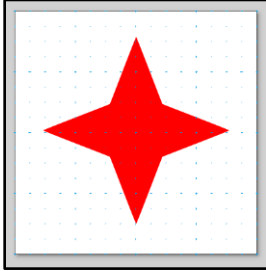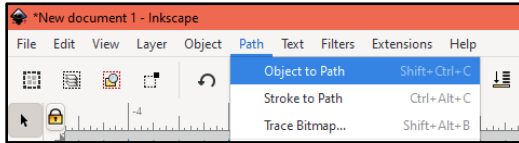# How to use Ink/Stitch

Basic Workflow

1. Create a vector image. To start, you can draw a shape, making sure it has a fill.

2. (optional) Ink/Stitch works best with path objects. It is recommended to transform objects you want to stitch to paths: Select all objects (Ctrl+A). Path > Object to Path or Ctrl+Alt+C.

3. To convert a vector image into an embroidery file, you need to Parametrize it. Select at least one object. Open Extensions > Ink/Stitch > Params. Adjust the values. The simulator will update when you change the settings. Click Apply and Quit when you have the file the way you like.
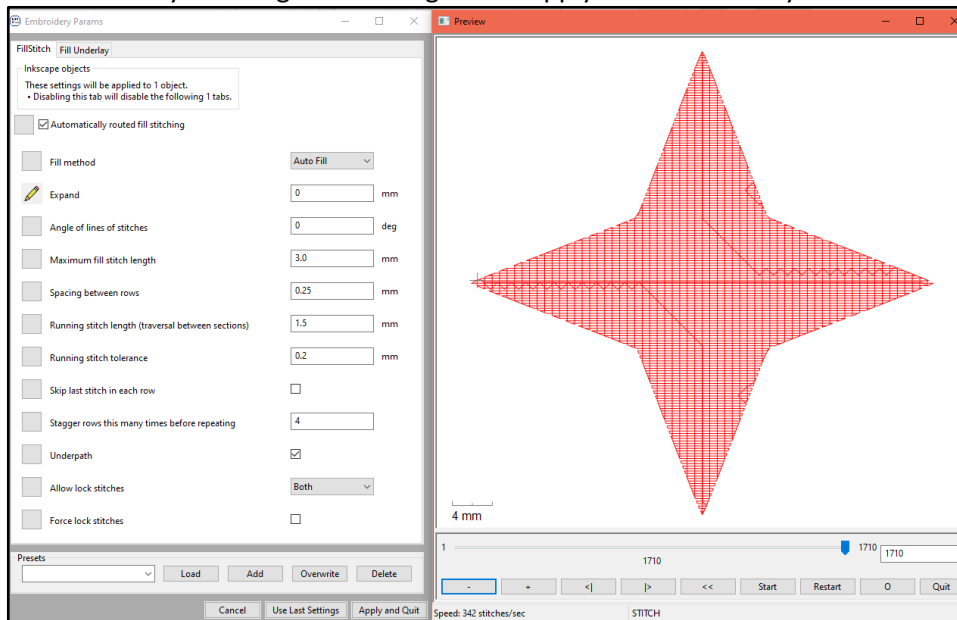
4. Run File > Save as... Navigate to the folder where you would like to save the file. Choose the correct file format for your machine (for the library's embroidery machine, use PES). Click Save.

