

# Power Soak®

## Owner's Manual

### Silverware Pre-washing System





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# Power Soak®

Introduction and Conventions

## Silverware Pre-washing System



## Product Introduction

Thank you for purchasing a Power Soak Silverware Pre-washing System. When used properly, your system will provide years of dependable, efficient and trouble-free service.

As a Power Soak owner, you will benefit in numerous ways:

- Your silverware washing operation will be more efficient.
- Your silverware will be cleaner and your customers will enjoy an enhanced experience.
- Demands on your spray washer will be drastically reduced.
- The need for hand polishing will decrease or be eliminated, and employee morale will increase.
- Chemical and water usage will decrease.

Every system is manufactured to last, with high-quality, heavy-duty, 14 gauge stainless steel used in its construction. All electrical components in a Power Soak system are of the highest quality. The system is easy to use, gentle on silverware, and very compact.

At Power Soak Systems, we take pride in manufacturing the Power Soak line and are committed to standing behind our customers and products. Should you ever need assistance, please contact us directly by dialing 816-222-2400 or fax 816-222-2419.

## Products Covered by this Manual

This manual covers the following Silverware Pre-washer types. Each is available in both a Standard Capacity version and a High Capacity version.

### Free-standing Stationary

These pre-washers are not portable but do not require permanent installation into an existing dish table. They are designed with legs but do not have casters. Their faucets and drains are permanently connected, and their electrical connections are made with water-tight flexible conduit.

### Mobile

These pre-washers are designed with legs equipped with casters to allow them to move about the scullery. They may also be moved to bussing areas of banquet halls or other locations where permanent installation is not practical. They are drained into floor sinks, and they are filled from any temperature regulated potable water supply. Lower voltage versions have built-in power cords, and higher voltage versions require on-site wiring by a licensed electrician.

### Parts and Cutlery Washer

This specialized version is designed for larger, harder to clean wares where high load electrical service is available. The Parts and Cutlery Washer is very similar to the High Capacity Mobile pre-washers regarding portability and connection requirements.

### Roll-under

These pre-washers are identical to the Mobile units with two exceptions: 1) The legs are very short so they can roll under existing dish tables, 2) They are equipped with faucets. Like the Mobile units, they are drained into floor sinks, and they are filled through a flexible tube from any temperature regulated potable water supply.

### Weld-in

These pre-washers are designed to be integrated into existing dish tables. To be installed, an opening in the shape of the pre-washer tank must be cut into the dish table. The tank is then welded in. Their drain connections, faucet connections, and electrical connections are permanent.

### Drop-in

Like the Weld-in version, these pre-washers are permanent additions to dish tables. Drop-In units are identical to Weld-ins except for the method of attachment to the dish table. The Drop-in pre-washer uses a flange and clamp arrangement to lock itself into the dish table opening. Also like the Weld-in units, the drain connections, faucet connections, and electrical connections are permanent.

# Explanation of Warning Messages

Be sure to read, understand and follow all DANGER, WARNING, and CAUTION messages located in this guide and on the equipment.

## Danger

Personal Injury and Property Damage hazard.  
May result in serious injury or death.  
May cause extensive equipment damage.



## Warning

Property Damage Hazard.  
May result in property or equipment damage.



## Chemical Hazard

May result in serious injury or death. Instructions, labels and Material Safety Data Sheets (MSDS) should be supplied with all detergents. The manufacturers, importers and distributors of your cleaning chemicals are responsible for providing this information.



Power Soak Systems is not a chemical manufacturer, importer or distributor. Power Soak Systems can assist your chemical representative but will not make specific brand recommendations.

## Personal Injury Hazard

Hazard from sharp objects.  
May result in serious injury or death.





# Requirements for Detergents

## Detergents

Improper detergents may damage equipment! Use of the correct detergent in your pre-wash system is critical to its washing performance. If you are having problems with cleaning results, please contact Power Soak Systems.

The silverware pre-wash system wash tank requires a low-foaming, metal-safe detergent that is safe for the hands. The detergent should have good grease cutting abilities but not have an excessively high pH level.



