

## The Pathway to Customer Satisfaction—*Expecting and Getting Perfection from a New Softener*

By C.F. "Chubb" Michaud, CWS-V

**T**here are many clichés describing ways to riches, but don't be "penny wise and pound foolish" when it comes to doing a proper installation of a water softener. Take the time to do it right. Avoid having to find the time to do it over.

Ever notice that when you make a major household purchase, you find the same item on sale for half the price the next day. That I've-been-had feeling is called "buyer's remorse" and that remorse can cost you money in cancelled deals and complaints. Quality products and, more importantly, quality service do a lot to dispel that feeling.

### **Holding the line at quality**

We've been taught since childhood that it's not necessary to achieve 100 percent. It's OK to be a "solid C student—an average doer." After all, a big league baseball player is a hero if he gets on base 30 percent of the time. Hockey players only make 10 percent of the shots taken. Sort of makes the ol' correct-75-percent-of-the-time achiever look pretty good. But is average good enough in today's society? Not if you're a professional.

The consumer who shells out \$2,000-to-4,000 for a new water treatment system expects miracles. Perhaps he or she was led to that expectation from the sales pitch. Salesmen never

lie, do they? Perhaps the salesman's good intentions were thwarted by a bumbling assembler who put the wrong voltage timer in the control valve. Perhaps the salesman gave an honest pitch and specified the perfect system that was expertly assembled, but shoddily installed. Bottom line—buyer's remorse. Worse yet—a lawsuit!

Many people interact between the phone solicitor and the final installation of a softener—the salesman, the manufacturer, the dealer and the final installer. Many times, these people have different agendas or don't even work for the same company. The absolute best job anyone can possibly do is not detract from the process along the way. In other words, not cause the process to drop below 100 percent perfection.

Is 100 percent perfection necessary? No. But it's possible and desirable because it leads to satisfied customers who tell their friends who buy more products. Anything less will cost a sale somewhere along the line.

### **What can go wrong?**

Some problems start with the sales pitch. A salesperson promises that only the "harmful elements" will be filtered out and the result will be "pure" water. That's not going to happen. Does a water softener guarantee spot-free

dishes and crystal clear ice cubes? Not exactly.

Some problems come from the competitive bidding process facing the equipment manufacturer. A clock timer is "automatic" and less expensive than a meter. Sub-fill helps performance and capacity but costs money. So does the bypass valve. Corners may be cut to get the job.

Then there's the installation. Too hurried to do it right? When are you going to find the time to do it over? And who's going to pay for it?

In an informal survey I conducted of dealers, common complaints from recently installed softeners include:

- Low pressure, poor flow
- Colored water, taste and odor
- Plugged lines, resin in faucets
- Wet floors, leaks and overflows
- Spots on dishes, water still hard, and
- High cost of salt and high usage

### **How to avoid problems**

When a customer voices a complaint about a recently installed softener, the dealer knows almost immediately what's wrong. "The installer didn't check the whatchamacallit" or "Bozo forgot to do thus and such." Since salesmen and manufacturers rarely make mistakes (ahem), installers should listen up. In truth, it's rare the problem that can't be headed off

by a proper install and startup.

Problems come in three flavors:

1. Those caused by misrepresentation of the salesman (be they intentional or not);
2. Those created by the assembler (by haste or lack of thorough inspection), and
3. Those caused by an improper installation or startup.

### Salespeople

My advice to salespeople is to learn your product and tell the truth. Ride along on a few installations or service calls. Ask questions of the service technicians. And do not overstate the capabilities of a simple softener or make health claims related to things other than what the effects and benefits obtained from softened water are. Keep in mind, a gravel sub-fill, for instance, does not increase filtration capabilities. All softeners are already pretty good filters. Also remember, a can full of activated carbon or a scoop of this or that doesn't do much. In fact, adding media without careful design considerations can and will eventually backfire and worsen the problems they are supposed to cure.

### Assemblers

Make a checklist and use it. Automatic valves have a lot of parts and some can be configured to regenerate in upflow or downflow modes. Make sure all the seals and O-rings are properly installed and lubed and that inlets

and outlets are properly labeled. Also, double check the injector and backwash control for proper size and seating. Wrap the softener carefully, ship it upright and make sure there's a manual with it. By the way, did you tighten all the screws and are there any left over?

### Installers

The installer is the final inspector before the most critical test—that being the satisfaction of the customer. Let's look at what goes wrong and the simple solutions to avoiding problems.

