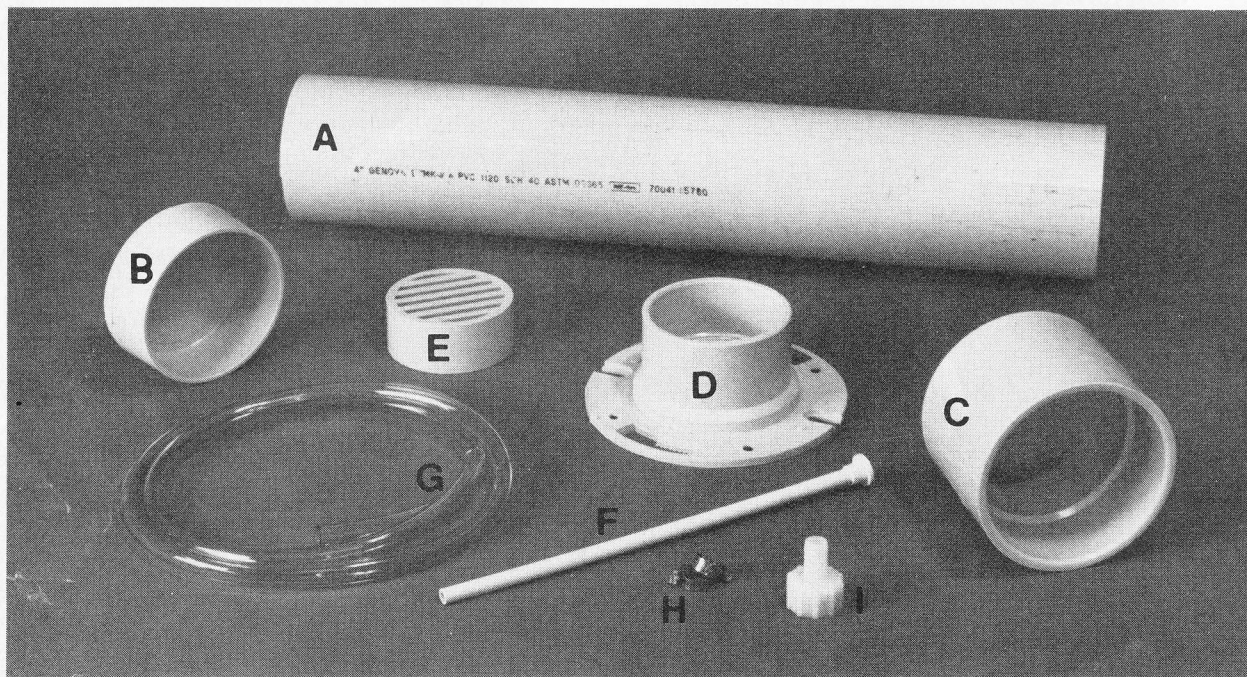


# PVC to the Rescue

How to build your own film-processing and negative-washing tanks, using inexpensive plastic parts from your local plumbing-supply store



By Michael Heller

Five years ago, while working a summer construction job to augment my photographic income, I became friendly with one of the plumbers on the project. While hanging around his truck at a lunch break one day, I happened to gaze into his parts supply which was conveniently strewn about in the bed of his pick-up. There before me, in a magic moment of visualization, were the components of a myriad of darkroom aids just waiting to be glued together.

The medium for the project was ordinary PVC (polyvinylchloride) pipe. Although the materials come in varying sizes, the photo applications have been limited mostly to the four-in.-diameter variety, more specifically four-in. Schedule 40 PVC, which is beige in color and substantially thicker than the white variety of the same.

My first concern at that time was to construct a negative washer to replace the cracked and leaking one that had served me well up until that time. As I proceeded to assemble my new negative washer, I found that the PVC would

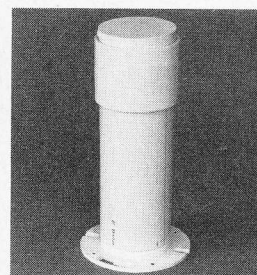
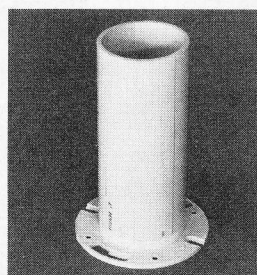
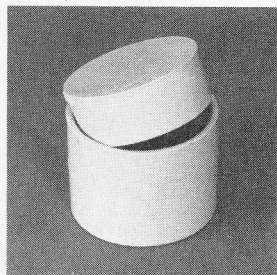
not only serve well for the washer, but would make excellent deep tanks and processing tubes as well. While costs may vary from one region to another, the average negative washer should cost no more than \$8, while the deep tanks and processing tubes can be built for about \$5.

