

Signature® Engraving Systems, Inc.

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How to Engrave a Logo with Text That was Created in AutoCad

Problem: When engraving a logo created in AutoCad which consists of or includes text, the engraver takes a very long time to engrave the letters because it forms each letter by connecting hundreds of tiny lines.

Solution: In AutoCad, go to the Pen Assignments area and change the pen width of the color used for the logo to zero (0.000). This will force AutoCad to form the letters using continuous lines.

How To Engrave in Background Mode

If you want to engrave in background mode so that you can use your computer for other purposes (scanning, for instance) while the inscription is being downloaded to the engraver, perform the following steps:

1. Set up your job as you normally would.
2. After you have pressed F1-Engrave to send the job to the engraver, the screen displays the following message:



1. Press and hold the **Alt** key on your keyboard, then press the **Tab** key. If you continue to hold the Alt key, you will see a box displaying all open programs. The Tab key toggles a box from icon to icon. At the bottom of the box you will see the name of the program selected. When you have selected the correct program, release the Alt key.
2. To return to the engraver software, press the **Alt** key and press the **Tab** key until the box surrounds the engraver icon. You can also click on the active **Signature Engraver** bar from the Windows Desktop.

Note: Do not click on the Signature Engraver icon, as this will attempt to run another instance of the program and will result in errors as you already have the program running.

3. If the engraving stops when you Alt-Tab to another program, you may need to reset the color settings in your system. To do this, you will have to finish the current engraving job, then *right* click in an open area of your Desktop (do not click on an icon) then click on **Properties**. Click on the **Settings** tab and change the colors to **16 Colors**. Click on **Apply**, then **OK**. You will need to restart your computer before the new setting will apply.

How To Engrave a Backslash

The backslash key on your keyboard is reserved for the end of line character in the Signature Engraver software. If you want to engrave a backslash as part of your inscription, follow these steps.

1. Press **F3-Enter Text**. Begin typing.
2. When you reach the location of the backslash, press **F2-END PHRASE** to insert a phrase marker, then type in an uppercase **I**, then press **F2-END PHRASE** to insert another phrase marker. Continue typing until you are finished.
3. Press **F3-End Inscription**
4. Press **F6-WHOLE INSCRIPTION** and choose your font style for the entire inscription, then go back and highlight just the letter **I** and choose the block font. (**F2, F1, F1**)
5. With the letter **I** still highlighted, Press **F4-LETTER FORM**, then **F3-SLANT**. From the keyboard, type in **-30**. This will slant the letter **I** 30° to the left which is the correct slant for a backslash.
6. Continue to set up the remainder of the job as usual.

How to Engrave on the Inside of an Oval Bangle Bracelet

1. Set up the machine as you would normally for inside ring engraving.
2. Determine the diameter of the section of the bracelet you will engrave on based on a theoretical circle. See Figure 1. The dotted line represents the diameter to be entered.

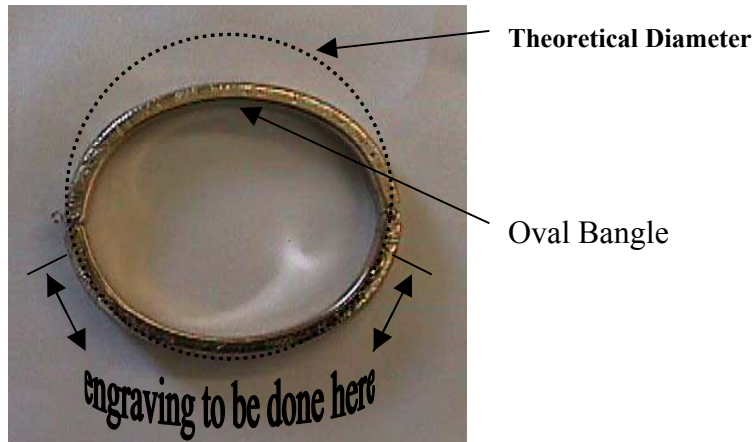
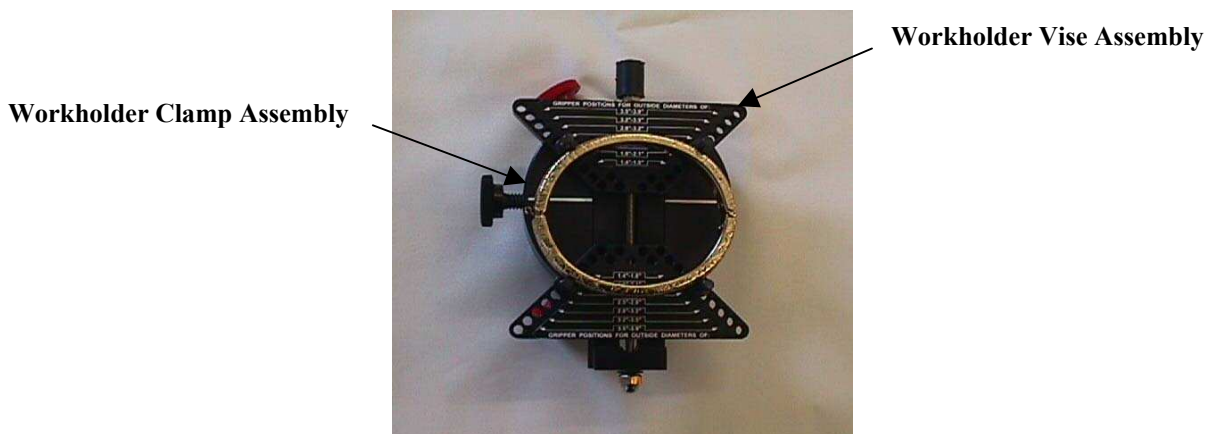


Figure 1

3. Secure the bracelet into the Workholder Vise Assembly using the straight ring grippers. Slide the vise assembly into the Workholder Clamp Assembly. Position the vise assembly so the theoretical diameter is centered on the workholder Clamp Assembly. (See Figure 2) Note that the white line is *NOT* in the center of the bracelet.

Figure 2



4. Place the Workholder Clamp onto the Vise Clamp, which should already be attached to the left vise block on the engraver. Lower the block so that the diamond tip on the Spindle Block Attachment is 1/8" from the surface to be engraved. Position the cutting tip in the center of the engraving area. (See Figure 3)

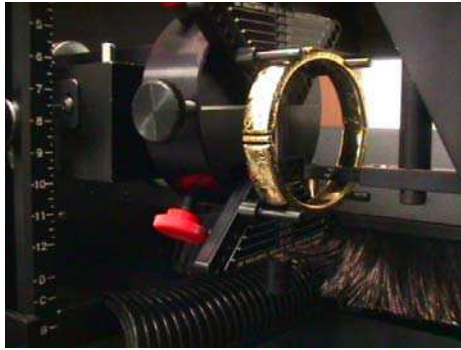


Figure 3

5. Using the right/east arrow on the handcontroller, move the spindle to the right approximately an inch from the right block. Reset your origin at this location. **Caution:** Do *not* move the spindle towards the back of the machine or the front of the machine. Move the spindle to the left or to the right *only*, otherwise your origin will be off.
6. Loosen the red knobs and rotate the bracelet from one side to the other. The cutting tip should follow the curve of the bracelet. Do *NOT* rotate 360° as you would with a circular ring or bracelet. This setup is for an oval bracelet only.
7. To enter the diameter, from the first set of soft keys press **F7-MORE OPTIONS**, **F7-MORE OPTIONS**, **F4-CUPS/RINGS**, **F1-INSIDE DIAMETER**. Key in the diameter determined using the method described above in Step 2, Figure 1.
8. Continue to set up your job as usual.

Note: Only one half of the bracelet can be engraved using this method. To engrave the other side, loosen the black knob and remove the Workholder Vise Assembly. Then reinsert it with the opposite side of the bracelet towards the bottom. Be sure to reposition the Vise Assembly as shown in Figure 2.

How To Use the Entire Engraving Area With a Border Logo

1. Press **F3-ENTER TEXT**. Type in the letter, number or symbol that represents the desired border logo. Press **F3-END INSCRIPTION**.
2. Press **F2-FONT**, **F5-LOGOS**, **F7-MORE OPTIONS**, **F3-BORDERS**. If you scanned your border design or created it in a clip art or design program, press **F2-FONT**, **F5-LOGOS**, **F6-SOURCE**. Then choose the location you stored the logo: **F1-A_Drive** if you stored the logo on a floppy disk or **F2-C_Drive** if the logo is on the hard drive.
3. Press **F12-DISPLAY** to view your border design.
4. Press **F1-POSITION TEXT**, **F1-CORNERS** and then go to the machine and set the two diagonal points. After you have set the two points, you will see:

DO YOU WANT TO MAINTAIN WIDTH PROPORTION?

F1-YES **F2-NO**

5. Press **F2-NO**. This will size the border design to extend to the outer edges of the entire engraving area. For example: If you have a square border design, but the engraving area is a rectangle, the design will extend to the outermost edges of the rectangle. You still have the automatic 10% border default. To change the default border, press **F4-LETTER FORM**, **F5-BORDERS**. Choose the appropriate option.
6. Press **F12-DISPLAY** to view the border design.

Braille

The Braille font is included along with guide sheets containing the most common abbreviations.

In order for the Braille characters to be engraved properly, we suggest the following guidelines:

Depth of cut	= .025
Spindle Force	= 20
Machine Speed	= 3
Letter Height	= .555 inches (each line)
Letter Spacing	= 0
Stock	= Solid Color plastic, 3/16" thick (minimum)
Rotary Motor Speed	set to Mid Range

The Americans with Disabilities Act (ADA) is designed to help disabled persons, and Signature Engraving Systems supports the ADA.

Therefore, Signature Engraving Systems is providing this Braille font to you at no cost. We encourage you to provide Braille engravings to your customers at no charge.

If you have any questions regarding this font, please do not hesitate to contact our Support Department. If you have any questions regarding the proper set up and phrasing of Braille text, please contact your local Commission for the Blind.

How To Engrave From Origin on a Round Charm

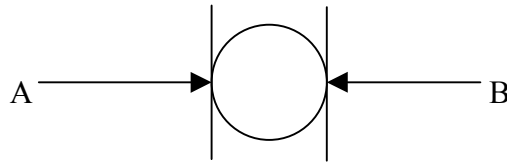
Before you begin, set your origin at the *center* of your charm as the inscription will be centered around the current origin.

1. From the First Set of soft keys, press **F3-ENTER TEXT**. Press the **Spacebar** on your keyboard, then **F2-END PHRASE** to Enter a phrase marker. Then type a capital letter “**O**”, **F2-END PHRASE** to Enter another phrase marker, and press the **Spacebar** to Enter another space. This should *all* be on one line. Press **F3-END INSCRIPTION**.
2. Using the direction keys on your keyboard, select the letter “**O**” and press **F2-FONT**, **F5-LOGOS**, **F1-STANDARD** to change the font of the letter “**O**” to the standard logo set. (This changes it to a circle). This circle will represent the outside of the charm. Press **F8-EXIT** to return to the First Set of soft keys.
3. Press **F4-LETTER FORM**, then **F1-HEIGHT**. Type in the correct height of the circle to match the diameter of the charm.
4. Press the **L** key on your keyboard to highlight the entire line, then press **F4-LETTER SPACING**. Type in the number **zero** and press **Enter**. This will change the letter spacing of the entire line to zero. Then press **F8-EXIT** to return to the First Set of soft keys.
5. Using the direction keys on your keyboard, select *just* the circle. Press **F1-POSITION TEXT**, then **F2-SCREEN MOVES**. Using the direction keys, move the circle up one click then down one click to lock it into position (at the origin). Press **F2-ACCEPT**.
6. Press **F3-ENTER TEXT**, then **F4-EDIT SCREEN**. Press **F4-INSERT**, then type in a line of capital **X**'s to represent each line of text you will be engraving. Be sure to press **F1-END LINE** at the end of each line of text. Press **F3-END INSCRIPTION**.
7. Using the direction keys, select the first line of X's and press **F4-LETTER FORM**, then **F4-LETTER SPACING** and reset the letter spacing to **100** by pressing the **Enter** key on your keyboard. Then press **F1-HEIGHT** and key in the desired height of the letters on that line. Press **F8-EXIT**.
8. Press **F1-POSITION TEXT**, then **F2-SCREEN MOVES**. Using the direction keys, position the line of X's in the desired location inside the circle. Press **F12-DISPLAY SCREEN**, then press **F5-PRECISE CENTERING** to help position the lines of X's within the circle. Press **F8-Exit**. **Note:** You may need to adjust the step size in screen moves to position each line correctly. Repeat steps 7 & 8 with each line.
9. From the First Set of soft keys, use the direction keys to select the first line of X's. Press **F7-MORE OPTIONS**, then **F2-JUSTIFY**, **F2-CENTER**, **F1-MAINTAIN CURRENT PHRASE CENTERS** to lock the line into position. Repeat with each line.
10. You can now save this format in the Filing System so steps 1-9 do not have to be repeated in the future. From the Second Set of soft keys, press **F4-FILING SYSTEM**, **F1-SAVE JOB**, **F3-ENTER NEW NAME**. Type in a name for the job and press **Enter**.
11. From the First Set of soft keys, press **F3-ENTER TEXT**, **F4-EDIT SCREEN** and replace the X's with your actual inscription, and replace the circle with a space so that it does not get engraved on your charm.

How To Engrave Charms and Medallions With Optional Methods to Using Origin

4. Using Height Fill

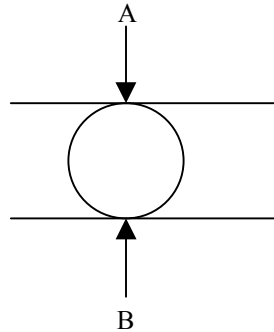
- A. Secure your piece in the workholders. From the First Set of soft keys, Press **F1-POSITION TEXT**.
- B. Press **F4-HEIGHT FILL**. Position the stylus at the *Top* (point A) of the charm. You *must* set the top point first. See the diagram below. Be sure your point is centered on the piece as this is the center line of the text.. Press **ENTER/ACTION** on the handcontroller.



- C. Using the right/east arrow on the handcontroller, move the stylus to the *Bottom* of the charm (point B) and press **ENTER/ACTION**. Note the SAMple box at the bottom right corner of your screen. This shows the orientation of your engraving.
- D. You will be asked if you want to maintain width proportion, press **F1-YES**.
- E. If you are engraving a monogram, you *must* choose the font style before Entering your text. Press **F2-FONT**, **F7-MORE OPTIONS**, **F4-MONOGRAM**, then choose the monogram style desired such as **F2-ITR_MONO** for interlocking monogram.
- F. To enter your text, press **F3-ENTER TEXT**. You will be asked to key in the left initial. Be sure you use uppercase letters. Once you have typed the left initial, you will be prompted to key in the center initial. After typing in the center initial, you will be prompted to key in the right initial.
- G. To view your monogram, press **F12-DISPLAY SCREEN**.
- H. Note the “length” in the information box. The length of the longest line cannot exceed the diameter of the charm. Also keep in mind that there is no automatic border when using the height fill option, therefore, size adjustments may be necessary. To resize, press **F11-AutoSize ON/OFF**. This will turn the automatic sizing function off.
 1. Press **F4-LETTER FORM**. Use the south/down arrow key on your keyboard to decrease the size of your inscription. As long as you use *only* the north/south arrow keys, your text will remain proportionate.
 2. If you inadvertently press the east/west arrow keys, your text will be distorted. This can be corrected by pressing **F2-WIDTH** and then press **Enter** to return to 100% proportionate.
- I. Set your force, speed and passes based on the type of material being engraved. Press **F5-ENGRAVE OPTIONS**, **F2-ADJUSTMENTS**. You will see **F1-SPEED**, **F2-SPINDLE FORCE** and **F3-ENGRAVE PASSES**. Choose each respectively and make the necessary adjustments based on the Engraving Tips chart that is included with the manual.
- J. There are several tests to determine if your text is the correct size and in the correct location. You can test the border (with the stylus up), test the inscription. (See the instructions on page 15) or you can do the tape technique. If you use packing tape, set the force at 7. If you use scotch tape, use 2-3 layers and set the force at 1.

5. Using Width Fill

- A. Secure your piece in the workholders. From the First Set of soft keys, Press **F1-POSITION TEXT**.
- B. Press **F3-WIDTH FILL**. Position the stylus at point A shown below. Press **ENTER/ACTION**. This point will determine the centerline of the text, so be sure you are at the midpoint of the charm. If you are not centered, you may have to move the text later on by using screen moves to position it correctly.

