


SILK SCREEN BASICS

An illustration of a silk screen printing tool, specifically a squeegee, positioned over the letter 'K' in the word 'SILK'. The squeegee has a grey handle and a green rubber blade.

A Complete How-to Handbook

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Published by Gingko Press Inc. 2011

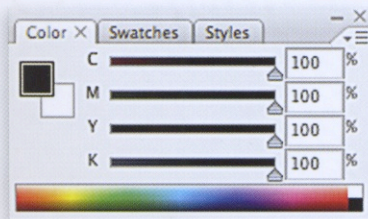
VECTOR/FILL PRINTING

The quickest way to transfer a design onto a film positive is to print it. Whatever design you want to print, remember that it will need to be as opaque as possible, and that it will have to be properly sized for the screen you are going to burn.

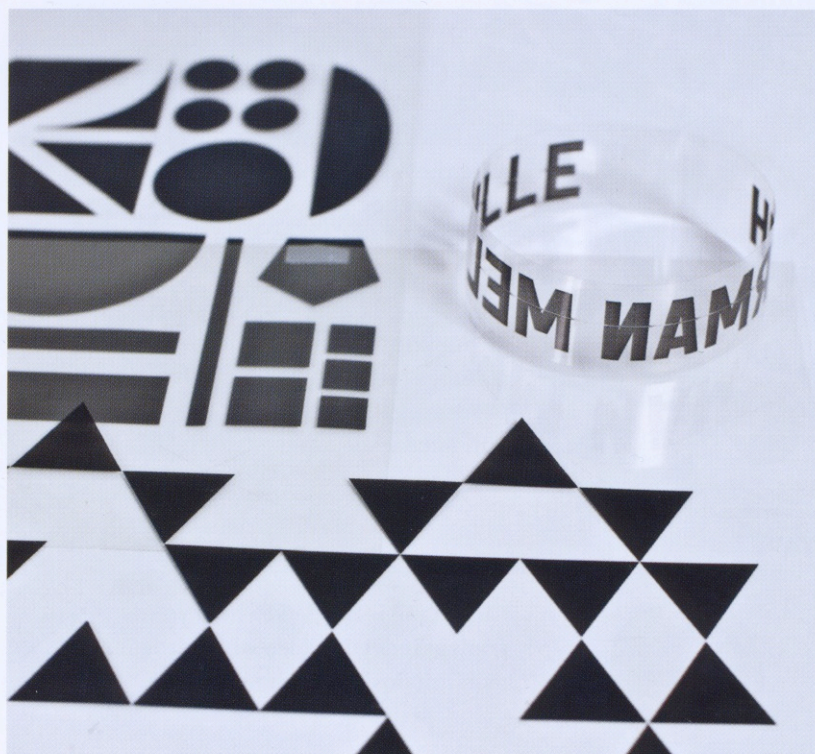
Another important consideration is detail. Standard meshes are 110-195 lines per inch (lpi), which will limit you to 0.25pt.

If you're printing a simple vector image, the process is pretty straightforward, but check the final film to make sure it's opaque enough.

- THE THINNEST LINES CANNOT BE LESS THAN 0.25 POINT
- PRINT WITH 100% CMYK BLACK
- THERE MUST BE NO GRADIENTS SHADOWS OR COLOR TINTS
- ALL TEXT SHOULD BE CONVERTED TO OUTLINE



tip: Check the printer before printing; stains and ink blots on the rolls can produce opaque streaks.



CONVERTING A B/W PHOTO

For a one-color screenprint:

Make sure your starting image has a resolution of at least 300dpi (dots per inch).

