

OWNERS MANUAL

MODEL WHFS

DELUXE WHOLE HOUSE WATER FILTER HOUSING

Safety Guides Installation Operation

Cartridge Replacement Repair Parts

If you have questions when installing, operating or maintaining your deluxe whole house water filter housing, call this toll-free number...

1-800-972-0135

(M - F, 7 am - 8 pm, CST)

or visit

www.northstar.conditioning.com

North Star[®]

NORTHSTAR WATER CONDITIONING; PO Box 64310; St. Paul, MN 55164-4310

7274749 (Rev. A 1/24/05)

SAFETY GUIDES / SPECIFICATIONS

✓ Please read this entire manual before installing and using your deluxe whole house water filter housing. Be sure to follow all guides and rules carefully. Failure to follow them could cause personal injury or property damage.

✓ Check with your local public works department for plumbing codes. You must follow their guides as you install the water filter housing.

✓ Use the filter on a potable, safe-to-drink, home COLD water supply only. The filter cartridge will not purify water, or make it safe to

drink. DO NOT use on HOT water (100°F, max.), microbiologically unsafe water, or on water of unknown quality.

✓ Protect the water filter housing and piping from freezing. Water freezing in the housing will break it.

✓ Your deluxe whole house water filter housing will withstand up to 125 psi water pressure. If your house water supply pressure is higher than 100 psi, install a pressure reducing valve before the water filter.

Maximum Supply Water Pressure	125 psi
Min. - Max. Supply Water Temperature	40 - 100 °F
Inlet - Outlet Thread Size	3/4" NPT

WARRANTY

FULL ONE YEAR WARRANTY ON DELUXE WHOLE HOUSE WATER FILTER HOUSING

For one year from the date of purchase, North Star Water Conditioning will replace this Deluxe Whole House Water Filter Housing, (except filter cartridge), free of charge, if defective in material or workmanship.

If the filter is defective, warranty service is provided by your local dealer where you purchased it, or return it postage or freight prepaid, to the address below.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

NORTHSTAR WATER CONDITIONING PO Box 64310 St. Paul, MN 55164-64310

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WATER TREATMENT FILTER CARTRIDGES

Filter cartridges to remove (1) sediments, (2) tastes and odors, (3) tastes, odors and chemical contaminants, and (4) tastes, odors and lead are available for use in the drinking water filter housing.

A sediment cartridge is included with the water filter housing. Your local dealer has a selection of various other filter cartridges available.

Sediment filter cartridges (various micron ratings): Sediment cartridges remove sand, silt, clay, dirt, and other sediments from water. For example, a 25 micron cartridge filters larger sediments, and allows higher flows at less pressure drop. A 5 micron cartridge filters finer sediments from water.

Several **taste and odor filter cartridges** are available. Many bad tastes and/or odors are removed from water using an activated carbon cartridge. It is most often used to remove chlorine taste and smell,

usually to a single faucet such as the kitchen cold water line.

NOTE: Small amounts of hydrogen sulfide (noticeable as “rotten egg” odor) may be reduced by taste and odor filters for a short time, but the carbon media is quickly exhausted. Ask your dealer about the proper equipment for the *continuous* treatment of hydrogen sulfide.

Some of the Taste and Odor Cartridges available are:

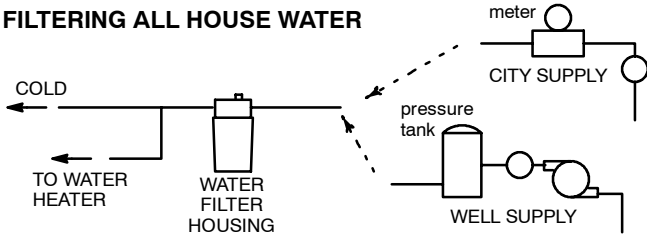
- ✓ for 95% chlorine reduction
- ✓ for 99% chlorine reduction
- ✓ for 99% chlorine reduction, **plus** chemical contaminants
- ✓ for 99% chlorine reduction, **plus** 95% lead reduction

INSTALLATION LOCATION FOR WATER FILTER HOUSING

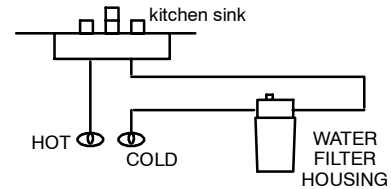
To filter sediments or tastes and odors from *all* house water, locate the water filter housing on the main water supply pipe. You can also filter water to one faucet. For example, install the filter under the

kitchen sink to filter the cold drinking water. Refer to the following drawings. Typically, taste and odor filters are installed to filter water to one faucet only. Refer to the following drawings.

