HOBART

SERVICE



WS-40/80 Hobart Compact Water Softener Installation Instructions

WS-40
WS-80

- NOTICE -

This Manual is prepared for the use of trained Hobart Service Technicians and should not be used by those not properly qualified.

This manual is not intended to be all encompassing. If you have not attended a Hobart Service School for this product, you should read, in its entirety, the repair procedure you wish to perform to determine if you have the necessary tools, instruments and skills required to perform the procedure. Procedures for which you do not have the necessary tools, instruments and skills should be performed by a trained Hobart Service Technician.

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INSTALLATION

PRE-INSTALLATION REVIEW

NOTE: All state and local plumbing codes must be met.

Before beginning the installation of the Hobart Water Softening System, confirm system configuration to be installed, and components that have been ordered. Review of the customer's facility is also recommended, especially critical operating data which could affect the operation of the system.

The following items should also be adhered to when installing the WS-55:

- Water pressure to the Hobart Water Softener System affects the performance during regeneration. The system will not operate properly if the inlet pressure fluctuates below a dynamic pressure of 25 psi. This minimum pressure must be maintained to the system at all times. Should the pressure fluctuate below this level, a booster pump may be required.
- Do not use on water pressure that exceeds 125 psi or water temperature that exceeds 100°F average.
- Do not install the Hobart Softener in an area where the temperature can cause the unit to freeze. Damage to the system will result.
- When a brine tank overflow could cause damage, a 1/2" I.D. overflow line must be installed on the tank and connected to a drain. Make sure the overflow line is not higher than the overflow fitting.

  NOTE: Clean area along wall where PVC drain line will be run to floor. It is not recommended to run flexible tubing across the floor, as it may be kicked out of discharge point at floor, or line may become pinched resulting in improper backwashing.
- When installing a plastic component in line, it is recommended that grounding straps be put in place before the lines are actually cut to ensure the ground is never broken.

  NOTE: A clean grade of salt is strongly recommended. Higher grades of Pelletized Salt for impurities and solubility should be used. Do not use rock salt.
- This unit will not make potable water from a non-potable source.

