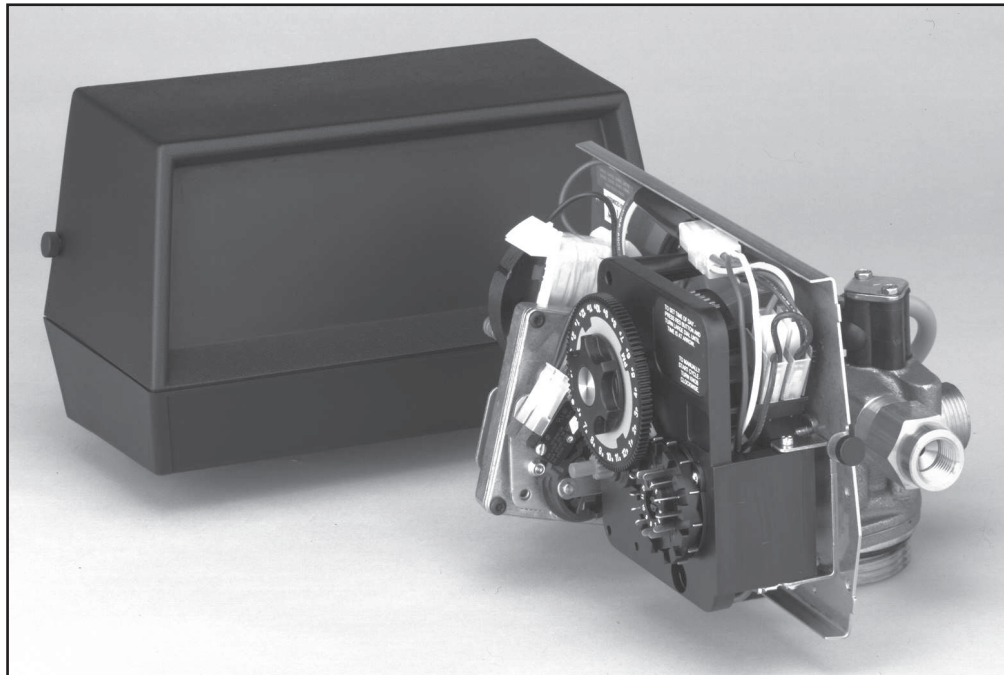


Model 2750 Downflow

Service Manual



IMPORTANT: Fill in Pertinent Information on Page 3 for Future Reference

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IMPORTANT PLEASE READ:

- The information, specifications and illustrations in this manual are based on the latest information available at the time of printing. The manufacturer reserves the right to make changes at any time without notice.
- This manual is intended as a guide for service of the valve only. System installation requires information from a number of suppliers not known at the time of manufacture. This product should be installed by a plumbing professional.
- This unit is designed to be installed on potable water systems only.
- This product must be installed in compliance with all state and municipal plumbing and electrical codes. Permits may be required at the time of installation.
- If daytime operating pressure exceeds 80 psi (5.5 bar), nighttime pressures may exceed pressure limits. A pressure reducing valve must be installed.
- Do not install the unit where temperatures may drop below 32°F (0°C) or above 110°F (43°C).
- Do not place the unit in direct sunlight. Black units will absorb radiant heat increasing internal temperatures.
- Do not strike the valve or any of the components.
- Warranty of this product extends to manufacturing defects. Misapplication of this product may result in failure to properly condition water, or damage to product.
- A prefilter should be used on installations in which free solids are present.
- In some applications local municipalities treat water with Chloramines. High Chloramine levels may damage valve components.
- Correct and constant voltage must be supplied to the control valve to maintain proper function.

Job Specification Sheet

Job Number: _____

Model Number: _____

Water Hardness: _____ ppm or gpg

Capacity Per Unit: _____

Mineral Tank Size: _____ Diameter: _____ Height: _____

Salt Setting per Regeneration: _____

1. Type of Timer:

- A. 7 Day or 12 Day B. Meter Initiated

2. Downflow: Upflow Upflow Variable

3. Meter Size:

- A. 3/4" Std Range (125 - 2,100 gallon setting)
B. 3/4" Ext Range (625 - 10,625 gallon setting)
C. 1" Std Range (310 - 5,270 gallon setting)
D. 1" Ext Range (1,150 - 26,350 gallon setting)
E. 1-1/2" Std Range (625 - 10,625 gallon setting)
F. 1-1/2" Ext Range (3,125 - 53,125 gallon setting)
G. 2" Std Range (1,250 - 21,250 gallon setting)
H. 2" Ext Range (6,250 - 106,250 gallon setting)
I. 3" Std Range (3,750 - 63,750 gallon setting)
J. 3" Ext Range (18,750 - 318,750 gallon setting)
K. Electronic _____ Pulse Count _____ Meter Size

4. System Type:

- A. System #4: 1 Tank, 1 Meter, Immediate, or Delayed Regeneration
B. System #4: Time Clock
C. System #4: Twin Tank
D. System #5: 2-5 Tanks, 2 Meters, Interlock
E. System #6: 2-5 Tanks, 1 Meter, Series Regeneration
F. System #7: 2-5 Tanks, 1 Meter, Alternating
G. System #9: Electronic Only, 2-4 Tanks, Meter per Valve, Alternating
H. System #14: Electronic Only, 2-4 Tanks, Meter per Valve. Brings units on and offline based on flow.

5. Timer Program Settings:

- A. Backwash: _____ Minutes
B. Brine and Slow Rinse: _____ Minutes
C. Rapid Rinse: _____ Minutes
D. Brine Tank Refill: _____ Minutes
E. Pause Time: _____ Minutes
F. Second Backwash: _____ Minutes

6. Drain Line Flow Control: _____ gpm

7. Brine Line Flow Controller: _____ gpm

8. Injector Size#: _____

9. Piston Type:

- A. Hard Water Bypass
B. No Hard Water Bypass

Installation Instructions

WATER PRESSURE: A minimum of 20 pounds of water pressure (1.4 bar) is required for regeneration valve to operate effectively.

ELECTRICAL FACILITIES: An uninterrupted alternating current (A/C) supply is required. Note: Other voltages are available. Please make sure your voltage supply is compatible with your unit before installation.

EXISTING PLUMBING: Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced. If piping is clogged with iron, a separate iron filter unit should be installed ahead of the water softener.


LOCATION OF SOFTENER AND DRAIN: The softener should be located close to a drain to prevent air breaks and back flow.


BY-PASS VALVES: Always provide for the installation of a by-pass valve if unit is not equipped with one.

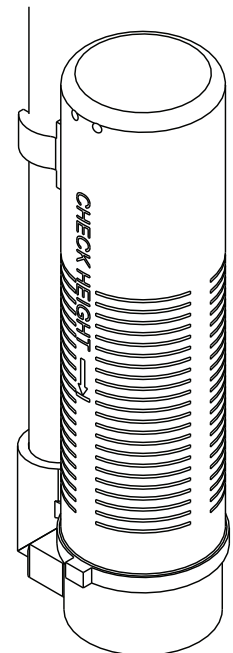
CAUTION: Water pressure is not to exceed 125 psi (8.6 bar), water temperature is not to exceed 110°F (43°C), and the unit cannot be subjected to freezing conditions.

Installation Instructions

1. Place the softener tank where you want to install the unit making sure the unit is level and on a firm base.
2. During cold weather, the installer should warm the valve to room temperature before operating.
3. All plumbing should be done in accordance with local plumbing codes. The pipe size for residential drain line should be a minimum of 1/2" (13 mm). Backwash flow rates in excess of 7 gpm (26.4 Lpm) or length in excess of 20' (6 m) require 3/4" (19 mm) drain line. Commercial drain lines should be the same size as the drain line flow control.
4. Refer to the dimensional drawing for cutting height of the distributor tube. If there is no dimensional drawing, cut the distributor tube flush with the top of the tank.
5. Lubricate the distributor O-ring seal and tank O-ring seal. Place the main control valve on tank. Note: Only use silicone lubricant.
6. Solder joints near the drain must be done prior to connecting the Drain Line Flow Control fitting (DLFC). Leave at least 6" (15 cm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
7. Teflon tape is the only sealant to be used on the drain fitting. The drain from twin tank units may be run through a common line.
8. Make sure that the floor is clean beneath the salt storage tank and that it is level.
9. Place approximately 1" (25 mm) of water above the grid plate. If a grid is not utilized, fill to the top of the air check (Figure 1) in the salt tank. Do not add salt to the brine tank at this time.
10. On units with a by-pass, place in by-pass position. Turn on the main water supply. Open a cold soft water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation. Once clean, close the water tap.
11. Slowly place the by-pass in service position and let water flow into the mineral tank. When water flow stops, slowly open a cold water tap nearby and let run until the air is purged from the unit.
12. Plug unit into an electrical outlet. Note: All electrical connections must be connected according to local codes. (Be certain the outlet is uninterrupted).

	<p>CAUTION</p> <ul style="list-style-type: none">• Do not exceed 125 psi water pressure• Do not exceed 110°F (43°C) water temperature• Do not subject unit to freezing conditions
-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

	<p>WARNING</p> <p>The system MUST be depressurized before removing any connections for servicing.</p>
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60002-34REVC

Figure 1 Residential Air Check Valve

Start-Up Instructions

The water softener should be installed with the inlet, outlet, and drain connections made in accordance with the manufacturer's recommendations, and to meet applicable plumbing codes.

1. Turn the manual regeneration knob slowly in a clockwise direction until the program micro switch lifts on top of the first set of pins. Allow the drive motor to move the piston to the first regeneration step and stop. Each time the program switch position changes, the valve will advance to the next regeneration step. Always allow the motor to stop before moving to the next set of pins or spaces.

NOTE: For electronic valves, please refer to the manual regeneration part of the timer operation section. If the valve came with a separate electronic timer service manual, refer to the timer operation section of the electronic timer service manual.

2. Position the valve to backwash. Ensure the drain line flow remains steady for 10 minutes or until the water runs clear (see above).
3. Position the valve to the brine / slow rinse position. Ensure the unit is drawing water from the brine tank. This step may need to be repeated.
4. Position the valve to the rapid rinse position. Check the drain line flow, and run for 5 minutes or until the water runs clear.
5. Position the valve to the start of the brine tank fill cycle. Ensure water goes into the brine tank at the desired rate. The brine valve drive cam will hold the valve in this position to fill the brine tank for the first regeneration.
6. Replace control box cover.
7. Put salt in the brine tank.

NOTE: Do not use granulated or rock salt.

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:

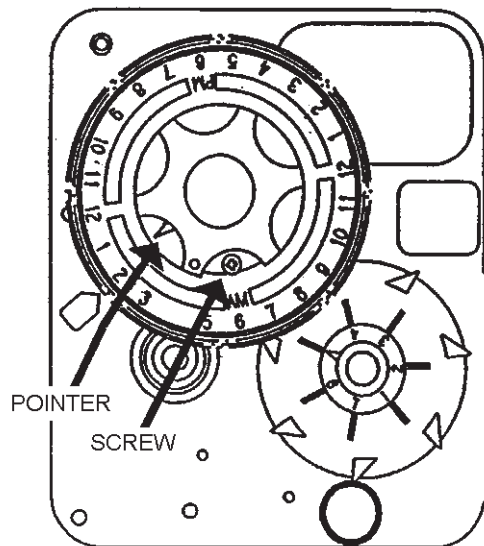
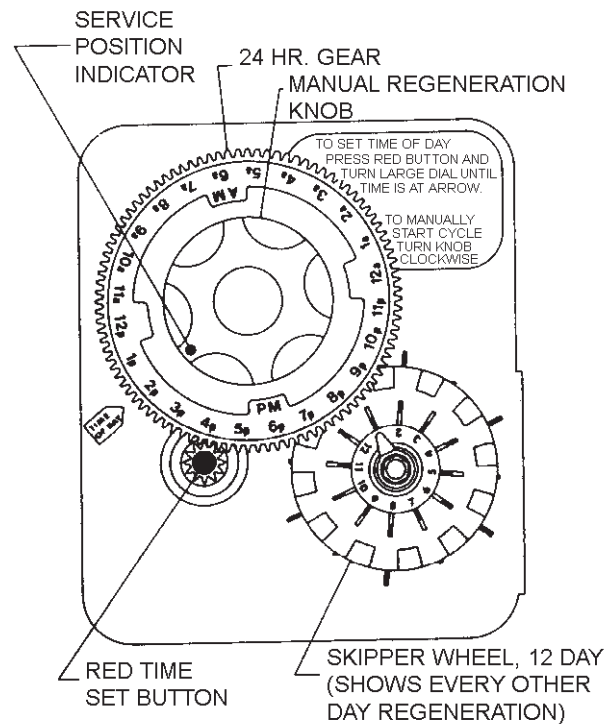
1. Press and hold the red button in to disengage the drive gear.
2. Turn the large gear until the actual time of day is at the time of day pointer.
3. Release the red button to again engage the drive gear.

How To Manually Regenerate Your Water Conditioner At Any Time:

1. Turn the manual regeneration knob clockwise.
2. This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration program.
3. The black center knob will make one revolution in the following approximately three hours and stop in the position shown in the drawing.
4. Even though it takes three hours for this center knob to complete one revolution, the regeneration cycle of your unit might be set only one half of this time.
5. 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.
2. 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.
4. Locate the regeneration time pointer on the inside of the 24 hour dial in the cut out.
5. Turn the time plate so the desired regeneration time aligns next to the raised arrow.
6. Push the red button in and rotate the 24 hour dial. Tighten each of the three screws.
7. 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_3200REVA

Figure 2

3210 Timer Setting Procedure

Typical Programming Procedure

Calculate the gallon capacity of the system, subtract the necessary reserve requirement and set the gallons available opposite the small white dot on the program wheel gear (Figure 3).

NOTE: Drawing shows 8,750 gallon setting. The capacity (gallons) arrow shows zero gallons remaining. The unit will regenerate tonight at the set regeneration time.

How To Set The Time Of Day:

1. Press and hold the red button in to disengage the drive gear.
2. Turn the large gear until the actual time of day is opposite 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:

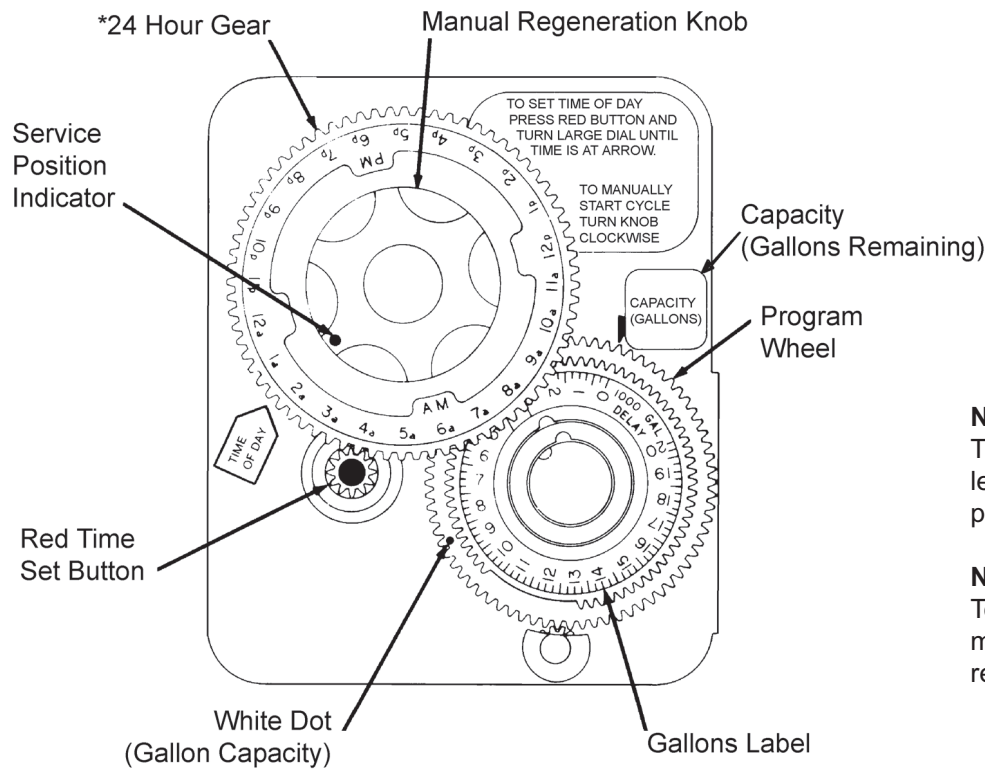
1. Turn the manual regeneration knob clockwise.
2. This slight movement of the manual regeneration knob engages the program wheel and starts the regeneration program.

The black center knob will make one revolution in the following approximately three hours and stop in the position shown in the drawing.

3. 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.
4. In any event, conditioned water may be drawn after rinse water stops flowing from the water conditioner drain line.

Immediate Regeneration Timers:

These timers do not have a 24 hour gear. Setting the gallons on the program wheel and manual regeneration procedure are the same as previous instructions. The timer will regenerate as soon as the capacity gallons reaches zero.



NOTE:

The program wheel to the left may be different than the program wheel on the product.

NOTE:

To set meter capacity rotate manual knob one - 360° revolution to set gallonage.

*Immediate regeneration timers do not have a 24-hour gear. No time of day can be set.

Figure 3

61502_3200REVA

3200 & 3210 Regeneration Cycle Setting Procedure

How To Set The Regeneration Cycle Program:

The regeneration cycle program on your water conditioner has been factory preset, however, portions of the cycle or program may be lengthened or shortened in time to suit local conditions.

3200 & 3210 Series Timers (Figure 4)

1. To expose cycle program wheel, grasp timer in upper left-hand corner and pull, releasing snap retainer and swinging timer to the right.
2. To change the regeneration cycle program, the program wheel must be removed. Grasp program wheel and squeeze protruding lugs toward center, lift program wheel off timer. Switch arms may require movement to facilitate removal.
3. Return timer to closed position engaging snap retainer in back plate. Make certain all electrical wires locate above snap retainer post.

Timer Setting Procedure for 3200 & 3210 Timer

How To Change The Length Of The Backwash Time:

The program wheel as shown in the drawing is in the service position. As you look at the numbered side of the program wheel, the group of pins starting at zero determines the length of time your unit will backwash.

EXAMPLE: If there are six pins in this section, the time of backwash will be 12 min (2 min. per pin). To change the length of backwash time, add or remove pins as required. The number of pins times two equals the backwash time in minutes.

How To Change The Length Of Brine And Rinse Time:

1. The group of holes between the last pin in the backwash section and the second group of pins determines the length of time that your unit will brine and rinse (2 min. per hole).
2. To change the length of brine and rinse time, move the rapid rinse group of pins to give more or fewer holes in the brine and rinse section. Number of holes times two equals brine and rinse time in minutes.

