Norman S Wright

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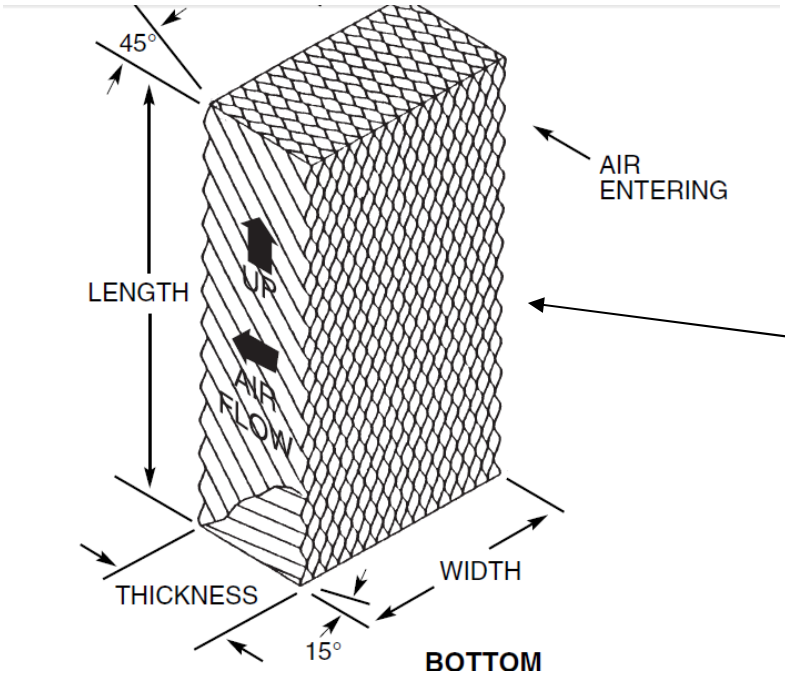
Evaporative Cooler Service

Rigid or Celdek Media

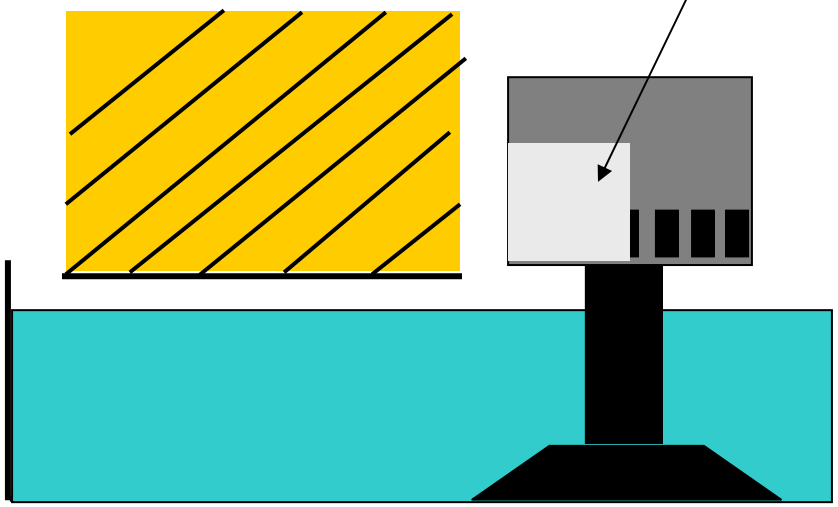
When replacing rigid media be careful to install it so the step angled openings are facing the air inlet.



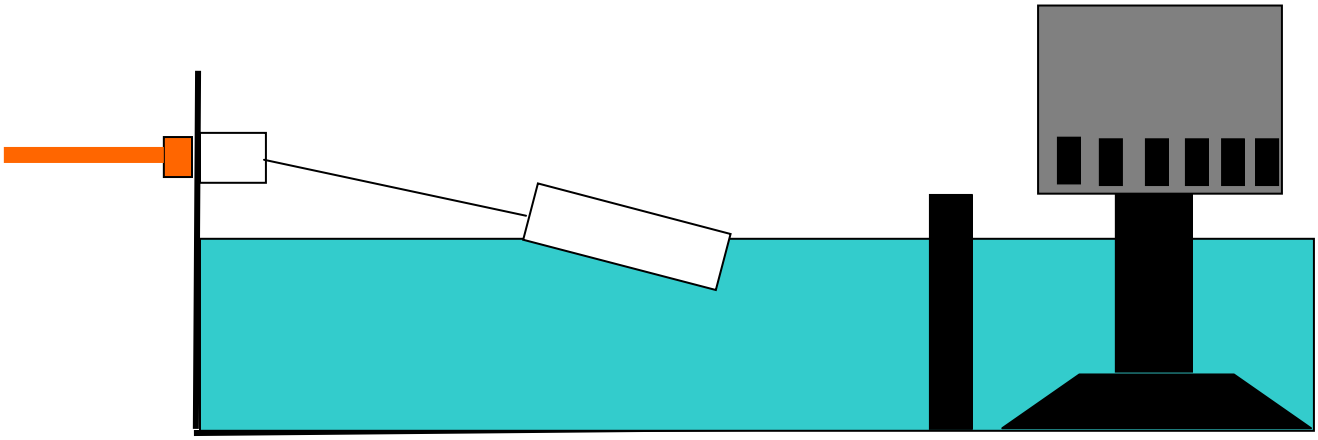
The steeper, 45° angle points downward to the front of the cooler.

