4.0 - ENGRAVING TEXT AND A BARCODE ON ALUMILAZ

Material Required: 2 ¼ ” x 3 ⅞ ” Alumilaz
Difficulty Level: Intermediate

In this engraving job, we will produce a small nameplate on a small piece of Alumilaz. This material is unique in that the laser makes a permanent black mark as compared to the usual way of burning off a dark anodized or painted layer that leaves a light mark. We'll want the finished plate to look like Figure 4-1. Notice that, in addition to text, this job also has a barcode.

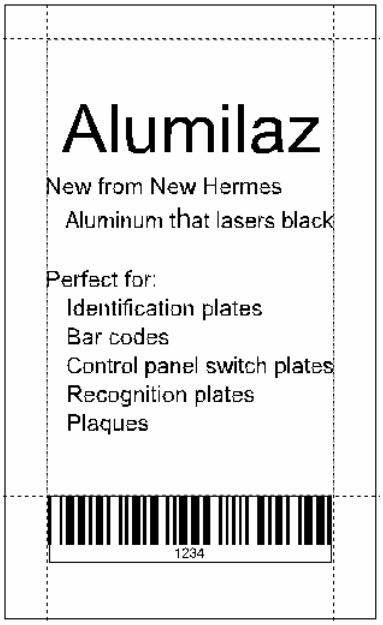


Figure 4-1 Completed Job

4.1 Define The Material

Again, we'll start by defining the material size on the GravoStyle5 screen. For this job, it's 2 ¼ inches wide by 3 ⅞ inches high. The numeric entry can be decimal or fractional. So, for width, for example, you can enter 2.25 or 2+1/4.

4.2 Manual Text Composition Mode

Notice that the Auto Text mode is active by default, ready for text entry when the material first appears on screen. For this job, however, we'll use another form of text entry, that is, Manual Text Mode. So, let's get out of Auto Text Mode. First, open the Text tool toolbar by clicking on the Text tools icon (Figure 4-2) →.

Figure 4-2 Selection Tool

Figure 4-3
Text toolbar

←Then click on the Free text icon (Figure 4-3).

A dialog box (Figure 4-4) is presented which notifies you that you are about to switch composition modes.

Click **Yes**. Margins are removed and you are free to place text anywhere within the material boundaries.

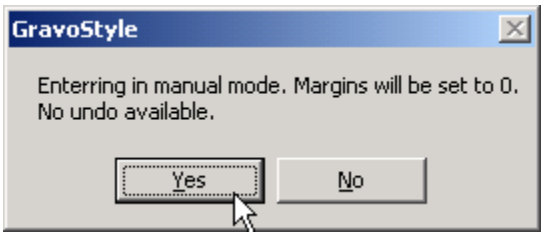


Figure 4-4 Entering Manual Mode

> ***Look Further***
>
> ***Other tools in the "Text Tools" fly-out toolbar let you enter vertical text, text on an angle, text on an arc or along a curve, text in columns and free form text entry. You can also check your spelling and convert your text from text objects to outline vectors.***

4.3 Using Guidelines

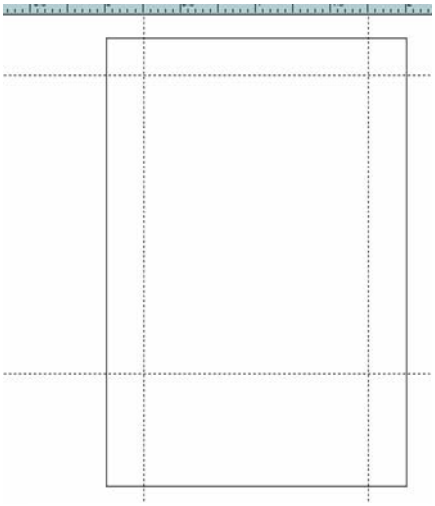
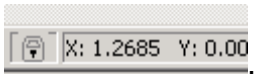


