

OWNER'S MANUAL

MODEL DFS

UNDERSINK DRINKING WATER FILTER SYSTEM

Safety Guides Installation Operation

Cartridge Replacement Repair Parts

If you have questions when installing, operating or maintaining your undersink drinking water filter system, call this toll-free number...

1-800-972-0135

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

or visit

www.northstar.conditioning.com

System tested and certified by NSF International to NSF/ANSI Standard 42 and 53 for the reduction of the claims specified on the performance data sheet.



North Star[®]

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

7274804 (Rev. A 1/20/05)

SAFETY GUIDES / SPECIFICATIONS

▼ Read all steps and guides carefully before installing and using your undersink drinking water filter system. Follow all steps exactly to correctly install. Reading this manual will also help you to get all the benefits from the undersink drinking water filter system.

▼ Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. This system is certified for cyst reduction and may be used on disinfected waters that may contain filterable cysts.

▼ Check with your local public works department for plumbing and sanitation codes. You must follow their guides as you install the system. Follow your local codes if they differ with guides in this manual. In Massachusetts, plumb-

ing codes of Massachusetts shall be adhered to. Consult with your licensed plumber.

▼ The undersink drinking water filter system works on water pressures of 30 psi (minimum) to 100 psi (maximum). If your house water pressure is over the maximum, install a pressure reducing valve in the water supply pipe to the filter system.

▼ Do not install the undersink drinking water filter system outside, or in extreme hot or cold temperatures. Temperature of the water supply to the undersink drinking water filter system must be between 40°F and 100°F. Do not install on **hot** water.

▼ Read the other limits (pH, hardness, etc.) in the specifications and be sure your water supply conforms.

Min. - Max. Supply Water Pressure

30 - 100 psi

Min. - Max. Supply Water Temperature

40 - 100 °F

Inlet - Outlet

3/8" quick connect fittings and tubing included

WARRANTY

FULL ONE YEAR WARRANTY ON UNDERSINK DRINKING WATER FILTER SYSTEM

For one year from the date of purchase, North Star Water Conditioning will replace this Undersink Drinking Water Filter System (except filter cartridges), free of charge, if defective in material or workmanship.

If the Undersink Water Filter Housing System 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.

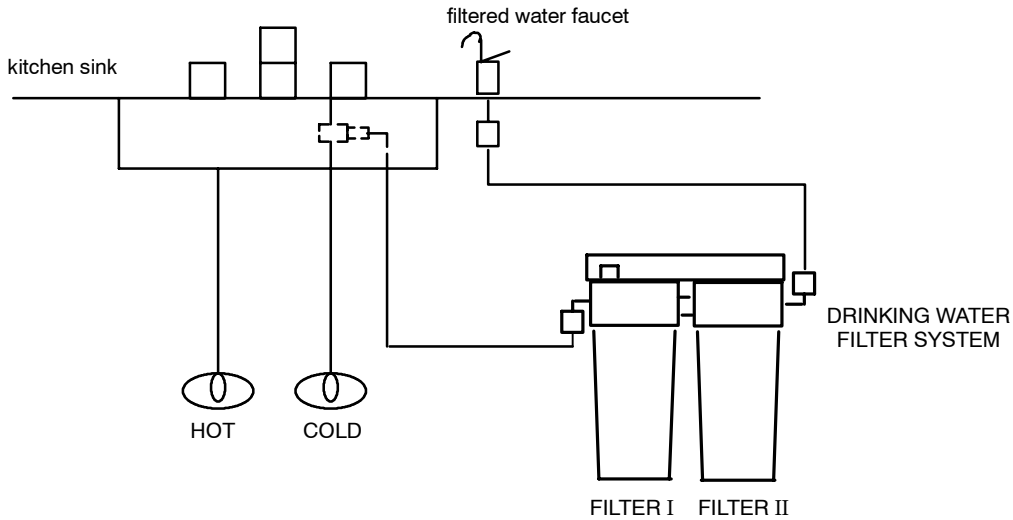
NORTH STAR WATER CONDITIONING; P.O. Box 64310; St. Paul, MN 55164-4310

