

StarCraft CREATE User Manual

January 1, 2025

NOTE: StarCraft CREATE is not legally permitted to cut directly to Cricut or Scan N Cut machines. Cricut owners will need to export files as SVG (*Section 2.07.1*) while SNC owners will need to export files as either SVG (*Section 2.07.1*) or as FCM (*Section 2.07.3*)

Do I Have to Read All of this Manual?

- No! Not unless you need it as a sleeping aid! 😊 Think of this as a reference book. But if you want to learn the basic functions, here are some recommended sections for a new CREATE user:
 - ◇ Chapter 1 Installation, Preferences and Workspace
 - ◇ Chapter 2 Handling Files and Organizing Layers: 2.01 - 2.04, 2.05.1, 2.06.1
 - ◇ Chapter 3 Manipulating and Coloring Shapes: 3.01 - 3.06, 3.08 - 3.15, 3.17
 - ◇ Chapter 4 Working with Text: 4.01 - 4.07
 - ◇ Chapter 5 Tracing and Drawing: 5.01, 5.02, 5.03.1, 5.03.2, 5.03.3, 5.03.6, 5.03.7, 5.03.10
 - ◇ Chapter 6 Editing: 6.01, 6.06
 - ◇ Chapter 7 Designing: 7.01, 7.05, 7.06.1, 7.07.1
 - ◇ Chapter 8 Cutting (and Printing): 8.01 - 8.03.1, 8.04

It is highly recommended that you do not print this manual as it contains many functions you may never need.

Instead, use **Ctrl+F** to find all references to a function, feature, tool, setting, etc. that you want to learn more about.

Are There Any Videos?

- Yes! Look for video links throughout this manual:

Rhonda M: *Video*

Shawn Mosch: *Video*

Also Note

- Chapter 8 covers functions related to output, both printing and cutting. Some sections show screenshots or functions that may only be present in certain cutter models. Thus, you may need to determine on your own how that function works with your cutter.
- Because **Print+Cut** (aka contour cut) applications differ depending on the cutter brand and model you own, those procedures are not covered in this user manual. Owners of most cutters should be able to follow the instructions provided within the **Print+Cut** screens in CREATE. If you need additional help with **Print+Cut**, contact your cutter's tech support staff or post at a CREATE support group (refer to *Section 1.12*).

Is This Manual for PC Users Only?

- While a PC was used for taking screenshots to include in this manual, most if not all of the windows are virtually identical in the Mac version.
- An attempt has been made to include shortcut keys for both PC and Mac users. Where I may have failed to include the Mac equivalent, note that **Ctrl** on a PC is replaced with **Command** on a Mac and **Alt** on a PC is replaced with **Option** on a Mac.

Feedback

- I strive to provide well-written and accurate information on all functions within this superb program. If you find any typos, incorrect information, or parts needing clarification, feel free to email me at smccauley45@cox.net.

Table of Contents

STARCRAFT CREATE USER MANUAL	1
1. INSTALLATION, PREFERENCES, AND WORKSPACE	7
1.01 INSTALLING STARCRAFT CREATE	7
1.01.1 Downloading and Registering CREATE <i>Video Video</i>	7
1.01.2 Installing a Cutter in CREATE <i>Video</i>	8
1.02 MAIN CREATE SCREEN	8
1.03 LIBRARY <i>Video</i>	9
1.04 PROPERTIES PANEL	10
1.05 CUSTOMIZING THE PROPERTIES PANEL / WORKSPACE	11
1.06 DOCUMENT PANEL <i>Video</i>	14
1.06.1 Mat (aka Page) Size	14
1.06.2 Orientation	15
1.06.3 Units	16
1.06.4 Show Grid	16
1.06.5 Show Guidelines	17
1.06.6 Workspace Alpha	18
1.06.7 Show Outlines Only	18
1.06.8 Show Print Margins	18
1.06.9 Show Reg Marks	19
1.06.10 Show Page Color	20
1.06.11 Show Template	20
1.07 SNAP TO	21
1.08 OTHER PREFERENCES	21
1.09 ZOOMING AND PANNING	22
1.09.1 Zooming	22
1.09.2 Panning	23
1.10 UNDO/REDO	23
1.10.1 Undo	23
1.10.2 Redo	24
1.11 PROJECTS AND PAGES	24
1.12 HELP RESOURCES	25
2. HANDLING FILES AND ORGANIZING LAYERS	26
2.01 OPENING FILES	26
2.01.1 Opening a New File/Project	26
2.01.2 Opening an Existing CREATE File	26
2.02 SAVING OR REVERTING CREATE FILES <i>Video</i>	27
2.03 CUSTOMIZING THE LIBRARY <i>Video</i>	27
2.03.1 Shapes Tab	27
2.03.2 Fonts Tab	31
2.03.3 Projects Tab	32
2.04 LAYERS PANEL <i>Video</i>	33
2.04.1 Introduction to the Layers Panel	33
2.04.2 Parts of the Layers Panel	33
2.04.3 Creating Folders and Moving Layers	35
2.05 IMPORTING OTHER FILE FORMATS	38
2.05.1 Importing Vector Files	38
2.05.2 Importing Raster Files	39
2.05.3 Importing Fonts	40
2.06 EXPORTING IN OTHER FILE FORMATS	40
2.06.1 Exporting in SVG Format	41
2.06.2 Exporting in JPG, PNG, BMP and TIFF Formats	41
2.06.3 Exporting in FCM Format	42
2.06.4 Exporting in PLT Format	42

3. MANIPULATING AND COLORING SHAPES.....	43
3.01 BASIC SHAPES	43
3.01.1 <i>Rectangle</i>	43
3.01.2 <i>Rounded Rectangle</i>	43
3.01.3 <i>Circle and Oval</i>	44
3.01.4 <i>Triangle</i>	44
3.01.5 <i>Polygon</i>	44
3.01.6 <i>Star</i>	44
3.01.7 <i>Spiral</i>	45
3.02 SELECTING	46
3.02.1 <i>Basic Selection Handles</i>	46
3.02.2 <i>Advanced Selection Handles</i>	47
3.03 DELETING	48
3.04 MOVING.....	48
3.05 RESIZING, SCALING, AUTO FIT.....	50
3.05.1 <i>Resizing</i>	50
3.05.2 <i>Scaling</i>	52
3.05.3 <i>Auto Fit</i>	53
3.06 ROTATING.....	54
3.07 SKEWING AND DISTORTING	55
3.07.1 <i>Skewing</i>	55
3.07.2 <i>Distorting</i>	56
3.08 MIRRORING AND FLIPPING	56
3.09 LOCKING AND UNLOCKING	57
3.10 HIDING AND SHOWING	57
3.11 GROUPING AND UNGROUPING	58
3.11.1 <i>Group</i>	58
3.11.2 <i>Ungroup</i>	58
3.12 BREAKING AND MERGING	59
3.12.1 <i>Break Apart</i>	59
3.12.2 <i>Merge</i>	60
3.13 ARRANGING (ORDERING) SHAPES	61
3.14 FILL & STROKE: FILL <i>Video</i>	62
3.14.1 <i>No Fill</i>	64
3.14.2 <i>Color Fill</i>	64
3.14.3 <i>Pattern Fill</i> <i>Video</i>	65
3.14.4 <i>Gradient Fill</i> <i>Video</i>	66
3.14.5 <i>Opacity</i>	68
3.15 FILL & STROKE: STROKE	69
3.15.1 <i>Stroke Settings</i>	69
3.15.2 <i>Stroke Line Style</i>	73
3.15.3 <i>Converting Strokes into Closed Shapes</i>	73
3.16 DROPPER TOOL.....	74
3.17 CUTTING, COPYING, PASTING, DUPLICATING	75
3.17.1 <i>Cutting to the Clipboard</i>	75
3.17.2 <i>Copying to the Clipboard</i>	75
3.17.3 <i>Pasting from the Clipboard</i>	75
3.17.4 <i>Duplicating – Duplicate</i>	75
3.17.5 <i>Quick Duplicate</i>	76
3.18 ALIGNMENT	76
3.18.1 <i>Align to Page</i>	77
3.18.2 <i>Align to Selection</i>	78
3.19 DISTRIBUTE.....	79
3.19.1 <i>Distribute to Page</i>	79
3.19.2 <i>Distribute to Selection</i>	81
3.19.3 <i>Distribute to Selection Below</i>	82
4. WORKING WITH TEXT	84
4.01 TEXT OPTIONS	84

4.02 SELECTING A FONT	84
4.02.1 Choosing a Font from the Font Menu	84
4.02.2 Choosing a Font via Font Preview	84
4.02.3 Temporarily Installing a Font	86
4.03 ADDING TEXT OPTIONS	87
4.04 FOUR MODES OF TEXT	87
4.04.1 Type Tool.....	87
4.04.2 Vertical Type Tool.....	88
4.04.3 Type on Path Tool.....	88
4.04.4 Type on Arch Tool.....	89
4.05 TEXT SETTINGS <i>Video</i>	90
4.06 OTHER TEXT EDITING	93
4.07 CREATING A CONNECTED LETTER TITLE.....	93
4.08 INCORPORATING SHAPES INTO A TITLE.....	94
4.09 WELDING TITLES IN IMAGINATIVE WAYS	95
4.10 STENCILING LETTERS.....	95
4.11 OPEN PATH FONTS (OPF).....	97
4.12 USING KNOCKOUT ON IMAGES AND LETTERING	<i>Video</i>
97	
4.13 TITLE CRAWL	98
4.14 APPLICATIONS USING THE SIZING FUNCTION	99
4.14.1 Sizing Lettering for Particular Fonts.....	100
4.14.2 Sizing Letters for Welding Inside Rectangles.....	100
4.15 OTHER TEXT EFFECTS	100
5. TRACING AND DRAWING	102
5.01 RASTER VERSUS VECTOR <i>Video</i>	102
5.02 FINDING EASY IMAGES TO TRACE	103
5.03 TRACE FUNCTION	104
5.03.1 Trace Settings <i>Video</i>	104
5.03.2 Monochrome Trace of a Colored Image: Effects of Contrast <i>Video</i>	108
5.03.3 Monochrome Trace of a Silhouette Image: Effects of Smooth <i>Video</i>	109
5.03.4 Monochrome Trace of a Detailed Image: Effects of Despeckle and Detail <i>Video</i>	110
5.03.5 Monochrome Trace: Single Line Threshold and Blackout <i>Video</i>	112
5.03.6 Monochrome Trace of a PNG File with Transparent Background <i>Video</i>	113
5.03.7 Monochrome Trace for a Print+Cut: Effect of Resample <i>Video</i>	114
5.03.8 Resample Versus Smooth and the High Pass Filter <i>Video</i>	116
5.03.9 Color Layers Trace <i>Video Video</i>	118
5.03.10 Single Color Trace	120
5.03.11 Draw Mask Function <i>Video Video</i>	124
5.03.12 High Pass Filter Application <i>Video</i>	127
5.04 DRAW FUNCTIONS	130
5.04.1 The Draw Tool	130
5.04.2 Freehand Drawing	132
5.04.3 Brush Drawing	133
5.05 MANUAL TRACING OF AN IMPORTED IMAGE	133
5.05.1 Importing an Image for Manual Tracing	133
5.05.2 Manual Tracing Using the Draw Tool.....	134
5.05.3 Editing the Trace.....	135
5.05.4 Using Symmetrical Mirror to Complete the Trace.....	137
6. EDITING.....	139
6.01 SIMPLIFY	139
6.02 SPLIT PATH.....	140

6.03 CLOSE PATH	142
6.04 JOIN PATHS	142
6.05 PATH OFFSET <i>Video</i>	142
6.06 ERASER.....	145
6.07 KNIFE AND CROP	146
6.07.1 Using Knife	146
6.07.2 Using Crop.....	147
6.08 STENCIL BRIDGE	148
6.09 WHICH CUTTING TOOL TO USE?.....	149
6.10 RULER.....	150
6.11 THE SHAPE TOOL - PATH AND NODE EDITING	152
6.11.1 Moving a Path.....	152
6.11.2 Reshaping a Path	154
6.11.3 Examples of Smoothing Curves	157
6.11.4 Applications for the Shape Tool.....	158
7. DESIGNING	159
7.01 WHERE DO I START WITH LEARNING TO DESIGN?	159
7.02 PROJECT INFO	159
7.03 GUIDELINES	160
7.04 TEMPLATES.....	161
7.04.1 Mat Template Window	161
7.04.2 Template File Settings	163
7.04.3 Importing Your Own Templates.....	164
7.05 SHADOW LAYER	165
7.05.1 Shadow Layer Settings	165
7.06 BOOLEAN OPERATIONS	168
7.06.1 Union.....	168
7.06.2 Intersection	169
7.06.3 Exclude.....	170
7.06.4 Front Minus Back.....	171
7.06.5 Back Minus Front.....	172
7.07 CLIP PATH AND CLIP MASK	172
7.07.1 Clip Path.....	172
7.07.2 Clip Mask.....	173
7.08 DUPLICATE ROTATED	174
7.08.1 Duplicate Rotated Settings.....	174
7.08.2 Using Duplicate Rotated to Design a Wreath.....	176
7.08.3 Using Duplicate Rotated to Design a Frame.....	177
7.09 OBJECT ON PATH	177
7.09.1 Designing a Scalloped Oval	179
7.09.2 Warp a Shape to a Path.....	180
7.09.3 Remaining Settings.....	182
7.10 WRAPPER.....	182
7.11 LATTICE.....	184
7.12 RHINESTONES	188
7.12.1 Guidelines for Rhinestone Pattern Design	188
7.12.2 Rhinestone Outline <i>Video</i>	189
7.12.3 Rhinestone Fill.....	191
7.12.4 Editing Rhinestone Designs	192
7.12.5 Adding an Outline to a Rhinestone Design	193
7.12.6 Using Purchased Rhinestone Fonts and Designs	195
7.13 JIGSAW PUZZLE.....	197
7.14 3D ROTATE.....	199
7.15 SYMMETRICAL MIRROR	200
7.16 BARREL DISTORTION.....	202
7.17 BULGE.....	202
7.18 CANNED	205
7.19 WAVE.....	206
7.20 BRIDGE WARP.....	207

7.21 DROP SHADOW	209
7.22 QR CODE	211
7.23 KNOCKOUT	212
8. CUTTING (AND PRINTING).....	213
8.01 THE STYLE PANEL <i>Video</i>	213
8.02 PREVIEW	214
8.03 CUT SETTINGS	215
8.03.1 Cut Window Settings <i>Video</i>	215
8.03.2 Presets	219
8.03.3 Cut by Color <i>Video Video</i>	220
8.04 CONTROLLING WHERE SHAPES WILL CUT	226
8.04.1 Overview.....	226
8.04.2 WYSIWYG.....	228
8.04.2 Origin Point.....	229
8.04.4 Center Point.....	230
8.04.5 Print+Cut	231
8.05 PRINTING.....	231
8.06 WEEDING.....	233
Section 8.06.1 Regular Weeding <i>Video</i>	234
Section 8.06.2 Inverse Weeding <i>Video</i>	235
8.07 TILING <i>Video</i>	236
8.08 LINE FILL <i>Video</i>	238
8.09 NEST.....	239
8.10 PIERCE.....	243
8.11 PATH DETAILS AND REVERSE PATH	244
APPENDIX A SHORTCUTS AND ICONS IN CREATE.....	245
APPENDIX B TROUBLESHOOTING FAQ'S	252
B1 CUTTING/DRAWING ISSUES	252
B2 SOFTWARE ISSUES.....	252
APPENDIX C CREATE DETAILS	255
C1 SCREENSHOT OF CREATE SCREEN.....	255
C2 BARS.....	255
C2.1 Menu Bar	255
C2.2 Toolbar.....	256
C2.3 Project Bar.....	256
C2.4 Page Bar.....	256
C2.5 Status Bar.....	256
C3 PANELS	256
C3.1 Tools Panel.....	257
C3.2 Properties Panel.....	257
C4 PREFERENCES.....	258
C4.1 Preferences: General Tab	258
C4.2 Preferences: Edit Tab.....	258

1. Installation, Preferences, and Workspace

1.01 Installing StarCraft CREATE

- If you separately purchased CREATE, a registration number should have been provided to you and you can proceed to *Section 1.1.1*. If you purchased a new SOLO, then to obtain your free registration number for StarCraft CREATE, go to the following web site and register your new SOLO:

<https://starcraftvinyl.com/create>

- ◇ Your registration number can be used on any two computers you own. If you want to activate CREATE on a new computer, go to **Help>Deactivate** on the computer no longer needing CREATE and confirm you wish to deactivate.
- If you choose to not register CREATE right away, it will run in DEMO mode and will have the following limitations:
 - ◇ When cutting, horizontal lines will be added across the design
 - ◇ Exporting will add a DEMO watermark

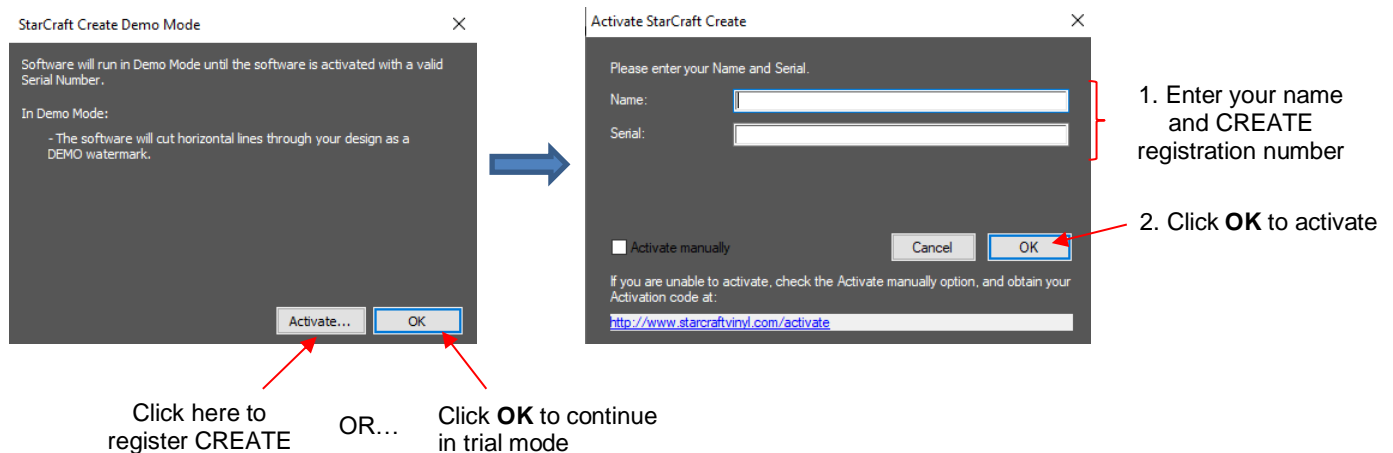
1.01.1 Downloading and Registering CREATE

Video Video

- StarCraft CREATE can be downloaded from the following link. Note that there are two choices - Mac or PC:

<https://www.starcraftvinyl.com/solo>

- Install the downloaded file and open CREATE. Immediately following the StarCraft CREATE splash screen, a window will open. Click on **Activate** to open the software registration screen:

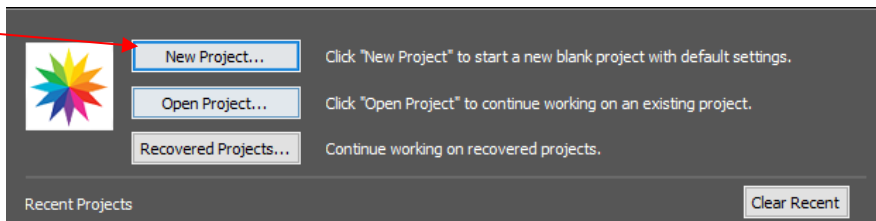


- In the event your computer does not have Internet access, you will need to activate manually. Click on the **Activate manually** option and follow the on-screen instructions. If you have issues with this, please contact StarCraft using the following link:

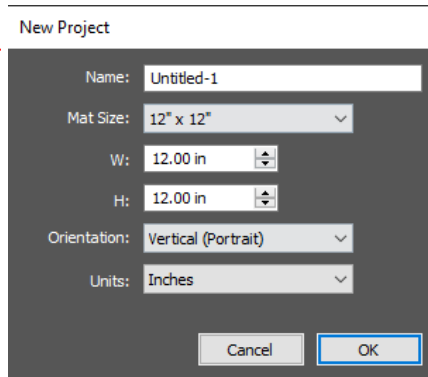
<https://starcraftvinyl.com/help.php?section=contactus&mode=update>

- After successfully registering the software, an initial window will open where you can choose if you are starting a new project, opening an existing project, or recovering a project after a software crash. Because this is the first time you are opening CREATE, choose **New Project** and accept the defaults shown:

Click on **New Project**



Accept whatever settings are shown. Details about these settings will be covered in later sections.

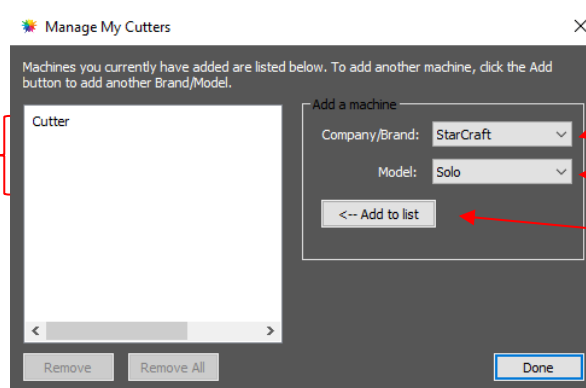


1.01.2 Installing a Cutter in CREATE

Video

- Go to **Cutter>My Cutter>Manage Cutters** and the following window will open:

List of cutters you've added



1. Select your cutter **Brand**

2. Select your cutter **Model**

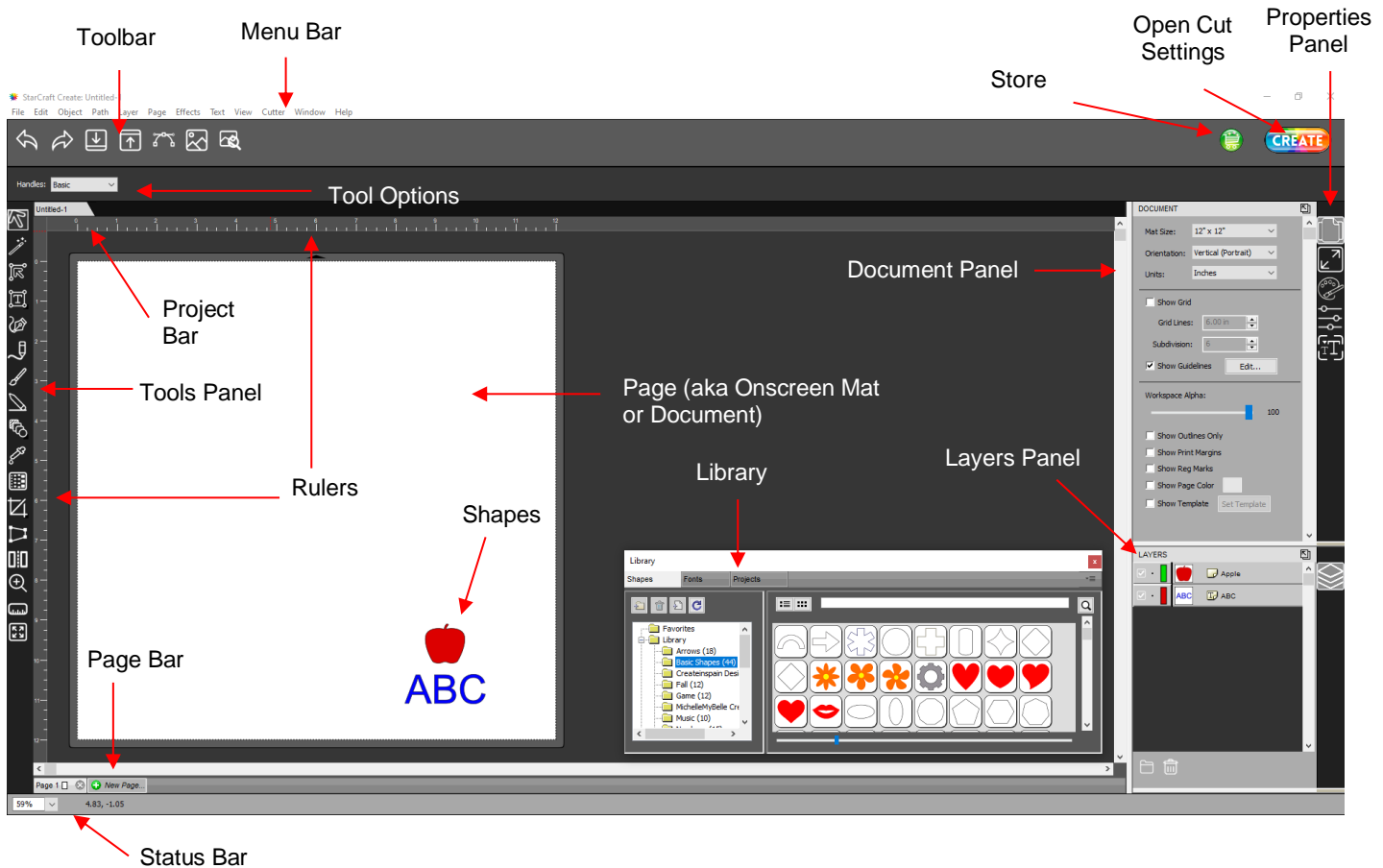
3. Click on **Add to list**

4. Click on **Done**

- Click on **Done** to save and close the window.
- Note: **NOTE:** StarCraft CREATE is not legally permitted to cut directly to Cricut or Scan N Cut machines. Cricut owners will need to export files as SVG ([Section 2.06.1](#)) while SNC owners will need to export files as either SVG ([Section 2.06.1](#)) or as FCM ([Section 2.06.3](#))

1.02 Main CREATE Screen

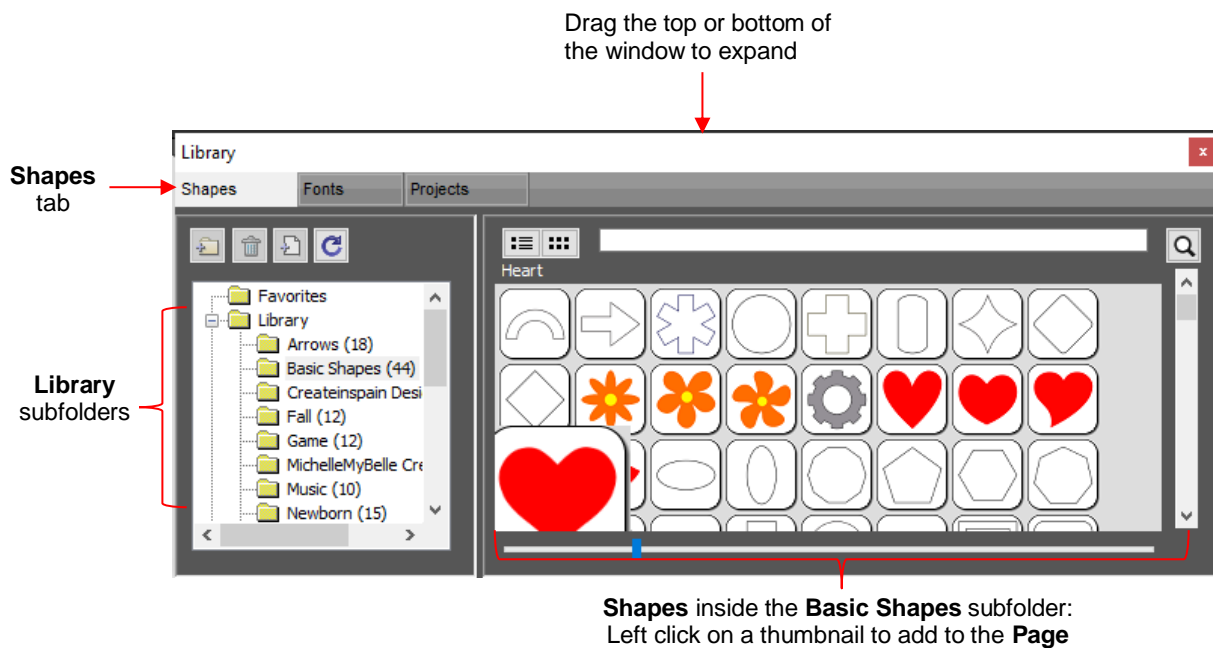
- The following screenshot of the main screen in CREATE identifies various elements. Note the names of the items shown as they will be referenced throughout this user manual:




- Hovering your mouse over most of the screen icons will pop up the icon's name and, in some cases, details about usage.
- In order to better remember where major elements are located, note that the term “bar” is used when components are laid out horizontally (such as the **Toolbar**) and the term “panel” is used when components are laid out vertically (such as the **Tools Panel**).
- The **Toolbar** and the **Status Bar** can be hidden, when desired, by going to **View>Hide Toolbar** and **View>Hide Status Bar**. On a Mac, there's also an option to **Enter Full Screen** in the **View** menu.
- Throughout this manual, **Page** (capitalized and in bold type) refers to the on-screen simulation of the physical Page, which will be written with lower case, normal type.
- The **Rulers** can be toggled on and off by right-clicking on the screen and selecting **Show Rulers**. Note that when hiding the rulers, click again on the screen for it to take effect. To change the units displayed on the **Rulers**, refer to *Section 1.06.3*.
- **Shapes** are the objects or images that you will be adding to your projects. They can be created from scratch or imported from other sources, such as the **Library**, your computer, or the **CREATE Marketplace**. As you will see throughout sections of this user manual, you have many options and resources available to you.
- This manual also presents information by topics versus location on the screen. If you need to look up all of the functions on one particular element, for example the **Tool Panel**, refer to **Appendix C**.




1.03 Library *Video*




- The CREATE **Library** provides a number of useful functions:



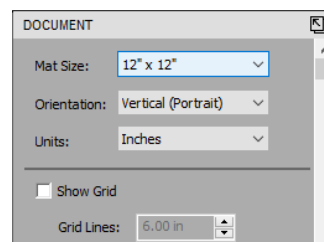
- ◇ It contains a collection of over 300 pre-installed shapes, organized into 16 subfolders
- ◇ It displays complete character sets for all fonts currently installed
- ◇ You can organize your own shapes and projects into separate folders and view thumbnails for selecting
- ◇ You can assign commonly-used shapes and projects to a **Favorites** folder for quicker access
- ◇ It provides access to designs and projects downloaded from the **Store**
- The **Library** automatically opens every time you open CREATE unless you create a custom **Workspace** (refer to *Section 1.05*). If you've closed it, the **Library** can be reopened by using one of the following:
 - ◇ Click on **Library** icon on the upper **Toolbar** 
 - ◇ Press **Ctrl+1**
 - ◇ Go to **Window>Library**
- To add a shape from the **Library** to the **Page**, click on the thumbnail for that shape or drag the shape onto the **Page**. Note there are other categories within the **Library** listed on the left side. Check out the various subfolders of shapes as they are a great resource while learning CREATE and testing out your cutter.
- Further details on organizing and fully utilizing the **Library** is covered in *Section 2.03*.

1.04 Properties Panel

- The **Properties Panel** is located on the right side of the screen. Seven large icons represent seven different panels that you will frequently switch between:
 - ◇ **Document Panel** : contains the properties related to the **Page**. Refer to *Section 1.06*.
 - ◇ **Position & Size Panel** : contains properties and manipulation functions related to any currently-selected shapes in the project. Refer to *Sections 3.04, 3.05.1, 3.06, 3.08, 3.18*.
 - ◇ **Fill & Stroke Panel** : contains properties for the fill and for the stroke on any currently-selected shapes in the project. Refer to *Sections 3.14 and 3.15*.

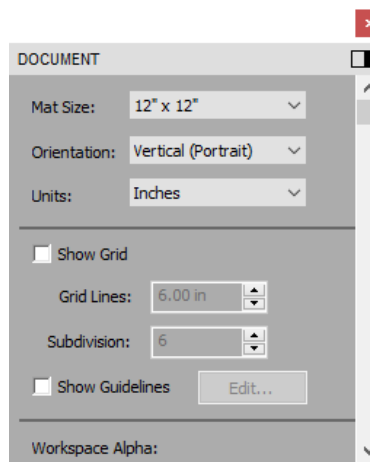
- ◇ **Style Panel**  : contains properties pertaining to how selected shapes will be cut or printed. Refer to *Section 8.01*.
- ◇ **Text Panel**  : contains properties pertaining to how text will appear. Refer to *Section 4.05*.
- ◇ **Layers Panel**  : lists all shapes in the current project with options to organize, hide/show, lock/unlock and more. Refer to *Section 2.04*.

- Clicking on the icon for any the seven panels will open that panel. To expand a panel for easier viewing, click on the small icon to the right of the panel name. This will open the panel in the area to the left of the **Properties Panel**:



Click here to relocate a panel away from the **Properties Panel**

- To return a panel to the **Properties Panel** or close a panel, click on the following:



Click here to close a panel

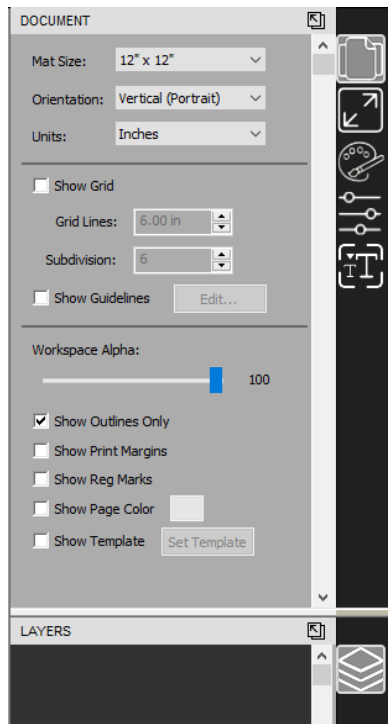
Click here to return a panel to the **Properties Panel**

- A panel which has been moved out, can be dragged from either the top or the bottom in order to view more properties and settings.

1.05 Customizing the Properties Panel / Workspace

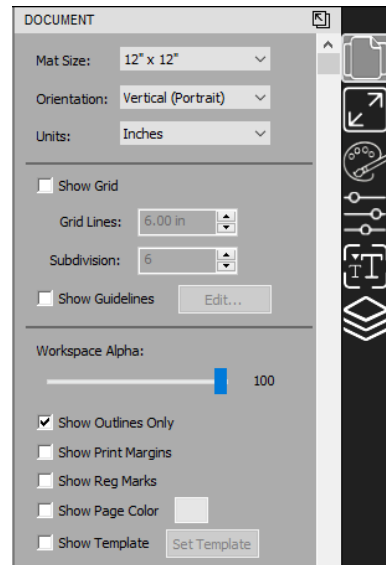
- In CREATE, the **Workspace** refers to the arrangement of panels and whether or not you want the **Library** to be open or closed by default. There are two versions already set up: **Basic** and **Advanced**. You can then make changes and name and save others, as desired.
- By default, the **Advanced Workspace** opens. To switch to **Basic**, go to **Window>Workspace>Basic**. The only difference between **Advanced** and **Basic** is the former has the **Layers Panel** open:

Advanced Workspace

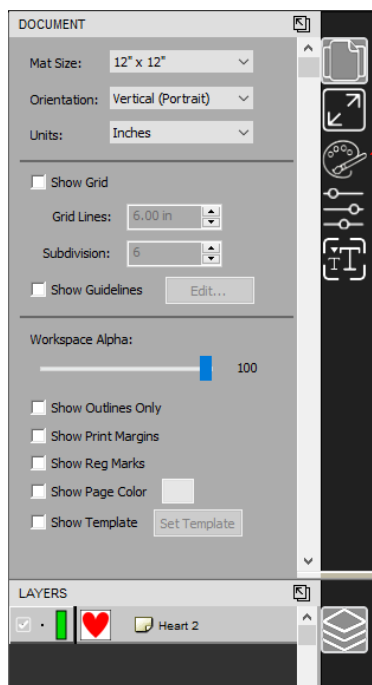


Layers
Panel

Basic Workspace



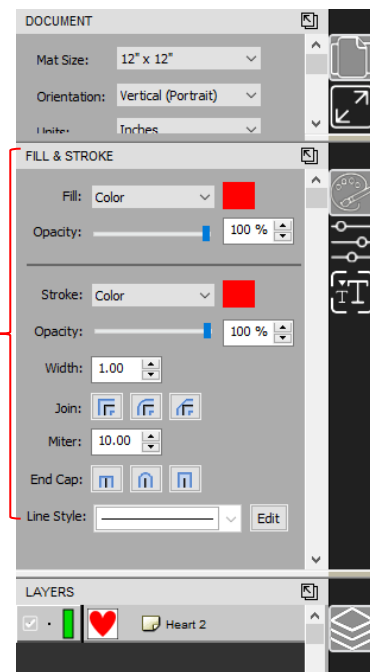
- To switch to other panels, click on the icons along the right side. If there's a particular panel you access often, then you can create a custom workspace. For example, let say you want the **Fill & Stroke Settings** panel to always be open. Double-click that icon and the **Properties Panel** will now have that panel open and separated:



Double click
on an icon



Fill & Stroke is
now open, as
well as
Document and
Layers

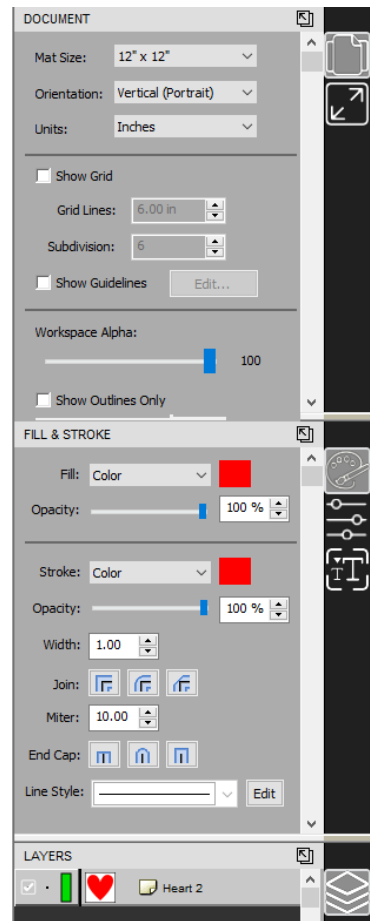
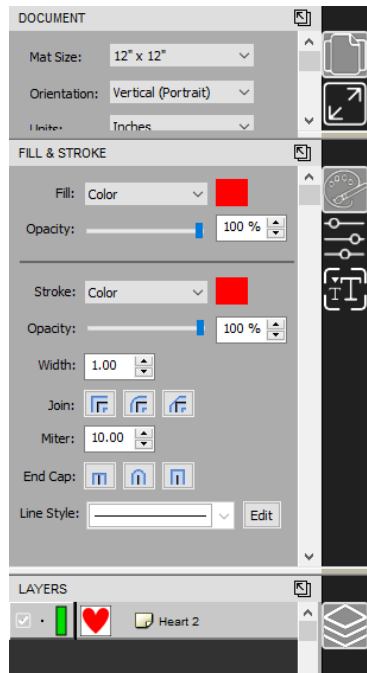


Bar
appears
here

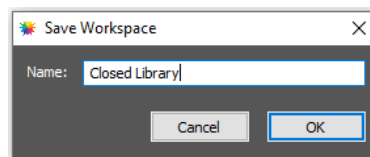
- These separate panels can also be resized by dragging them up or down:

Drag up/down
on the line
between the
two panels

Do the
same here



- To close a panel, double-click on the bar on the right side.
- By default, the **CREATE Library** opens every time you open the software, start a new project, or open an existing project. You might prefer to have the **Library** closed and only open it when needed. This can be accomplished by having it either opened or closed and then saving it along with your preferred **Properties Panel** layout.
- To save workspace changes, go to **Window>Workspace>Save Workspace**. A window will open and you can name this new configuration:

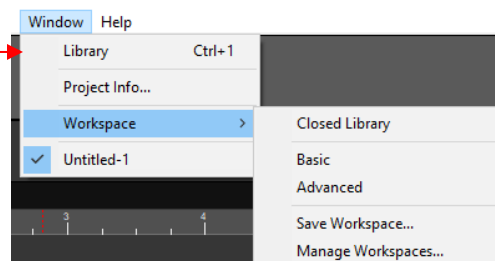


Name the new **Workspace**

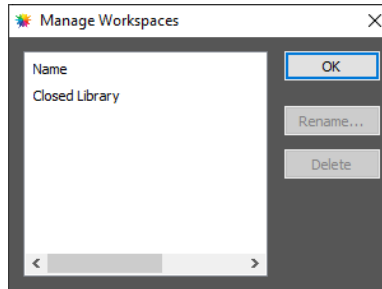
Click on **OK**

- When you now go to **Window>Workspace**, the new workspace will appear at the top:

Custom
workspaces will
appear here



- To rename or delete a custom workspace, go to **Window>Workspace>Manage Workspaces** and a window will open with **Delete** and **Rename** options:



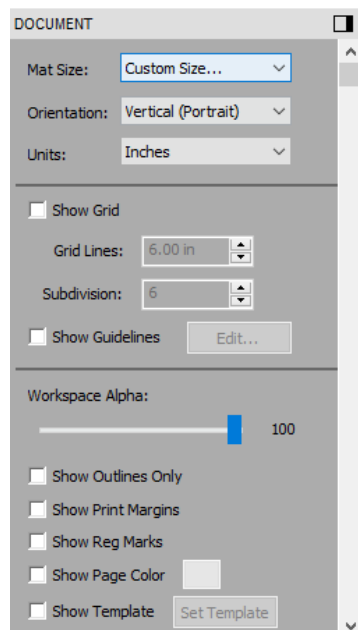
Options to **Rename** or **Delete** selected **Workspace**

1.06 Document Panel

Video

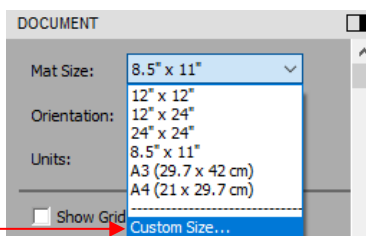


- The **Document Panel** contains settings for the **Page** (aka **Document** or **Onscreen Mat**) which serves as a design area for the software as well as to indicate, in some cutting modes, where the shapes will be cut.



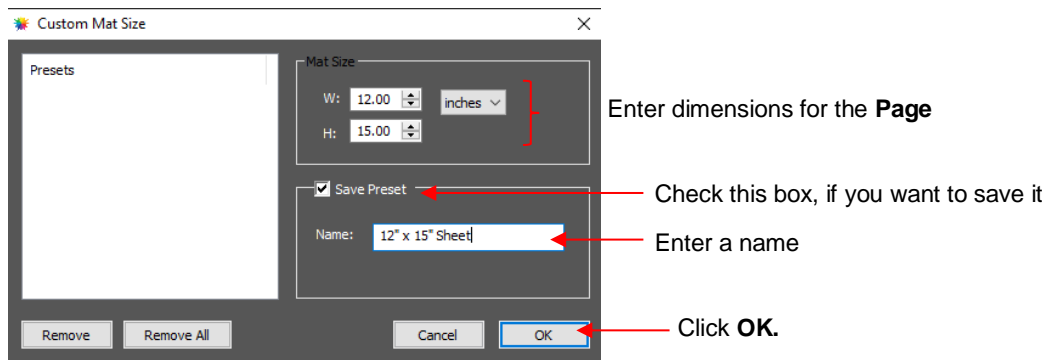
1.06.1 Mat (aka Page) Size

- There are three ways to access the **Mat Size** menu:
 - Click on the drop-down menu next to **Mat Size** on the **Documents Panel**
 - Right-click on the screen and select **Mat Size**
 - Go to **Cutter>Mat Size**
- There are six options for setting **Page** dimensions under **Mat Size**. There is also the option to create a **Custom Size** for the **Page**:

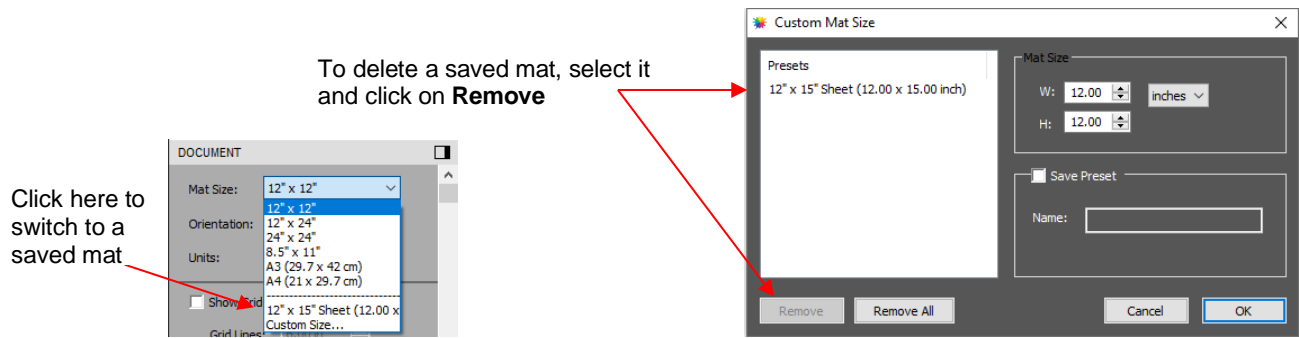


Click here to create
a custom **Page**

- The following window will open where you can enter the dimensions of the **Page** and provide a name, if you wish, to store it for future use:



- A saved mat will now appear at the bottom in the **Mat Size** menu and will be listed under **Presets** when you return to the **Custom Mat Size** window:

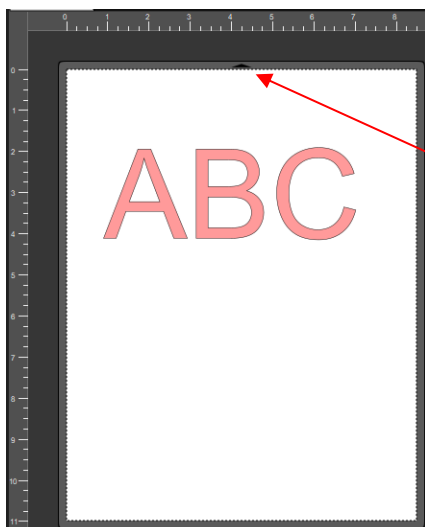


- To remove a custom **Page** from the menu, go back to the **Custom Mat Size** window and select it under **Presets**. Click on **Remove**.