Figure 4-5 Guide Lines

Let's specify that the text must fit within a rectangle whose sides are about ¼ inch in from each side, ½ inch from the top and ¾ of an inch from the bottom. We'll use "Guidelines" to define this area. Guidelines are construction lines that do not print (or engrave). They are generated by left-clicking in the left and top rulers (for vertical and horizontal guidelines respectively), and keeping the mouse button depressed while dragging each line to the position we want. Figure 4-5 illustrates guidelines positioned for this job. They appear as dashed lines that extend across the entire width and height of the screen's work area. You can close the Text toolbar if it is in the way. While you can generate guidelines in either text or selection mode, you may only move a guideline in Selection mode. So, let's click on  to go into Selection mode. As you are dragging the guidelines into position, you can see the coordinate position in the status line



. There is a precise method for positioning objects that will be left for later. For now, just estimate the guideline positions.

4.4 Composing Text in a Box

Click the "Text into Rectangle"  icon in the Text toolbar. A cursor will appear as a cross and a small rectangle with the letters "Ab" inside it. This rectangle will be below and to the right side of the cross.

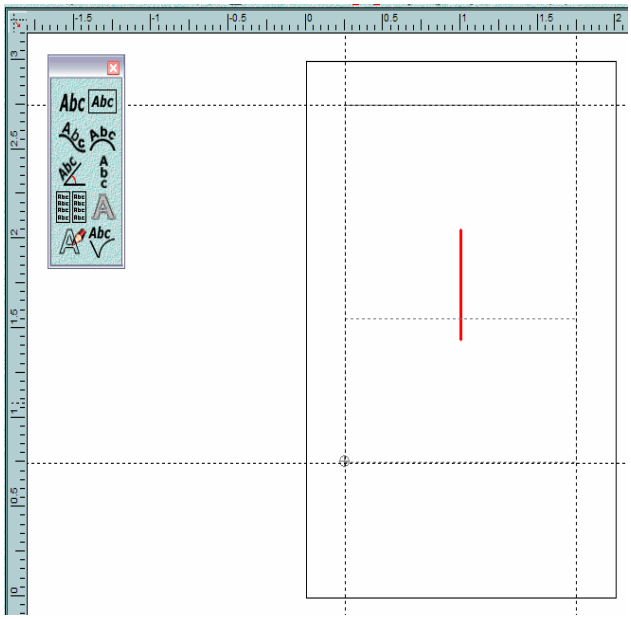


Figure 4-6 Text Into Rectangle

Center the cross on the top left corner of the text area, as defined by the guidelines. Then, click and drag the cursor to its diagonally opposite corner. Release the mouse button and the text cursor appears in the center of the first line (Figure 4-6).

This should look familiar – it looks just like the "Auto Text" mode screen that we've previously seen. In fact, "Text into Rectangle" mode works just the same way as "Auto Text" mode. It's just that the text here is confined to the rectangle we created by dragging the cursor, instead of being confined to the material's borders. What does this mean for your productivity? It means that you can apply the power of "Auto Text" mode to any

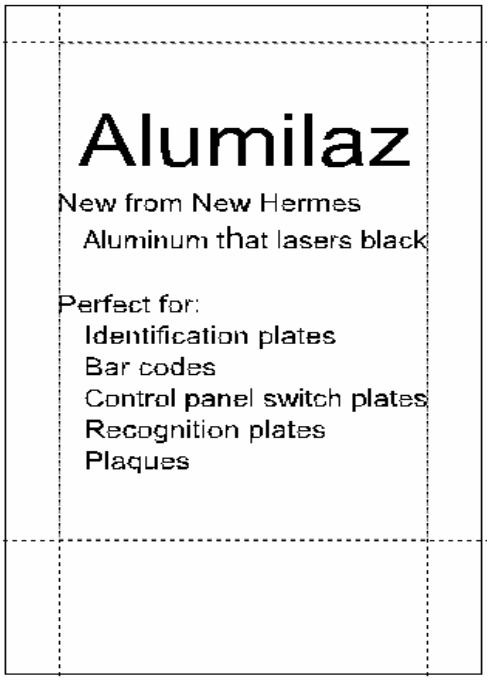


Figure 4-7 Text Entry

local area of your job that you care to define.

