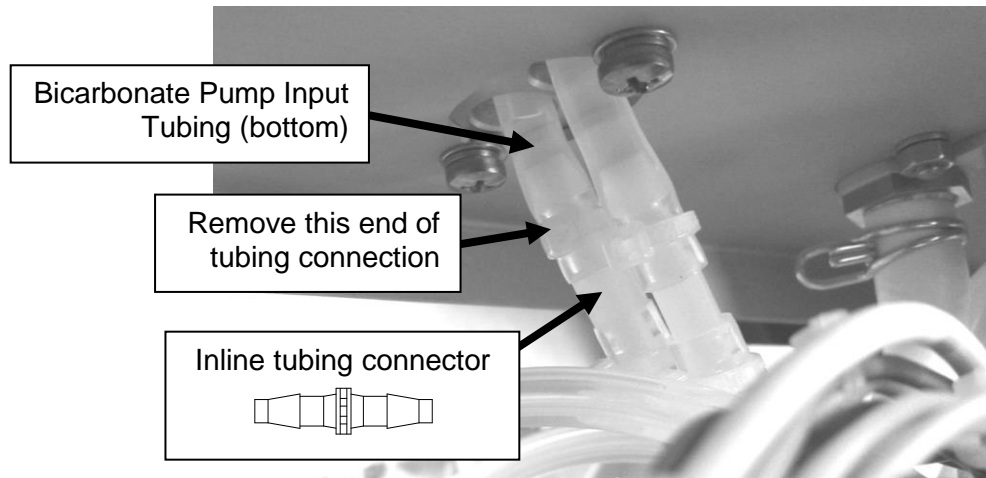


Figure 12

Remove Tubing From Bicarbonate (Blue) Connector

Note: Refer to Figure 13 for item numbers indicated in the following steps.

19. Unscrew the blue (item 2) nut from the bicarbonate connector. Save the filter (item 4) and O-ring (item 5) under the barb fitting (item 3).

Note: In the next step, there are three possible configurations for the tubing connecting to item 3. A plastic clamp which tightens around the tubing when the blue nut is tightened, a band clamp or a single ty-wrap, in which case there will not be a plastic clamp.

20. Remove and discard the tubing connected to item 3.

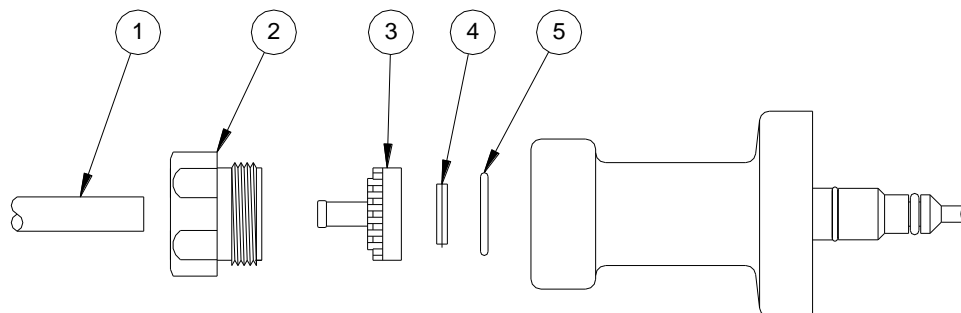


Figure 13 – Bicarbonate Connector

2008[®] Series Extended Acid & Bicarbonate Tubing Installation Instructions

Installing New Extended Tubing To The Bicarbonate (Blue) Connector

Note: The ty-wrap and plastic clamp methods will not be used to secure the new extended tubing to the blue connector.

