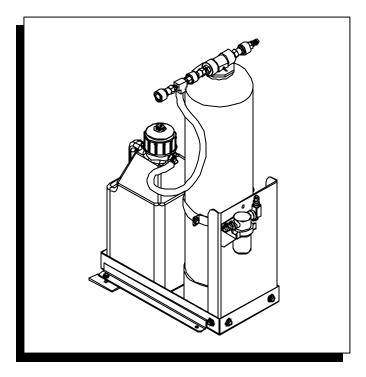
EZ-CHARGE

Water Softener



Operating Instructions (ENG)

MODELS: PROCHEM JON DON

Read instructions before operating the machine.

Welcome... and congratulations on your purchase of the EZ-Charge Water Softener. This instruction manual has been designed as a guide for operating and serving you unit.

NOTE: Read this manual completely before installing or operating this unit.

Proper operating and service are essential to the efficient functioning of the unit. When maintained correctly, this unit will have a long, trouble-free life.

The service methods describe in this manual are explained in such a manner that servicing may be performed accurately and safely. Proper service varies with the choice of procedure, the skill of the mechanic, and the tools or parts available. Before attempting any repair, make certain that you are thoroughly familiar with this equipment and equipped with the proper tools. Any questions pertaining to operating or servicing this unit should be directed to you nearest dealer.

Make certain that you read all instructions entirely before proceeding with the operation of the unit.

THIS UNIT MUST BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS DESCRIBED IN THIS MANUAL.

This operation and service manual is written specifically for EZ-Charge Water Softener which is manufactured by:

Professional Chemicals Corporation 325 South Price Road Chandler, Arizona 85224

Information in this document is subject to change without notice and does not represent a commitment on the part of Professional Chemicals Corporation.

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Published by Professional Chemicals Corporation.

TABLE OF CONTENTS

Welcome 1	PARTS LIST	
Table Of Contents2	Tank & Tray	5-1
HOW TO USE THIS MANUAL	Filter Assembly	
	Brine Tank Assembly	
How To Use This Manual1-1	Warranty	5-8
RECEIVING YOUR UNIT		
Acceptance Of Shipment		
SAFETY		
Safety Instructions		
SPECIFICATIONS		
Softener Capacity 3-1		
Water Supply Temperature3-1		
Water Hardness Map3-2		
INSTALLATION		
Positioning The Unit In Vehicle 4-1		
Dimensional Data 4-2		
OPERATION		
Theory Of Water Softening4-3		
First Run Operation4-4		
Checking Water Hardness4-4		
REGENERATION		
Preparing The Brine Tank		
Regenerating The Water Softener4-5		
MAINTENANCE		
Troubleshooting4-7		

2

HOW TO USE THIS MANUAL

This manual contains the following sections:

- HOW TO USE THIS MANUAL
- SAFETY
- OPERATIONS
- MAINTENANCE
- PARTS LIST

The HOW TO USE THIS MANUAL section will tell you how to find important information for ordering correct repair parts.

Parts may be ordered from authorized dealers.

The SAFETY section contains important information regarding hazard or unsafe practices of the machine. Levels of hazards is identified that could result in product or personal injury, or severe injury resulting in death.

The OPERATIONS section is to familiarize the operator with the operation and function of the machine.

The MAINTENANCE section contains preventive maintenance to keep the machine and its components in good working condition. They are listed in this general order:

- Regular maintenance
- Troubleshooting

The PARTS LIST section contains assembled parts illustrations and corresponding parts list. The parts lists include a number of columns of information:

- **REF** column refers to the reference number on the parts illustration.
- **PART NO.** column lists the part number for the part.
- **DESCRIPTION** column is a brief description of the part.
- **NOTES** column for information not noted by the other columns.

NOTE: If a service or option kit is installed on your machine, be sure to keep the KIT INSTRUCTIONS which came with the kit. It contains replacement parts numbers needed for ordering future parts.

NOTE: The 98# on the lower left corner of the front cover is the part number for this manual.

RECEIVING YOUR UNIT

ACCEPTANCE OF SHIPMENT

Every part of you EZ-Charge Water Softener was carefully checked, tested and inspected, before it left our manufacturing plant. Upon receiving the unit, make the following acceptance checks.

