

SEARS

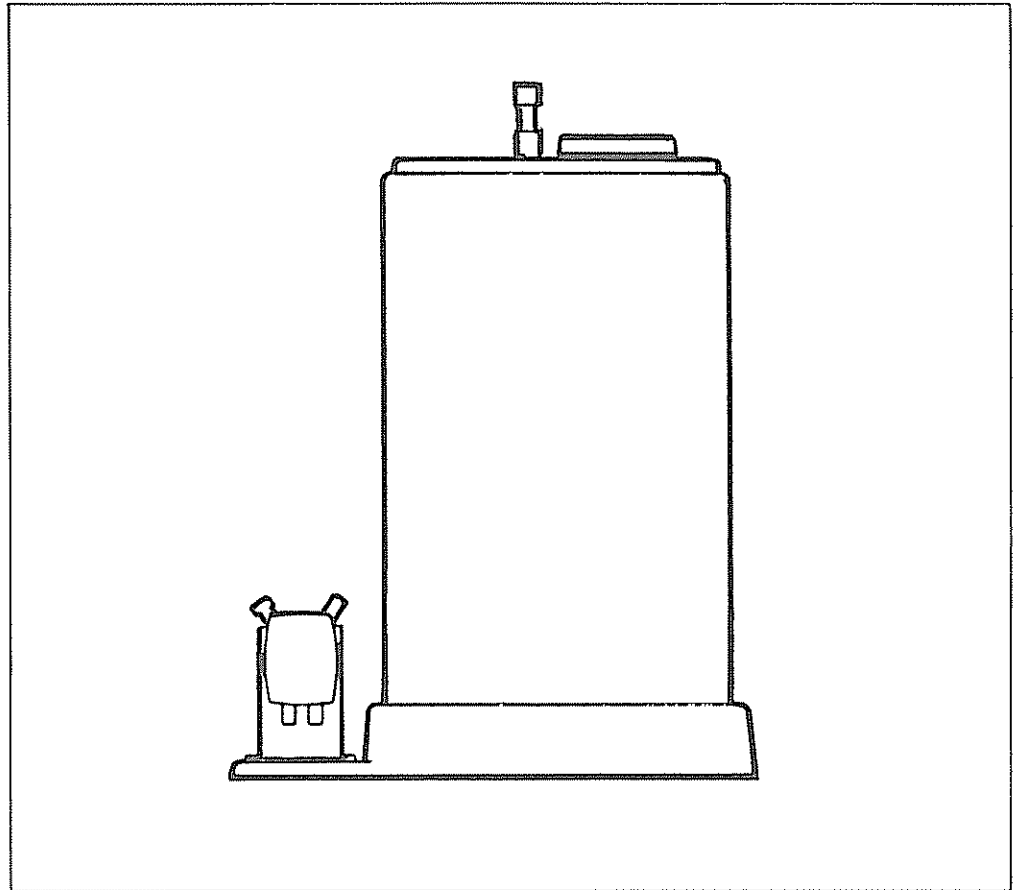
OWNERS MANUAL

MODEL NO.
625.349290

CAUTION

Read All Safety
Guides Before
You Start to
Install Your
Dispensing System

SAVE THIS MANUAL



SOLUTION DISPENSING SYSTEM

— HOW TO INSTALL —

— HOW IT WORKS —

— CARE OF —

— SPECIFICATIONS —

— REPAIR PARTS —

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

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WARRANTY

SEARS SOLUTION DISPENSING SYSTEM

FULL ONE YEAR WARRANTY ON SOLUTION DISPENSING SYSTEM

For one year from the date of purchase, when this Solution Dispensing System is installed and maintained according to our instructions, Sears will repair defects in material or workmanship in the Solution Dispensing System, free of charge.

WARRANTY SERVICE IS AVAILABLE BY SIMPLY CONTACTING THE NEAREST SEARS SERVICE CENTER IN 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. 731-CR-W, Sears Tower, Chicago, IL 60684

If you want your solution dispensing system 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.

SAFETY GUIDES

- ▲ Read all steps, guides and rules carefully before installing and using your new Solution Dispensing System. 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 dispensing system.
- ▲ Protect the Solution Dispensing System and tubing from freezing. Damage from freezing voids the warranty.
- ▲ Check with your local public works department for plumbing, electric and sanitation codes. You must follow their guides as you install your dispensing system.
- ▲ Be sure the electric outlet for the solution pump is grounded the right way to protect the user from injury or possible fatal shock.

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

WHAT DOES YOUR SOLUTION DISPENSING SYSTEM DO

Water is one of the best solvents known to man. It dissolves and picks up part of everything it touches. As water filters through the earth and rock strata, it absorbs minerals such as calcium, magnesium, iron and hydrogen sulfide (rotten egg odor). If the water is not treated and improved in some way, it may be useless. Feeding solutions into the water is a good way to treat the water.

Your Sears Solution Dispensing System treats the following kinds of water problems. **DO NOT USE THE SYSTEM IN AN ATTEMPT TO PURIFY POLLUTED WATER.**

- (1) IRON WATER — **MAX. 20 PPM**
- (2) HYDROGEN SULFIDE WATER — **MAX. 20 PPM**
- (3) ACID WATER — **4.0 pH and ABOVE.**
- (4) ACID WATER AND IRON BACTERIA, HYDROGEN SULFIDE, OR HIGH AMOUNTS OF IRON — **MAX. 20 PPM TOTAL and 4.0 pH.**

The following briefly describes each of these water problems.

(1) IRON WATER — One of the most common elements in the earth's crust, iron causes water problems all over the world. It makes rust stains on almost everything it touches, gives water a

metal taste and causes many other problems. The 2 main forms of iron are FERROUS and FERRIC.

Ferrous or CLEAR WATER iron is the most common type. Water with ferrous iron is clear when taken from a faucet. After standing for 15 to 30 minutes, the water turns to a yellow or brown color.

Ferric or RED WATER iron is rusty or brown as it's taken from the faucet. After standing for awhile the iron will settle out.

BACTERIAL iron is another kind of ferric iron. When this water is taken from a faucet and left standing for several hours, it forms slimy, stringy, mud-like clumps.

TREATING IRON WATER — Adding chlorine to the water and then filtering it is a good way to remove both the ferrous and ferric forms of iron. Chlorine also kills iron bacteria. A Sears Solution Dispensing System feeds household laundry bleach into the water system ahead of the pressure tank. The chlorine in the bleach oxidizes the iron. Then a Sears Automatic Clarifier and a Sears

(NOTE: BACTERIAL IRON and IRON BACTERIA are the same)

WHAT DOES YOUR SOLUTION DISPENSING SYSTEM DO

water softener, installed on the outlet side of the pressure tank, filters and softens the water. If you do not like a remaining chlorine taste, Sears has taste and odor filters to remove it.

(2) HYDROGEN SULFIDE WATER — Many water supplies contain hydrogen sulfide (sulphur). Dissolved hydrogen sulfide gas, in underground water, gives the water a bad taste and/or odor similar to rotten eggs. This water is often corrosive and may stain sinks and faucets.

A Sears Solution Dispensing System feeding chlorine, oxidizes hydrogen sulfide and other sulfides making them tasteless and odorless. If the water has both hydrogen sulfide and iron, Sears urges you to install an Automatic Clarifier along with the dispensing system. Install a Sears Taste and Odor filter to remove chlorine taste and odor.

(3) ACID WATER — Water is measured on a pH scale of 0 to 14. Water with a pH of 7.0 is neutral,

and over 7.0 it's basic (alkaline). If the pH is less than 7.0, the water contains too much acid. Acid water corrodes galvanized and copper plumbing, and makes red or blue-green stains on plumbing fixtures, dishes and clothes. It often adds a bitter taste to the water because of dissolved copper or iron caused by the corroding.

Sears Neutralizer Compound, Stock No. 42-34475, fed into the water by a Sears Solution Dispensing System raises the pH to 7.0 making it neutral. Neutralized, the water will no longer corrode or stain.

