

Adobe Illustrator: SVG Output Clean-up for Laser-ready Files

Review the vocabulary words for this section: *input/output, algorithm, raster/bitmap vs. vector image, CMYK vs. RGB color-space, and SVG file.*

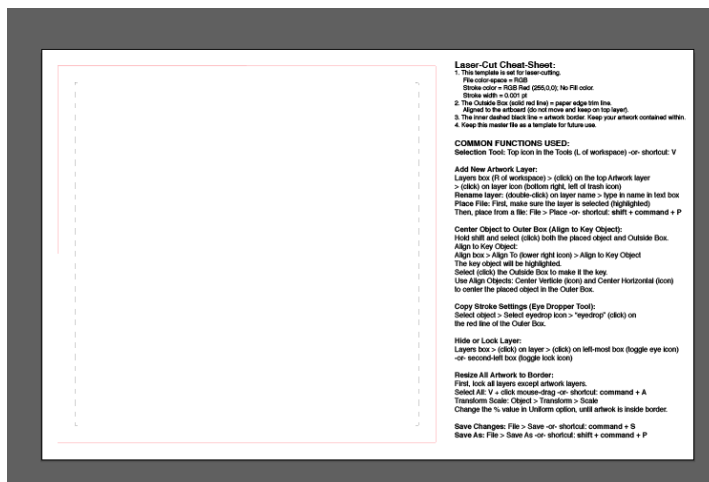
<https://docs.google.com/document/d/159qWITNXdo6wXtaCTpJtQV7dVNJpkSxH7z7KmXu6ISA/edit?usp=sharing>

This tutorial goes over the techniques needed to clean-up and process your SVG files output from the Coded Cuts softwares. Since the process is more-or-less the same (*with just one extra step for the silhouettes) we'll cover all three cases here.

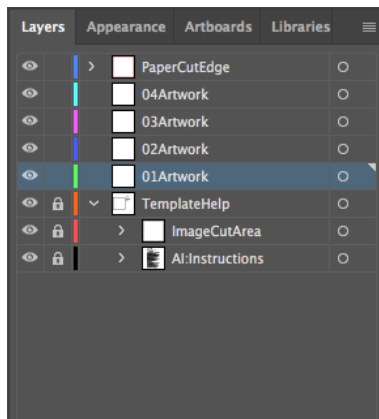
NOTE: The template document is sized to the full Trotec laser bed 17" x 29". This is so you can use this for future designs. We will only produce artwork that is 11" x 11" in this workshop (the size of the red border box).

I. Place SVG Output files into Illustrator Lasercut Template

1. Open the Adobe Illustrator template: LasercutTemplate.ai



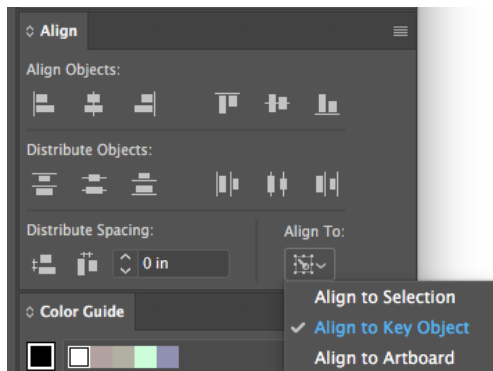
2. **Layers panel:** Navigate to the Layers panel and find the layer "01Artwork" and click to activate.



3. **Place** (**File > Place** or short-cut: **shift + command + P** keys) the first SVG file into the template on this layer. After you do this, **Save As** (**File > Save As** shortcut: **shift + command + S** keys) a new Illustrator file (rename), so you don't overwrite your master template.
4. Next return to the **Layers panel** and find the next layer "02Artwork" and click to activate.
5. For every SVG file you have, **Place** the file into its own layer. **Save** (**File > Save** shortcut: **command + S** keys) your Illustrator file.

II. Center the Artwork within the Cut Box Border Using Align to Key Object

1. **Select All** (**command + A** keys) to select all your artwork objects and the red box (PaperCutEdge) in the template.
2. **Align panel:** Navigate to the **Align panel** and under the **Align to:** submenu, select **align to Key Object**. The red border box should now become highlighted (signaling its the Key Object).




3. If the border box is not highlighted, just **mouse click** on it to highlight.
4. Next, click on the **horizontal center** and **vertical center** icons under **Align Objects**.



III. Resize Artwork to Fit the Template

1. Use the dashed line in the template as a rough guide for where to keep your artwork.
2. To resize, first, make sure that the layer with the red cut box (PaperCutEdge) is locked.
3. **Select All** (**command + A** keys) to select all your artwork objects and then (**Object > Transform > Scale**), select the **uniform** scale option and enter in a value and check **Preview** to see the result before clicking the **OK** button to enact changes.
4. Remember to **Save** (**command + S** keys) your changes regularly.