1.06.2 Orientation

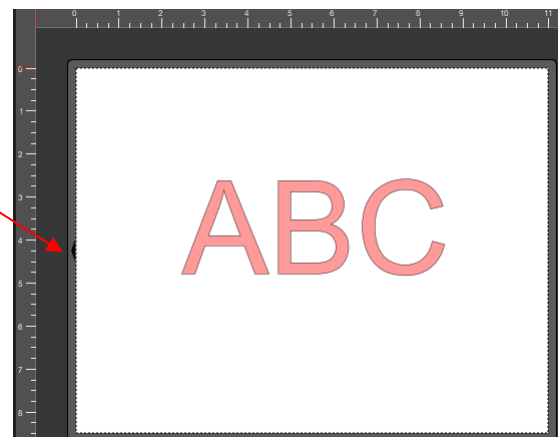
- A **Page** can appear in either **Portrait** mode or **Landscape** mode with a triangle indicating the direction the mat will be fed into the cutter. To better illustrate this, a letter-size **Page** is selected:

Vertical (Portrait)



The black triangles show the direction the actual mat or material should be fed into the cutter

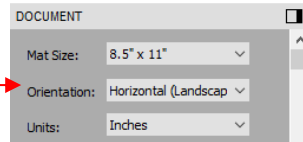
Horizontal (Landscape)



- There are three ways to change the mat orientation:

- ◇ On the **Documents Panel** under **Mat Size**:

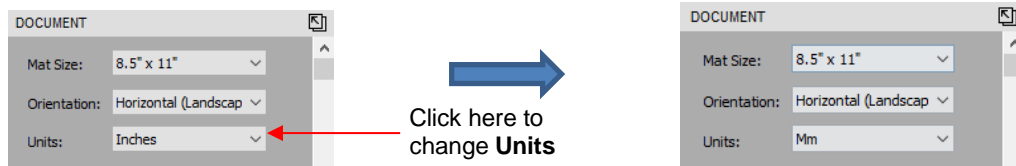
Select **Portrait** or **Landscape** here



- ◇ Right-click on the screen and select **Mat Orientation**
- ◇ Go to **Cutter>Mat Orientation**

1.06.3 Units

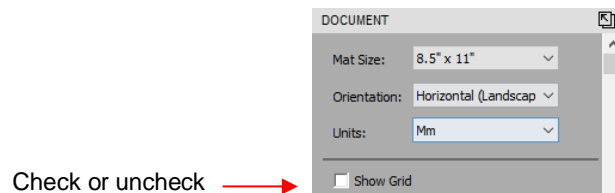
- By default, the unit setting is in inches. To switch to mm or cm, click on the drop-down menu next to **Units** on the **Documents Panel**:



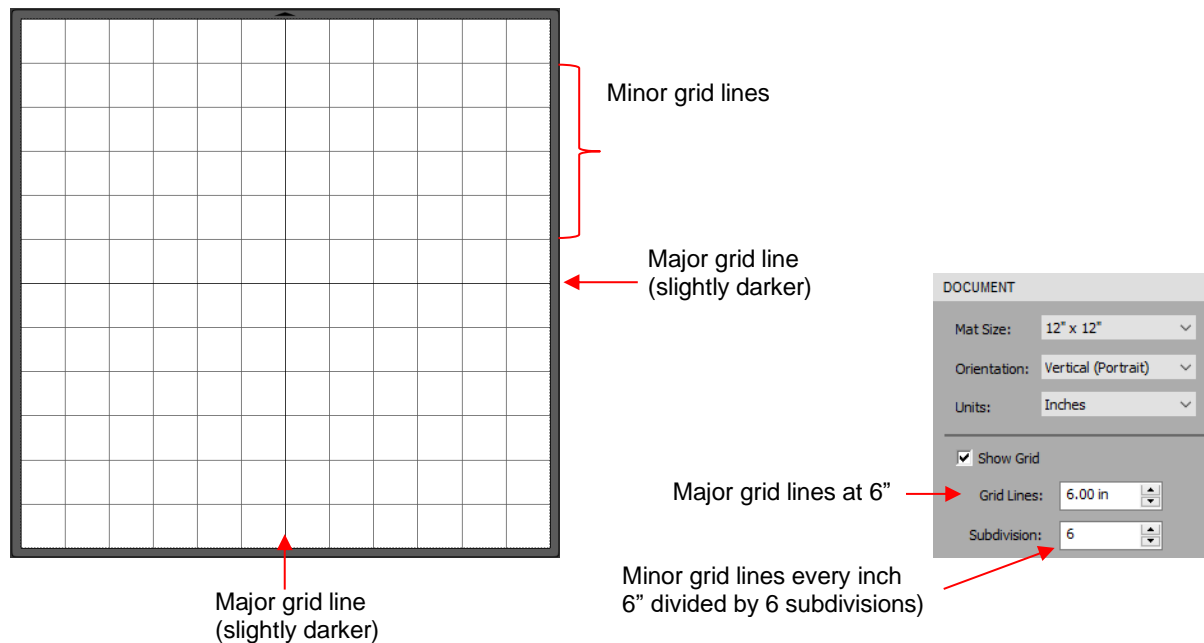
- The units can also be changed in either of the following locations:
 - ◇ Go to **View>Ruler Units**
 - ◇ Right-click on the screen and select **Ruler Units**

1.06.4 Show Grid

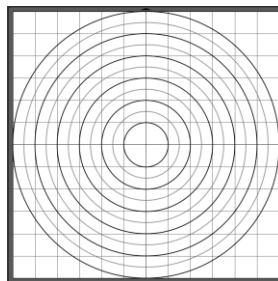
- The mat grid can be toggled on or off by either of these two ways:
 - ◇ Go to **View>Show Grid**
 - ◇ Check or uncheck the **Show Grid** box on the **Documents Panel**:



- The grid lines can also be customized. For example, with this 12" x 12" mat, major grid lines are set at 6" and then minor grid lines are set at 1" (by specifying 6 **Subdivisions** be used):

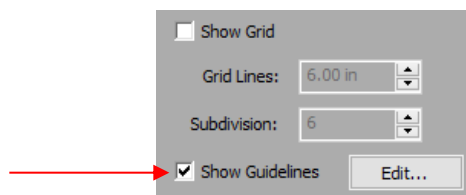


- A final grid option involves circular grid lines which can, as an example, be used for cake design. Go to **View>Show Mat Cake Circles**:



1.06.5 Show Guidelines

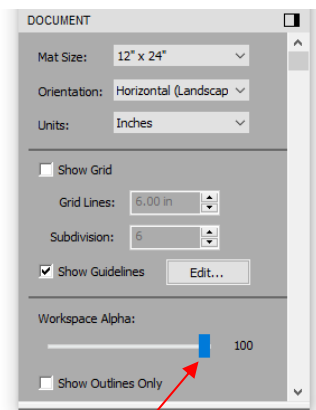
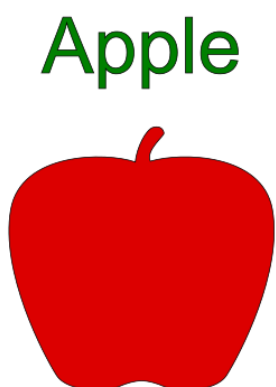
- Guidelines are very useful when designing projects, such as boxes or pop-up cards, from scratch. They can be added to the **Page** in two ways:
 - ◇ By dragging your mouse from the horizontal or vertical rulers on the screen (after enabling **Show Guidelines**)
 - ◇ By manually adding in the **Guidelines Edit** window
- You can toggle guidelines on and off by clicking on the box next to **Show Guidelines** on the **Document Panel**. To open the **Guidelines** window, either go to **View>Guidelines>Edit Guidelines** or click on the **Edit** button next to **Show Guidelines**:



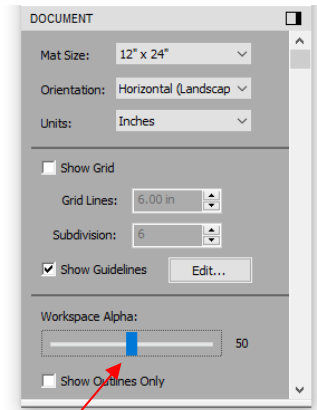
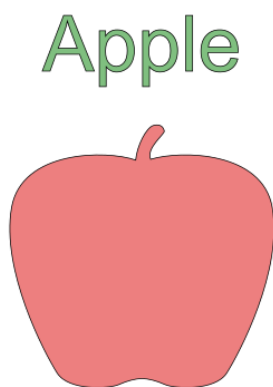
- Details on adding, changing, and deleting guidelines is covered in *Section 7.03*.

1.06.6 Workspace Alpha

- The **Workspace Alpha** setting on the **Document Panel** affects the opacity of filled shapes on the **Page**:



Workspace Alpha = 100%

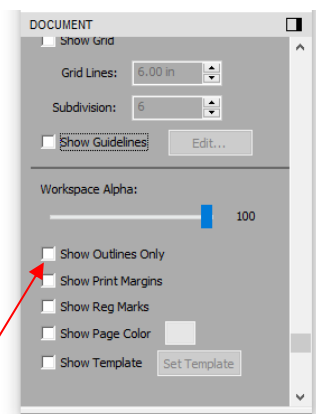
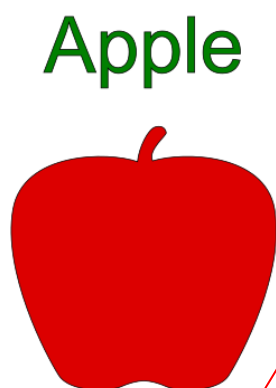


Workspace Alpha = 50%

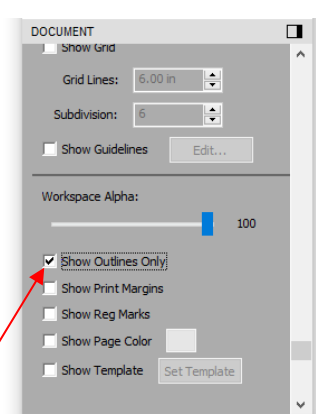
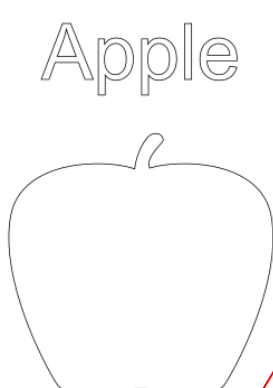
- You can also change the opacity of individual shapes versus all shapes. Refer to *Section 3.14.5*.

1.06.7 Show Outlines Only

- This option determines whether shapes are displayed with a fill or not:



Disabled

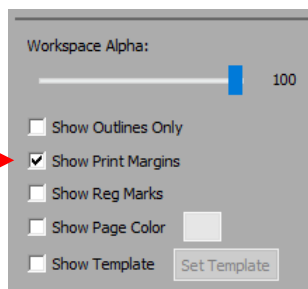


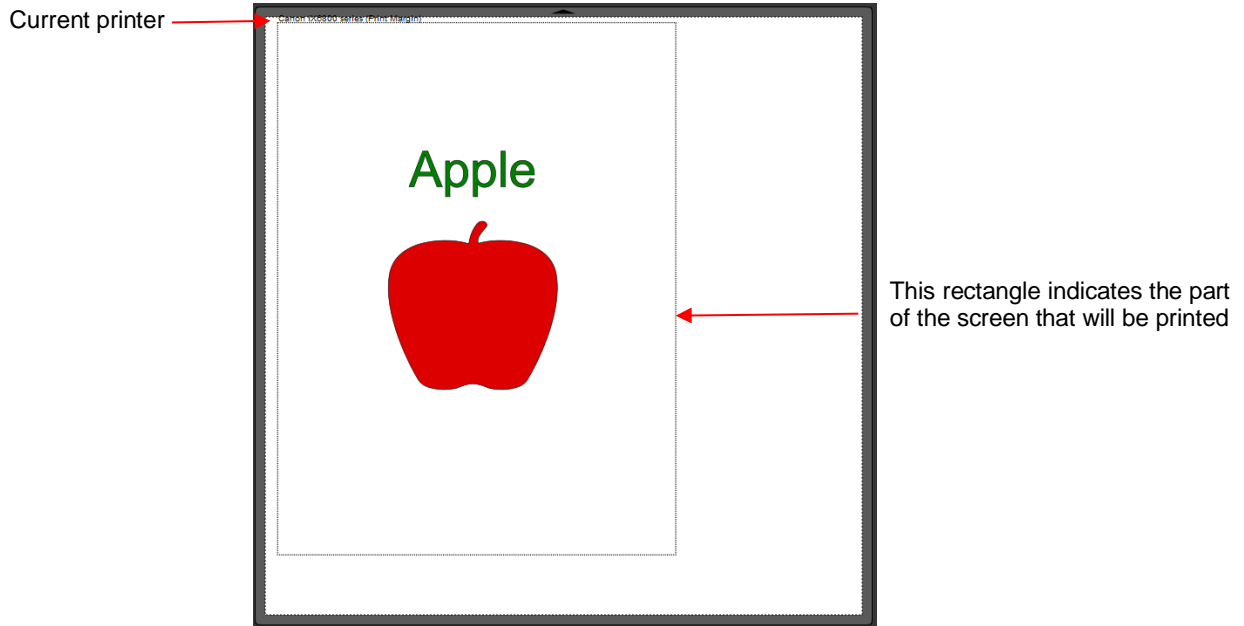
Enabled

1.06.8 Show Print Margins

- This option shows the boundaries of a printout if you send a file to your printer:

On the **Document Panel**,
enable **Show Print Margins**

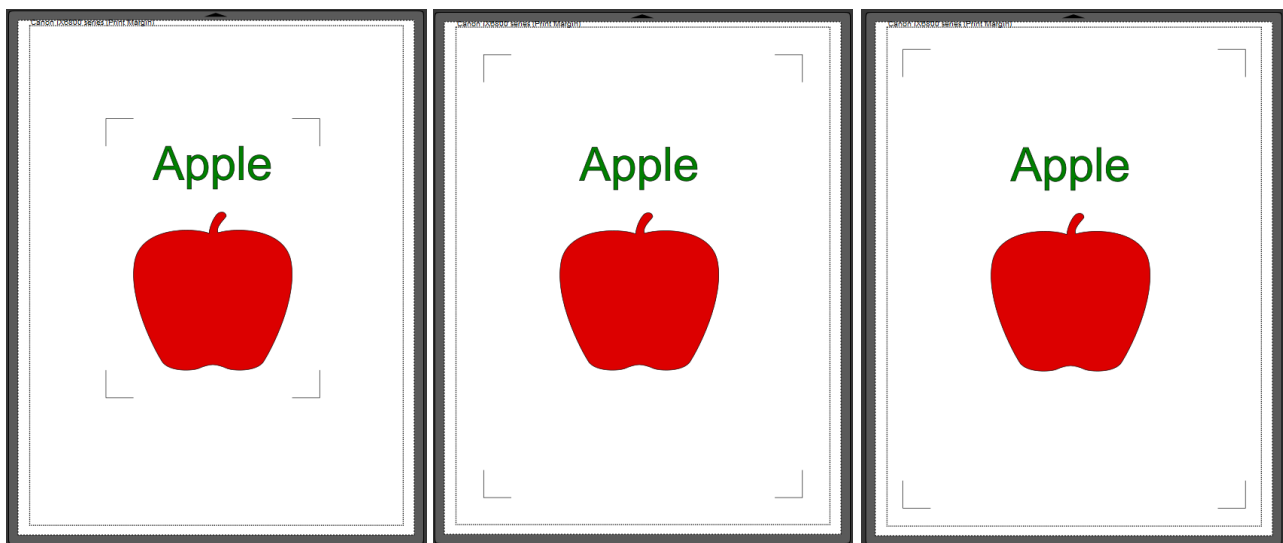
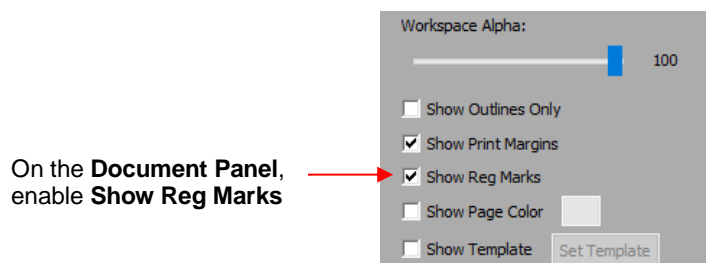




- ***IMPORTANT:*** The size of the printer boundaries is based on settings under **File>Print Setup**. If you make changes there, you will need to then disable **Show Print Margins** and then re-enable for the print boundaries to update the display.

1.06.9 Show Reg Marks

- This option will show the registration marks that will be printed and used in a print and cut application:



Reg marks based on design

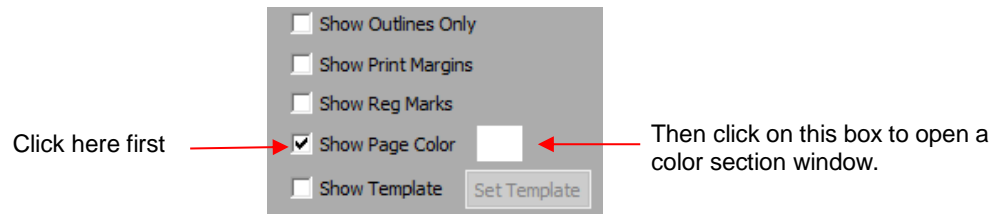
Reg marks based on print

Reg marks based on **Page**

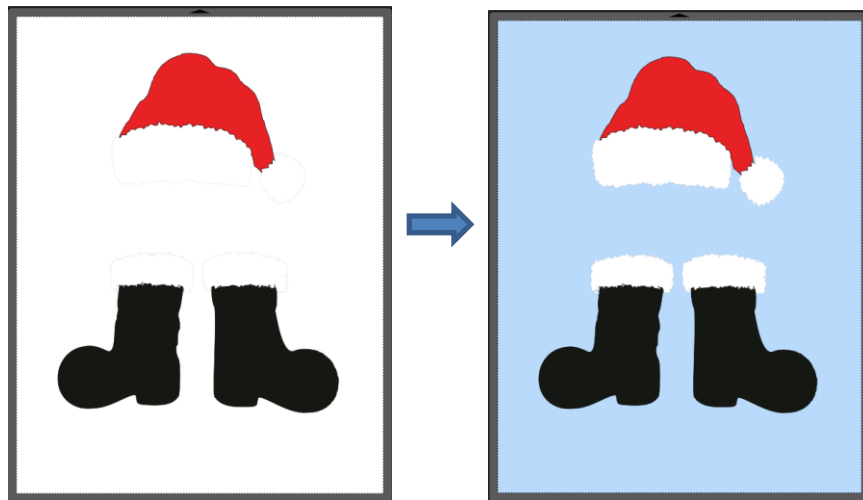
- The number of reg marks, their location, type, length, thickness, and positioning will vary depending on the selected cutter in use, as well as properties that can be changed under **Cutter>Cutter Settings**. Refer to *Section 8.03.1*.

1.06.10 Show Page Color

- The default color of the **Page** is white. To change the color to any other desired color, mark the option for **Show Page Color** and then click on the box next to it and select.



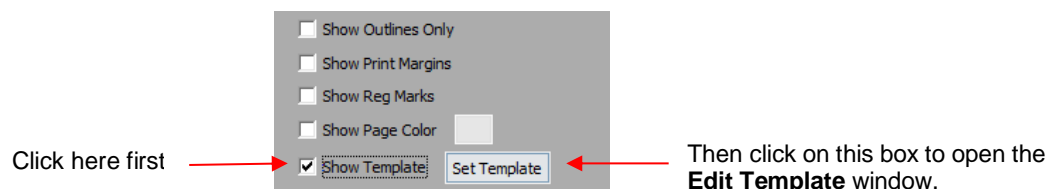
- For example, if you have white shapes in your project, you might prefer a **Page Color** that makes them more visible:



- Note that the color can be different for each page in a project, if desired.

1.06.11 Show Template

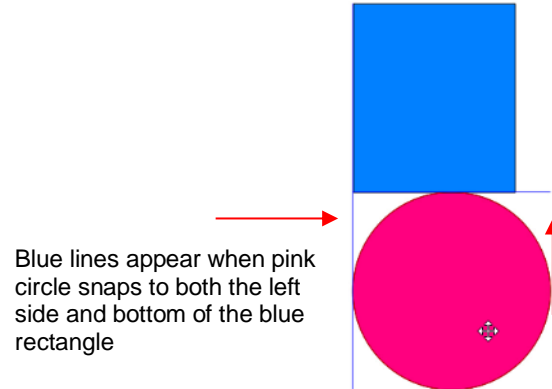
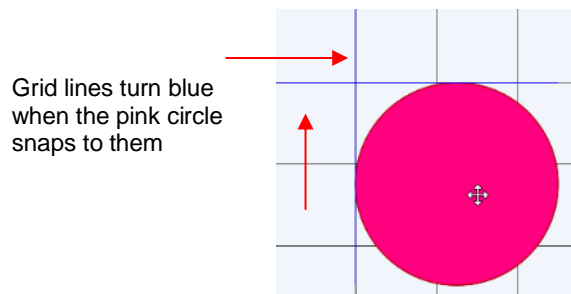
- CREATE has the ability to add templates to the **Page** that are non-selectable shapes to aid in designing. Typically, these templates are representations of actual objects onto which cut shapes will be applied. Here are several examples:
 - ◇ Designing an etching stencil for a champagne glass
 - ◇ Designing a decoration for a light switch
 - ◇ Designing a rhinestone template or HTV pattern for a T-Shirt
- To show or hide a template, mark the box next to **Show Template**:



- Details on customizing and organizing templates is covered in *Section 7.04*.

1.07 Snap To

- The **Snap To** option allows you to choose how shapes behave as they are being moved. Being able to snap to other objects, to guidelines or to the grid can help align shapes more easily when designing or editing a project.
- To access the **Snap To** options, go to **View>Snap To** and mark your preferences based on the following options:
 - ◊ **Grid:** selected shape will snap to the grid lines
 - ◊ **Guidelines:** selected shape will snap to guidelines (refer to *Section 7.03*)
 - ◊ **Objects (Bounds):** selected shape will snap to other shapes' boundaries
 - ◊ **Objects (Centers):** selected shape will snap to other shapes' centers
 - ◊ **Object (Sublayers):** selected shape will also snap to shapes inside other shapes (child shapes)
- When you first access the **Snap To** menu, you will most likely see the last two grayed out. In order to access those options, make sure **Objects (Bounds)** is checked. Then you will be able to go back to the menu and change any of the options.
- When snapping to the grid, the grid can be showing or hidden.
- When a shape snaps to the grid, a guideline, or to another shape, blue lines appear indicating the shape is aligned at that point. Here are two examples:

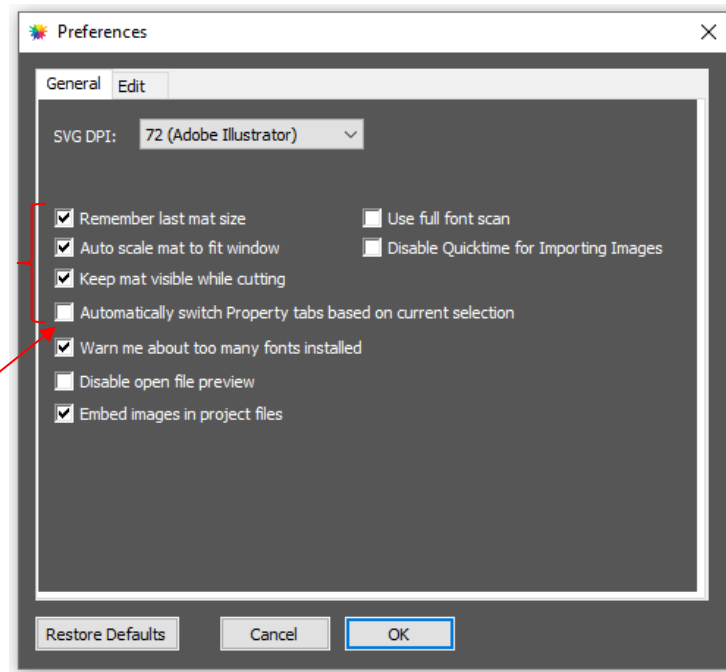


1.08 Other Preferences

- Under **Edit>Preferences**, you will find a number of other options, some of which you will probably never need to change. Others will be covered in later sections of this manual, as they relate to a particular function. *Appendix C4* covers the remaining ones.
- For now, note the following preferences that do relate to the material covered so far. These should be self-explanatory based on their names:

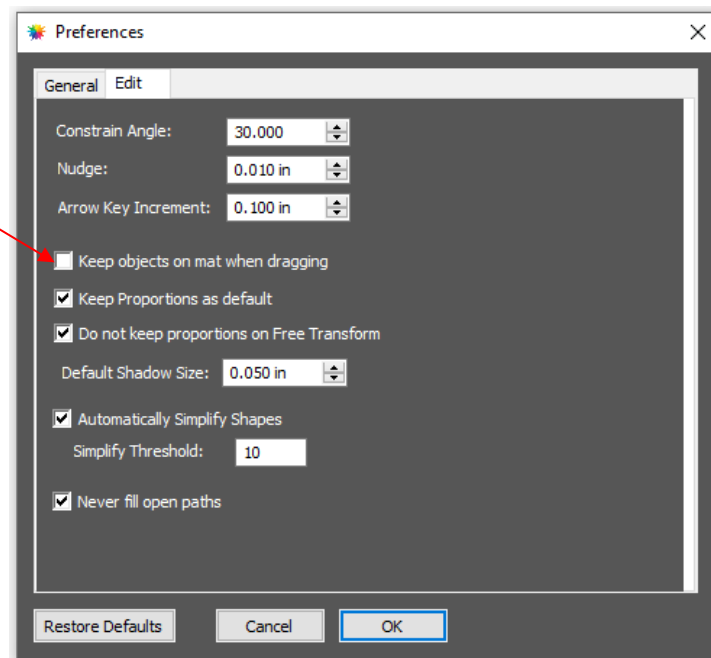
Note these options related to the **Page** and the **Properties Panel**

Disabling recommended



- If you click on the **Edit** tab, more preferences are listed. As with the preferences on the **General** tab, most will be covered in later sections of the manual:

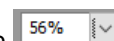
Disabling recommended




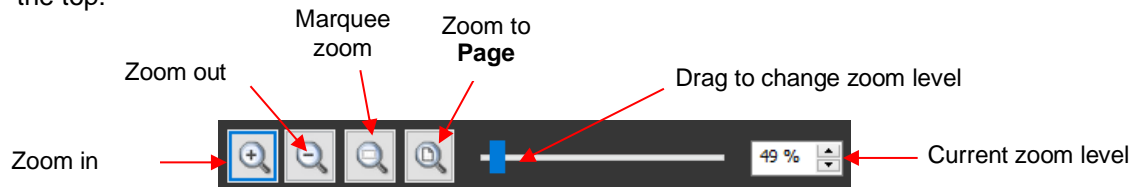
1.09 Zooming and Panning



1.09.1 Zooming

- To zoom in and zoom out, use any of the following methods:
 - ◊ Hold down the **Alt** key (**Option** key on a Mac) while rolling the mouse wheel
 - ◊ Access the **Zoom** menu on the **Status Bar** in the lower left corner of the screen
 - ◊ Go to **View>Zoom In** or **View>Zoom Out**




- ◇ Use the following shortcut keys:
 - **Ctrl+ (+)** (hold **Ctrl** key (**Command** key on a Mac) and repeatedly click on **+** key): Zoom in
 - **Ctrl+ (-)** (hold **Ctrl** key (**Command** key on a Mac) and repeatedly click on **-** key): Zoom out
 - Right-click on the screen and select **Zoom In** or **Zoom Out**
 - Click the **Zoom in Tool** icon on the **Tools Panel** . Then use the icons in the **Tool Options** at the top:




- Note that while the **Zoom in Tool** is activated, you can also marquee-select an area of the screen to zoom to that location.
- To zoom in on a selected shape or shapes, use one of the following:
 - ◇ Click on the icon  while the **Zoom in Tool** is activated (see prior screenshot)
 - ◇ Use the shortcut **Ctrl+Shift+ (=)** (on a Mac: **Control+Shift+ (=)**)
 - ◇ Go to **View>Zoom Selection**
- To zoom to the **Page**, use one of the following:
 - ◇ Click on the icon  while the **Zoom in Tool** is activated (see prior screenshot)
 - ◇ Use the shortcut **Ctrl+ F** (**Command + F** on a Mac)
 - ◇ Right click on the screen and select **Fit to Window**
 - ◇ Select **Fit to Window** from the **Zoom** menu on the **Status Bar**
- To change the zoom level so that a selected shape will be the same size on the screen as its actual size, go to **View>Actual Size**.

1.09.2 Panning

- To move the workspace up and down, roll the mouse wheel.
- To pan the workspace, use either of these methods:
 - ◇ Press and hold the **Spacebar** while dragging the left mouse button
 - ◇ Click the **Hand tool** icon on the **Tools Panel** . Then drag the left mouse button.


1.10 Undo/Redo

1.10.1 Undo

- As with most Windows applications, there is an **Undo** function to reverse the most recent steps performed. You can use any of the following to execute the **Undo** function:
 - ◇ Click on the **Undo** icon  on the upper **Toolbar**
 - ◇ Press **Ctrl+Z**
 - ◇ Go to **Edit>Undo**

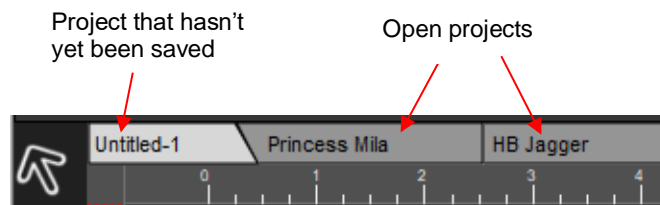
1.10.2 Redo

- As with most applications, there is also a **Redo** function in case you **Undo** too many steps or simply change your mind. You can use any of the following to execute the **Redo** function:

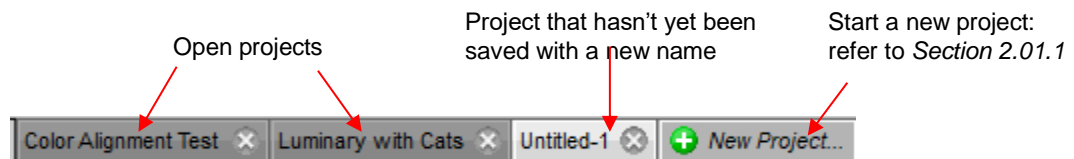
- ◇ Click on the **Redo** icon  on the upper **Toolbar**
- ◇ Press **Ctrl+Shift+Z**
- ◇ Go to **Edit>Redo**

1.11 Projects and Pages

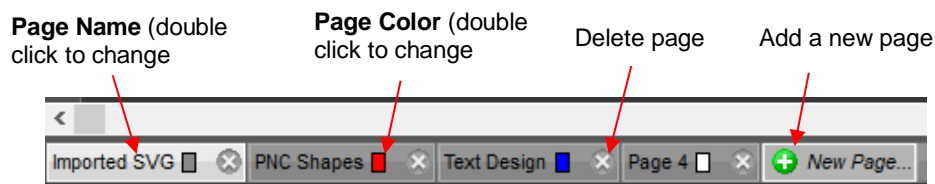
- The **Project Bar** is located right above the **Ruler** and shows what projects (files) are open and have been saved and new projects that have been started but not named:




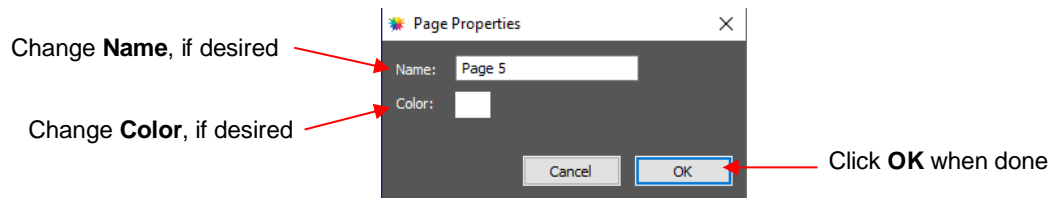
- Clicking on any **Project Tab** on the **Project Bar** will then access that project. Note that you can copy/paste and cut/paste between open projects.
- The **Project Bar** is located right above the **Ruler** and shows what projects (files) are open and have been named, new projects that have been started but not named, and an option to open a new project:




- Clicking on any **Project Tab** on the **Project Bar** will then access that project. Note that you can copy/paste and cut/paste between open projects. Refer to *Section 3.17*.
- Projects can contain one page or many pages. The option to add multiple pages can be convenient for organizing projects with many shapes and or layers.
- The **Page Bar** is located just below the **Page** area and displays the current page, a color for quickly identifying pages, and icons for adding and deleting pages:



- To add a page, either go to **Page>Add Page** or click the green icon  on the **Page Bar** itself and the following window will open:



- ◇ Note: The color selected for a page tab will also be the color of the **Page** if you mark the **Show Page Color** option on the **Document Panel**.
- ◇ If you change your mind and want to edit the **Name** and/or **Color**, either go to **Page>Page Properties** or double-click on the **Page Name** and the same **Page Properties** window will open, allowing you to make changes.
- To switch between pages, click on the **Page** name or go to **Page** on the **Menu Bar** and the menu will have all pages listed.
 - ◇ To delete a page, make sure it's selected and then either go to **Page>Delete Page** or click on the **Delete Page** icon . A window will open asking for confirmation.
- ***IMPORTANT:*** You should always save your files using **File>Save As** versus only using the **Export** icon on the **Toolbar**:
 - ◇ SVG exports only include shapes on the current page. Thus, you must remember to individually export each page within a single project. Otherwise, any other pages will be lost.
 - ◇ SVG exports do not include some relevant information which could impact a cutting issue, such as location of the shapes on the **Page** or settings made on the **Style Panel**.
 - ◇ SVG exports do not show up in the opening screen where you can see thumbnails of your most recent CREATE saved projects and easily click one to reload.

1.12 Help Resources

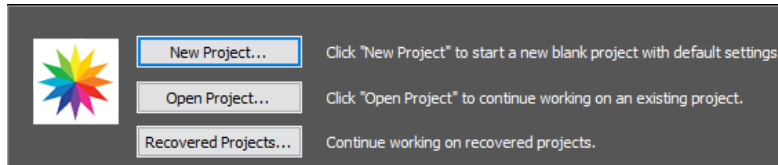
- CREATE Support Site: <https://www.starcraftvinyl.com/solo>
- Additional CREATE Resources: <https://www.iloveknk.com/support/starcraft-solo-and-create/>
- CREATE Facebook Group: <https://www.facebook.com/groups/starcraftvinyl/>
- StarCraft CREATE School: <https://www.facebook.com/groups/289331106034801>
- You Tube Channels:
 - ◇ Rhonda M: <https://www.youtube.com/channel/UCuiAlnWQ1xGsaGq2L5M4KeA/videos>
 - ◇ Shawn Mosch: <https://www.youtube.com/channel/UCgdMsi7IV8GDn6WcZ8vDq5g/videos>
 - ◇ Sandy McCauley: <https://www.youtube.com/@sandymccauley>

2. Handling Files and Organizing Layers

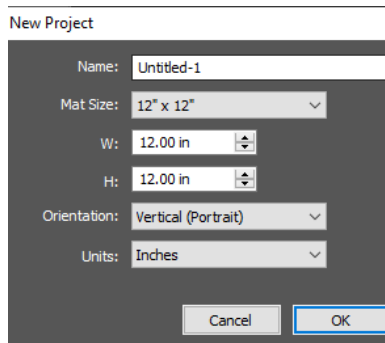
2.01 Opening Files

2.01.1 Opening a New File/Project

- When you launch CREATE, a popup window appears where you can choose if you are starting a new project, opening an existing project, or recovering a project after a software crash:

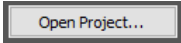


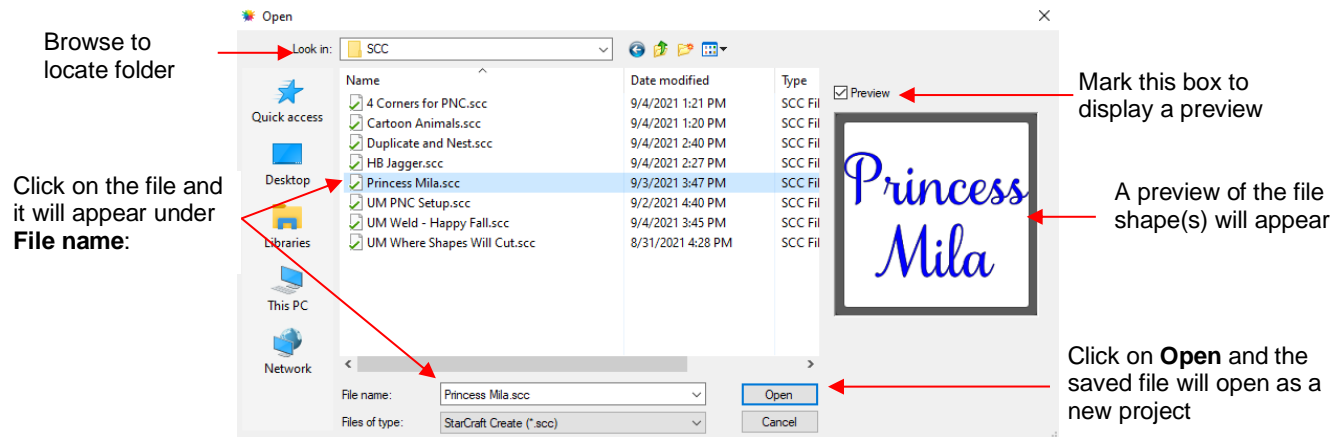
- If you choose **New Project**, the following window opens where you can specify the following settings. These settings can be modified later, if needed, using the **Document Panel**:



- If CREATE is already open, then you can start a new file (aka a new project), using any of the following:
 - ◇ Press **Ctrl+N**
 - ◇ Go to **File>New Project**
- The same **New Project** window shown above will open where you can specify the same preferred settings.

2.01.2 Opening an Existing CREATE File

- An existing CREATE file can be opened in CREATE using any of the following:
 - ◇ Click on **Open Project** when you first open CREATE 
 - ◇ Click on the thumbnail, if it appears, when you first open CREATE.
 - ◇ Press **Ctrl+O**
 - ◇ Go to **File>Open Project**
 - ◇ Go to **File>Recent Projects**, if the file is one of the last five you had open in CREATE
 - ◇ Drag and drop a CREATE file onto the main screen of CREATE
 - ◇ Import from the **Library** (refer to *Section 2.03.3*)
- In the first three options above, a window will open where you can browse to locate the file you wish to open:



- In the opening window of CREATE, you also have the option of opening a **Recovered Project** Recovered Projects... which will be an auto-saved project or projects that were open before a software crash.
- Note that other file formats, besides CREATE, can be imported into CREATE. Refer to *Section 2.05*.

2.02 Saving or Reverting CREATE Files

Video

- A file can be saved in CREATE format using any of the following:
 - ◇ Press **Ctrl+S** (for save) or **Ctrl+Shift+S** (for save as)
 - ◇ Go to **File>Save Project** or **File>Save Project As**
- If you've made changes and wish to save under a different file name, choose **File>Save As**. Name the file, choose a location, and click on **Save**.
- You can include notes about your file by going to **Window>Project Info**. This can be handy for your own future reference or for others using your files. Refer to *Section 7.02*.
- You can also export files in a host of other formats. Refer to *Section 2.06*.
- Also in the **File** menu, is an option called **Revert** which will undo all changes made since a file was opened.

IMPORTANT! When saving files, especially any with imported JPG, PNG, BMP or other raster images, allow plenty of time for the save before closing CREATE. Closing too soon can corrupt a file!!!

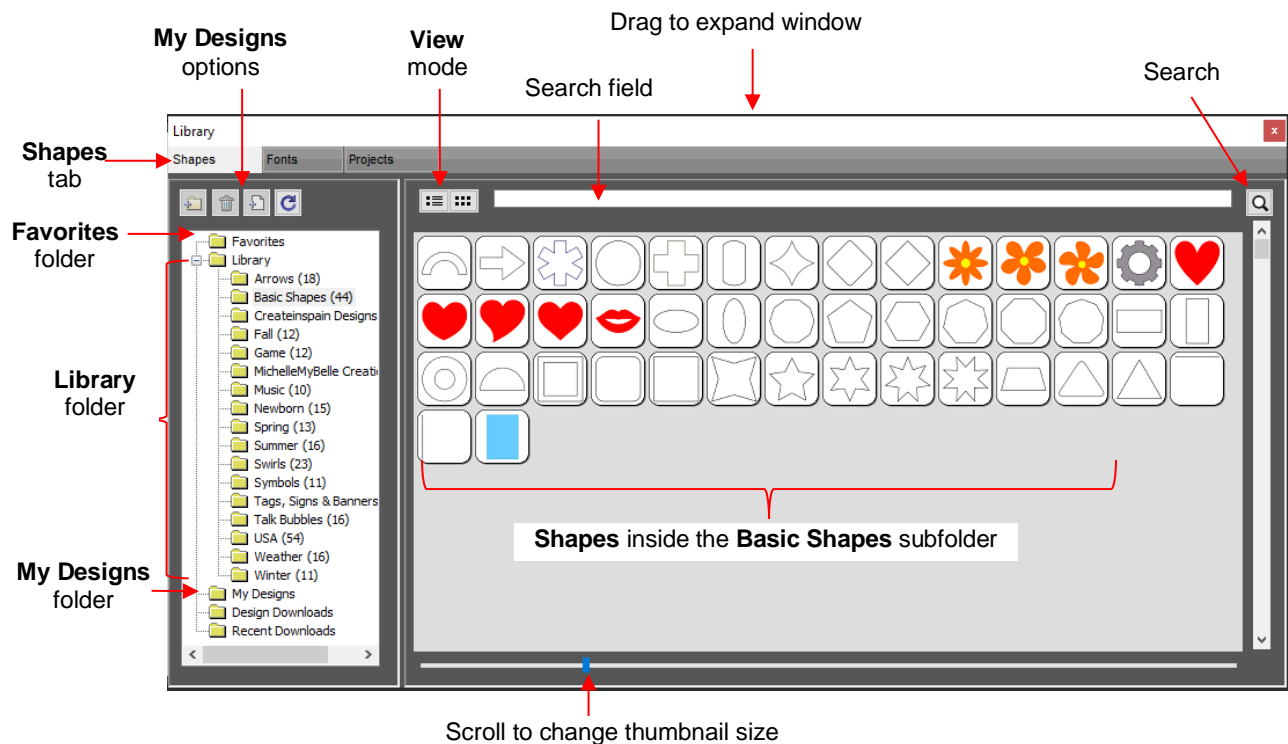
2.03 Customizing the Library

Video

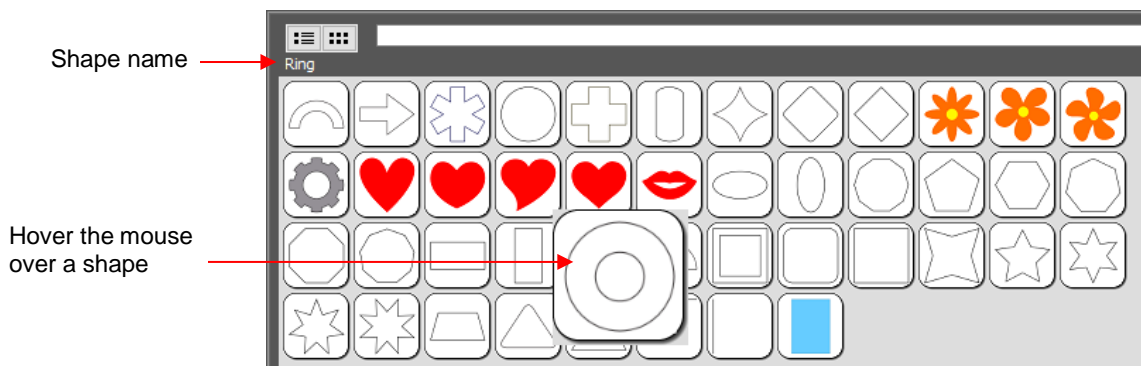
- The **Library** was briefly introduced in *Section 1.03*. The purpose of this section is to expand on how to fully utilize it.
- The **Library** consists of three tabs: **Shapes**, **Fonts**, and **Projects**. Each is covered in the following subsections:

2.03.1 Shapes Tab

- When you first open the **Library**, the **Shapes** tab will be selected.
- In order to see all of the contents under this tab, drag the top of the window upwards until you see the following screenshot. Note the various parts of this window:

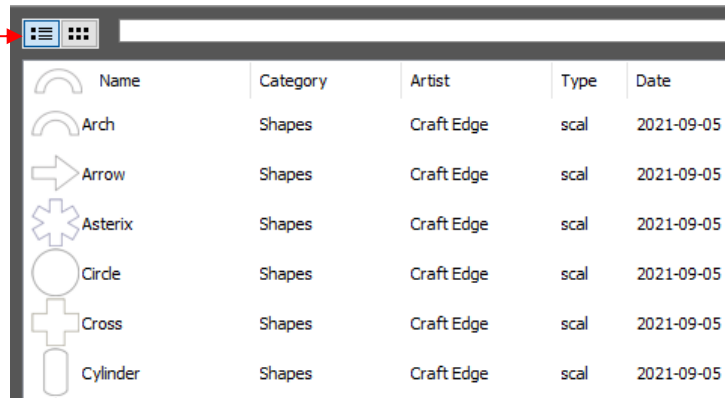


- On the left side you will see the **Library** folder which contains the included 300 shapes. The number in parentheses, after each subfolder, indicates how many shapes are assigned to that subfolder. **Basic Shapes**, as an example, has 44 assigned to it.
- Because the **Basic Shapes** subfolder is currently selected, thumbnails for all shapes contained in that subfolder are shown in the larger area on the right side. To add one of these shapes to the **Page** either:
 - ◊ Click on the shape and it will be placed in a certain location on the **Page**
 - ◊ Drag the shape to a desired location on the **Page**
- To change subfolders or folders, click on the folder name on the left side and its contents will then appear on the right.
- A scroll bar at the bottom of the **Library** window can be used to make the thumbnails larger or smaller.
- As you hover over a shape, its thumbnail will get larger and its name will appear near the top:



- You can toggle between the thumbnail view and a list view using these icons at the top:

Click here to
change to list view



Name	Category	Artist	Type	Date
Arch	Shapes	Craft Edge	scal	2021-09-05
Arrow	Shapes	Craft Edge	scal	2021-09-05
Asterix	Shapes	Craft Edge	scal	2021-09-05
Circle	Shapes	Craft Edge	scal	2021-09-05
Cross	Shapes	Craft Edge	scal	2021-09-05
Cylinder	Shapes	Craft Edge	scal	2021-09-05

- A search function enables you to see all of the shapes with a particular word in the name. For example, enter the word leaf and click on the search button:

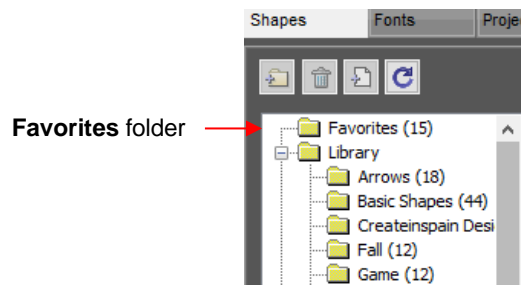
1. Enter search word

2. Click here or press **Enter** key

3. All shapes with the
search word in their
name will appear

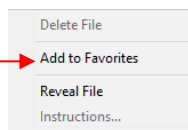


- Favorites:** Above the **Library** folder is a folder called **Favorites:**

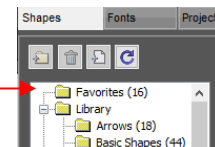


- ◇ The **Favorites** folder is for storing the shapes you access often. Locate the shape you want to add, right-click, and select **Add to Favorites** from the popup menu.

Click on
Add to Favorites



Shape is added
here

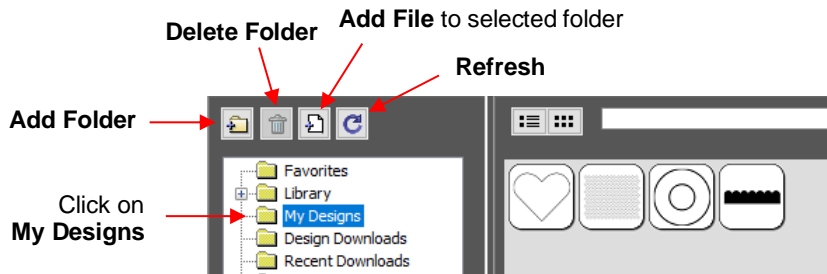


- ◇ This popup menu also has these options:


- **Delete File** (only active in the **My Designs** folder)
- **Reveal File** – opens the location on your computer where file is stored
- **Instructions** – some files from the **CREATE Marketplace** may include instructions for the user

- My Designs:** This folder is for storing your own SVG files for easy access.