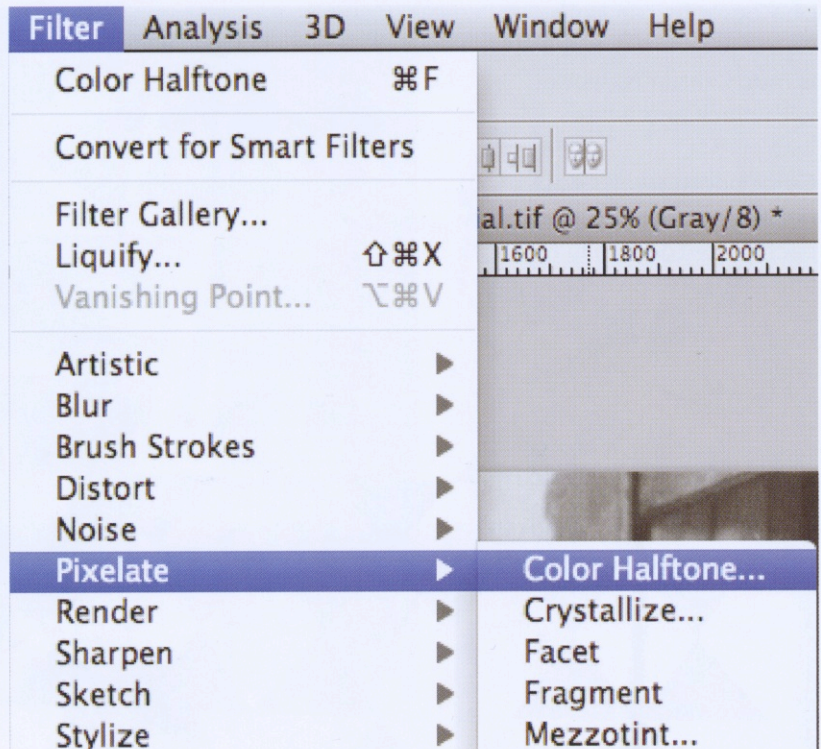
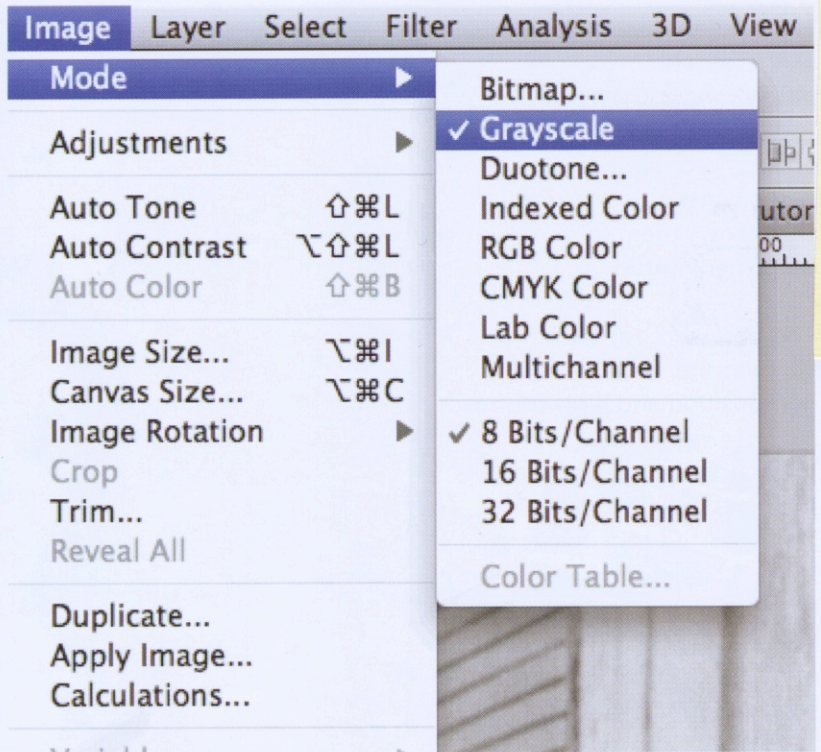
Convert it to grayscale

• IMAGE>MODE>GRAYSCALE

If necessary, adjust the levels to increase the contrast.