IV. Change the Stroke for Laser-Cutting

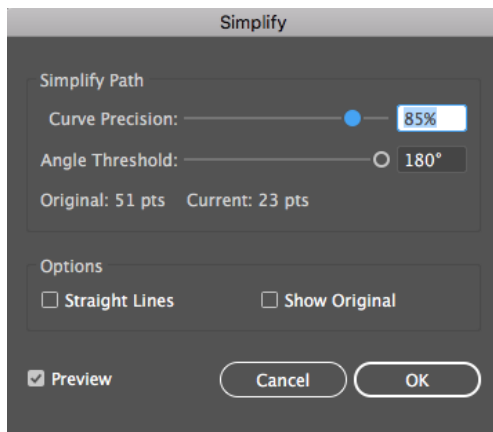
1. **Select All** (**command + A** keys) to select all your artwork objects and the red box in the template.
2. Use the **Eyedropper tool** (**I** key)  and then click on the line of the red box (PaperCutEdge) to copy its **stroke weight** and **stroke color** to your artwork.

3. **Save** (*command + S* keys) your Illustrator file.

V. * If Preparing the Silhouettes, Simplify the Path for Smoother Lines

You can choose not to smooth out the lines for a more “digital pixelated look.”

1. First, make sure that the layer with the red cut box (PaperCutEdge) is locked.
2. **Select All** (*command + A* keys) to select all your artwork objects and then (**Object > Path > Simplify**), use the slider **Curve Precision** to smooth out your curves (~ 80-85% gives good results).

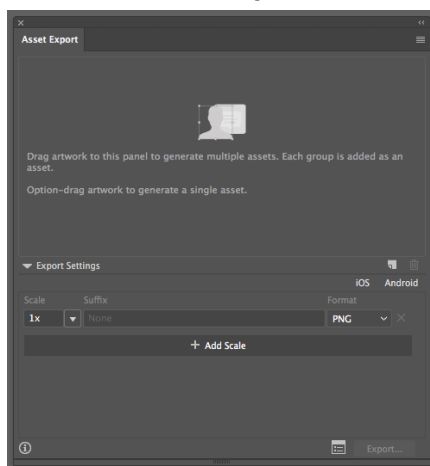


3. **Unlock** the PaperCutEdge layer and **Save** (*command + S* keys).

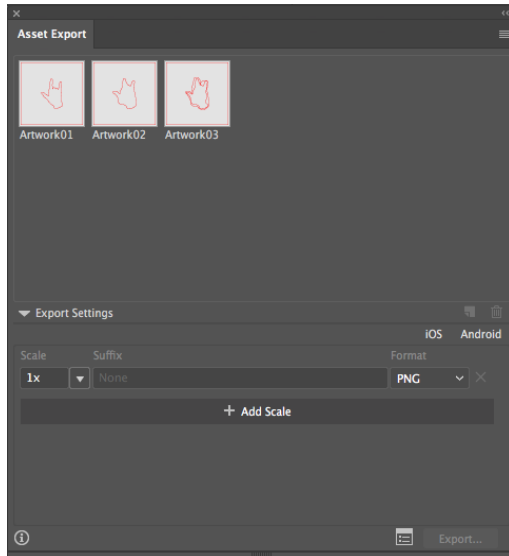
VI. Export to PDF Using the Asset Export Panel

The Trotec laser cutter will accept both AI and PDF files. We want to use Illustrator’s **Asset Export** feature to save time, so we’ll make PDF files (Asset Export doesn’t support AI files). **Remember: do not use Asset Export for SVG files for inputs into Processing**, the SVG settings for **Asset Export** aren’t compatible with Processing.

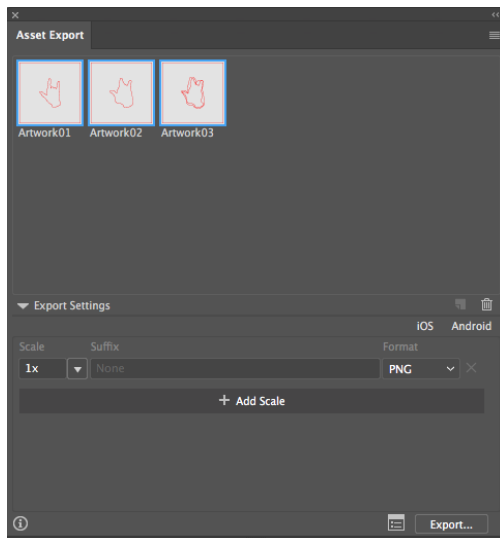
1. Unlock the red box layer.
2. Open the **Asset Export Panel** (**Window > Asset Export**).



- Next, in the main workspace, **hold down shift** and **mouse click** on both the red cut box and one of your artwork objects (make sure to avoid clicking the other artwork objects).
- When you have both objects selected, hold down the **Option key** and then **mouse drag** both objects into the **Asset Export** panel. This will create a combined asset with your artwork and the red cut box in one file.
- Repeat this with all your other artwork objects, until you have a group of combined artwork assets, each with the red cut box.



- Next, under **Export Settings**, in the **Format** field, select PDF.
- Hold down the shift** key and click all your **asset icons** in the **Asset Export** window to select and then click the **Export** button.



- Choose the file location for **Export**. These files are ready for laser-cutting.

See the **Papercutting Tips for the Laser** tutorial on preparing your materials and troubleshooting tips while cutting paper.