TABLE OF CONTENTS

Parts of the System / Typical Installation Drawing / Tools and Materials Needed	4
Drinking Water Filter System Installation	5 - 7
Installing Supply Fitting	5
Installing Faucet	5 - 6
Installing Filter Cartridge	7
Using the Filtered Water System	8
Filter Cartridge Life / Replacement	8 - 9
Repair Parts	10 - 11

Locate the water filter housing on the **cold** water supply pipe, under the kitchen and/or bathroom sink, to filter the cold drinking water. Refer to the following drawing.

FILTERING WATER TO ONE FAUCET



PARTS OF THE SYSTEM

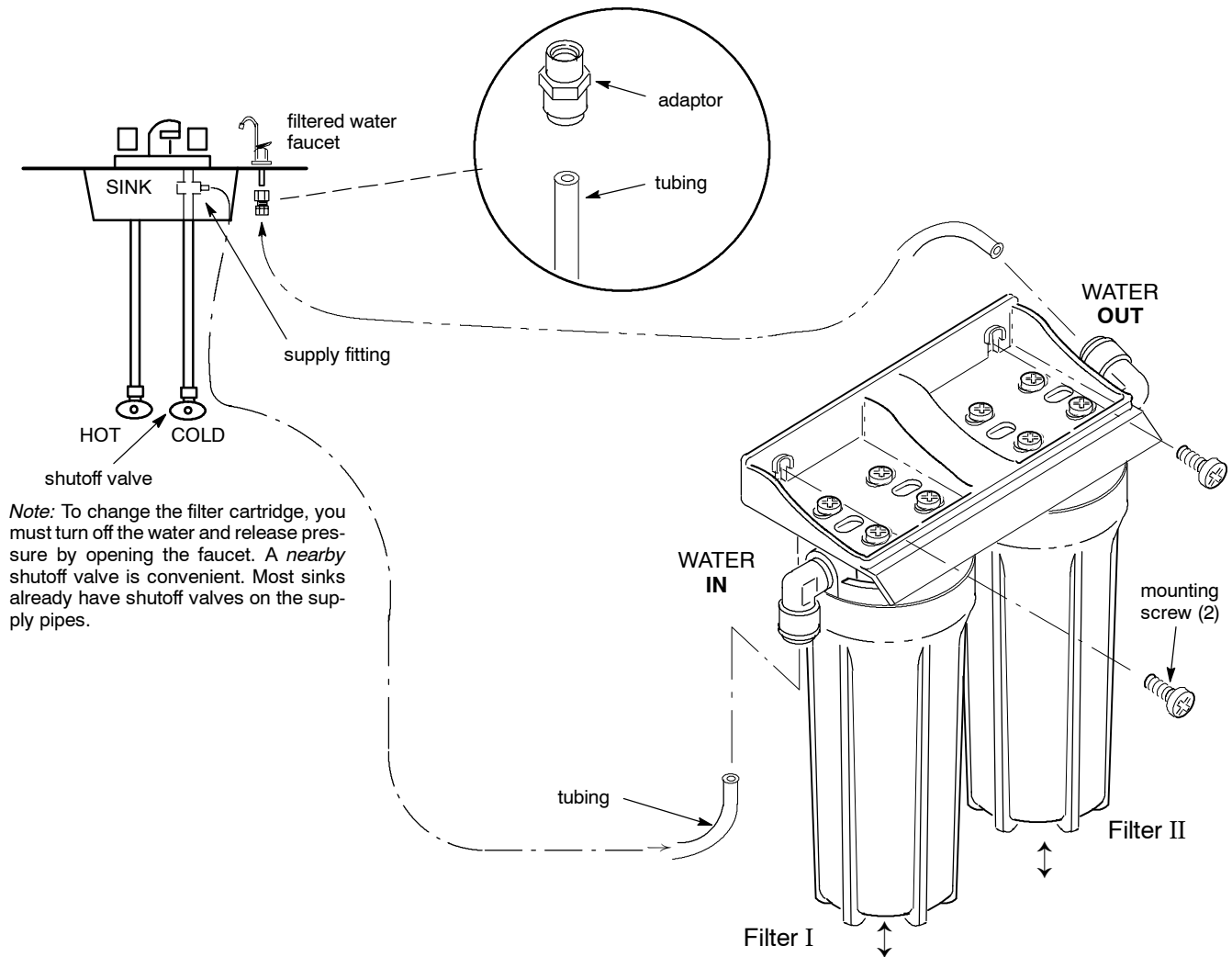
- ✓ filter system assembly including mounting bracket and screws
- ✓ water supply fitting
- ✓ filtered water faucet for sink or countertop mounting
- ✓ 3/8" tubing to make all needed connections
- ✓ sump removal wrench