5. To transfer the file to the library's embroidery machine, save it into a flash drive in the PES file format.

Getting started

<u>Setting up the document</u>

1. Open File > Document Properties. To make it easier to align your design to the space available in your embroidery machine, set the document size to the size of your embroidery hoop (for example, 4x4).
2. Adding grids can be useful to help align objects and visualize embroidery size. To add then, in Document Properties, click the Grids tab. You can set the grids as lines or dots, and can space them out to whatever is useful for you. For example, if you set units to inches, then Spacing X and Spacing Y to 0.25, and Major Grid Line for every 4, that will show you lines every quarter inch with a darker line at every inch.
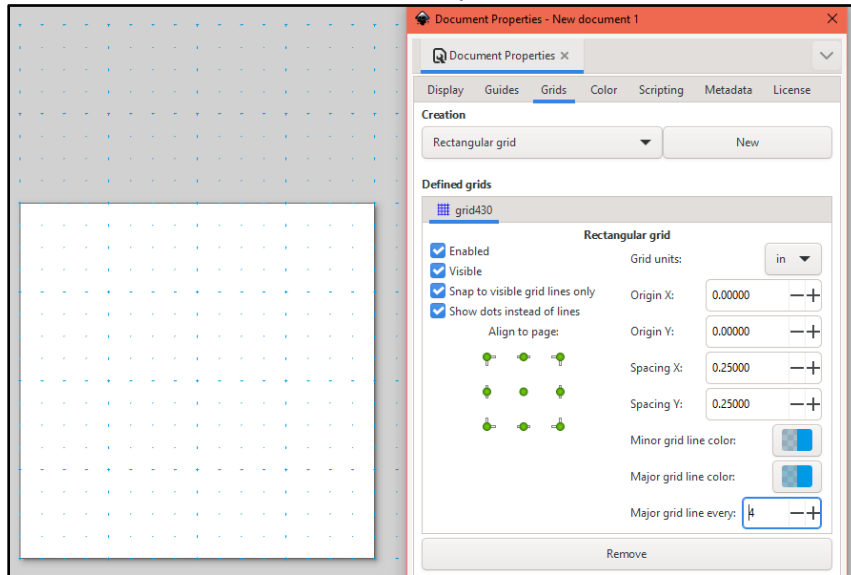
<u>Setting color palette to match embroidery thread</u>

1. Inkscape palettes are found by clicking on the bottom to the right of the color swatches.
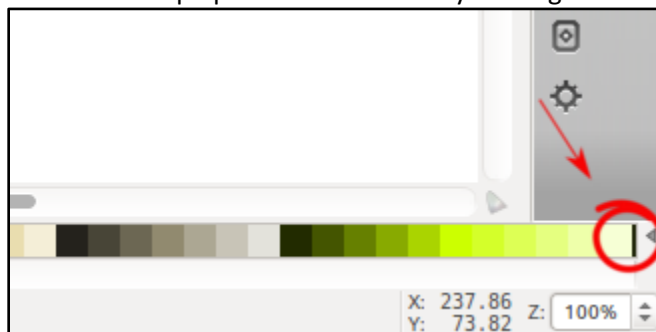

2. Click on the little arrow to open a list of installed palettes. Choose the manufacturer color palette that matches the brand of thread you want to use. (When designing for the library's embroidery machine, use Brother Embroidery.) This choice will also take effect on the thread names to appear in the print preview.

More Detailed Design Options

<u>Making a vector image</u>

- If you have a shape with a fill, you can set it to run a Fill stitch, as explained on Page 1.
- If you have a line, you can make it into a Running stitch.
  - A solid line will make a zigzag stitch that's the thickness of the line's Stroke.
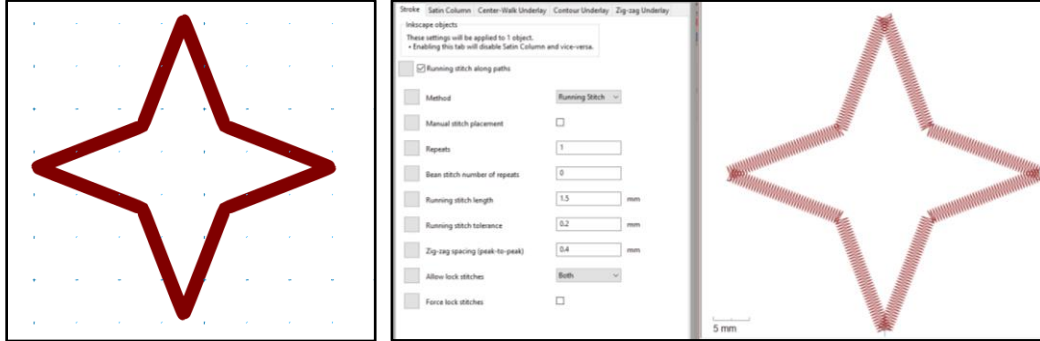
  - A dashed line will make a straight running stitch following the path of the line. The style of dashes and thickness of the stroke does not matter.
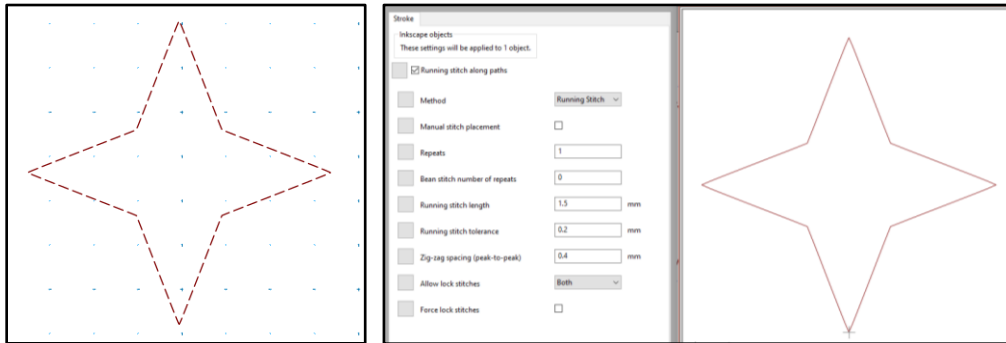

