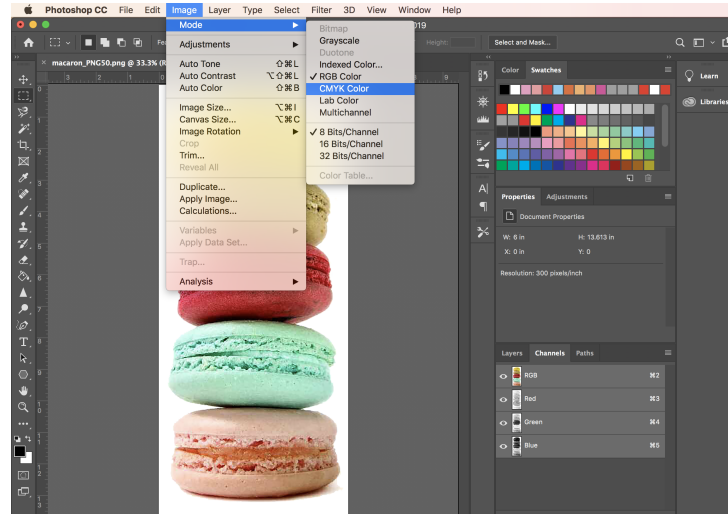


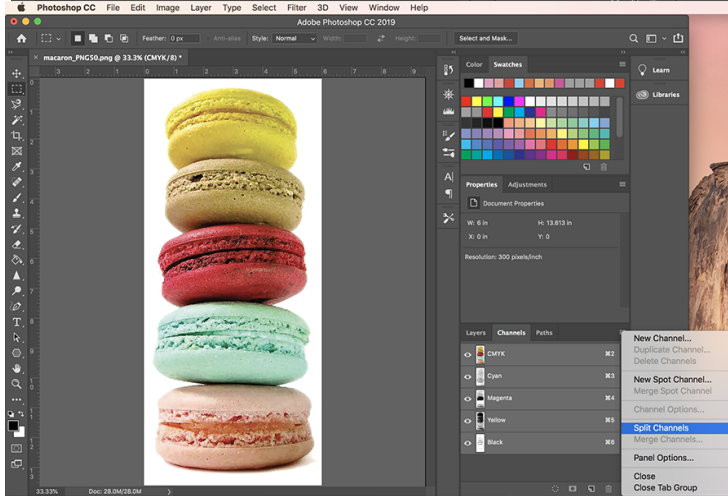
# Advanced Photoshop Techniques

Learn how to separate colors for CMYK and Simulated Process seps, create trapping and underbases for your multi-color prints.

## CMYK Color Separations



1. The first step is to convert your image from RGB to CMYK.  
Image > Mode > **CMYK Color**

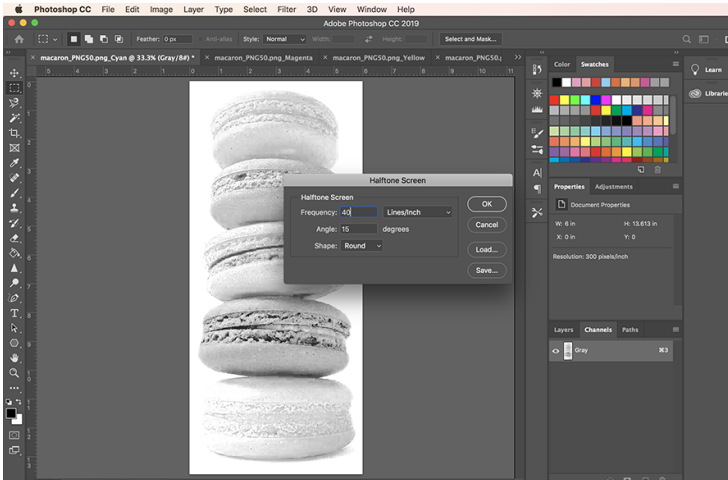


2. Next navigate to the Channels pallet and from the drop down menu (the four horizontal lines) choose **Split Channels**.

This will create four new separate documents, one for each channel:

Cyan, Magenta, Yellow, and Black.

These new documents will allow you to individually create halftones for each channel.



