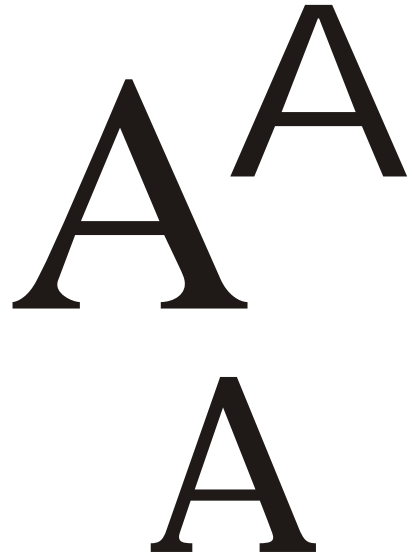


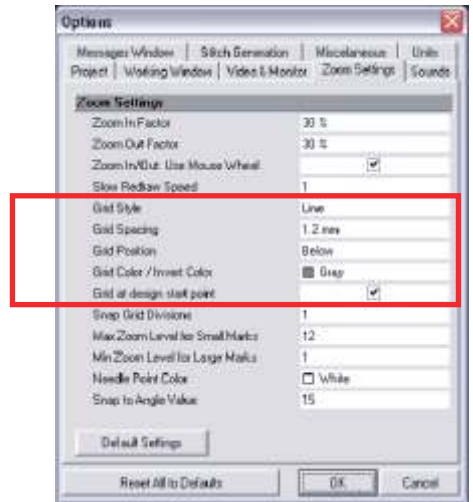
The path to small lettering success

One of the most difficult things for a new embroiderer to master is small lettering. Not all fonts are embroidery "friendly" at least at all sizes. With the concepts discussed here, we will try to shed some light on what can and cannot work.



Just picking the right font is the first thing one must do to be successful with small lettering. Bold type with big open "holes" work best. Serifs, on the other hand are problematic. When choosing a font, look at the thickness of the strokes (columns). If you can make them thicker without closing in the Bs, Ps, and As, these may be a good candidate. Once you've made a choice, you need to get down to the measurements of embroidery. We do this by using our measure tool and by setting up the grid on our work-space. The following exercise shows a good way to evaluate lettering and artwork for digitizing.

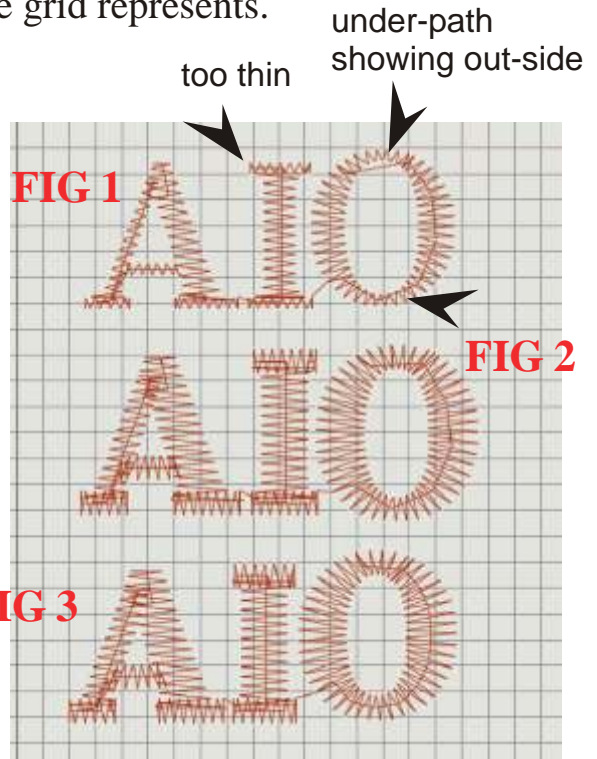
For this exercise, We are going to take a less than optimum font and adjust it. First , go to tools/options and set your grid to lines with a spacing of 1.2mm. Open the insert text box. Choose from the Design fonts, Times New Roman2. Make it a height of 8mm. Make sure the width is 100%. Generate on screen. Notice the thickness of the columns(FIG 1), especially the serifs in comparison to the grid.



At this size, with the default settings for this font, this would absolutely not embroider well. Not only are the satins too narrow, the under-paths are not of an appropriate position. We either need to pick another font, or do something to this font to get the column thickness up to the size that the grid represents.

