

## Artwork Types and Preparation

The key to using your system is to use GOOD CLEAN ARTWORK, free of marks, blemishes and that is on dry paper.

1. Use the correct type of artwork
2. Prepare it properly - some artwork requires NO preparation if made correctly
3. Image your design correctly

### Tip for best results

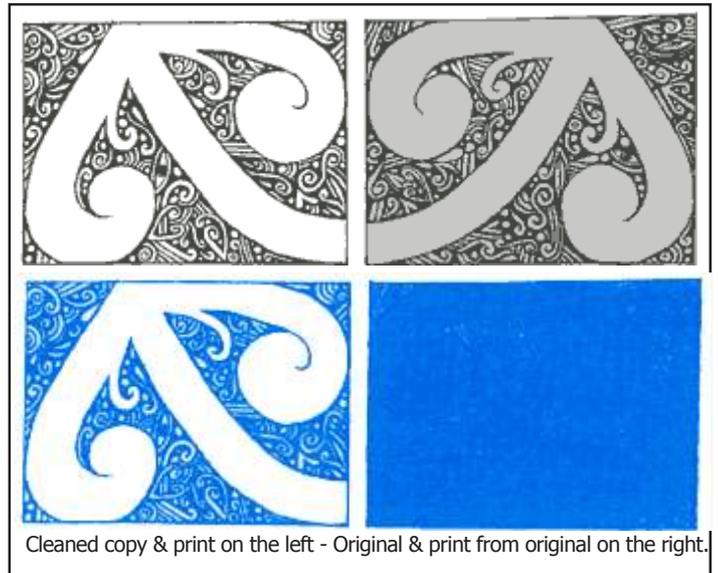
Your artwork should be converted to straight black & white where possible [unless you require grey tones] as the system does not use colour to image the screen - colour is added by you during the printing process.

Here's a graphic example of how a design with a grey background prints compared to the other half that has been cleaned of the grey background and had the lines changed to black.

As you can see, too much grey can be reproduced as a solid tone that overtakes the rest of your design.

If you require a coloured background, separate the design onto 2 screens/ layers.

Details on colour separations is available on Information Sheet number 12 & 13



### Artwork Types

The obtaining of artwork can be divided into 4 main types -

1. Hand drawn with RISO Artwork Pen
2. Off set printed with carbon ink - RISO design books
3. Photocopy
4. Laser Print from a computer

#### Hand Drawn Artwork Using Carbon Based Artwork Pens

1. Design & draw the original artwork.

B5 Drawing Paper [S-310] provides an excellent tool for hand drawn artwork as the outer dimensions available on both B6 and B5 are clearly shown and the blue grid will not reproduce when imaged. Artwork layout sheets [S-035 ] are great for smaller designs and have a reusable sticky surface.

2. Dry the Artwork with a hair drier to remove ALL THE MOISTURE from the design.

**This is important or parts of the artwork may stick.**

3. Image the artwork as per the systems operation guide.

### Some pens that contain carbon

In addition to the RISO Carbon Artwork pens you can also use:

Black Sharpie, Pentel Color Pen, Tombow Brush Pen, Itoya Fine Point [non permanent], Pigma Micron, Pitt Pen, Zig Calligraphy, Staedtler Pigment Liner, Rapidograph Ultradraw, Stabilo [all], Ritmo Charcoal, China Marker, Staedtler 2b pencil, Sanford Uni-Ball, Black Crayon - If you know another, please tell us .

#### Off Set Printed Artwork

Off Set artwork is imaged in the same procedure as hand drawn originals, explained above.

Ensure the design has been dried and of course free of dust/ marks.



### Using a Photocopy

1. Select design required, place face down onto the glass of the photocopier.
2. Lighten contrast setting to above normal - The lighter the copy the less background 'spots' will be reproduced. The best copy is the lightest copy available but without going to the extent that part of the design begins to fade.
3. Image the artwork as per the systems operation guide.



### Laser Prints from a Computer

The carbon content and concentration from a laser printer is the greatest of all forms of artwork - this can lead to the problem of excess carbon blocking the screen from over imaging [too much carbon in a small area causes the thermal film to not only melt but bind to the strands of the screen mesh].

For most designs where type face is above 14 point and/or solid designs are being used, it is suggested that the Artwork Clean Up procedure be performed first to remove moisture, heat set the carbon and remove excess deposits of carbon on the design.

If the artwork is simple text, then it can be imaged directly after being printed - DO NOT ALLOW IT TO SIT AROUND OR IT WILL ABSORB MOISTURE AND ASSOCIATED PROBLEMS MAY ARISE.

NB: Using Laser printed artwork still requires a blue filter - unless the Artwork Clean Up procedure has been performed- The process may also be slightly trial & error to suit your individual laser printer as the carbon settings from each make & model vary too greatly for NEHOC to provide definitive guides.

If unsure, USE THE ARTWORK CLEAN UP PROCEDURE, it will provide you a great result every time!

### Note on Ink Jet/ Bubble Jet Printers

Ink Jet prints are not carbon based, but rather a mixture of alcohol/ pigments/ water and are unsuitable for use with our screens. To use an inkjet print simply take a photocopy of the design and use the photocopy.

# Artwork Preparation Techniques

The most common artwork problem is moisture in the paper, which leads to blockages in the screen once imaged. This can best be noticed by the 'hollow line' effect, or parts of the artwork lifting off when you peel it from the screen after imaging.

Using the Artwork Clean Up Procedure, you will eliminate the moisture in the paper, set the carbon onto the paper & even out the carbon level on your design.