+ For each Channel Document follow the steps below:

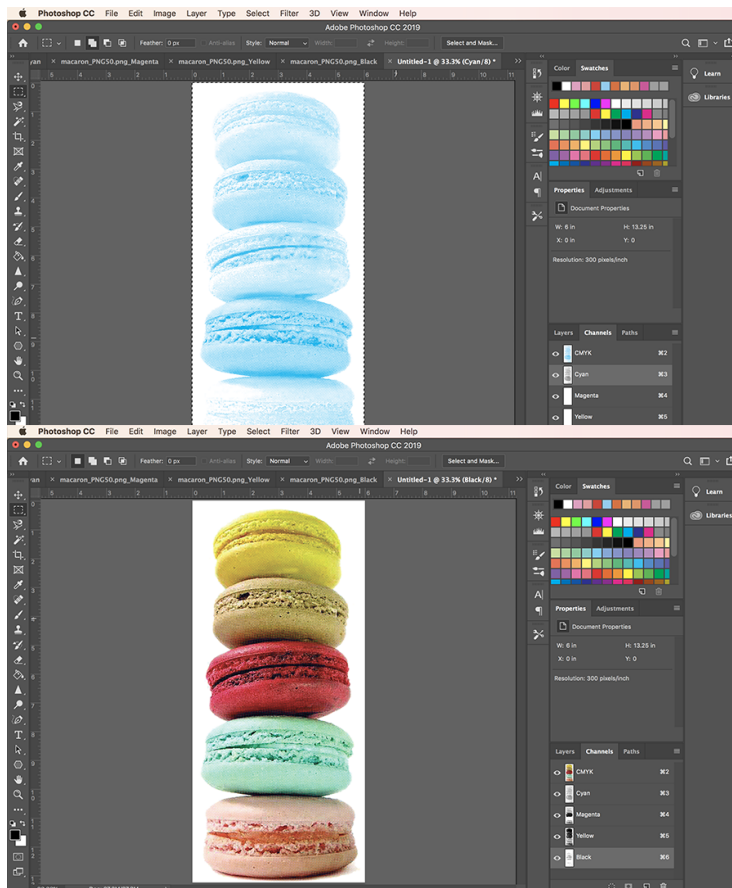
1. Bitmap the image:  
Image > Mode > **Bitmap**

From the dialog box change your frequency to the desired detail.  
We suggest going no higher than 45 lpi for apparel and no higher than 50 lpi for paper.  
The frequency that you choose will remain the same for each channel bitmapped.

2. Change the angle. Each color separation requires a specific angle to create that iconic rosette pattern, here are the corresponding angles to each color:

- CYAN: 15°
- MAGENTA: 75°
- YELLOW: 0°
- BLACK: 45°

3. Click OK and your image is now in halftone! Repeat these steps for each of your color separations.



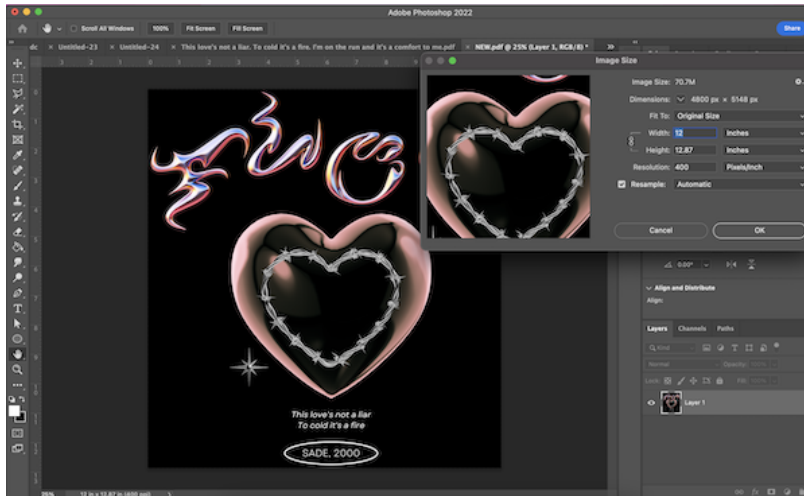
+ To preview your newly created CMYK separations as they are intended to be printed, follow the steps below:

1. File > **New...** to create a new document. Make sure the new document is the exact dimensions of your original image and in CMYK Color Mode.
2. Select one of your Bitmapped images using the Marquee tool or Command+a to select all.
3. Copy and paste the selection into that new document into the corresponding color channel.
4. Repeat steps 2-3 until each of the colors are in their correct