(4) ACID WATER, AND IRON BACTERIA, HYDROGEN SULFIDE OR HIGH AMOUNTS OF IRON — A mixture of Sears Neutralizing Compound, Stock No. 42-34475, and chlorine treats acid water that also has iron, bacteria or hydrogen sulfide. The neutralizer raises the pH of the water to help the chlorine oxidize the iron or hydrogen sulfide. Oxidized, the iron or hydrogen sulfide is filtered with a Sears Automatic Clarifier.

WATER SYSTEM TESTS

HAS YOUR WATER SUPPLY HAD CHEMICAL ANALYSIS? A chemical analysis tells you the types and amounts of elements in the water. These facts determine what size and type of water treating equipment is needed, and how to correctly use it. If your water needs analysis, call or write your nearest Sears store for help.

CHECK YOUR WATER SUPPLY SYSTEM PRESSURE. For your solution dispensing system to work right, water system pressure must be less than 75 psi. If pressure is over 75 psi, buy and install a pressure reducing valve or adjust the pump pressure switch. **NOTE:** If daytime pressure is 60 psi or more, pressure during the night hours may go over 75 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.

KEEP A RECORD OF YOUR WATER SYSTEM FACTS

System Pressure (psi) _____ Hardness _____ (gpg)

Iron Content (parts per million) _____ pH _____

Tastes, odors or other _____

TREATING WELL WATER BEFORE INSTALLING THE SYSTEM

PRE-TREATING PRIVATE WELL SYSTEMS HAVING IRON BACTERIA — Before you put the dispensing system together and install it, chlorinate the well if it contains more than 10 parts per million (ppm) of bacterial iron. Use the following steps.

NOTE: If you don't chlorinate the well, you may have iron in your water for up to 2 months after you install the solution dispensing system.

1. For each 50 gallons of water in the well, pour 1 quart of ordinary household bleach into it. On some wells, you can pour the bleach through the breather pipe. On others, you may have to remove the well seal.

NOTE: You will probably have to estimate how much water is in the well and use a trial and error method of treatment, or else ask a qualified well technician.

▲ CAUTION: This much chlorine, at one time, could exhaust the activated carbon in a taste and odor filter. If you have a taste and odor filter in your water system, by pass it to keep the chlorine out while doing this pre-treating.

2. Pour several gallons of water into the well to flush the bleach down to the water level.

3. Open all faucets in the house, 1 at a time. Close each faucet when you can smell the bleach. Keep the water system closed for a minimum of 2 hours. If possible, keep closed overnight.

4. After 2 hours, or the next morning, open all faucets and let the water run until clear and the bleach odor is gone.

TOOLS AND MATERIALS NEEDED

TOOLS NEEDED — You will need common and cross point (Phillips) screw drivers, a slip-joint pliers, tape measure or rule, and a sharp knife.

Depending on the kind of pipes you have in your house, other tools you may need are . . .

. . . 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.

MATERIALS — Depending on where and how you install the Solution Dispensing System (page 7), you may have all the things needed. Things not included with the system that you may need are . . .

. . . If you have to install an electrical outlet (page 11), you will need materials meeting electrical wiring codes. . . wire, outlet box, receptacle, wire nuts or tape, etc.

. . . If you will pump solution directly into the well (see pages 7 and 8) you may need more tubing. Read the note under step 2 on page 8.

. . . If you will pump solution into the water system between the well pump and pressure tank (see pages 7 and 10), you may need some of the pipe fittings shown in FIG. 6, page 10.

PUT YOUR DISPENSING SYSTEM TOGETHER

1. Fasten the solution pump to the base with 4 nylon screws and nuts, as shown.
2. Working through the tank fill hole, assemble the Low Level Indicator to the tank as shown. Position the upper window port so the red indicator is easily seen.
3. Set the reservoir (tank) into the round indent in the base.
4. Cut a 14" length of tubing and connect to the suction (bottom) bulkhead fitting on the tank. Use a sharp knife to cut square. Connect the tubing to the SUCTION VALVE on the solution pump as follows.

NOTE: BE SURE TO CONNECT TO THE SUCTION VALVE. IF CONNECTED TO THE WRONG VALVE, THE SYSTEM WILL NOT WORK.

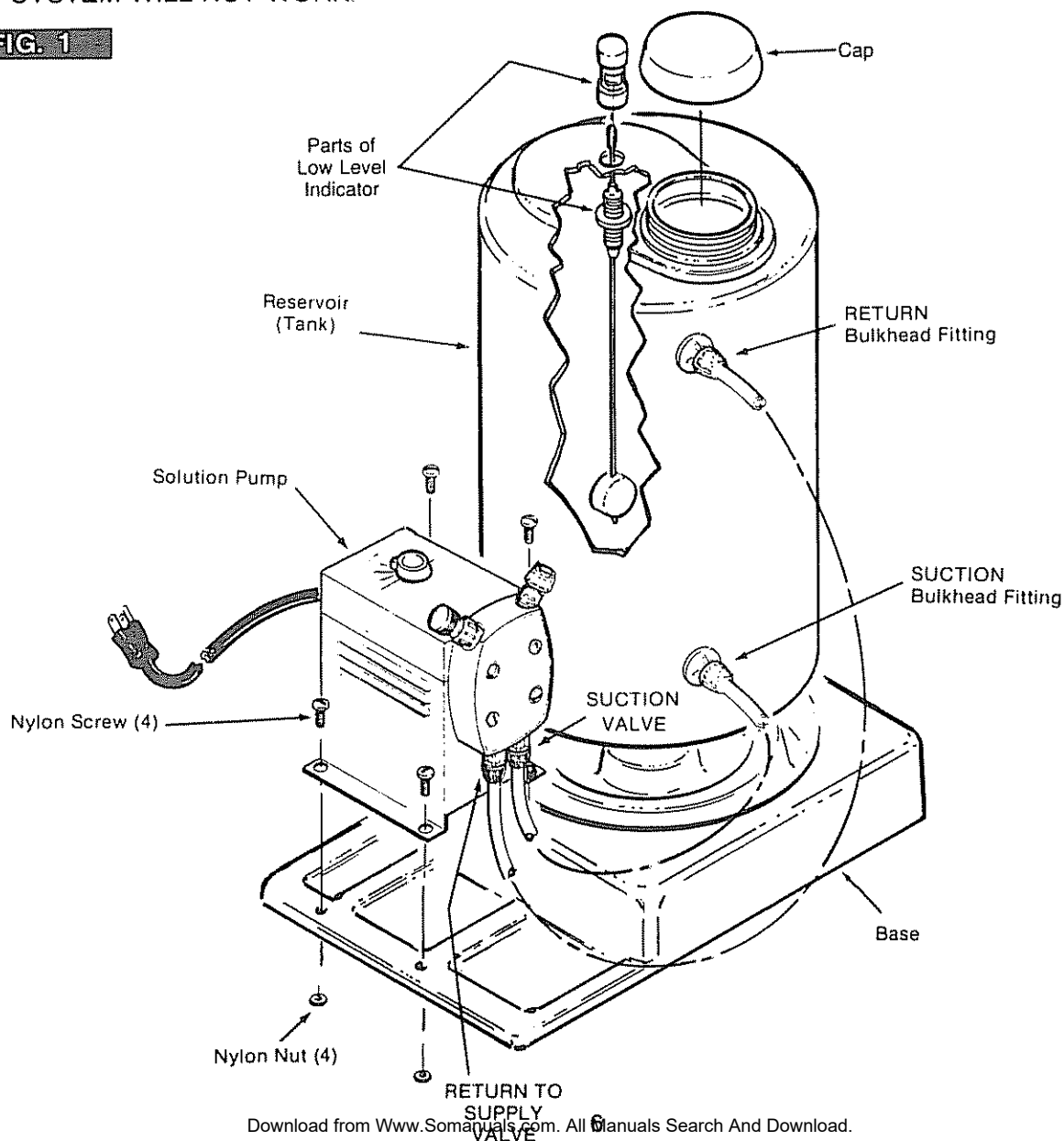
- Take the holding nut off the suction valve and slide over the end of the tubing. Push the tubing onto the end tip of the valve as far as it will go. Slide the holding nut up and tighten with your fingers.

NOTE: If the tubing is cold, dip the end of it in hot water to make it easier to work with.

5. From the tubing included, cut off about a 33 in. length. Be sure both ends are square. Then connect this tubing between the solution pump RETURN TO SUPPLY VALVE and the RETURN bulkhead fitting on the tank. Be sure to tighten both holding nuts.

6. Cut a 2 in. piece of tubing and, looking at Key No. 9 on page 18, connect the strainer to the suction bulkhead fitting, inside the tank.

FIG. 1



WHERE TO LOCATE YOUR SOLUTION DISPENSING SYSTEM

Locate the system where. . .

- . . . a 115 volt, 60 Hz electrical power source is nearby. (See page 11)
- . . . good fresh air flow will cool the solution pump motor and carry away solution fumes.
- . . . the area is clean and the air is free of dust.
- ▲ . . . the solution pump and tank are easy to reach for servicing and refilling, BUT OUT OF THE REACH OF CHILDREN.

- ▲ . . . IT'S AWAY FROM DIRECT SUNLIGHT.
- ▲ . . . DAMAGE FROM SOLUTIONS, DUE TO LEAKS THAT COULD OCCUR, IS LEAST LIKELY.
- . . . it's close to the solution injection point. Read about the 3 ways to inject solution, below.

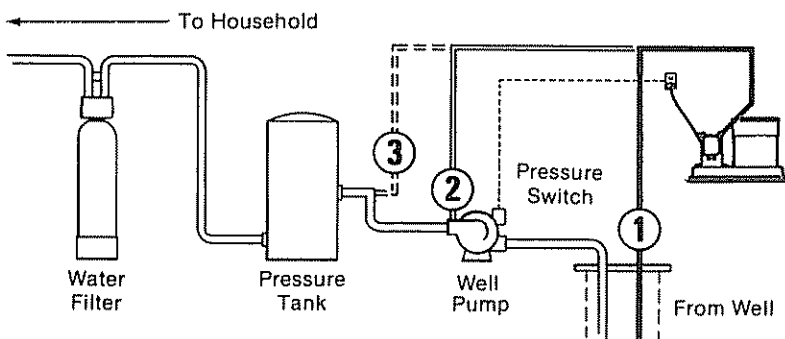
PICK THE BEST WAY TO INJECT SOLUTION INTO THE WATER

Chlorine or neutralizer feeding is done in 1 of 3 ways with the solution dispensing system. Read the following and pick the best way to treat your water supply.

- ① Chlorine or neutralizer injected right into the well casing (FIG. 2, below and FIG. 4, page 8) - This is the best way to feed chlorine.
- ② Chlorine or neutralizer injected into the alternate discharge fitting on the well pump (FIG. 2 and FIG. 5, page 9) - This is the best way to feed neutralizer.
- ③ Chlorine or neutralizer injected at some point between the well pump and pressure tank (FIG. 2 and FIG. 6, page 10).

IMPORTANT: When the well pump is running, the solution feed pump is feeding chlorine or

FIG. 2



neutralizer into the water. For the chlorine or neutralizer to work right, it must mix with the problem water for a short time. With today's fast recovery water pumps and direct fresh water drawing, most water bypasses the pressure tank. This does not allow enough time for good solution mixing to treat the problem water. If you have a fast water pumping system*, you must install a 42 gallon (or larger) blending tank, as shown in FIG. 3, to get the needed mixing time. A blending tank is available from Sears, Stock No. 42-34028.

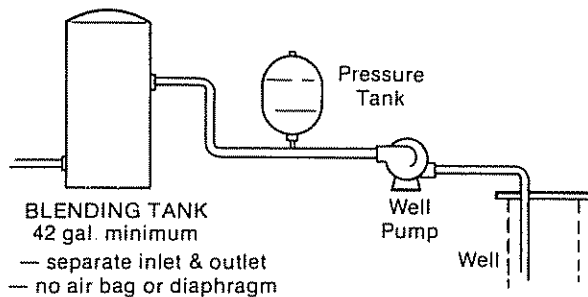
NOTE: In 90 to 95% of all Solution Dispensing System installations, a blending tank is **needed** for proper Solution mixing. A blending tank is helpful in all installations, but in some (shallow well, long piping runs, feeding neutralizer compound only) it could be left out under certain conditions. Talk to your Sears sales department for help.

- ① SOLUTION INJECTION INTO THE WELL CASING — PAGE 8
- ② SOLUTION INJECTION INTO THE WELL PUMP ALTERNATE DISCHARGE FITTING — PAGE 9
- ③ SOLUTION INJECTION BETWEEN THE WELL PUMP AND PRESSURE TANK — PAGE 10

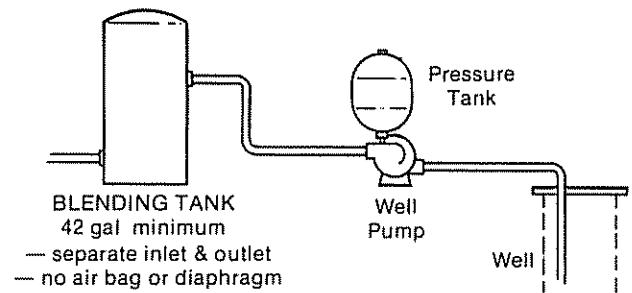
CAUTION: CHLORINE, INJECTED INTO THE WATER, MAY SHORTEN THE LIFE OF GASKETS AND SEALS IN YOUR WATER SYSTEM

BLENDING TANK

FIG. 3



PRESSURE TANK INSTALLED "ON" THE MAIN SUPPLY LINE



CAPTIVE AIR PRESSURE TANK INSTALLED "ON" DISCHARGE SIDE OF WATER PUMP

GUIDES TO INSTALL YOUR SOLUTION DISPENSING SYSTEM

① SOLUTION INJECTION INTO THE WELL CASING

1. Set the solution dispensing system in the place you chose to locate it. See page 7 for guides.
2. Measure for the length of tubing needed to run from the solution pump discharge fitting down to the water level in the well. The tubing is stiff, so allow enough length for longer bends. Cut both ends of the tubing square with a sharp knife.

NOTE: The system includes 15 ft. of tubing. If more is needed, look at the parts list on page 19. You can use a bulkhead fitting (Key #5, page 19) to join tubing together.

3. Remove the nut from the discharge valve (FIG. 4) on the solution pump. Slide the nut over 1 end of the tubing. Push the tubing onto the tip of the discharge valve as far as it will go. Then slide the holding nut onto the valve and tighten it with your fingers.

NOTE: To prevent siphoning of solution, buy (see page 19) and install an anti-siphon valve as shown in FIG. 4. Siphoning of solution may occur when the solution dispensing system is located above the injection point fitting.

4. In the same way as in step 3, connect the other end of the tubing to the injection fitting.

NOTE: Looking at FIG. 4, put some weight on the tubing so the injection fitting will stay under water. Large steel washers(3/8" I.D.) make good weights.

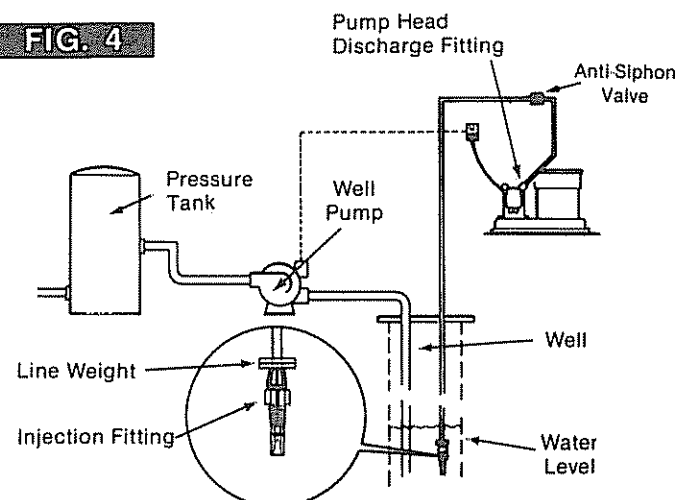
5. Lower the injection fitting down into the well.