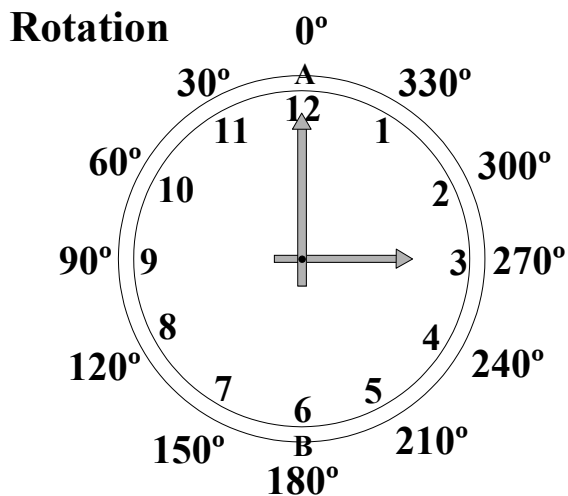


- C. Using the south/down arrow key, move the stylus forward to point B. (If you prefer, when using the width fill option, you can set the first point at the front, point B, and set the second point towards the back, point A.)
- D. You will be asked if you want to maintain width proportion, press **F1-YES**.
- E. If you are engraving a monogram, you *must* choose the font style before entering your text. Press **F2-FONT**, **F7-MORE OPTIONS**, **F4-MONOGRAM**, then choose the monogram style desired such as **F2-ITR_MONO** for interlocking monogram.
- F. To enter your text press **F3-ENTER TEXT**. You will be asked to key in the left initial. Be sure you use uppercase letters. Once you have typed the left initial, you will be prompted to key in the center initial. After typing in the center initial, you will be prompted to key in the right initial.
- G. To view your monogram press **F12-DISPLAY SCREEN**.
- H. Note the “height” in the information box. The height cannot exceed the diameter of the charm. Also keep in mind that there is no automatic border when using the width fill option, therefore, size adjustments may be necessary. To resize, press **F11-AutoSize ON/OFF**. This will turn the automatic sizing function off. (If you see 2 lines around the box in the center of the screen, the auto size function is on. If there is 1 line around the box, the auto size function is off.)
 - 1. Press **F4-LETTER FORM**. Use the south/down arrow key on your keyboard to decrease the size of your inscription. To increase the height, use the north/up arrow key on your keyboard. As long as you use *only* the north/south arrow keys, your text will remain proportionate.
 - 2. If you have a 1” charm and know that you want the height to be $\frac{3}{4}$ ”, press **F1-HEIGHT** and key in **.75**.
 - 3. If you inadvertently press the east/west arrow keys, your text will be distorted. This can be corrected by pressing **F2-WIDTH** and then press **Enter** to return to 100% proportionate.
- I. Set your force, speed and passes based on the type of material being engraved. Press **F5-ENGRAVE OPTIONS**, **F2-ADJUSTMENTS**. You will see **F1-SPEED**, **F2-SPINDLE FORCE** and **F3-ENGRAVE PASSES**. Choose each respectively and make the necessary adjustments based on the Engraving Tips chart that is included with the manual.
- J. There are several tests to determine if your text is the correct size and in the correct location. You can test the border (with the stylus up), test the inscription (See the instructions on page 15) or you can do a scotch tape test. If you use packing tape, set the force at 7. If you use scotch tape, use 2-3 layers and set the force at 1. Set passes to 1.

How To Add Hour And Minute Hands To A Clock

1. Press **F3-ENTER TEXT**. Type in an uppercase **I** and press **Enter**. Press the **Spacebar** and then press **F3-END INSCRIPTION**. (If you are starting from the beginning, you will already be in block font, however, if you have another font style selected, press **F2-FONT**, **F1-BLOCK**, **F1-BLOCK** to select Block)
2. Press **F1-POSITION TEXT**, then **F4-HEIGHT FILL**. Go to the engraver and set two points from A to B as shown in the diagram below. When asked “Do you want to maintain width proportion?”, press **F1-YES**. Look at the information box on the right side of your screen and make a note of the height.
3. To engrave the minute hand enter the rotation by pressing **F7-MORE OPTIONS**, **F3-TEXT ROTATION**, **F3-HEIGHT FILL** (position to be maintained after rotation), **F1-YES** (to maintain width proportion), **F1-FROM KEYBOARD**. Type in the degree of rotation based on the rotation chart below.
4. Press **F11-AUTOSIZE ON/OFF**. This shuts off the auto-sizing box and there should be only one line around the box in the center of the screen.
5. Press **F7-MORE OPTIONS** twice to get back to the First Set of Soft Keys, then press **F4-LETTER FORM**, then **F1-HEIGHT**. Key in the height as noted above in step 2. (Be sure the entire inscription is selected.)
6. Press **F8-Exit** to get back to the First Set of Soft Keys, then press **F5-ENGRAVE OPTIONS**, then **F1-ENGRAVE**. This will engrave the first hand on your clock.
7. To engrave the hour hand on your clock, press **F11-AUTOSIZE ON/OFF** to reactivate the autosizing feature, the start with step 3. You **must** repeat all of these steps making sure to adjust the rotation degree to the appropriate angle for the hour hand, and using a letter height in step 5 which is about 2/3 the size of the minute hand.

Number on Clock Face	Angle
1	330°
2	300°
3	270°
4	240°
5	210°
6	180°
7	150°
8	120°
9	90°
10	60°
11	30°
12	0°



How to Engrave Columns of Names

1. Enter corners for the plate as you would normally.
2. **F3-Enter Text:**
 - a) Type in the text for your plaque.
 - b) When you get to the part where you want your columns to start, Enter 20 X's per column (this will most likely be the maximum number of characters that you would have in a single name), followed by **F2-End Phrase**. At the end of each line, press **F1-End Line** or press the **Enter** key on your keyboard.

Example: five lines, two columns:

```
XXXXXXXXXXXXXXXXXXXXXXXXX:XXXXXXXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXXXXXXX:XXXXXXXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXXXXXXX:XXXXXXXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXXXXXXX:XXXXXXXXXXXXXXXXXXXXXXXXX  
XXXXXXXXXXXXXXXXXXXXXXXXX:XXXXXXXXXXXXXXXXXXXXXXXXX
```

- c) Enter any additional text.
3. Press **F3-End Inscription**
 4. Using the direction keys, select the top line of your columns
 5. Press **F1-Position Text**
 6. Press **F2-Screen Moves**
 7. Move the line up once (using the direction keys) and then back down to its original position. (This function turns off the default centering so your text will be left justified in each column.) Press **F2-Accept**.

Note: At this point, you might consider saving the job under the title "Columns". You may have other jobs in the future with columns and it would save you time if you already had everything set up.

8. Select the first phrase by highlighting it with the direction keys.
9. Press **F3-Enter Text**
10. Type in the correct text, then press **F2-End of Phrase**. This procedure will replace the X's and correctly align each column automatically.
11. Type in the correct text for the remaining phrases using the same steps.

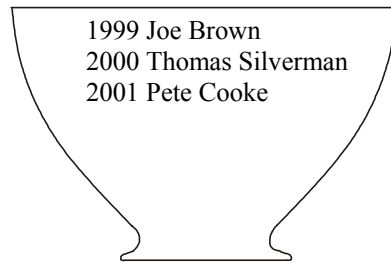
Note: Do **NOT** press F5-PRECISE CENTERING when viewing your text on the display screen.

12. An alternate method of entering your text would be to press **F3-Enter Text**, **F4-Edit Screen**, type the appropriate name and use the delete key on your keyboard to eliminate the extra X's. Do not delete the phrase markers!

How to Engrave a Line of Text at the End of an Existing Column of Text. (Such as names added to a Perpetual Plate)

1. Press **F9**-RESTART, then **F3**-NEW ORIGIN. Set your origin at the *base* of an existing line of text.
2. From the first set of soft keys press **F4**-LETTER FORM, **F5**-BORDERS, **F2**-NO BORDER. Press **F8**-Exit to bring you back to the first set of soft keys.
3. Press **F3**-ENTER TEXT. Type in the *same* text as an existing line of text using the *same* font style.
4. Press **F1**-POSITION TEXT, then **F1**-CORNERS. Set corners around the line of text. When asked “**Do you want to maintain width proportion?**”, press **F2**-No. This gives you the height of the letters as well as the width proportion to be used.
5. Press **F11**-Autosize On/Off to deactivate the auto-size function.
6. Press **F3**-ENTER TEXT, then **F4**-EDIT SCREEN. Type in the new text.
7. The text will default to center-justification. If you want the columns left justified, use screen moves to move the line to the left or right so that the left edge of the text lines up with the left edge of the text box.
8. Press **F9**-RESTART, the **F3**-NEW ORIGIN. Set a new origin at the base of the next line of text.
9. Engrave.

How to Add a Name to a List of Names on a Revere Bowl



Let's say you want to add "2002 Dave Carter" to the end of the list, so as to have the text line up with and match the lines of text already engraved. To do this, perform the following steps:

1. Type a previously engraved name exactly as shown and select a font style that matches or most closely resembles it:

- A. Press **F3-ENTER TEXT**
- B. Type: "**Thomas Silverman**"
- C. Press **F3-END INSCRIPTION**
- D. Press **F2-FONT** (Select a font)

2. Position this inscription directly over the engraved name, and the software will automatically calculate the exact letter proportions you should use for the new name:

- A. Press **F4-LETTER FORM**
- B. Press **F5-BORDERS**
- C. Press **F2-NO BORDER**
- D. Press **F8-EXIT** (back to the First Set of soft keys)
- E. Press **F1-POSITION TEXT**
- F. Press **F1-CORNERS**

Set two points exactly at the corners of the engraved name as shown:

(1) **Thomas Silverman** (2)

- G. Press **F2-NO** (When asked if you want to maintain width proportion)
The letter height, width and letter spacing (shown in the parameters section of the screen) should now reflect the actual letter proportions to be used for "2002 Dave Carter". *Write this down to reference later.*

3. Enter the new inscription and position it:

- A. Press **F3-ENTER TEXT**
- B. Press **F4-EDIT SCREEN**
Type in "2002|Dave Carter" (separated with a phrase marker, but not including any spaces)
- C. Press **F3-END INSCRIPTION**
- D. Press **F1-POSITION TEXT**
- E. Press **F1-CORNERS**
- F. Press **F1-NEW POINTS**

Set the first point at the top left corner of "2001" and the second point at the lower left corner of "Pete Cooke" as shown:

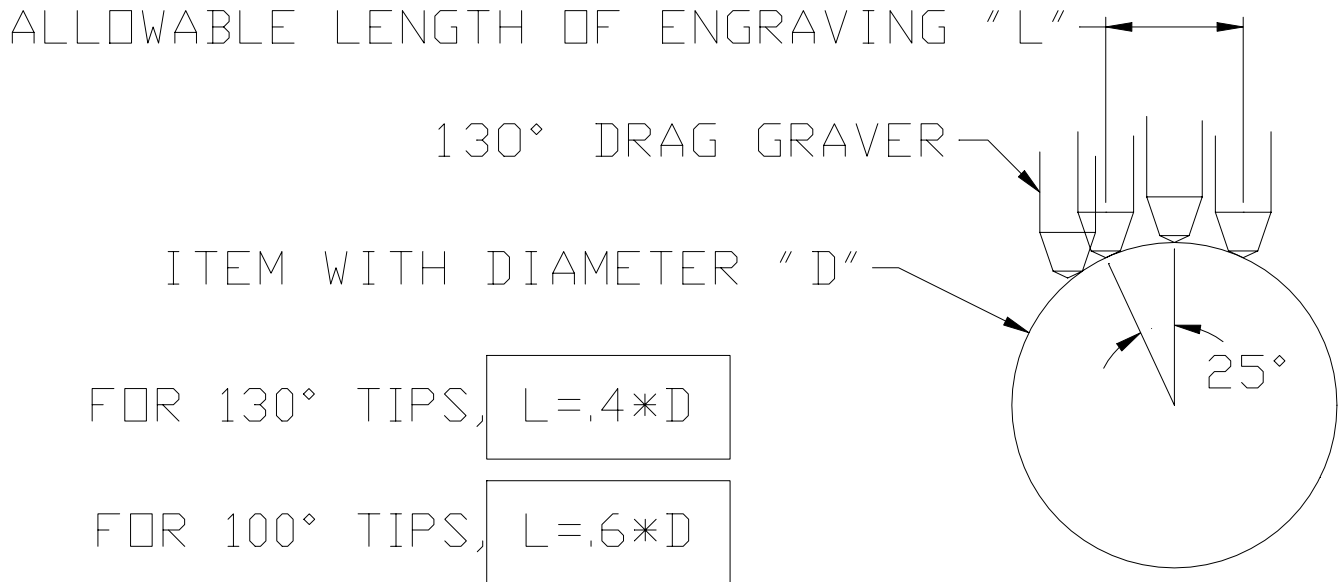
(1) **2001** **Pete Cooke**
(2)

- G. Press **F1-YES** (when asked if you want to maintain width proportion)
- H. Press **F11-AUTO SIZE ON/OFF** (to deactivate the auto-sizing function)
- I. Press **F4-LETTER FORM**
- J. Press **F1-HEIGHT**
Type in the letter height from step 2G.
- K. Press **F2-WIDTH**
Type in the letter width from step 2G.
- L. Press **F4-LETTER SPACING**
Type in the letter spacing from step 2G.
- M. Press **F8-EXIT** (back to the First Set of soft keys)
Use the left arrow key on the keyboard to highlight the phrase "2002".
- N. Press **F1-POSITION TEXT**
- O. Press **F2-SCREEN MOVES**
Use the left and right arrow keys on the keyboard to line up the left edge of "2002" with the left edge of the white rectangular box on the screen, which represents the rectangle identified by points 1 and 2 in step F. Adjust the step size with **F4-LARGER** and **F5-SMALLER** as needed.
- P. Press the "**P**" key to highlight "Dave Carter"
Use the left and right arrow keys on the keyboard to line up the left edge of "Dave Carter" with the right edge of the white rectangular box on the screen. Adjust the step size with **F4-LARGER** and **F5-SMALLER** as needed.
- Q. Press **F2-ACCEPT** (when the two phrases are positioned correctly)
- R. Press **F6-WHOLE INSCRIPTION**
- S. Press **F1-POSITION TEXT**
- T. Press **F5-NUMERIC**
Measure the distance from the bottom of "1999" to the bottom of "2000". When prompted for the distance to move to the right, just press the Enter key on the keyboard. When prompted for the distance to move up, enter a negative value of the measurement you made. (If you measured .25", enter -.25".) This will move it down instead of up.
- U. Press **F5-ENGRAVE OPTIONS**
- V. Press **F1-ENGRAVE**

To Engrave on Curved Surfaces in Flat Plate Mode

To prevent the conical tip of a 100° or 130° drag graver from “falling off” the edge of a curved surface, you must limit the length of the engraving based on the diameter of the item and the size of the tip.

As shown below, the tip of a 130° drag graver will only touch the surface within 25° of the top of the curve. This translates to a linear distance of approximately .4 times the diameter of the item, assuming the engraving is centered exactly at the top of the curve.



Following is a chart for quick reference to determine the maximum length of engraving allowed for some common diameters and tip sizes.

Diameter (Radius)	Maximum length of engraving	
	130° tip	100° tip
.50" (.25")	.20"	.30"
.75" (.38")	.30"	.45"
1.00" (.50")	.40"	.60"
1.25" (.63")	.50"	.75"
1.50" (.75")	.60"	.90"
1.75" (.88")	.70"	1.05"
2.00" (1.00")	.80"	1.20"

Instructions for Pre-Mixing the Cutting Fluid

The cutting fluid can be pre-mixed in one-gallon containers for more convenient dispensing. The procedure is to pour the entire contents of the standard 4 oz. cutting fluid container into an empty one-gallon container, fill the container with water, cap the container, and shake it up. The residue that remains in the smaller container can be used on items for which you want to avoid damaging paper labels, such as wine bottles, by applying it directly to the area to be engraved with the tip of your finger.