Let's now type in our text, making use of the text justification and text sizing and formatting tools. You may choose your own formatting, but as a guide, for the heading you can use **.3** in character height Arial font. For the remainder of the text, you can use **.1** in character height Arial font. When finished typing and formatting, our work will look similar to Figure 4-7.

4.5 Creating the Bar Code

To make our bar code, we'll make use of another of GravoStyle5's fly-out toolbars. It's labeled "Special Tools" and Figure 4-8 shows it opened. Get back into Select mode  and click on the second tool up from the bottom – it's the Bar Code tool. When we click on it, a large dialog box (Figure 4-9) will appear in the center of the screen. This is a 'Wizard' that will guide us as we design our bar code.

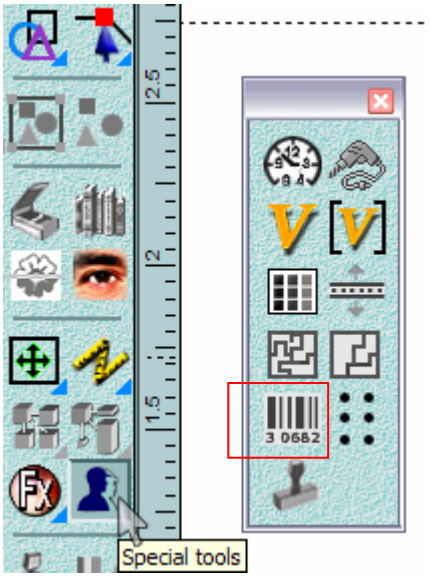


Figure 4-8 Special Tools

Look Further

Other tools on the "Special Tools" fly-out toolbar let you design straight rulers and scales, round dials, and rubber stamps. You can also optimize the layout (nested shapes) to minimize material waste, enter standard symbols from a large library, enter and work with variable text (equivalent to mail merge in word processing programs) and mark drill point locations on your job

First, select from the drop down list of available standard bar code formats. For this job, we'll use code-39. Select the color red from the pull-down. Click "**Next**" after selecting it.

