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Colour separating designs using a computer

Colour separating a design is taking an original piece of artwork and breaking it down into a number of separate designs, from which screens/masters are made. The separations are printed over each other, in layers, to create the original design.

Screen printing in colour requires a different screen for each colour, unless you can put two colours on the one squeegee, however PRINT GOCCO can print multiple colours on the one screen, using less screens.

- ✓ By hand: using artwork pens to trace the design and draw on an overlay sheet [see Information Sheet #12]
- ✓ By hand: taking a number of photocopies and blocking the unwanted portions [see Information Sheet #12]
- ✓ With computer: scan image & colour separate using design program

Using a Computer

Computers are the best method of colour separating as they enable you to move, re-size and manipulate your design quickly and accurately.

Here's a simple example and guide to using a computer to create colour separations [also known as layers]. On the right is the original design we want to work with [it's true size is 140mm x 90mm], however we wish to separate the colours, change the message and make other changes to personalise the image.



Important

Not all computer design programs allow layering/ colour separations. Check the program you have first - most design programs have tutorials and instructions on separating colours/ creating layers (in PhotoShop press F1 and see Using Layers). If this function is not listed in the help/ contents list then the function is not available with the program you have.

In this example Adobe PhotoShop 5.0 is used with a PC, flatbed scanner and B/W laser

Scanning the design

You need to get a copy of your design into the computer to work from. Place your original design into the scanner and scan at 1200dpi (actual size) in true colour. If your computer can't handle 1200dpi lower the setting or use 256 colours.

Size your design

After scanning you may have an excess border, or unwanted background, around the design area - trim this by re-sizing your canvas or using the Marquee Tool to copy and paste your design to a new file - save the new file & work with this one.

Note: When you have finished all your separations you may wish to re-size the dpi from 600dpi to 300dpi to save on disk space.

- ★ Turn off the layers you are not working on so you don't get confused as to what you are removing (or you have to start again)
- ★ Name each layer according to printing order or colour to be printed - this helps when removing colours from layers or stacking the viewing order

Creating your layers/ colour separations

There are two methods you can use to create your layers from the one design:

Method 1

Make multiple copies of the entire design and remove the unwanted areas - Just like the blocking method when separating by hand.

How It's Done: Use the Marquee Tool (M) to highlight your entire design - Copy (Ctrl+C) and Paste (Ctrl+V) into the same layer. You will notice that this does not override your design but creates a new layer (can't see it - then view the Layers window) and is labelled Layer 1.

Repeat this process for each layer/ separation you need to create, then select a layer and using the Pencil Tool (set colour to White) remove the area around the part of the design you wish to keep - effectively rubbing out the parts you do not want.

Method 2

Highlight areas on your original and then paste them back into the same file - making a new layer. This is similar to the tracing method when separating by hand, however the computer can 'trace' many areas at once.

★ Using the 2nd method you can easily check if all parts of the design have been assigned to a new layers and separated, by creating an extra layer and using this as a 'Cut & Paste original'. Instead of Copying (Ctrl+C) use the Cut (Ctrl+X) command when tracing colours and placing them into a new layer. After all areas have been placed on new layers - this layer should be blank.

How It's Done: Use the Magic Wand Tool (W) to select areas of your design for each layer. Once you have selected the design area/s Copy (Ctrl+C) and Paste (Ctrl+V) back into the design. This creates a new layer for each selection. Repeat this process for each layer/ colour separation you need to create.

Both methods require some patience and a steady hand - the number of final colours/ layers often determine which method is best.

Registering your layers/ separations

This is the step where it all comes together, as if you don't register the design correctly here, your prints will not match up!

How It's Done: Make sure your original background design (all colours) is on the bottom, with the layer you wish to register viewable. Highlight the layer you wish to register and use the Move Tool (V) to reposition your layer over the corresponding area on the original design below. Once a layer is registered, turn the layer visibility off so it can't be seen. Select another layer and repeat the registration process for layers. (For fine detail areas Zoom in - 500% or 600%).

Compiling your design & printing

When separating colours for screen printing it's difficult to combine layers and print two colours at once (two colours on the one squeegee), however when printing with PRINT GOCCO, you should combine as many layers and colours as possible - provided they can be separated by Ink Blocking on the Print Master and will print in order!

How It's Done: With design separated and each layer registered over the original design - turn off all the layers. Start from the top and select a layer (so only it is visible) then print the picture. Only the viewable layer will print - label it immediately - now repeat the process for each layer (making it the only viewable layer).

For registration use the Crop Marks/ Registration Marks option in your printer settings . If this is not available or you didn't put registration marks on the original, you must register each print by hand - at least you know each screen will be accurate due to your hard work!

Summary



Our original design was separated into 9 different colours/ layers, plus the original background layer.

After mixing & matching, the layers were combined to form a series of 3 final layers/ separations from our original design - the 3 designs as shown below.

Print 1 (left) - A combination of 3 layers (Body Colour, Moon & House Lights)

Print 2 (right) - Just one layer in the end as this takes up most of the design area. (Night Sky)



Print 3 (left) - 4 layers combined to create the final print (Houses, Silver Stars, Gold Message & Angel Outline)

Details of this process are outlined on Information Sheet 13, available from the TRAINING section of NEHOC web site - <http://www.nehoc.com.au/training>