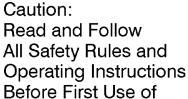
SEARS

OWNER'S MANUAL

MODEL NO. 625.349224

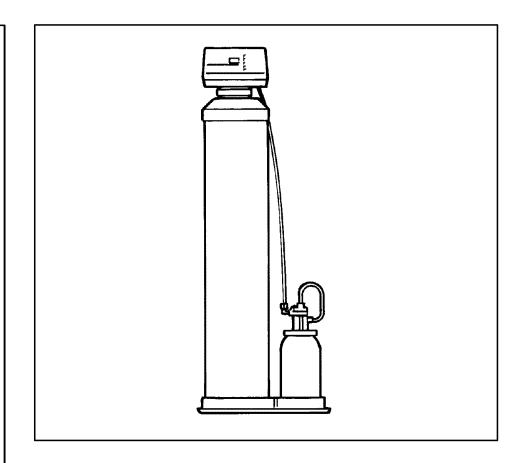


This Product.

If you have questions when installing, operating or maintaining your filter, and when setting the timer, call this toll—free number...

1-800-426-9345

SAVE THIS MANUAL



Kenmore

Automatic Iron Filter

- ◆ Warranty
- ◆ Start Up / Setting Timer
- ♦ How It Works
- ◆ Care Of
- ◆ Specifications
- ◆ Repair Parts

Sears, Roebuck and Co., Hoffman Estates, IL 60179 USA

SEARS RESIDENTIAL WATER FILTER

FULL ONE YEAR WARRANTY ON FILTER

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

FULL FIVE YEAR WARRANTY AGAINST LEAKS

For five years from the date of purchase, Sears will furnish and install a new current model water filter tank, free of charge, if the tank develops 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., D/817 WA, Hoffman Estates, IL 60179

If you want your water filter 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 Liabilility.

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.

FACTS AND F	IGURES TO KEEP			
Fill in the blanks below and keep this book in a safe place so you always have these facts.				
Water Filter Model N	o. †			
Serial Number				
Date Installed	**************************************			
Iron Content	Parts Per Million			
*pHTaste A	And/Or Odor			
Water Pressure	Pounds /Square Inch			
Water Flow Rate	Gallons Per Minute			
	is on the rating decal,			
located on the back of the filter top cover.				

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1A. SAFETY GUIDES

- ▲ Read all steps, guides and rules carefully before installing and using your new water filter. 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 filter.
- ▲ Your automatic filter will remove iron from your water supply as described on page 12. Also see the specifications on page 18. It will not soften hard water, purify contaminated water, or make other unsafe water safe to drink. Sears advises you to install a water softener, along with the iron filter, to remove iron that may get through the filter.
- ▲ Protect the filter and piping from freezing. Damage from freezing voids the filter warranty. . . . see page 16.
- ▲ Connect the filter to the house COLD water (120° max.) pipe only. DO NOT CONNECT TO HOT WATER. Hot water will damage inner parts and weaken or break the tank or bottle.

CAUTIONS -

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

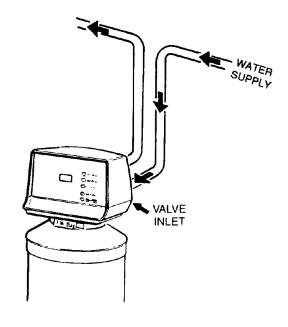
- ▲ THIS FILTER WORKS ON 24 VOLTS ONLY. BE SURE TO USE THE TRANSFORMER IN-CLUDED, AND PLUG IT INTO A 120V OUTLET.
- ▲ Unplug the transformer right away if the power cable should become damaged or frayed. Make repairs before plugging back into the power outlet.
- ▲ Always unplug the filter from electrical power before removing outer valve covers.

1B. CHECK LIST OF ALL STEP BY STEP GUIDES TO INSTALL

Refer to the Installation Manual, part no. 7146611, for step-by-step guides.

To be sure you have done all the steps to install the filter, read the following list. Page numbers referred to are in the <u>Installation Manual</u>.

- ✓ Is the house water flow going INTO the filter valve INLET? Trace piping to be sure . . . page 9.
- ✓ Is the plumbing bypass valve (or 3 valves) set for SERVICE? . . . See FIG. 10, page 18 of this manual.
- ✓ Is the valve drain hose connected the right way, and without sharp bends or kinks that could stop or reduce water flow? . . page 14.
- ✓ Is the tubing connected between the feeder valve, on the potassium permanganate bottle, and the filter valve . . . page 10. Is the bottle drain hose connected and over the floor drain . . . page 15.
- ✓ Is the filter power cable connected to the transformer . . . and is the transformer plugged into <u>an inside</u>, 120V-60Hz electrical outlet? . . . page 17.
- ✓ Be sure to restart the water heater . . . page 18.









1C. SANITIZING THE WATER FILTER

Care is taken at the factory to keep your water filter clean and sanitary. Materials used to make the filter will not infect or contaminate your water supply, and will not cause bacteria to form or grow. However, during shipping, storage, installing and operating, bacteria could get into the filter. For this reason, sanitizing as follows is suggested when installing.

1. Press and HOLD button 5 on the face plate until RCHG RCHG 12:00 begins to flash in the display (12:00 AM began to flash when the transformer was plugged in). The valve motor begins to run to advance the filter into the "fill" cycle. Water flows through the

permanganate bottle begin to fill.

a. As the bottle begins to fill with water, press button 5 again. In about 1 minute, you will see a slow flow of water begin out the valve drain hose.

plastic tubing and you will see the potassium

- **b.** Wait about 30 seconds, then press button 5 once more. As the valve repositions again, a fast flow from the filter drain hose begins. This is the filter "backwash" cycle. Allow the filter to backwash for several minutes.
- **c.** Press button 5 to advance the filter from backwash to "fast rinse" cycle. (Water from the drain hose stops momentarily, then begins again).
- 2. After about 2 minutes of fast rinse, PUT THE BYPASS VALVE(S) IN BYPASS POSITION (SEE FIG. 10, PAGE 18). Then press button 5 once again to return the filter to "service" position. DOING THIS RELEASES WATER PRESSURE IN THE FILTER.
- 3. Carefully remove the large plastic clip at the filter valve inlet (see Key No. 62, page 30). Pull the valve adaptor from the filter inlet.

NOTE:

or if plumbing is too rigid to move, also disconnect the outlet side and move the filter away from plumbing.

If bypass valve, Sears Stock No. 42-3437 is installed,

4. Put 1 teaspoon (0.1 ounce) of calcium hypochlorite into the valve inlet as far as possible.

NOTE:

You can buy calcium hypochlorite in tablet or granular form under trade names such as Perchloron and HTH.

- 5. Be sure the valve inlet is clean, for a good sealing surface for the valve adaptor o-ring. Then, reconnect plumbing to the filter. AFTER INSTALLING THE LARGE PLASTIC CLIP. PULL OUTWARD ON THE VALVE ADAPTOR TO BE SURE IT'S PROPERLY HELD IN PLACE.
- **6.** SLOWLY, reposition the bypass valve(s) to service . . . FIG. 10, page 18. Open the nearest filtered water faucet until you can smell chlorine, then close.
- 7. Again, put the bypass valve(s) in bypass position. Allow the filter to stand idle for about 45 minutes, while the chlorine sanitizes.

NOTE:

During this time, go to pages 7 and 8 to make the timer settings. If needed, adjust the feeder valve tube for potassium permanganate use, page 9. Then, complete the following steps.

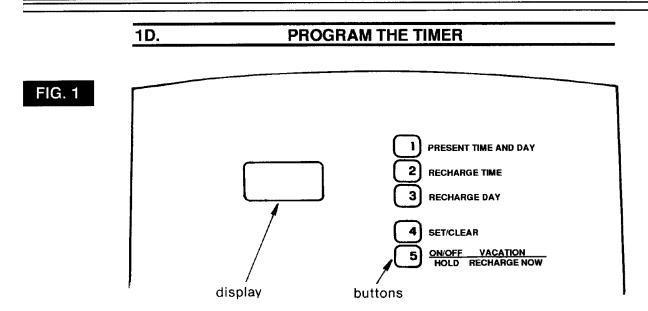
- 8. After 45 minutes, return the bypass valve(s) to service position.
- 9. Repeat steps 1, 1a and 1b to advance the filter to backwash. The timer will automatically advance the filter through the backwash and fast rinse cycles, during which the sanitizing bleach is flushed to the drain.