MATERIALS AND TOOLS NEEDED

- plumbers putty
- slotted and Phillips screwdrivers
- pliers and adjustable jaw wrench
- tubing cutter
- sandpaper or emery cloth
- electric drill and 3/4" drill bit if mounting hole is needed for the faucet, see page 6

TYPICAL UNDERSINK INSTALLATION

FIGURE 1



Note: To change the filter cartridge, you must turn off the water and release pressure by opening the faucet. A nearby shutoff valve is convenient. Most sinks already have shutoff valves on the supply pipes.

Note: Be sure to allow a minimum space of 1-1/2" under the system for removing the sumps, to change the cartridges.

INSTALLATION STEPS

Step 1. INSTALL COLD WATER SUPPLY FITTING

Check and comply with local plumbing codes as you plan, then install a cold feed (supply) water fitting. The fitting must provide a leak-tight connection to the water filter 3/8" tubing. A typical connection using the included water supply fitting is shown in **Figure 2A**. An optional connection using standard plumbing fittings (not included), is shown in **Figure 2B**.

A. WATER SUPPLY FITTING

1. Close the house main water shutoff valve and open faucets to drain water from the sink cold water pipe.
2. Remove nut that connects the cold water faucet to cold water plumbing.
3. Thread water supply fitting onto pipe and reconnect nut to bottom of fitting.

B. OPTIONAL PIPE FITTINGS

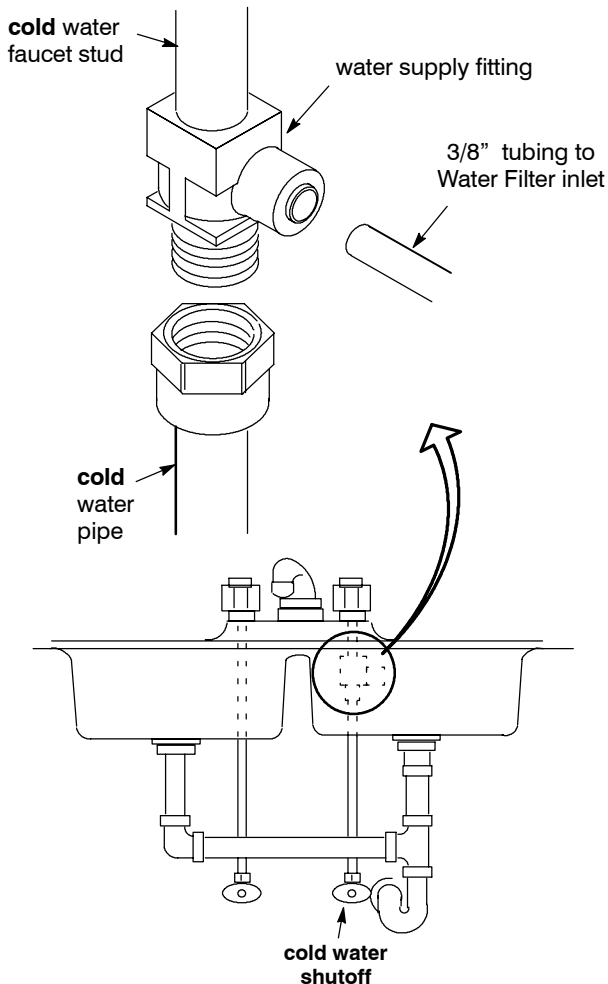
(compression type shown)

NOTE: Be sure to turn off the water supply and open a low faucet to drain the pipe.

