

Creating Graphics in Photoshop for Export to Substance Painter

by Erin Lee

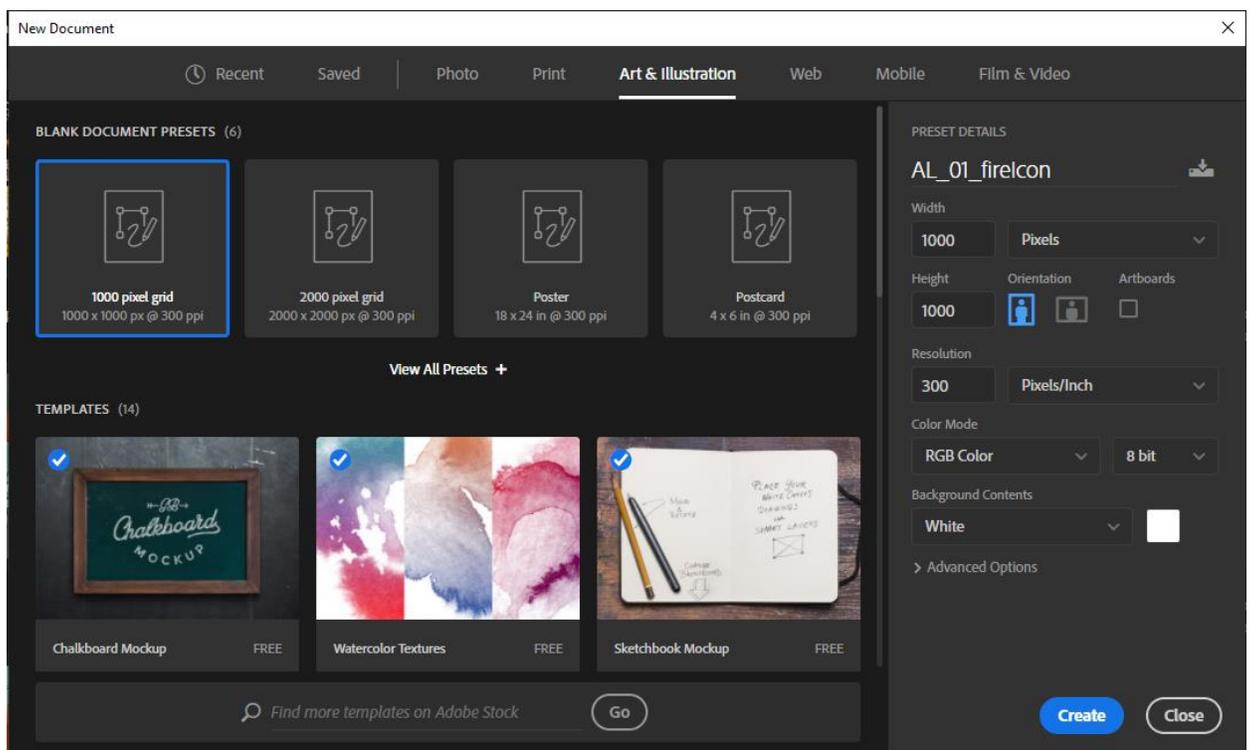
I'll be showing you how to create graphics in Photoshop and how to prep and export them into Substance Painter for texturing use. On Stick to Manual, we used this technique to place images (like the console outline) onto assets (like the manual). This paper will take you through the whole process, from prepping your Photoshop file to placing the graphic onto your asset in Illustrator.

For this example, I'll be showing you how we added a simple fire emblem to our fire alarm asset (AL_01) below.



