

How to make a print using the SPC-100 closed cup pad printer.



Here we have a clean machine, ready for use. In this shot, the pad (the pinkish object) is already mounted. We will take you through installing the pad later in this tutorial.



After printing the positive, place it on a UV burner as shown, with the printed side face up on the glass. As you look down at it, the image should be "wrong reading" - text should be backward, etc. Since you will be placing the plate face-down on it, the end result will be a right-reading image on the plate, which will transfer that way to the object you are printing on.

You can double-check the correct orientation of the positive on the glass by making sure the dull or printed side (the side with ink on it) is facing upward. This corresponds to the emulsion side of a piece of film. The rule is "*Emulsion to Emulsion - Always.*"

In the photo, I am peeling off a protective plastic sheet that is attached to one of the plates included with your kit. Unless you have specified differently, the plates are always of the "water - wash" type, which means that you can "develop" the plate by washing the unexposed emulsion away with plain, lukewarm tap water.



Place the plate emulsion-side down on top of the positive. Be sure to line it up correctly. To expedite this, it's advisable to design your computer image so it is placed within a rectangle representing the perimeter of the plate to size. For instance, in this case the plate is 100mm x 210mm, so that should be the size of your rectangle.

The image is always placed 50mm in from the end and either side of the plate. This will put it right under the pad. After it's printed, just fit your plate to the printed rectangle and you're in business.

Suggested exposure time: 1 min. Add a few seconds to allow time for the fluorescent lamps to flicker on.



Remove the film positive and replace it with the sheet of screen tint (supplied, 200 lpi). Again, follow the rule of emulsion to emulsion. The dull side is the emulsion side. Place the plate face down on top of the screen tint and **expose for 2 minutes** plus a few seconds.

You will now wash your plate with tap water. The temperature of the water should be comfortable to the touch. **Wash the entire plate for one and a half to two minutes** and angle it so the water moves through the image area from different directions. Then dry it with compressed air, if you have it, or by patting it with any lint free paper, such as newsprint. Heat the plate for **ten minutes at 220 degrees** in any suitable oven, including toaster ovens, for ten minutes, followed by **ten minutes more in the exposure unit**.



Here is the ink cup with ring attached. This is a shot of what will become the bottom, once the cup has been married to the plate. The shiny circular objects are magnets.

NOTE: Make sure the edge of the ring is undamaged. Even a tiny nick can make it unusable, because after it's placed on the plate it won't make a tight seal and will leave streaks of ink, possibly ruining your image. Great care must be taken when handling the cup and ring because both are expensive to replace; the ring especially so. And the ring is easy to chip.



This is the other side of the cup. It will eventually become the top. Notice the screw-stopper grip.

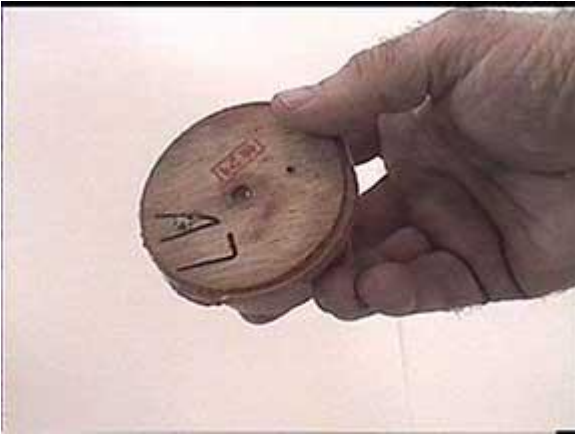


Loosening/tightening the screw-stopper. Make sure it is screwed in tightly before pouring in the ink, or there will be a mess. In the photo, light can be seen through the hole.



The pad. These come in various sizes and shapes. This is a low-durometer pad, since it squashes easily. "Durometer" is the measurement of hardness. In this case, the pad may have be 30 - 35 durometer. Higher durometer (harder) pads are better for printing textured items where it's necessary to get ink down into little, tight areas. Lower durometer (softer) pads are better for wrapping around curved surfaces, such as pens or bottles.