Complying with plumbing codes, install a fitting on the cold water pipe to adapt 3/8" O.D. tubing. A typical connection is shown in Figure 2B. If threaded fittings are used, be sure to use pipe joint compound or Teflon tape on outside threads.

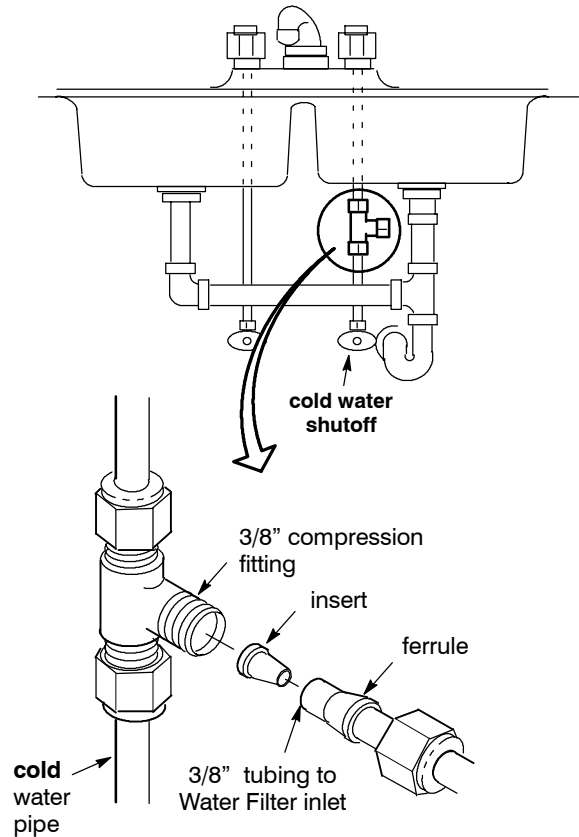
FIGURE 2

A. WATER SUPPLY CONNECTION
(using included water supply fitting)



B. WATER SUPPLY TYPICAL CONNECTION
(using compression fitting)

- parts not included -



INSTALLATION STEPS

Step 2. MAKE HOLE FOR FILTERED WATER FAUCET

Select one of the following places to install the faucet. Be sure there's room underneath so you can make the needed connections.

- In an existing sink spray attachment hole.
- Drill a hole in the sink top.
- Drill a hole in the countertop next to the sink.

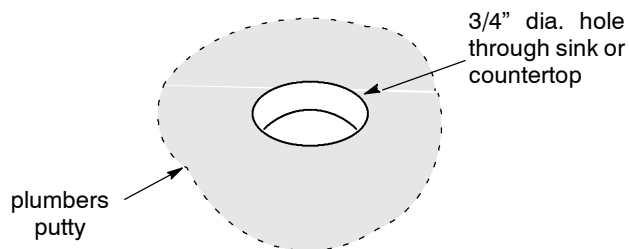
1. If drilling is needed make a 3/4" dia. (minimum) hole for the faucet.

CAUTION: Drilling holes into countertops made of stone or solid surface materials such as granite, marble, Corian™ or other plastic resin products should only be performed by a fabricator installer

who is certified for fabricating such materials. Drilling of these type surfaces by any other means may cause permanent, irreparable damage to the countertop surface.

2. Place plumbers putty around the drilled hole to prevent water leaks around the faucet.

FIGURE 3



Step 3. ASSEMBLE AND INSTALL FAUCET

NOTE: If the faucet is not assembled, slide the lever over the cylindrical nut. Then push or turn the spout into the faucet body.