- 1. The unit should not show any outward signs of damage. If damage, notify the common carrier immediately.
- 2. Check you equipment and packing list. The standard EZ-Charge Water Softener should arrive equipped with the following items (unless otherwise specified):

EQUIPMENT LIST:

Cation resin softener tank (prefilled)

Mounting base and bracket

Brine tank and brine injector system

Water hose with filter assembly and bracket

Operation and service manual

Installation bolting kit

5 gallon chemical jug with lid

1 roll of hard water test strips

Funnel (used for filling brine tank with salt)

Soft water supply hose adapter

1-1 980144 11/04/03

IMPORTANT SAFETY INSTRUCTIONS

READ ALL INSTRUCTIONS BEFORE USING THIS EQUIPMENT



These symbols mean WARNING or CAUTION. Failure to follow warnings and cautions could result in fatality, personal injury to yourself and/or others, or property damage. Follow these instructions carefully!

READ the operator's manual before installing or operating this unit. Failure to adhere to instructions can result in severe injury or could be fatal.

DO NOT damage the vehicle in any manner during installation. Before drilling any mounting holes in the vehicle floor, make certain that when drilling, you will not do any damage to the fuel tank, fuel lines, or vital component which might affect the operation or safety of the vehicle.

DO NOT allow water softener to freeze. Freezing may damage the resin tank, valves, hoses, fittings or other components of the water softener. In addition, freezing will destroy the ion exchange resin in the water softener tank. The resin must be replace if frozen.

It is not possible to use antifreeze to freeze-protect the unit. The water softener must always be protected from freezing by either storing the vehicle in above freezing temperatures or by removing the water softener from the vehicle and storing it in a warm area. **NEVER attempt to freeze protect your water softener with antifreeze.**

PURGE all air from the water softener system before operation. A newly installed water softener, or a softener which has been disconnected for a period, may have air in the tank or lines. This air must be purged slowly from the system before operation or a lose of resin will occur.

SPECIFICATIONS

The EZ-Charge Water Softener is specifically designed to use in conjunction with the truck mount extractors. This compact, light, and yet efficient water softener has the capacity to regenerate over 1,000 gallons of softened water per softening run (figure is bases on a water hardness of 10 grains).

SOFTENER CAPACITY

There are many factors which determine how long the water softener can operate between regeneration's:

Water hardness - Water consumption of your truck mount - Volume of water flow - On wand versus two wand operation - Cleaning procedures - Truck mount scheduling are some of the major factors.

Remember, the harder the water in your area, the more frequent recharging of the system. the chart below gives the amount of softened water supplied based on the water hardness that enters the system.

Water Hardness (Grains)	Soft Water Capacity (Gallons)		Water Flow in G.P.M. (Gallons Per Minute)
	Model 18	Model 30	
5 grains	2,00 gals.	3,000 gals.	5 G.P.M. minimum
10 gains	1,200 gals.	2,000 gals	5 G.P.M. minimum
15 grains	800 gals.	1,330 gals.	5 G.P.M. minimum
20 grains	600 gals.	1,000 gals.	5 G.P.M. minimum
25 grains	480 gals.	800 gals.	5 G.P.M. minimum
30 grains	400 gals.	660 gals.	5 G.P.M. minimum
35 grains	342 gals.	570 gals.	5 G.P.M. minimum

If the output water from the system reaches 5 grains of hardness (filtered drinking water), the system should be recharged.

WATER SUPPLY TEMPERATURE

The EZ-Charge Water Softener is recommended for use with inlet water temperatures of up to 125° F (52° C). Temperature above 125° F (52° C) may damage the unit permanently and void warranty.

3-1 980144 11/04/03

SPECIFICATIONS

Hard water deposits will adversely affect the plumbing and heat exchange systems of your truck mount extractor unit.

The map below will give you an idea where areas of high water hardness may occur. Though any water supply obtained from a well is almost always hard water and a water softener will be needed to help protect you truckmount equipment.

Using a water softener will reduce maintenance and decrease down time caused by hard water scaling. It will also allow cleaning chemicals to be more effective in lower concentrations.

NOTE: Most warranties will not cover equipment malfunction or component failure caused by hard water scaling.