FILTERING ALL HOUSE WATER



FILTERING WATER TO ONE FAUCET



PLANNING YOUR INSTALLATION

When planning the installation, first read the preceding filter cartridge information to determine where to locate the water filter housing. Then, use the drawings on page 5 as a guide. There are many variables to consider as you plan. Some of these are:

- ✓ The water filter housing inlet and outlet internal threads are 3/4" NPT.
- ✓ existing plumbing type (copper, threaded, etc.) and nominal size (1/2", 3/4" etc.)

- ✓ tools you have, and your plumbing skills
- ✓ cost of materials needed
- ✓ space available for installing the filter housing

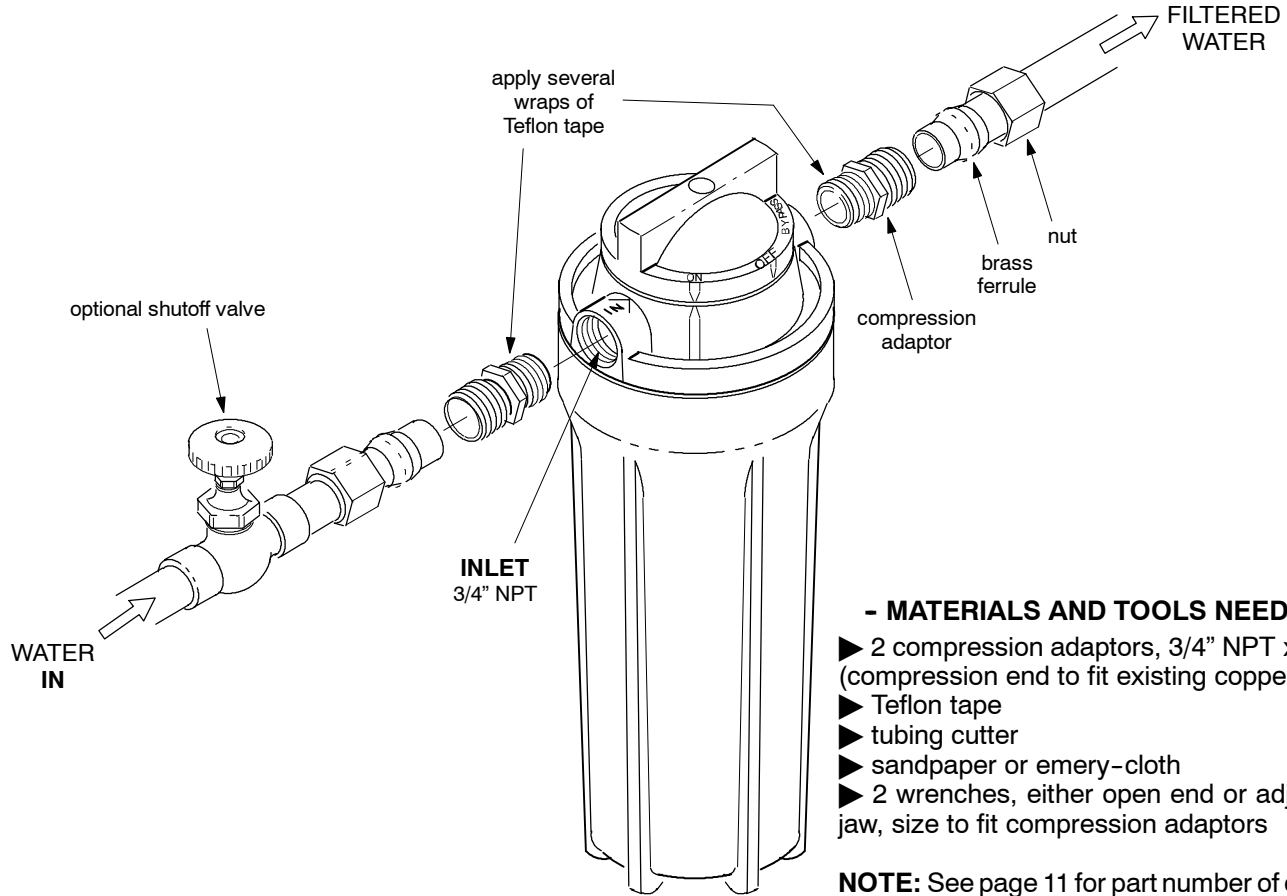
Make a simple sketch of your proposed installation, and a list of plumbing materials you will need. Obtain everything you need before starting the installation. Be sure you have the tools required.