NOTE:

The backwash and fast rinse cycles take abut 25 minutes. When over, the timer automatically returns the filter to service (water flow from the drain hose stops).

10. Open house filtered water faucets and allow to run until the chlorine odor is gone.

¹ Recommended by the Water Quality Association. On some water supplies, the water filter may need periodic disinfecting.



When the transformer is plugged into the electrical outlet, 12:00 AM, SUnday began to flash in the time display. Set the time of day, present day of week, and days/time of recharge, as follows.

1. SET TIME OF DAY

- a. Press the PRESENT TIME AND DAY button 1 once. The hour display continues to flash.
- **b.** Press the SET/CLEAR button 4 until the present hour of the day shows in the display. Be sure AM for morning hours, or PM for afternoon and evening hours shows.

NOTE:

Press SET/CLEAR and quickly release to move the hour display ahead 1 at a time to the correct hour. Or, hold the SET/CLEAR button to move the display ahead 2 hours each second, to the correct hour.

- **C.** Press button 1 once to steady the hour display, and minutes begin to flash. Repeat step 1b to set the correct minutes.
- **d.** Press button 1 again to steady the minute display (day will begin flashing). Figure 2 shows the timer set at 3:30 PM.

2. SET PRESENT DAY OF WEEK

a. Press the SET/CLEAR button 4 to set the present day of the week in the display.

NOTE:

Press SET/CLEAR and quickly release to move the day display 1 at a time. Or, <u>hold</u> the SET/CLEAR button to move the day display ahead 2 days each second.

b. Press the PRESENT TIME AND DAY button 1 again to steady the entire display. Figure 2 shows the timer set at TUesday.

FIG. 2



EXAMPLE: This drawing shows the present time of day at 3:30 PM, and the present day on TUesday.

PRESENT TIME AND DAY

2 RECHARGE TIME

RECHARGE DAY

4 SET/CLEAR

ON/OFF VACATION
HOLD RECHARGE NOW

(continued)

1D.

PROGRAM THE TIMER

- 3. SET DAYS OF RECHARGE
 IF YOU HAVE A WATER SOFTENER OR
 OTHER AUTOMATIC FILTER... A good
 water flow rate is needed for proper recharging
 and/or backwashing of all water conditioners.
 To help assure good water flow, you should
 offset the timers on each conditioner so
 recharges do not occur on the same days, or at
 the same time as follows.
- ... Most Sears water softeners are factory set (many are adjustable) to recharge from 2:00 to 4:00 am.
- · · · Sears Automatic Iron Filter is factory set to recharge from 12:00 AM to about 1:50 AM.
- Other Sears filters (Clarifier, Neutralizer, Taste & Odor) are factory set to backwash from 12:00 AM to about 12:40 AM.
- Offset the timers on all equipment to <u>begin</u> recharges or backwashes at 12:00, 2:00 and 4:00 AM, or 1:00, 3:00 and 5:00 AM, etc.
- a. Look at the "Suggested Recharge Days" table. The table shows you the days to set the iron filter for recharge, depending on your household needs.
- **b.** Press the RECHARGE DAY BUTTON 3 AND SUnday begins to flash.
- ... If you <u>want</u> recharges on Sunday (from table), press the SET/CLEAR button 4 to display **ON.**
- ... If you do not want Sunday recharges, press button 4 to display **OFF.**
- C. Press button 3 again to display a flashing MOnday. As you did in step b above, press button 4 to display ON for recharge on Monday, or OFF for no recharge on Monday.
- **d.** Press button 3 for every day of the week, each time using button 4 to display **ON** (for recharge) or **OFF** (no recharge) as needed.
- e. After setting ON or OFF for Saturday, press button 1 to return the present time in the display.

4 SET TIME OF RECHARGE

The filter is factory set to begin recharge at 12:00 AM, ending at about 1:50 AM. If a different recharge time is desired, or needed, do the following.

- **a.** Press the RECHARGE TIME button 2 once, to display a flashing 12:00 AM, the factory setting.
- **b.** Press the SET/CLEAR button 4 until the desired recharge starting time shows in the display.

NOTE: Press button 4 and quickly release to move the display ahead 1 hour at a time. Or, hold button 4 to move the display ahead 2 hours each second.

C. Press button 1 to return the present time.

SUGGESTED RECHARGE DAYS

How often the filter must recharge depends on 2 things.

- 1. PARTS PER MILLION (PPM) IRON IN YOUR WATER SUPPLY Determined by water analysis . . . see page 2 in your installation manual.
- HOUSEHOLD WATER USAGE FACTOR Example: 4 people in the household, plus 1 clotheswasher, plus 1 dishwasher equals a usage factor of 6.

USING TABLE: Find your ppm of iron across the top (if not shown, use next higher number). Read <u>down</u> this column, and <u>across</u> from your water usage factor. At the meeting point, the table shows suggested days to recharge the filter.

WATER	PARTS PER MILLION (PPM) IRON WATER IN WATER SUPPLY								
USAGE FACTOR	2	4	6	8	10	12	14	16	20
1	ŞU	SU	Siu We	SU WE	SU WE	SU WE	SU WE	SU FR TU	SU FR TU
2	SU	SU WE	SU WE	SU WE	SU FR TU	SU MO FR WE	SU MO FR WE	SU MO FR WE	SU MOFR SA WE
3	SU	su WE	SU SU	SU FR TU	SU MO FR WE	SU MO FR WE	SU MOFR SA WE	SU MO FR SA WE	
4	SU	SU FR TU	SU FR TU	SU MO FR WE	SU MOFR SA WE	SU MOFR TUSA WE			-
5	SU WE	SU FR TU	SU MO FR WE	SU MOFR SA WE	SU MOFR TUSA WE		-		
6	SU WE	SU MO FR WE	SU MO FR WE	SU MO FR TU SA WE			D	ERY AY IARGI	F
7	SU WE	SU MO FR WE	SU MOFR SA WE	SU MOFR TUSA WE		(U	se "A	" Sett Page	ing
8	SU WE	SU MOFR WE	SU TH MO FR TU WE						

If the water supply has a high amount of sand, silt or other sediments, you should recharge the filter more often than the table shows. If you do recharge the filter more often, you can use half as much potassium permanganate (see page 9).

1E. ADJUSTMENT FOR POTASSIUM PERMANGANATE USE

The filter is factory set to use about 2 ounces of potassium permanganate each recharge. That's how much is needed to keep the mineral bed working the way it should. However, if you recharge the filter more often than needed (see the table on page 8) less potassium permanganate is needed each time.

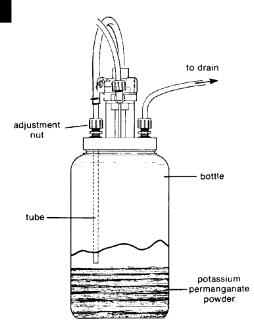
The valve (FIG. 3) has a tube that raises and lowers into the bottle. It has 2 settings marked on it. The "A" mark, or factory setting, is for 2 ounces of potassium permanganate. The "B" setting is for 1 ounce.

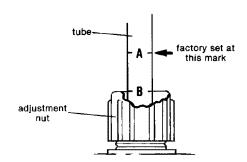
To change the setting, loosen the adjustment nut. Raise the tube until "B" lines up with the top of the nut, then tighten the nut.

IMPORTANT:

For proper recharging of the mineral bed, use the "A" setting. Use the "B" setting ONLY if the filter is set to recharge more often than the table on page 8 shows. Improper recharging will shorten the useful life of the mineral bed.

FIG. 3





2A.