CAUTION: In cold weather climates, you must insulate this tubing so it will not freeze.

DO NOT REMOVE THE PLASTIC SLEEVE FROM THE TIP OF THE INJECTION FITTING. IT IS A WORKING PART.

SEE PAGE 11 TO MAKE THE NEEDED ELECTRICAL CONNECTIONS.

FIG. 4



GUIDES TO INSTALL YOUR SOLUTION DISPENSING SYSTEM

② SOLUTION INJECTION INTO THE ALTERNATE DISCHARGE FITTING ON THE WELL PUMP

1. Turn off the electrical power to the well pump and turn off the gas or electric supply to the water heater.

2. Open a faucet for a few seconds, to bleed off water pressure, then close.

3. Close the shut-off valve on the main water pipe, close to the pressure tank.

NOTE: If you have a shut-off valve on the inlet side of the pressure tank, you don't have to drain it. Otherwise, drain all water from the tank.

4. Open the drain valve on the well pump, if it has one, and remove the prime plug. Close the drain valve.

5. Turn a reducer bushing into the prime plug hole to reduce it to 1/4 in. pipe thread. Use teflon tape or pipe dope on the outside threads.

6. Put teflon tape or pipe dope on the threads of the injection fitting and turn it into the reducer bushing until tight. DO NOT OVERTIGHTEN. DO NOT REMOVE THE PLASTIC SLEEVE FROM THE TIP OF THE INJECTION FITTING. IT IS A WORKING PART.

7. Set the solution dispensing system in the place you chose to locate it. See page 7 for guides

8. Measure for the length of tubing needed to run from the solution pump discharge fitting, to the injection fitting. The tubing is stiff, so allow enough length for longer bends. Cut both ends of the tubing square with a sharp knife.

9. Remove the nut from the discharge valve (FIG. 5) on the solution pump. Slide the nut over 1 end of the tubing. Push the tubing onto the tip of the discharge valve as far as it will go. Then slide the holding nut onto the valve and tighten it with your fingers.

10. In the same way as in step 9, connect the other end of the tubing to the injection fitting.

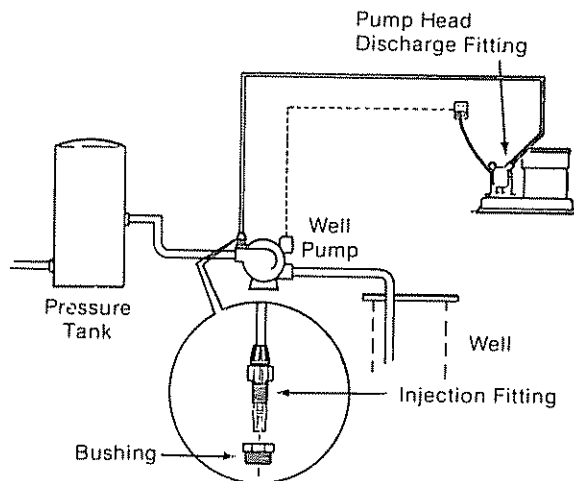
11. Turn on the electrical power to the well pump and open the main water supply valve. Open faucets to let air out of the water system, then close.

12. Check your plumbing work for leaks.

13. Turn on the gas or electric supply to the water heater and relight the pilot.

SEE PAGE 11 TO MAKE THE NEEDED ELECTRICAL CONNECTIONS.

FIG. 5



GUIDES TO INSTALL YOUR SOLUTION DISPENSING SYSTEM

③ SOLUTION INJECTION BETWEEN THE WELL PUMP AND PRESSURE TANK

1. Turn off the electrical power to the well pump and turn off the gas or electric supply to the water heater.
2. Open a faucet for a few seconds to bleed off water pressure, then close.
3. Close the shut-off valve on the main supply pipe close to the pressure tank.

NOTE: If you have a shut-off valve between the pressure tank inlet and the place you will install the injection point, you do not have to drain water from the tank. Otherwise, drain all water from the tank.

4. Open the drain valve on the well pump, if it has one.

5. Between the well pump and pressure tank, install a tee fitting as shown in FIG. 6. INSTALL THE TEE AS SHOWN, SO THE INJECTION FITTING GOES WITH THE FLOW OF WATER NOT AGAINST IT.

6. Use a reducer bushing as shown, to reduce the tee to 1/4 in. pipe thread. Use teflon tape or pipe dope on the threads.

7. Put teflon tape or pipe dope on the threads of the injection fitting and turn it into the reducer bushing until tight. DO NOT OVERTIGHTEN. DO NOT REMOVE THE PLASTIC SLEEVE FROM THE TIP OF THE INJECTION FITTING. IT IS A WORKING PART.

8. Set the solution dispensing system in the place you chose to locate it.

9. Measure for the length of tubing needed to run from the solution pump discharge fitting, to the injection fitting. The tubing is stiff, so allow enough length for longer bends. Cut both ends of the tubing square with a sharp knife.

10. Remove the nut from the discharge valve (FIG. 6) on the solution pump. Slide the nut over 1 end of the tubing. Push the tubing onto the tip of the discharge valve as far as it will go. Then slide the holding nut onto the valve and tighten it with your fingers.

11. In the same way as in step 9, connect the other end of the tubing to the injection fitting.

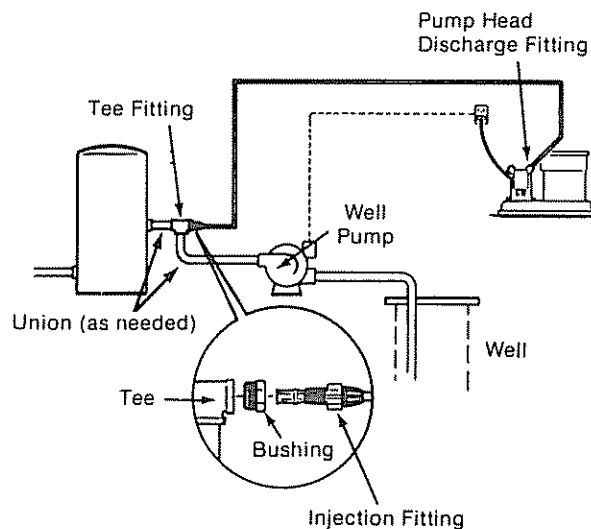
12. Turn on the electrical power to the well pump and open the main water supply valve. Operate faucets to let air out of the water system, then close.

13. Check your plumbing work for leaks.

14. Turn on the gas or electric supply to the water heater and relight the pilot.

SEE PAGE 11 TO MAKE THE NEEDED ELECTRICAL CONNECTIONS.

FIG. 6



ELECTRICAL WIRING GUIDES

▲ **CAUTION:** DO NOT TRY TO DO ANY WIRING IF YOU DO NOT KNOW ELECTRICITY. CALL A GOOD ELECTRICIAN.

▲ **CAUTION:** DO NOT DO ANY WIRING ON LIVE CIRCUITS. ALWAYS TURN OFF THE ELECTRICAL POWER AT THE SOURCE.

NOTE: All wiring must follow local or national electrical codes.

1. Looking at FIG. 7 and 8 or 9, install and wire in a duplex, 3-prong, 115 volt grounded outlet. Be sure to connect the outlet through the well pump pressure switch so the solution pump runs only when the well pump is on.

▲ **CAUTION:** Many well pumps work on 230 volts. DO NOT CONNECT THE SOLUTION PUMP TO A 230 VOLT CIRCUIT. Connect to only 1 leg of a single phase 230 volt circuit, as shown in FIG. 9.

2. Turn on the electrical power at the source. **DO NOT** plug in the power cord this time. First, fill the storage tank with solution (page 12).