980144 11/04/03 **3-2**

INSTALLATION



WARNING: DO NOT damage the vehicle in any manner

during installation. Before drilling any mounting holes in vehicle floor, make certain that when drilling, you will not do any damage to fuel tank, fuel lines or any vital components which might affect the operation or safety of the vehicle.

POSITIONING THE UNIT IN VEHICLE

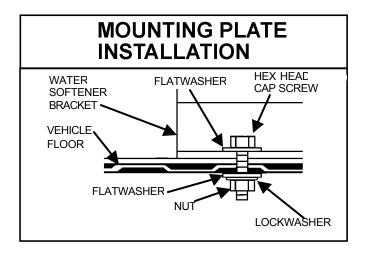
Because vehicles vary in size and openings, individuals have their own preference as to where they want their softener installed. The following is a suggested location that gives you ease of operation and utilizes all aspects of the EZ-Charge Water Softener.

- 1. Using the illustration below, locate the water softener nest to the truck mount console where the chemical draw lines are located. This will allow you to use the bracket as a chemical jug holder when the brine tank is not needed during normal operation.
 - Be sure NOT to position the softener too close that when routing hoses they don't become kinked or damaged due to rubbing against abrasive edges.
- 2. Place the bracket in place you've located and mark the mounting holes. You can also use the dimensional data below to mark out the mounting holes.

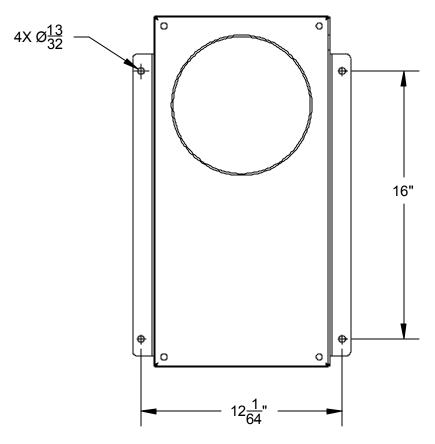
- 3. Using a drill with a 3/8" drill bit, drill 4 mounting holes.
- Using the hardware provided, bolt the bracket into place (see mounting detail).
- After securely bolting the bracket into position. place the softener cylindrical tank into the bracket and tighten the clamp around the tank using the wingnuts provided.
- 6. Bolt the water filter bracket to the back of the tank bracket and place the water filter hose assembly into the filter bracket. Make sure to route the long hose from the filter towards the truckmount water inlet disconnect.
- 7. Connect the short hose from the filter to the OUTLET disconnect of the water softener. Connect the long hose from the filter to the water inlet disconnect on the truckmount unit.

NOTE: The softener has the words "IN" and "OUT" clearly marked on the tank manifold. The water filter has a arrow mark on tip indicating water flow

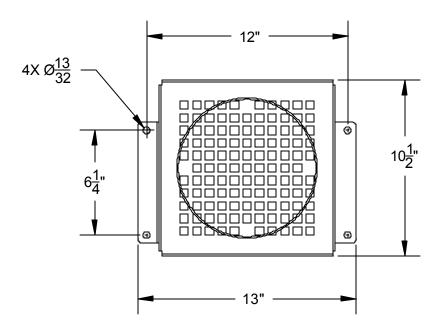
Your softener is now ready to use.



980144 11/04/03 4-1



MOUNTING FOR WATER SOFTENERS WITH TRAY #56-501999



MOUNTING FOR WATER SOFTENERS WITH TRAY #56-502273

980144 11/04/03 **4-2**

OPERATION

THEORY OF WATER SOFTENING

What is hard water?

Hard water is water containing dissolved limestone, usually consisting chiefly of calcium and magnesium minerals, which are sedimentary by nature. Ground water slowly dissolves limestone and carries it in solution downstream.

Why does hard water cause problems?

When heat is applied to hard water, such as in your truckmount unit, the minerals come out of the solution and slowly deposit inside fittings, check valves, strainers, pressure hoses, etc. Basically it is producing rock inside the solution water system of the truckmount, much the same way as nature does, by using heat and pressure. Given time the mineral deposits will be as hard as concrete. In addition, calcium and magnesium minerals interfere with the cleaning performance of some detergents.

How does a water softener work?