## Sanitization

The Power Soak Silverware Pre-washing System is not designed to sanitize the items it cleans. The intended purpose of the pre-washer is to break down and soften the soils on the silverware so that a single pass through a commercial dish machine will finish the cleaning job and sanitize the silverware. **THE PRE-WASHER MUST NOT BE USED ALONE TO CLEAN OR SANITIZE SILVERWARE.**

## Factory Assistance

If your chemical sales representative is having difficulty selecting a detergent, or if you are getting poor results with the chemicals your representative has recommended, please contact Power Soak Systems at 816-222-2400.



# Power Soak<sup>®</sup>

## Installation

### Silverware Pre-washing System



For detailed instructions about installation, refer to the ***Silverware Pre-washing System INSTALLATION*** manual that ships with the unit.

## Electrical Power Requirements

The electrical power requirements of your new system are shown on the Power Soak serial number plate located as follows:

- Mobile and free-standing stationary models—On the side of the control enclosure which is attached to the motor
- Built-in models—On the side of the wash tank

## Electrical Wiring Requirements

The wiring required for your system depends on the type of system you have purchased:

- Mobile 115V units come equipped with a power cord and may be plugged into any approved outlet rated for the amperage requirement stated on the Power Soak serial number plate.
- Mobile 208V 1PH and 460V 3PH units must be connected to a wall-mounted junction box, outlet, or disconnect by a licensed electrician. The wall-mounted device must be NEMA 4X or IP67 rated and must be supplied by a dedicated circuit.
- Free-standing stationary units must be connected to a wall-mounted junction box or disconnect using water-tight flexible conduit by a licensed electrician. The wall-mounted device must be NEMA 4X or IP67 rated and must be supplied by a dedicated circuit.

- Built-in units must have their control box brackets mounted to the underside of the dish table in which they are installed. If no acceptable location exists on the underside of the dish table, the control box may be mounted to the front of the wash tank. To do this, remove the acorn nuts from the studs on the wash tank, place the control box against the tank, and replace the acorn nuts. Once mounted, water-tight flexible conduit must be installed between the control box and the motor junction box and also between the control box and a wall mounted junction box or disconnect. The wall-mounted device must be NEMA 4X or IP67 rated and must be supplied by a dedicated circuit. All of these wiring tasks must be performed by a licensed electrician.

## Plumbing Requirements

The plumbing required for your system depends on the type of system you have purchased:

- Mobile units must have a floor sink nearby that they can be moved to for emptying waste water. In addition, some mobile units are equipped with faucets that will require a temperature regulated 1/2 NPT potable water flexible connection.
- Free-standing stationary units and built-in units must have their drains permanently connected to the building scullery sewer system. In addition, these units are equipped with faucets that will require a temperature regulated 1/2 NPT potable water connection.

## Mechanical Installation of Built-in Units

The installation and initial operational check of your new system must be performed only by licensed and certified plumbers and electricians.



Be sure to follow all applicable national and local electrical codes when installing the electrical supply for your system.



Be sure to follow all applicable national and local sanitation codes when installing your system.



Both the Drop-in and the Weld-in versions of the Power Soak Silverware Pre-washing System are designed to be installed in existing dish tables. Installation of both types is very similar with the main difference being that the Drop-in version requires no field welding.

Before beginning the installation, review the drawing that ships with the unit to confirm that the location chosen for the system is adequate with respect to:

- Drain proximity
- Electrical power proximity
- Adequate space on the dish table top for the tank and the faucet

- Appropriate location for the control box bracket
- Absence of ribs or other features on the underside of the selected dish table location

Refer to the ***Silverware Pre-washing System*** ***INSTALLATION*** manual that ships with the unit. Follow these instructions exactly.

Should you need assistance, please contact us directly by dialing 816-222-2400.





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## Operating Instructions

### Silverware Pre-washing System



## Filling the System

Fill the tank with water that is metered to approximately 115°F / 48°C.

A good rule of thumb is that the water should be hot to the touch but not so hot that it is uncomfortable.

Fill the tank with water to the "waterline" marks in the basket. Once the pre-wash chemical is added, volumization will occur and suds should reach the second or third row of holes in the top of the basket. If suds do not reach that level, additional water can be added at that time.



## Adding Detergents

### Automatic Chemical Dispensing

Consult with your chemical provider if you intend to use an automatic chemical dispensing system capable of metering liquid chemicals into the wash tank. Your provider can set up a dispenser to release the proper dose for each tank refill.