FIG. 7

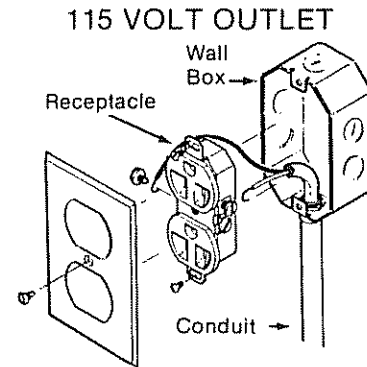


FIG. 8

WIRING DIAGRAM - 115 VOLT SYSTEM

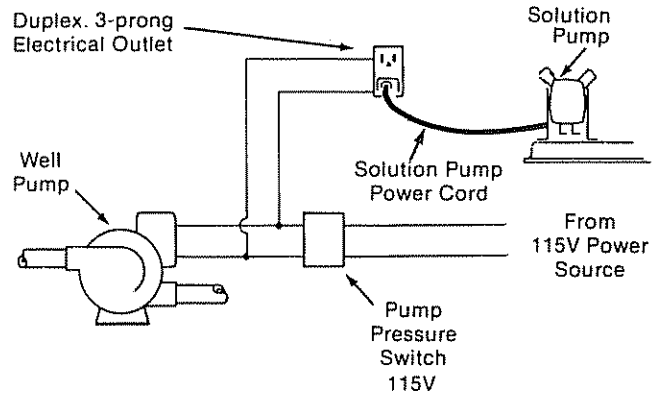
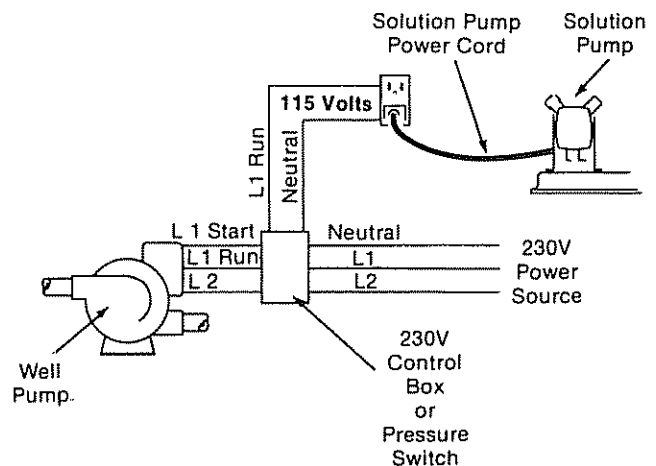


FIG. 9

WIRING DIAGRAM - 230 VOLT SYSTEM



FILL THE TANK WITH SOLUTION – SET THE FEED RATE

THE SOLUTION DISPENSING SYSTEM RESERVOIR (TANK) HOLDS 15 GALLONS OF SOLUTION. HOWEVER, ON THE FIRST FILL, ALLOW SOME ROOM IN THE TANK SO THE SOLUTION STRENGTH CAN BE CHANGED IF NEEDED. DEPENDING ON THE WATER PROBLEM YOU ARE TREATING, FILL THE TANK AND SET THE FEED RATE AS FOLLOWS.

IRON AND HYDROGEN SULFIDE TREATMENT — Remove the reservoir (tank) cover and fill the tank with 5 gallons of water and 5 gallons of 5.25% common household bleach (Purex, Clorox, Hilex, etc.).

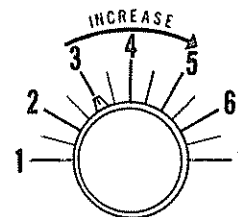
1. Plug the pump power cord in and open a nearby faucet to start the well pump. The solution pump starts to run with the well pump.
2. Turn the feed control knob (FIG. 10) to No. 7.
3. Turn the relief-release valve (**clockwise** only FIG. 11) to the open position. Solution is pumped through the suction tubing, into the pump head, then returned to the tank (takes 3-5 minutes).
4. When you see solution returning to the tank (look through fill hole), close the relief-release valve turning **clockwise** only. The pump head is primed and will begin to pump solution out the discharge. Replace the tank cover.
5. When the discharge tubing is filled with solution, turn the feed control knob to No. 4 and close the faucet opened in Step 1.
6. After 24 hours, check the chlorine residual as follows. Adjust the feed control knob and/or the solution strength as needed.

HOW TO CHECK CHLORINE RESIDUAL (FEEDING BLEACH) — It is ideal to feed just enough chlorine bleach to get rid of iron and/or hydrogen sulfide. However, the amount of these minerals in your water can change from season to season, and even from day to day. For this reason, you have to feed slightly more chlorine bleach than needed. This extra bleach sometimes gives the water a chlorine taste and/or odor that some people dislike.

To have the least chlorine taste and odor and still remove the iron or hydrogen sulfide from the water, you must maintain a chlorine residual. A test kit is included with your Solution Dispensing System. After installing the system and feeding solution for 24 hours, use the test kit as follows.

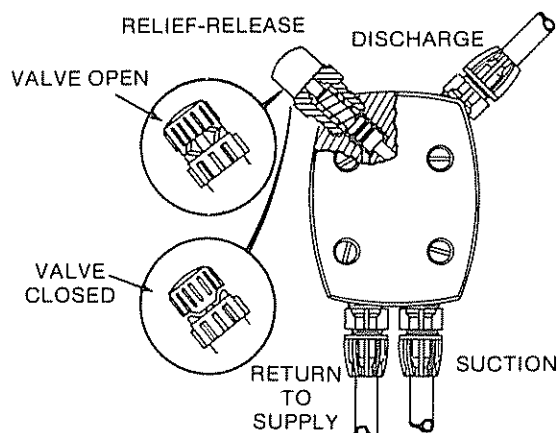
FIG. 10

FEED CONTROL KNOB



No. 1 setting is for the least solution feed, no. 7 is for the most, and no. 4 is the mid-point. ALWAYS BE SURE THE SOLUTION PUMP IS RUNNING WHEN TURNING THIS KNOB. NEVER ATTEMPT TO TURN THE KNOB WHEN THE PUMP IS OFF.

FIG. 11



1. Open a nearby faucet to start the well pump and the solution pump.
2. Follow the guides with the kit and test the water. A chlorine residual of 0.2 to 0.6 ppm is ideal.
3. If the residual is over 0.6 ppm, turn the feed control knob (FIG. 10) downward slightly and check again in 24 hours. Do this each day until the residual stays between 0.2 and 0.6. ALSO SEE THE NOTE FOLLOWING STEP 4.
4. If the residual is under 0.2 ppm, turn the feed control knob (FIG. 10) upward slightly and check again in 24 hours. Do this each day until the residual stays between 0.2 and 0.6. Then check every few days.

NOTE: The chlorine to water mixture ratio, above left, is average. You may not be able to maintain the residual, even with the lowest or highest feed rate settings. If so, do the following.

FILL THE TANK WITH SOLUTION – SET THE FEED RATE

1. Residual still above 0.6, and the feed control knob at 1 or 2 — Use less chlorine in the mixture. For example, use 1 gallon of bleach for each 2 gallons of water instead of 1 to 1.

2. Residual still below 0.2, and the feed control knob at 6 or 7 — Use more chlorine in the mixture. For example, use 2 gallons of bleach for each gallon of water instead of 1 to 1.

■ **ACID WATER TREATMENT** — Remove the reservoir (tank) cover and fill the tank with 8 gallons of WARM water. Pour in 80 oz. (10 oz. per gallon of water) of Sears Neutralizing Compound, Stock No. 42-34475. Stir until the compound is completely dissolved.

1. Plug the pump power cord in and open a nearby faucet to start the well pump. The solution pump starts to run with the well pump.

2. Turn the feed control knob (FIG. 10) to No. 7.

3. Turn the relief-release valve (**clockwise** only FIG. 11) to the open position. Solution is pumped through the suction tubing, into the pump head, then returned to the tank (takes 3-5 minutes).

4. When you see solution returning to the tank (look through fill hole), close the relief-release valve turning **clockwise** only. The pump head is primed and will begin to pump solution out the discharge. Replace the tank cover.

5. When the discharge tubing is filled with solution, turn the feed control knob to No. 4 and close the faucet, opened in Step 1.

