

# **MODEL 32-3000 & 48-3000**

## **OWNER'S MANUAL**

Congratulations on having purchased a quality and well built Superior Water Softener. On a normal installation, your water softener should be connected to all of your plumbing with the exceptions of your kitchen cold side and your outside faucets. The plumbing connection is made by using three valves that are generally located directly above the water softener. These three valves constitute the bypass, which look like the letter "H" when looking at it. In the event that you should have to shut the water off to the water softener due to a leak, continue with the following instructions.

### **TO SHUT THE WATER OFF ON THE SOFTENER**

- 1.) Directly above the water softener are three valves. Turn the left and right valves in a clockwise direction until they are completely closed.
- 2.) Turn the middle valve open by turning it counter clockwise. The water should now be turned off on the water softener and you should have water to your house.

### **THE SALT AND WATER LEVEL INSIDE THE SALT TANK**

It is recommended that the salt level not fall more than 3"(inches) below the water level inside the salt tank. The water level inside a round salt tank is generally one to one-half feet deep. The square salt tanks are generally about half to two-thirds full of water. Should the softener run out of salt or you allow the salt level to drop down too far, you may experience hard and/or salty water. To avoid this, we recommend keeping the salt tank full of salt or at least keeping the salt level above the water level at all times. Should you experience salty water coming through your plumbing, the quickest way to flush it out is running the cold water inside your bathtub until the salt is all flushed out.

Your water softener will function with any type of salt; however our experience has shown us that fewer problems will occur when using salt pellets. Salt pellets are cleaner, rarely have any debris and they do not have a tendency to form salt bridges as does rock salt. Also rock salt has a tendency to carry more dirt and debris with it, which in turns make your salt tank appear very dirty inside and at times cause it to have a foul odor. However, this dirt will not harm the water softener.

### **OPERATING THE WATER SOFTENER**

#### **GENERAL INFORMATION**

The control valve is designed to initiate regeneration according to the preset factory parameters. Following the instructions contained in this section will allow the installer to customize the program for the user's exact needs.

The control valve utilizes a standard nine volt alkaline battery to maintain the correct time in the event of a power failure. The battery may not maintain any customized settings. In the event of a power interruption the control program may revert to the factory default settings.

When the battery is weak, the liquid crystal display will generally flash on and off.

## **INITIAL START UP**

1. Remove the battery case retaining screw from the upper portion of the battery case. Lift the upper portion of the battery case away from the back plate.
2. Place a standard nine volt alkaline batteries in the upper portion of the battery case.
3. Press the upper portion of the battery case and the battery down onto the lower portion of the battery case to connect the battery to the terminals.
4. Reinstall the retaining screw.
5. Plug the control into the power supply.

**NOTE:** The control valve is computerized and therefore is sensitive to power surges just like any other computerized item. For this reason, it is recommended that you have a surge protector installed for the water softener to be plugged into.

6. The display will show 1000 GAL (4000 LIT).

7. Press button #1.

**NOTE:** This must be done within 30 seconds after connecting the control valve to power or the control valve will initiate a regeneration. If the control valve begins a regeneration sequence before button #1 is pressed, press button #2 and button #4 simultaneously, followed by button #1. The control valve will cycle directly back to the service position.

8. The control valve is now ready for customized programming.

## **FACTORY DEFAULT SETTING**

The following factory default settings are preprogrammed into the control valve.

Time of Day:	8:00 a.m.
Time of Regeneration:	2:00 a.m.
Total Capacity:	1000 Gal.
Reserve Capacity:	200 Gal.
Cycle 1:	60 minutes

## **PROGRAMMING**

The programmable functions are accessed by pressing button #3. The various functions are then increased or decreased by using button #4 and button #5.

The following functions are presented in the order they will appear when pressing button #3.

### **TIME OF DAY**

1. Press button #3. The display will show 8:00 a.m.
2. Press button #4 to set the hours.
3. Press button #5 to set the minutes.