Setting up your Photoshop file:

- 1) Open Photoshop and select “Create New...”.
- 2) A new window will pop up. Input these settings on the window.
 - a. Select the tab “Art & Illustration” at the top of the window. Select the “1000 pixel grid” under the header “Blank Document Presets”.
 - b. In the column on the right labeled “Preset Details”, name your icon according to your firm’s naming convention. For us and the asset AL_01, we would use the convention “ASSETABBREVIATION_##_description”. For this example, I used “AL_01_fireIcon”.
 - c. Make sure the resolution is 300 Pixels/Inch.
 - d. Set Color Mode to “RGB Color”.
- 3) Your settings should look like this:



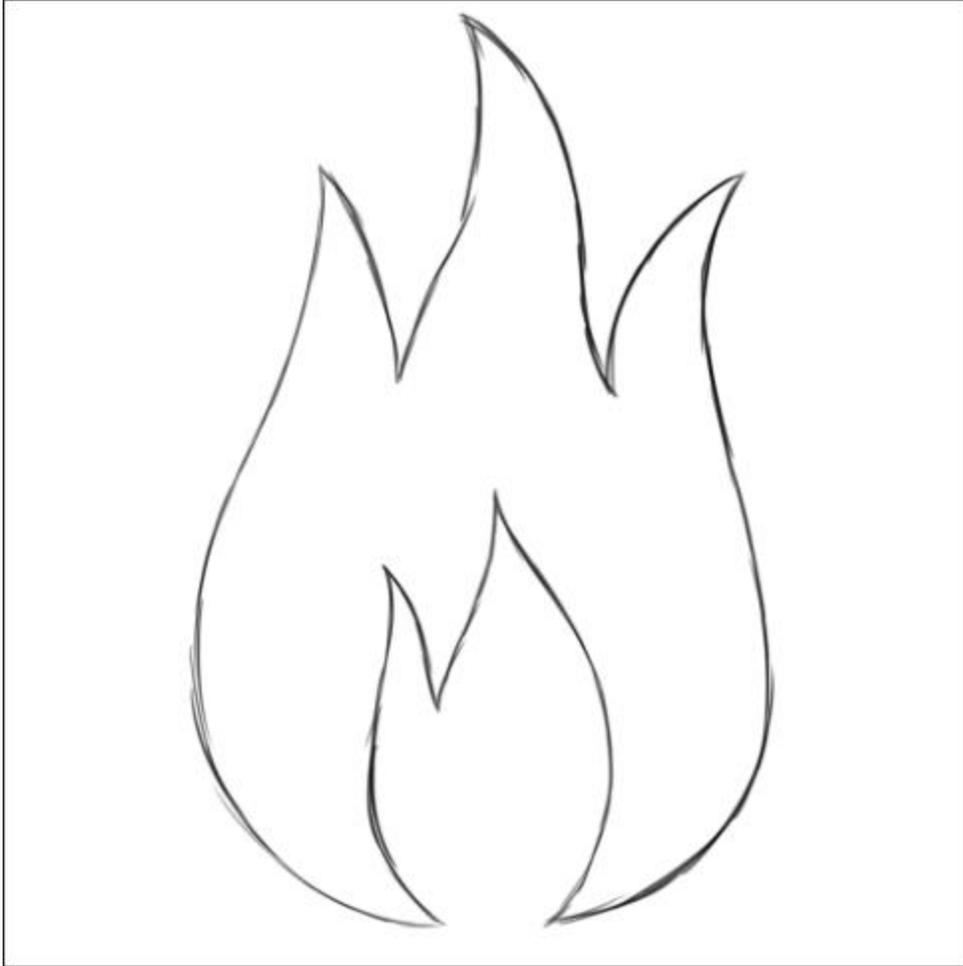
- 4) Select “Create”.

Creating your graphic:

- 1) Before you begin drawing, create a new layer by going to the “Layers” tab in the bottom right corner of Photoshop. If this window is not visible, select “Window > Layers” in the top left corner or hit the F7 key.
 - a. Select the tab that looks like a piece of paper with a corner folded to create a new layer.

 - b. Double click on the text “Layer 1” to rename the layer “fireIcon”.

2) Using the Brush tool (hotkey B) sketch out the shape of your design.



