**Chemical Free Iron & Sulfur Filter** 

### ----AT STARTUP-----

This product has a power-down feature that stores data to memory in the event of a power loss. If the product sits without being connected to power for a period of time, the user may see an error code at start-up. Refer to your service manual to reset this board. Pre programmed settings will not be lost.

TANK SIZE	MEDIA CU. FT.	SVC FLOW*	PEAK FLOW*	B.W. RATE	CONTROL
10 X 54"	1.0 CU. FT.	3.0	4.0	7.0	5600-2510
12 X 48"	1.5 CU. FT.	4.0	6.0	10.0	5600-2510
13 X 54"	2.25 CU. FT.	5.0	7.5	12.0	5600-2510
14 X 65"	2.5 CU. FT.	6.0	8.0	13.0	2510
16 X 65"	3.0 CU. FT.	7.5	10.0	16.0	2510

<sup>\*</sup> Flow Rates are substantially higher when ZeoPrep filtering media is used.

## **Iron Filter Operating Manual**

The Iron Filter System is an excellent way to remove iron and sulfur from your water.

Based on a unique patent-protected (US Patent 5,919,373) process the Iron Filter System removes iron effectively and economically without the need of expensive, messy and dangerous chemicals or troublesome pumps or external air injectors.

The Iron Filter System can be used whenever iron is a problem. Years of field experience with the Iron Filter System has shown it will remove iron in excess of 10 parts per million (PPM) and remain effective in high PH water.

### **How Does It Work?**

The Iron Filter System adds oxygen to the filter media during the draw cycle. The water then passes through the filter media which oxidizes and removes the iron (all in the same tank).

Eventually water passing through the Iron Filter System depletes the oxygen and the unit needs regeneration.

During regeneration the iron is backwashed out. The tank then empties and replenishes the filter media with oxygen from the atmosphere and shifts back into service.

## **INSTALLATION**

The Iron Filter System will normally be installed:

After:

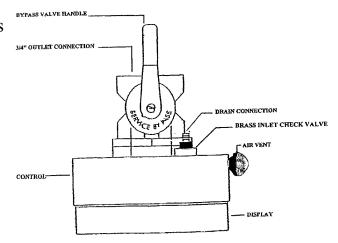
Supply line to outside faucets

Any Neutralizers

Before:

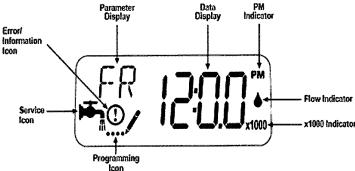
A Water Softener

Any Taste or Odor Filters



### SYSTEM INSTALL AND START-UP

- 1. The Iron Filter System will be normally installed after supply lines to the outside (unless there is a reason to keep outside faucets iron-free) and after neutralizing filter if needed(Calcite, Corosex)
- 2. Run piping from drain connection to an approved drain, following all local codes. Secure the drain line! If distance is greater than 10' increase to 1" drain line.
- 3. Plug power cord into any standard 120V outlet. Make sure the outlet has continuous electrical power.
- 4. The display will light and show a time.
- 5. Use the Up and Down arrows on the display to set the correct time of day.
- 6. Turn the Bypass valve to the "Service" position.
- 7. Fill unit SLOWLY by turning on the water service valve.
- 8. Leave the unit in the service position. It is not necessary to run the unit through the cycles.



### **SETTING THE CONTROL**

The Iron Filter System uses the Fleck model SXT powerhead to manage the regeneration process.

When the unit is in the "Service" position the display will show the current time of day. The clock uses a standard 12 hour display.

## Setting the Control, Continued

The regeneration cycle is preset to occur at 12:30A.M. every third day. This timing and frequency of regeneration can be modified as required.

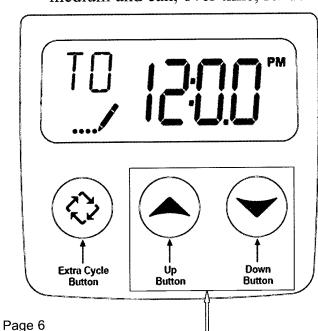
Nominal duration for the regeneration cycle is approximately 40 minutes.

- 1. Backwash cycle, 10 minute duration. Water flow is reversed inside the unit to lift and reclassify the filter media rinsing accumulated iron from the bed.
- 2. Oxygen refill, 40 minute duration. The unit empties of water and is filled with air. During this cycle water will run to drain. There is a slight delay at the start of the cycle while the pressure of the air within the tank reaches atmospheric pressure. During this time no air is drawn into the tank. Once the pressure has equalized, you will hear as air is drawn into the unit.
- 3. The unit returns to the In-Service position. When this happens water continues to enter the tank, compressing the air into a bubble in the top portion of the tank. Air bubble volume will vary slightly with the local conditions.