In (FIG 2) we've added .2mm of pull comp, adding this much to the inside and outside of the satins (.4mm total) . We notice that the underpath is still too close to the edge and would most likely show in the sewout.

In (FIG3) we've shortened the underpath from 2mm to 1.2mm, placing it safely in the center of the column.



Notice here that, what *was* Times New Roman, looks very much like Bookman. Both Bookman and TNR2 are both "slab serif", meaning the serifs are columns. For a more delicate serif choose TNR, carmina, or ameri-serif. These have a "flare serif" That doesn't have a separate column. If you set up your artwork, or any font using the grids and adjust your setting to achieve your minimum widths you can be reasonably sure of success.

When working on lighter weight fabrics, you may want to set grids at 1.5mm. Nylon shell or letters on a fill you could go down to 1mm or so. Once you generate text, zoom in and look for potential problems like the under-paths, underlay, bad stitch generation, short stitch errors...etc. Make adjustments, remember what you do. Understand how this effects the sew-out.

The more familiar you get with the mechanics of embroidery and the way the software responds to your input, the better your small embroidery will be.

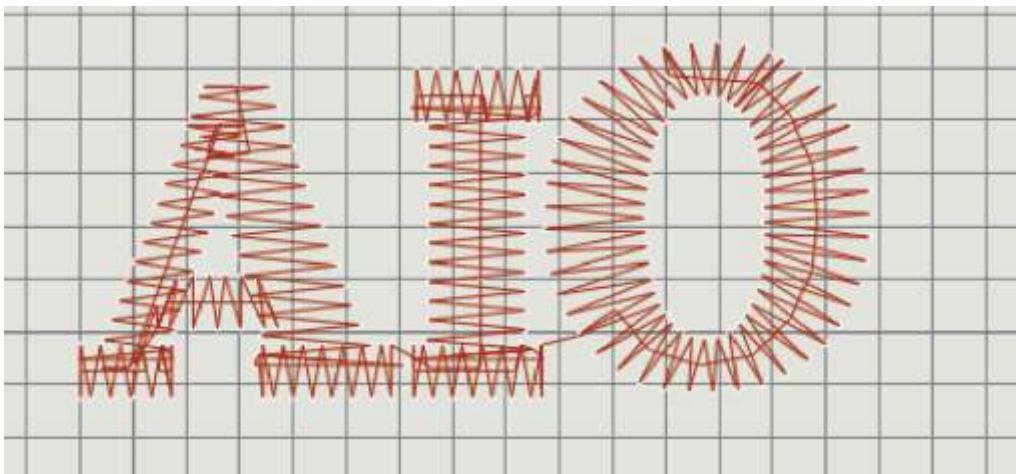
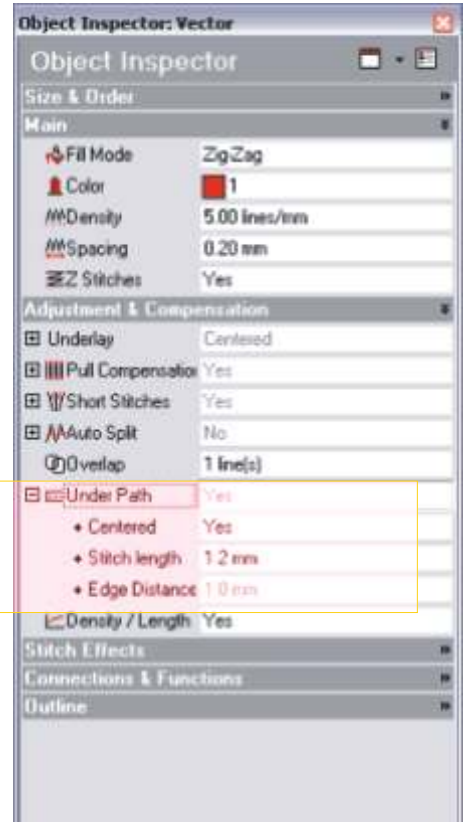
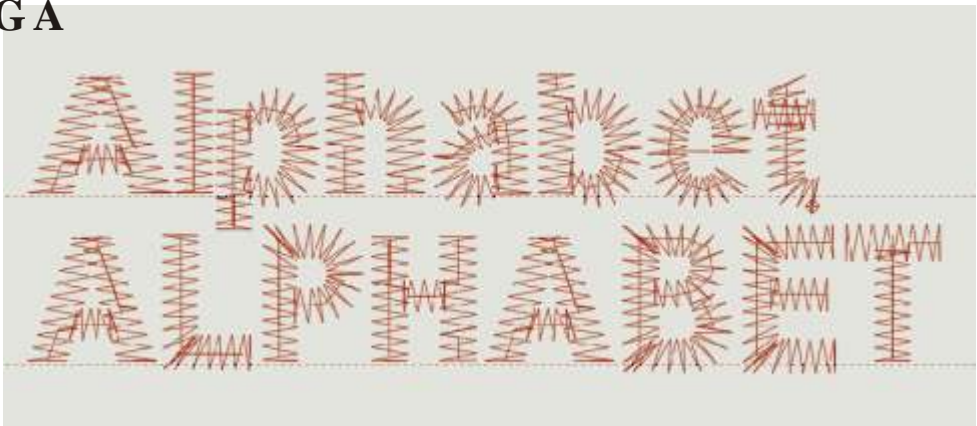
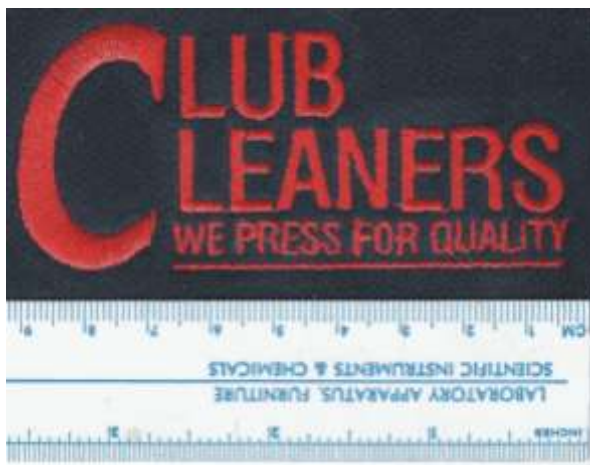