3) Once you have your design sketched in, we're going to use the Pen tool (hotkey P) to trace over your design to create a clean outline. It'll also make the graphic a vector image, so it won't lose quality if we decide to make it larger or smaller later in the production process.

a. Hit "B" on your keyboard or select the pen tool from the toolbar.



b. Select a point to start and click to create an anchor point. Place anchor points around the outline of your design, placing them in areas where the lines intersect.

i. You can create curved paths by clicking and holding where you'd like your next anchor point to be and moving the mouse.

ii. If you're having a hard time getting sharp corners in your design, you can "convert" anchor points from being rounded edges to sharp corners by using

the Convert Point tool.



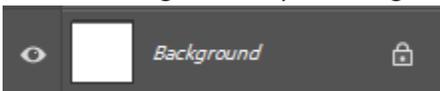
This can be found by right-clicking the Pen tool and selecting it from the menu that appears.

4) By the end, you should have a vector image that you're happy with ready to be exported.

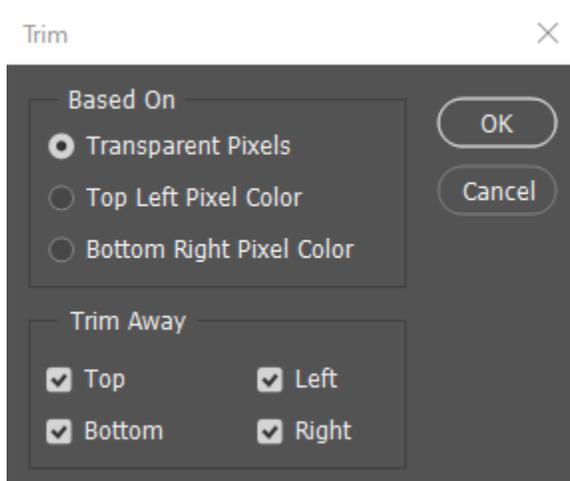


Exporting your graphic:

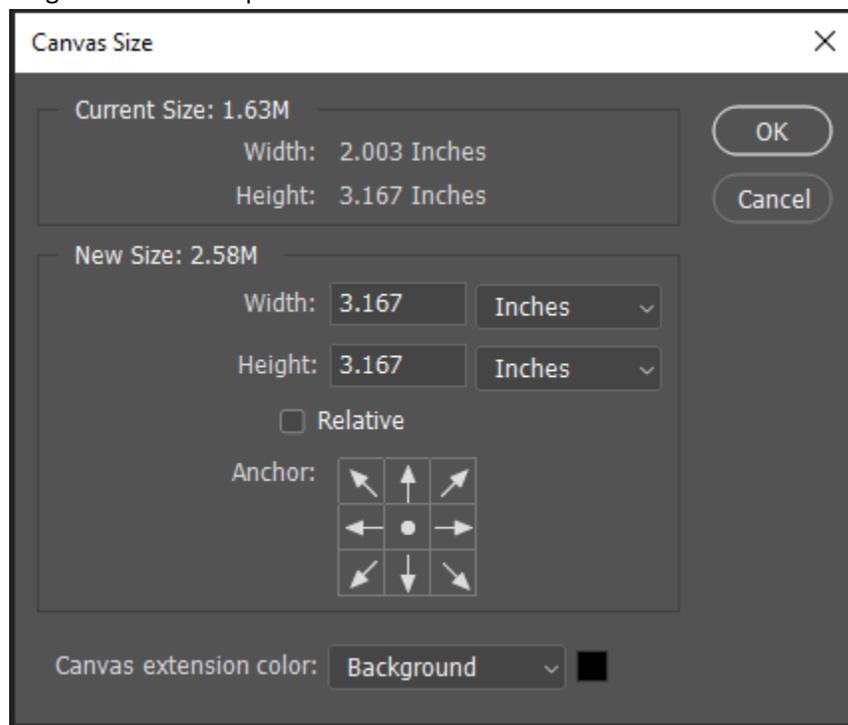
- 1) For the alarm the graphic needs to be white, so I'll use the Paint Bucket (hotkey G) to fill in the graphic with white. 
- 2) I don't want the white background to appear on my graphic, so I'm going to hide my layer named "Background" by selecting the eye icon to the left of the name.