- A basic zigzag stitch is fine for straight lines, but doesn't work well on curves and corners. To make a zigzag line look better, you can convert it to a Satin stitch.
  1. Select the line you want to make Satin.
  2. Make the Stroke the thickness you want the satin stitch to be.
 3. Run Extensions > Ink/Stitch > Satin Tools > Convert Line to Satin.
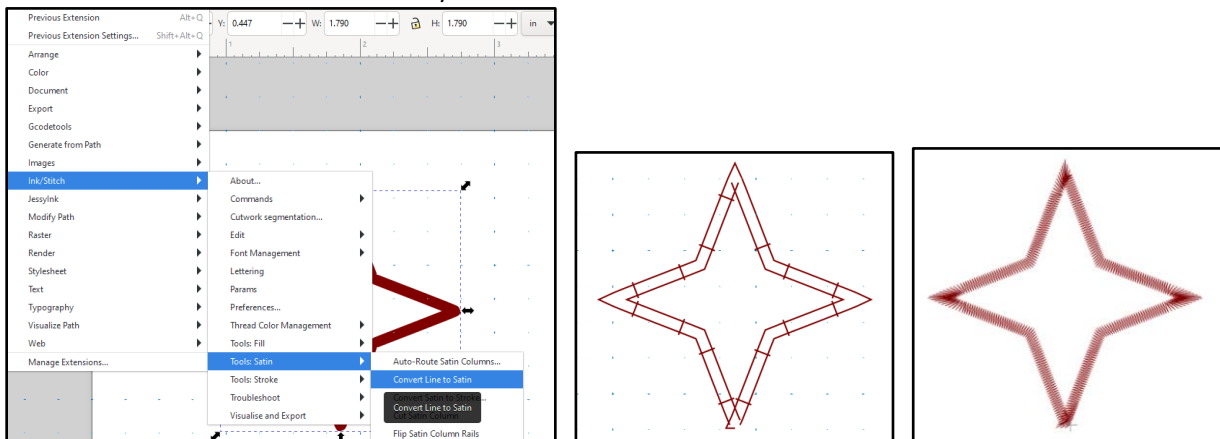
Push/Pull compensation

