

Cutting out Text and Shapes

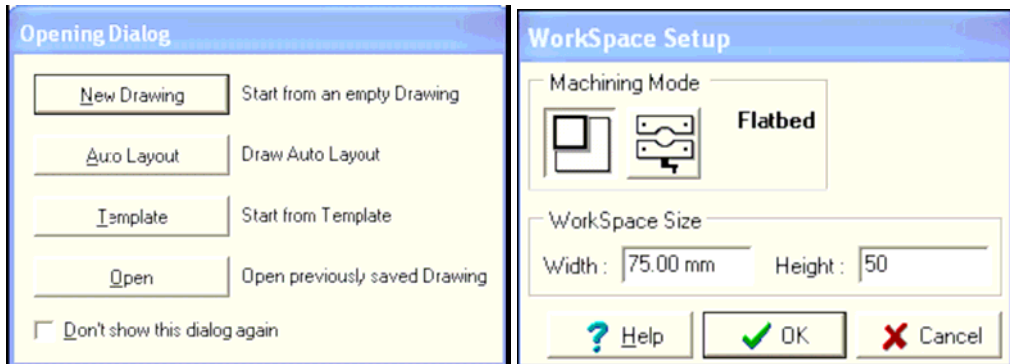
To use this function you should purchase the Extra Font Pack for your machine. You will also need the special cutter Part No. SST 592 for gold and all other precious metals.

Turn the Engraving machine on by turning the emergency Stop Button in the directions of the arrows as shown on the button.

Double click on the Engraving icon on your desktop.

Entering your Text:

Left Click 'Auto Layout', Left Click on the Flat Bed as shown and Enter size of material under Dimensions, which you will be using.



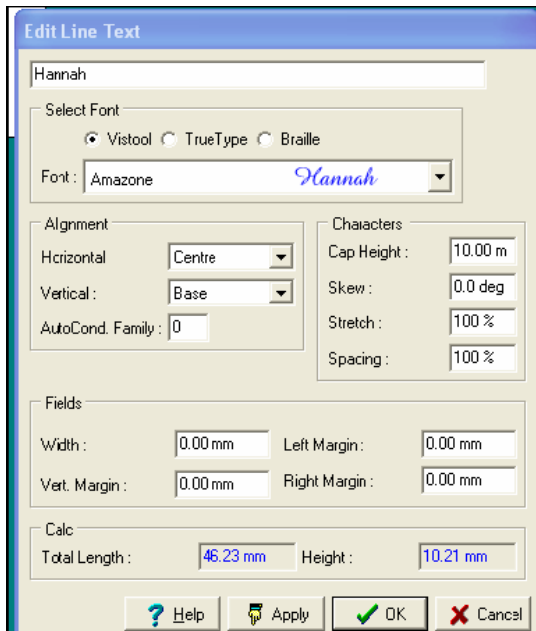
You may then enter your text.

Enter your text into the text box and set font to your choice. For the example below we are using Amazone, after choosing a font Click on OK to show your text inside your engraving area.



Adjusting your Text:

After entering your text it will need to be adjusted. To change the components of your text you must highlight it. To highlight the text you simply left click on the text, the computer will then show that text in dashed lines (you can also make a box around the text highlighting the name as well). Then right click on the text to bring up a menu. Choose the Standard Text Editor inside that menu. You can then edit your text. Change your cap height to no smaller than 10.00mm (the average size of a cutout is 15mm) and then click OK.



You have just changed the size of your font and are ready to create your cutting border.



Attaching letters together that aren't connected:

If you choose a block font or a font that does not connect when entered, you must connect the letters together before proceeding to the next step. To do this we have to first do something called KERNING the text. This will push the two letters together that are not touching so that when you are creating a border around your letters to create your cutout you do not have any gaps between the letters, thus creating a non-solid cutout. First highlight your text then click on Text from the file menu on the top of your screen. Click on Kern Text and this will create a curser to help you connect your letters. Place this special curser between the two letters that need to be connected and click until you are satisfied that the letters are connected. When you are finished Kerning simply press the escape button and the curser will change back to normal. You can now move onto the next step.

Creating a border for cutting:

To create the border around your text for cutting, you must highlight your word and Left Click on Production tab. Find the Single toolpath option and click on it and choose outside. This is the option that creates the border around the outside of your text. This phase is very important to your finished product. **If you receive a warning of “NO FACES SELECTED” you are using a font that is not appropriate for this application, you will have to edit the text and find a new font that works.**

In order to determine how thick of a border you need around your text you must look at your name carefully. Determine your weakest points of cutting, this meaning the thinnest part of the cutout. If your name has very thin parts you want to create a thicker border around your text to prevent breakage of your finished product. If you notice that your text have very few or no thin parts at all you may make your border thin creating a more detailed cutout. You must be careful however, because depending on the name the thinner the border the weaker the material may be when finished.

