SEARS

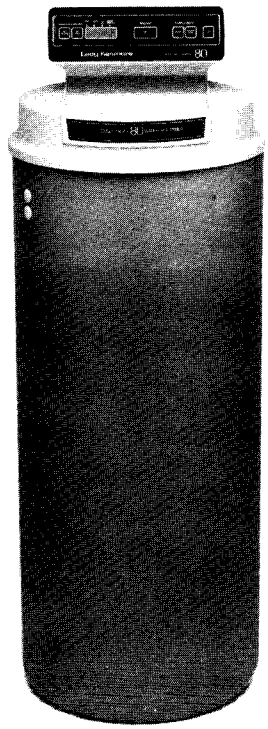
OWNERS MANUAL

MODEL NO. 625.342802

CAUTION
Read All Safety Guides Before You Start to Install Your Softener

SAVE THIS MANUAL

AVOID UNNEEDED SERVICE CALLS...
Read the HELPFUL HINTS CHECKLIST on page 24. The programming guides on the underside of the Salt Storage Tank Cover are also helpful.



Lady Kenmore
cycle miser® 80
WATER SOFTENERS

— HOW TO INSTALL —

— HOW IT WORKS —

— CARE OF —

— SPECIFICATIONS —

— REPAIR PARTS —

Sears, Roebuck and Co., Chicago, Ill. 60684 U.S.A.

PRINTED IN U.S.A.

342802

WARRANTY

SEARS RESIDENTIAL WATER SOFTENER

FULL ONE YEAR WARRANTY ON WATER SOFTENER

For one year from the date of purchase, when this water softener is installed and maintained in accordance with our instructions, Sears will repair, free of charge, defects in material or workmanship in this water softener.

FULL TEN YEAR WARRANTY AGAINST LEAKS

For ten years from the date of purchase, Sears will furnish and install a new current model water softener tank or salt storage drum, free of charge, if either the tank or drum develop a leak.

TO OBTAIN WARRANTY SERVICE, SIMPLY CONTACT THE NEAREST SEARS SERVICE CENTER THROUGHOUT THE UNITED STATES. This warranty applies only while this product is in use in the United States.

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

Sears, Roebuck and Co., Dept. 698/731A, Sears Tower, Chicago, IL 60684

If you want your water softener professionally installed, talk to your Sears Salesman. He will arrange for a prompt, quality installation by Sears Authorized Installers.

SEARS INSTALLATION POLICY

All installation labor arranged by Sears shall be performed in a neat, workmanlike manner in accordance with generally accepted trade practices. Further, all installations shall comply with all local laws, codes, regulations and ordinances. Customer shall also be protected, during installation, by insurance relating to Property Damage, Workman's Compensation and Public Liability.

SEARS INSTALLATION WARRANTY

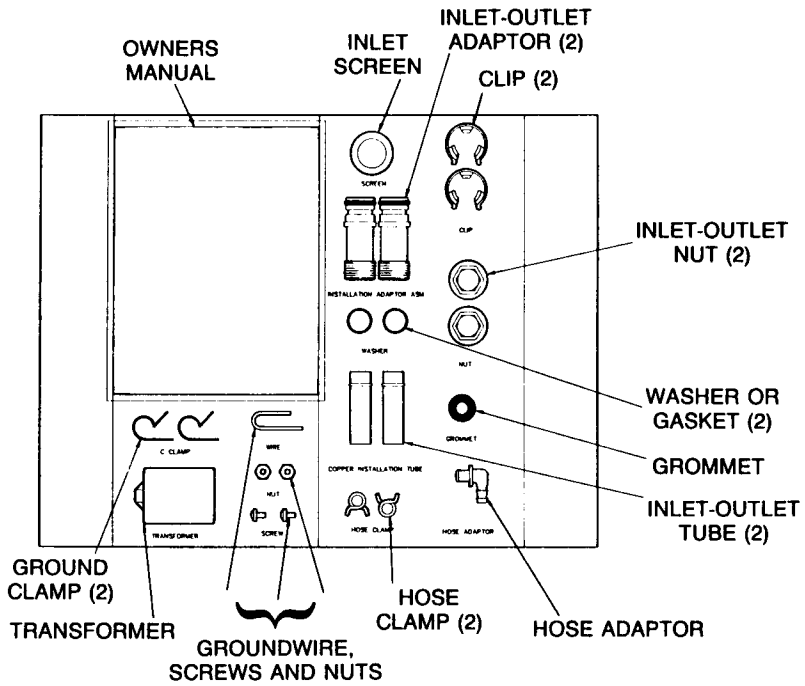
In addition to any warranty extended to you on the Sears merchandise involved, which warranty becomes effective the date the merchandise is installed, should the workmanship of any Sears arranged installation prove faulty within one year, Sears will, upon notice from you, cause such faults to be corrected at no additional cost to you.

TABLE OF CONTENTS

SECTION 1 | UNPACKING, SAFETY GUIDES

UNPACKING — The cardboard packing piece this owners manual was on has all the softener parts fastened to it you will need to install the softener (not including plumbing pipe and fittings). To avoid losing any parts, keep them on the cardboard until you need them. Remove all other cardboard pieces, foam packings, tape, etc. and discard.

Check the softener for shipping damage. If you find damage, call your Sears store for help.



SAFETY GUIDES

▲ Read all steps, guides and rules carefully before installing and using your new water softener. Follow all steps exactly to correctly install. Failure to follow them could cause personal injury or property damage. Reading this book will also help you to get all of the benefits from your water softener.

▲ Your water softener will remove hardness minerals and "clear water" iron from water, up to the limits shown on page 25. It will not remove other types of iron, acids, tastes and odors, etc. It will not purify polluted water or make it safe to drink.

▲ Check with your local public works department for plumbing, electric and sanitation codes. You must follow their guides as you install your softener.

▲ Protect the softener and piping from freezing. Damage from freezing voids the softener warranty. See page 22.

PLEASE READ AND COMPLY WITH THE FOLLOWING GUIDES TO PREVENT DAMAGE TO THE SOFTENER OR OTHER PROPERTY, PERSONAL INJURY, OR POSSIBLE FATAL SHOCK.

▲ THIS SOFTENER WORKS ON 24 VOLTS ONLY. BE SURE TO USE THE TRANSFORMER INCLUDED, AND PLUG IT INTO A 120V OUTLET.

▲ Be sure the electric outlet for the softener is grounded the right way.

▲ DO NOT remove the grounding prong from the transformer, or plug into a non-grounded outlet.

▲ Unplug the transformer right away if the power cable should become damaged or frayed. Make repairs before plugging back into the power outlet.

▲ Always unplug the softener from electrical power before removing outer valve covers.

When you see this sign in the book, ▲ something could be damaged, or someone hurt, if the guide is not followed exactly.

SECTION 2 BEFORE YOU START TO INSTALL

HELPFUL INFORMATION

If you know little about plumbing skills, we suggest you get a book on the subject. There are many good books for do-it-yourselfers on the basics of plumbing. You can get a low cost book from Sears Plumbing and Heating departments that will help you. Some basic sweat soldering tips are on page 26 of this manual.

WATER SYSTEM TESTS

HAS YOUR WATER SUPPLY HAD A CHEMICAL ANALYSIS? Sears has many kinds of water treating units (see page 6) to correct different water problems. To know the kind and size of unit you need, you must first know what elements are in your house water supply. A chemical analysis shows the type and amounts of elements in water. If your water needs analysis, call or write your nearest Sears store for help.

CHECK YOUR WATER PRESSURE — For your softener to work right, a water pressure of no lower than 20 pounds per square inch (psi) is needed in the house water pipes. The highest pressure allowed in the water pipes is 120 psi. If pressure is over 120 psi, buy and install a pressure reducing valve in the water inlet pipe to the softener. NOTE: If water pressure during the day is 100 psi or more, pressure during the night may go over 120 psi.

If you have a well water system, look at the pressure gauge to find the water pressure. Call your local water department if you have city water. They will tell you what the water pressure is where you live.

CHECK YOUR WATER FLOW RATE — A water flow of at least 3 gallons per minute is needed. A lower flow will keep your softener from working as well as it should. To make an easy check of your flow rate, do the following. You will need a 1 gallon container (can, jar, pail, etc.).

1. Fully open 2 cold water faucets close to the point water enters the house.
2. With both faucets open, fill the gallon container at 1 faucet while looking at a watch or clock to see how many seconds it takes.
3. Empty the container and go to the second faucet (be sure BOTH faucets are still on). Fill the gallon container at the second faucet and see how many seconds it takes.
4. Turn off both faucets. Now add the number of seconds it took to fill the container at both faucets.
5. A total of 90 seconds, or less, means the system flow rate is good.

FACTS AND FIGURES TO KEEP

Fill in the blanks below and keep this book in a safe place so you always have these facts.

Water Softener Model No. †_____

Serial Number _____

Date Installed _____

Water Hardness_____ Grains Per Gallon

Iron Content _____ Parts Per Million

*pH _____ Taste And/Or Odor _____

Water Pressure _____ Pounds/Square Inch

Water Flow Rate _____ Gallons Per Minute

† Get from the rating decal on the softener.
*The acidity or alkalinity measure of water.

SODIUM INFORMATION: — Water softeners using sodium chloride for regeneration add sodium to the water. Persons who are on sodium restricted diets should consider the added sodium as part of their overall sodium intake.

For example, if your water supply is 15 grains hard, you would have to drink 3 quarts of softened water to consume 335 milligrams of sodium. That is equivalent to eating 2½ slices of white bread.

Persons who are concerned about their drinking water should consider a Sears Drinking Water System that will remove or reduce in excess of 90% of the sodium and other drinking water contaminants.

SECTION 2 BEFORE YOU START TO INSTALL

WHERE TO INSTALL THE SOFTENER

Think of the following points as you choose a place to put your softener. (See FIG. 1).

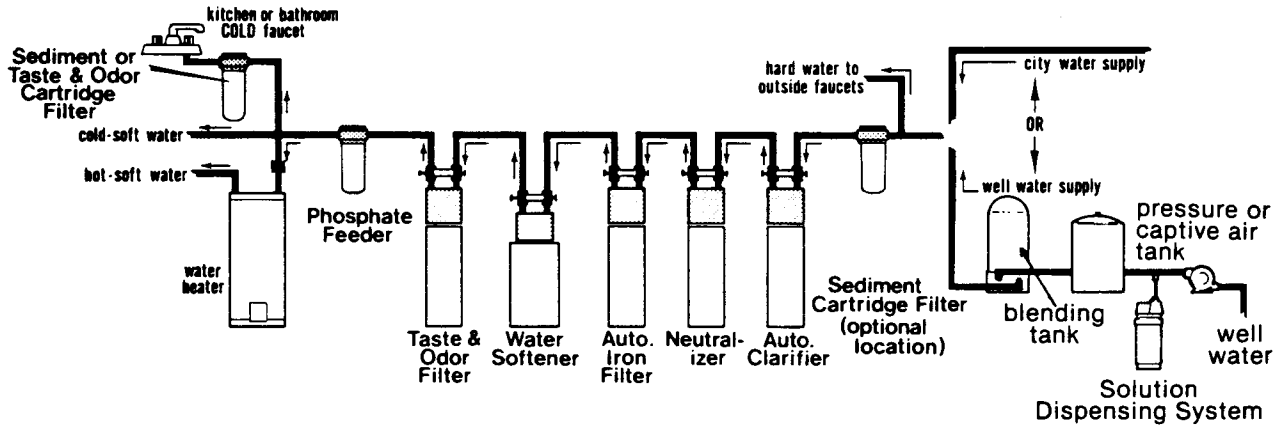
- Place as close as possible to the pressure tank (well water) or water meter (city water).
- Place as close as possible to a water drain such as a floor drain, laundry tub, sump or standpipe.
- ▲ Connect to the house main water pipe BEFORE THE WATER HEATER. Temperature of water going through the softener must not be more than 120 F (49 C).
- Keep outside faucets on hard water to save soft water and salt.
- ▲ DO NOT install in a place where the softener could freeze. Freeze damage voids the warranty by Sears, Roebuck and Co. (See page 22).
- ▲ Put the softener in a place water damage is least likely to occur if it develops a leak. Sears or the manufacturer will not repair or pay for water damage.
- ▲ A 120V electric outlet, to plug the transformer into, is needed within 10 feet of the softener (the softener has a 10 foot power cable). Be sure the outlet and transformer are in an inside place, to protect from wet weather.
- ▲ When installing in an outside location, you must take the steps necessary to assure the softener, installation plumbing, and wiring, are as well protected from the elements, contamination, vandalism, etc., as when installed indoors.
- ▲ Keep the softener out of direct sunlight. The sun's heat can melt plastic parts.

PLAN HOW TO INSTALL YOUR SOFTENER

You must first decide how to run in and out pipes to the softener. Look at your house main water pipe at the point you will connect the softener. Is the pipe soldered copper, glued plastic, or threaded galvanized or brass? What is the pipe size? What kind of pipe and fittings is it easiest for you to work with, and what tools do you have?

Now look at the common plans for in and out piping on pages 8 and 9. Select the drawing best for you and use it as a guide to plan what materials you will need. As you plan your in and out piping, keep in mind the following check list. Then get all the materials you will need before you start.

FIG. 1 THE PROPER ORDER TO INSTALL WATER TREATING EQUIPMENT
(Shows sequence of equipment only — seldom, if ever, would all items be needed)



SECTION 2 BEFORE YOU START TO INSTALL

TOOLS, PIPE, FITTINGS AND OTHER MATERIALS YOU WILL NEED

- In and out pipes to the softener must be at least 3/4 in. size. Some local codes may tell you to use no less than 1 in. pipe size.
- Use copper, brass, or galvanized pipe and fittings. Some codes may also allow CPVC plastic pipe.
- Copper and galvanized pipe corrode fast when connected together. Use pipe and fittings of the same material.
- You can buy adaptors to go from a copper or threaded main water pipe to CPVC in and out pipe.
- Sears has kits and bypass valves you can buy to help make installing your softener easier. See pages 8 and 9.
- ALWAYS install a bypass valve or valves. Either use 3 shut-off valves, or 1 of Sears special valves. Bypass valves let you turn off water to the softener, but still have water in the house pipes.
- Drain hose (7/16 in. inside diameter) is needed for valve and salt tank drains. See steps 9 and 10 on pages 12 and 13. You can buy flexible hose at most Sears stores or through Sears catalog.