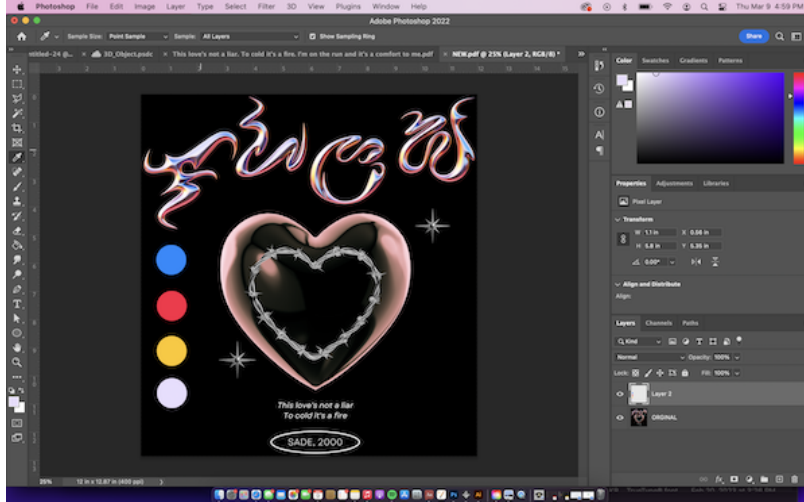
channel in that document. Turn on the CMYK master channel to view all your channels together and watch as your color separations become realized!

# Simulated Process Separations

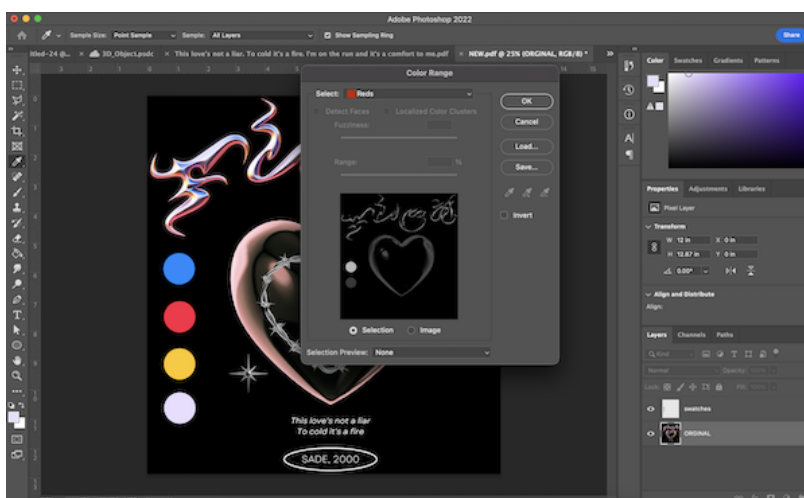
Also simply called "sim process" for short, is when you use a few ink colors (a few screens) to make a myriad of colors. This process utilizes traditional spot colors in a manner that blends them together with halftones and gradients similar to CMYK color process.



1. Resize artwork to desired dimensions from the top drop down menu - Image > **Image Size...** and adjust accordingly and change resolution to at least 400 dpi.

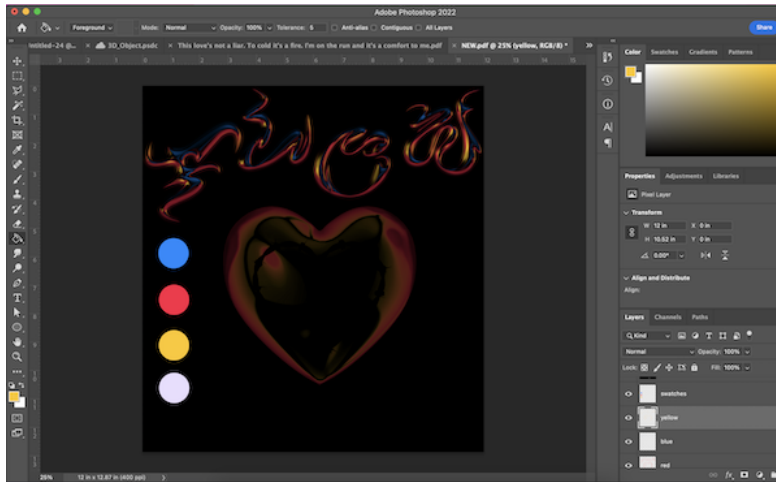


2. Using the **Eyedropper tool** directly sample a determined number of colors from the artwork to create swatches to draw from. **Create a new layer** and use the **hard round brush tool** to create your sampled color swatches. Think critically about how colors will blend together. Look for colors that can create new ones when mixed together.