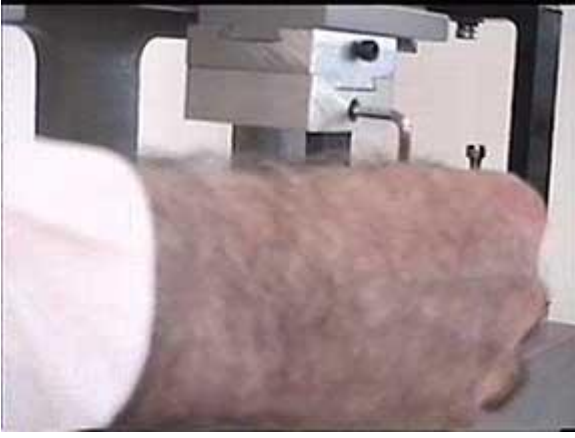
NOTE: Pad printers cannot print wrap-around images. The best they can do (and that may be stretching it on larger items) is to print an image covering approximately 90 degrees of circumference.



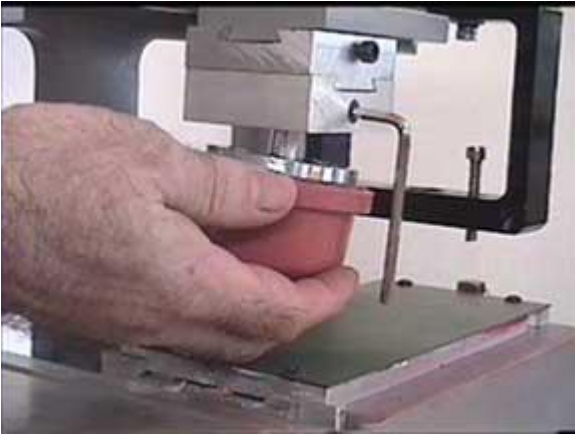
The pad from another angle. This is the base. It will be attached to the printer by way of a pad holder. The two small holes are for screws that will attach the holder. Ordinary wood screws work fine.



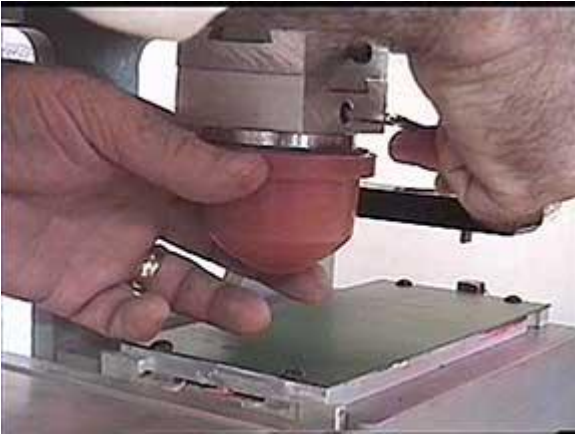
Screwing the pad holder into the base of the pad. Note the post in the center of the holder.



Loosening the pad adjustment base assembly on the SPC -100 prior to installing the pad. This is the same way all pad holders are adjusted, regardless of the type of machine (manual or automatic).



Inserting the pad: slide the post of the pad holder up into the pad adjustment base assembly.



Tightening the pad in the pad adjustment base assembly.



The completed assembly.



Mixing the ink. Using the supplied electronic scale, place the required amount of ink in a cup. Remember to zero out the scale by turning it on **after** placing the cup on it and before pouring in the ink.

NOTE: The ink cup for the SPC-100 (a 90mm cup) will hold up to 50 milligrams of ink. Minimum amount of ink to use: 20 grams.



Measuring the thinner. Start with a ratio of 10% thinner to the total amount of ink for starters, measured by weight. More thinner can always be added later through the hole in the cup. However, in practical use, I find that I frequently end up using 20% to 25%, so I usually start off with that. Experiment and find out what works for you.