### **TIME OF REGENERATION**

1. Press button #3. The display will show 2:00 a.m.
2. Press button #4 to adjust the hours.
3. Press button #5 to set the minutes.

## **TOTAL CAPACITY**

1. Press button #3. The display will show 1000 GAL.
2. Press button #4 to increase the capacity setting in 100 Gal increments.
3. Press button #5 to decrease the capacity setting in 100 Gal. increments.

**NOTE:** We have found that the majority of the water softeners will work well at 1000 GAL. capacity; however, according to your water hardness, your softener may be able to soften more than a 1000 GAL. If you decide to increase the capacity, do so only in increments of 200 GAL. and wait a minimum of 2 weeks before increasing it any further. Should you exceed the capacity of the water softener, back the capacity back down to where it was working and regenerate the softener 3 nights in a row by pressing the #1 button.

## **RESERVE CAPACITY**

1. Press button #3. The display will show 200 GAL.
2. Press button #4 to increase the reserve setting in 10 Gal.
3. Press button #5 to decrease the reserve capacity in 10 Gal.

**NOTE:** The reserve capacity should be set to match the water usage for a 24-hour period. The average person uses 75 Gal. of water daily.

## **CYCLE 1- BRINE/SLOW RINSE**

1. Press button #3. The display will show 1:60.
2. Press button #4 to increase the cycle time in 1 minute increments.
3. Press button #5 to decrease the cycle time in 1 minute increments.

**NOTE:** The majority of the time 60 minutes is sufficient for the regeneration time; however if you should continually experience salty water after the softener has regenerated, simply increase the regeneration time an extra 15 minutes.

## **PROGRAMMING IS NOW COMPLETE.**

**NOTE:** In the event that you are called away during programming the control valve will return to the Service Display mode after 90 seconds of no activity. All programmed settings will be retained. To return to the programming mode press button #3 until the appropriate function setting is displayed.

## **SERVICE DISPLAY**

The control valve has three (3) available display settings.

They are:

- \* Time of Day
- \* Capacity Remaining
- \* Flow Rate (gpm/lpm)

The Service Display can be changed by pressing button #2 when the unit is in the service mode. The selected display will be shown at all times except during regeneration.

## **DELAYED REGENERATION**

When the water usage indicates that a regeneration is required the control valve will initiate a delayed regeneration. A flashing cursor will appear in the lower left-hand corner of the display. This will indicate that the control will begin regeneration at the preset time of regeneration.