How to Engrave a Round/Cylindrical Object

1. Use the red diameter gauge to measure the diameter of the piece. Be sure to use the top scale, which is the diameter scale, *not* the bottom scale, which is the linear scale. There is an arrow pointing to the correct dimension. If the piece is tapered, measure the area of the piece where most of your engraving is going to be. Another option is to measure the top and bottom of the area where your engraving is going to be and Enter the average.
2. Press **F7-MORE OPTIONS** until you reach the Third Set of soft keys. Then press **F4-CUPS/RINGS**.
3. Press **F2-OUTSIDE DIAMETER (CUPS & BOWLS)**. Enter the diameter and press the **ENTER** key on your keyboard.
4. Press **F7-MORE OPTIONS** to return to the First Set of soft keys.
5. Set up the engraver with the correct cutting tool (be sure to use the micrometer assembly piece with the appropriate nose cone if necessary) for the type of material being engraved. See “Engraving Tips” on page 3 if you are unsure of which cutting tool to use.
6. Using the Cylindrical Workholders, position your piece into the engraver so that it is close enough for the spindle to reach it. You may need to adjust the position of the vise blocks to accommodate the size of the piece.
7. Press **F1-POSITION TEXT**, **F4-HEIGHT FILL**.
8. Using the handcontroller, position the spindle with cutting tip at the top of the desired engraving area and press **ENTER/ACTION**. Then move the spindle to the bottom of the desired engraving area and press **ENTER/ACTION**. You will be asked if you want to maintain width proportion. Press **F1-YES**.
9. Press **F3-ENTER TEXT**. Type in your text. Press **F3-END INSCRIPTION**.
10. Then go to **F2-FONT** to select a font style.
11. Note the length of your inscription in the information box on the screen. If you want your inscription to be seen without having to turn the piece, the length should *not* be greater than the diameter. To adjust the length, press **F11-AUTO SIZE ON/OFF**. (There should only be *one* line around the inscription box on your screen.) Then press **F4-LETTER FORM**. Using the direction keys on the keyboard, press the down/south key until the length is equal to or less than the diameter. Press **F8-EXIT** to return to the First Set of soft keys.
12. Press **F5-ENGRAVE OPTIONS**, then **F2-ADJUSTMENTS**. Adjust the force, speed and pass using the chart on page 3 for suggested settings. Press **ENTER** after each entry. When you are finished with the settings, press **F8-EXIT** *one* time.
13. Press **F5-ENGRAVE**

How To Set up Cylindrical Engraving With Varying Diameters

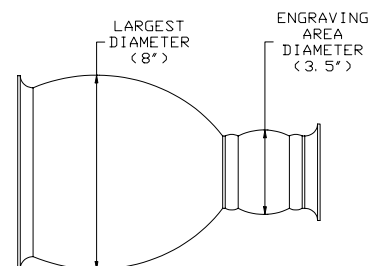
The following instructions describe the procedure for cylindrical engraving an item that has varying diameters.

1. The spindle head should be mounted in the top set of holes on the spindle head extension block (there are three sets of holes, ½” apart).
2. Measure the largest diameter of the workpiece (not the diameter at the intended engraving site).
3. Set the jaws (or vise blocks) at this height according to the scale on the numbered uprights. If the largest diameter of the workpiece is less than ¾”, set the jaws at the ¾” setting.
4. Select a set of workholders from the charts below.

Jaw setting (drive side)			Small Adjustable	Large Adjustable
¾” - 6¼”	Y	Y	N	N
6¼” - 9½”	Y	Y	Y	N
9½” - 12”	Y	Y	Y	Y

Jaw setting (tail side)	Small Round Tailpiece	Large Round Tailpiece
¾” - 4½”	Y	N
4½” - 12”	Y	Y

5. Insert the work piece.
6. Check to see that the spindle will reach the workpiece at the engraving site while in the down position. If it doesn't reach, move the spindle head down to the set of holes, which will enable it to reach. If it still doesn't reach, call Signature Engraving Systems, Inc. for suggestions. As a general rule, the smallest allowable engraving diameter on an item can not be more than four inches smaller than the diameter of the largest section of the item. For example, in the figure shown, the bowl could not be engraved on the small section because it is 8” - 3½” = 4½” which is more than 4” smaller than the largest diameter.



7. After positioning the workpiece in the workholders, measure the workpiece at the engraving site.
8. Enter this diameter into the computer.
9. Continue to set up your job as usual.

How To Add To or Change a Logo From the Display Screen

1. From Display Screen, press and hold the **Alt** key, then press **Enter**. This will put the display screen into a window.
2. Maximize the page by clicking on the icon in the top right corner just left of the X, then click on the icon that looks like a dotted box in the tool bar. It will say "**Mark**" when you position your arrow over it.
3. A small blue box will appear in the upper left corner. With your mouse, press and hold the left mouse button and drag a box around the image. Be sure the entire image is covered with this blue box.
4. Click on the icon to the right of the dotted box, which looks like two sheets of paper. This will **Copy** the image and the blue box will disappear.
5. Minimize the page by clicking on the icon in the top right corner that looks like a dash.
6. Open Picture Perfect. Click on the word **Edit** along the top of the screen, then click on the word **Paste**, and slide over to **As new image**. Your image will appear on the screen
7. Click on **Colors** along the top of the screen, then choose **Decrease Color Depth**, and **2 Colors... (1 Bit)**. A window will pop up. Be sure that **Grey Values**, **Weighted** and **Nearest Color** are selected. Click on **OK**.
8. Then click on **Image** along the top of the screen, then **Resize...** A window will pop up. In the box on the left side under "**Custom Size**" type in **2000**. Then, click on the box to the left of "**Maintain Aspect Ratio.**" (Be sure there is an X in this box.) Click on **OK**.
9. Click on the word **File**, then **Save As...** Choose a name with a .tif extension. For example: **temp.tif**
10. Close or minimize Picture Perfect.
11. Open Streamline 3.0. Click on **File, Open**. Select file name (temp) and double click or highlight name and click **Open**.
12. Click on **Options**, then **Conversion Method**. Click on the checkmark next to **Outline** to deselect, then click on the box next to **Centerline** to select this option. There should be a checkmark in this box now. **Number of Steps** should be 3.
13. Click on **Options, Tolerance**. Slide the bar to the left to **Tight**. **Match Bitmap** should be 1.0.
14. You can then choose the pencil icon to draw or continue with conversion process as usual and make additions or changes in the software program of your choice.

How to Print the Display Screen

1. Press **F12**-Display Screen.
2. Press the **Print Screen** key on your keyboard. (Next to the F12 key)
3. Press and hold the **Alt** key on your keyboard, then press the **tab** key. This should bring you to the Signature Engraving Systems folder. Double click on the **Display Screen Print** icon. (It looks like a piece of paper with a lowercase “a” on it)
4. Click on word “**Edit**”, and then click on the word “**Paste**”. It will ask if you want to enlarge the bitmap. Click on “**Yes**”.
5. To print from this computer, click on the word “**File**”, and then “**Print**”. Be sure the printer name is correct.
6. If you do not have a printer connected to the engraver computer, you can save the file to a floppy disk and bring it to another computer that has a printer connected to it. Click on the word “**File**”, and then “**Save as**”. Before you do anything else, type in a file name. (You will overwrite the highlighted text.) Be sure the file name is 8 characters or less.
7. Where it says “Save in:”, click on the down arrow on the right side of the rectangle (▼), then click on **3 ½ Floppy (A:)**. Click on “**Save**”.
8. Remove the disk and bring it to a computer with a printer connected. Insert the disk into the floppy disk drive.
9. Click on “**Start**”, “**Programs**”, “**Accessories**”, and then “**Paint**”.
10. Click on the word “**File**”, and then “**Open**”.
11. Select the “A” drive by clicking on the down arrow as in step 7 and selecting **3 ½ Floppy (A:)**. You will see the file listed. Click on the file name to highlight it, then click on the word “**Open**”.
12. Click on the word “**File**”, and then “**Print**”.

Engraving Tips

Materials	Nose Cone	Cutting Tool	Engraver Speed	Spindle Force	Passes	Rotary Motor Speed
Brass (painted)	N/A	130° Diamond Drag	20	50	3	N/A
Aluminum (painted)	N/A	130° Diamond Drag	20	30-50	1-3	N/A
Brass (plain)	N/A	130° Diamond Drag	50	50-100	1	N/A
Aluminum (plain)	N/A	130° Diamond Drag	50	30-50	1	N/A
Coated Brass (burnishing)	N/A	Spring Yield Tip	6	20	3	4
Silver	N/A	130° Diamond Drag	6	65-75	3	N/A
Silver Plated	N/A	130° Diamond Drag	6	40	3	N/A
Gold	N/A	130° Diamond Drag	6	30-40	1-3	N/A
Pewter	N/A	130° Diamond Drag	6	20-40	1-3	N/A
Stainless Steel	N/A	130° Diamond Drag	6	75-120	3	N/A
Titanium	N/A	130° Diamond Drag	20	50-100	3	N/A
Pens	N/A	100° Diamond Drag	6	15-30	3	N/A
Foil Transfer	Lg. Black	Heat Tip	6	5-10	3	N/A
Glass	Yellow	Spring Yield Tip	6	20	3	2-4
Cheap, Hard, or Flat Glass	Yellow	Tough Cut Spring Yield Tip*	6	10	3	4
Crystal	Yellow	Spring Yield Tip	6	20	3	2-4
Marble	Yellow	Spring Yield Tip	6	20	3	3-5
Plastic	Sm. Black	Carbide Cutter	6	40-50	1	4-6
Acrylic	Sm. Black	Carbide Cutter	6	40-50	1	6-8
Flexi Brass	Sm. Black	Carbide Cutter	6	20	3	4-6
Wood	Sm. Black	Carbide Cutter	6	40-50	1	7-9
Burnishing	N/A	Spring Yield Tip	10	8-10	1	3-5

Note: Settings above are recommended settings/ranges only. Settings are ultimately based on personal preference. If you use the speed brake, you can decrease the recommended spindle force by approximately 30-40 units (instead of 70, use 30-40 for the same results). Set micrometer depth to .005 when engraving on acrylics.

*When using the tough cut spring yield tips, be sure the tip is *no more* than 1/16" below the nosecone.

Error Codes

Following is a list of common error code numbers and what they mean:

- 53 File not found**
Wrong disk in drive (logo disk is corrupted or incorrect. Or the file name specified could not be found on the indicated drive.
- 61 Disk full**
There isn't enough free space on the indicated or default disk to carry out a file operation. Make sure there is enough free disk space and retry your program.
- 70 Permission denied**
You tried to write to a write-protected disk. Open the window on the disk.
- 71 Disk not ready**
The door of a floppy disk drive is open or there is no disk in the indicated drive. Close the disk drive door or push the disk all the way in.
- 72 Disk media error**
The controller board of a floppy or hard disk indicates a hard media error in one or more sectors. Try another formatted disk that you know is good. To avoid losing your files, be sure to back them up on another disk or your hard drive.
- 76 Path not found**
The path you specified can't be found. Verify spelling and syntax (ex: backslash not forward slash)
- 62 Input past end**
You tried to read more data from a file than it had to read. Use the EOF (end of file) function to avoid this problem. Trying to read from a sequential file opened for output or append can also cause this error.

TO FIX AN ERROR 62 FROM LOGO MAKE

1. To exit the engraver software, press **F9**, **F7** then **F1**. This will bring you out to the Windows Desktop. Double click on the MS-DOS Prompt icon *or* press Start, Programs and scroll to MS_DOS Prompt.
2. Make sure that the disk that is causing the error 62 is located in the A disk drive. At the C prompt (c:>), type **dir/p** (space)**a:**
3. Look for **drXXX dat** (X represents a number) After you have found the **drXXX dat**, make sure to write it down, you will need to know this number. (ex: dr106 dat *or* dr107 dat)
4. At the C prompt (c:>) type **EDIT**(space) **a:drXXX.dat**. (example: c:>edit a:dr106.dat)
5. On your screen should be lines of numbers, 3 numbers per line. Ex: 251 0 242.9837 (If your file does not look like this, start over from step 2. If that doesn't work, your logo may be lost. Try doing the logo again. Call it up from DesignCad if you saved it.)
6. Make sure there is an even multiple of three (3) numbers separated by spaces or end of lines (**EOL**). For example:
578 0 255.3289 (EOL 1)
716 578 226.2696 (EOL 2)
595 1294 321.5672 (EOL 3)

You should not be able to move the cursor past the last entry. If the cursor can be moved past the last entry, go to the end of the last set and keep hitting the delete key [**DEL**] until you cannot toggle the arrow keys down.

7. Now you must save your corrections. Press **ALT F**, toggle down to exit or press **ALT X**, and at this point it is asking you to save your changes. Just hit **Enter**. After you hit Enter, you should be at the C prompt (c:>).
8. Try the logo again through the engraver software. At the C Prompt (c:>) type exit. Then open the Engraver software and try to bring the logo up again.

“SERIAL PORT NOT RESPONDING” Message

Problem: “Serial Port not responding” message pops up when you click on the signature engraver icon in windows 95.

Possible Cause: You may be trying to run a second instance of the engraver software (it is already running), and the serial port is already in use.

Solution: Press “**Alt - Enter**”. This will change from a full screen to a windowed screen. Click on the “**X**” in the top right corner of the window, then respond “**YES**” to the question that pops up. This will terminate the second instance of the program, and you will be back at the Windows Desktop. Look for the ”Signature Engraver” selection bar at the bottom of the screen. This is the instance that is already running. Click on it to return to the engraver software.

How to Correct a False Test Mode

1. If the engraver acts like it is in test mode, check the following:
 - A. Check that the spindle on/off switch located on the left, rear top of the engraver is in the “On” position.
 - B. Make sure that the “speed brake” is not engaged.
2. If steps A & B are OK, then proceed with the following steps:
 - A. From the First Set of soft keys, press **F7**-More Options, **F4**-Filing System. Using the direction keys on the keyboard, scroll down to Signature Engraving Systems Startup Screen.
 - B. Press **F2**-Get Job, then press **F7**- More Options, **F7**-More Options.
 - C. Press **F5**- Engraving Options
 - D. Press **F2**- Adjustments
 - E. Press **F2**-Spindle Force. Type in the correct force and press Enter.
 - F. Press **F8**-Exit, then F8-Exit again.
 - G. Press **F7**- More Options
 - H. Press **F4**-Filing System. Using the direction keys on the keyboard, scroll down to “Signature Engraving Systems Startup Screen”.
 - I. Press **F1**-Save Job
 - J. Press **F1** >>> Use Job Name
 - K. Now you will see on the screen “Signature Engraving Systems Startup Screen is already stored. Do you wish to override?”
 - L. Press **Y** (yes)
 - M. Press **F8**-Exit to exit the filing system.
 - N. To return to the First Set of Soft Keys, press **F7**-More Options, **F7**-More Options

By performing these steps, the system should engrave normally. Should you continue to experience difficulties, please contact Signature Engraving Systems technical support.

How to Engrave an HPGL File From a Floppy Disk

1. Insert the floppy disk with the file on it into the floppy disk drive.
2. From the Signature Engraving Systems folder, double click on the LOGOMAKE icon. (If you have a problem double clicking, you can also click once to highlight the icon and then press the **ENTER** key on your keyboard.)
3. On the left side of the screen you will see the word **Source**. In order to retrieve the image from the floppy disk, you must change the Source to A:*.PLT. Using the direction keys on your keyboard, scroll to the word Drive *under* the word Source, then scroll over to A:\ and press **ENTER**. Then scroll to the word Dir. *under* Source and scroll over to root dir. Press the **ENTER** key on your keyboard.
4. Make note of the **Destination**. If it is set to A:\ the converted logo will end up on the same disk as the original .plt file. If it is set to C:\ALOGO\ the converted logo will end up on the hard drive. You must remember the Destination in order to retrieve the logo in the engraver software.
5. Using the direction keys, scroll up to Select a Design [A:\] and press **Enter**. This will show a list of all .plt files on this floppy disk. Scroll to the correct file and press **Enter**. If there is only one file on the disk, just press the **Enter** key. Press the **Spacebar**.
6. Your image will appear on the screen. **Add a Design** will automatically be highlighted. Press **Enter**.
7. You will see a text box that begins with >>>**Logo processing complete**<<<. There will be a letter, number or symbol assigned to this particular image. This is what you will enter as text in the engraver software so be sure to make a note of it. You will also be given the opportunity to describe the logo using up to 42 characters. Type in your description and press **Enter**. You can just press **Enter** to give the logo the same name as the original .plt file.
8. Exit LOGOMAKE by pressing the **Esc** key on your keyboard. Then press **y** for yes.
9. Double click on the Signature Engraver icon. Be sure it's not already open or you will get an error message that says "Serial Port Not Responding".
10. Press **F3-ENTER TEXT**. Type in the letter, number or symbol that was assigned to your logo and any other text desired. When you are finished entering your text, press **F3-END INSCRIPTION**.
11. Choose a font style for your text. Then using the direction keys on your keyboard, highlight *just* the letter, number or symbol that represents your logo and press **F2-FONT**, **F5-LOGOS**, **F6-SOURCE**, then choose the correct drive. If your Destination was A:\ press **F1-A:_DRIVE**. If your Destination was C:\ALOGO\ press **F2-C:DRIVE**, **F2-ALOGO**.