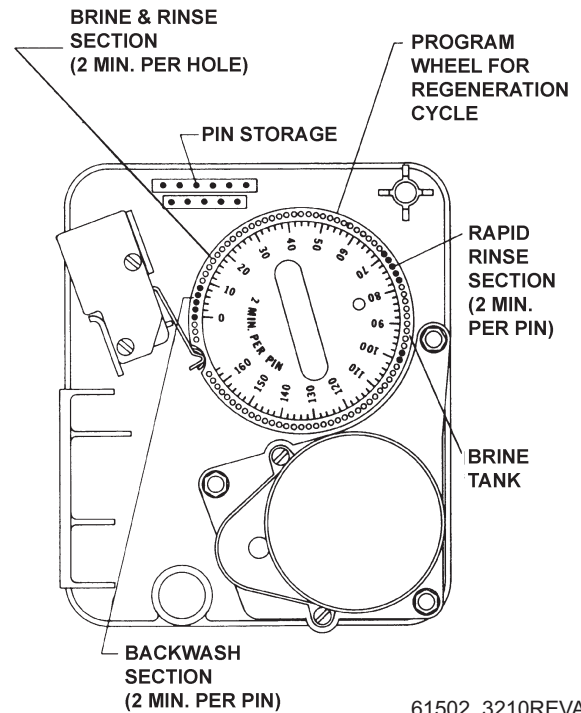


Figure 4

61502_3210REVA

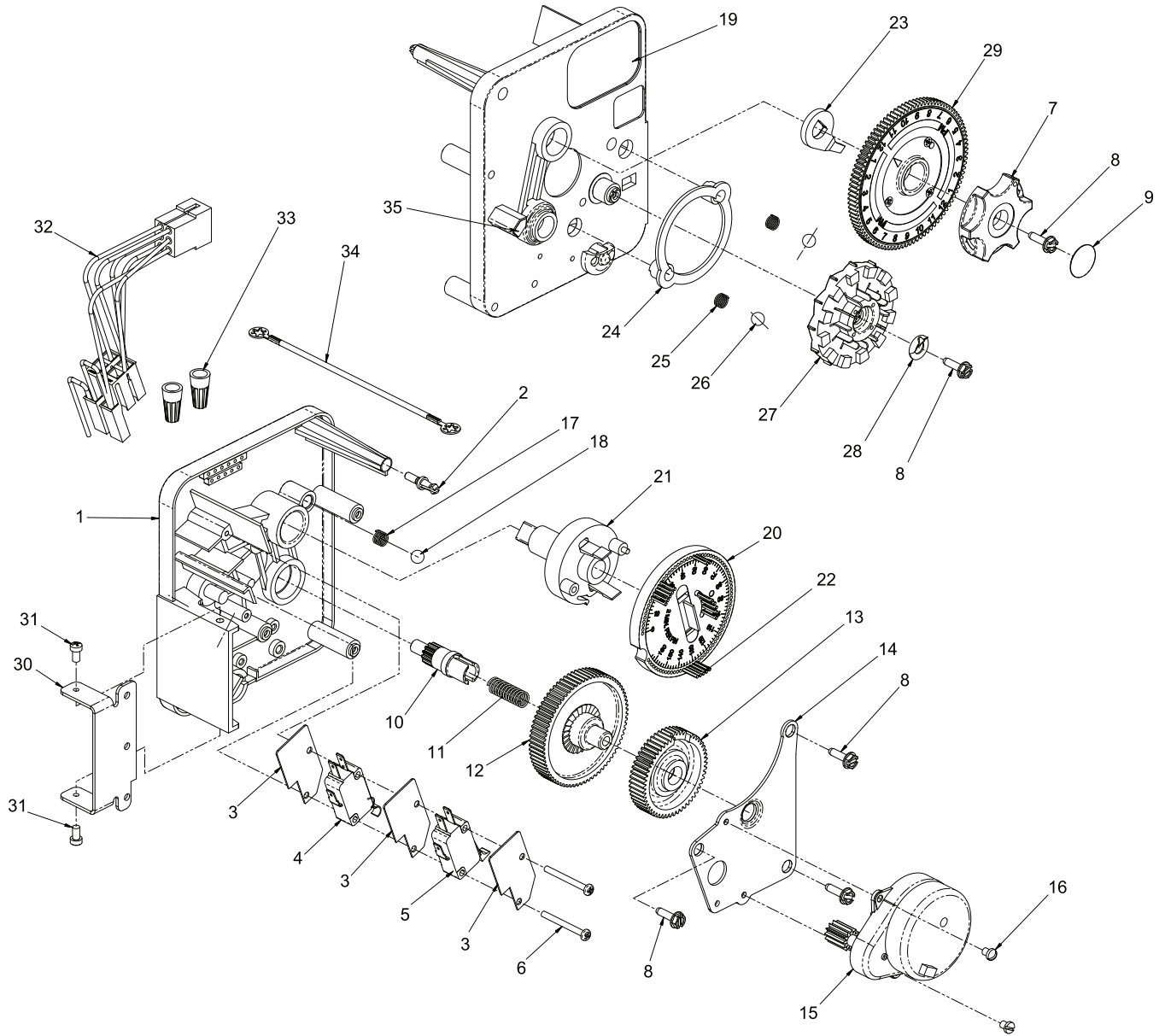
How To Change The Length Of Rapid Rinse:

1. The second group of pins on the program wheel determines the length of time that your water conditioner will rapid rinse (2 min. per pin).
2. To change the length of rapid rinse time, add or remove pins at the higher numbered end of this section as required. The number of pins times two equals the rapid rinse time in minutes.

How To Change The Length Of Brine Tank Refill Time:

1. The second group of holes in the program wheel determines the length of time that your water conditioner will refill the brine tank (2 min. per hole).
2. To change the length of refill time, move the two pins at the end of the second group of holes as required.
3. The regeneration cycle is complete when the outer microswitch is tripped by the two pin set at end of the brine tank refill section.
4. The program wheel, however, will continue to rotate until the inner micro-switch drops into the notch on the program wheel.

3200 Timer Assembly



61502-3200_REVA

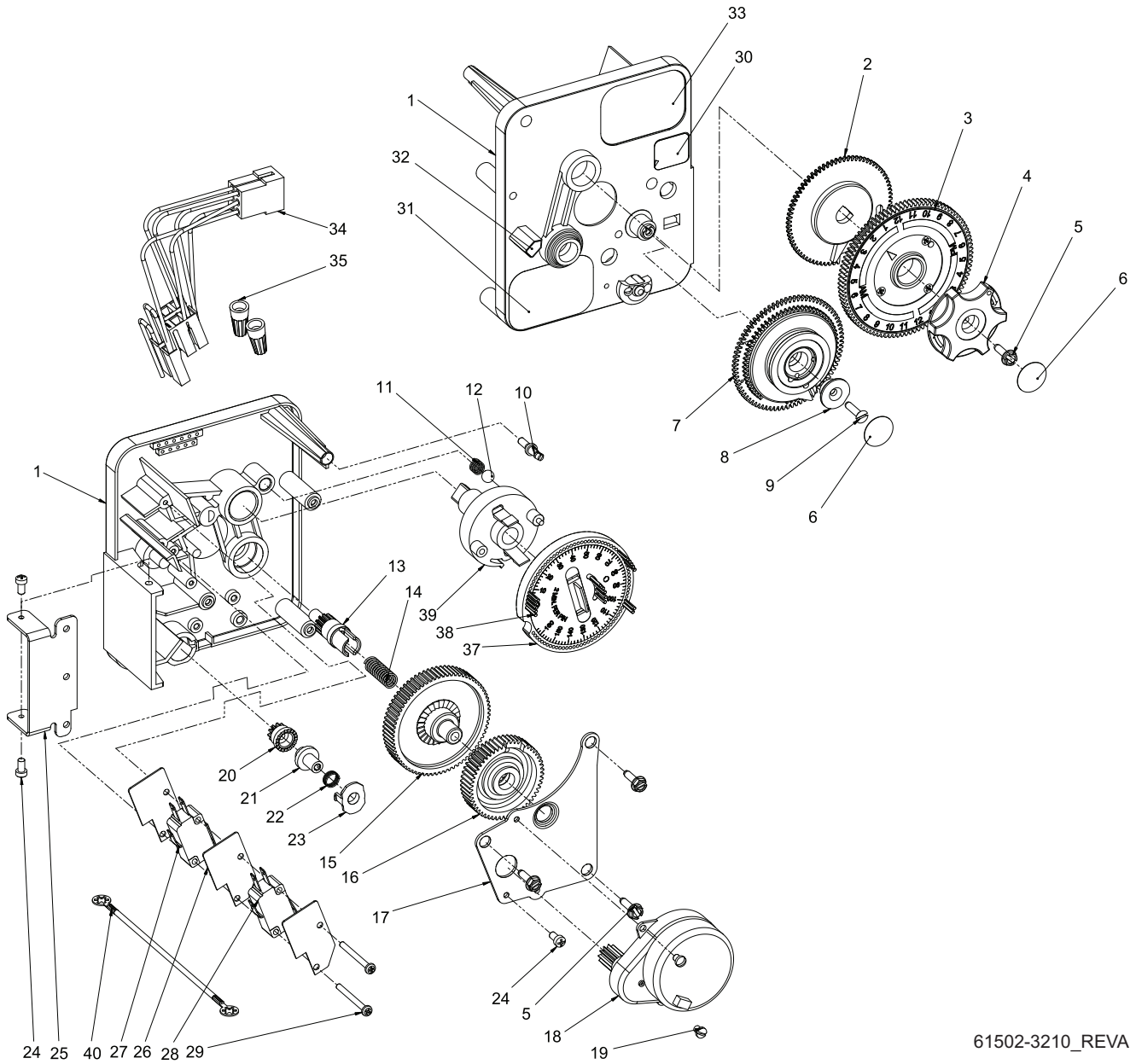
For Service Assembly Numbers, See the Back of this Manual

3200 Timer Assembly

Item No.	Quantity	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, 5600
		19659-1	Motor, 24V, 60Hz, 1/30 RPM
16	2	13278	Screw, Slted Fillister Hd 6-32 x .156
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 Stainless Steel, 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 Assembly, 12 Day
		14860	Skipper Wheel Assembly, 7 Day
28	1	13014	Pointer, Regeneration
29	1	40096-24	Dial, 12 AM Regen Assembly, Black
		40096-02	Dial, 2 AM Regen Assembly, 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

For Service Assembly Numbers, See the Back of this Manual

3210 Timer Assembly



61502-3210_REVA

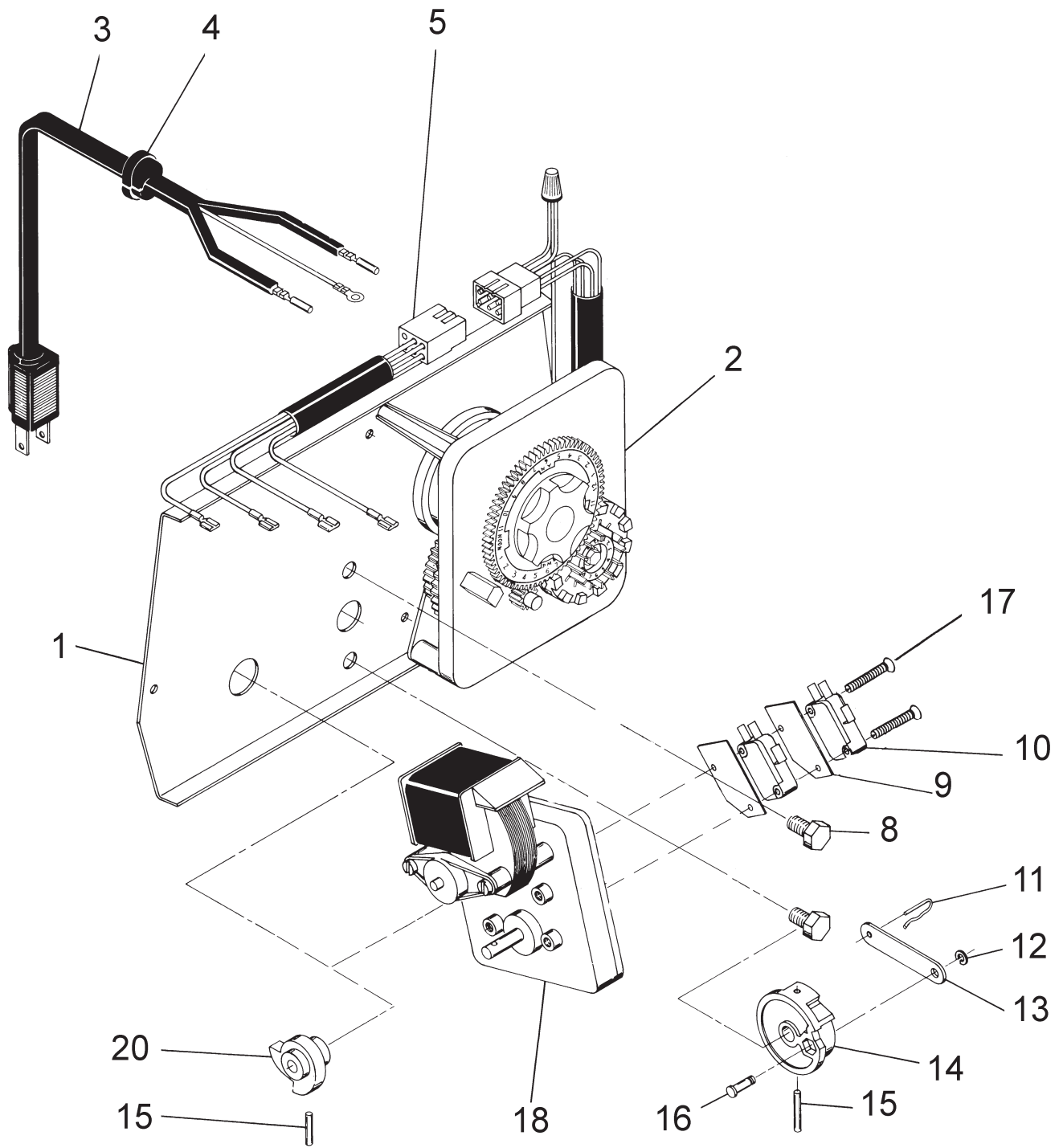
For Service Assembly Numbers, See the Back of this Manual

3210 Timer Assembly

Item No.	Quantity	Part No.	Description
1.....	1	13870.....	Housing, Timer, 3200
2.....	1	13802.....	Gear, Cycle Actuator
3.....	1	40096-02	Dial 2AM Regen Assembly, Black
4.....	1	13886.....	Knob, 3200
5.....	4	13296.....	Screw, Hex Wsh, 6-20 x 1/2
6.....	2	11999.....	Label, Button
7.....	1	60405-15	Program Wheel, w/34" Std Label, w/People Label Set @ 21
8.....	1	13806.....	Retainer, Program Wheel
9.....	1	13748.....	Screw, Flat Head St, 6-20 x 1/2
10.....	1	14265.....	Clip, Spring
11.....	1	15424.....	Spring, Detent, Timer
12.....	1	15066.....	Ball, 1/4" Delrin
13.....	1	13018.....	Pinion, Idler
14.....	1	13312.....	Spring, Idler Shaft
15.....	1	13017.....	Gear, Idler
16.....	1	13164.....	Gear, Drive
17.....	1	13887.....	Plate, Motor Mounting
18.....	1	18743-1	Motor, 120V, 60Hz 1/30 RPM, 5600
19.....	1	13278.....	Screw, Fillister Hd, 6-32 x .156
20.....	1	13830.....	Pinion, Program Wheel Drive
21.....	1	13831.....	Clutch, Drive Pinion
22.....	1	14276.....	Spring, Meter, Clutch
23.....	1	14253.....	Retainer, Clutch Spring
24.....	3	11384	Screw, Phil, 6-32 x 1/4
25.....	1	13881.....	Bracket, Hinge Timer
26.....	3	14087.....	Insulator
27.....	1	10896.....	Switch, Micro
28.....	1	15320.....	Switch, Micro, Timer
29.....	2	11413.....	Screw, Pan Hd Mach, 4-40 x 1-1/8
30.....	1	14198.....	Label, Indicator
31.....	1	15465.....	Label, Caution
32.....	1	14007.....	Label, Time of Day
33.....	1	14045.....	Label, Instruction
34.....	1	13902.....	Harness, 3200
35.....	2	40422.....	Nut, Wire, Tan
36.....	1	15354-01	Wire, Ground, 4"
37.....	1	19210.....	Program Wheel Assy
38.....	17	41754.....	Pin, Spring, 1/16 x 5/8 Stainless Steel, Timer
39.....	1	13911	Gear, Main Drive, Timer
40.....	1	15354-01	Wire, Ground 4"

For Service Assembly Numbers, See the Back of this Manual

Powerhead Assembly (Designer)



61502_2510REVB

For Service Assembly Numbers, See the Back of this Manual

Powerhead Assembly (Designer)

Item No.	Quantity	Part No.	Description
1	1	40264	Backplate, SS/SVO, W-T-Screws
2	1		3200, Timer 7 or 12 Day
3	1	11838	Power Cord
4	1	13547	Strain Relief
5	1	40400	Harness, Drive, Designer/Environmental
8	2	10231	Screw - Drive Mounting
9	2	10302	Insulator
10	2	10218	Switch
11	1	10909	Connecting Link Pin
12	1	10250	Retaining Ring
13	1	10621	Connecting Link
14	1	12576	Drive Cam - STF (Black)
15	2	10338	Roll Pin
16	1	13366	Drive Bearing
17	2	14923	Screw - Switch Mounting
18	1	41543*	Motor, Drive, 115V, 50/60Hz
		42579**	Motor, Drive, 24VAC/VDC, 50/60Hz
		41545*	Motor, Drive, 230V, 50/60Hz
20	1	12777	Brine Valve Cam - STF (Black)

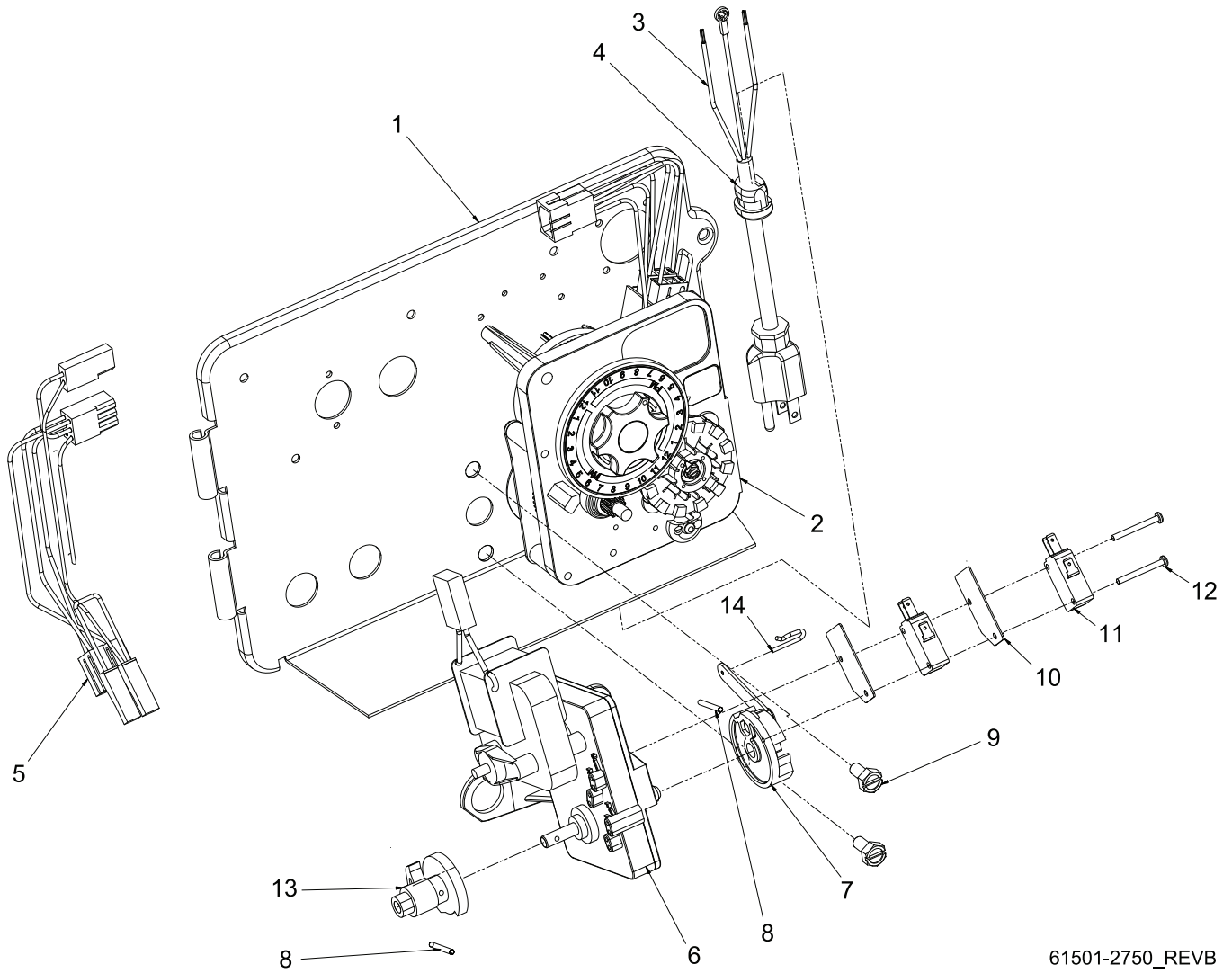
Not Shown:

	2	10300	Screw - Timer Mounting
	1	13741	Hole Plug
	1	17904	Hole Plug
	2	19367	Screw, Thumb
	1	15441	Cable Guide Assembly, 2750
	1	15513	Meter Cable, 17.50"

* Bracket is integrated into the motor.

** Bracket is integrated into the motor and picture may not reflect actual component.

Environmental Powerhead Assembly



61501-2750_REVB

For Service Assembly Numbers, See the Back of this Manual

Environmental Powerhead Assembly

1.....	1	18697.....	Backplate, Hinged, 2900
2.....	1		Timer: - 3200 7 Day
			- 3200 12 Day
			- 3210 Meter
3.....	1	11839.....	Power Cord, 12' Fleck
4.....	1	13547.....	Strain Relief, Flat Cord
5.....	1	40400.....	Harness, Drive, Designer/Environmental
6.....	1	41543*	Motor, Drive, 115V, 50/60Hz
		42579**	Motor, Drive, 24VAC/VDC, 50/60Hz
		41545*	Motor, Drive, 230V, 50/60Hz
7.....	1	60160-15	Drive Cam Assy, STF, Blue, 2900
8.....	2	10338.....	Pin, Roll, 8/32 x 7/8
9.....	2	10231.....	Screw, Slot Hex, 1/4 - 20 x 1/2
10.....	2	10302.....	Insulator, Limit Switch
11	2	10218.....	Switch, Micro
12.....	2	14923.....	Screw, Pan Hd Mach, 4-40 x 1
13.....	2	12777.....	Cam, Shut-Off Valve
14.....	1	10909.....	Pin, Link

Not Shown:

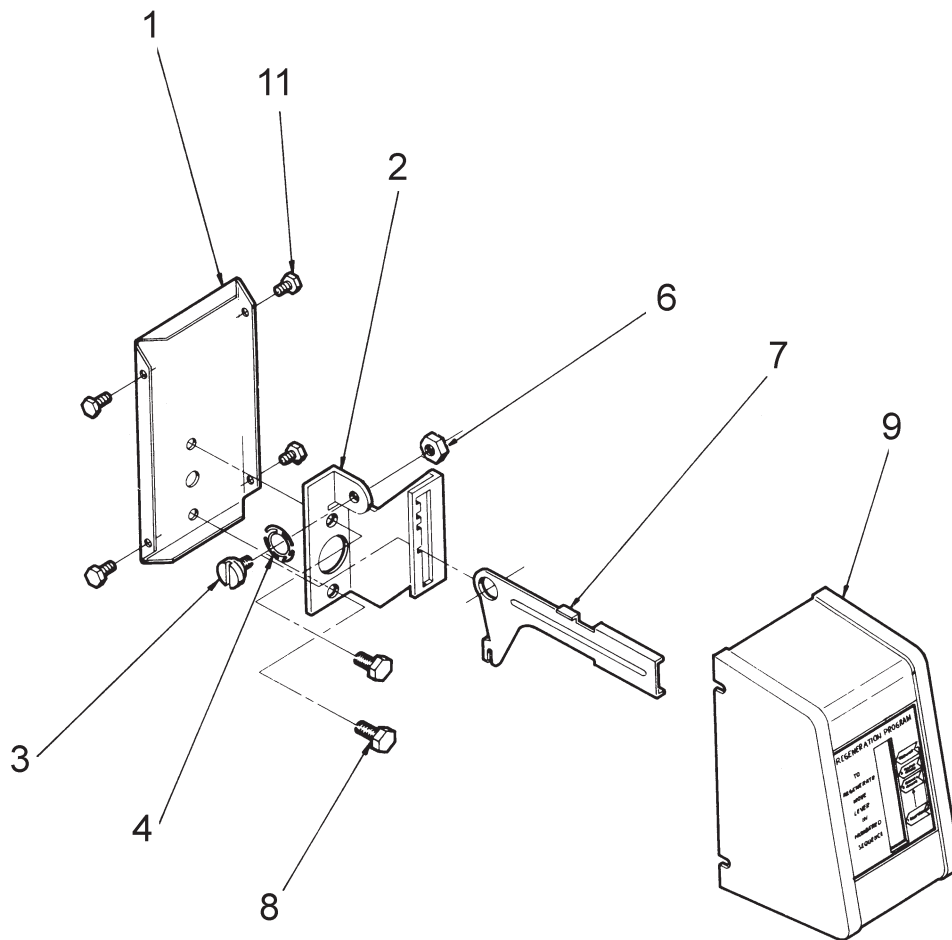
1	15513.....	Meter Cable, 17.50"
1	15441.....	Cable Guide Assy, 2750
2	10300.....	Screw, Slot Hex Wsh, 8-18 x 3/8
1	13741.....	Plug, 3/4", Knock-Out
1	15806.....	Plug, Hole, Heyco #2693
1	16493.....	Plug, Hole, Heyco
1	17421.....	Plug, 1.20 Hole Heyco #2733
2	19691.....	Plug, .750 Dia, Recessed, Black
7	19800.....	Plug, .140 Dia, White
4	19801.....	Plug, .190 Dia, White
1	10872.....	Screw, Hex Wsh, 8-32 x 17/64

* Bracket is integrated into the motor.

** Bracket is integrated into the motor and picture may not reflect actual component.

For Service Assembly Numbers, See the Back of this Manual

Manual Powerhead Assembly



60409REVA

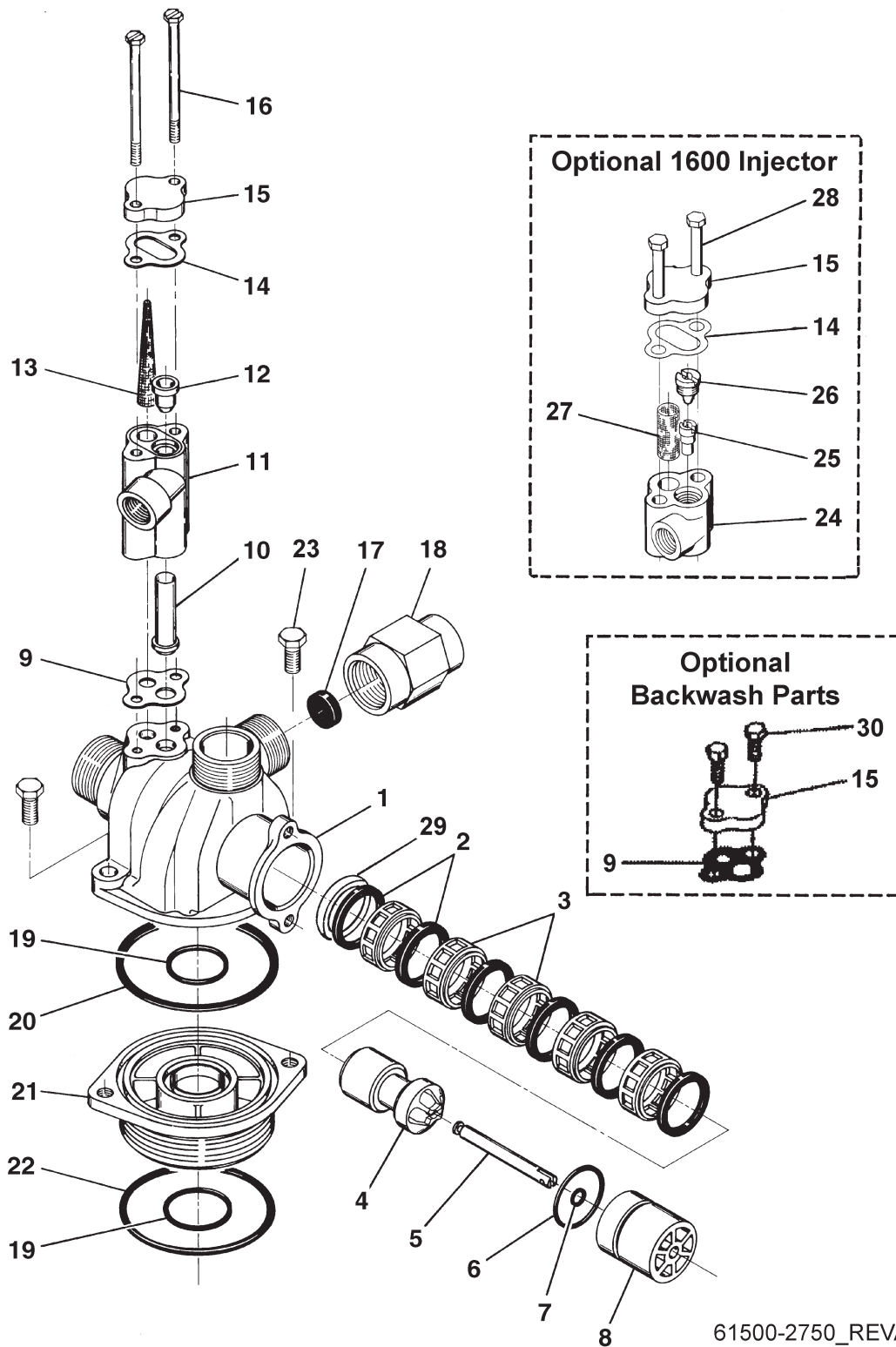
Item No.	Quantity	Part No.	Description
1	1	12593	Backplate, Manual
2	1	12592	Bracket, Lever Position
3	1	12596	Screw, Spec Mach, 1/4 - 20 x 1/2
4	1	12707	Washer, Spring
6	1	11235	Nut, Hex, 1/4 - 20, Mach Screw, Zinc
7	1	12594	Lever, Valve Position
8	2	10231	Screw, Slot Hex, 1/4 - 20 x 1/2 18-8 S.S.
9	1	60224-32	Cover Assy, Manual, Filter
	1	60224-33	Cover Assy, Manual, Softener
11	4	10300	Screw, Slot Hex Wsh, 8-18 x 3/8 Type "B" RC44-47

Not Shown:

	1	10909	Pin, Link
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For Service Assembly Numbers, See the Back of this Manual

Control Valve with 1700 Injector



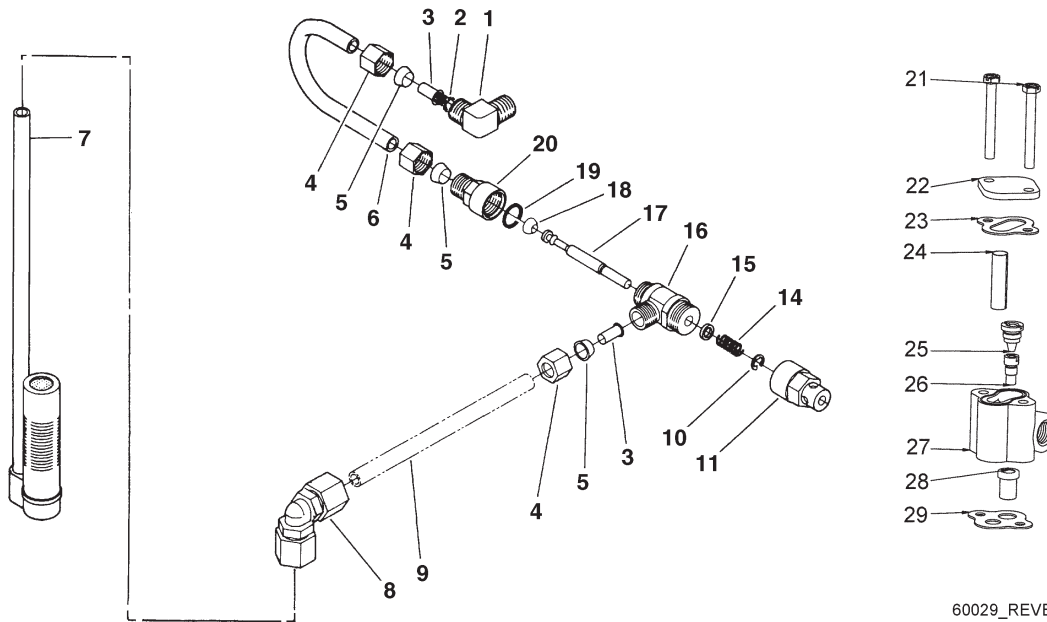
For Service Assembly Numbers, See the Back of this Manual

Control Valve with 1700 Injector

Item No.	Quantity	Part No.	Description
1	1	14749	Valve Body, 2750
2	6	10545	Seal, Piston
3	5	11451	Spacer, 12 Hole
		16589	Spacer, HW
4	1	14451	Piston, 2750
5	1	14452	Rod, Piston
6	1	10234-01	O-Ring, -024, 560CD
7	1	10209	Quad Ring, -010
8	1	10598	End Plug Assembly
		10598-01	End Plug Assembly, Hot Water
9	1	14805	Gasket, Injector Body, 1600/1700
10	1	14802-xxc	Throat, Injector, -xxc is for Injector Size
11	1	17777	Body, Injector, 1700
12	1	14801-xxc	Nozzle, Injector, -xxc is for Injector Size
13	1	14803	Screen, Injector
14	1	10229	Gasket, Injector Cap, 1600
15	1	11893	Cap, Injector, Stainless Steel
		10228	Cap, Injector, Brass
16	2	14804	Screw, Hex Hd Mach, 10-24 x 2-3/4
17	1		Washer - Flow Control (specify size)
18	1	60365-00	Housing, DLFC, 1/2" F x 3/4" F
19	2	11710	O-ring, -215
20	1	11208	O-ring, -232
21	1	12461-01	Adapter Base, 1" 2-1/2" - 8 Quick Connect
22	1	10381	O-ring, -231
23	2	11224	Screw, Hex Hd, 5/16 - 18 x 5/8
24	1	17776	Body, Injector
25	1	10914-xx	Throat, Injector, -xx is for Injector Size
26	1	10913-xx	Nozzle, Injector, -xx is for Injector Size
27	1	10227	Screen, Injector
28	2	10692	Screw, Slot Hex Hd, 10-24 x 18-8 Stainless Steel
29	1	10757	Spacer, End
		10757B	Spacer, End, Brass
30	1	15137	Screw, Hex Wsh Mach, 10-24 x 3/8
Not Shown	1	16221	Disperser, Air, 1600
	1	17996	Disperser, Air, 1700

For Service Assembly Numbers, See the Back of this Manual

1600 Series Brine System Assembly

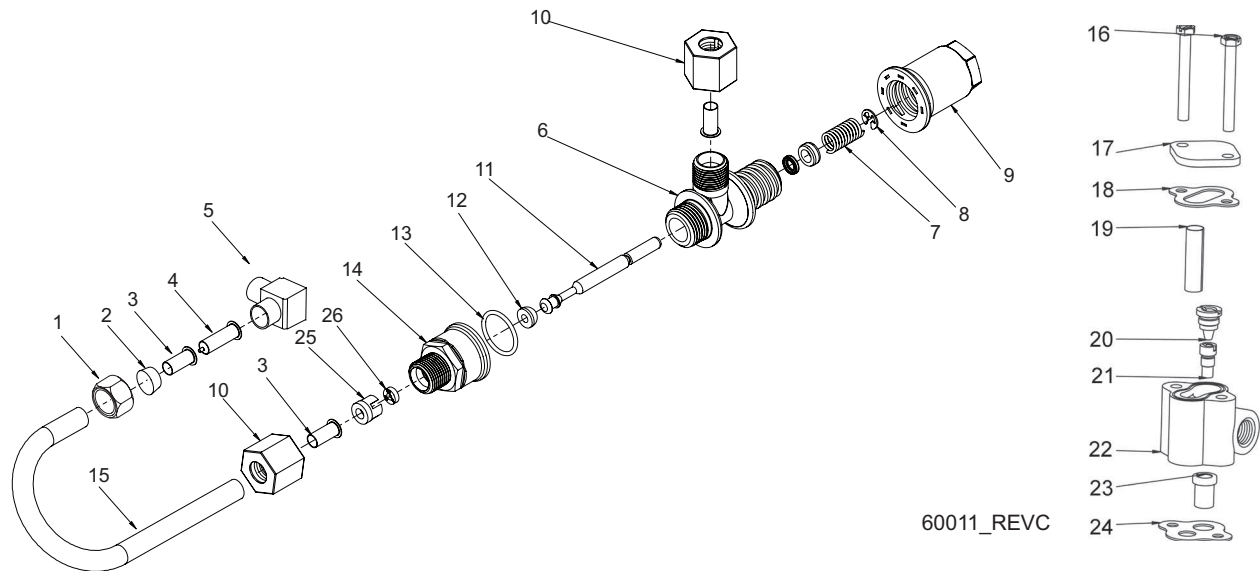


60029_REV B

Item No.	Quantity	Part No.	Description
1	1	10328	Elbow, 90 Deg. 1/4 NPT x 3/8 Tube
2	1	12767	Screen, Brine
3	2	10332	Fitting, Insert, 3/8
4	3	10329	Fitting, Tube, 3/8 Nut, Brass
5	3	10330	Fitting, Sleeve, 3/8 Celcon
6	1	15221	Tube, Brine Valve, Gray
7	1	60002-34	Air Check, #500
		60003-34	Air Check, #500, HW
8	1	12794	Fitting, Elbow, 90 Deg 3/8, White, Poly Tube
9	1	Not Supplied	Brine Line Tube (3/8" Flexible Tube)
10	1	10250	Ring, Retaining
11	1	11749	Guide, Brine Valve Stem
14	1	10249	Spring, Brine Valve
15	1	12550	Quad Ring, -009
16	1	12748	Brine Valve Body Assy, 1600 w/Quad Ring
17	1	12552-02	Brine Valve Stem, 1600, w/Seat
18	1	12626	Seat, Brine Valve
19	1	11982	O-ring, -016
20	1	60020-25	BLFC, .25 GPM, 1600
		60020-50	BLFC, .50 GPM, 1600
		60020-100	BLFC, 1.0 GPM, 1600
21	2	10692	Screw, Slot Hex Hd, 10-24 x 18-8
22	1	11893	Cap, Injector, SS
23	1	10229	Gasket, Injector Cap, 1600
24	1	10227	Screen, Injector
25	1	10913-xx	Nozzle, Injector, -xx is for Injector Size
26	1	10914-xx	Throat, Injector, -xx is for Injector Size
27	1	17776	Body, Injector, 1600
28	1	16221	Dispenser, Air
29	1	14805	Gasket, Injector Body, 1600/1700

For Service Assembly Numbers, See the Back of this Manual

1650 Brine System Assembly

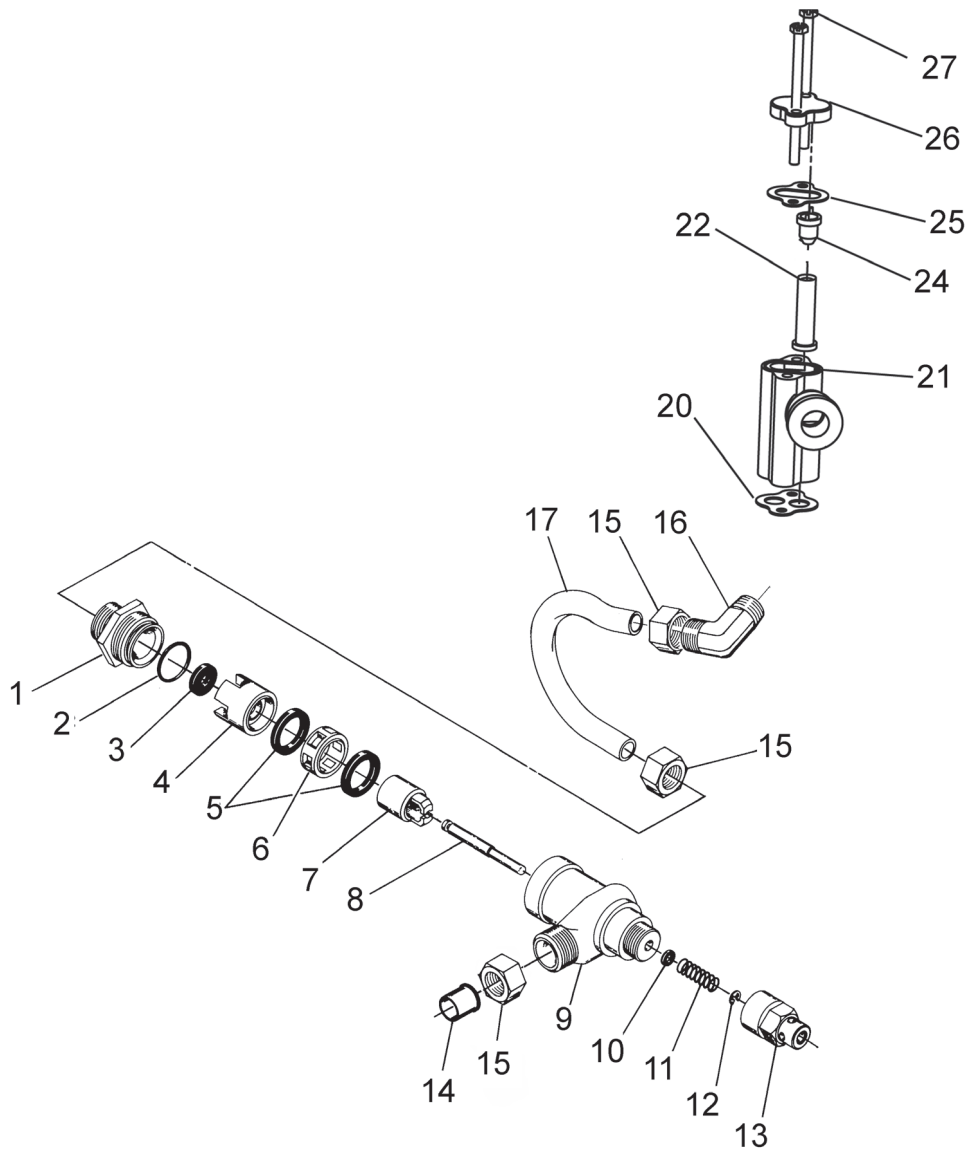


60011_REVC

Item No.	Quantity	Part No.	Description
1	1	10329	Fitting, Tube, 3/8 Nut, Brass
2	1	10330	Fitting, Sleeve, 3/8 Celcon
3	3	10332	Fitting, Insert, 3/8
4	1	12767	Screen, Brine
5	1	10328	Fitting, Elbow, 90 Deg 1/4 NPT x 3/8T
6	1	17884	Brine Valve Body Assy, 1650
7	1	10249	Spring, Brine Valve
8	1	10250	Ring, Retaining
9	1	17906	Guide, Brine Valve Stem
10	2	19625	Nut Assy, 3/8", Plastic
11	1	12552-02	Brine Valve Stem, 1600, with Seat
12	1	12626	Seat, Brine Valve
13	1	16924	O-Ring, -018
14	1	60010-25	BLFC, 1650, .25 GPM, Plastic
	1	60010-50	BLFC, 1650, .50 GPM, Plastic
	1	60010-100	BLFC, 1650, 1.0 GPM, Plastic
15	1	16508-01	Tube, Brine Valve, 2850/1600
	1	40027	Tube, Brine Valve, 2510
	1	42184	Tube, Brine Valve, 2850s
	1	12774	Tube, Brine Valve, 1500
	1	15221	Tube, Brine Valve, 2750
	1	41683*	Tube, Brine Valve, UF, 1600/1650
16	2	10692	Screw, Slot Hex Hd, 10 - 24X 18-8 Stainless Steel
17	1	11893	Cap, Injector, SS
18	1	10229	Gasket, Injector Cap, 1600
19	1	10227	Screen, Injector
20	1	10913-xx	Nozzle, Injector, -xx is for Injector Size
21	1	10914-xx	Throat, Injector, -xx is for Injector Size
22	1	17776	Body, Injector, 1600
	1	17776-02*	Body, Injector, 1600 Upflow
23	1	16221	Disperser, Air
24	1	14805	Gasket, Injector Body, 1600/1700
25	1	12098	Retainer, Flow Control
26	1	12094	Washer, Flow, .25 gpm
	1	12095	Washer, Flow, .50 gpm
	1	12097	Washer, Flow, 1.00 gpm

*Upflow Only

1700 Series Brine System Assembly



For Service Assembly Numbers, See the Back of this Manual

1700 Series Brine System Assembly

Item No.	Quantity	Part No.	Description
1	1	14792	Plug, End, Brine Valve
2	1	13201	Quad Ring, -020
3	1	12085	Washer, Flow, 1.2 GPM
	1	12086	Washer, Flow, 1.5 GPM
	1	12087	Washer, Flow, 2.0 GPM
	1	12088	Washer, Flow, 2.4 GPM
	1	12089	Washer, Flow, 3.0 GPM
	1	12090	Washer, Flow, 3.5 GPM
	1	12091	Washer, Flow, 4.0 GPM
	1	12092	Washer, Flow, 5.0 GPM
4	1	14785	Retainer, Flow Control
5	3	14811	O-ring, -210, 560CD, Brine
6	1	14798	Spacer, 1700, Brine
7	1	14795	Piston, Brine Valve
8	1	14797	Brine Valve Stem
9	1	14790	Brine Valve Body
10	1	12550	Quad Ring, -009
11	1	15310	Spring, Brine Valve
12	1	10250	Retaining Ring
13	1	15517	Guide, Stem
14	1	15415	Fitting, Insert, 1/2", Tube
15	2	15414	Nut, 2900, w/Sleeve
16	1	15413	Fitting, Elbow, Male, 1/2T x 3/8 NPT
17	1	15416	Tube, Brine, 2900/2750
	1	16460	Tube, Brine, 2850/2900s
	1	41447*	Tube, Brine, 2900s, U/F
	1	42183	Tube, Brine, 1700, 2850s
20	1	14805	Gasket, Injector Body, 1600/1700
21	1	17777	Body, Injector, 1700
	1	17777-02*	Body, Injector, 1700 U/F
22	1	14802-xxc	Throat, Injector, -xxc is for Injector Size
24		14801-xxc	Nozzle, Injection, -xxc is for Injector Size
25	1	10229	Gasket, Injector Cap, 1600
26	1	11893	Cap, Injector, Stainless Steel
	1	10228	Cap, Injector
27	2	14804	Screw, Hex Hd Mach, 10 - 24 x 2 3/4" 18-8 Stainless Steel

Not Shown:

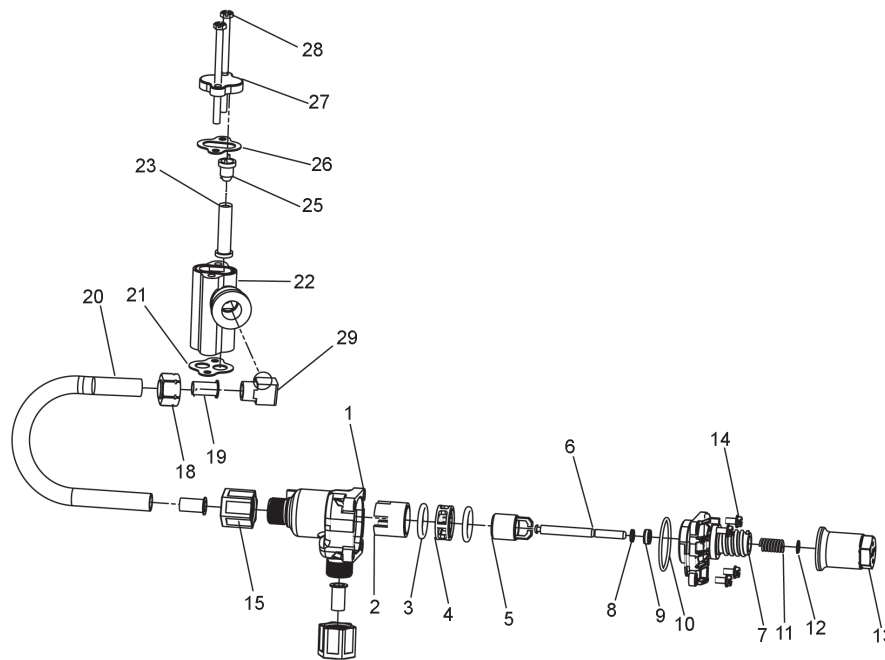
	1	16974	Fitting, Plastic, Female, 3/4 x 3/4 Slip
	1	17996	Dispenser, Air, Injector

*Upflow Only

NOTE: Item number 26 (11893) is used on injector sizes 2 through 5C. Part number 10228 is used on injector sizes 6C.

For Service Assembly Numbers, See the Back of this Manual

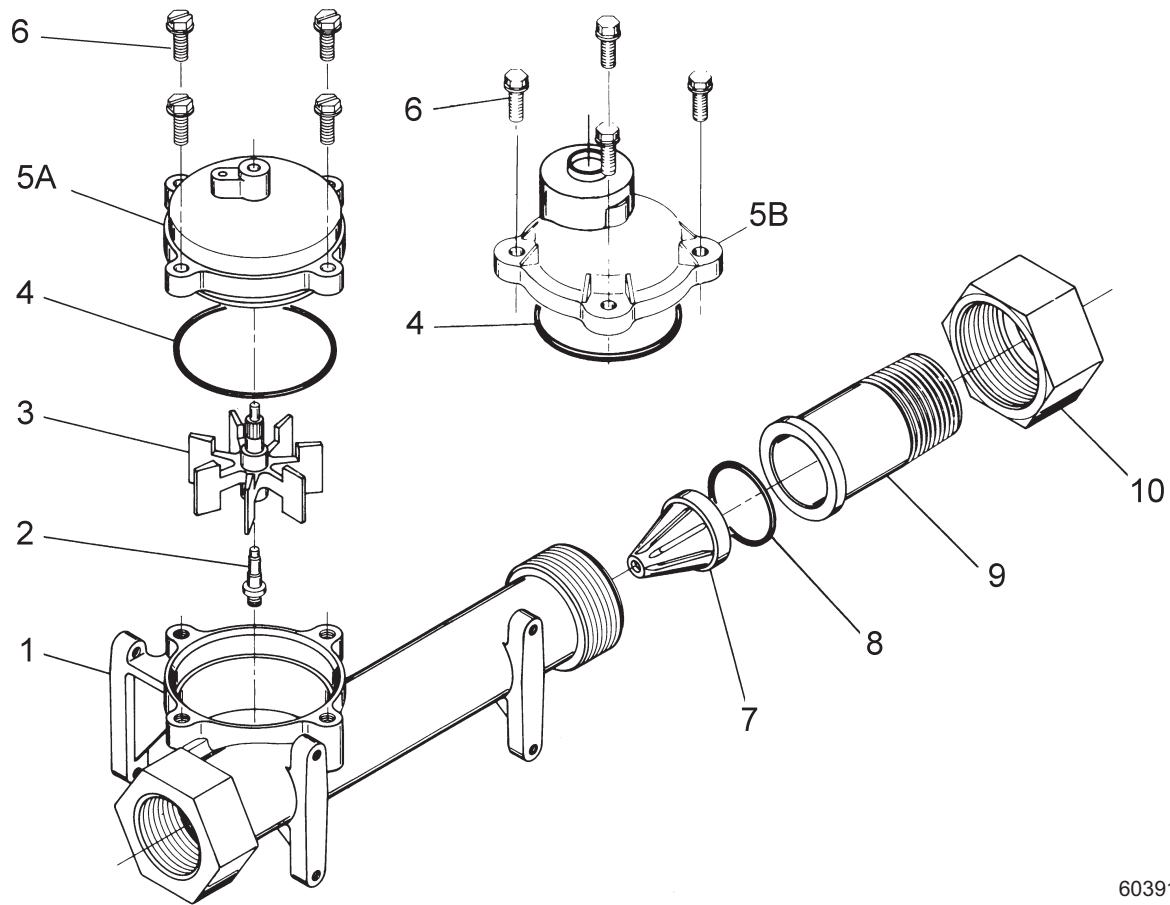
1710 Brine System Assembly



60604_REV F

Item No.	Quantity	Part No.	Description
1	1	41202	Brine Valve, 1700, Plastic, Top
2	1	14785-01	Retainer, Flow Control
3	1	14811	O-Ring, -210, 560CD, Brine
4	1	14798	Spacer, 1700, Brine
5	1	14795	Piston, Brine Valve
6	1	41203	Stem, Brine, 1710, Plastic, 2900
7	1	41201	Brine Valve, 1700, Plastic, Bottom
8	5	17908	Sleeve, Brine Valve Stem
9	1	12550	Quad Ring, -009
10	3	41547	O-Ring, 2mmx35mm
11	2	15310	Spring, Brine Valve
12	2	10250	Ring, Retaining
13	1	17906	Guide, Brine Valve Stem
14	2	14202-01	Screw, Hex Wsh Mach, 8-32 X 5/16
15	2	41056	Nut Assembly, 1/2" Plastic
18	1	15414	Nut, 2900, w/Sleeve
19	1	15415	Fitting, Insert, 1/2", Tube
20	1	16460	Tube, Brine, 2850, 2900s
	1	42183	Tube, Brine, 1700/2850s
	1	15416	Tube, Brine, 2900/2750
	1	41447*	Tube, Brine, 2900s U/F
21	1	19925	Gasket, Injector Body, 1700
22	1	17777	Body, Injector, 1700
23	1	14802-xxc	Throat, Injector, -xxc is for Injector Size
25	1	14801-xxc	Nozzle, Injector, -xxc is for Injector Size
26	1	10229	Gasket, Injector Cap, 1600
27	1	10228	Cap, Injector
28	2	14804	Screw, Hex Head Mach, 10 - 24 x 2 3/4
29	1	15413	Fitting, Elbow, Male, 1/2T X 3/8NPT
Not Shown	1	19151	Washer, Flow, 1.0 gpm
	1	17996	Dispenser, Air, Injector
	1	414193-00	Label, Blank, BLFC, 1710