FACE PLATE TIMER FEATURES

RECHARGE NOW

For times you expect to use more water than usual, use the RECHARGE NOW feature. Press the RECHARGE NOW-HOLD button 5 and hold in for 3 seconds. RCHG begins to flash in the display and a recharge starts right away. You will have filtered water when the recharge is over in about 2 hours.

FIG. 4

PRESENT TIME AND DAY

2 RECHARGE TIME

RECHARGE DAY

SET/CLEAR

ON/OFF VACATION **HOLD RECHARGE NOW**

VACATION

The day you leave on vacation or other long absence, press (DO NOT HOLD) the VACATION ON/OFF button 5 . VAC begins to flash in the display. The timer will keep time, but the filter will not recharge and waste water and potassium permanganate solution.

When you return, press the VACATION button 5 again to return the filter to service, and the correct time of day in the display. Remember to do this or the filter will not recharge and you will soon have iron in your water supply.

NOTE:

While in VACATION, the filter will go through a recharge if the RECHARGE NOW feature is used.

To shut off the water supply to the filter, use the plumbing bypass valve(s) . . . FIG. 10, page 18.

FIG. 5



PRESENT TIME AND DAY

RECHARGE TIME RECHARGE DAY

SET/CLEAR

ON/OFF VACATION RECHARGE NOW

ERROR CODE

An error code could appear in the faceplate display if a problem occurs in the filter electronics. If you see an error code

instead of the present time of day, please call your local Sears Service Department for service.

Continued

2A.

FACE PLATE TIMER FEATURES

TIMER "POWER-OUTAGE MEMORY"

If electrical power to the timer goes off, the "memory" built into timer circuitry keeps **all** settings for 6 hours (minimum) or more. The display is blank and the filter will not recharge. When electrical power comes on, 1 of 2 things will happen.

1. The present time of day will show, meaning the timer memory has kept all settings.

NOTE:

If the filter was **in** a recharge when power was lost, it will now finish the cycle.

2. The display will show a time, but it will be flashing. The timer memory did **not** keep the time settings and they must be reset, pages 7 and 8.

The flashing display is to remind you to reset the timer.

NOTE:

When power comes on, the flashing display returns to a time of 12:00 AM Sunday, then begins to keep time again. If you do not reset all time settings, the filter will recharge 3 days each week. However, recharges will most likely be on the wrong days and at the wrong time.

If the filter was in a recharge when power went off, the valve will return to service position without finishing the cycle. If your water has a purple color . .

- ... use RECHARGE NOW (see page 10) to start another recharge, or . . .
- ... open 1 or more filtered water faucets and allow water to run until clear, with no more purple color.

2B. IRON IN WATER/HOW FILTER REMOVES IT

IMPORTANT:

Sears water filters are sometimes installed alone in the water system, but most often other water treating equipment is needed. Always be sure to have your water tested by a qualified testing laboratory. If you need help, ask at your Sears store, or call Sears Water Line, 1-800-426-9345.

Iron in water causes many problems, from making rust stains on clothing, plumbing fixtures, etc. to making food and beverages look and taste bad. Two common kinds of iron are —

— Clear Water (FERROUS) iron is the most common. 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.

— Red Water (FERRIC) iron is rusty or brown as it comes out a faucet.

Your Sears Automatic Iron Filter will remove up to 20 parts per million (ppm) of the ferrous and/or ferric kinds of iron. Sears advises you to install a water softener in the water system after the iron filter, to remove any iron that may get through the filter.

NOTE:

Bacterial iron is another common kind. It forms stringy mud-like clumps in the water. If you think you have bacterial iron, have a water sample tested by Sears Water Analysis Laboratory. They will tell you what is needed to treat the bacterial iron. THIS FILTER WILL NOT REMOVE BACTERIAL IRON FROM WATER.

The iron filter is filled with a special manganese coated mineral. The filtering mineral bed is made up of thousands of small, odd-shaped, pebble-like pieces. The mineral does 2 things; 1 OXIDIZES iron and, 2 FILTERS iron.

① OXIDIZE — Iron most often is dissolved (clear water iron) in water supplies. You can't see it and, in this form, it is not filterable. When clear water iron comes in contact with oxygen for a few minutes, the iron changes to a solid form (red water iron) that you can see. The filtering mineral gives off the oxygen to make the iron change (oxidize) to red water iron.

②FILTER — Iron, in the oxidized or red water form, is filtered and held within the mineral bed during <u>service</u>. The iron is then cleaned from the mineral bed during <u>recharge</u> with a potassium permanganate solution, and backwashing.

SERVICE (FIG. 6) — The water supply, with iron in it, flows into and downward through the filter. The mineral bed in the filter oxidizes, gathers and holds the iron. Clear, iron-free water goes out the filter and to the house pipes.

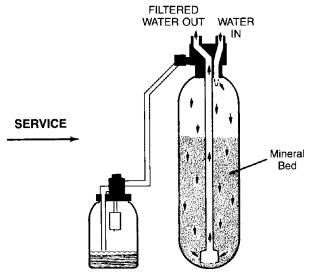
RECHARGE — In time, the filtering mineral has given off all the oxygen it can, and the bed is filled with the iron it has gathered. Then the mineral needs a recharge (or regeneation) to give it a new oxygen supply and to clean the iron out. FILL, SOLUTION DRAW/RINSE, BACKWASH and FAST RINSE are stages of the recharge, FIG. 7.

FILL water flows to a bottle filled with potassium permanganate powder during the first stage of recharge. The bottle fills with water to a preset level, until stopped by a float shutoff. In the bottle, water dissolves some of the potassium permanganate powder so a solution is ready for the solution draw cycle. The fill cycle lasts for 4 minutes.

During the 80 minute SOLUTION DRAW/RINSE, potassium permanganate solution is passed through the filter mineral to replace the oxygen. A suction takes the solution from the bottle and puts it into the mineral tank. The potassium permanganate rinses slowly through the filtering mineral, then goes out of the filter to the drain.

2B. IRON IN WATER/HOW FILTER REMOVES IT

FIG. 6



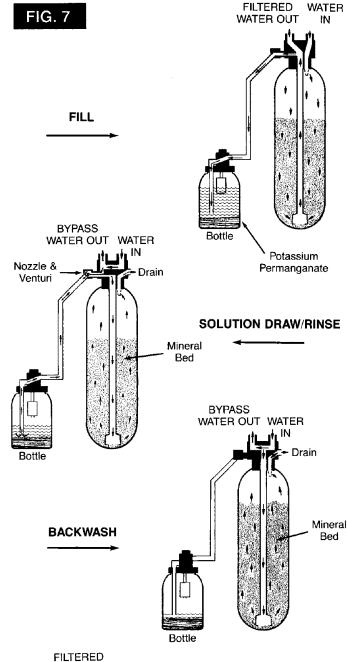
IMPORTANT:

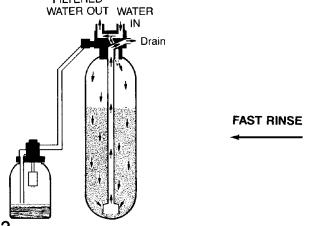
Avoid using water in the house while the filter is regenerating. Bypass iron water will go to house pipes and the water heater during the solution draw and backwash cycles if a faucet is opened.

When solution draw is over, the filter goes into BACKWASH. During backwash, water goes UP through the mineral at a fast flow. The fast flow loosens and flushes the gathered iron out of the bed. The iron goes with the flow of water to the drain. Any potassium permanganate still in the bed is also flushed out. The backwash is 16 minutes long.

After backwash, water goes DOWN through the filter (FAST RINSE) for 8 minutes. The mineral bed is packed and made ready for return to service. Rinse water goes to the drain.

IF YOUR WATER HAS A PINK COLOR AFTER THE FILTER HAS FINISHED RECHARGE, open a faucet nearby the filter and let the water run until the pink color is gone. See page 17 if the pink color appears after every recharge.





3A. CHANGING THE POTASSIUM PERMANGANATE BOTTLE

HOW LONG DOES A BOTTLE OF POTASSIUM PERMANGANATE LAST? How long a bottle lasts depends on how often the filter regnerates and how much potassium permanganate is used (pages 8 and 9). You can use the chart below as a guide to tell you about how long it will last.