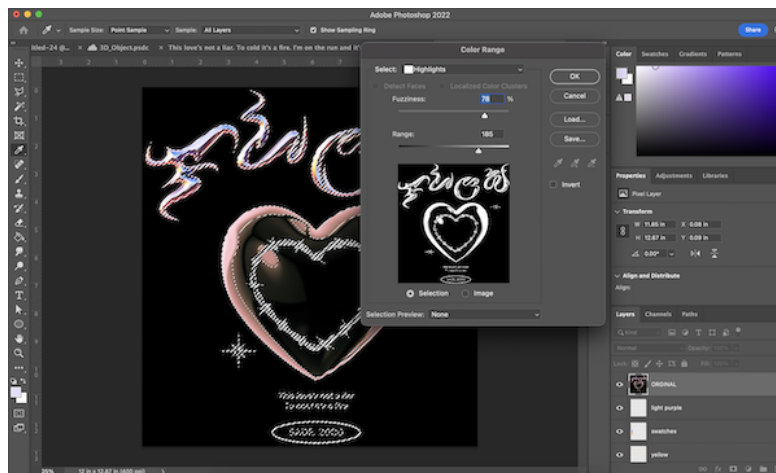


3. Navigate to Select > **Color Range...** from the drop down box at the top, select your first color range, I started with the Reds. Then create a new layer, use the **Eyedropper** to grab the red you swatched, then use the **Paint Bucket**

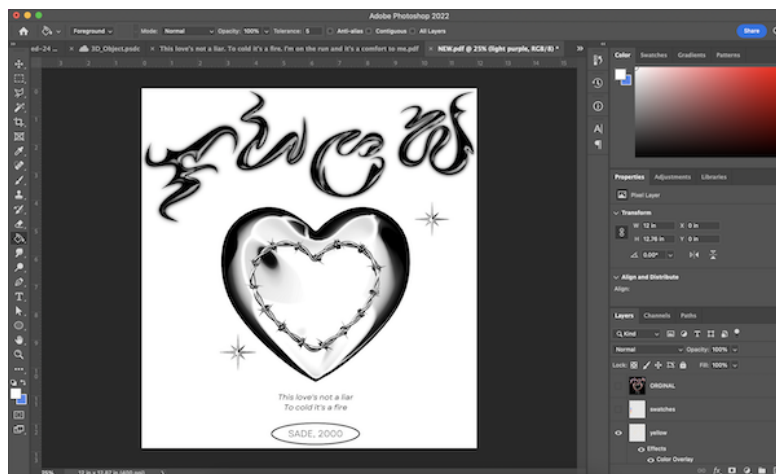
tool to drop that color in that new layer you created.



Step 4. Repeat Step 3 with all your swatched colors using the drop down box's color categories, except for your underbase!



Step 5. Revisit Select > **Color Range** to select the **Highlights**, this will grab the color for underbase. Use the Eyedropper tool or the white swatch to fill in that color into a new layer.



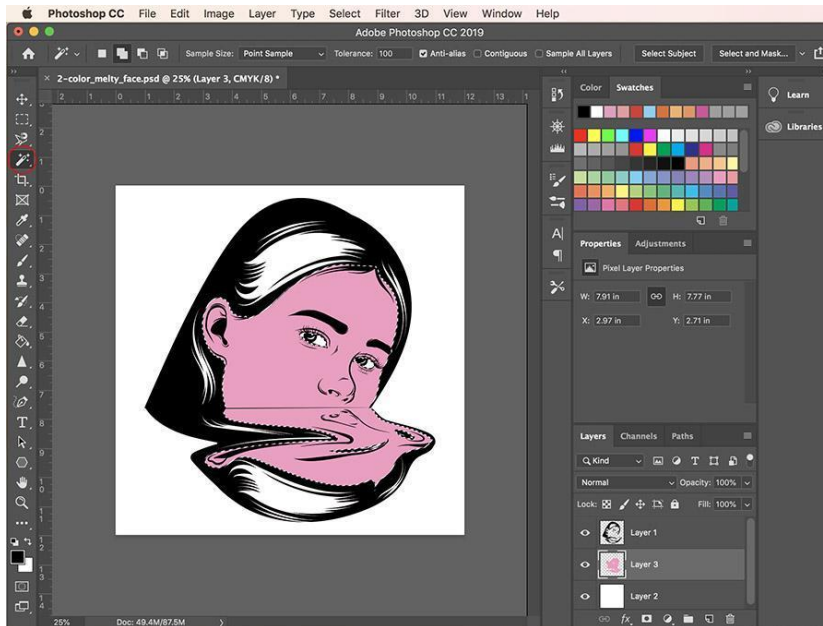
Step 6. Finally, right click on your layer or double click your layer to select Blending Options > **Color Overlay**, then change the color to black.