1" Meter Assembly

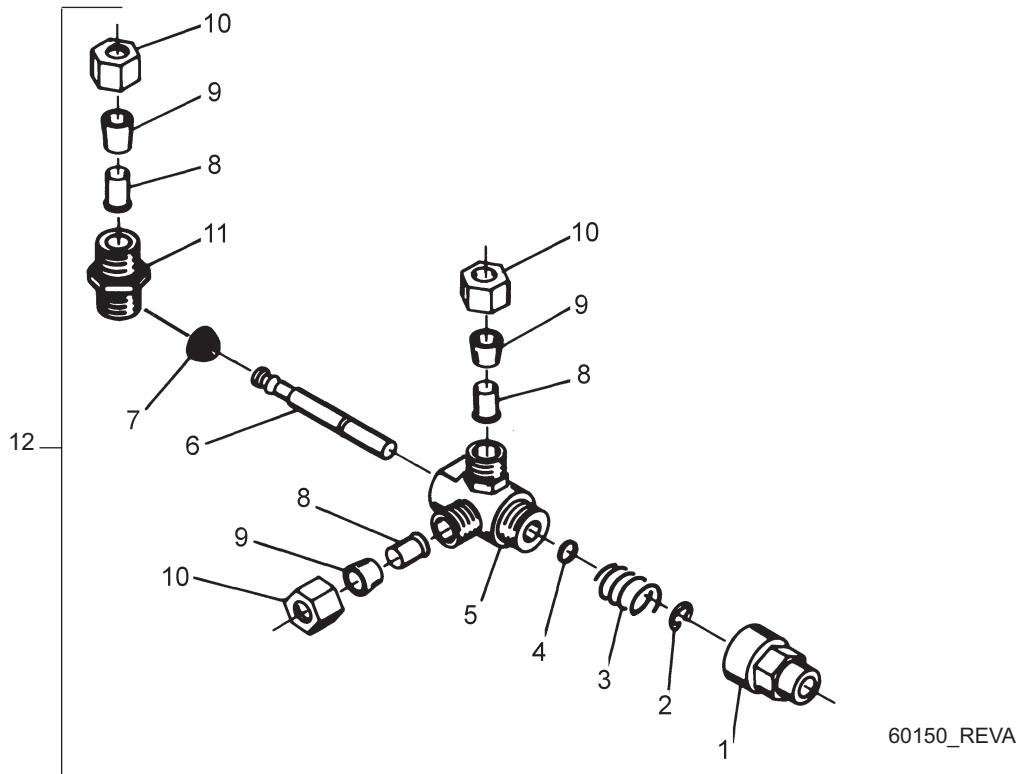


60391REVD

Item No.	Quantity	Part No.	Description
1	1	14959	Body, Meter, 2750
2	1	13882	Post, Meter Impeller
3	1	13509	Impeller, Meter
4	1	13847	O-ring, -137, Std/560CD, Meter
5A	1	15218	Meter Cap Assembly, Brass, Hot Water
5B	1	15237	Meter Cap Assembly, Ext, Brass, Hot Water
6	4	12112	Screw, Hex Hd Mach, 10-24 x 1/2
7	1	14960	Flow Straightener, 1"
8	1	13287	O-ring, -123
9	1	14961	Fitting, 1" Quick Connect
10	1	14962	Nut, 1" Meter, Quick Connect
Not Shown	1	15308	Fitting, Coupling, 1", Brass
	1	14038	Meter Cap Assembly, Std, Plastic
	1	15150	Meter Cap Assembly, Ext, Plastic

For Service Assembly Numbers, See the Back of this Manual

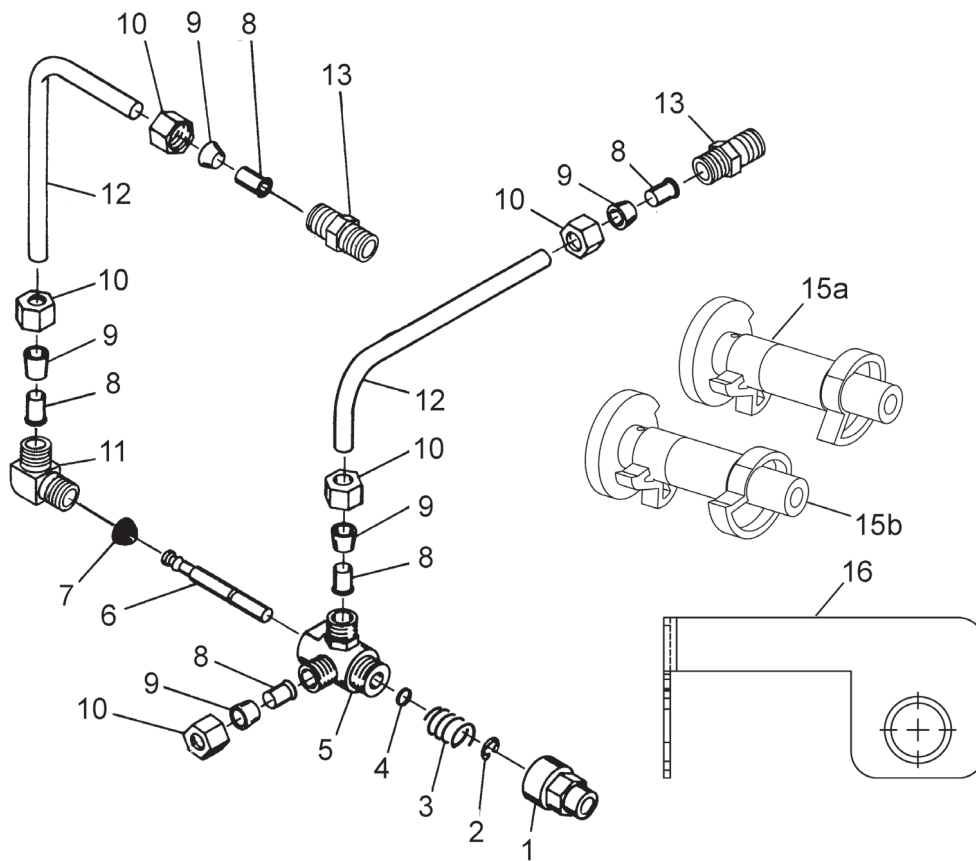
1600 Service Valve Operator (Old Style)



Item No.	Quantity	Part No.	Description
1	1	11749	Guide, Brine Valve Stem
2	1	10250	Ring, Retaining
3	1	10249	Spring, Brine Valve
4	1	12550	Quad Ring, -009
5	1	10785	Service Valve Operator Body Assembly Brass Valves
6	1	12552	Brine Valve Stem, 1600
7	1	12626	Seat, Brine Valve
8	3	10332	Fitting, Insert, 3/8
9	3	10330	Fitting, Sleeve, 3/8 Celcon
10	3	10329	Fitting, Tube, 3/8 Nut, Brass
11	1	10331	Fitting, Compression, 1/4" x 3/8"
12	1	60150	Service Valve Assembly, Old Style

For Service Assembly Numbers, See the Back of this Manual

1600 Service Valve Operator (New Style)

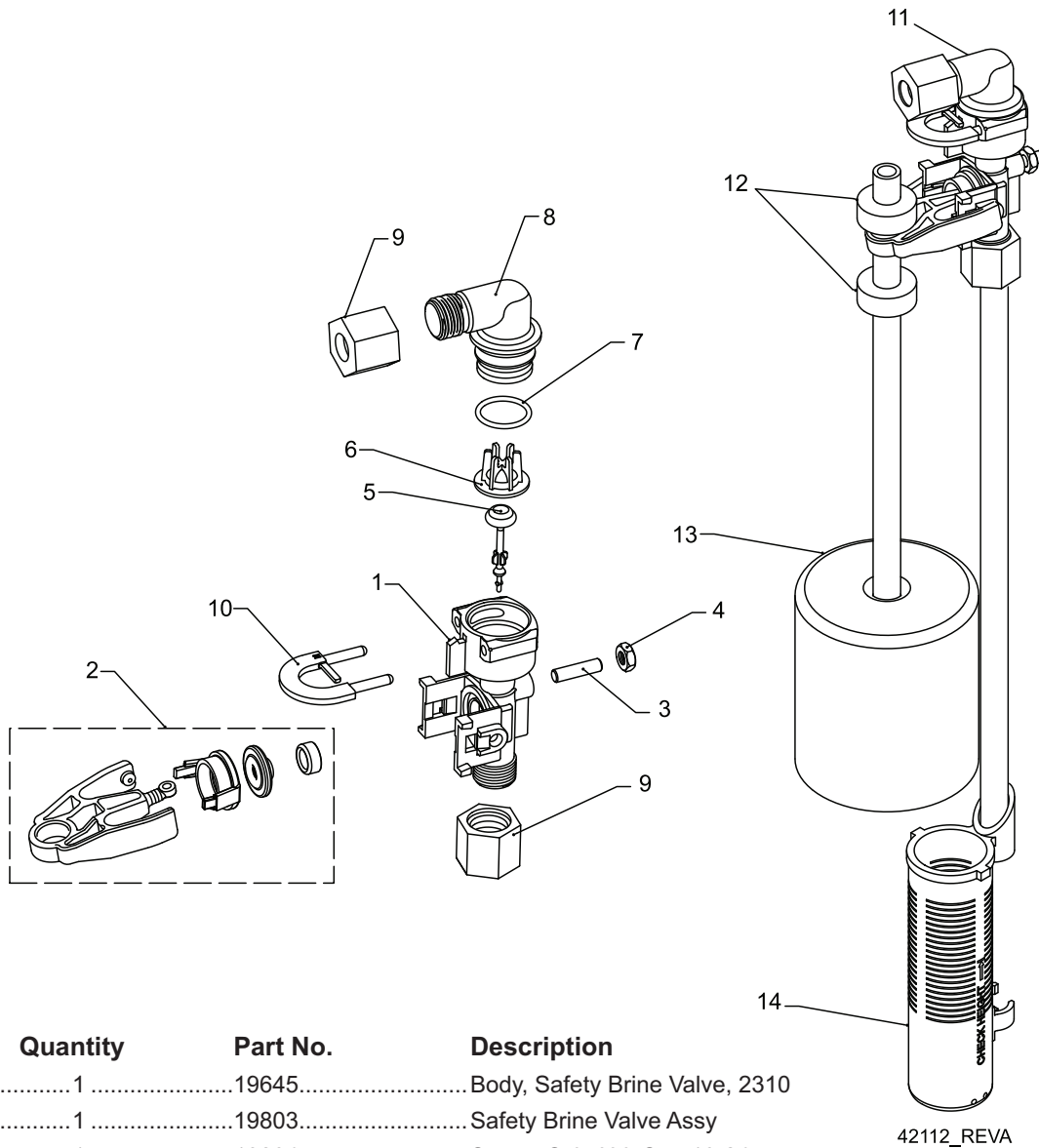


60150REVA

Item No.	Quantity	Part No.	Description
1	1	11749	Guide, Brine Valve Stem
2	1	10250	Ring, Retaining
3	1	10249	Spring, Brine Valve
4	1	12550	Quad Ring, -009
5	2	10785	SVO Body Assy Brass Valves
6	1	12552	Brine Valve Stem, 1600
7	1	12626	Seat, Brine Valve
8	5	10332	Fitting, Insert, 3/8
9	5	10330	Fitting, Sleeve, 3/8" Celcon
10	5	10329	Fitting, Tube, 3/8 Nut, Brass
11	1	10328	Fitting, Elbow, 90 Deg 1/4 NPT x 3/8 Tube
12	2	12897	Tube, Fitting, 3/8 x 9 3/4
13	1	16730	Fitting, Male, 1/4 x 1
14	2	15415	Fitting, Insert, 1/2" Tube
15a	1	12472	Cam Assy, Tri-Stack, After RR
15b	1	15770	Cam Assy, Special Tri-Stack After Brine Fill
16	1	12114	Bracket, Motor Outboard, Coated
17	1	60150-01	Service Valve Operator Assy, 1600, New Style, Item Nos 1-11

For Service Assembly Numbers, See the Back of this Manual

2310 Safety Brine Valve



Item No.	Quantity	Part No.	Description
1.....	1	19645.....	Body, Safety Brine Valve, 2310
2.....	1	19803.....	Safety Brine Valve Assy
3.....	1	19804.....	Screw, Sckt Hd, Set, 10-24 x .75
4.....	1	19805.....	Nut, Hex, 10-24, Nylon Black
5.....	1	19652-01	Poppet Assy, SBV w/O-Ring
6.....	1	19649.....	Flow Dispenser
7.....	1	11183	O-ring, -017
8.....	1	19647.....	Elbow, Safety Brine Valve
9.....	2	19625.....	Nut Assy, 3/8" Plastic
10.....	1	18312.....	Retainer, Drain
11.....	1	60014.....	Safety Brine Valve Assy, 2310
12.....	2	10150.....	Grommet, .30 Dia
13.....	1	60068-30	Float Assy, 2310, w/30" Rod
14.....	1	60002-34	Air Check, #500

For Service Assembly Numbers, See the Back of this Manual

Troubleshooting

Problem	Cause	Correction
1. Water conditioner fails to regenerate.	A. Electrical service to unit has been interrupted	A. Assure permanent electrical service (check fuse, plug, pull chain, or switch)
	B. Timer is defective.	B. Replace timer.
	C. Power failure.	C. Reset time of day.
2. Hard water.	A. By-pass valve is open.	A. Close by-pass valve.
	B. No salt is in brine tank.	B. Add salt to brine tank and maintain salt level above water level.
	C. Injector screen plugged.	C. Clean injector screen.
	D. Insufficient water flowing into brine tank.	D. Check brine tank fill time and clean brine line flow control if plugged.
	E. Hot water tank hardness.	E. Repeated flushings of the hot water tank is required.
	F. Leak at distributor tube.	F. Make sure distributor tube is not cracked. Check O-ring and tube pilot.
	G. Internal valve leak.	G. Replace seals and spacers and/or piston.
3. Unit used too much salt.	A. Improper salt setting.	A. Check salt usage and salt setting.
	B. Excessive water in brine tank.	B. See problem 7.
4. Loss of water pressure.	A. Iron buildup in line to water conditioner.	A. Clean line to water conditioner.
	B. Iron buildup in water conditioner.	B. Clean control and add mineral cleaner to mineral bed. Increase frequency of regeneration.
	C. Inlet of control plugged due to foreign material broken loose from pipes by recent work done on plumbing system.	C. Remove piston and clean control.
5. Loss of mineral through drain line.	A. Air in water system.	A. Assure that well system has proper air eliminator control. Check for dry well condition.
	B. Improperly sized drain line flow control.	B. Check for proper drain rate.
6. Iron in conditioned water.	A. Fouled mineral bed.	A. Check backwash, brine draw, and brine tank fill. Increase frequency of regeneration. Increase backwash time.
7. Excessive water in brine tank.	A. Plugged drain line flow control.	A. Clean flow control.
	B. Plugged injector system.	B. Clean injector and screen.
	C. Timer not cycling.	C. Replace timer.
	D. Foreign material in brine valve.	D. Replace brine valve seat and clean valve.
	E. Foreign material in brine line flow control.	E. Clean brine line flow control.

Problem	Cause	Correction
8. Softener fails to draw brine.	A. Drain line flow control is plugged.	A. Clean drain line flow control.
	B. Injector is plugged.	B. Clean injector
	C. Injector screen plugged.	C. Clean screen.
	D. Line pressure is too low.	D. Increase line pressure to 20 psi.
	E. Internal control leak	E. Change seals, spacers, and piston assembly.
	F. Service adapter did not cycle.	F. Check drive motor and switches.
9. Control cycles continuously.	A. Misadjusted, broken, or shorted switch.	A. Determine if switch or timer is faulty and replace it, or replace complete power head.
10. Drain flows continuously.	A. Valve is not programming correctly.	A. Check timer program and positioning of control. Replace power head assembly if not positioning properly.
	B. Foreign material in control.	B. Remove power head assembly and inspect bore. Remove foreign material and check control in various regeneration positions.
	C. Internal control leak.	C. Replace seals and piston assembly.

General Service Hints For Meter Control

Problem: Softener delivers hard water

Reason: Reserve capacity has been exceeded.

Correction: Check salt dosage requirements and reset program wheel to provide additional reserve.

Reason: Program wheel is not rotating with meter output.

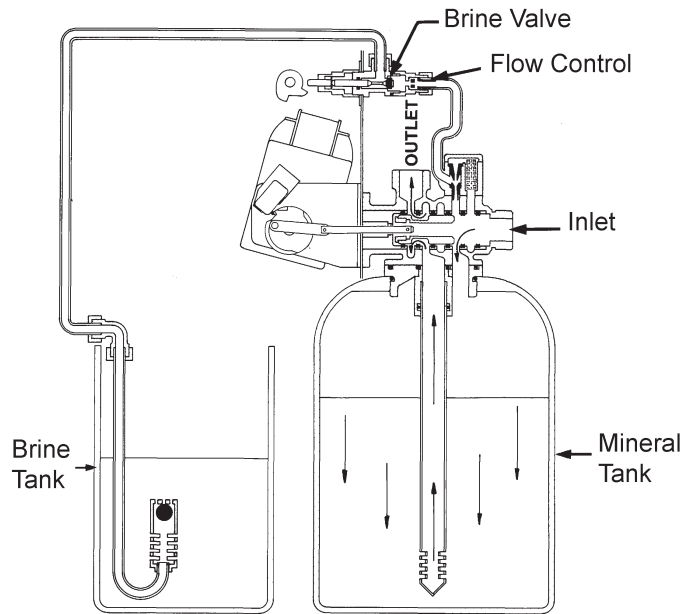
Correction: Pull cable out of meter cover and rotate manually. Program wheel must move without binding and clutch must give positive clicks when program wheel strikes regeneration stop. If it does not, replace timer.

Reason: Meter is not measuring flow.

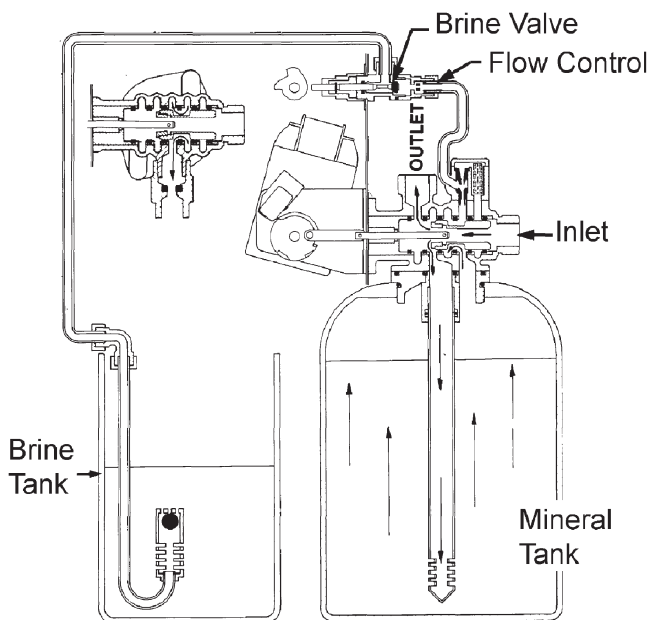
Correction: Check meter with meter checker.