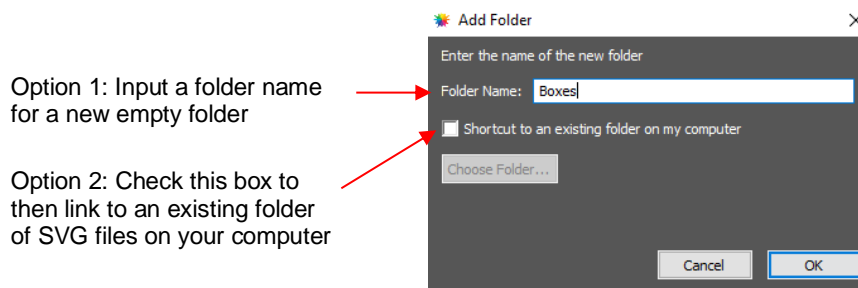
- ◇ You can add your own SVG files from within the **Library** which will be covered next. However, you can also export (or move) your SVG files to Documents\StarCraft CREATE\My Designs and they will then be accessible.
- ◇ Once you click on **My Designs**, the icons above the folder menu will become active:



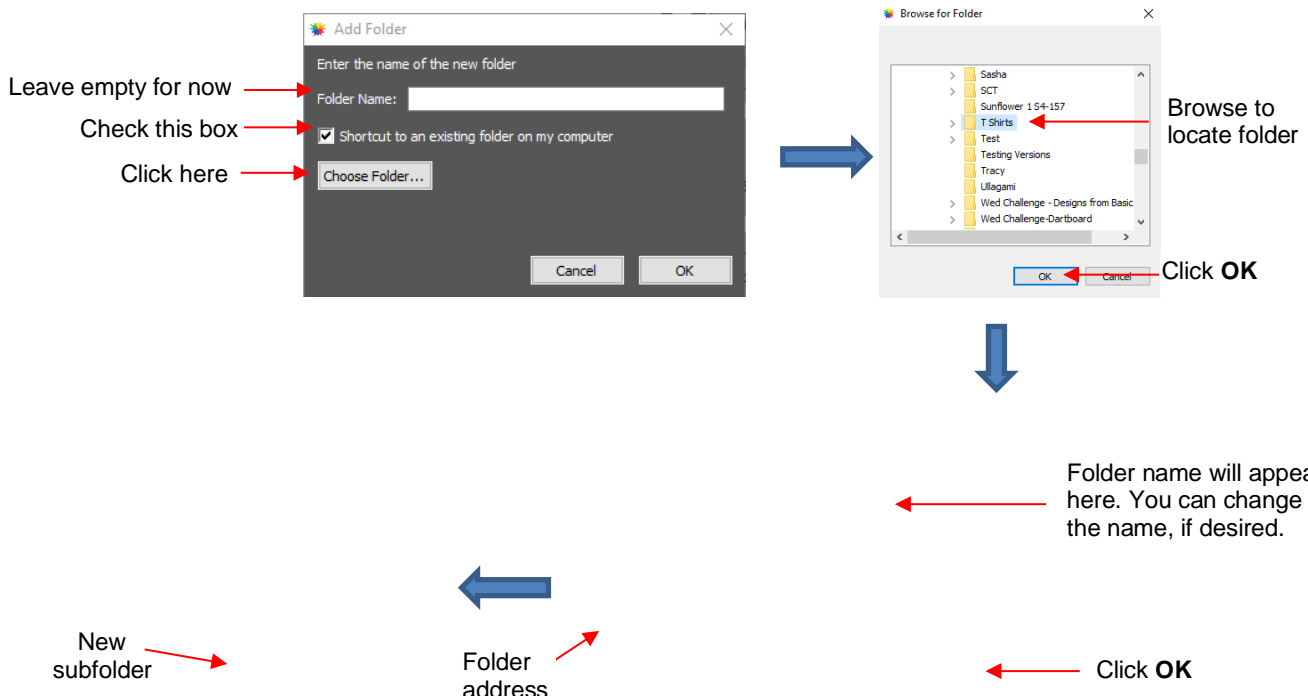
- ◇ Add subfolders: The shapes in the above screenshot have been added to **My Designs** but not into subfolders. To create subfolders for additional organizing:

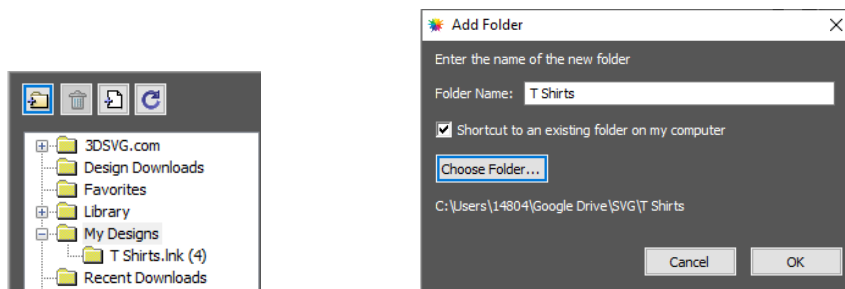
- Click on the **Add Folder** icon 
- Right-click on **My Designs** and select **Add Folder** from the popup menu




- ◇ After choosing to add a folder, the following window opens where you have two options:

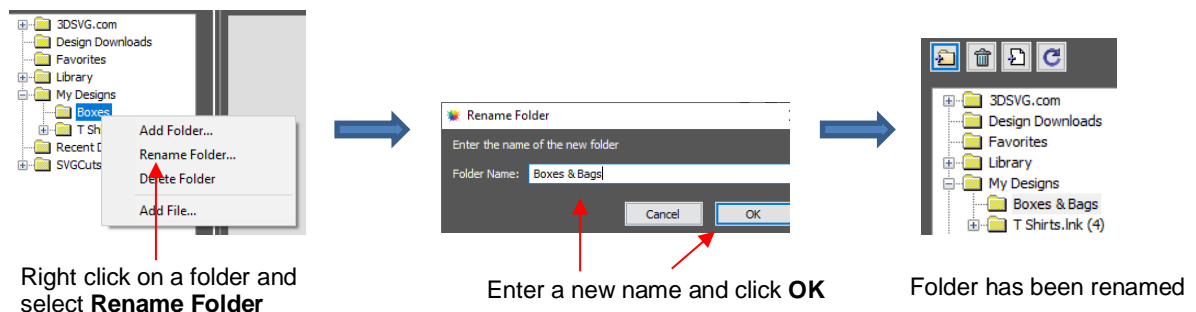


- ◇ If you select Option 2, the **Choose Folder** button will activate and clicking it will bring up this window where you can browse your computer to locate an existing folder of SVG files:



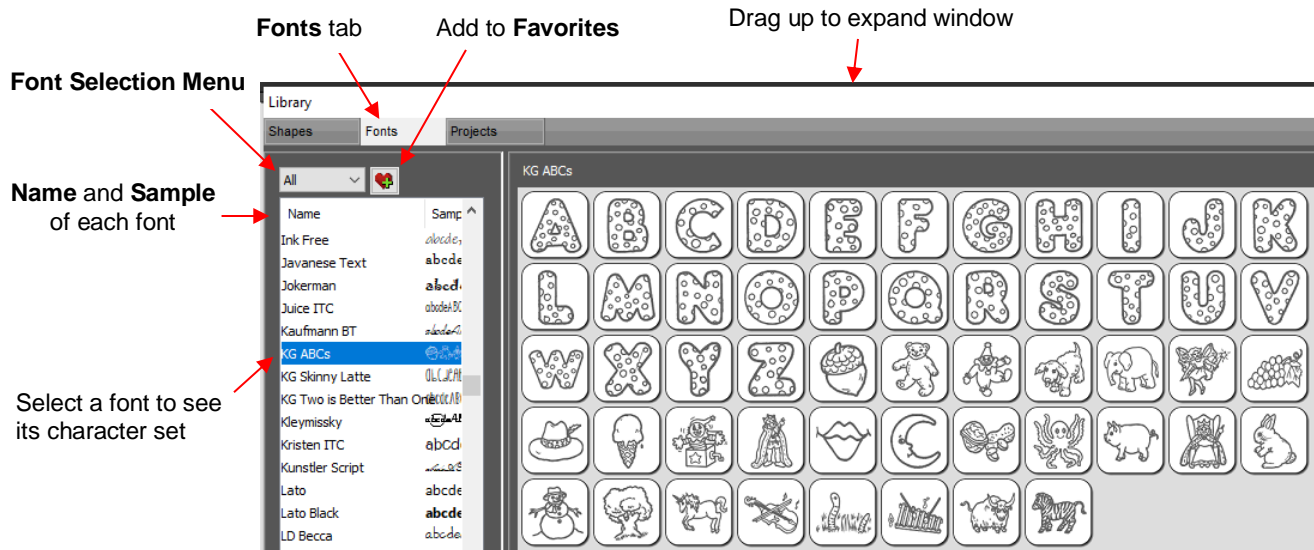


- ◇ Note that the **Folder Name** was changed to *T Shirts* before clicking on **OK**. The name will have a .lnk extension added indicating that it is linked to another folder on your computer.
- ◇ To add files to a folder inside **My Designs**:
 - Select the folder and do either of the following:
 - Click on the **Add File** icon 
 - Right-click and select **Add File** from the popup menu
 - A window will open where you can then browse to find the SVG file to be added. You also have the option of selecting multiple files at once to import into that folder.
- ◇ To delete a file from a folder, right-click and select **Delete File** from the popup menu.
 - **IMPORTANT:** Note that deleting the file could also delete it from your computer unless it has been backed up elsewhere.
 - After deleting files, you will need to click on the **Refresh** icon  to update the thumbnail images.
- ◇ To delete a folder, select it and then do one of the following:
 - Click on the **Delete Folder** icon 
 - Right-click and select **Delete Folder** from the popup menu
- ◇ To rename a folder, right-click and select **Rename Folder** from the popup menu:

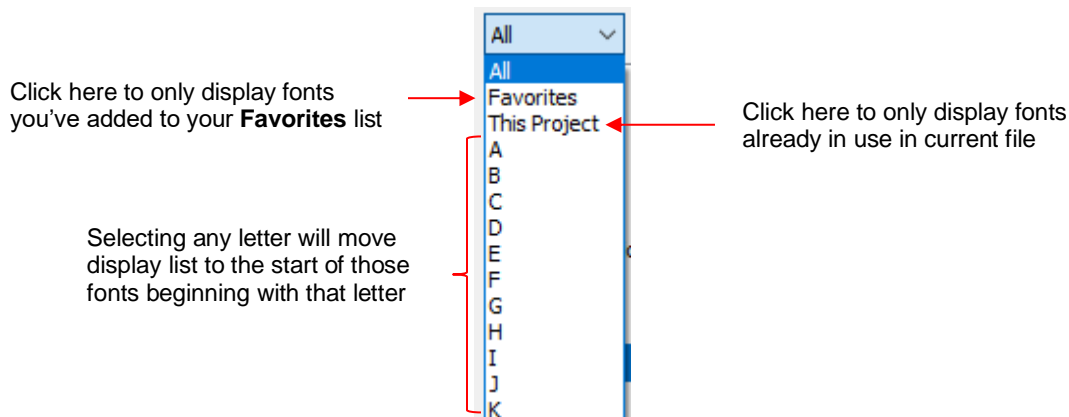



2.03.2 Fonts Tab

- The **Fonts** tab lists all of the currently installed fonts on your computer. Selecting any font in the list will show the entire character set on the right side of the window. This can be helpful with dingbat fonts, as well as with many of the newer fonts which have additional variations of individual letters.
- Selecting a new font on the **Fonts** tab will also then make it the default font that will be used when adding text with any of the methods available in CREATE. Refer to *Section 4.02*.




- Scroll the bar at the bottom to change the size of the lettering. To add a character to the **Page**, left-click on it. While it is far quicker to type out text using the **Type** tool (refer to *Section 4.04.1*), this window is the best way to add any special characters within a font or when using dingbat fonts.
- **Font Selection Menu:** Clicking on the down arrow next to **All** will open the following menu:



- **Favorites:** With a font selected, you can click on the  icon to add that font to your **Favorites** folder.
- For alternative methods for selecting fonts, refer to *Section 4.02*.

2.03.3 Projects Tab

- The **Projects** tab is almost identical to the **Shapes** tab. Instead of .SVG files, however, it helps you organize and access your CREATE files, also referred to as projects.
- Unlike the **Shapes** tab, there are no default categories or pre-added files. However, you will notice these other similar features:
 - ◇ **Favorites** folder – select any project, right-click, and select **Add to Favorites** from the popup menu
 - ◇ **My Projects** folder – virtually identical to **My Designs** folder (more information follows)
 - ◇ **Search** field and search icon  – for locating files with a particular word in the file name
 - ◇ Scroll bar to change the size of the thumbnails.

- ◇ Hover over a thumbnail and it will get larger. The project name will appear below the **Search** field.
- In order to have projects show up automatically on this tab, save (or move) your CREATE files to Documents\StarCraft CREATE\My Projects. Otherwise, you can use the same procedures from *Section 2.03.1* to add new folders and upload files into those folders.

2.04 Layers Panel

Video

Because of the importance of the **Layers Panel** in successfully using CREATE, it is being presented before the other file handling sections.

2.04.1 Introduction to the Layers Panel

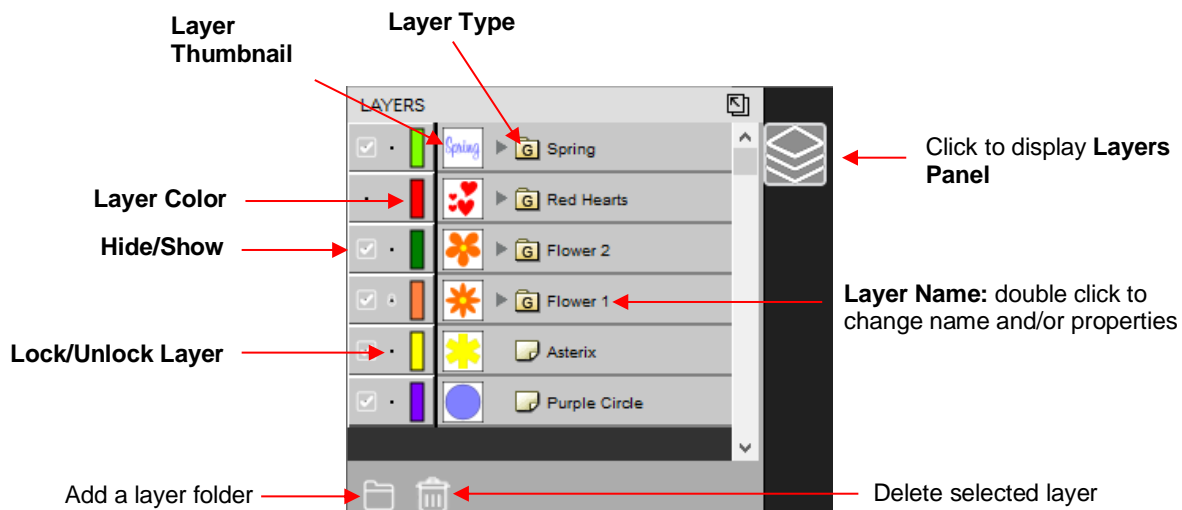
- The **Layers Panel** is used for the following:
 - ◇ Assigning or grouping shapes into separate layers to better organize a project
 - ◇ More easily applying changes to a group of shapes (such as hiding, locking, coloring, line style)
 - ◇ Selecting one shape or a layer of shapes on the screen
 - ◇ Changing the order of shapes (i.e., which shapes should be on top of other shapes)
 - ◇ Controlling what is sent to the cutter or printer
- You do not have to worry about adding shapes to the **Layers Panel**. They will automatically be assigned to new layers as you add them. You will want to learn how to move shapes to new layers or combine shapes into the same layer, depending on the circumstances. This is covered in *Section 2.04*.







2.04.2 Parts of the Layers Panel

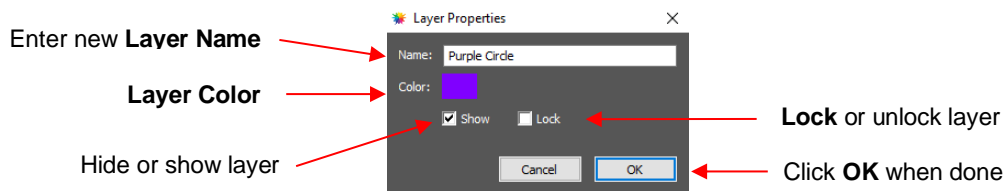
- The next few sections will use the following simple project to illustrate the **Layers Panel**:





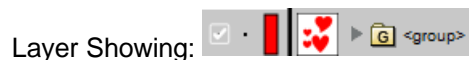
- The following screenshot identifies the various icons on the **Layers Panel**:





- **Layer Thumbnail:** Each layer has a thumbnail showing the shapes assigned to that layer. Click on that thumbnail and all shapes on that layer will be selected. If you wish to add the shapes from another layer to the section, hold the **Shift** key and click on the other thumbnail.
- **Layer Type:** To the right of the **Layer Thumbnail** is the **Layer Type**, represented by one of four different icons:
 - ◇  Regular shape
 - ◇  Text shape which is still able to be edited as text, such as changing the font
 - ◇  Regular folder of individual shapes: When the folder is opened, by clicking the gray triangle, the icon changes  and all layers or subfolders within are displayed.
 - ◇  Group folder where one or more of the shapes have been grouped together: When the folder is opened, by clicking the gray triangle, the icon changes  and all layers or subfolders within are displayed.
- **Layer Name:** In the prior **Layers Panel** screenshot, the last layer has no name. To add one, double-click that layer to open the **Layer Properties** window. Here you can change the name of that layer as well as some other settings. Note that the color assignment is for use on the **Layers Panels** only. It doesn't change the color of the shape assigned to that layer:





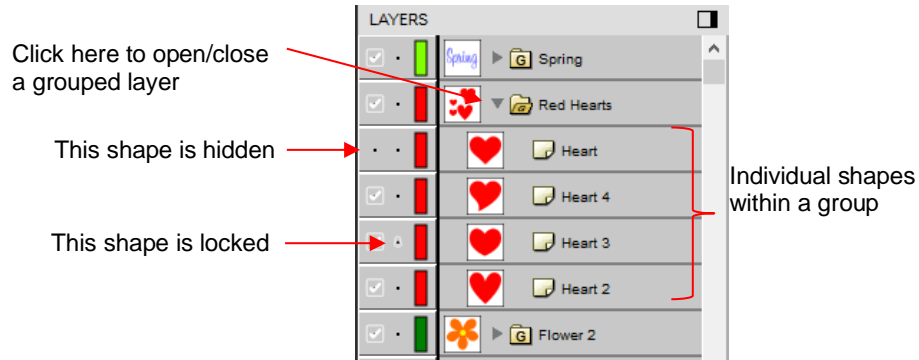
- Hiding layers, locking layers, and assigning layer colors can also be done on the **Layers Panel**:
 - ◇ **Hide/Show Layer:** Click on the eye icon  to hide that layer. The icon will be replaced with a dot  as shown for the *Red Hearts* layer and the shapes on that layer will no longer be seen on the **Page** and will not be included when printing or cutting the project. Clicking on the dot icon will restore the layer to the **Page**:




- ◇ **Lock/Unlock Layer:** Click on the dot to the right of the eye icon and the layer will become locked , such as shown for the *Flower 1* layer. The shapes on that layer will still be included in printing and in cutting, however cannot be selected on the **Page**. This can be useful when shapes should not be inadvertently moved or if you are having problems selecting shapes nearby.

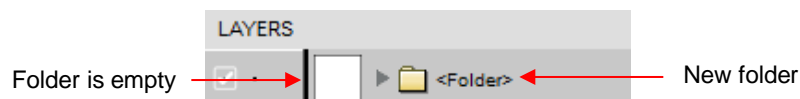
- ◇ **Layer Color:** Click on the current layer color icon  and a **Color** window will open where a different color can be assigned. Again, this is only for making layers easier to distinguish on the **Layers Panel** and doesn't change the **Fill** or **Stroke** color of the shapes themselves.

- Icons for adding a new layer  and deleting a selected layer  are also available at the bottom of the **Layers Panel**.
- Individual shapes within a group folder can also have individual properties changed. For example, let's say you have various shapes grouped together and you want to keep some locked and you want to hide others. Opening the grouped layer displays each thumbnail and the **Show/Hide** and **Lock/Unlock** icons can be individually changed. In this example, some basic shapes have been used for a clearer understanding:

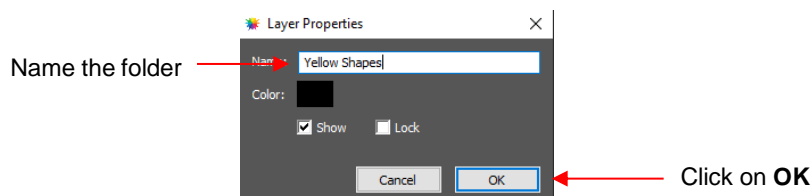


2.04.3 Creating Folders and Moving Layers

- As mentioned in *Section 2.04.1*, each new shape added to the **Page** will initially be assigned to a new layer. This can quickly clutter the **Layers Panel**. The ability to combine shapes into folders and subfolders helps organize a project and make things easier for printing and/or cutting.
- There are two ways to create a new folder:
 - ◇ Click on the **Add layer folder** icon  at the bottom of the **Layers Panel**
 - ◇ Go to **Layer>Add Layer Folder**
- When a new folder is added, it will appear at the top and look like this:

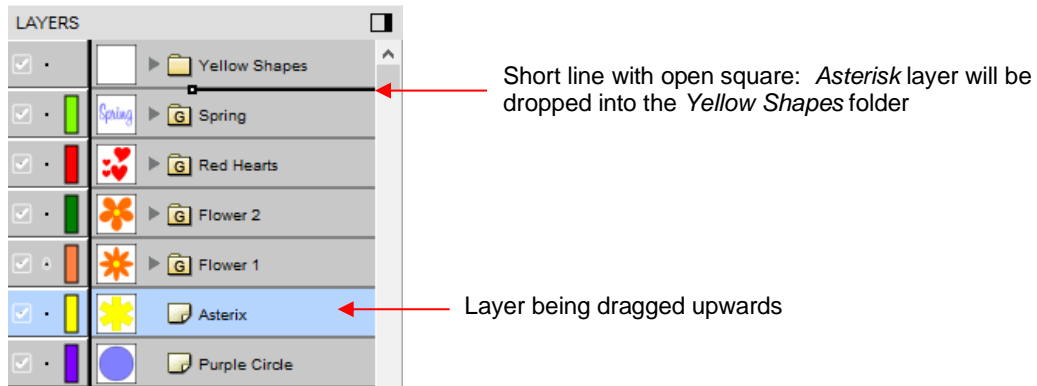


- Just as covered in the prior section, if you double-click on this new folder, you can rename it:

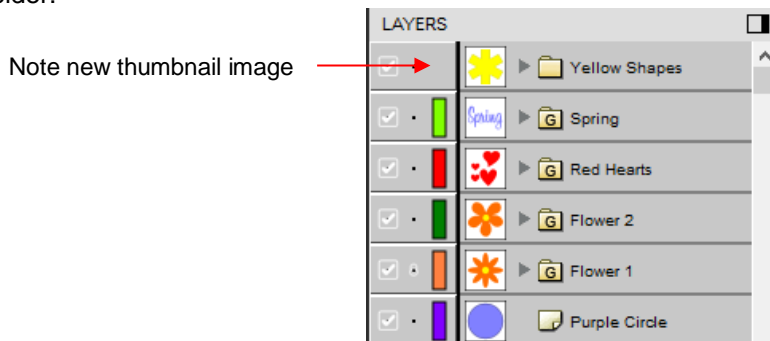


- In the prior section, it was also noted that layers can be re-ordered using the **Arrange** option in the **Layers Panel Options** menu. Alternatively, layers and folders can also be moved directly on the **Layers Panel** by dragging them up or down.
- There are two possible outcomes when dragging layers:
 - ◇ The layer is moved to a new location
 - ◇ The layer is moved into an existing folder

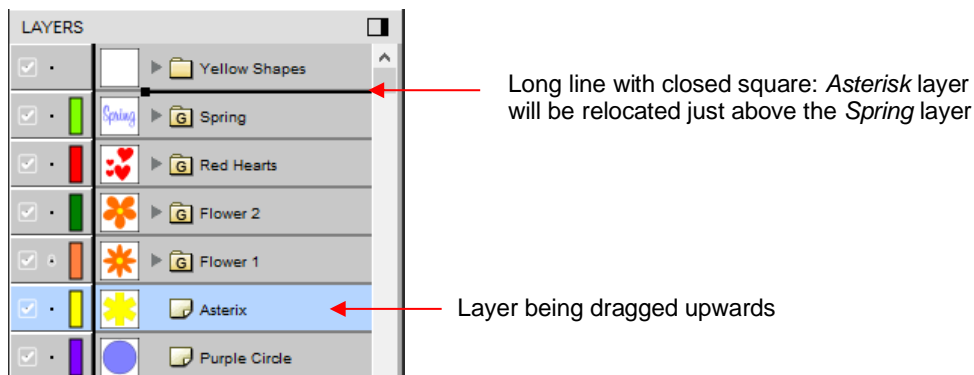
- The way to control where the layer “lands” is by moving it straight up and down or by dragging a little to the left while moving it up and down.
- ◇ If you drag a layer without moving to the left, you will see a short line with an open square. This means it will be added to the folder directly above it:



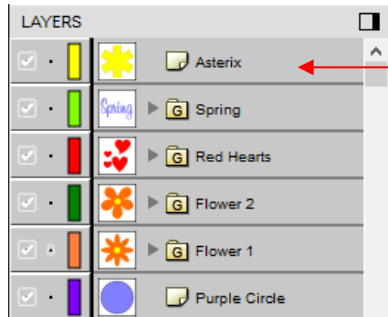
- ◇ Now the *Asterisk* layer is inside of the *Yellow Shapes* folder and can be seen in the thumbnail for that folder:



- ◇ If you drag a layer while moving it to the left, you will see a longer line with a closed black square. This means it will be added directly above that line:



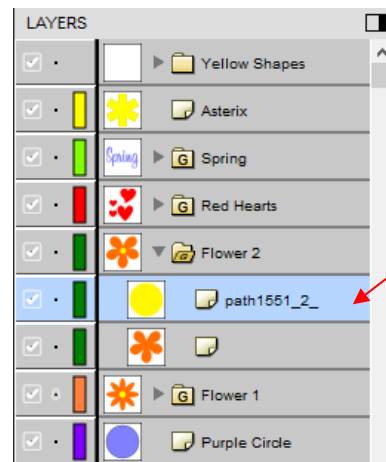
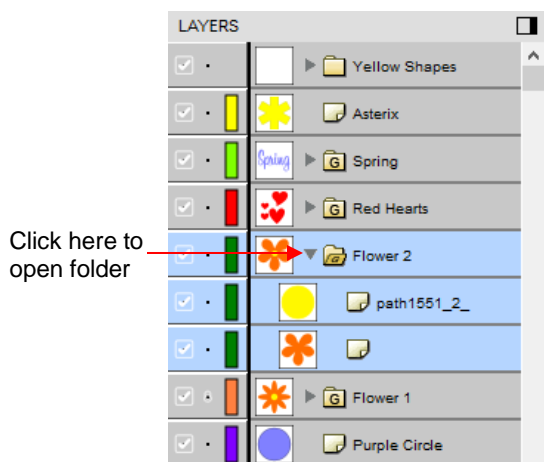
- ◇ **IMPORTANT:** Once you’ve created a new empty folder, like the *Yellow Shapes* folder, you cannot move that layer or other layers without the empty folder being deleted. So, in the case above, if the *Asterisk* layer had been simply relocated, the *Yellow Shapes* folder would then be gone:



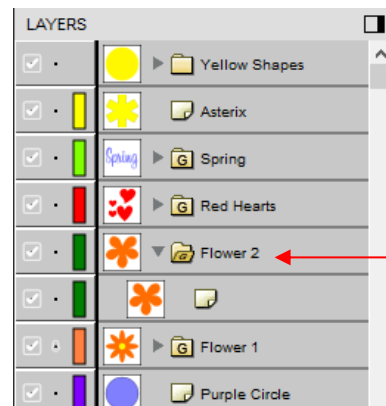
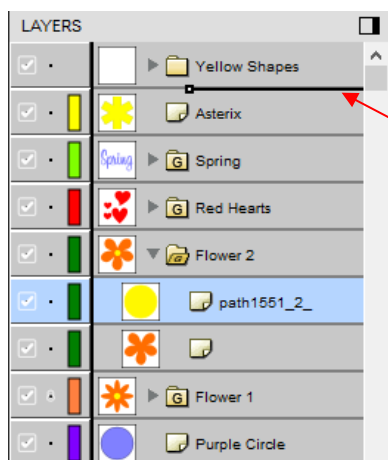
Asterisk layer is moved; Yellow Shapes folder is gone

- Layers can also be moved out of an existing folder into other folders. In this example, the yellow centers of the flowers in the layers named *Flower 1* and *Flower 2*, can be similarly dragged and dropped into the *Yellow Shapes* folder:

◇ Open the *Flower 2* group folder and then make sure only the yellow layer is selected:

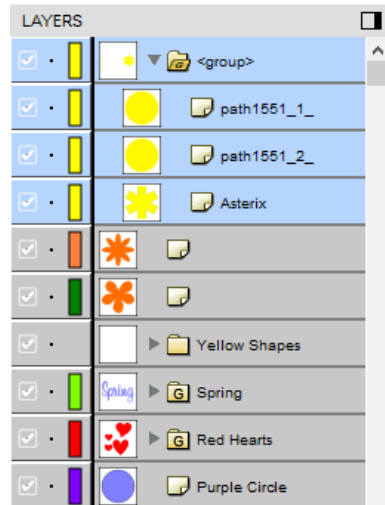
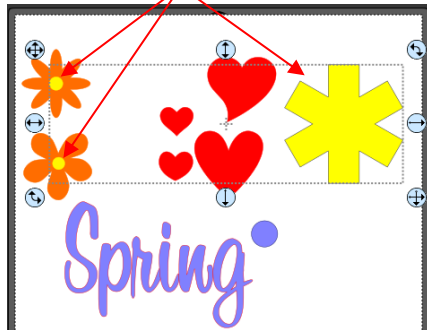


◇ Then drag the yellow layer up to the *Yellow Shapes*, again making sure only a short line is present. The yellow layer is then moved out of the *Flower 2* group:



- Note: This was just one way to achieve this goal. Another way would have been to ungroup the *Flower 1* and *Flower 2* layers. Then to select all of the yellow shapes on the **Page** and go to **Object>Group**. A new group folder would be added to the **Layers Panel** with those shapes moved to it. Specific instructions on **Grouping** and **Ungrouping** are covered in *Section 7.11*.


All yellow shapes are selected and **Group** is applied.

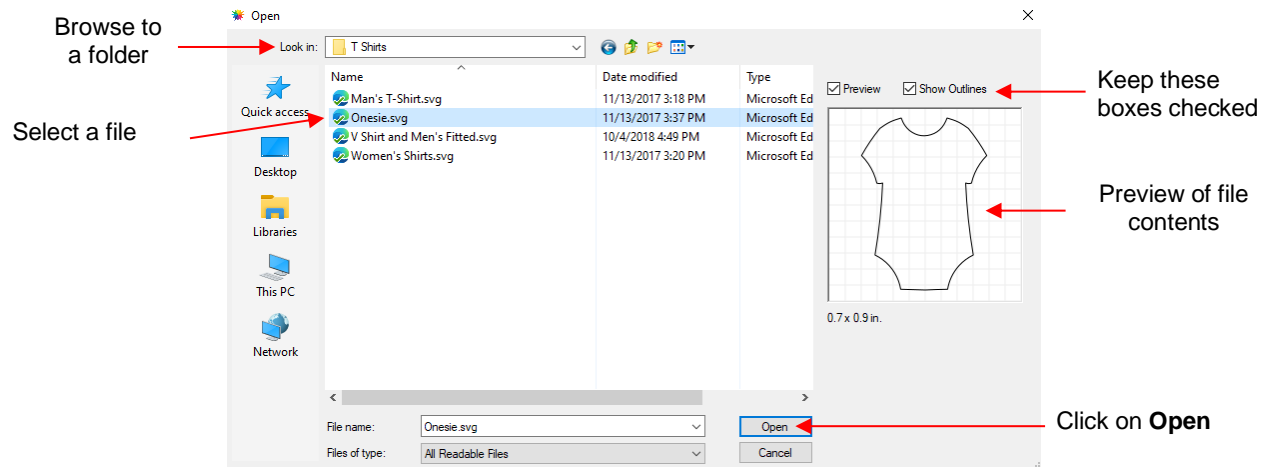


New group folder contains these yellow shapes

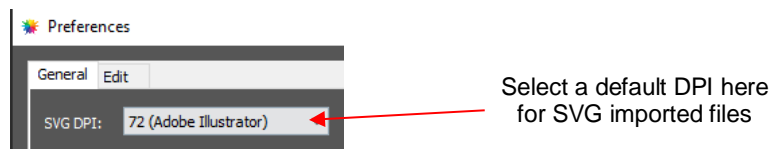
2.05 Importing Other File Formats

2.05.1 Importing Vector Files

- The following vector formats can be imported into CREATE:
 - ◇ SVG: common export format for vector programs, thus popular format used for sharing files on blogs and selling files in online design sites
 - ◇ CREATE: format used to save projects in CREATE and importing allows you to merge two projects into one
 - ◇ PDF: note that both vector and raster images can make up a PDF
 - ◇ AI (Adobe Illustrator): common format due to the popularity of Adobe Illustrator
 - ◇ EPS: another common export format for many vector programs
 - ◇ Nine embroidery file formats: .DST, .EXP, .HUS, .YEF, .PEC, .PES, .SEW, .VIP, .XXX
 - ◇ FCM: format used by the Brother ScanNCut machines
 - ◇ GSD: format created by RoboMaster, RoboMaster Pro and Wishblade Advance. This format was used with the Craft Robo, Wishblade, and original Silhouette cutter.
 - ◇ MTC: format created by Make The Cut for cutting to a wide range of hobby and semi-professional cutters. Refer to the special notes about MTC import later in this section.
 - ◇ PLT: developed by HP for their plotters, the PLT file evolved into a standard format used by early vinyl cutters
 - ◇ DXF: common format exported by CAD programs
 - ◇ WPC: format used in programs developed by Sign Max, which include WinPC Sign, Funtime, Pazzles Inspiration, and Gazelle.
- There are two ways to open the import window:
 - ◇ Click on the **Import** icon on the upper **Toolbar** 
 - ◇ Go to **File>Import**
- Either choice will open the following window where you can browse to locate the file you need. Note there are options to see a **Preview** and **Show Outlines**:



- You can also drag and drop any of the file formats directly onto the CREATE screen to import that file.
- If the file is in **SVG** format, it can also be imported via the **Library**. Refer to *Section 2.03.1*. **Important:** SVG files vary in size depending on the program which exported them. Thus, always check the imported size before cutting your project. If you are regularly importing SVG files from one of the following programs: Adobe Illustrator, Inkscape, Corel Draw, or you know the DPI used by the exporting program, you can set it under **Edit>Preferences** (on a Mac, press **Command + ,**) so that you will not need rescale the file:



- **PDF** files can contain multiple pages. If this is the case with a PDF file you wish to import, note the following:
 - ◇ Use Adobe Reader or some other PDF browser to locate which page you wish to import
 - ◇ After selecting the PDF file to import, a second window will open where you can select which page you want to import. Note that if there are many pages, there will be a delay in opening the **Preview** window and you may wish to uncheck that box.
- **MTC** files will import in a similar fashion as PDF if they contain multiple pages. If the MTC file originally contained a raster image (such as for a print-and-cut application), the raster should import correctly. However, if you attempt to resize the design, the raster will become distorted. The work-around is to reimport this raster image and trace it. While that MTC file is opened in CREATE, you will be able to access it in the following folder: **Documents>Craft Edge>Assets**. Tracing an image is covered in *Section 5.03*.
- **IMPORTANT:** Depending on the original source of the vector file, double lines may exist which will result in cutting a design twice. This is usually due to the source program having a **Stroke** width applied to the lines. Therefore, any time you import a vector file, you should test cut it using scrap materials before using "the good stuff." If you find that the file is double cutting, first try applying **Ungroup** to the design so that you can delete one of the duplicates. If **Ungroup** does not separate the duplicates, apply **Break** instead. Refer to *Sections 3.11.2* and *3.12.1*.

2.05.2 Importing Raster Files


- There are several ways to import a raster file (JPG, BMP, GIF, PNG) depending on the intended purpose for that file:
 - ◇ **File>Import:** will import PNG files. Those with a transparent background will have a vector cut line automatically added along the transparent border. This is very useful for print-and-cut applications. This is the only raster format that will work using this method.

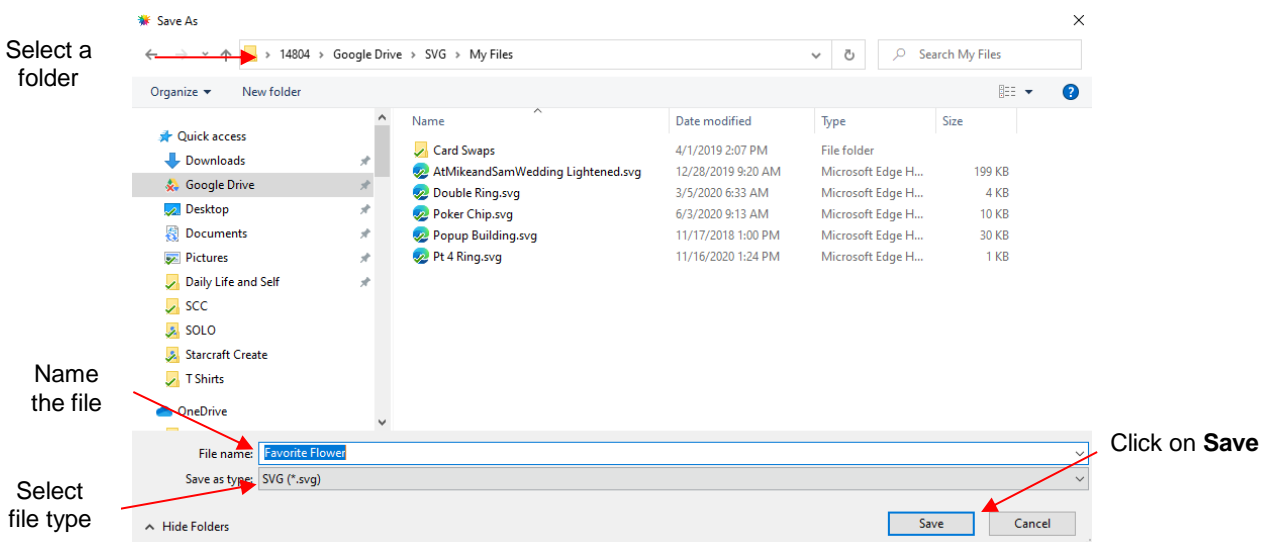
- ◇ **File>Place Image**: will import JPG, BMP, GIF, and PNG files for the purpose of printing or manually tracing in the event the auto-tracing function doesn't adequately perform due to the image quality. It's also another way to load an image for the **Trace Image** window. Refer to *Section 5.03*.
- ◇ You can also drag and drop an image onto the **Page**. This is the same as **File>Place Image**.
- ◇ **File>Trace Image** (or click the **Trace** icon on the **Toolbar**): will import and auto-trace JPG, BMP, GIF and PNG files. Various options and settings can be applied to obtain the desired results. Refer to *Section 5.03*.

2.05.3 Importing Fonts

- CREATE will display and utilize all fonts currently installed on your computer. You can also open non-installed fonts for temporary use. The formats supported include TTF, OTF, and OPF (open path / single line fonts). For more details, refer to *Section 4.02.3*.

2.06 Exporting in Other File Formats

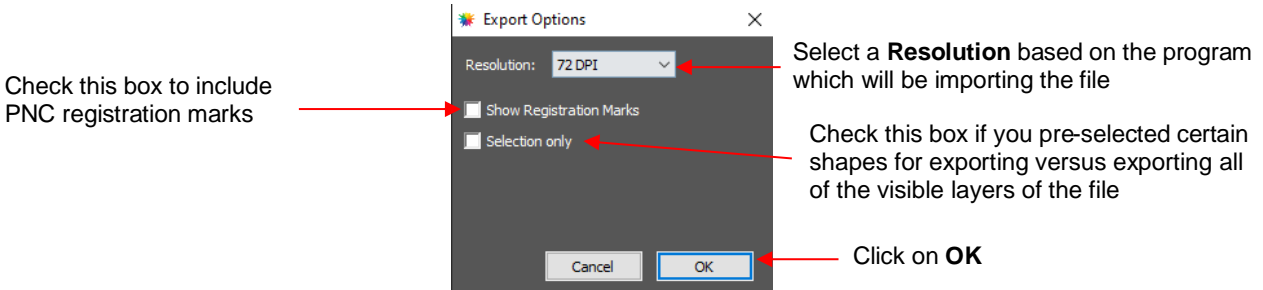
- Besides saving as a CREATE file, you can also export in the following formats: SVG, JPG, BMP, PNG, PDF, TIFF, FCM, and PLT. Only SVG, FCM, PDF, and PLT are vector formats. The others are raster.
- If there are only certain shapes in the file that you want to export, you have two options:
 - ◇ Select those particular shapes before exporting and then mark a box called **Selection only** in the export window.
 - ◇ Place those shapes on one or more separate layers and hide them on the **Layers Panel**. Refer to *Sections 2.04.2* and *3.10*.
- To export a file, use one of the following options:
 - ◇ Click the **Export** icon  on the **Toolbar**
 - ◇ Go to **File>Export**
 - ◇ Press **Ctrl+Shift+E**
- The following window will open where you can name the file, select the file format, and the location for saving:



- Depending on the type of file selected, an export window will open. The following subsections will cover these types in more detail.

2.06.1 Exporting in SVG Format

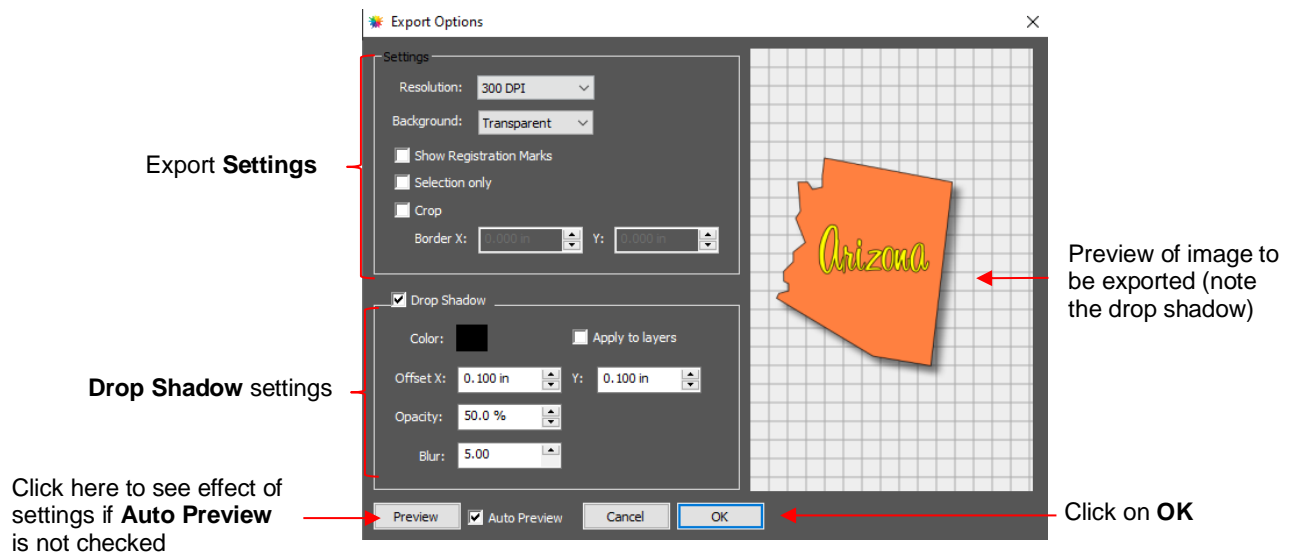
- The **SVG Export Options** are shown in the following screenshot:



- The **Resolution** setting affects the dimensions of the shapes upon importing into another program:
 - ◇ For example, Adobe Illustrator uses 72, Inkscape uses 96, and Corel Draw uses 96. Unless you know the intended program's **DPI**, leave it at 72.
 - ◇ If the project is designed with specific dimensions affecting the final result, such as an envelope for a card, include a separate *Read Me* text file noting the dimensions of the project in CREATE so that the imported SVG can be resized accordingly.
- The **Selection Only** setting was mentioned earlier as the option to mark when specific shapes have been selected for export versus exporting all of the shapes in the file.

2.06.2 Exporting in JPG, PNG, BMP and TIFF Formats

- There are various reasons why you might want to export your file as a raster. For example:
 - ◇ The image is going to be posted on a web site or blog
 - ◇ The image will be shared with a friend or a customer
 - ◇ You wish to use the image in a digital scrapbooking program
 - ◇ You want to print a PNC project from a printer without CREATE installed
- If you choose any of the raster export formats, the same window will open offering options for:
 - ◇ **Resolution:** if the image will be printed, you usually choose 200 or 300
 - ◇ **Background:** choose a color or, with PNG export, you can also choose transparent
 - ◇ **Show Registration Marks:** option to print with the registration marks that will be used for a PNC application
 - ◇ **Selection only:** when specific shapes have been selected for export versus exporting all of the shapes in the file
 - ◇ **Crop:** increase or decrease the background border around the exported image
 - ◇ **Drop Shadow:** add a shadow effect to the image
- The following screenshot shows an example of an export in a raster format:



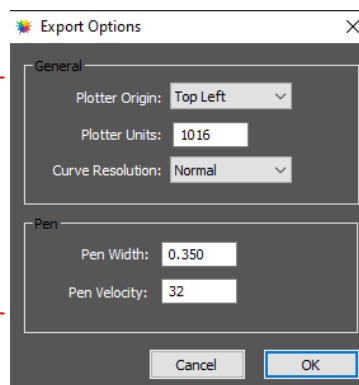
2.06.3 Exporting in FCM Format

- The FCM format is used by the Brother ScanNCut models. To export a project, go to **File>Export** and, in the drop down menu, change from **SVG(*.svg)** to **ScanNCut (*.fcm)**. After clicking on **Save**, the FCM file will be located in the folder you chose in the **Save As** window.

2.06.4 Exporting in PLT Format

- PLT files were originally developed for HP plotters. They are also used by some of the cutters outside of the hobby world.
- IMPORTANT:** If you are exporting for the purpose of loading the PLT file from a flash drive into a cutter, such as the StarCraft SOLO or the Skycut, use the **Save As File** option available in the **Cut Settings** window instead. Otherwise, the PLT file will be missing important settings.
- The **Export Options** for PLT are as follows:


Because PLT files are usually sent directly to the plotter or cutter, the settings are specific to the device. Thus, these settings will need to be determined based on that intended device.



3. Manipulating and Coloring Shapes

This chapter covers all of the ways to modify shapes. Note that while the singular term “shape” will be repeatedly used when describing various functions, it also refers to a selection of shapes. For example, resizing a selection of three shapes uses the same menu functions or mouse movement as a single shape.

3.01 Basic Shapes

- Besides the shapes included in the **Library**, CREATE also offers the ability to add various geometric shapes to the **Page**: **Rectangle**, **Rounded Rectangle**, **Circle**, **Triangle**, **Polygon**, **Star**, and **Spiral**. Some of these have customizing functions which will appear on the **Tool Options** bar and will be detailed in the following subsections.
- To access these various shapes, hold down the left mouse button on the **Rectangle** icon  9th down on the **Tools Panel**, and then select the desired shape from the popup menu.
- Once a different shape is selected, that shape's icon will then replace the **Rectangle** icon on the **Tools Panel**.