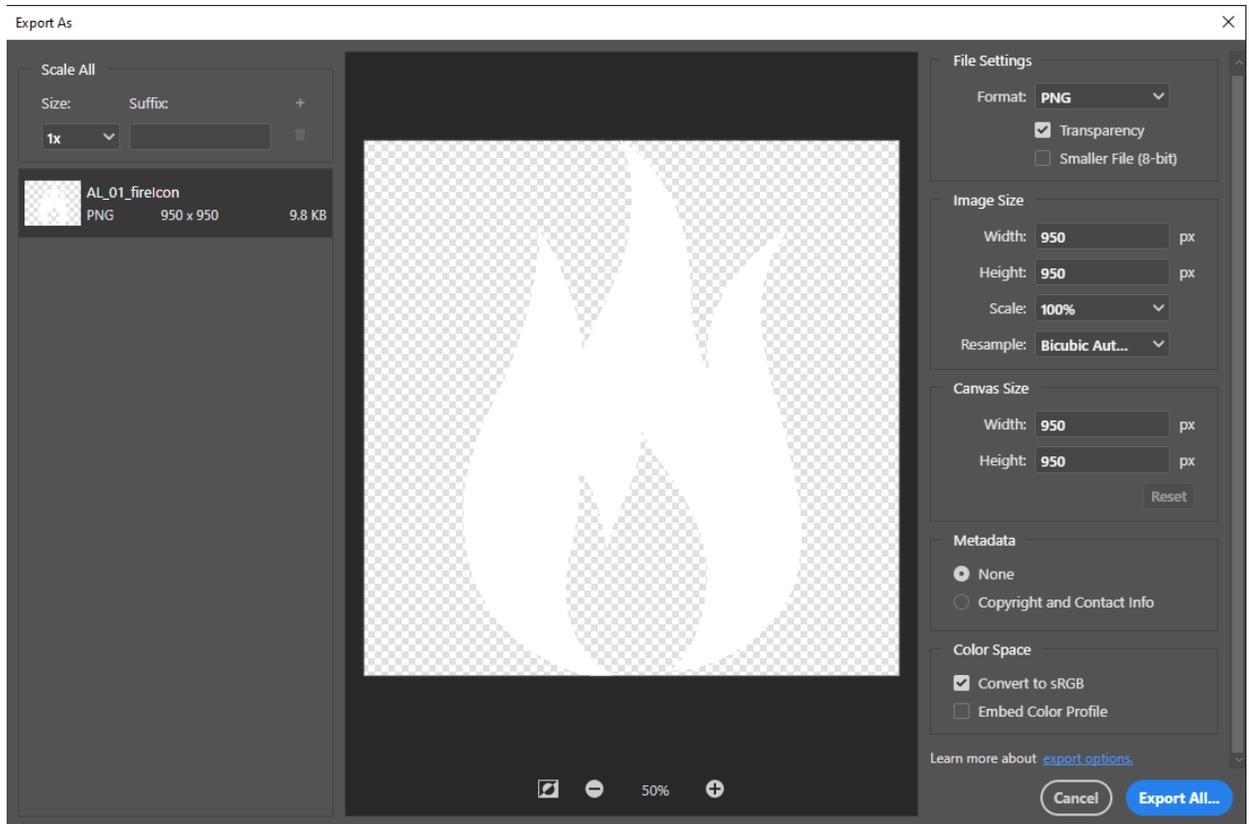
- 3) I'm also going to trim the excess background outside of my graphic. To do this, I'll select "Image > Trim..." from the top left corner. The default settings are fine, so as long as your window looks like the image below, you can select "OK".



- 4) Now the unused space is gone, however Substance Painter requires that your graphic is imported as a square. To set our canvas size to a square, select "Image > Canvas Size...".
 - a. Because our graphic is taller than it is wide, I'm going to extend the width to match the height to create a square.