Next, create the halftone using the Color Halftone filter

• FILTER>PIXELATE>COLOR HALFTONE



tip: 🍷

Half-toning isn't an exact science. Experiment with different settings to obtain the best results.

CONVERTING A B/W PHOTO

To obtain a one-tint picture, convert to bitmap.

• IMAGE>MODE>BITMAP

RESOLUTION

This method also allows you to control the output resolution and the lpi frequency.

Choose the frequency according to your mesh count.

To obtain a rough figure of lpi, you should divide your mesh count (M) by 3.5.

• $M / 3.5 = \text{LPI}$

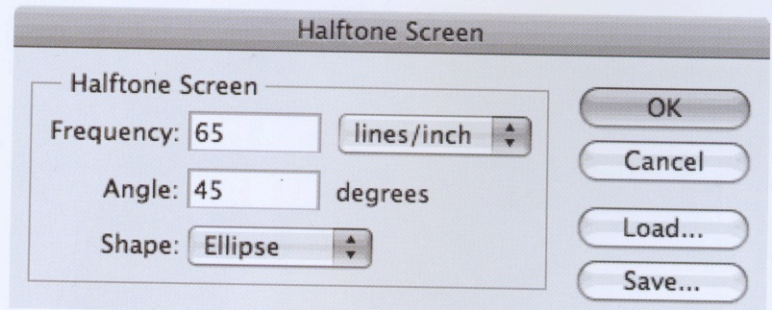
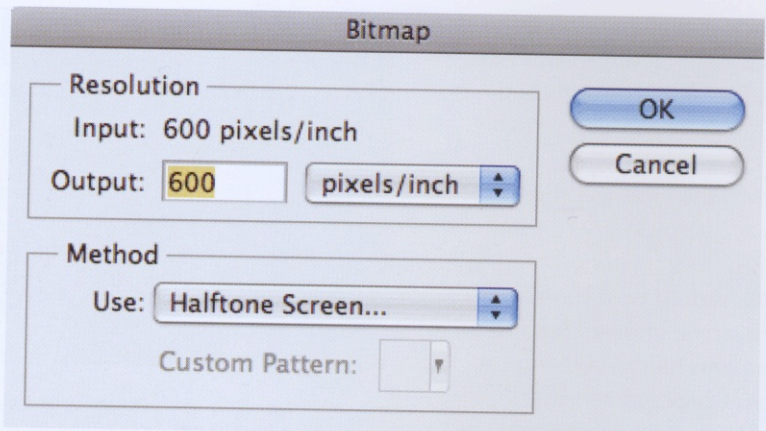
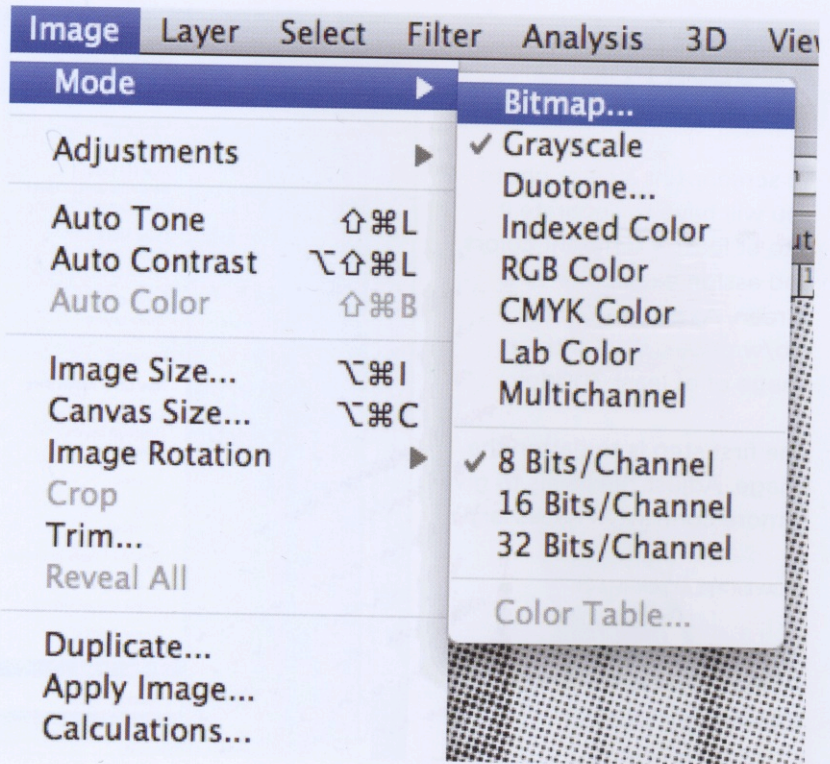
Don't forget to round the lpi.