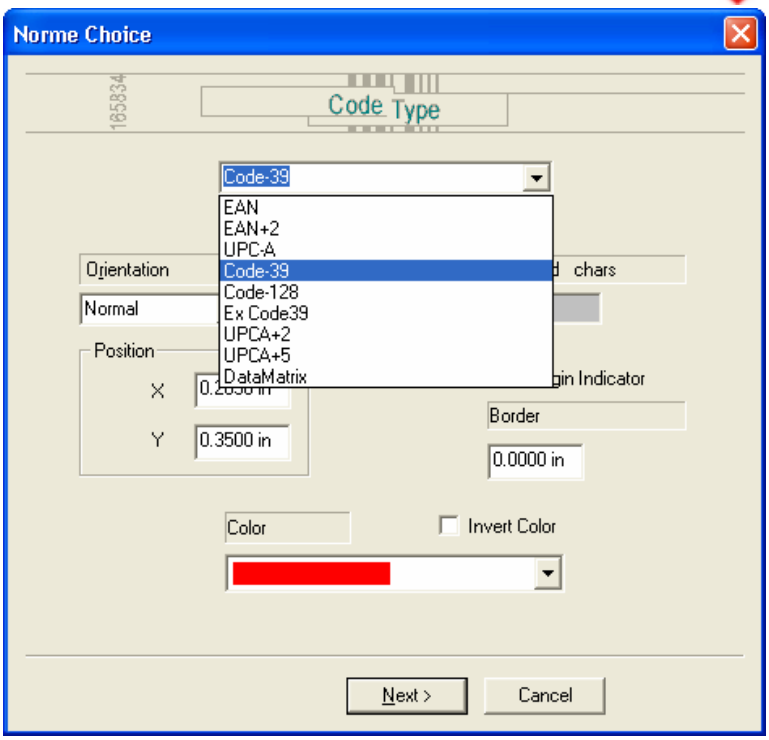


Figure 4-9 Selecting Bar Code Standard

In the next dialog box, (Figure 4-10) enter the dimensions we want for our bar code. Let's use a vertical height of **.4** inches and a width of **.02** inches for the thinnest bars. We'll also check the **Show Text** checkbox to display human readable text in addition to the encoded bar code. Once enabled, the human readable text height can be modified. We'll keep the default value of 12 (12 points).

Again we'll click "**Next**" and in the next dialog box (Figure 4-11) we'll enter the data to be encoded. Let's use 1234 and click on "Finish".

The finished bar code now appears on our

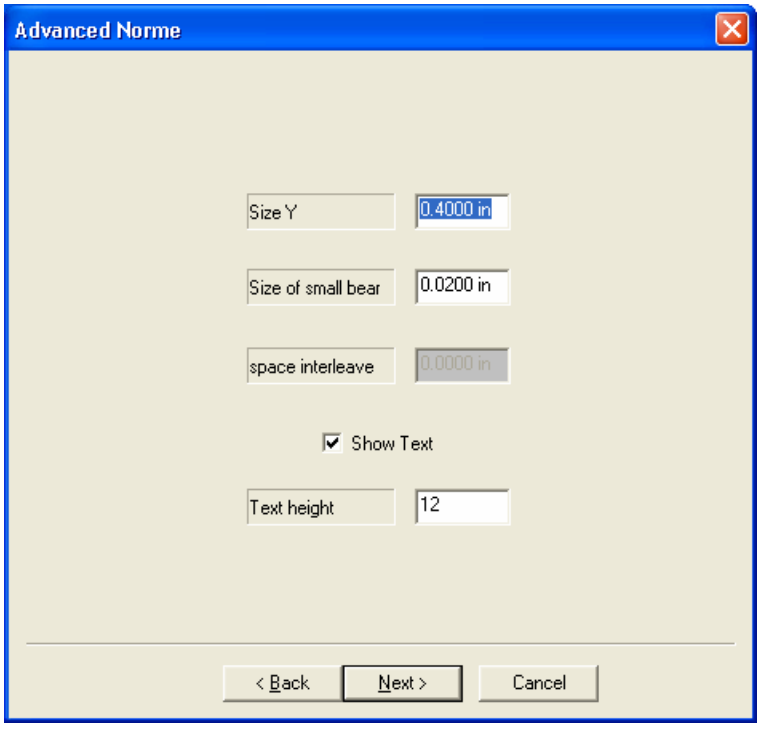


Figure 4-10 Specifying Minimum Bar Width

job. We could have positioned it by entering an origin location in the 1st dialog box. But, since we didn't know the overall size of the bar code until after we finished we've left final positioning for last.