Untreated water is available during regeneration cycle.

Should you require the unit to regenerate at a time of day other than 12:30 A.M. it is important that no other unit, softener or filter, regenerates at the same time. This will interfere with the regeneration process of the Iron Breaker III.

In condition of high water usage and/or high levels of iron, the unit may need to regenerate more frequently than the standard three day cycle. The unit can be set for every other day regeneration or daily regeneration, as required. Do not set the regeneration frequency of longer than every three days as this risk fouling the filter medium and can, over time, render the unit inoperable.

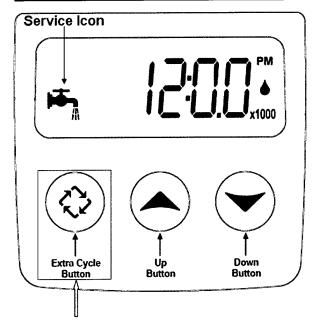


## SETTING THE TIME OF DAY

- → Press and hold the Up or Down buttons until the programming icon replaces the service icon and the parameter display reads TD.
- → Adjust the displayed time with the Up and Down buttons.
- → When the desired time is set, press the Extra Cycle button to resume normal

operation. The unit will also return to normal operation after 5 seconds if no buttons are pressed.

## **INITIATING A REGENERATION**



- → Press the Extra Cycle button.

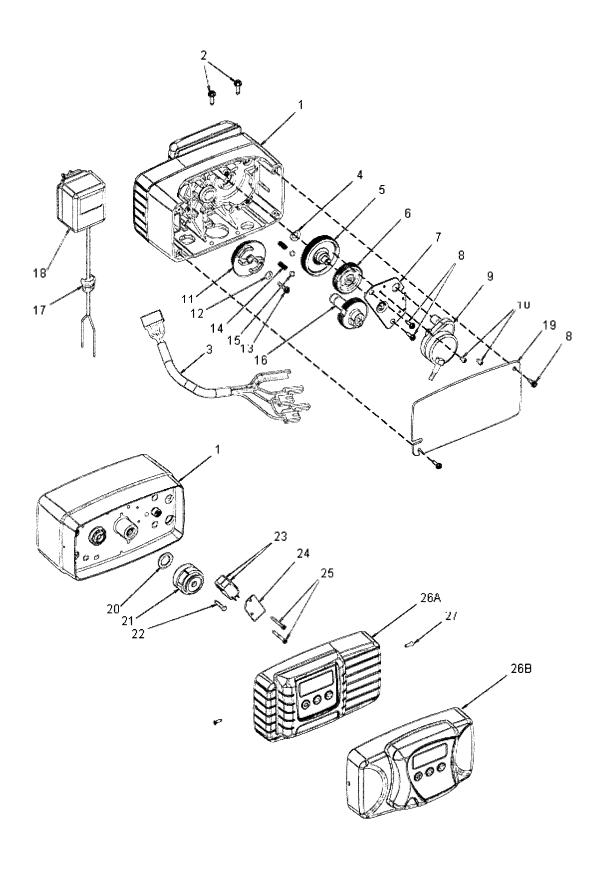
  The service icon will flash to indicate that regeneration is queued.
- To cancel a queued regeneration, press the Extra Cycle button.
- **→** Regenerate Immediately
- → Press and hold the Extra Cycle button for five seconds.

## MAINTENANCE AND TROUBLE SHOOTING

The Iron Filter System requires little or no maintenance. The filter media should last indefinitely under normal conditions.

<u>PROBLEM</u>	POSSIBLE CAUSE	WHAT TO CHECK
Unit does not	1) Electrical service to unit	Make sure electric is working
regenerate	is interrupted	and uninterrupted. Reset time
	2) Power failure	of day
	3) Defective timer	Check to make sure "days"
	4) Not programmed	advance, if not, replace
Unit does not draw	1) Line to drain is crimped	Replace drain line
air in refill cycle	2) Water pressure is too low	Pressure req. is 20 PSI min.
	2) Drain flow control is	Check and clean as necessary
	blocked	
	4) Injector or screen is	Check and clean or replace
	plugged	
	5) Internal control leak	Check seals/spacers and
		replace if needed
Continuous water	1) Timer motor stopped or	Replace if necessary
flow to drain line	jammed	Remove piston to check for
	2) Debris/material jammed	debris
	inside control	
	3) Internal leak	Inspect seals/Spacers, replace
		if necessary
Air in house line or	1) Inadequate water supply	
at faucets	to meet backwash	
	requirements	
	2) Worn seals	

