



## Z\*ACRYL VERTICAL TANK OPERATING INSTRUCTIONS

**Congratulations on your purchase of the Z\*ACRYL VERTICAL ETCHING TANK.**

Your tank is made of 1/4" thick polyethylene, and is rotationally molded for seamless construction. It fits into a separate stand, 20" long and 9" wide, providing outstanding stability. The flared top allows the tank to be filled easily and safely, and to allow plates to be moved from the tank without dripping. A form-fitting lid snaps onto the tank to prevent evaporation.

With proper care and usage, your tank will provide a lifetime of convenience and safety unmatched by any other etchant receptacle. Please follow these simple directions when using or modifying the tank. If you have any questions about the safe use of this tank, please call The CRATE Inc. (1-800-651-7975).

### SETTING UP THE Z\*ACRYL VERTICAL TANK.

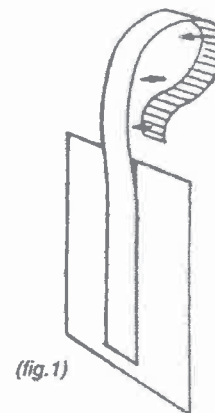
Place the BASE unit on solid, level ground. Insert the TANK through the black COMPRESSION COLLAR (see reverse side, fig. 3) and place the tank unit into the base.

### FILLING THE TANK

The tank was designed to hold 4 gallons of etchant. CAREFULLY pour the etchant into the tank.

The tank is appropriate for use with all commonly used etchants—including nitric acid. However, it was designed to encourage the use of ferric chloride. Ferric is not only a technically superior etchant, it is less expensive and dramatically safer than nitric acid. Ferric chloride is widely available as a pre-mixed solution. It requires about 4 gallons of etchant to fill the tank sufficiently to etch an 18"x24" plate. Of course you need only fill the tank high enough to submerge any particular plate. The same 4 gallons of ferric chloride will last a typical class a number of semesters, and an individual artist, years!

If for economy's sake, you choose to purchase ferric in powdered form, NEVER MIX THE FERRIC IN THE ETCHING TANK, because the heat generated as the ferric dissolves may damage it.



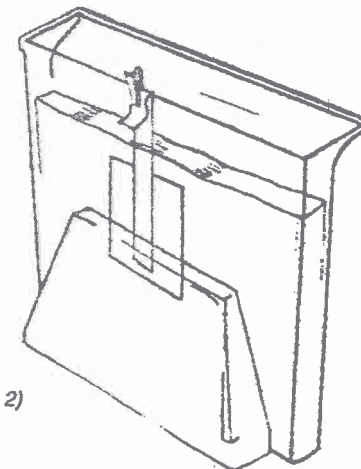
**PLEASE FOLLOW ALL HANDLING INSTRUCTIONS EXPLICITLY WHEN USING ANY CHEMICAL.**

### ETCHING THE PLATE

The plates are suspended from the sides of the tank and submerged into the etchant. To suspend a plate, a "hanger" is created from plastic packing tape. Cut a strip of tape that is 18-inches longer than the plate. Fold the top 6-inches back against the strip of tape, adhesive to adhesive, to create a non-stick "strap". The remaining length is attached to the back of the plate (fig. 1). The hanger can be attached to the tank with an ordinary plastic clothespin (fig. 2).

### EMPTYING THE TANK

Use one corner of the square, or non-flared, side when pouring liquids from the tank into another container. When the tank is full, it is very difficult to begin pouring a controllable stream, so a wide funnel should be attached to the receiving container. As the level decreases, pouring the etchant becomes easier. H-B Products distributes a superb hand-held siphon pump that makes emptying the tank extremely simple and safe (fig. 5).



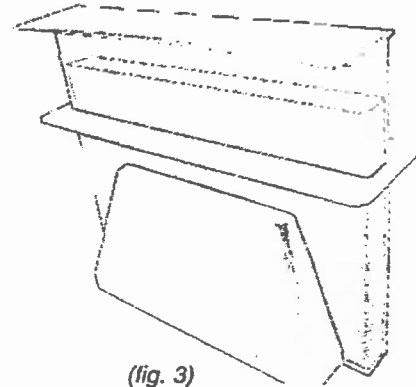
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(fig. 2)

## THE COMPRESSION COLLAR

The compression collar provides support to keep the sides of the tank from bowing out due to the pressure exerted by the etchant. Simply slide the collar up halfway between the top of the base and the level of the etchant. In most cases, the level of the etchant can be kept at about  $\frac{3}{4}$  or less. This will be sufficient depth for most etching plates (up to 16" x 24"). More etchant can be added for larger plates, and then the extra etchant can be removed. This practice will make using and moving the tank safer.