FIG A



In a font that has been engineered to sew well at a small size, you will notice that on screen, the baseline of the text will not look right, such as the text in FIG A. The reason for this is that the columns "push" longer and "pull" thinner making the text look right when sewn. Keep this in mind when digitizing on your own. When starting with these micro fonts, just slight adjustments to the pull comp settings are needed for different fabrics.



The sew-out above looks pretty good. However, on the 3/16" lettering on the bottom line, there are a few things that need to be fixed so that it can run consistently on a multi head machine.

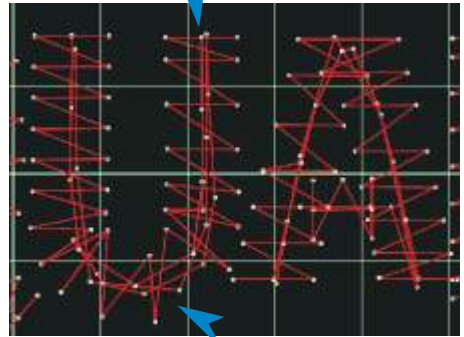


First of all, there seems to be some jumps within letters that are poking out. These can be shortened (underlay or traveling stitches) also there are some stitches that run from the underlay to the satin that are much too short. The way around these is either avoid them by using a manual underlay, or moving them manually in EOD or Edit.

Remember any stitch less than .5mm is essentially a hole. Above, I added a little width to the "I" and adjusted for the bouncing baseline caused by push, by backing off on the column length. Note that all the columns that were at our 1.2mm marks on our grid are at about .7 to 1mm now. Density is OK(3.5), any more would just jumble and push. On a light fabric, I would probably use soluble topping. If you watch your sew-outs as the machine runs, you will see things happen that, if you can learn to find and control, you will be able to satisfy your most picky clients.

Tips for small embroidery

stitch from underlay to start of satin too short



Know how narrow you can go (use a grid)

Lower your density

Shorten underlay and under-path (travel stitches) but not too short

Pay attention to stitches around curves. Adjust vectors or stitches to get an even spacing.

If you think you need more density, add more underlay.

Experiment.

un-even spacing, adjust vectors