- As the machine embroiders, the stitches pull on the fabric, which can throw off the alignment of stitched elements. To make your design come out the target size, you have to design files to compensate.
- To account for the push/pull effect and make your elements line up correctly, you can either embroider one color on top of another, or embroider two or more adjacent areas, but have the areas overlap.
- Here are two examples of files that include push/pull compensation. The chick has small face details embroidered over the yellow fill area, the yellow and white areas overlap slightly, and the black border overlaps all the fill areas even more. The plane has embroidered fill areas that overlap significantly.
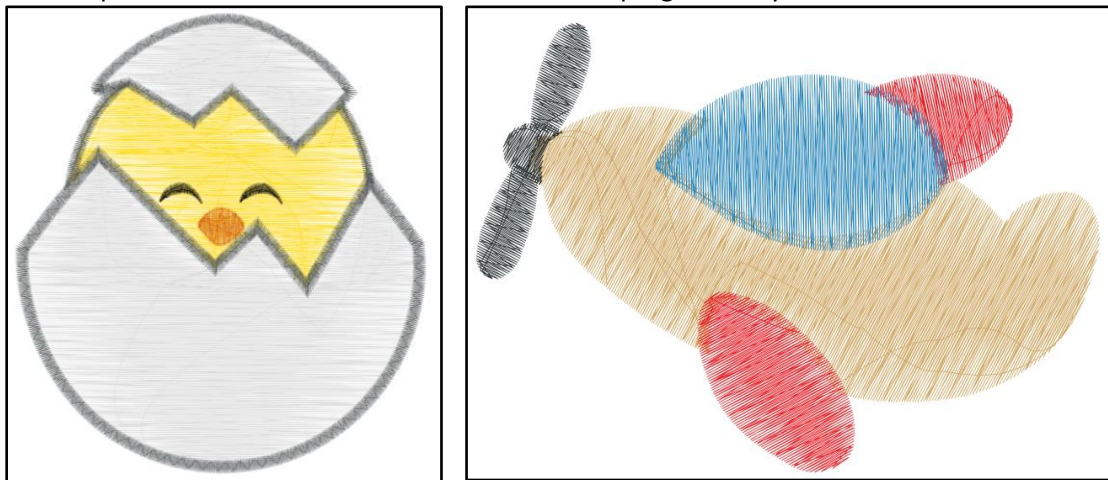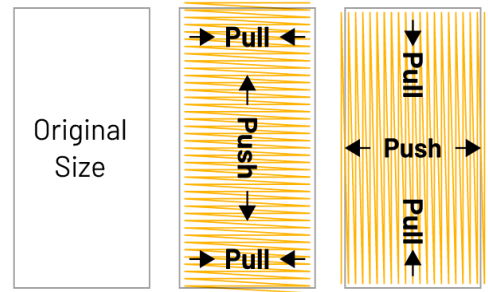
- To design a file with push/pull compensation, you have two options:
  1. Design fill areas with overlapping sections, like in the example plane.
  2. In Params, use the Expand setting for fill stitches, or the Pull Compensation setting for satin stitches. This will extend the embroidery area on each side by the amount you tell it. For example, setting Pull Compensation to 0.5 mm will make each side stitch wider by 0.5 mm, meaning the whole satin column will be 1 mm wider.
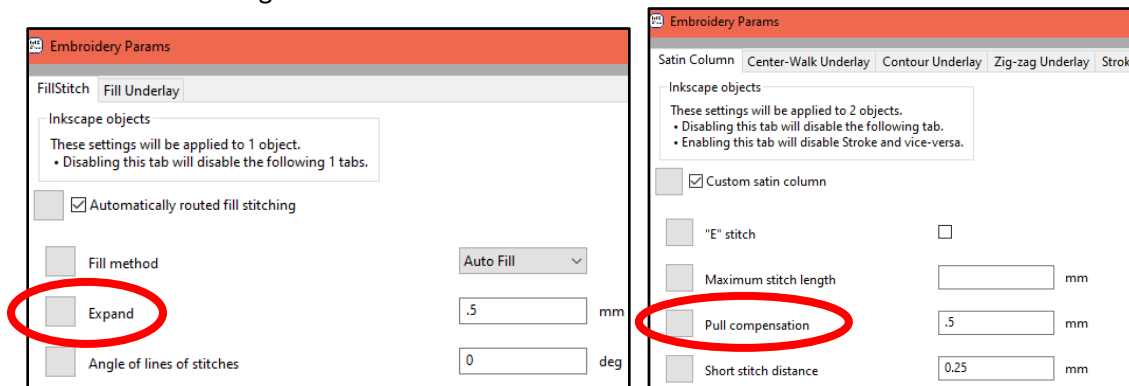