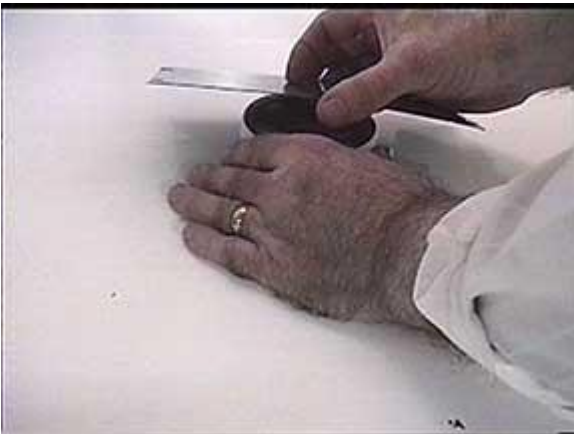
NOTE: You are at the most difficult part of pad printing. Getting the ink consistency right is affected by the weather, indoor heat or cold, and other factors. Use only 20 grams of ink so as not to use up more than you need.



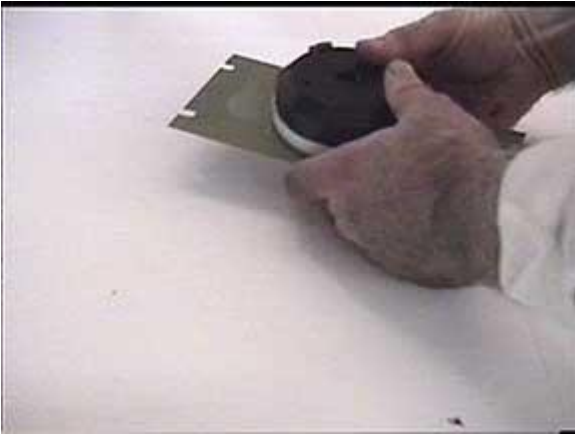
Mixing the ink and thinner. Mix thoroughly, aiming the cup away. Stir the ink in the can before use.



Pouring the ink into the cup.



Putting the cup and plate together. Bring the plate down carefully and beware of letting the magnets pull it too hard, or the ring could chip just from the impact. It's a hard ring but brittle. Just sort of ease the plate on to it.



Centering the ink cup on the plate. Make sure the plate covers the cup completely and that no part of the ring is off the edge of the plate.



Placing the ink cup/plate assembly onto the SPC -100.



Tightening the plate to the base.



Inserting the ink cup knob into the large hole in the center of the ink cup.



Screwing down the ink cup knob. Make it tight. Then back it off a little. Some experimentation will be necessary before a good compromise is reached between the tightness of the ink cup to the plate and the cup's ability to move back and forth easily on the plate.



Tightening the ink cup limit screw. It will fit into the small, off-center hole on the cup.



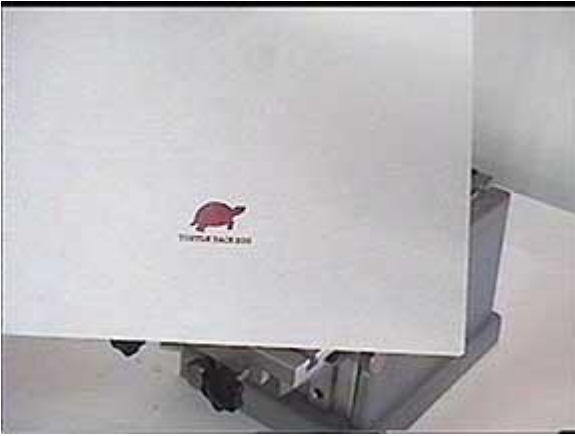
Ready to print!



Printing: picking up the image on the pad from the plate. Press down firmly.



Printing: pressing the image onto the item to be printed. In this case it's a sheet of paper.



Voila! A masterpiece.