3.01.1 Rectangle

- After selecting the **Rectangle** shape, drag the left mouse button to form a rectangle.
- Holding the **Shift** key while dragging the mouse will constrict the proportions, resulting in a square:




Freely dragging mouse



Holding **Shift** key

3.01.2 Rounded Rectangle

- After selecting the **Rounded Rectangle** icon , drag the left mouse button to form a rectangle with rounded corners.
- Holding the **Shift** key while dragging the mouse will constrict the proportions, resulting in a rounded square:

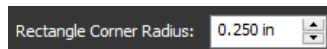


Freely dragging mouse



Holding **Shift** key

◇ In the **Tool Options**, a setting will appear. This can be used to control the roundness of the corners:



Radius: 0.10




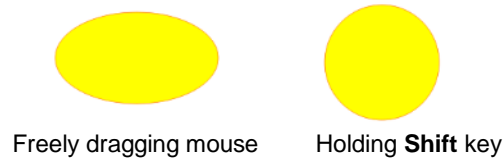
Radius: 0.25




Radius: 0.75

3.01.3 Circle and Oval

- After selecting the **Circle** shape  , drag the left mouse button to form an oval.
- Holding the **Shift** key while dragging the mouse will constrict the proportions, resulting in a circle:



3.01.4 Triangle

- After selecting the **Triangle** shape  , drag the left mouse button to form a triangle.
- Holding the **Shift** key while dragging the mouse will constrict the proportions, resulting in a triangle in which the height will equal the width:

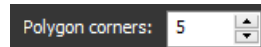


3.01.5 Polygon

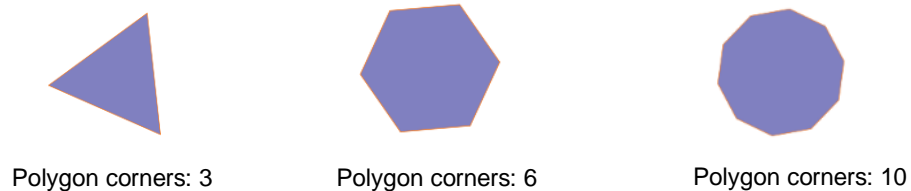
- After selecting the **Polygon** shape  , drag the left mouse button to form a polygon:



- In the **Tool Options**, a **Polygon corners** setting will appear:



- ◊ This setting can be used to change the number of sides on the polygon. For example:

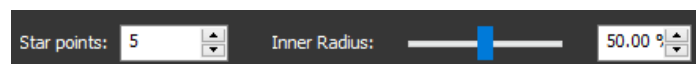


3.01.6 Star

- After selecting the **Star** shape  , drag the left mouse button to form a star:



- In the **Tool Options**, two settings will appear:



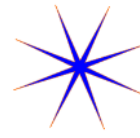
- ◇ The **Star points** setting can be used to change the number of points on the star. The **Inner radius** setting can be used to change the angle of the inner points:



5 Points
Radius: 38%



4 Points,
Radius: 47%



8 Points
Radius: 10%

3.01.7 Spiral

- After selecting the **Spiral** shape , drag the left mouse button to form a spiral:



- In the **Tool Options**, four settings will appear:



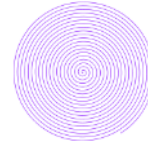
- ◇ **Turns:** Number of rotations around the center:



Turns: 3



Turns: 6



Turns: 20

- ◇ **Divergence:** Tightness of the spiral: larger = looser; smaller = tighter:



Divergence: 1



Divergence: 3



Divergence: 0.5

- ◇ **Inner Radius:** Starting point of the spiral



Inner Radius: 0



Inner Radius: 0.2



Inner Radius: 0.5

- ◇ **Clockwise:** Whether spiral rotates clockwise or counter-clockwise from center:



Clockwise: checked



Clockwise: not checked

3.02 Selecting

- Before selecting a shape, make sure the **Selection Tool** icon  is selected at the top of the **Tools Panel**. Then:

- Click anywhere on the shape (along an edge or inside a closed shape):



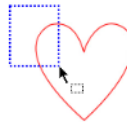
- Note that the cursor will change once the shape can be selected. For example, when selecting a line, wait for the cursor to change before clicking:



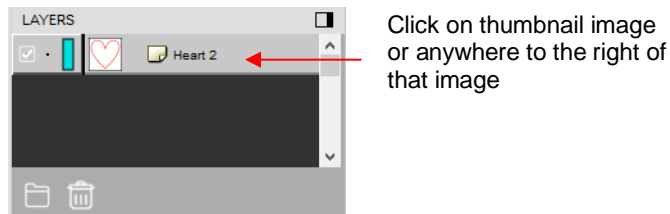
- Another way to select: drag the mouse to enclose the entire shape (aka marquee-select).



- A third way: hold the **Shift** key and marquee-select just a portion of the shape.

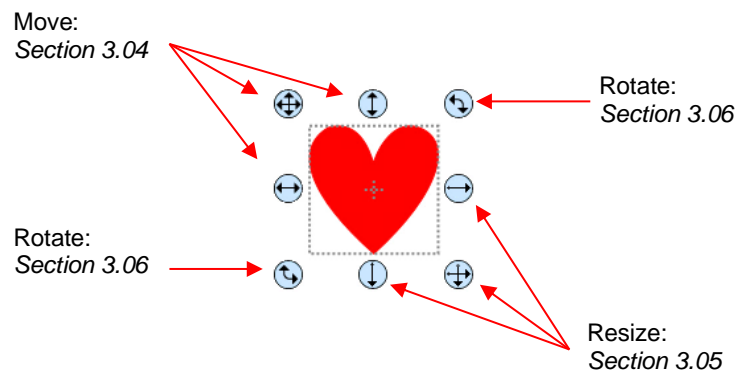


- A fourth way: click on the layer which contains the shape:



3.02.1 Basic Selection Handles

- Once selected, a shape will have 8 handles surrounding it. The functions of these handles are covered in other sections as indicated:

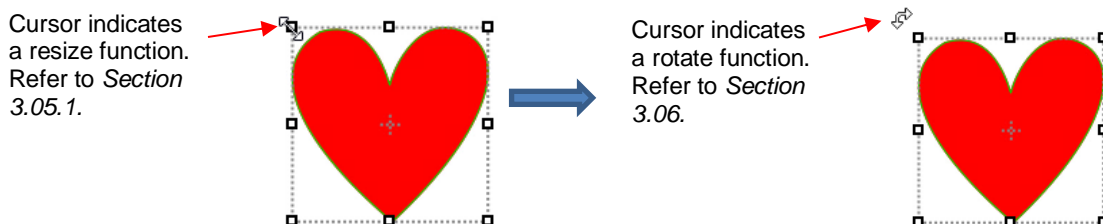


3.02.2 Advanced Selection Handles

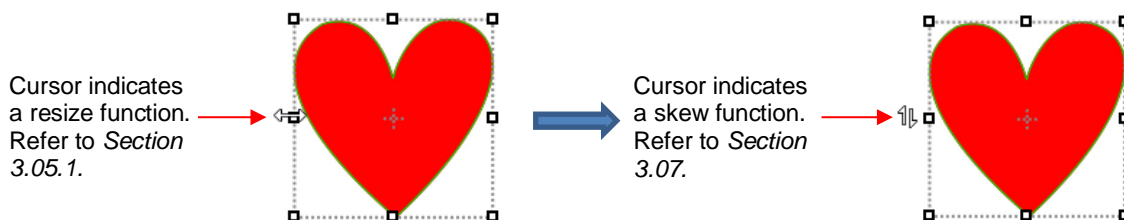
- While in the **Selection Tool** mode, the **Tool Options** bar indicates a setting called **Handles**. The drop-down menu offers another option called **Advanced**:




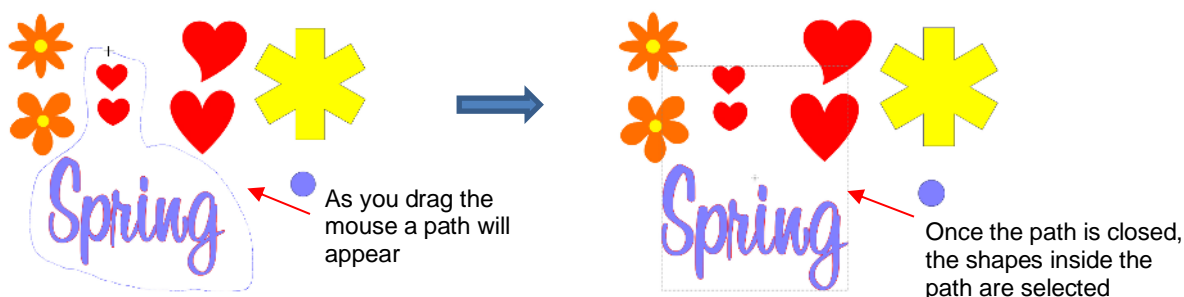
- In **Advanced** mode, a selected shape will appear with six identical handles. However, each handle now has two functions, depending on whether the mouse hovers directly over the handle or is moved slightly away from the handle:



- All four corner handles offer the same resizing and rotating functions. The middle handles along the four sides offer resizing and skewing:




- There are several ways to select more than one shape:
 - ◇ Select the first shape and hold down the **Shift** key while clicking on additional shapes.
 - ◇ Drag the mouse (marquee-select) to encompass the shapes. Always make sure you start clearly outside the boundaries of the images you want to select.
 - ◇ If all of the shapes are on the same layer, click on the thumbnail for that layer or hold the **Shift** key while clicking on more than one layer. Refer to *Section 2.04*.
 - ◇ Use the **Lasso Selection** tool on the **Tools Panel** . Freely drag the mouse around the shapes you want to include in the selection:




- If you wish to select all of the shapes on the screen, there are several options:
 - ◇ Press **Ctrl+A**
 - ◇ Right-click on the screen and choose **Select All** from the menu
 - ◇ Go to **Edit>Select All**

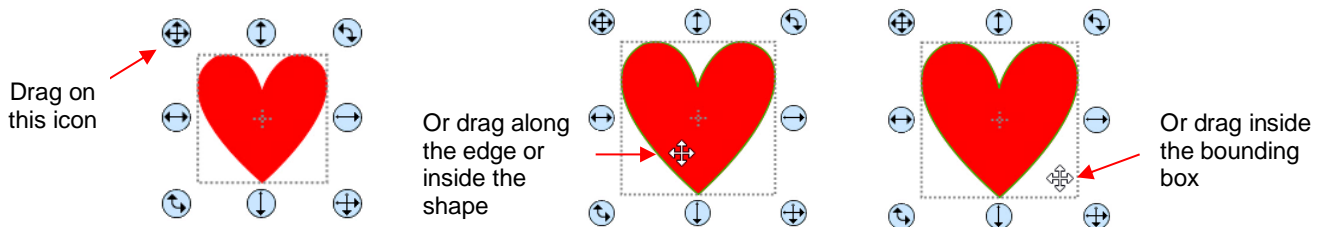
- To unselect all shapes, use one of the following ways:
 - ◇ “Click away” – click anywhere else on the screen and the shapes will be de-selected
 - ◇ Press **Ctrl+Shift+A**
 - ◇ Go to **Edit>Deselect All**

3.03 Deleting

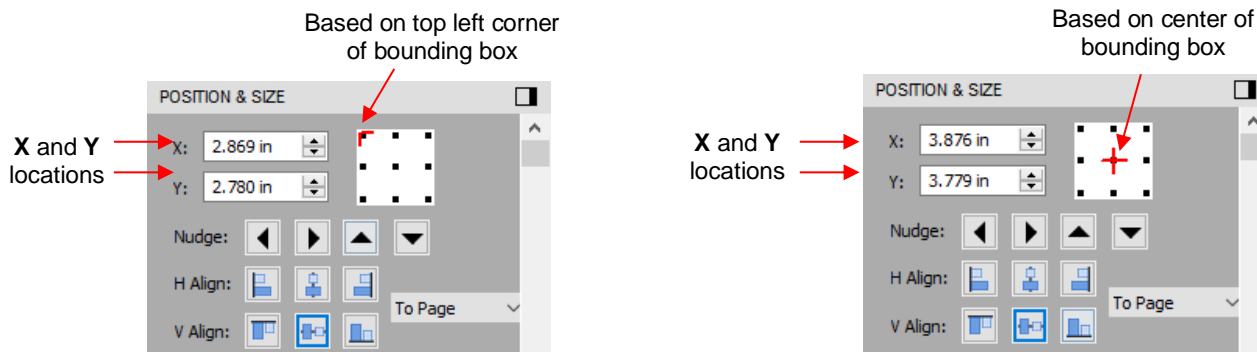
- To delete a selected shape, use any of the following options:
 - ◇ Press the **Delete** key on the keyboard
 - ◇ Right-click on the screen and choose **Delete** from the menu
 - ◇ If the shape is on its own layer, click on the **Delete Layer** icon: 
- To delete all of the shapes in the current project:
 - ◇ Use one of the methods from *Section 3.02* to select all shapes
 - ◇ Then delete using any of the prior options listed for deleting a selected shape
- You can also delete a layer of shapes at one time from the **Layers Panel**. Refer to *Section 2.04.2*.

3.04 Moving

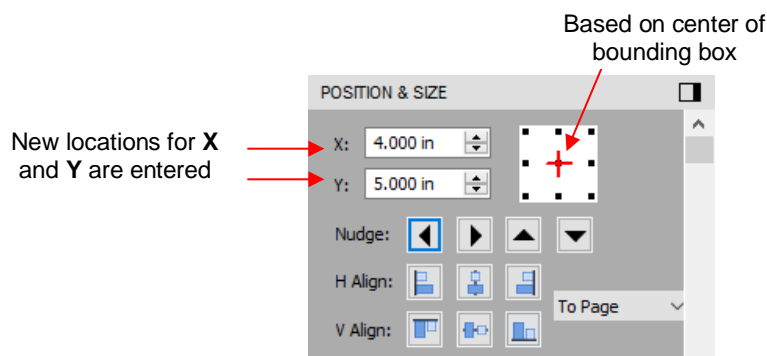
- To move a selected shape, hold down the left mouse button on the upper left corner icon or anywhere within the shape and drag to another location. Note that if you see this cursor  , the shape can be moved:



- To move a shape and maintain horizontal or vertical alignment, hold the **Shift** key while dragging or use the arrow keys on your keyboard.
- With a shape selected, the **Position & Size Settings on the Properties Panel** indicate the exact location of the bounding box around a selected shape. Note that this location is how far the shape is from the top left corner of the grid on the mat and the red mark indicates which part of the bounding box is being referenced. For example:



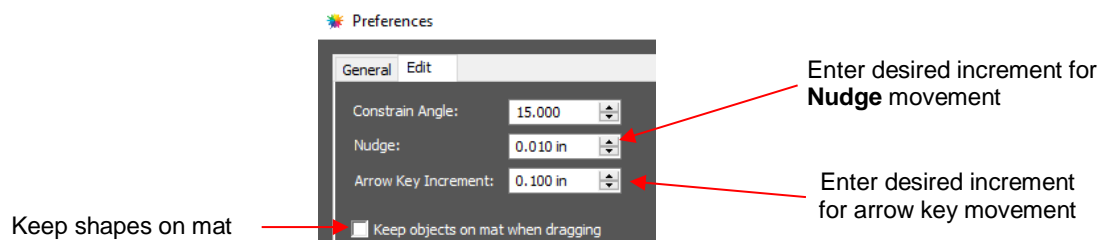
- You can enter new values into either or both of the **X**: and **Y**: windows to move the shape to a new location:



- The **Nudge** icons, which are just below the **X** and **Y** entries, can also be used to move a selected shape. These move in the same increments as the keyboard arrows:

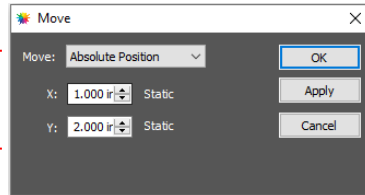


- The increment size for both the keyboard moves and the **Nudge** moves can be changed by going to **Edit>Preferences** and then selecting the **Edit** tab. This window also offers the option to allow shapes to be moved away from the boundaries of the **Page**:

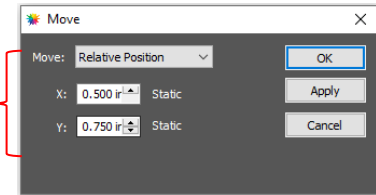


- There is also a **Move** function available which can be accessed these two ways:
 - ◇ Right-click on a selected shape and go to **Transform>Move**
 - ◇ Go to **Object>Transform>Move**
- This **Move** windows provides two moving options:
 - ◇ Move the shape to a specific position on the **Page** (called **Absolute Position**)
 - ◇ Move the shape a certain distance from its current location (called **Relative Position**)

Absolution Position:
where to place the
shape on the mat

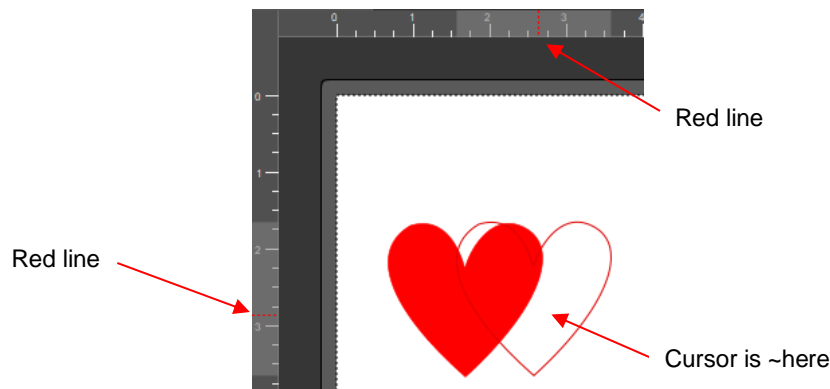


Relative Position:
how far to move the
shape in both an X
and Y direction



◇ **Important:** After applying a move in the **Move** window, click on **OK** and then re-enter the window if you need to make subsequent move.

- You can also use the **Rulers** to estimate a new location for moving shapes. Red lines will appear based on the mouse cursor's location, such as shown below:

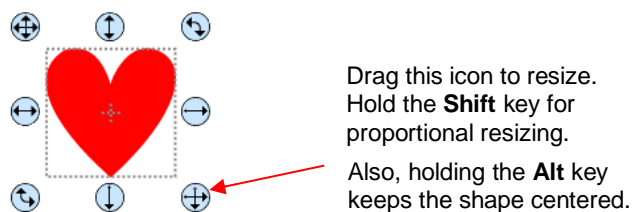


- Finally, you can add guidelines to the **Page** at specific locations and then turn on **Snap To** in order to move shapes to snap to those guidelines. Refer to *Section 7.03*.

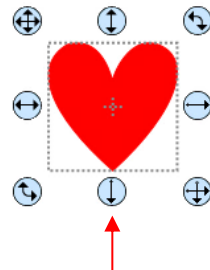
3.05 Resizing, Scaling, Auto fit

3.05.1 Resizing

- With the shape selected, use your mouse to drag the lower right corner of the shape to freely resize. If you want to keep the width and height proportional, hold the **Shift** key down before dragging that icon. If you want the resize to occur with the shape remaining in the same spot, hold the **Alt** key:



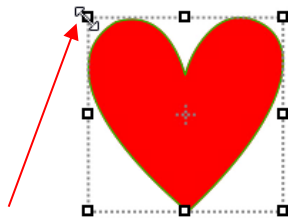
- To resize only the width or the height, drag the middle right or the middle bottom icons, respectively:



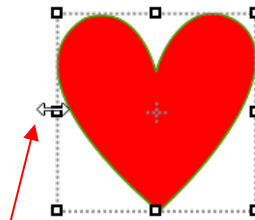
Drag this icon to resize width only.

Drag this icon to resize height only.

- If the **Handles** are in **Advance** mode, then drag a corner or a side when the cursor is directly over the handle. Again, holding the **Shift** key will resize height and width proportionately:



Drag a corner to resize.
Hold the **Shift** key for
proportional resizing.

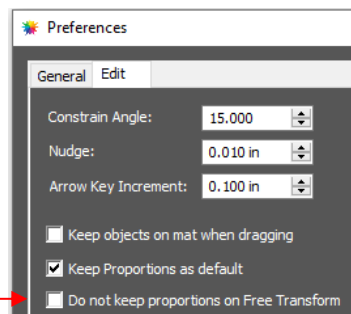


Drag left or right sides to
resize width only.



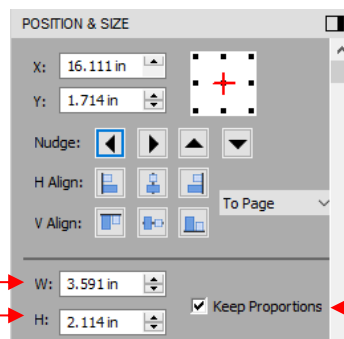
Drag top or bottom
sides to resize
height only.

- If you prefer that proportional sizing be the default, thus not requiring the pressing of the **Shift** key, go to **Edit>Preferences** and click on the **Edit** tab. Uncheck the box shown below:



Uncheck this box

- Important:** Unchecking this box does not then affect shapes created using the **Shapes** tool on the **Tools Panel**. You will need to hold the **Shift** key to maintain proportions when resizing by dragging the lower right corner.
- If you need to make the shape an exact size, then enter the dimension in the **W** or **H** box on the **Position & Size Panel**. Check the **Keep Proportions** option if you want to hold the aspect ratio constant:

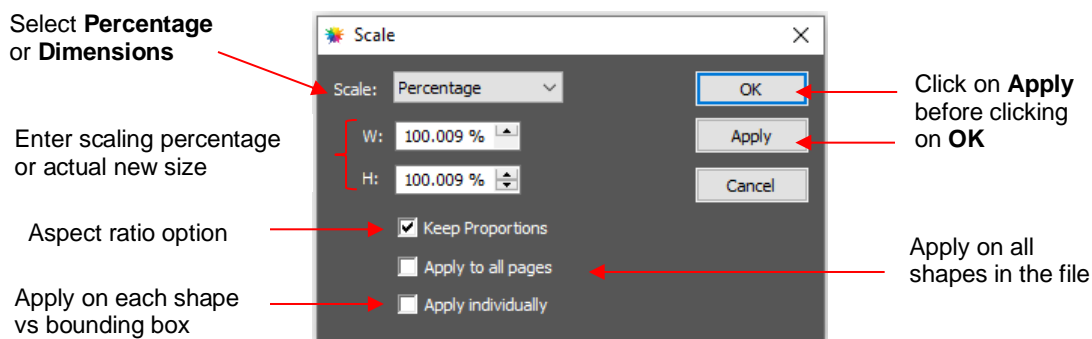


Enter desired dimensions
for Width **W** and/or Height **H**

Check this box to
hold the aspect ratio
constant.

3.05.2 Scaling

- To access the **Scale** function, select one or more shapes and then use either of the following:
 - ◇ Right-click the selected shape and go to **Transform> Scale**
 - ◇ Go to **Object>Transform> Scale**
- The following window opens:

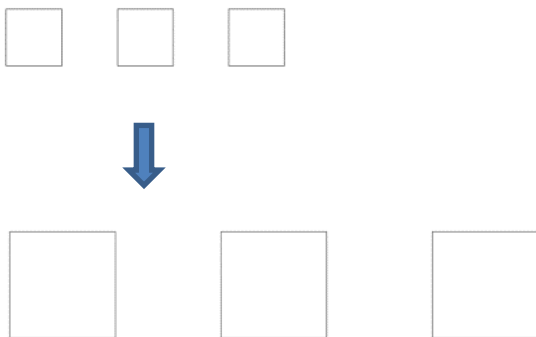


- ◇ **Scale:** Select **Dimensions** if you wish to specify the exact width and height for your selection or select **Percentage** if prefer to resize that way.
- ◇ **W:** and **H:** Enter the new dimensions or **Scale Percentages**
- ◇ **Keep Proportions:** Leave the option checked if you want to enter into either **W** or **H** and have the other automatically calculated so that the aspect ratio remains the same.
- ◇ **Apply to all page:** Mark this option and the dimension change or percentage will be applied to every shape in the project that is showing and not locked.
- ◇ **Apply Individually:** Mark this option and the dimension change or percentage will be applied as if there were no bounding box around the shapes.

- For example, take three 1-inch squares that are 1 inch apart from one another. Select all three and apply a 200% Scale.

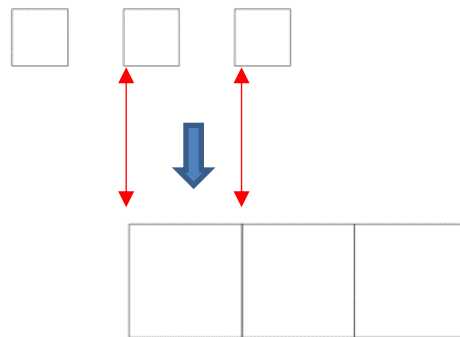
- Here are the results depending on whether or not **Apply Individually** is marked:

Apply Individually not checked:



The space between the shapes is also scaled 200%

Apply Individually checked:

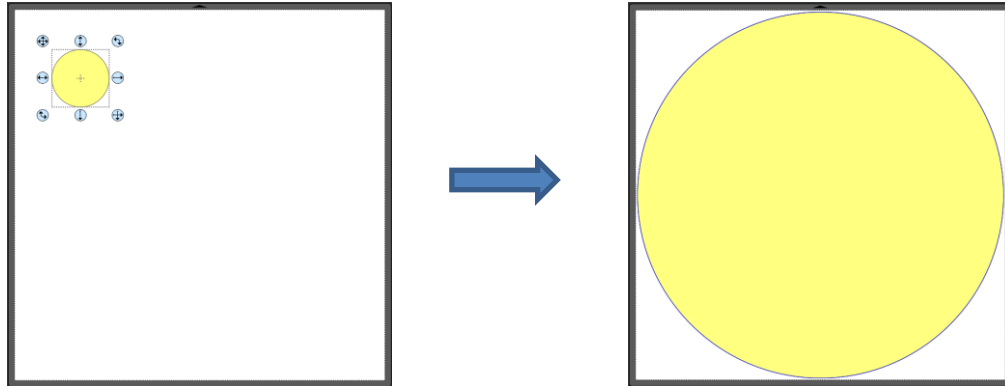


The shapes do not change locations

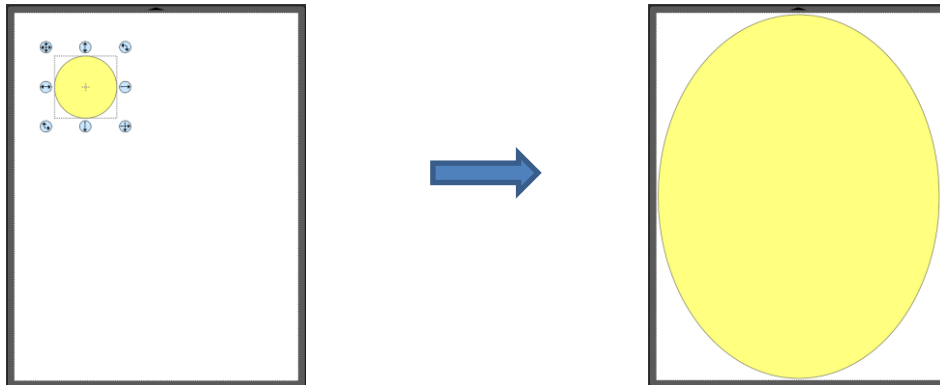
- When **Apply Individually** is not checked, the spacing between the shapes is also scaled and the squares end up 2 inches apart.
- When **Apply Individually** is checked, the spacing ends up filled by the expanding size of each square. Another way to look at it - the position of the shapes (the upper left corner) of each square does not change, as shown by the red arrows.

3.05.3 Auto Fit

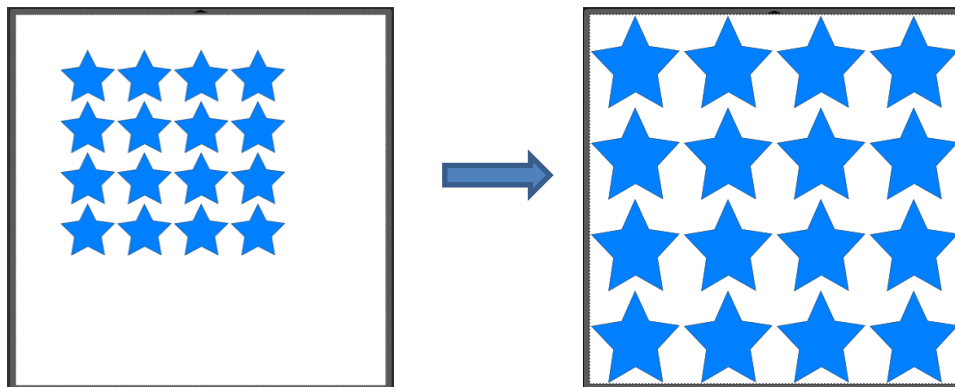
- The **Auto Fit** function will resize a shape or selection of shapes to fit the boundaries of the **Page** with a slight ($1/16$ ") margin. It is accessed by going to **Object>Transform>Auto Fit**.
- Example: Select a circle on a 12" x 12" **Page** and go to **Object>Transform>Auto Fit**:



- ◇ The new size of the circle is 11.875" x 11.875".
- ◇ If the circle is placed on a 15" x 15" mat, then it resizes to 14.85" x 14.875". However, if the circle is placed on letter size mat (8.5" x 11"), then it becomes an oval:

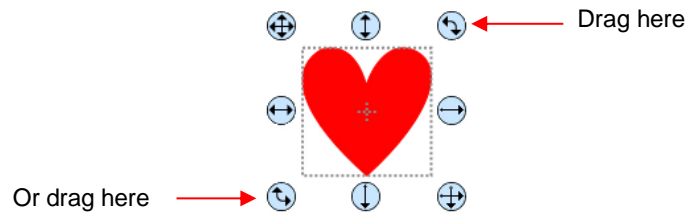


- A practical example might be something like this: You have one 12 x 12 sheet of cardstock and you want to cut out 16 stars for a party decoration and you want those stars as large as possible. Rather than having to "do the math", you can create a grid of stars (refer to *Section 3.17.4*) and then use the **Auto Fit** function to resize them for the cut:

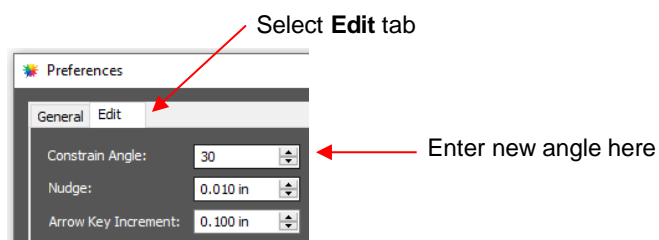


3.06 Rotating

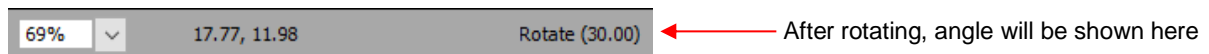
- With the **Handles** set to **Basic** mode and the shape selected, dragging the top right icon will freely rotate the shape:



- ◇ Holding the **Shift** key, while rotating, will rotate the shape in 15° increments. However, if you need to rotate in increments other than 15°, go to **Edit>Preferences**, click on the **Edit** tab, and change the **Constrain Angle** to the desired increment (from 1 to 180°). Click on **OK** to save the change:

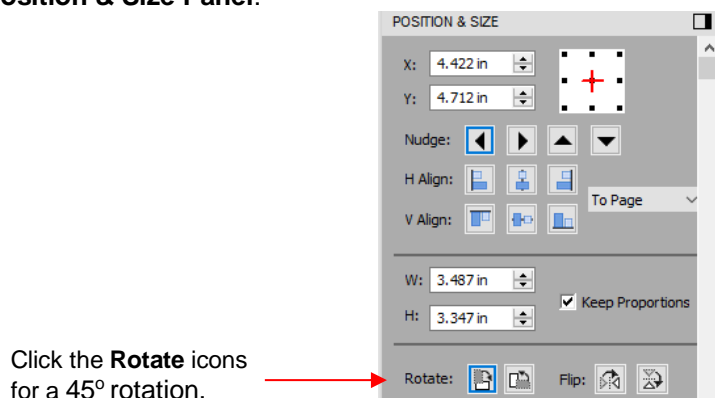


- ◇ The **Status Bar** at the bottom of the screen will indicate the current degree of rotation:

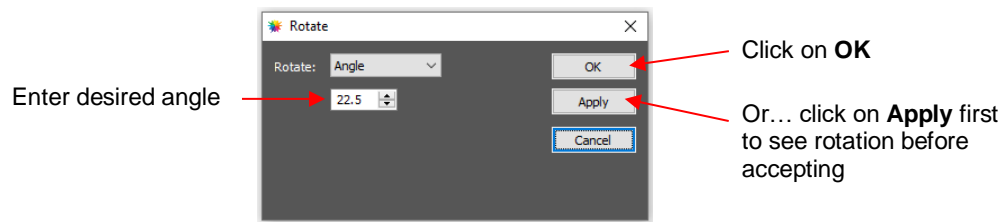


- ◇ Note: the **Status Bar** will continue to show the last degree of rotation until another shape is selected and rotated.

- A selected shape can be rotated exactly 45° clockwise or counter-clockwise, by clicking the **Rotate** icons on the **Position & Size Panel**:



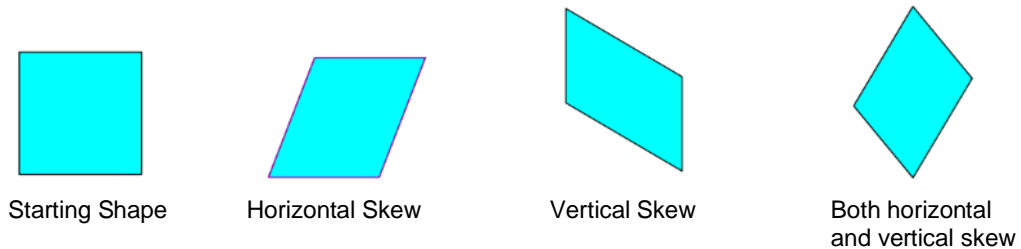
- To rotate a specific angle, open the **Rotate** window in either of two ways:
 - ◇ Right-click on a selected shape and go to **Transform>Rotate**
 - ◇ Go to **Object>Transform>Rotate**
- Enter the desired angle:



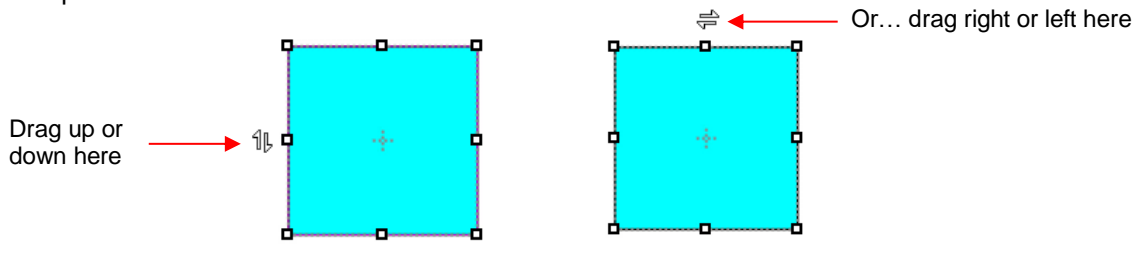
3.07 Skewing and Distorting

3.07.1 Skewing

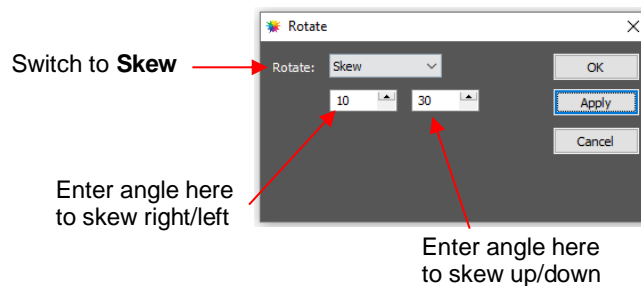
- Shapes can be skewed either horizontally or vertically:




- There are two ways to skew a shape:
 - With the shape selected and **Advanced** selected on the **Tool Options**, rest your mouse slightly outside of a handle in the middle of a side. The skew mode cursor will appear and it can be dragged to skew the shape:

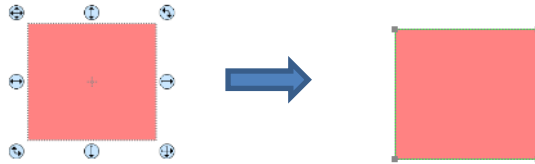


- With the shape selected, open the **Rotate** window by using one of these two methods:
 - Right-click and select **Transform>Rotate**
 - Go to **Object>Transform>Rotate**
- Then switch from **Angle** to **Skew** and enter a skew angle:

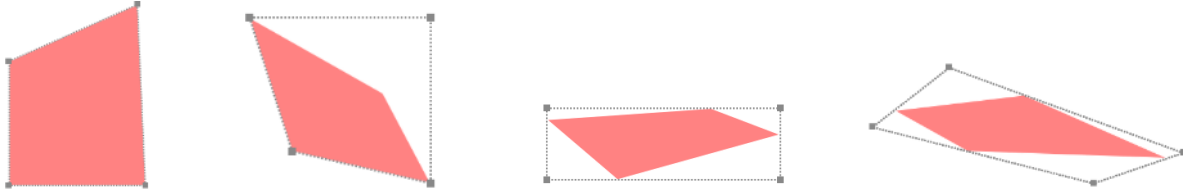


3.07.2 Distorting

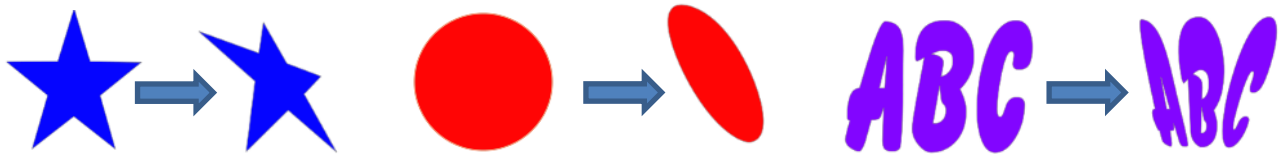
- The **Distort** tool is the 5th icon  from the bottom on the **Tools Panel**. Select a shape and then click on the icon. The four corners of the bounding box will display small boxes:



- The shape can now be distorted in countless ways by dragging any of the corners:

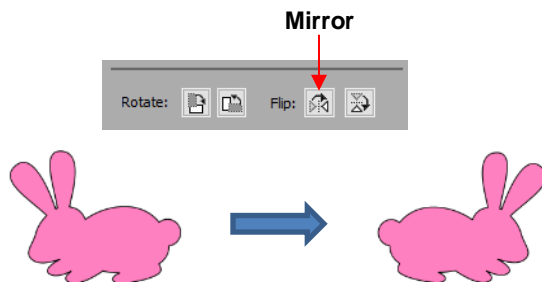


- Of course, the shape doesn't have to be rectangular. The **Distort** tool can be applied to anything:

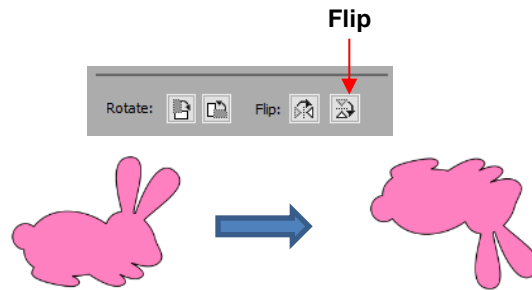


3.08 Mirroring and Flipping



- To horizontally mirror a shape, select it and then use one of the following:
 - ◇ Right-click on the screen and select **Transform> Flip Horizontal (Mirror)**
 - ◇ Go to **Object>Transform> Flip Horizontal (Mirror)**
 - ◇ Click on the **Mirror** icon, next to **Flip**, on the **Position & Size Panel**:




- To vertically flip a shape, select it and then use one of the following:
 - ◇ Right-click on the screen and select **Transform> Flip Vertical**
 - ◇ Go to **Object>Transform>Flip Vertical**
 - ◇ Click on the **Flip** icon on the **Position & Size Panel**:




3.09 Locking and Unlocking

- Locking a shape is normally done to prevent accidental selection and movement of that shape.
- To lock a selected shape, use any of the following options:
 - ◇ Right-click and select **Lock** from the menu
 - ◇ Go to **Object>Lock**
 - ◇ Press **Ctrl+Alt+L**
 - ◇ Locate the shape on the **Layers Panel** and click on the unlocked-status icon  or open the **Layer Properties** and enable the **Lock** option.
- To lock all shapes:
 - ◇ Right-click and choose **Select All**, then right-click and choose **Lock**
 - ◇ Go to **Layer>Lock/Unlock>Lock All Layers**
- To unlock a shape, locate the shape on the **Layers Panel** and click on the locked-status icon  or open the **Layer Properties** and disable the **Lock** option.
- To unlock all locked shapes, use any of the following options:
 - ◇ Right-click and select **Unlock All** from the menu
 - ◇ Go to **Object>Unlock All**
 - ◇ Go to **Layer>Lock/Unlock>Unlock All Layers**
 - ◇ Press **Ctrl+Shift+Alt+L**
- To toggle the lock/unlock status of all layers on the **Layers Panel**, go to **Layer>Lock/Unlock>Toggle All Layers**

3.10 Hiding and Showing

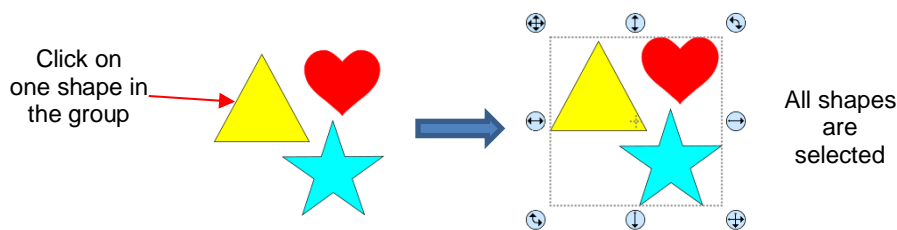
- To hide a selected shape, use either of the following options:
 - ◇ Right-click and select **Hide** from the menu
 - ◇ Go to **Object>Hide**
 - ◇ Locate the shape on the **Layers Panel** and click on the showing-status icon  or open the **Layer Properties** and disable the **Show** option.
- To hide all shapes:

- ◇ Right-click and choose **Select All**, then right-click and choose **Hide**
- ◇ Go to **Layers>Show/Hide>Hide All Layers**
- To unhide a single shape, locate the shape on the **Layers Panel** and click on the hidden-status icon  or open the **Layer Properties** and enable the **Show** option.
- To unhide all hidden shapes, use any of the following options
 - ◇ Right-click and select **Show All** from the menu
 - ◇ Go to **Object>Show All**
 - ◇ Go to **Layers>Show/Hide>Show All Layers**
- To toggle the hide/unhide status of all layers on the **Layers Panel** go to **Layer>Show/Hide>Toggle All Layers**.

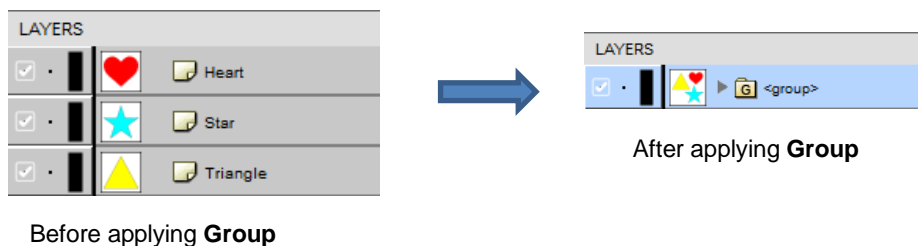
3.11 Grouping and Ungrouping

3.11.1 Group

- The **Group** function is used to combine shapes into a new folder on the **Layers Panel** so that they can be more easily moved, resized, rotated, etc.
- After selecting two or more shapes, the **Group** function can be applied in any of the following ways:
 - ◇ Right-click and select **Group** from the popup menu
 - ◇ Go to **Object>Group**
 - ◇ Press **Ctrl+G**
- The following example shows three shapes after grouping:



- ◇ On the **Layers Panel**, you see the following change:

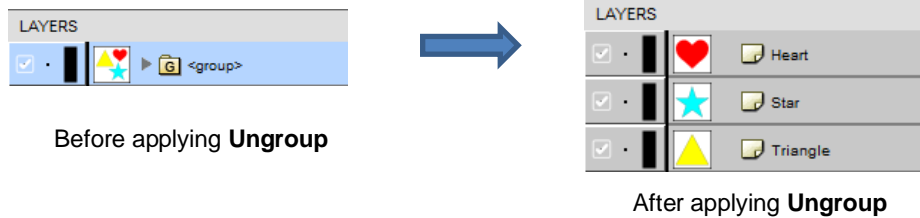


3.11.2 Ungroup

- The **Ungroup** function is used to separate a grouped layer of shapes into individual layers.
- After selecting a group, the **Ungroup** function can be applied in any of the following ways:
 - ◇ Right-click and select **Ungroup** from the popup menu
 - ◇ Go to **Object>Ungroup**

◇ Press **Ctrl+Shift+G**

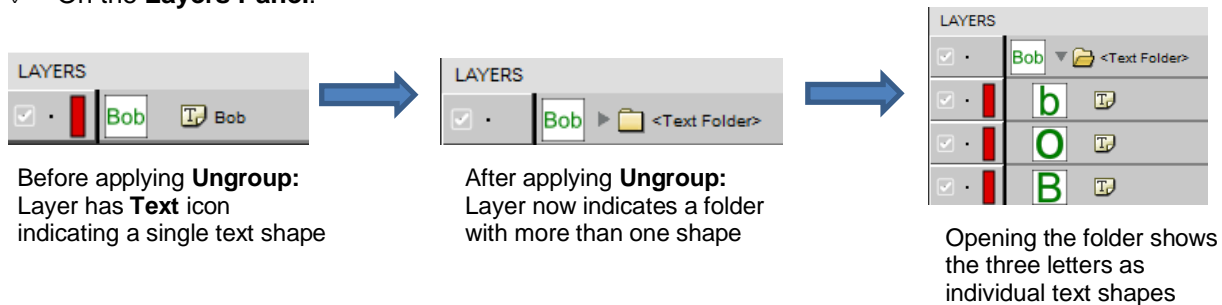
- The following screenshot shows the same grouped folder from the prior example both before and after ungrouping:



- Another example shows what happens when you ungroup a word. The individual letters of the word can now be selected:



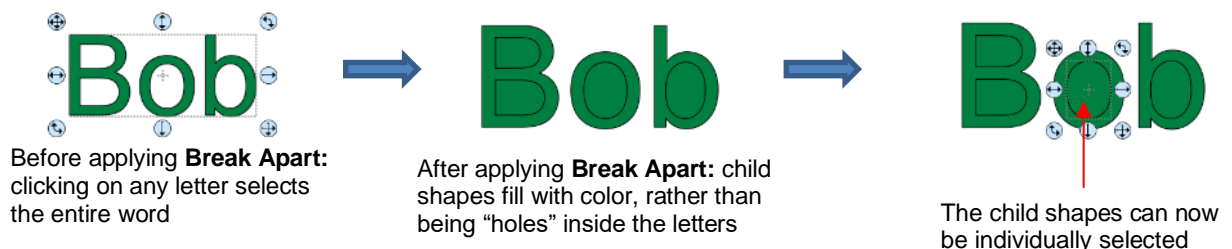
◇ On the **Layers Panel**:



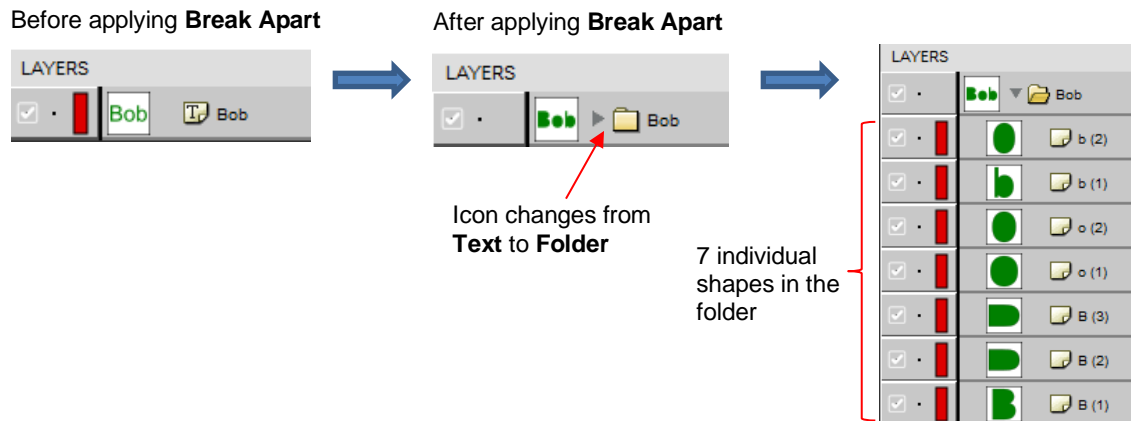
3.12 Breaking and Merging

3.12.1 Break Apart

- The **Break Apart** function goes one step further than **Ungrouping**. It is used to separate a combined shape into the individual parts that make up that shape.
- After selecting a combined shape, the **Break Apart** function can be applied in any of the following ways:
 - ◇ Right-click and select **Break Apart** from the popup menu
 - ◇ Go to **Object>Break Apart**
 - ◇ Press **Ctrl+B**
- The following screenshot shows **Break Apart** being applied to the same word "Bob" to separate the internal closed paths (also called child shapes) from the external paths (also called parent shapes):



- ◇ On the **Layers Panel**:



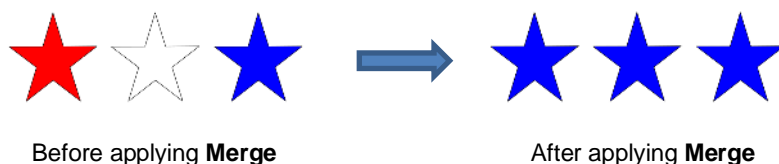
- Once you apply **Break Apart**, you have complete editing control over each individual shape within a design. But be careful! It's also easy to inadvertently move an individual shape (especially the tiny ones) and you can risk messing up the design. Thus, only use **Break Apart** when needed and then, more importantly, know how to rejoin your shapes, which is covered in the next section.

