

CHAPTER 8: REPAIR & REPLACEMENT

8.0 OVERVIEW

This chapter illustrates the replaceable components for the EverFlo Oxygen Concentrator. Procedures for replacing the components are also provided in this chapter.

NOTE

Refer to the proper Testing Section for required testing after component replacement.

NOTE

Refer to the Repair Kits Section for proper repair kit identification.

WARNING

- *To prevent electrical shock, disconnect the electrical supply before attempting to make any repairs to the EverFlo Concentrator.*
- *Use extreme caution when handling the Capacitor. The Capacitor can hold a substantial electrical charge until it is properly discharged.*
- *Even with the unit disconnected from the electrical supply, the Capacitor may still hold an electrical charge strong enough to cause serious bodily injury. DO NOT touch the capacitor terminals simultaneously until the Capacitor has been completely discharged. Discharge the Capacitor by shorting the two posts with an insulated screw driver.*
- *Avoid handling the molecular sieve material. Respironics recommends the return of the sieve canister assembly to Respironics for any service that involves sieve material.*

CAUTION

- *Electronic components used in this device are subject to damage from static electricity. Repairs made to this device must be performed only in an antistatic, ESD-protected environment.*
- *During all repair and replacement procedures, ensure that any connections that are broken during the process (fittings, tubing, and hoses) are reconnected securely.*
- *When using a leak detector, be careful that it does not come in contact with any electrical components.*
- *The fuse on the Main PCA, must be replaced with the fuse called out in the Repair Kits Section of this Service Manual. Failure to do so will result in damage to the unit.*

8.1 FILTER COVER REPLACEMENT

To Remove the Filter Cover

1. Using minimal force, apply pressure to the outside of the Filter Cover.

To install the Filter Cover

1. Place Filter Cover tab into slot.
2. Push the Filter Cover in until it locks.

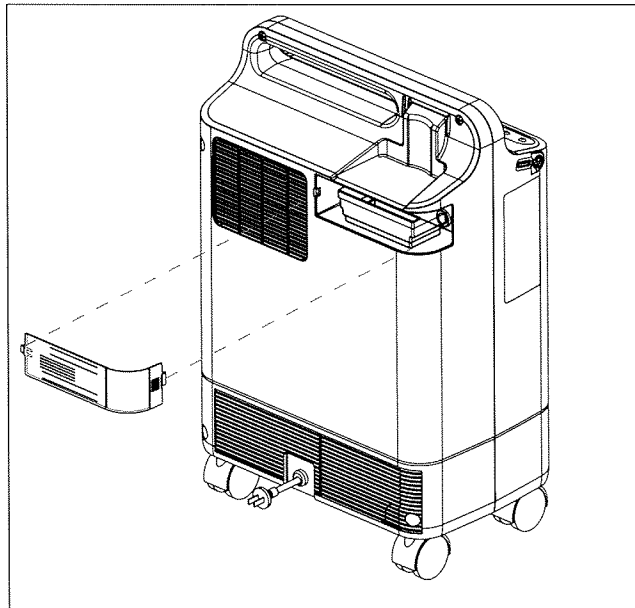


FIGURE 8-1: FILTER COVER REPLACEMENT

8.2 INLET FILTER REPLACEMENT

To remove the Inlet Filter

1. Remove the Filter Cover. Refer to the Filter Cover Replacement section for more information.
2. Remove the Inlet Filter.

