

THE WORK PROCESS – PHASE I

STEP 1:

Convert the image to black-and-white

Once you have opened your file, you can convert the image to a black-and-white image.

Menu Bar > File > Open

There are more options in Photoshop to change a color image to a black-and-white image. I always use one of two or both of them in combination:

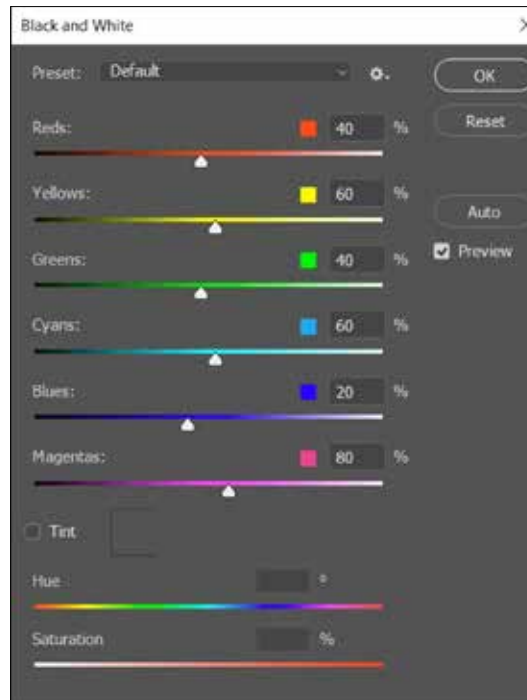
Menu Bar > Image > Mode > Grayscale

Your image will be converted to grayscale and you can start fine-tuning it immediately, until it looks on the screen as you would like it in the final print.

Menu Bar > Image > Adjustments > Black & White

Using this option, you also convert your image to grayscale, but it is technically still a color image (RGB). Here you get the option to selectively mix the different color channels to a monochrome image (ill. 7).

You can work with the sliders for each color in the palette, or you can click on a color in the palette and work with the mouse directly in a specific area of the image.



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Black & White Adjustment Palette

Which method you prefer should depend on the image and how delicate the adjustments, you want to make, are. The easiest (but not always the best) is to go directly to the first option, but if you choose the second option, you must be aware that the image you see on the screen

appears to be black-and-white, but technically is it an RGB image. So, before you go ahead, you must change the image mode to Grayscale.

STEP 2:

Adjust the bits depth:

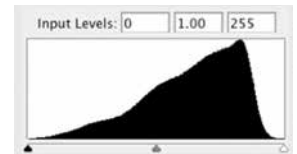
Menu Bar > Image > Mode > 16 Bits/Channel

In digital positives, you can only achieve the finest tones up to a certain limit, not to be exceeded. It is the Bits Depth of a file, which limits the tonal range of the pixel composition in the image. Photoshop distinguishes between an image setting in 8 Bits and 16 Bits (or higher). The number refers to the number of possible tones, the file, software or camera is able to contain. An 8 Bits image holds 256 possible gray tones from black to white, a 16 Bits image contains 65,536 possible shades of gray from black to white – however, Photoshop can only reproduce half of this. You should always photograph your images in the highest resolution and always open and save them as 16 Bits images in Photoshop. This makes it easier to make tonal adjustments during the image processing. A 16 Bits image allows far more accurate interpolation in the image than an 8 Bit image. For example, you can change a value in the adjustment curve from 15 to 15.05 in a 16 Bit image, whereas in an 8 Bit image you can only jump from 15 to 16 Bits, so every time you correct something in your image, you lose lots of delicate

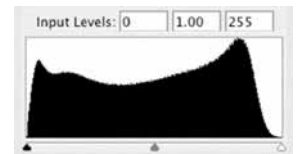
tones, and the more you have, the more you can afford to lose. The illustration below shows the tonal loss that occurs in an 8 Bits image.

When tonal adjustments are applied to an 8-Bits image, empty gaps occur within some tone ranges, and in other areas the pixels fall over each another and get compressed (loss of contrast). The bottom histogram shows the loss of tones (the white stripes are empty spaces).

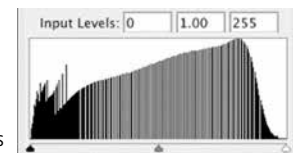
Histogram of an original 16 Bit file before adjustment curve:
Note Smoothness



Histogram of an original 16 Bit file after adjustment curve:
Note Smoothness



Histogram of an 8 Bit version of the file after adjustment curve:
Note Combing & Gaps



Tonal smoothness in 8 and 16 Bits histograms.

The peaks to the left in the histogram indicate too many pixels in the shadow areas (the pixels fall over each other). In the right side of the diagram, spaces appear and indicate loss of pixels. In the 16 Bits version the contrast smoothens and creates more delicate gray tones in the final image.