3.12.2 Merge

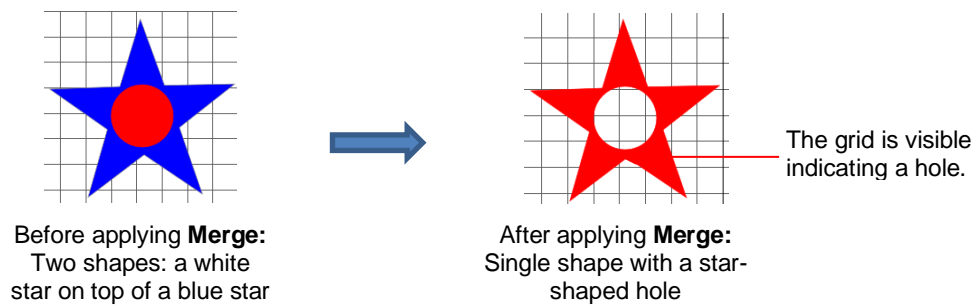
- The **Merge** function is used to combine individual paths, curves, and lines into a single shape. This is basically the opposite function to **Break Apart**.
- After selecting two or more shapes, the **Merge** function can be accessed in either of the following ways:
 - ◇ Go to **Object>Merge**
 - ◇ Press **Ctrl+Shift+B**
- If the **Merge** function is applied to the prior "Bob" example, after having **Break Apart** applied, the word will now become all one shape again. Separated child paths no longer exist and even the individual letters can no longer be selected:



- Note that if you apply **Merge** to shapes of different colors, they will all become one color because a merged shape is regarded as a single shape, even if the parts being merged do not touch:

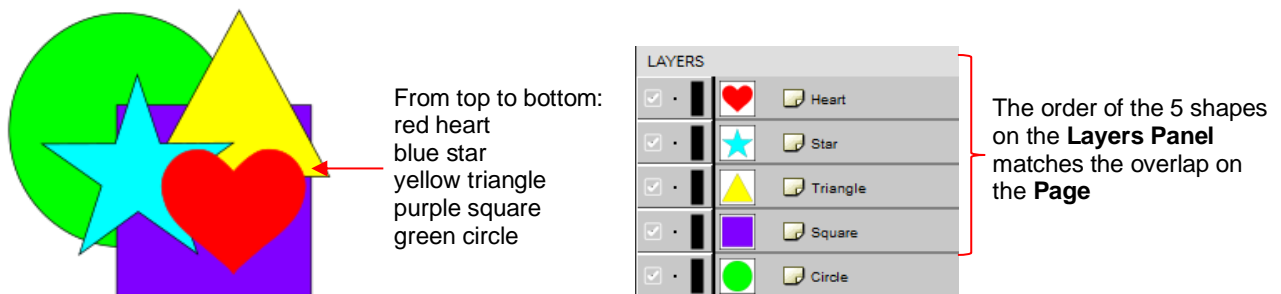


- ◇ A child shape that is merged with a parent shape essentially becomes a hole in that shape. This can be proven by having the grid showing when merging:

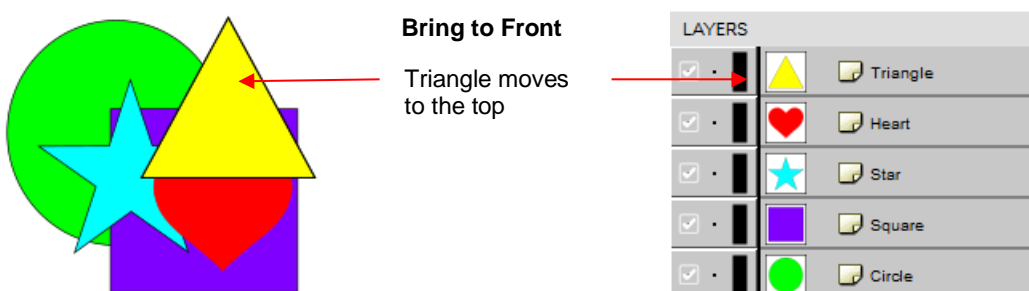


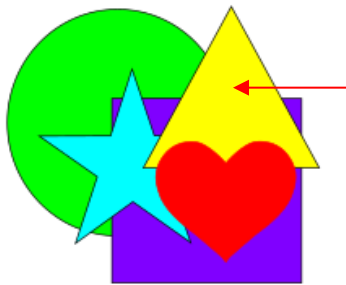
3.13 Arranging (Ordering) Shapes

- The shape order affects the visual appearance on the **Page**. A shape that is above or on top of another shape will appear above it on the **Layers Panel**.
- The following example shows five overlapping shapes and how they appear on the **Layers Panel**:



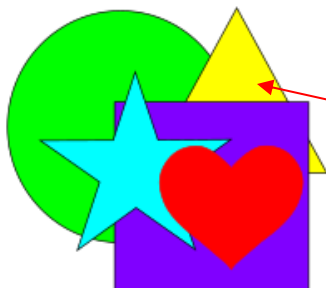
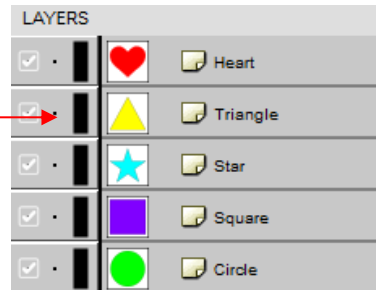
- In *Section 2.04.3*, moving layers was presented and could be used here to change the order of the shapes. However, another way to reorder these shapes is to select one and then access the **Arrange** functions using one of the following:
 - ◇ Go to **Object>Arrange**
 - ◇ Go to **Layer>Arrange**
 - ◇ Right-click and select **Arrange** from the popup menu
- Four options will then appear:
 - ◇ **Bring to Front** (or **Layer to Top**): Move selection to the very top
 - ◇ **Bring Forward** (or **Raise Layer**): Move selection up one level
 - ◇ **Send Backward** (or **Lower Layer**): Move selection down one level
 - ◇ **Send to Back** (or **Layer to Bottom**): Move selection to the very bottom
- In the above example, the yellow triangle is selected and each option shows what would have changed if it had been applied:





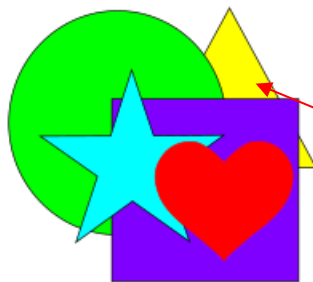
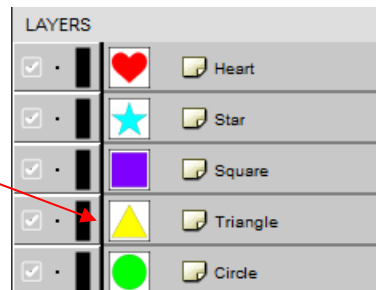
Bring Forward

Triangle moves above blue star but is still below red heart



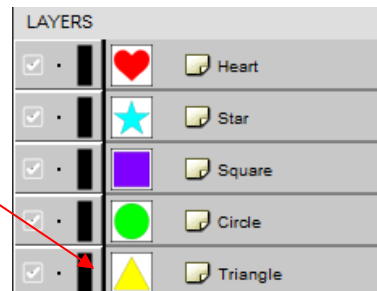
Send Backward

Triangle moves below purple square but is still above green circle



Send to Back

Triangle moves to the bottom

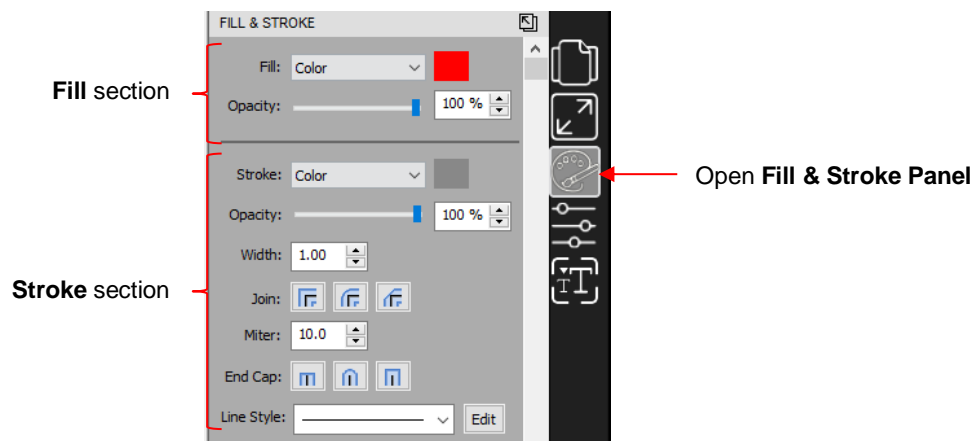


- It is worth noting that if any of the other layers had been locked or hidden, the movement of the triangle would have been the same. In other words, if the red heart had been hidden and/or locked, the triangle would still have ended up above it using **Bring to Front**.
- There are also shortcut keys for these four **Arrange** functions:
 - ◇ Bring to Front - **Ctrl+Shift+Up** (Mac – **Shift+Cmd+]**)
 - ◇ Bring Forward - **Ctrl+Up** (Mac – **Cmd+]**)
 - ◇ Send Backward - **Ctrl+Shift+Down** (Mac – **Shift+[**)
 - ◇ Send to Back - **Ctrl+Shift+Down** (Mac – **Shift+Cmd+[**)

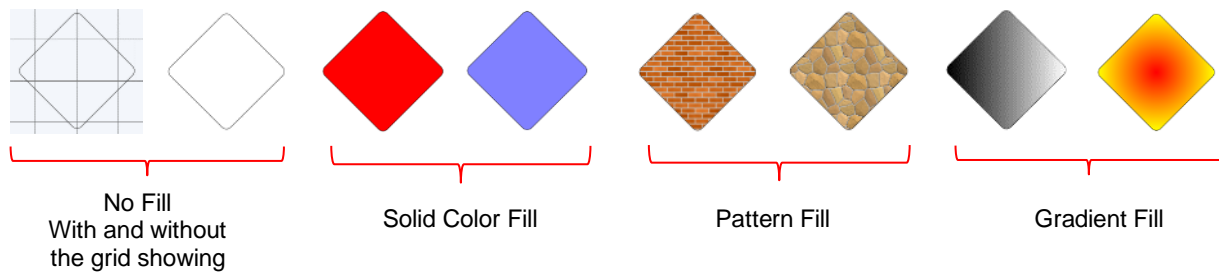
3.14 Fill & Stroke: Fill

Video

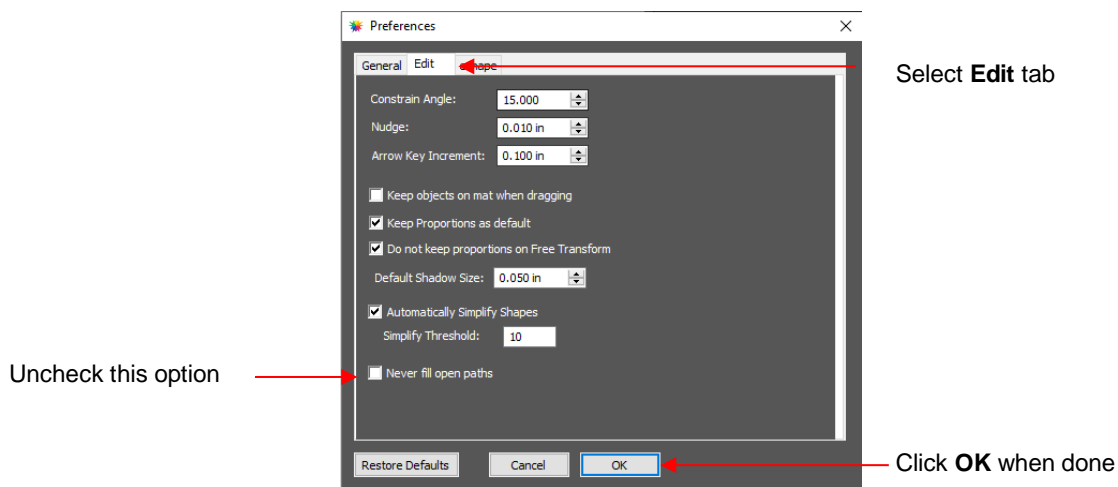
- The **Fill & Stroke Panel** provides options for changing how a shape or open path appears on the screen and, in the case of **Line Style** (solid versus dashed), how it cuts. This can be helpful in designing a project and also in print and cut applications.
- To open this panel, click on the **Fill & Stroke** icon on the **Properties Panel**:



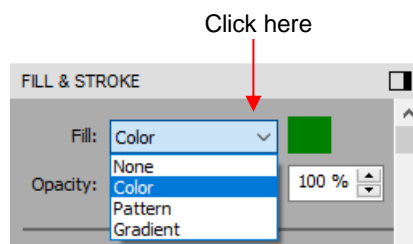
- Shapes can be filled with nothing, a solid color, a pattern or a gradient:



- By default, only closed shapes can display a fill. However, you can opt to have open shapes filled by going to **Edit>Preferences**, clicking on the **Edit** tab, and then unchecking the box next to **Never fill open paths**.

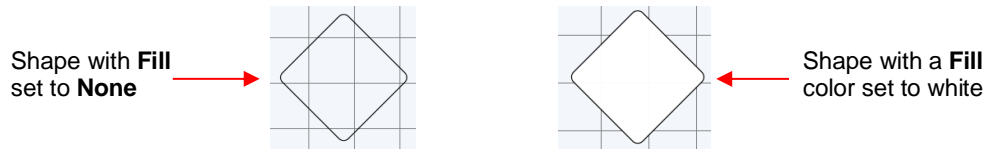


- To select a type of **Fill**, click on the drop-down menu and select from the four options:



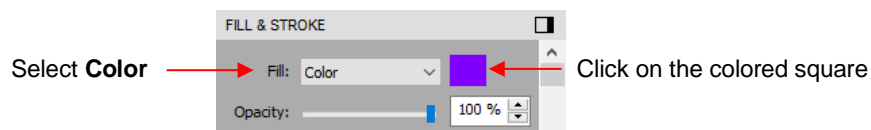
3.14.1 No Fill

- From the **Fill** menu, select **None** and shape will be empty. Note that this is not the same as having a white fill. When **None** is selected, the grid will show through the shape if the **Show Grid** option (on the **Document Panel**) is turned on:

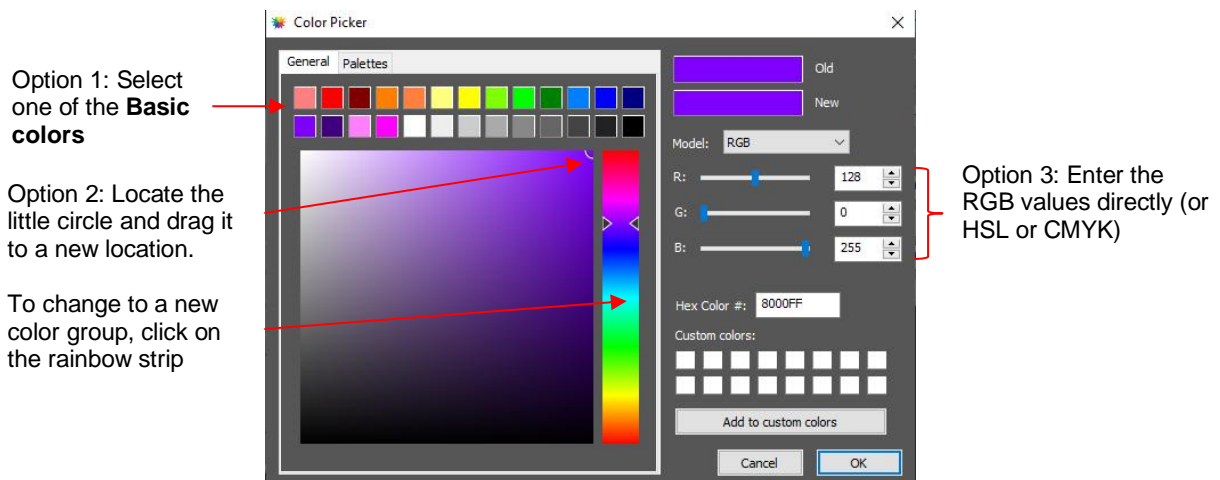


3.14.2 Color Fill

- From the **Fill** menu, select **Color** and then click on the color box to the right:



- The following **Color Picker** window opens where you have the option to select a basic color or create a custom color:

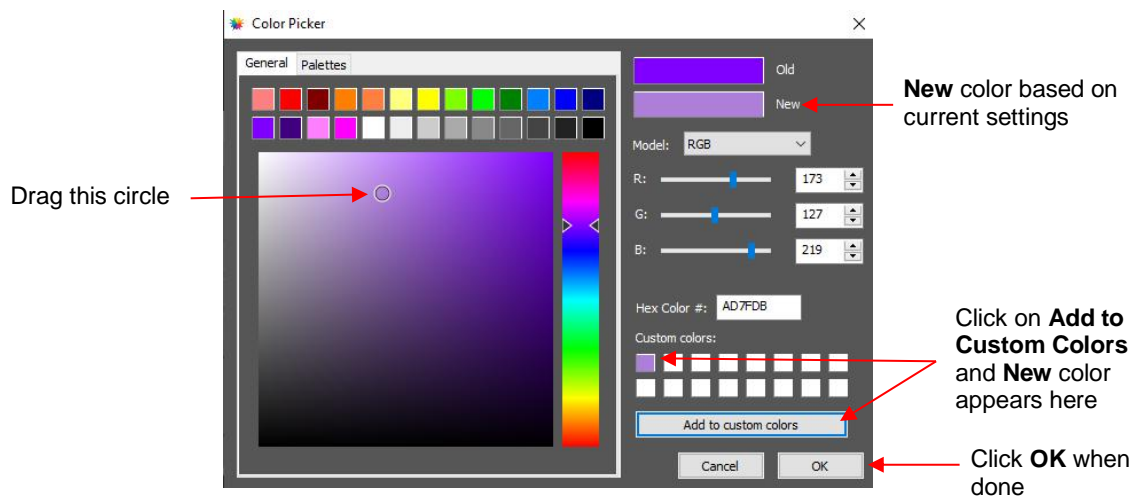


Note that a new **Custom Color** will only be saved and available in the current project.

- ◇ Option 1: Select any of the 13 colored squares. You can then adjust that new color, if desired, using Option 2 or Option 3.
- ◇ Option 2: Locate the tiny circle in one of the corners and drag it to change the tone and brightness for that color. Alternatively, you can click anywhere along the rainbow strip to change to a completely different color and then drag the smaller circle to refine that color.
- ◇ Option 3: From the **Model** menu, select **RGB**, **HSL**, or **CMYK** and enter the color values for the color you want to use.
- ◇ As you make changes, the **New** color box will change so you can immediately see the effects:



- ◇ Once you have the color you wish to use, click on **OK**. However, if you want that same color available to select again within this same file, click on **Add to custom colors** before clicking on **OK**.

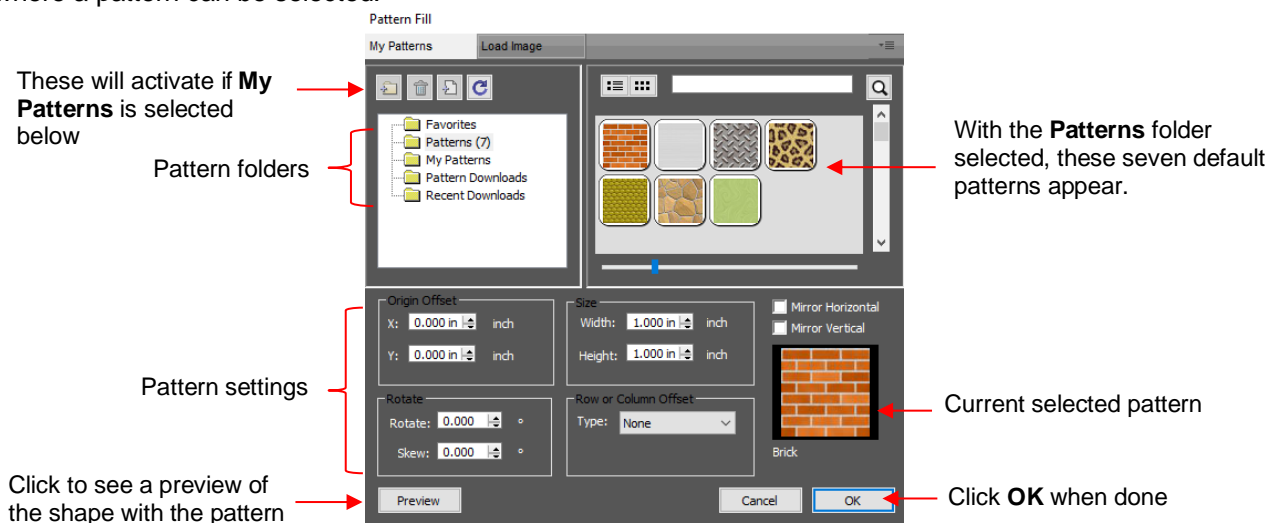


Note that a new **Custom Color** will only be saved and available in the current project.

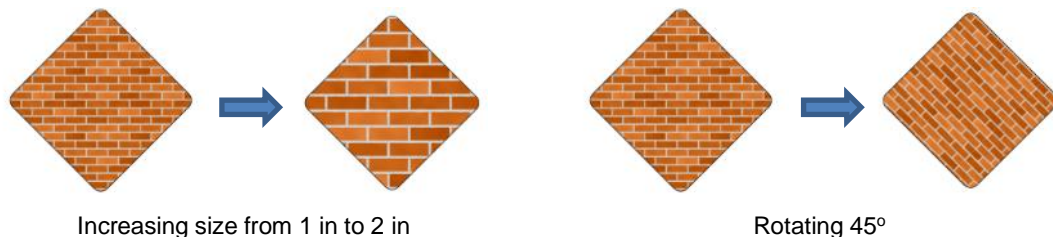
3.14.3 Pattern Fill

Video

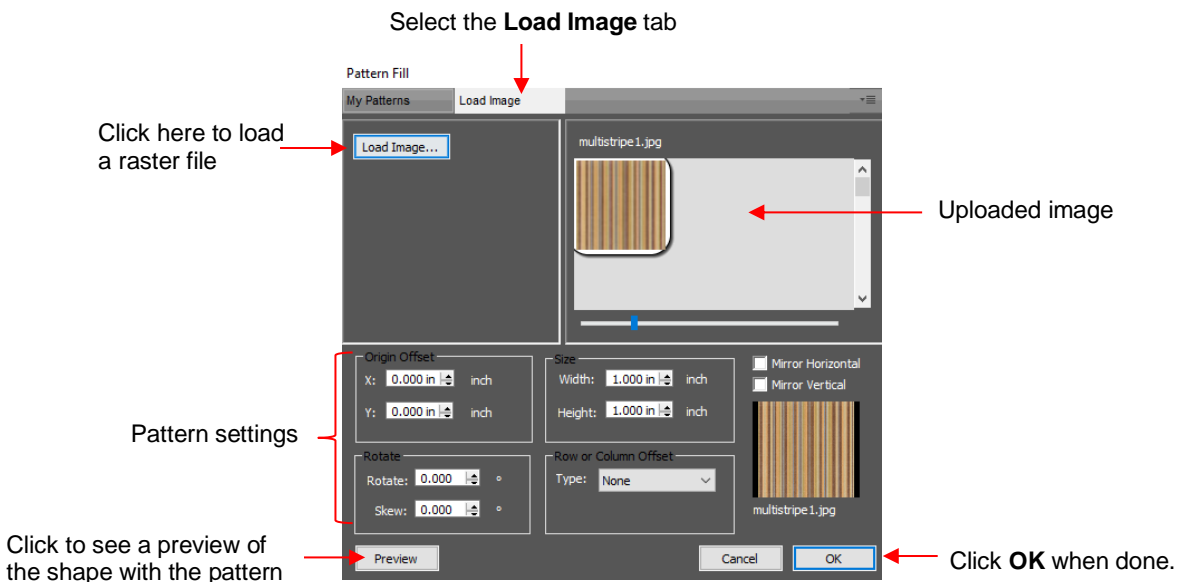
- From the **Fill** menu, select **Pattern** and then click on the color box to the right to open the following window where a pattern can be selected:



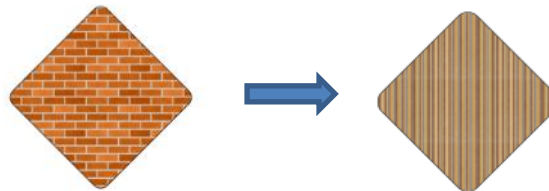
- Many of the functions in the **Pattern Fill** window are identical to those under the **Shapes** tab in the **Library**. Refer to *Section 2.03.1* for directions on searching, adding new folders, adding new files, adding to **Favorites**, etc.
- When adding your own patterns under **My Patterns**, select common raster file formats (e.g. BMP, PNG, JPG). Allow sufficient time for the pattern to load as raster files can be quite large. These patterns will remain available in other projects.
- The pattern settings can be used to modify how the pattern appears in the filled shape, for example:



- The other tab, **Load image**, can be used to load a raster file to use as a pattern, if you do not wish to save it under **My Patterns**. It has pattern settings, as well:



◇ The selected shape now fills with the uploaded image:



- If you need to fill a shape with a raster image, such as a photo where very precise placement is required, use the **Clip Path** and **Clip Mask** functions instead. Refer to *Section 7.07*.

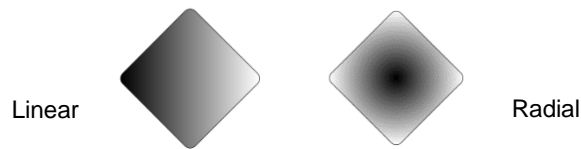
3.14.4 Gradient Fill

Video

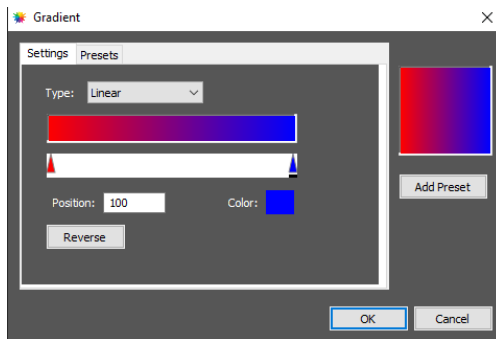
- From the **Fill** menu, select **Gradient** and then click on the color box to the right to open the following window where a gradient can be designed:



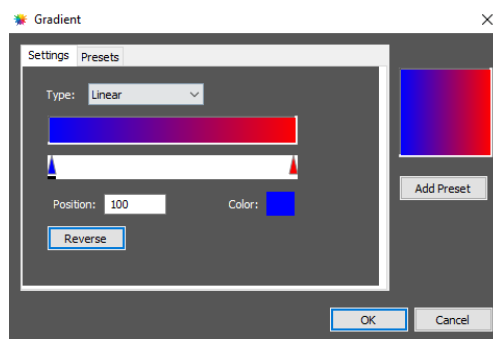
- Type:** Choose **Linear** for a left-to-right gradient. Choose **Radial** for a center outwards gradient:



- ◇ To change colors, click on one of the markers, then click on the color selector box and choose a color from the **Color Picker** window. Repeat for the other marker. As with other color selections, you can choose a base color or create a custom color. Refer to *Section 3.14.2* for details on using the **Color Picker** window.
- ◇ After selecting new colors, the thumbnail image will update. Note that clicking on **Reverse** will switch the two chosen colors:

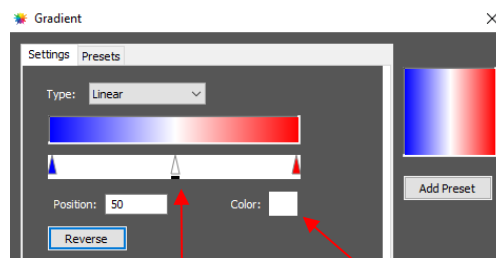


After selecting new colors



After applying **Reverse**

- ◇ More markers can be added by clicking on the **Position Bar** and then clicking on the **Color** selector. For example, white could have been added to the middle:



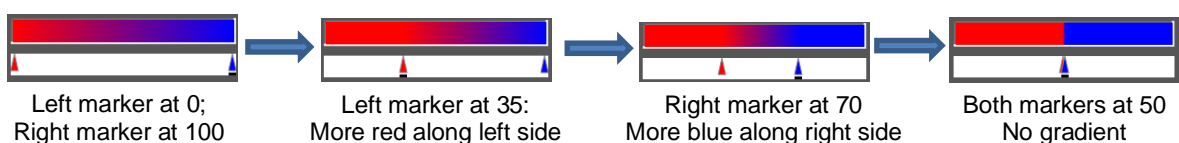
Click once to add a marker

Then click here to select color

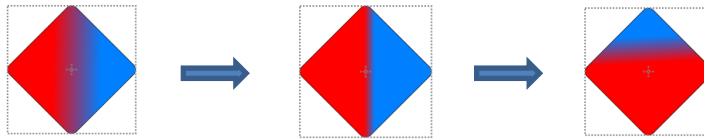
Shape with a **Fill** color set to white

- ◇ If you inadvertently add a marker or decide you don't want one or more of the new ones, drag the marker downward and it will be removed.
- ◇ **Position:** The **Position** value is a location from 0 to 100 and applies to whichever marker is selected. Note the little black line under a selected marker

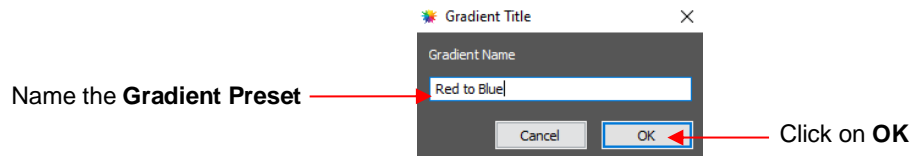
- ◇ Changing the **Position** moves the marker and resets where the gradient begins on that side. You can also manually slide the markers to change the **Position**, as well. Returning to the two-color example:



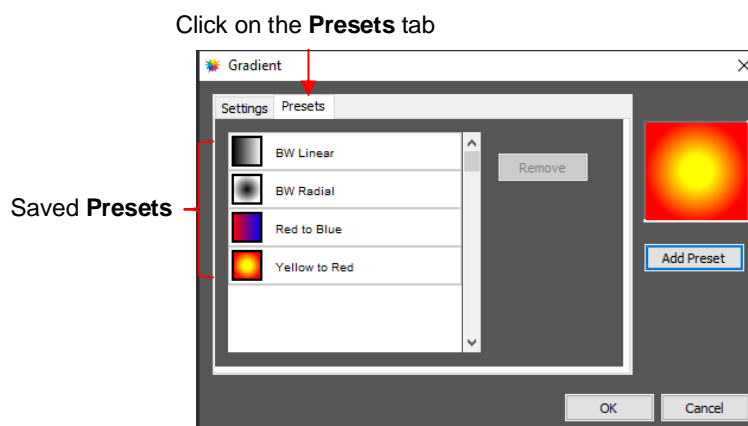
- ◇ The **Position** can also be changed after the shape is filled and the **Gradient** window is closed. On the **Tools Panel** is a **Gradient** tool. After selecting the shape, click on the **Gradient** icon and then drag the mouse across the shape to change the **Positions** and even rotate the gradient:



- ◇ If you want to save a particular gradient for future applications, click on **Add Preset** and a window will open where you can name this **Preset**:

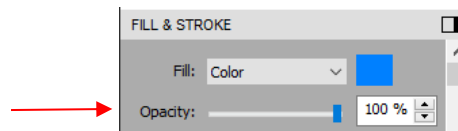


- ◇ To access your saved **Gradient Presets**, click on the **Presets** tab and the menu will appear:



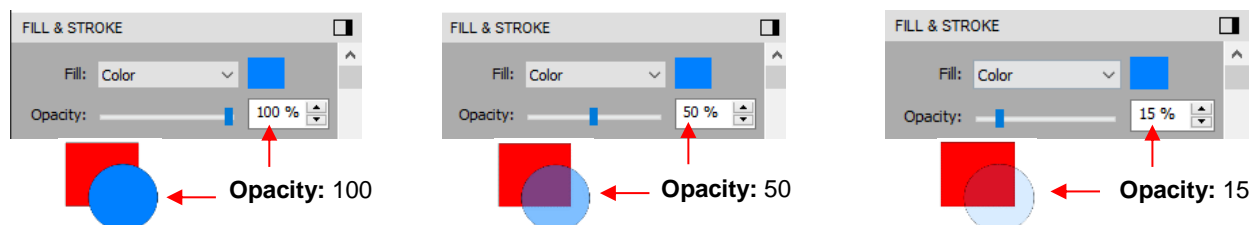
3.14.5 Opacity

- Just below the **Fill** setting is **Opacity**:

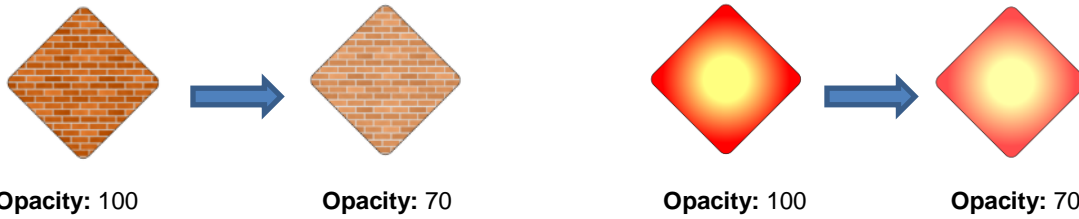


- Decreasing the **Opacity** setting will make a shape more transparent. This can be used for changing the appearance for printing or for revealing shapes that are completely or just partially hidden by other shapes.

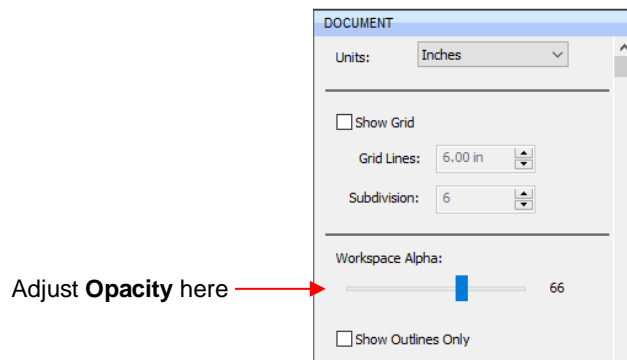
- ◇ In the following example, the **Opacity** is decreased on the blue circle, allowing the blocked portion of the red square to be seen:



- ◇ Lowering the **Opacity** can be applied to shapes filled with **Patterns** and **Gradients**, as well:



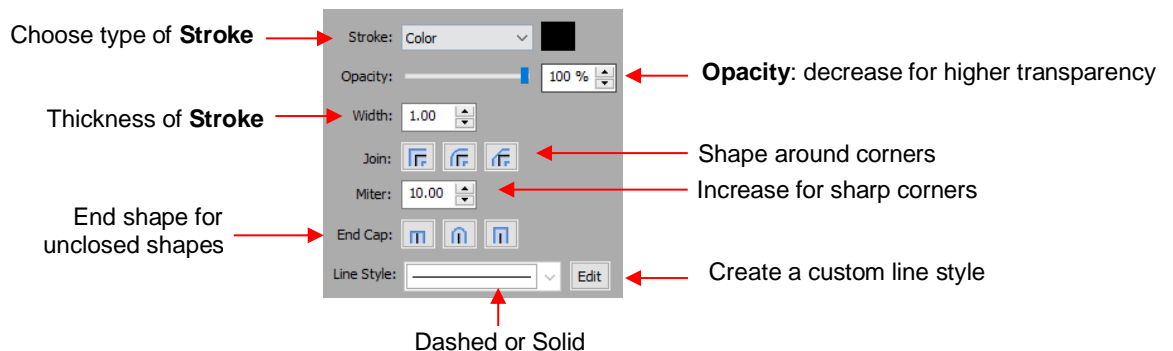
- ◇ If you want to decrease the **Opacity** for all shapes, the **Workspace Alpha** setting on the **Documents Panel** can be reduced from 100% to the desired level:



3.15 Fill & Stroke: Stroke

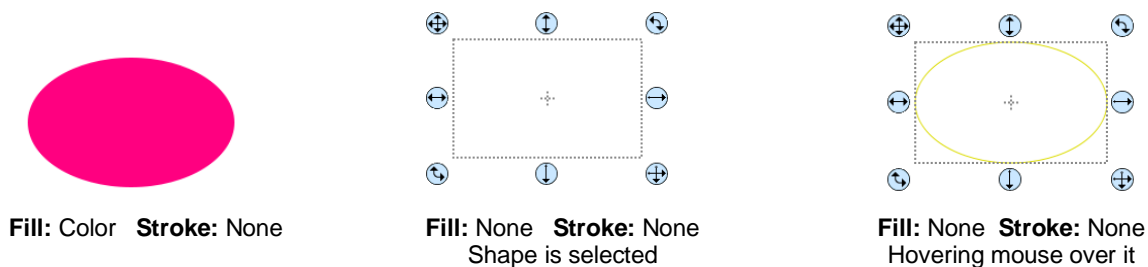
3.15.1 Stroke Settings

- The **Stroke** settings are located below the **Fill** settings on the **File & Stroke Panel**. Note the following:

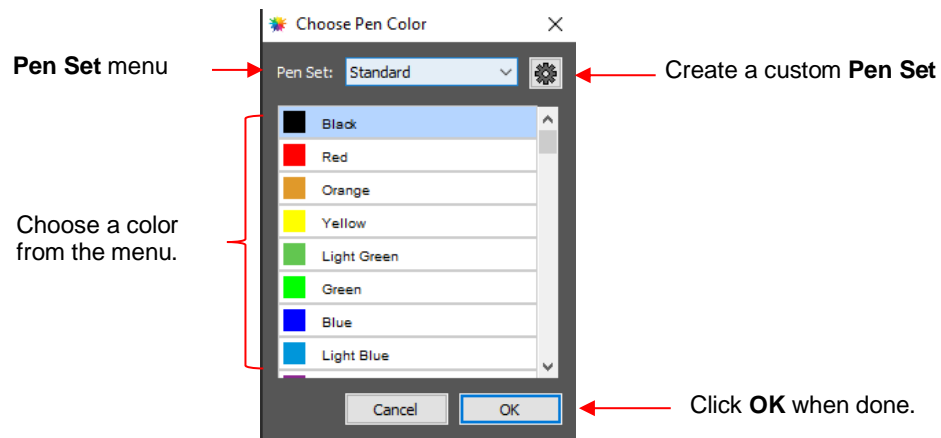



- Stroke:** All shapes have a **Stroke** assignment using one of the following choices:

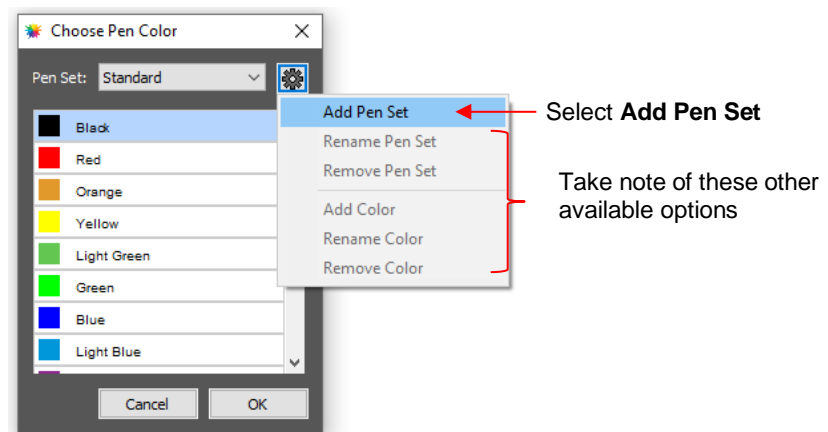
- ◇ **None:** The shape will not have an outline. Note that if you also choose **None** for the **Fill**, then you will not be able to see the shape at all unless you hover the mouse over it:



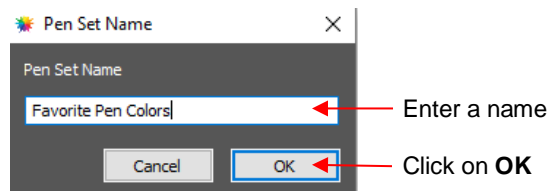
- ◇ **Color:** Once **Color** is selected, click on the box to the right and the **Color** window will open. This is the same window that opened when **Color** was selected under **Fill**. As with other color selections, you can choose a base color or create a custom color.
- ◇ **Pen Color:** Choose this if you are recoloring lines based on selecting actual pens or other tools to switch out during the cut.
- ◇ When you choose **Pen Color** and then click on the box to the right, the **Choose Pen Color** window opens:



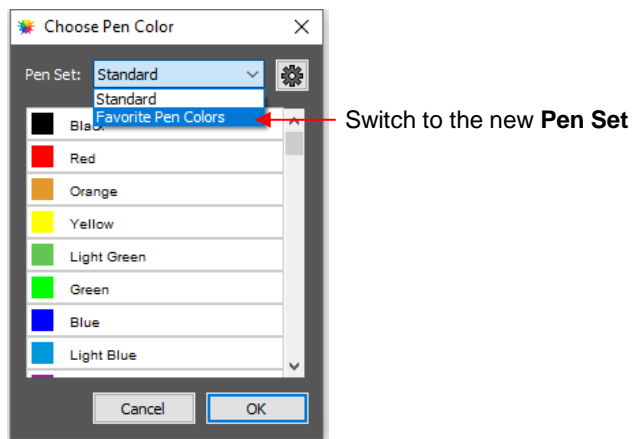
- Select the desired color from the menu and click **OK**. You also have the option to create your own custom **Pen Set** by clicking on the small icon in the upper right corner . The following menu appears and you can then select **Add Pen Set**:




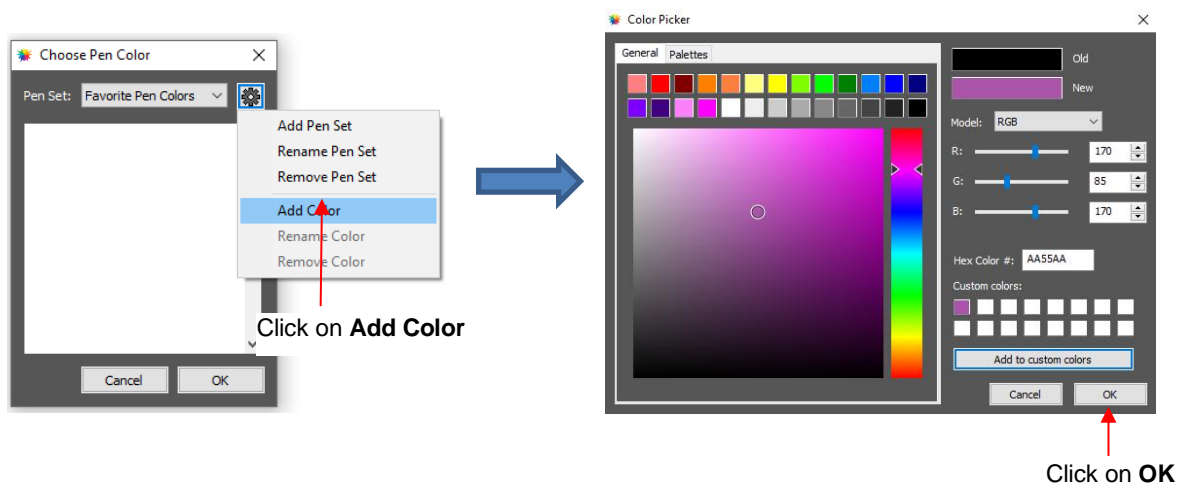
- Next, name the pen set:



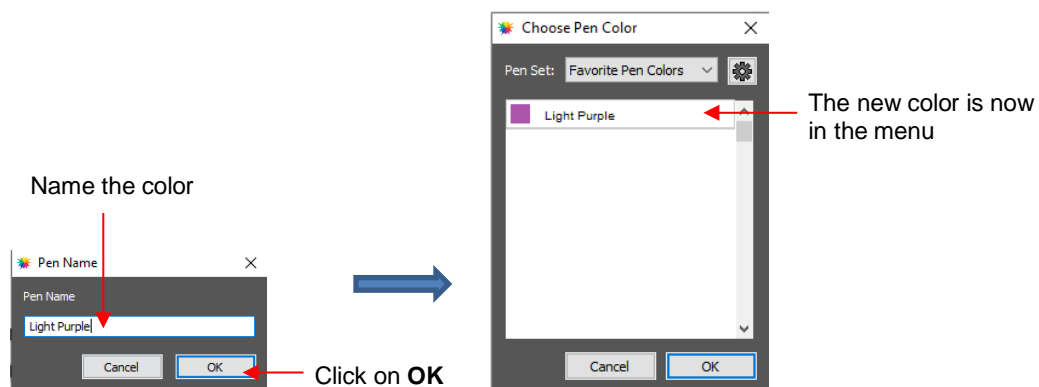
- In the **Pen Set** menu, you can now select the new **Pen Set Name**:



- ◇ Again, click on the small icon in the upper right corner  and you can begin adding pen colors with their respective color values or just scroll to create colors you like:



- ◇ After clicking on **OK**, you will be prompted to name this color and then it will show up in the menu:



- ◇ In the same menu where you can add new colors, are options to **Remove Color** or **Rename Color**.