12. Press **F12-DISPLAY** to view your logo.

13. Continue to set up the job as usual.

Creating Your Own Font Using Design Cad

Problem:

When using Design Cad for creating a custom font you are essentially making each letter a vector (line) drawing. This is an HPGL file, which has a .plt extension. All .plt files must be brought through the Logomake program. Logomake converts the vector file to a language the Signature Engraver program understands. Logomake converts all files to a default size of .25". Therefore, when you are creating a new font, all of the letters will be the same size not allowing for uppercase, lowercase, ascenders or descenders. See Figure 1.



Figure 1

Solution:

There is a method of output from Design Cad that will rectify this situation so your text will be scaled correctly. See Figure 2.



Figure 2

The steps are as follows:

1. From the Signature Engraving Systems folder, double click on the Design Cad icon. See Figure 3.
2. You need to start by drawing four lines, which will be used for reference while building your font. Use the mouse to place the crosshair where you want the beginning of the first line to start. Do NOT press the mouse button. You will be using the keyboard to move the white crosshair around the screen to set your points. After you position the crosshair, let go of the mouse and press the **"Insert"** key on the keyboard. A pink crosshair will appear on the screen. Press the right/east arrow key on your keyboard (→) 10 times. This will move the white crosshair to the right. Then press the **"Insert"** key on the keyboard. Another pink crosshair will appear. Press the **"V"** key on your keyboard to draw a line between the two pink crosshairs.
3. Press the down/south arrow key (↓) 2 times and press the **"Insert"** key to place another pink crosshair. Then press the left/west arrow key (←) 10 times. Then press the **"Insert"** key to set another point. Press the **"V"** key to draw the line. Continue in this manner until you have 4 lines (Press the down key 4 times between the second and third lines). Be sure you don't touch the mouse



Figure 3



while you are drawing the lines. These 4 lines will be your guidelines for determining the height of uppercase letters, lowercase letters, the baseline for the letters and the descenders. See Figure 4.

Figure 4

4. Press the “L” key on the keyboard. This will bring up the “DesignCAD Layer Command” in a blue window. The “Current Layer” will be shaded in gray. Type the number **2** to change the layer, then press **F2** to “Return and Use the New Information”. The reason for changing the layer is so that the lines will be on a separate layer from the letters. Then when you are ready to plot each letter, you can turn off layer 1 (the layer with the lines) and plot just the letter.
5. You are now ready to start your font. You can draw the letters freehand or you can choose a Design Cad font. Steps 6-8 are only necessary if you are using an existing Design Cad font. Keep in mind that you do not have to create an entire Design Cad font if you are only going to use the font once in a while in which case you would just create the entire text as a logo. To draw straight lines, set 2 points and press the “V” key. To draw curved lines set several points along a curve and press the “C” key. Refer to the “Hints and How To’s” section of the manual for a list of Design Cad commands. When you have completed the letter, go to step 9. To choose a Design Cad font, click on the word “TEXT” on the menu bar and then click on the word “Font”. Enter the character font name or press the “?” key for a list of fonts. See Figure 5. Use the arrow keys to scroll through the fonts. An uppercase “A” is the default letter displayed but you can view another letter by simply typing it.

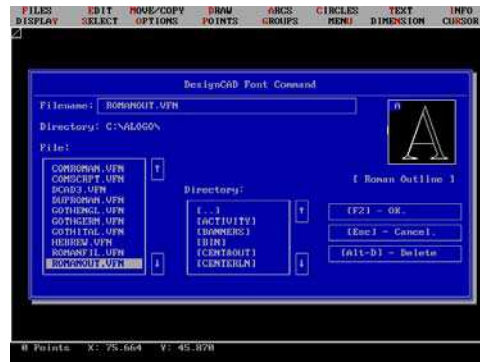


Figure 5

6. Once you have selected a font, press **F2** or “Enter” on the keyboard to return to the main screen.
7. Click on the word “TEXT” on the menu bar, then click on the word “Text” in the drop down menu. Type the first letter and press “Enter”.
8. Attached to the white crosshair, you will see a green box. You are going to draw a box to position the letter in the correct location. Place the white crosshair on the left side of the Baseline. Press the right mouse button to snap to the end of the line. This is your first point. Be sure the white crosshair remains on top of the pink crosshair. If you accidentally set a point in the wrong place, press “esc” to remove the point then reset the point. Using the right/east arrow key scroll to the right until the green box grows to the height of uppercase letters. Press the “Insert” key to set the second point. See Figure 6. Then press “Enter” and the letter will appear. See Figure 7.

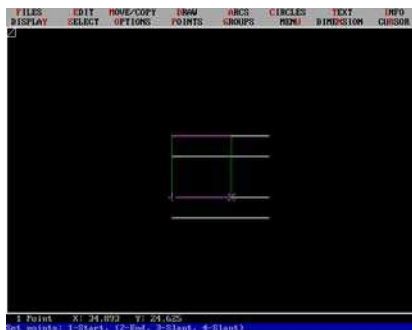


Figure 6

Figure 7

Note: If you set your points in the wrong locations and the letter comes out distorted, just press the “esc” key and start again. You will see parts of the lines disappear with the letter, just press “Z” for zoom, type in the number “1” and press “Enter”.

- 9. For uppercase letters, position the white crosshair on the Descender line (within the width of the letter) and set a point using the left mouse button or the “Insert” key on your keyboard. Without moving the crosshair, set another point *exactly* on top of the first and press the “V” key on the keyboard. This makes a point on the line. You will not see the point until the “lines” layer is turned off. This defines the bottom edge of the font. The letter itself defines the top edge. For lowercase letters *without* descenders, set 2 points on the top line (Height of uppercase letters) and press the “V” key. Then repeat with the bottom line (Descenders). For lowercase letters with descenders, it is not necessary to set the points on the bottom line as the letter itself defines the bottom edge. These two points identify the maximum height parameters of this font (from the top of the uppercase letters to the bottom of the descenders). Figure 8 displays these points enlarged in order to see them in the illustration.

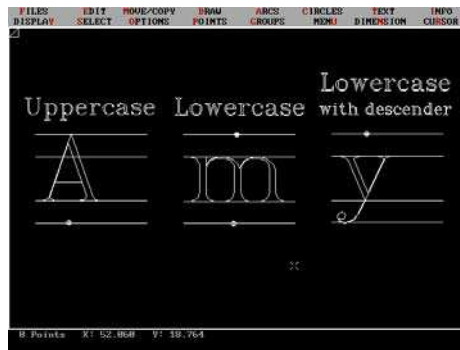


Figure 8

- 10. Press the “L” key. Using the down/south arrow key on your keyboard, scroll to layer 1 and type the number 0 (zero). See Figure 9. This turns off layer 1. Then press F2 to “Return and Use the New Information”. The lines will no longer be visible, but you will see the two dots you placed along the top and bottom lines.



Figure 9

- 11. Press F6 to plot the letter. You will see the blue “DesignCAD Plot Command” window. Press F2 to proceed with the plot.
- 12. Type in a name for the letter with a .plt extension. For example: A1.plt. This will automatically put the file into the C:\Alogo directory. If you want to put the file onto a floppy disk, type: A:\A1.plt.

13. If you want to save the letter for further editing, press the “L” key. Then press **F5** to save the layer as a separate drawing. You will be asked which layer you want to save. Type the number “2”. Then type in a name for the file without an extension. For example: A1. This will save the file to C:\Alogo. If you want to save it to a floppy disk, type in A:\A1. *This step is only necessary if you think you may want to edit the letter in the future.*
14. To continue with the next letter, clear the current letter from layer 2 by pressing the “L” key, then press **F4** to “Delete All Entities In A Layer”. Type in the number “2” and press “Enter” to delete layer 2. Scroll to layer 1 and enter the number “1” to reactivate the “lines” layer. Then press **F2** to “Return and Use the New Information”.
15. To continue with a freehand font, begin drawing the next letter. When you are finished drawing the letter, repeat steps 9-14. Continue in this manner until all letters, numbers and symbols are complete.
16. To continue with a Design Cad font, repeat steps 7-14 and continue until all letters, numbers and symbols are complete.
17. Open Logomake and convert the logos as usual. To save the font to a floppy disk, be sure to set the destination to the A: drive (if it’s not the default setting). Be sure the disk has no other logos on it. To make the letters/numbers/symbols correspond with the same access letter/number/symbol which is automatically assigned by Logomake, create the logos in the following order:

E H M N X Z W A B C D F G I O J K L P Q R S T U V Y a b c d e f g h i j k l m n o p q
r s t u v w x y z 0 1 2 3 4 5 6 7 8 9 () % \$ # - ‘ ` ? ! , ; : / *] [^ ~ + = { } _ | \ @ < > “

When you are finished, press the “esc” key to save the logos to the floppy disk.

18. Open the engraver software and enter the text as you normally would and then go to **F2-FONT**, **F5-LOGOS**, **F6-SOURCE**, and **F1-A: _DRIVE**. Press **F12-DISPLAY SCREEN** to view. See Figure 10. Notice that the two dots you set to define the height are visible. However, they will NOT engrave even though they are visible on the display screen.

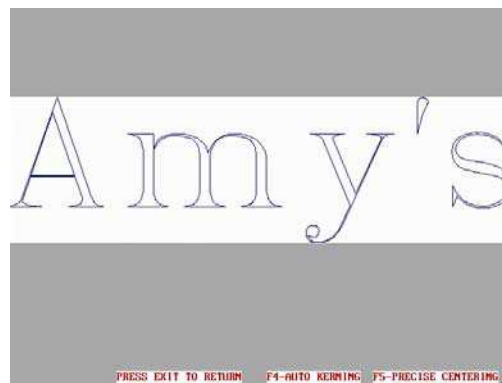


Figure 10

How to Engrave Glass

SAFETY NOTICE: *ALWAYS WEAR SAFETY GLASSES!*

1. Screw the micrometer assembly (with a yellow nose cone installed) all the way to the top so that it is tight against the bottom of the spindle quill.

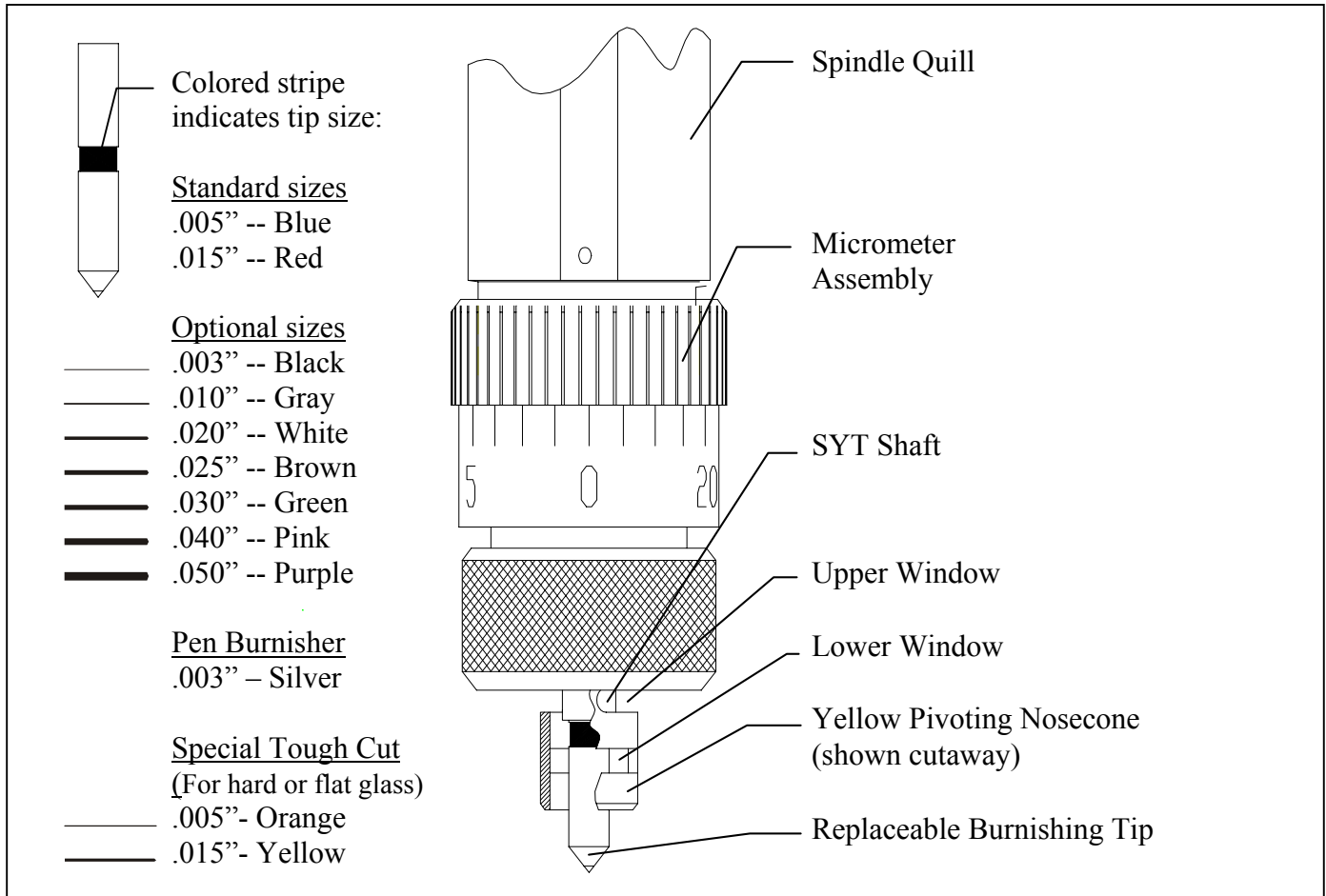


Figure 1 - Replaceable Tip Style SYT (shown at maximum pressure setting)

2. Adjust the spring yield tip (SYT) burnisher using the set screw in the brass knob so that the bottom of the SYT shaft is located halfway within the upper window of the yellow pivoting nose cone. This should leave approximately 1/8" of tip protruding at the bottom of the nose cone. This is the normal setting.
3. For lighter engraving force, adjust the SYT upwards so that less of the replaceable tip is protruding at the bottom of the nose cone, and for heavier engraving forces adjust the SYT downward so that more of the tip is protruding at the bottom of the nose cone. In all cases, the colored stripe of the replaceable tip should not be visible anywhere within the lower window. If any part of the colored stripe is visible inside the lower window, the tip is protruding too far. This would cause the tip to

“bottom out” before the nose cone touches the surface, which would create excessive downward force on the tip and damage the diamond.

- Note that the Special 1.5° offset or “Tough Cut” tips (.005”, Orange and .015”, Yellow), are recommended for engraving on “hard” or flat glass because they have an offset edge that causes all of the burnishing action to be concentrated at a single point on the burnishing tip. Because of this concentrated burnishing action, it is recommended that the tip protrusion be kept to a minimum (1/16” or less beyond the yellow nose cone), and the spindle force be set to no more than 20, in order to minimize “dwell marks”.
- A red diameter gauge was provided with your system for measuring cylindrical items. The numbers along the top edge of the gauge calculate the diameter. You will see a white arrow. Wrap the gauge around the object and take the reading from the point of the arrow. (See Figure 2) The numbers along the bottom represent normal inches with 1/10th increments. For glasses that have various diameters in the engraving area, calculate the average of the largest and smallest diameters. For example: If the largest diameter is 2.70 inches and the smallest diameter is 2.50 inches, the average diameter is 2.60 inches. This is the diameter to be entered into the engraver software to achieve the best results.



Figure 2

- For cylindrical items, choose the tailpiece and drive workholders to fit the size of the item to be engraved. (See Figure 3)



Figure 3

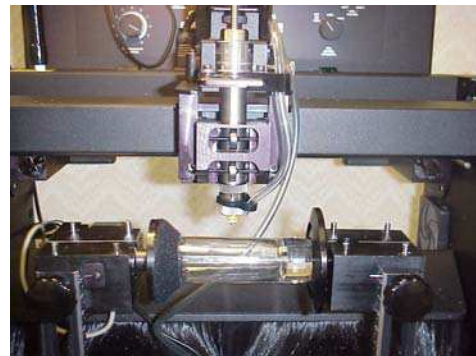


Figure 4

- Insert the drive workholder into the left vise block. It should slide easily into the slot. Once the workholder is in position you should not be able to rotate it. Then press the tailpiece into the right vise block. The tailpiece will appear to hang loosely and can be rotated easily. This is normal. It will tighten into position when the item has been secured between the workholders. (See Figure 4) If the glass item is not cylindrical, use the appropriate flat stock workholders.