The EZ-Charge Water Softener is a cation exchange type system. This specifically made water softener consists of two (2) tanks: a resin tank and a brine tank. The resin tank contains a special ion exchange resin. The brine tank contains a solution of regular table salt (sodium chloride) processed and available in pellet form specifically for use in water softening systems. In order to hold the mineral ions in, this special resin has to five something in exchange; sodium from the salt. This resin, however, can only hold so much diluted limestone because it has a limited amount of sodium to give in exchange.

When the resin runs out of sodium, hard water will flow through the resin in the water softener and into the truckmount unit. The resin has become saturated with limestone particles (calcium and magnesium ions).

To cleanse the resin of the diluted limestone particles replenish it with sodium, a process called "Regeneration" is used. Regenerating the EZ-Charge Water Softener is very easy to do. Simply run a fresh water salt solution from the brine tank through the special resin in the resin tank. This is done automatically once the brine tank is properly connected. Now the resin will hold the sodium, and release the limestone minerals back to nature. Sodium-rich water, free of calcium and magnesium ions, is what is called "soft-water". The water softener is now ready for another run.

Soft water does not adversely affect the solution system in truckmounted units. In contrast, it virtual eliminates calcium and magnesium mineral deposit build-up in the system filters and chemical and check valves. Soft water also helps do a better cleaning job with less chemicals and helps keep carpet fibers soft.

4-3 980144 11/04/03

A CAUTION:

Always check hoses for cuts and abrasions where

leaks may occur and kinks in the lines that may cause water flow restrictions. Check that the connections are properly made and disconnects are connected fully to prevent restrictions.

FIRST RUN OPERATION

NOTE: Before connecting your water hose to the supply faucet, flush out the faucet until the water is free of any debris. Flush out any debris which may be in your water inlet hose.

Before running your softener for the first time, you need to purge air from the system.

 Disconnect the soft water supply hose from the truckmount unit and install the adapter provided onto the end. Be sure that adapter is connected or there will be no flow through the system during purging. Place the end of the hose in a proper disposal drain.

⚠ WARNING:

NEVER dispose of the waste solution in storm

drains, water ways, or on ground areas. Always dispose of waste in accordance with Local, State or Federal law.

- 2. Connect your water supply hose to the INLET disconnect on the manifold on the resin tank and turn on the water supply. During this first time, you must turn the water supply on SLOWLY to purge any air that may be present inside the resin tank. Failure to do so may result in a loss of softening resin. If a loss of resin does occur, the softener will not function properly and may require maintenance.
- Purge the system until the water being discharged is clean and free of debris. Shut off the water supply, remove the adapter from the soft water supply hose and reconnect hose to water inlet on truckmount unit.

Your EZ-Charge Water Softener is now ready for its first run operation.

NOTE: This procedure should also be done if the system has not been used for a period of time or if resin has been added or replace in the resin tank.

CHECKING WATER HARDNESS

Periodically the water hardness of the output water of you water softener should be checked. Supplied is a roll of water hardness test strips. Dip a strip of the water hardness test paper into the output water from the softener and compare the color of the test strip to the color chart on the box of output water reaches a maximum of 5 grains of hardness.

980144 11/04/03

REGENERATION

PREPARING THE BRINE TANK

The EZ-Charge Water Softener utilizes a solution of regular table salt (Sodium Chloride) in pellet form to recharge the unit. This salt can be purchase at grocery stores in the swimming pool supplies area. Use the COARSE type because it dissolves much faster than the large size pellets.

Put 3 gallons of HOT tap water into the brine tank, (square blue tank with injector attached), which is supplied. Then add 10 pounds of the salt into the brine tank and allow the salt to dissolve for about two (2) hours.

NOTE: If you are using the water softener bracket also as a chemical jug holder. You will need to remove the chemical jug for the next part of the operation.

REGENERATING THE WATER SOFTENER

CAUTION:

IMPORTANT: During regeneration the water

flow must be reversed for a proper regeneration. Failure to follow these instructions will adversely affect the water softener, decrease the output efficiency, as well as shorten the life of the softener resin.

Use the copy of the decal on the following page as you read through these instructions.