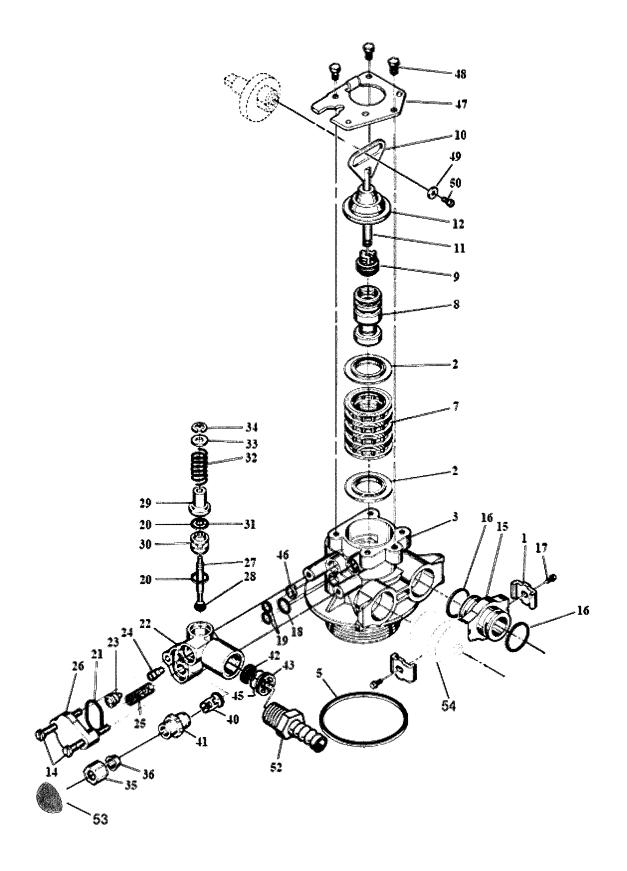
## **VALVE POWERHEAD ASSEMBLY**



# Valve Powerhead Assembly, Continued

Item No.	Quantity	Part No.	Description
			Housing, Control Valve Drive
2	2	12473	Screw, Hex Wsh 10-24 x 5/8
3	1	19474	Harness, Power, 56SXT, Elect
4	1	13299	Washer, Spring, 3/8
		13017	
6	1	23045	Gear, Drive, 6700
			Plate, Motor Mounting
8	4	13296	Screw, Hex Wsh, 6-20 x 1/2
			Motor, Drive, 24V 60 Hz 2 rpm
			Screw, Phil, 6-32 x 1/4 Zinc
11	1	13168	Cam, Brine Valve, 56SXT/6700 Blk
			Washer, Plain, #10 18-8 SS
			Screw, Hex Wsh, #6-20 x 3/4
			Spring, Compression, 6700
15	2	13300	Ball, 1/4" Stainless Steel
			Gear, Main Drive, SXT
			Strain Relief, Flat Cord
18	1	19674	Transformer, 24V, 9.6VA, Residential Valves
			Transformer, 24V, 9.6VA, European
			Cover, Back Drive Housing
		19079	
			Cam, 56SXT/6700, Downflow
			Cam, Double Backwash, Downflow
			Screw, Flat Hd St, 6-20 x 3/4
23	2	10218	Switch, Micro
24	1	10302	Insulator, Limit Switch
25	2	17876	Screw, Phil, Pan, 4-40 x 1 1/8
			Front Panel Assy, 56SXT, Square, Black
26B	1	61673-0201	Front Panel Assy, 56SXT, Curved, Black
			Screw, Flat Hd, Phil Steel