Note: You will need to adjust the vise blocks depending on the size of the item. Both vise arms have a scale to assist in setting the blocks to the correct position. (See Figure 5)

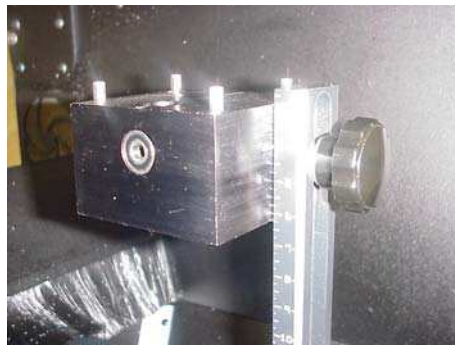


Figure 5

8. After positioning the vise blocks and workholders, secure the glass into the holders. You can use the power vise until the glass makes contact with the workholders, then use the hand crank on the right side of the engraver to loosen the item enabling you to position it correctly. For example, a cylindrical item must be positioned in the center of the tailpiece.

IMPORTANT: DO NOT over tighten the vise arms when securing the glass. We strongly recommend the use of proper eye protection because of the unpredictable nature of glass.

9. Plug the water pump into the outlet located on the top back of the engraver. (See Figure 6) Fill the tray with water until the bottom reservoir is full (approximately 25 oz.) and add only **two** caps full of the cutting fluid to the tray. The circulation pump control handle is located in front of the pump. Turn the handle to the right and allow the water/cutting fluid mixture to circulate until well mixed. The solution will look milky.

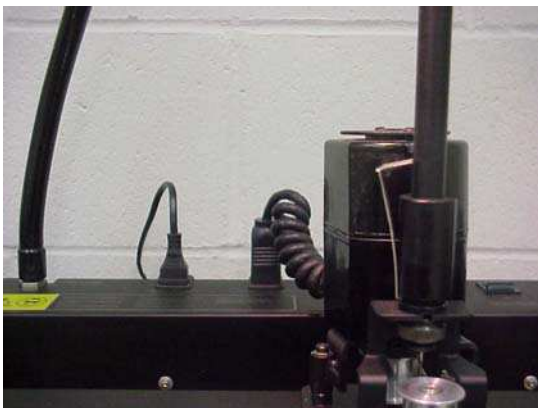


Figure 6



Figure 7

CAUTION: DO NOT PLUG THE MOTOR IN WITHOUT FLUID IN THE TRAY.

10. Turn the pump off by turning the handle to the left. (See Figure 7) Attach the lubricant feed tube to the spindle assembly. (see Figure 8)



Figure 8

11. Begin setting up your job. Press **F7-MORE OPTIONS** until you are at the Third Set of soft keys. Press **F4-CUPS/RINGS**, **F2-OUTSIDE DIAMETER**, then type in the diameter based on your measurement in step 5. If your spindle is not already positioned at origin, the spindle will move to origin.
12. Press **F7-MORE OPTIONS** to return to the First Set of soft keys.
13. Press **F1-POSITION TEXT**, **F4-HEIGHT FILL**. Using the handcontroller, locate the top point and press **ENTER/ACTION** on the handcontroller. Then locate the bottom point and press **ENTER/ACTION**.
14. Press **F3-ENTER TEXT**, type in the desired inscription, then press **F3-END INSCRIPTION**.
15. Press **F2-FONT** and choose the desired font style.
16. Notice the “Length” of the inscription in the information box on your screen. As a rule of thumb, if you want to see the *entire* inscription from a frontal view of your item, the length should not exceed the outside diameter. To change the length, press **F11-AUTOSIZE ON/OFF**, then Press **F4-LETTER FORM**. Using the down/south direction key on the keyboard, decrease the height (which also decreases the length) of the inscription until the length is equal to or less than the outside diameter. You do not have to do this if you want your inscription to wrap around the glass, cup or bowl. If you *want* the inscription to wrap around the item, be careful to note the length so you do not overlap the engraving. Press **F8-EXIT** when you are finished.
17. Press **F5-ENGRAVE OPTIONS**, **F2-ADJUSTMENTS**, **F1-SPEED**. Type in the desired speed and press the **Enter** key on your keyboard. Refer to the Engraving Tips chart on page 20 for suggested settings/guidelines. Press **F2-SPINDLE FORCE** and enter the desired force, then press the **Enter** key. Press **F3-ENGRAVE PASSES** and choose **F1-MORE** or **F2-LESS** to adjust the number of passes. The number of passes automatically defaults to one pass for logos. If you have a simple logo and want to increase the number of passes, you must press **F3-CHANGE** to change from “DOES NOT APPLY” to “APPLIES”. Press **F8-EXIT**.

18. After you have finished setting up the job, go to the engraver. There is an apron attached to the tray that is used to prevent the lubricant from splashing the operator of the system. This apron is held up by snaps on the sides of the engraver. After the apron is in place, turn on the water pump by moving the handle to the right. A heavy flow is not needed to engrave glass. A steady drip is all that's needed.
19. Turn on the rotary cutter motor. (See Figure 9) Refer to the Engraving Tips chart on page 20 for suggested settings/guidelines for setting the motor speed.



Figure 9

Note: When you are not engraving on glass, unplug the pump and remove the feed tube from the spindle. Just lay the tube on the tray. You may leave the tray installed when not engraving glass.

GLASS ENGRAVING HINTS

FUZZY ENGRAVING. LINES THAT SHOULD BE STRAIGHT ARE ZIGZAGGED

- Rotary cutter motor speed is too slow. Increase the motor speed until a uniform engraved line is achieved.

SKIPPING IN LINES THAT ARE ENGRAVED

- Increase rotary cutter motor speed.
- Increase SYT (Spring Yield Tip) diamond burnisher spring force by increasing how far it protrudes past the plastic nose cone. However, do not exceed 1/8 of an inch past the bottom of the cone.
- Lower the engraving speed by using the Adjustments section of the Engrave Options function on the computer.
- Increase the number of engraving passes by using the Adjustments section of the Engrave Options function on your computer.
- Check the cutting lubrication. There should be enough cutter fluid flowing from the supply tube to cover the area just beneath the SYT diamond burnisher tip.
- Consider using one of the “offset” SYT’s (.005” – Orange, .015” - Yellow), which are recommended for “hard” or flat glass.

MOTOR SPEED IS IRREGULAR ESPECIALLY AT LOW SPEEDS

- Run motor at highest speed for 3 to 5 minutes with belt disengaged, then resume engraving. This helps clean the carbon buildup on the brush contacts inside the motor, which normally occurs over time.

MOTOR WILL NOT START

- Set the motor speed to the highest setting and disengage the belt. Then with the eraser end of a pencil, rotate the motor pulley in a clockwise direction to start it. **BE VERY CAREFUL WHEN TRYING TO START THE MOTOR BECAUSE THE MOTOR WILL START TO TURN VERY FAST.**

SYT DIAMOND BURNISHER DOESN'T SLIDE EASILY INTO THE SPINDLE

- Sand the burnisher shaft with 400-600 grit automotive paper.

SYT DIAMOND BURNISHER'S SPRING TIP IS STICKING

- Oil the spring area with a light oil or silicon spray like machine oil or sewing machine oil. Then push the tip in and out until it moves freely.

DWELL MARKS OR SMALL DOTS OCCURRING IN THE ENGRAVING

- Lower the rotary cutter motor speed.
- Decrease the SYT diamond burnisher spring force by decreasing how far it protrudes past the plastic nose cone.
- Lower the engraving speed, using the Adjustments section of the Engrave Options function.
- Decrease the spindle force, using the Adjustments section of the Engrave Options function.

WHEN ENGRAVING A LARGE FLAT GLASS ITEM THE CUTTING FLUID IS SPILLING ONTO THE MACHINE AND NOT RETURNING TO THE RECOVERY TRAY

- Dispense just enough cutting fluid from the supply tube to coat the surface you need to engrave. Then shut off the fluid flow by positioning the control valve in the prime (left) position. A flat surface will retain the cutting fluid and you will be able to engrave on a flat surface without having a constant flow of cutting fluid.

How to Prevent Glassware From Slipping in Cylindrical Mode

The rubber coated cones which you use to hold cylindrical items (cups, bowls, wine glasses, etc.), have very high friction when dry, but will lose some of the tackiness when wet. In order to prevent your item from slipping during engraving, we recommend the following:

- Wipe the surface of the cone and the rim of the item with a dry paper towel to eliminate moisture which may be left over from previous engravings.
- Position the lower hose clip so that the direction of flow is away from the rim of the item, and keep the flow rate to a minimum (just enough to flood the engraving area).
- For situations where it is impractical to keep the flow away from the rim, use one of the round Friction Pads from your kit (part #E88-0780-BOM) clamped between the cone and the item.

Greek Alphabet with Corresponding Keyboard Stroke

Keyboard	Greek Symbol	Keyboard	Greek Symbol	Keyboard	Greek Symbol
A	Α	a	α	1	1
B	Β	b	β	2	2
C	Ψ	c	ψ	3	3
D	Δ	d	δ	4	4
E	Ε	e	ε	5	5
F	Φ	f	φ	6	6
G	Γ	g	γ	7	7
H	Η	h	η	8	8
I	Ι	i	ι	9	9
J	Ξ	j	ξ	0	0
K	Κ	k	κ	,	,
L	Λ	l	λ		
M	Μ	m	μ	!	!
N	Ν	n	ν		
O	Ο	o	ο	#	#
P	Π	p	π	\$	\$
Q		q		%	%
R	Ρ	r	ρ		
S	Σ	s	σ	&	&
T	Τ	t	τ	*	*
U	Θ	u	υ	((
V	Ω	v	ω))
W		w		+	+
X	Χ	x	χ	-	-
Y	Υ	y	υ		

A	α
B	β
Γ	γ
Δ	δ
E	ε
Z	ζ
H	η
Θ	θ
I	ι
K	κ
Λ	λ
M	μ

Alpha

Beta

Gamma

Delta

Epsilon

Zeta

Eta

Theta

Iota

Kappa

Lambda

Mu

N	ν
Ξ	ξ
Ο	ο
Π	π
Ρ	ρ
Σ	σ
Τ	τ
Υ	υ
Φ	φ
Χ	χ
Ψ	ψ
Ω	ω

Nu

Xi

Omicron

Pi

Rho

Sigma

Tau

Upsilon

Phi

Chi

Psi

Omega

Hebrew Fonts Guide with Corresponding Keyboard Stroke

Keyboard	Ada	Aharoni	Hadassah	Nachalot	Name of Character
t	t	t	t	ת	Alef (Silent)
c	c	c	צ	צ	Bet (B/V)
d	d	ד	ד	ד	Gimel (G)
s	s	s	s	ס	Dalet (D)
v	v	v	v	ו	He (H)
u	u	ו	ו	ו	Vav (V/O/U)
z	z	ז	ז	ז	Zayin (Z)
j	י	י	י	י	Chet (Ch)
y	י	י	י	י	Tet (T)
h	ה	ה	ה	ה	Yod (Y)
f	פ	פ	פ	פ	Kaf (K/Kh)
l	ל	ל	ל	ל	Khaf (Kh) - Final letter
k	כ	כ	כ	כ	Lamed (L)
n	נ	נ	נ	נ	Mem (M)
o	ו	ו	ו	ו	Mem (M) - Final letter
b	ב	ב	ב	ב	Nun (N)
i	י	י	י	י	Nun (N) - Final letter
x	ס	ס	ס	ס	Samech (S)
g	ג	ג	ג	ג	Ayin (Silent)
p	פ	פ	פ	פ	Pe (P/F)
;(semi colon)	פ	פ	פ	פ	Fe (F)
m	מ	מ	מ	מ	Tzade (Tz)
.(period)	מ	מ	מ	מ	Tzade (Tz) - final letter
e	ע	ע	ע	ע	Qof (Q)
r	ר	ר	ר	ר	Resh ®
a	ש	ש	ש	ש	Shin (Sh/S)
,(comma)	ש	ש	ש	ש	Tav (T/S)

How to Do Kerning

With some fonts, it may seem that the kerning, or spacing between letters, is not proportional. Auto Kerning can be done from the Display Screen. If you select this option, the program will hunt through the inscription and separate the letters that need kerning by phrase markers and change the letter space for the new phrase to make the inscription engrave correctly spaced.

1. Press **F12**-Display Screen. You will see:

PRESS EXIT TO RETURN F4-AUTO KERNING F5-PRECISE CENTERING

Following is an example of a letter combination that requires kerning.

Signature E ngraving Systems

Notice the E in Engraving appears to be separated from the rest of the word.

2. Press **F4**-AUTO KERNING. You will see two choices.

A. **F1**-SAVE KERNING.

1. Some changes have already been made to improve the kerning on the most obvious combinations on all the fonts, however there may be combinations that still require kerning. If you have performed auto kerning and the letters still appear too far apart, press **F8**-EXIT.
2. Using the direction keys on your keyboard, highlight just the letter that has been separated by the phrase marker. The new kerning or letter space will be indicated in the information box on the right side of the screen.

For example: LETTER SPACE -20.

```
SELECTED INSCRIPTION
PHRASE- J
LENGTH            .151
FONT              Old_En_F
ROTATION (DEG)   0
LETTER COUNT     2
HEIGHT INDIVIDAL .250
WIDTH            100
SLANT             0
LETTER SPACING   -20
FORCE X PASS     50 X 3
SPEED            50
BORDERS          10 - 10
FLAT PLATE
```

3. You can change this by pressing **F4**-LETTER FORM, **F4**-LETTER SPACING and keying in another numeric value, such as -30. Then press the **ENTER** key.
4. To save this new numeric value, press **F12**-DISPLAY, **F4**-AUTO KERNING, **F1**-SAVE KERNING. The next time this letter combination appears, the new value, -30, will appear when you go to **F12**-DISPLAY and press **F4**-AUTO KERNING, **F4**-PERFORM KERNING.

Note: If no phrase marker has been automatically inserted, you can go to **F3**-ENTER TEXT, **F4**-EDIT SCREEN, scroll to the letter *before* the kerning problem and press **F4**-INSERT, **F2**-END PHRASE, **F4**-END INSERT. Then scroll to the letter *after* the kerning problem and press **F4**-INSERT, **F2**-END PHRASE, **F3**-END INSCRIPTION. Continue to manually set the letter spacing as instructed above in steps 3 & 4.

B. **F4**-PERFORM KERNING. This function performs the kerning.

How to Create a Logo for a Name Necklace

1. Open **Arts & Letters Express** clip art program. (This is the icon that looks like a jack knife but with paint brushes and pencil.)
2. Click on the **palette** icon along the top of the screen (Located *under* the word “Arrange”) A window will drop down and you will see rows and columns of colors. Click on the diamond shape next to the words “**Fill & Line**”. The center of the diamond will turn blue when you select this option. Click on the color black in the first row, first column. This is a *necessary* step as the logo must be in black and white.
3. Then click on the **AA** icon along the top of the screen. Click on **Custom...**
4. Using the mouse, position the cursor (the white arrow) over the words “**Sample VA 0123**” and double click. Another smaller window will appear that says “Sample Text”. Begin typing the text you are going to be working with. Then click on **OK** in that window. This is just a window to view the different font styles applied to your text instead of “Sample VA 0123”. After you click OK, you will see the new text replace the sample text. (See Figure 1)



Figure 1

5. Under the word Number, you will see a rectangular box with a list of font styles. Highlight one of these font styles and use the direction keys -↑↓- to scroll through the different font styles. You will see your text change to reflect each new font as it's highlighted. Keep in mind that these will ultimately be cut out, so choose a bold font style.
6. Once you've chosen the desired font, click on the button that says “**Spacing...**” located to the right of the font list. Click on the square to the left of “**Auto**” to deselect this option. You will notice that the box to the right of the word “**Letter**” no longer says auto, but has a number in it. Using the mouse, position the cursor in the box with the numbers and click once. You will see a flashing line in the box. Using the delete key or the backspace arrow on the keyboard, delete the current numbers and type in **0** (zero). Then click on **Apply**. The letters will now be touching each other. You may still have to adjust the spacing to be sure it can be cut out whole. To adjust the spacing go back into “**Spacing...**” and enter a negative number such as **-1** then click on **Apply**. It may be necessary to keep adjusting the spacing until you reach the desired effect. When you have the desired effect, click on **Apply**. The window will disappear and you will see only the white work area with nothing on it.