## **IMMEDIATE REGENERATION**

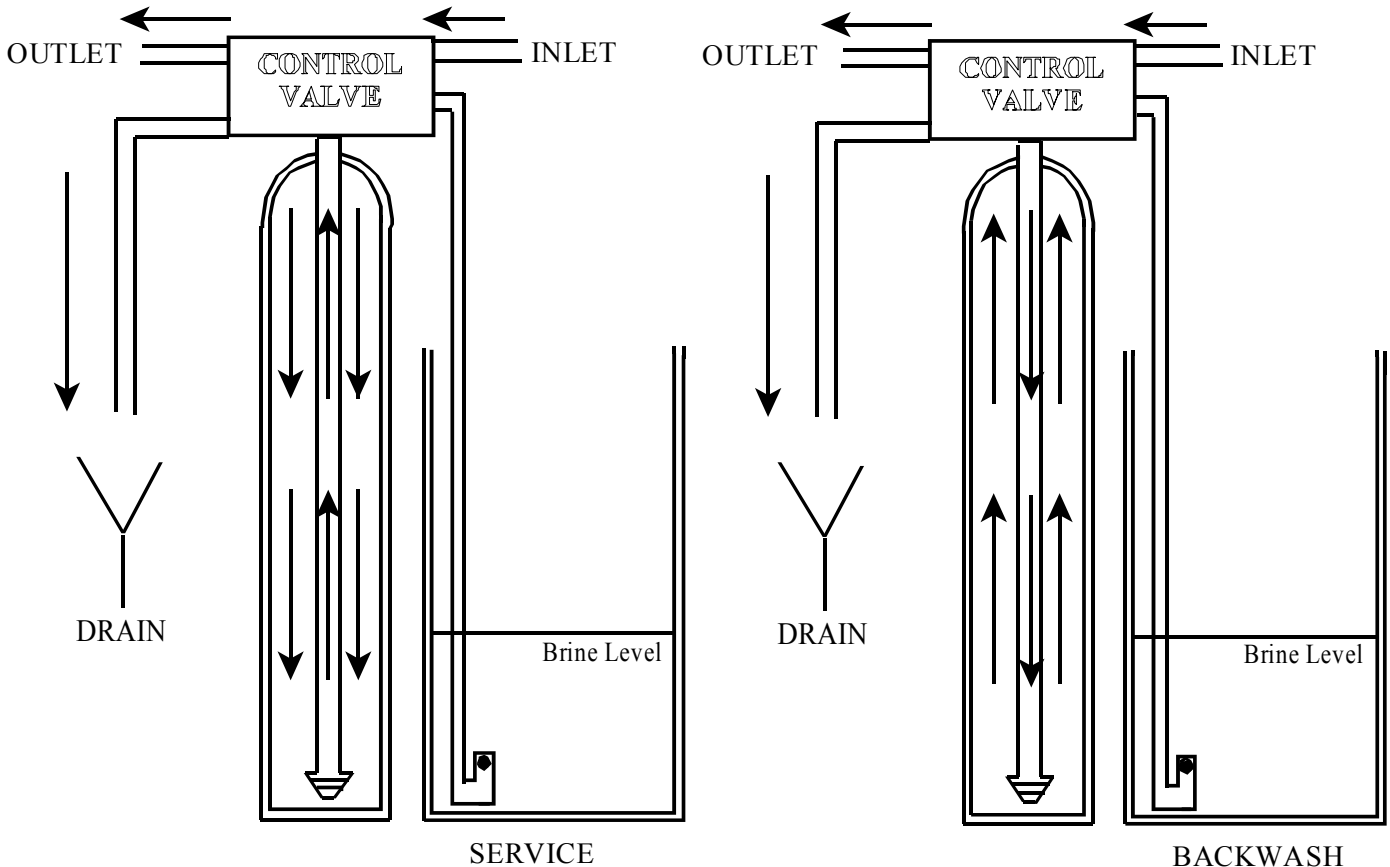
A regeneration may be initiated at any time by pressing button #1 when the unit is in the service mode. A solid cursor will appear in the lower left-hand corner of the display indicating that a regeneration has been initiated. The control will begin regeneration in approximately 30 seconds.

**NOTE:** If at any time you have experienced hard water due to a malfunction of the equipment or having ran low or out of salt, the water softener will need to be manually regenerated three nights in-a-row or three times in-a-row with a minimum of two hours in between each manual regeneration. To start a manual regeneration, follow the instructions for IMMEDIATE REGENERATION.

### TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSE	CORRECTION
Softener will not regenerate.	A. Bad electrical connection. B. Broken motor C. Broken or stripped gears. D. Gallon counter not counting	A. Check electrical connection. B. Replace motor. C. Replace gears. D. Remove debris or replace part. (Located on outlet port of control valve)
Drain opens but water does not leave salt tank.	A. Low inlet water pressure. B. Broken or torn diaphragm. C. Retaining ring missing. D. Foreign material on stem or internal seats. E. Drain line kinked or restricted.	A. Increase inlet water pressure. B. Replace diaphragm. C. Add retaining ring. D. Clean stem and seat on main body. E. Straighten or unrestrict drain line.
Softener does not draw brine.	A. Plugged injector screen. B. Plugged or worn injector. C. Inadequate backwash.  D. Low inlet water pressure. E. Broken or plugged brine float F. Kinked or restricted drain line.	A. Clean or replace. B. Clean or replace. C. Adjust backwash flow rate with backwash adjuster. D. Increase water pressure. E. Clean or replace. F. Straighten or unrestraint drain line.
Low or inadequate capacity after regeneration.	A. Plugged injector. B. Plugged injector screen. C. Increase in water consumption. D. Insufficient quantity of brine. E. Ran out of salt at one time. F. Leaking toilets or faucets.	A. Clean or replace. B. Clean or replace. C. Increase frequency of regeneration. D. Raise float level on brine valve. E. Regenerate softener 3 nights in-a-row. F. Repair leak.
Water chatter at unit during regeneration	A. High backwash rate. B. Low water pressure. C. Diaphragm spring not properly located on stem. D. Restricted drain line.	A. Adjust backwash flow adjuster B. Increase water pressure. C. Locate spring on tip of stem assembly.  D. Straighten or unrestrict drain line.
Water flows to drain when not regenerating.	A. Foreign matter trapped in drain valve. B. Drain paddle out of adjustment.	A. Attempt to flush out by putting unit into regeneration. B. Replace drain paddle.
Salt in lines after regeneration.	A. Rinse rate to low. B. Excessive brine in salt tank.  C. Insufficient rinse time.	A. Change to larger injector disk. B. Lower float setting or check for leak on float. C. Increase length of regeneration cycle.
Valve leaking between body and head assembly or back cap.	A. Torn diaphragm or pinched outlet gasket.	A. Replace items.
Too much water in brine tank.	A. Foreign matter in brine float. B. Loose brine float fittings.	A. Clean or replace brine float. B. Tighten or replace brine float fittings.
No water in brine tank.	A. Brine float set to low.	A. Adjust brine float to allow 1 ft to 1 ½ ft. of water into <b>Round</b> salt tanks and 15x15 <b>Square</b> salt tanks only. On 11x11 <b>Square</b> salt tanks, set float to approximately fill tank half full.

# WATER FLOW



**SERVICE**  
The service cycle position directs untreated water to flow down through the filter media in the mineral tank and up through the distributor tube. The water is conditioned when passing through the media.

**BACKWASH**  
The backwash cycle position directs water to flow down through the distributor tube and up through the filter media and to drain. Foreign material and media fines are flushed from the mineral tank during this cycle to prepare the media for filtering.

# BRINE FLOAT

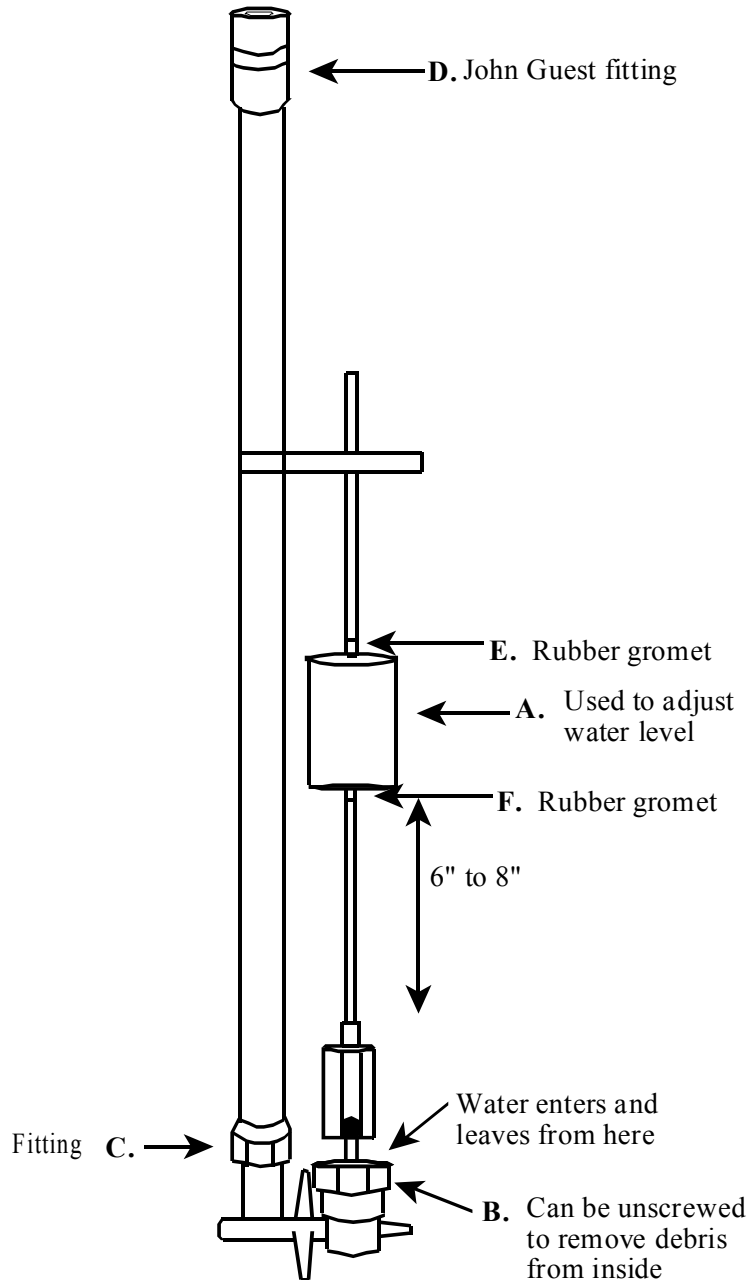
A. Used to adjust water level. In round salt tanks, and 15x15 square salt tanks the water level should be anywhere from 1 to 1½ ft. In 11x11 square tanks, the tank should be ½ to 2/3 full of water.