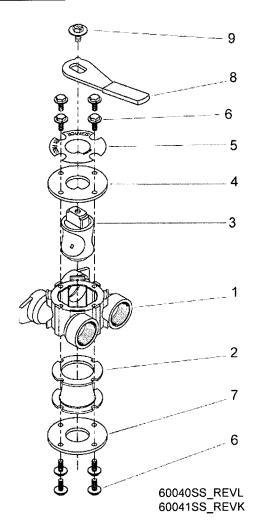
## 



## Control Valve Assembly, Continued

Item No.	Quantity	Part No.	Description
			Adapter Clip (Clock or Meter)
2	5	18759	Seal
			Valve Body Assembly, 1 Dist.
			O-ring, Distributor Tube, 1
5	1	12281	O-ring, Top of Tank
		14241	•
8	11	41860	Piston, Proprietary
		10696	
10	1	13001-04	Rod, Piston, 56SXT/6700
			Retainer, Piston Rod
12	1	13446-41	Plug, End, 56SXT/6700, Green
			Screw, Injector Mounting
			Adapter Assy, Coupling, 5600, w/O-ring
			O-ring, Adapter Coupling
17	2	13314	Screw, Adptr Coupling(Clock/Meter)
		12638	
19	2	13301	O-ring, Injector
			O-ring, Brine Spacer
21	1	13303	O-ring, Injector Cover
		13163	
			Injector Nozzle, specify size
24	1	10914-x	Injector Throat, specify size
25	1	10227	Injector Screen
		13166	
		13172	
		12626	
		13165	
		13167	
31	1	12550	Quad Ring
32	1	11973	Spring, Brine Valve
			Washer, Brine Valve
		11981-01	
35	1	10329	BLFC Fitting Nut
		10330	
40	1	41861	Neo Check
		13244	
42	1	12408	DLFC Button, specify size
			Retainer, DLFC, Button, w/O-ring
46	1	13497	Air Disperser
47	1	13546	End Plug Retainer
48	3	12112	Screw
		13363	
		13296	
		13308	
53	1	19856	Inlet Screen
54	1	300-038WW	Brass Inlet Check Valve

## **BYPASS VALVE ASSEMBLY**



## Bypass Valve Assembly, Continued

Item No. Quantity	Part No.	Description
1	17290	Bypass Valve Body, 3/4"
1	17290NP	Bypass Valve Body, 3/4" Nickel Plated
1	13399	Bypass Valve Body, 1"
		Bypass Valve Body, 1", Nickel Plated
21	11726	Seal, Bypass
3	11972	Plug, Bypass
41	11978	Side Cover
51	13604-01	Label
68	15727	Screw
71	11986	Side Cover
8	11979	Lever, Bypass
9	11989	Screw, Hex Head, 1/4-14

## **RECOMMENDED IRON FILTER SERVICE KITS**

## FILTERS WITH FLECK 5600 CONTROLS

1- 13001-04	Piston rod assembly
1- 13446-41	End Plug assembly, Green
5- 18759	Seals, Low drive force
4- 12421	Spacers
1- 25005	Main drive gear

## FILTERS WITH FLECK 2510 CONTROLS

6- 42308	Seals, Silicone (proprietary)
5- 11451	Spacers
1- 10757	End Spacer
1- 10914-2	Injector Throat #2, Blue
1- 10913-2	Injector Nozzle #2, Blue
1- 14452	Piston Rod
1- 10598	End Plug Assembly

## IRON FILTER SYSTEM MASTER PROGRAMMING GUIDE

Press the Up or Down Arrow Buttons to enter the Time of Day Programming Mode, Set the Time of Day Display to 12:01 P.M.

Press the Extra Cycle Button once to exit the Time of Day Programming Mode.

With the Time of Day Display set to 12:01 P.M., Push and hold the Up and Down Arrow Buttons for 7 seconds.

- 1. DF GAL US Gallon Display Format
- 2. VT St1b Standard Downflow, Single Backwash
- 3. CT tc Time Clock Control
- 4. NT 1 Single Tank System
- 5. DO 3 Day Override
- 6. RT 12:30 A.M. Time of Regeneration
- 7. BW 14 14 Minute Backwash
- 8. BD 40 40 Minute Air Recharge
- 9. RR OFF Rapid Rinse is Turned Off
- 10. Exit Master Programming and Return Valve to Service Display

# 2510 AIO Supplemental Insert

#### Overview:

The AIO valve is designed for use when water containing contaminates subjected to oxidation is encountered. The water passes through the AIO valve then passes through the tank containing oxygen enriched filter media. The oxygen reduces all contaminates in the water to an oxide, or in the case of hydrogen sulfide gas, it is reduced to a molecule of acid.

### Regeneration as follows:

Backwash (BW): The backwash cycle washes oxidized contaminates to drain and

Cycle Step #1 reclassifies the media bed.

Air Draw (BD): Air Draw empties water from tank and replenishes oxygen to filter

Cycle Step #2 media

Rapid Rinse (RR): Rapid Rinse purges excess atmosphere from the media tank and

Cycle Step #3 distributor

NOTE: Due to the oxygen in the media tank, maximum 80 PSI for operation.