INSTALLATION PLUMBING DIAGRAMS

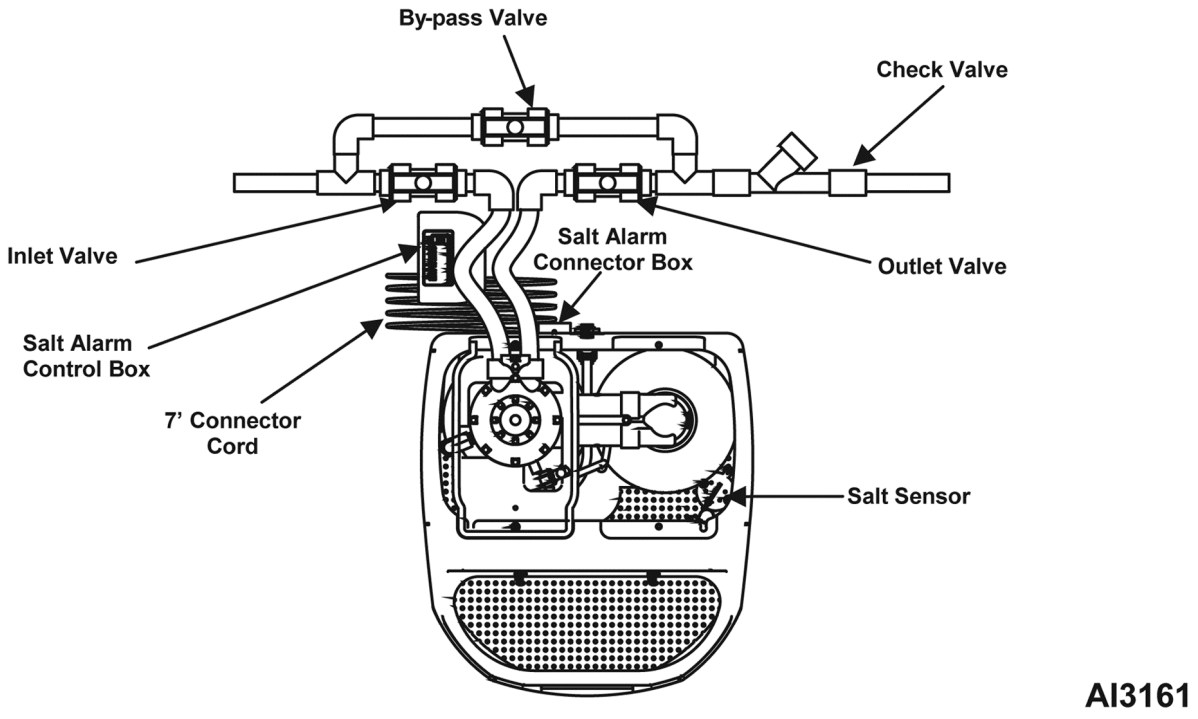

Fig. 1

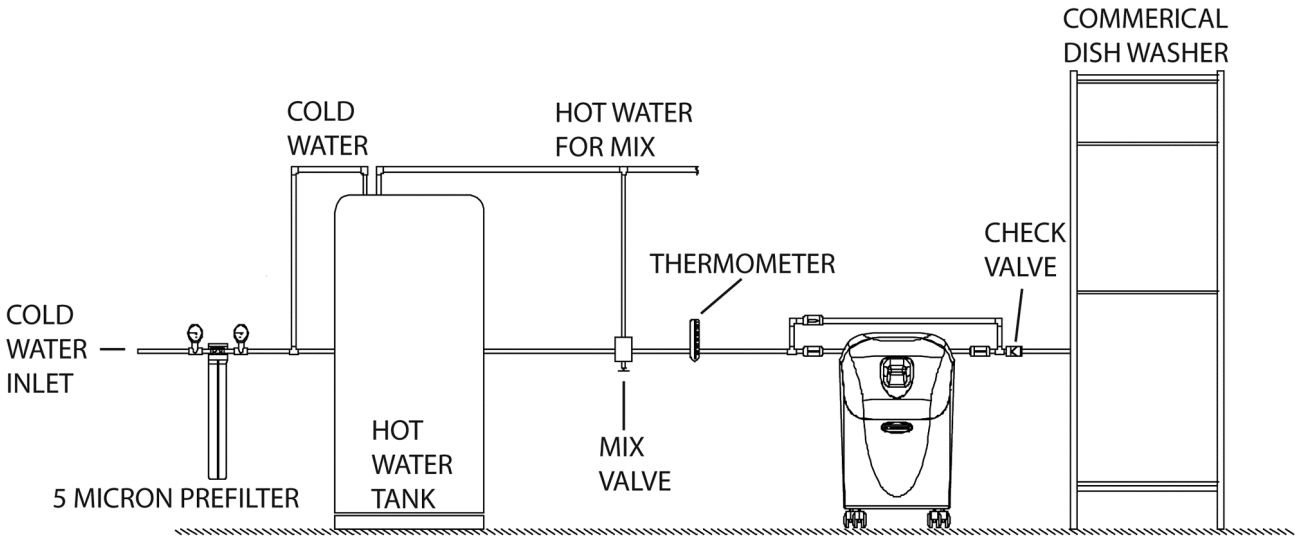

Fig. 2

INSTALLATION WS-40/80

SAVE THESE INSTRUCTIONS



⚠ WARNING Disconnect the electrical power to the machine and follow lockout / tagout procedures.

1. Locate water supply line and appropriate drains for softener installation.
2. Install by-pass valving.



Fig. 3

3. Installation of a Hobart high temperature prefilter is recommended.



Fig. 4

4. For hot water applications, the addition of a mixing valve, thermometer, and check valve are recommended. This will prevent over heating of softener during off periods or during initial daily start up.
   A. Position **Mixing Valve** on Hot/Cold line, prior to softener.
   B. Position **Thermometer** after mixing valve.
   C. Position **Check Valve** after softener, but before hot water appliance (such as a commercial dishwasher).
5. Remove all items from shipping package.
6. Install wheel kit on WS-80.

NOTE: Wheel kit for WS-40, already installed.