Water Conditioner Flow Diagrams

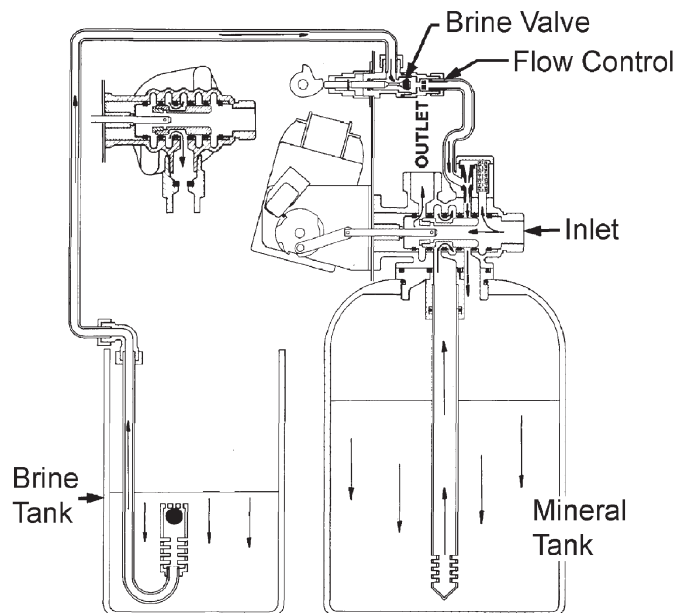
1 Service Position



2 Backwash Position

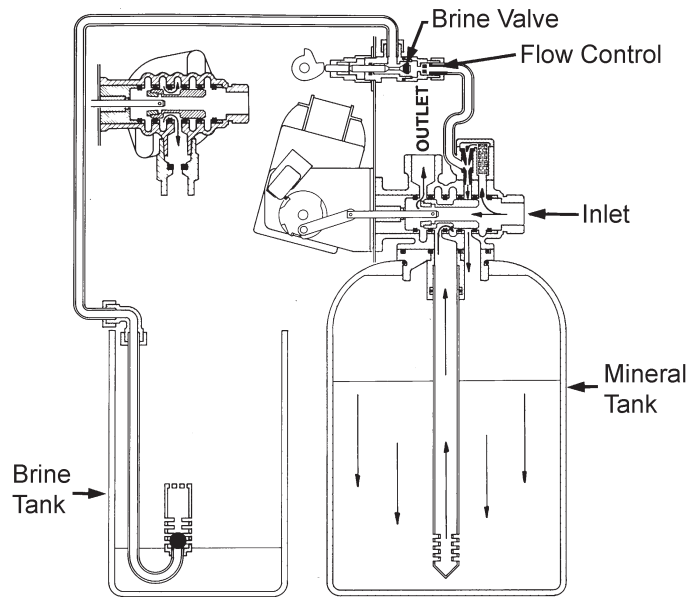


3 Brine Position

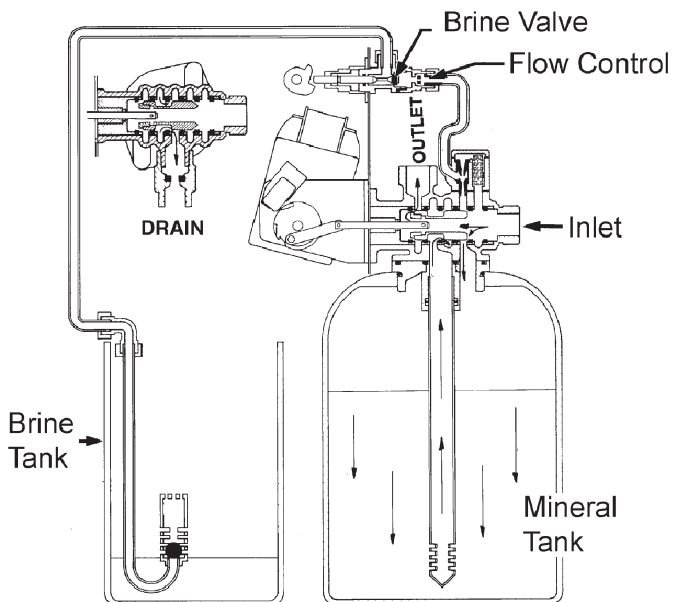


Water Conditioner Flow Diagrams

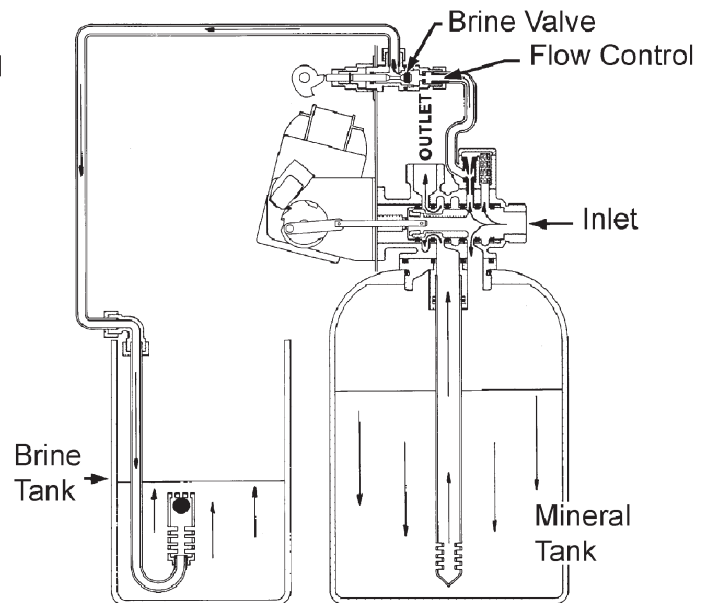
4 Slow Rinse Position



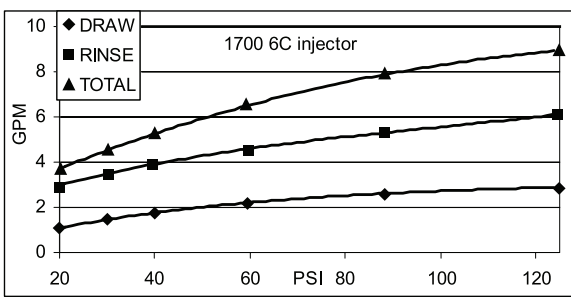
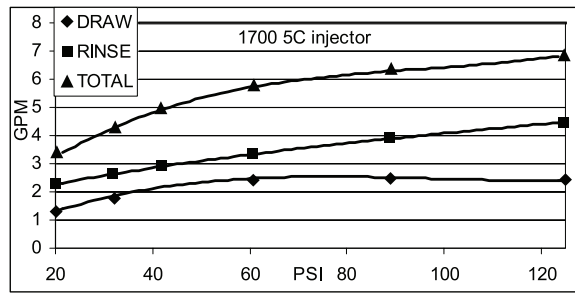
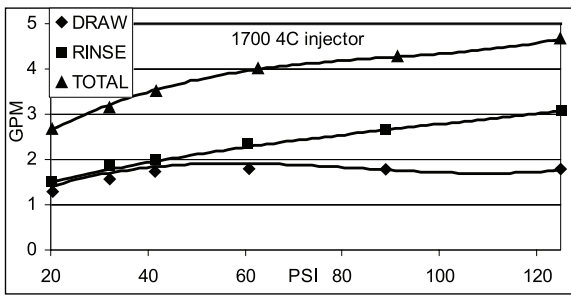
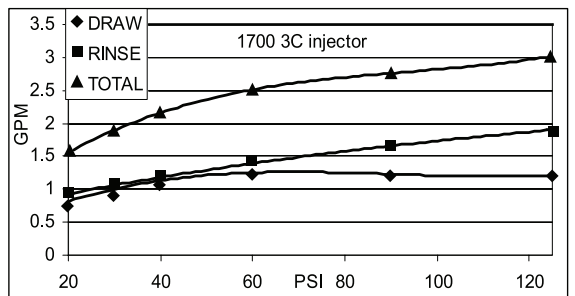
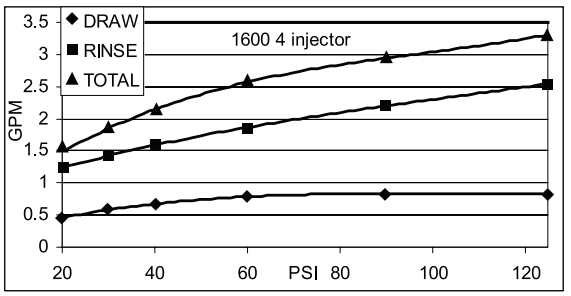
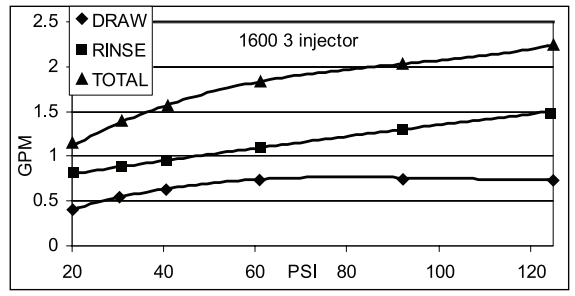
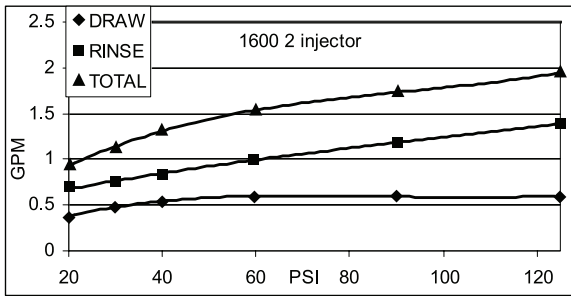
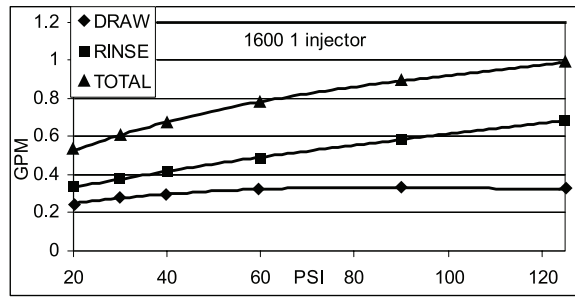
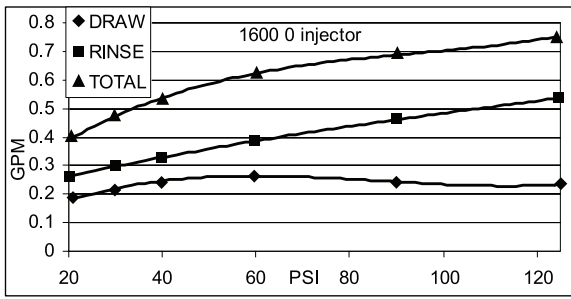
5 Rapid Rinse



6 Brine Tank Fill Position

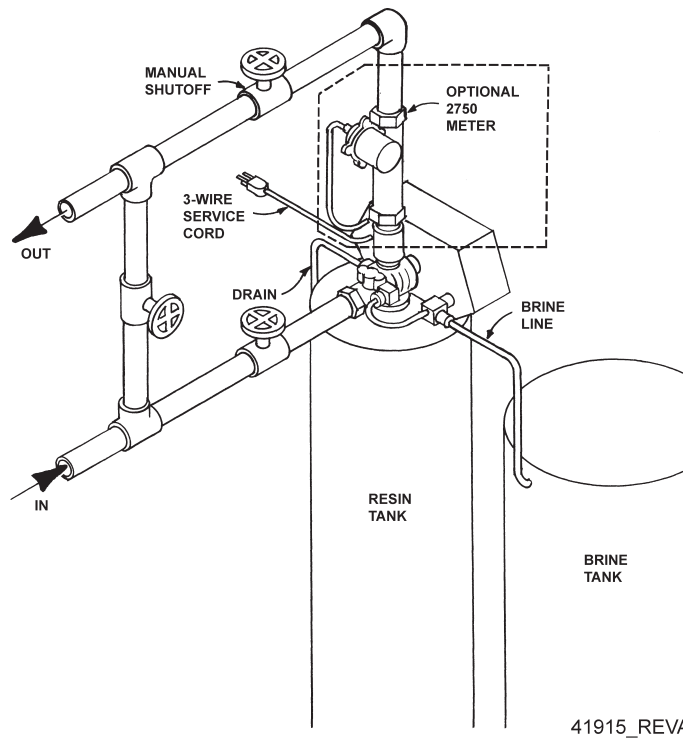


Flow Data & Injector Draw Rates

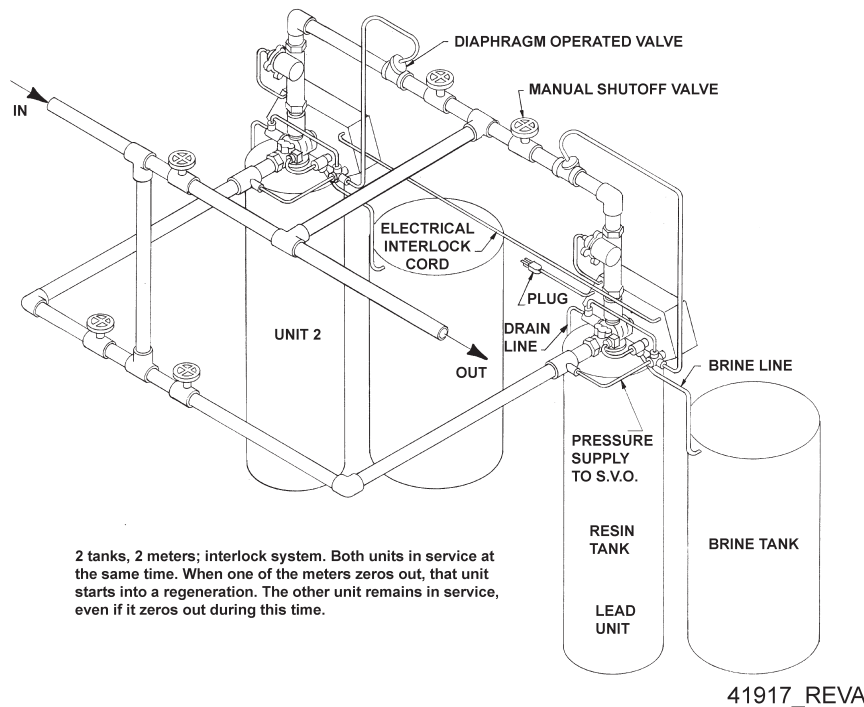


TR20391_REVA

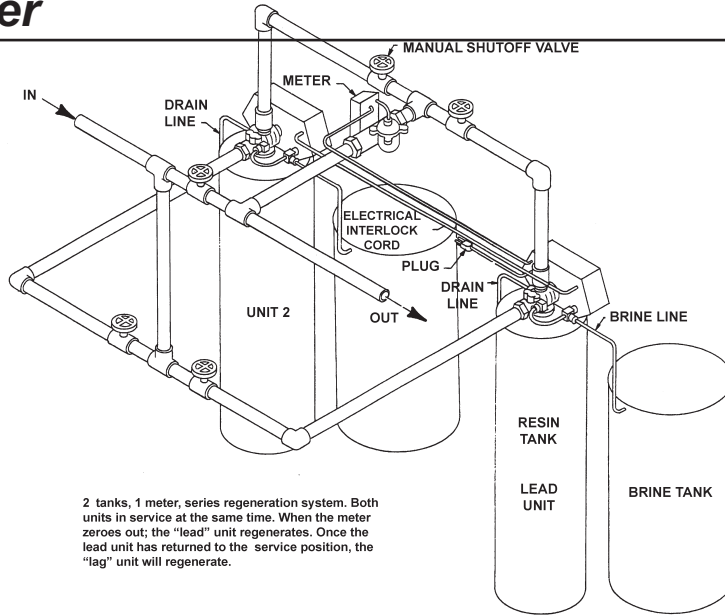
System #4 Typical Tank Installation with Optional Meter



System #5 Interlock - Typical Twin Tank Installation with Optional 2 Meter Interlock and No Hard Water Bypass



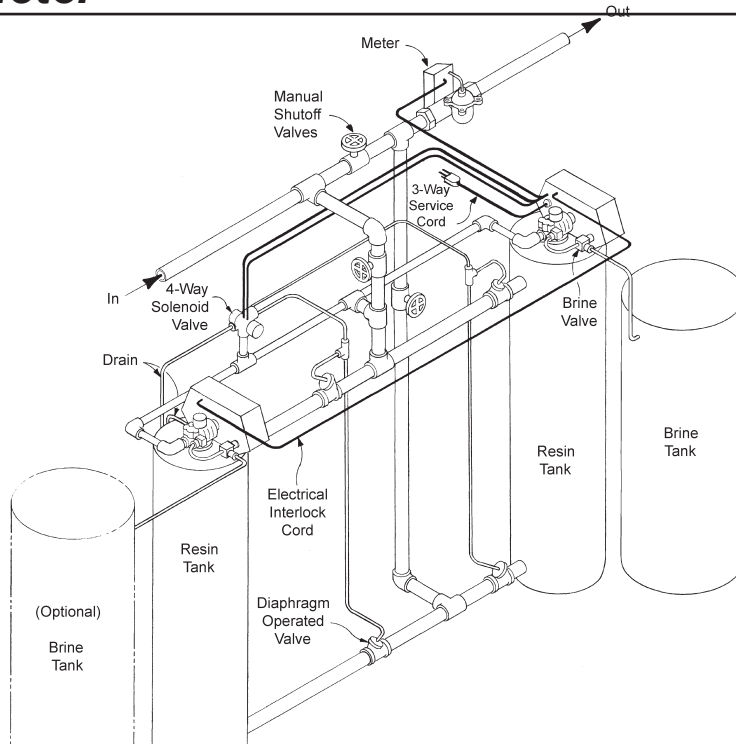
System #6 Twin Series Regeneration Installation with a Remote Meter



2 tanks, 1 meter, series regeneration system. Both units in service at the same time. When the meter zeroes out; the "lead" unit regenerates. Once the lead unit has returned to the service position, the "lag" unit will regenerate.

