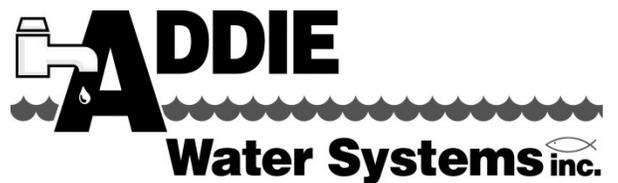


IRON GENIE

Chemical Free Iron & Sulfur Reduction



SPECIFICATIONS

MODEL #	TANK SIZE	MEDIA CUBIC FEET	SERVICE * FLOW RATE (GPM)	PEAK* FLOW RATE (GPM)	BACKWASH RATE (GPM)
TIG56SXT-SI	10X54	1.0	2.5	3.7	7.0
TIG56SXT-SI-ECM	13X54	2.0	4.5	7.0	11.0

**Peak flow rates are non-continuous for residential use only. Flow rates are substantially higher when ZeoPrep filtering media is used.*

Iron Genie Operating & Service Manual

The Iron Genie 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 Genie removes iron effectively and economically without the need for costly dangerous chemicals, troublesome pumps, or external air injectors.

The Iron Genie can be used whenever iron is a problem. Years of field experience with the Iron Genie have 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 Genie adds oxygen to the incoming raw water by passing the water through a pressurized air head in the media tank. This will begin to convert dissolved elements such as iron or manganese to a physical particle or non-soluble precipitate. The particles are then captured in the filter media.

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

During regeneration process the iron is backwashed out of the filter media and the oxygen is replenished from atmosphere and then shifts back into service.

INSTALLATION

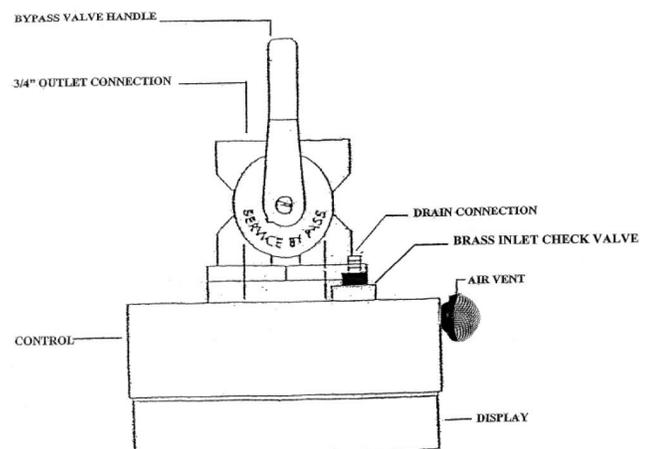
The Iron Genie will normally be installed:

After: Supply line to outside faucets

Any Neutralizers

Before: A Water Softener

Any Taste or Odor Filters

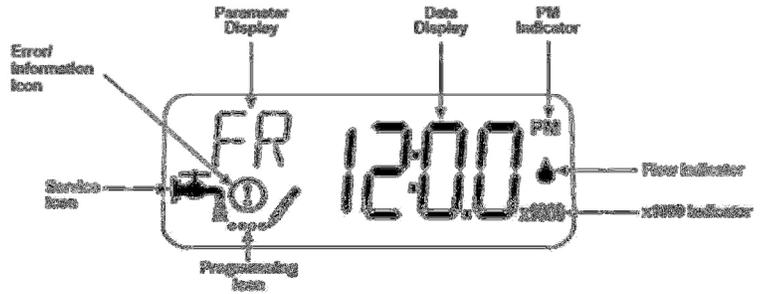


SYSTEM INSTALL AND START-UP

1. The Iron Genie will normally be 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. All plumbing should be done in accordance with local plumbing codes.
3. 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.
4. On the bypass, place in bypass position indicated by small pointer on handle. Turn on main water supply.
5. SLOWLY place the bypass in service position and let water flow into the mineral tank.
6. Open the nearest cold water faucet and allow water to run until the air is purged from plumbing lines and discoloration is gone. Note: It is normal for aerated water to appear effervescent.
7. Plug power cord into electrical outlet. Be certain the outlet has continuous electrical power.
8. The display will light and show a time
9. Use the up or down arrows on the display to set the current time of day
10. Leave the unit in the service position. It is not necessary to run the unit through the different cycle positions

SETTING THE CONTROL

The Iron Genie uses the Fleck model SXT power head to manage the regeneration process.