7. Locate brass in/out adapters, 4 O-rings, and silicone seal lube.

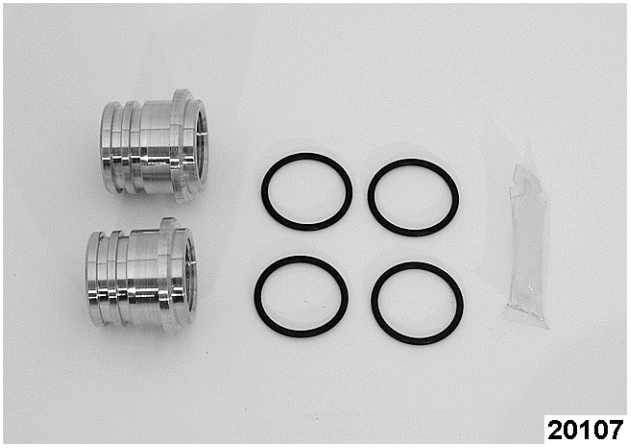

Fig. 5

8. Locate connector hoses and apply 2 to 3 wraps of Teflon tape to the male threads.

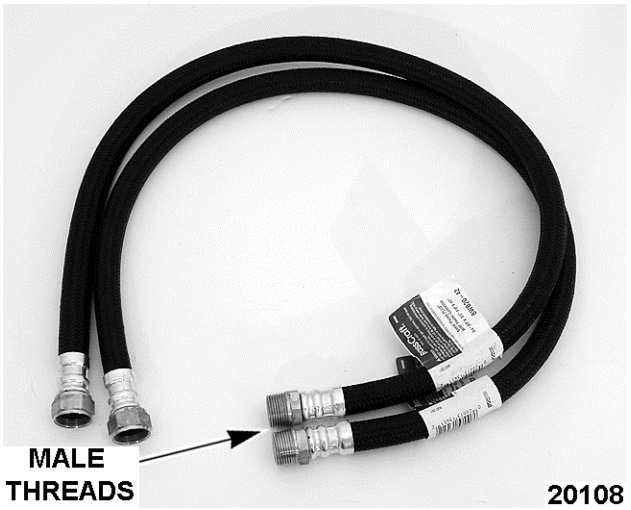

Fig. 6

9. Thread the brass in/out adapters tightly onto the threaded ends of the connector hoses.



Fig. 7

10. Install one O-Ring into each groove of the brass adapter.

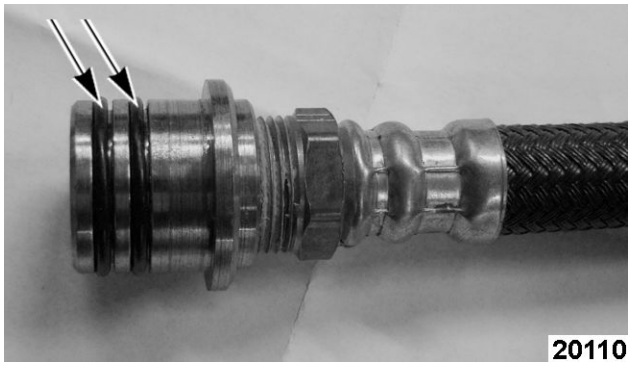

Fig. 8

11. Apply a small amount of seal lube evenly onto each O-ring.

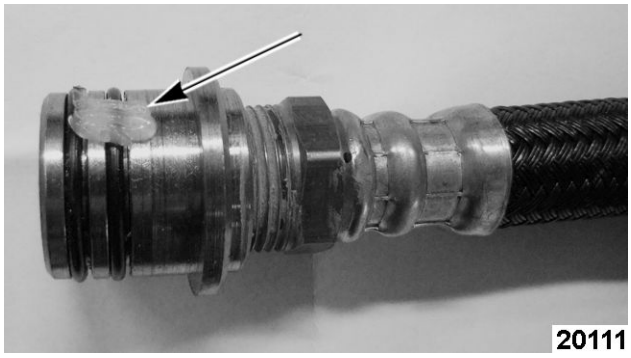

Fig. 9

12. Remove the pin and bracket from the softener in/out port area.



Fig. 10

13. Install the brass adapters into the in/out ports and secure by reinstalling the bracket and pin.

NOTICE Do not solder brass adapter while inserted in module main base; damage to plastic and rubber parts may result due to heat. Also, the materials used in soldering process may degrade certain types of plastics. Care should be taken during the installation process to assure that solder and flux do not come in contact with media tanks, control module and related plastic components.