The 15° angle points downward inward.

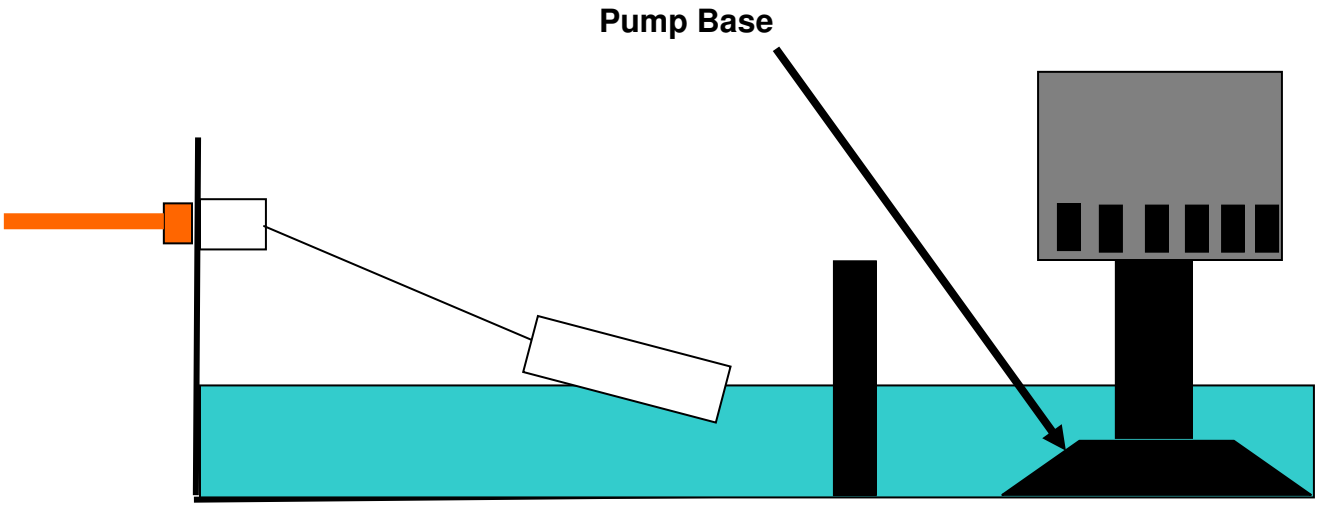
When you install a standard pump in some rigid media coolers, the pump is very close to the media. In such cases, put over the motor openings near the media, <u>not over the other half of the openings</u>.



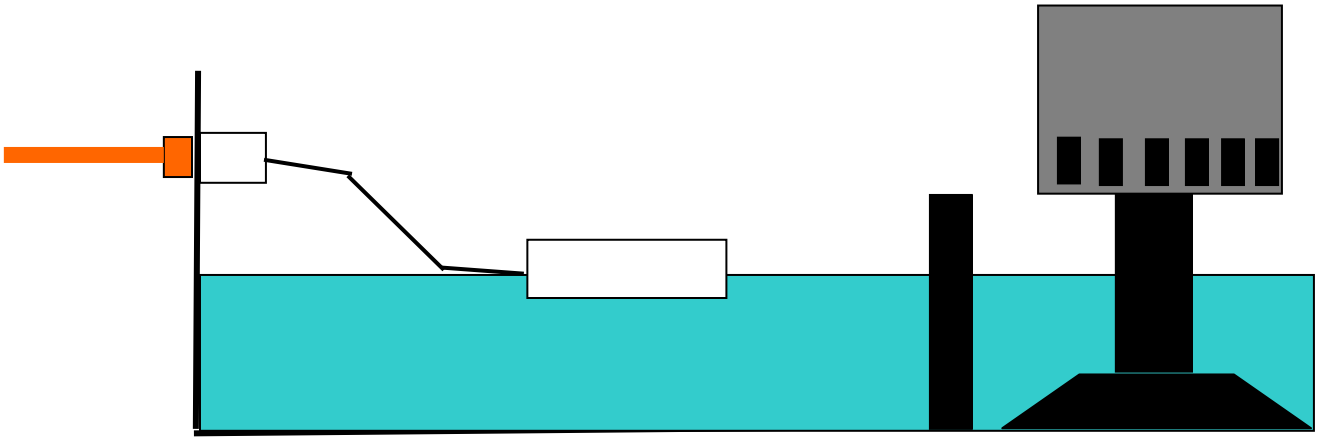
Adjusting the float valve so as to get enough water to cover the base of the pump but not overflow on shutdown can be difficult.



In this diagram the water level is so high that when the cooler shuts off, the water on the media can drain down into the reservoir and cause it to overflow onto the roof.