While in the “Service” position the display will alternate between time of day and days remaining till regeneration. The clock uses a standard 12 hour display.

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

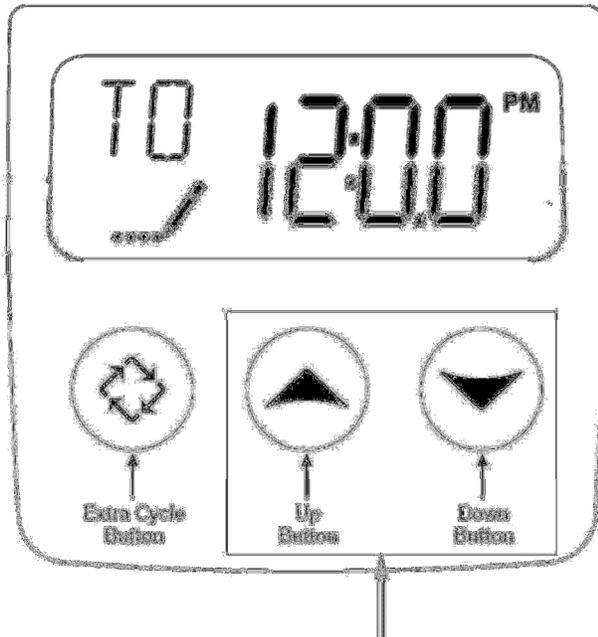
The duration of the regeneration cycle is approximately 50 minutes.

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.

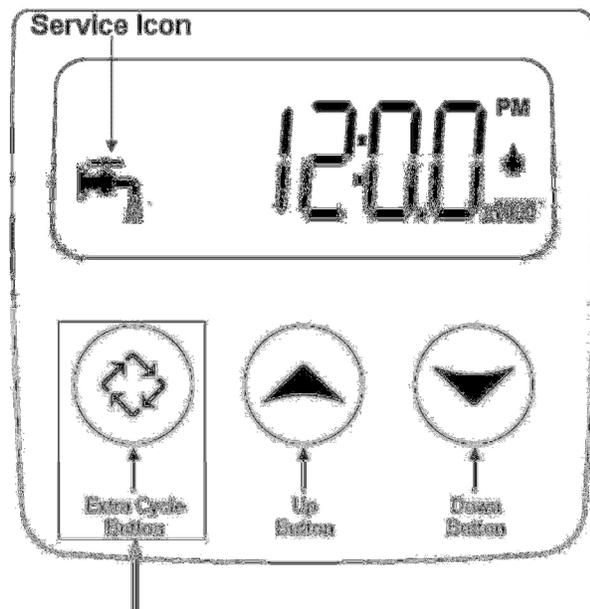
Should you require the unit to regenerate at a time of day other than 12:30 A.M. it is important that no other unit, softener or filter, regenerates at the same time. This will interfere with the regeneration process of the Iron Genie.

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.

IRON GENIE 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.

Press the Extra Cycle Button once to advance to next parameter.