HOW LONG THE POTASSIUM PERMANGANTE BOTTLE LASTS

No. of Recharges Each Week	Tube Set at "A" Mark	Tube Set At "B" Mark
1	9 months	18 months
2	4 1/2 months	9 months
3	3 months	6 months
4	9 weeks	4 1/2 months
5	7 weeks	3 1/2 months
6	6 weeks	3 months
7	5 weeks	2 1/2 months

IT IS IMPORTANT that you change the bottle before all the potassium permanganate is gone. If the filter goes too long without a regeneration with potassium

permanganate, the filtering mineral will lose its manganese coating and you can't replace it. New mineral and the service call to change it are costly. You can buy replacement bottles from Sears, Stock No. 42-34417.

WARNING:

PERMANGANATE STAINS DEEPLY. DO NOT GET IT ON YOUR CLOTHES OR YOUR SKIN. YOU SHOULD WEAR OLD CLOTHES WHEN CHANGING THE BOTTLE. PLEASE READ THE WARNINGS PRINTED ON THE BOTTLE.

BULK POTASSIUM PERMANGANATE POWDER: If purchased and used in bulk form, DO NOT OVER-FILL THE BOTTLE. Fill with only 6 lbs. of powder (see note below). Too much powder will stop or restrict solution flow from the bottle. Before filling, be sure to thoroughly clean the bottle.

STEPS TO CHANGE THE BOTTLE

CHANGE THE BOTTLE WHILE THE FILTER IS IN SERVICE AND NOT WHILE IN REGENERATION (be sure RCHG is not flashing in timer display).

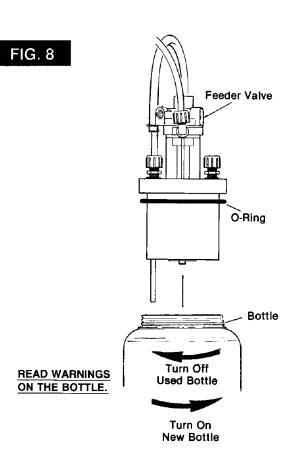
- Turn the used bottle out of the feeder valve. DO NOT LOSE THE LARGE O-RING ON THE BOT-TOM OF THE VALVE.
- 2. Place the used bottle in a leak-proof plastic bag and discard in a safe place and manner so children can not get to it.
- 3. Remove the cover from the new bottle.

NOTE:

The new bottle is only partly filled (about 6 lbs.) with potassium permanganate powder. The empty part of the bottle is needed so it can fill with water to dissolve the powder.

- 4. Put a light coat of vaseline or silicone grease on the valve to bottle o-ring seal. If not already in place, put the o-ring in the groove on the bottom of the feeder valve.
- 5. Turn the new bottle into the feeder valve until you feel the o-ring touch the top lip of the bottle. Then tighten another 1/8 turn. DO NOT OVER-TIGHTEN SO THE O-RING WILL NOT SEAL.

- **6.** Shake the bottle to level the powder.
- 7. Place the bottle onto the base.



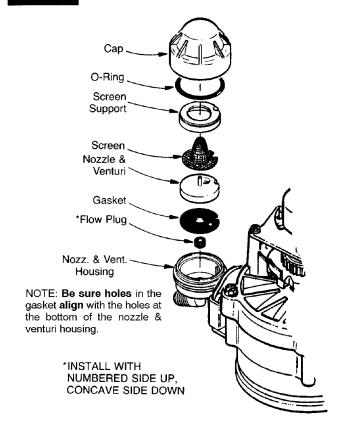
3B. CLEANING THE NOZZLE AND VENTURI

A clean nozzle and venturi (FIG. 9) is a must for the filter to work right. This small unit moves potassium permanganate solution from the bottle, into the mineral bed during solution draw (page 13). If the nozzle and venturi becomes plugged with iron, sand, silt, dirt, etc., it can not make the suction to move the solution. Without this solution during regeneration, the mineral bed will not be cleaned as it should.

Clean the nozzle and venturi each time you change the bottle. If your water supply has high amounts of iron, sand, silt, etc., you may have to clean the nozzle and venturi more often.

To get to the nozzle and venturi, remove the filter top cover. Be sure the filter 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 support and 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.

FIG. 9



3C. KEEP THE FILTER FROM FREEZING

If the filter 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 filter —

- 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 filtered water pipes to vent pressure in the filter.
- 3. Looking at FIG. 10 on page 18, 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.
- **4.** Unplug the transformer at the wall outlet.
- Pull the holding clip to remove the drain fitting, with drain hose attached, from the valve. DO NOT LOSE THE BLACK RUBBER FLOW PLUG AND RETAINER.
- **6.** Looking at page 11 in the installation manual, remove the plastic clips and pull the adaptors or bypass valve from the inlet and outlet.

7. Remove the bottle and feeder valve from the base. Store the bottle in a warm, safe place where it will not spill, and AWAY FROM CHILDREN.

If you do not have a place to SAFELY store the bottle, turn the feeder valve off and flush with fresh water. Dump the liquid contents of the bottle down the drain. Place the bottle in a plastic bag and discard in a safe place and manner so children can not get to it.

- 8. Move the filter close to the floor drain. SLOWLY and CAREFULLY (the filter is heavy) tip the filter over so the valve inlet and outlet are over the drain. Allow water to drain from tank. DO NOT REST THE FILTER ON THE INLET AND OUTLET FITTINGS OR THEY WILL BREAK.
- **9.** Tip the bottom of the filter up a few inches and hold until all water has drained. Leave the filter laying like this until you are ready to use it. Plug the inlet and outlet with rags to keep dirt, bugs, etc. out.

SECTION 3

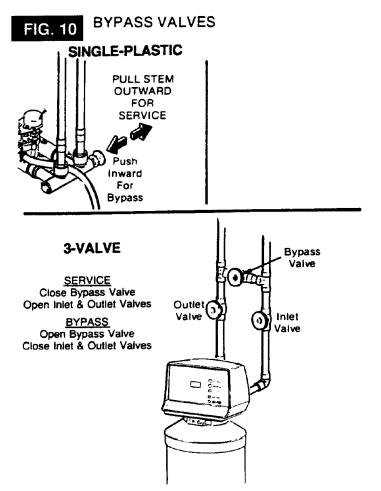
Information.

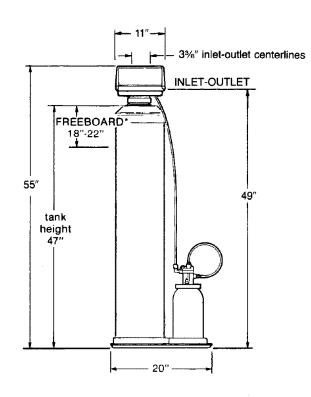
3D. BEFORE YOU CALL FOR SERVICE . . . HELPFUL HINTS CHECKLIST

PROBLEM	CAUSE	CORRECTION	
FILTER WILL NOT RECHARGE	Manual bypass valve(s) in bypass position	See FIG. 10, page 18. Move stem in a single bypass valve to SERVICE. In a 3-valve bypass, open the inlet and outlet valves, close the bypass valve.	
	Transfomer unplugged at wall outlet, power cable disconnected, fuse blown/circuit breaker popped, or circuit switched off	Check for loss of power and correct. Reset the times and use the RECHARGE NOW feature see page 10. Also see "Electric Power Outlet For Your Filter, page 17 in the installation manual.	
	Timer in the vacation (VAC) position	Press the VACATION button 5 once to return the filter to service see page 10.	
	Timer not programmed for recharge.	See page 8 to program a weekly sched- ule.	
	An error code shows in the face plate display	See page 10.	
	Backwash flow washer plugged	See key No. 59, page 30, and remove drain hose adaptor to clean.	
	Drain hose plugged, kinked or bent	Straighten hose, or remove and clean.	
FILTER RECHARGES, BUT FILTERED WATER HAS IRON	See causes above		
WATER HAS INON	No more potassium permanganate in storage bottle	Replace bottle and use RECHARGE NOW.	
	Not using enough potassium permanga- nate	Reset the bottle adjusting tube see page 14.	
	Dirty, plugged or damaged nozzle and venturi	Disassemble and inspect. Clean or repair as needed page 15.	
	More frequent recharges needed	Add more recharges refer to page 8.	
	HOT water used while the filter is re- charging	The water heater will refill with bypass iron water. Avoid using water during recharges.	
	Possible increase in iron content	Ask your Sears store for a new water analysis. Adjust recharges as needed.	
	Leaking faucet or toilet valve	A small leak can waste hundreds of gallons of water in a few days. Fix plumbing leaks, and always fully close faucets.	
LOW WATER PRESSURE AT HOUSE FAUCETS	Recharge and backwash needed more often to keep mineral bed clean	Adjust for more frequent recharges. See page 8.	
NOTE:	Well pump pressure set too low Adjust to a minimum of 20 psi.		
Your water supply may have a PINK COLOR after recharges if water pressure is low. To correct, increase pressure, adjust for less potassium permanganate use and add more recharges page 8, or increase the backwash cycle time see Servicer's Tech			

4A.