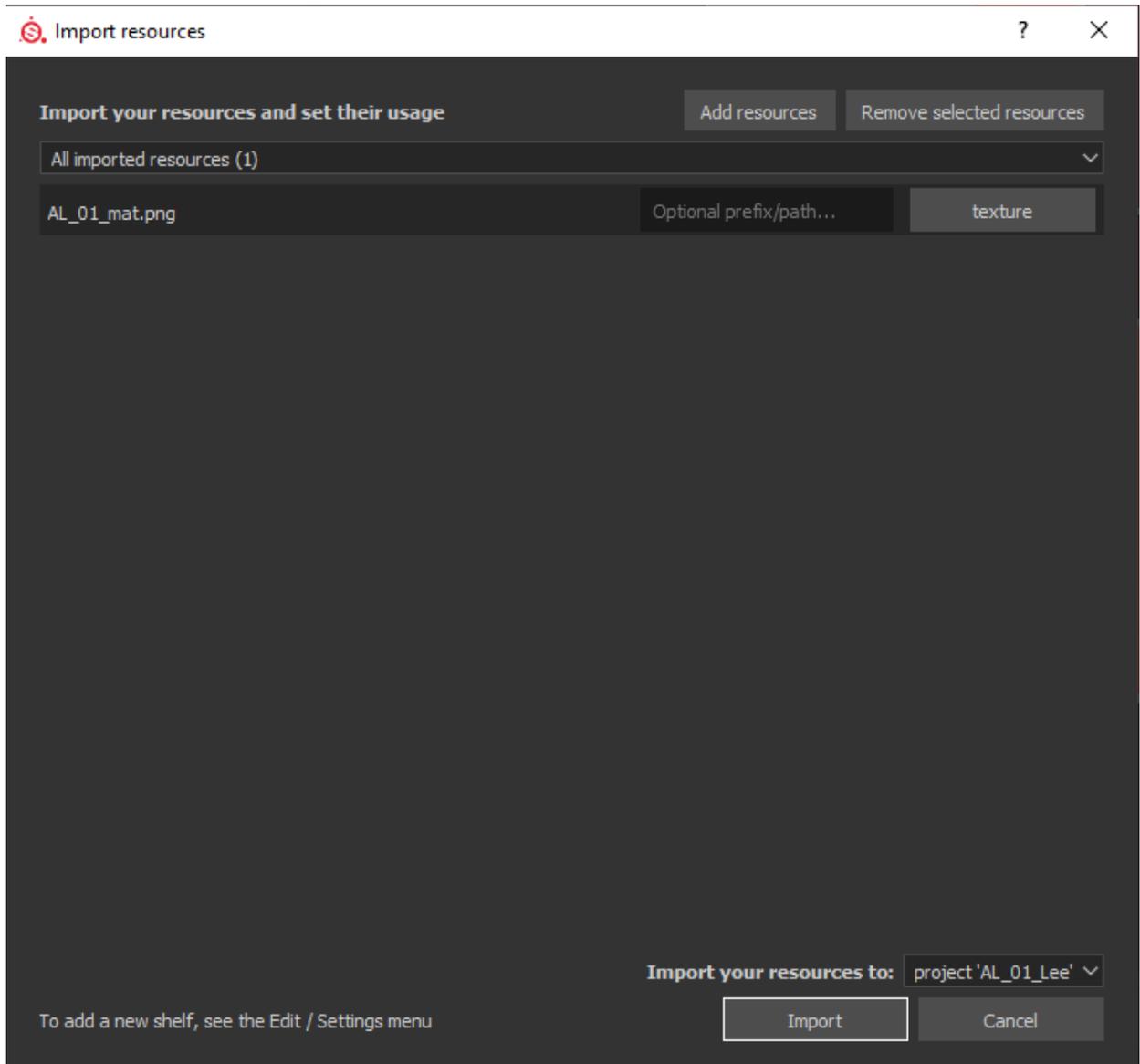
- b. I changed the "Width" value from 2.003 Inches to 3.167 Inches to match the "Height" value.
 - c. Make sure your canvas extension color is set to "Background".
 - d. Select "OK".
- 5) Select "File > Export > Export As...".
 - a. Set "Format:" to "PNG".
 - b. Make sure "Transparency" is selected.