If a rigid valve drain is needed to comply with plumbing codes, you can buy the parts needed (See page 12) to change the softener to a 1/2 in. copper tubing drain.

- TOOLS NEEDED: — Common and cross point (Phillips) screw drivers, slip-joint pliers and a tape measure or rule. ALSO . . .

. . . for SOLDERED COPPER - tubing cutter, propane torch, solid-core solder, paste flux, emery cloth, sandpaper or steel wool.

. . . for THREADED PIPE - hacksaw or pipe cutter, pipe wrenches, pipe threading tool, pipe joint compound.

. . . for CPVC PLASTIC - hacksaw, adjustable wrench, solvent cement, fine emery cloth.

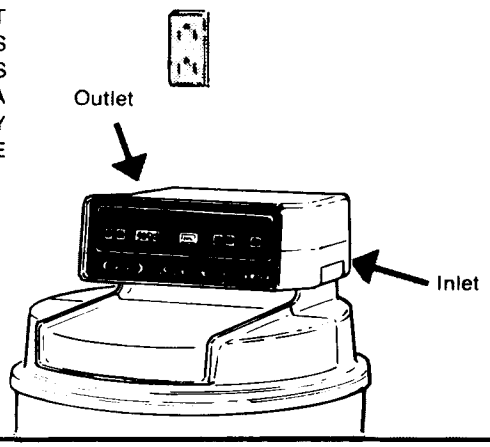
YOUR HOUSE MAIN WATER PIPE*

LEFT

RIGHT

*IN WHAT DIRECTION DOES THE WATER FLOW? BE SURE TO PLAN IN AND OUT PIPING SO WATER FLOW IS TO THE SOFTENER INLET. PLAN A CROSSOVER (FIG. 2 OR 3) IF FLOW IS FROM LEFT TO RIGHT.

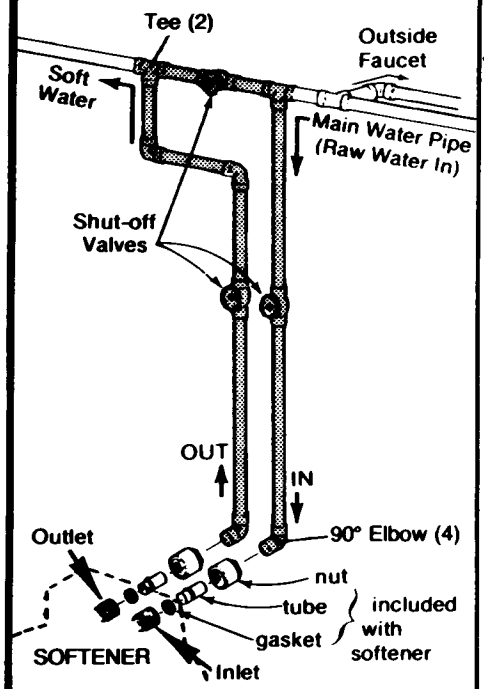
DRAW THE PLANS FOR YOUR IN AND OUT PIPING HERE. BE SURE TO FOLLOW GUIDES LISTED ABOVE. INCLUDE ALL PIPE, FITTINGS AND ACCESSORIES YOU WILL USE. MAKE A LIST OF ALL MATERIALS YOU NEED AND BUY THEM BEFORE YOU BEGIN TO INSTALL THE SOFTENER.



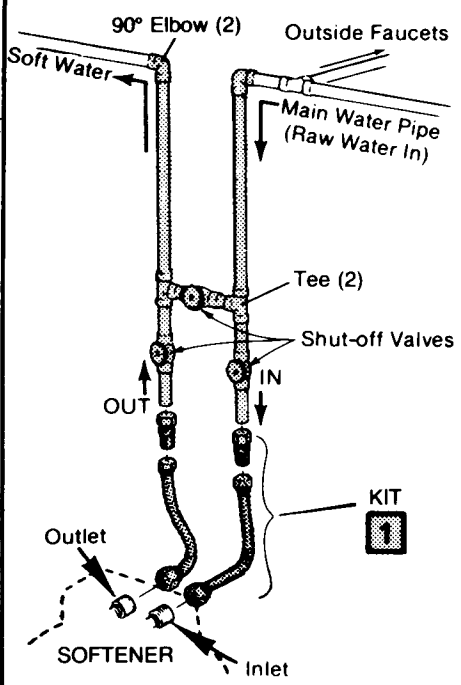
SECTION 2 PLANS FOR IN AND OUT PIPES TO SOFTENER

FIG. 2 SOLDERED COPPER (or CPVC)

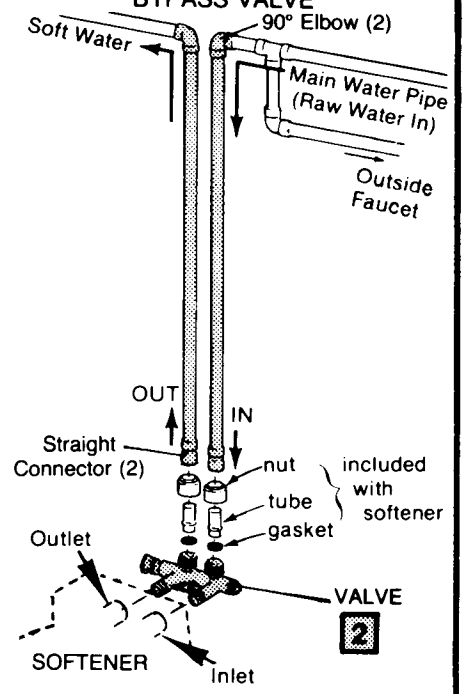
IN AND OUT PLUMBING USING A 3 VALVE BYPASS



IN AND OUT PLUMBING USING A 3 VALVE BYPASS AND SEARS SPECIAL FLEXIBLE CONNECTOR KIT



IN AND OUT PLUMBING USING SEARS SPECIAL PLASTIC BYPASS VALVE



SEARS KITS AND VALVES TO MAKE INSTALLING YOUR SOFTENER EASIER

1 FLEXIBLE CONNECTORS

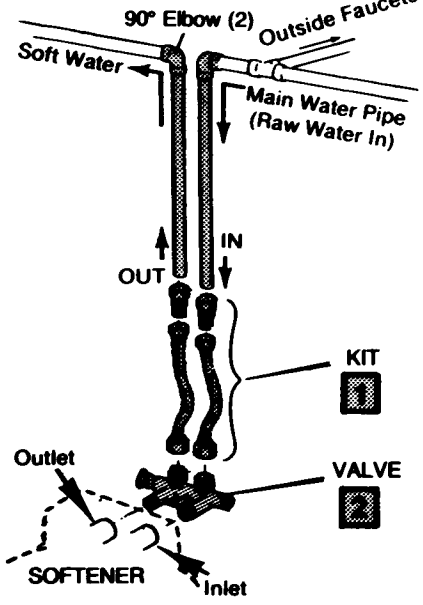
Allows easy hook up even if pipes are not exactly aligned.

2 BYPASS VALVE (Plastic)
Sears Stock No. 42-3437

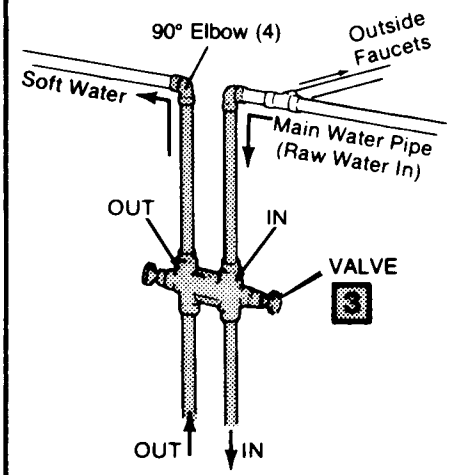
3 BYPASS VALVE (Brass)
Sears Stock No. 42-3436

One, easy working valve takes the place of 3 separate valves.

IN AND OUT PLUMBING USING SEARS SPECIAL FLEXIBLE CONNECTOR KIT AND PLASTIC BYPASS VALVE



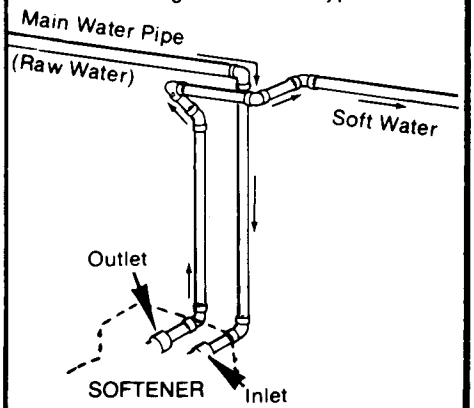
IN AND OUT PLUMBING USING SEARS SPECIAL BRASS BYPASS VALVE



Plumb to softener using fittings shown in 3 valve bypass

CROSS-OVER

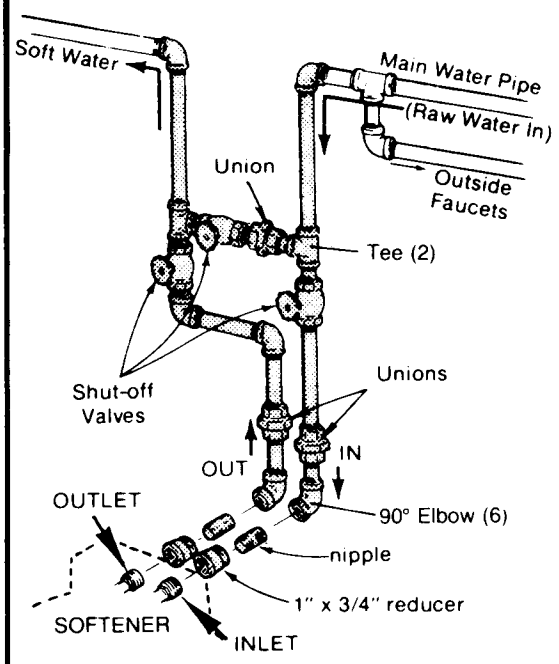
Use if water supply flows from the left. Include single or 3 valve bypass.



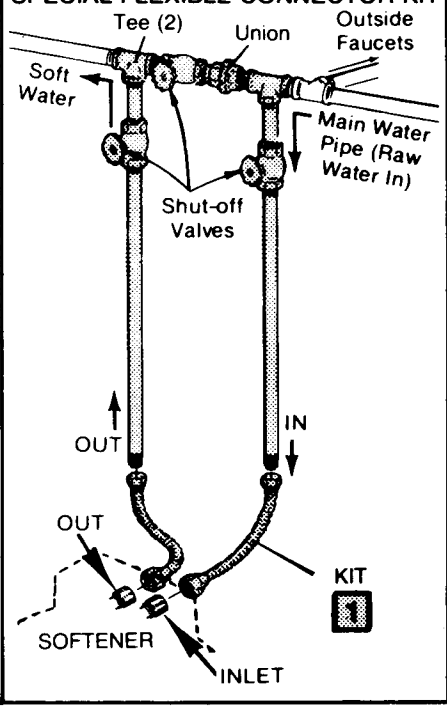
SECTION 2 PLANS FOR IN AND OUT PIPES TO SOFTENER

FIG. 3 THREADED PIPE — GALVANIZED OR BRASS

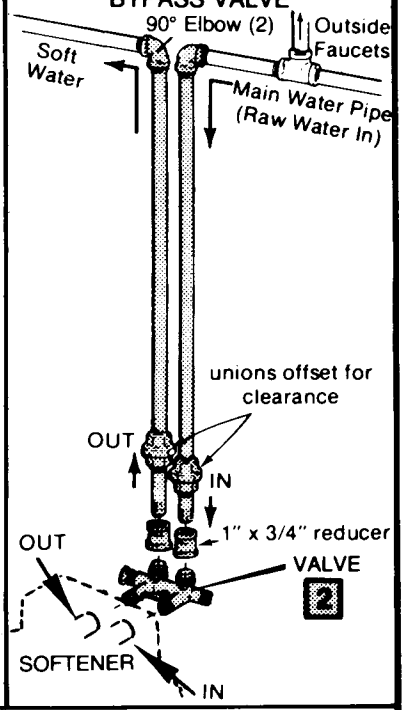
IN AND OUT PLUMBING USING A 3 VALVE BYPASS



IN AND OUT PLUMBING USING A 3 VALVE BYPASS AND SEARS SPECIAL FLEXIBLE CONNECTOR KIT



IN AND OUT PLUMBING USING SEARS SPECIAL PLASTIC BYPASS VALVE



SEARS KITS AND VALVES TO MAKE INSTALLING YOUR SOFTENER EASIER

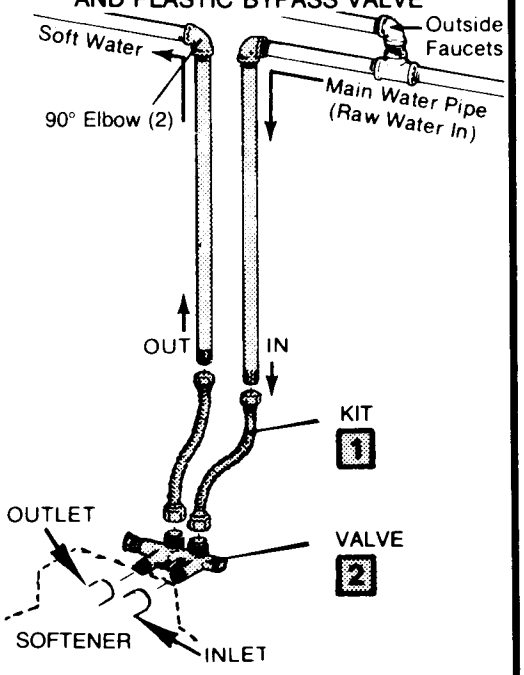
1 FLEXIBLE CONNECTORS

Allows easy hook up, even if pipes are not exactly aligned.

2 BYPASS VALVE
Sears Stock No. 42-3437

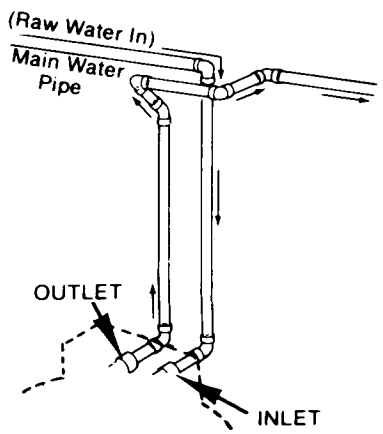
One, easy working valve takes the place of 3 separate valves.