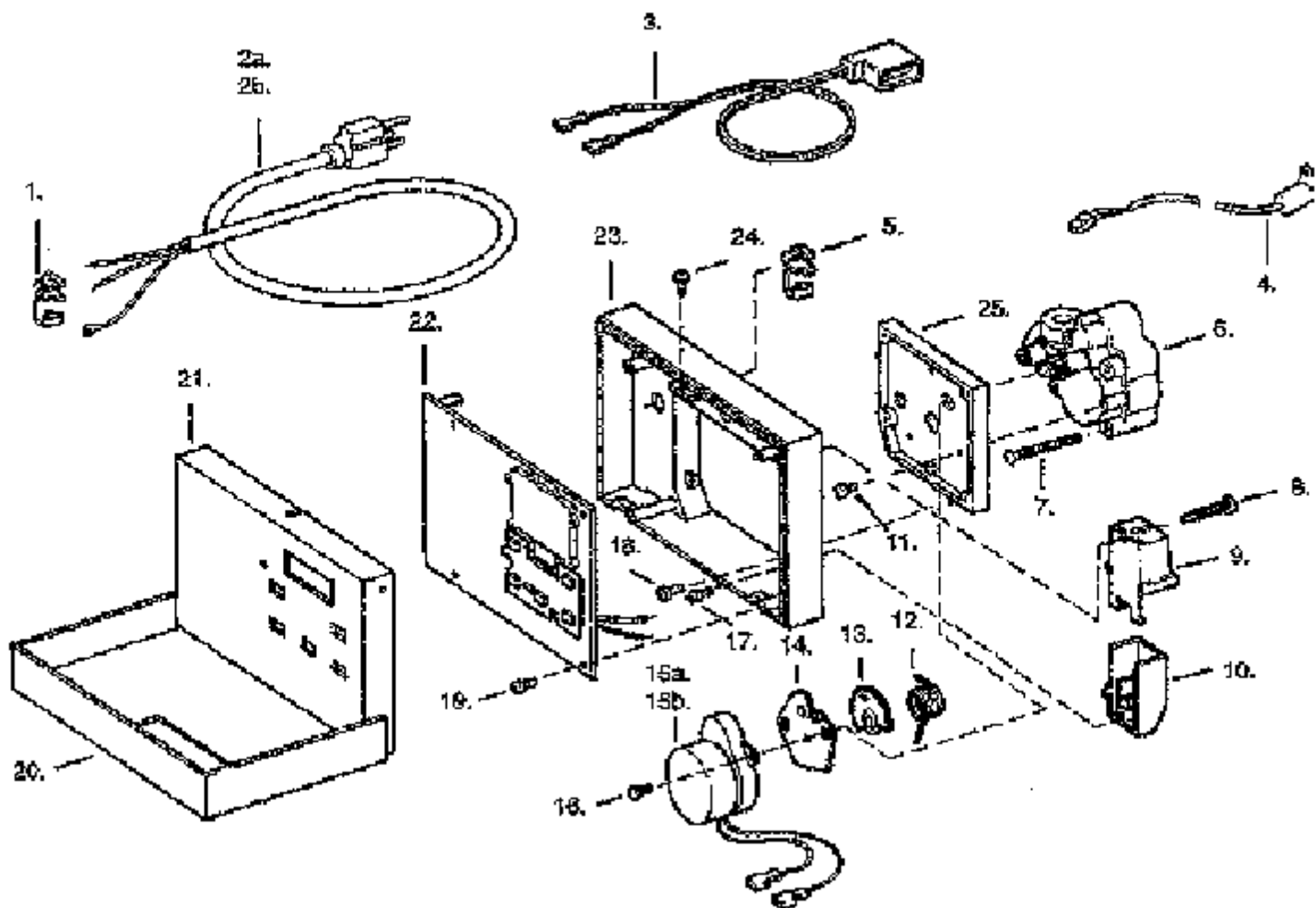
B. Unscrewing this nut allows you enter the chamber where debris can be easily removed