7. Click on the icon on the left side of the screen that looks like a “T”. A text window will appear. Begin typing in your text. Then click on **Add**. The window will disappear and the cursor will appear as a box. Position the box towards the top left corner and by pressing and holding the left mouse button you can drag the mouse to the bottom right to draw a box. When you release the mouse button, the text will appear in the chosen font style.
8. You may still need to adjust the position of the letters or there may be a dot over an "i" that needs to be touching the rest of the letters. With everything selected, (There will be eight small black boxes surrounding the text.) click on the word **Draw** along the top of the screen then **Cvt to Freeform**. Then click on the word **Arrange**, and **UnGroup**. Click on an open area to deselect the text and position the cursor on the dot or letter to be moved. Holding the left mouse button down, drag to the desired position.
9. Now you need to create the part of the necklace for the chain to go through. Click on the **square/circle/triangle** icon on the left side of the screen. (See Figure 1) Hold the left mouse button down and slide the cursor over to the **curved rectangle**. The cursor will now be a curved rectangle with an arrow on the top left corner. Point and drag to size the shape. Click on the **black arrow** icon on the left side of the screen to retrieve the cursor. Click in an open area to deselect the shape. Then click on the palette icon along the top of the screen and select **white** for a color. Go back to the **square/circle/triangle** icon and select the **circle**. Point and drag to place the circle in the center of the curved rectangle. Don't worry if the circle is not centered in the rectangle when you first draw it. You can always reposition the circle to center it by clicking on the circle, holding the left mouse button and dragging it to the correct position.
10. Click on **Edit**, then **Block Select**. Draw a box around the two shapes to group them together, then click on **Arrange**, then **Group**. After you've grouped the shapes, click on the icon with a single page, a right pointing arrow and two pages. (See Figure 1) This is the cloning function. Then click on the shapes and holding the left mouse button, drag to another location on the screen. You now have two of these shapes. One for each side of the name. (See Figure 2) To retrieve the cursor, click on the arrow icon.
11. Position the cursor over the grouped shapes and holding the left mouse button down, drag the shape and place it so that it is touching the name. You can position it anywhere you want. Repeat with the cloned shapes. (See Figure 2)

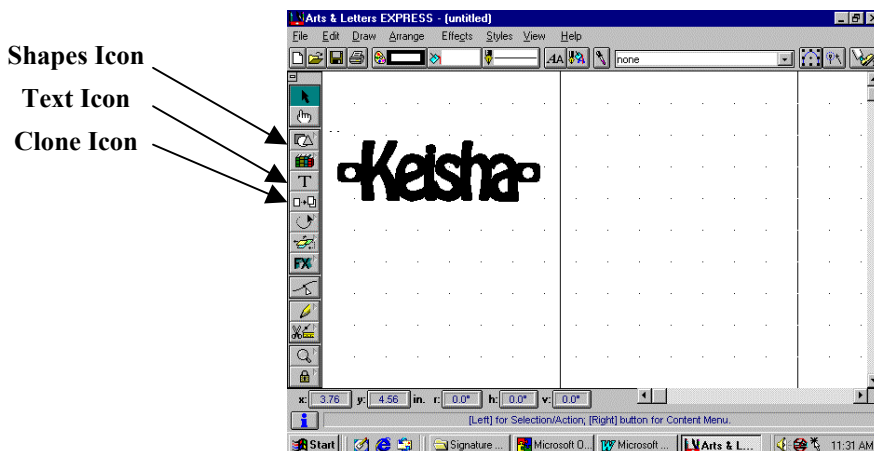


Figure 2

12. Once you have everything sized and positioned, click on **File, Export**. If necessary, change the file type to **.tif** and name the file. Example: **aaa.tif**. Be sure the directory is: **C:\ALOGO** (See Figure 3)

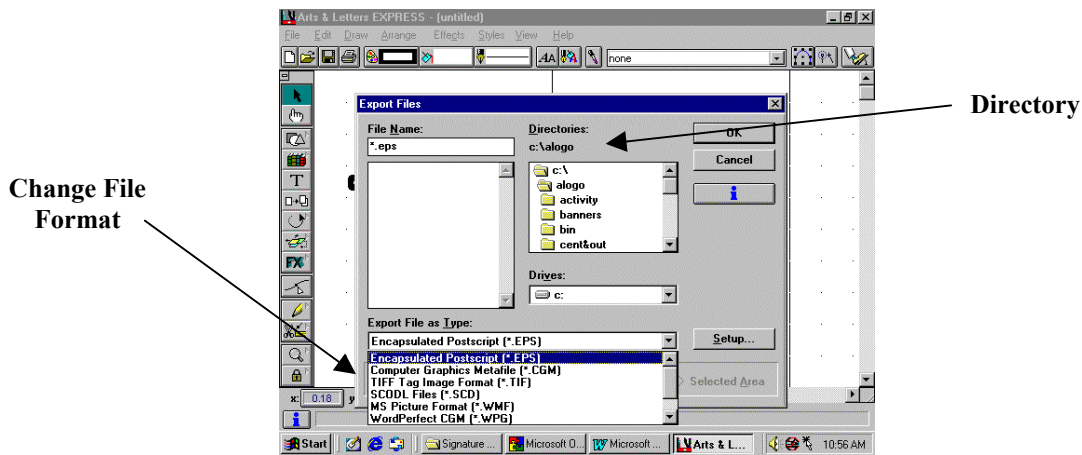


Figure 3

13. Open Adobe Streamline 3.0.(Sunshine icon) Click on **File, Open**. In the box under the word “Files” find your file, highlight it and click on **Open**.
14. Click on **File, Convert**. A color setup window will pop up. Make sure the “Number of colors:” is 2, then click on **OK**. Click on **View**, then **Artwork Only**. You will see your logo outlined in green. Click on **File, Save As** then **Save**.
15. Continue to bring your logo through Logomake then to the engraver software as usual. The engraver will engrave the outline and then you can cut out the text as you normally do.

Editing a Signature Engraver Logo

There are many things you can do to edit a Signature Engraver logo. One example would be mirroring a logo. We're going to use this example to demonstrate editing techniques. As you go through these steps, you will see how you can make other changes to a logo such as adding to or erasing a particular section of the logo. Don't be afraid to experiment and have some fun with it. Following are the steps to mirror a logo.

1. First you need to determine which logo you want to edit. To choose a logo from the help screen, press **F10-HELP** and use the up/north arrow key on your keyboard to scroll through the logo pages. You can also refer to the logo sheets in the manual. Once you've chosen the logo to be edited, make a note of the letter, number or symbol as well as the *name* of the page. (*Not* the page number) Press **F3-ENTER TEXT**, type in the letter, number or symbol and press **F3-END INSCRIPTION**.
2. Press **F2-FONT**, **F5-LOGOS**, then choose the page your logo was found on. For example: **F4-Nature**. Press **F12-Display Screen** to view the logo.
3. The next step is to put the Display Screen into a window format. Press down the **Alt** key on the keyboard. *Without* releasing the **Alt** key, press the **Enter** key.
4. In the upper right corner of the new window you will see three icons. (See Figure 1) Using the mouse, if you place your cursor (the white arrow) over one of these boxes a word will appear telling you the function of each button. If you hold the cursor over the middle icon, it will say either "Restore" or "Maximize". If you see the word "**Maximize**", click on the button. This will make it easier to work with the logo. If the word "Restore" appears, do *not* click on the button as that will make the window smaller and not as easy to work with.

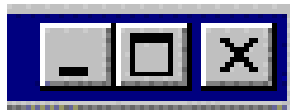


Figure 1

5. Now you need to select or highlight the logo. Click on the selection icon from the menu bar along the top of the window. (See Figure 2) Using the mouse, position the cursor arrow at the top left corner of the logo, then press and *hold* the left mouse button. *Without* releasing the left mouse button, drag the cursor to the bottom right corner of the logo. This will highlight the logo. Try to stay as close to the logo as you can minimizing the highlight. Then click on the icon from the menu bar that looks like two pages. This is the copy command. If the copy is successful, the highlight will disappear. You are now ready to go to Picture Perfect.



Figure 2 – Menu bar

Note: To get out of the window mode and back to the functioning DOS mode, press down the **Alt** key on the keyboard and *without* releasing the **Alt** key, press the **Enter** key. This will bring you back to the functioning DOS display screen.

6. At this point you can either close the engraver software or you can leave it open by pressing the **Alt** key, then *without* releasing the **Alt** key, press the **Tab** key. If you have more than one program

open, holding the **Alt** key and pressing the **Tab** key allows you to scroll from one open program to another. If you only have the Engraver software and the Signature Engraving System folder open, you will see the light bulb icon and a folder icon. Be sure to select the Signature Engraver folder. There will be a blue box surrounding the folder icon and you will see “Signature Engraving System” in the rectangular box below the icons.

7. To open Picture Perfect, click on the icon in the Signature Engraver folder that looks like a camera. When the program has opened, click on **E**dit, then **P**aste, **A**s **N**ew **I**mage. Your image will appear on the screen.
8. Now you need to make it black and white. Click on the word **C**olors from the menu bar along the top of the window. Then click on **D**ecrease **C**olor **D**epth, then **2** **C**olors. Click on **O**K. Under the word Palette, select **G**reen **C**omponents if the logo was copied in the layout program. Select **G**rey **V**alues if the logo was copied in the regular engraver program. Below this section, **W**eighted should be selected. Under the word Reduction Method, **N**earest **C**olor should be selected. If they are not already selected, click on the circle to the left of each. Then click on **O**K. (See Figure 3)

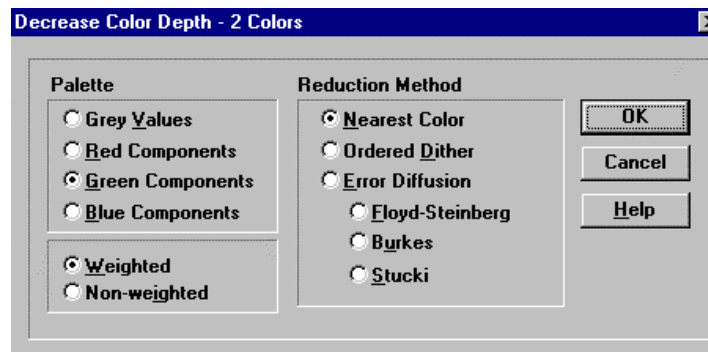


Figure 3

9. Now it’s time to mirror the logo. Click on the word **I**mage from the menu bar, then select **M**irror. You will immediately see the logo reverse on the screen.
10. The next step is to resize the logo. Resizing the logo enlarges the bits, resulting in smoother lines and a much better quality logo. Click on the word **I**mage, then select **R**esize. A new window will appear. Click on the circle to the left of **C**ustom **S**ize: to select this option. There are two boxes directly beneath Custom Size. Highlight the number in the left box and type in 2000. Do *not* change the number in the right box (directly *under* the word “Size”). Be sure that **M**aintain **A**spect **R**atio has a check mark in the small box to the left. (See Figure 4) Then click on **O**K.

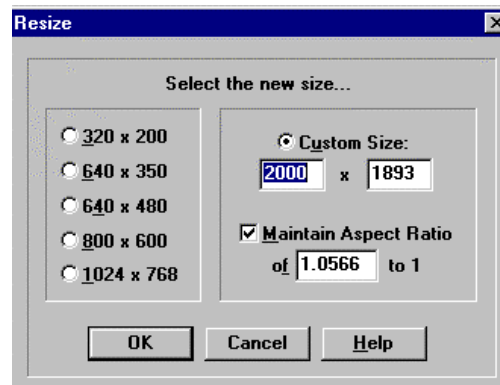


Figure 4

11. Click on **F**ile, **S**ave **A**s. A window will appear on the screen. In the rectangular box below “File **N**ame” type in a name for the logo. It is not necessary to type in the extension as long as it says

“**TIF – Tagged Image File Format**” in the rectangular box titled “List Files of Type”. If it says anything else, click on the down arrow (▼). A pop down window displays the available file formats. Click on the up/down arrows (▲▼) to view the formats (listed alphabetically). When you see TIF-Tagged Image File Format, click on it to select. Be sure the directory is **c:\alogo**. You will see this under the word “Directories:” If it is *not* c:\alogo, double click on the letter c: in the white box below “Directories”, then click on the down arrow (▼) to find “alogo”. Double click on the word “alogo”. Then click on **OK**. Close Picture Perfect by clicking on the **X** in the top right corner *or* click on **File**, then **Exit**.

12. After you close Picture Perfect, you should be back at the Windows desktop with the Signature Engraver folder open and the icons visible. The next step to editing your logo is to convert it in Adobe Streamline 3.0. To open Adobe Streamline, click on the icon in the Signature Engraver folder that looks like the sun.
13. After you’ve opened Adobe Streamline, click on **File**, then **Open**. In the box titled “Files”, locate your file name and double click on the file name (or click once to highlight then click on **OK**). You will see your image on the screen.
14. Click on **Options**, **Conversion Method**. Deselect **Outline** by clicking on the box next to that option. Then click on the box next to **Centerline** to choose that option. Click on **OK**.

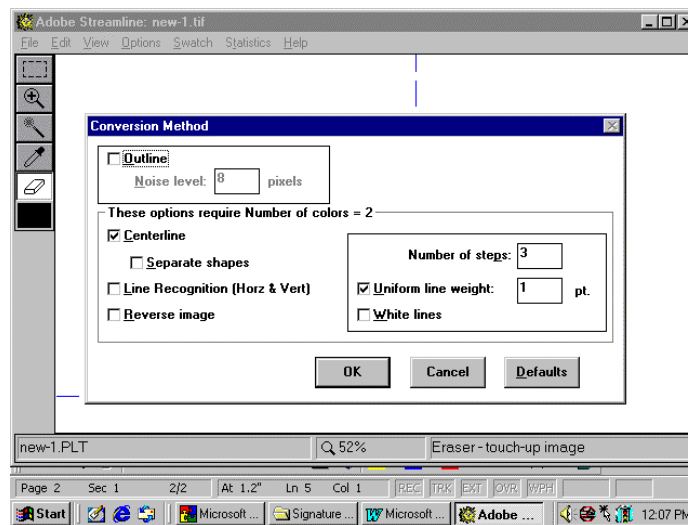


Figure 5

15. Click on **File**, **Convert**. Then **View**, **Artwork Only**. Your drawing will be green.
16. Click on **File**, then **Save As...** Your file name automatically appears with a .plt extension so it’s not necessary to type in a name, just click on **Save**.
17. Proceed to Logomake and continue as usual. (See Logomake instructions on page 15 in the scanning/clipart section of the manual if necessary.)

How To Do Interlocking Monograms Using More Than 3 Letters

1. Press **F2**-FONTS
2. Press **F7**-MORE OPTIONS
3. Press **F4**-MONOGRAM
4. Press **F2**-ITR_MONO
5. Press **F3**-ENTER TEXT
6. Press **F2**-CHOOSE NEXT INITIAL. Type entire inscription in *uppercase* letters.
7. Press **F3**-END INSCRIPTION
8. Press **F12**-DISPLAY SCREEN to view the inscription.
9. Continue to set up the remainder of the job as usual.

Choosing the Correct Nose Cone

There are five nose cones, which can be used with the Signature Engraver, each one designed for a particular purpose. Following is a picture of each one along with a description of when to use it.

1. Yellow pivoting nose cone (Part # E88-0341)



Normally used when engraving glassware, you can also use this nose cone whenever you're using a carbide cutter on cylindrical or curved items. The nose cone has been designed to flex as the surface changes in order to follow the contour of the item.

2. Small black nose cone (Part # E88-0509)

Use this nose cone when you're engraving using a carbide cutter (on flat plastic, for example) but do not have a vacuum chip removal system attached. The slots in the side of the nose cone allow the chips to escape during engraving so that the nose cone doesn't get clogged. Note: We highly recommend using a vacuum attachment kit to prevent the tiny chips from making a mess of your engraving station.



3. Large white nose cone (Part # F78-0509)



For engraving with a carbide cutter when you *do* have a vacuum chip removal system. The chips are forced to evacuate by being sucked through the vacuum hose, thus keeping your engraving area clean.

4. Small brown nose cone (Part # F78-0901)

Same as the large white nose cone, but used whenever you need to get closer to the workholder than the larger one allows.



5. Foil nose cone (Part # E8F-0509)



Used along with the Foil Transfer System. The longer snout coincides with the length of the Heat Tips, which are longer than the standard engraving tools.

Setting an Exact Origin Using Specific Workholders

When placing an item to be engraved into a set of workholders, the exact origin that originally set may be off due to variations in the different workholders. The following steps will guide you through setting an exact origin based on the specific holders you will be using for a particular job.