1. DF - GAL - US Gallon Display Format
2. VT - dF1b – Down flow, 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 - 10 - 10 Minute Backwash
8. BD - 40 - 40 Minute Air Recharge (80 minutes for ECM model)
9. RR - OFF - Rapid Rinse is Turned Off
10. Exit Master Programming and Return Valve to Service Display

Troubleshooting

Problem	Possible Cause	Solution
No Display on PC Board	No power at electric outlet	Repair outlet or use working outlet
	Control valve Power Adapter not plugged into outlet	Plug Power Adapter into outlet
	Defective Power adapter	Replace Power Adapter
	Defective Circuit Board	Replace Power Head Assembly
Circuit Board does not display correct time of day	Power Outage	Reset time of day
	Power Adapter plugged into electric outlet controlled by light switch	Use uninterrupted outlet
	Tripped breaker switch and/or tripped GFI	Reset breaker switch and/ or GFI switch
Control valve regenerates at wrong time of day	Power Outage	Reset to correct time of day
	Time of day not set correctly	Reset to correct time of day
	Time of regeneration set incorrectly	Reset regeneration time
Time of day flashes on and off	Power Outage	Press any button to stop the time of day from flashing
Unit does not regenerate	Electrical Service to unit is interrupted	Use uninterrupted outlet. Reset time of day
	Power failure	Reset time of day
	Not Programmed	Enter Master Programming mode and verify that the unit is configured properly
	Defective Timer	Verify that days advance on main display. If not replace Power Head Assembly
Unit does not draw air in "BD" cycle	Injector is plugged	Clean or replace injector throat and nozzle
	Injector screen is plugged	Clean or replace injector screen
	Line to drain is crimped or plugged	Replace drain line
	Drain line flow control is plugged	Clean drain line flow control
	Line pressure is too low	Increase line pressure to minimum of 20 psi
	Internal control leak	Replace seals and spacers
	Main drive gear grooved	Replace main drive gear
Water to drain continuously	Motor stopped or jammed	Replace motor if necessary
	Foreign material in control	Remove power head assembly and inspect bore. Remove foreign material and check control in various regeneration positions
	Internal control leak	Replace seals and spacers
	Main drive gear grooved	Replace main drive gear
Air in house line or at faucets	Iron Genie regenerating at same time as other equipment is regenerating	Reset to correct time of day and verify regeneration time of all equipment
	Worn seals	Replace seals and spacers
	Distributor O-ring damaged	Replace distributor O-ring
	Inadequate water supply to meet backwash requirements	Verify water supply and proper flow rate
Control cycles continuously	Misadjusted, broken, or shorted switch	Determine if switch or timer is faulty and replace it, or replace complete power head assembly