NOTE: The state of Massachusetts requires a licensed plumber to make the installation.

TYPICAL INSTALLATIONS / TOOLS AND MATERIALS NEEDED

FIGURE 1

INSTALLATION ON COPPER PLUMBING USING COMPRESSION FITTINGS



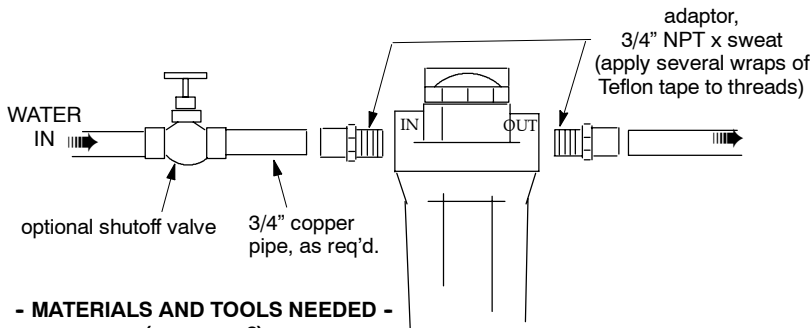
- MATERIALS AND TOOLS NEEDED -

- ▶ 2 compression adaptors, 3/4" NPT x comp. (compression end to fit existing copper pipe)
- ▶ Teflon tape
- ▶ tubing cutter
- ▶ sandpaper or emery-cloth
- ▶ 2 wrenches, either open end or adjustable jaw, size to fit compression adaptors

NOTE: Be sure to allow a minimum space of 1-1/2" under the filter for removing the sump, to change the cartridge.

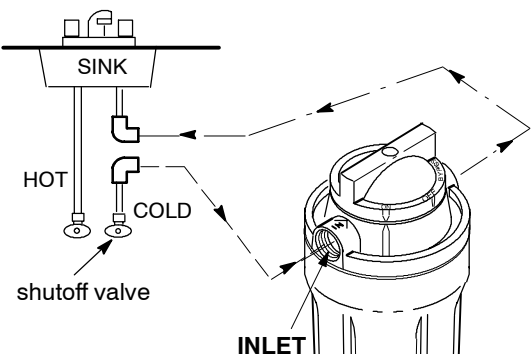
NOTE: See page 11 for part number of optional mounting bracket.

FIGURE 2 **SOLDERED COPPER INSTALLATION**
(OBSERVE FIGURE 1 NOTES)



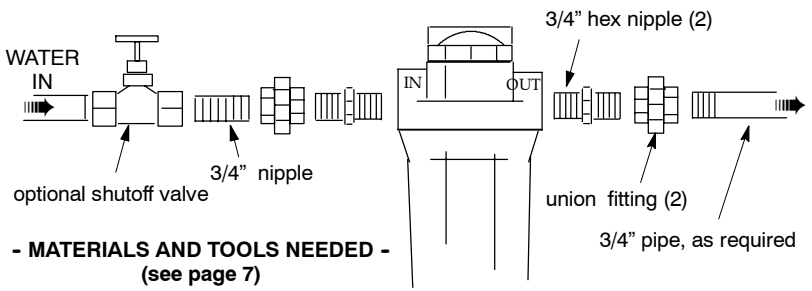
- MATERIALS AND TOOLS NEEDED -
(see page 6)

FIGURE 4 **UNDERSINK INSTALLATION**
(FILTERING WATER TO ONE FAUCET)



NOTE: To change the filter cartridge, you must turn off the water. A *nearby* shutoff valve is convenient. Most sinks already have shutoff valves on the supply pipes.

