3.0 - ENGRAVING TEXT ON A COLORED STEEL PLAQUE

Material Required: 4” x 5” Black Colored Steel

Difficulty Level: Easy

As our first engraving job, let’s engrave some text on a 4 by 5 inch colored steel material. We want the finished job to look like Figure 3.1.

Figure 3-1
Completed Job Design

3.1 Define The Material Size

When GravoStyle5 is opened, you are immediately prompted for the plate size.

When the dialog box opens, type in the dimensions of the job (4 inches by 5 inches). Enter an appropriate border, say, .4 inches and click “OK” (Figure 3.2). Your plate size will be displayed and the border will appear as a dashed line to define your design area.

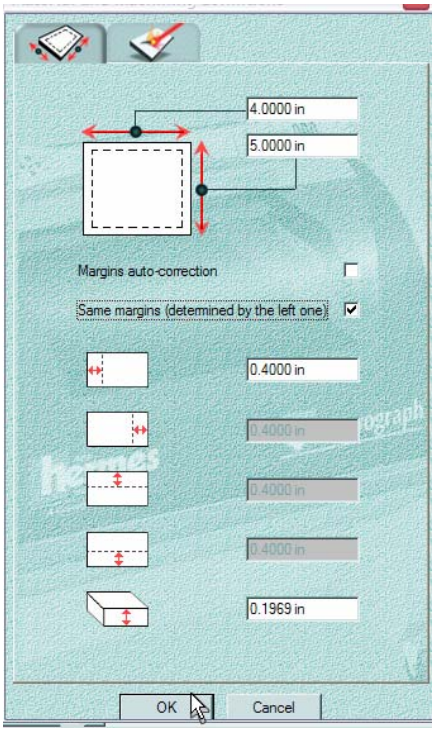

Figure 3-2
Material Selection Dialog Window

POWER TIP

If GravoStyle5-Laser is already open, you can ask for a new job  or you can re-define the plate size for the opened job. To re-define the plate size, click the “Material Definition” icon  which opens the dialog box that allows us to tell GravoStyle5-Laser the size of the job.

3.2 Enter Text

Click on the “Text Mode” icon on GravoStyle5’s tool bar (Figure 3-3). This text mode is also known as “Automatic Text Mode” (or Automatic Composition Mode) and it has some interesting properties.

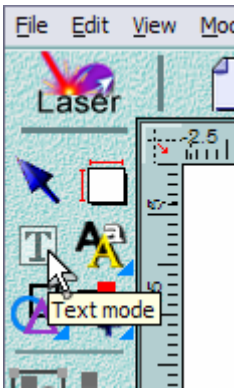

Figure 3-3
Text Mode Tool

You’ll notice that a horizontal line appears from border to border within the material (Figure 3-4).

This is the line on which your text will be placed as you type. You’ll also see a (red) vertical text placement cursor that is centered from left to right on the line. This marks the position at which the next character that you type will be placed. The default is text center justified on the material, but you can easily change the justification to left, right or full width justification by clicking on the appropriate icon at the bottom of the screen.

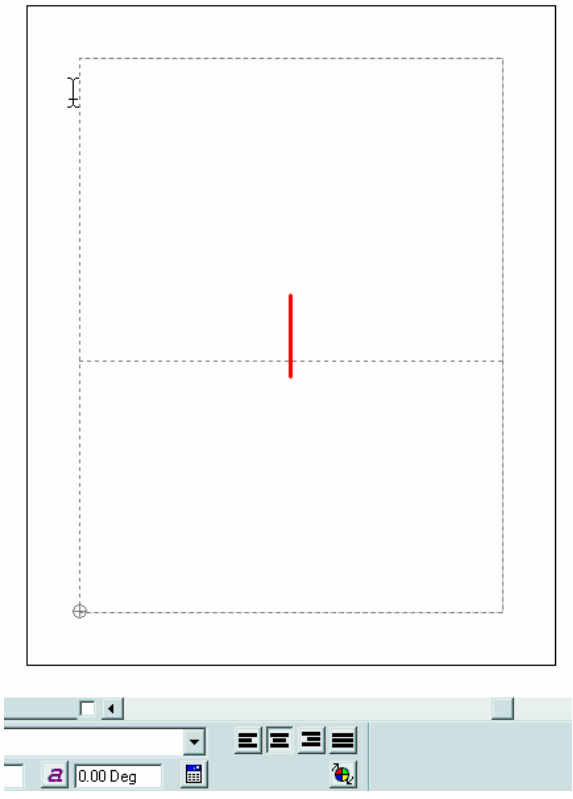

Figure 3-4 Ready for Text Entry

As we enter our text we’ll discover some other useful properties of Automatic Text. Let’s begin. We’ll use the program’s default of Arial font at the default height of 0.3937 inches.