Troubleshooting

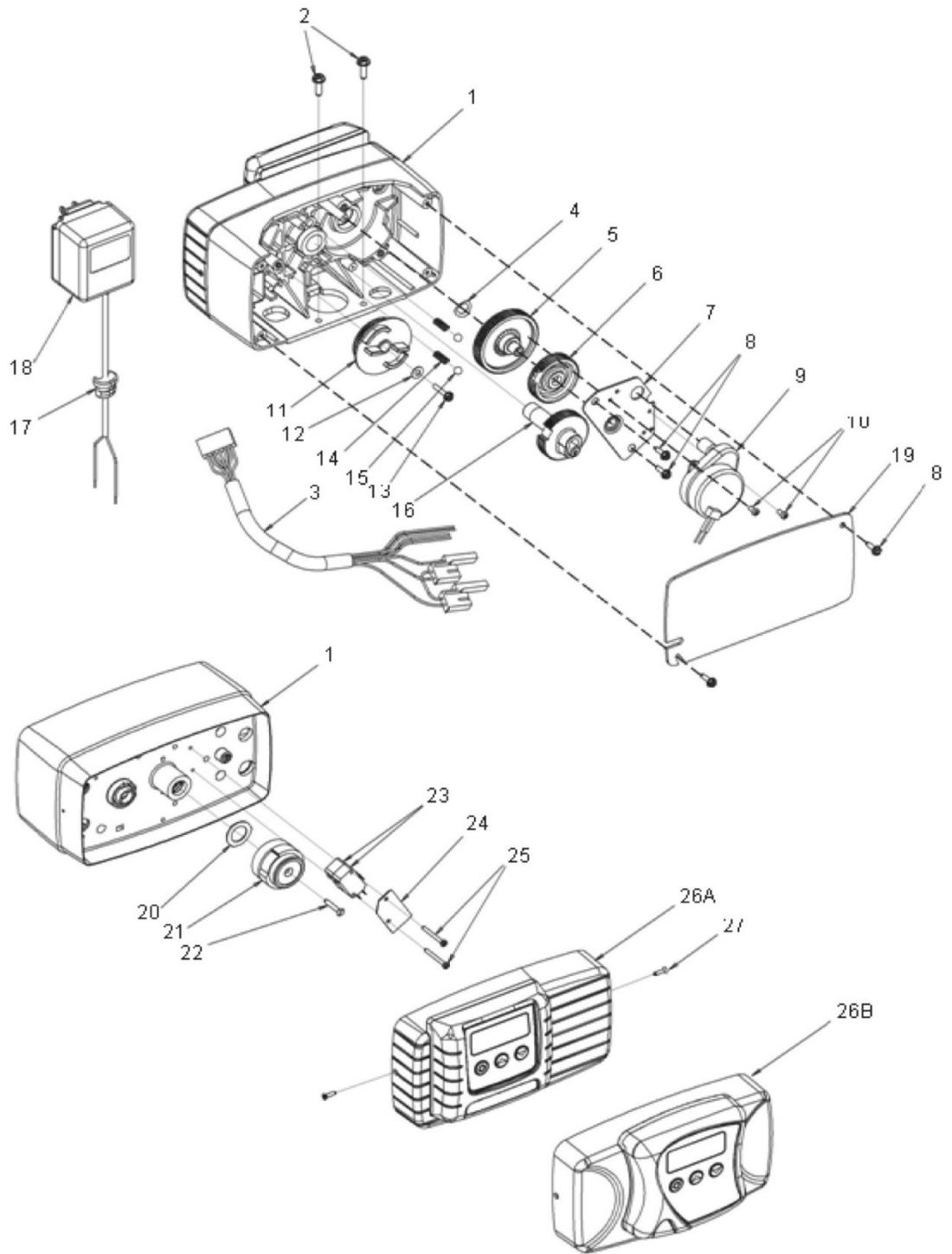
Error Code	Error Type	Cause	Reset and Recovery
0	Cam Sense Error	The valve drive took longer than 6 minutes to advance to the next regeneration position.	Unplug the unit and examine the power head. Verify that all cam switches are connected to the circuit board and functioning properly. Verify that the motor and drive train components are in good condition and assembled properly. Check the valve and verify that the piston travels freely. Replace /reassemble the various components as necessary.
			Plug the unit in and observe its behavior. The unit should cycle to the next valve position and stop. If the error re-occurs, unplug the unit and contact your water treatment dealer.
1	Cycle Step Error	The control experienced an unexpected cycle input	<p>Unplug the unit and examine the power head. Verify that all cam switches are connected to the circuit board and functioning properly. Enter Master Programming mode and verify that the valve type and system type are set correctly with regard to the unit itself.</p> <p>Step the unit through a manual regeneration and verify that it functions correctly. If the error re-occurs unplug the unit and contact you water treatment dealer.</p>
2	Regen Failure	The system has not regenerated for more than 99 days	<p>Perform a manual regeneration to reset the error code.</p> <p>Enter the Master Programming Mode and verify that the unit is configure properly.</p>
3	Memory Error	Control board memory failure	Perform a Master Reset and reconfigure the system via Master Programming mode. After reconfiguring the system, step the valve through a manual regeneration. If the error re-occurs unplug the unit and contact your local water treatment dealer.
UD	Upper Drive Sync	Power failure install programming change	Valve will automatically recover.

Resets

Soft Reset: Press and hold the Extra Cycle and Down Buttons for 25 seconds while in normal service mode. This resets all parameters. Check and verify all parameters in master programming.