- **Opacity:** Decreasing the **Opacity** setting will make the **Stroke** color more transparent. It's not particularly noticeable until you increase the **Stroke Width**, thus examples will be shown in the next bullet.
- **Width:** Increasing the **Width** will make the **Stroke** thicker. The units are in pixels thus the same values give the same results whether **Units** are set to inches, cm, or mm.



Stroke Width: 1
Opacity: 100%



Stroke Width: 10
Opacity: 100%




Stroke Width: 20
Opacity: 100%




Stroke Width: 20
Opacity: 50%

- ◇ **IMPORTANT:** The **Stroke Width** does not affect how a shape or line is cut or drawn. It's only used for display and printing purposes.

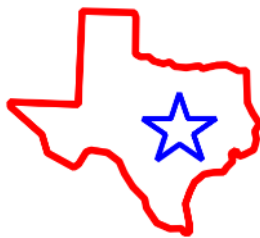
- **Join** consists of three options which affect how sharp corners are handled:

- ◇ **Miter** : Corners are sharp but will become beveled at low values of **Miter**

- ◇ **Round** : Corners are rounded off.

- ◇ **Bevel** : Corners are clipped at a 45° angle.

- Just as with **Opacity**, there's not a strong visual difference if the **Stroke Width** is small. Thus to illustrate **Join**, a **Stroke Width** of 20 will be used:



Join: Miter
Miter: 1.0
Slightly beveled



Join: Miter
Miter: 3.5
Sharp corners




Join: Round




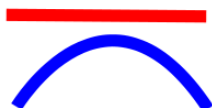
Join: Bevel

- **End Caps:** Unclosed shapes, such as lines and arcs, can have the **Stroke** shape on the ends changed, similar to the **Join** setting. The choices are:

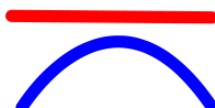
- ◇ **Butt** : The end is squared off, aligned with the actual end of the path

- ◇ **Round** : The end is rounded.

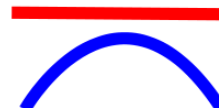
- ◇ **Square** : The end is squared off and extends beyond the actual end based on the **Stroke Width**.



End Cap: Butt



End Cap: Round



End Cap: Square

- To better illustrate the difference between **Butt** and **Square**, the original line is shown in a close up:



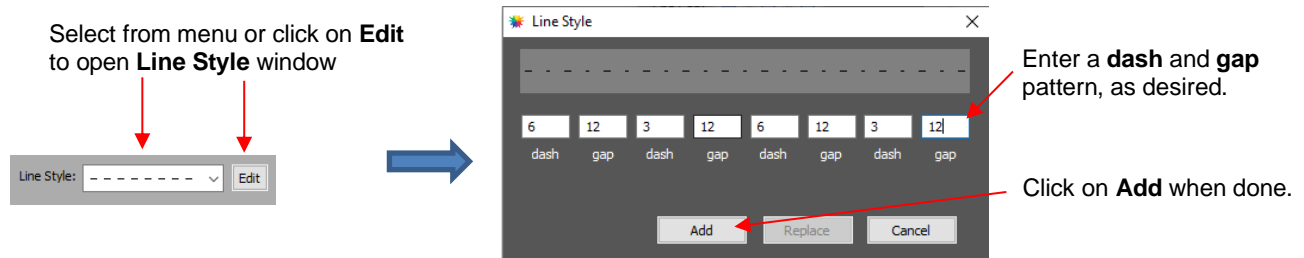
End Cap: Butt – cap ends at the line end



End Cap: Square – cap extends beyond end

3.15.2 Stroke Line Style

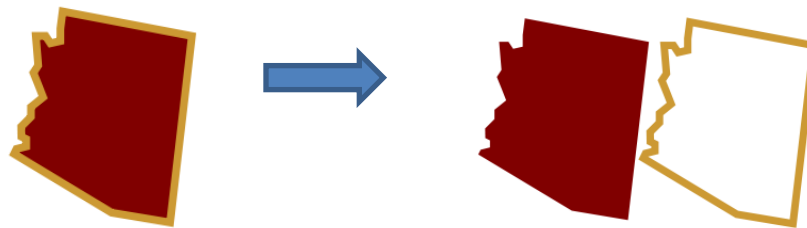
- One additional **Stroke** setting deserves its own subsection because it also affects how a shape will be drawn or cut by your cutter.
- The **Line Style** can be either solid or dashed. If dashed is selected, then one of the default patterns can be selected or you can specify the dash length and spacing desired by clicking on **Edit**:



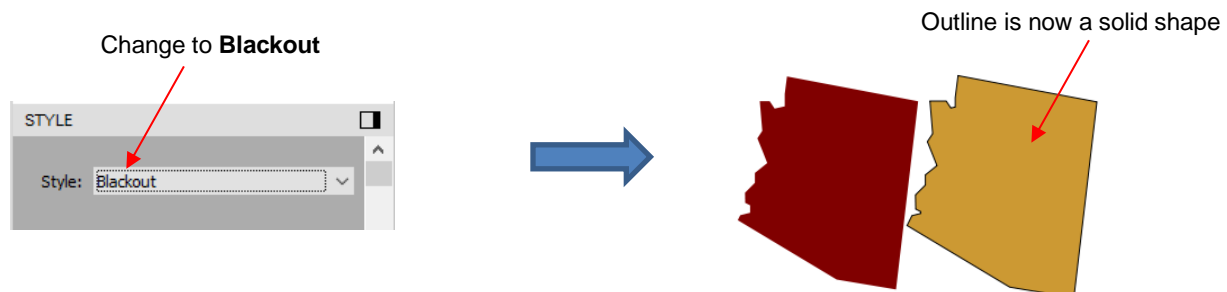
- ◇ The **Line Style** selected will be displayed on the screen and will be cut or drawn with that style by the cutter. Again, the **Stroke Width**, however, is ignored by the cutter.

3.15.3 Converting Strokes into Closed Shapes

- In the event you decide the stroke should be its own shape, select the shape and go to **Path>Stroke to Path**. You can now drag the stroke shape away from the original:




- If you want the new outline shape to be a solid background instead of an open frame, select it and then, on the **Style Panel**, change the **Style** settings from **Normal** to **Blackout**:



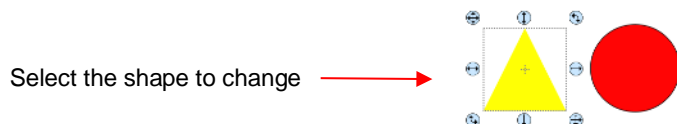
- More about the **Style** setting is covered in *Section 8.01*. There are also other ways to create shadow layers. Refer to **Path Offset** (*Section 6.05*) and **Shadow Layer** (*Section 7.05*).

3.16 Dropper Tool

- Shapes can also have the **Fill**, **Stroke** or both changed based on the settings for another shape. This is accomplished using the **Dropper** tool  on the **Tools Panel**.

- To use this function:

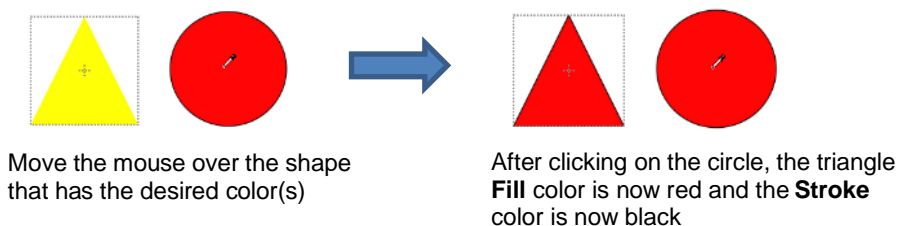
- ◇ Select the shape to be recolored. In this example, it will be a yellow triangle with no **Stroke**:



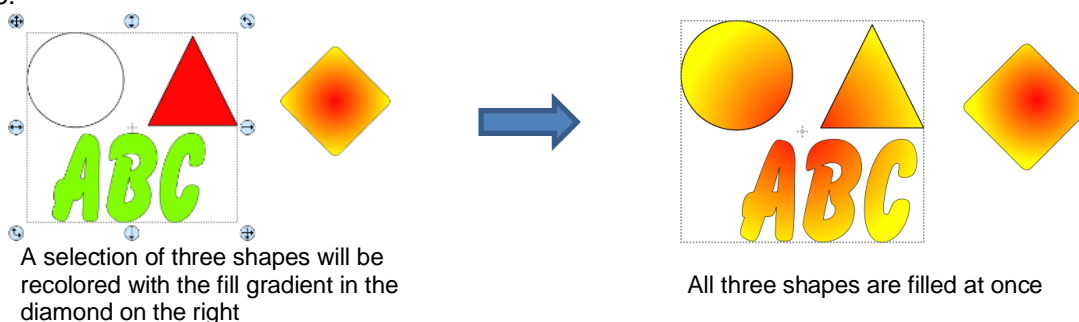
- ◇ Click on the **Dropper** tool icon and choose a setting from the **Tool Options**:



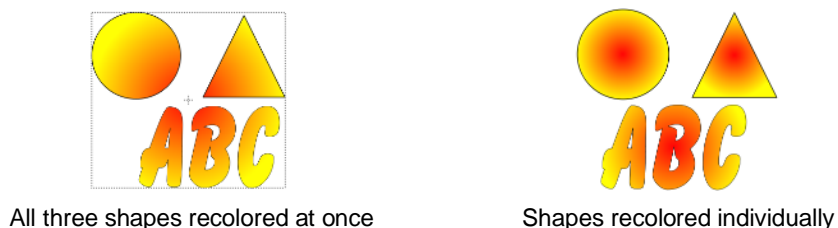
- ◇ Finally, click on the shape that has the color property you wish to use. In this case, it's the red circle with the black **Stroke**. The selected triangle is recolored to match.



- Note that other properties, such as **Stroke Width** or **Opacity**, will not be copied onto the selected shape. On the other hand, if the **Fill** is a pattern or gradient, it will be copied. You can also fill multiple shapes at once:



- Note, however, that the three shapes were treated as one object when filling with the gradient. A different result is obtained if each shape had been filled separately:



- If the color you wish to use is in a raster image, open the image in the **Trace Image** window. Use **Single Color** trace (*Section 5.03.10*) to capture a traced portion of that color. Then proceed with the **Dropper** tool.

3.17 Cutting, Copying, Pasting, Duplicating

3.17.1 Cutting to the Clipboard

- To cut shapes to the clipboard (copy to the clipboard and delete from the **Page**), first select the shape or shapes and then use any of the following:
 - ◇ Right-click on the screen and select **Cut**
 - ◇ Press **Ctrl+X**
 - ◇ Go to **Edit>Cut**

3.17.2 Copying to the Clipboard

- To copy shapes to the clipboard, first select the shape or shapes and then use any of the following:
 - ◇ Right-click on the screen and select **Copy**
 - ◇ Press **Ctrl+C**
 - ◇ Go to **Edit>Copy**
- To make multiple copies, refer to the **Duplicate** function described later in this section.

3.17.3 Pasting from the Clipboard

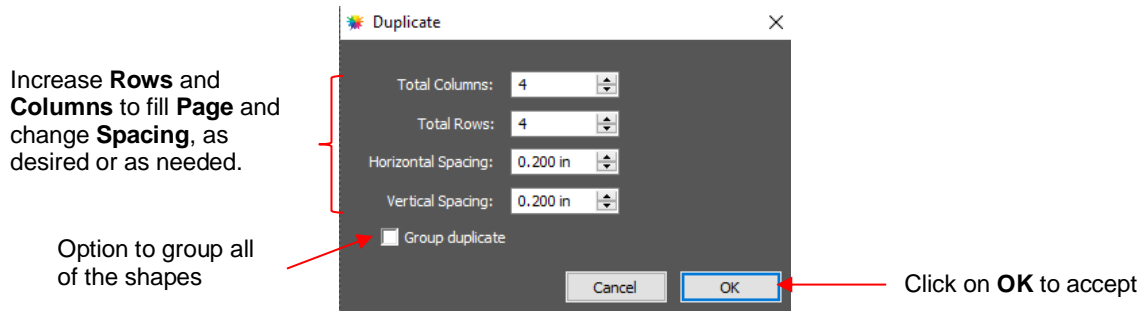
- There are three **Paste** functions:
 - ◇ **Paste**: pastes the shape offset slightly (0.25") from the original
 - ◇ **Paste in Place**: pastes the shape in exactly the same location as the original
 - ◇ **Paste (Auto Fill)**: pastes enough copies to auto-fill the **Page**
- To **Paste** shapes from the clipboard, use any of the following:
 - ◇ Right-click on the screen and select **Paste**
 - ◇ Press **Ctrl+V**
 - ◇ Go to **Edit>Paste**
- To **Paste in Place** shapes from the clipboard, use any of the following:
 - ◇ Right-click on the screen and select **Paste in Place** (without any shapes selected)
 - ◇ Press **Ctrl+Shift+V**
 - ◇ Go to **Edit>Paste in Place**
- To **Paste (Auto Fill)**: use either of the following:
 - ◇ Press **Ctrl+Shift+Alt+V**
 - ◇ Go to **Edit>Paste (Auto Fill)**

3.17.4 Duplicating – Duplicate

- The **Duplicate** function allows you to make multiple copies of a shape aligned in rows and/or columns, with the spacing you desire. To access **Duplicate**, first select the shape(s) and then use either of the following:
 - ◇ Press **Ctrl+D**

◇ Go to **Object>Duplicate**

- To fill your grid with images, move the selected shape(s) to the top left corner of the gridded part of the **Page**. With the shape(s) still selected, use **Ctrl-D** (or **Object>Duplicate**) to open the **Duplicate** window. As you begin clicking on **Total Columns** and **Total Rows**, the mat will fill with the shapes. Change the **Spacing**, as needed, to better fit the duplicates. Click on **OK** to accept:



- To create a single row of repeats, set the **Rows** value to 1. For a single column of repeats, set the **Columns** value to 1. To overlap the repeats, enter a negative number under **Spacing**. Refer to *Section 7.06.1* for a tutorial on how this function can be used to create a border.
- There is also a **Duplicate Rotated** function to arrange the duplicates in a circular formation. Because this is more typically used for design purposes, it is covered in *Section 7.08*.

3.17.5 Quick Duplicate

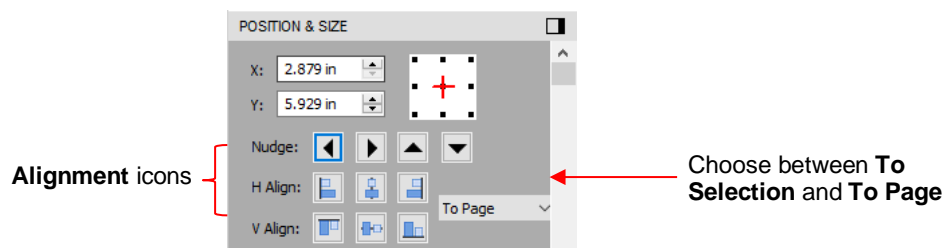
- A quick way to make a single copy of a shape is to hold the **Alt** key while dragging the shape. The original will be left behind and new copy will be moved with the mouse.
- You can also hold the **Alt** key and left-click on a shape and it will duplicate that shape leaving the copy on top of the original.

3.18 Alignment

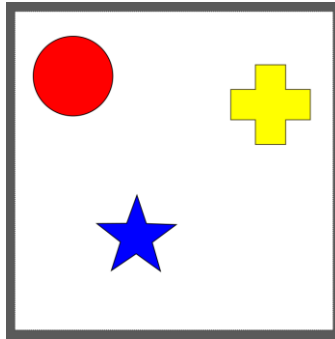
- There are fourteen functions used to align shapes, seven of them with respect to the **Page** (referred to as **Page**) and another seven with respect to one another (referred to as **Selection**). After selecting two or more shapes, these functions can be accessed using either of the following:

◇ Go to **Object>Alignment**

◇ Click on an alignment icon from the **Position & Size** window on the **Properties Panel**:






- The following three shapes, in their current relative positions, will be used to illustrate what happens when each alignment function is applied:

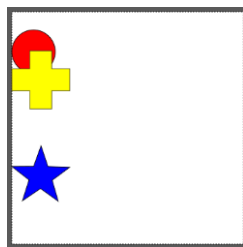


3.18.1 Align to Page

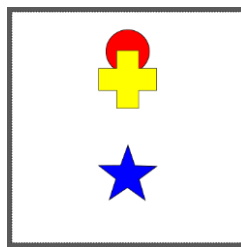
- Make sure the alignment mode is set to **Align to Page**. To do this, either:
 - ◇ Go to **Object>Alignment** and make sure **Align to Page** is checked
 - ◇ Select **To Page** on the **Position & Size** panel

- With the shapes selected, the horizontal alignment options are:

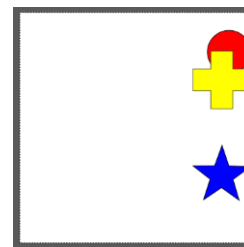
- ◇ **Align Left** aligns shapes along the left side of the **Page**. 
- ◇ **Align Horizontal Center** aligns shapes through the center of the **Page**. 
- ◇ **Align Right** aligns shapes along the right side of the right side of the **Page**. 



Align Left






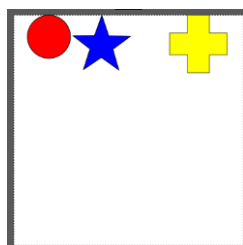
Align Horizontal
Center



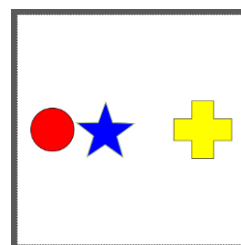
Align Right

- With the shapes selected, the vertical alignment options are:

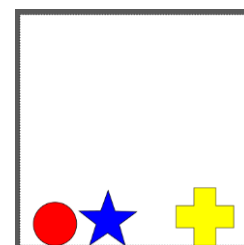
- ◇ **Align Top** aligns shapes along the top side of the **Page**. 
- ◇ **Align Vertical Center** aligns shapes through the center of the **Page**. 
- ◇ **Align Bottom** aligns shapes along the bottom side of the **Page**. 



Align Top



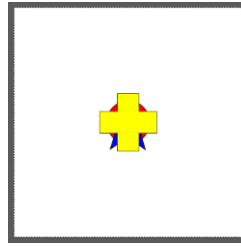
Align Vertical
Center



Align Bottom

- To center all three shapes in the middle of the **Page**, use either:

- ◇ A combination of **Align Horizontal Center** and **Align Vertical Center**:
- ◇ Go to **Object>Alignment>Align Centers**

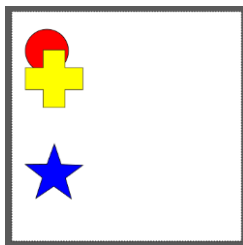


Align Centers

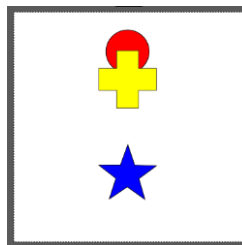
3.18.2 Align to Selection

- First, make sure the alignment mode is set to **Align to Selection**. This is done by either making sure **To Selection** is chosen on the **Position & Size** panel or by going to **Object>Alignment** and making sure **Align to Selection** is checked.
- With the shapes selected, the horizontal alignment options are:

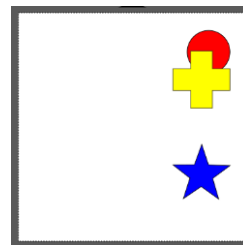
- ◇ **Align Left** aligns shapes along the left side of the leftmost shape of the group.
- ◇ **Align Horizontal Center** aligns shapes to a vertical axis through the center.
- ◇ **Align Right** aligns shapes along the right side of the rightmost shape of the group.



Align Left



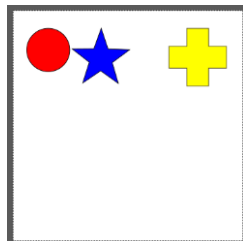
Align Horizontal Center



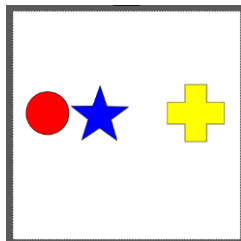
Align Right

- With the shapes selected, the vertical alignment options are:

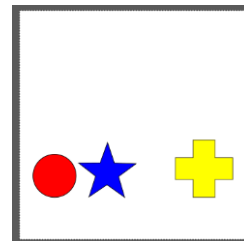
- ◇ **Align Top** aligns shapes along the top side of the uppermost shape of the group.
- ◇ **Align Vertical Center** aligns shapes to a horizontal axis through the center.
- ◇ **Align Bottom** aligns shapes along the bottom side of the bottommost shape of the group.



Align Top



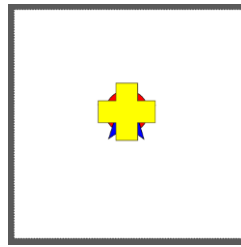
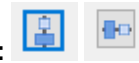
Align Vertical Center



Align Bottom

- To center all three shapes, use either:

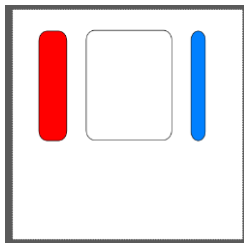
- ◇ A combination of **Align Horizontal Center** and **Align Vertical Center**:
- ◇ Go to **Object>Alignment>Align Centers**



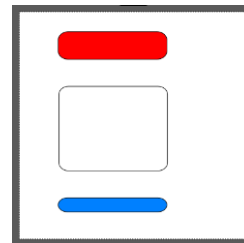
Align Centers

3.19 Distribute

- The **Distribute** function rearranges the spacing between shapes. Similar to the **Alignment** function, you can **Distribute to Page (Page)** or you can **Distribute to Selection** (selected shapes). There's also a third, called **Distribute to Selection Below**, which distributes based on whatever shape is positioned at the lowest level on the **Layers Panel** and its difference in size relative to the outermost shape in the opposite direction of the distribute option (and yes, this is confusing, but will be explained in *Section 3.19.3*)
- After selecting the shapes, these functions can be accessed by going to **Object>Distribute**.
- The following three shapes, in their current relative positions, will be used to illustrate what happens with each distribute function when **Distribute to Selection** or **Distribute to Page** is applied. Note that a small custom mat was created to facilitate screenshots:



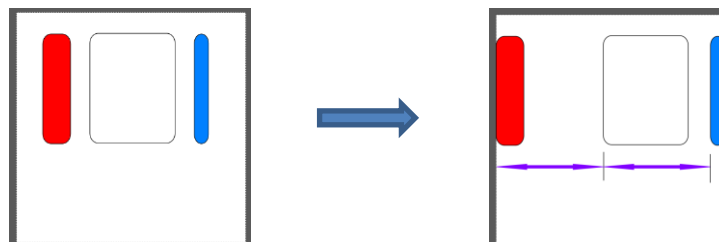
Will be used for horizontal distribute examples



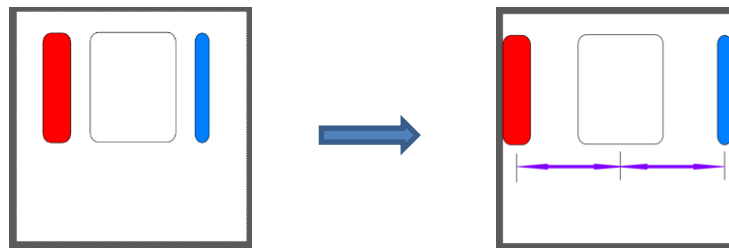
Will be used for vertical distribute examples

3.19.1 Distribute to Page

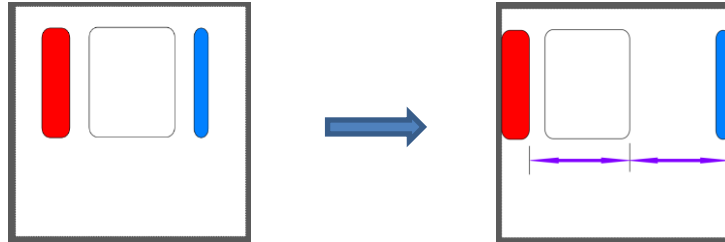
- Select the shapes and go to **Object>Distribute** and then make sure the **Distribute to Page** option is checked. In this mode, the two outermost shapes will align with the **Page** and then other shapes will be evenly spaced from one side of the mat to the other, according to which additional option is chosen. All options, with screenshots, are presented. The purple arrows indicate equal spacing.
- With the shapes selected, the horizontal distribute options are:
 - ◇ **Distribute Left:** spaces shapes so that the left sides of each shape are the same distance apart:



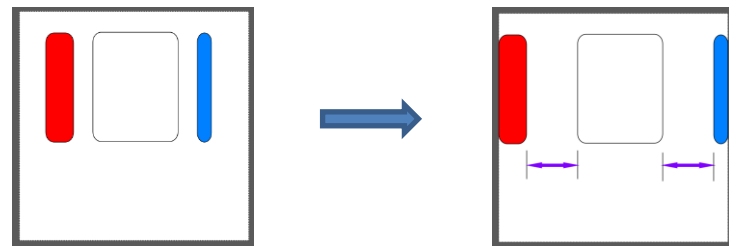
- ◇ **Distribute Center Horizontally:** spaces shapes so that the centers of each shape are the same distance apart:



- ◇ **Distribute Right:** spaces shapes so that the right sides of each shape are the same distance apart:

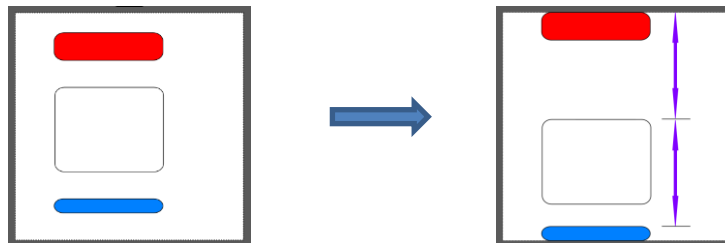


- ◇ **Distribute Space Horizontally:** spaces shapes so that the gaps between the shapes are the same.

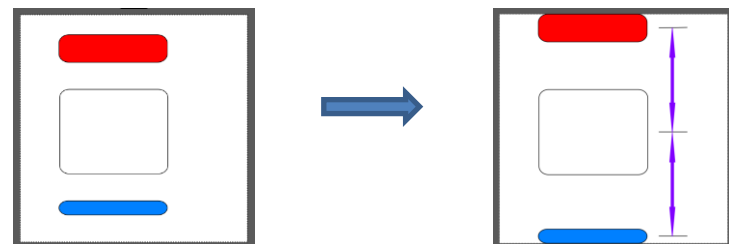


- With the shapes selected, the vertical distribute options are:

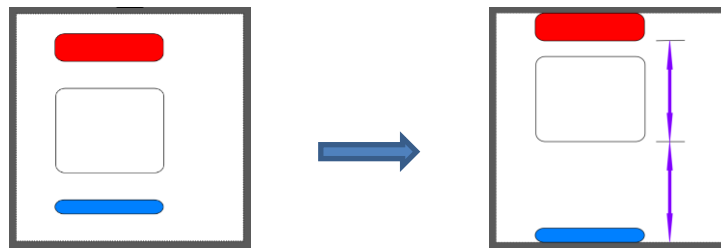
- ◇ **Distribute Top:** spaces shapes so that the top sides of each shape are the same distance apart:



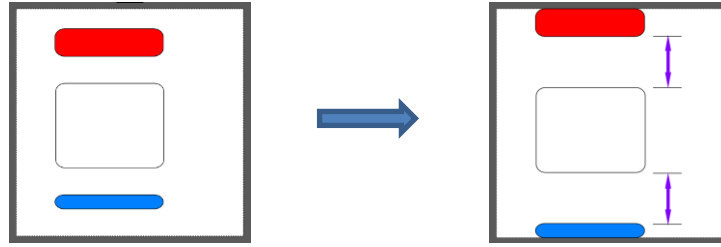
- ◇ **Distribute Center Vertically:** spaces shapes so that the centers of each shape are the same distance apart:



- ◇ **Distribute Bottom:** spaces shapes so that the bottom sides of each shape are the same distance apart:



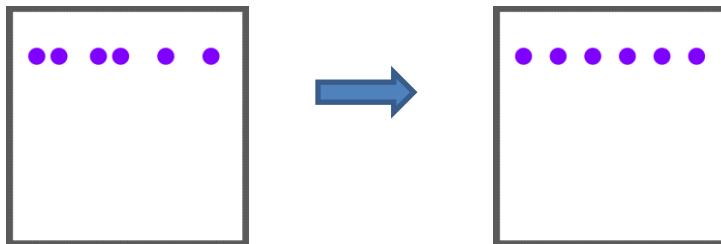
- ◇ **Distribute Space Vertically:** spaces shapes so that the gaps between the shapes are the same.



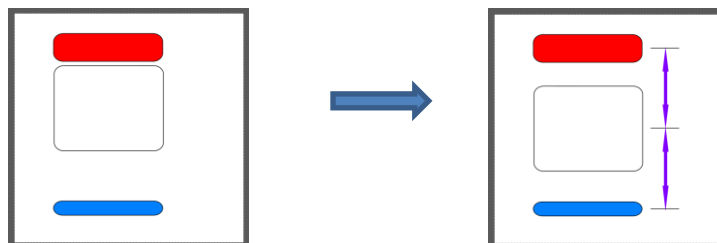
3.19.2 Distribute to Selection

- Select the shapes and go to **Object>Distribute** and then make sure **Distribute to Selection** is checked. In this mode, the two outermost shapes will remain in position and then other shapes will be evenly spaced, according to which additional option is chosen. All options, with screenshots, are presented. Again, the purple arrows indicate equal spacing.
- The **Horizontal** and **Vertical Distribute** options are the same. The difference is that the objects are no longer moved to align with the borders of the **Page**. Instead, they align with the outermost selected shapes in the same way as the **Align to Selection** options worked in *Section 3.19.1*.
- Thus, here are two exampl:

- ◇ **Distribute Space Horizontally:** spaces shapes so that they are the same distance apart:

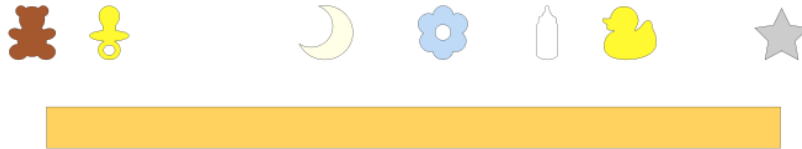


- ◇ **Distribute Center Vertically:** spaces shapes so that the centers of each shape are the same distance apart:

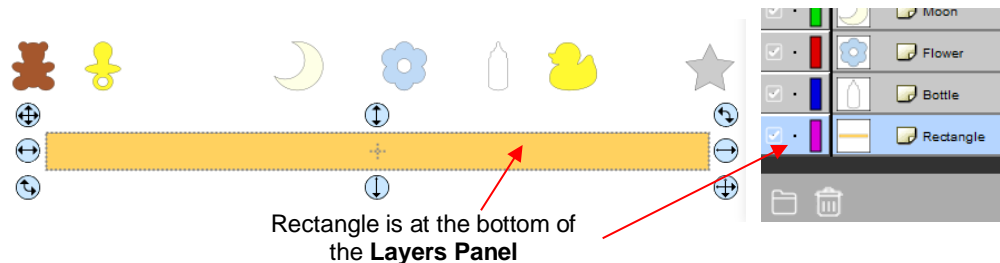


3.19.3 Distribute to Selection Below

- This option is used to evenly distribute several shapes relative to another shape (called the **Reference Shape**) that needs to be positioned at the bottom of the **Layers Panel** (thus the term “**Selection Below**”).
 - ◇ It will also move the shapes at the furthest ends of the selection to align with the bounding edges of this **Reference Shape** and then the distribution will be based on whichever menu option you’ve chosen, just like previously shown in *Sections 3.19.1* and *3.19.2*.
 - ◇ Thus, you always need a minimum of 4 shapes so that one can be the **Reference Shape** and the other 3 can be spaced as desired.
- In the following example, several shapes are to be spaced along a rectangle for the purpose of making a welded border:



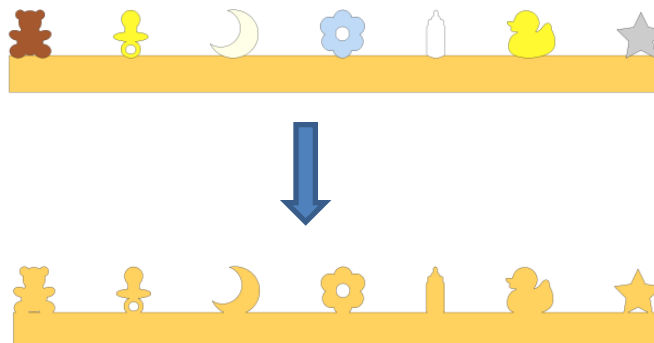
- Make sure the rectangle is the bottommost layer on the **Layers Panel**:



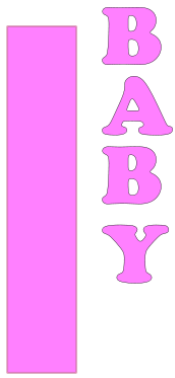
- Select all of the shapes and go to **Object>Distribute** and then make sure **Distribute to Selection Below** is checked. Go back to **Object>Distribute** and select one of the options in the horizontal section. In this example, **Distribute Space Horizontally** will be selected. The result is that the leftmost shape (the teddy bear) aligns with the left side of the rectangle, the rightmost shape (the star) aligns with the right side of the rectangle, and the remaining shapes are positioned so that the same amount of space is between each one:



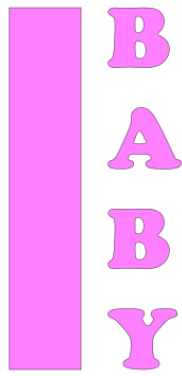
- The shapes can now be moved down to overlap the rectangle and everything selected and welded (using **Path>Union**):



- The same technique could be used to distribute letters along a rectangle in a similar manner:



Individual letters and a rectangle are created. The rectangle is the bottommost layer.




Using **Distribute to Selection Below** and the **Distribute Space Vertically** option, the letters are equally spaced and aligned with the top and bottom of the rectangle. Then moved over to overlap the rectangle.



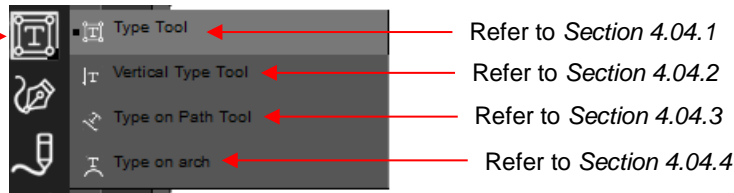
Path>Union is applied.

4. Working with Text

4.01 Text Options


- There are four modes for adding text to the **Page**:
 - ◇ **Type Tool**: normal left to right typing of text
 - ◇ **Vertical Type Tool**: vertical aligned lettering
 - ◇ **Type on Path Tool**: text is aligned along the path of your choosing
 - ◇ **Type on arch**: text is arranged in a circular pattern
- To select a mode, hold down the mouse button on the **Type Tool** icon  on the **Tools Panel**. The screenshot below indicates where to go for further instructions on using that text mode:

Click and hold left mouse button here:



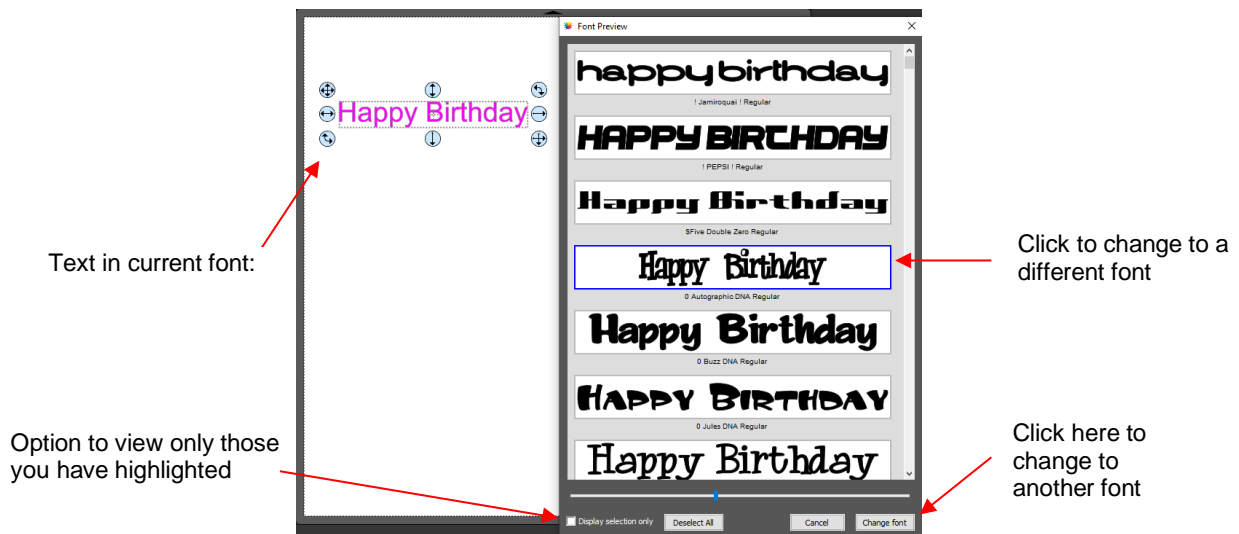
4.02 Selecting a Font

4.02.1 Choosing a Font from the Font Menu

- There are three places to select an installed font:
 - ◇ Click the **Text Settings** icon  on the **Properties Panel** to open the **Text Panel**. Select from the **Font** drop-down menu.
 - ◇ Go to **Text>Font**
 - ◇ Click on the **Fonts** tab in the **Library** (refer to *Section 2.03.2*).
- If you are looking for a particular font in any of those three menus, type the first letter of the font name and you will be taken to the fonts that begin with that letter.

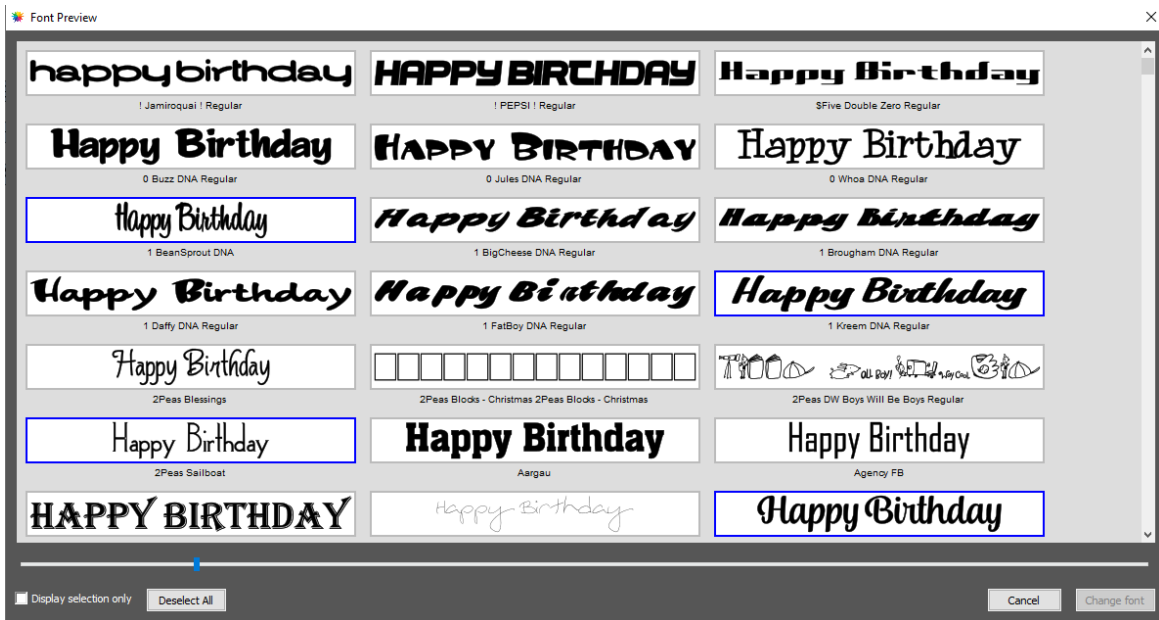
4.02.2 Choosing a Font via Font Preview

- To view the text you're using in different fonts, first type out the text using the instructions in *Sections 4.03 and 4.04*. Then select the text and go to **Text>Font Preview**. There you can scroll through all of the fonts currently installed to view others you might prefer:

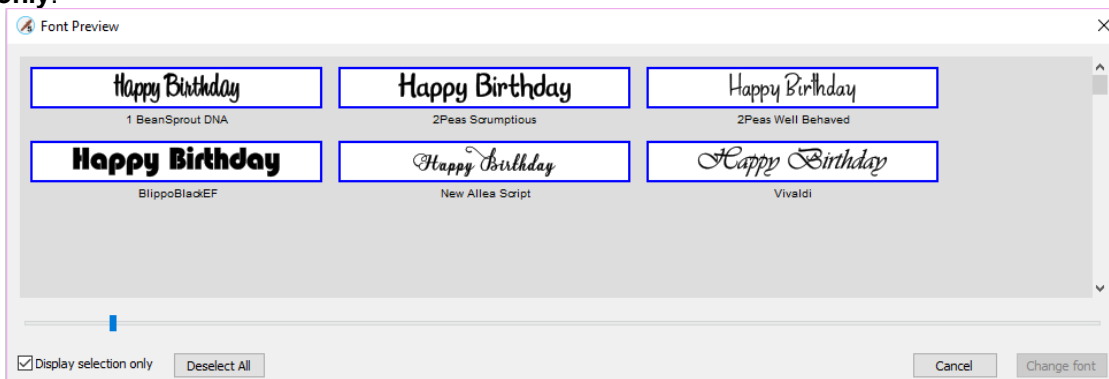


- You can expand this window and decrease the size of the fonts by scrolling the size bar to view more samples. Also, you can highlight those of interest and then click **Display selection only** to more easily decide which ones you might like to use:

◇ Expand the window and highlight those you want to further compare:



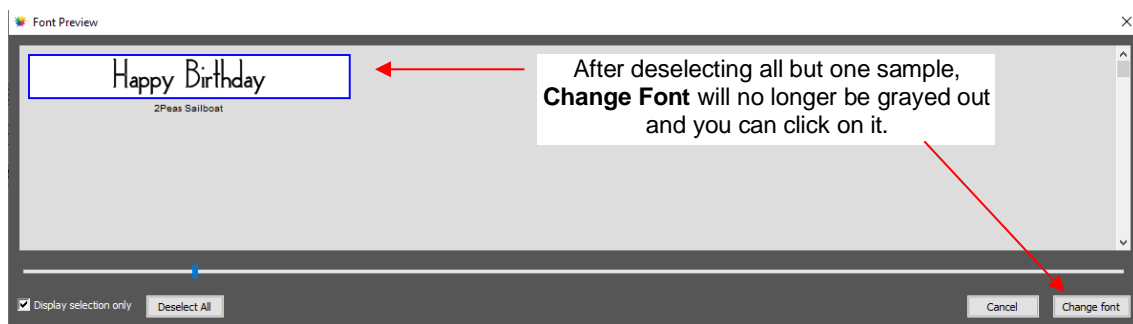
◇ After scrolling through fonts and highlighting only those of further interest, click on **Display selected only**:



- ◇ At this point, as you left click any sample, it will be removed from the display, allowing you to refine your selection:





- ◇ Once you are down to a single sample, you can then click on **Change Font**:

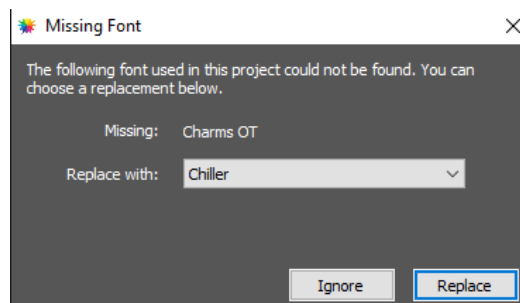


- ◇ The text will now be changed to the new font:

Happy Birthday



4.02.3 Temporarily Installing a Font

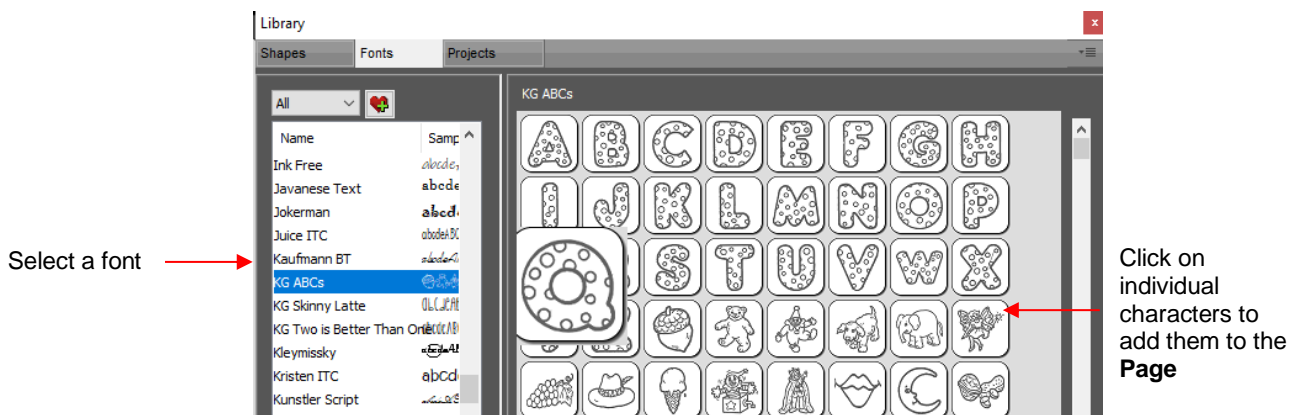
- If you want to load a new font that's not already installed on your computer, there are three ways:
 - ◇ Go to **Text>Load Font File**
 - ◇ Click on the **Load a Font File** icon  on the **Text Panel**
 - ◇ Open the **Library**, click on the **Fonts** tab, and then click on the **Menu** icon 
- Any font file with a format of .TTF, .OTF, or .OPF) can be opened and will be available until CREATE is closed.
- When you open a font file for temporary use, that font will be uninstalled upon closing CREATE. If you have saved that file without first converting the text, the next time the file is reopened, you will receive the following message:



- ◇ Two options are provided:
 - **Ignore:** The text with the missing font will be converted to an outline (no longer editable as a text object)
 - **Replace:** The text will be replaced with the font shown or another font you select from the drop-down menu
- ◇ If you have no plans to edit the text, then you can avoid the message by converting text before saving the file. To do this, select the text and apply one of the following:
 - Go to **Text>Convert Text to Outlines**
 - Go to **Path>Object to Path**
 - Right-click and select **Path>Object to Path**

4.03 Adding Text Options

- There are three ways to add text to the **Page**:
 - ◇ Click the **Type Tool** icon  on the **Tools Panel**, click anywhere on the **Page**, and begin typing. This is the easiest method when adding ordinary text.
 - ◇ Copy and paste text from another application, such as from Word, Excel, or from an email, onto the **Page**. Before pasting, click on the **Type Tool** icon  on the **Tools Panel**
 - ◇ Click on the **Fonts** tab in the **Library** and click on characters shown in the character map. This is the easiest method when using dingbat fonts:




4.04 Four Modes of Text

4.04.1 Type Tool

Jay
McCauley



Max
McCauley

- Hold down the mouse button on the **Type Tool** icon  on the **Tools Panel** and select the top choice: **Type Tool**.
- Click anywhere on the **Page** and begin typing. Note that:
 - ◇ Pressing the **Enter** key will move the cursor to a new line and you can continue typing.