- The exact amount of pull compensation that's needed may depend on elements like fabric choice and how much stitching will be in one area. Once you design a file, run a test of it on the type of fabric you want to use, and adjust pull compensation as needed.
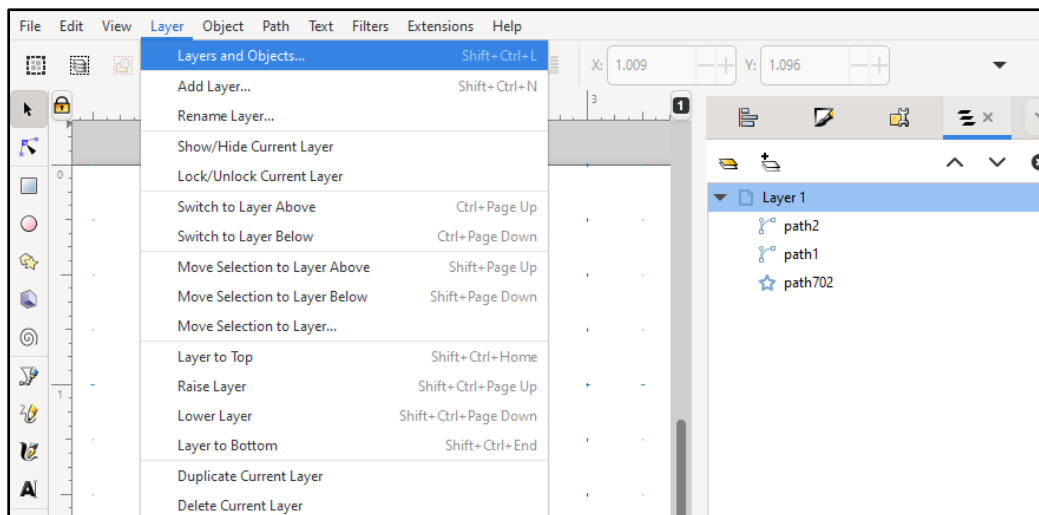
How to use Ink/Stitch