### Manual Chemical Dispensing

After the tank has been filled with water, add the proper amount of detergent based on advice from your chemical supplier.

Do not add the detergent to the sink prior to or during filling.

Most detergents lose effectiveness with time. Some local health departments have requirements limiting the amount of time water can be used for cleaning before the water should be changed. Likewise, most chemical companies recommend changing wash water after a certain time. Those times vary, but are generally around four hours. Check with your chemical provider and your local health department to know what the requirements are for your application.

## Introducing Silverware to the Pre-washing System

Place soiled silverware in the basket which rests in the top of the tank. Observe the following points to obtain the most efficient pre-washing:

- Dirty silverware should be brought to the Power Soak in a timely manner. Do not allow utensils to sit and air dry. The quicker that items are brought to the pre-washer and placed in the basket, the easier they are to clean.
- Do not arrange the silverware in the basket. Simply drop utensils randomly into the basket.
- It is important not to overload the basket. Silverware should not protrude out of the water during pre-washing. For operators who choose to load the basket with silverware and then place the basket in the pre-washer, do not load with silverware above the waterline.

If silverware is accidentally added to the pre-washer tank without the basket in place, turn the unit off, drain the wash water, and remove the silverware. Place the items in the basket, and refill the system as normal.



BADLY OVERLOADED BASKET



PROPERLY LOADED BASKET

Only unsharpened table knives may be cleaned in your pre-washing system. Attempting to clean any sharpened object may cause bodily injury.

Knives and other sharp objects must be washed using other more suitable equipment. Wash, rinse and sanitize the knives or sharp objects and immediately place them into proper storage.

Do not wash glass in the pre-washing system.



Remember, it is not necessary to turn the wash action off to load or unload items from the basket. There are no moving parts within the basket that could cause bodily harm. Straggler pieces can be added to the basket at any time provided they do not overload the basket. Likewise, if an item in the basket is needed before the entire batch of silverware is properly pre-washed, it can be removed for hand washing and sanitization without interrupting the rest of the pre-washing process.

### Starting and Stopping the Wash Action

Turn the handle on the switch to the ON position to operate the unit. On mobile and free-standing stationary units, the switch will be located near the pump motor.



On weld-in and drop-in units, the switch will usually be mounted under the dish table adjacent to the pre-washer.



When finished, return the handle to the OFF position.

## Washing Time

Allow the pre-washer to break down and soften the soils on the silverware. Wash time will vary based on a number of factors:

- Soil load
- Silverware pattern
- Detergent used
- Water temperature

NOTE: Remember that the goal is pre-washing—soils should be softened and decomposed so that a single pass through a spray washer will finish the job. Do not expect that all traces of soil will be removed in the pre-washer.

Allow the last utensils placed in the basket to wash for a minimum of 3 to 5 minutes.

## Removing the Pre-washed Silverware

1. Turn the unit off. Use both hands to grasp the handles at the top of the basket, lift up, shake the basket to remove excess water, and move the basket to a dish table.
2. Immediately place the second basket into the pre-washer. **Note: Do not add silverware to the pre-wash unit unless the basket is in place.**
3. Turn the unit on to begin washing the next batch.
4. Immediately sort the silverware into cylinders or a compartmentalized basket and run through a dish machine one time. **Note: Silverware does not need to be rinsed, and only one pass through the dish machine is required.**
5. Discard any debris left in the basket, e.g. paper or straws that may have been missed when inserting the soiled silverware.

## Replacing the Wash Water

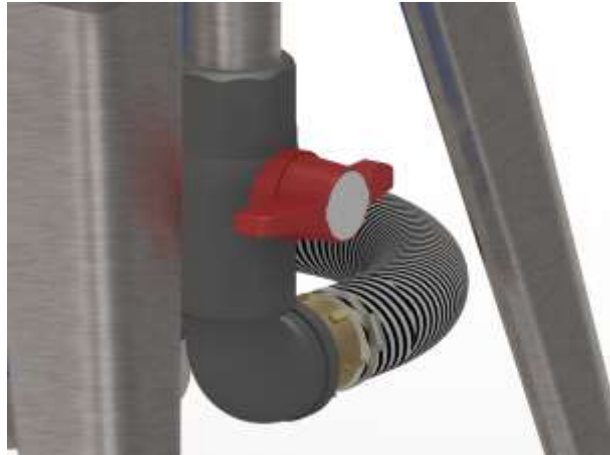
When the water in the pre-washer becomes soil-laden and the detergent is expired, it must be replaced. Plan to replace the water and detergent every four hours but increase the frequency if conditions warrant.