FIGURE 3 **THREADED INSTALLATION**
(OBSERVE FIGURE 1 NOTES)



- MATERIALS AND TOOLS NEEDED -
(see page 7)

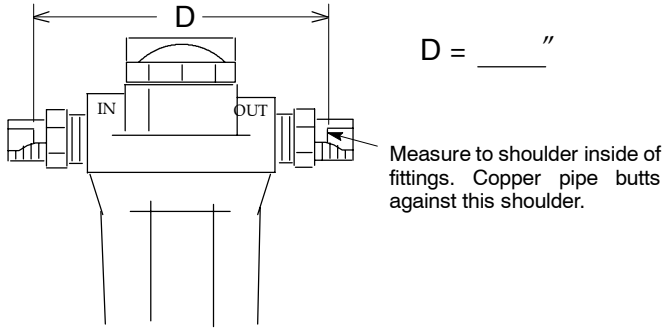
NOTE: Be sure to allow a minimum space of 1-1/2" under the filter for removing the sump, to change the cartridge.

INSTALLATION STEPS

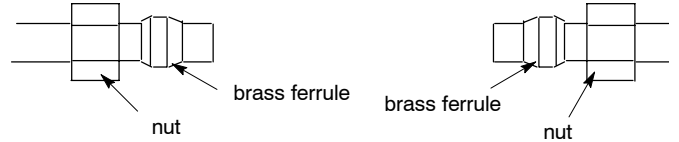
WATER FILTER HOUSING ON HOUSE MAIN WATER PIPE, TO FILTER ALL HOUSEHOLD WATER

A. USING COMPRESSION FITTINGS, Figure 1

1. Apply several wraps of Teflon tape to the threads of both compression fittings.
2. Carefully, turn the compression fittings into the water filter head inlet and outlet, then tighten. Do not cross-thread and damage the threads. Do not over-tighten and crack the head.
3. Remove the nut and brass ferrule from both compression fittings and set aside. Using a tape measure or ruler, measure the distance "D" as shown below. Mark this dimension below so you do not forget.

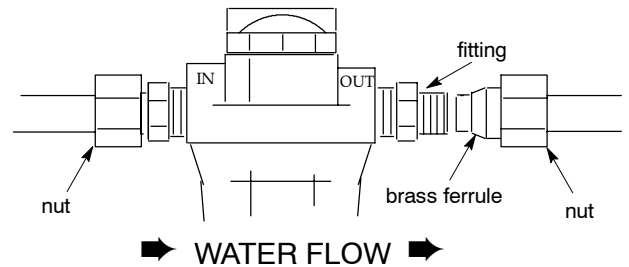


4. **CAUTION:** Turn off the water supply to the main pipe. Open a high and low faucet, in the water system, to drain the pipe.
5. On the main water pipe, where you will install the filter, mark the dimension D. You will remove this section of pipe. Before you begin to cut, double-check your measurement.
6. Use a tubing cutter to remove the section of pipe. Remove all burrs and rough edges with the sandpaper or emery-cloth.
7. Place a nut and brass ferrule (from compression fittings) onto both pipe ends.



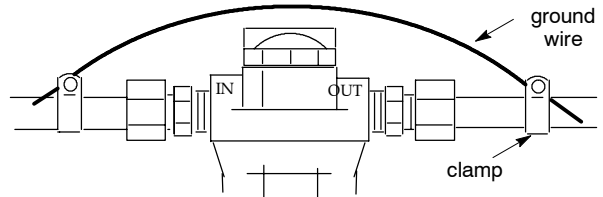
8. With the inlet side of the water filter facing incoming water, spread the pipes apart and fit both pipe ends into the compression fittings. Move a ferrule and nut up to the fitting. Then, turn on and tighten the nut. Hold the fitting with one wrench while tightening the nut with the other. Repeat on the other side.

NOTE: If water flow is from right to left (↔), be sure to turn water filter so inlet is to the right.



9. Before turning on the water supply, remove the sump from the filter head and install the filter cartridge (see page 8).

IMPORTANT: The house cold water pipe is often used to ground electrical outlets in the home. **Grounding protects you from electrical shock.** The water filter housing may have broken this ground. To restore, buy and install a #4 copper wire across the filter, tightly clamped at both ends as shown here.



INSTALLATION STEPS

WATER FILTER HOUSING ON HOUSE MAIN WATER PIPE, TO FILTER ALL HOUSEHOLD WATER

B. SOLDERED COPPER FITTINGS, Figure 2

MATERIALS AND TOOLS NEEDED: You will need two sweat adaptors, 3/4" NPT x sweat (sweat end to fit your main water pipe), lead-free solder and flux, soldering torch, Teflon tape, sandpaper or emery-cloth, open end (to fit sweat adaptor) or adjustable jaw wrench.