Designing embroidered lettering
- Ink/Stitch has a selection of built-in fonts. To use them:
    1. Run Extensions > Ink/Stitch > Lettering
    2. Enter your text (multi-line is possible)
    3. Adjust font family and scaling.
   4. Click on Apply and Quit.
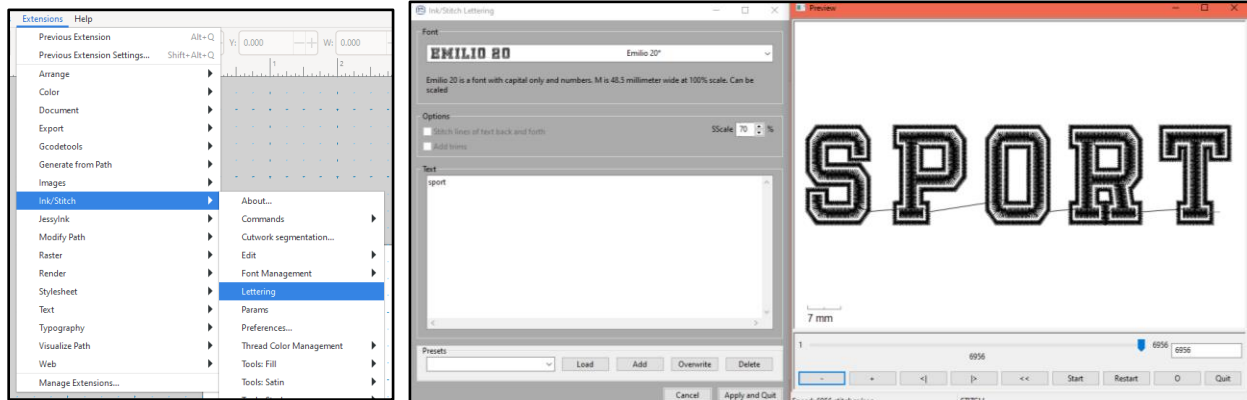
Color sorting
- When embroidering a file with multiple colors, on some machines you will need to manually change the thread in the machine whenever the design switches to another color. In order to minimize the number of times you have to change the thread, you can group together design elements of the same color.
    1. When arranging your file, pay attention to the Layers. Elements will be sewn in order from lowest layer to highest.
    2. If you have several objects that are the same color, you can group their layers together so that they are sewn at the same time, which will save you time from having to change thread colors.
    3. To see layers, click on Laver > Layers and Objects. The box to the right of the screen will give you the option to see layers.
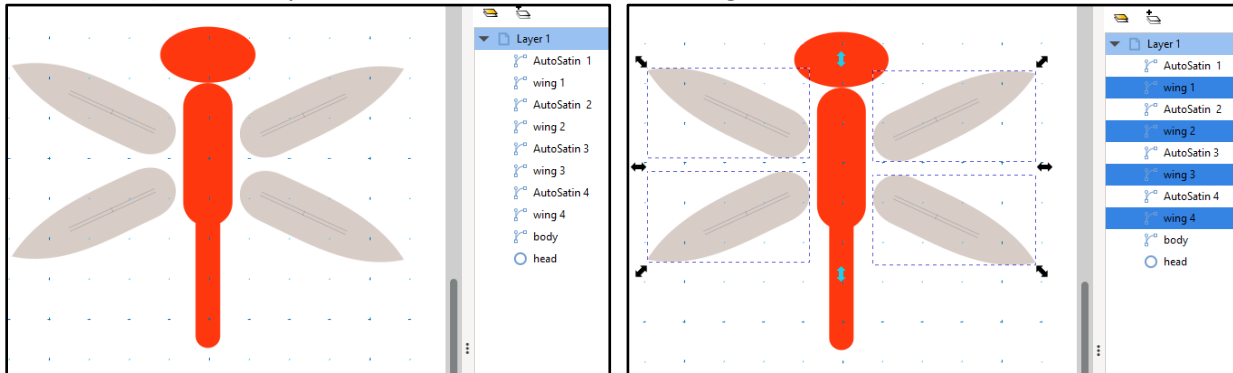
4. Click on any layer and drag up and down to move it. You will be able to see the change in order on your file preview.
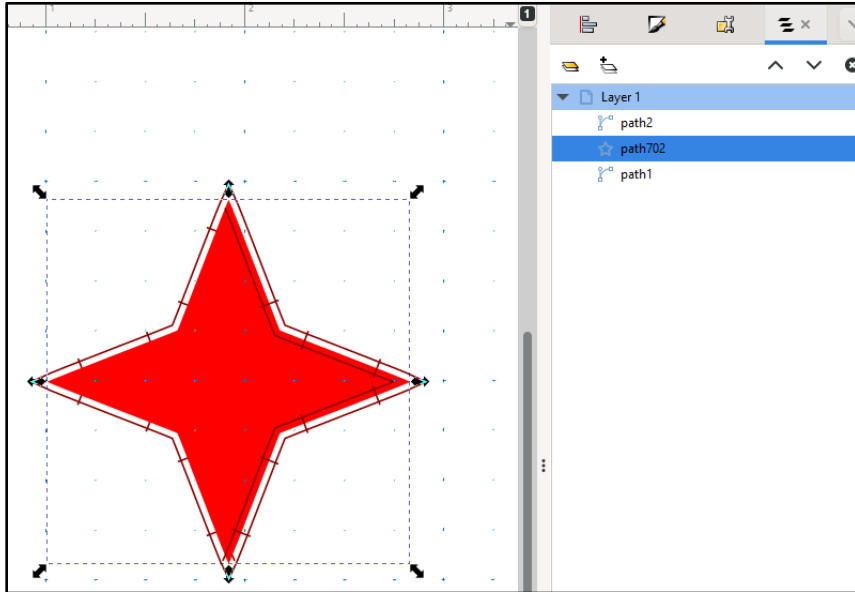
-   You can also use the Ink/Stitching sorting function to rearrange layers.
    1. Hold down the Ctrl key, then click on layers in the order you want them to be rearranged (here the layers were clicked in the order of Wing 1, 2, 3, 4).
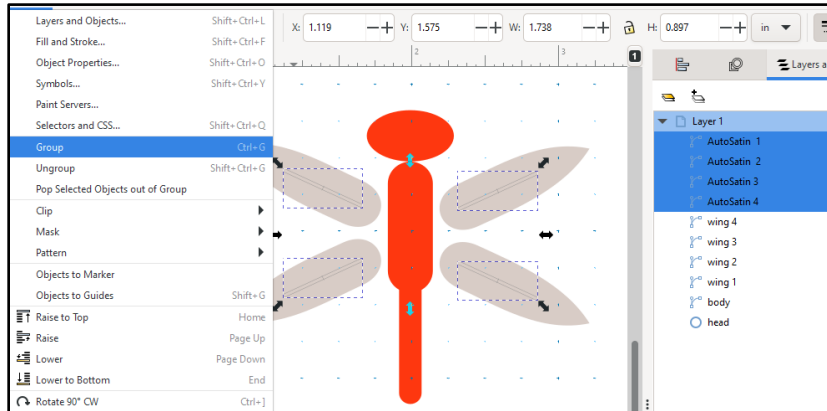