We’ll type “PLEASE RING BELL” without, of course, the quotes. Notice that when we’ve typed “PLEASE RIN”, the text has completely filled up the available space on the line. Let’s continue typing. We’ll see that when we’ve typed “PLEASE RING BELL”, each letter has noticeably shrunk

in size (condensed horizontally) to still fit within the length of the typing line. This is one aspect of Automatic Text entry that allows you to precision-fit text into a fixed space if you need just a little bit more room.

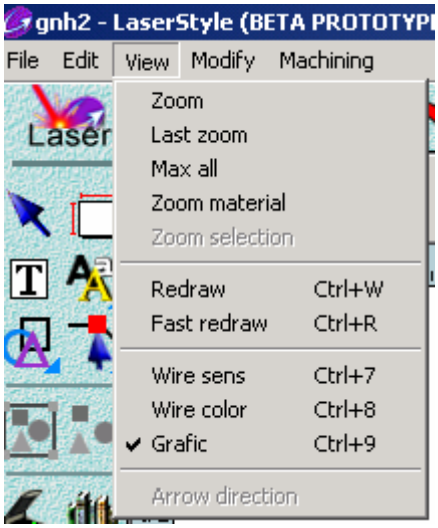

Figure 3-5 View Menu

In this case, however, we need more than a little bit of room and we want all the lines to be the same size. Let's backspace over what we've just typed until just "PLEASE RING" remains. It's still border-to-border and very slightly compressed. Let's make the text a little smaller so that we have some breathing room, but first, let's find a better way to view our job for editing.

3.3 View Modes

GravoStyle5 can display your work in several ways, and we can choose among them by selecting the one we want from the program's "View" menu (Figure 3-5). So far, we've been working in "Graphic" view mode, which is GravoStyle5-Laser's default (Figure 3-7). The Graphic mode shows us how parts of our job will be raster filled in a WYSIWYG ("**W**hat **Y**ou **S**ee **I**s **W**hat **Y**ou **G**et") view mode.

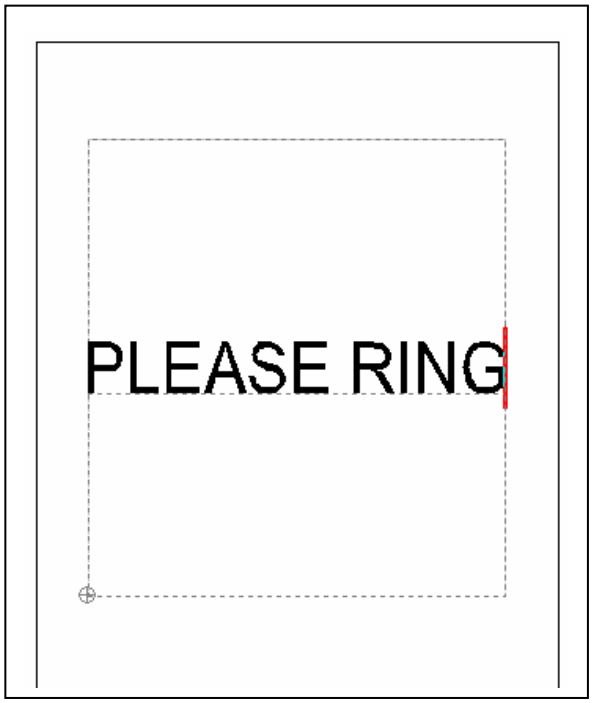

Figure 3.7 Graphic View Mode

You can select the Wire color view mode (Figure 3-8), where you see outlines in the selected color. But, the objects will still be engraved as you

defined in the Laser Color Manager (i.e., raster, vector or dot). You will find that you will use the Graphic (filled) View mode most often. There will be times when you will want to used the Wire Color view, such as when you want to view an underlying object. You will be instructed to change view modes in later tutorials, so for now we will stay in Graphic mode.

Figure 3-8 Wire Color View Mode

A third view mode option, “Wire Sense” is available but it isn’t really useful for laser engraving. It’s common for mechanical rotary engraving jobs, where you can use it to control the direction (clockwise or counterclockwise) of the rotary tool path.

