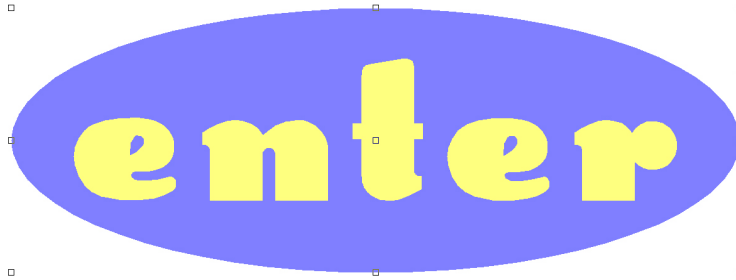
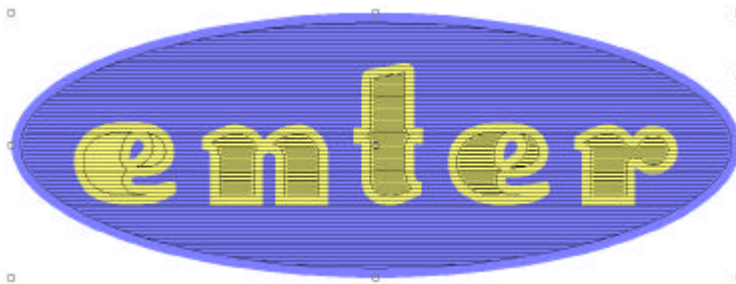


## Creating an Engraving Fill for Text and Graphics

For two selected shapes, where one shape has been placed within the other, an engrave fill operation will cause both shapes to be engraved separately. However, by engraving both shapes separately, the fill for the “outer” shape will leave no uncut material for the inner shape. For example, suppose that the following text and oval shapes were created:



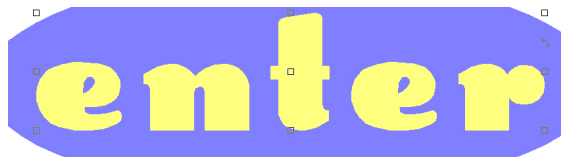
If an engrave fill operation were now applied, then cutting lines will be created for both shapes. However, this is not useful because the entire oval shape will be engraved, which obscures the text.



### Use Make Path

Instead of applying the engrave fill to shapes as separate objects, we want to combine the shapes into a single object, which may then be applied with the engrave fill. The **Make Path** command is used to combine shapes, as demonstrated by the following steps:

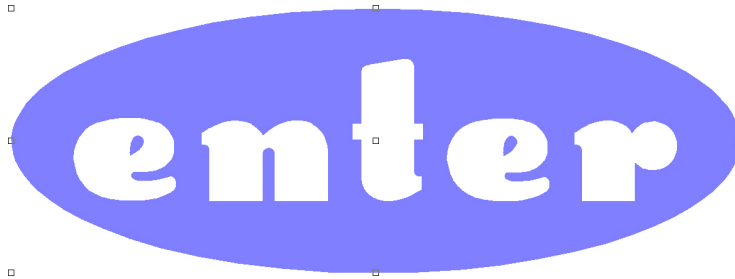
- 1) Select the text shape, and then choose **Text to Graphics** from the **Arrange** menu. This will also convert the text into individual letter shapes, which is a prerequisite for using the **Make Path** command.



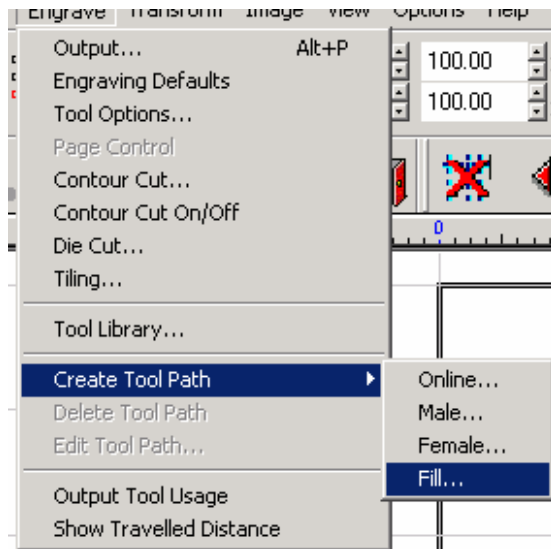
- 2) Choose **Select All** from the **Edit** menu, such that both the letter and oval shapes are selected.