41916_REVA

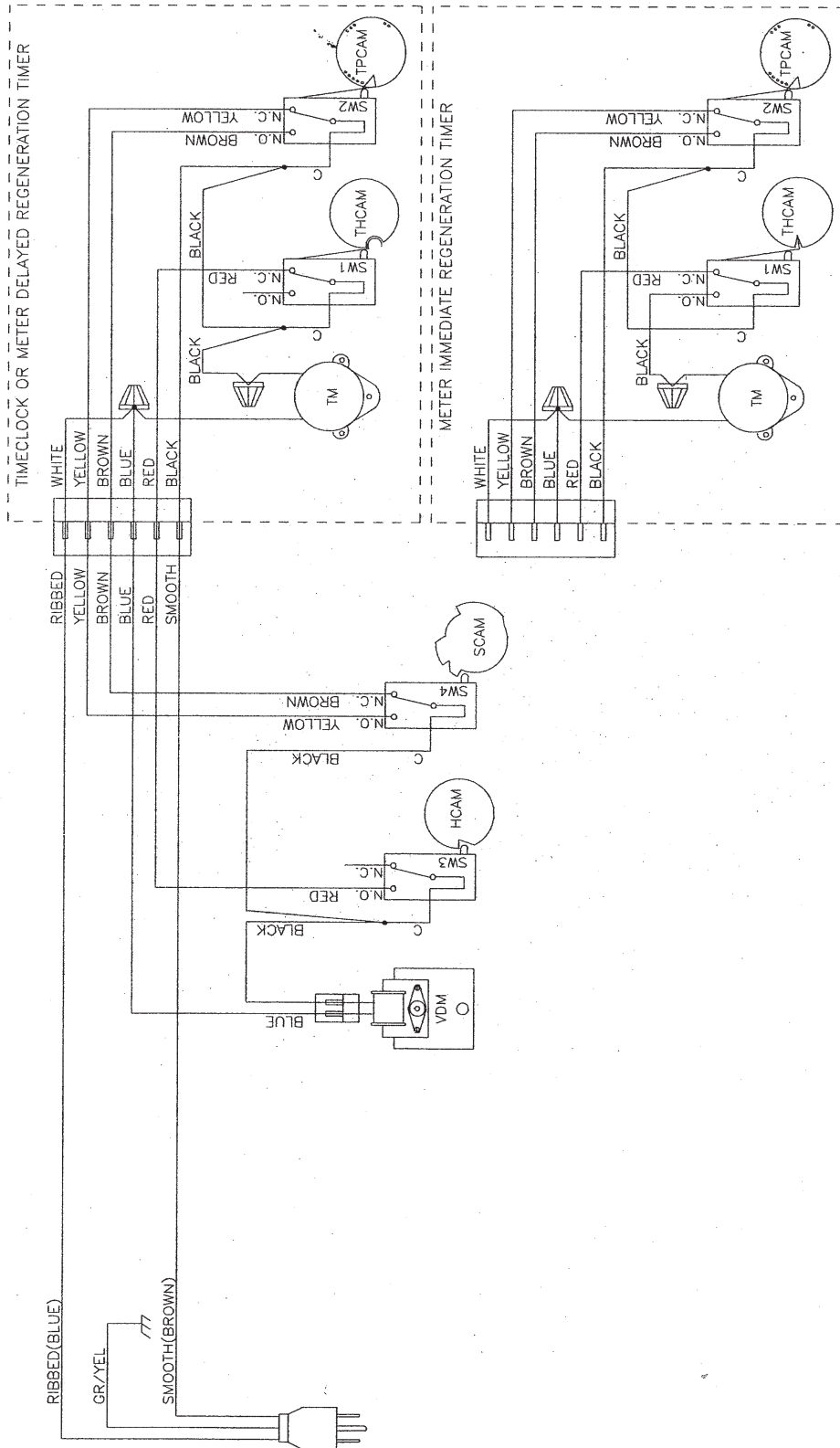
System #7 - Twin Alternator Installation with a Remote Meter



2 tanks, 1 meter; alternator system. One unit in service, the other is on standby. When the meter zeroes out the unit in service goes into a regeneration cycle, the standby unit, goes into service.

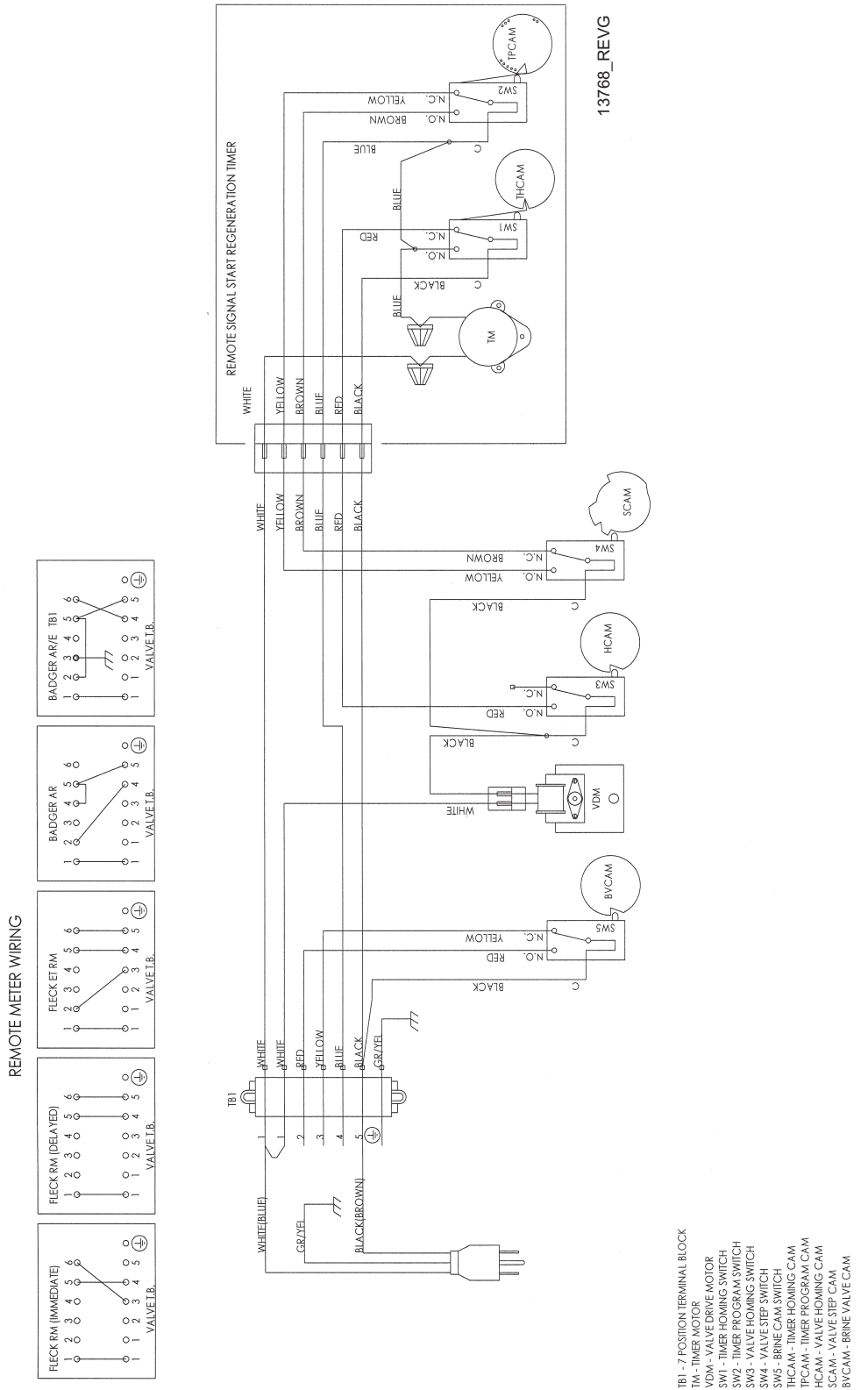
41918_REVA

System #4 Immediate & Delayed Valve Wiring



19201_REV B

System #4 Remote Signal Start Valve Wiring



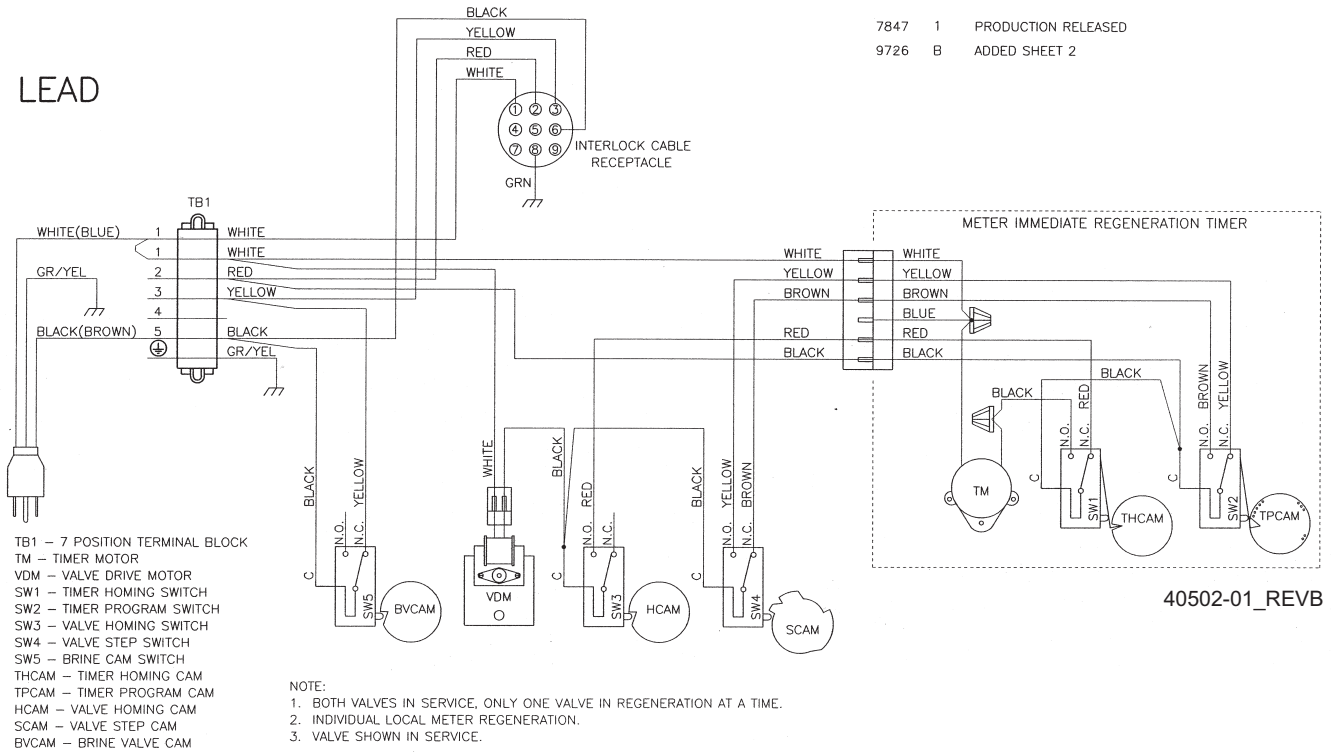
NOTE:

- SINGLE TANK REMOTE METER INITIATED DELAYED, OR IMMEDIATE REGENERATION.
- WITH 24V VALVES THE POWER CORD IS REPLACED WITH BLUE AND WHITE WIRES (WIRE BLUE TO TB1 #5, WHITE TO TB1 #1).
- VALVE SHOWN IN SERVICE POSITION.

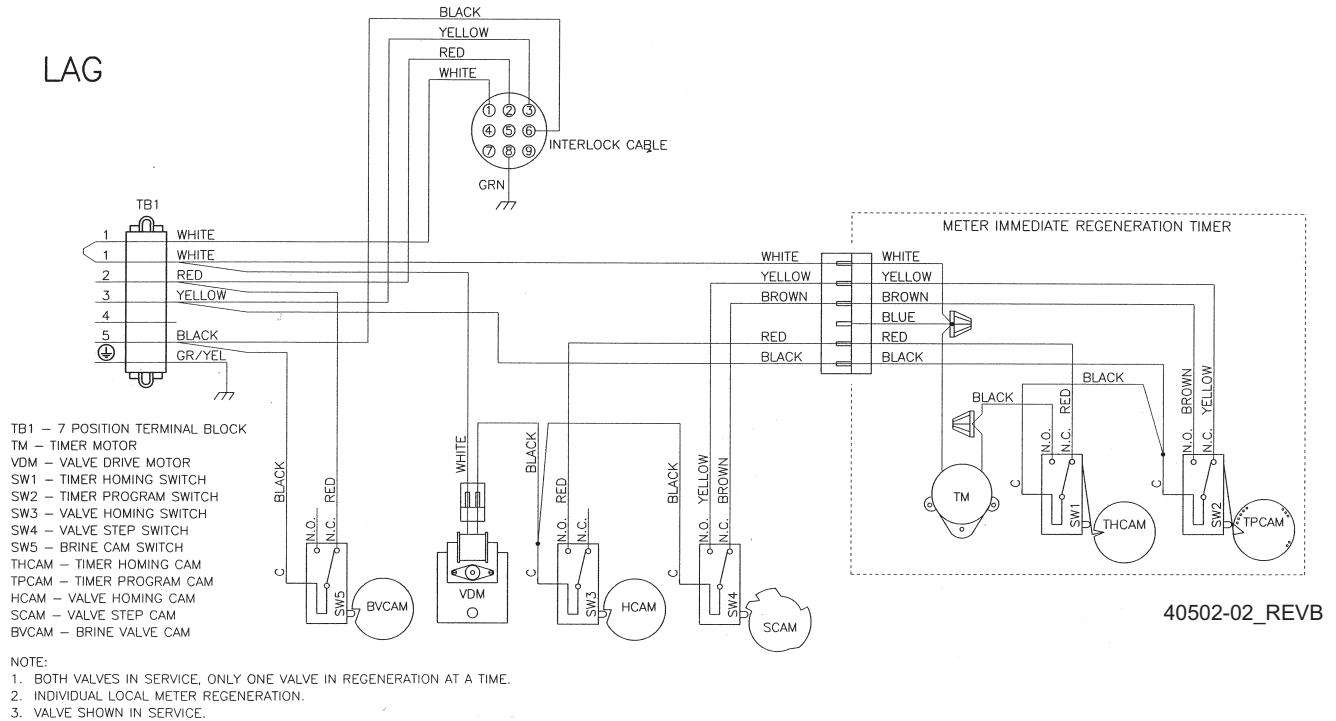
System #5 Duplex Valve Wiring

7847 1 PRODUCTION RELEASED
9726 B ADDED SHEET 2

LEAD

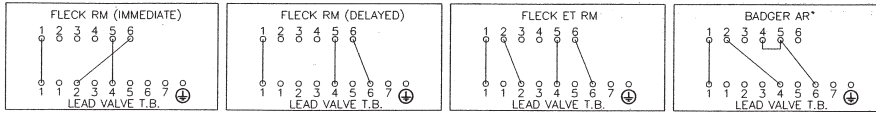


LAG

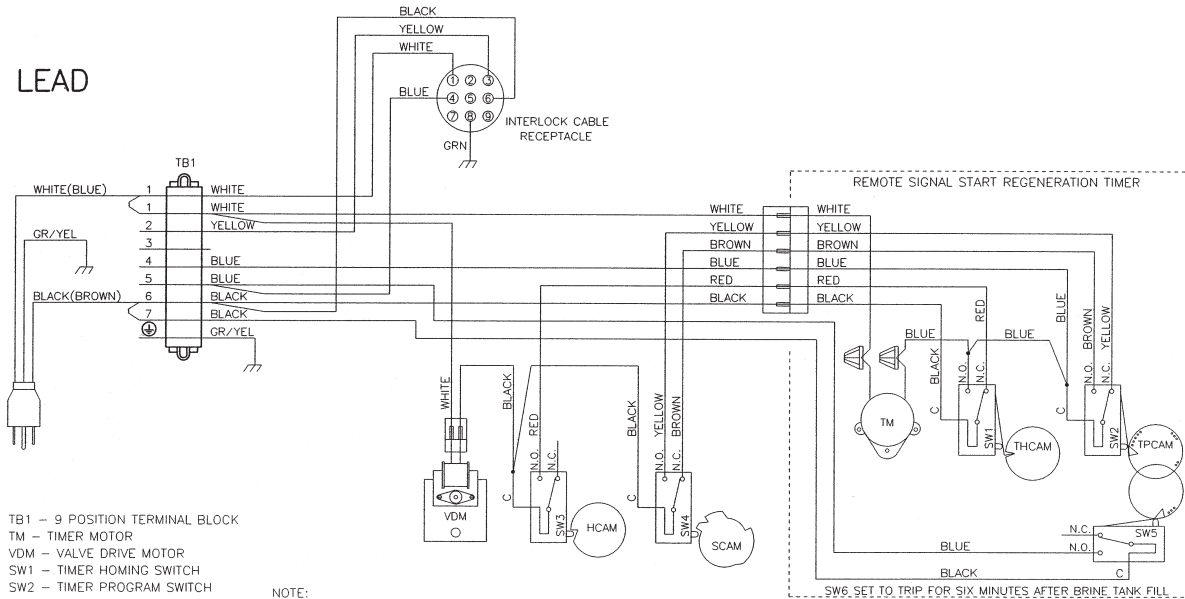


System #6 Duplex Valve Wiring

REMOTE METER WIRING



LEAD

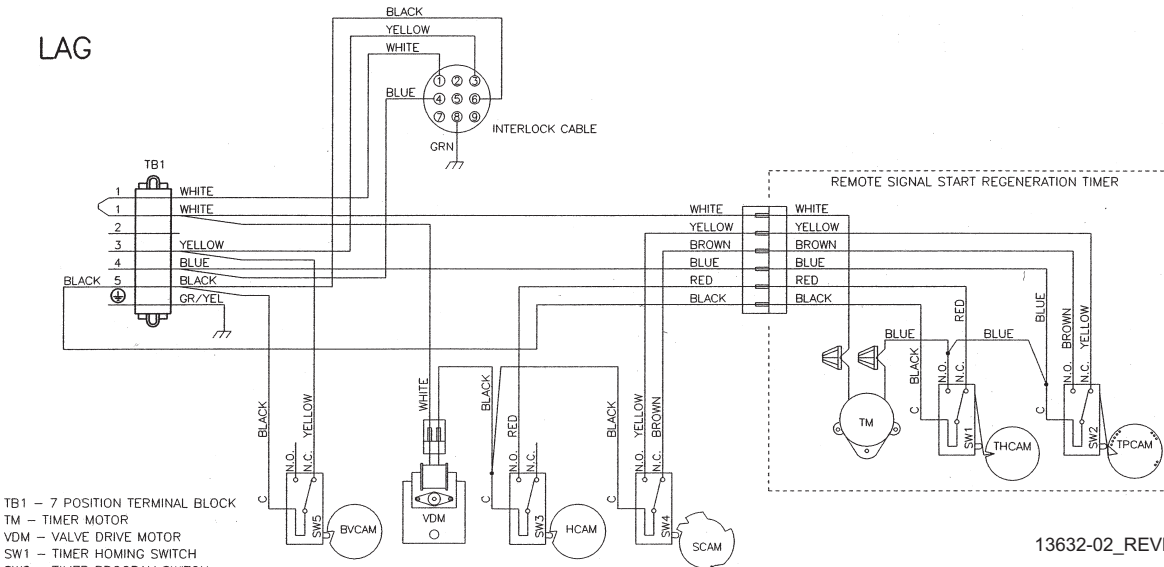


- TB1 - 9 POSITION TERMINAL BLOCK
 TM - TIMER MOTOR
 VDM - VALVE DRIVE MOTOR
 SW1 - TIMER HOMING SWITCH
 SW2 - TIMER PROGRAM SWITCH
 SW3 - VALVE HOMING SWITCH
 SW4 - VALVE STEP SWITCH
 SW5 - AUXILIARY TIMER SWITCH
 THCAM - TIMER HOMING CAM
 TPCAM - TIMER PROGRAM CAM
 HCAM - VALVE HOMING CAM
 SCAM - VALVE STEP CAM

- NOTE:
 1. TWO TANK INTERLOCKED, SINGLE REMOTE METER, SERIES REGENERATION.
 2. BOTH TANKS NORMALLY IN SERVICE.
 3. ONLY ONE TANK IN REGENERATION, THE OTHER REMAINS IN SERVICE.
 4. LEAD VALVE REGENERATES FIRST, FOLLOWED IMMEDIATELY BY LAG VALVE.
 5. WITH 24V VALVES THE POWER CORD IS REPLACED WITH BLUE AND WHITE WIRES (WIRE BLUE TO TB1 #6, WHITE TO TB1 #1).
 6. VALVE SHOWN IN SERVICE POSITION.