1. Choose the workholders for the item to be engraved. Place the workholders onto the vise blocks.
2. Take the small cylindrical tailpiece workholder (See Figure 1) and place it between the workholders on the vise blocks. (See Figure 2)

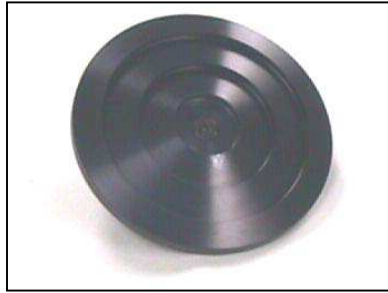
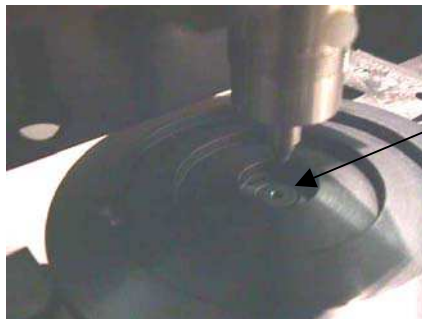


Figure 1



Figure 2

3. Turn the engraver off.
4. Manually position the spindle (with 130° diamond tip) over the center of the tail piece. (The spindle head and moving bar will move easily with the engraver turned off.) Press the spindle down and gently wiggle the spindle until you feel the cutter tip slide into the screw hole. (See Figure 3)



Screw hole

Figure 3

5. Turn the engraver back on and set your origin at this location. Use this method to set an exact origin with other workholders such as the watch/jewelry holders.

How to Engrave a Pen

1. Place the 100° diamond drag cutter into the spindle.
2. Place the pen workholders onto the pins on the vise blocks. Secure the pen between the workholders. You will notice that there are two different cuts on each side of the workholders. The side of the workholder with the deepest/squared cut is where the clip of the pen fits. Find a reference point on the pen, such as a brass band or the point where it separates, and line it up with the end of the workholder. This will make it easier to position the next pen you engrave in exactly the same location.
3. Press **F1-POSITION TEXT**, then **F3-WIDTH FILL**. Go to the engraver and position the stylus over the center of the pen. Using the handcontroller, move to one side of the pen and press **ENTER/ACTION**, then move to the other side and press **ENTER/ACTION**. Keep in mind that these points are defining the beginning and ending points of the engraving area and that there is no automatic border when using width fill.
4. Press **F3-ENTER TEXT**, type in your text, then press **F3-END INSCRIPTION**.
5. Press **F2-FONT**, choose a font style.
6. Press **F4-LETTER FORM**, **F1-HEIGHT**, type in the desired height. A suggested height range for smaller pens is .08-.12. A suggested range for larger pens would be .12-.16.
7. In some instances the length of the text may be such that there is a great deal of space on either side of your text. You can manipulate *some* font styles by using the right/east direction key on your keyboard. This will stretch the font without increasing the height of the letters.

Note: Be careful using this technique as *all* fonts will reach a “breakdown” point where the letters become too distorted. You *cannot* do this at all with some font styles, such as script, because the letters are connected and this distortion will cause the letters to overlap.
8. Press **F5-ENGRAVE OPTIONS**, **F2-ADJUSTMENTS**, **F1-SPEED**. Press **Enter** to accept the default setting of 6. Press **F2-FORCE** and type in a spindle force from 15 to 30. Press the **Enter** key. Press **F3-ENGRAVE PASSES** and press **F1-MORE** or **F2-LESS** to set the passes to 3. Check the information box on the right side of the screen and notice the current settings. You may not have to make any changes if the setting is already correct.
9. You may want to test the inscription or the border to be sure everything is correctly sized and positioned.
 - A. Press **F3-TEST INSCRIPTION**. The engraver will begin to engrave with the spindle remaining in the up or test position.
 - B. Press **F4-TEST BORDER**, **F4-STYLUS UP**. This will outline the engraving area with the spindle remaining in the up or test position. Be sure you do *not* inadvertently press **F1-STYLUS DOWN** as this will draw a box on your pen.
8. Once you are satisfied that everything is positioned and sized correctly, Press **F5-ENGRAVE OPTIONS**, **F1-ENGRAVE**.

How to Engrave on a Wooden Pen

Perform these steps, then refer to the hint "How to Engrave a Pen" for advice on laying out your inscription.

1. Install the yellow pivoting nose cone, and screw the micrometer all the way to the top, but do not install a cutter.
2. From the first set of soft keys, press **F3-ENTER TEXT** and type a period as your inscription (this is only required for these steps). Press **F3-END INSCRIPTION**.
3. Press **F5-ENGRAVE OPTIONS**, **F2-ADJUSTMENTS**, then **F2-FORCE**. Type in the number **22**. Press Enter.
4. Press **F1-POSITION TEXT**, then **F1-CORNERS**. Position your spindle over one of the vise blocks and set two points within the area over the vise block.
5. Engrave the period (with no cutter installed), and stop the engraving by pressing any button on the handcontroller while the spindle is in the *down* position (this is the condition the nose cone will be in while engraving later).
6. Install a .015" carbide cutter into the spindle quill and loosen the set screw so that the cutter tip can slide freely through the quill. When the cutter is touching the surface of the vise block, tighten the set screw.
7. Lift the spindle by hand so that the cutter tip does not scratch the vise block, and press the **Enter/Action** button to allow the engraver to finish engraving the period.
8. The cutter tip is now at the correct position for engraving on a wooden pen with a spindle force of 22.

How to Do Plastics/Acrylics/Wood

1. Place one of the carbide cutters into the spindle. The size depends upon the size of the piece to be engraved and the size of the lettering (See Chart below). Place the micrometer assembly piece with the small black nose cone onto the bottom of the spindle. (If you are using a vacuum system, use either the solid white or solid brown nose cone. The white nose cone should be used except when you need to get very close to the edge of the workpiece, in which case you can use the brown nose cone.)
2. With the micrometer assembly piece screwed tightly onto the bottom of the spindle shaft, back off the micrometer the desired depth. For example, if the nylon screw is lined up with the number 15 and you want to set your depth at 12, back the micrometer to 3, then using the cutter wrench, loosen the set screw in the brass knob to enable the cutter to move freely in the spindle. Press the spindle down until it is firmly against the surface. Hold the spindle and the cutting tip down and tighten the set screw into the brass knob. This will make the cutting tip flush with the bottom of the nosecone. Then retighten the micrometer piece. The cutter will now be set at 12 or .012”
3. Continue to set up your job as usual. Be sure to refer to the Engraving Tips in this section (Page 3) for suggested settings.

Note: The rotary motor *must* be turned on when using a carbide cutter.

This chart is for single line fonts. For multi-line fonts, use smaller sized cutters than recommended.	
Letter Height	Recommended Cutter Width
1/8"	.015"
1/4"	.030"
1/2"	.060"

Other cutter widths are available upon special request.

Recommended Cleaning Procedure

When cleaning the inside of the machine, simply wipe down with a damp cloth. Do not use any abrasives.

App. once every two months, remove filters located on the front right side and back right side of the engraver and vacuum thoroughly.

Cleaning the Spindle Shaft

- 1) Turn off the engraver.
- 2) Remove any diamond drag or cutter tools from the spindle head.
- 3) Remove the micrometer cap from the end at the spindle shaft.
- 4) Remove the small white nylon screw from the bottom of the spindle shaft.
- 5) Loosen the round locking nut until it falls off the spindle cable holder.
- 6) Remove the round wire clamp from the wire clamp holder by sliding it to the right..
- 7) Remove the spindle up/down cable from the spindle head. You will have to lift the spindle manually in order to remove the cable. Set the cable out of the way for now.
- 8) Lift the clear belt over the front spindle pulley.
- 9) Pull the spindle shaft straight up out of the spindle head.
- 10) Rub the spindle shaft and 6 bearings inside of the spindle head with a cloth and rubbing Alcohol
- 11) When finished, replace the spindle shaft into the spindle head.
- 12) Replace the small white nylon screw into the bottom of the spindle shaft.
- 13) Hook the belt over the spindle pulley.
- 14) Replace the round locking nut under the quill bracket.
- 15) Pass the spindle up/down cable through the bracket and the round locking nut.
- 16) Insert the round wire clamp into the wire clamp holder.
- 17) Tighten the round locking nut onto the spindle cable holder.

Inside Ring Diameter vs. Ring Size

Formula for determining ring diameter based on the ring size:

$$\text{Inside Diameter (inches)} = (.032 \times \text{ring size}) + .463$$

$$\text{Inside Diameter (metric)} = (.813 \times \text{ring size}) + 11.76$$

Example: Size 6 ½ ring

$$(.032 \times 6.5) + .463 = .671''$$

$$(.813 \times 6.5) + 11.76 = 17.04\text{mm}$$

Quick Reference Chart

RING SIZE	DIAMETER
	Inches (mm)
2	.527'' (13.39mm)
3	.559'' (14.20mm)
4	.591'' (15.01mm)
5	.623'' (15.82mm)
6	.655'' (16.64mm)
7	.687'' (17.45mm)
8	.719'' (18.26mm)
9	.751'' (19.08mm)
10	.783'' (19.89mm)
11	.815'' (20.70mm)
12	.847'' (21.51mm)
13	.879'' (22.33mm)
14	.911'' (23.14mm)
15	.943'' (23.95mm)
16	.975'' (24.77mm)
17	1.007'' (25.58mm)

Hints on Specific Text Rotation Situations

Rotating 45° on a Perfect Square

1. **F1-POSITION TEXT, F1-CORNERS.** Go to engraver and set your corners.
2. **F1-YES.** This will maintain height/width proportion.
3. **F7-MORE OPTIONS, F3-TEXT ROTATION. F1-CORNERS, F1-YES, F1-FROM KEYBOARD.** Enter 45° and press the Enter key. Your screen will look similar to this:

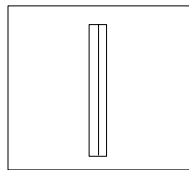


Diagram 1

4. **F11-CORNERS OFF.** Then press **F7-MORE OPTIONS** *twice* to return to the first set of soft keys.
5. **F4-LETTER FORM, F1-HEIGHT.** From the keyboard Enter the letter height. (Be sure it will fit into the space you wish to engrave.) Your screen will look similar to this.

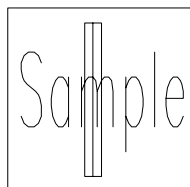


Diagram 2

7. In the bottom right box you will see how your inscription will appear.

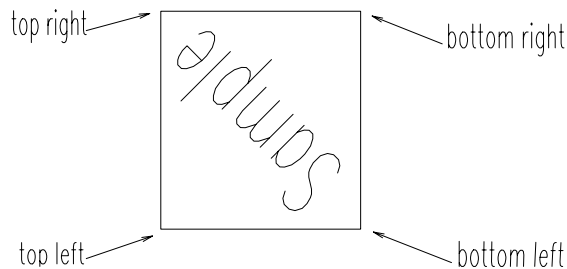


Diagram 3

Rotating 90° Using the Width Fill Option

1. **F1-POSITION TEXT, F3-WIDTHFILL.** Go to the engraver and set two points for width fill.
2. **F1-YES.** This will maintain height /width proportion.
3. **F7-MORE OPTIONS, F3-TEXT ROTATION.**
4. **F4-HEIGHT FILL.** When rotating 90° a width fill becomes a height fill. If you were to use width fill for the “position text option to be maintained”, the information box would read .000 for length and height.

Rotating 90° Using the Height Fill Option

1. **F1-POSITION TEXT, F4-HEIGHT FILL.** Go to the engraver and set two points for height fill.
2. **F1-YES.** This will maintain height/width proportion.
3. **F7-MORE OPTIONS, F3-TEXT ROTATION.**
4. **F3-WIDTH FILL.** When rotating 90°, a height fill becomes a width fill. If you were to use height fill for the “position text option to be maintained”, the information box would read .000 for length and height.

Note: Make sure you test your border *before* you engrave. Remember **TEST BORDER** always goes to the lower left corner first.

Backup Saved Jobs in Filing System Transfer Saved Jobs and Logos

We recommend that you backup important Saved Jobs and Logos to someplace other than your hard drive. For Saved Jobs there are 2 ways of doing this. If you are saving files to some transportable media with the intention of loading them into another engraving system, be aware of the following. Filing system Saved Jobs can be loaded on a Signature Engraving System that has the same or *newer* version software than the original system where the jobs were created. They will not work properly if they are loaded on an older version.

Saved Job Backup, Preferred Method

The recommended way is to transfer the jobs to a floppy disk from the **F4-FILING SYSTEM** menu in the engraver program. To do this, put a blank formatted floppy disk in the drive and from the *First Set* of soft keys, press **F7-MORE OPTIONS**, **F4-FILING SYSTEM** and then **F5-TRANSFER**. The following prompt will come up on the screen:

WHICH JOBS DO YOU WISH TO TRANSFER FROM HARD DISK TO FLOPPY ?
F1- >>> JOB F2- ALL JOBS

If you choose **F2-ALL JOBS** and have hundreds of saved jobs, this will take more than one floppy disk so you should have several on hand. When one disk is full the screen will prompt you for the next one. If you just want to back up *one* job or *some* of the jobs, use the arrow keys on your keyboard to highlight the job to be transferred and press **F1->>> JOB**. Repeat this step until all of the desired jobs are backed up. When you backup Saved Jobs this way, each floppy disk you create is a complete separate filing system. This means that you can put one of these floppies in any computer that has the engraving system. From the *First Set* of soft keys press **F7-MORE OPTIONS**, **F4-FILING SYSTEM**, **F4-CHANGE DISK** and the jobs saved on it will be displayed just like the regular filing system. You can perform any of the softkey functions (**F1-SAVE JOB**, **F2-GET JOB**, etc.) directly on this disk. If you **F5-TRANSFER** the files from the floppy disk to the hard drive, the files will be correctly merged in with the filing system already on the hard drive.

SAVED JOB BACKUP, ALTERNATE METHOD

If you just want to transfer all the Saved Jobs from one computer to another computer *overwriting* the filing system in the computer you are transferring to, then you can use this method. First exit the engraver program by pressing **F9-RESTART**, **F7-MORE OPTIONS**, and then **F1-EXIT**. Then run Windows Explorer. To run Windows Explorer, click the **Start** button on your Windows Desktop, and then click on **Programs**. A flyout will appear with all your programs listed. Click on **Windows Explorer** and a window will appear. On the left side of the window you will see a list of folders in the C: drive. Locate the UISIG folder by clicking on the down arrow in this section. (See Figure 1) When you have located UISIG, click once on the folder to highlight it, then look in the section on the right; you will see a listing of all the files in the UISIG folder. (See Figure 2)



Figure 1

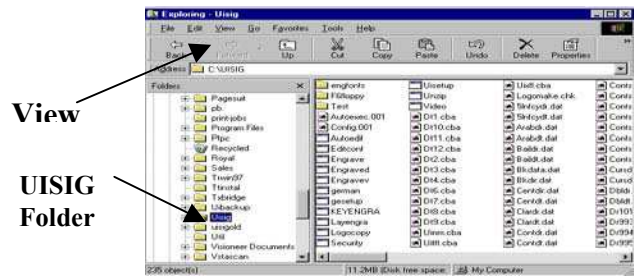


Figure 2

Click on the word **VIEW** from the menu bar at the top of the screen, then click on **Arrange Icons, by Type** to arrange the icons in order by type. Also Details should be checked so you can see the file extensions. Now look at the files in the UISIG folder. The engraver filing system is made up of all the .cba files. Highlight all these files and drag them from the right side of the screen into the **Backup** folder or drive on the left side of the screen. To highlight them all, left click the mouse to highlight the *first* .cba file on the top of the list. Use the mouse to move the cursor down to point to the last .cba file on the list. Hold the **Shift** key down and left click the mouse. All the .CBA files should be highlighted. (See Figure 3) Now with the cursor positioned anywhere within the blue area, hold the *right* key down

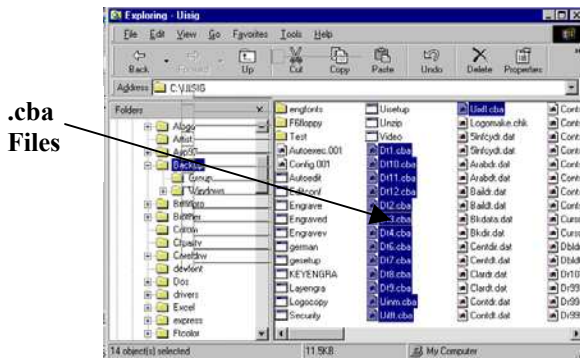


Figure 3

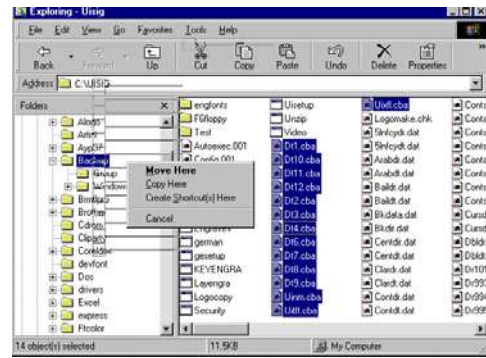


Figure 4

on the mouse and drag the group to the left and then either up or down until the single drive or path is highlighted on the left side of the screen where you wish to copy the files. Then release the right button and left click on "**Copy Here**" when the menu appears near the highlighted drive/path. (See Figure 4)

If you are using this method to copy to a floppy disk, be aware that you could overflow the disk. If this happens, then you should not use this method. Instead, use the preferred method detailed above.