### **SXT Programming:**

Programming Abbreviation	Programming Definition	* Option Abbreviation	Option Definition
DF	Display Format	GAL	Gallons – 12 hour time
VT	Valve Type	DF 1b	Downflow Single Backwash
CT	Control Type	tc	Time Clock – Regenerates based on days
NT	Number of Tanks	1	Single Tank
DO	Day Override	3	Days Between Regeneration – In conditions of high water usage and/or high levels of contaminants, the AIO may need to regenerate more frequently than once every three days. DO NOT set the regeneration day override for a longer period than three days, as the filter media can become fouled with contaminates, rendering the AIO ineffective.
RT	Regeneration Time	12:30 AM	Regeneration Time – If there is a need to change the factory default, then make sure the time of regeneration is not the same with any other water treatment equipment in the system.
BW	Backwash	14	See AlO Overview Above
BD	Air Draw	40	See AlO Overview Above
RR	Rapid Rinse	1	See AIO Overview Above
BF	Brine Fill	Off	Not Applicable

<sup>\*</sup> Factory Defaults

Reference SXT service manual for programming information.

# 2510 AIO Supplemental Insert

### Installation Overview:

Install the AIO valve after the supply lines to the outside faucets (unless outside faucets need to be free of contaminates in water). The AIO valve is generally installed before a water softener or any taste/odor cartridges, if applicable.

Insure the inlet check valve is connected as shown to the inlet side of the AlO valve. The drain should be installed in accordance with plumbing codes. Due to the release of air during regeneration, the drain line should be anchored through out the run and secured at the end of the drain line. The drain line should be sized for the backwash rate and friction loss.

The drain line flow control should accommodate the size tank and backwash rate for the filter media being used.

The injector size (slow rinse rate based on pressure) should be sized the same as the service flow rate of the filter media being used.

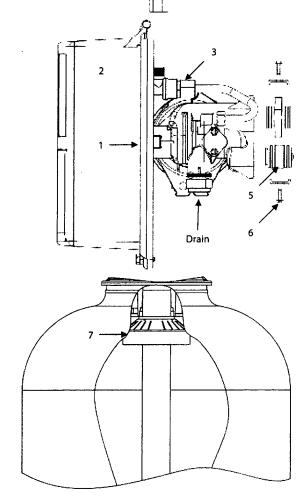
### **AIO Specific Parts:**

Item#	Part #	Description
1	*61662	PISTON ASSY, 2510AIO
2.	*12777-01	CAM, AIR DRAW
3.	*41861	CHECK VALVE, AIR DRAW
3.	*13147-1.5	TUBE, DRAW, 1 1/2", PVC
4.	43154	SCREEN, AIR CHECK ADPTR
<b>5</b> .	43152	CHECK VALVE, 2510AIO BRASS
6.	43153	SCREW, 8-32, SS, 2510AIO
7.	42188	KIT, PARTS, IRON FILTER

<sup>\*</sup> Part not shown but illustration showing location

### **Deflector Installation:**

Put a thin layer of silicone lube around inside diameter of the deflector. Slowly slide the deflector over the distributor tube down about 1". When threading the AIO valve to the tank, the bottom of the threads will slide the deflector down. As shown in diagram.



Reference the 2510 service manual for information on the following:

- Trouble shooting
- Parts list

P/N 42157

Rev. B

06/10

## 3200 TIMER SETTING PROCEDURE

# How To Set Days On Which Water Conditioner Is To Regenerate (Figure 2)

Rotate the skipper wheel until the number "1" is at the red pointer. Set the days that regeneration is to occur by sliding tabs on the skipper wheel outward to expose trip fingers. Each tab is one day. Finger at red pointer is tonight. Moving clockwise from the red pointer, extend or retract fingers to obtain the desired regeneration schedule.

#### How To Set The Time Of Day

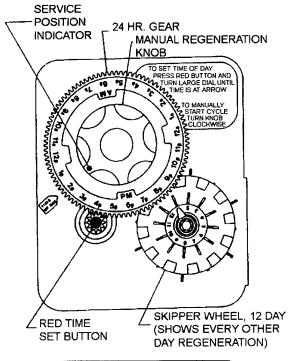
- Press and hold the red button in to disengage the drive gear.
- 2. Turn the large gear until the actual time of day is at the time of day pointer.
- 3. Release the red button to again engage the drive gear.

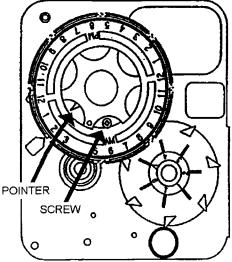
# How To Manually Regenerate Your Water Conditioner At Any Time

- 1. Turn the manual regeneration knob clockwise.
- This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration program.
- The black center knob will make one revolution in the following approximately three hours and stop in the position shown in the drawing.
- Even though it takes three hours for this center knob to complete one revolution, the regeneration cycle of your unit might be set for only one half of this time.
- In any event, conditioned water may be drawn after rinse water stops flowing from the water conditioner drain line.

### **How to Adjust Regeneration Time**

- 1. Disconnect the power source.
- Locate the three screws behind the manual regeneration knob by pushing the red button in and rotating the 24 hour dial until each screw appears in the cut out portion of the manual regeneration knob.
- 3. Loosen each screw slightly to release the pressure on the time plate from the 24 hour gear.
- Locate the regeneration time pointer on the inside of the 24 hour dial in the cut out.
- Turn the time plate so the desired regeneration time aligns next to the raised arrow.
- Push the red button in and rotate the 24 hour dial. Tighten each of the three screws.
- Push the red button and locate the pointer one more time to ensure the desired regeneration time is correct.
- 8. Reset the time of day and restore power to the unit.





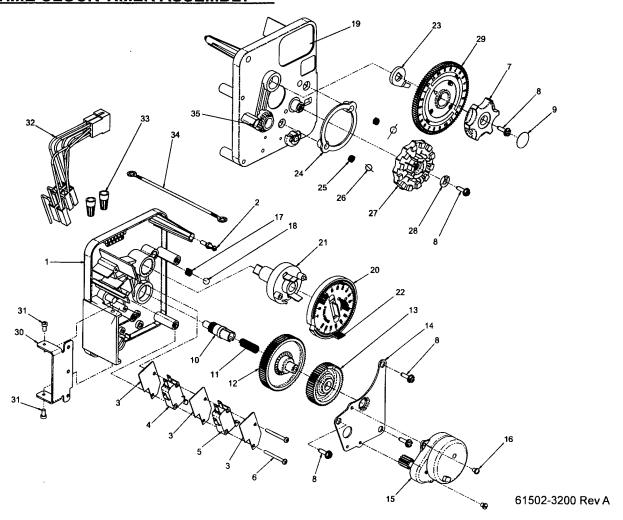
3200 ADJUSTABLE REGENERATION TIMER

IMPORTANT! SALT LEVEL MUST ALWAYS BE ABOVE WATER LEVEL IN BRINE TANK

61502-3200 Rev A

Figure 2

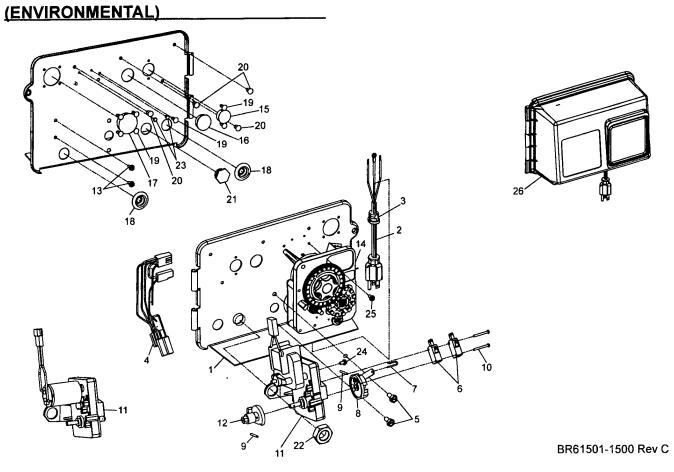
## 3200 TIME CLOCK TIMER ASSEMBLY



ltem No.	QTY	Part No.	Description
1	1	13870	Housing, Timer, 3200
2	1	14265	Clip, Sping
3	3	14087	Insulator
4	1	10896	Switch, Micro
5	1	15320	Switch, Micro, Timer
6	2	11413	Screw, Pan Hd Mach, 4-40 x 1-1/8
7	, 1	13886	Knob, 3200
8	5	13296	Screw, Hex Wsh, 6-20 x 1/2
9	1	11999	Label, Button
10	1	13018	Pinion, Idler
11	1	13312	Spring, Idler Shaft
12	1	13017	Gear, Idler
13	1	13164	Gear, Drive
14	1	13887	Plate, Motor Mounting
15	1	18743-1	Motor, 120V, 60Hz, 1/30 RPM
	1	18752-1	Motor, 100V, 50Hz, 1/30 RPM
	1	18824-1	Motor, 23V, 50Hz, 1/30 RPM
	1	18826-1	Motor, 24V, 50Hz, 1/30 RPM
	1	19659-1	Motor, 24V, 60Hz, 1/30 RPM
	1	19660-1	Motor, 230V, 60Hz, 1/30 RPM
16	2	. 13278	Screw, Sltd Fillister Hd 6-32 x .156