DIMENSIONS/SPECIFICATIONS





* FREEBOARD is the distance (inches from top of the tank to top of the mineral bed (1 cu ft of mineral)

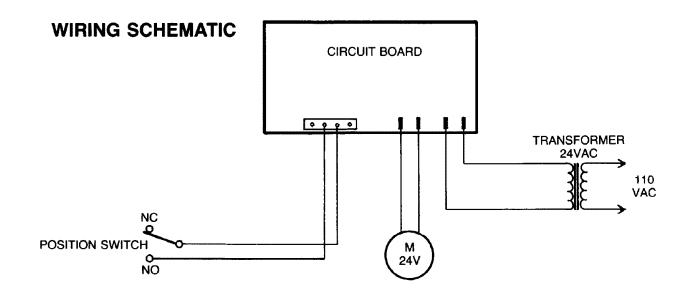
CLASSIFICATION OF FILTER:	Househo
FILTER TYPE:	Oxidizi
TYPE OF MINERAL:	Manganese dioxide coate
AMOUNT OF MINERAL:	
AMOUNT OF GRAVEL BASE:	
AMOUNT OF FILTER SAND:	10 I
INLET WATER PRESSURE LIMITS:	20-125 p
RATED SERVICE FLOW:	8 gal/п
MAX. PRESSURE DROP AT RATED SERVICE FLOW:	10 j
MAXIMUM INLET WATER TEMPERATURE:	120
MINIMUM INLET WATER FLOW:	
MINIMUM INLET AND OUTLET PIPE SIZE:	3/4 in
BACKWASH FLOW RATE: (at 35 psi inlet pressure)	7 gal/n
MINIMUM SUPPLY WATER pH:	
CAPACITY RATING:	See Rating Decal on Filt
POTASSIUM PERMANGANATE USED EACH REGENERATI	ION:
at "A" setting on Tube:	2 ounc
at "B" setting on Tube:	1 oun

ELECTRICAL RATING: 24V - 50/60 Hz, 0.3A

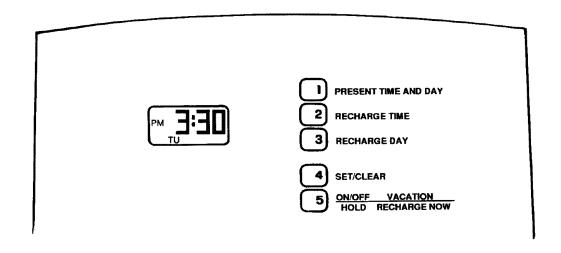
5 A .	ELECTRICAL	CONNECTIONS	

IMPORTANT:

KEEP THIS MANUAL WITH YOUR WATER FILTER. IF REPAIRS ARE NEEDED, THE SERVICE TECHNICIAN MUST HAVE THE INFORMATION ON THE FOLLOWING 8 PAGES.



FACE PLATE TIMER



RECHARGE CYCLE TIMES AND DRAIN FLOW RATES 5B.

RECHARGE times and Cycle Sequence

	SINGLE <u>BACKWASH</u>	DOUBLE BACKWASH
FILL	4 MIN.	4 MIN.
BACKWASH	_	16 MIN.
FAST RINSE		8 MIN.
SOLUTION DRAW/RINSE	80 MIN.	80 MIN.
BACKWASH	16 MIN.	16 MIN.
FAST RINSE	8 MIN.	8 MIN.
TOTAL ①	112 MIN.	137 MIN.

Includes valve positioning time

RECHARGE CYCLE WATER FLOW RATE TO DRAIN

SOLUTION DRAW	.35 GPM
SOLUTION RINSE	.22 GPM
BACKWASH	7 GPM
FAST RINSE	7 GPM

*NOTE:

The timer has a double backwash capability. In some cases, depending on the water supply, (type of iron, amount of iron, sediment and other mineral content, etc.), a second backwash instead of additional recharges may keep the mineral clean. See below to program a double backwash.

TO SET DOUBLE BACKWASH

USE BUTTONS 4 (SET/CLEAR), and 1 (PRESENT TIME AND DAY)

1. Press and hold 4 entire display comes on.

Press 1 to display 3 dashes

Press 4 to display dbl

Press 1 to display 18:88



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2. Press 4 to return present time.

REPEAT ABOVE STEPS TO CANCEL DOUBLE BACKWASH.

OTHER RECHARGE CYCLE TIME ADJUSTMENTS

Cycle times above are factory settings. Do the following to check for correct cycle times.

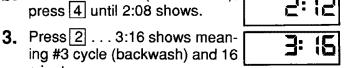
NOTE:

Removing from electrical power (varies from 6 to 15 hours) resets timer to factory programming.

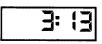
DISPLAY MUST SHOW TIME AND DAY

- 1. Press and hold 4 . . . entire display comes on.
- 2. Press 2 . . . 2:08 shows, meaning #2 cycle (brining & br. rinse) and 80 minutes (8 x 10).
- a. If 2:08 does show, go to step 3.
- **b.** If other than 2:08 (2:00 to 2:15), press 4 until 2:08 shows.

minutes.



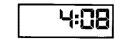
- a. If 3:16 does show, go to step 4.
- **b.** If other than 3:16 (3:00 to 3:30), press 4 until 3:16 shows.



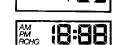
NOTE:

Instead of programming a double backwash, a longer single backwash is beneficial on some types of iron water.

4. Press 2 . . . 4:08 shows. meaning #4 cycle (fast rinse) and 8 minutes.



- a. If 4:08 does show, go to step 5.
- **b.** If other than 4:08 (4:00 to 4:30), press 4 until 4:08 shows.



- **5.** Press 2 . . . 18:88 shows.
- 6. Press 4 to return present time and day.

DIAGNOSTICS 5C.

AUTOMATIC ELECTRONIC DIAGNOSTIC

The face plate has a self-diagnostic function for the electrical system (except input power). The face plate monitors the electronic components and circuits for correct operation. If a malfunction occurs, an error code appears in the face plate display.

The chart below shows the error codes that could appear, and the possible defects for each code.

While an error code appears in the display, all face plate buttons are inoperable except the SET/CLEAR button. SET/CLEAR remains operational so the service person can make the MANUAL ADVANCE DIAGNOSTICS to further isolate the defect.

POSSIBLE DEFECT

CODE	MOST LIKELY ← LESS LIKELY
E - 1	motor inop. / wiring harness or connection to switch / switch / face plate
E - 2, E - 3	face plate
E - 4	face plate / position switch

PROCEDURE FOR REMOVING ERROR CODE FROM FACE PLATE: 1. Unplug transformer 2. Correct defect 3. Plug-in transformer 4. Wait for 6 minutes. The error code will return if the defect was not corrected.

MANUAL ADVANCE DIAGNOSTIC

Use the following procedures to advance filter valve through recharge cycles to check operation.

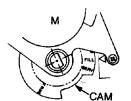
Remove top cover to observe valve rotation.