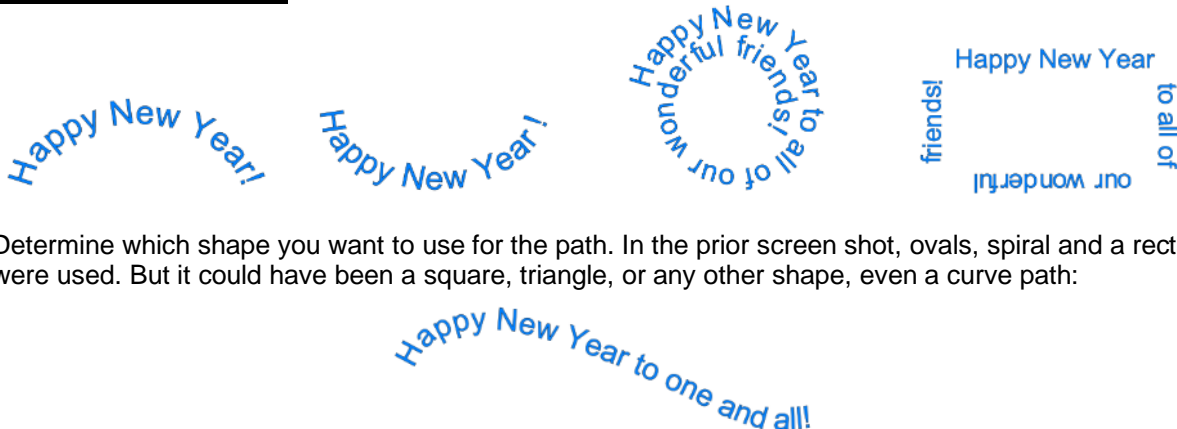
- ◇ Holding the **Ctrl + Shift** keys will temporarily select the text and allow you to resize it, if needed. Then as you continue typing, the text will be at the new size.
- ◇ Clicking elsewhere on the **Page** will allow you to begin adding new text at that location.
- ◇ When done, either press the **Esc** key or click on the **Select** icon  on the **Tools Panel**.

4.04.2 Vertical Type Tool


J
a
Y M
a
X

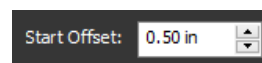
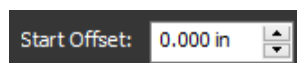
- Hold down the mouse button on the **Type Tool** icon  on the **Tools Panel** and select the second choice: **Vertical Type Tool**.
- Click anywhere on the **Page** and begin typing. Note that:
 - ◇ Clicking elsewhere on the **Page** will allow you to begin adding new text at that location
 - ◇ When done, either press the **Esc** key or click on the **Select** icon  on the **Tools Panel**


4.04.3 Type on Path Tool



- Determine which shape you want to use for the path. In the prior screen shot, ovals, spiral and a rectangle were used. But it could have been a square, triangle, or any other shape, even a curve path:

- To use this function:
 - ◇ Add the shape to the **Page**. **IMPORTANT:** If you want to retain the original shape so that it can be printed or cut, make a duplicate of the shape first and hide the copy.
 - ◇ Hold down the mouse button on the **Type Tool** icon  on the **Tools Panel** and select the third choice: **Type on Path Tool**.
 - ◇ Click on or inside the shape and begin typing. In the **Tools Options**, a setting appears which allows you to move the start point for the text further along the path. Otherwise, it will start at the leftmost side:



- ◇ When done, either press the **Esc** key or click on the **Select** icon  on the **Tools Panel**. Note that if you no longer need the path for your project, go to **Text>Convert Text to Outlines** and the path will be deleted.

Happy New Year!

- If you want the text on the inside of the shape:
 - ◇ First apply **Path>Reverse Path** to the shape. Then type the text:

Happy New Year!

- ◇ Again, use **Text>Convert Text to Outlines** to delete the path:

Happy New Year!

- In a similar manner, using **Reverse Path** can change how text is applied along a spiral:


Happy New Year to all of our wonderful friends!

- ◇ After applying **Text>Convert Text to Outlines**:

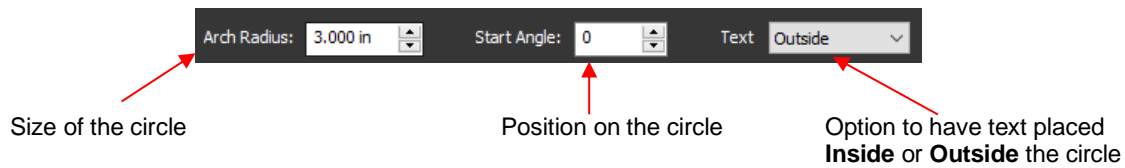
Happy New Year to all of our wonderful friends!

4.04.4 Type on Arch Tool

Max and Jay

- With this function, text is typed as if it were following an imaginary circle.
- Hold down the mouse button on the **Type Tool** icon  on the **Tools Panel** and select the last choice: **Type on arch**.

- Click anywhere on the **Page** and begin typing. In the **Tools Options**, three settings will appear allowing you to customize the results:



- For example:

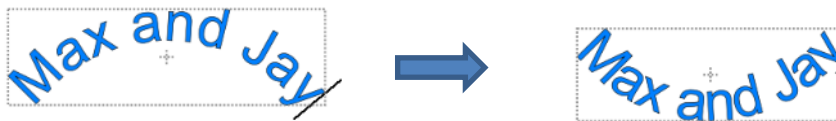
Decreasing the **Arch Radius** from 1.0 to 2.0:



Changing the **Start Angle** from 0 to 180:




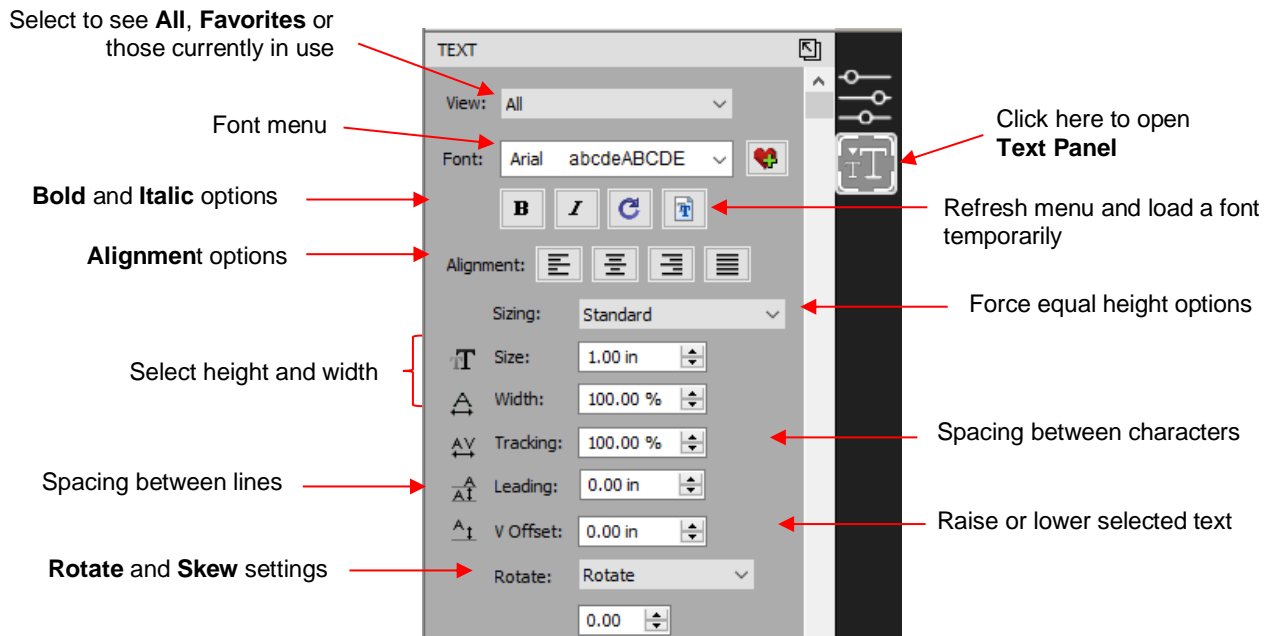
Changing **Text** from **Outside** to **Inside**:





- When done, either press the **Esc** key or click on the **Select** icon  on the **Tools Panel**.

4.05 Text Settings *Video*




- The **Text Panel** offers an array of settings related to the creation and editing of text. To open, click on the **Text** icon  on the **Properties Panel**:



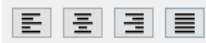


- To apply a change to any of these settings:

- ◊ Type some text using the instructions in *Section 4.04*. Then click on the **Selection Tool** icon  at the top of the **Tools Panel**.
- ◊ With the text selected, you can now change any of these various settings and the changes will immediately be applied to that selected text.
- ◊ If you only want to apply a change to a portion of the text, click on the **Type Tool** icon  on the **Tools Panel** and drag your mouse to highlight whatever part you want to change.

- The following is a list of the settings and how to apply them:

- ◊ **View:** Controls which fonts show in the menu under **Font:**
 - **All:** Displays all installed fonts plus any that have been temporarily installed during this session of CREATE
 - **Favorites:** Displays all fonts you have assigned as a **Favorite**
 - **This Project:** Displays all fonts currently used since starting this particular project during this session
- ◊ **Font:** Menu of installed fonts which can be used for new or existing text. Note that you can also add to your **Favorites** list by selecting a font and then clicking on the  icon to the right.
- ◊ **Bold and Italic**  
 - **IMPORTANT:** Some fonts will change significantly if the Bold option is selected. The same is true of the Italic option. Make sure these icons are not indented/blue unless you are confident you want to use either or both of them.
 - With either option highlighted, the text may not immediately reflect that option. If not, highlight the text and then try applying again.
 - Instead of using **Bold**, you can use **Effects>Shadow Layer** (refer to *Section 7.05*) or **Path>Offset Path** (*Section 6.05*).
 - Instead of using **Italic**, you can use the **Skew** function (refer to *Section 3.07*).

- ◇ **Reload**  is only needed if you have separately installed new fonts on your computer since opening the current CREATE session.
- ◇ **Load a Font File**  is used to open a .TTF, .OTF, or .OPF font that is not already installed on your computer. Refer to *Section 4.02.3*.
- ◇ **Alignment:**  Standard text justify options: **Left Align**, **Center Align**, and **Right Align** and **Justified**.
- ◇ **Sizing:** The setting determines the height of the letters in the selected text based on these options:
 - **Standard:** A character's height is based on how the font was designed

Create

- **Fixed Height:** All characters will be made the same height, based on the **Size** setting

create

- **Fixed Height Proportional:** All characters will be made the same height, based on the **Size** setting and the width will be adjusted to maintain the original aspect ratio for that character

create

- This example doesn't necessarily illustrate a typical application for the **Sizing** setting. Refer to *Section 4.14* for examples of its usefulness.
- ◇ **Size:** Approximate height of lettering based on an ascender and descender. For example, if text is set to 1.0 inches, then the height of the word "Baby" would be ~ 1.0." However, the "B" typed by itself might only be 0.7" in height because there is no descender, such as the letter "y".
- ◇ **Width:** Increasing the width will widen the letters leaving the height unchanged. Note that letter spacing will not be altered, thus the letters may end up overlapping unless **Tracking** is increased, as well.
- ◇ **Tracking:** This is the spacing between letters. Increasing will spread letters apart while decreasing will force them closer together and can result in overlapping:

Create

Tracking: 100%

Create

Tracking: 120%

Create

Tracking: 80%

- ◇ **Leading:** Changes the spacing between lines of text:

Cutting with
my SOLO

Leading: 0 inches

Cutting with
my SOLO

Leading: 0.3 inches

- ◇ **V Offset:** Raises or lowers a line of text or, more commonly, can be used to raise and lower individually words or selected letters:

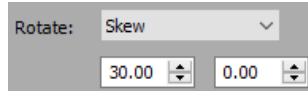
Cutting with my SOLO → Cutting with my SOLO

- ◇ **Rotate:** Rotates a line of text or can be applied to individual letters:

Cutting with my SOLO

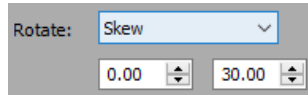
- ◇ **Skew:** In the same menu with **Rotate** is the **Skew** option which can also be applied to a line of text or to individual letters. There are two settings: one for X axis skew and one for Y axis skew:

- **X Axis Skew** set to 30:



Cutting with my SOLO

- **Y Axis Skew** set to 30:



Cutting with my SOLO

4.06 Other Text Editing

- **Ungroup:** To split a selection of text into individual letters, apply the **Ungroup** function using one of the following ways:
 - ◇ Right-click and select **Ungroup** from the popup menu
 - ◇ Go to **Object>Ungroup**
 - ◇ Apply **Ctrl+Shift+G**
- **Break:** To break a selection of text into individual paths, apply the **Break Apart** function using one of the following ways:
 - ◇ Right-click and select **Break Apart** from the popup menu
 - ◇ Go to **Object>Break Apart**
 - ◇ Apply **Ctrl+B**
- For more information on **Ungroup** and **Break Apart**, refer to *Sections 3.10.2* and *3.12.1*.

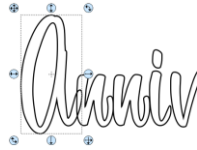
4.07 Creating a Connected Letter Title

- Using the instructions from *Section 4.04.1*, type the letters of your title:

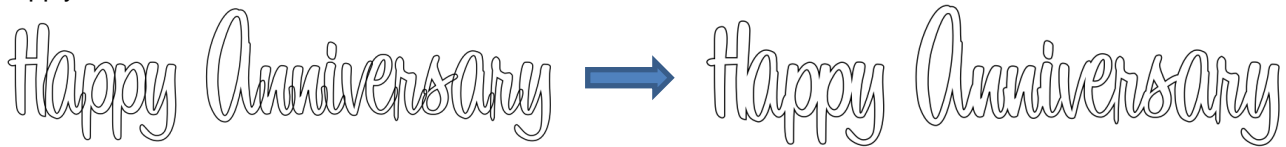
Happy Anniversary

- Because you will be working with the letters individually, select the title and apply **Ungroup** (*Section 4.06*).
- With the letters split, you can now move one or several selected letters, overlapping as desired. You may also want to enable the **Show Outlines Only** option on the **Document Panel**, to better view the overlap.
- Also, you should turn off **Snap to Grid** so that you can more freely move letters. This is located under **View>Snap To**.
- Begin overlapping the letters. It's usually advisable to move letters either by using the arrow keys on the keyboard or by using the left center icon:

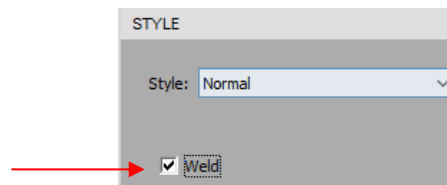
Drag this icon so that letter can only move horizontally.



- Continue arranging letters as desired. Once you are satisfied with the positions of the letters, select all and apply **Path>Union**:



- Alternatively, if you do not want to make the weld permanent, you can select the shapes and mark the **Weld** option on the **Style Panel**:



- To create an outline/shadow for titles and other shapes or if you need to thicken a font that turns out to be too thin for cutting, refer to *Section 7.05*.

4.08 Incorporating Shapes into a Title

- A quick way to incorporate a shape into a welded title is to use any of thousands of dingbat fonts available from the Internet for free or even check the **CREATE Library** for a shape. In this example, a script font is being used for the title and a turkey, found in the **Library** under the *Fall* folder, will be used for the shape.
- Using the steps in *Section 4.04.1*, create the title:

Happy Thanksgiving

- Select the title and go to **Object>Ungroup**. Then move the “Thanksgiving” part to the right to add some spacing for the turkey. In this example, other parts were also moved so that all letters in “Happy” and all letters in “Thanksgiving” overlap.

Happy Thanksgiving

- In the **Library**, locate the turkey shape and click on it to add to the **Page**. Resize and arrange to overlap with the lettering:



- Go to **Path>Union** or press **Ctrl+Shift+U** to remove the overlap or mark the **Weld** option on the **Style Panel**:

Happy Thanksgiving

- Note that dingbat fonts and **Library** shapes are not the only shapes that can be welded to letters. Any shape imported or created within CREATE can be used!

4.09 Welding Titles in Imaginative Ways

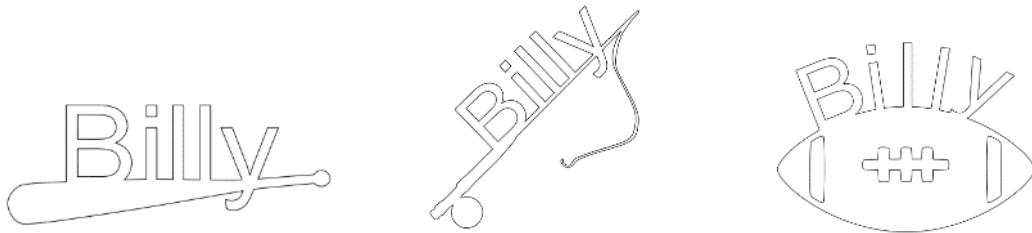
- Some fonts simply do not work well with the traditional overlapping of the letters to be welded into one piece for cutting. For example, let's take an extreme case with Arial font and the name, "Billy". Note what happens when you overlap the letters in this particular font:



- Most crafters will start looking for a different font... one with ligatures (extenders) that easily connect the letters to one another. However, many fonts with ligatures are script fonts and may not convey the desired look. Instead, look for objects that can be used to connect the letters. A basic thin rectangle is an easy solution. Just align it along the bottom of the letters and weld:

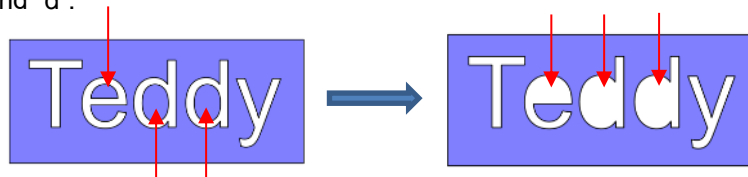


- However, the objects to use as a base do not have to be so basic. Look for objects that will tie into a theme. Here are just a few examples:




4.10 Stenciling Letters

- When creating a stencil, you keep the "waste" or "negative" of a cut. When using regular fonts, such as Arial, some of the letters, such as a "B", "a", "d", and "e", will not work because they have interior paths called child shapes. Those child shapes are not connected to the waste portion of the material and will be lost from the stencil as shown below. The red arrows indicate the child shapes inside parent shapes for the letters "e", and "d":

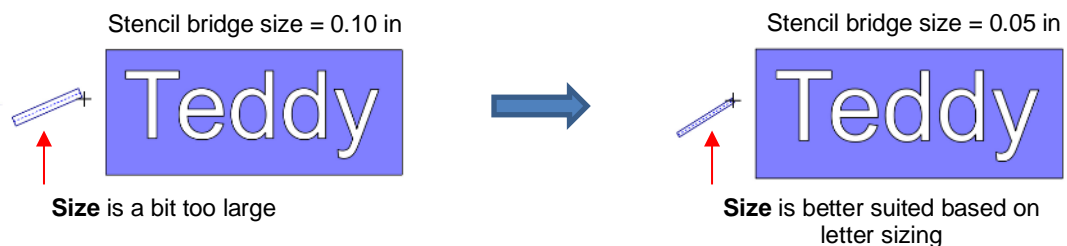


After cutting and lifting the stencil from the mat, the interior parts of the "e" and the "d's" will be cut away.

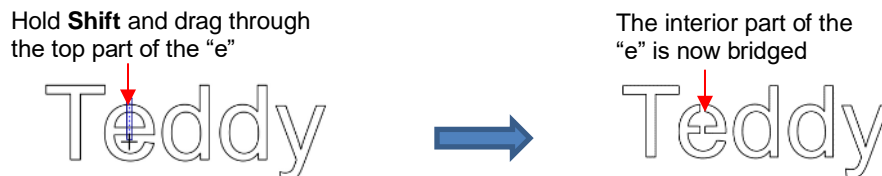
- To avoid this, a procedure called stenciling can be used to connect the area outside of the letters to the child shapes, essentially eliminating them. There is a feature on the **Tools Panel** (4th icon from the bottom) called the **Stencil Bridge**  which can be used to connect the interior parts to the surrounding area.
- Before using this function, select the text and go to **Object>Ungroup**. Failure to do this can cause distortion of other letters as the stencil function is applied.
- Zoom in close on the lettering so that you'll be able to see exactly where you need to connect. Click on the **Stencil Bridge** icon and, in the **Tools Options** at the top, choose a setting for the width or thickness of the bridge. Note that you can type in smaller sizes, when needed:



- The **Size** you enter will normally relate to the height and style of the lettering you are stenciling. In this example, the name "Teddy" was typed at a height of ~1 inch. The **Stencil bridge size** is set at 0.10, but it could be smaller or larger depending on your personal preference. Before applying, you can drag the mouse in an empty area of the screen to see the size that will be used and adjust accordingly:



- Before applying, hide the outside rectangle, so that it's not affected. You can now drag the mouse across a letter to create a bridge. Hold down the **Shift** key, while dragging, and the bridge will be either perfectly vertical, perfectly horizontal, or at a 45° angle:



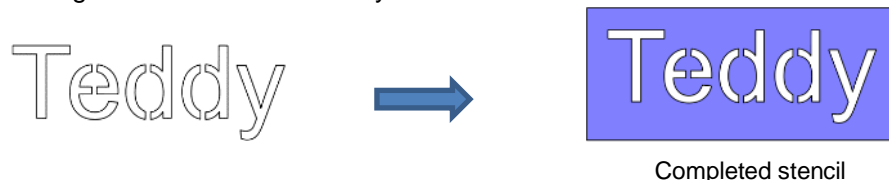
- Repeat the process with the other letters containing child shapes:

Teddy

- Note that just one part of the letter could have been bridged instead of both the top and the bottom:

Teddy

- Unhide the rectangle and the stencil is ready to cut:



- The **Stencil Bridge** can also be used as a straight-line eraser. Refer to *Section 6.08*.

4.11 Open Path Fonts (OPF)

- Besides TTF and OTF, a third type of font, **Open Path Font** (.OPF), can also be used in CREATE. This font consists of single lines/curves only. Here's a comparison to help you understand the difference:



TTF version



OPF version of the same font

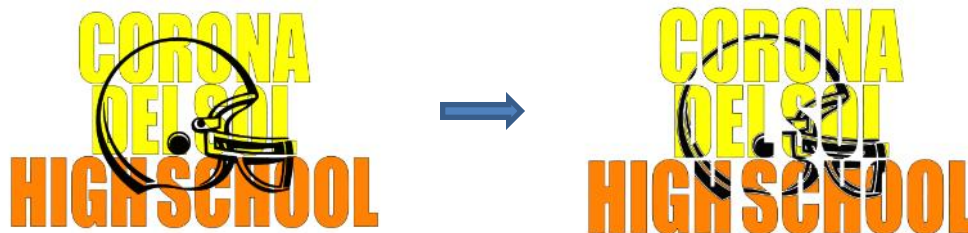
- These fonts are useful when using a pen, engraving tool, or the WRMK Foil Quill in your cutter or for designing single line rhinestone titles:

Open Path Font

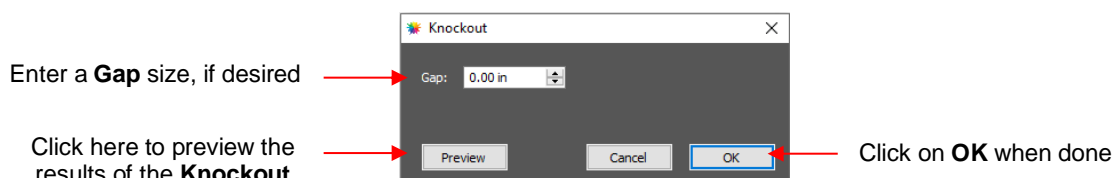
- Currently, this font type only works in a few applications like CREATE and does not install into Windows or on a Mac O/S for use in programs such as Word. If you want to permanently install an OPF font for use in CREATE, copy and paste the font into the following folder: Documents\Craft Edge\My Fonts.
- To try out using **Open Path Fonts**, there are some free ones to [download here](#).
- Because these are open path, they may not appear on the **Page** when you first add them. You will need to select a **Stroke** color on the **Fill & Stroke Panel**. Refer to *Section 3.15*.
- You can purchase Open Path Fonts from <https://www.singlelinefonts.com> and www.onelinefonts.com to use in CREATE. Note that these also come with the TTF equivalents, which are not actual single lines and curves, but are still very thin.

4.12 Using Knockout on Images and Lettering Video

- The **Knockout** function involves overlaying one image on top of another and then merging the two so that the overlap between the two images is, essentially, cut out and replaced with that part of the top image. This is a popular design technique for HTV (heat transfer vinyl) applications so a typical high school design is used as an example:



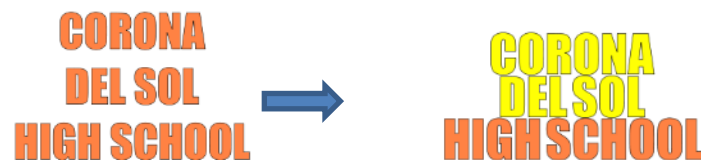
- To open the **Knockout** function window, select two or more shapes and go to **Effects>Knockout**:



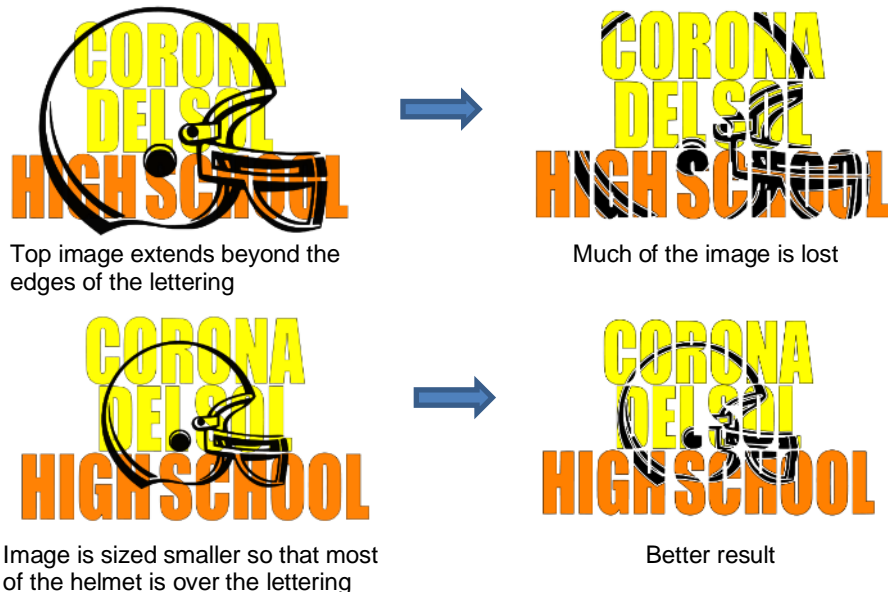
- The **Gap** will create an offset between the top image and the bottom image. This is not only pleasing to the eye but also makes alignment of two layers of HTV easier to manage. Here's an example showing how the gap affects the overall appearance:



- IMPORTANT!** When you click on **Preview**, it will take a few seconds or longer for the image to update. Be patient. Also, in cases where you have multiple images on top, such as the hearts in the prior screenshot, it is recommended that those shapes be joined first using **Object>Merge**.
- When preparing text, you want as little “white space” as possible. Thus, here are some guidelines:
 - ◇ Select a thick dark font. In the examples in this section, *Impact* was used.
 - ◇ After creating the text, move rows of letters together until they almost touch.
 - ◇ Reduce spacing between words, but make sure the text is still readable.
 - ◇ The text does not need to be all one shape. Thus, you can recolor parts of it if you wish.



- When aligning the top image over the lettering, note that anything extending outside of the image or over white areas will be deleted. So, size the image accordingly:



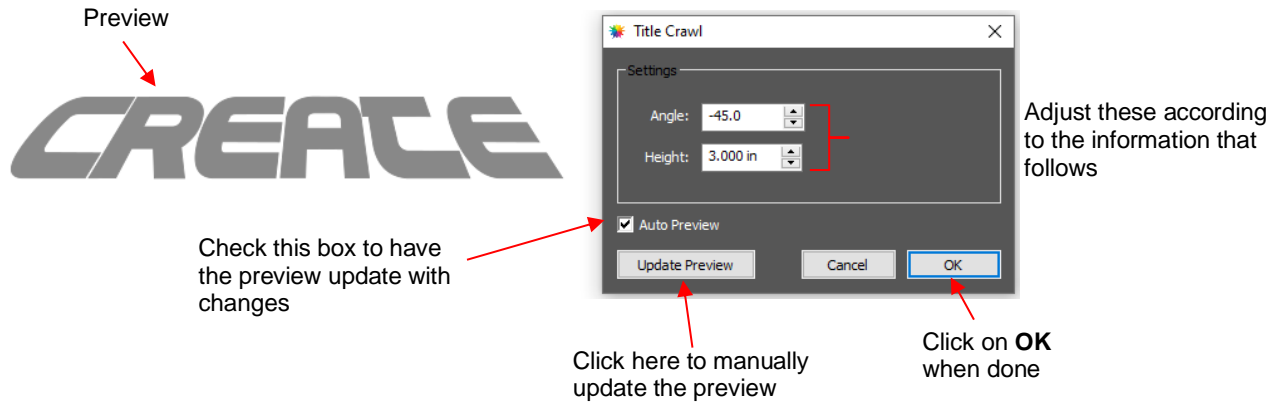
- Note that the **Knockout** function isn't just for text. It can be used on any vector shapes. Refer to *Section 7.23*.

4.13 Title Crawl

- Title Crawl** distorts text (or any shape) so that it appears to be stretching towards you or away from you:

CREATE → CREATE CREATE

- To apply **Title Crawl**, select the text and go to **Effects>Title Crawl**. The following window opens:



- ◇ **Angle:** As the **Angle** setting is increased, the top of the title will rotate towards you. Decreasing the **Angle** setting will rotate away:



- ◇ **Height:** This setting works in an opposite manner to how one would expect. Increasing **Height** will make the text less rotated whereas decreasing it will make the text more rotated:



- Multiple lines of text can have **Title Crawl** applied to create the famous Star Wars “in a galaxy far far away” effect:

*The Owl and the Pussycat
went to sea in a
beautiful pea-green boat.
They took some honey and
plenty of money wrapped up
in a five pound note.*

4.14 Applications Using the Sizing Function

- In *Section 4.05*, the **Sizing** setting on the **Text Panel** was briefly explained. The following examples better illustrate how you might be using this setting in your designing.

4.14.1 Sizing Lettering for Particular Fonts

- Some fonts, such as *1 Bean Sprout DNA*, have characters that are unusually large. For example, when the word "GREAT!" is typed, you can see that the letter "A" is unusually large relative to the other letters:

GREAT!

- After selecting the text, both **Fixed Height** and **Fixed Height Proportional** options for compared:

GREAT!

Fixed Height

GREAT!

Fixed Height Proportional

- Note that the letters do not necessarily end up aligned along the bottom. To achieve that, apply **Object>Ungroup**, reselect all of the letters, and then select any of the **Vertical Align** icons



on the **Position & Size Panel**:

GREAT!

Fixed Height

GREAT!

Fixed Height Proportional

- You now have the option to choose whichever result suits your needs.

4.14.2 Sizing Letters for Welding Inside Rectangles

- A second application for the **Sizing** setting would be to even out upper-case letters when applying **Path>Front Minus Back**. In the next example, the letters ABC have been typed out using *Cooper Black* font. Notice how the letter B is shorter than the A and C. When applying **Path>Front Minus Back**, the result would be:

ABC

Letters typed and rectangle added



ABC

Path>Front Minus Back applied

B was too short



- The letters are selected and **Fixed Height Proportional** is applied. The letters are then resized to fit the rectangle and the **Path>Font Minus Back** can be applied with the desired results:








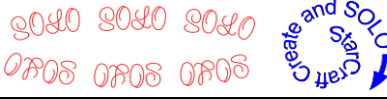







ABC



ABC

4.15 Other Text Effects

CREATE offers many other design functions to customize text for your projects. Following is a table showing just a small sampling of what can be made in CREATE. With a combination of these functions and their various settings, there are no limits!

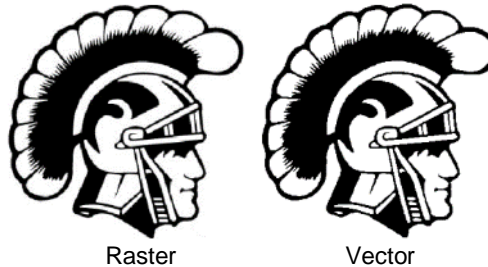
<u>Name</u>	<u>Image</u>	<u>Create Location</u>	<u>Section</u>
3D Rotate		Effects>3D Rotate	7.14
Barrel Distortion		Effects>Barrel Distortion	7.16
Bridge Warp		Effects>Bridge Warp	7.20
Bulge		Effects>Bulge	7.17
Canned		Effects>Canned	7.18
Drop Shadow		Effects>Drop Shadow	7.21
Knockout		Effects>Knockout	4.12
Object on Path		Effects>Object on Path	7.09
Rhinestones		Effects>Rhinestones	7.12
Shadow Layer (Contour Cut)		Effects>Shadow Layer (Contour Cut)	7.05
Stencil Bridge		Tools Panel on Left 	4.10
Title Crawl		Effects>Title Crawl	4.13
Wave		Effects>Wave	7.19
Wrapper (for tumblers or cupcakes)		Effects>Wrapper	7.10

5. Tracing and Drawing

5.01 Raster versus Vector

Video

- All graphics are either raster or vector and there is no third type. While you can often tell by the file format, even that isn't always a good way to know for certain. For example, a PDF file can be made from either raster images or vector images and some PDF's will contain both types.
- You may not be able to tell, at first glance, whether an image is a raster or a vector. For example, this screen shot shows the same image in both formats:



- Most everyone today has a digital camera and, at the very least, has heard the term “mega-pixel.” A pixel is a square that is black, white, or colored. Photographs are made up of millions of these pixels to create the image you see. If you zoom in close enough on any raster image, you can see these tiny pixels. But when you zoom in close on the same area in the vector version, you will instead see lines and curves, not squares/pixels:



- A vector image isn't made up of pixels. Instead, a vector is like a connect-the-dot puzzle in which little dots (called nodes or points) are connected to each other with paths (either straight lines or curves). Digital die cutters need those paths so that they can communicate to the cutter where the blade should travel in order to cut what you want... kind of like a road map. In CREATE, the nodes look like this:



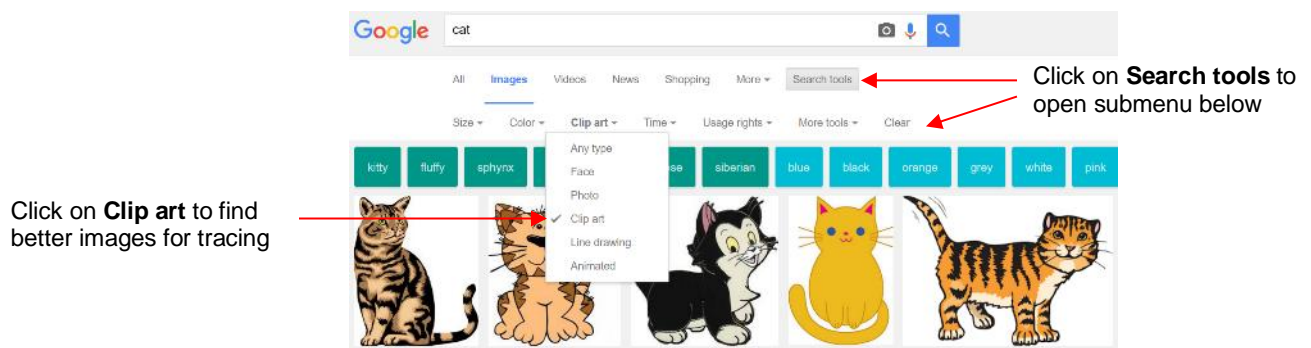
- As mentioned earlier, you can often tell whether a file is a raster or a vector based on the file format. Here are some guidelines:

Raster: BMP, JPG, GIF, PNG Vector: AI, EPS, DXF, SVG Either: PDF, sometimes EPS, SVG, & WMF

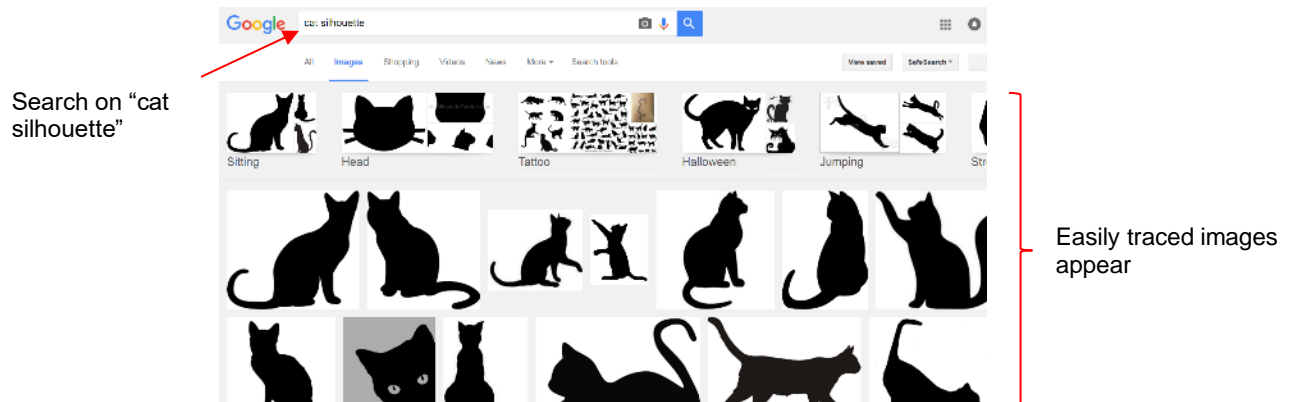
- To convert a raster into a vector, CREATE offers both an automatic and a manual trace function. Because the automatic **Trace** feature in CREATE is so fast and powerful, it is always worth trying it first. The only situation in which it may not be able to provide the results you need are (1) the image is very tiny or has a very poor resolution or (2) the image has poor contrast between one part and the next. For example, imagine a brown dog lying on brown carpet. How would the software know what part is the dog and what part is the carpet? Thus, you may need to manually trace some images, so both functions are covered, in detail, in this chapter.

5.02 Finding Easy Images to Trace

- What qualifies as an easy image? The obvious answer is “an image which gives you the results you want!” But those who are new to the vectorizing process do not always realize which images are going to be easy and which ones are not. Note that you shouldn’t be discouraged from trying to trace anything. But when you are learning the process, working with easier images will make the learning stage go smoother. So here are a few guidelines in selecting images:
 - ◇ Solid black silhouettes and black and white images (like coloring book images) are easier to vectorize than colored images
 - ◇ Colored images with flat colors are easier to trace than those with variegated colors
 - ◇ Large, high-resolution images are easier to trace than tiny, low resolution images
 - ◇ Images with tiny details will be more difficult to trace than simpler images with fewer details
 - ◇ Photographs are usually the most difficult to trace, especially when some of the colors blend (such as the brown dog on the brown carpet, mentioned earlier).
- For your own personal use, there are many images that can be found on the Internet. Use [Google Images](#) to search and find images based on keywords. Google Images also has filters at the top of the window (under **Search Tools**) to limit your search to black and white, as well as to clipart or line drawings. For example, after searching on the word cat, one can limit the images in this way:



- Adding the word “*Silhouette*” in a search, will also produce images that are typically very easy to auto-trace:




- You can also use the words “*coloring book*” instead of “*Silhouette*” to find those with internal detail, but still easy to trace.
- When you find an image you want to trace, click on it first to bring up a larger version. Then right-click and select **Save image as** from the popup menu. Note: If you use a browser other than Chrome, the popup menu may have slightly different wording for saving a file.

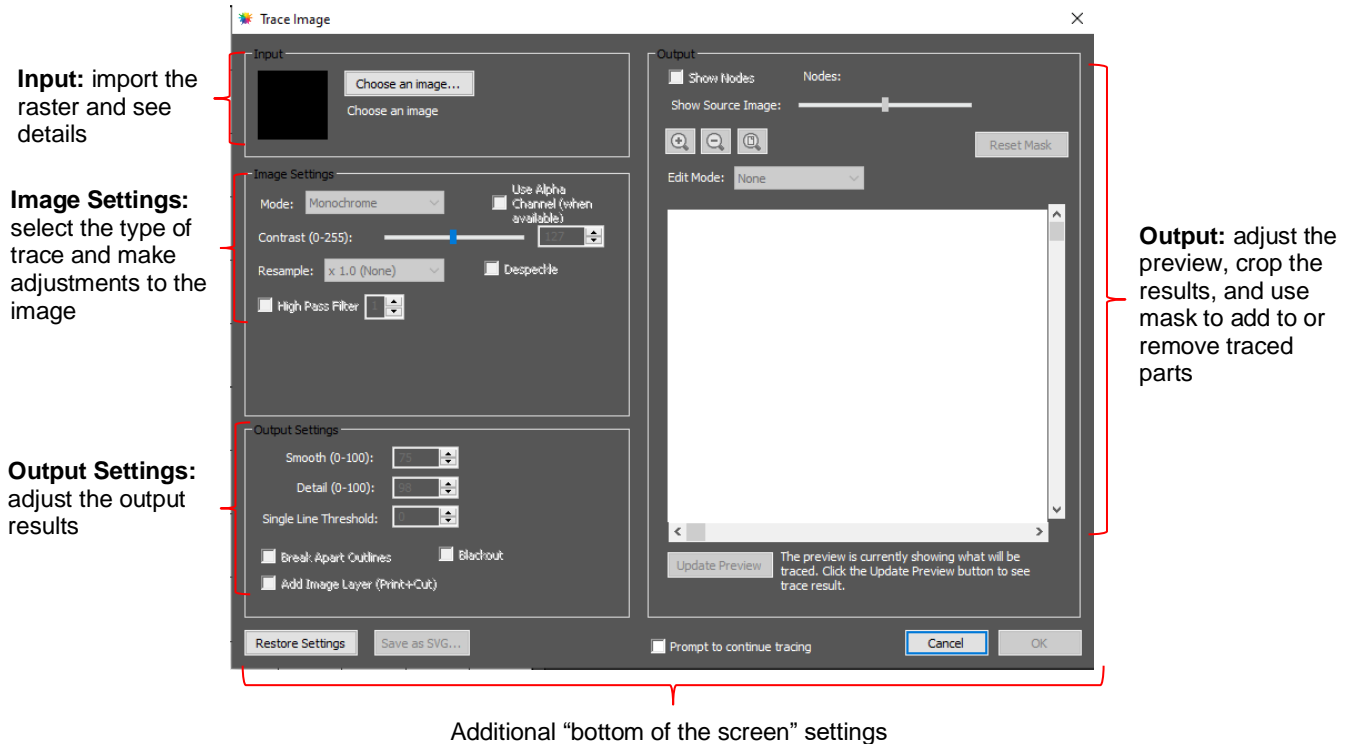
- **IMPORTANT!** Before tracing any Internet images, be sure to check the *Terms of Use* at the site hosting the image.

5.03 Trace Function

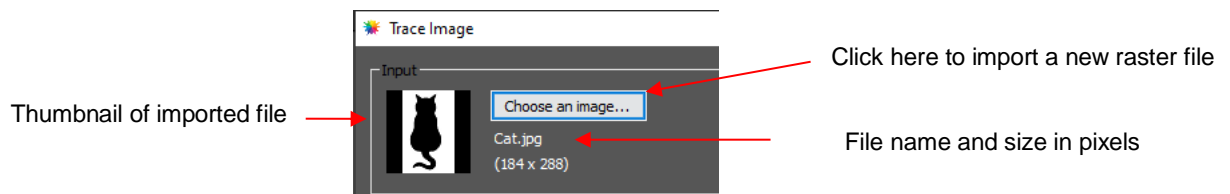
5.03.1 Trace Settings

Video

- To begin the tracing process, open the **Trace Image** window using one of the following ways:
 - ◇ Click on the **Trace** icon on the **Toolbar** 
 - ◇ Go to **File>Trace Image**
 - ◇ Press **Ctrl+Shift+T**
- There are five sections to the **Trace Image** window: **Input**, **Image Settings**, **Output Settings**, **Output**, and then the bottom bar. Note the location of each section and its main purpose. More details about each section follows:



• **Input**



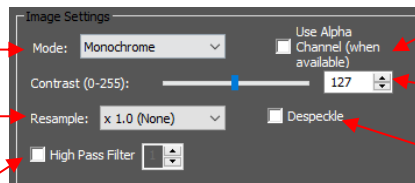
- ◇ Click on **Choose an image** and browse to locate the raster file (BMP, GIF, JPG, or PNG). Upon opening, a thumbnail appears, along with the name of the file and the size in pixels.
- ◇ Alternatively, before opening the **Trace Image** window, you can import the raster file using **File>Place Image**. Then, with the image selected, open the **Trace Image** window and this image will be loaded and ready for changes to trace settings.

- **Image Settings**

Choose from three modes:
Monochrome, **Color Layers**, or **Single Color**

Increase when a more precise tracing is needed

Option to add a **High Pass Filter** setting



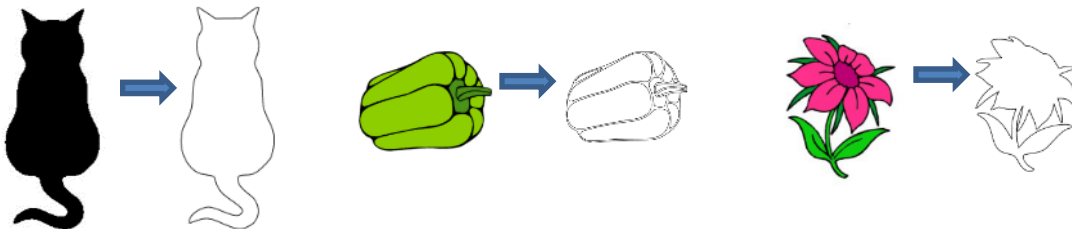
Mark this option if imported file is a PNG with a transparent background

Increase **Contrast**, if needed to control what is included in trace

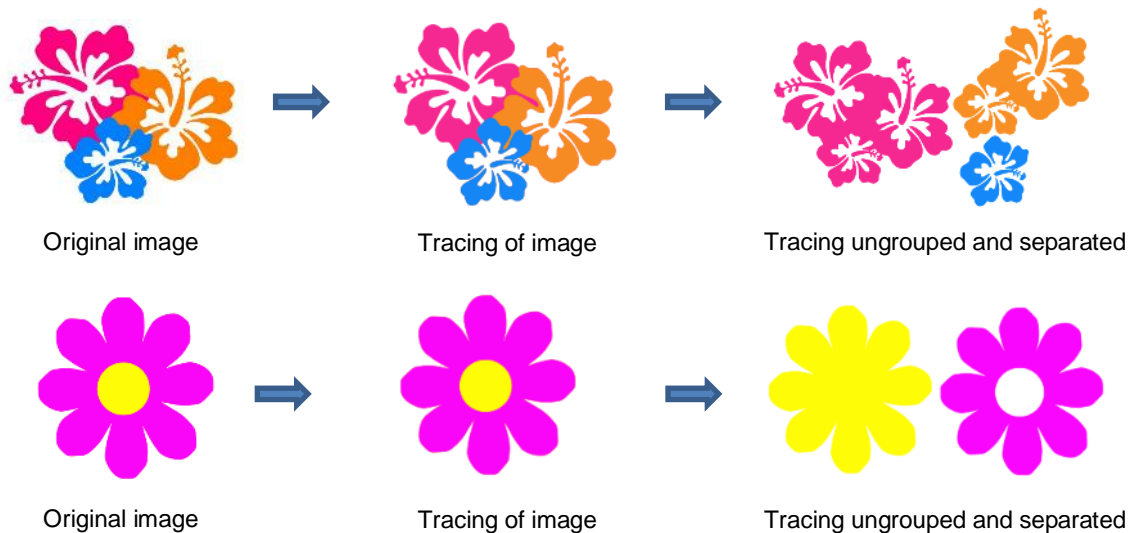
Ignore tiny specks in the imported image

◇ The **Mode** you choose is determined by the desired outcome / project application, as follows:

- **Monochrome:** choose this mode when you only need a black and white trace of the image. (Note: Sections 5.03.2 – 5.03.7 cover **Monochrome** examples in more detail.)