1. Faucet, Figure 4:

A. If not already assembled, install the rubber washer, spacer, flat (or lock) washer and hex nut onto the threaded faucet stud.

B. Apply Teflon tape to the end of the faucet stud. Turn the tubing adapter onto the stud and hand tighten, then wrench 1/4 turn only. Be careful not to cross thread.

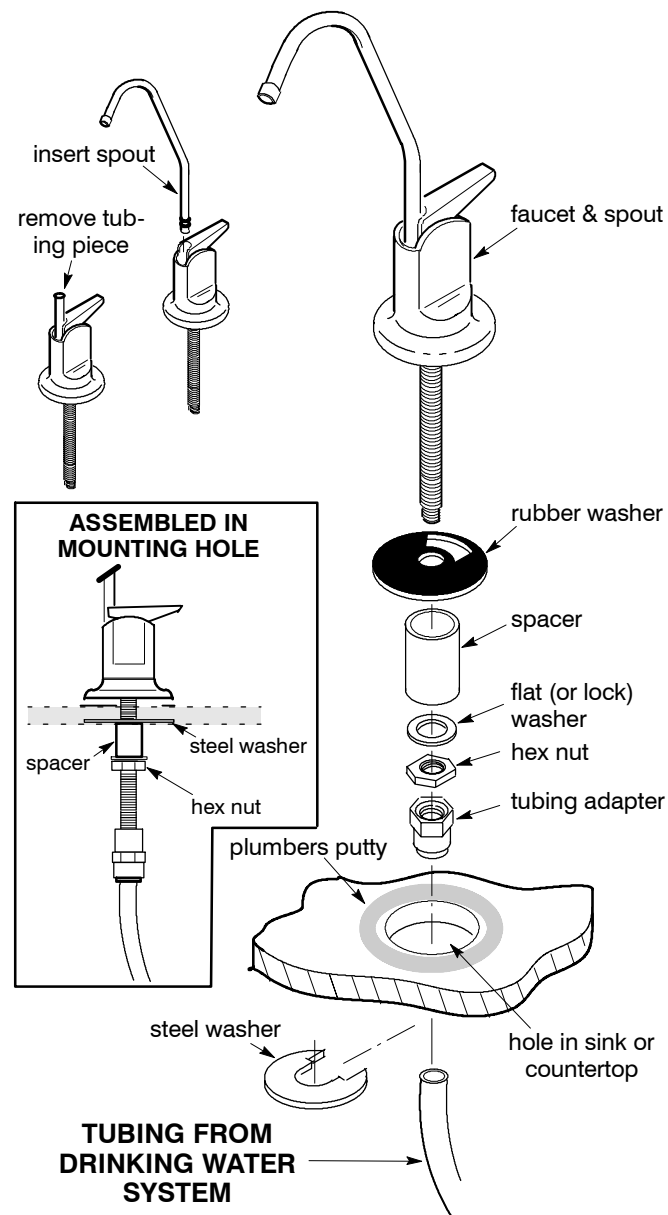
3. Wet the o-ring seals on the faucet spout. Then, remove and discard the short piece of tubing from the faucet body and insert the spout in it's place.

4. Connect tubing to faucet as follows.

5. Lower the faucet into the sink or countertop hole.

6. On the underside of the sink or countertop insert the large steel washer between the mounting hole and the spacer on the faucet stud (see assembled view). Then turn the hex nut up to the spacer and tighten. Tighten the hex nut so the faucet can not move, but do not overtighten and break the faucet.

FIGURE 4



INSTALLATION STEPS

Step 4. MAKE TUBING CONNECTIONS

1. Allowing some slack, measure and cut a length of 3/8" tubing to connect between the supply fitting and the filter system inlet, Figure1. Cut the ends of the tubing square.
2. Insert tubing all the way into the supply fitting and inlet elbow fitting. Pull on the tubing to be sure that it's held firmly in the fitting.
3. Repeat steps 1 and 2 to connect tubing between the filter system outlet and the adaptor on the bottom of the faucet stud, Figure1.