### Color, taste and odor

Plastic materials are made from high molecular weight chemicals called polymers. Cut a piece of plastic with a saw or heat it and you can smell a distinct odor. This even occurs when you iron a fabric (also a high molecular weight chemical—even the natural fibers). What you smell is a low molecular weight fraction of that polymer that is volatilized during heating or otherwise liberated during cutting. All polymers exhibit this to some degree, especially the common ones used in water treatment equipment (resins, tanks, pipes and valves). Do these chemicals leach out into the water? Yes. Are they harmful? The U.S. Food and Drug Administration says all of these things are safe at low levels. The key phrase here is "low levels." A proper startup assures low levels of extractables and a "good" installation. Do they cause

**Figure 1. Pre-Installation Data**

Here is a checklist to keep in mind for recording pre-installation data:

1. Check and record static line pressure
2. Turn on several faucets, recheck pressure
3. Pull water sample; test and record hardness
4. Fixture count (record on installation sheet)
5. Number of residents (record on installation sheet)
6. Size of distribution pipe
7. Size of hot water heater (and type)
8. Record make, model and manufacturer of softener (and serial number, if available)
9. Name of homeowner and address
10. Date of installation
11. Record brine setting on valve
12. Sketch location of installation and drain line

taste, odor or color? You bet—even at parts per billion (ppb) levels. How do I treat this problem? Glad you asked. Read on.

### Low pressure and flow

Ion exchange softeners will exhibit much lower pressure drop and work more efficiently if they are first backwashed to "classify" and precondition the bed. This is done at the point of installation. It places all the beads of similar size next to each other with the finest ones on top and larger ones toward the bottom. Backwashing also removes air and broken beads, which helps prevent channeling. This also improves flow and efficiency and assures a good startup. Also, what better way to test a system for leaks than to pressurize it?

Backwashing the unit is the only way to test the capacity of the drain system to make sure it will handle the full backwash flow. It also provides sufficient rinsing to flush out turbidity from the underbedding and color throw from the resin as well as any plastic taste from the valve itself, the tank or connecting tubing and residual solvent from PVC cements. A simple backwash (and short fast rinse) assures

Table 1: Installation Sheet

Customer: _____		Date: _____	
Name: _____	Street: _____	Fixture Count: _____	Hardness: _____
City/Zip: _____	Phone: _____	Line Pressure: _____	Line Size: _____
Family Size Adults: _____ Children: _____	Water Heater Type: _____ Capacity: _____	Water Source City: _____	Well: _____
Softener (Sketch layout on reverse)	Make: _____	Serial #: _____	Brine Tank: _____
	Model: _____	Timer: _____	Salt Setting: _____
	Meter: _____	Capacity _____ gr	Hookup Hot Only: _____ Total Supply: _____
	Installer: _____	Lic. #: _____	Phone: _____
Company: _____			

that all of these manufacturing "residues" aren't pumped into the hot water heater when the customer does the startup.

A common cause of plugged faucets often is from resin beads accidentally falling down the inside of the riser pipe during filling. This resin will not be removed during backwashing but will be forced out during a fast rinse to drain (not a fast rinse to the kitchen sink).

It's important to note that installation should be at least 10 feet from the hot water heater because during periods of low usage, hot water can backflow and melt or damage distributors causing leakage of resin.

It's also important to note that it isn't advisable to initially put water into a softener by way of backwashing. The reason is the resin may tend to float and be forced through the valve, plugging the backwash control mechanism. If upper screens are used this shouldn't be a problem. If you aren't sure, fill the tank in the "rinse" mode to wet out the

system, then go to "backwash" and "rinse" again to pack the bed.

### *Is regeneration necessary during startup?*

The absolute best installation/startup technique is to include an abbreviated regeneration step. This will take some planning so it doesn't add two hours to the installation. Going through all the steps flushes, sorts, cleans and packs everything the way it's supposed to be. Even a weak brine solution will shrink a new resin bed and help "squeeze" out residual by-products from the manufacturing process. This also gives you time to drain and refill the hot water heater, a must for customer satisfaction as explained further below. To be really thorough, use the checklist in Figure 1.

Make a copy of this information available as a favor to your supplier or manufacturer. Provide a copy to the customer as well. Should the owners move the equipment or drains or add

on to the house, it may affect the system performance and warranty. Also, if the water analysis changes with time (for the worse), having good information will guide your suggestions. You are now ready to install the system.