Master Reset: Hold the Extra Cycle button while powering up the unit. This resets all parameters. Check and verify all parameters in mater programming

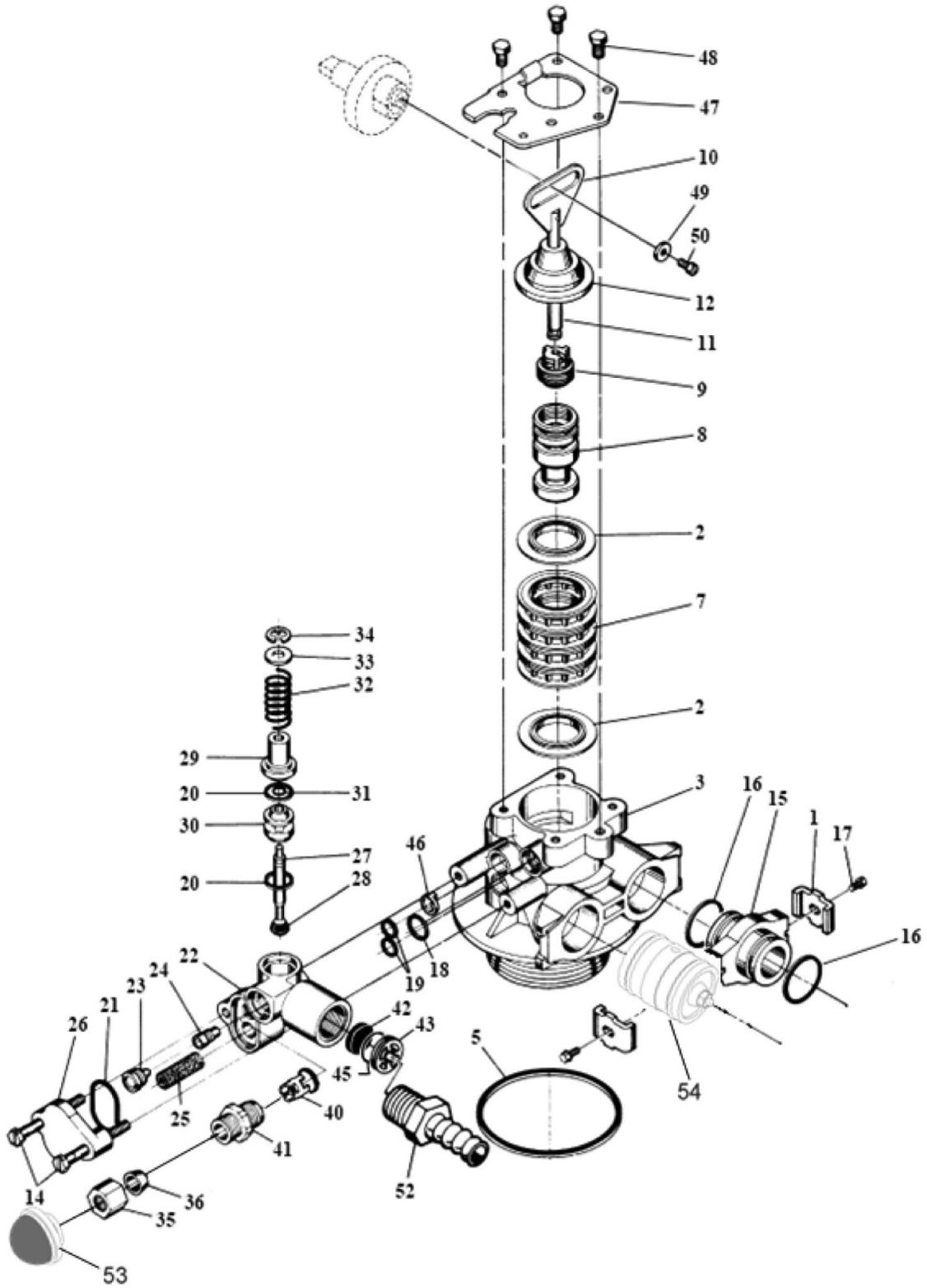
Power Head Assembly



Valve Power Head Assembly, Continued

Item No.	Quantity	Part No.	Description
1	1	26001-02	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
5	1	13017	Gear, Idler
6	1	23045	Gear, Drive, 6700
7	1	13175	Plate, Motor Mounting
8	4	13296	Screw, Hex Wsh, 6-20 x 1/2
9	1	16944	Motor, Drive, 24V 60 Hz 2 rpm
10	2	11384	Screw, Phil, 6-32 x 1/4 Zinc
11	1	13168	Cam, Brine Valve, 5600
12	1	12037	Washer, Plain, #10 18-8 SS
13	1	40214	Screw, Hex Wsh, #6-20 x 3/4
14	2	19080	Spring, Compression, 6700
15	2	13300	Ball, 1/4" Stainless Steel
16	1	42933	Gear, Main Drive, SXT
17	1	13547	Strain Relief, Flat Cord
18	1	19674	Transformer, 24V, 9.6VA
19	1	40338	Cover, Back Drive Housing
20	1	19079	Washer, Friction
21	1	17438	Cam, 56SXT/6700, Downflow
22	1	15151	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
26A	1	61672-0201	Front Panel Assy, 56SXT, Square, Black
26B	1	61673-0201	Front Panel Assy, 56SXT, Curved, Black
27	2	13898	Screw, Flat Hd, Phil Steel