TUBING CONNECTION (all push-in fitting locations):

This system includes push-in fittings for quick tubing connection at most locations. If working with the fittings do the following.

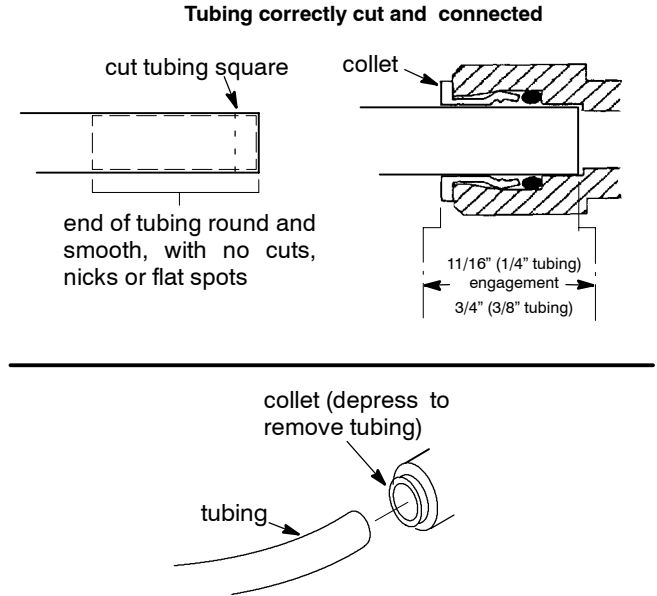
Connection, Figure 5:

1. Use a sharp cutter or knife to cut the end of tubing square.
2. Inspect the end (about 1") of the tubing to be sure there are no nicks, scratches or other rough spots. If needed cut the tubing again.
3. Push tubing through the collet and all the way into fitting. Full engagement is 11/16" for 1/4" tubing, and 3/4" for 3/8" tubing.

If tubing other than supplied with the system is used, be sure it is of high quality, exact size and roundness with a smooth surface.

To Disconnect Tubing: Push the collet inward and hold with a finger while pulling the tubing out.

FIGURE 5

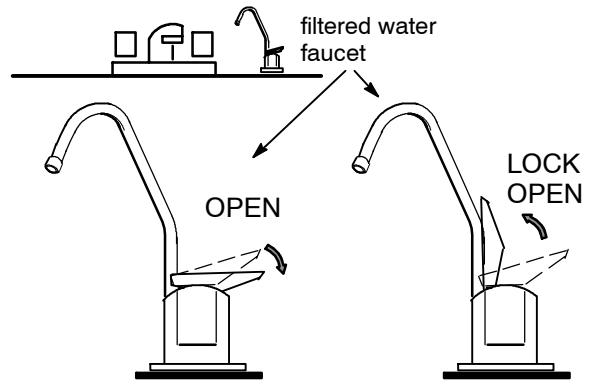


CAUTION

DO NOT USE VINEGAR, OR OTHER ACID BASED CLEANERS ON THIS SYSTEM. THEY WILL DEGRADE SOME SYSTEM PARTS. ALWAYS USE SOAP AND WATER.

USING THE SYSTEM

The sink or countertop faucet vends the filtered water when opened. It has a hand operated, spring loaded closed lever to prevent waste. You can also keep the faucet open by pushing upward on the lever and locking it against the faucet spout.



FILTER CARTRIDGE REPLACEMENT

North Star system model DFS with replacement elements 7173838 and 7173862 has been tested and certified by NSF International for the reduction of protozoan cysts, lead and chlorine. The rated capacity for this system is 1000 gallons at a rated service flow of 0.6 gpm (gallons per minute). This system conforms to NSF/ANSI 42 and 53 for the specific claims as verified and substantiated by test data.

CAUTION: Never remove sumps with water pressure in the filter system.