Using the hand-held siphon pump (please see figure 4 below) makes lowering the level easy, safe and quick.



(fig. 3)

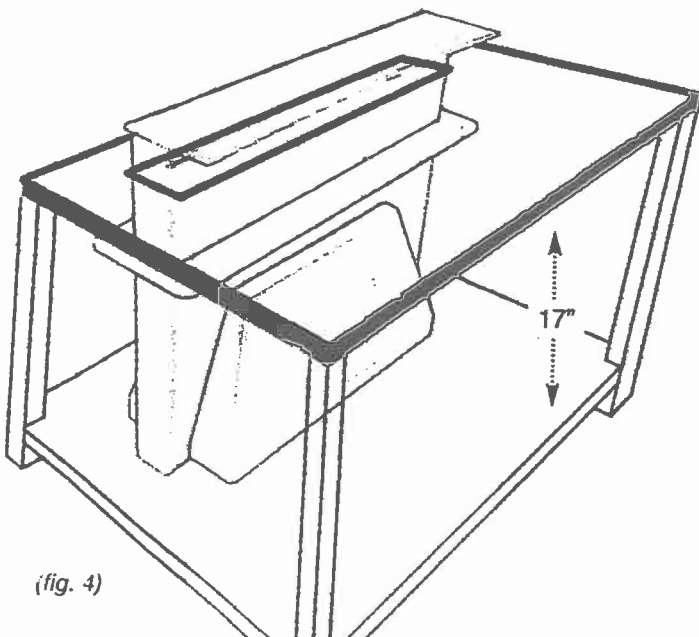
## MOUNTING THE TANK IN A TABLE

An ideal option is to suspend the VERTICAL TANK into a table top or shelving unit (please see fig. 4). In addition to providing extra support for the tank, this configuration allows a tray to be set beneath the tank's rim and frees both hands for plate handling. Use the collar as a template for cutting a hole into the table top. Support the tank base on a shelf or stable crate about 17" below the table surface. Insert the tank through the cut, through the compression collar and set it into the base. A good tip: lay vinyl contact paper on either side of the tank. The contact paper will protect the table top from any drips, and can easily be replaced when stained.

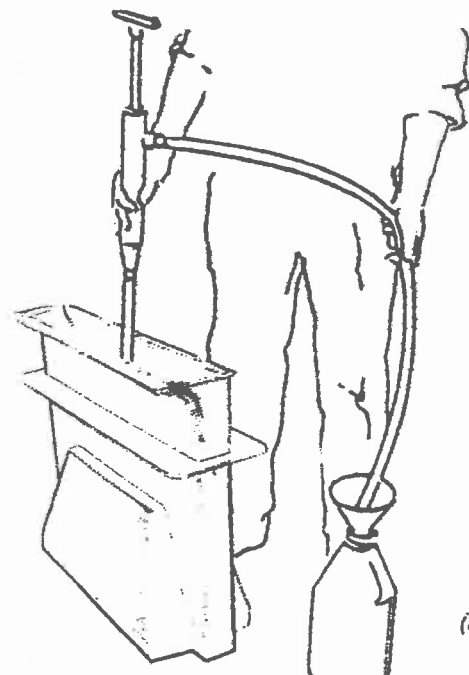
## THE BECKSON SIPHON PUMP

The HAND-HELD SIPHON PUMP provides the safest way to empty the large tank. The PUMP comes with 6 feet of hose. Cut a 14" length—this will be the intake hose. Attach the intake hose to the bottom of the pump. A longer, 46" section is attached to the output coupling located at the top of the pump near the handle. Place the intake hose into the tank and the outflow hose into the storage container (fig. 5). The storage container must be lower than the fluid level in the tank. Pump the handle a few times to prime the pump and then extend the handle fully open. Push down on the handle to stop the flow. You need not empty the entire tank with the pump since the final gallon will be easy to pour directly from the tank. Make sure the pump is completely empty of the etchant before removing it from the tank. The pump should be rinsed out (by pumping water through it) after each use. Store it in a plastic container, since some (diluted) etchant may run out later

**PLEASE USE CAUTION WHEN HANDLING ETCHANTS. WEAR GLOVES AND EYE PROTECTION.**



(fig. 4)



(fig. 5)