## Lesson 4 - Engraving Fill for Text and Shapes

3) Choose **Make Path** from the **Arrange** menu. The letter and oval shapes will be combined into a single object.

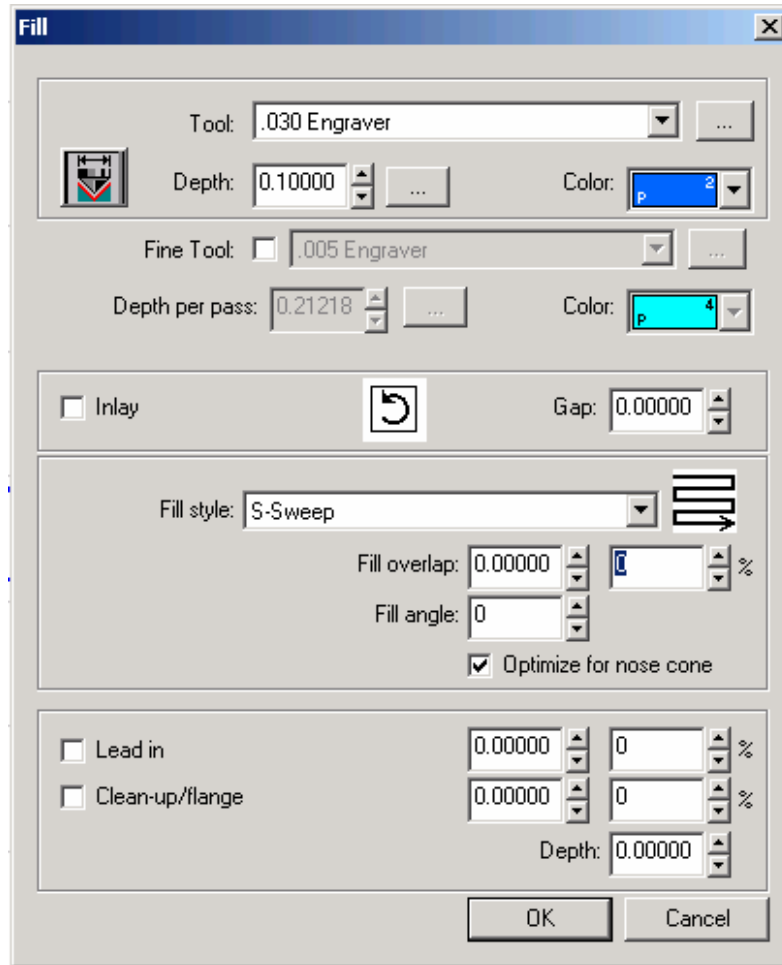


4) With the combined object selected, choose **Fill** from the **Create Tool Path** flyout (**Engrave** menu).

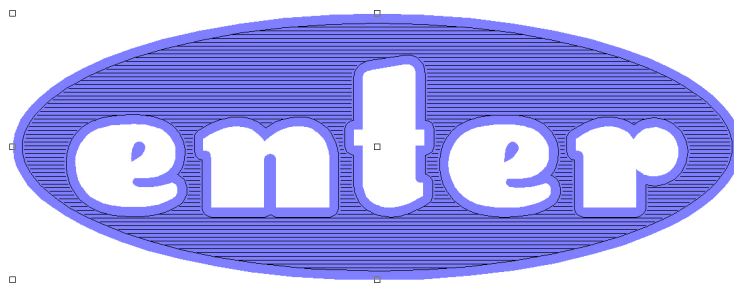


5) The **Fill** dialog will open. Set the engrave fill parameters as required for the job. In this example, an S-Sweep style was performed to a Depth of 0.10000" using an 0.030" Engraver tool.