- 1. This is the normal operating connection for the water softener. The outlet hose (short hose from filter) connected to the outlet disconnect on the manifold and the supply hose (long hose from filter) connected to the water inlet disconnect on the truckmount unit.
- Disconnect the outlet hose from the outlet disconnect on the manifold.
- 3. Connect the outlet hose into the inlet disconnect on the manifold.
- Place the brine tank with the salt solution into the water softener bracket. Face the decal on the brine tank out to use as a guide for regenerating process.

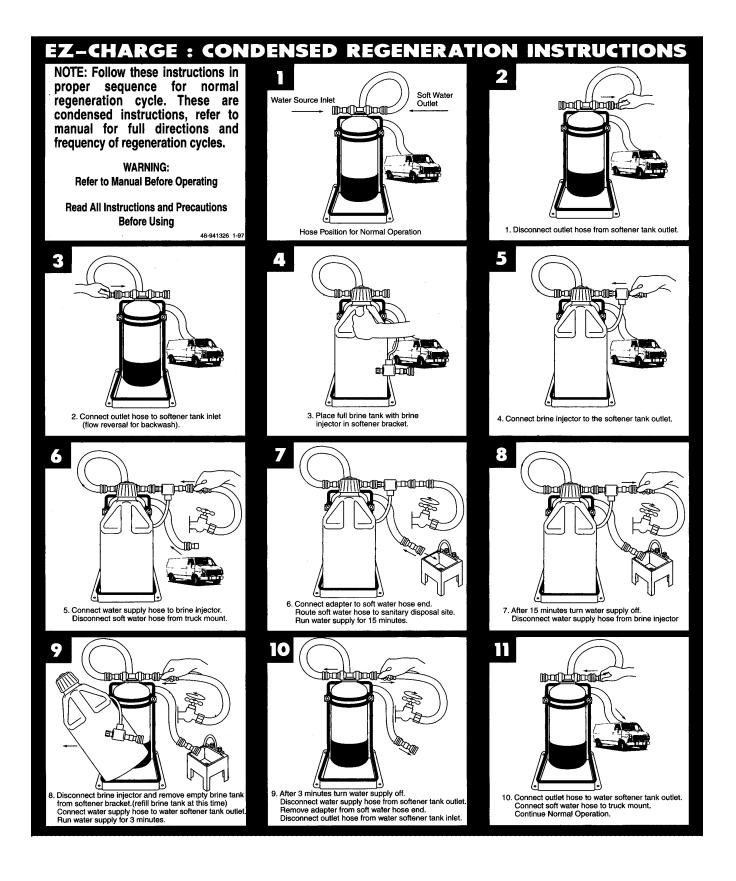
- 5. Connect the brine injector assembly on the brine tank into the OUTLET disconnect on the manifold.
- 6. Connect a water supply hose into the disconnect on the brine injector assembly. Disconnect the soft water supply hose from the truckmount unit.
- 7. Connect the adapter supplied to the disconnect on the water softener supply hose. Be sure the adapter is connected or there will no flow through the system during regeneration. Place the end of the hose in a proper disposal drain and turn on the water supply. This will backflush the waste solution out of the water softener.

WARNING: NEVER dispose of the waste water solution in

storm drains, water ways, or on ground areas. Always dispose of waste in accordance with Local, State, or Federal law.

- After about 15 minutes, turn the water supply off. Disconnect the water supply hose from the brine injector assembly.
- 9. Disconnect the brine injector assembly from the OUTLET on the manifold and remove the brine tank from the mounting bracket. Flush out the brine tank and store until next use. Connect the water supply hose to the OUTLET on the manifold and turn on the water supply for about 3 minutes to finish flushing the system.
- 10. About 3 minutes, turn the water supply off. Disconnect the water supply hose. Remove the adapter from the water softener supply hose. Disconnect the outlet hose from the INLET on the manifold.
- 11. Connect he outlet hose into the OUTLET disconnect on the manifold. Connect the water softener supply hose into the water inlet disconnect on the truckmount unit. The system is now ready for normal operation.

980144 11/04/03 4-5



980144 11/04/03 **4-6**

MAINTENANCE

The EZ-Charge Water Softener requires very little maintenance. Other than keeping the soft water supply filter assembly clean and general up-keep of hoses and disconnects, the EZ-Charge Water Softener should last for many years. The resin should last as long as the unit and only need to be replace if damaged due to freezing. Given regular maintenance, inspected as needed and regenerated as required, the EZ-Charge Water Softener will last you for many years.