IN AND OUT PLUMBING USING SEARS SPECIAL FLEXIBLE CONNECTOR KIT AND PLASTIC BYPASS VALVE



CROSS-OVER

Use if water supply flows from the left. Include single or 3 valve bypass.



SECTION 3 | STEP BY STEP GUIDES TO INSTALL

▲ **1.** Close the shut-off valve on the house main water pipe, near the water meter or pressure tank, to turn off the water.

▲ **2.** Shut off the gas or electric supply to the water heater.

▲ **3.** Open the highest and lowest water faucets in your house to let water drain from the pipes. Close faucets after water has drained.

4. If not already done, remove all cardboard or plastic packing pieces from inside the softener. Set the cardboard liner (with parts for installing fastened to it) where you can easily see it, and get to parts as you need them.

5. INSTALL THE INLET SCREEN, AND THE INLET AND OUTLET ADAPTORS OR SEARS BYPASS VALVE, STOCK NO. 42-3437.

NOTE: If you will install the bypass valve, the adaptors are not used. If you do not install the bypass valve, you must use the adaptors.

a. INLET SCREEN — The inlet screen (FIG. 4 or 5) is on the cardboard liner with the other small parts. This screen, put in the softener valve inlet, stops dirt and other sediments from getting inside the softener. To install it, put it into the valve inlet with the pointed end facing outward, toward incoming water.

b. INLET AND OUTLET ADAPTORS (Adaptors and clips are on the cardboard liner.) - Push the adaptors into the valve inlet and outlet ports (FIG. 4) as far as they will go. Both adaptors are the same and fit either valve port. **SNAP THE 2 LARGE HOLDING CLIPS INTO PLACE, FROM THE TOP DOWN AS SHOWN. BE SURE THEY SNAP FIRMLY IN-TO PLACE, SO THE ADAPTORS WILL NOT PULL OUT. . . GO TO STEP 6.**

c. BYPASS VALVE, STOCK NO. 42-3437 — If not already done, put a light coating of silicone grease or Vaseline on the bypass valve o-rings.

FIG. 4 INSTALLING INLET SCREEN - INLET AND OUTLET ADAPTORS

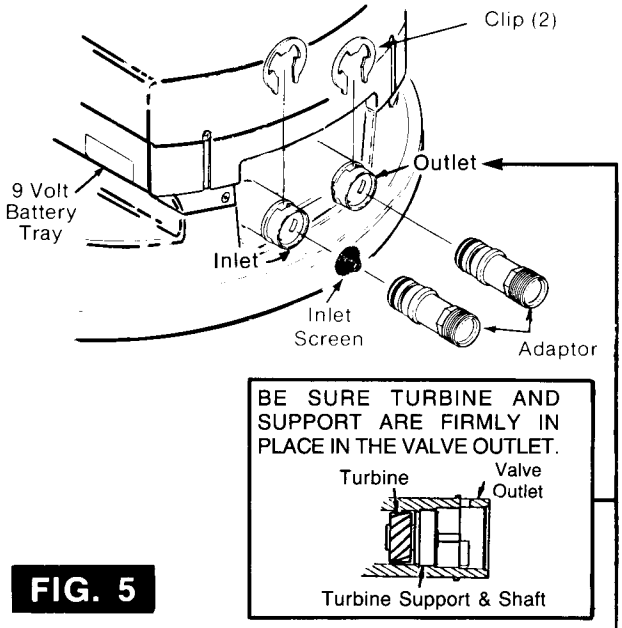


FIG. 5 INSTALLING INLET SCREEN AND BYPASS VALVE

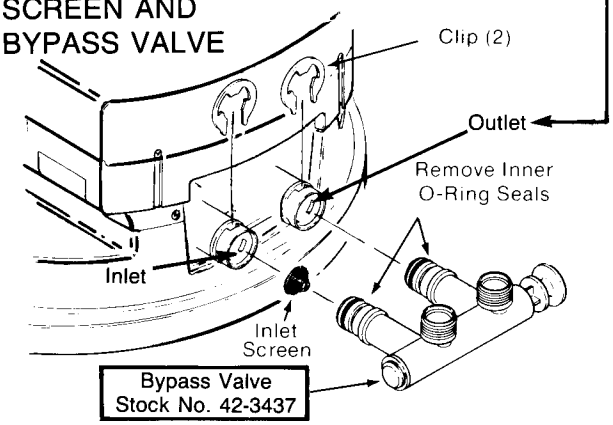
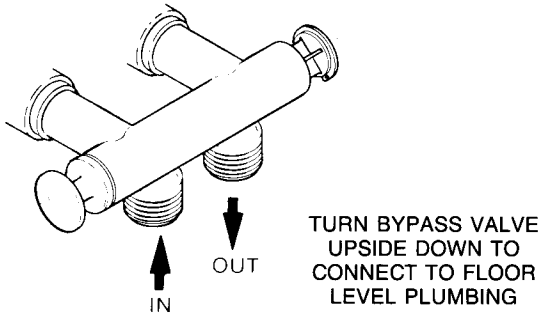


FIG. 6 BYPASS VALVE TURNED DOWNWARD



Push the bypass valve into the softener valve as far as it will go (FIG. 5 or 6). **SNAP THE 2 LARGE HOLDING CLIPS INTO PLACE, FROM THE TOP DOWN AS SHOWN. BE SURE THEY SNAP**

SECTION 3 | STEP BY STEP GUIDES TO INSTALL

FIRMLY IN PLACE, SO THE BYPASS VALVE WILL NOT PULL OUT. GO TO STEP 7.

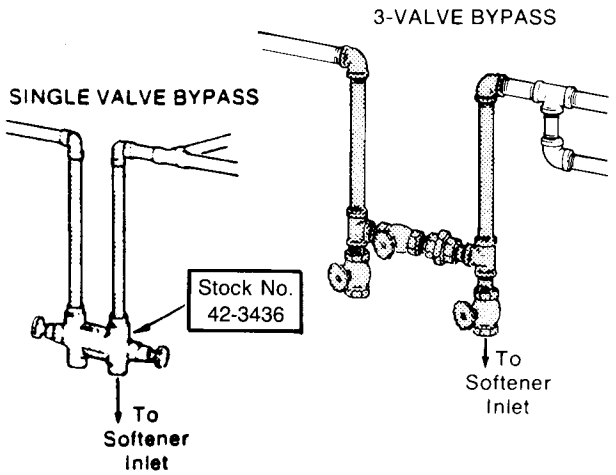
6. INSTALLING 3 VALVE BYPASS, OR SEARS BYPASS VALVE, STOCK NO. 42-3436, AND PIPES (FIG. 7)

a. Cut the house main water pipe where you will connect the softener. Loosely put together pipe, fittings, and the 3 valves or Sears special bypass valve. Place valve(s) within easy reach.

IMPORTANT: WHEN LOOKING AT THE FRONT OF THE SOFTENER, THE INLET IS ON THE RIGHT SIDE. IF WATER IN YOUR HOUSE MAIN WATER PIPE RUNS FROM LEFT TO RIGHT, BE SURE TO USE A "CROSS-OVER" AS SHOWN IN FIG. 2 AND 3, PAGES 8 AND 9.

b. If all pipe, fittings and valves fit together good, tighten all threaded joints (use pipe dope on outside threads), or solder following tips on page 26.

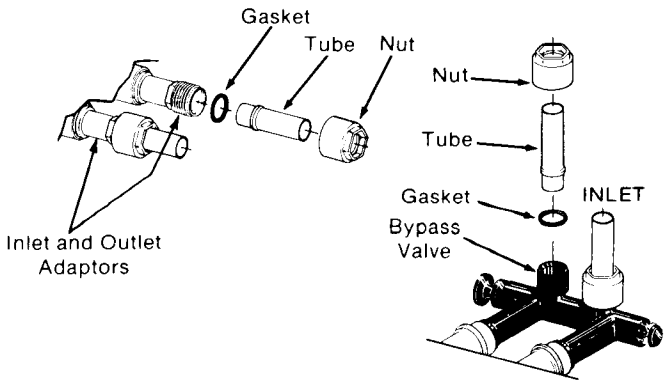
FIG. 7 BYPASS VALVES



7. MOVE SOFTENER INTO PLACE

Move the softener into place. Be sure the surface it sets on is level and smooth. If needed, put a piece of 3/4" plywood, at least 18" square, under the tank. Then put a spacer under the plywood to level the softener.

FIG. 8 INLET-OUTLET FITTINGS



8. CONNECT THE SOFTENER

(Refer to your plan drawing on page 7, and to page 8 or 9.)

— SOLDER COPPER OR CPVC PIPE

a. Read the important note in step 6. Then put the gaskets, tubes and nuts shown in FIG. 8, or the flexible connectors (Sears kit, page 8) onto the softener or bypass valve.

b. Measure, cut and put all pipe and fittings together up to the main water pipe, or to the bypass valve(s) you installed in step 6 above.

c. When all piping fits together good, solder (or glue CPVC) all joints following tips on page 26.

▲ CAUTION: BEFORE SOLDERING, DISCONNECT NUTS (FIG. 8) AT THE SOFTENER OR BYPASS VALVE. THIS WILL STOP THE HEAT, CAUSED BY THE SOLDERING, FROM GOING INTO THE SOFTENER VALVE AND MELTING PLASTIC PARTS. After plumbing cools, put nuts back on and tighten.

— THREADED PIPE

a. Read the important note in step 6. Then measure, cut, thread and put together pipe and fittings from the softener (or bypass valve) up to the main water pipe, or to the bypass valves installed in step 6.

b. Include union fittings or flexible connectors (Sears kit, page 9).

c. Cut pipe lengths exact for correct aligning, and to prevent putting weight on the valve. Use

continued, page 12

SECTION 3 | STEP BY STEP GUIDES TO INSTALL

continued from page 11

pipe dope or teflon tape on all outside threads.

▲ CAUTION: BE VERY CAREFUL WHEN PUTTING PIPE FITTINGS ONTO THE PLASTIC THREADS OF THE SOFTENER ADAPTORS, OR THE BYPASS VALVE. DO NOT CROSS-THREAD. DO NOT OVERTIGHTEN.

CONNECT THE VALVE DRAIN HOSE

9. Take a length of 7/16" inside diameter (I.D.) drain hose and attach 1 end to the flow washer housing (FIG. 9). Use a hose clamp to hold it in place. Put the other end of the hose over a floor drain, or into a laundry tub (FIG. 9), into a sump or standpipe (FIG. 10), or into some other suitable drain. CHECK YOUR LOCAL CODES.

IMPORTANT NOTES: (see FIG. 9, 10 and 11)

- ▲ Leave an air gap of about 1-1/2" between the end of the hose and the drain. This gap is needed so you don't get a back-flow of sewer water into the softener. DO NOT put the end of the hose into the drain or connect without the air gap.
- ▲ Place and support the hose so it does not kink or have sharp bends. Tie or wire the hose in place so water pressure will not make it "whip". Do not pinch the hose shut.
- ▲ Keep the hose lower than the drain fitting. (In some homes, to get to a drain you must raise the hose and run it over-head. If you need an over-head drain, do not raise the hose more than 8' above the floor. A copper drain tube is best to use. . . see below.)

COPPER DRAIN TUBE: The plumbing codes where you live may say that you must use a copper valve drain tube. A copper tube is also best to use for an over-head drain. Use a copper drain tube if the softener is installed outside, or in the sunlight. Heat from the sun makes many kinds of rubber or plastic hose to collapse or close up.

To adapt a copper drain tube to the softener, use a hacksaw to cut the barbed end from the drain fitting as FIG. 11 shows. Buy a compression fitting (¼ in. female pipe threads x ½ in. O.D. tube) and tube from Sears, or your local hardware store.

FIG. 9 DRAIN HOSES

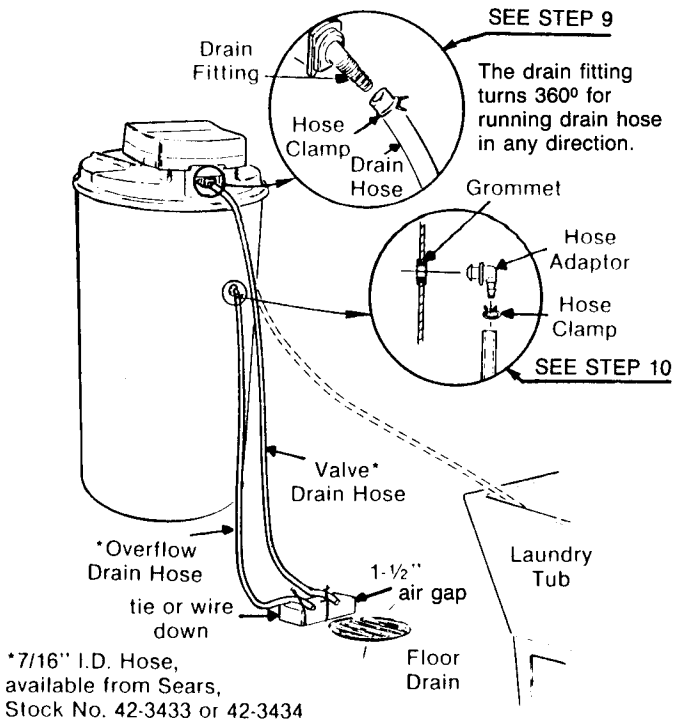


FIG. 10 SUMP — STANDPIPE DRAINS

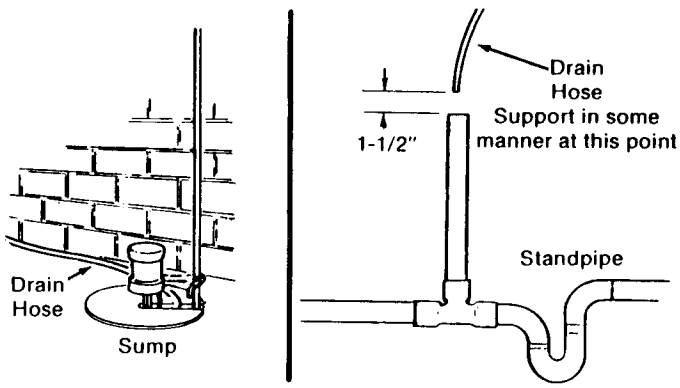
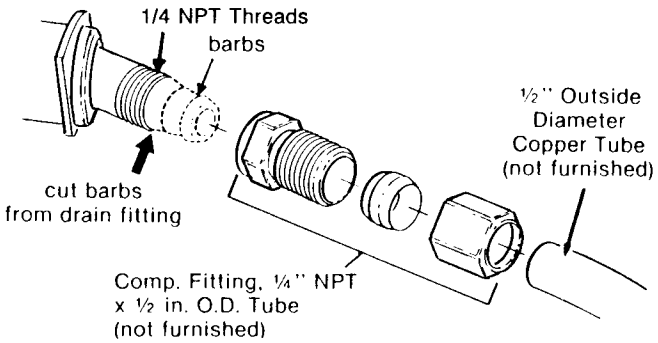


FIG. 11 COPPER DRAIN TUBE



SECTION 3 | STEP BY STEP GUIDES TO INSTALL

10. CONNECT A SALT TANK OVERFLOW HOSE

a. Take the rubber grommet, hose adaptor and hose clamp (FIG. 9) that are on the small parts cardboard liner.

b. Push the grommet into the hole in the salt tank wall so half is inside and half is outside.

c. Push the bigger end of the hose adaptor into the grommet.

d. Push one end of a length of 7/16" I.D. hose onto the hose adaptor, using the hose clamp to hold it in place. Put the other end of the hose over the floor drain.