3.4 Editing Text

We want to select all of this text and make it a bit smaller. Swipe the cursor through the text. You will know it is selected because the background becomes gray (Figure 3-9).

Figure 3-9 Selected Text

Next, we’ll use the text properties dialog box that appears at the bottom of the screen whenever we’re in text mode (Figure 3-10). Double-Click on the current text height (0.3937) with the left mouse button and type in a

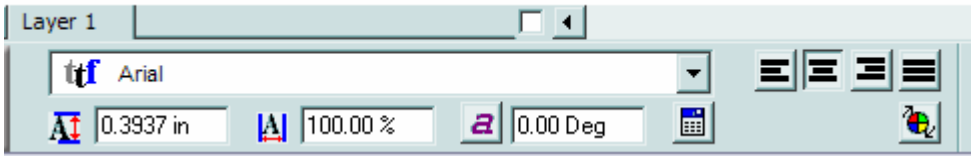

Figure 3-10 Text Properties Dialog Box1

new value, say, .3 inches. It is not necessary to type zeros trailing the

decimal point. And zeros before the decimal point are unnecessary if there are no significant digits. So, in this case, just typing .3 is sufficient. Click anywhere in the white edit area (or press “Enter”) and the text will re-size to the new value, that is to say, the change will be applied.

3.5 Completing The Job.

After we re-size the text, continue typing the entire job, starting new lines by pressing the “Enter” key on the keyboard at the end of each line as shown in Figure 3-10. Separate “Thank You” from the rest of the text by an extra line. Notice that as you type new lines, all of the previously typed text moves up to maintain what you’ve typed in a vertically centered position. This is another feature of “Automatic Text Mode”.

Figure 3-10 Completing Text Entry

Select the text “THANK YOU” (by dragging the cursor over it while keeping the left mouse button pressed) and change its character height to a slightly smaller value, say, .25 inches, and – We’re done!

3.6 Verifying Your Work.

Before you send your job to the laser machine to be engraved, you may want to verify that what you send is really what you intended. This will let you see that all the raster fills are OK. Pay attention to the fact that your filled (rastered) text is colored black. You’ll need to know this when you set the power level of the laser beam.

3.7 Engraving the Plaque.

Laser engraving machines behave exactly like printers from the perspective of a PC. In fact, the software (called a “driver”) that controls a laser engraver is exactly like a printer driver, and your PC can’t really tell the difference; to your computer, your laser engraving machine is just another printer. What this means to you is that having your PC send your job to the laser machine to be engraved is no different than sending anything from the PC to a printer to be printed.

Almost always, PC application programs do not control this printing process directly. Instead, they rely on your computer’s operating system (Windows, for a PC) to do this job. This makes the application program’s job easier, but it also means that your programs have no way of remembering the printer settings you used if you ever want to print the same job again in the future.

Here’s another way in which GravoStyle5-Laser really shines. Yes, like all other programs, you can have Windows do the job, but GravoStyle5-Laser gives you an improved method to send your job to the engraving table. GravoStyle5-Laser has its own driver built-in to the program and lets you control all “print”, or engraving settings from within the program itself. By using this method, you’ll find that *all of these settings for laser power, speeds, positioning on the table, job orientation and other parameters are saved with your job for future recall.* This is a significant usability feature and is the first ever available in an application program.

Here’s how we proceed. The design of our job is finished. We could click on “File” and then “Print” and send the job to the engraver through Windows, but we’ll use the better way. Above the top ruler on the GravoStyle5-Laser screen is the main

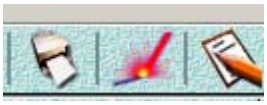

Figure 3-11 Lasering Tool

toolbar. Click on the laser icon. It's the second from the rightmost one (Figure 3-11) and its pop-up tool tip says "**Lasering**" when the mouse cursor hovers over it.

When the toolbar's laser icon is selected, GravoStyle5-Laser's internal driver dialog window opens (Figure 3-12). The only settings that we have to make for this job are the power and speed of the laser beam and the resolution of the raster engraving.