C. Compression fitting.

D. John Guest fitting.

E & F. Rubber gromets that hold float ball in place on the fiberglass rod.

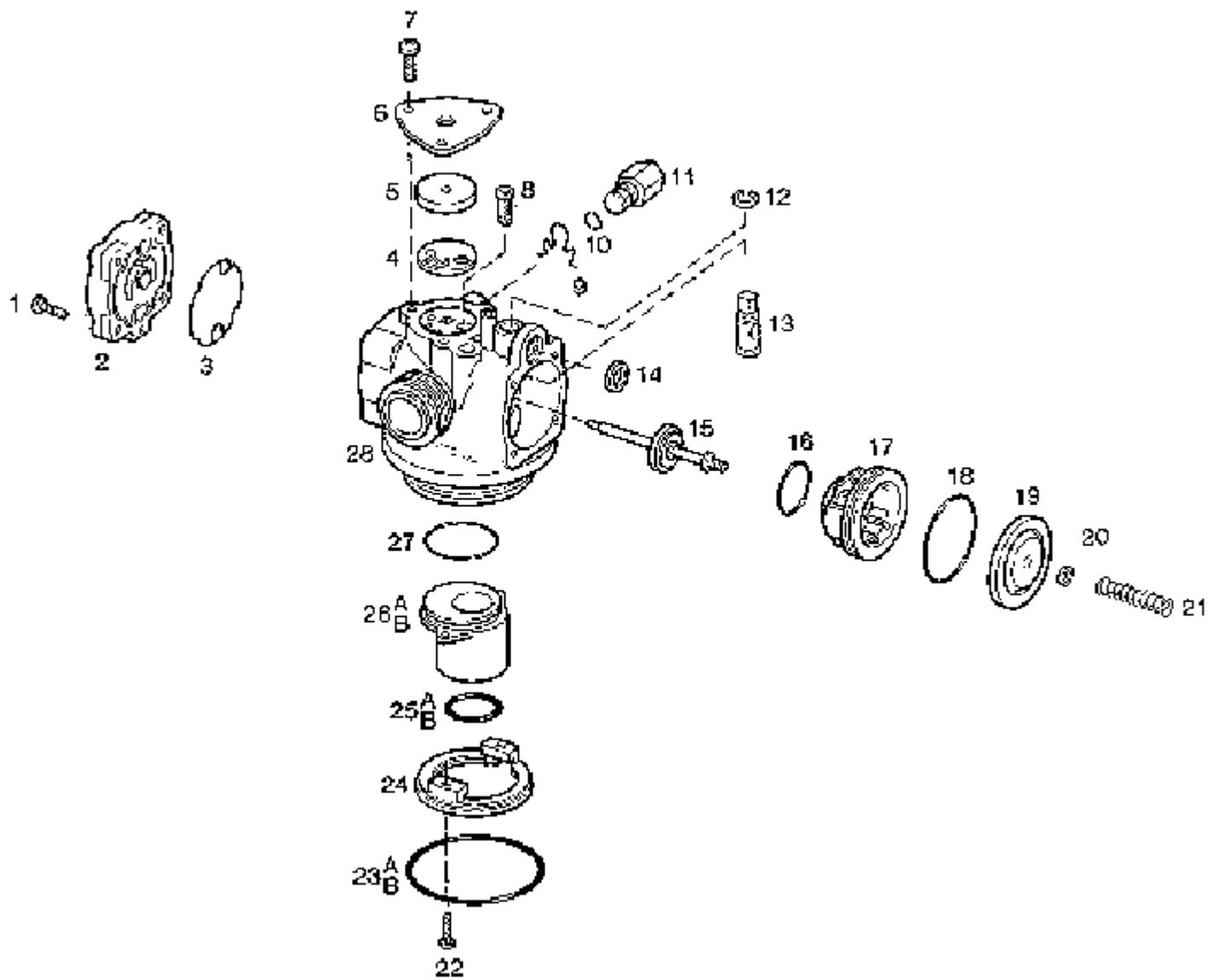




## TIMER HEAD PARTS LIST

<u>ITEM</u>	<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1.	28-8-28	Strain Relief, Power Cord	1
2.	28-142-4	Power Cord, 120 Volt	1
3.	413-135-16	Solenoid Cord, 541-182 model only	1
4.	570-246-1	Meter Cable	1
5.	28-8-28	Strain Relief, Solenoid Cord	1
6.	541-368	Head Assembly, with seat and paddle	1
7.	15-87	Screw, Head Mount	4
9.	570-224-1	Battery Box, Top	1
10.	570-221	Battery Box, Lower	1
11.	15-76	Screw, Clock Mount	3
12.	467-349	Return Spring	1
13.	467-339	Drive Gear	1
14.	541-402	Bearing Plate	1
15.	34-11	Drive Motor, 120 Volt	1
16.	15-76	Screw, Motor Mount	2
17.	15-102	Screw (small), Battery Box	1
*18-25.& 8.	541-383-7-120	120V Power Head Assy, 541-186	1

\* Available only as an assembly.



## VALVE BODY PARTS LIST

<u>ITEM</u>	<u>P/N</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1.	15-88	Screw, back cap	4