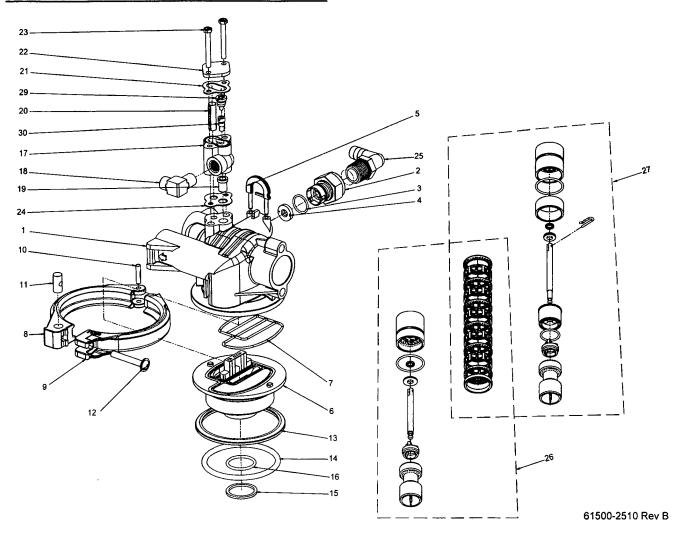
Item No.	QTY	Part No.	Description
17	1	15424	Spring, Detent, Timer
18	1	15066	Ball, 1/4", Delrin
19	1	15465	Label, Caution
20	1	19210	Program Wheel Assy
21	1	13911	Gear, Main Drive, Timer
22	17	41754	Pin, Spring, 1/16 x 5/8 SS, Timer
23	1	13011	Arm, Cycle Actuator
24	1	13864	Ring, Skipper Wheel
25	2	13311	Spring, Detent, Timer
26	2	13300	Ball, 1/4", SS
27	1	14381	Skipper Wheel Assy, 12 Day
	1	14860	Skipper Wheel Assy, 7 Day
28	1	13014	Pointer, Regeneration
29	1	40096-24	Dial, 12 AM Regen Assy, Black
	1	40096-02	Dial, 2 AM Regen Assy, Black
30	1	13881	Bracket, Hinger Timer
31	2	11384	Screw, Phil, 6-32 x 1/4 Zinc
32	1	13902	Harness, 3200
33	2	. 40422	Nut, Wire, Tan
34	1	15354-01	Wire, Ground, 4"
35	1	. 14007	Label, Time of Day

# POWERHEAD ASSEMBLY



Item No.	QTY	Part No.	Description	item No.	QTY	Part No.	Description
1	1	18697-15	Backplate, Hinged	15	1	15806	Hole Plug, (HeyCo)
2	1	11838	Power Cord, 6', Fleck, Flat	16	1	16493	Plug, Hole, HeyCo, .88 Día
3	1	13547	Strain Relief, Cord	17	1	17421	Plug, 1.20 Hole
4	1	40400	Harness, Drive Designr/Envirmtl	18	2	19691	Plug, .750 Dia. Hole, Flush
5	2	10231	Screw, Slot Hex 1/4-20 x 1/2	19	7	19800	Plug (Hole Size: Dia .140)
			35 IN-LBS ±20%	20	4	19801	Plug, Dia .190
6	2	10218	Switch, Micro	21	1	10712	Fitting, Brine Valve
7	1	10909	Pin, Connecting Rod Spring				(Used on Filter Valves)
8	1	60160-15	Drive Cam Assy, STF, Blue, 2900	22	1	10269	Nut, Jam, 3/4-16 (Used on Filter
9	2	10338	Pin, Roll, 3/32 x 7/8				Valves) Wrench Tighten
10	2	14923	Screw, Pan Hd MACH, 4-40 x 1			41581	
		5.0 IN-LBS ±10%	24	1	10872		
11	1	41543	Motor, Drive, 115V/60 Hz				20 IN-LBS ±20%
		42579	Motor, Drive, 24 VAC/DC, 50-60 Hz, Fam 1	25	1	14202-01	Screw, Hex Washer #8-32 x 5/16 Hand Tighten
		41545	Motor, Drive, 220V, 50-60Hz, SP,	26	1	60219-02	Cover Assy, Environmental, Black
12	1	12777	Cam, Shut-off Valve	Not Shown	1:		
			Screw, Hx Wash Head, 8 x 3/8		1	15441	Cable Guide Assy, 2510
13	2	10300	20 IN-LBS ±20%		1	15495	Meter Cable, 13.87"
14	1	3200	Timer Assy, 3200 7 or 12 Day				
			3210 Meter Delay				
		.,	3220 Meter Immediate				