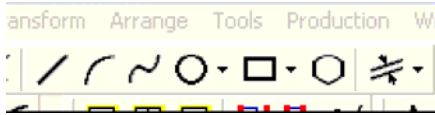
For our example we are going to create a 2.00mm border around the outside of the text. The name Hannah has a few weaker points so we need to compensate for this by creating a thicker toolpath.



The black outline is going to be what the machine cuts out and the blue line is the original design. If this looks sufficient you can move onto your next step.

Creating hooks/circles:


Find the circle icon on the top half of your screen.



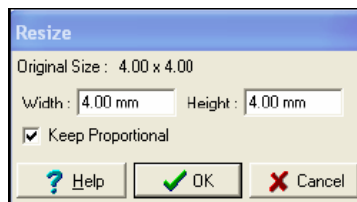
It will be the one that looks exactly like the circle (4th one in)

Left click on the circle icon with your cursor to highlight the circle. Then left click and hold in your engraving space and create a circle by dragging your cursor.

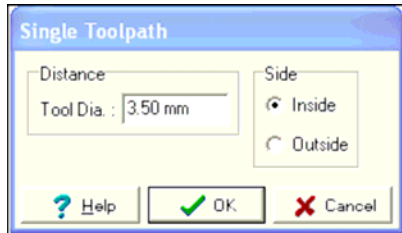


You are now going to want to change the size of your circle. By highlighting the circle and resizing it using the resize icon arrow  (top bar 12th in from the right).

Click on resize and resize the circle to the size you think is appropriate. For our example it will be 4.00mm. By changing the width you will automatically change the height.



Now we want to make a second circle inside the first circle. Highlight your circle and click on Production. We are creating a Single Toolpath again, this time creating an Inside Toolpath instead of an outside. Choose your diameter accordingly making sure not to go too thin or the cutting needle will not be able to create a loop out of it. For our example we are using an inside diameter of 3.50mm.



You will now have two circles.

After you are satisfied you will need to duplicate these circles. To do this highlight both circles, click on Edit, and then Duplicate Single and then OK. Then use your arrow keys on your keyboard to move your second set of circles over. Now you will notice that you have blue circles and black circles, they need to be all BLACK. To do this hold the shift key down and click on both blue circles. Then on the bottom middle of the screen there are three colored boxes, both blue and black. Click on the black box next to the blue box positioned in between the arrows. This will make your blue circles black. We do this because the machines will only cutout the black lines.

Welding the circles and the text outline:

We now have to move these circles to the correct spot to create the hooks for hanging the charm. To do this highlight one set of circles and drag them so that the outside circle crosses over the black border of the text (do not cross into the blue text). Do the same with the second set of circles on the opposite side of the charm. When placing these hooks try to place them on an even line so that when you hang the charm it hangs straight. Meaning try to hang to put then sets of circles at the highest point of your charm on each side.



Now we want to join the circle borders with the text borders (we call this welding) to create the correct cutout. If we don't do this then the cut will follow all of the black lines and create a cutout where the letters and the hooks are not attached. In order to keep the black lined detail in your text before welding the circle and the text border together we must separate the small detailed circles (like inside the large H) from the black outline of the text.



To do this click on the black outline around the text and then go to Arrange in the file menu on the top of the screen, Click on Break Up Face. Keeping the text outline highlighted go back to Arrange and Click on Explode Group. This will separate the highlighting of all small detailed circles from the outline of the text. Now we can weld the outline to the circles.



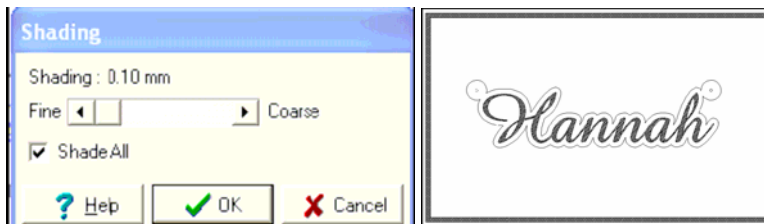
To do this un-highlight the black outlined text by clicking on the white area. Then hold your shift key down and click on the two outer circles and the outline of the text. The small detailed circles in your text should NOT be highlighted. If they are, repeat the Break Up Face step or you will lose the small detailed circles inside the text like the picture below. If the highlighting is correct you can then weld the text and the circles together by clicking on the icon of the two red boxes on the top of your screen, which are joined together (bottom tab, 1st one in on the right). Clicking on this function will join the circles to the outline of the text as shown below.



Engraving more detail:

If you have a wide border around your text you may not be able to tell what the text says without engraving it first, much like the text above. To create more detail when creating your cutout you may want to engrave the text first by shading it in. To do this you must click on the blue text to highlight and click on the shading function. This icon is the 6th or 7th icon in on the right on the bottom tab.