To install the Inlet Filter

1. Fully seat the Inlet Filter into the Inlet Boot.
2. Install the Filter Cover.

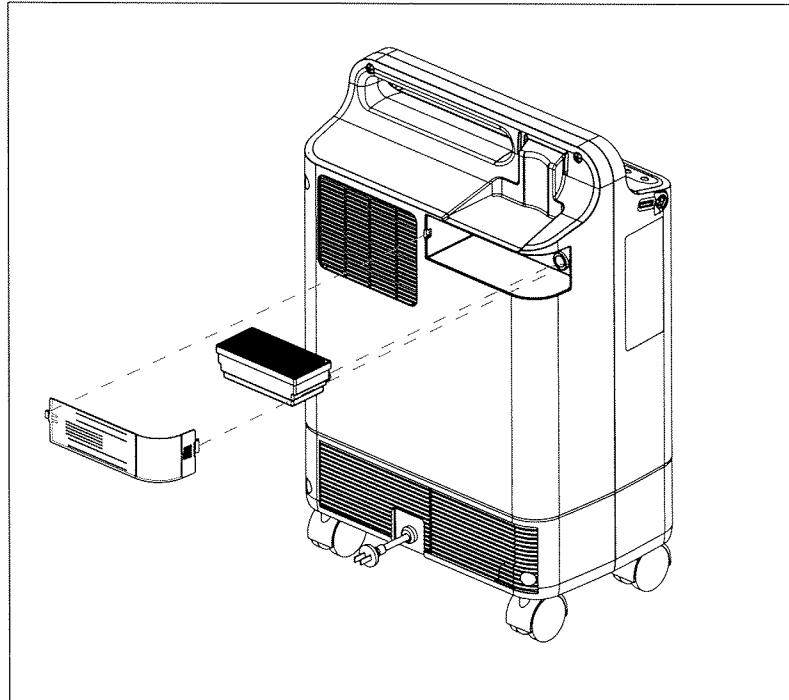


FIGURE 8-2: INLET FILTER REPLACEMENT

8.11 MICRO-DISK FILTER & TUBING REPLACEMENT

To remove the Micro-Disk Filter & Tubing

1. Remove the Filter Cover. Refer to the Filter Cover Replacement section for more information.
2. Remove the Inlet Filter. Refer to the Inlet Filter Replacement section for more information.
3. Remove the Rear Cabinet. Refer to the Rear Cabinet/Power Cord Replacement section for more information.
4. Remove the Flow Tubing from the DISS Outlet Fitting and the top connection of the Flow Meter.
5. Remove the Flow Tubing from the Micro-Disk Filter.
6. Remove the Pressure Tubing from the Pressure sensor located on the Main PCA (OPI Units Only).
7. Remove the other end of the Pressure Tubing from the bottom connection of the Flow Meter and from the Pressure Regulator (OPI Units Only).

To install the Micro-Disk Filter & Tubing

1. Connect the Pressure Tubing to the Pressure Sensor located on the Main PCA (OPI Units Only).
2. Connect the Other ends of the Pressure Tubing to the Pressure Regulator and bottom connection on the Flow Meter. Refer to Refer to Figure 8-22..

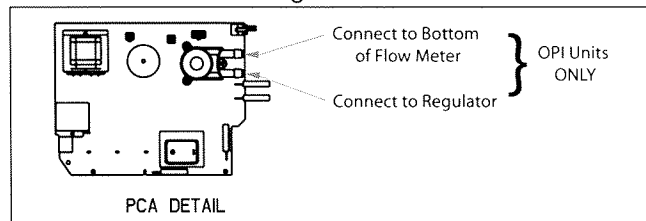


FIGURE 8-22: PRESSURE TUBING CONNECTIONS

3. Connect the Flow Tubing as shown in Refer to Figure 8-23..

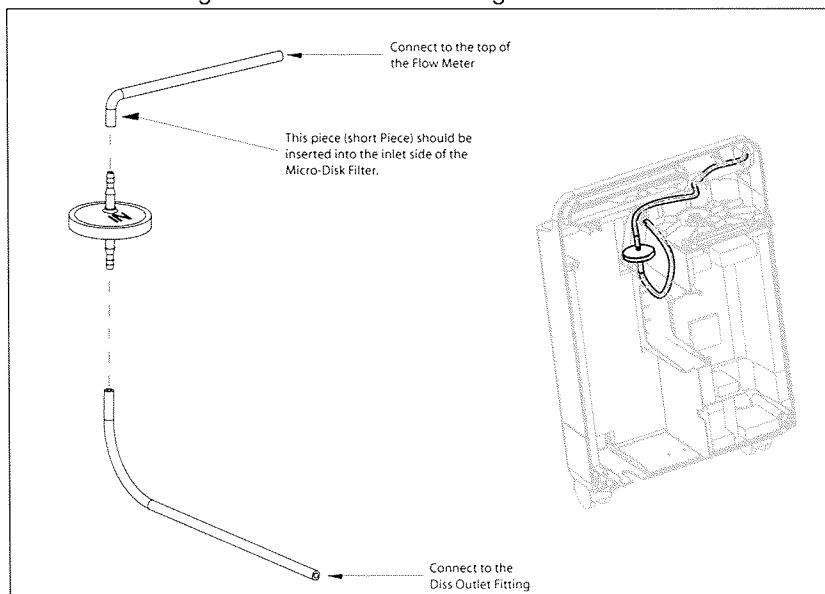


FIGURE 8-23: FLOW TUBING INSTALLATION

4. Install the Rear Cabinet. Refer to the Rear Cabinet/Power Cord Replacement section for more information.

5. Install the Inlet Filter. Refer to the Inlet Filter Replacement section for more information.
6. Install the Filter Cover. Refer to the Filter Cover Replacement section for more information.