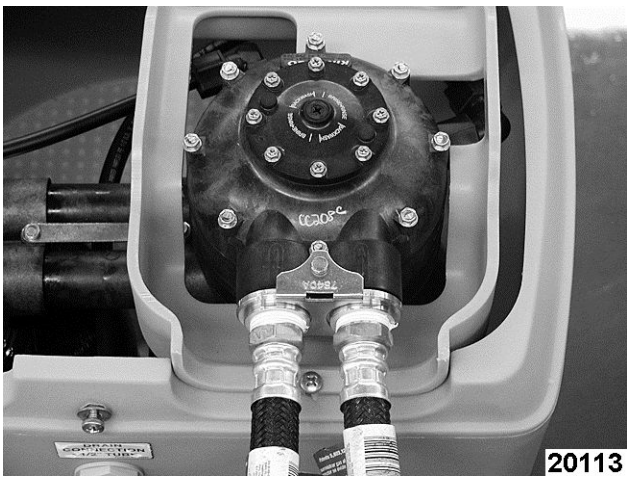

Fig. 11

14. The female end of the connector hoses is designed to thread onto 3/4" pipe thread. Perform appropriate plumbing to provide connections from the water supply to the inlet hose/port and from the outlet port/hose.

NOTE: The inlet port is identified with an arrow pointing towards the softener controls. The outlet port is identified with an arrow pointing away from the softener controls. These connections may be made before the pressure reducing valve.

15. Insert tubing provided into the drain port on the back of the cabinet and run it to an appropriate drain. Be sure to provide a “air gap” between the end of the tubing and the top of the drain.

NOTICE An air gap must be provided for all drain lines. Check local and state plumbing codes for proper setup of drain line air gaps.

NOTE: Drain line length should not exceed 8 feet vertical and 30 feet horizontal from the softener. On drain lines that must travel more than 8 feet up and 30 feet over, it is best to take the 5/8" drain line that fits the valve and attach it in a larger diameter line or pipe. This will eliminate chances of restrictions.

16. Insert tubing provided into the overflow port on the back of the softener and run drain lower than the cabinet connection to provide a gravity drain in the event of a internal cabinet leak.

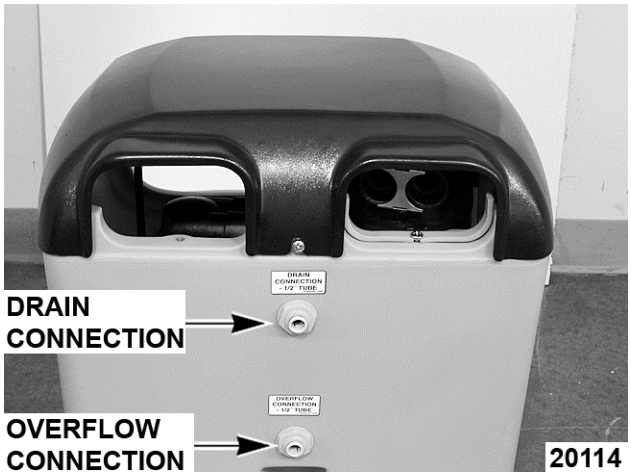

Fig. 12

17. Review the meter disc selection chart and the water analysis provided. If no water analysis is provided test the water supply.

18. To test the water supply, use the water analysis test kit available through Pro Products Inc. The recommended kit is #2401 Field Analysis Kit. To order the test kit contact Pro Products at 800-285-9176 or visit www.ProProducts.com.

19. Determine the correct number disc in DISC SELECTION.

NOTE: Both the WS-40 and the WS-80 have a #4 meter disc installed at the factory. If this is not correct disc for your application, locate meter disc kit and REPLACE DISC.