## Lesson 4 - Engraving Fill for Text and Shapes



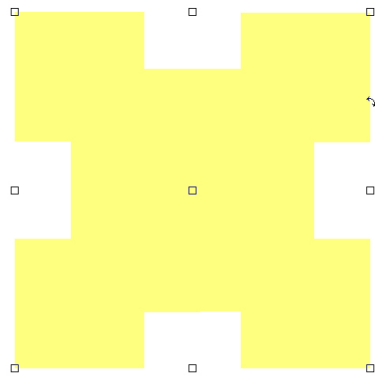
6) Click **OK** to close the **Fill** dialog, and the engrave fill will be applied. The “inner” letter shapes are not engraved.



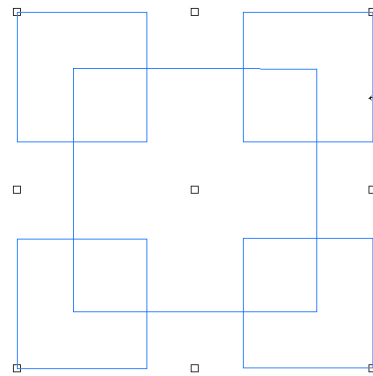
### **Use Fuse Weld**

Where multiple overlapping shapes must be applied with an engrave fill, use the **Fuse Weld** operation to reduce the number of tool movements. For example, consider five squares that have are overlapping one-another:

## Lesson 4 - Engraving Fill for Text and Shapes

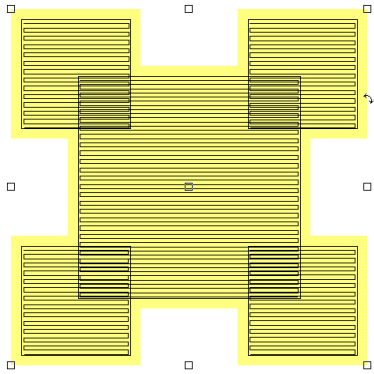


Five overlapping squares



Five overlapping squares – fills turned off

If these squares are selected and an engrave fill applied, then a set of tool path movements are calculated for each square. Unfortunately, this wastes machine time because the tool movements are being duplicated wherever the squares overlap.



Instead of applying an engrave fill to each square individually, it is more efficient to weld the squares into a single shape. This is demonstrated by the following steps:

- 1) Choose **Select All** from the **Edit** menu, such that all five squares are selected.
- 2) Assign the same fill color to the squares. This will be used later to indicate that a **Fuse Weld** operation be performed.
- 3) From the **Weld Tools** flyout, click the **Basic Weld** button. Since each square has the same fill color, a **Fuse Weld** operation will be performed to weld the squares into a single object.

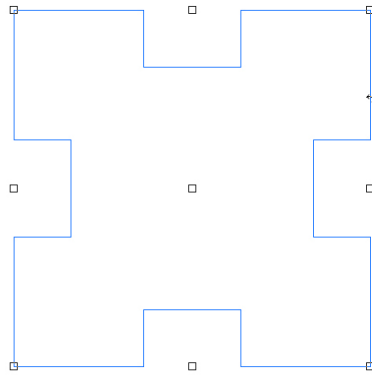


- 4) With the welded object selected, choose **Fill** from the **Create Tool Path** flyout (**Engrave** menu).

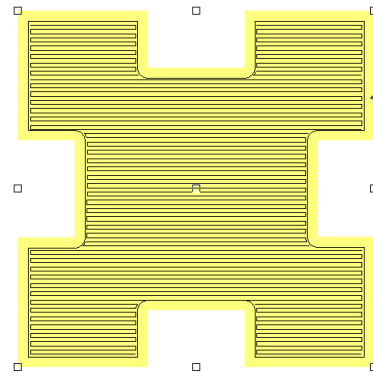
## Lesson 4 - Engraving Fill for Text and Shapes

5) The **Fill** dialog will open. Set the engrave fill parameters as required for the job. In this example, an S-Sweep style was performed to a Depth of 0.10000" using an 0.030 1/4" Engraver tool.

6) Click **OK** to close the **Fill** dialog, and the engrave fill will be applied.



**Welded object with fills off**



**Welded object with engrave fill**