6. After 24 hours, check the pH level as follows. Adjust the feed control knob and/or the solution strength as needed.

HOW TO CHECK THE pH LEVEL (FEEDING NEUTRALIZER COMPOUND) — The pH level of acid water is below 7.0 on a scale of 1 to 14. From 7.0 and above, the water is neutral. When feeding neutralizer, it is best to keep the pH level between 7.0 and 8.0. A test kit is included with your solution dispensing system to make this check. After installing the system and feeding solution for 24 hours, use the test kit as follows.

1. Open a nearby faucet to start the well pump and the solution pump.

2. Follow the guides with the kit to test the water from the opened faucet.

3. If the pH level is below 7.0, turn the feed control knob (FIG. 10) upward slightly and check again in 24 hours. If the pH checks above 8.0, turn the feed control knob downward slightly and check again in 24 hours. Do this each day until the pH stays between 7.0 and 8.0. Then check every few days.

NOTE: The neutralizer compound to water mixture ratio (10 oz. compound per gallon of water) is average. You may not be able to maintain a 7.0 to 8.0 pH, even with the lowest or highest feed rate settings. If so, do the following.

1. pH above 8.0, and the feed control knob at 1 or 2 — Use less neutralizer compound in the mixture. For example, mix 5 oz. of neutralizer compound in each gallon of water.

2. pH below 7.0, and the feed control knob at 6 or 7 — Use more neutralizer compound in the mixture. For example, mix 15 oz. of neutralizer compound in each gallon of water.

■ **TREATMENT OF ACID WATER THAT ALSO HAS IRON BACTERIA, HYDROGEN SULFIDE, OR HIGH AMOUNTS OF IRON** — Begin by filling the tank with 8 gallons of WARM water. Pour in 80 oz. (10 oz. per gallon of water) of Sears Neutralizer Compound, Stock No. 42-34475. Stir until the compound is completely dissolved. Add 2 gallons of 5.25% common household bleach (Purex, Clorox, Hilex, etc.).

▲ **CAUTION: ALWAYS MIX THE WATER, NEUTRALIZER AND BLEACH IN THE SAME ORDER AS ABOVE.**

1. Plug the pump power cord in and open a nearby faucet to start the well pump. The solution pump starts to run with the well pump.

2. Turn the feed control knob (FIG. 10) to No. 7.
-continued-

FILL THE TANK WITH SOLUTION – SET THE FEED RATE

3. Turn the relief-release valve. (**clockwise** only FIG. 11, page 12) to the open position. Solution is pumped through the suction tubing, into the pump head, then returned to the tank (takes 3-5 minutes).
4. When you see solution returning to the tank (look through fill hole), close the relief-release valve turning

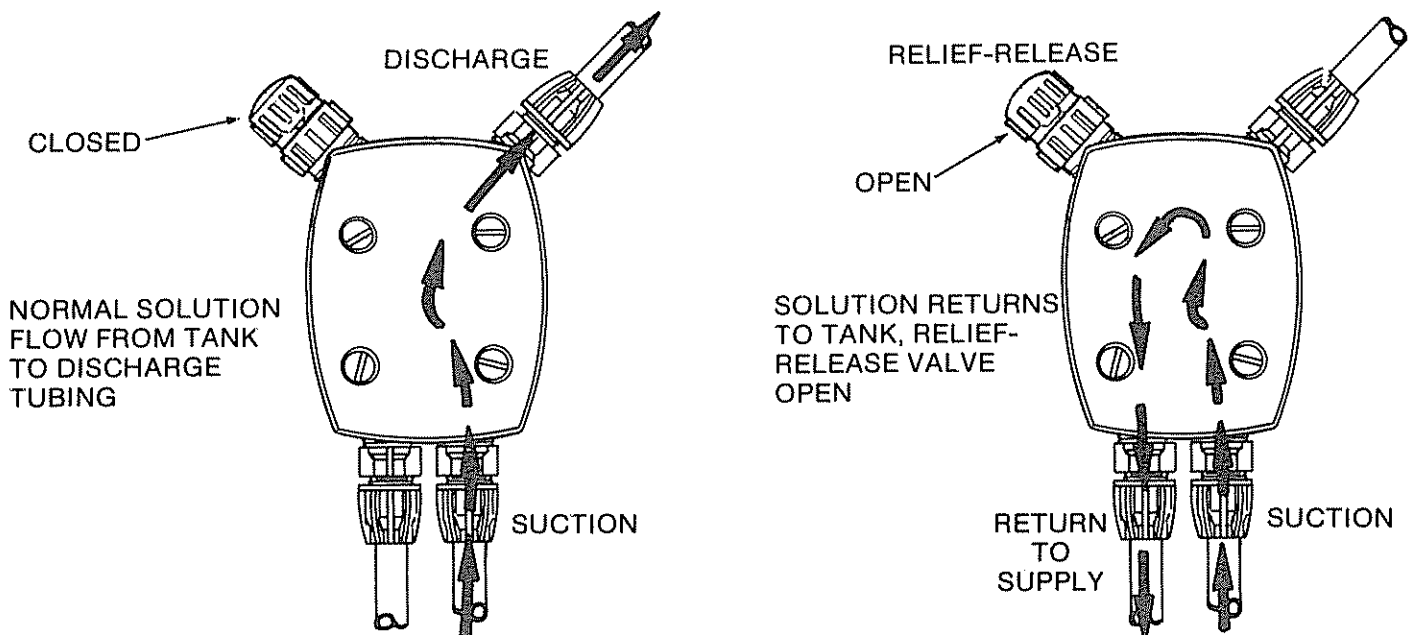
- clockwise** only. The pump head is primed and will begin to pump solution out the discharge.
5. When the discharge tubing is filled with solution, turn the feed control knob to No. 4 and close the faucet opened in Step 1.
6. After 24 hours, check the chlorine residual and the pH following the guides on pages 12 and 13.

CONTROLS AND FEATURES – HOW THEY WORK

RELIEF-RELEASE VALVE — The solution dispensing system will pump solution into water systems having up to 100 psi pressure. If the water system pressure goes over 100 psi, the relief-release valve opens to protect the dispensing system from possible damage. When open, solution passes through the relief-release valve and returns to the solution tank instead of going to the discharge tubing (FIG. 12). The relief-release valve closes and solution again pumps into the discharge tubing when the water pressure drops to 100 psi and below.

PRIMING THE HEAD — The relief-release valve also makes it easy to prime the pump head. With the solution tank full of solution, and the well pump and solution pump running, open the relief-release valve (turn **clockwise** only). When you see solution returning to the tank (look through fill hole), close the relief-release valve. The pump head is primed and will begin to pump solution out the discharge tubing.

FIG. 12



KEEP YOUR DISPENSING SYSTEM IN GOOD WORKING ORDER

RESERVOIR (TANK) SOLUTION LEVEL — After installing the solution dispensing system, check the solution level in the tank daily. Red shows in the **Low Level Indicator** when about 5 gallons of solution remains. After awhile, you will know about how much solution it uses each day and how often to refill the tank. **ALWAYS REFILL BEFORE THE SOLUTION LEVEL DROPS TOO LOW.** Always mix the solution in the same ratio as your residual and pH testing (pages 12, 13, 14) show the need for.

NOTE: Be sure to check the chlorine residual and/or pH level every few days to keep the readings within the limits.

CHECKING THE PUMP HEAD CARTRIDGE VALVES — If the solution pump runs, but the system is not using solution, do the following:

1. Remove the solution tank cover.
2. Open a faucet to start the well pump and solution pump.
3. Look into the tank to see if solution is returning to the tank through the top bulkhead fitting. If solution is returning . . .
 - . . .a. Injection fitting plugged, or water system pressure over 100 psi.
 - . . .b. Release-relief valve is leaking or defective.
4. Open the relief-release valve (turn **clockwise** only). If solution **does not** return to the tank . . .
 - . . .a. Suction valve leaking or plugged.
 - . . .b. Return to supply valve is leaking.
5. Open the relief-release valve (turn clockwise only) if solution is returning but system was not using solution. . .
 - . . .a. Discharge valve is leaking.
6. Close the relief-release valve (**CLOCKWISE**), and close the water faucet.
7. Remove and clean or replace valves or the injection fitting.