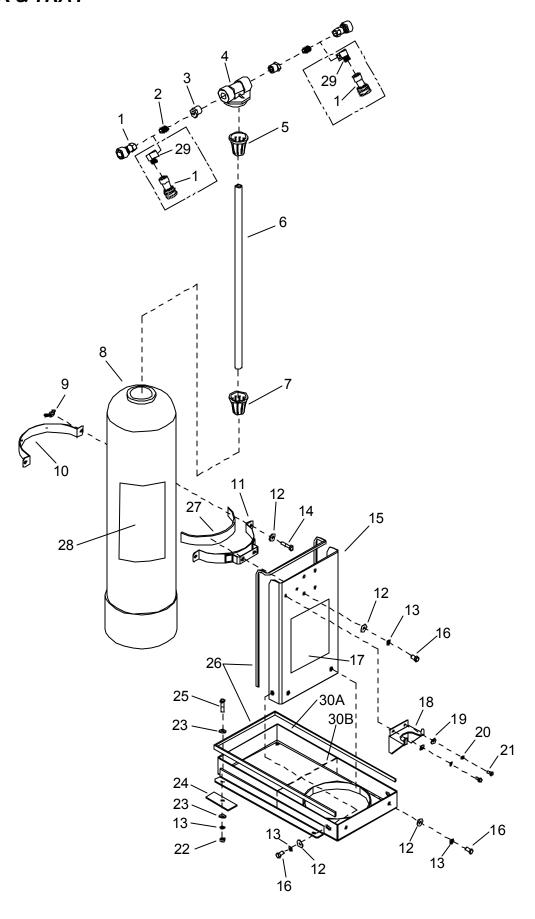
TROUBLESHOOTING

SPECIFIC PROBLEMS

PROBLEM	CAUSE	SOLUTION		
	Water softener needs regenerating.	Regenerate water softener.		
Softener delivers hard water	Leak at distributor tube (extends from bottom of manifold down into softener resin tank).	Check tube and o-ring seal, replace if needed.		
	Water softener resin damaged by freezing.	Replace resin. Always protect unit from freezing.		
Loss of resin through water outlet	Cracked or broken distributor tube or screen.	Replace tube or screen.		
Loss of water pressure	Iron or particulate build-up in softener.	Add filter to inlet on water softener (paper cartridge type, 50 micron max.) Recharge water softener.		
Iron in softened water	Fouled resin bed.	Check and regenerate system more frequently.		
	Insufficient salt in brine tank.	Refill brine tank (see "Preparing Brine Tank" in this manual). Allow the slat to completely dissolve.		
Softener fails to regenerate	Salt bridging in brine tank (Too much salt).	Refill brine tank (see "Preparing Brine Tank" in manual.		
	Brine injector assembly is plugged.	Clean injector assembly (disassembly may be required). Replace if needed.		
	Insufficient regeneration schedule.	Period between regeneration too long. Check and regenerate system more frequently.		
Loss of resin through drain hose	Air in water softener system. (Purged to fast)	Insure unit is properly purged of air (see "First Run Operation" in this manual.		
	Water supply pressure is low.	Use higher pressure water supply. Water supply must have a minimum pressure of 20 psi.		
Softener fails to draw brine	Air leak in brine line.	Check brine system for leaks, repair or replace defective components.		
	Brine injector assembly is plugged.	Clean injector assembly (disassembly may be required). Replace if needed.		