CAUTION: Heat created when soldering can damage the water filter housing. Be sure to use the following procedures to protect the water filter.

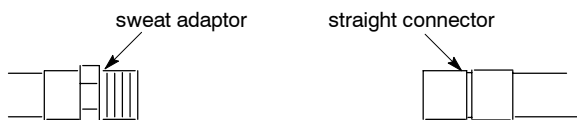
1. CAUTION: Turn off the water supply to the main pipe. Open a high and low faucet, in the water system, to drain the pipe.

2. On the main water pipe, where you will install the filter, use a tubing cutter to remove a section of pipe about 12" long. Use sandpaper or emery-cloth to thoroughly clean, and remove all burrs and rough edges, from both pipe ends.

NOTE: When soldering, use lead-free solder and flux only. Be sure pipe and fittings are properly cleaned. Observe caution note in opposite column.

3. Solder a sweat adaptor onto one of the pipe ends.

4. Place, but do not solder, a straight connector onto the other pipe end.

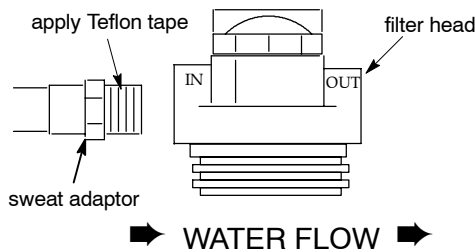


5. Remove the sump from the filter head and set the sump aside.

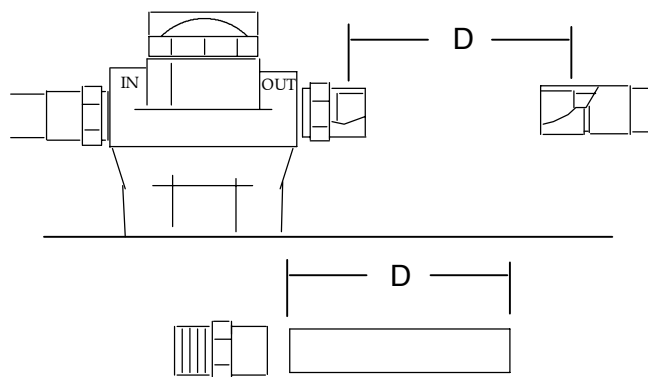
6. After it cools, apply several wraps of Teflon tape to the threads on the sweat adaptor fitting.

7. Carefully, turn the filter head INLET (if water flow is from the left) onto the sweat adaptor fitting. If water flow is from the right, turn the outlet side of the head

onto the fitting. Do not cross-thread, or over-tighten and crack the filter head.



8. Turn a sweat adaptor fitting into the other side of the filter head and hand tighten only. Using a tape measure or ruler, measure the distance "D" as shown below. Mark this same dimension on a length of copper pipe. Cut the length of pipe.



9. Remove the sweat adaptor fitting from the filter head and solder to the cut length of pipe.

10. After it cools, apply several wraps of Teflon tape to the threads on the sweat adaptor fitting. Apply flux and place the pipe end of the soldered assembly into the straight connector. Then, turn the adaptor end into the filter head and tighten.

11. Solder both sides of the straight connector.

12. Before replacing the sump and turning on the water supply, install the filter cartridge (see page 8).

NOTE: Read the grounding information on page 6, and comply with the instructions if required to maintain continuity.

INSTALLATION STEPS (cont.)

WATER FILTER HOUSING ON HOUSE MAIN WATER PIPE, TO FILTER ALL HOUSEHOLD WATER

C. THREADED PIPE AND FITTINGS, Figure 3

MATERIALS AND TOOLS NEEDED: For threaded pipe installation, you will need a pipe threading tool, pipe wrenches, pipe joint compound, union fittings and pipe nipples. Connect the filter housing as typically shown in Figure 3, page 5. Observe the following:

☞ Use pipe joint compound on all external threads.

☞ Do not turn pipe or fittings to tightly into the filter head or you may break it.

☞ It is important to have some linear movement in the house main water pipe. This will allow you to tighten union fittings, without damaging the filter head, if pipe lengths are not exact.

NOTE: Read the grounding information on page 6, and comply with the instructions if required to maintain continuity.