2. Run Extensions > Ink/Stitch > Edit > Re-stack objects in order of selection.
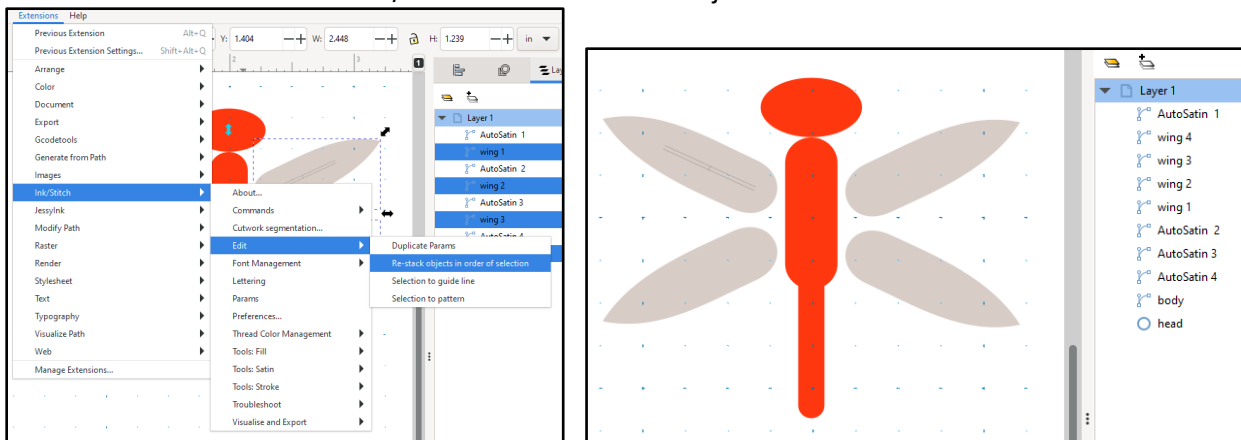
- It can be easier to organize objects if you use Groups. For example, you can group every object of the same color so you can rearrange them easier
  1. To group two or more layers, select all of them, then click Object > Group
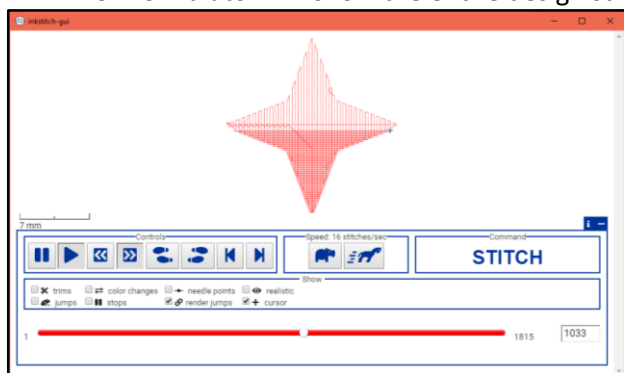