4-7 980144 11/04/03

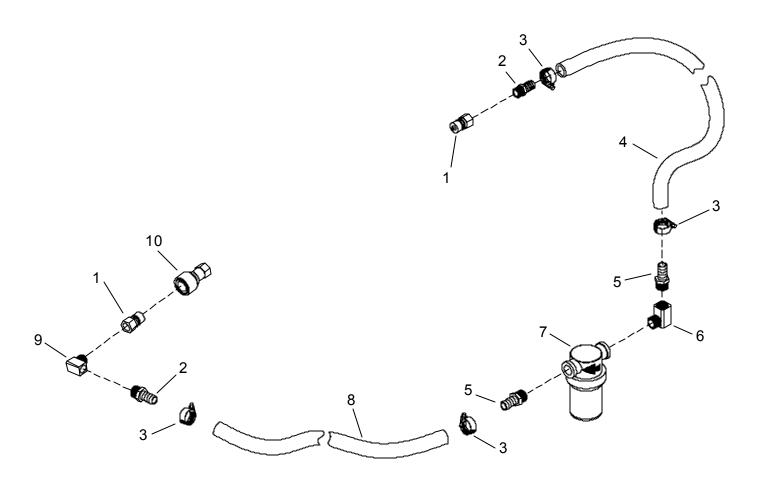
NOTES



TANK & TRAY

REF	PART NO.	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	13-806008	DCS, 3/8F X 3/8FP		
2	11-800368	NIP, 3/8 X CL SST		
3	11-800038	BUSH, 3/4 X 3/8 ALUM		
4	12-800390	ADPT, TNK#50-0271		
5	14-806559	DIST,TOP #41-2514		
6	54-501691	TB, PVC 13/16X27"		
7	14-806558	COLLECTOR, LWR #41-2410		
8	49-876138	TNK, WTR SOFT (30" BLU)		
9	01-000277	NUT, WING 3/8-16		
10	51-503350	STRAP, WTR, SOFT CLAMP		
11	56-501997	CLAMP, TNK WTR SOFT		
12	87171	WASHER, 3/8 FLAT		
13	87163	WASHER, 3/8 SPLIT LOCK		
14	70368	SCR, 3/8-16 X 1 3/4 HHCS PLT		
15	56-501998	PNL, SOFT MTG-WTR SOFT CIR GRAY		
16	70507	SCR, 3/8-16 X 3/4 HHCS GR5 PLTD		
17	48-941326	DEC, CDNSD REGEN OPER		
18	50-501773	HLDR, FLTR-WTR SOFT		
19	02-000066	FLATWASHER, 1/4		
20	87162	WASHER, 1/4 SPLIT LOCK PLTD		
21	70558	SCR, 1/4-20 X 5/8 HHCS PLTD		
22	57031	NUT, 5/16-18 HEX		
23	02-000143	WASHER, FLAT PLTD		
24	50-500511	PLATE, INSTALL MT		
25	70258	SCR, 5/16-18 X 1.5 HHCS BR5PLT		
26	27-100179	TRIM, FLX 1/16 X 29/64 BLK		
27	27-100225	GSKT, FOAM-WTR SOFT		
28	48-941385	TAG, WARNING START-UP WTR		
29	11-800275	ELL, ST 3/8 BR		
30A	56-501999	TRAY, SOFT-WTR SOFT		
30B	56-502273	TRAY, SOFT-WTR SQUARE		