WATER FILTER HOUSING UNDER SINK, TO FILTER WATER TO ONE FAUCET

REFER TO FIGURE 4, PAGE 5.

1. Close the cold water side shutoff valve. (Usually, there already is a shutoff under the sink. If not, close the main water shutoff valve near the water meter or pressure tank.)
2. Cut and remove a section of the cold water pipe.
3. If plumbing with flexible tubing, hang or support the filter housing in some manner. If using rigid pipe, be sure to allow a minimum of 1-1/2" clearance under the filter for sump removal when changing the filter cartridge.

4. Use the plumbing procedures on page 6 if using compression fittings. Follow procedures on pages 6 and 7 for sweat copper and threaded pipe installation. Be sure water flow is into the filter inlet side, and from the outlet side, to the faucet.

NOTE: A grounding jumper wire is not required.

5. Before turning on the water supply, remove the sump from the filter head and install the filter cartridge.

FILTER CARTRIDGE / USEFUL LIFE / REPLACEMENT

FILTER CARTRIDGE LIFE

Several variables determine how long a cartridge will last. These include:

1. Where the water filter is installed (filtering all house water, or just to one faucet);
2. How much water you use;
3. How much sediment, taste and/or odor, or other unwanted substance, is in the water.

Use the following information as a guide. However, no matter which type of cartridge you are using, you will know it is time to replace it when you first notice the return of the unwanted substance in your water. Filter cartridges are available from your local professional contractor.

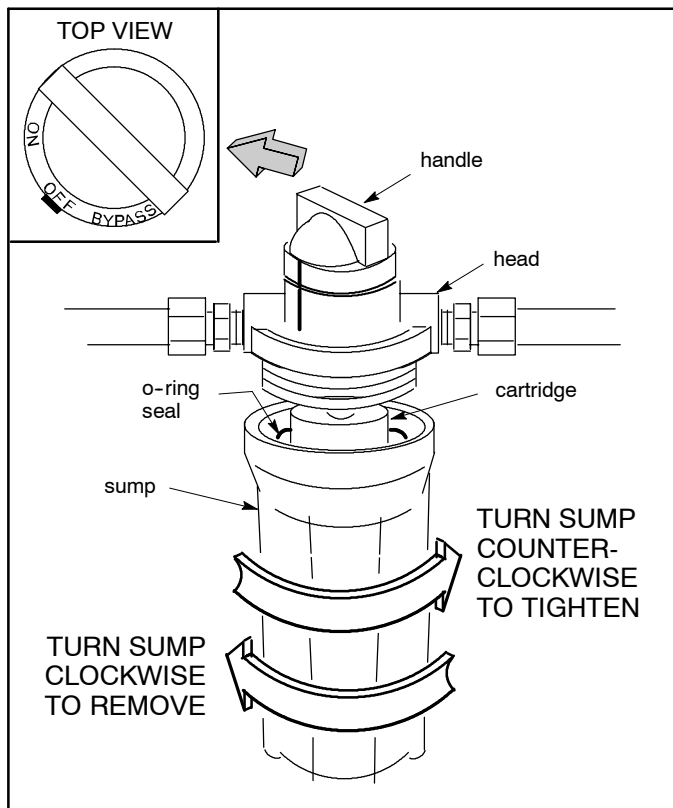
Sediment Cartridges: Cartridge life, when filtering water to one faucet, is about 6 months maximum. Cartridge life is less when filtering all house water. This time varies depending on the type of sediment cartridge.

When filtering sediments, you will know it's time to replace the cartridge when water pressure drops to the single faucet, or to the entire house supply.

Taste and Odor Cartridges: Filtering water to a single faucet, the filter cartridge may last for 6 months or more. Cartridge life is less when filtering all house water. If the cartridge is also for lead or chemical contaminant removal, it is more important to replace it frequently.

FILTER CARTRIDGE REPLACEMENT

CAUTION: Never remove the sump with water pressure in the filter.



1. Turn the filter handle to the OFF or BYPASS position, to relieve pressure in the filter. It is normal for some water to leak out.

2. Turn the sump off of the filter head, to the left or clockwise. Be careful, the sump is full of water. Do not lose the large o-ring seal. Note See page 10 for part number of optional sump removal wrench.

3. Be sure the inside of the sump is clean. Clean using hot, soapy water.

4. Remove the wrapper from the new filter cartridge and insert the filter cartridge in the sump. Some cartridges fit either way, while others fit only one way. Observe markings on the cartridge, or on the wrapper.

