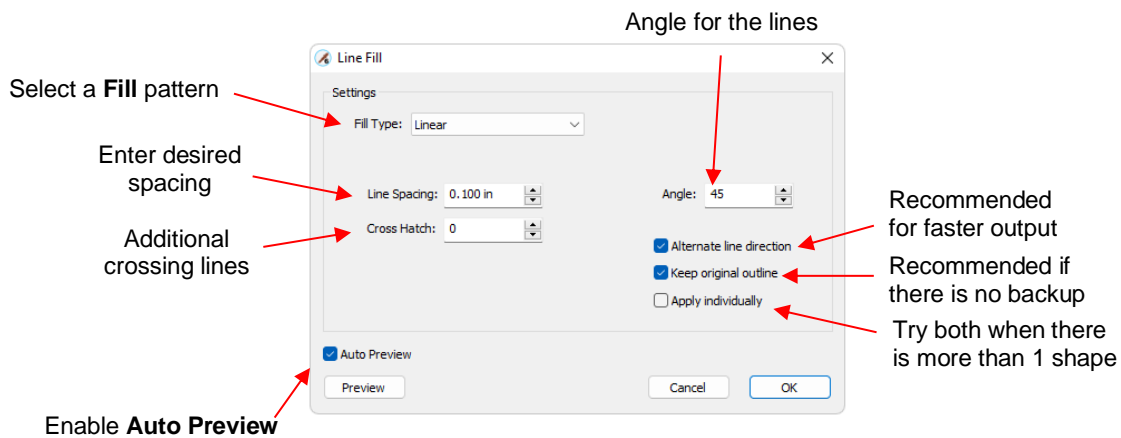


SCAL6 Line Fill Expanded Tutorial

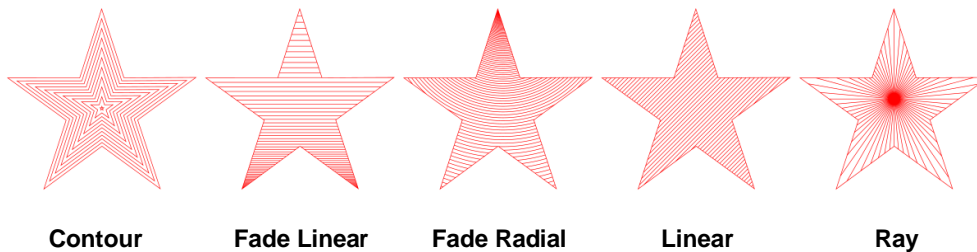
- This tutorial contains the same instructions presented in the SCAL6 User Manual plus some additional explanation of settings related to the **Line Fill** function.

8.09.1 Introduction to Line Fill

- The **Line Fill** function creates a line or hatch fill pattern, typically used for engraving with an engraving tool. It can also be used for coloring in shapes with a pen or embossing some materials with an embosser.
- To access this function, select one or more shapes and go to **Effects>Line Fill**:



- Important:** Before using the **Effects>Line Fill** function, make sure the shape or text you're filling is sized according to what you want it to be for the project. Otherwise, if you wait until later to size it, the fill lines will end up at a different spacing than what you entered.
- Fill Type:** There are 5 optional patterns from which to choose. Each pattern has its own settings for customizing the appearance and spacing of the lines:



- Because the most common pattern in use is **Linear**, its settings are presented first. The other four patterns will then follow.

8.09.2 Fill Patterns

Linear Fill

- Line Spacing:** This is selected based on the width of the line produced by the tool to be used. If it's too small to accurately measure, use 0.02" or 0.5 mm for a small test shape and then adjust, as needed, to fit the tool and application.

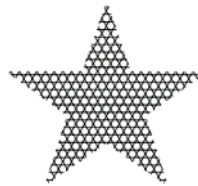
- **Angle:** Choose an angle for the **Line Fill**. An **Angle** of 0 results in horizontal lines and an **Angle** of 90 results in vertical lines. Note the diagonal pattern in the prior screenshot using an **Angle** of 45.
- **Cross Hatch:** Increasing **Cross Hatch** adds additional intersecting lines to the pattern which can result in a more complete fill but will take longer to engrave or draw:



Cross Hatch = 0



Cross Hatch = 1

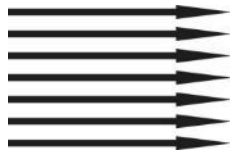


Cross Hatch = 2

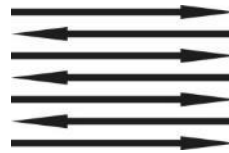


Cross Hatch = 4

- ◇ **Alternate line direction:** This controls whether the tool always returns to the same side before dropping down to engrave or draw. In some applications, it may need to be unchecked to provide a more even appearance, however it will take much longer to execute:



Alternate Line Direction: not marked
Tool only travels in one direction

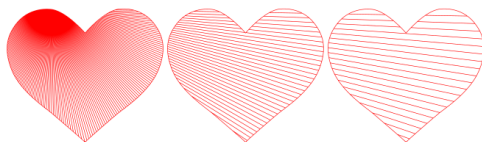


Alternate Line Direction: marked
Tool travels in both directions

- ◇ **Keep original outline:** Usually a good idea in case you want to revise your pattern later on. Also, when working with lettering, having the outline improves readability:



- ◇ **Apply individually:** For some **Fill Types**, such as **Ray**, the pattern can be applied to each individual shape or applied across multiple shapes that have been grouped:



Apply individually not enabled

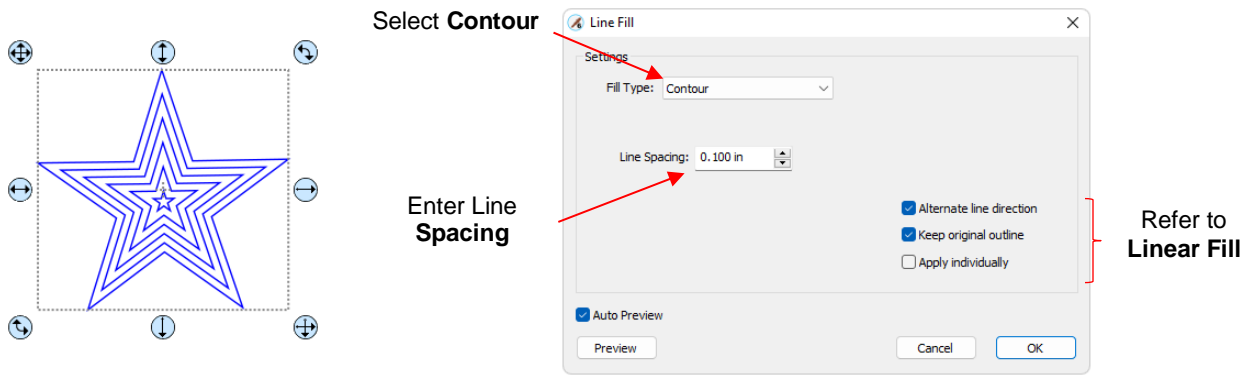
versus



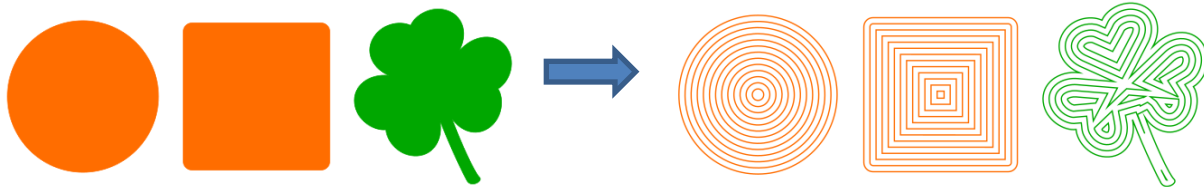
Apply individually enabled

Contour Fill

- **Contour Fill** (aka **Island Fill**) fills the shape with inset paths following the original shape's outline:

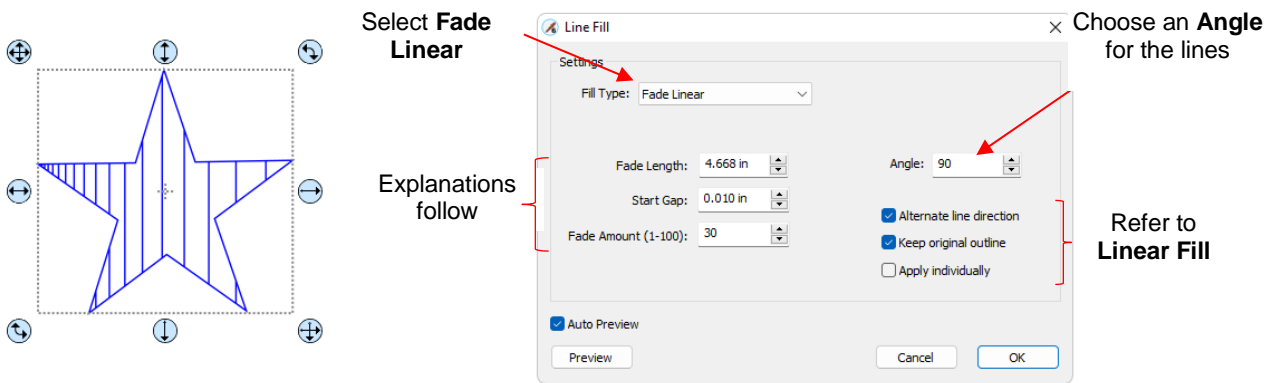


- ◇ After changing to **Contour**, enter the desired **Line Spacing** size.
- ◇ Note that symmetrical shapes such as the prior star and others yield more pleasing results than irregular shapes, such as the clover:

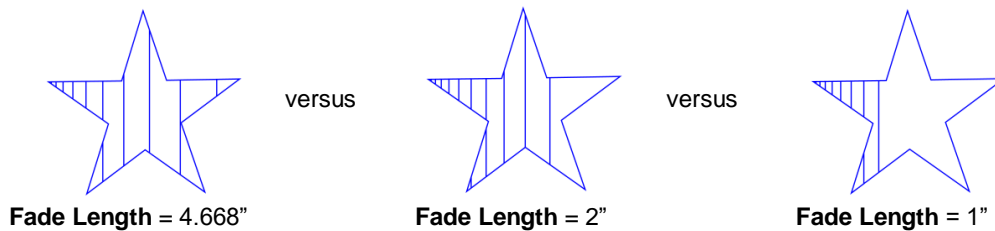


Fade Linear Fill

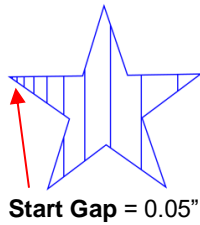
- **Fade Linear** produces a pattern of lines which gradually spread apart:



- ◇ **Fade Length** – this is automatically calculated based on the size of the shape. If made smaller, the shape will not completely fill with the pattern. Based on the example above:



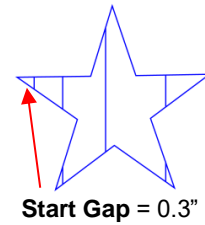
- ◇ **Start Gap** – this is the distance from the start of the shape to the first line. From this point, the gap will gradually get larger with each successive line added:



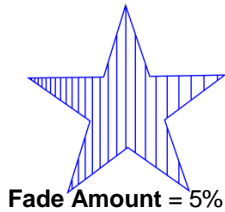
versus



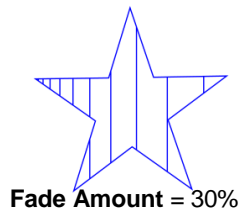
versus



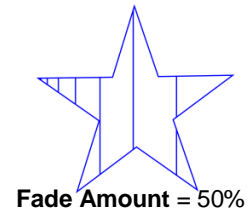
- ◇ **Fade Amount** – this is the percentage of expansion between each successive line, thus high values spread out the lines more:



versus



versus



Fade Radial Fill

- **Fade Radial** is similar to **Fade Linear** but produces curves which radiate as circular arcs from a center (**Origin**) of your choosing:

Select **Fade Radial**

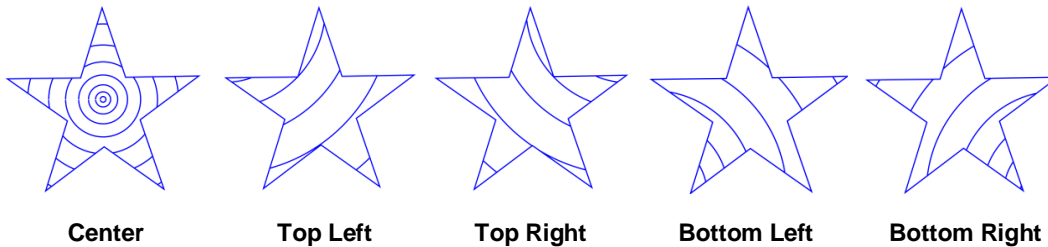
Select **Origin** for start of pattern

Refer to **Fade Linear**

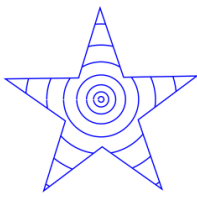
Adjust distance from **Origin**

Refer to **Linear Fill**

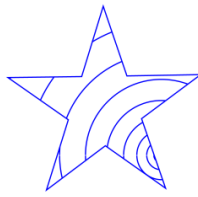
- ◇ There are 5 options for the **Origin**:



- ◇ You can then adjust the **X** and **Y** center of that **Origin** to alter the pattern in many different ways. For example:

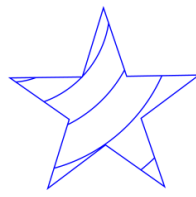


versus



Center
X:0 Y:0

Center
X:1 Y:1



versus



Top Left
X:0 Y:0

Top Left
X:1 Y:1

Ray Fill

- **Ray** is similar to **Fade Radial** but produces straight lines projecting from a center (**Origin**) of your choosing:

Select Ray

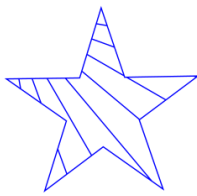
Select Origin – refer to Fade Radial

Adjust distance from Origin

Adjust Angle

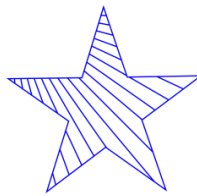
Refer to Linear Fill

- ◇ **Angle** – affects how many radiating lines you will see in the pattern. The smaller the **Angle**, the more lines you will see:



Angle = 10

versus



Angle = 5

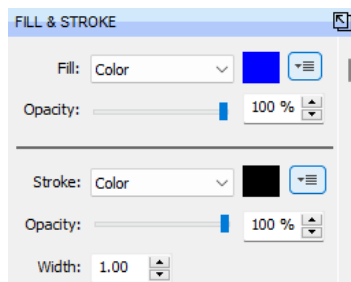
versus



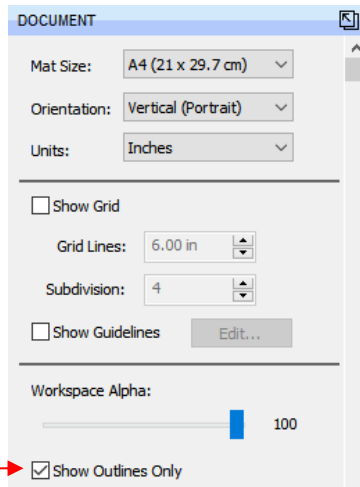
Angle = 1

8.09.3 Reasons why you might think Line Fill didn't work.

- You do not have a **Stroke** color assigned to the shape you're filling.
- ◇ Since the lines you're adding are not closed shapes, you need a color assigned before going to the **Line Fill** window. Thus, select the shape and, on the **Fill & Stroke Panel**, select **Color** next to **Stroke**, click on the color box to the right of that, and pick a color. Also, make sure the **Opacity** is set to 100%:



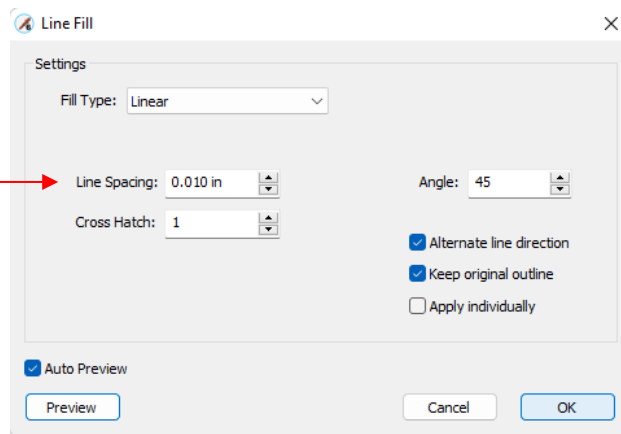
- If you DO have a **Stroke** color assigned, make sure it's different from the **Fill** color, otherwise you also won't see a change in the **Line Effects** window.
- ◊ Alternatively, you can mark the option for **Show outlines only** (on the **Document Panel**) and the **Fill** color won't interfere with seeing the lines:



Enable **Show Outlines Only**

- The **Line Spacing** setting is very small:
 - ◊ You may not realize that you actually have the fill pattern. If you have **Show outlines only** turned on, then you should see a change whereby the empty shape suddenly seems to fill with your **Stroke** color but that's just the line pattern where the lines are REALLY close together. This is needed for a solid fill with most pens, engravers, Foil Quill, etc. For example, with the Foil Quill tool, I use 0.01" (0.25 mm):

Line Spacing is very small



- ◊ Click on **OK** in the **Line Fill** window and then zoom in as closely as you can and click in the middle of what seems like the **Fill**. You should see the pattern:

