Step-by-Step Guide:
MAKING DIGITAL FILM POSITIVES for B&W Copper-Plate Photogravure using the Epson Stylus Pro 7800

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> NOTE: The following data was developed without using RIP software. Density and curve data would be different for the Canon IPF Series Printers.

1. Create a digital file of the image you wish to print. You can use a scanner, a digital camera or draw/collage/layer directly with imaging software. This is your master version and should be saved as such. At this point, do a sharpening appropriate for the method of importing the image. Do not over-sharpen. All of the rest of the changes are specific to creating a digital copper photogravure positive and you will be saving subsequent versions.

2. We use the following color settings. You may choose to use other settings but keep this element consistent in all your files. Under Edit > Color Settings…, set the working space to Adobe RGB (1998), CMYK to US Web Coated (SWOP) v2, set Gray to Dot Gain 20%, and assign color management policies to working RGB.

3. Opened in Photoshop, flatten any layers and set Image > Mode > RGB Color to 8 or 16 bit and set the resolution at 360 ppi for Epson output at the <u>final size</u> or larger. (Note: files printed on the Canon should be at 300 dpi). Avoid up-scaling your files at all costs.

4. If the image is in colour and you wish to make a black and white gravure, use Image>Adjustments>channel mixer and select monochrome. This will remove colour without loss. You can then adjust each of the RGB channels if the tonal balance is not correct. Remember that combination of the three channels must add to 100%.

5. Make all the corrections and changes to the image until it looks exactly as you want for the final version (cropped, retouched, contrast correction, color correction, filters, etc.) Use non-destructive adjustment layers for these changes whenever possible. Keep in mind that you are viewing a transmitted light screen image version and your photogravure print will be a reflected light image. The screen image will be more luminous than the printed photogravure.

6. Save this version as "(image name)_360_master".

7. Open a new copy and flatten the layers. Layer > Flatten Image

8. If you forgot to resize the image to final print dimensions at 360 ppi, do so now, again preferably not up-scaled.

9. Change the image mode to grayscale. Use the channel mixer method above as the first step (if you have not already done so). Next step, Image > Mode > Grayscale.

10. Create a duplicate layer, Under Layer > Duplicate Layer… > Background Copy and call this shadow/highlight. Working with this Background Copy,

Select Image > Adjustments > Shadow/Highlight…: Click on the More Options box and you will get more detailed information. The following data can be used as a starting point:

Shadows – Amount 05 - 20%, Tonal Width 10 - 30%, Radius 30 px
Highlights – Amount 05 - 20%, Tonal Width 10 - 30%, Radius 30 px

This will open up the shadows and add density to the highlights. These values are starting suggestions only and will depend upon your actual image requirements. Open the info panel. Use the eye dropper tool to identify your shadow detail, and then using the shadow highlight adjustment set the shadow detail density to 85-90%. Repeat with the highlight detail and adjust to somewhere between 5 - 10%. *[See separate handout on Shadow/Highlight Adjustments for Digital Positives for Photogravure for more detailed description of this process.]* Once you have set the values that seem to work, Save… the settings into the folder containing your files before selecting OK. This will give you a file with the suffix .shh and allows you to Load… and readjust if you need to replace the Shadow/Highlight layer later.

11. The next adjustment is done by applying a printer adjustment curve. Select Layer > New Adjustment Layer > Curves…

12. In the Curves window in this new layer, under the Preset pull down options, select and apply the Printer Adjustment Curve. This will make the image look heavy and flat and this will be further exaggerated in the printed positive. Don't worry, this is in fact what we want in our positive for gravure. [See separate handout on Creating and Using Printer Adjustment Curves.]

13. Save this file as "(image name)_layered". Save this reference file in order to allow you to readjust the Curves or Highlight/Shadow settings later if needed.

14. Open a new copy of this file and flatten the layers. Layer > Flatten Image

15. Flip the image horizontally under Image > Rotate Canvas > Flip Canvas Horizontal. It should print as a mirror image on the Pictorico film.

16. To sharpen the image for printing: Layer > Duplicate Layer and hit OK. Select *overlay* in the layer menu. Filter > Other > Highpass. Adjust amount of highpass until you can see some image definition but do not overdo. I typically use around .5. Hit Ok. You can click the duplicate layer on and off to view the effect. If it is too much or too little, delete the highpass step and repeat. Be sure to keep this subtle as it could result in a grainy final print. Flatten it again once you are sure it is correct.

17. Save as "(image name)_positive".

18. Making a digital mask: Increase the Canvas Size… by 1 millimeter for both height and width with the image centered. Set canvas extension color to white.

19. Change the canvas size again, this time adding 1 to 1.5 cm to both height and width with the image centered. This time set canvas extension color to black.
20. Add another cm width to one side for the stepscale area, do the previous step again with more black added to just one edge. This final size is the size to cut the tissue so it will align with the edge of this black border. We recommend the use of this digital mask if you find that you are getting evidence of contact issues (haloing) in the outer perimeter of your image.
21. Open the 0 – 100% greyscale step scale file (must have the same printer adjustment curve applied and then the file flattened) and drag the flattened step scale into this wider space and position it about 5 mm from the 1 mm white border surrounding the image. Then flatten your file one last time. By doing this, you have eliminated the need to strip in a step-scale or create a paper mask for your positive.
22. To Print on Pictorico or Transfilm or other transparent media, create a correct page set up for your image. Under File > Print…
23. In Color Management pull-down select Printer Manages Color. Be sure the working profile is Adobe RGB. Rendering intent should be Relative Colormetric.
24. Hit the Print button and a new dialogue box will appear.
25. In the layout menu, select the Print Settings:
26. In Page Set-up, make sure you have selected the correct choice of Sheet or Roll.
27. Media Type: Premium Photo Glossy Paper (manufacturer's suggestion for Pictorico film)
28. Select Color.
29. Advanced Settings: 2880 dpi, High Speed is OFF, Micro Weave is ON
30. Printer Color Management: Color Controls ON, Mode: Adobe RGB, Gamma 1.8
31. Print.
32. Let the printed positive dry for at least 15 minutes on a non-absorbent surface and then can be used or stored. To store, keep away from dust and moisture. Before using the positive, we strongly recommend heat setting the positive for 10 minutes. This can be done using a fan with a heat setting, a hair dryer, or a polymer plate-maker drying unit. This step is particularly important if you are working in humid conditions. Without this step, the inkjet can transfer on to your gelatin tissue during exposure. If this happens, use alcohol to remove the inkjet traces.
33. If you have not included the stepscale with your positive as per step 21, after printing, include (strip in) the gravure etching stepscale when making the positive mask for exposure.
34. Etching consideration: A digital positive will necessitate a slight shortening of the overall etch time compared to a lith film positive. From the time when the shadow **detail** (80 – 90% is typically the shadow detail) etching begins, attempt to complete the etch within 18 to 20 minutes. It is also

important to ensure that there is good separation between the etching of 100% and 90% steps, so try to keep 2.5 to 3 minutes between the etch start of each of these steps and then gradually diminish the etch time between steps as it progresses. Be careful not to over etch 10% step, we find a one minute etch for this step is usually sufficient. 0% Step should not etch. If it begins to etch, stop the etch immediately or your spectral whites will be etched. We include a 5% step on our stepscale as a safety gauge. Once this step is etching, we know it is time to stop the etch.