  2. The Layers window will show the Group with a folder icon, and all the grouped elements are listed under it. Moving the Group will move everything inside it.
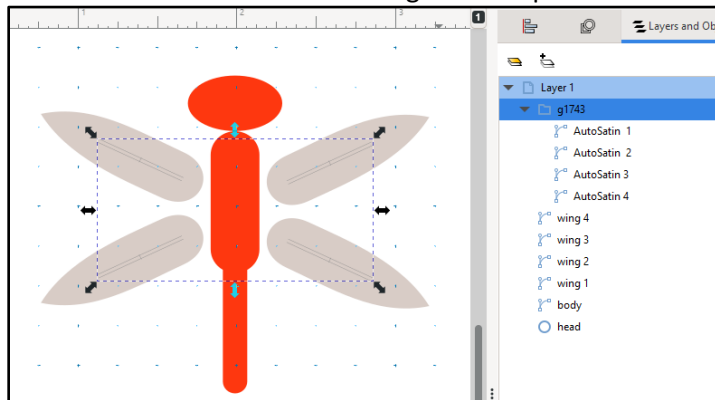

Previewing files

There are a few different options to see a preview of your file.

- Parametrize SVG Path for Embroidery. (See instructions on Page 1.)
- Simulator with (optional) realistic preview
  1. Select the objects you wish to see in a simulated preview. If you want to watch your whole design being simulated, select everything (Ctrl+A) or nothing.
  2. Run Extensions > Ink/Stitch > Visualize and Export > Simulator / Realistic Preview.
 3. Simulator will show the entire design stitch by stitch.

- Print Preview
    1. Open Extensions > Ink/Stitch > Visualize and Export > PDF Export.
    2. This will allow you to generate a PDF printout with a preview of the file, including information such as the number of colors in the file, the size of the design, and the estimated time the print will take to run.
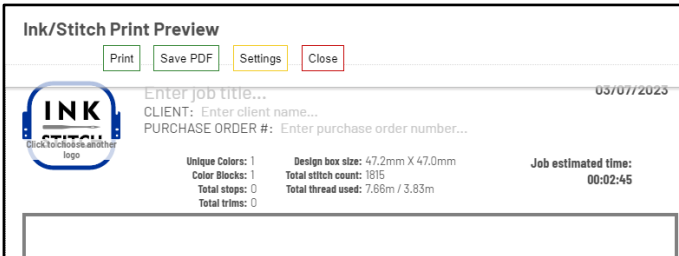
    1. Stitch Plan Preview
    2. Run Extensions > Ink/Stitch > Visualize and Export > Stitch Plan Preview.
    3. You have the following display options:
        - **Move stitch plan beside the canvas** displays the preview on the right side of the canvas. If not enabled, the stitch plan will be placed on top of your design. In that case you may want to update your design visibility to either hidden or lower opacity.
        - **Display layer visibility** defines the visibility of the original design layer.
        - **Needle points** displays needle points if enabled
        - **Live preview** allows you to see the preview without applying the stitch plan
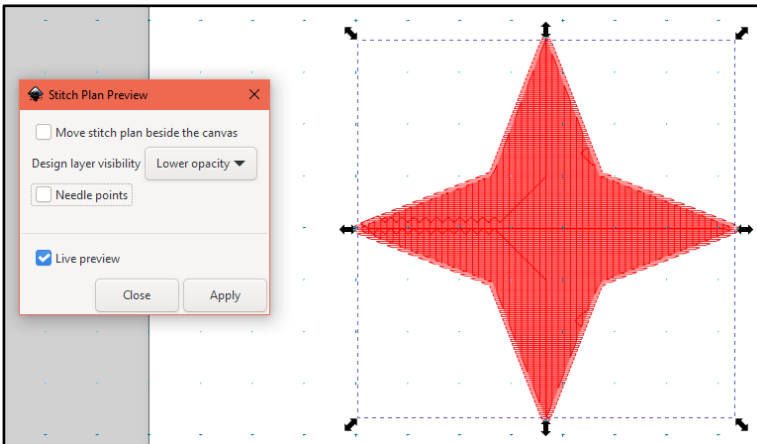
<u>Saving files</u>
1. Run File > Save a copy
2. Select the file type you wish to save it as. It's recommended to first save as an SVG file, because it's harder to change details in embroidery formats.
3. Save the file again as the file format used by your machine. For library's machine, use PES.

Further reading

Ink/Stitch has even more advanced options available, like additional stitches, the ability to attach commands to add various effects to the embroidery file, and other tips. To find information on these features, along with sample files, visit https://inkstitch.org/.