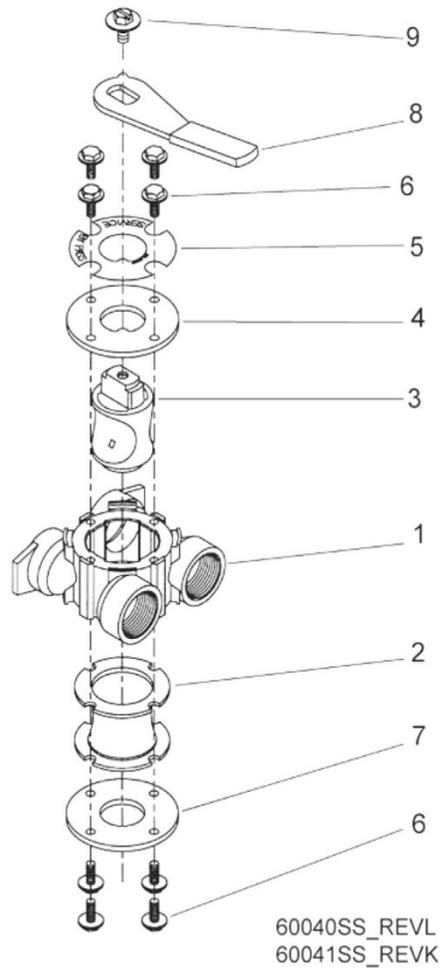
CONTROL VALVE ASSEMBLY



Control Valve Assembly, Continued

Item No.	Quantity	Part No.	Description
1.....	2.....	13255.....	Adapter Clip
2.....	5.....	18759.....	Seal, Low Drive Force
3.....	1.....	61400-12.....	Valve Body Assembly, 1 Dist.
4.....	1.....	13304.....	O-ring, Distributor Tube, 1
5.....	1.....	12281.....	O-ring, Top of Tank
7.....	4.....	14241.....	Spacer
8.....	1.....	17218-IG.....	Piston, Proprietary
9.....	1.....	10696.....	Piston Pin
10.....	1.....	13001-04.....	Rod, Piston, 56SXT/6700
11.....	1.....	14309.....	Retainer, Piston Rod
12.....	1.....	13446-41.....	Plug, End, 56SXT/6700, Green
14.....	2.....	13315.....	Screw, Injector Mounting
15.....	1.....	19228-01.....	Adapter Assy,Coupling,5600,w/O-ring
16.....	4.....	13305.....	O-ring, Adapter Coupling
17.....	2.....	13314.....	Screw, Adptr Coupling
18.....	1.....	12638.....	O-ring, Drain
19.....	2.....	13301.....	O-ring, Injector
20.....	2.....	13302.....	O-ring, Brine Spacer
21.....	1.....	13303.....	O-ring, Injector Cover
22.....	1.....	13163.....	Injector Body
23.....	1.....	10913-x.....	Injector Nozzle, specify size
24.....	1.....	10914-x.....	Injector Throat, specify size
25.....	1.....	10227.....	Injector Screen
26.....	1.....	13166.....	Injector Cover
27.....	1.....	13172.....	Brine Valve Stem
28.....	1.....	12626.....	Brine Valve Seat
29.....	1.....	13165.....	Brine Valve Cap
30.....	1.....	13167.....	Brine Valve Spacer
31.....	1.....	12550.....	Quad Ring
32.....	1.....	11973.....	Spring, Brine Valve
33.....	1.....	16098.....	Washer, Brine Valve
34.....	1.....	11981-01.....	Retaining Ring
35.....	1.....	10329.....	BLFC Fitting Nut
36.....	1.....	10330.....	BLFC Ferrule
40.....	1.....	41861.....	Neo Check
41.....	1.....	13244.....	BLFC Fitting, 3/8