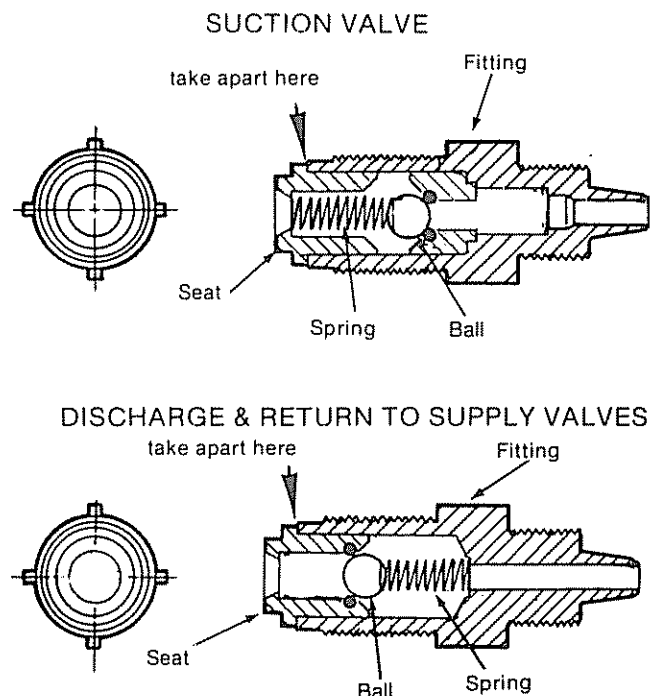
REMOVING AND CLEANING THE PUMP HEAD CARTRIDGE VALVES — Before removing any of the valves, open the relief-release valve. Be sure to remove electric supply, pressure from system and close valves as required.

1. Remove suction, discharge and return to supply valves from the head.

NOTE: Plug tubing (use pencil or other tool) to prevent loss of solution.

2. Place valves in a container filled with vinegar and soak for about 15 minutes.
3. Thoroughly flush with fresh faucet water.
4. Visually inspect and repeat steps 2 and 3 if needed.
5. Put some silicone grease or vaseline on the threads of the fitting. Then install in the correct position in the pump head. Finger tighten, then turn another 1/8 to 1/4 turn with a pliers.
6. Connect the tubing to the fitting using the holding nut. Refer to FIG. 1, page 6 for correct hookup.

FIG. 13



KEEP YOUR DISPENSING SYSTEM IN GOOD WORKING ORDER

LUBRICATION — At least every 6 months, lubricate the solution pump as follows:

1. Unplug the electrical power cord.
2. Loosen the set screw in the feed control knob and remove the knob and bushing.
3. Remove the pump top cover.
4. Clean all the grease from the moving parts and inspect for wear, damage or corrosion. Replace parts as needed
5. Lubricate all parts with a premium grease.

NOTE: If you replace any parts, adjust the cam and plate (FIG. 14) as follows:

1. Loosen the adjustment plate holding screw.
2. Plug in the power cord and operate motor until the block-drive is in the extreme rear position. Disconnect power cord.
3. Rotate the shaft assembly until the flat position on the cam is bearing on the drive plate.
4. Tighten the adjustment plate holding screw while holding the flat of the cam against the drive plate.

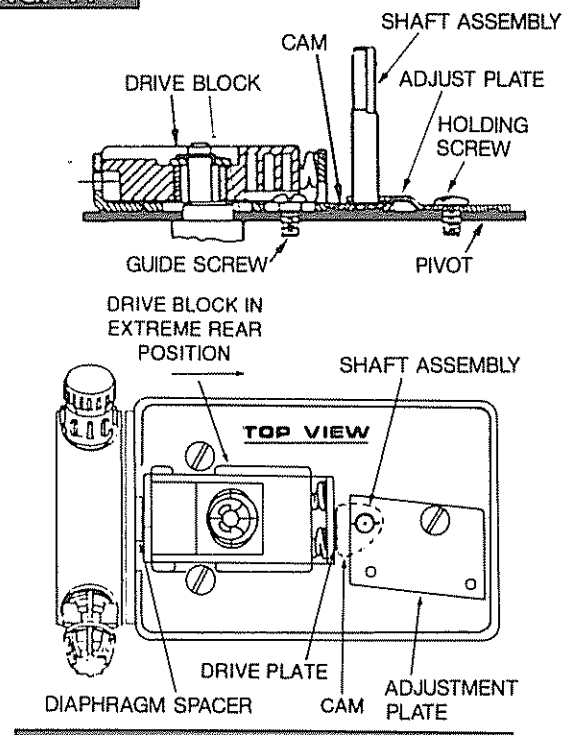
GEARMOTOR — Every 6 months, place a few drops of spindle oil on the rear rotor bearing (right behind the fan).

NOTE: To get at the gear motor, unplug the power cord and remove the screws holding the motor housing to the regulator housing (located under pump head and at rear of pump). Carefully lift the regulator housing up and off.

CHECK THE DIAPHRAGM —

1. Unplug the power cord.
2. Remove the 4 screws holding the pump head to the housing.
3. Move the pump head away from the pump and inspect the diaphragm for cracking, swelling, softening or blistering. If a new diaphragm is needed, replace it as follows:

FIG. 14



REPLACING THE DIAPHRAGM —

1. Turn the diaphragm to the left (↶) to remove. Discard the diaphragm, backup gasket, spacer and washer. (see Key No. 18, page 18).
2. Put a few drops of oil or lightly grease the stud on the new diaphragm. Place the spacer over the hex nut, then the fiber washer.
3. Holding the backup gasket in place behind the diaphragm, turn the diaphragm into the drive plate until the spacer just touches it. Then tighten to align the mounting holes.
4. Replace the pump head and turn in the 4 screws, tightening in a criss-cross pattern.
5. Plug the power cord in and prime the head using the guides on page 14.

CHECK THE TUBING — Check the solution carrying tubing and fittings weekly for any signs of leakage. If leaking at a holding nut, tighten it 1/8 to 1/4 turn. If it still leaks, disconnect the tubing, cut the end square and reconnect it to the fitting.

-continued-

KEEP YOUR DISPENSING SYSTEM IN GOOD WORKING ORDER

If the dispensing system is exposed to the sun, replace the solution tubing every 6 months. Replace the tubing yearly if the system is installed indoors.

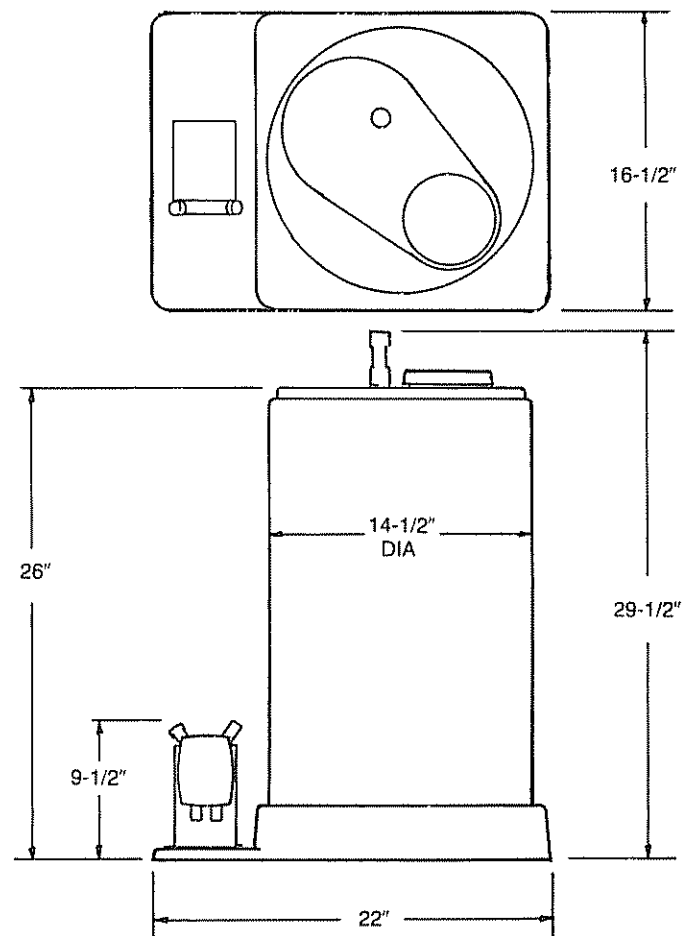
CLEAN THE STRAINER — Before filling the tank with solution, remove the strainer, remove the threaded fitting from the end of the strainer, then clean by forcing water backwards through the strainer.