If you have a mobile unit, roll it to a floor sink and extend the drain hose into the floor sink.



If you have a stationary unit, permanent drain plumbing will have already been installed.

Open the drain valve to release the spent water and detergent.



When all the dirty water has drained out, flush the tank with clean water to remove any debris that remains.

Remove the drain screen by lifting it straight up and clean it in a scrap sink.

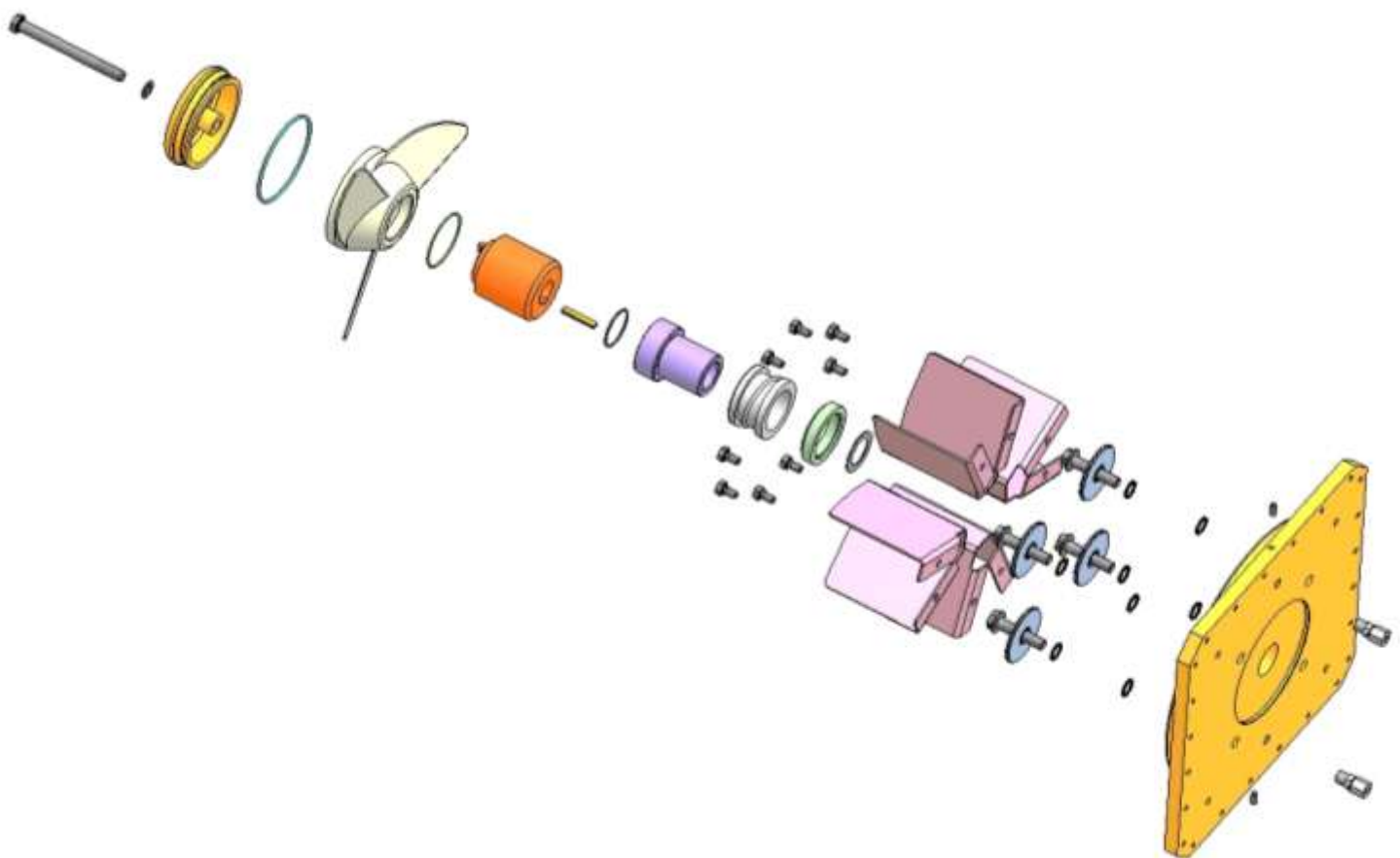


Close the drain valve, replace the drain screen, store the drain hose if using a mobile unit, and replace the silverware basket. The pre-washer is now ready to refill.



