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Black & White Reverse Osmosis Unit Service Instructions

This is a step-by-step process. You don't have to follow this exact order, but it will be easier if you do. The instructions below are specific to our basic Black & White 3-stage system. If your unit is slightly different, you may have to improvise or call for instructions.

1. First, check the TDS(Total Dissolved Solids) level of the unit if you have a tester. This is a test of the reverse osmosis membrane, not of the carbon filters. It measures dissolved solids in parts per million (which is the same as milligrams per liter). The unit's product water should be about 1/10 the TDS of the tap water. For example, if your tap water has 500 ppm total dissolved solids, your RO water should be at 50 ppm or lower.

   If you don't have a tester, take a guess. If the water tastes good, the membrane is probably OK. Membrane life depends on lots of variables, but a good RO membrane should last from three to five years.

2. **Turn off the incoming water by closing the inlet valve in the black tube connected to the pre-filter. Close the tank valve at the top of the storage tank.** Open the ledge faucet and leave it open during the entire service procedure. If no water comes from the faucet, the unit is turned off and it's safe to replace the cartridges.

3. Get the unit in a comfortable position (comfortable for you—don't worry about the unit) over a large pan if possible. A plastic dishpan works well. It's often easiest to disconnect a fitting or two to get the unit into a comfortable workspace. Just remember how to put them back. Open the two vertical filter housings (not the horizontal membrane housing) by unscrewing the sump (bottom part) using a filter wrench.

4. Replace the cartridges. Most units use radial flow cartridges with no “up” or “down”. Lubricate the O-rings in the vessels lightly—silicone grease is the ideal lubricant. Be sure that the O-rings are properly seated in their grooves, then screw the housing sumps back onto their caps. Tighten snugly, but don't overdo it. (Over-tightening can damage O-rings.)

5. If you have purchased a replacement RO membrane, go ahead and replace it now. **Refer to the RO membrane replacement instructions included with the RO membrane.**

6. Reconnect any tubing you have removed. With the faucet open, **slowly open the inlet valve and let water into the unit**. Check for leaks. It is normal to hear lots of gurgling and air escaping down the drain.

Cartridge Placement

The KX-CTO cartridge (white caps) goes in the black pre-filter (left) housing.

The KX-CTO+ cartridge (blue caps) goes in the white post-filter (right) housing.

7. Rinse the new filters by leaving the inlet valve and faucet open (keep the tank valve closed for now). It may take 5-10 minutes for water to begin flowing as the system fills and purges air. Once it starts, you should have a slow steady stream of water at the faucet. Let it run this way for 15 minutes. This is the actual production rate of the RO membrane.

   After the initial rinse, open the tank valve and let the tank drain completely. This should produce a higher flow rate from the faucet that will decrease as the tank empties. This will vary a bit; you may start with a full tank, or it may be partially empty. After a few minutes the flow will slow and return to the same fast drip or a small stream you had at the start of the rinse.

   Close the faucet and let the system run and refill the storage tank. After 1-2 hours of filling you should have pressure built up in the tank. You can use the water at this point, but we recommend emptying the tank completely and letting it refill at least 1-2 times before using the water. In general, the more you can rinse the new filters, the better.

8. **You're done. Good work.** Check for leaks in a day or two just to be sure. Cloudy water is a common issue after a filter change. It's almost always trapped air, it will improve and resolve as you use the system. Just run it more and it will improve. Don't hesitate to contact us if you have questions.