Ceramic Water Filter – DIY Instructions – 8/4/2011 revision 1.0

1. **DRILLING HOLES**
   A) Turn the top container upside down and locate the center of the bottom.
      - Drill a ½-inch hole -- this is for the filter to be screwed down through. It will be a very tight seal.

   B) Take the lid of the bottom container and locate the center by marking it with a sharpie. ***Verify before drilling.*** You can easily do this by placing the container with the ½-inch hole drilled through it on top of the bottom lid. Then visually looking through the hole and making sure they match by verifying that the new mark is in the center of the hole.
      ****IT IS VERY IMPORTANT THAT THE HOLES IN THE TOP CONTAINER AND THE LID MATCH.****
      - I drill a 1½-inch hole to make sure that the water dripping from above does not come in contact with the lid of the top container. This also gives you enough of an area to vent the bottom container. If there is a very tight seal between the top and bottom container then you might want to drill a small hole on the top outer edge of the bottom container so you don't create backpressure causing the water to flow very slowly.

   C) Select the bottom container and locate where you want the water spigot to be found and drill a ¾-inch hole 1¼ - 2 inches away from the bottom. That way the spigot won't rub the surface you are putting your container on.
   D) No more drilling required.

2. **INSTALLING THE SPIGOT**
   A) Remove the spigot from the plastic package.
      - Place one washer on the spigot, flat side towards the valve on the spigot and insert the spigot into the hole you drilled in the bottom container. After the spigot is put through the container place the 2nd washer onto the threaded portion of the spigot (angled side towards the wall of the bucket) and place the hex head nut on the threads and begin to screw on the nut. You may turn the spigot instead of the nut if you wish. This will make it easier and quicker to tighten the nut securely. Do this until the nut becomes difficult to turn.
      - Straighten the spigot so the handle is parallel to the bottom of the bucket. And finish tightening the nut so you have a watertight connection.
        (1) Fill your container about 1/3 of the way full with water and check for leaks.
        (2) If a leak is detected tighten the nut on the spigot some more. Continue this action until no more leaks are detected.

3. **SANATIZING INSTRUCTIONS**
   A) Before inserting or using the filter system it is recommended to sanitize the containers with a diluted solution of bleach and water.
      - 1 teaspoon of bleach mixed with 1 gallon of water will do the job nicely.

   B) Wipe down the outside and the inside of each bucket with the bleach solution. Let stand for 3-5 minutes then wipe off with a dry paper or cloth towel.

4. **INSTALLING THE FILTER**
   A) The carbon, inside the ceramic shell, will become packed over a period of time and you will need to shake the filter, to loosen the carbon if has not been used or has been in storage for over 6 months.
   B) Remove the filter from its' box and leave the bubble wrap on. This will help protect your filter from getting greasy by way of your hands. Always wash your hands with soap and water before and after handling your filter.
   C) Place one flat nylon washer on the stem of the filter up against the base of the filter.
      - Insert the stem of the filter through the ½-inch hole drilled in the top container (you might need to screw it through) and place the 2nd flat washer on the stem of the filter on the bottom side of your container and attach the wing nut.

- Turn the wing nut until tight. Fill your container about 1/3 way full with water and check for leaks. If a leak is detected please tighten the wing nut on the filter.
- **IT IS VERY IMPORTANT THAT THERE IS NOT A LEAK AROUND THE FILTER STEM. IF THERE IS THE FILTERED WATER IN THE BOTTOM CONTAINER WILL BE CONTAMINATED BY THE UNFILTERED WATER FROM THE TOP CONTAINER LEAKING INTO THE BOTTOM CONTAINER.**

5. **USING THE SOCK**
   A) *Remove the plastic bubble wrap before proceeding.*
   B) If the water you are to be filtering is dirty Place the sock over the filter and use one or two of the food grade orange rubber bands included with our kit. This will hold the sock in place and keep the dirty water from entering the ceramic filter directly.

6. **FILLING OF SYSTEM**
   A) You system is now completely assembled and ready for use.
   B) Set on a level surface.
   C) Fill the top bucket with water. Since the filter has not been activated yet by water it can take up to several hours before the water will penetrate the ceramic shell and then go thought the activated charcoal and start flowing into the bottom container.
   D) As water is removed from the bottom container you may add that same amount of water to the top container, which will always keep your drinking water full.

7. **FLOW RATE**
   A) It will usually take around 24 – 36 hours for the flow rate to reach its' maximum output. That will be approximately 1-2 gallon per hour. The flow rate increases as the ceramic shell and the mixed charcoal media (inside the ceramic shell) become saturated with water.

8. **CLEANING INSTRUCTIONS**
   A) When the flow rate of the filter decreases, this would indicate to you that the sock and or the filter might need to be cleaned.
      - Using rubber gloves remove the sock and the filter. Then rinse it in clean water. As the filter is used and is in more contact with the dirty water the white ceramic shell will become stained and the pores of the clay will become clogged with particulates. Use a Scotch-Brite pad (green pad is included with our kit) or a soft brush and **GENTLY** rub the surface of the filter. This will remove some of the stain and the dirt. Rinse with clean (filtered) water and reassemble the filter unit and fill it with water as described above.

NEVER USE ANY TYPE OF SOAP WHEN CLEANING THE SOCK OR THE FILTER. THIS WILL RUIN THE FILTER AND IT WILL NO LONGER FUNCTION PROPERLY.

IMPORTANT:

Once you start using your filter, the activated carbon is only good for about 6-12 months depending on your usage. The ceramic shell, which is filtering out the bacteria, will last between 1-2 years or more depending on how hard you scrub the shell surface. Replacing the filter depends upon the flow rate. If the flow rate is very slow even after cleaning the filter, it should be replaced. If for any reason the shell is cracked or broken replace IMMEDIATELY.