5. Lightly lubricate the o-ring seal, in the sump, with silicone grease or Vaseline. Be sure it is fully seated in the groove.

6. Hold the sump up to the filter head, aligning the center hole in the cartridge with the protrusion on the bottom of the head.

continued

FILTER CARTRIDGE / USEFUL LIFE / REPLACEMENT (cont.)

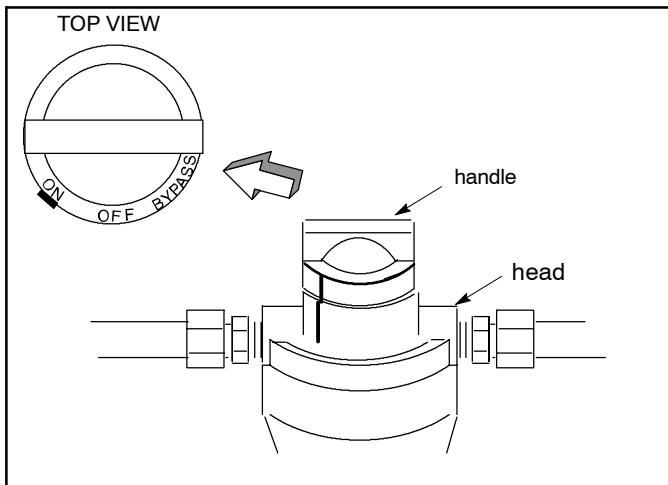
NOTE: If the sump will not tighten up to the head, you may have the cartridge in upside down. Take the cartridge out and check for correct orientation.

7. Being careful not to cross-thread, turn the sump onto the filter head and tighten securely.

8. If the filter is installed for all house water filtering, partially open a house faucet on the outlet side of the filter housing. Open the sink faucet if the filter is an undersink installation. Then, turn the filter handle to ON, allowing the filter housing to fill with water.

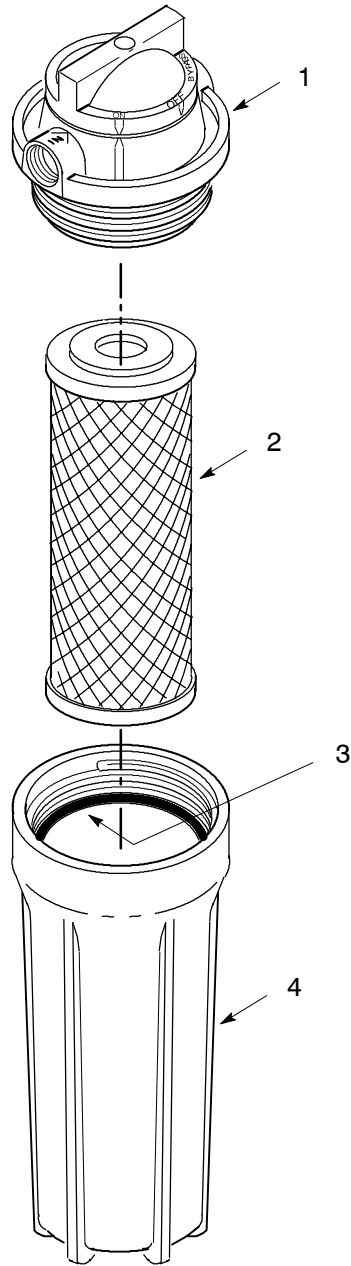
9. Close the house faucet. Then, check for leaks between the sump and the head.

NOTE: If leaking, turn off the water supply and depressurize the filter. Then, disassemble the filter and check the o-ring for cuts, flat spots, etc., and sealing surfaces for foreign material. Relubricate the o-ring with silicone grease or Vaseline and carefully press into the groove in the sump.



REPAIR PARTS

Deluxe Whole House Water Filter Housing, Model WHFS



KEY NO.	PART NUMBER	DESCRIPTION
1	7164944	Head Assembly
2	7173820	Sediment Filter
3	7192298	O-ring, 3-7/8" I.D. x 4-1/8" O.D.
4	7156543	Sump
★	7192264	Mounting Bracket (optional)
★	7192248	Sump Wrench (optional)

★ Not illustrated.

NOTE: Other filter cartridges are available from your local professional plumbing contractor.