


















































UTILITY

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NOTES:

- Cutter suggestion: .125 @ 1 inch.
- Aspect ratio x height = length of line or rectangle
- For further explanations and examples, refer to the following pages.

	ASPECT RATIO		
a - 	- 0.5	A - 	1 - I
b - 	- 1	B - 	2 - II
c - 	- 3	C - 	3 - III
d - 	- 9	D - 	4 - IV
e - 	- 0.42	E - 	5 - V
f - 	- 0.72	F - 	6 - VI
g - 	- 1.2	G - 	7 - VII
h - 	- 2	H - 	8 - VIII
i - 	- 2.8	I - I	9 - IX
j - 	- 4	K - 	0 - X
k - 	- 5.6	L - L	(- 
l - 	- 8	M - M) - 
m - 	- 1.2	N - 	/ - left kern
n - 	- 2	O - 	
o - 	- 2.8	P - 	
p - 	- 4	Q - 	
q - 	- 2	R - 	
r - 	- 2	S - 	
s - 	- 2	T - 	
t - 	- 8	U - 	
u - 	- 16	V - 	
v - 	- 24	W - 	
w - 		X - X	
x - 		Y - 	
y - 		Z - 	
z - 			

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RECTANGLES

• ASPECT RATIOS FOR RECTANGLES

To figure out how long a rectangle on the keysheet will be when engraved, first determine how tall the rectangle will be. Multiply this height by the aspect ratio. The answer is the length of the rectangle. For example, rectangle "c" has an aspect ratio of 3, so if rectangle "c" has a character height of 1", it will be 3" wide ($1 \times 3 = 3$).

If a rectangle is too wide to fit between the margins, it will condense (Autocondense) to fit. If the rectangle is too short to meet the margins, however, it will not expand to meet the margins unless you increase the standard width. The quickest way to make a rectangle meet the margins is to make it slightly longer than needed and then apply Autocondense.

• SURROUNDING CHARACTERS WITH A RECTANGLE

To set up a rectangle surrounding a line of characters, first engrave the line of characters. Leave the plate clamped at the table, then set up the rectangle layout.

To set up the rectangle, use a slightly taller height for the rectangle than for the characters. Set up the baseline for the rectangle slightly lower than the baseline for the characters. For the margins, measure the distance from the left edge of the plate to the first character, and from the right edge of the plate to the last character. Select a rectangle on the keysheet that will be wide enough to meet the set margins.

• RECTANGLES AS BORDERS

To figure out the letter height for a border, first decide what the margins for the border will be on the top and bottom of the plate, then add these values together. Subtract the total from the plate height. The difference is the letter height for the border.

• ROUND-CORNERED RECTANGLES

To retain the rounded corners on round-cornered rectangles, you must choose the rectangle with an aspect ratio closest to the size of your layout. Otherwise, Autocondense may square or distort the rounded corners.

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SETTING - UP - LINES

Note: 1. If you are engraving on a Wizzard, you can avoid engraving on the clamp bars by building up the lips on both clamp bars with masking tape. When you clamp in your plate, its surface should be level with the clamp bars.

Note: 2. Lines q, r, and s are the same size, but they are differentiated by their proximity to the baseline. Line q is placed at the top of the tallest character height. Line r is placed halfway between the baseline and the tallest character, and line s is placed on the baseline.

• ASPECT RATIOS FOR LINES

To calculate the length of a line on the keysheet when engraved, multiply the desired character height by the aspect ratio for that line. The answer is the length of the engraved line. For example, line "t" has an aspect ratio of 8, so if the character height is 1/2", then the engraved line will be 4" long ($1/2 \times 8 = 4$).

If a line is too long to fit between the margins, it will condense (Autocondense) to fit. If the line is too short to meet the margins, however, it will not expand to meet the margins unless you increase the standard width. The quickest way to make a line meet the margins is to make it slightly longer than you need and then apply Autocondense.

• UNDERLINING CHARACTERS

You can use lines "s" through "v" to underline characters. To underline a line of characters or just one word in a line, first engrave the line of characters. With the plate still clamped, measure the margins on either side of the characters. Then set up the layout for the underline only, using the measured margins. Make sure the line is long enough to Autocondense between the margins. Refer to Note: 2 above.

• HORIZONTAL AND VERTICAL LINES

An example of horizontal and vertical lines has been included on the next page, to illustrate the use of these line types. For this layout, use line "t" for the horizontal line and line "y" for the vertical line. Line "t" has a height of 1 inch and an aspect ratio of 8. Thus, the line is 8 inches long ($1 \times 8 = 8$ — the length of the plate).

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Specifications:

Plate height:	2 inches	Font:	Utility	Line 1	Utility
Plate width:	3 inches	Justification:	Center	Line 2	Utility
		Character height:	1 inch		2 inches
		Standard width:	98%		100%
		Baseline:	1 inch		2 inches
		Margins:	None		None
		Text:	t		y

ROMAN - NUMERALS

Keystroke numbers 0 - 9 are for Roman numerals. These symbols do not have any side space, so they can be joined to form continuous bar numerals. The / key is a special kern key for moving the numerals even closer together. Characters C, D, I, L, M, V, and X - do have side space and may be used for constructing larger Roman numerals.

SETTING - UP - SYMBOLS

To engrave a trademark, copyright, registered, or degree symbol, set up a two line layout. Make sure that the height of the symbol is small enough and measure the baseline so its top half extends above the tallest character on the line.

CUTTING - HOLES

To cut holes, use circle "W" or "Y". Back up your workpiece with another sheet of engraving material to avoid cutting into the engraving table or center support bar. Notice that circle "Y", unlike circle "W", is positioned by its centerpoint, so it extends below its baseline and beyond its left or right margin. For the letter height of a circle, use the vertical measurement of the circle size.

DRILLING - HOLES

Character "Z" is a single cutter down used to drill or mark holes. Increase delay to insure proper drilling. The 'dot' produced may not appear on the screen when Ctrl + G (View Layout) is pressed. Make sure to back up your material with a second plate to avoid drilling into the engraving table.