8.12 FLOW METER REPLACEMENT

NOTE

This procedure is acceptable for use when installing a Pediatric Flow Meter.

To remove the Flow Meter

1. Remove the Filter Cover. Refer to the Filter Cover Replacement section for more information.
2. Remove the Inlet Filter. Refer to the Inlet Filter Replacement section for more information.
3. Remove the Rear Cabinet. Refer to the Rear Cabinet/Power Cord Replacement section for more information.
4. Remove the Tubing Connected to the Flow Meter.
5. Using pliers, loosen the two speed nuts from the threaded fitting on the back of the Flow Meter.
6. Remove the Flow Meter from the Front Cabinet.

To install the Flow Meter

1. Align the threaded fittings on the back of the supplied Flow Meter with the holds in the Front Cabinet.

NOTE

The Flow Meter must be mounted with the shaft for the Flow Meter knob at the top.

2. While holding the Flow Meter in place, secure the Flow Meter to the Front Cabinet by hand tightening the two speed nuts.
3. Connect the pressure tubing to the fittings on the Flow Meter.

8.3 REAR CABINET/POWER CORD REPLACEMENT

To remove the Rear Cabinet/Power Cord

1. Place the concentrator face down on an ESD Protected surface.
2. Remove the Filter Cover. Refer to the Filter Cover Replacement section for more information.
3. Remove the Inlet Filter. Refer to the Inlet Filter Replacement section for more information.
4. Remove the two phillips screws from the handle of the Rear Cabinet.
5. Remove the four hex screws from the Rear Cabinet.