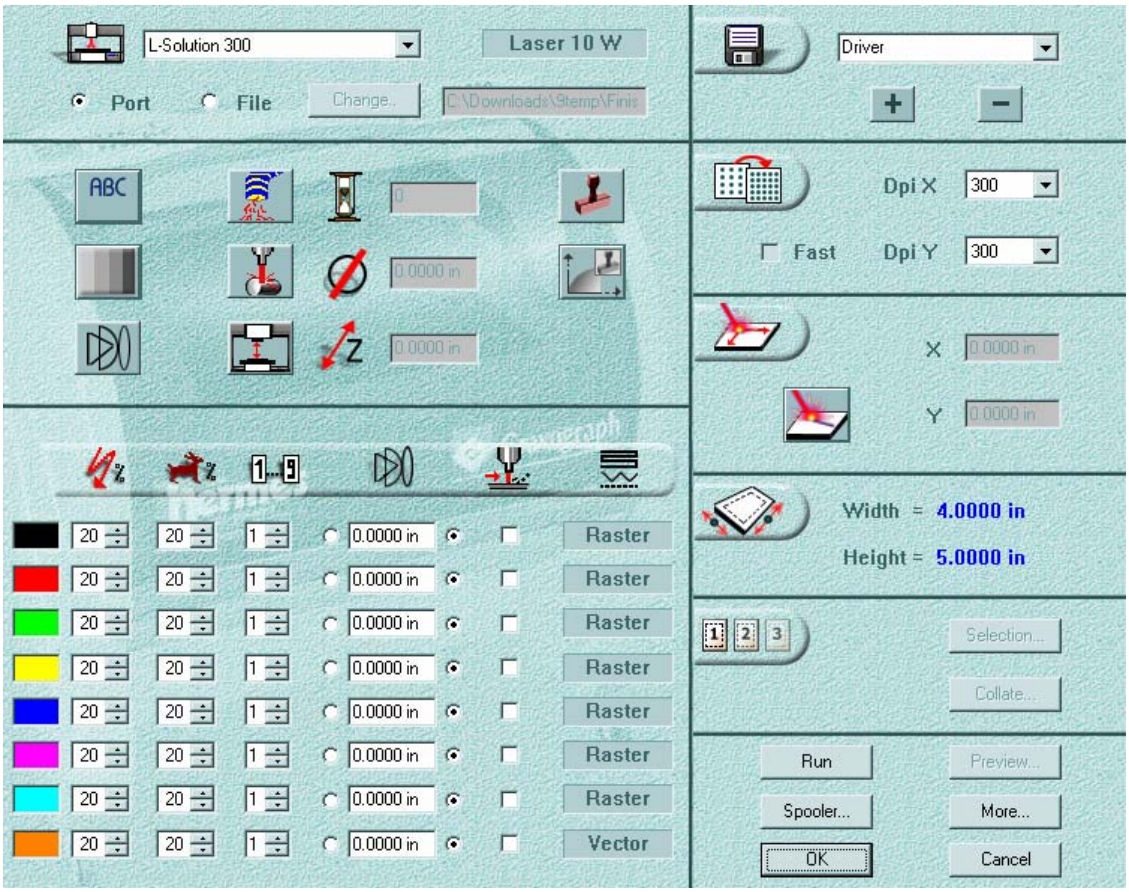

Figure 3-12 GravoStyle5-Laser's Internal Driver Dialog Window

Let's set the beam's power and speed first. We notice that a column of eight color blocks is in the window's lower left side. We can set any element of any graphic to any of these colors when we compose our job and set each color to engrave at its own power and speed settings. We've left our text for this plaque to the default color black, and so we need only

concern ourselves with the black settings. For laser engraving black coated steel material on a 60W laser, try a power setting of 70 (per cent of full power) and a speed setting of 90 (per cent of full speed). Adjust power and speed as required for other wattage laser engravers. Next, we'll go to the second section down from the top on the right side and set the beam's resolution (expressed as dots per inch, or DPI) to 600 each for the X (side to side) and Y (up and down) axes of the plaque. (Note that if we set the X-axis resolution first, the resolution of the Y-axis will change to the same value, but the value for the X-axis doesn't change when we set the Y-axis. So, if we want different values for the two axes, the Y-axis must be set last.)

Now click on the "**Run**" button in the lower right portion of the window and the job will be sent to your engraver. After the job is sent, we can click on the "**Cancel**" button to safely close the 'Lasering' (driver dialog) window. Note that the settings in this window now become a part of the job file. They will be saved with that file and will appear as defaults in the driver dialog window when the job is run again in the future.

3.8 What We've Learned.

By designing this text plaque, we've learned:

- How to tell GravoStyle5-Laser the size of our material
- How to work with Automatic Text
- How to edit text
- How to use different view modes
- How to open GravoStyle5-Laser's table driver window and make basic engraving settings