20. Remove brine valve assembly from cabinet to set float cup.

A. Disconnect tubing from brine valve elbow by holding collet and pulling tubing straight away.

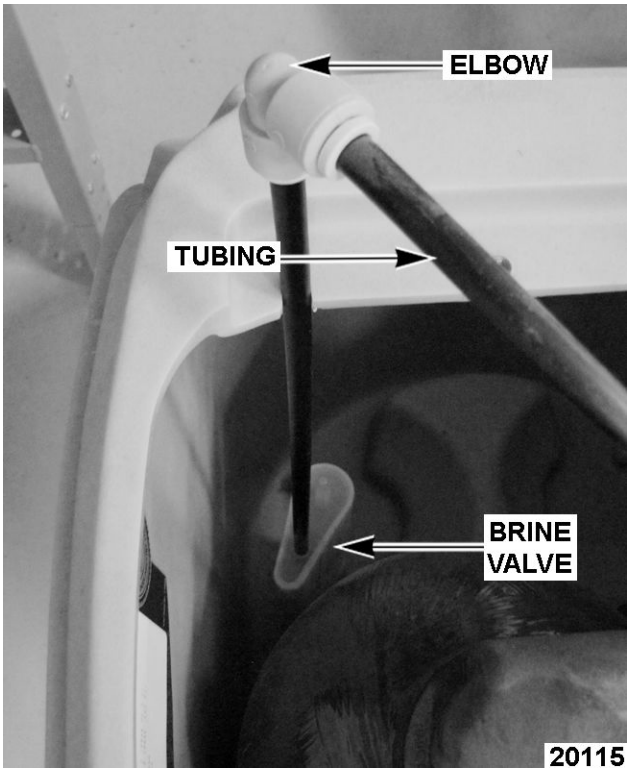

Fig. 13

B. Remove the brine valve assembly by lifting straight up.

C. Set it on a flat surface, to measure height of float cup.

D. Measure from bottom of brine valve to top of float cup.

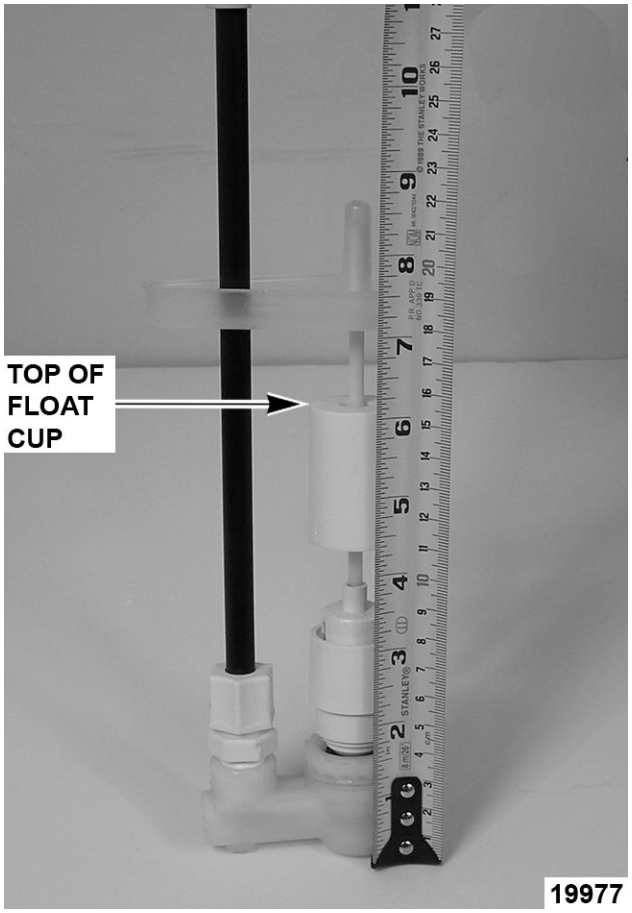

Fig. 14

Brine Valve Settings		
Unit	**Brine Setting**	**Float Cup Height**
WS-40	1.0 lb.	6.25"
WS-80	1.4 lb.	6.5"

E. Reinstall brine valve into the cabinet.

NOTE: Do not drop brine valve into drum. Dropping may lower float cup, resulting in an improper setting.