The engraver program can only transfer jobs from the outside world through the A:\UISAVE path. This means that if you have used this alternate method to put the filing system files on a Zip Disk or CD, then bring this media to another engraving system, you will NOT be able to put the Zip Disk or CD in the new system, press F4-FILING SYSTEM, F4-CHANGE DISK and be able to see the files. What you can do with these files is to go into Windows Explorer, display and highlight the contents of the Zip Disk or CD and copy the contents of it onto the new computers C: drive in the UISIG folder. This will REPLACE the current filing system with the one saved on the Zip Disk or CD. The original filing system will be lost!

TRANSFERRING LOGOS

Logos are stored with one logo "group" per path or subdirectory. This means for example that in C:\ALOGO there can be only one logo "group". This logo group is defined by a name that appears next to the FONT label in the information box on the upper right side of the screen in the engraver program when that logo font is selected. If you look in a logo "group" directory (using Windows Explorer for example), there are four files that define the logo "group". The files are FONTS.DAT, DRxxx.DAT, DTxxx.DAT and CONTSxxx.dat. xxx is a 3-digit number between 100 and 999. To transfer or backup a logo "group" use the alternate method for backing up SAVED JOBS detailed previously. That is:

- * Run Windows Explorer
- * Display the drive/directory where the logo "group" is that you wish to back up.
- * Highlight (Ctrl- Left Click) the 4 files Fonts.dat, DRxxx.dat, DTxxx.dat and CONTSxxx.dat
- * Hold the right mouse button down and drag the files to the left side of the screen and the up or down until the drive/directory you want to copy to is highlighted.
- * Release the right mouse button, then point to copy when the menu pops up and left click.

REMEMBER .. There can only be one logo group in any one directory or path.

In order to use the logos from their new location, you must inform the engraving program of the new drive/path so it knows to offer it as a selection when you select F2-FONT, F5-LOGOS, F6-SOURCE,

Note: It is not necessary to complete the following steps if you copied the files to a floppy disk and intend to access them from the floppy. (If you look below to the logo group paths listed, you will see "A:\\" already listed.)

First, exit the engraving program by pressing **F9-RESTART**, **F7-MORE OPTIONS**, and then **F1-EXIT**.

- * Double click the pencil/pad icon labeled **SETUP Signature Engraver**
- * Type **N** to answer the question "Is this Setup OK [Y]es or [N]o?"
- * Press **ENTER** to accept the default answer to each question until you get to
Add new Drive:/Path's for Logo Sources? [Y]es or [N]o?
- * Type **Y** and press **ENTER** to answer this question
- * Type in the new logo group path using the same form as the ones that are already there
(which are A:\
 C:\UISIG\F6FLOPPY
 C:\ALOGO)

and press **ENTER** (For example: If you used the Backup folder to copy the files to, you would type in: C:\Backup)

- * press **ENTER** on the blank line to end the entry list
- * type **Y** to answer the question "Is this Setup OK [Y]es or [N]o ?"

Now when you run the engraving software and press F2-FONT, F5-LOGOS, F6-SOURCE, your new choices should be there.

How to Move Text Using Numeric Values

There may be a time when you need to move text to a specific location. For example, if you are going to engrave labels on a control panel, these labels may need to be positioned numerically.

1. Press **F3-ENTER TEXT**, type in your text and press **F3-END INSCRIPTION**.
2. Press **F2-FONT** and choose a font.
3. Press **F1-POSITION TEXT**, **F1-CORNERS**. Set one of the corners where the position is referenced from, for example the top left corner (If there is a scale, you can choose a reference point on the scale as your starting position.) then set the diagonal corner.
4. Press **F4-LETTER FORM**, **F1-HEIGHT**. Type in the correct height of your letters.
5. Press **F1-POSITION TEXT**, **F2-SCREEN MOVES**. Move the text to the starting position making sure that the lower left corner of the label is exactly positioned to match up with the top left corner of the box.
6. Press **F1-POSITION TEXT**, **F5-NUMERIC**. You will be prompted to enter the distance to be moved to the right in inches. (A negative number will move the text to the left.) Type in the correct number. Then you will be prompted to enter the distance to be moved up. (A negative number will move the text down.) Type in the correct number based on the position of the label.
7. Press **F5-ENGRAVE OPTIONS**, **F4-TEST BORDER**, **F4-STYLUS UP** to see if the text is positioned correctly. You can also press **F5-ENGRAVE OPTIONS**, **F3-TEST INSCRIPTION** to see if the text is the correct size and is positioned correctly. (The engraver will engrave the inscription in the air, but you can manually push the spindle down closer to the piece for better viewing.)
8. Make any necessary changes and continue to set up the job as usual.

Special Symbols

Following is a chart showing the keys needed to access all the special symbols.

Press **F3-Enter Text, You will see.....**

**F1-END OF LINE F2-END OF PHRASE F3-END INSCRIPTION F4-EDIT SCREEN
F5-SPECIAL SYMBOLS**

<u>Symbol</u>	<u>Keys to Press</u>	<u>Symbol</u>	<u>Keys to Press</u>	<u>Symbol</u>	<u>Keys to Press</u>
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“	- F5, F1	”	- F5, F2	Mc	- F5, F3
À	- F5, F4, F1, F1	É	- F5, F4, F2, F1	ı̇	- F5, F4, F3, F1
Á	- F5, F4, F1, F2	Ê	- F5, F4, F2, F2	ı̈	- F5, F4, F3, F2
Â	- F5, F4, F1, F3	Ë	- F5, F4, F2, F3	ı̊	- F5, F4, F3, F3
Ã	- F5, F4, F1, F4	È	- F5, F4, F2, F4	ı̋	- F5, F4, F3, F4
Ä	- F5, F4, F1, F5	É	- F5, F4, F2, F5	ı̌	- F5, F4, F3, F5
Å	- F5, F4, F1, F7, F1	Ê	- F5, F4, F2, F7, F1	ı̍	- F5, F4, F3, F7, F1
Ö	- F5, F4, F4, F1	Ë	- F5, F4, F5, F1		
Ø	- F5, F4, F4, F2	Ü	- F5, F4, F5, F2		
Ö̇	- F5, F4, F4, F3	Û	- F5, F4, F5, F3		
Ö̈	- F5, F4, F4, F4	Ü̇	- F5, F4, F5, F4		
Ö̊	- F5, F4, F4, F5	Ü̈	- F5, F4, F5, F5		
Ö̋	- F5, F4, F4, F7, F1	Ü̊	- F5, F4, F5, F7, F1		
à	- F5, F5, F1, F1	é	- F5, F5, F2, F1	ı̇	- F5, F5, F3, F1
á	- F5, F5, F1, F2	è	- F5, F5, F2, F2	ı̈	- F5, F5, F3, F2
â	- F5, F5, F1, F3	ë	- F5, F5, F2, F3	ı̊	- F5, F5, F3, F3
ã	- F5, F5, F1, F4	ê	- F5, F5, F2, F4	ı̋	- F5, F5, F3, F4
ä	- F5, F5, F1, F5	ë	- F5, F5, F2, F5	ı̌	- F5, F5, F3, F5
å	- F5, F5, F1, F7, F1	ê	- F5, F5, F2, F7, F1	ı̍	- F5, F5, F3, F7, F1
ö	- F5, F5, F4, F1	ü	- F5, F5, F5, F1		
ø	- F5, F5, F4, F2	û	- F5, F5, F5, F2		
ö̇	- F5, F5, F4, F3	ü̇	- F5, F5, F5, F3		
ö̈	- F5, F5, F4, F4	ü̈	- F5, F5, F5, F4		
ö̊	- F5, F5, F4, F5	ü̊	- F5, F5, F5, F5		
ö̋	- F5, F5, F4, F7, F1	ü̋	- F5, F5, F5, F7, F1		
°	- F5, F7, F1	š	- F5, F7, F7, F1	æ	- F5, F7, F7, F7, F1
ç	- F5, F7, F2	š̈	- F5, F7, F7, F2	Æ	- F5, F7, F7, F7, F2
Ç	- F5, F7, F3	Š	- F5, F7, F7, F3	£	- F5, F7, F7, F7, F3
ç̇	- F5, F7, F4	ṧ	- F5, F7, F7, F4	β	- F5, F7, F7, F7, F4
ı̇	- F5, F7, F5	š̈	- F5, F7, F7, F5	“	- F5, F7, F7, F7, F5

Special Symbols (Continued)

Press F3-Enter Text, You will see.....

F1-END OF LINE F2-END OF PHRASE F3-END INSCRIPTION F4-EDIT SCREEN F5-SPECIAL SYMBOLS

Symbol Keys to Press Symbol Keys to Press

Ą - F5, F7, F7, F7, F7, F1, F1	Ó - F5, F7, F7, F7, F7, F1, F7, F2
ą - F5, F7, F7, F7, F7, F1, F2	ó - F5, F7, F7, F7, F7, F1, F7, F3
Ę - F5, F7, F7, F7, F7, F1, F3	Ń - F5, F7, F7, F7, F7, F1, F7, F4
ę - F5, F7, F7, F7, F7, F1,	ń - F5, F7, F7, F7, F7, F1, F7, F5
Ć - F5, F7, F7, F7, F7, F1, F5	Ł - F5, F7, F7, F7, F7, F1, F7, F7, F1
ć - F5, F7, F7, F7, F7, F1, F7, F1	ł - F5, F7, F7, F7, F7, F1, F7, F7, F2

Ś - F5, F7, F7, F7, F7, F1, F7, F7, F3
ś - F5, F7, F7, F7, F7, F1, F7, F7, F4
Ż - F5, F7, F7, F7, F7, F1, F7, F7, F5
ż - F5, F7, F7, F7, F7, F1, F7, F7, F7, F1
Ź - F5, F7, F7, F7, F7, F1, F7, F7, F7, F2
ź - F5, F7, F7, F7, F7, F1, F7, F7, F7, F3

HOW TO USE THE SPEED BRAKE

The speed brake is a feature which will increase your engraving speed by approximately 50% when engraving on flat surfaces by reducing the amount of time spent raising and lowering the spindle between letters.

1. To use the speed brake when engraving flat objects, bring the engraving tip gently down to the engraving surface as if you were setting points, and hold it in that position. With your other hand,

slide the speed brake towards the slot in the spindle tube until the locking tab springs into position inside the slot (see Figure 1). When the locking tab is in position, it will prevent the compression spring inside the tube from moving up or down by locking between the coils of the spring. You may find it easier to slide the locking tab into the slot starting from the right edge of the slot (while looking at machine) and rotating the speed brake to the left, because the coils of the spring are angled and will accept the locking tab easier from this direction. Once the speed brake is engaged, you can let go of the spindle and it will rise slightly off the surface (about 1/8").

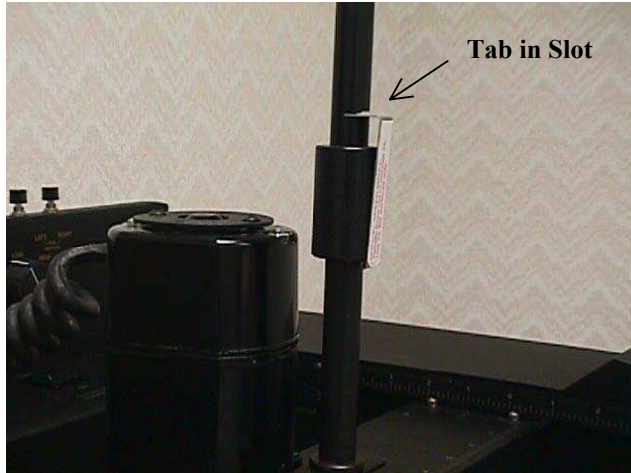


Figure 1 - Speed Brake Engaged

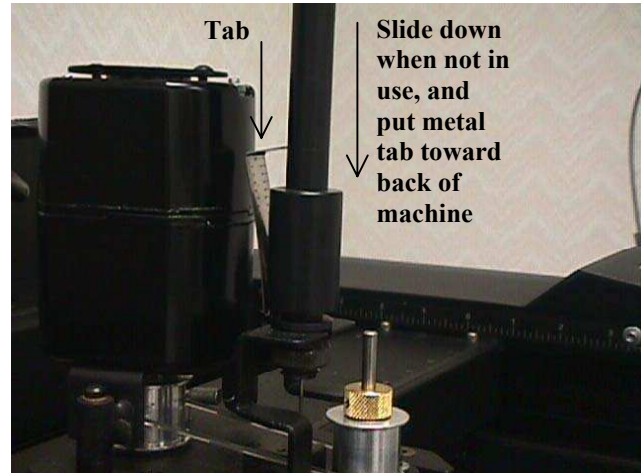


Figure 2 - Speed Brake Disengaged

2. Now you can continue to engrave as usual, except that you should adjust the spindle force to a maximum of 75. A rule of thumb is to set the spindle force 25-50 units lower than normal to achieve the same results you would if the speed brake was not engaged. The reason for this is that by engaging the speed brake, the effect of the compression spring is eliminated, so you can actually set your spindle force to a lower setting and still get the same results because the sensor which controls the spindle force no longer needs to overcome the force of the extra spring.

To store the speed brake when not in use, simply pull the locking tab out of the slot and slide the speed brake to the bottom of the tube and let go (See Figure 2). Make sure the metal tab is on the back side of the spindle tube so that it does not get in the way when installing your engraving tools.

NOTE: Always disengage the speed brake before you first turn the engraver on.

How to Change the Default Settings in the Startup Screen

If there is a particular setting that is used a great deal of the time, you may want to set new defaults in the startup screen. This is the screen you see when you first open the engraver software after setting the origin.

For example, if you find that you are engraving more glassware than metals, you may want to reset the engraver speed to the setting for glass.

To do this, use the following steps:

1. Using the example above to change the speed, press **F5-ENGRAVE OPTIONS**, **F2-ADJUSTMENTS**, **F1-SPEED**. You will see:

**BEST QUALITLY SPEED IS 6
KEY IN ENGRAVING SPEED FROM 1-50 [6]**

2. Press **ENTER**. You will note that the engraver speed in the information box on your screen now reads "**SPEED 6**". (If you were setting the speed to a number *other* than [6], you must key in the correct number and then press **ENTER**.)
3. Press **F8-EXIT** two times to return to the First Set of soft keys.
4. Press **F7-MORE OPTIONS**, **F4-FILING SYSTEM**. Using the direction keys on your keyboard, scroll down to United Innovations Startup Screen.
5. Press **F1-SAVE JOB**, **F1- USE >>> JOB NAME**. You will see:

**United Innovations Startup Screen
IS ALREADY STORED. Do you wish to overwrite? (Y/N)**

6. Press **Y** for yes.

This method can be used to change any of the settings; force, speed, passes, font, rotation, etc. You can also change "Signature 8080Plus" to your company name. Just make the necessary changes and save in the filing system by overwriting the United Innovations Startup Screen.

How To Underline Text

There are two ways to underline text.

Method 1:

Press **F3**-ENTER TEXT. Type in your text with an underline () following each letter. For example, Type: A_B_C_C_o_m_p_a_n_y_ Then Press **F3**-END INSCRIPTION. Press F12-DISPLAY to view your inscription.

This method will underline the letters individually.

Method 2:

1. Press **F3**-ENTER TEXT, type in your text, then press Enter. Type a dash (hyphen). Then press **F3**-END INSCRIPTION. It will look like this:

```
ABC Company\  
-\  

```

2. Using the arrow keys on your keyboard, select *only* the second line. Press **F4**-LETER FORM, then using the right arrow on the direction keys, expand the width of the line until the desired length (formerly a dash) is achieved.
3. Press **F1**-POSITION TEXT, then **F2**-SCREEN MOVES. Position the line in the correct location. You may need to adjust the step size for more accurate positioning.

Note: Sizing and positioning the line may require some manipulation until you have reached the correct size and location.