42.....	1.....	12408.....	DLFC Button, specify size
43.....	1.....	13173-01.....	Retainer, DLFC, Button, w/O-ring
46.....	1.....	13497.....	Air Disperser
47.....	1.....	13546.....	End Plug Retainer
48.....	3.....	12112.....	Screw
49.....	1.....	13363.....	Washer
50.....	1.....	13296.....	Screw
52.....	1.....	13308.....	Drain Hose Barb
53.....	1.....	19856.....	Inlet Screen
54.....	1.....	300-038WW.....	Plastic Inlet Check Valve

BYPASS VALVE ASSEMBLY



Item No.	Quantity	Part No.	Description
1	1	17290	Bypass Valve Body, 3/4"
	1	13399	Bypass Valve Body, 1"
2	1	14105	Seal, Bypass
3	1	11972	Plug, Bypass
4	1	11978	Side Cover
5	1	13604-01	Label
6	8	15727	Screw
7	1	11986	Side Cover
8	1	11979	Lever, Bypass
9	1	11989	Screw, Hex Head, 1/4-14

RECOMMENDED IRON FILTER SERVICE KIT

13001-04 Piston Rod Assembly

13446-41 End Plug Assembly, Green

60125-02 Seal and Spacer Kit, Low Drive Force

10913-2 Injector Nozzle #2, Blue

10914-2 Injector Throat #2, Blue

10227 Screen

42933 Main Drive Gear

60032 Brine Valve

13302 O-ring, Brine Valve

IOK Injector Body O-Ring Kit

Service Instructions

Power Head Replacement

1. Unplug Power Head from electrical outlet.
2. Remove the Power Head back cover.
3. Remove black screw and silver washer at drive yoke on piston rod.
4. Remove 2 silver timer mounting screws.
5. Lift off entire Power Head assembly.
6. Put new Power Head on top of control valve. Be sure drive pin on main gear engages slot in drive yoke.
7. Replace black screw and silver washer at drive yoke on piston rod.
8. Replace the 2 silver Power Head mounting screws.
9. Plug electrical cord into outlet.
10. Set time of day and cycle the control valve through an immediate regeneration to assure proper function.
11. Replace the Power Head back cover.