21. To install salt alarm system remove paper lining from back of salt alarm connector box.



Fig. 15

22. Remove plastic lining from Velcro® backing located on back of salt alarm controller.

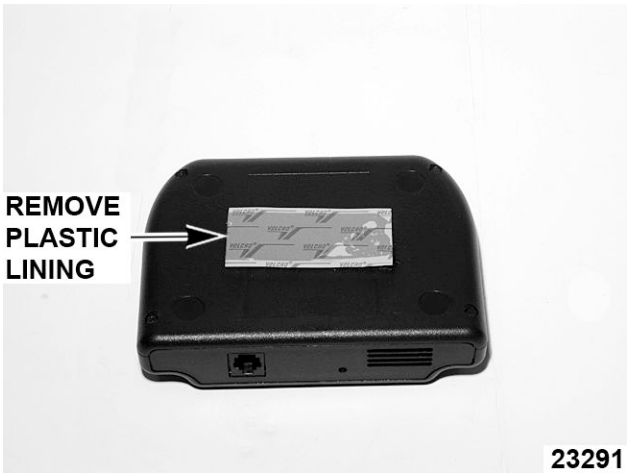

Fig. 16

23. Remove four screws securing back cover to salt alarm controller.



Fig. 17

24. Install three (3) AA batteries into salt alarm controller.

NOTE: When installing batteries - be certain to inspect connector to ensure it is secure.

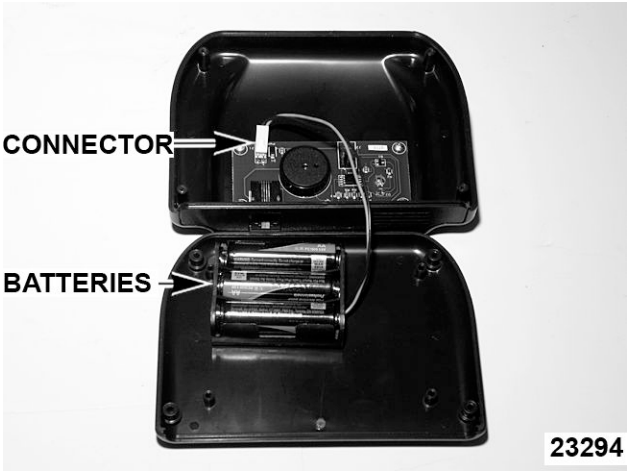

Fig. 18

25. Re-install back cover to salt alarm controller.
26. Using the adhesive backing on both devices - place alarm controller and salt alarm connector box in a position that will allow salt alarm controller to be seen and heard when it is activated.
27. Insert phone cable into salt alarm connector box and salt alarm controller.

NOTE: A longer phone cable can be purchased locally if best location for salt alarm controller is beyond the reach of phone cable included. Phone cable can be up to 100 feet in length.

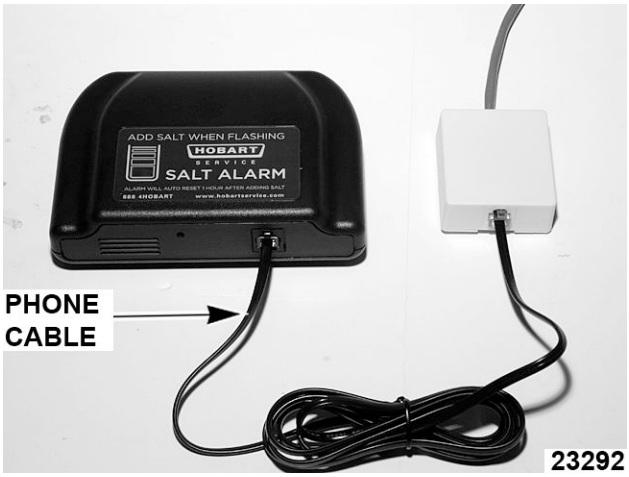

Fig. 19

28. Check for proper operation by pressing the recessed red button on bottom of salt alarm controller. If controller is operating properly - the indicator light will flash and an audible tone will be heard.

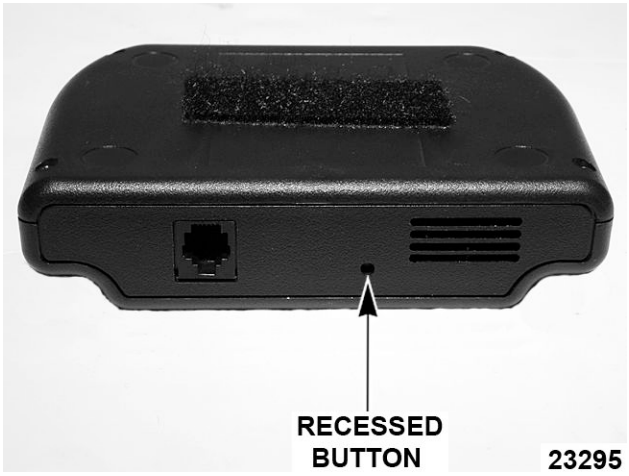

Fig. 20

29. Add a clean grade of salt at this time. Higher grades of Pelletized Salt for impurities and solubility should be used.