### **Installation**

Map out your planned layout. Put the brine tank in place. Add a bag of salt and five gallons of water. Shut off the main water line and open a cold water line to relieve pressure (which will also relieve the hot water line pressure). Make the installation, secure the tank and hook up brine and drain lines. Although it isn't required, you may find a shutoff valve ahead of the softener will come in handy. (Make sure this is a non-restrictive full flow valve. Oversize it if necessary.) Close the taps and bypass, and pressurize the system with the control valve in the fast rinse position.

Rinse to drain for 15 minutes after securing the piping and tanks. Put the

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unit into regeneration cycle. While it's backwashing, drain the hot water tank. When the unit goes into brine draw, add ½ cup of bleach to the brine well. This will disinfect the brine tank, well, lines and resin bed. Allow brine to draw for 10 minutes. Skip the slow rinse cycle and put the unit into service (with chlorine still in it). Flush for 15 minutes through cold water taps. Refill hot water heater. Flush through the hot water tap to purge air. Pick up tools.

### Afterthoughts

Of the six common complaints listed earlier, you are unlikely to have problems with taste, odor, color, flow restrictions or misdirected resin beads by following this startup procedure. Continued hardness (immediately after an install) is generally from water left in the hot water heater or from hardness deposits that collect in the heater bottom. Draining the heater will help. Spots on dishes? Hey, even soft water has total dissolved solids (TDS) that can cause spots. The spots do, however, wipe off easily. Suggest the customer try a rinse aid in the dishwasher. This will promote a "sheeting" action of the water and reduce the spotting tendency.

If the hot water heater is old, it may already have several pounds of limestone scale in the bottom. Some of this may come out during the drain/refill steps. The rest will dissolve out very slowly over time, adding a grain or two of background hardness. Always check the hardness on both the hot and cold lines.

Finally, avoid the tendency to set the salt settings way up in an attempt to blow the customer away with zero hard water. Dead soft is not necessary, nor even desirable. A setting of 6-to-8 pounds per cubic foot (lbs/ft<sup>3</sup>) will produce a very satisfactory level of hardness reduction, along with good economics.

### Conclusion

With a little forethought and practice, a thorough startup is about an hour longer than whizzing through it. Take the time to call the customer

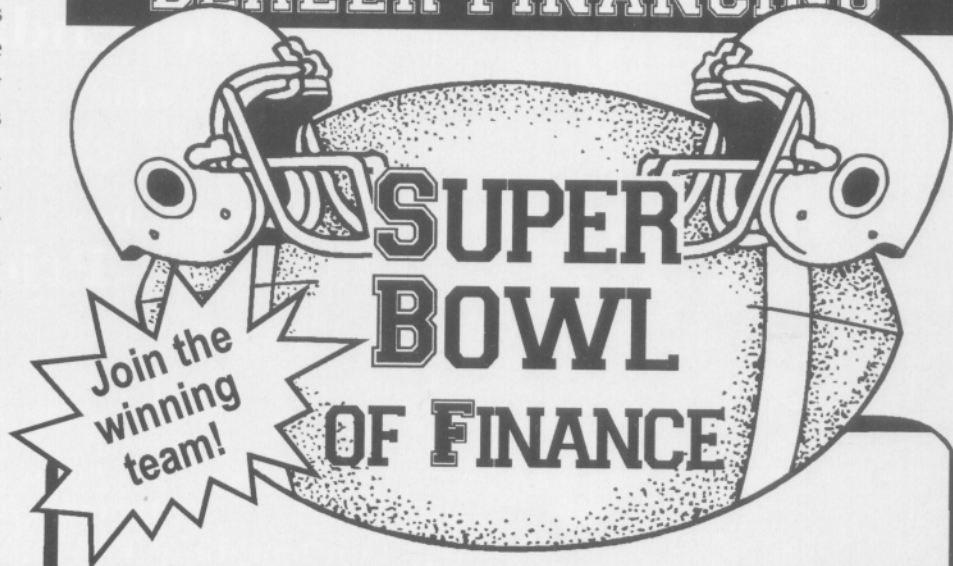
after a day or two and follow up on his or her satisfaction. If he or she is happy, note it on your install sheet. If they are not happy, fix the problem right away. Remember, a disgruntled customer is your worst advertisement. Keep him or her happy. To assure 100 percent satisfaction, strive for the 100 percent installation. □

### About the author

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