DISPLAY MUST SHOW TIME AND DAY

- 1. Press and hold 4 for 3 seconds until 18:88 displays.
- 2. Press 3 to display position (P) switch open or closed indicator.

If valve is in service, fill, solution draw, backwash or fast rinse (see markings on cam under motor), display will show . . . (--), meaning the position switch is open.

While the valve is rotating from one cycle to another, the display shows (-P), meaning the position switch is closed.



NOTE:

While in manual advance, the time display automatically returns to the present time of day if a button is not pressed within 4 minutes.

- 3. To advance valve, press 5 each time you want to move into next cycle. (Pressing 5 while valve is rotating has no affect.)
- Press and hold 5 for 3 seconds to move filter into fill. Verify fill water enters solution bottle.

	_	P	Ì
ļ			

- a. If it does not move into fill, valve motor is inoperative. Check all wiring and connections.
- **b.** If water does not enter bottle, see "Quick-Check Troubleshooting," page 22.
 - After 5 minutes of fill press 5 to move filter into solution draw. (NOTE: Advance through backwash and fast rinse first if double backwash is programmed.) A slow flow of water to drain begins. Verify solution draw from the bottle.



- C. If solution is not drawn from bottle . . . see "Quick-Check Troubleshooting," page 22.
 - Again press 5 to move filter into backwash. Look for a fast flow of water from drain hose.

- P

- d. A slow flow indicates an obstructed top distributor, backwash flow plug, drain hose, or iron fouled mineral bed.
 - Press 5 to move filter into fast rinse. Again look for fast drain flow. Allow to rinse until drain water is clear. with no purple color (from solution draw test).

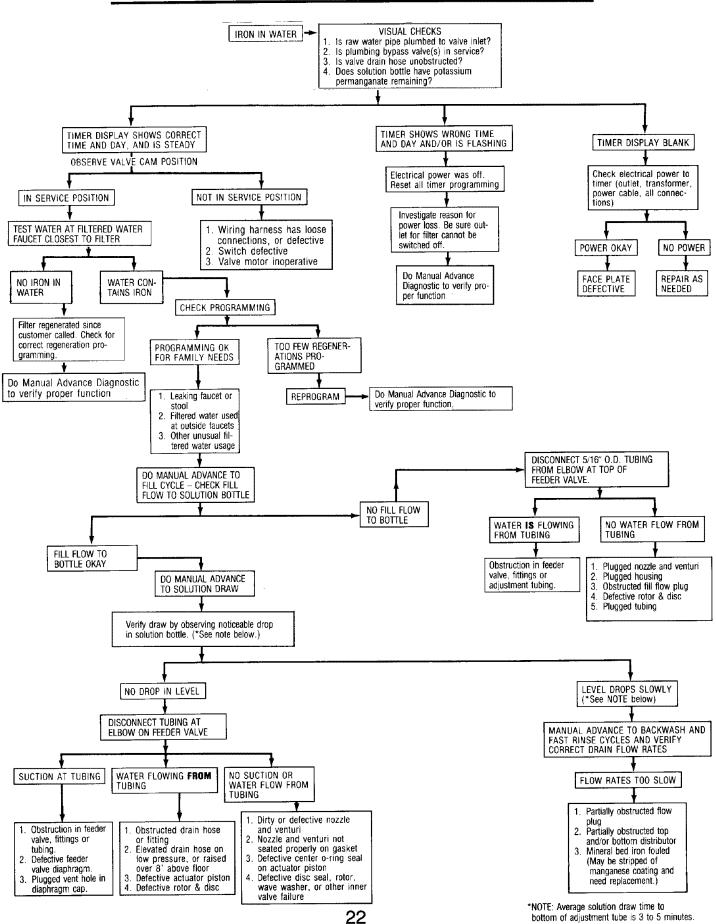
- P	
	7

— To return filter to service, press 5.

(8:88

- **4.** Press 3 to display 18:88.
- 5. Press 4 to return present time and . 3:45 day.

5D. "QUICK-CHECK" TROUBLESHOOTING



5E. ROTARY VALVE SERVICE

BEFORE WORKING ON THE VALVE, TURN OFF THE WATER SUPPLY AND DISCONNECT FROM FLECTRICAL POWER. TO RELIEVE PRESSURE...

...3 VALVE BYPASS: Close the inlet valve and open a filtered water faucet. Then close the outlet valve and open the bypass valve.

... SEARS SPECIAL BYPASS: Slide the bypass valve stem to bypass position. <u>Loosen</u> the 3 hex head screws (see A in drawing) toward the backside of the valve to allow pressure water to bleed out (catch water with a rag).

DISASSEMBLY

To remove a part or group of parts, refer to the valve drawing. A common screwdriver or nut driver, Phillips screwdriver and pliers are the only tools needed to completely disassemble.

SERVICING THE VALVE

Inspect all o-rings, seals and gaskets for wear or defects.

Inspect the bottom surface of the rotor and disc for scratches, chips or wear.

NOTE:

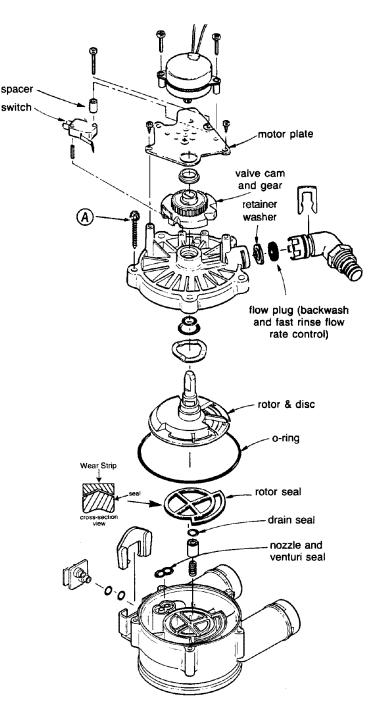
If replacement is needed, be sure to use the current replacement part.

ASSEMBLY

Be sure all parts are in place and in the proper position. Lubricate ALL o-rings, and seals with FDA approved silicone grease. To install the rotor seal, first place the seal into the valve groove, rounded side down (see cross-section). Apply a light coating of silicone grease to the seal's crossing ribs. Then, carefully center the wear strip on the seal, and push it downward onto the seal.

Install the nozzle and venturi seal and drain seal. Assemble 2 o-rings and the wave washer onto the rotor and disc. Then center the rotor and disc, in the valve body, on the rotor seal.

Lower the cover onto the valve body and rotor shaft. Then install the cover holding screws. BEFORE TIGHTENING THE SCREWS, INSTALL THE VALVE CAM AND GEAR, THEN TURN THE ROTOR (CLOCKWISE ONLY) TO SERVICE POSITION.

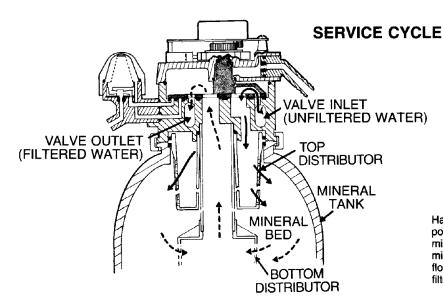


Tighten the screws using a criss-cross pattern. If a torque wrench is available, torque to 30-40 inch pounds.

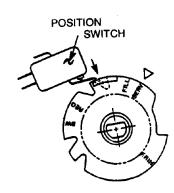
Lubricate the gear on the motor, and the valve cam gear with Molykote grease, or other high quality gear lubricant.

Be sure to orient switch as shown, with lever toward the valve cam.