## Preventive Maintenance

### Silverware Pre-washing System



Your silverware pre-washing system requires minimal routine preventive maintenance. The following procedures should be done on a routine basis to ensure that your system remains reliable:

**IMPORTANT:** Turn off the power to the unit at the main breaker prior to performing the following task!



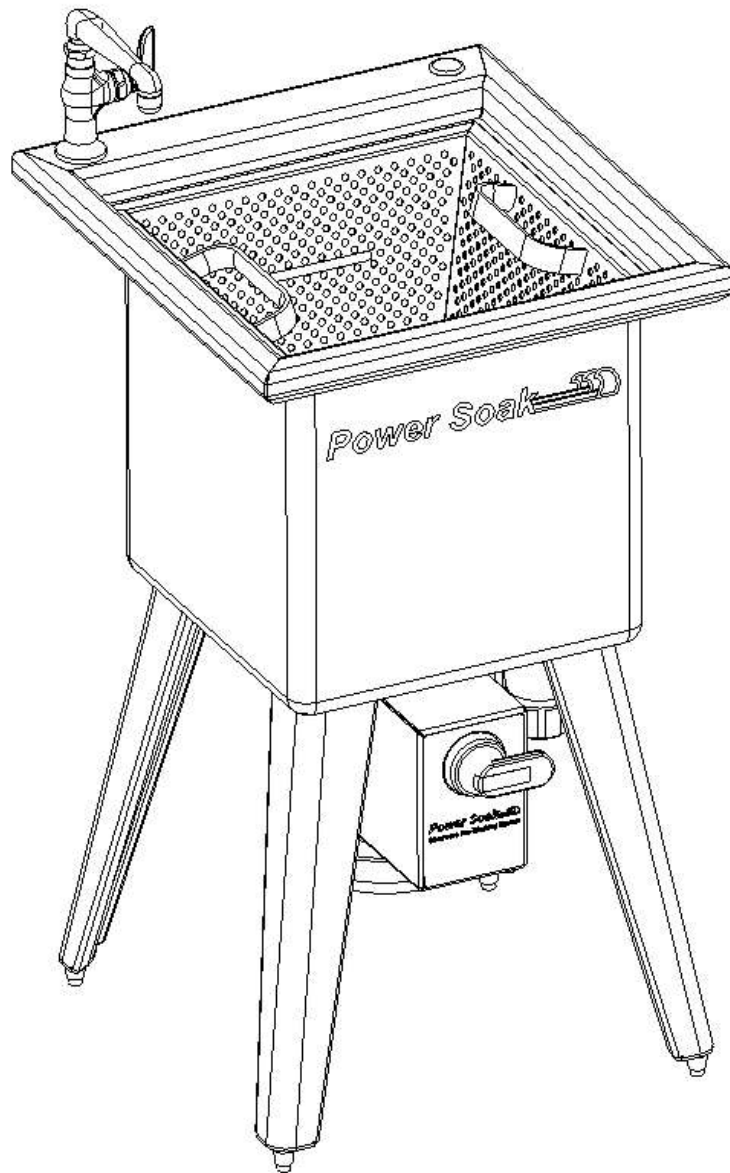
Clean the pump motor fan shroud with a damp, soapy rag. The motor shroud is the "vented" cover located on the bottom of the motor. This will prevent grease and dust from accumulating in the cover's openings, which can obstruct the airflow that cools the motor.

De-lime the wash tank. Simply add a de-liming agent and warm, fresh water filled to the water line, and run the system overnight. Ask your chemical sales representative to recommend a specific de-liming agent.