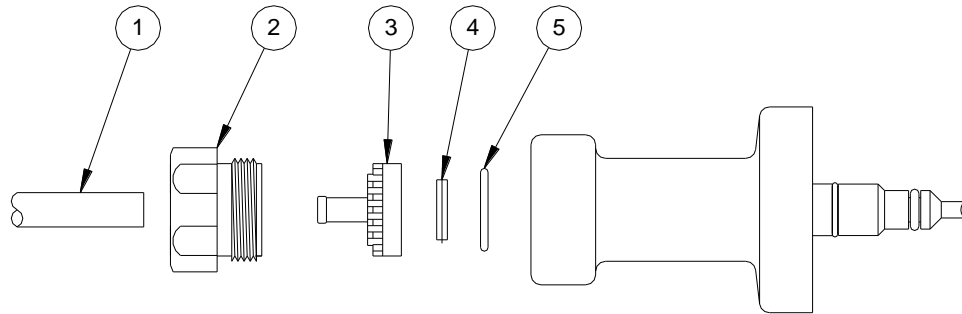


Figure 14 – Bicarbonate Connector

21. Secure the new extended tubing to the bicarbonate connector, using the following method:
 - a. Slide the blue nut (item 2) and a new band clamp (P/N 647810) over the new extended tubing (item 1).
 - b. Push the new extended tubing end onto the barb fitting (item 3).
 - c. Slide the band clamp over the tubing connection and secure with the Oetiker crimping tool or equivalent.
 - d. Slide the blue nut over the band clamp.
 - e. Place the filter (item 4) and O-ring (item 5) into the bicarbonate connector and thread the blue nut/tubing assembly into the bicarbonate connector securing the filter and O-ring in place.
 - f. Securely tighten the blue nut.

Installing Extended Tubing To Bicarbonate Pump

22. Route the other end of the new extended tubing attached to the bicarbonate connector through the bottom hole of the tubing guide (Figure 15).
23. Once the tubing is through the tubing guide hole, locate inline connector where the tubing was removed in step 18 earlier.
24. Push the tubing onto this open barb and secure the connection with a new ty-wrap (P/N 368189-01).

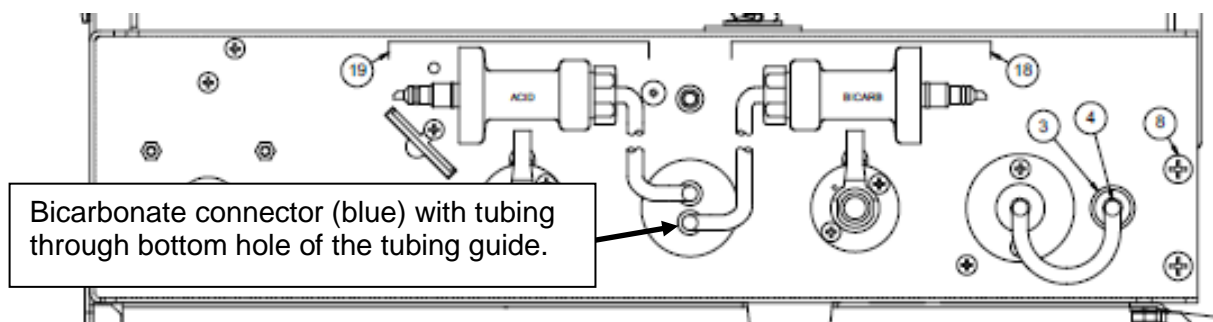


Figure 15

2008[®] Series Extended Acid & Bicarbonate Tubing Installation Instructions

Installing hydraulics

Warning: Use proper lifting technique when removing and installing hydraulic chassis.

Caution: To prevent *bi*bag related hydraulic issues, care must be taken not to pinch or kink the tubing labeled 1 and 2 when sliding the hydraulics into the cabinet.

25. Re-install the hydraulics into the cabinet, connect the restraining strap and slide the hydraulics into the cabinet while verifying that the acid and bicarbonate connectors and UF fluid sample tubing are correctly positioned in front of the machine.
26. Re-install the three (3) hydraulic mounting screws removed in step 4.
27. Connect the UF fluid sample tubing to its port.
28. Connect the acid and bicarbonate connectors into their ports.
29. Clean and dry inside of machine cabinet and bottom portion of hydrochamber/hydroblock.
30. Re-attach each cover's ground wires and re-install the middle and lower rear panel covers.

Post Installation Testing

31. Perform the Dialysate Composition Verification Procedure (P/N 490287).