- c. Select “Export All...”.
- d. Save the graphic according to your film’s file structure.

Importing your graphic into Substance Painter:

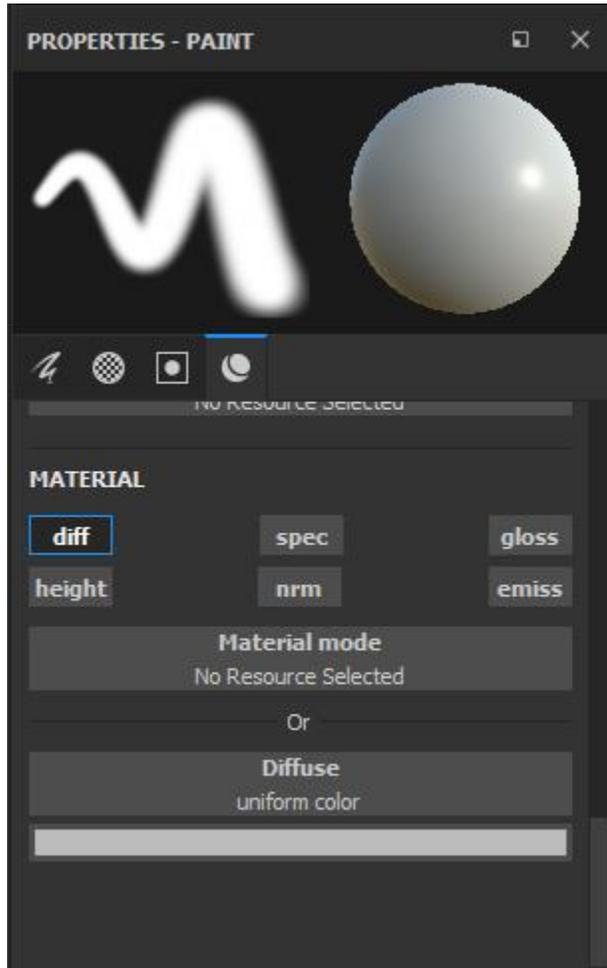
- 1) To import your graphic, select “File > Import resources...”.
- 2) Select “Add resources” and select your exported PNG. (mine is named AL_01_mat now)
- 3) Select “undefined” and set it to “texture”.
- 4) Change “Import your resources to:” whatever is best for you. I put “project AL_01_Lee” because I had no need for the graphic to appear in any of my other Substance Painter projects, and this option will only have the graphic appear in this project.
- 5) Select “Import”.
- 6) If it worked, your graphic will appear in the Shelf along the bottom of the screen.



Placing your graphic into your texture:

- 1) For graphics, it's more effective to place them in the UV view so that you can place them onto a flat surface instead of directly onto the model.
 - a. To select the UV view, hit F3.
- 2) Go to the "Layers" tab on the right and select the icon that looks like stacked paper to add a layer.  layer.
- 3) Double click on the name to rename the layer "firelcon".
- 4) In the bottom right corner beneath the Layers panel, in the "Properties – Paint" menu, scroll down to the menu "Material".

- a. Deselect “spec”, “gloss”, “height”, “nrm”, and “emiss” so that only “diff” is selected. This will disable the other channels so that only the color of your graphic shows through.