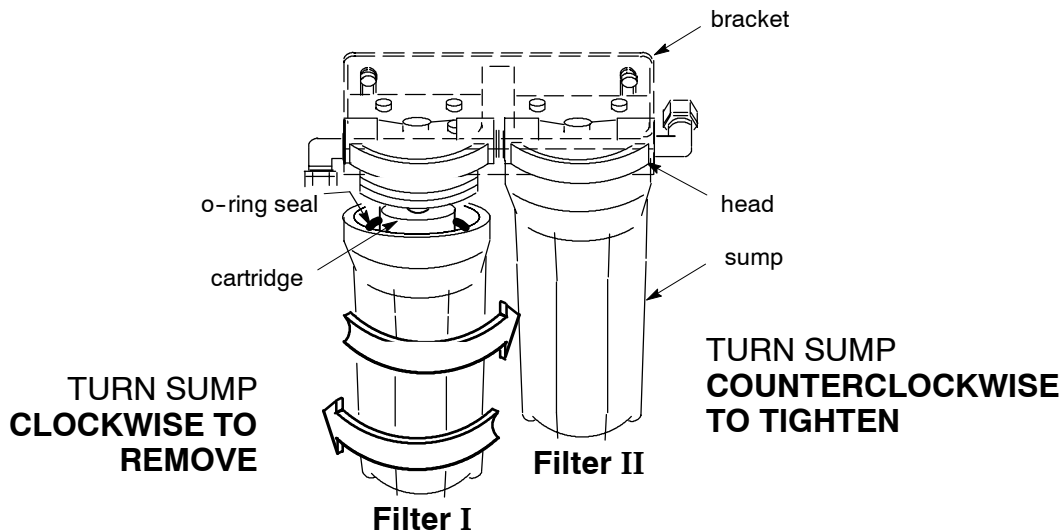
1. Close the water supply shut-off valve (Figure 1, page 4) to the filter. Open the filtered water faucet to relieve pressure in the system.

2. Use the sump removal wrench, that is provided, to 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.

3. Be sure the inside of the sump is clean. Use hot, soapy water and rinse thoroughly.

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.

FIGURE 6



FILTER CARTRIDGE REPLACEMENT

NOTE: If you are using filter numbers 7173838 and 7173862, filter 7173838 is to be placed in the Filter I position and filter 7173862 is to be placed in the Filter II position.

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

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 (counter-clockwise) the sump onto the filter head and tighten securely.

