

Developing Sheet Film in a Paterson Orbital Processor WITHOUT TEARS!

Want to process large format film but with no darkroom, just a changing tent? Want to develop your negatives in a daylight tank but with no developing marks round the edges from inserts or rubber bands and other contraptions designed to hold your sheets safely in a roll film tank? The answer is the Paterson Orbital Processor BUT you must make some changes for success. Here's how I get round the problems that WILL beset you if you try to develop negatives manipulated in the same way that paper prints were originally intended to be dealt with in Paterson's ingenious cross between a tray and a daylight tank.

Change 1

The bottom of the tray comes just plain like this:



Your solutions and pre-soak need to get to the back of the film as well as to the emulsion.

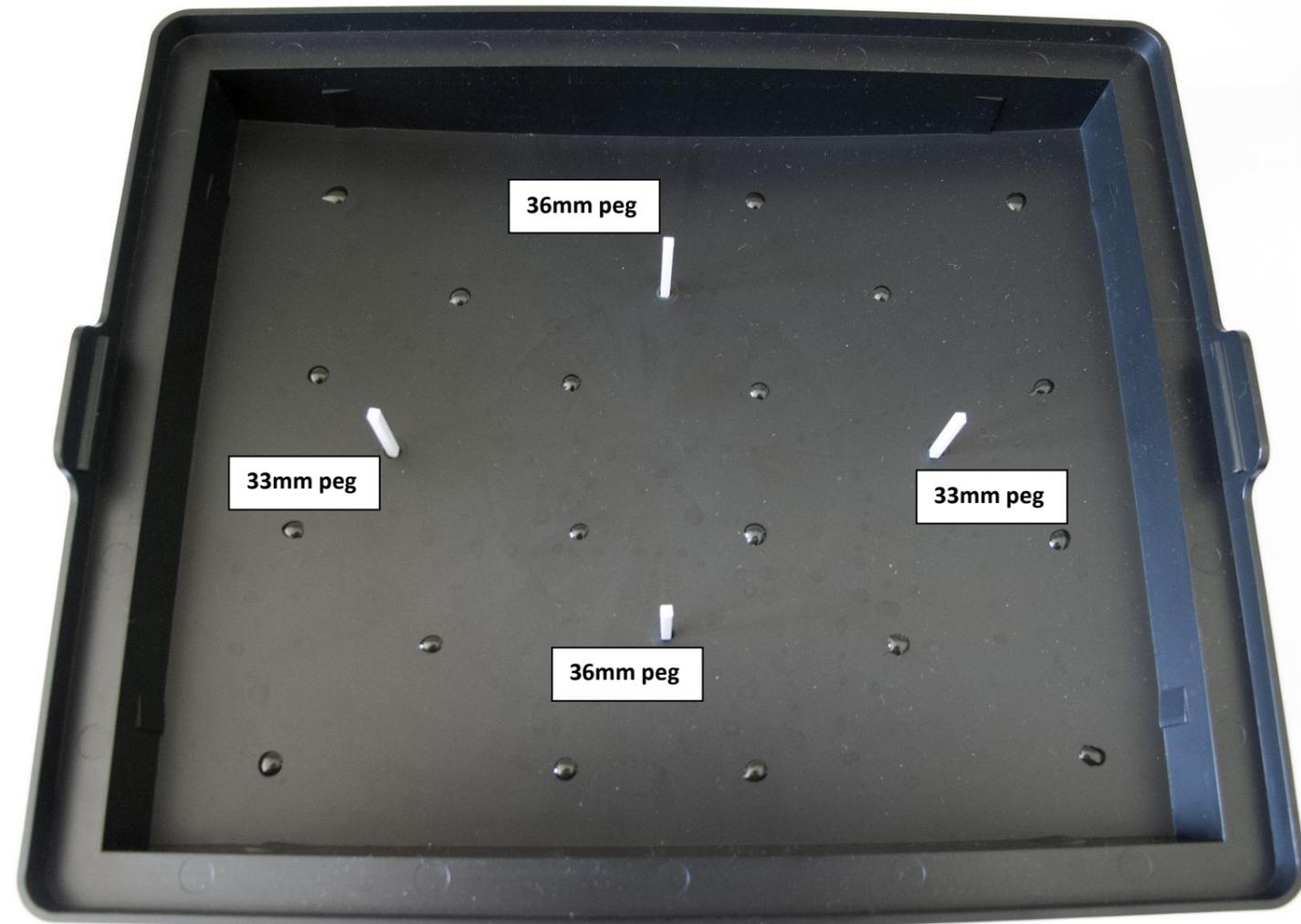
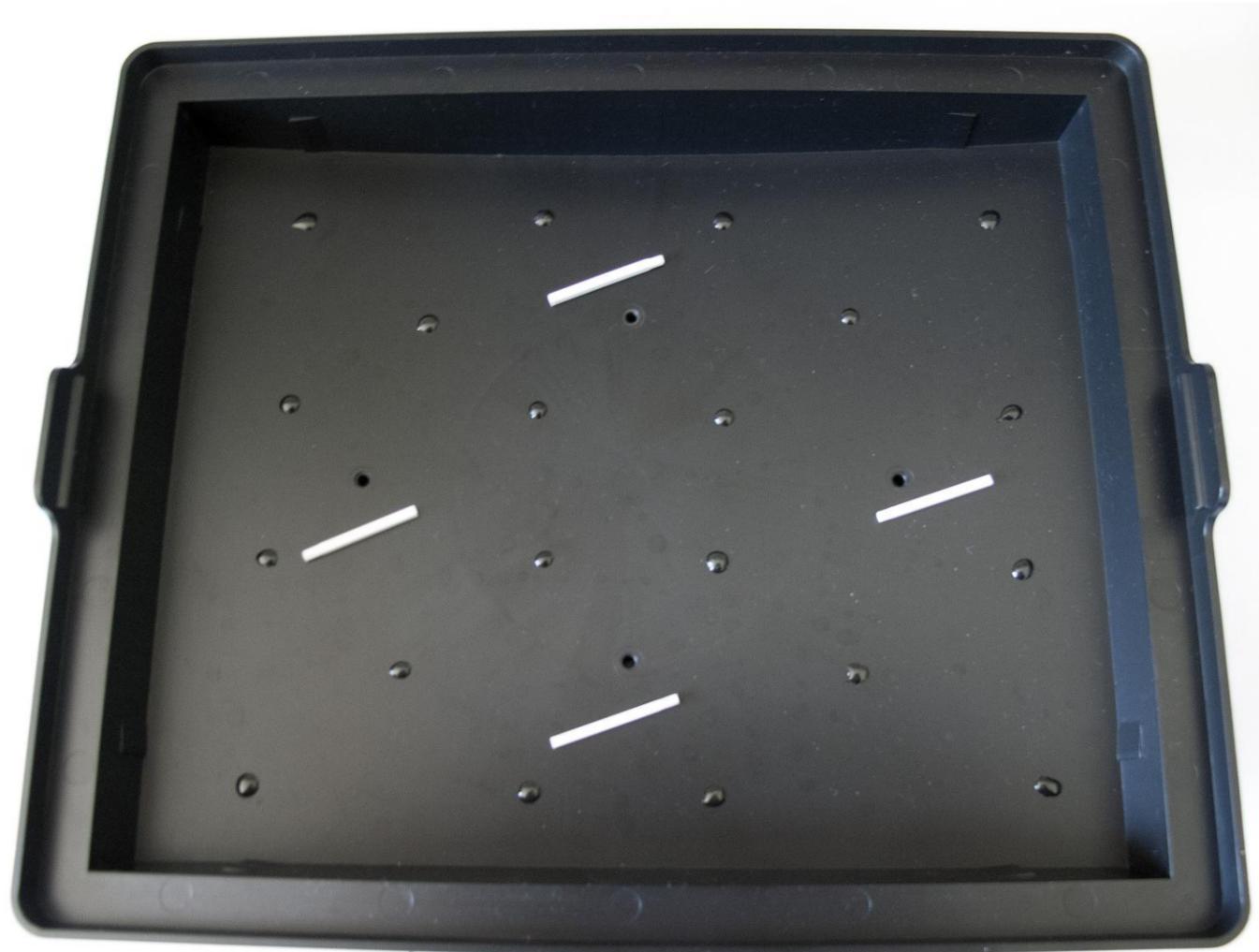
To ensure this happens you dot the bottom of the tray with epoxy adhesive to make smooth little bumps like this:



500ml

With film in this processor you cannot get away with the 50 to 150ml of solutions and the constant agitation needed to keep the emulsion wet that works for prints. Constant agitation is no good for controlling contrast and tonal range. The amount of liquid to deploy in this processor with sheet films is 500ml.

500ml will lift sheet film out of its location and over the top of the little-red-plastic-button-on-a-stick pegs. Your sheets will end up all on top of each other and you will be lucky to get even one negative developed well enough to use. So put the little red pegs on eBay, you won't need them anymore because you replace them with sticks of plastic, 2 off 36mm long and 2 off 33mm like these:



These lengths reach to just under the lid and ensure the sheets of film do not end up jumbled together with disastrous results. These sticks are square section that Steve Barnett let me have, but you can perfectly well use cotton bud stems cut to these lengths and discard them after each use as they are hollow and will retain chemicals that might contaminate your next batch of processing. It is vital that these pegs do not come out during the processing so push them in tightly.

500ml of developer will also touch the arms on the inside of the removable light trap/filler in the lid. This cause four weirs that stir the developer over and above the normal agitation ending in nightmare lines of overdeveloped emulsion to ruin your negatives.



So you remove the problem by cutting them off with a hack saw (or serrated edged bread knife)...

...filing the surface smooth again and polishing it a little with a fine emery board or similar.



Agitation

The up and down rotary action originally used with these processors is not what is needed for developing film. The orbital base is therefore no longer needed for developing black and white negatives. When carrying out the stand portions of your developing, the processor simply stands level on your work surface. You will naturally work out and have your own preferences for developing your films. Here is how I use the Paterson Orbital Processor for developing up to four sheets of 4x5 film:

Stand the processor loaded with the sheet(s) on the work surface. Pour in 500ml of the pre-soak water. Start the timer. Lift the near edge about an inch and set it down, lift it again and set it down four times, lift the right or left edge about an inch and set it down, lift it again and set it down four more times. After one minute repeat this 4+4 agitation "routine". Do this as long as you want to pre-soak. When the timer goes, pour out the pre-soak and discard it.

Pour in 500ml of the developer. Start the timer. I agitate using the above described "routine" but keep doing it over and over for the first full minute. Then I leave it all to stand level for 2 minutes. At two minutes in I agitate for one 4+4 "routine" (four times forward and back plus four times side to side). Stand level for 2 minutes again and carry out another 4+4 agitation "routine"... and so on until the time is up. Pour out the developer.

Pour in 500ml of the stop bath (I use plain tap water) and agitate using the 4+4 "routine" for 1 minute. Pour it out.

Pour in 500ml of the fixer. Start the timer. Agitate for the first minute using the 4+4 "routine" and then one 4+4 "routine" every minute until the time is up. Pour out the fixer and retain it.

Pour in 500ml of water. Agitate with the 4+4 "routine" five times. Pour out the water. Pour in another 500ml of water. Agitate with the 4+4 "routine" ten times. Pour out the water. Pour in another 500ml of water. Agitate with the 4+4 "routine" 20 times. Pour out the water. Pour in another 500ml of water. Agitate with the 4+4 "routine" 30 times. Pour out the water. Pour in another 500ml of water. Agitate with the 4+4 "routine" 40 times. Pour out the water. Pour in another 500ml of water and add a drop of wetting agent. Let it soak. Take the lid off and lift out the sheet(s) pinning them and hanging them to dry. Blotting the very bottom corner with a folded tissue after about 10 minutes is a good idea. It's the same process for 8x10 but without the plastic sticks.