



HOSHIZAKI TECHNICAL SUPPORT TECH -TIPS

Rodd Burger
Writer/Editor

Hoshizaki America, Inc.
618 Hwy. 74 South
Peachtree City, GA 30269

Volume 186
Jan. 16, 2002

Ph: (800) 233-1940 Fax: (800) 843-1056 E-mail: techsupport@hoshizaki.com

DETAILED KM CLEANING By: Miguel Maldonado

In this article we are going to cover the details of thoroughly cleaning a Hoshizaki ice machine. We find a great deal of warranty claims being submitted for parts that have failed due to lime or calcium scale build up. This is a result of machines not being cleaned at all or not being cleaned thoroughly. The cleaning instructions are posted on the inside of the front panel of the unit, in the instruction manual provided with the unit generic instructions can be found in our Pocket Guide (Tech.-Spec.'s). Hoshizaki recommends that the machine is cleaned and sanitized at least once a year. In areas where water is undesirable, more cleaning will be required and external water treatment may be necessary.

The first thing you need to do is remove all the ice from the bin. This will prevent any of the cleaning solution from contaminating the ice. Next, turn the water off and drain the water sump tank. Depending on the model of the unit there are several ways to accomplish this. On most small KM's, there is a drain or suction hose that you can pull off and let the water drain inside the bin. In some models the overflow pipe can also be removed to allow the sump to drain, turning the pipe CCW will allow it to be removed. On the stackable KM's, there is a plug in the middle of the ice drop zone, toward the front of the unit, which can be removed to empty the sump. KML units have an automatic drain switch, which will allow the technician to simply use the units water pump to drain the sump. A drain plug is also included on the KML models so that the entire reservoir can be drained.

Now you're ready to clean the Evaporator. Because, of Hoshizaki's unique stainless steel evaporator any commercial ice machine cleaner can be used, a nickel

safe type cleaner is not required. Hoshizaki recommends LIME -A- AWAY or Hoshizaki Scale Away which is available through your local distributor. Mix you're cleaning solution with warm water in a bucket, follow the instructions on the rear of the front panel for the correct mixture ratio. Pour the solution inside the sump and move the toggle switch to the wash position. The KM units also have an additional cleaning valve that should be moved to the open or clean position. This will allow the cleaning solution to flow in between the evaporator plates as well as over the ice making side of the plate. It normally is only necessary to leave this valve open for about 5 minutes at the beginning of the cleaning cycle. It is important to return the valve to the closed position for the unit to make ice, the compressor will not operate unless this valve is completely closed. The KML units will not have the manually operated cleaning valve, instead it has a solenoid valve that automatically energizes when the second toggle switch is moved to the wash position. The KML units have two toggle switches, one is marked (**Service, Off, and Ice**) and the other (**Drain, Circulate, and Wash.**) The first switch, when placed in the Service position, will allow you to disengage the compressor and engage the second toggle switch. With this switch you can drain the unit or circulate the cleaning solution.

The solution should be circulated until the unit is clean. This may require a substantial amount of time depending on how dirty the unit is. There may be times that a more thorough cleaning may be required. This may be necessary when units are in bad water conditions or when the units have not been maintained correctly. There are a couple of ideas that may help in these tougher situations. The first is to move the spray

tubes out about 1/2” this will allow the cleaning solution to run down the fins of the evaporator and assist in the cleaning Hoshizaki also has an evaporator brush (Part number 900019) that can be ordered through you’re local Distributor. This brush is a hard nylon bristle brush and fits tightly down the channels on the evaporator. This can be beneficial in removing scale that is the result of years of poor or no maintenance.

Now empty the sump by one of the methods mentioned above. With the sump empty remove the check valve, spray tube and float switch along with the rubber connector. These components should be taken apart and soaked in ice machine cleaner to allow the acid to break down any particle build up. While these components are soaking, remove the inlet water valve strainer and clean it. It is also a good idea to take the water valve apart and insure that the diaphragm is free of scale and the diaphragm’s weep hole is clear.

Now that your ice machine is clean the unit should be sanitized. The de-scaling chemicals will not clear the algae and bacteria that can develop on the ice machine. You should run the sanitizing chemical through the unit in the same manner that the cleaner was circulated. Be sure that the cleaner and sanitizer are **not** mixed. Doing so could be harmful.

Remember maintaining your customers unit will increase the life of the machine and decrease service calls. It is the responsibility of the owner to maintain his or her equipment properly. Components that have failed due to scale build up or a lack of preventative maintenance are not considered warranty issues

WARRANTY PARTS RETURN (FLOAT SWITCH)

This month, as part of our continuing series of articles concerning warranty parts returns, we will discuss the KM float switch.

The float switch is a very simple component. It uses a magnet attached to a Styrofoam float to open and close an electrical switch. It has two basic functions, the first and its main function is to initiate the harvest cycle, the second is to offer a low or “no” water

safety. The switch simply opens or closes depending on the water level in the machine.

This part is located directly in the ice making water therefore it is susceptible to scale build up. In fact of the KM float switches that are returned under warranty approximately 84% check good and all that is needed is a good cleaning.

The float switch is composed of three or four basic parts depending on the model, the body (which includes the switch), the float, the retaining pin and for most models the rubber float switch connector.

The operation of the float switch can be checked by draining the sump tank and removing the float body from the rubber float switch connector (The KML units do not use a float switch connector). Then attach an ohmmeter to the float switch leads and check for continuity. If the float is in the up position the switch should read closed. When the float is in the down position it should read open. The float can be moved up and down with your finger, however a better way is to move the float and float body up and down in a container of water. This gives the float a more realistic movement and a more accurate test. For more detailed instructions on the float switch operation and cleaning see Tech-Tip Vols. 135,136 and 153.

The float switch and rubber connector should be thoroughly cleaned and the float switch tested before replacement. The switching mechanism of the float is encased in plastic, so it is not affected by scale build up. In most cases a float switch failure is a result of scale build up on the float, inside the body or on the float shaft. Float switches that fail due to scale build up or other preventative maintenance related issues are not considered warranty issues and should be billed to the customer.

COMING NEXT MONTH...

1. Detailed Flaker cleaning.
2. Warranty parts return (Bin stat)