8. Repeat steps 2 through 7 at the other filter.

9. Open the filtered water faucet. Then, slowly open the water supply valve and allow the filter housing to fill.

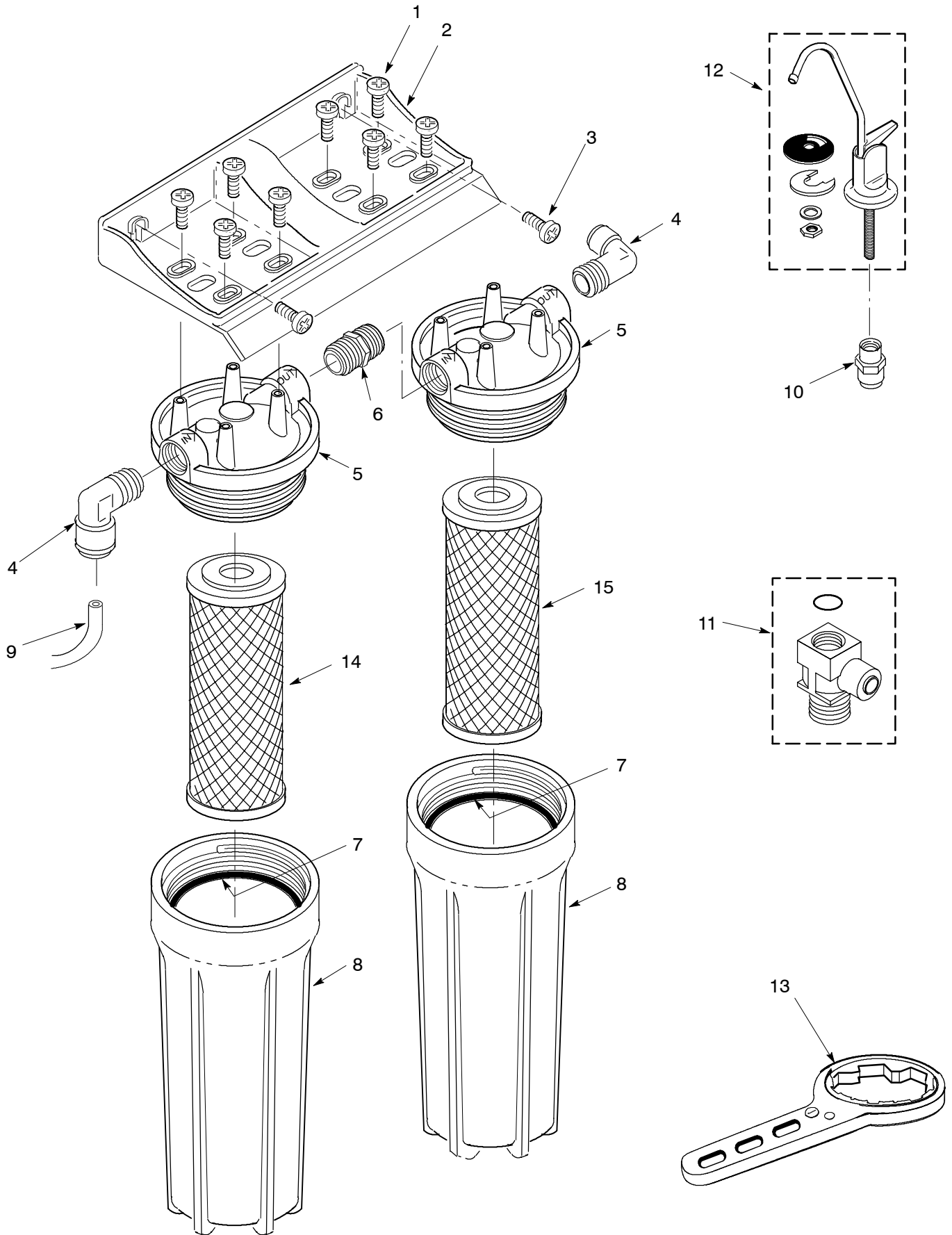
10. Close the filtered water faucet. Check for leaks between the sump and the head.

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

11. Taste and Odor Cartridges: A taste and odor cartridge contains activated carbon, a black powder. When new, open the filtered water faucet and allow fine, harmless carbon particles to purge from the cartridge. Close the faucet when you no longer see the "fines" in the filtered water, or approximately 10 minutes.

REPAIR PARTS

North Star Undersink Drinking Water Filter System, Model No. DFS



REPAIR PARTS LIST

North Star Undersink Drinking Water Filter System, Model No. DFS

KEY NO.	PART NUMBER	DESCRIPTION
1	7160453	Screw, #10 - 14 x 3/4" (8 req.)
2	7156789	Mounting Bracket
3	9006053	Screw, #10 - 14 x 1-1/4" (2 req.)
4	7207881	Elbow, 3/8" NPT x 3/8" Tube (2 req.)
5	7156535	Head (2 req.)
6	7161255	Nipple, 3/8" NPT x 1 - 1/2"
7	7170246	O-ring, 3-3/8" I.D. x 3-5/8" O.D. (2 req.)
8	7156577	Sump (2 req.)
9	7168435	Tubing, 3/8" x 72"
10	7207920	Faucet Adaptor
11	7228536	Tee, Feed Adaptor (with gasket)
12	7228510	Faucet Assembly
13	7193066	Sump Removal Wrench
14	7173838	Taste & Odor Cartridge, 95% chlorine reduction
15	7173862	Taste & Odor / Lead Cartridge / Cyst

For repair or replacement parts, call 1-800-972-0135.