NOTE: Do not use rock salt or solar salt.

30. Open inlet valve slowly allowing system to pressurize.
31. Water and air will be expelled from drain until system is completely pressurized.
32. A manual regeneration should be started to purge air and color from softening system. This is done by pushing down on actuator with a Phillips screwdriver and rotating clockwise slowly until pressure is felt.

33. Continue slowly until internal water flow is heard at softener valve. The softener will automatically run through a regeneration. This process should be repeated in 12 to 15 minutes to flush other resin tank.
34. Check for plumbing leaks.
35. Check unit for proper operation.

DISC REPLACEMENT

DISC REPLACEMENT WS-40/80

1. Remove screws and cap cover from level one.

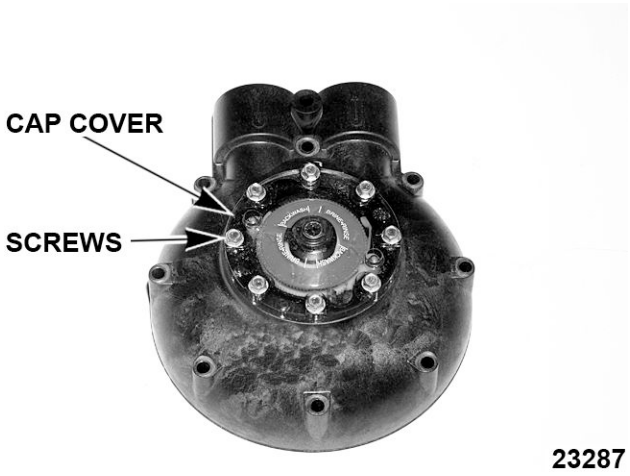

Fig. 21

2. Remove balance piston.

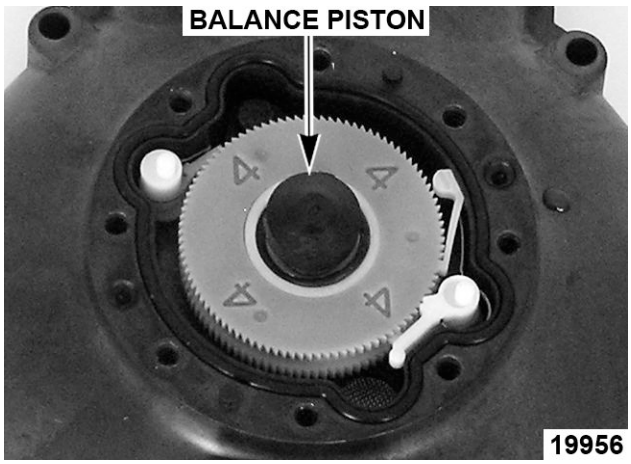

Fig. 22

3. Remove balance piston o-ring and balance piston spring.

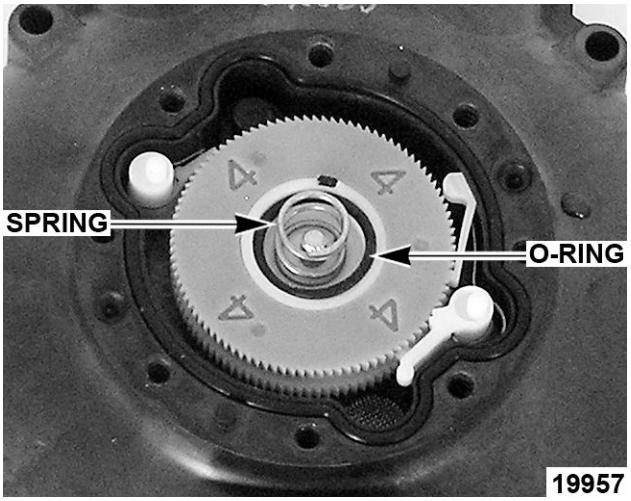

Fig. 23

4. Remove meter drive pawl.

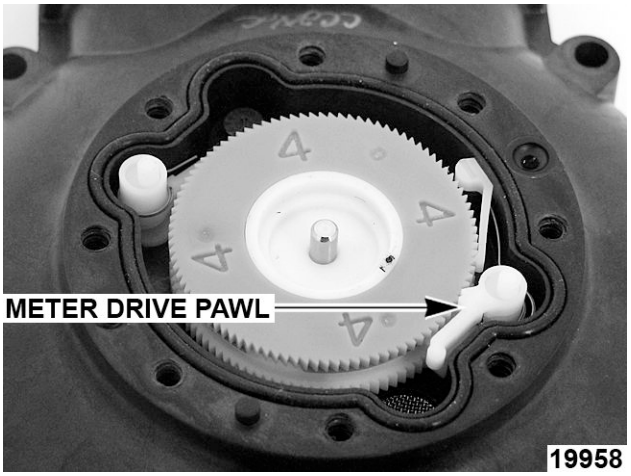

Fig. 24

5. Remove meter disc.

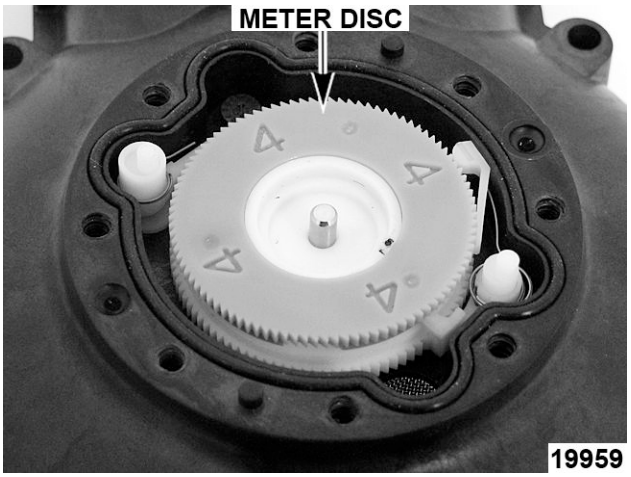

Fig. 25

6. Install correct meter disc and reassemble in reverse order.

NOTE: Be certain to start cap screws by hand rotating backwards until screw drops into thread then tighten. An alternating, crossing pattern should be used while tightening cap screws to ensure correct cap fit.

DISC SELECTION

DISC SELECTION WS-40/80