IMPORTANT NOTES:

- The salt tank overflow is for safety only. It directs over-fill water from the salt storage tank to the drain.
- Over-fill water must run downward through the hose. Do not raise the hose higher than the grommet and hose adaptor (FIG. 9).
- DO NOT connect to the valve drain hose you installed in step 9. A separate hose is needed for both drains.

11. TESTING YOUR PLUMBING WORK FOR WATER LEAKS.

Look at the picture in FIG. 12 showing your kind of bypass valve(s). On a single valve, slide the stem into SERVICE. On a 3-valve system, open the inlet and outlet valves and close the bypass valve.

a. OPEN A HOT AND COLD WATER FAUCET TO LET AIR OUT OF THE SOFTENER AND HOUSE PIPES.

b. Fully open the shut-off valve in the house main water pipe to turn on the water.

c. After water from the faucets runs smooth with no more air bubbles, close them.

d. Check your plumbing work for leaks and fix right away if any are found. READ THE CAUTION NOTE IN STEP 8, PAGE 11 OR 12.

12. INSTALL GROUNDING WIRE BETWEEN THE SOFTENER IN AND OUT PIPES

The house cold water pipe (iron or copper) is often used to ground all electric outlets in the home. Outlets are grounded to protect you from shock when you touch any electric appliance plugged into the outlet. If you didn't install a 3-valve bypass, or a brass single bypass valve (FIG. 12), the cold water pipe ground is broken.

FIG. 12 BYPASS VALVES

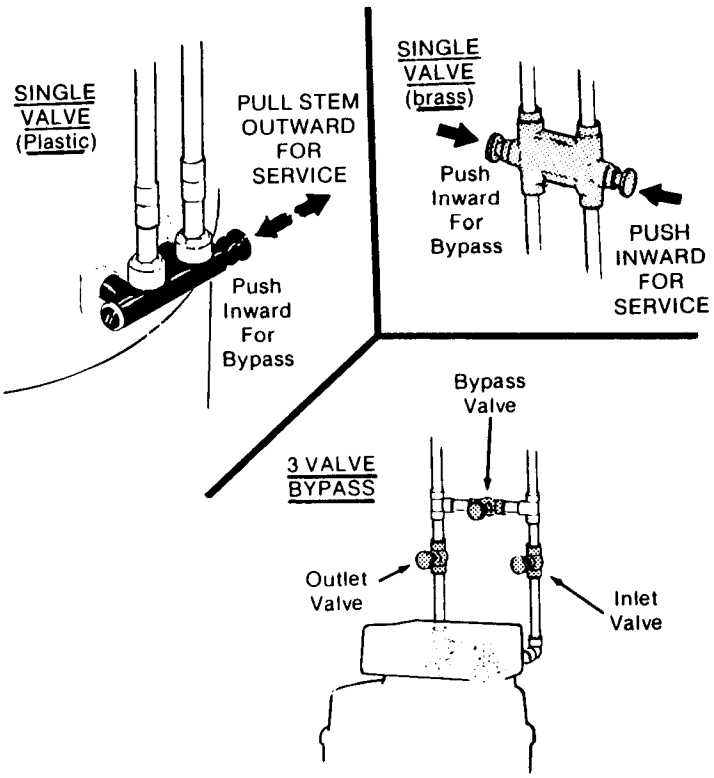
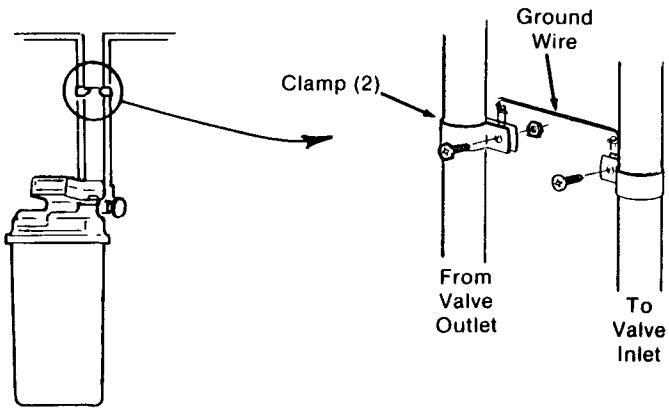


FIG. 13 COLD WATER PIPE GROUND



▲ To restore the ground, take the clamps (2), screws (2), nuts (2) and ground wire that are on the cardboard liner. Install across the iron or copper in and

continued, page 14

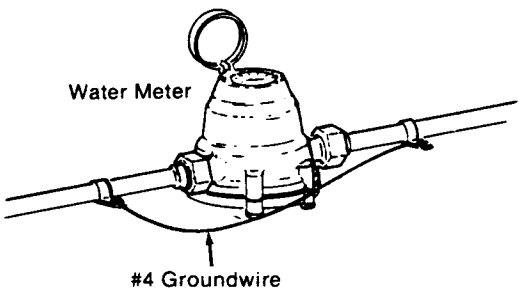
SECTION 3 | STEP BY STEP GUIDES TO INSTALL

continued from page 13

out pipes as shown in FIG. 13. Be sure good contact is made between the pipe and the clamps. Fasten the ground wire tightly between the clamps.

IMPORTANT: Be sure the cold water pipe has direct metal to metal contact all the way to the ground. Plastic, rubber or other electrically insulating parts such as hoses, fittings, washers or gaskets can break the direct metal to metal contact. Also check the water meter (city water) or the well pump. Install #4 copper jumper wires, clamped tightly on both ends, across insulated parts (FIG. 14).

FIG. 14 WATER METER JUMPER WIRE



13. ELECTRIC POWER OUTLET FOR YOUR SOFTENER

The softener works on 24 volt, 60 Hz electric power. The included transformer changes standard 120 volt AC house power to 24 volts. You must plug ▲ the transformer into a 120 volt GROUNDED outlet only. Be sure the outlet is always "live" so someone cannot turn it off by mistake.

TO CHECK AN OUTLET FOR GOOD GROUNDING, use an Underwriters Laboratory (UL) approved circuit analyzer. (FIG. 15) You can get one at most electrical supply stores, and at Sears. When the analyzer is plugged into an outlet, it has lights to tell you if the outlet is grounded or not. Use it to check other outlets in your home.

NOTE: The included transformer is made for inside use only. Be sure the electrical outlet you plug the transformer into is inside, to protect from weather (see page 6).

FIG. 15 CHECKING THE OUTLET

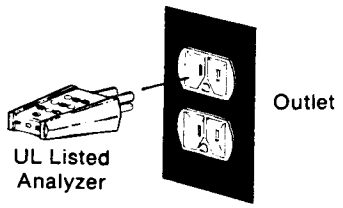
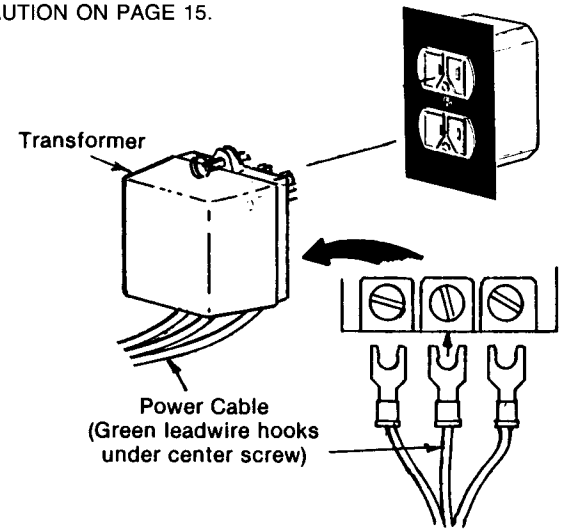


FIG. 16 CONNECTING TRANSFORMER

NOTE: USE THE INCLUDED TRANSFORMER ONLY. SEE THE CAUTION ON PAGE 15.



14. FASTEN THE POWER CABLE AND PLUG IN THE TRANSFORMER

Looking at FIG. 16, fasten the 3 power cable lugs (green wire under center screw) to the transformer as shown. Tighten all 3 screws. Then plug in the transformer into the outlet. OFF will begin to flash on the softener face plate.

CAUTION: DO NOT REMOVE THE GROUND PLUG FROM THE TRANSFORMER. THE SOFTENER ELECTRICAL SYSTEM WILL NOT WORK RIGHT WITHOUT PROPER GROUNDING.

SECTION 3 | STEP BY STEP GUIDES TO INSTALL

CAUTION: DO NOT USE A TRANSFORMER OTHER THAN THE ONE INCLUDED OR THE FACE PLATE TIMER WILL NOT WORK.

15. TURN ON THE GAS (OR ELECTRIC) SUPPLY TO THE HEATER AND LIGHT THE PILOT.

16. CHECK LIST OF STEP BY STEP GUIDES

To be sure you have done all the steps to install the softener, read the following list.

- ✓ Is the house water flow going INTO the softener valve INLET? Trace piping to be sure. (steps 6 and 8)
- ✓ Is the plumbing bypass valve (or 3 valves) set for SERVICE? (step 11)
- ✓ Is the valve drain hose connected the right way, and without sharp bends or kinks that could stop or reduce water flow? (step 9)
- ✓ Is the softener power cable connected to the transformer. . . and is the transformer plugged into an inside, 120V-60Hz grounded electrical outlet? (step 13 and 14)
- ✓ Did you restart the water heater? (step 15)

AFTER CHECKING ALL OF THE ABOVE, GO TO SECTION 4, "SOFTENER START-UP" TO FILL THE STORAGE TANK WITH SALT AND WATER, AND TO SET THE TIMER.

SECTION 4 | WATER SOFTENER START-UP

1. ADD WATER INTO THE SALT STORAGE TANK

Take off the salt storage tank cover. Add about 3 gallons of water into the storage tank. DO NOT POUR INTO THE BRINEWELL.

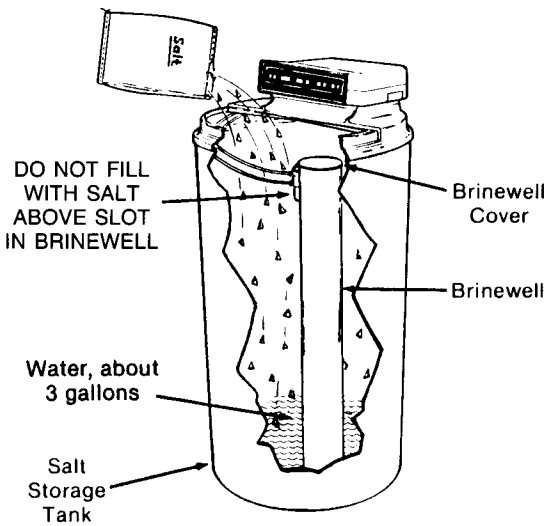
2. FILL THE STORAGE TANK WITH SALT

Fill the tank with NUGGET or PELLET water softener salt. DO NOT use rock salts, (See page 21). Before filling, BE SURE THE BRINEWELL COVER IS IN PLACE. It takes about 230 lbs. of salt to fill the tank. DO NOT fill over the slot in the brinewell. Replace the salt storage tank cover.

NOTE: WATER SOFTENING SALT WITH IRON REMOVING ADDITIVES — Some salts have an additive to help the softener handle iron in the water supply. Although this additive may help to keep the softener resin clean, it may also release corrosive fumes that will weaken and shorten the life of some softener parts.

continued, page 16

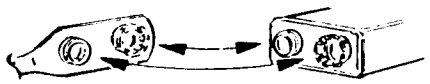
FIG. 17 ADD WATER AND FILL STORAGE TANK WITH SALT



SECTION 4 WATER SOFTENER START-UP

3. CONNECT THE 9 VOLT BATTERY

Looking at FIG. 4, page 10, pull out the battery tray. Connect the fitting to the battery and replace the tray. USE AN ALKALINE BATTERY ONLY.

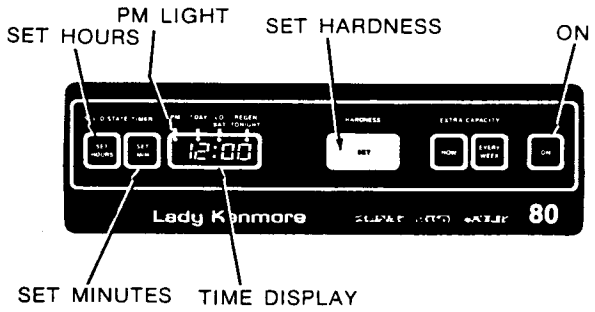


NOTE: If you connect the battery after touching ON (step 4a, below) the LO BAT indicator light may be on. See "Changing the Battery", page 23.

4. MAKE THE FACE PLATE TIMER SETTINGS (FIG. 18)

a. START THE SOFTENER: When you plugged the transformer in (page 14) "OFF" began to flash in the time display on the face plate. Touch ON to start the softener and 12:00 A.M. will light-up in the time display.