ANGLE

Use a 45° angle. In one-color halftoning, however, this is not crucial, since there will be no overlaying thus no moiré effect.

SHAPE

The ellipse is widely used for one color halftoning, but feel free to experiment with other shapes.



CONVERTING A COLOR PHOTO

To screenprint a color photo you will have to separate it into at least 4 different colors, and assign each color to a screen. As you would for a b/w photo, start with an image of at least 300dpi.

The first step is to flatten the image. Adjust the levels to give it more contrast, if necessary.

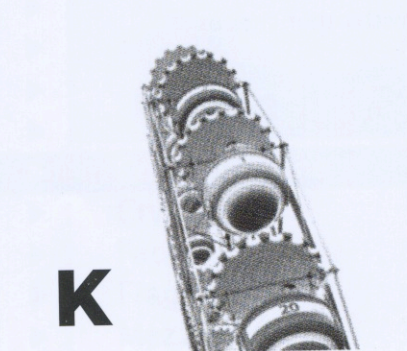
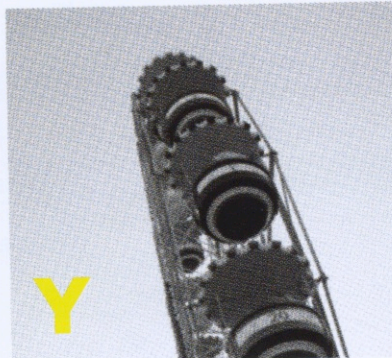
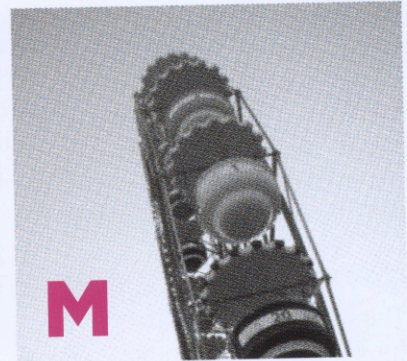
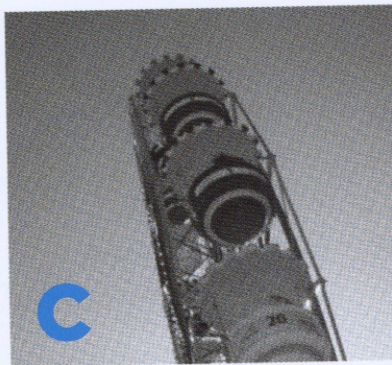
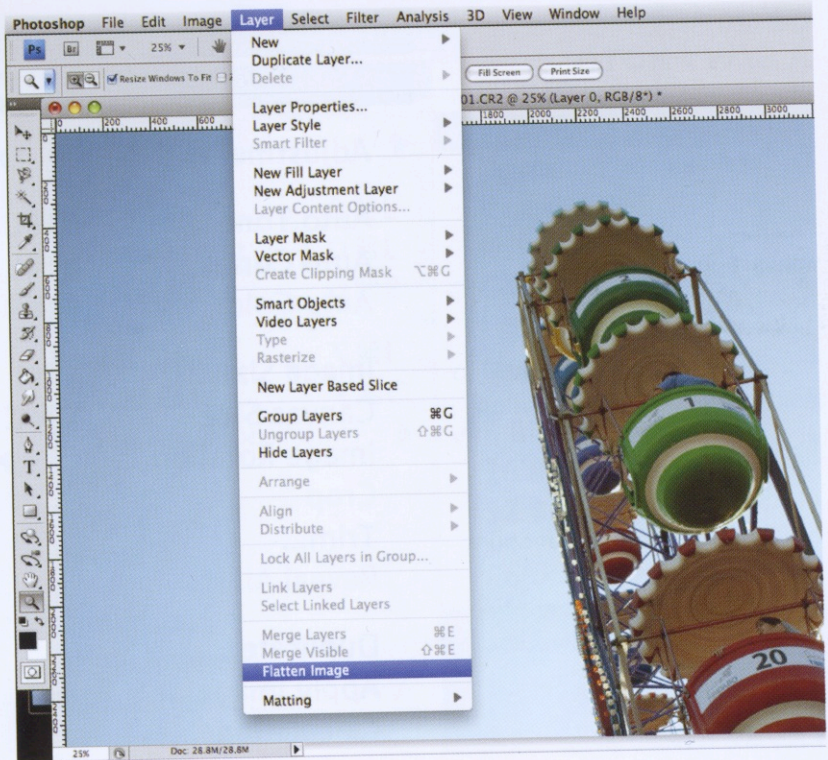
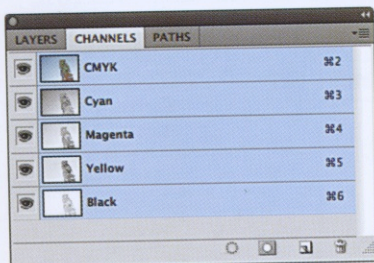
• LAYER>FLATTEN IMAGE