This is to set up your seps for printing.

The final step is bitmapping each of the layers. You can duplicate each layer into a new file and bitmap each individually. **Make sure to use the same frequency and angle of 22.5 for each of your color layers.**

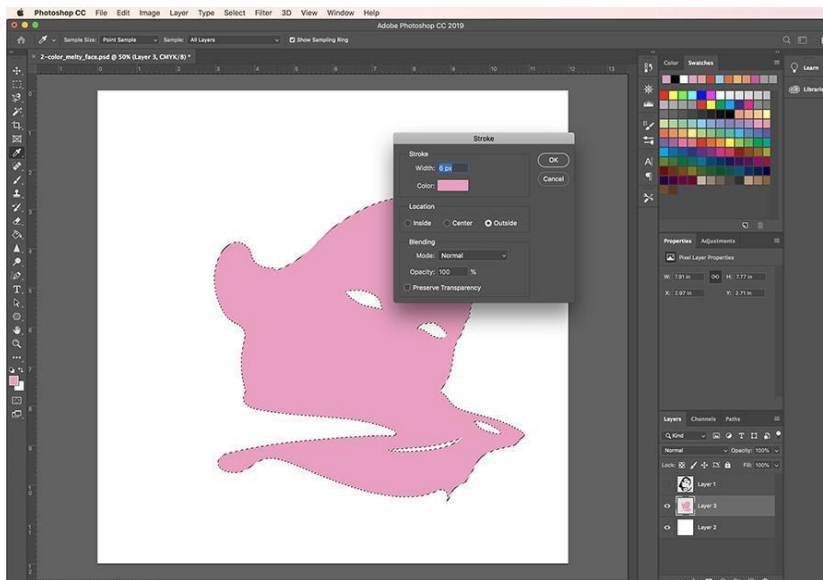
# Trapping

A method used in Photoshop or Illustrator of adjusting areas where two distinct, adjacent colors meet so that press misregistration won't cause white spaces. If you knock out graphics or type you may have to create a trap to ensure that you don't have white spaces due to misregistration.



When create trapping, we are going to slightly expand our lightest color by a few

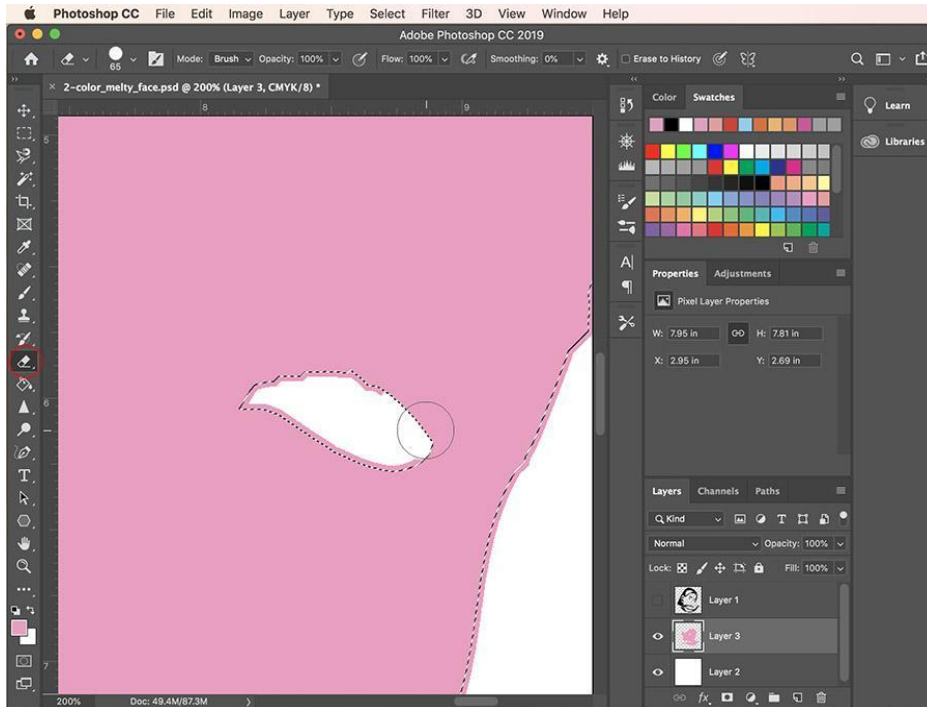
1. Select your first color using the Magic Wand tool.