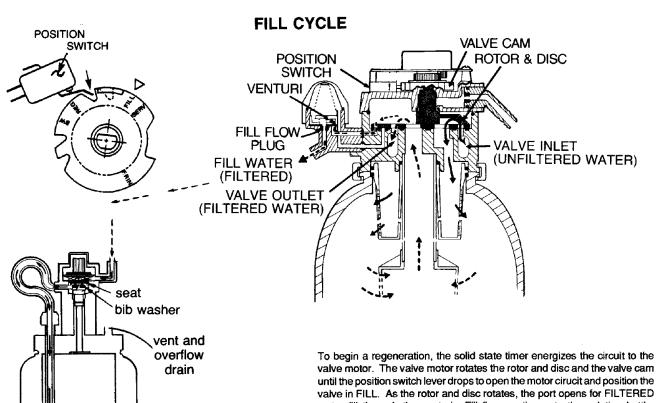
5F. WATER FLOW THROUGH THE FILTER VALVE



float



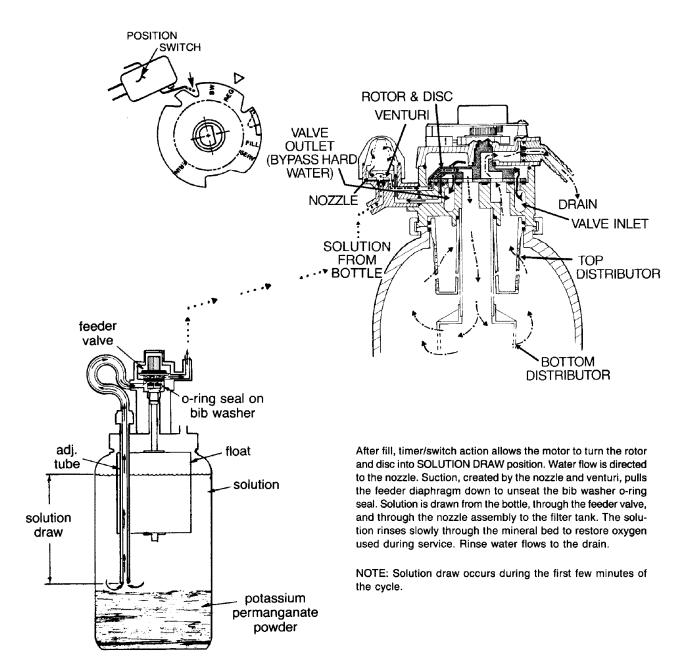
Hard, unfiltered water enters the valve inlet port. Internal valve porting routes the water down and out the top distributor, into the mineral tank. The water is filtered as it passes through the mineral bed, then enters the bottom distributor. Filtered water flows back into the valve and out the valve outlet, to the house filtered water pipes.



To begin a regeneration, the solid state timer energizes the circuit to the valve motor. The valve motor rotates the rotor and disc and the valve cam until the position switch lever drops to open the motor cirucit and position the valve in FILL. As the rotor and disc rotates, the port opens for FILTERED water fill through the venturi. Fill flow continues to the solution bottle, regulated by the fill flow plug. The bottle refills until the float becomes buoyant and forces the bib washer o-ring seal against the seat. If it fails to seal, excessive fill water goes to the drain until the valve exits the fill cycle. As the water stands in the bottle, it slowly dissolves about 2 oz. of the potassium permanganate powder at the "A" setting (1 oz. at the "B" setting).

5F. WATER FLOW THROUGH THE FILTER VALVE

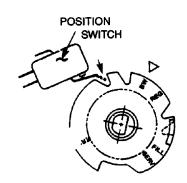
SOLUTION DRAW AND RINSE

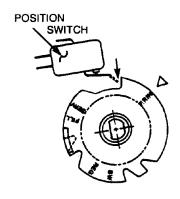


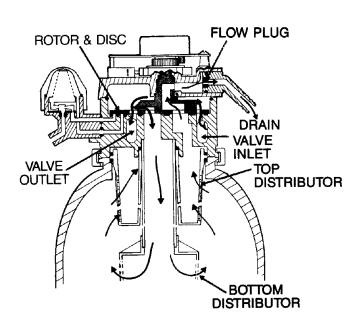
5F. WATER FLOW THROUGH THE FILTER VALVE

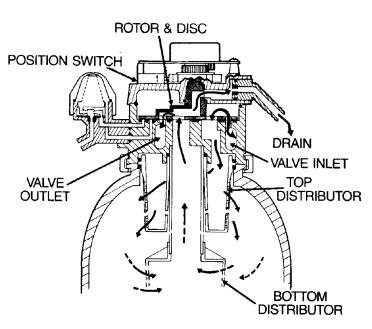
BACKWASH CYCLE

FAST RINSE CYCLE







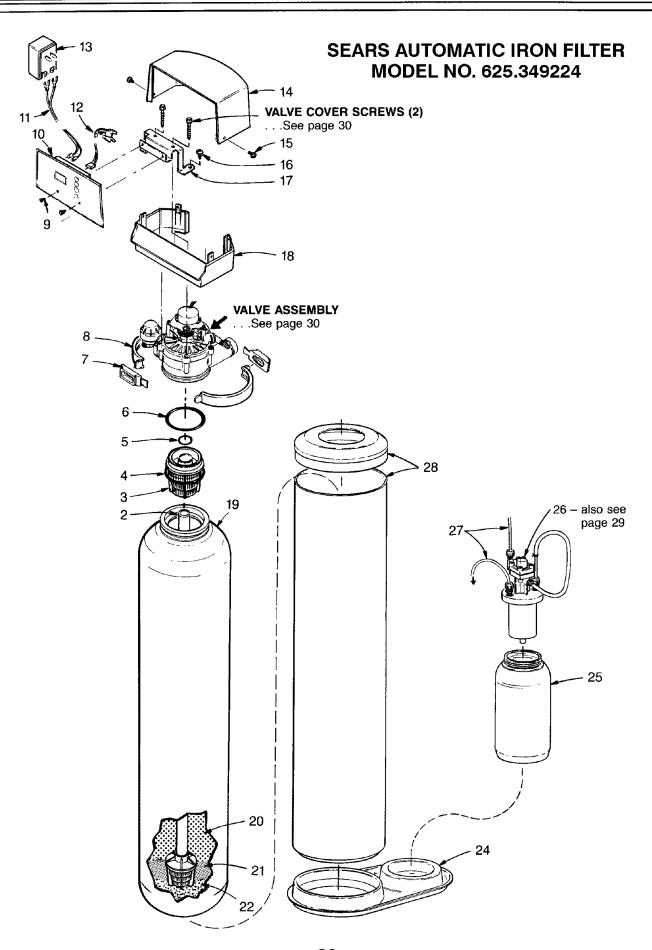


Switching action again allows the motor to turn the rotor & disc to place the valve in BACKWASH, stopping water flow to the nozzle. Water is routed down and out the bottom distributor, up through the bed, and out the top distributor to the drain. The fast flow (controlled by a flow plug in the drain fitting) flushes dirt, sediments, iron deposits, and remaining solution to the drain.

During FAST RINSE, the rotor & disc is positioned so water flow enters the mineral tank through the top distributor, and exits through the bottom distributor, to the drain. The fast flow of water downward through the mineral bed flushes any remaining solution to the drain. The mineral bed is packed and prepared for return to service.

The solid state timer again energizes the motor to return the valve to service. As the valve rotates, the position switch lever drops to open the circuit. The valve remains positioned in service until the timer initiates the next regeneration.