The amount of hardness removed (in compensated gpg) will be based on the amount of brine and the meter disc selected.

1. Test water supply for hardness and iron content. Use water analysis test kit available through Pro Products Inc. The recommended kit is #2401 Field Analysis Kit. To order test kit contact Pro Products at 800-285-9176 or visit www.ProProducts.com.
2. Determine the compensated hardness for raw water.
   A. Hardness value in gpg.
   B. Ferrous iron value in ppm multiplied by 3.
   C. Add values together.
3. Salt setting is predetermined by height of float cup. Float cup setting is listed in Specification Table.

Specifications	**WS-40**	**WS-80**
Salt usage / generation	1.0 lbs.	1.4 lbs.
Capacity	2,527 grains	4,818 grains
Efficiency	2,527 gr./lb.	3,442 gr./lb.
Dosing	5.5 lbs./cu. ft.	3.5 lbs./cu. ft.
Float cup setting	6.25"	6.5"

WS-40 Disc Selection								
Disc Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Compensated Hardness *	4	8	11	15	19	23	27	30
Gallons Between Regeneration	583	282	194	146	117	97	83	73
Regeneration Gallons Per Minute @ 15 psig	9.1	9.1	9.1	9.1	8.4	6.6	5.4	4.4
*** Compensated hardness in gpg = Hardness + (3 x Fe in ppm)**								

WS-80 Disc Selection								
Disc Number	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Compensated Hardness *	5	11	17	22	27	32	35	40
Gallons Between Regeneration	732	366	244	183	146	122	105	92
Regeneration Gallons Per Minute @ 15 psig	10.2	10.2	10.2	10.2	10.2	8.3	6.7	6.5
*** Compensated hardness in gpg = Hardness + (3 x Fe in ppm)**								