FIG. 18



b. SET PRESENT TIME OF DAY: Touch SET HOURS until the present hour of the day shows in the display. The PM light must be on if the present time is between noon and midnight. If the present time is in the AM hours, the light must be off.

Touch SET MIN until the present minute of the hour shows. Going past 59 does not change the hour setting.

c. SET THE WATER HARDNESS NUMBER: The grains per gallon hardness of your water is on the water analysis report. . . see page 5, or ask your local water department.

Touch *Hardness* SET until the hardness of your water shows in the display. Numbers in the display start at H1 (1 grain hardness) and go up 1 at a time to H25 (25 grains hardness). After H25, numbers go up 5 at a time to H80, the highest hardness setting for this softener. (If you go past H80, the display will go up to H95, then start over at H1.)

NOTE: If your water hardness is over 25, round off to, and set the next higher number in the display.

EXAMPLES:

____ If your water analysis shows you have 16 grains per gallon hardness. . . touch *Hardness* SET until H16 shows in the display.

____ If your water analysis shows you have 27 grains per gallon hardness. . . touch *Hardness* SET until H30 shows in the display.

A few seconds after setting the hardness number, the present time of day again shows in the time display. If you want to recheck your hardness number setting, touch SET and quickly remove your finger. Don't hold your finger on SET for longer than 2 seconds or the hardness number will begin to change.

Your new Sears softener is now softening the water for your household needs. However, your WATER HEATER is filled with hard water. To have fully soft water right away, you can drain the water heater so it refills with soft water. If you don't drain it, it will take a few days before you have fully soft water.

To drain the water heater, open a hot water faucet and let it run until the water turns cold. Then close the faucet.

NOTE: The softener will regenerate (see page 18) the first night after start-up. This regeneration brings the water level in the salt tank to the proper level, and prepares the resin bed for service.

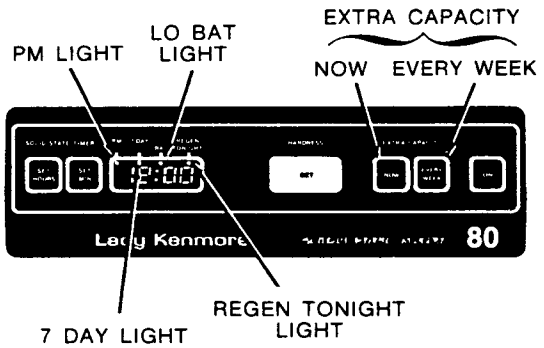
SECTION 5 | HOW YOUR WATER SOFTENER WORKS

FACE PLATE TIMER FEATURES

EXTRA CAPACITY — NOW

Sometimes, you may use more soft water than usual and you may run out of soft water before the next regeneration (See page 18). If you do, touch NOW to start a regeneration. For a few seconds, the letter E shows in the time display and the regeneration will begin. In about 2 hours the regeneration is over and you have the full capacity of the softener ready to use.

FIG. 19

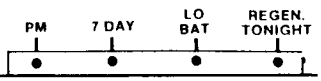


EXTRA CAPACITY — EVERY WEEK

To have a full supply of soft water on a certain day each week, use this feature. For example, if Monday is always your wash day, you want the softener to regenerate Sunday night (actually 2:00 a.m. Monday morning) so you have the full capacity on Monday. Sometime on Sunday, touch EVERY WEEK. The 7 day and the regenerate tonight lights (FIG. 19) will come on. The softener will regenerate that Sunday night and every Sunday night thereafter.

To cancel this extra cycle, touch EVERY WEEK until the 7 day light goes off. However, the regenerate tonight light stays on and the softener will regenerate this night only.

INDICATOR LIGHTS



PM — When on, time in the display is PM hours . . . between noon and midnight. The light is off during AM hours . . . midnight to noon.

7 DAY — When on, the Extra Capacity-Every Week feature is set.

LO BAT — (Low Battery) When on, the battery voltage may be too low (read "Changing The Battery", page 23) to keep the time and hardness settings if house electrical power goes off. You should put in a new battery. **NOTE: This light is always on if you do not use a battery.**

REGEN TONIGHT — When on, the softener will regenerate (page 18) the next time the display shows 2:00 a.m. This light flashes while the softener is regenerating.

BATTERY FOR RESERVE POWER

If your house electrical power goes off, or if the transformer is unplugged, a fully charged 9 volt ALKALINE battery will supply power for several hours. The softener keeps time and the hardness number remains as set. However, the time display is off and the softener will not regenerate. When the electrical power comes back on, look at the time display.

— If it shows the correct time, no setting is needed.

— If "OFF" shows, touch ON and reset the present time and the hardness number (page 16).

— If any other numbers or letters show, or the display is blank, carefully disconnect the battery and unplug the transformer. WAIT 10 SECONDS, THEN PLUG IN THE TRANSFORMER. Reconnect the battery, touch ON, and reset the present time of day and the hardness number (page 16).

NOTE: Be sure the battery is an alkaline type, and is fully charged.

ALSO SEE "CHANGING THE BATTERY", PAGE 23.

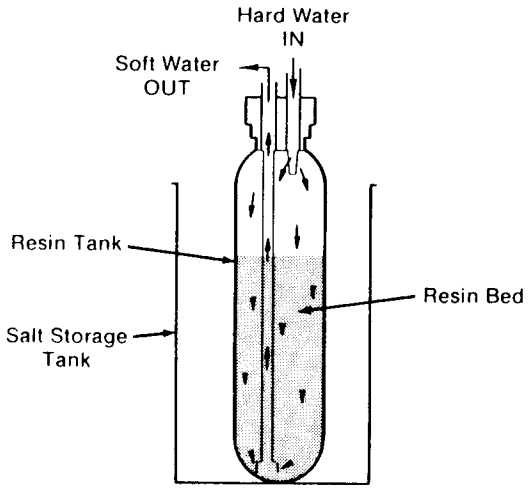
SECTION 5 | HOW YOUR WATER SOFTENER WORKS

SOFT WATER SERVICE, AND REGENERATION

SERVICE

When the softener is giving you soft water, it is called "Service". During service, hard water comes from the house main water pipe into the softener. Inside the softener resin tank is a bed made up of thousands of tiny, plastic resin beads (FIG. 20). As hard water passes through the bed, each bead attracts and holds the hardness minerals. This is called ion-exchanging. It is much like a magnet attracting and holding metals. Water without the hardness minerals (soft water) flows out of the softener and into the house soft water pipes.

FIG. 20 WATER FLOW THROUGH THE SOFTENER IN SERVICE



After a period of time, the resin beads become coated with hardness minerals and they have to be cleaned. This cleaning is called regeneration. Regeneration is started at 2:00 a.m. by the electronic timer (See page 20). It takes place in 5 stages or cycles. These are:

1 FILL

2 BRINING

3 BRINE RINSE

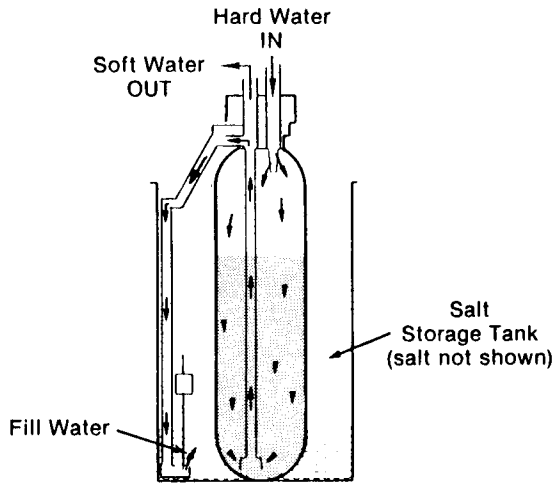
4 BACKWASH

5 FAST RINSE

REGENERATION

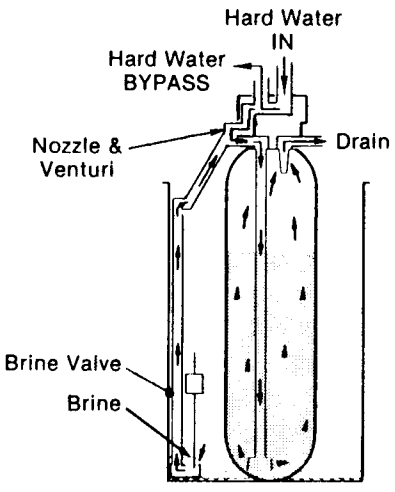
1 FILL: Salt, dissolved in water, is called brine. Brine is needed to clean the hardness minerals from the resin beads. To make the brine, water flows into the salt storage area during the fill stage as shown in FIG. 21. The fill cycle lasts for 8, 11, 16 or 22 minutes, depending on the hardness number set into the softener. The longer the fill time, the more salt is used each regeneration, and the softener can remove more hardness minerals between regenerations.

FIG. 21 WATER FLOW THROUGH THE SOFTENER IN FILL



2 BRINING: During brining, the brine is taken from the salt storage tank and put into the resin tank. Brine makes the resin beads let go of the hardness minerals and they are carried to the drain. How much brine is needed to clean the resin depends on 2 things—

FIG. 22 WATER FLOW THROUGH THE SOFTENER IN BRINING AND BRINE RINSE



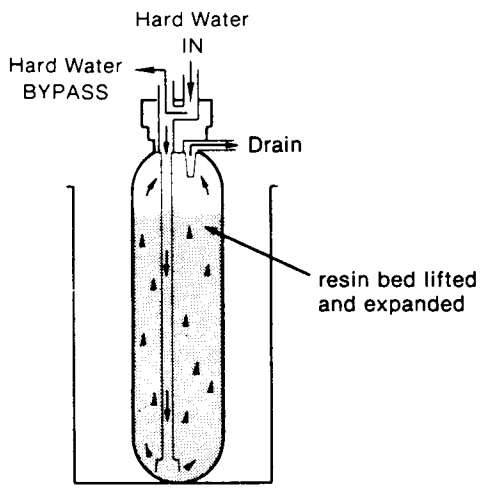
— The amount of resin in the softener
— How fast the brine goes through the bed.

The nozzle and venturi (FIG. 22) make suction to take brine from the salt tank and put it into the resin tank. They keep the brine flow down to a very slow rate to get the best resin cleaning with the least salt.

[3] BRINE RINSE: After all of the brine goes into the resin tank, the brine valve closes. Water keeps flowing the same way as it did during brining except for the brine, which has stopped. Hardness minerals and brine flush from the resin tank to the drain. Brining and brine rinse together are about 80 minutes.

[4] BACKWASH: During backwash, water flows UP through the resin tank (FIG. 23) at a fast rate to flush iron minerals, dirt and sediments from the bed and to the drain. The bed lifts and expands for good cleaning. The backwash cycle is about 8 minutes long.

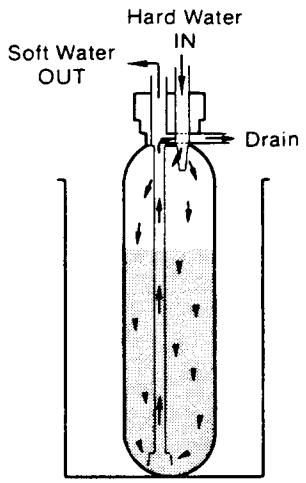
FIG. 23 WATER FLOW THROUGH THE SOFTENER IN BACKWASH



[5] FAST RINSE: Backwash is followed by a fast flow of water, down through the resin tank. The fast flow packs the resin bed and gets it ready for return to service (FIG. 24). This cycle is about 8 minutes long.

After fast rinse, the softener returns to service. Hard water goes into the resin tank where the resin bed again takes out the hardness minerals. Soft water goes to the house soft water pipes.

FIG. 24 WATER FLOW THROUGH THE SOFTENER IN FAST RINSE



AUTOMATIC BYPASS

During the brining, brine rinse and backwash cycles of regeneration, HARD water goes through the softener valve and to the house pipes. If a faucet is opened, hard water is there for your needs. However, you should not use HOT water, if possible, because the water heater will refill with hard water. The softener regenerates from 2:00 AM to about 4:00 AM, a time when not much water is used.

If you get up early in the morning and you can hear the softener regenerating, change the time setting. Set the time display (page 16) ahead an hour or so. Then regeneration will start and end that much earlier and your water heater will not refill with hard water if a hot faucet is opened.

ELECTRONICS

Two main parts of the softener's electronics are [1] a WATER METER, and [2] a COMPUTER.

[1] WATER METER — The water meter is in the softener valve outlet. As water flows through the meter it sends electric pulses to the computer. The computer changes the pulses to a measure in gallons of water.

continued, page 20

SECTION 5 | HOW YOUR WATER SOFTENER WORKS

continued from page 19

[2] COMPUTER — The computer is part of the circuit board. It is programmed to know the softener's capacity (how many grains of hardness minerals it will take out of the water before a regeneration is needed). When starting the softener, page 16, you set it for the grains per gallon (GPG) hardness of the water.

The computer uses these entries — water usage from the meter, hardness setting, softener capacity — and also time since the last regeneration, to find a "reserve capacity". This reserve is about the capacity needed to provide soft water for your household on a typical* day. The reserve capacity can change from day to day as water use in your home changes, because the computer adjusts to your water using habits.

Right after a regeneration, you have the full capacity (depending on the hardness setting, page 25) of the softener ready to use. As hard water goes through the softener and hardness minerals are removed, capacity is used. After a time, only the reserve capacity will be left and the computer will call for a regeneration at the next 2:00 AM. The REGEN TONIGHT light will come on and stay on until the regeneration is over. When the regeneration is over, you again have the full capacity of the softener.

*If you use more water some days than what you usually do (guests visiting, washing clothes, etc.) you could run out of soft water while using the reserve capacity. If this happens, use the Extra capacity-Now feature for a regeneration right away. If it happens the same day each week, use Extra capacity-Every Week (see page 17).

SECTION 6 CARE OF YOUR SOFTENER

CHECKING THE SALT STORAGE LEVEL AND REFILLING

Brine (salt dissolved in water) is needed for each and every regeneration. The water for making brine is metered into the salt storage tank by the softener. However, you must keep the tank filled with salt.

