



HOSHIZAKI TECHNICAL SUPPORT TECH-TIPS

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Volume 142
August 1, 1997

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TRUCK STOCK KIT

How would you like to go on a service call, diagnosis a problem, and walk out to your service truck to find exactly the part you need. The ideal situation is to have the parts in your truck for every service call you encounter. We know that this is just not realistic. You may service a Hoshizaki cuber in the morning, a walk-in freezer at noon, and a reach-in case in the evening. It's all but impossible for you to stock every service part on your truck.

This sounds like an advertisement doesn't it? Don't worry, I'm not going to ask you for a PO number. This is simply a way to let you know what is available to help you service Hoshizaki products more efficiently and professionally.

Several years back, we took a look at the most common problems associated with our cubers and flakers. After researching the parts sales and most common failed parts, we came up with a decent list for a truck stock inventory.

Obviously we wanted to keep it to a minimum and still include the important parts that will get the customer up and going. The result was the **HCSR-KIT**. This kit includes 25 items packed in a 12 x 12 x 7 box so that it doesn't take up a lot of space. It's suggested list price is ~~\$322~~. **See local distributor for current contents and price.** We actually throw in both Tech-Specs pocket guides and a bearing gauge at no charge. You can order as many as you want through your local Hoshizaki distributor. At least one for your main service truck would be ideal.

Just think, with this kit, a gallon of Hoshizaki Scale Away, and a bottle of ice machine sanitizer (part #SA004), you'll be well on the way to having the perfect Hoshizaki service truck.

KM EVAPORATOR

Stainless steel is a durable material that resists corrosion and is known in the food service industry for its sanitary aspects. These characteristics are why Hoshizaki choose stainless as the KM evaporator freezing surface. Many manufacturers use nickel plated copper for their freezing surface. Their reasoning is that copper is better for heat transfer. We realize that stainless is not the best conductor of heat however, our design makes it very efficient.

The KM evaporator has a simple three piece design. It is a copper serpentine sandwiched between two formed #304 stainless plates. Compare this to a grid cell copper plated evaporator assembly which can have 80 to 100 interlocking parts.

The copper serpentine is oval shaped so that more surface area contacts the stainless freezing surface. Most grid cell designs have a round serpentine soldered to the back of the copper plate assembly. Using oval tubing more than doubles the contact area between the tubing and freezing surface. Since the stainless plates are soldered to both sides of the tubing, the KM evaporator effectively quadruples this surface contact. This equates to more efficient use of the refrigerant flowing through the tubing.

Inlet water enters the KM evaporator through the center of the stainless plates. During the one minute initial fill cycle the water simply passes through to the reservoir. During a harvest cycle this water picks up heat from the serpentine and transfers it to the freezing surface. This provides a water assisted harvest. Looking at a top of the evaporator will help you understand how this water flow assists harvest. The incoming water enters through the supply tube

and flows across the first pass of the serpentine. It then flows through the vertical cube separators to the next pass of the serpentine. This flowing action allows for even heat distribution and plays a big part in helping to release the KM cubes.

During the freeze cycle the reservoir water is circulated to the outside freezing surface through the distribution tubes and guides. No additional water will enter through the supply tube during the freeze cycle. This circulating water will be cooled to 32° F and begin to form ice on the plates.

The forming of the crescent cube is due to the fact that the serpentine is the coldest point on the freezing surface. The ice cube begins to form over the serpentine and continues to grow outward in the natural crescent shape.

Once the individual crescent cubes are fully formed, the float switch will open to initiate the harvest cycle. As the heat from the serpentine is internally transferred to the stainless, the cube begins to melt away from the plate. A film of water is created between the cube and the plate surface. This water film holds the cube against the plate by capillary action. As the cube slides down the plate, the dimples which are formed into the flat freezing surface break this capillary hold and allow the cubes to release from the evaporator to fill the bin.

As you can see, both durability and efficiency have been incorporated into the KM crescent evaporator. It takes a quality evaporator to make a quality cuber!

SERVICE Q & A

Question: The customer calls for service complaining of water dripping inside the storage bin. What is causing this to happen?

Answer: ***by Duncan Sheridan***

This complaint points to the external drain line. The drain line is probably improperly sized, blocked or restricted. I would suggest inspecting and cleaning the drain piping. The proper drain line size is ¾" OD and the largest water supply is ½" OD on KM cubers. With this piping arrangement, the machine should always be able to drain faster than the incoming water is supplied.

I will always remember a service call I made some time ago on a machine that was located at a popular wholesale club. When I opened the ice bin storage door, I discovered the bin was filled with water to the bottom of the door opening! Upon further inspection I found the drain line outside the building which ran a total length of 200 ft. This long run allowed an excessive amount of slime to build up inside the pipe. After taking the drain line apart and using a garden hose to purge it, the drain did function. I informed the manager that a long drain line like this would probably fail again in the near future. Installing the run as short as possible, with the least amount of ells will allow drainage to flow properly and keep slime build-up from accumulating.

If the drain line is not the problem, check to make sure the machine is level. Next, search for a possible water trail caused by shipping tape or slime. Look for water leaks inside the machine. Check the pump hoses and distributor connections to be sure they are secure. Also, inspect the reservoir stand pipe for slime buildup or a displacement cap out of position.

Another area of concern would be the cube guides. Cube guides are the plastic grates located beneath the evaporator plates. Check to assure they are in place and not broken. If you find that the cube guides are broken, it could be the result of an evaporator freeze up. This would create a large ice slab that could break the cube guides or bounce them out of position when released. An evaporator that is frozen up can also allow water to leak into the ice storage bin. In this case, you must determine the cause of the freeze up and correct the problem.

On rare occasions you may find a cracked or broken evaporator case tank [reservoir or sump tank]. You can field repair the tank with an ABS repair kit available through Hoshizaki Technical Support. If requested, we will ship a repair kit with instructions to you at no charge. In closing, keep in mind the general rule that one pound of water will melt five pounds of ice. As you can see, it is imperative that you correct any water leaking into the storage area.

COMING NEXT MONTH...

1. Tubing Facts
2. Video Reviews
3. Service Q & A