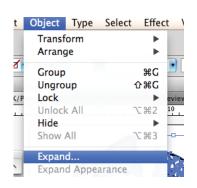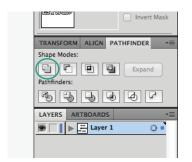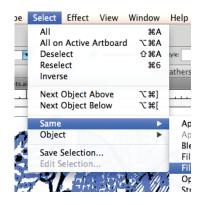# Preparing your Illustrator file for Laser Engraving

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There are many approaches for making your own designs for engraving. Working directly in illustrator is the easiest way, anything is possible as long als the end file suits the requirements named here. Download our templates on the product page for making your design on size.

1. Adobe Illustrator file

You need an illustrator file, with text or image, ideally made in the right size for your engraving.
• you can't use different shades, the laser only works in one color. Doesn't matter which color.
• the laser reads everything in the file, not only the items you've made black or visible. If you accidentally leave a transparentsquare somewhere, it will appear in the engraving.

2. Expand your image.

The laser can't read fonts nor unexpanded lines, both should be expanded to flat shapes.
• select the design with the black arrow, object > expand
• when this doesn't work, try:
object > expand appearance + object > expand.
Sometimes you'll have to expand twice.

2.1 Exception: cutting lines

When you want a cutting line in your file the cutting lines should not be expanded! They must stay a 1pt single line.

3. Unite image with Pathfinder

Open the pathfinder pop-up (View > Pathfinder).
• select everything in your file with cmd A
• pathfinder pop-up > press Shapemodes > Unite
Now Illustrator unites all the objects in your file.
• when the appearance of your file is unchanged after pressing Unite, you're good to go
• if you have transparant or white shapes left in you file, thesewill show up, see below how to fix this.

3.1 Fixing white or transparant shapes

• crtl + A select everything, ungroup once or twice by cmd+shift+g. All the shapes are separated
• select a black part you need for the engraving and choose select > same > fill & stroke
• you've selected only the black parts, either transfer to a new file or group and delete everything else in the file you areworking in.

Expanded shapes overlapping without using pathfinder tool.

Expanded shapes overlapping after using pathfinder tool.

4. Closed shapes
The shapes you want to engrave should be closed. If two anchor point are not connected where they should, connect them
• select both anchor points you need, and press cmd J.

5. The checklist
Use these pointers to make your file ready to save
• are all guidelines removed?
• are there no hidden layers, or other layers at all?
• are all the clipping masks gone?
• arent there any shapes laying over each other which aren't united?
• are all the objects expanded?

6. Save file
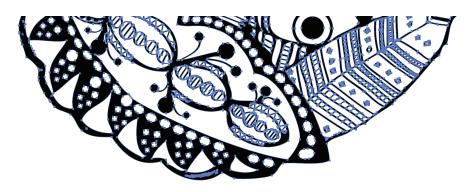Congrats you just made a laser ready file!
• file > Save > illustrator ai > Illustrator 8
• drop the file in your folder on the Drive

When you select all, your file should look like this:
- everything one shape
- no overlapping shapes

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