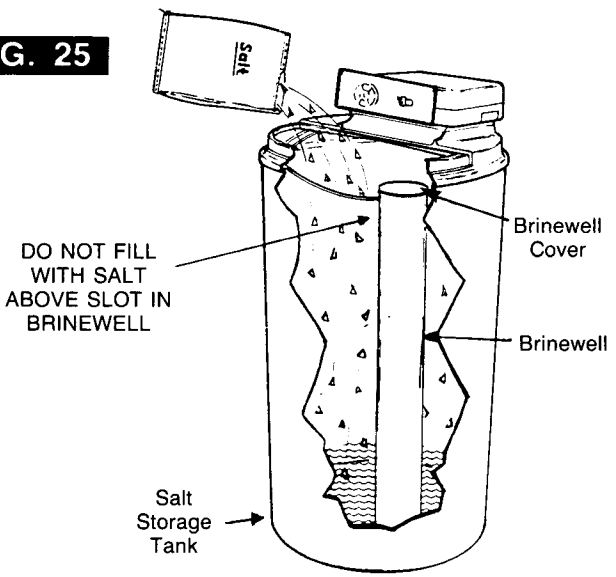
WHEN TO REFILL WITH SALT: Check the salt level a few weeks after you install the softener and every week after that. Refill when the storage tank is about half full. Never let the softener use all the salt before refilling. Without salt, you will soon have hard water.

Use nugget or pellet water softener salt only. Do not use rock salts. They have dirt and sediments that will make the softener stop working (also see page 15). BE SURE THE BRINEWELL COVER IS IN PLACE. FILL UP TO but not over the slot in the brinewell.

NOTE: YOU WILL HAVE A LOSS IN SOFTENING CAPACITY AND MAY GET PARTLY HARD WATER IF LESS THAN 10 INCHES OF SALT IS IN THE STORAGE TANK.

NOTE: WATER SOFTENING SALT WITH IRON REMOVING ADDITIVES — Some salts have an additive to help the softener handle iron in the water supply. Although this additive may help to keep the softener resin clean, it may also release corrosive fumes that will weaken and shorten the life of some softener parts.

FIG. 25



BREAKING A SALT BRIDGE

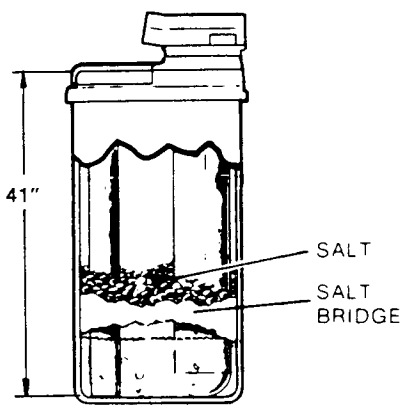
Sometimes, a hard crust or salt bridge forms in the salt storage tank. It is usually caused by high humidity or the wrong kind of salt. When the salt bridges, an empty space forms between the water and salt. Then salt will not dissolve (melt) in the water to make brine. Without brine, the resin bed does not regenerate and you will have hard water.

If the storage tank is full of salt, it is hard to tell if you have a salt bridge. Salt is loose on top, but the bridge is under it. The following is the best way to check for a salt bridge.

Salt should be loose all the way to the bottom of the tank. Your salt storage tank is about 41 in. high from the bottom to the top rim (FIG. 24). Take a broom handle, or like tool, and make a pencil mark 41 inches from one end. Carefully push it straight down into the salt. If a hard object is felt before the pencil mark gets to the top of the tank, it's most likely a ▲ salt bridge. Carefully push into the bridge in a few places to break it. DO NOT TRY TO BREAK THE SALT BRIDGE BY POUNDING ON THE OUTSIDE OF THE SALT TANK. YOU MAY DAMAGE IT.

If the wrong kind of salt made the bridge, take it out. Then fill the tank with nugget or pellet salt only.

FIG. 26 A SALT BRIDGE



SECTION 6 CARE OF YOUR SOFTENER

CLEANING THE COVERS

To keep your new Sears water softener looking nice, apply a coat of paste wax and repeat once a year. When dusty, wipe it with a damp cloth to keep it sparkling.

▲ Never use cleaners having ammonia or abrasives. They may scratch and dull the surface.

CLEANING THE NOZZLE & VENTURI

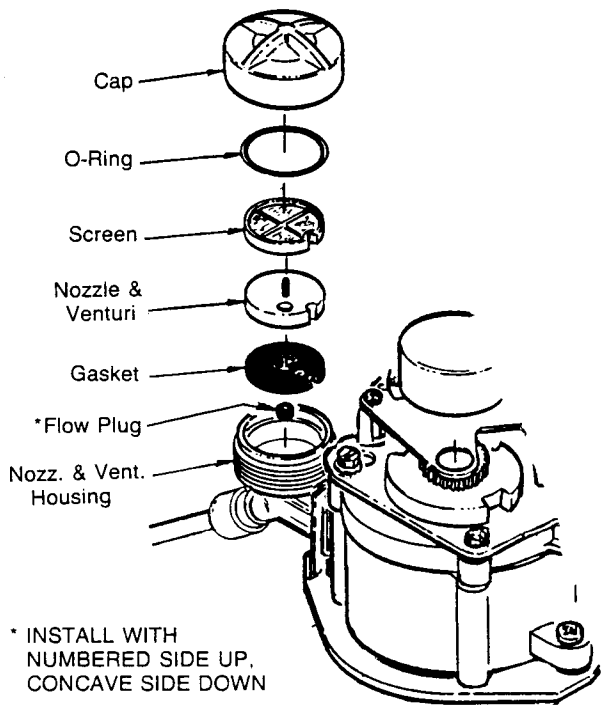
A clean nozzle and venturi (FIG. 27) is a must for the softener to work right. This small unit moves brine from the salt storage tank to the resin tank during regeneration. If it becomes plugged with sand, silt, dirt, etc., the softener will not work and you will get hard water.

To get to the nozzle and venturi, remove the softener top cover. Be sure the softener is in service cycle (no water pressure at nozzle and venturi), then turn off the cap from the nozzle and venturi housing. DO NOT LOSE THE LARGE O-RING SEAL. Lift out the screen, then the nozzle and venturi. Wash and rinse the parts in warm water until clean. If needed, use a small brush to remove iron or dirt. Also check and clean the gasket and flow plug if dirty.

Carefully replace all parts in the correct order. Lubricate the o-ring seal with silicone grease or Vaseline and place in position. Install and tighten the cap, BY HAND ONLY. DO NOT OVERTIGHTEN AND BREAK THE CAP OR HOUSING.

If you have to clean the nozzle & venturi quite often, you may decide to install a Sears sediment cartridge filter (See FIG. 1, page 6). This filter takes dirt and sediments out of the water.

FIG. 27



CLEANING IRON OUT OF THE SOFTENER

Your water softener takes hardness minerals (calcium and magnesium) out of the water. Also, it can control up to 3 parts per million (ppm) of "clear water" iron. With clear water iron, water from a faucet is clear when first put into a glass. After 15 to 30 minutes, the water begins to cloud or turn rust colored. A water softener WILL NOT remove any iron which makes the water cloudy or rusty as it comes from the faucet (called red water iron). To take red water iron out of water, or over 3 ppm of clear water iron, an iron filter of other equipment is needed. Your local Sears store has trained people to help you with iron water problems.

If your water supply has clear water iron, even though less than 3 ppm, regular resin bed cleaning is needed. Sears has resin bed cleaner, Stock No. 42-34425 for this. Clean the bed at least every 6 months. If iron shows up in the soft water before 6 months, clean more often. Printed instructions are on the resin bed cleaner bottle.

KEEP THE SOFTENER FROM FREEZING

If the softener is installed where it could freeze (summer cabin, lake home, etc.), you must drain all water from it to stop possible freeze damage. To drain the softener—

SECTION 6 CARE OF YOUR SOFTENER

1. Close the shut-off valve on the house main water pipe, near the water meter or pressure tank.

2. Open a faucet in the soft water pipes to vent pressure in the softener.

3. Looking at FIG. 12 on page 13, move the stem in a single bypass valve to bypass. Close the inlet and outlet valve in a 3-valve bypass system, and open the bypass valve.

   (If you want water in the house pipes again, reopen the shut-off valve on the main water pipe).

4. Unplug the transformer at the wall outlet. Take off both drain hoses.

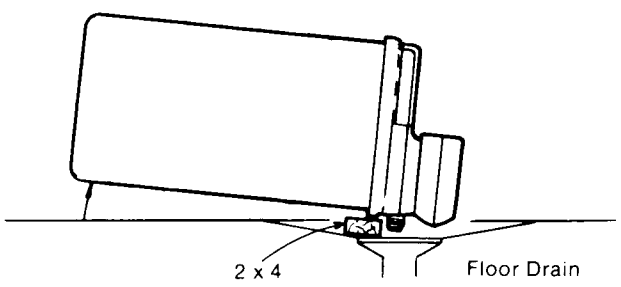
5. Take off the in and out piping nuts at the softener inlet and outlet (FIG. 8, page 11).

6. Take off the salt tank and brinewell covers. Disconnect the tubing from the top of the brine valve (See page 27) and lift the brine valve out of the brinewell. Tip the brine valve upside down to drain out water.

7. Looking at FIG. 28, lay a piece of 2 inch thick board near the floor drain. Move the softener close to the drain. SLOWLY and CAREFULLY tip it over until the rim rests on the wood block with the inlet and outlet over the drain. DO NOT ALLOW THE SOFTENER'S WEIGHT TO REST UPON THE INLET AND OUTLET FITTINGS OR THEY WILL BREAK.

8. Tip the bottom of the softener up a few inches and hold until all water has drained. Leave the softener laying like this until you are ready to use it. Plug the inlet and outlet with rags to keep dirt, bugs, etc. out.

FIG. 28 DRAIN WATER FROM THE SOFTENER



CHANGING THE BATTERY

The 9 volt battery, for reserve power (See page 17) may last for several months depending on how much it is used. If you have many power outages, or if the power is off for a long time, the battery will not last as long.

When electrical power comes back on after a power outage, the battery needs replacing if any of the following things happen.

1. If, after short power outages, OFF shows in the time display (the present time of day should show).

2. If random letters or numbers show in the time display.

3. If the time display is blank.

4. If the low battery (Lo Bat) light, on the face plate is on. See NOTE, below.

When replacing the battery, USE A STANDARD 9 VOLT ALKALINE BATTERY ONLY. You can get them at your Sears store. Replace at least once each year.

TO SAVE THE BATTERY'S CHARGE, NEVER TURN OFF ELECTRIC POWER TO THE SOFTENER WITHOUT FIRST REMOVING THE BATTERY.

NOTE: The face plate circuit board tests battery strength at 2 different times.

(1) The first test is 1 minute after "ON" is touched to start the softener, when the transformer is plugged into the electrical outlet.

(2) The second test takes place every day at 2:00 A.M. At this time, the indicator light will remain off (or go off if it was on) if the battery is good. If the battery is poor, the indicator light will come on.

WHEN YOU INSTALL A NEW BATTERY, WITH POWER ON, (TRANSFORMER PLUGGED IN) THE "LOW BATT" INDICATOR LIGHT WILL REMAIN ON, IF IT WAS ON, UNTIL THE NEXT BATTERY TEST TIME AT 2:00 A.M.

SECTION 6 CARE OF YOUR SOFTENER

BEFORE YOU CALL FOR SERVICE

HELPFUL HINTS CHECKLIST . . . TO HELP YOU SAVE MONEY

If your water softener fails to work, make the following easy checks. Often, you will find what's wrong yourself and you won't have to call and wait for service. If, after making the checks, your softener still does not work right, call your Sears Service Department.

NO SOFT WATER

- **NO SALT (OR SALT BRIDGED) IN THE STORAGE TANK** — Refill with salt, or break the salt bridge (page 21). Touch EXTRA CAPACITY — NOW to start a regeneration.

- **TRANSFORMER UNPLUGGED AT THE WALL OUTLET, POWER CABLE LEADS LOOSE, FUSE BLOWN, CIRCUIT BREAKER POPPED, OR CIRCUIT SWITCHED OFF** — Check for loss of power due to any of these and correct. With the power back on, look at the time display and read "Battery For Reserve Power" on page 17.

- **MANUAL BYPASS VALVE(S) IN BYPASS POSITION** — Look at FIG. 12 on page 13. Move the stem in a single valve to SERVICE. In a 3-valve bypass open the inlet and outlet valves, and be sure to fully close the bypass valve.

- **DIRTY, PLUGGED OR DAMAGED NOZZLE & VENTURI** — Take apart and clean or replace damaged parts (page 22).

- **VALVE DRAIN HOSE PLUGGED** — The drain hose must not have kinks, or sharp bends, or be raised too high above the softener (See page 12).

WATER HARD SOMETIMES

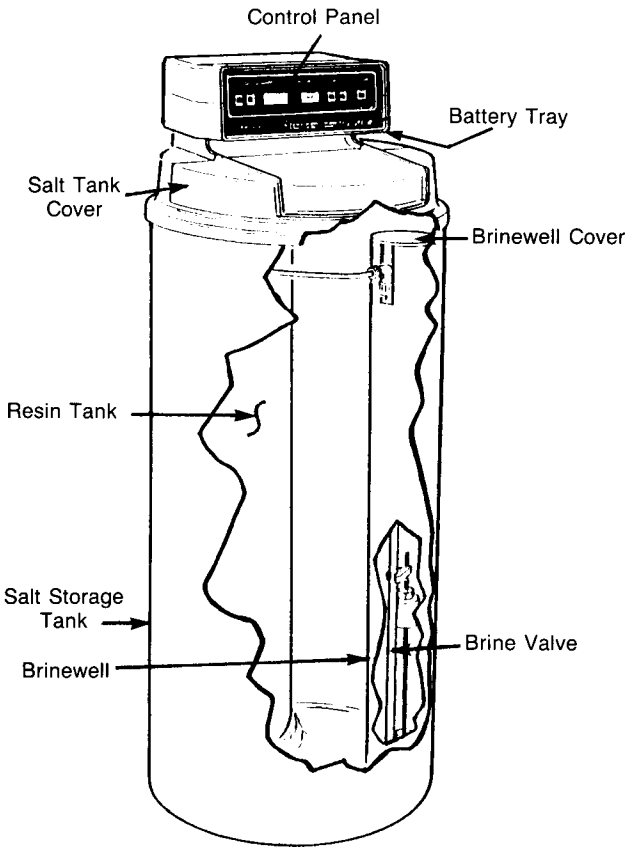
- **HARDNESS NUMBER SETTING TOO LOW** — Touch Hardness SET, then quickly remove your finger. Read the hardness number in the display and be sure the same grains per gallon number is shown on your water analysis report.