Injector/Screen Replacement

1. Move the integral stainless steel bypass to the bypass position.
2. Relieve the water pressure in the Iron Genie by holding down the Extra Cycle button for 5 seconds. Once in the "BW" cycle pressure will be relieved.
3. Push extra cycle button to move control valve to "BD" cycle.
4. Push extra cycle to return the control valve to the service position (time of day on display).
5. Unplug Power Head from electrical outlet.
6. Remove the two injector body mounting screws.
7. Remove injector cap.
8. Remove injector screen.
9. Unscrew and remove injector nozzle and throat.
10. Screw in new injector throat and nozzle.
11. Install new screen.
12. Insert screws through injector cap and injector body in to mating holes in the valve body. Tighten screws.
13. Return bypass to service position. Water pressure automatically builds in tank.
14. Check for leaks.
15. Plug electrical cord into outlet.
16. Set time of day and cycle the control valve through an immediate regeneration to assure proper function.

Brine Valve Replacement

1. Move the integral stainless steel bypass to the bypass position.
2. Relieve the water pressure in the Iron Genie by holding down the Extra Cycle button for 5 seconds. Once in the "BW" cycle pressure will be relieved.
3. Push extra cycle button to move control valve to "BD" cycle.
4. Push extra cycle to return the control valve to the service position (time of day on display).
5. Unplug Power Head from electrical outlet.
6. Remove the control valve back cover.
7. Remove black screw and silver washer at drive yoke.
8. Remove 2 silver timer mounting screws.
9. Lift off entire Power Head assembly.
10. Remove the two injector body mounting screws.
11. Slide the injector body away from control valve.
12. Pull brine valve from injector body.
13. Discard o-ring at bottom of brine valve hole in injector body.
14. Install new o-ring at bottom of brine valve hole in injector body.
15. Press brine valve into brine valve hole in injector body. Be sure shoulder bushing on brine valve is flush with injector body.
16. Slide injector body onto control valve.
17. Insert screws through injector cap and injector body in to mating holes in the valve body. Tighten screws.
18. Put Power Head on top of control valve. Be sure drive pin on main gear engages slot in drive yoke.
19. Replace black screw and silver washer at drive yoke.
20. Replace the 2 silver timer mounting screws.
21. Return bypass to service position. Water pressure automatically builds in tank.
22. Check for leaks.
23. Plug electrical cord into outlet.
24. Set time of day and cycle the control valve through an immediate regeneration to assure proper function.
25. Replace the Power Head back cover.

Piston Rod and End Plug/Seal and Spacer Replacement

1. Move the integral stainless steel bypass to the bypass position.
2. Relieve the water pressure in the Iron Genie by holding down the Extra Cycle button for 5 seconds. Once in the "BW" cycle pressure will be relieved.
3. Push extra cycle button to move control valve to "BD" cycle.
4. Push extra cycle to return the control valve to the service position (time of day on display).
5. Unplug Power Head from electrical outlet.
6. Remove the control valve back cover.
7. Remove black screw and silver washer at drive yoke on piston rod.
8. Remove two silver timer mounting screws.
9. Lift off entire Power Head assembly.
10. Remove three silver screws on stainless steel end plug retainer plate.
11. Remove end plug retainer plate.
12. Pull up on end of piston rod yoke until piston is out of valve.
13. Remove five rubber seals and four plastic spacers from valve body.
14. Replace the five rubber seals and four plastic spacers.
15. Take the piston assembly with the new piston rod and cap and push piston into valve by means of the end plug. DO NOT pull up on piston rod.
16. Replace end plug retainer plate
17. Replace three silver screws on end plug retainer plate.
18. Twist yoke in a clockwise direction to align it with main drive gear.
19. Put Power Head on top of control valve. Be sure drive pin on main gear engages slot in drive yoke.
20. Replace black screw and silver washer at drive yoke.
21. Replace the 2 silver timer mounting screws.
22. Return bypass to service position. Water pressure automatically builds in tank.
23. Check for leaks.
24. Plug electrical cord into outlet.
25. Set time of day and cycle the control valve through an immediate regeneration to assure proper function.
26. Replace the Power Head back cover.