STEP 3:

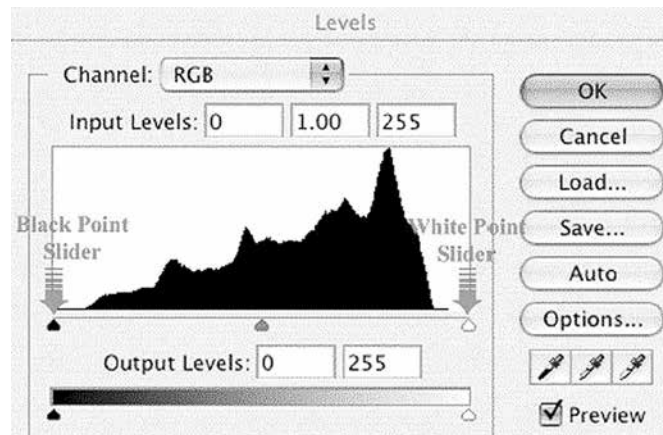
Adjust the tonal range - set the black and the white point

Menu Bar > Image > Adjustment > Levels

During the image preparation, this adjustment should be the only one, and the file should always be saved with this layer, so you can go back and adjust the values as needed. This histogram shows the distribution of tones in the image. With the help of the sliders to the left and right of the chart you can add the black point and the white point to the image. With The Black Point Slider to the left you can control which values in the image should be 100% black. If you push the slider to the right, it means that all values, which either fall directly on the point or to the left of this point, will be depicted carbon black.

The reverse is true for The White Point Slider to the right of the histogram – when you move it to the left, it means that all values that fall on or to the right of the white point will be depicted white.

The numeric values depicted in the histogram show a total number of shades of gray between 0 and 255. If you are working with 16 Bit images, you should think of these numbers as a summary of a far bigger number of "16 Bits tones." A histogram that should show all 32,000 tones could not be on screen.



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Placing of the black and the white point.

Once you have placed the black and the white point at the start and end point of the histogram, you know that all pixels with information about gray tones lie between the two extremes, and no information is wasted.

Try to let Photoshop decide: > click Auto and compare with your manual selection of the black and the white point.

Try holding down the Alt button when you push on the black and white slider. Now you can place the black and the white point much more accurately.

Everything you have done so far is a "must do" - that is, actions you must perform each time you open an image in order to achieve the optimal technical result of the image.

STEP 4: **Your personal corrections**

Changes you add from now on in the image are personal artistic or aesthetic changes, which do not make the image better technically, but may make it more interesting. In this category, you could first try to adjust the image' mid-

range tones. You do this using the midrange slider in the center (**ill. 9**).

If you slide it to the right, the tones of the image will darken, and pushing it to the left they become brighter. In this way, by using the midrange slider, you can decide how your final image should look. However, here it is important to pay attention to the fact that by using this slider, you influence the tone range throughout the image, while by using the adjustment tool "Curves" you can work more selectively - that is, affect tones and contrasts locally in the image (**see step 6**).

STEP 5: **Complete and save the file as a master image**

Only when you are completely satisfied with the result on the screen, you save your image. This you should do in a separate folder, which you can call "master images," before proceeding, remember to save it under another name than the original, without any compression and with all layers preserved (i.e. as TIFF file in 16 Bits). This makes it easier to find the original image again later.

The images you have saved in the "master images" folder are all optimized, both technically and aesthetically. They are ready to print on photo paper with a perfect result. But you

are not going to print on photo paper, you are going to print on a transparency film for photo-gravure. The photo paper has been designed for printing the final image from a printer.

You are going to print the image as a transparency positive on a film that must be exposed afterwards to a photopolymer plate, etched, inked up and finally printed manually on special intaglio paper on an etching press. Therefore, you need to adjust the settings to the printing of the positive for this process.

Photopolymer plates tend to lose information in areas of the image that are brighter than 20% gray and is darker than 80% gray. If you do not compensate for this problem, your prints end up having too much contrast, with serious lack of tones in the brightest and darkest areas of the image.

This correction is easily made using the Adjustments layer "Curves". If you print the image, you see on the screen now, on photo paper, you get a perfect reproduction - what you see on the screen is what you get on the paper. If, on the other hand, you print the image on a transparent film and then expose it to the photopolymer plate, the final print becomes too dark and with too much contrast.

This is why you need to fine-tune the tones and the contrast of the image to secure a

correct reproduction of the image in the final photogravure.

STEP 6:

Fine-tune the master image for the UV exposure

First you must merge all layers::

Menu Bar > click Layer > click Merge Layers

Then you open Curves (**see diagram - ill. 10**)

Menu Bar > click Image > click Adjustments > click Curves

Here you enter the following Input/Output values in the coordinate system of the curve:

INPUT	OUTPUT
5%	10%
20%	31%
50%	55%
70%	68%
95%	92%

This is how to do it: Click anywhere on the curve and then enter the values in the Input/Output boxes. First the lowest value (Input 5% and Output 10%), then click on the curve again and enter the next Input/Output values (Input 20% and Output 31%) into the boxes, and so on.