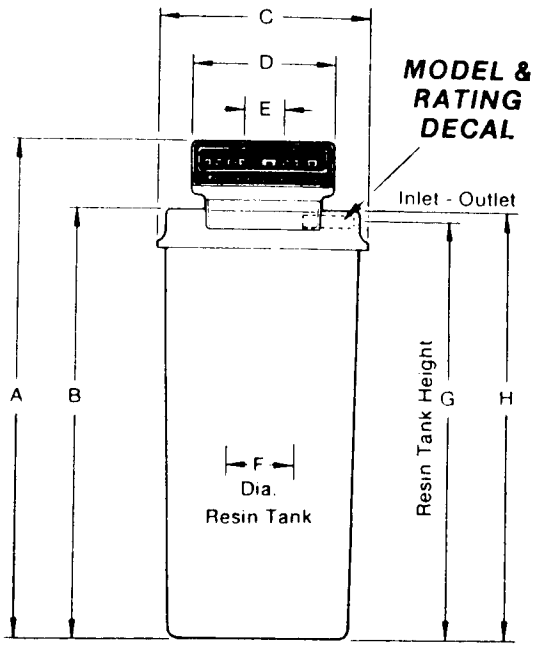
- **USING HOT WATER WHEN THE SOFTENER IS REGENERATING** — Avoid using hot water during this time because the water heater refills with hard water (See Automatic Bypass, page 19).

- **INCREASE IN THE GRAINS OF HARDNESS IN YOUR WATER SUPPLY** — Ask your Sears retail or catalog store for a new water analysis. Then make a new hardness number setting (page 16).

SECTION 7 | OTHER THINGS TO KNOW

SEARS CYCLE MISER® WATER SOFTENER **MODEL NO. 625.342802**





	INCHES	CENTIMETERS (Cm)
A	47-1/2	119.7
B	41-1/2	105.4
C	17-1/2	44.5
D	12-3/4	32.4
E*	3-3/8	8.6
F	8	20.3
G	40	101.6
H	41-1/2	105.4

*from center of inlet to center of outlet

SPECIFICATIONS

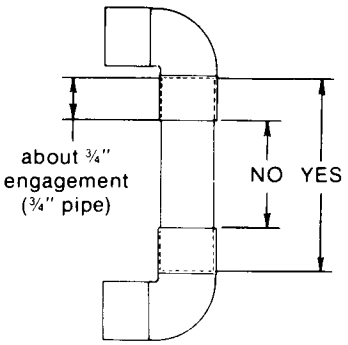
SOFTENER RATED CAPACITY (Grains @ Pounds of Salt)	
Water Hardness Setting 41 to 80 } See Page 16	21,000 @ 6.8 (3.1 Kg)
Water Hardness Setting 21 to 40 } See Page 16	18,300 @ 5.0 (2.3 Kg)
Water Hardness Setting 6 to 20 } See Page 16	15,000 @ 3.5 (1.6 Kg)
Water Hardness Setting 1 to 5 } See Page 16	12,000 @ 2.6 (1.2 Kg)
SERVICE FLOW RATE (Gallons Per Minute) not over 15 pounds per square inch (psi) pressure loss	8.0 (30.3 liters)
REGENERATION FLOW RATES	
FILL (Gallon Per Minute flow to Salt Storage Tank)	.10 (.38 liters)
BRINING } (Gallon Per Minute Flow to Drain)	.24 (.9 liters)
BRINE RINSE } (Gallon Per Minute Flow to Drain)	.16 (.6 liters)
BACKWASH } (Gallon Per Minute Flow to Drain)	1.8 (6.8 liters)
FAST RINSE } (Gallon Per Minute Flow to Drain)	1.8 (6.8 liters)
TYPE OF ION EXCHANGE MATERIAL (Resin)	High Capacity
AMOUNT OF RESIN (Cubic Feet)	.77 (.022 cu. m.)
TYPE OF SALT NEEDED	Nugget or Pellet
ALTERNATE TYPE OF SALT	Pure, evaporated, compacted water softener salt
MAXIMUM WATER HARDNESS (Grains Per Gallon)	80
MAXIMUM "CLEAR WATER" IRON (Parts Per Million)	3.0

NOTE: The above flow rates obtained testing at 35psi inlet pressure.

SECTION 7 | OTHER THINGS TO KNOW

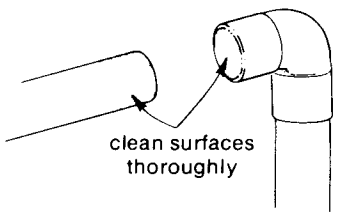
SWEAT SOLDERING TIPS

MEASURING PIPE LENGTHS: Always be sure to include the length of pipe that goes inside the fitting. On 3/4 in. pipe, this length is about 3/4 in.



CUTTING PIPE: Turn the pipe cutter back and forth around the outside of the pipe. Tighten the pipe cutter slowly with each turn until all the way through the pipe. To keep from crushing or distorting the pipe, do not tighten the cutter too much at a time. File burrs from cut ends.

CLEAN PIPE AND FITTING SOLDERING SURFACES: With emery cloth, fine sandpaper or steel wool, clean the end of the pipe and inside of the fitting. Clean surfaces until they shine. Do not grind off too much material, making the fit too loose.



CHECK THE FIT: Push the pipe into the fitting as far as it will go. Use some force to slip together, but do not hammer or pound. If too tight, clean surfaces until fit is good.

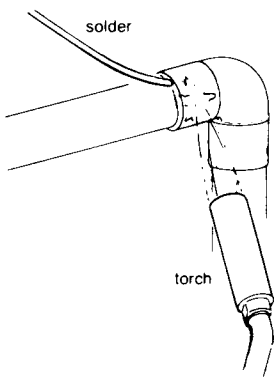
PUT ON PASTE FLUX: Freely apply paste flux on both cleaned surfaces. Place pipe into the fitting and turn to spread the paste around.

BEFORE SOLDERING, READ THESE SAFETY GUIDES.

- Keep torch flame away from walls, the water softener, and other materials that will burn.
- Do not touch newly soldered pipe with your hands. Wrap nearby, already soldered joints with a wet cloth so solder does not melt.

Let soldered joints cool slowly. Sudden cooling can crack or weaken the solder.

SOLDERING: Light the torch and set to a moderate flame. Move the flame over and around the joint to heat pipe and fitting. In a short time, touch the end of the solder wire to the lip of the fitting. DO NOT PLACE SOLDER IN THE FLAME. The solder will melt and draw into the connection when the pipe and fitting are at the right temperature. Run the solder around the lip until the joint is full. Do not overfill as solder will run into and harden inside the fitting. Being careful not to touch the pipe with your hands, make a quick swipe around the joint with a cloth to take off excess solder.



For a good sweat solder joint, the pipe and fitting must not have any water inside them. Water, when heated by the torch, weakens the solder and often the joint will leak. If you can not keep the inside of the pipe dry, wad up a piece of bread into a ball. After putting paste flux on both the pipe and fitting, place the bread wad into the pipe and poke in several inches. Put the pipe and fitting together and solder. The bread absorbs moisture while you are soldering. When the water is turned on, the bread dissolves and is flushed out an open faucet.

LEAKING CONNECTIONS: You can try to reheat and resolder a leaking joint, but it's usually best to start over. Turn off the water, reheat and take the pipe and fitting apart. Take off all old solder, cleaning down to the copper surface. Apply new paste flux and solder again.

SECTION 7 | OTHER THINGS TO KNOW

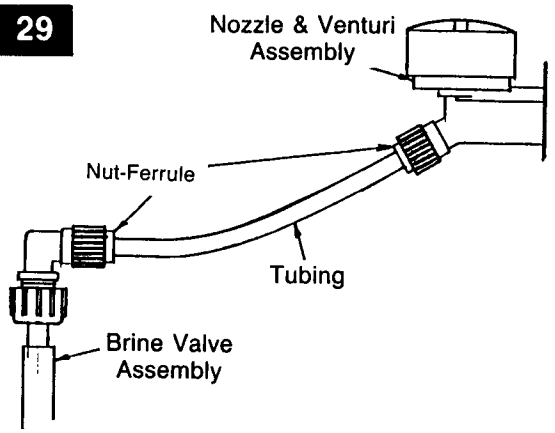
TO REMOVE OR CONNECT BRINE TUBING

To remove the brine tubing, loosen the nut-ferrule holding it to the fitting (FIG. 29).

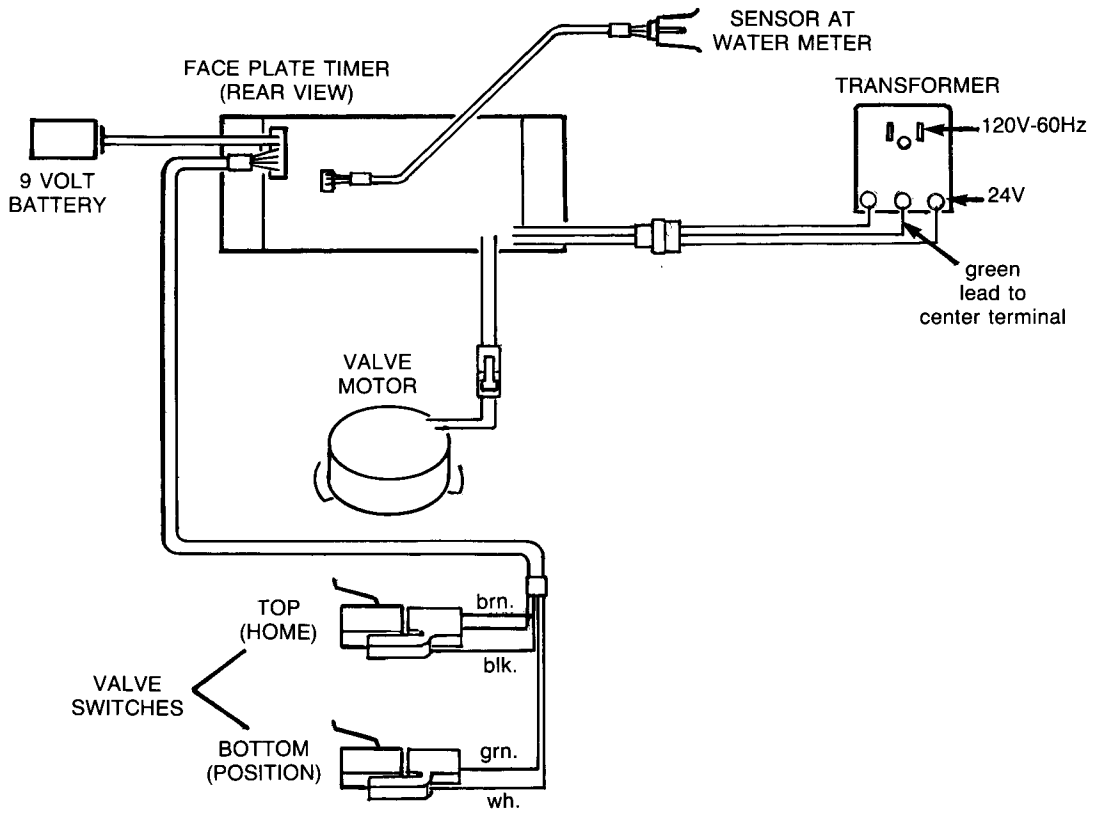
When connecting, tighten the nut-ferrule with your fingers, then another 1/8 to 1/4 turn with a pliers.

NOTE: When connecting new tubing, be sure the end of the tubing is cut square.