In this diagram the water level is so low that when the pump starts, the water level will fall below the base of the pump. When this happens, the pumps capacity drops by half or more.



By putting a step in the arm of the float, it allows the valve to travel open and closed faster with less change in the water level. By using a pair of pliers to hold the float arm, it can be bent in this fashion.

Caution: With many of the 3/8” float valves, you cannot bend the arm without breaking. These type of float valves usually have a thumb screw to loosen and adjust float level. The good news is that this type of valve is usually in the larger commercial where the reservoir tends to carry more water and is less prone to running dry.

Unlike motors, the blower shaft bearings on a cooler should be filled full when being serviced.

Properly lubricated bearings will provide years of service when the belt is properly adjusted.

Pulley And Belt Adjustments

- **Pulley adjustment.** With an ammeter, check the motor amperage. Adjust the pulley until the amperage draw on the motor is just below that specified on the motor nameplate. To adjust the pulley, loosen the adjustment set screw and rotate the sheave. Tighten the set screw so that it is over a flat area, otherwise thread damage will occur. To increase amperage draw, increase pulley diameter. To decrease amperage draw, decrease pulley diameter (Fig. 6). Recheck belt alignment.

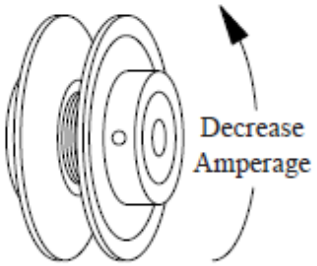


Fig. 6

⚠***CAUTION:*** **When it is necessary to adjust pulley, amperage of motor must be checked to make certain it does not exceed the maximum allowed as stamped on motor specification plate. Improper pulley adjustment will overload and burn out motor.**

- **Belt tension.** Loosen the motor mount bolts and slide the motor back until the belt is properly tensioned. A 3 lb. force should deflect the belt 3/4 inches (see Fig. 7). Retighten motor mount bolts. **Do not adjust pulley to tighten belt.**

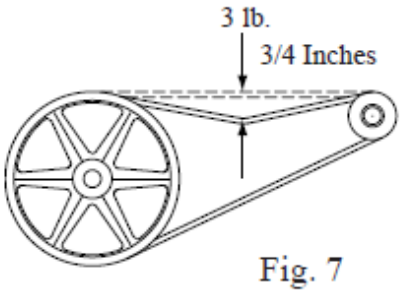


Fig. 7

Amperage Draw And Belt Tension

This unit is equipped with an adjustable motor drive pulley for adjusting the blower wheel speed to the proper loading on different duct systems. It is important that the motor drive pulley is adjusted to correct size to assure maximum air delivery without damage to the motor. Be sure to follow these instructions carefully.

- **Adjust drive pulley.** After the unit is completely installed, adjust the drive pulley to the least diameter and adjust belt tension. See the maintenance section for adjusting belt tension.
- **Start cooler.** Install all pad frames, start pump, and allow to operate until pads are wet.
- **Check amperage.** With pads wet and unit started, check amperage draw with an amperage meter.
- **Adjust pulley if necessary.** If amperage draw is less than motor rating, turn off electrical power and remove pad frame. Unplug motor inside cooler, this will protect you from someone turning on unit while you are working inside. This should be done for your

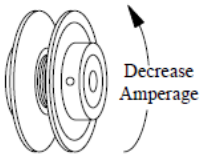


Fig. 12

To prevent build up of minerals in the cooler, a bleed off or purge system should be installed on the water pump outlet. The kit contains a metal strip that can be folded in half to pinch off the tubing so as not to allow too much water to go down the drain. You can tighten or loosen the screw in the metal clamp to adjust the bleed off rate.
It is important to not have too little as well. If you set the flow to a light trickle (just above a drip) it will clog up soon and not work. The tubing should be put down the cooler drain if connected to a drain or a near by plumbing stand pipe.

Bleed-Off

Installation of the bleed-off kit is recommended to increase the life of the cooler. A bleed-off system is designed to prevent scale build up by continually removing a small percent of the water in the pan.

- **Install Bleeder Tee and Tubing.** Refer to figure 11. Cut the pump hose and insert the barbed ends of the bleeder tee into each cut end. Insert one end of the bleeder tubing onto the bleeder tee and run the other end out of the cooler through the overflow pipe. **Note:** A restrictor clamp is provided which, if desired, may be installed onto the bleeder tubing to restrict the amount of water being bleed off. The amount of water to bleed off depends on the quality of the water in your area. Start with 1-2 gal/hr and increase if needed.

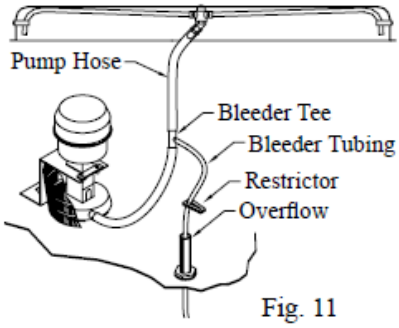


Fig. 11