2.	541-207	back cap, 3 Cycle	1
3.	541-206	Seal, back cap	1
4.	541-325	Gasket, Injector	1
5.	428- <u>    </u>	Injector (Specify Size)	1
6.	541-221	Cover Plate, Injector	1
7.	15-89	Screw, Injector Mount	3
8.	413-13	Filter Screen, Injector	1
9.	541-254	Spring Clip	1
10.	186-111-N	O-ring, Brine Fitting	1
11.	541-273	Brine Fitting	1
12.	19-19	C-clip, Backwash Flow Adjuster	1
13.	541-243	Backwash Flow Adjuster w/o-rings	1
14.	529-244	Gasket, Cross Over Port	1
15.	541-244	Body Stem Assembly	1
16.	185-024-1	O-ring (Small), Seat Insert	1
17.	541-204	Seat Insert	1
18.	185-028-12	O-ring (Large), Seat Insert	1
19.	541-256	Main Diaphragm	1
20.	19-3	C-clip, Main Diaphragm	1
21.	516-221	Return Spring, Main Diaphragm	1
22.	19-90	Screw, Adapter Ring	2
23.	185-231-1	O-ring	1
24.	541-232	Adapter Ring	1
25.	185-211-1	O-ring, 13/16" Riser Adapter	1
26.	541-205	13/16" Riser Adapter	1
27.	185-029-1	O-ring (Outside), Riser Adapter	1
28.	541-257-1	Valve Body & Seal	1