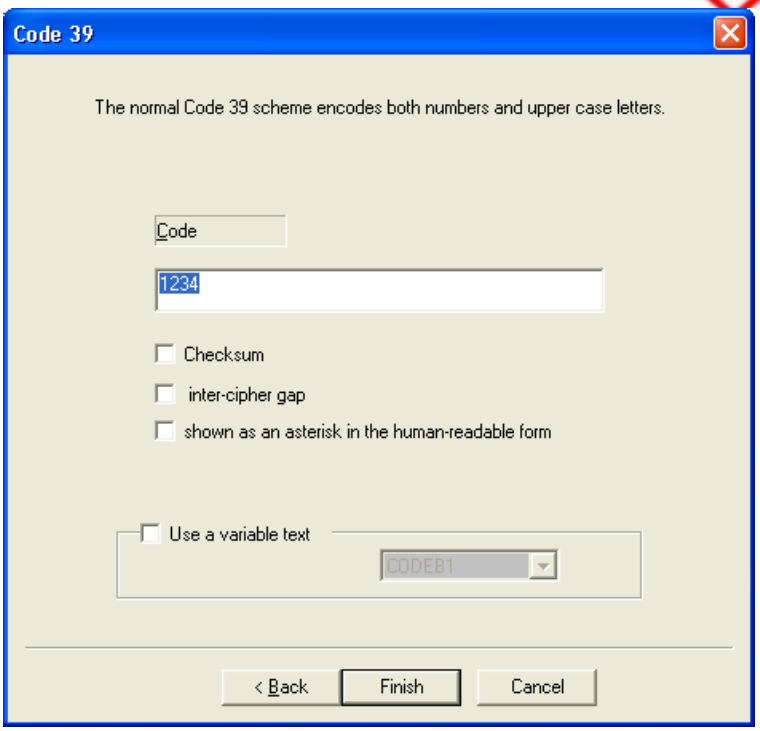


Figure 4-11 Entering Bar Code

4.6 Positioning the Bar Code Using Snaps

Let's specify that the top of the bar code is to be positioned *precisely* 0.75 inches above the bottom of the plate and that the barcode is to be centered left-to-right between the material edges.

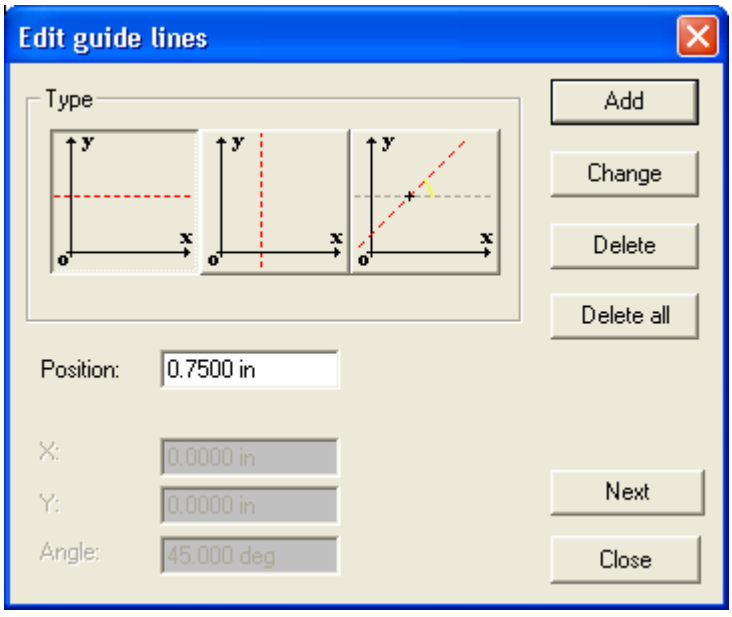


Figure 4-12 Guide Line Dialog Window

For the vertical positioning, let's first double-click on the

lower of the two horizontal guidelines and enter the precise value of 0.75 inches for its location (Figure 4-12). Click **Change**.

Next, we'll press the keyboard **F3** key, which brings up a tool pallet called **Snap** (Figure 4-13). (We can also bring up the snap tool pallet by clicking on "Snap Mode" in GravoStyle5's "Edit" menu.)

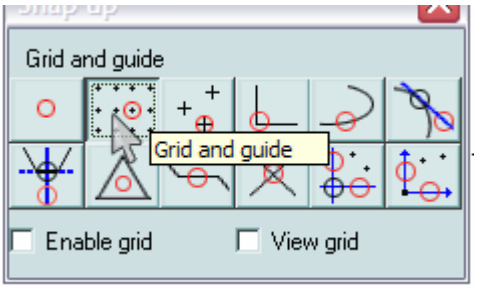


Figure 4-13 Snap Toolbar

Snaps work like virtual magnets. We can choose the kind of object that we want to snap to, and when we drag another object close to it, the one we're dragging will behave just as if it were drawn by a magnet. We can choose to snap to any point on a line, to the center of an object or to an intersection of two lines. In this case, we'll select the tool that allows us to snap to grids and guidelines  , as shown in Figure 4-13.