- b. Select the button that says “Diffuse – uniform color”.
- c. Select your graphic from the menu that appears, it should be near or at the top.
- i. It should look like this after you select the graphic:

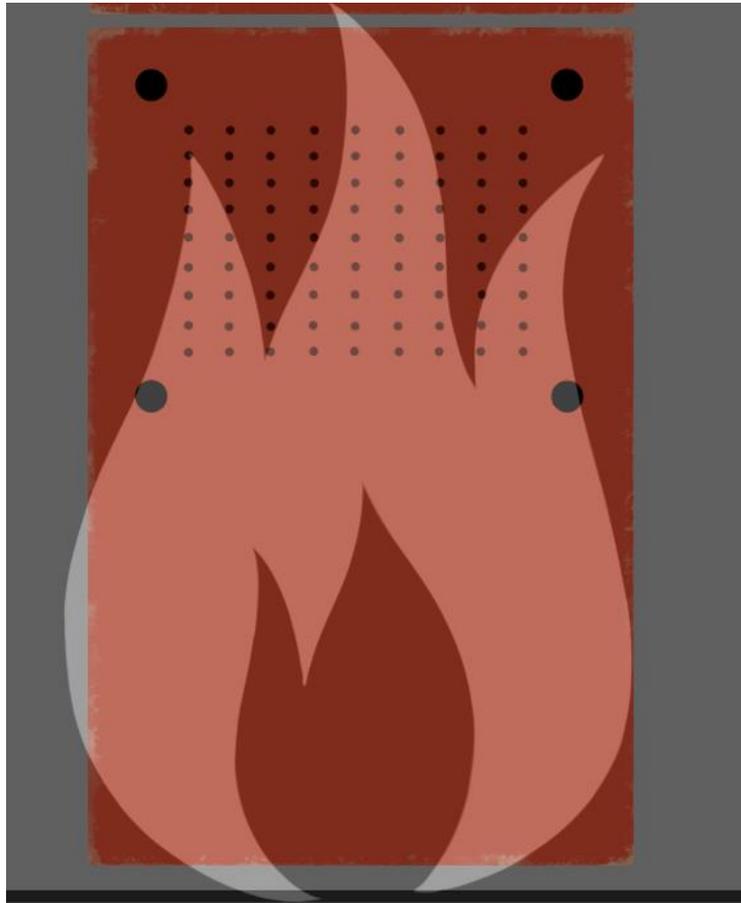


- 5) Now we need to create a projection for the graphic. This view will show us a transparent view of the graphic so we can correctly position it on our asset.

- a. To access the Projection View, select the button that looks like a cube along the right

toolbar, or press 3. 

- b. If the projection stencil isn't showing, press C.



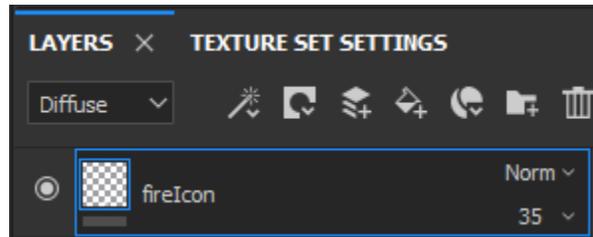
- 6) Our stencil is too big, but we can reposition it using by holding ALT+MMB to drag, ALT+LMB to rotate, and ALT+RMB to scale.

- 7) When the stencil is in place, simply use the Brush tool (hotkey 1) to fill in the stencil.



Blending in the graphic:

- 1) Our graphic is on, however it isn't very well blended with the rest of the asset. To blend it in, we're going to lower the opacity and add some wear.
 - a. To lower opacity, make sure the Layers panel is set to "Diffuse". Select the "100" underneath "Norm" and set it to 35.



- 2) To add wear, we're going to add a mask. Right click the "fireIcon" layer and select "add white mask".
- 3) Select the mask (the white square next to "fireIcon").
- 4) Go down to the Shelf and select the tab "Brushes".
 - a. Search in the search bar for "Dirt 2".
 - b. Select the "Dirt 2" brush.
- 5) Scroll down in the Properties – Paint tab to the "Grayscale" slider and set the slider to completely black.
- 6) Use the Brush tool (hotkey 1) to click around the graphic to fade the edges and add wear.



You're finished! Hope this helped, good luck everyone!