There are no other preventive maintenance procedures that you will need to perform on your Power Soak Silverware Pre-washing System. You need not be concerned about greasing the motor bearings as they are permanently lubricated and sealed. If you have any questions regarding the preventive maintenance procedures, please contact the factory at 816-222-2400.

## Troubleshooting

### Silverware Pre-washing System



Only a limited number of troubleshooting and repair procedures may be performed by the facility owner or manager. Any troubleshooting or repair that requires the removal of fasteners or that entails electrical service must not be attempted by anyone other than an authorized service agency. To obtain the name of a recommended service agent in your area, please call the Power Soak Service Department at 816-222-2400.



Symptom	Possible cause	Remedy
Pump motor will not run	Circuit breaker accidentally turned off	Turn breaker on
	Circuit breaker tripped	Investigate reason for tripping, e.g. damaged wiring, undersized breaker. <b>CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY.</b>
	Power cord unplugged (mobile models so equipped)	Reconnect plug
	Motor thermal overload tripped	Investigate reason for overload tripping, e.g. debris stuck in pump impeller. If debris removal requires that you remove any fasteners, <b>YOU MUST CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY.</b> Once rectified, reset thermal overload by pressing button on bottom of motor junction box.
	Start capacitor defective (single phase motors)	Replace capacitor. To do this, <b>YOU MUST CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY.</b>

Symptom	Possible cause	Remedy
Pump motor runs, but water flow is inadequate	Motor is running on the wrong voltage	Confirm that the house wiring supply is appropriate for the motor nameplate data. Reconnect motor internal leads according to the motor nameplate instructions. <b>YOU MUST CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY to make these changes.</b>
	Motor is running the wrong direction	For three phase motors, reverse any two motor leads. For single phase motors, reconnect motor internal leads according to the motor nameplate instructions. <b>YOU MUST CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY to safely change the rotation.</b>
Unit makes a loud, steady noise when running	Debris caught in the motor's cooling fan	Lock and tag out the electrical power from the unit, remove the motor fan cover, and remove the debris. Replace the fan cover and restore the power. For this task, <b>YOU MUST CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY.</b>
	Motor seal running dry	Lock and tag out the electrical power from the unit, remove the motor fan cover, and squirt some low viscosity oil such as WD40 between the fan and the motor end bell. Replace the fan cover and restore the power. <b>YOU MUST CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY for service of this nature.</b>
	Debris caught in the pump impeller	Lock and tag out the electrical power from the unit. Remove the four 1/4-20 x 1-1/4 impeller shroud retaining screws adjacent to the motor. Remove the basket and lift the impeller shroud out. Remove debris from the impeller and reassemble. <b>YOU MUST CONTACT POWER SOAK SERVICE OR AN AUTHORIZED SERVICE AGENCY for this service.</b>

Symptom	Possible cause	Remedy
Silverware is not getting clean	Unit is being filled with cold water	Drain and refill with 115°F water.
	Pieces are nesting	Avoid sorting the pieces by type, e.g. all spoons being washed, followed by all forks being washed, etc.
	Too much food soil is being left on the silverware when the basket is loaded	Rinse off heavy accumulations of food soils before the pieces are loaded into the basket. This will avoid weakening the detergent.
	Food soils are dried onto the silverware before being loaded into the basket	Allow the silverware to pre-wash for a longer period of time.
	Basket is being overloaded	Remove silverware until the level is at or below the fill line inside the basket. Spread the silverware out into a uniformly thin layer on the basket bottom. Do not allow the silverware to remain in a thick pile.
	Ineffective detergent is being used	Consult with your chemical supplier to determine the best chemical for your application.
	Low water level	Water level should be even with the fill line inside the basket when the unit is off.
	Exhausted detergent	Drain the unit and refill it with fresh detergent and 115°F water. Experiment with refreshing the water and detergent more often.
	Insufficient detergent	Follow the chemical supplier's instructions exactly for best results.
Insufficient wash time	Highly intricate silverware and stubborn soils will require extra wash time.	

If the above trouble shooting procedures do not correct the problem, you may contact Power Soak Systems, Inc. at 816-222-2400 or an authorized service agency.



Power Soak is a registered trademark of Cantrell Industries, Inc.  
The Power Soak concept and design is fully patented.

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Part#: 33638  
Rev: 0  
Rev Date: 5/28/2012