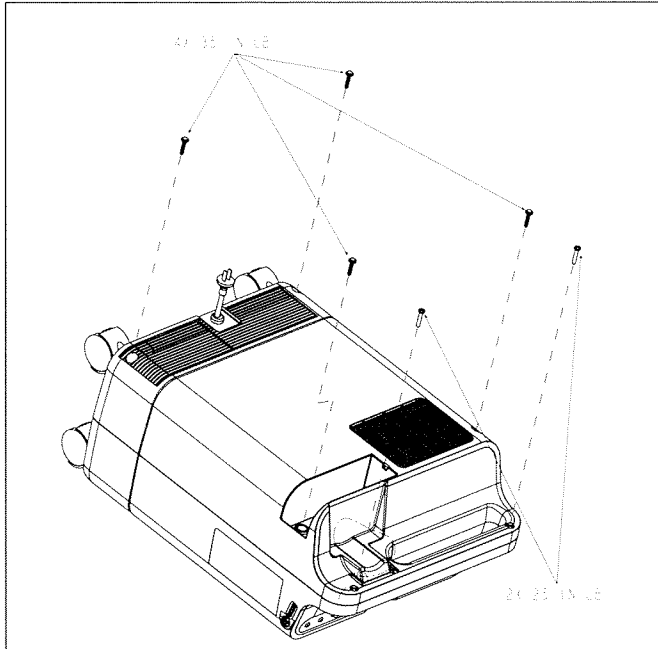


FIGURE 8-3: SCREW REMOVAL/INSTALLATION

6. Using Heyco Pliers release the strain relief from the Rear Cabinet.



FIGURE 8-4: STRAIN RELIEF REMOVAL

7. Lifting the Rear Cabinet slightly up from the Front Cabinet, fold the Rear Cabinet away from the Front Cabinet.

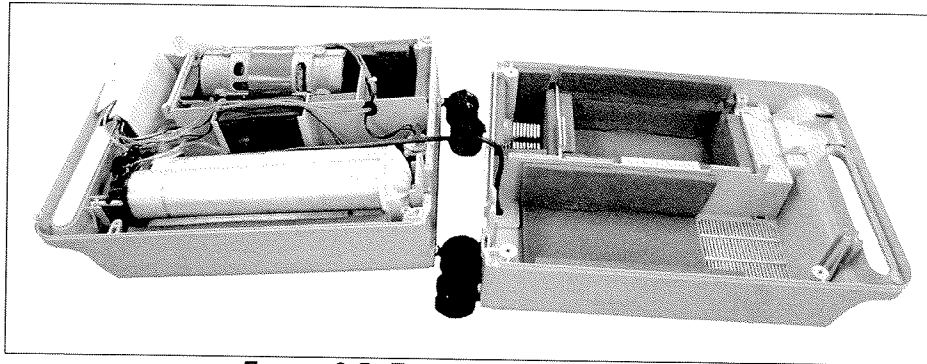


FIGURE 8-5: EVERFLO REPAIR POSITION

8. Cut the two tie wraps securing the Power Cord to the Sieve Canister.

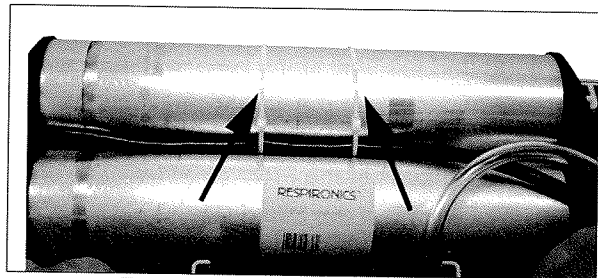


FIGURE 8-6: TIE WRAP LOCATION

9. Unclip the Main PCA shield from the Front Cabinet.

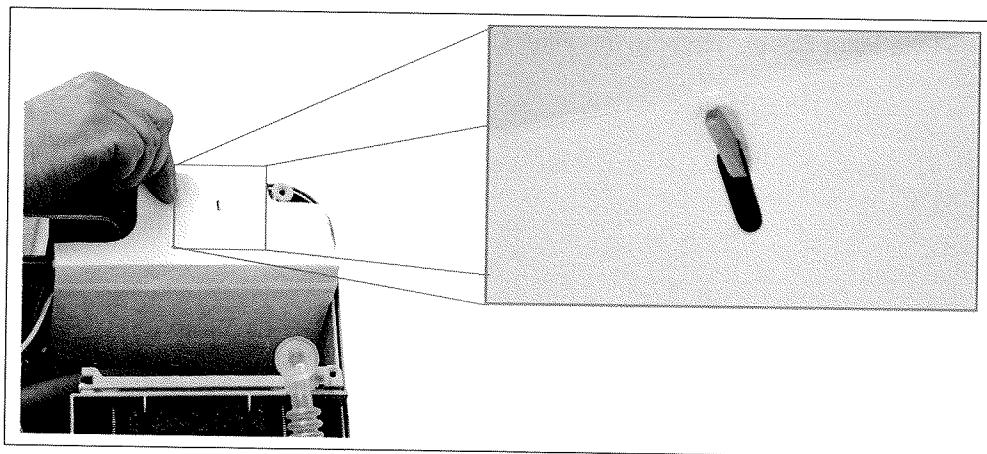


FIGURE 8-7: UNCLIP MAIN PCA

10. Lift Main PCA out of the Front Cabinet.

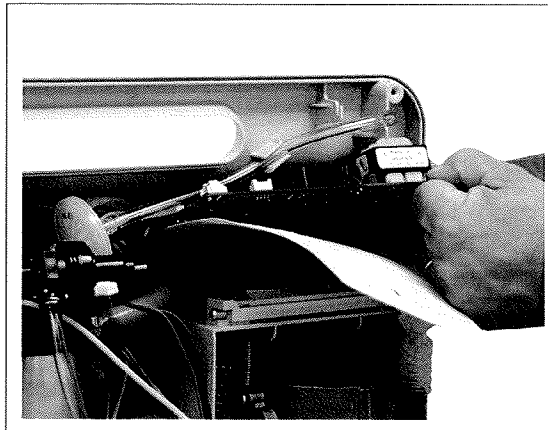


FIGURE 8-8: MAIN PCA REMOVAL

11. Remove the Power Cord wires from the J3 and J4 locations of the Main PCA.
12. Remove the Power Cord from the Rear Cabinet.

To install the Rear Cabinet/Power Cord

1. Thread the Power Cord through the hole in the Rear Cabinet.
2. Connect the Power Cord connectors to the J3 and J4 locations of the Main PCA. Refer to Figure 8-11.
3. Slide the Main PCA into the grooves in the Front Cabinet.
4. Secure the Power Cord Wires against the Sieve Canister with two tie wraps.
5. Place the Rear Cabinet onto the Front Cabinet.
6. Using the Heyco Pliers install the strain relief to the Rear Cabinet.
7. Secure the Front and Rear Cabinets together by torquing the four hex screws (35 in-lbs.) and two phillips screws (25 in-lbs.).
8. Install the Inlet Filter. Refer to the Inlet Filter Replacement section for more information.
9. Install the Filter Cover. Refer to the Filter Cover Replacement section for more information.