SPLITTING THE CHANNELS

Next, you have to place each channel in a different plate, i.e. file, that you will then burn in a separate screen.

From the CHANNELS menu pick SPLIT CHANNELS

You should now have 4 grayscale images, which you can halftone using the same process as for the B/W photo conversion.



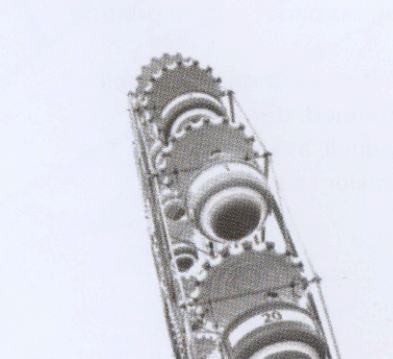
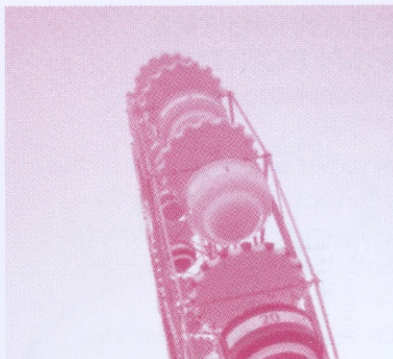
MOIRÉ EFFECT AND SCREEN ANGLE

When converting a color photo, halftone angle is important to avoid a moiré effect. The moiré effect produces a distortion in the superposition of the colors and can ruin a print job.

To prevent moiré patterns in your prints, a rule of thumb is to offset each screen angle by 15 to 30 degrees.

This is only a general pattern, so feel free to experiment:

- CYAN = 75°
- MAGENTA = 15°
- YELLOW = 105°
- BLACK = 45°



THIS IS A SIMULATION OF A SCREENPRINTED COLOR RECOMPOSITION.



tip: 🛠️

Your lpi measurement tells you how many lines per inch will be needed to draw the halftone. In other words, how small the dots will be, allowing for higher resolution in the halftoned image.