Figure 4-14 shows the snap tool in action. The cursor has changed to a cross with an arrowhead at the end of each arm as we drag the bar code. As we approach the guideline, a small circle appears on it, under the cursor, to signal that the snap location has been recognized. We just move closer and the top of the bar code will snap into position.

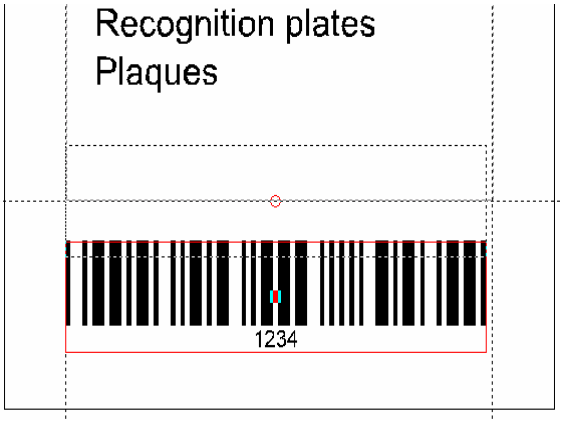


Figure 4-14 Snapping to a Guideline

Next, click the top leftmost Snap button, **None** and close out the Snap tool pallet.

Now, we'll turn our attention to the task of centering the bar code left-to-right. Let's open the "Alignment Tool" fly-out tool pallet (Figure 4-15).

Click the "Horizontal Center"  icon to center the selected bar code horizontally in the material.

The job is done except for the saving.

Make sure to save this job file – we'll be using it again.

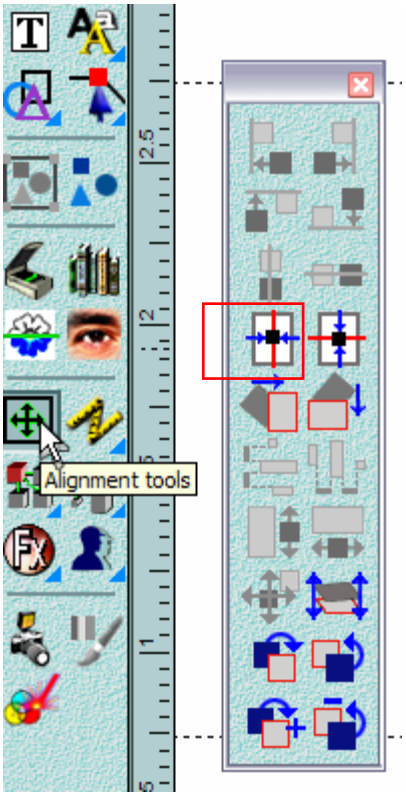


Figure 4-15 Alignment tools

4.7 Engraving the job

Like most materials, there is a range of values of power and speed that will yield an acceptable dark mark. Alumilaz works on the principle that when the material is heated, it completes the anodization process. We know from experience that to get consistent results, a speed of less than 100% is required. There is an Alumilaz Calibration test plate that you can run on your laser that will show you a matrix from which you can pick the best results. For example, on a typical 60W laser, we have gotten acceptable results at a power of 40% and speed of 50% at 600 dpi for the text. For the barcode, use power at 35 and speed at 40.

4.8 What We've Learned

This job has taught us:

- How to use guidelines
- How to snap to guidelines

- How to use manual text mode
- How to access and use alignment tools
- How to access GravoStyle5-Laser's "Special Tools"
- How to design a bar code