Two simple techniques can be used in preparing artwork -

1. Artwork Clean Up Procedure - Eliminates many problems associated with imaging screens
2. Dot Screens - For photographs and alters the carbon content of the design

### Artwork Clean Up Procedure

For this procedure you will require an iron SET TO PERMANENT PRESS - STEAM OFF, Clean Up Paper and scrap paper/work bench unaffected by heat.

1. Set up your machine ready for imaging before you begin.
2. Tear off a piece of clean up paper sufficient to cover the design area
3. Place the artwork face up on top of several sheets of paper or a surface that will not be effected by heat.
4. Lay the clean up paper on top of the artwork and begin.
5. Iron the paper onto the design, moving the iron from one side to the other - Taking no more than 2 seconds to pass over the design.
6. Repeat this process a further 3 times (4 passes in total) before lifting artwork and slowly peeling off the clean up paper. DO NOT HEAT FOR LONGER THAN 3 SECONDS OR HAVE IRON STILL AT ANY STAGE
7. On a FRESH piece of clean up paper repeat steps 5 and 6.
8. On a third piece repeat steps 5 and 6. By this stage there should be a clear carbon image transferred onto the clean up paper - This is normal, if this is not occurring see 'points to note' below
9. On a fourth and final piece repeat steps 5 and 6. After this your artwork will be warm and paper noticeable crisp.

### Points to note

- If the paper is beginning to stick to the design/ lift the carbon then shorten the time of the pass - the paper is being fused to the carbon due to excessive heat.
- Where paper begins to burn/ brown or have similar symptom to above, decrease the setting of the iron
- The third piece of paper is generally where most of the excess carbon lifts off, however if your printer is heavy in carbon the 4th piece may also be very heavy. If this occurs perform the process on a fifth piece of artwork clean up paper.

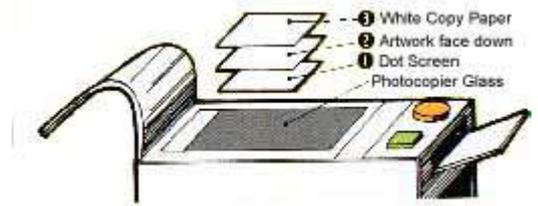
## Using Dot Screens

A Dot Screen is essential for re-producing photographs and for use where large solid areas/ type fonts are used in a design.

A dot screen breaks is a sheet of plastic/ film with a white dot pattern screen printed onto it. The screen is laid onto the Glass of the Photocopier before you place the artwork into the photocopier.

Many new photocopiers now have a dot screen option built in, eliminating the need to overlay a manual screen under the artwork.

Using a dot screen may eliminates the need to perform the Artwork Clean Up Procedure as the carbon content is correct and the copy free of moisture as it has just come from the machine.



### How to use a dot screen

A dot screen is laid over the stage glass of the photocopier [or computer scanner], UNDER the artwork/ design. Place a piece of clean white paper over the back of the design to mask of the outside areas.

Lower the lid of the photocopier and start your copy.

NOTE: When making a photocopy, set the copier to the lightest setting BEFORE the design begins to fade/ distort. Even the lightest setting of the photocopier STILL has too much carbon to create a screen [hence why the Blue Filter or Artwork Clean-Up process is used].

When the copy is made, the dot screen is then 'laid' over the design and the copy you receive is the fusion of the two elements.

Prepare your artwork properly and then image your screen.



### Creating a dot screen using a computer

There is no 100% effective rule you can input and follow each time - every photograph is different in tone & contrast so you must adjust your setting to match. Some photo's can handle a high level of definition, whilst others will require a coarser screen. The level of final detail also depends on the item that you are printing - paper will handle a high definition whilst fabrics/ ceramics are more absorbent so ultra fine detail may be lost [depends on the design].

Open the image in PhotoShop [or suitable graphic design program that enables you to manipulate images]. Convert the photo to grayscale as this helps to gauge contrast more accurately. Adjusting & manipulating can be done using 2 common methods:

**Method 1:** The most commonly used method is by overlaying a dot screen over the design using PhotoShop's 'Screen' setting in the Print With Preview or Print options Box. Note that the 'Screen' feature is not available on low end versions of the program and where the printer selected is not capable of overlaying a screen. Most laser printers and postscript printers are suitable for screens, however many early inkjet printers are not capable of this option.

From the Print options box, select Screens [top left button in the advanced options area at the base of the box right] this will open up the Halftone Screens option box where the adjustments can be made.

You will notice that the dots change size depending on your setting. Set a lower line frequency, your dots are big - set a higher line frequency, your dots are small.

For fabrics the frequency range is generally between 40 [large solid areas] and 65 for fine detail. Angle can be changed where ever required and may alter the depth of the design depending on the frequency. When starting out change only the frequency to begin with until you have a better understanding of the line changes on your design.

The normal setting for shape is round as this helps to limit bleed, however any shape may be used.

It really comes down to what you envision your print as being - you may need to print out several variations using different settings [make sure you document the setting on the back]. If you're inclined to experiment, then pick 2 different ones to flash and print then compare. You'll learn a lot just by doing this 1 experiment.

**Method 2:** The opacity setting for the layer can be adjusted and set to around 60% percent, as this gives you an overall lighter image [less dense with dots in your laser printer output]. Regardless of what you set this to, the dots are always the same size, there are just more or fewer of them. Changing the level/ opacity of the design works well when printing cards/ paper, however when printing absorbent items like fabrics, this method is not as effective.

Opacity may not always provide the grey scales required to give a photograph depth on some items, hence method 1 is most commonly used.