The actual construction is quite straightforward and simple. The first step in construction is determined by how many rolls of film your washer or tanks must accommodate. I found that

*Here's what you need from your plumbing supplier: (A) four-in.-diameter Schedule 40 PVC pipe; (B) four-in.-diameter cap; (C) four-in.-diameter collar; (D) toilet flange; (E) shower drain; (F) toilet-supply tube; (G) 5/8-in. plastic hose; (H) hose clamps; (I) hose end. See text for what goes with what and how.*

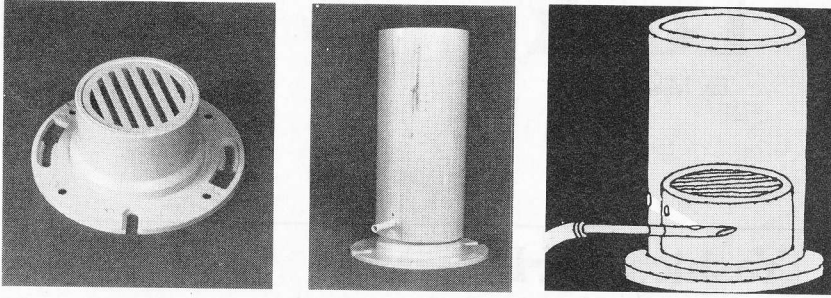
a 14-in. length of pipe works well for most of my needs, easily accommodating four 120 reels or eight 35-mm reels. If your requirements differ, just measure the height of a stack of reels and

## Film-processing tank is easy to assemble



*Glue plug and collar together for cover. Deep tank is identical to washer, but without drain or water inlet tube. Cover tank for daylight processing or storing chemicals.*

**To make negative washer you'll have to drill three holes**



Toilet flange with shower drain inside it is the base of the negative washer. Center photo, above, shows basic washer unit completed. Four-in.-diameter tube is placed over the base and two holes drilled into it—one straight in and the other at an angle (see text). In straight one, toilet-supply tube is inserted and glued. See drawing, above.

add four in. to obtain the correct length of the straight pipe.

If you are going to construct the negative washer, the first step in the construction, after determining the pipe length, will be to glue the shower drain into the inside of the toilet flange. I prefer to use epoxy cement rather than PVC glue, since the waterfeeder inlet tube will be stronger with the epoxy, but I'll get to that later.

Once the shower drain is in place, set it aside to dry.

Next, using a hand saw, cut the desired length of straight PVC pipe for the body of the washer.

File the edges smooth on both ends and glue the straight pipe onto the flange base.

Measure the distance down the inside

of the straight pipe to the top of the shower drain and mark that distance on the outside of the pipe.

Drill a hole into the unit about one in. below that line. This hole will be a pilot hole, which will later be enlarged to accommodate the water-supply tube. The hole should be in the direction of the shower-drain grating so that the flow of water will swirl up through it.

After the pilot hole has been completed enlarge it with a  $\frac{5}{8}$ -in. bit. Be careful not to make it too big, since a snug fit of the supply tube is essential. The finished hole should have burrs and loose plastic removed.

Next, cut a 45-degree line off the toilet-supply feeder. Then cut the piece back to about four in. overall.

Mix up some more epoxy and glue

the feeder tube into position, being sure to align the 45-degree end with the short side toward the center of the washer. In this way the incoming water will be forced against the sides of the washer and will swirl upward through the shower drain.

Set the unit aside to dry for 24 hours.


The only remaining work will be to drill two more holes. The first one is a simple  $\frac{1}{8}$ -in. hole in the very bottom which will serve as a drain-out hole when the washer has been shut off. The second hole is an air-bleed hole that will add air bubbles to the already swirling water. By drilling this hole at an angle *into* the water supply pipe, air will be sucked into the water.

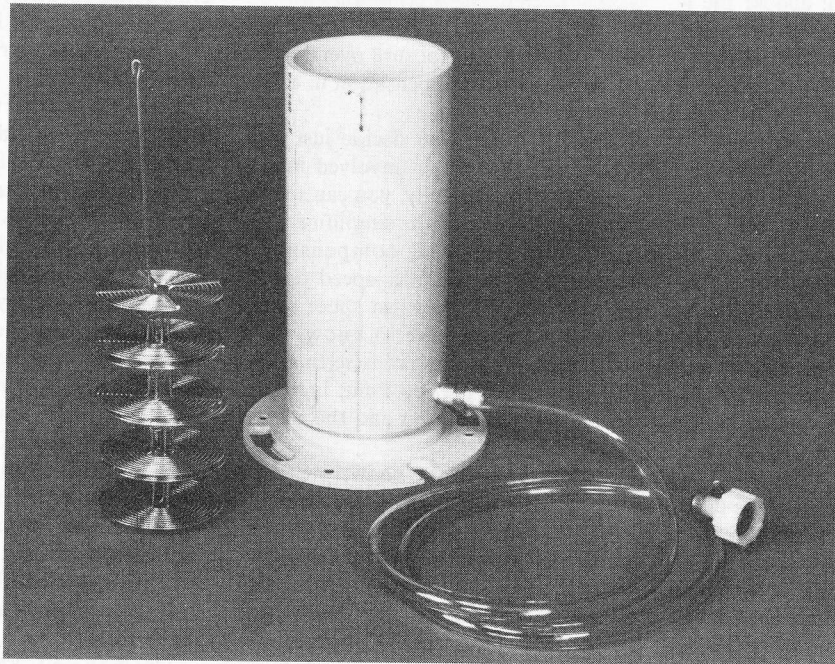
Finally, hook up a supply hose with a small hose clamp and fit the other end of the supply hose with the appropriate fitting to attach to your sink.

The deep processing tanks are quite similar to construct. As with the washer, you must first determine the desired length and cut off the straight pipe, being sure to file the edges smooth.

Next, glue the pipe onto the toilet flange, and the deep tank is completed.

You can make a simple top, from PVC, using a four-in. collar and a four-in. plug.

These tanks are easy to construct, economical, and very durable. They should last a lifetime, just like your plumbing. 



Completed washer, with hose attached. Use stainless-steel wire to make rod for holding reels.