Click on shade all and set to your preference of how much shading you would like. For our example we placed it on the lowest setting 0.10mm. Click OK.



After set up you first want to engrave the text with the normal Diamond Drag engraving feature using your standard Diamond Drag Graver (120-degrees). This will give you the shading effect that we just added. You can then engrave accordingly.

After you have engraved your pattern you must delete that shading before creating your cutout. To delete, click on the shaded area and then press your delete key on your keyboard.

Creating more detailed circles inside your text:

If your text has a lot of detail because you set the toolpath lower you may skip the engraving step. If you skip this engraving step, you will want to make sure that the letters are going to be cut out or you will not be able to tell what the letters are. If you are missing some of the small holes we can create these holes so the cutout is complete.

To do this you must highlight the blue text, click on Arrange in the file menu, and then Break Up Face. Then while the text is still highlighted go back to Arrange and click on Explode Group (just like we did for the borders) then click in the white space. Now you can click on the individual circles inside the letters, the small letter 'a' is an example of this in the name Hannah.



You then have to create an inner toolpath for each of the sections missed by the original toolpath setting. Highlight the inner detail missed and then click on your production tab, choose the Single Toolpath setting and set your toolpath to the inside then choose your diameter. The diameter for these is not big at all the average is 0.5mm. This creates a black line for the engraver to cutout inside the letters. Repeat this step for all other areas that were missed.

The Cutting Out

You are now ready to set your machine for cutting. When completing a cutout you must use the gold (precious metal) cutter (SST 592) and your brass-cutting knob (the precious metal cutter is not included with your machine please contact your dealer). The housing unit must also be locked, to do this lower the silver screw on the top right hand side of your housing unit until you touch the small Allen screw.

You do NOT use your plastic nose cone for this step.

To set up your engraving surface you must place double-sided adhesive (SST 610) on your machine bed. Then place your sacrifice sheet on top of that. This sacrifice sheet will prevent the cutter from cutting the actual machine bed. Place more double-sided adhesive on your sacrifice sheet and stick your metal to be cutout on top. **Make sure to measure how thick your material is before sticking it to the sacrifice sheet you will need that measurement later.** All three things should be taped together and lined up with the top left hand corner of the machine bed. **Do NOT place your cutter in the housing unit until the job is sent over to the machine.**

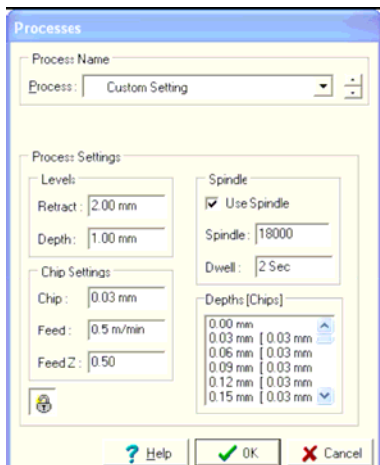
In order to send the job to the machine we must first make sure that all of our screens are the same, remember that the machine will only cutout the black lines so if you have added shading to your text you must delete this shading before proceeding.

It should look like this before cutting out:



Click production and then Engrave. Choose the Gold cutting setting (if you are running on version 7 then you must choose the Custom setting). The measurement of the thickness of your piece is now going to be entered to determine how many passes the machine will need to make in order to create a perfect cutout. By changing the DEPTH setting you will tell the machine how thick your material is. To change this on your production screen click on the bottom left hand pad lock to unlock your settings. Then change your depth to the correct thickness of your material.

You do NOT need to change any other settings unless you are using the custom setting in version 7, in this case follow the example below:



After completion of this, click on OK and send the job to the machine.

At the engraver:

Press the start/stop button on the machine. The housing unit and the material will line up in the center of the piece to determine the position. Push start again to set your surface. In order to do this you must lower your cutter into your housing unit (that should be locked). When looking at the cutter from the bottom, the tip of the cutter should be just touching the top of the material. Then set your housing unit setting accordingly. The housing unit will act as a support for the cutter, so, when determining where to set your housing unit, measure it by where the half moon part of the cutter ends. You do NOT want to see the circular part of the cutter stick out of the unit at all! When you feel that this is sufficient tighten your

cutter into the brass cutter knob holding it in place and push start on your machine. The machine will begin to create the cutout one circle at a time.

You have just officially created your first cutout!

When doing cutouts on metal it helps the machine if you put a lubricant on top of the metal. A light cutting oil will do the trick! (SST 8020) A Gold or Precious Metal Cutting Kit will also help with this process (SST 8035).

The special carbide cutter is delicate and it's easy to ruin the tip. Make sure that the cutter is not sticking out too much, it will not only ruin your cutout but it will dull your cutter very quickly. Remember that the cutting process could take up to 100 passes depending on the thickness of your material. This could be upwards of 15 to 20 minutes. **It will not cut out in just a few passes, by setting your depth the machine will automatically create the correct amount of passes!**