980144 11/04/03 **5-2**

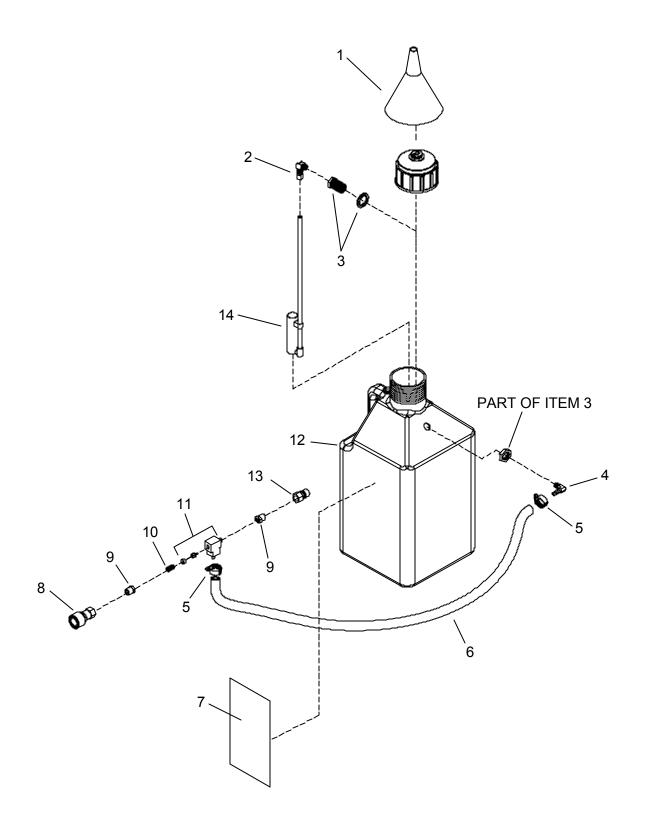


5-3 980144 11/04/03

FILTER ASSEMBLY

REF	PART NO.	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	13-806009	DISCONNECT, 3/8M X 3/8FP		
2	12-800345	FTTG, BRB 3/8P X 5/8H BR		
3	03-000111	CLMP, HOS#10 9/16MIN		
4	09-805406	HOSE, WTR 5/8X 30-1/2		
5	12-800269	FTTG, BRB 1/2P X 5/8H BR		
6	11-800041	ELL, STREET 1/2 BR		
7	14-806528	STRNR, IN-LINE 1/2FP BS		
8	09-805382	HOSE, WTR 5/8X 97		
9	11-800275	ELL, ST 3/8 BR		
10	13-806008	DSC, 3/8F X 3/8FP		

980144 11/04/03 **5-4**



5-5 980144 11/04/03

BRINE TANK ASSEMBLY

REF	PART NO.	DESCRIPTION	SERIAL NO. FROM	NOTES:
1	49-876145	FUNNEL, BIG BLU		
2	12-800372	ELL, 1/4P X 3/8 POLY BR		
3	11-800176	CONN, 1/4P BLKHD LNG BR		
4	12-800397	ELL, BRB 1/4P X 1/4H BR		
5	03-000065	CLAMP, HOSE #4 SST		
6	09-805537	SHOE, BRD 1/4X 30IN		
7	48-941326	DEC, CDNSD REGEN OPER		
8	13-806008	DSC, 3/8F X 3/8FP		
9	11-800118	BUSH, 3/8 X 1/8 BR		
10	56032	NIPPLE, 1/8 CLOSE		
11	15-808129	VLV, INJ W/#1JET		
12	49-876140	JUG, 5 GAL		
13	13-806009	DISCONNECT 3/8M X 3/8FP		
14	15-808117	VLV, AIR CHK W/STEM#4560		

980144 11/04/03 **5-6**

NOTES:

5-7 980144 11/04/03

LIMITED WARRANTY

PROCHEM warrants your Water Softener to be free of defects in material and workmanship. This warranty shall extend to the designated parts for the specific time period listed from the date of delivery to the user. If **PROCHEM** receives notice of such defects during the warranty period. **PROCHEM** will either, at it's option, repair or replace products which prove to be defective. Any local or distant transportaion, related service labor and diagnostic calls are not included.

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Softener injector system, fittings, hoses, o-rings, connectors, and other maintenance items are not under warranty. The ion exchange resin is NOT covered under the warranty.

This warranty shall not apply to defects resulting from improper installation or operation, inadequate maintenance by the customer, unauthorized modification, misuse, a unit which is improperly repaired, or exposure to freezing temperature conditions.

To obtain warranty service, products must be returned to a service facility designated by **PROCHEM**. Customer shall prepay shipping charges for products returned to **PROCHEM** for warranty service and **PROCHEM** shall pay for return of the products to customer.

PROCHEM makes no other warranty, either expressed or implied, with respect to this product. **PROCHEM** disclaims the implied warranties of merchantability and fitness for a particular pupose. Any implied warranty of merchantability or fitness is limited to the specific duration of this limited warranty.

This warranty gives you specific legal right, and you may also have other rights which may vary from state to state, or province to province.

The remedies provided herein are the customer's sole and exclusive remedies. In no event shall **PROCHEM** be liable for any direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory.

You **PROCHEM** Water Softener is designed to give you years of reliable service. However, if a problem should arise after the warranty period, follow the troubleshooting procedures in the Operation and Service Manual. If you are still unable to determine the cause and solution to the problem, contact your nearest **PROCHEM** Service Center for details fo the service available.

Components provided by **PROCHEM**, but supplied by other manufacturers, will only be warranted to the extent that they shall be warrented to **PROCHEM**.