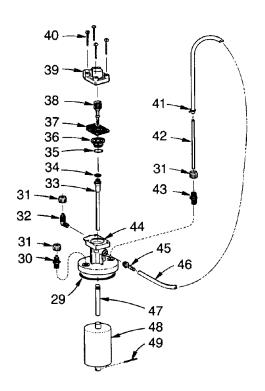
NOTES



SEARS AUTOMATIC IRON FILTER MODEL NO. 625.349224

PARTS LIST

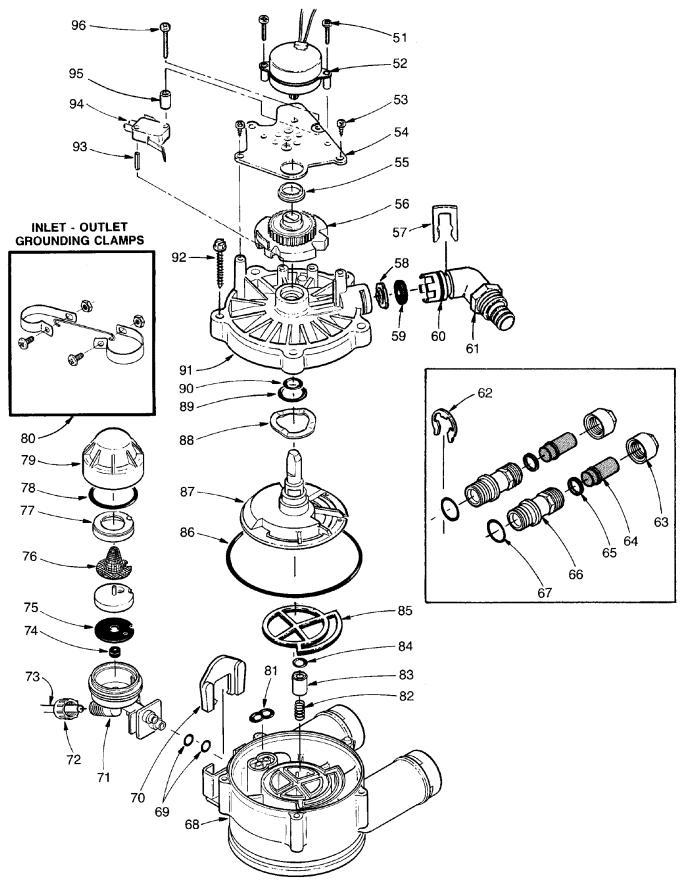
KEY NO.	PART NUMBER	DESCRIPTION		
1				
2	7105047	Repl. Distributor		
3	7088855	Top Distributor		
4	7170270	O-Ring, 2-3/4 x 3		
5	7170254	O-Ring, 13/16 x 1-1/16		
6	7170296	O-Ring, 2-7/8 x 3-1/4		
7	7088033	Clamp Retainer (2 req.)		
8	7176292	Clamp Section (2 req.)		
9	0900300	Screw, #4-40 x 1/4 (2 req.)		
10	7121734	Face Plate — Timer		
11	7084330	Power Cord		
12	7118333	Wire Harness		
13	7095373	Transformer, 24V-10VA		
14	7144449	Top Cover		
15	7103972	Screw, #8 x 7/16 (4 req.)		
16	0900291	Screw, #8-32 x 3/8 (2 req.)		
17	7141530	Cover Bracket		
18	7146734	Bottom Cover		
19	7092202	Mineral Tank		
20	4015000	Mineral, 1 cu. ft.		
21	0501783	Filter Sand, 10 lbs.		
22	7124415	Gravel, 17 lbs.		



KEY PART						
NO.	NUMBER	DESCRIPTION				
24	7010739	Tank Base				
25	42-34417	Replacement Bottle (includes 6 lbs.				
		Potassium Permanganate)				
26	7046968	Valve Assembly (Includes Key Nos. 29				
		through 49)				
27	1124200	Tubing, 5/16 in. O.D. x 12 ft.				
28	7092210	Shroud				
•	7026196	Base (styrofoam)				
29	9001001	O-Ring, 3-7/8 x 4-1/8				
30	7011816	Hose Adaptor (Includes Key No. 31)				
31	1202600	Nut-Ferrule (3 req.)				
32	7011785	Elbow (Includes Key No. 31)				
33	7046942	Tube and Adaptor				
34	7111519	O-Ring, 13/32 x 27/32				
35	9000804	O-Ring, 7/8 x 1				
36	0516403	Insert Seat				
37	0504413	Diaphragm				
38	7112735	Main Valve Stem				
39	0507597	Diaphragm Cap				
40	9006042	Screw, #10 x 1-1/2 Tapping (4 req.)				
41	7070666	Hose Clamp				
42	7046633	Tubing (Adjustment)				
43	1140800	Hose Adaptor (Machined)				
44	7046641	Valve Body				
45	9000601	Hose Adaptor (2 req.)				
46	1136300	Tubing				
47	7046625	Tubing				
48	7046683	Float				
49	7047126	Pin				
•	7046950	Diaphragm Assem. (Incl. Key Nos.				
١.	74 40044	33 through 38)				
•	7146611	Installation Manual				
_	7207190	Owners Manual				

◆ Not illustrated

SEARS AUTOMATIC IRON FILTER, MODEL NO. 625.349224



SEARS AUTOMATIC IRON FILTER MODEL NO. 625.349224

PARTS LIST

KEY	PART		KEY	PART	
NO.	NUMBER	DESCRIPTION		NUMBER	DESCRIPTION
51	7131755	Screw, #6-20 x 7/8 (2 req.)	76	7146043	Screen
52	7133008	Motor	77	7089893	Screen Support
53	0900857	Screw, #6-20 x 3/8 (2 req.)	78	7170262	O-Ring, 1-3/16 x 1-3/8
54	7117808	Motor Plate	79	7081188	Cap
55	0503288	Bearing	80	7112997	Ground Clamp Kit ●
56	7113927	Cam and Gear	81	7081764	Seal (Nozzle & Venturi)
57	7142942	Clip (Drain)	82	7129889	Spring
58	7030585	Retainer Washer	83	7092642	Plug (Drain Seal)
59	0509537	Flow Plug	84	7170204	O-Ring, 3/8 x 9/16
60	7170327	O-Ring, 5/8 x 13/16	85	7134224	Rotor Seal
61	7141239	Drain Hose Adaptor	86	7170246	O-Ring, 3-3/8 x 3-5/8
62	7116713	Clip (2 req.) ●	87	7199232	Rotor & Disc
63	0507369	Installation Nut (2 req.) 1	88	7082087	Wave Washer
64	0507615	Installation Tube (2 req.) 1	89	7170212	O-Ring, 3/4 x 15/16
65	7170335	Washer (2 req.)	90	7170238	O-Ring, 7/16 x 5/8
66	2207800	Installation Adaptor (2 req.) ●	91	7085263	Valve Cover
67	7170288	O-Ring, 15/16 x 1-3/16 (2 req.)●	92	7074123	Screw, #10-14 x 2 (5 req.)
68	7082053	Valve Body	93	7077472	Expansion Pin
69	7170319	O-Ring, 1/4 x 3/8 (2 req.)	94	7030713	Switch
70	7081201	Retainer (Nozzle & Venturi)	95	7117816	Spacer
71	7081104	Nozzle & Venturi Housing	96	7070412	Screw, #4-24 x 1-1/8
72	1202600	Nut-Ferrule			
73	7089267	Tubing	•	7085247	Nozzle & Venturi Assem. (Incl.
74	1148800	Flow Plug, .3 gpm		İ	Key Nos. 71 and 74 through 79)
75	7114533	Nozzle & Venturi—Gasket Kit	•	7111941	Small Parts Bag (Includes all
Г	A N. C. A. J. M. C. A. A. Market				items marked with ●)
Not included with filter — available from Sears Stock No. 42-3441		+	7129716	Seal Kit (Incl. Key Nos. 81, 84, 85,	
Hom Seals Stock No. 42-3441				86, 89 and 90)	

from Sears Stock No. 42-3441

[◆] Not illustrated

SEARS

OWNER'S MANUAL

MODEL NO. 625.349224

The model number of your water filter is found on the rating decal. This decal is on the backside of the top cover.

When requesting service or ordering parts, always provide the following information:

- Product Type
- Model Number
- Part Number
- Part Description

Kenmore

Automatic Iron Filter

For the repair or replacement parts you need delivered directly to your home

Call 7 am - 7 pm, 7 days a week

1 - 800 - 366 - PART

(1 - 800 - 366 - 7278)

For in-home major brand repair service

Call 24 hours a day, 7 days a week

1 - 800 - 4 - REPAIR

(1 - 800 - 473 - 7247)

For the location of a Sears Parts and Repair Center in your area Call 24 hours a day, 7 days a week

1 – 800 – 488 – 1222

For information on purchasing a Sears Maintenance Agreement, or to inquire about an existing Agreement

Call 9 am - 5 pm, Monday - Saturday

1 - 800 - 827 - 6655

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