2. Navigate to the drop down menu: Edit > **Stroke**. Make the stroke width between 4-6 pixels and select the location to Outside.

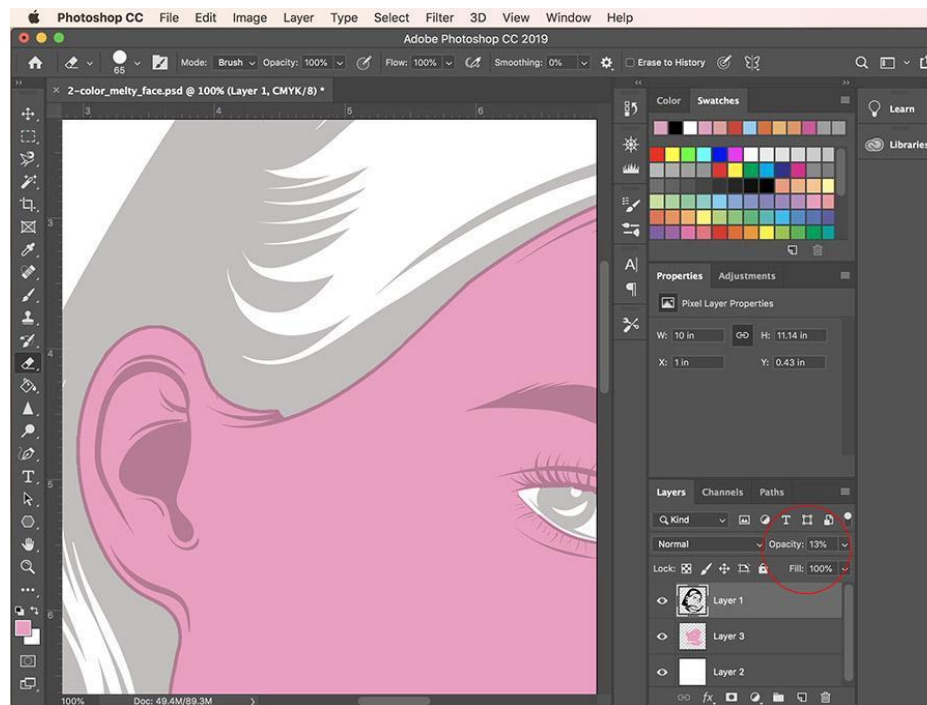
Alternitively:

Click OK and do not deselect the highlighted area yet!



3. Be sure to check the added stroke to make sure it does not extend out too far in some areas.

Select > **Inverse** to select the outer areas and use the Eraser tool to remove unwanted trapping.