CHECK THE INJECTION FITTING — The plastic sleeve on the injection fitting helps to keep it clean and working. However, check it every few months to keep it from plugging.

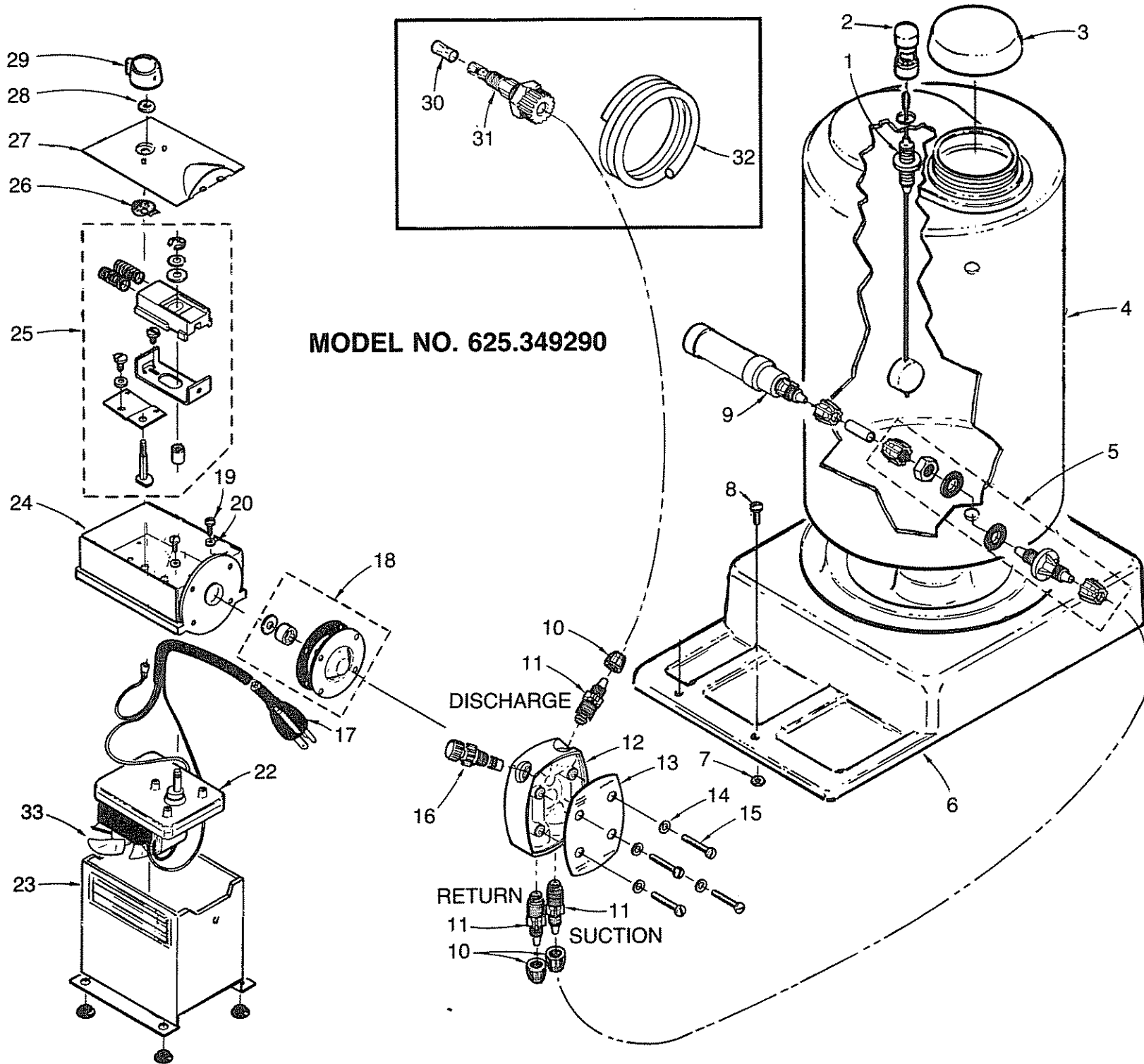
CAUTION: BE SURE TO TURN OFF WATER SYSTEM PRESSURE BEFORE REMOVING THE INJECTION FITTING.

DIMENSIONS AND SPECIFICATIONS

Electrical Voltage	.....	115 AC
Frequency	.....	60Hz
Amperage	.....	.37
Max. Pumping Rate per Hour	.....	0.5 gals. (1.89 Liters)
Max. Pumping Rate per 24 Hours	.....	12 gals. (45.4 Liters)
Max. Water System Press.	.....	75 psi (5.27 kg/cm ²)
Reservoir Capacity	.....	15 gals. (56.8 Liters)



REPAIR PARTS SEARS SOLUTION DISPENSING SYSTEM



PARTS LIST

MODEL NO. 625.349290

KEY NO.	PART NUMBER	DESCRIPTION	KEY NO.	PART NUMBER	DESCRIPTION
1	818405	Float Assembly	19	9006056	Screw, #10-32 x 1/2 (2 req.)
2	818399	Pipe, Low Level Indicator	20	813533	Lock Washer (2 req.)
3	818510	Tank Cap	22	818408	Motor, 120V, 60 Hz, 10 RPM ^②
4	8800650	Tank, 15 Gal. (incl. Cap, Key No. 3)	23	818215	Motor Housing
5	U0812612	Bulkhead Fitting (2 req.)	24	818285	Regulator Housing
6	818382	Tank Base	25	<u>8800656</u>	Drive Block Kit, (includes spring washer Key No. 26)
7	811704	Nylon Nut (4 req.)	26	810545	Spring Washer
8	811703	Nylon Screw (4 req.)	27	818227	Top Cover
9	8800418	Strainer	28	818258	Bushing
10	814211	Compression Nut	29	818256	Knob
11	8800702	Cartridge Valve Kit (incl. 1 each discharge, suction and return valve)	30	810338	Spare Sleeve
12	812318	Head, Relief-Release	31	8800606	Injection Fitting (incl. Key No. 30)
13	816342	Head Cover	32	818502	Tubing, 3/8 in. O.D. x 15 ft.
14	L9801300-188	Flat Washer (4 req.)	33	818564	Fan
15	810036	Screw, #10-32 x 1-3/4 (4 req.)	◆	8800406	Anti-Siphon Valve, 3/8 in. ①
16	U0816093	Plunger Assembly	◆	818509	Water Test Kit
◆	8800710	Head Assembly (incl. Key Nos. 10 through 16)	◆	818505	Owners Manual (F642-5289)
17	818544	Power Cord Assy.			
18	<u>8800470</u>	Diaphragm Kit			

① Optional item, not included with system.

◆ Not illustrated.

② Motor Replacement - If motor is connected to power cord by wire nuts, order Motor Replacement Kit. **818578**

REPAIR PARTS SEARS SOLUTION DISPENSING SYSTEM

SEARS

**OWNERS
MANUAL**

SERVICE

**MODEL NO.
625.349290**

**HOW TO ORDER
REPAIR PARTS**

**TELL SEARS YOU
WANT IT INSTALLED
THEN RELAX**

**SOLUTION DISPENSING
SYSTEM**

Now that you have purchased your Solution Dispensing System, should a need ever exist for repair parts or service, simply contact any Sears Service Center and most Sears, Roebuck and Co. stores. Be sure to provide all pertinent facts when you call or visit.

The model number of your Solution Dispensing System is on the rating decal, on the side of the solution pump.

WHEN ORDERING REPAIR PARTS, ALWAYS GIVE THE FOLLOWING INFORMATION:

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

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

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.

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