FIG. 29

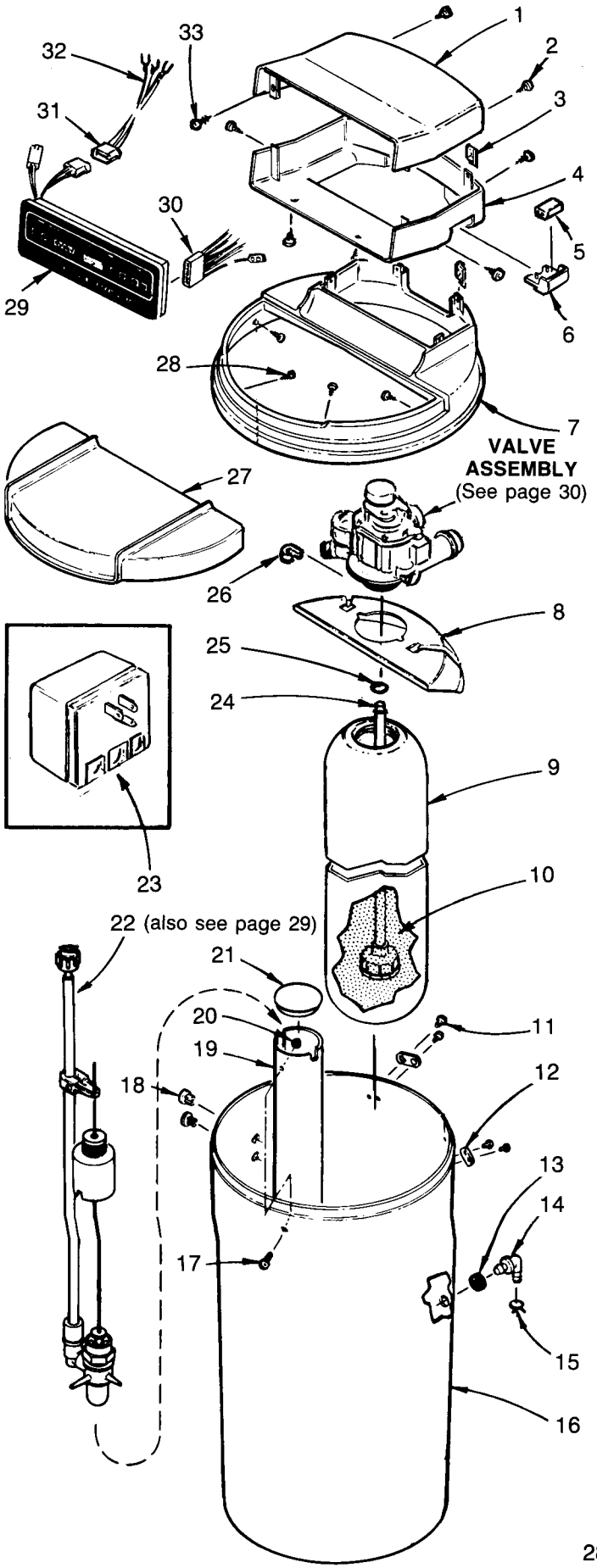


WIRING CONNECTION DIAGRAM



SECTION 8 REPAIR PARTS . . . SEARS WATER SOFTENER

MODEL NO. 625.342802

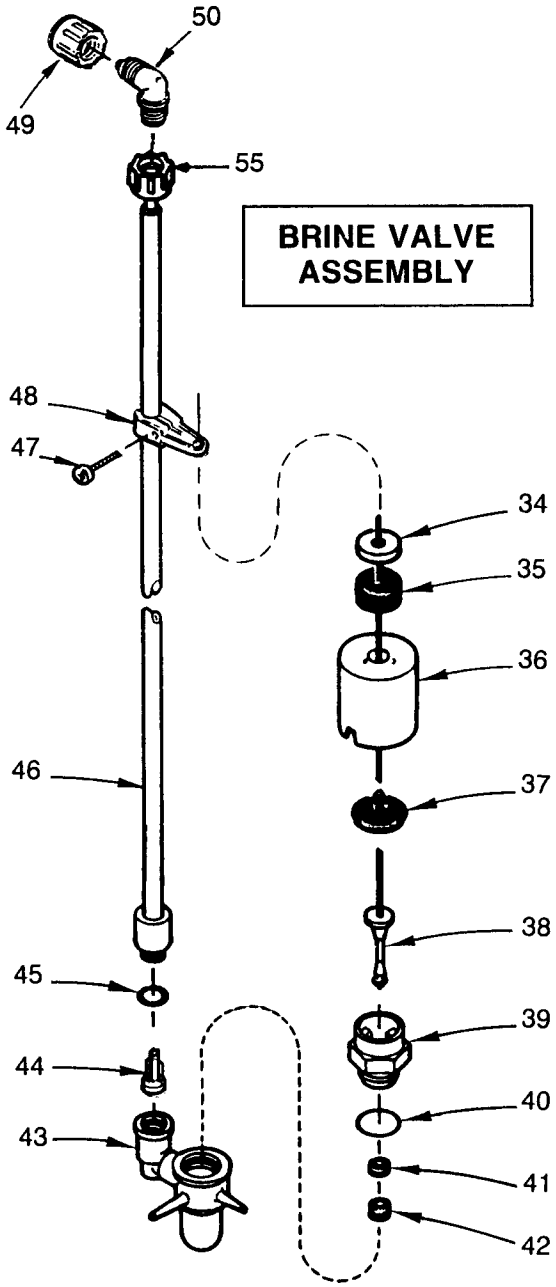


KEY NO.	PART NUMBER	DESCRIPTION
1	7061968	Top Cover
2	900562	Screw, #6 x 9/16 (8 req.)
3	900596	Speed Nut (8 req.)
4	7067794	Bottom Cover
5	STD366423	Battery
6	7067809	Battery Compartment
7	7062053	Rim
8	7051044	Harness
9	4019001	Resin Tank (Incl. Key No. 10)
10	501744	Resin
11	9006048	Screw, #.25-10 x 3/4 (4 req.)
12	503262	Bracket
13	9003500	Grommet●
14	1103200	Hose Adaptor●
15	900431	Hose Clamp●
16	7072406	Salt Storage Tank
17	900712	Screw, #6-32 x 7/16
18	1162900	Plug Button (2 req.)
19	1194400	Brinewell
20	900706	Nut, #6-32
21	500283	Brinewell Cover
22	7070488	Brine Valve Assembly
23	7070373	Transformer, 24V-25VA
24	7067469	Bottom Distributor
25	900213	O-Ring, 13/16 x 1
26	7066081	Clip (retains bottom distributor)
27	4013002	Cover Plate
28	9006045	Screw, #6-18 x 5/8 (4 req.)
29	7072422	Face Plate (Timer)
30	7068538	Wire Harness
31	9045500	Female Connector
32	2298900	Power Cable
33	9006031	Screw, #8-18 x 1/2 (2 req.)
◆	7067906	Owners Manual (F642-5687)

◆ not illustrated

● parts included in parts bag. . . see page 31

SECTION 8 REPAIR PARTS . . . SEARS WATER SOFTENER



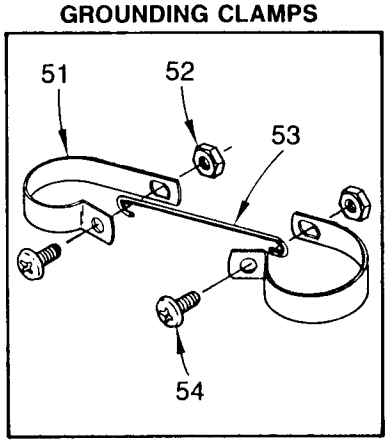
MODEL NO. 625.342802

KEY NO.	PART NUMBER	DESCRIPTION
34	505957	Lead Washer
35	513860	Float Stop
36	516914	Float
37	516947	Float Seal
38	501858	Float Stem
39	517030	Nut
40	900186	O-Ring, 7/8 x 1
41	516211	Seal
42	516924	Retainer, Bottom Seal
43	502467	Elbow-Body
44	1115000	Refill Regulator
45	900240	O-Ring, 7/16" x 9/16"
46	2191000	Riser Pipe
47	9006071	Screw, #6 x 7/8
48	1222400	Support
49	1202600	Nut-Ferrule (2 req. ☒)
50	7052668	Elbow
51	900373	"C" Clamp (2 req.)●
52	120375	Nut (2 req.)●
53	500726	Ground Wire●
54	160505	Screw, 1/4-20 (2 req.)●
55	7047118	Brine Riser Repair Kit

● parts included in parts bag . . . see page 31

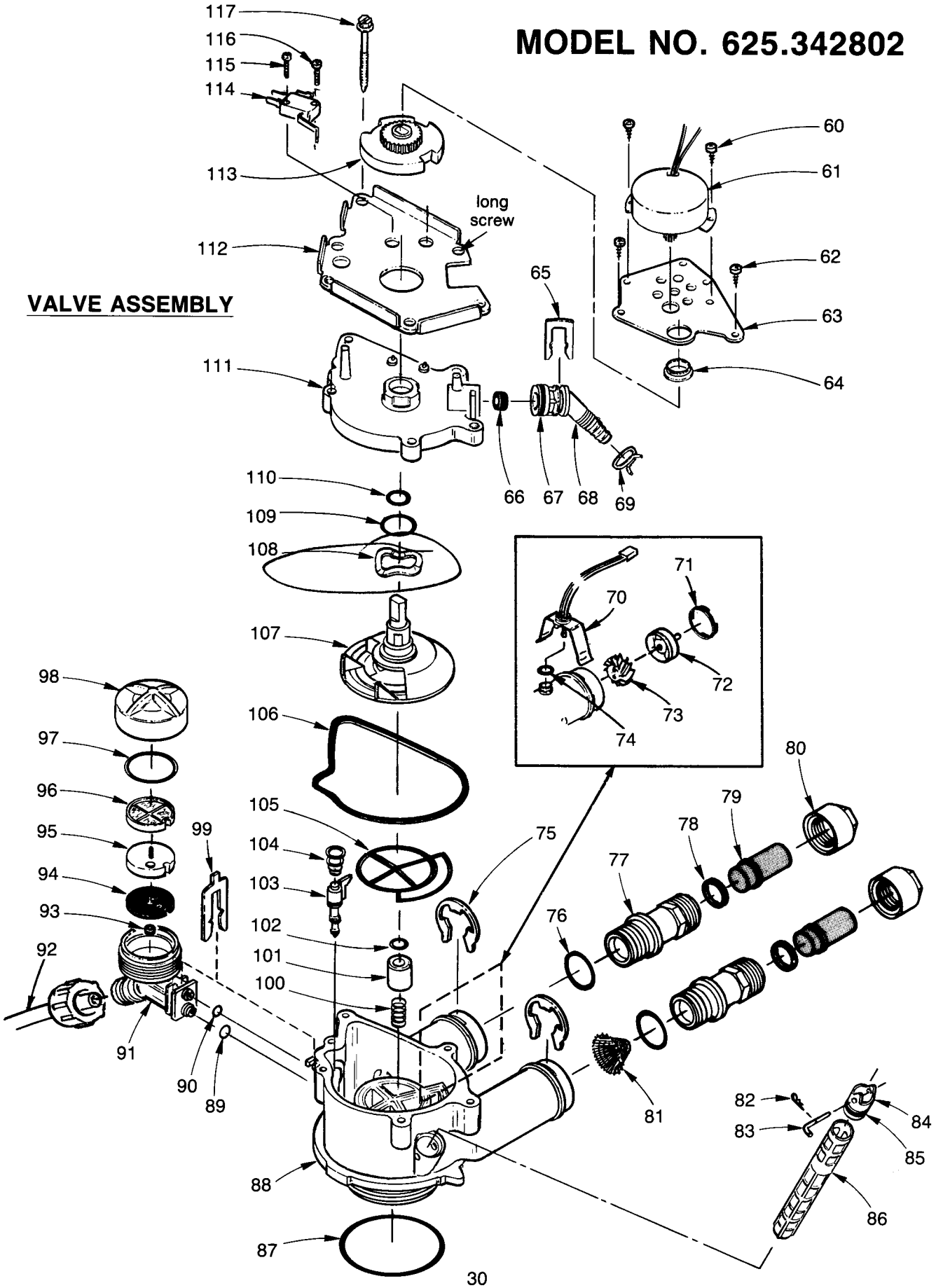
☒ one shown on page 30

INLET - OUTLET GROUNDING CLAMPS



MODEL NO. 625.342802

VALVE ASSEMBLY



SECTION 8 REPAIR PARTS . . . SEARS WATER SOFTENER

MODEL NO. 625.342802

PARTS LIST

KEY NO.	PART NUMBER	DESCRIPTION
60	900120	Screw, #6-18 x 3/8 (2 req.)
61	7070454	Motor
62	900857	Screw, #6-20 x 3/8 (2 req.)
63	7064974	Motor Plate
64	503288	Bearing
65	7024136	Clip (Valve)
66	501228	Flow Plug
67	900041	O-Ring, 5/8 x 13/16
68	7024160	Drain Hose Adaptor
69	900431	Hose Clamp●
70	7045213	Sensor Housing
71	1264600	Gasket
72	2204101	Turbine Support and Shaft
73	4020004	Turbine
74	9000803	O-Ring
75	1205500	Clip (2 req.)●
76	900535	O-Ring, 15/16 x 1-3/16 (2 req.)●
77	507371	Installation Adaptor (2 req.)●
78	900570	Washer (2 req.)●
79	507615	Installation Tube (2 req.)●
80	507369	Installation Nut (2 req.)●
81	900568	Screen (inlet)●
82	7066413	Cotter Pin
83	7066138	Retaining Pin
84	7063334	Fill Hole Plug
85	7067998	O-Ring, 9/16 x 3/4
86	7063279	Top Distributor
87	900279	O-Ring, 2-5/8 x 2-7/8
88	7073745	Valve Body
89	900064	O-Ring, 1/4 x 3/8
90	900124	O-Ring, 3/16 x 5/16

KEY NO.	PART NUMBER	DESCRIPTION
91	7040580	Nozzle & Venturi Housing
92	501014	Tubing
93	521829	Flow Plug, .1 gpm
94	7042663	Gasket
95	7039628	Nozzle and Venturi
96	7024194	Screen
97	7039068	O-Ring, 1-3/16 x 1-3/8
98	7024178	Cap
99	7063782	Clip
100	1219600	Spring
101	7063392	Plug (Drain Seal)
102	7064576	O-Ring, 7/16 x 9/16
103	7064364	Actuator Piston Assem. (Incl. Key No. 104, and o-ring seals)
104	7060792	Spring
105	7063960	Disc Seal
106	7063287	Valve Gasket
107	7073965	Rotor & Disc — use 703975
108	7058216	Wave Washer
109	7064372	O-Ring, 3/4 x 15/16
110	7064380	O-Ring, 7/16 x 5/8
111	7064356	Valve Cover
112	7061722	Valve Plate
113	7066439	Cam and Gear
114	7030713	Switch (2 req., 1 not shown)
115	7070438	Screw, #4-24 x 1-1/16 (pan head)
116	7070412	Screw, #4-24 x 1-1/8 (flat head)
117	9006042	Screw, #10-14 x 1-1/2 (5 req.) ①
	7074123	Screw, #10-14 x 2 (1 req.) ①
◆	7073410	Nozzle & Venturi Assem. (Incl. Key Nos. 91, and 93 through 98)
◆	4920001	Parts Bag (Incl. all parts marked with a ●, pages 28, 29 and 31)
◆	7073787	Seal Kit (Incl. Key Nos. 103 through 106, 109 and 110)

◆ not illustrated

① IMPORTANT: LOCATE LONGEST SCREW TO THE REAR-MOST SIDE OF VALVE . . . SEE PAGE 30.

SEARS

OWNERS MANUAL

SERVICE

MODEL NO. 625.342802

HOW TO ORDER REPAIR PARTS

TELL SEARS YOU WANT IT INSTALLED THEN RELAX

Lady Kenmore cycle miser® 80 WATER SOFTENER

Now that you have purchased your water softener, should a need ever exist for repair parts or service, simply contact any Sears Service Center. Be sure to provide all pertinent facts when you call or visit.

The model number of your water softener is found on the rating decal. This decal is on the inside, front of the storage tank rim.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

- PART NUMBER
- MODEL NUMBER
- PART DESCRIPTION
- NAME OF ITEM

All parts listed may be ordered from any Sears Service Center.

If the parts you need are not stocked locally, your order will be electronically transmitted to a Sears Repair Parts Distribution center for handling.

When Sears arranges the installation, you can be sure the job is done right. We will arrange for professional workmanship. . . and we'll take care of the entire project. What's more, during installation you get insured protection. . . against property damage and also against accidents to workmen. All you have to do is talk to your Sears salesperson or call your nearest Sears store today for detailed information.

Sears, Roebuck and Co., Chicago, Ill. 60684 U.S.A.