

Making a roll film pinhole camera

Start with an old Agfa/Ansco 120 Viking or similar that shot 6x9cm images on 120 film.

The first step is to remove the lens. **Always use goggles.** A spanner wrench is the appropriate tool here but a sharp pair of needle nose pliers will work.

After the lens is off, a small drill into the center of the 'elbows' will free the door so it may be opened wide. This gives access to cut on the end of the hinge with a Dremel tool disk and remove the door. At this time, also remove the bellows as completely as possible.

Save the door to use to mix the Epoxy.



I use a simple piece of 1/8th inch thick hardboard for the lens board.

Mark the center by using a straight edge corner to corner. Bore a 1/2 inch hole. This will give you a focal length of approximately 33mm which will be roughly the same as a 13mm lens in the 35mm camera world.

Paint the both sides of the lens board with flat black paint

Okay. Now here's the tricky sticky part. It's time for the Epoxy. Mix equal amounts from each tube and use a toothpick to cover the edges where the lens board contacts the camera body. Set aside to dry.

After it has dried, mix more Epoxy and apply a bead all around the lens board, to ensure that it is completely sealed.

The ideal pinhole size for this focal length is determined as follows:
 $.03679 \times \sqrt{\text{focal length}}$ or $.03679 \times 5.74456 = .211\text{mm}$ (.0083in) diameter. Install the pinhole to the inside of the camera using black gaffer's or duct tape. Do your best to center it in the hole.

A fancy way to add a shutter is to glue step up ring to the front and use a snap-on cap for the shutter. A simpler, and less expensive method, is to use a piece of black gaffer's or duct tape.



This camera would have an aperture of $f/156$ which would make exposures fairly short, and therefore difficult to regulate. I have enclosed a pinhole of .0059 diameter which will increase the aperture to $f/220$ (use $f/256$). Exposure times on TriX, ASA 400 film, will be as follows:

Full sun	1.2 seconds
Hazy sun	3.1 seconds