13632-01_REVK

LAG



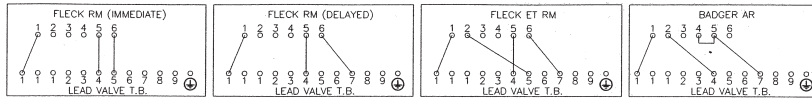
- TB1 - 7 POSITION TERMINAL BLOCK
 TM - TIMER MOTOR
 VDM - VALVE DRIVE MOTOR
 SW1 - TIMER HOMING SWITCH
 SW2 - TIMER PROGRAM SWITCH
 SW3 - VALVE HOMING SWITCH
 SW4 - VALVE STEP SWITCH
 SW5 - BRINE CAM SWITCH
 THCAM - TIMER HOMING CAM
 TPCAM - TIMER PROGRAM CAM
 HCAM - VALVE HOMING CAM
 SCAM - VALVE STEP CAM
 BVCAM - BRINE VALVE CAM

- NOTE:
 1. TWO TANK INTERLOCKED, SINGLE REMOTE METER, SERIES REGENERATION.
 2. BOTH TANKS NORMALLY IN SERVICE.
 3. ONLY ONE TANK IN REGENERATION, THE OTHER REMAINS IN SERVICE.
 4. LEAD VALVE REGENERATES FIRST, FOLLOWED IMMEDIATELY BY LAG VALVE.
 5. WITH 24V VALVES THE POWER CORD IS REPLACED WITH BLUE AND WHITE WIRES (WIRE BLUE TO TB1 #6, WHITE TO TB1 #1).
 6. VALVE SHOWN IN SERVICE POSITION.

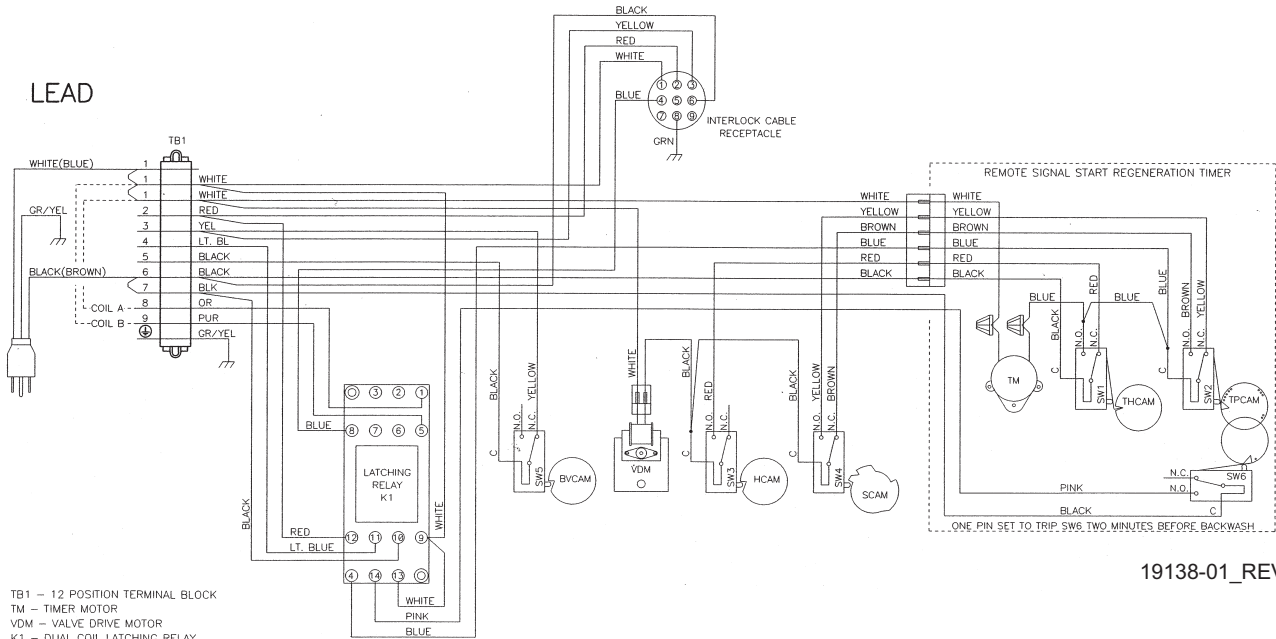
13632-02_REVL

System #7 Duplex 24V/120V 3-Way Valve Wiring

REMOTE METER WIRING

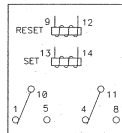


LEAD



- TB1 - 12 POSITION TERMINAL BLOCK
 TM - TIMER MOTOR
 VDM - VALVE DRIVE MOTOR
 K1 - DUAL COIL LATCHING RELAY
 - 24V P/N 17018
 - 120V P/N 16807
 SW1 - TIMER HOMING SWITCH
 SW2 - TIMER PROGRAM SWITCH
 SW3 - VALVE HOMING SWITCH
 SW4 - VALVE STEP SWITCH
 SW5 - BRINE CAM SWITCH
 SW6 - TIMER AUXILIARY SWITCH
 THCAM - TIMER HOMING CAM
 TPCAM - TIMER PROGRAM CAM
 HCAM - VALVE HOMING CAM
 SCAM - VALVE STEP CAM
 BVCAM - BRINE VALVE CAM

RELAY TERMINAL BLOCK PINOUT (SHOWN IN RESET POSITION)

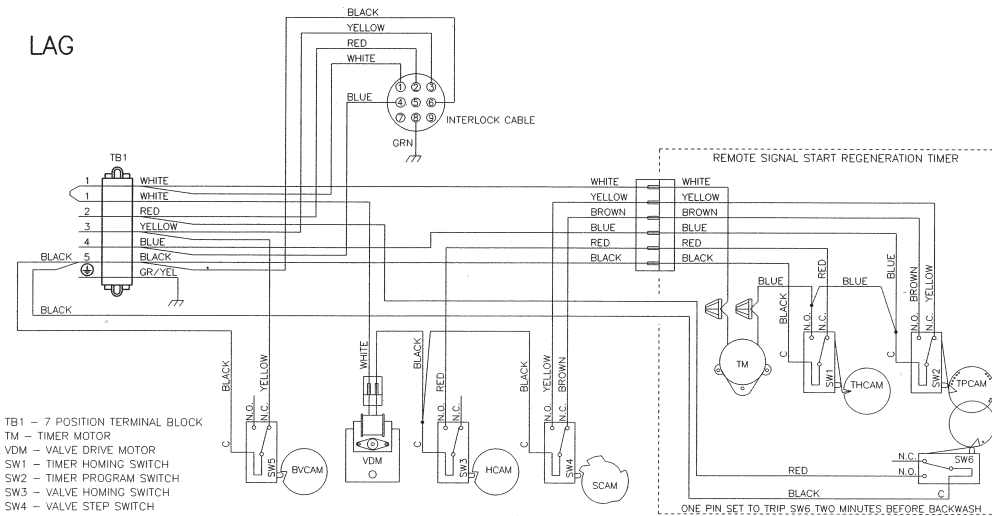


NOTE:

- TWO TANK SINGLE REMOTE METER ALTERNATING REGENERATION. ONLY ONE TANK IN SERVICE THE OTHER IN REGENERATION OR STANDBY.
- SYSTEM WIRED FOR 3-WAY SOLENOID OUTPUT. COIL A CLOSSES THE DIAPHRAGM VALVES OF LAG UNIT. COIL B CLOSSES THE DIAPHRAGM VALVES OF LEAD UNIT.
- VALVE SHOWN IN SERVICE POSITION.

19138-01_REVD

LAG



- TB1 - 7 POSITION TERMINAL BLOCK
 TM - TIMER MOTOR
 VDM - VALVE DRIVE MOTOR
 SW1 - TIMER HOMING SWITCH
 SW2 - TIMER PROGRAM SWITCH
 SW3 - VALVE HOMING SWITCH
 SW4 - VALVE STEP SWITCH
 SW5 - BRINE CAM SWITCH
 SW6 - TIMER AUXILIARY SWITCH
 THCAM - TIMER HOMING CAM
 TPCAM - TIMER PROGRAM CAM
 HCAM - VALVE HOMING CAM
 SCAM - VALVE STEP CAM
 BVCAM - BRINE VALVE CAM

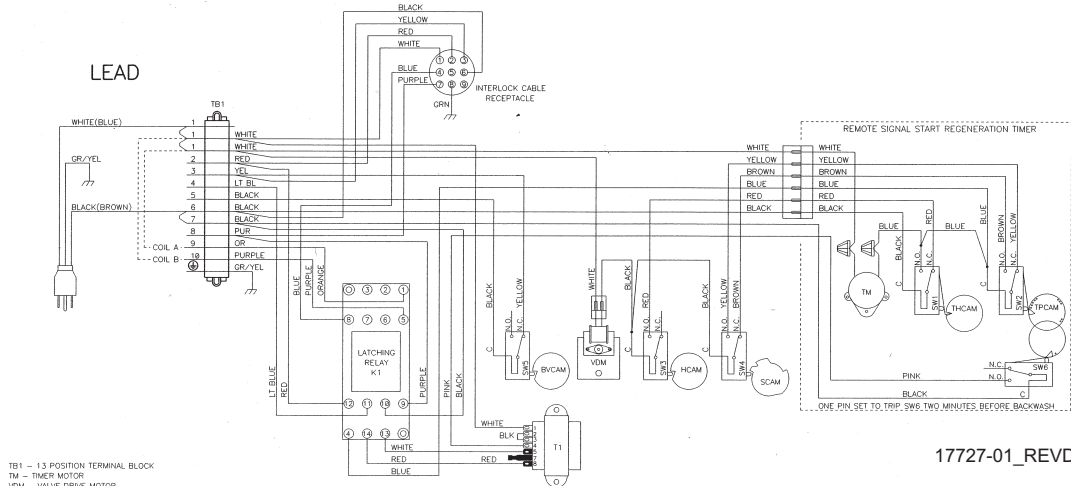
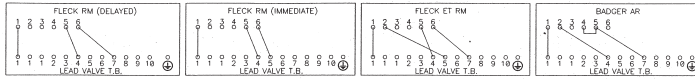
NOTE:

- TWO TANK SINGLE REMOTE METER ALTERNATING REGENERATION. ONLY ONE TANK IN SERVICE THE OTHER IN REGENERATION OR STANDBY.
- SYSTEM WIRED FOR 3-WAY SOLENOID OUTPUT. COIL A CLOSSES THE DIAPHRAGM VALVES OF LAG UNIT. COIL B CLOSSES THE DIAPHRAGM VALVES OF LEAD UNIT.
- VALVE SHOWN IN SERVICE POSITION.

19138-02_REVD

System #7 Duplex 230V 3-Way Valve Wiring

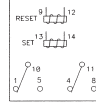
REMOTE METER WIRING



- TB1 - 13 POSITION TERMINAL BLOCK
 TM - TIMER MOTOR
 VDM - VALVE DRIVE MOTOR
 K1 - 120V DUAL COIL LATCHING RELAY P/N 16897
 T1 - 230V/120V TRANSFORMER P/N 40112
 SW1 - TIMER HOMING SWITCH
 SW2 - TIMER PROGRAM SWITCH
 SW3 - VALVE HOMING SWITCH
 SW4 - VALVE STEP SWITCH
 SW5 - BRINE CAM SWITCH
 SW6 - TIMER AUXILIARY SWITCH
 THCAM - TIMER HOMING CAM
 TPCAM - TIMER PROGRAM CAM
 HCAM - VALVE HOMING CAM
 SCAM - VALVE STEP CAM
 BVCAM - BRINE VALVE CAM

RELAY TERMINAL BLOCK PINOUT

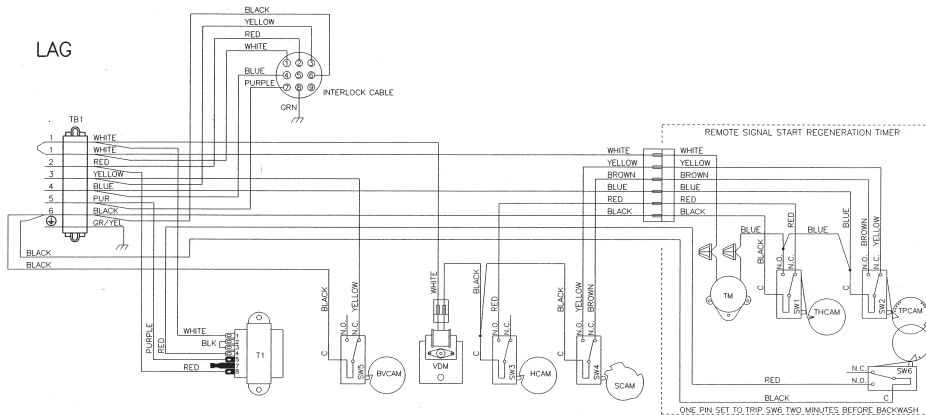
(SHOWN IN RESET POSITION)



- NOTE:**
 1. TWO TANK SINGLE REMOTE METER ALTERNATING REGENERATION.
 ONLY ONE TANK IN SERVICE THE OTHER IN REGENERATION OR STANDBY.
 2. SYSTEM WIRED FOR 3-WAY SOLENOID OUTPUT.
 COIL A CLOSSES THE DIAPHRAGM VALVES OF LAG UNIT.
 COIL B CLOSSES THE DIAPHRAGM VALVES OF LEAD UNIT.
 3. VALVE SHOWN IN SERVICE POSITION.

17727-01_REV0

LAG



- TB1 - 8 POSITION TERMINAL BLOCK
 TM - TIMER MOTOR
 T1 - 230V/120V TRANSFORMER P/N 40112
 VDM - VALVE DRIVE MOTOR
 SW1 - TIMER HOMING SWITCH
 SW2 - TIMER PROGRAM SWITCH
 SW3 - VALVE HOMING SWITCH
 SW4 - VALVE STEP SWITCH
 SW5 - BRINE CAM SWITCH
 SW6 - TIMER AUXILIARY SWITCH
 THCAM - TIMER HOMING CAM
 TPCAM - TIMER PROGRAM CAM
 HCAM - VALVE HOMING CAM
 SCAM - VALVE STEP CAM
 BVCAM - BRINE VALVE CAM

- NOTE:**
 1. TWO TANK SINGLE REMOTE METER ALTERNATING REGENERATION.
 ONLY ONE TANK IN SERVICE THE OTHER IN REGENERATION OR STANDBY.
 2. SYSTEM WIRED FOR 3-WAY SOLENOID OUTPUT.
 COIL A CLOSSES THE DIAPHRAGM VALVES OF LAG UNIT.
 COIL B CLOSSES THE DIAPHRAGM VALVES OF LEAD UNIT.
 3. VALVE SHOWN IN SERVICE POSITION.

17727-02_REV0

Service Assemblies

24 Hour Gear Assembly:

19205..... Gear Assy, 24 Hour, Silver, 5600, 12AM
60519-02 Gear Assy, 24 Hour, 2 Times a Day Regen
60519-03 Gear Assy, 24 Hour, 3 Times a Day Regen
60519-04 Gear Assy, 24 Hour, 4 Times a Day Regen
60519-06 Gear Assy, 24 Hour, 6 Times a Day Regen

Brine Line Flow (BLFC):

60010-25 BLFC, 1650, .25 gpm
60010-50 BLFC, 1650, .50 gpm
60010-100 BLFC, 1650, 1.00 gpm
60020-25 BLFC, 1600, .25 gpm
60020-50 BLFC, 1600, .50 gpm
60010-100 BLFC, 1600, 1.00 gpm

Brine Valves:

60011-xx 1650 Brine Valve
60029-xx 1600 Brine Valve
60034-xx 1700 Brine Valve
60604-xx 1710 Brine Valve
-xx is for flow button size

Cam Assemblies:

60160-15 Drive Cam Assy, Std, Blue

Drain Line Flow Controls:

60365-xx Brass DLFC 3/4" NPT

Drive Assemblies:

60050-21 Drive Assy, 2750, STF, 120V Softener

Injector Assemblies:

60480-xx 1600 Injector Assembly
60485-xx 1600 Injector Assembly
60381-xx 1700 Injector Assembly
60486-xx 1700 Injector Assembly
-xx is for the size injector used

Meters:

60391 2750 Meter Assy, Std, Plastic Cap
60392 2750 Meter Assy, Ext, Plastic Cap

Covers:

60232-110 Cover, Designer, 1pc, Black
60219-02 Cover Assy, Enviromental, Black

Piston Assemblies:

60090-HF Piston Assy, 2750/2900
60091-HF Piston Assy, 2750, Hot Water
60101-00 Piston Assy, 2750 NHWBP Filter,
..... Conversion Kit
60101-01 Piston Assy, 2750 NHWBP
60101-02 Piston Assy, 2750 NHWBP,
..... 1600 Conversion Kit
60101-03 Piston Assy, 2750 NHWBP,
..... 1700 Conversion Kit

Auxillary Switch Kit:

60320-12 Switch Kit, 1500 through 2850
60320-02 Switch Kit, 3200/9000 Timer

Program Wheel Assemblies:

60405-20 Program Wheel, w/3/4" Ext Label
1-1/2" Std
60405-70 Program Wheel, w/1-1/2" EXT

Sales & Service Aids:

40737 Literature, Spec Sheet
42327 Literature, 2750 D/F
40717 Literature, Catalog Assy, PWT
Residential/Commercial

Seal & Spacer Kits:

60121 Seals & Spacers, 2750
60122 Seal & Spacer Kit, 2750 H/W

Skipper Wheel Assemblies:

14860 Skipper Wheel Assy, 7 Day
14381 Skipper Wheel Assy, 12 Day