## **CONTROL VALVE ASSEMBLY**

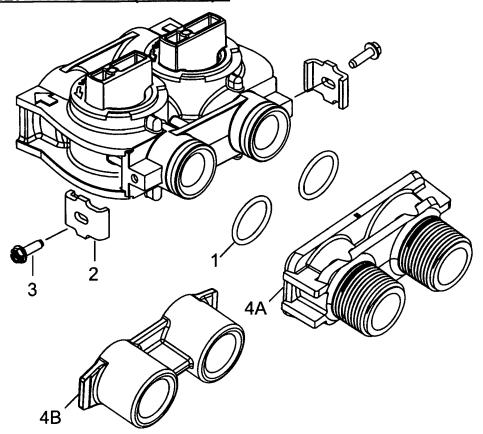


ltem No.	QTY	Part No.	Description
1	1	. 19328	Valve Body, 2510
2	1	. 11385-01	Housing, Flow Control, Plastic
3	1	. 11183	O-ring, -017
4	1	. 12408	. Washer, Flow, 7.0 GPM
5	1	. 18312	Retainer, Drain
6	1	. 19322	Adapter Base, 2510
7	1	. 19936	. Seal, 2510, Base
8	1	. 19899	. Clamp, Female, 2510
9	1	. 19900	. Clamp, Male, 2510
10	1	. 40000	Pin, Hinge, Clamp
11	1	. 19998	.Pivot, Clamp, 2510
12	1	. 40057	.Screw, Comb Hd, 114-20, 2"
13	1	. 19197	.Ring, Slip
14	1	. 18303	.O-ring, -336
15	1	. 13030	.Retainer, Dist Tube, O-ring
16	1	. 13304	. O-ring, -121
17	1	. 17776	.Body, Injector, 1600
18	1	. 10328	.Fitting, Elbow, 90 Deg.

Item No.	QTY	Part No.	Description
19	1	16221	Disperser, Air
20	1	10227	Screen, Injector
21	1	10229	Gasket, Injector Cap, 1600
22	1	11893	Cap, Injector, SS
23	2	10692	Screw, Slot Hex Hd, 10-24x
24	1	14805	Gasket, Injector Body, 1600/1700
25	1	12338	Fitting, Elbow, 90 Deg.
26	1	61662	Piston Assy w/Seal & Spacer Kit 2510 Piston
27	1	61662	Piston Assy w/Seal & Spacer Kit 2510 Piston NHWBP
28	1	10757	Spacer, End
29	1	12973-3	Nozzle, Injector, #3, PVC
30	1	12974-3	Throat, Injector, #3, PVC

NOTE: For optimal seal life, the use of lubricants is not recommended.

## BYPASS VALVE ASSEMBLY (PLASTIC)



60049 Rev G

Item No.	QTY	Part No.	Description
1	2	13305	O-ring, -119
2	2	13255	Clip, Mounting
3	2	13314	Screw, Slot Ind Hex, 8-18 x .60
4A	1	18706	Yoke, 1", NPT, Plastic
		18706-02	Yoke, 3/4", NPT, Plastic
4B	1	13708-40	Yoke, 1", Sweat
		13708-45	Yoke, 3/4", Sweat
	******	19275	Yoke, Angle 90 Deg, 3/4", NPT
		19275-45	Yoke, Angle 90 Deg, 3/4" Sweat
		19620-01	Yoke Assy, 3/4", R/Angle, 90 Deg w/O-rings, Clips & Screws
		40636	Yoke, 1 1/4", NPT
		40636-49	Yoke, 1 1/4", Sweat
		41027-01	Yoke, 3/4", NPT, Cast, Machined
		41026-01	Yoke, 1", NPT, Cast, Machined, SS