4. To review your trapping, turn down the Opacity level on your outline or last color to be sure it works for you!

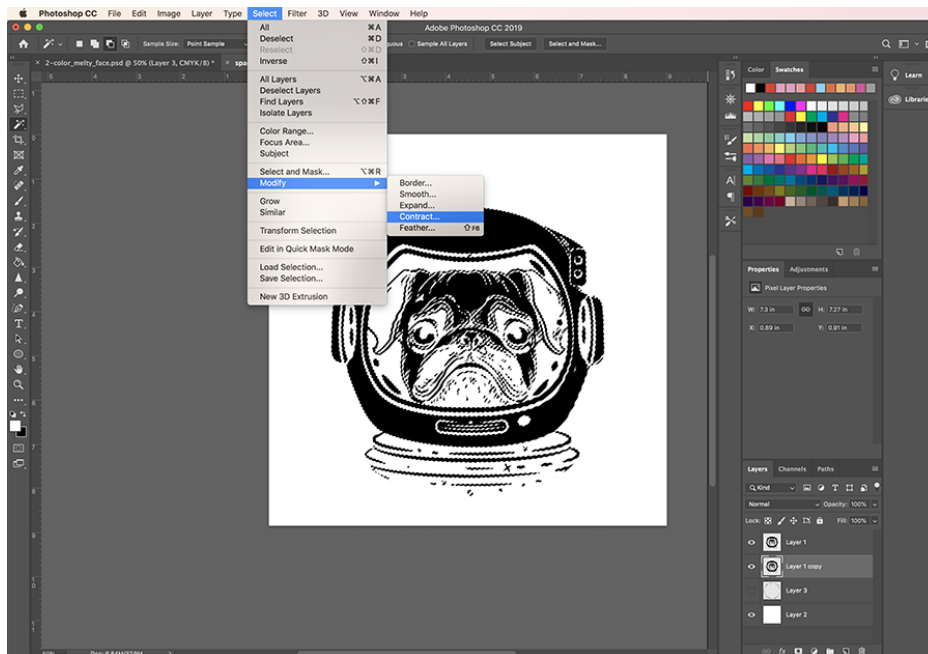
(the darker outline around the face is part of the first color and highlights the trapping that was just created)

# Creating an Underbase!

Underbases are used when printing a light/bright color or glitter onto dark colored apparel, to really make that desired color POP! It's an additional color (screen) so be prepared to add it when necessary. Under bases are usually white if you're printing a light/bright color, however when printing with glitter, it should closely match the glitter color.

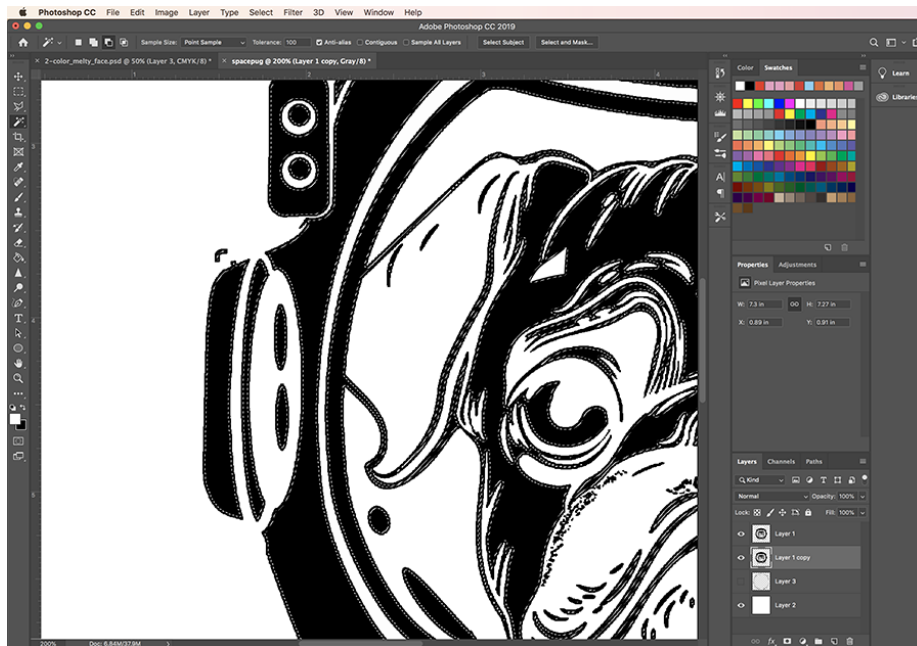


1. Right click or Control+Click the layer you want to add an underbase to in the *Layers* section, then select **Duplicate** to copy that layer into your open document.



2. In the duplicate layer, use the Magic Wand tool to select the design, then navigate to the top drop down menu: **Select > Modify > Contract..**  
+ For white underbase:  
Contract pixels by 3-4  
For glitter underbase:

Contract pixels by 5-6



3. At this point your selection has contracted around your image and now you need to delete excess outer area around the image.

Select > **Inverse** >  
Press the delete key

You're done! Now you have both your bright, light, or glitter layer and your respective underbase!