- **Color Layers:** choose this mode for multi-color images where you need separate colors, such as for a paper piecing or layered vinyl project and you want under-layers to use for alignment. Two examples follow which illustrate what is produced when **Color Layers** is chosen. (Note: Section 5.03.9 covers **Color Layers** in more detail.)



- **Single Color:** choose this mode when you want to single out a certain color to be traced or when the multi-color image needs to have colors traced exactly as displayed. This would be a typical choice for an HTV application where you do not want layers of material to overlap. The same examples are used again to demonstrate the difference. (Note: Section 5.03.10 covers **Single Color** in more detail.)



Original image

Tracing of image if only blue is selected



Original image

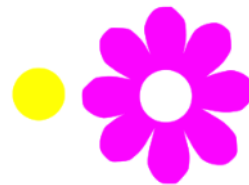
Tracing of image if each color is selected

Colors separated



Original image

Tracing of image if only pink is selected



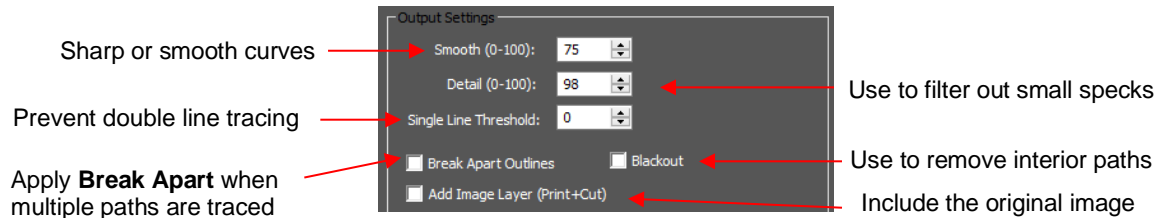
Original image

Tracing of image if each color is selected

Colors separated

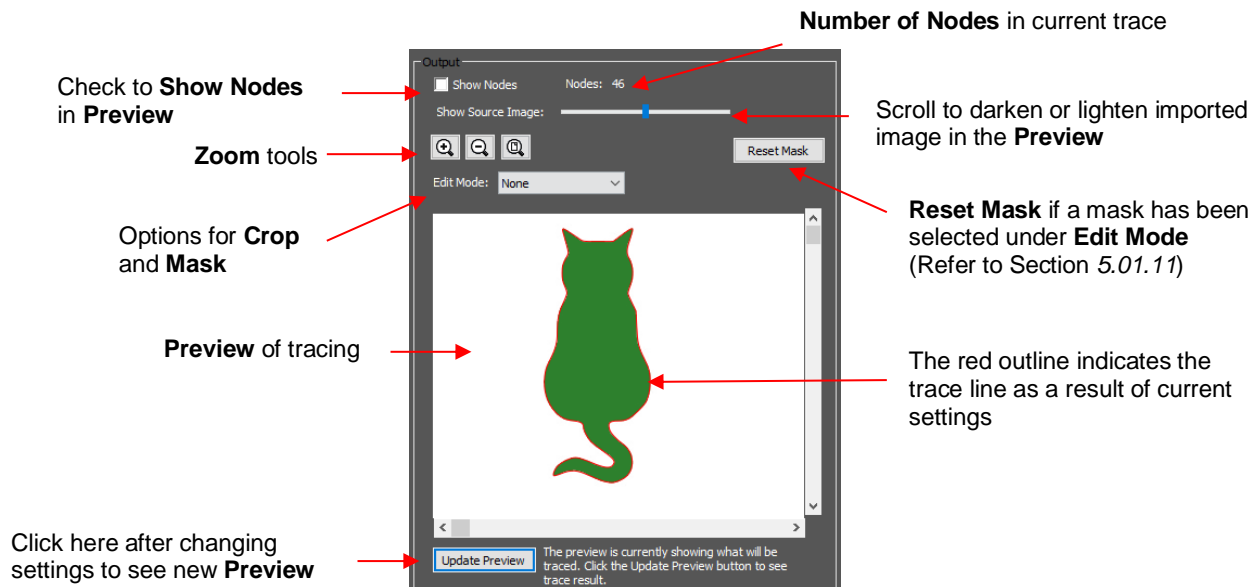
- ◇ Check the **Use Alpha Channel** box if the imported file is a PNG file with a transparent background. The transparent background is easily identified by the trace program requiring very little adjustment to other settings. Refer to *Section 5.03.6*.
- ◇ **Contrast** controls the level of color differentiation included in the trace: lower will include less, higher will include more. Refer to *Section 5.03.2*.
- ◇ **Resample**: choose **x 2.0**, **x 3.0**, or **x 4.0** to increase the pixels in the image which typically provides a more precise tracing of the image. More nodes result but increasing the setting can be especially important in some PNC (print and cut) applications where the cut line needs to precisely follow the printed image. Refer to *Sections 5.03.7* and *5.03.8*.
- ◇ **Despeckle**: mark this option to eliminate the tracing of tiny shapes that are not needed for cutting. Refer to *Section 5.03.4*.
- ◇ **High Pass Filter**: used to improve the tracing of photographs and other challenging images. Refer to *Section 5.03.12*

- **Output Settings**



- ◇ **Smooth:** Adjust according to type of image. For example, decrease (make sharper) if tracing a shape with sharp corners like an envelope template. Increase (make smoother) if tracing a shape with soft curves, like a teddy bear. Refer to *Section 5.03.3*.
- ◇ **Detail:** If tiny undesired shapes appear, decrease to filter those shapes out. Refer to *Section 5.03.4*.
- ◇ **Single Line Threshold:** When tracing coloring book images (image with black outlines), use to convert those double lines to single lines. Refer to *Section 5.03.5*
- ◇ **Break Apart Outlines:** Checking the **Break Apart Outlines** box will save a step if different parts of the tracing need to be edited separately or placed on separate layers.
- ◇ **Blackout:** Check this box so that internal shapes (child shapes) are not included in the tracing. Refer to *Section 5.03.5*.
- ◇ **Add Image Layer:** Check this box if a copy of the imported image will be needed, such as for a print and cut application. The result will be two layers grouped: one will be labeled “Print” and the other layer will be labeled “Cut.” Refer to *Section 5.03.7*.

- **Output**



- ◇ Most of the settings in the **Output** section do not affect the final result, with the exception of the **Crop** and **Mask** functions in the **Edit Mode** menu. The other settings only affect the **Preview** so adjust as desired.
- ◇ **Edit Mode: Crop** When you select the **Crop** option, a rectangle will appear that can be resized to fit around the desired part of the image. This is useful when there are multiple images in a raster file and you only want to trace some of them. For example:

Select **Crop**



Drag the black squares on this box until only the image(s) you wish to trace are inside the box

- ◇ **Edit Mode: Draw Mask** This option allows you to add or subtract parts of the image you want to include or exclude from the trace. Refer to *Section 5.03.11* for details on how to use this function.

• Bottom of the Screen Settings

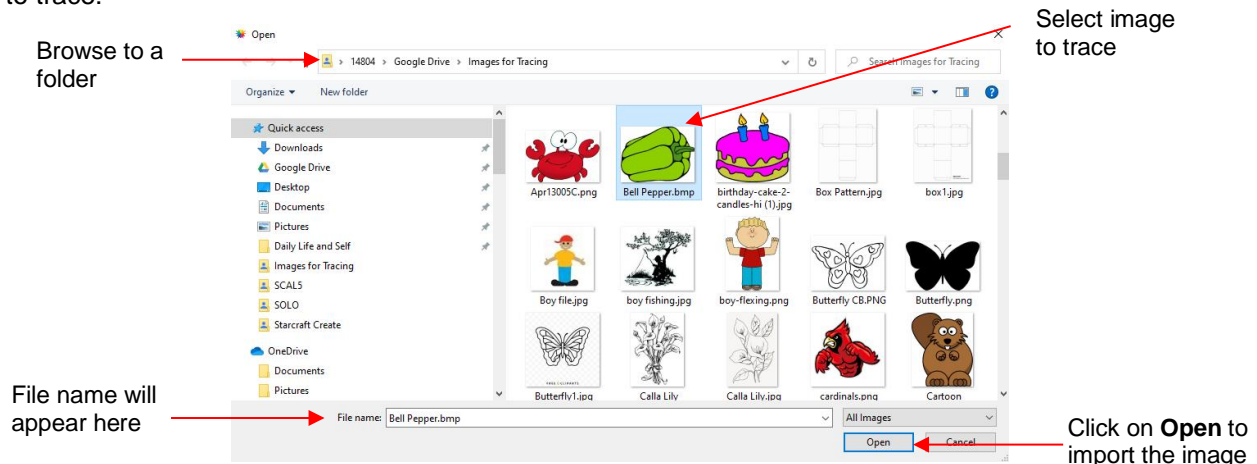


- ◇ **Restore Settings:** Click this button to change settings to the values that were in place when you entered the **Trace Image** window. To restore to original default CREATE settings, close and reopen CREATE.
- ◇ **Save as SVG:** Click this button to export the current tracing as an SVG file.
- ◇ **Prompt to Continue Tracing:** Mark this option if you want to remain in the **Trace Image** window after clicking on **OK** so that other trace settings can be used/tested with the same image or another image imported.

5.03.2 Monochrome Trace of a Colored Image: Effects of Contrast

Video

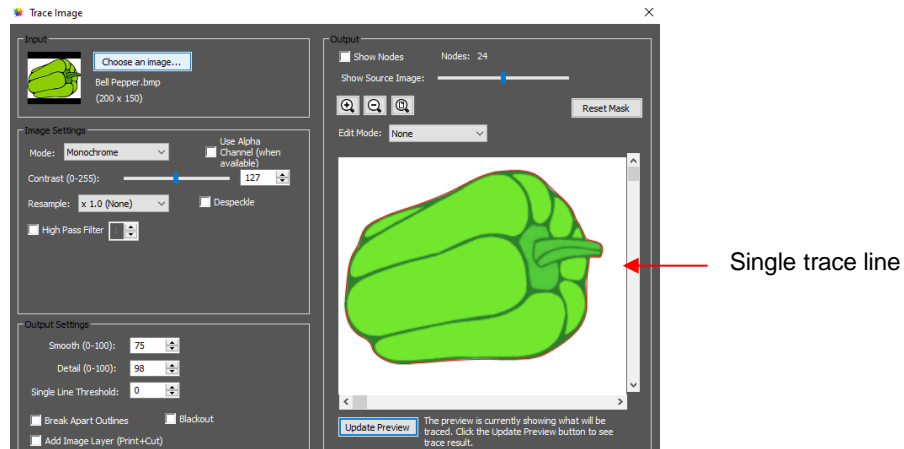
- Start by clicking on **Choose an image** in the **Input** section and then browse to locate the raster file you wish to trace:



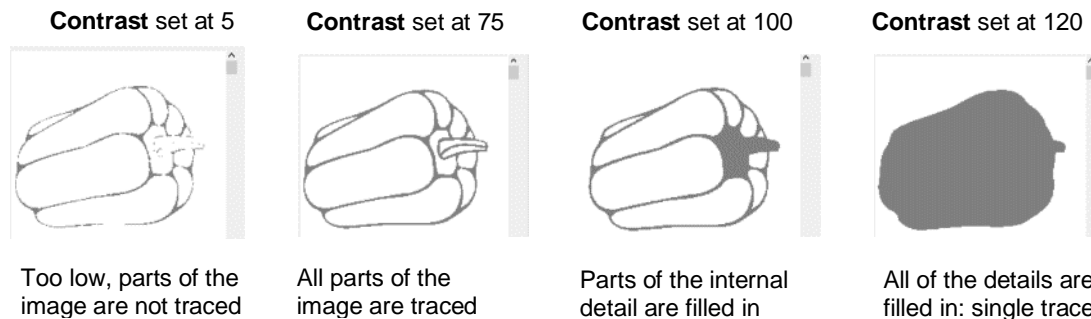
- In this example, a bell pepper image is imported for tracing and the **Preview** indicates a single trace path around the image:

Monochrome is selected

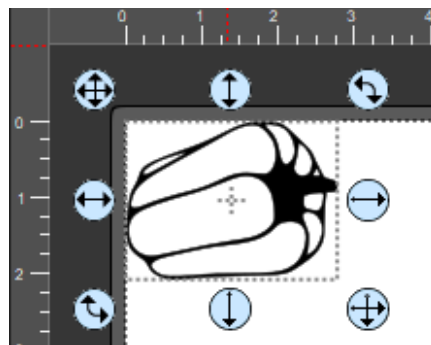
Contrast is at default of 127



- Let's experiment with the **Contrast** setting to fully understand how it works on an image of this type. Note that as you drag the **Contrast** scroll bar, the original image disappears so that you only see the trace lines:



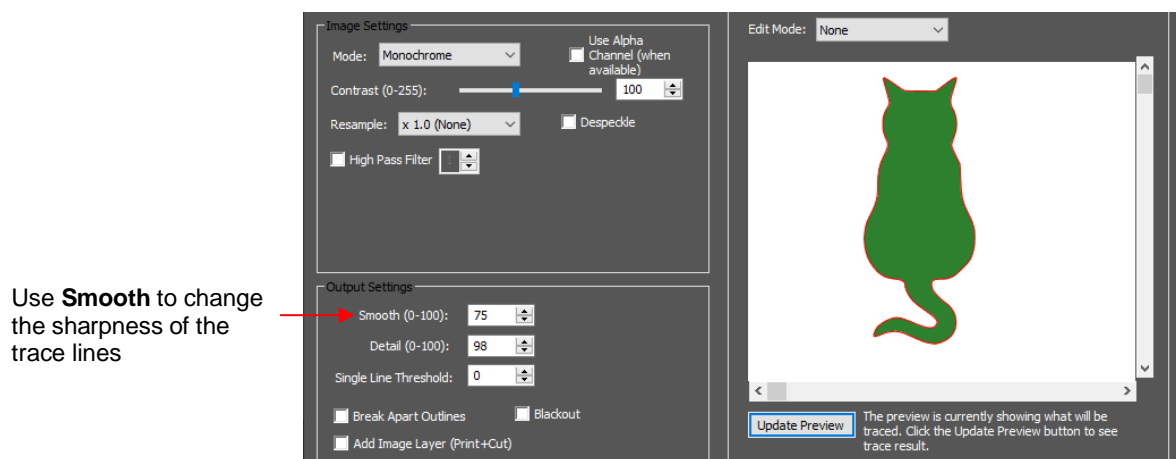
- Thus, for any given image, scroll the **Contrast** setting to see the effects and determine which version best suits your project needs. Once satisfied, click on **OK** and the image will appear in the top left corner of the **Page**, ready to be resized and cut out:



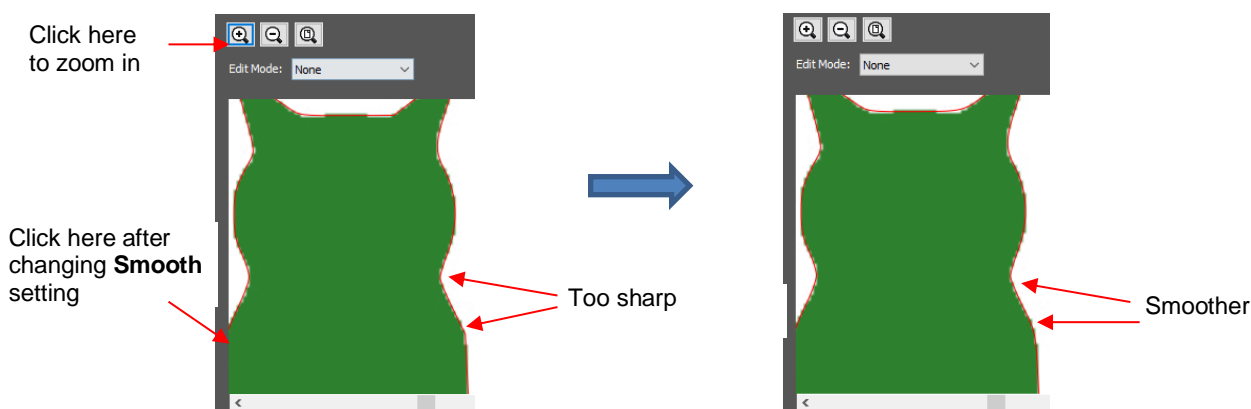
5.03.3 Monochrome Trace of a Silhouette Image: Effects of Smooth

Video

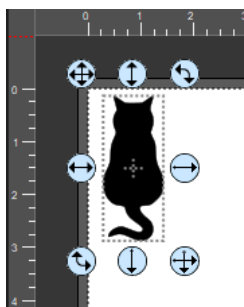
- As mentioned at the end of *Section 5.02*, silhouette images typically offer an easy trace. In this next example, a silhouette cat image is imported into the **Trace Image** window. Because this is a silhouette image, **Monochrome** mode is chosen and the image appears to have traced very well. However, upon a closer look at the right side of the cat, it appears that the neck area is a bit sharp:



- To soften the outline of the cat, zoom in on that area and then increase the **Smooth** setting until a desired result is obtained. In the following screenshot, the **Smooth** setting is increased from 75 to 95. Remember to click on **Update Preview** after every adjustment to settings:



- After clicking on **OK**, the cat shape appears on the **Page** and is ready to be sized and cut:



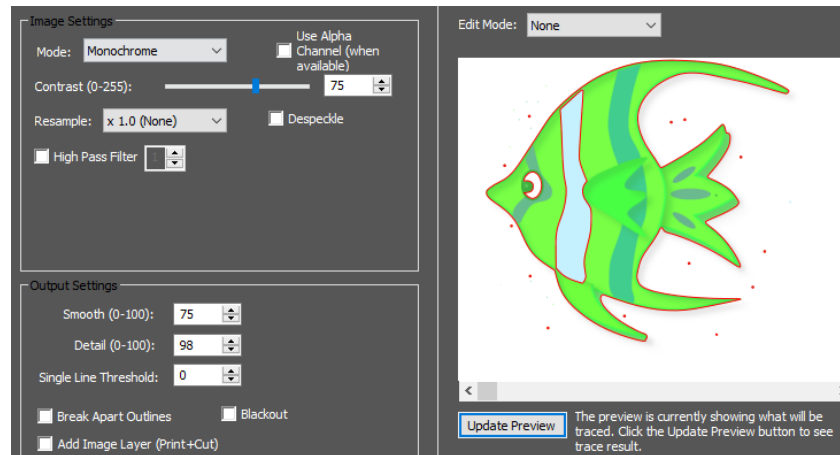
5.03.4 Monochrome Trace of a Detailed Image: Effects of Despeckle and Detail

Video

- Either the **Despeckle** option or the **Detail** setting can be used to filter out small shapes. Sometimes these shapes are just random pixels that show up from, say, a dirty scanner bed. Other times they are shapes that make up the design but will be too small to cut and are not needed.
- Before showing examples, note that there will be times when some small shapes might be needed but not all of them. In those situations, it's best to include them and then they can be edited out using other tools.

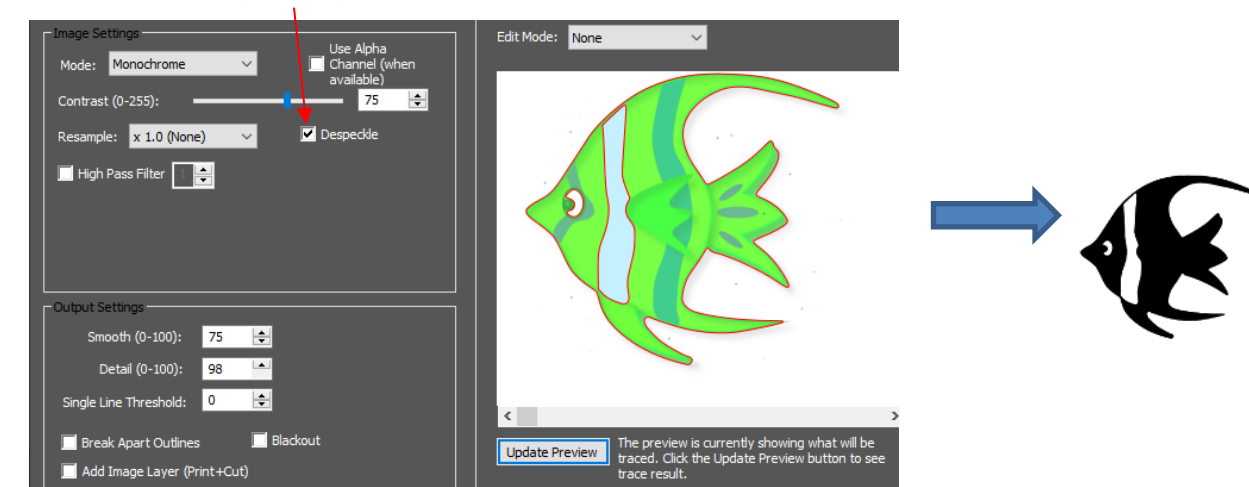
Despeckle

- Since **Despeckle** is simply an on/off option, it makes sense to try it first when you see a lot of tiny unwanted shapes being included in the trace. For example, with the following clipart image of an angel fish, tiny specks surround the image in the **Preview**:



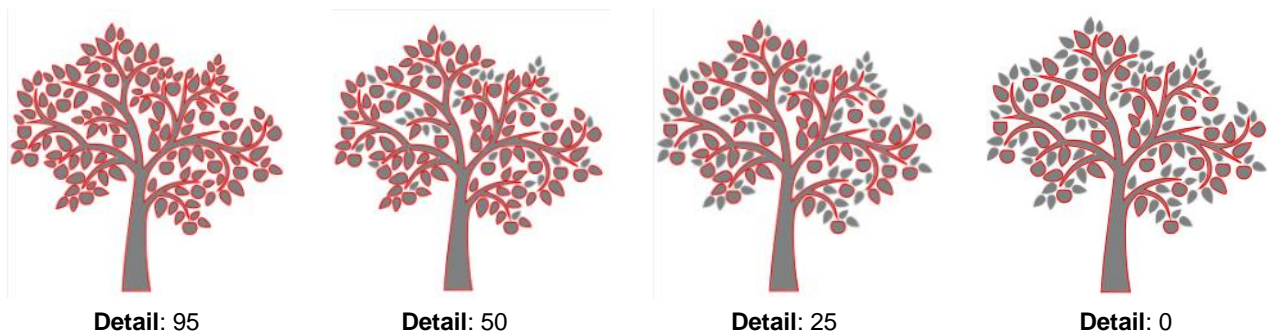
- ◇ Marking the option for **Despeckle** and clicking on **Update Preview**, removes the specks:

Check the **Despeckle** option



Detail

- The **Detail** setting allows one to control the size of the small shapes that are eliminated.
 - ◇ The following tree image is imported into the **Trace Image** window. You have decided that not all of the leaves are needed. The **Detail** setting can be lowered to filter out some of the smaller ones:



- ◇ Even with **Detail** set at 0, there are still shapes of a certain size in that particular image that will be included in the trace. Again, there are editing tools that can be used in case more of the small shapes need to be removed. Refer to *Section 6.06*.
- Note that if **Despeckle** had been applied to the tree image, instead of deleting the smaller shapes, it would have included them in the trace:



Despeckle: Off



Despeckle: On

- ◇ This result indicates that when the small shapes are extremely close to a large shape, they will become part of that larger shape instead of being filtered out.
- ◇ Also note that with the fish image traced earlier, the **Detail** function could have been used, as well, to remove those last few specks.

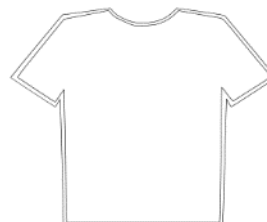
5.03.5 Monochrome Trace: Single Line Threshold and Blackout

Video

- The **Single Line Threshold** setting is useful when the imported image had a black border around it and you do not want a double line trace. For example, if the following T-shirt image is traced using default settings, two trace lines result: one line is following the outside of the black border while the other line is following the inside of the black border:

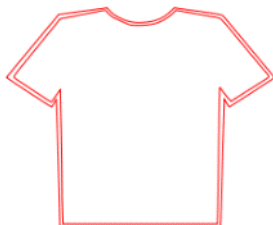


Original image

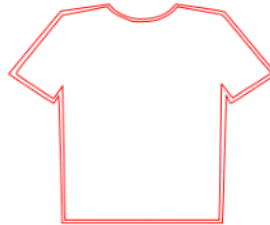


Trace of image

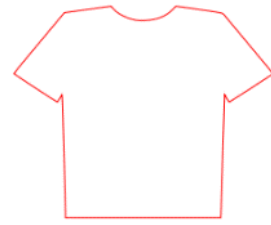
- To have only one trace line, increase the **Single Line Threshold** setting until there is only a single line showing in the **Preview** window:



Single Line Threshold = 0
double line

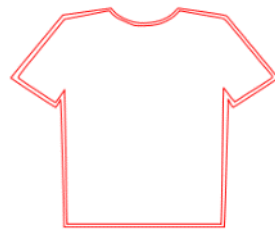


Single Line Threshold = 5
double line

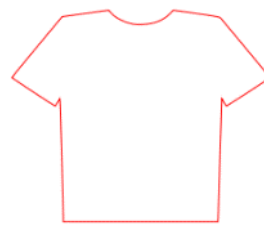


Single Line Threshold = 10
single line

- ◇ Because the T-shirt image is a simple closed shape, the **Blackout** option could have been used instead of **Single Line Threshold**:

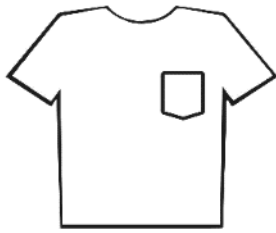


With **Blackout** unchecked

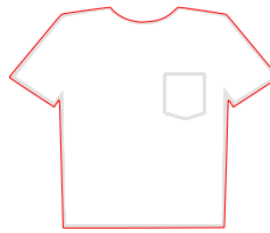


With **Blackout** checked

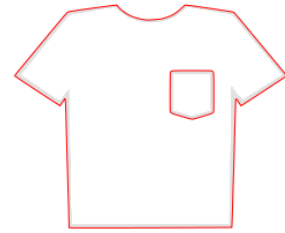
- ◇ However, if the T-shirt had internal details, such as a pocket, then **Blackout** could not be used as the entire pocket would have been ignored. In this situation, **Single Line Threshold** is the better choice:



Original image



Preview of trace with **Blackout** checked



Preview of trace with **Single Line Threshold** increased

5.03.6 Monochrome Trace of a PNG File with Transparent Background

Video

- PNG files with a transparent background are the easiest files to trace because the software can readily identify where the invisible background starts and ends. Furthermore, when you load a PNG file into the **Trace Image** window, an option will pop up if a transparent background is identified:

Select **Monochrome**

Alpha Channel box will appear and be checked if file is a transparent PNG

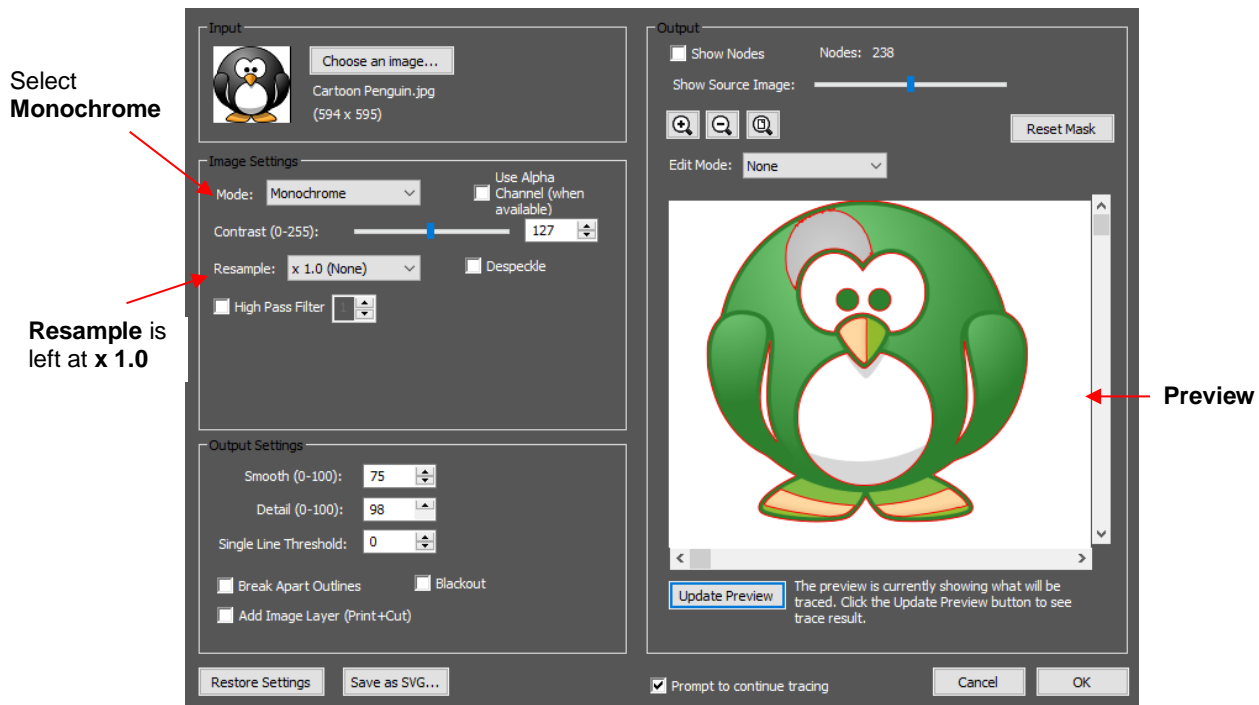
Preview – auto trace appears

- Note that it wasn't necessary to adjust the **Contrast** setting (or any other setting) because of the transparent background. This will not always be the case if there are internal cut lines that are needed. But in a case where just an outside trace is required, then leaving **Contrast** at the default of 127 will usually work.

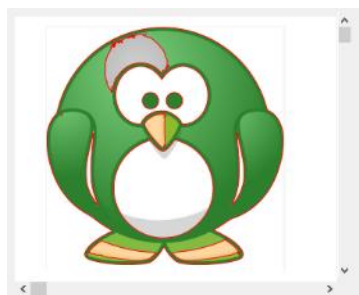
5.03.7 Monochrome Trace for a Print+Cut: Effect of Resample

Video

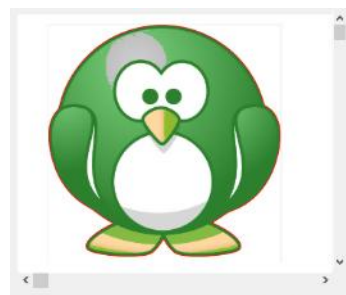
- In many print-and-cut applications, a raster image is imported with the intention of printing that image and then cutting precisely along the edges of that image. For this reason, it's very important to get as accurate of a trace as possible.
- The **Resample** setting multiplies the number of pixels in the image allowing a more precise scan of the border between the image and the background color. The following image is imported and traced with the default of **x 1.0** left as the **Resample** setting.



- Before clicking on **OK**, note two settings that have also been marked:
 - ◇ **Blackout**: apply if there are internal cut lines that are not needed. In this example, only the outside of the penguin needs to be traced. Thus, applying **Blackout** will remove the internal cut lines showing in the **Preview**:



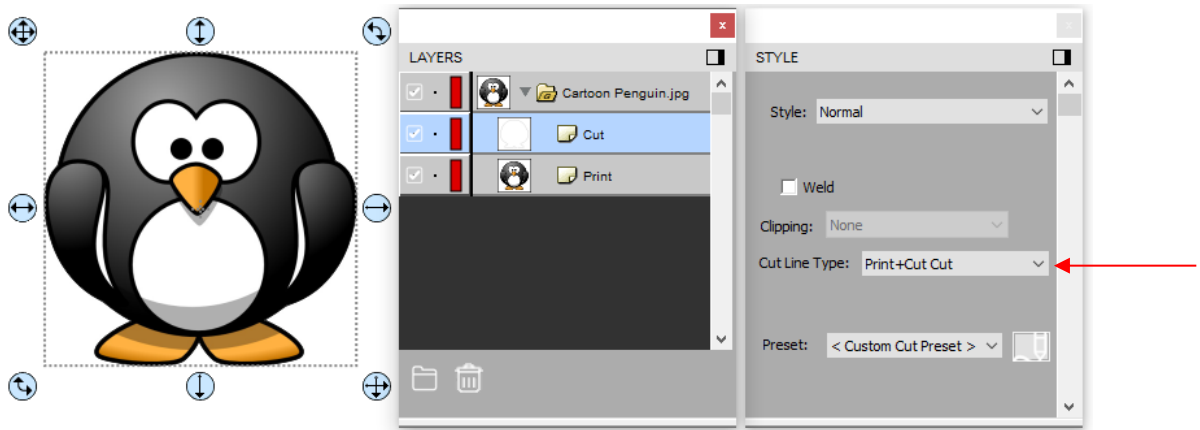
Preview of trace with **Blackout** not checked. Note the internal red lines that would be cut.



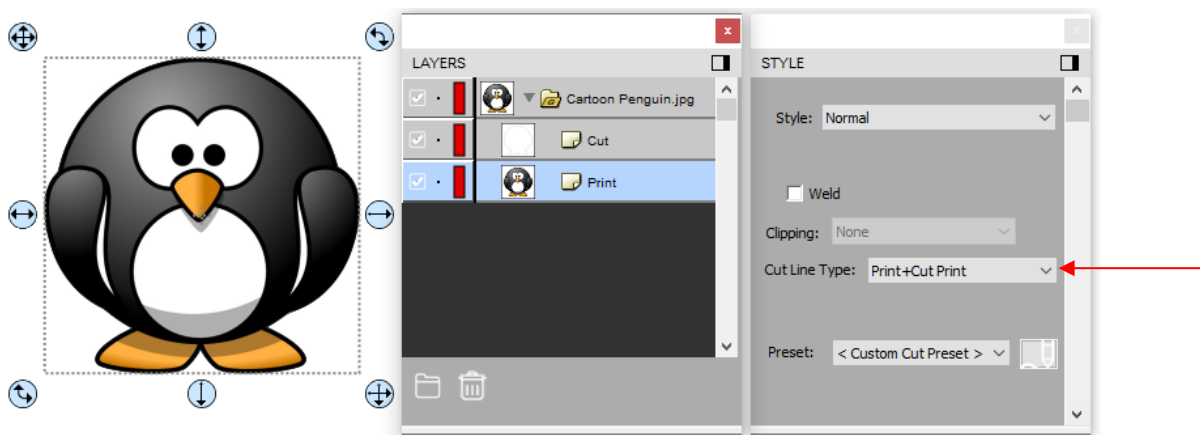
Preview of trace after **Blackout** is checked. The internal red cut lines are removed.

- ◇ **Add Image Layer (Print + Cut)**: Mark this box so that the original image is also imported onto the **Page**. Note that if you check the **Style Panel** settings on each layer, one will be assigned as **Print + Cut Cut** (layer can only be cut, not printed) and the other will be assigned as **Print + Cut Print** (layer can only be printed, not cut). Click on **OK** and the following layers appear:

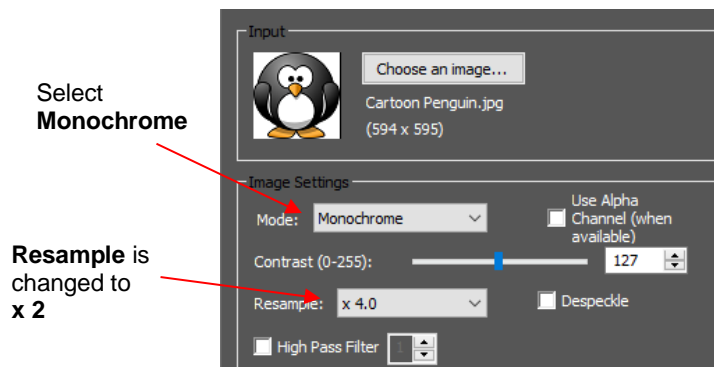
Cut Layer Assignment



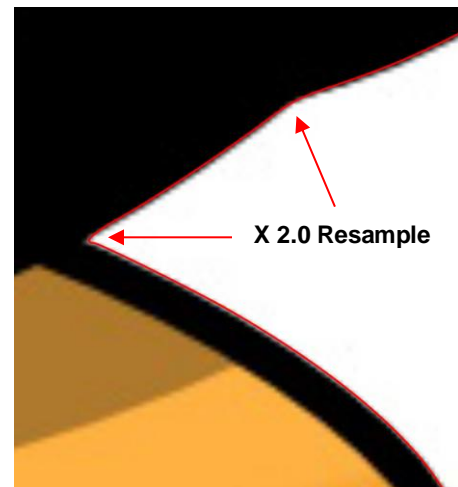
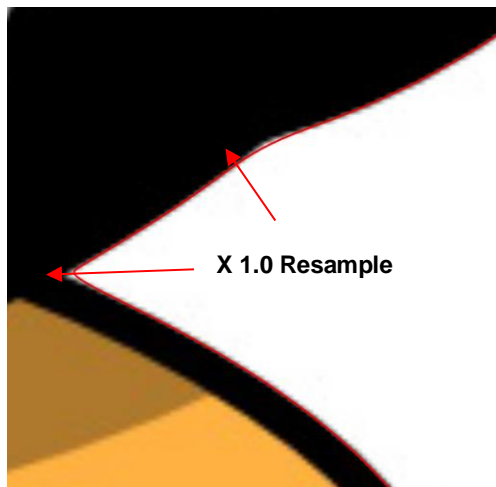
Print Layer Assignment



- Returning to the **Resample** setting, the same image is traced again, but the **Resample** will be increased to **x 2.0**:



- If you compare the **Preview** in both cases, there doesn't appear to be a difference in the trace. However, if you select the **Print + Cut Cut** layer on the **Layer Panel** and change the **Stroke** to a bright color and then zoom in closely, you can clearly see places where the **x 2.0 Resample** resulted in a tighter fit:



- In *Section 5.03.3*, it was shown how the **Smooth** setting affects the trace line. This setting can also be tested on PNC tracings as a way of getting a better fit, by decreasing the value. Alternatively, you can also create an **Inset** after the trace, if needed, to create a path that will cut just inside the image. Refer to the **Inset Offset** option in *Section 6.05*.

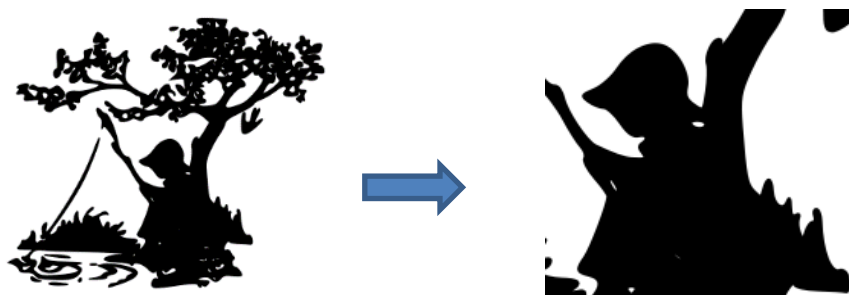
5.03.8 Resample Versus Smooth and the High Pass Filter

Video

- In many respects, the **Resample** setting appears to have the same effect as the **Smooth** setting. However, the **Resample** is applied to the imported raster image ahead of tracing, while the **Smooth** setting is applied to the actual trace lines.
- While there is no definite way of knowing which setting to use in any given tracing, keep in mind the following:
 - ◇ The purpose of **Resample** is to help the tracing algorithm “see” more pixels and provide a tighter, more precise trace.
 - ◇ The purpose of the **Smooth** setting is to make the trace less angular or more angular. Thus, the **Smooth** setting would probably be set high when tracing something like a stuffed toy but set very low when tracing something like a box pattern with lots of right angles.
- In general, you’ll just need to test them to see which one is better or if applying both is the best option.
- In the example below, it will be shown that **Resample** improves the accuracy of the trace over **Smooth**.



- ◇ Using a **Resample** of **x 1.0** and other settings set (which will again be used when **Smooth** is tested), the trace results in the following. Since an important focal point would be on the boy’s face and hat, note that the resulting trace isn’t as sharp as one might want:



- ◇ By increasing the **Resample** to **x 2.0**, the shape of the hat and the face become closer to the original image:



X 1.0 (None) Resample



X 2.0 Resample

- ◇ On the other hand, if one leaves the **Resample** at **x 1.0** and, instead, decreases **Smooth** from 75 to 70, the hat becomes too pointed/angular without improving the shape of the face:



Smooth = 75



Smooth = 70

- ◇ Thus, in this particular example, increasing the **Resample** had a more desirable outcome than decreasing **Smooth**.
- ◇ Another setting, called the **High Pass Filter**, can even further sharpen a tracing. When it was applied in this same example, note the remarkable improvement in detail:



- ◇ Based on my initial experience, there are two downsides to using this setting:
 - Getting the optimum setting in combination with the **Resample** and **Contrast** settings, is tricky

- After applying and getting the trace onto the **Page**, you'll need to apply **Object>Break Apart** and eliminate some unwanted paths. Alternatively, you can use the **Draw Mask** option to edit while still in the **Trace Image** window. Refer to *Section 5.03.11*.
- ◇ For more details on the **High Pass Filter**, refer to *Section 5.03.12*.

5.03.9 Color Layers Trace

Video Video

- As mentioned in *Section 5.03.1*, **Color Layers** might be a good mode to choose for a paper piecing or layered vinyl project if you want under-layers present. In this section, a flower that has two shades of pink and two shades of green is chosen:



- After loading the image and then selecting **Color layers**, the window will update to show new settings:

The screenshot shows the 'Color Layers Trace' window. On the left, the 'Image Settings' panel is visible. A red arrow points to the 'Mode' dropdown, which is set to 'Color layers'. Another red arrow points to the 'Max Colors (2-256)' slider, which is set to 4. A third red arrow points to the 'Colors identified' section, which shows four color swatches (two shades of pink and two shades of green). On the right, the 'Output' panel shows a 'Preview' of the flower with the traced colors. A red arrow points to the 'Update Preview' button at the bottom of the preview area. Another red arrow points to the 'Show Source Image' slider, which is set to the left. A final red arrow points to the 'Update Preview' button again, with a note: 'Click here after every change'.

Select **Color layers**

Scroll to select number of colors to identify

Colors identified

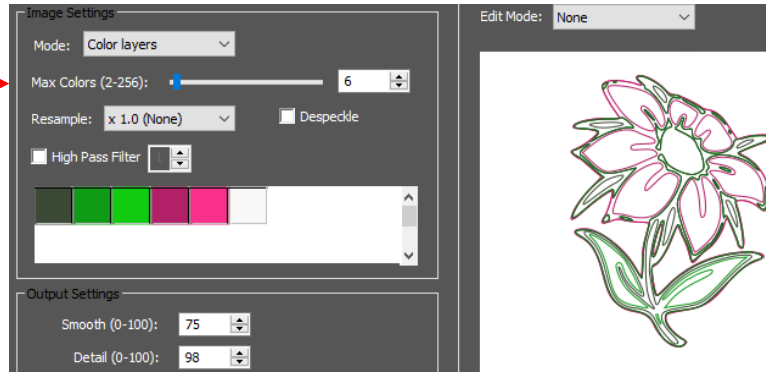
Scroll to the left to better see the cut lines in the **Preview**

Preview

Click here after every change

- The **Max Colors** setting shows the current number of identified colors. Below that are icons of these colors. Note that white (or whatever has been used for the background color of the graphic, will also be included in the count. If you do not see those color samples, click on **Color layers** a second time.
- Depending on the image and what you want in your final trace, the **Max Colors** can be increased or decreased. Because this image has two shades of pink and two shades of green, those can be added to the count:

Max Colors increased to 6



- After accepting **OK** in both cases, the layers are ungrouped and compared:



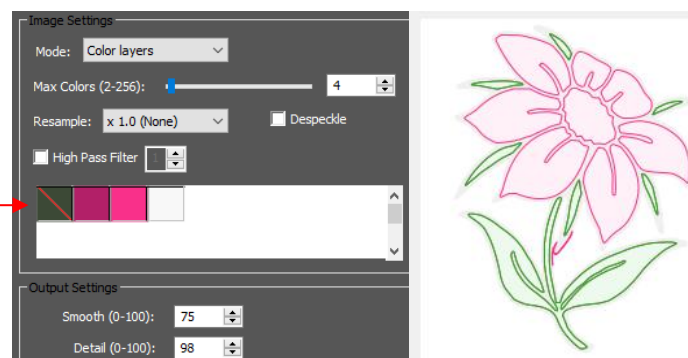
Max Colors = 4 produces 3 layers



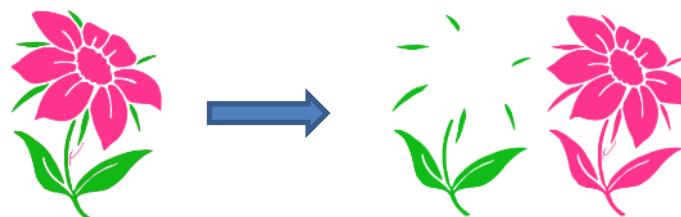
Max Colors = 6 produces 5 layers

- You can also turn off colors by clicking on them. For example, if you do now want the black background traced:

Click once on a color to remove it from the trace



- The result is this:



- A useful application for the **Color Layers** trace option is converting a photo (or another image) into a

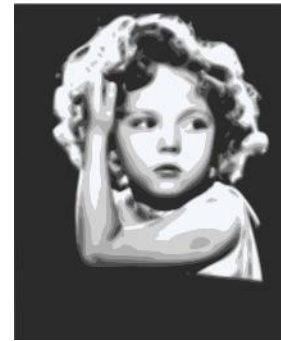
contoured cut project. Thanks to Leslie Merriett for sharing this project:



Original Photo



Color Layers Trace
Max Colors: 7



After darkest layer
expanded to fill
background



After cutting and assembling

5.03.10 Single Color Trace

- With the **Single Color** option, each desired color is selected and traced individually. The advantage is that only the visible part of each color is traced. The disadvantage is that it takes a bit more effort.
- Again, the same flower image that was used in the prior section will be opened into the **Trace Image** window. When **Single Color** is selected from the drop-down menu, the window will update to show new settings:

Current color

Select **Single Color**

Increase **Contrast** to add similar colors to selection

Mark this box

Scroll to the left to better see the cut lines in the **Preview**

Preview

Click here after every change

Trace Image

Input

Choose an image...

Pink Flower.jpg (186 x 229)

Image Settings

Mode: Single color

Contrast (0-255): 5

Resample: x 1.0 (None)

Despeckle

High Pass Filter

Output Settings

Smooth (0-100): 75

Detail (0-100): 98

Single Line Threshold: 0

Break Apart Outlines

Blackout

Add Image Layer (Print+Cut)

Output

Show Nodes: 52

Show Source Image:

Edit Mode: None

Reset Mask

Preview

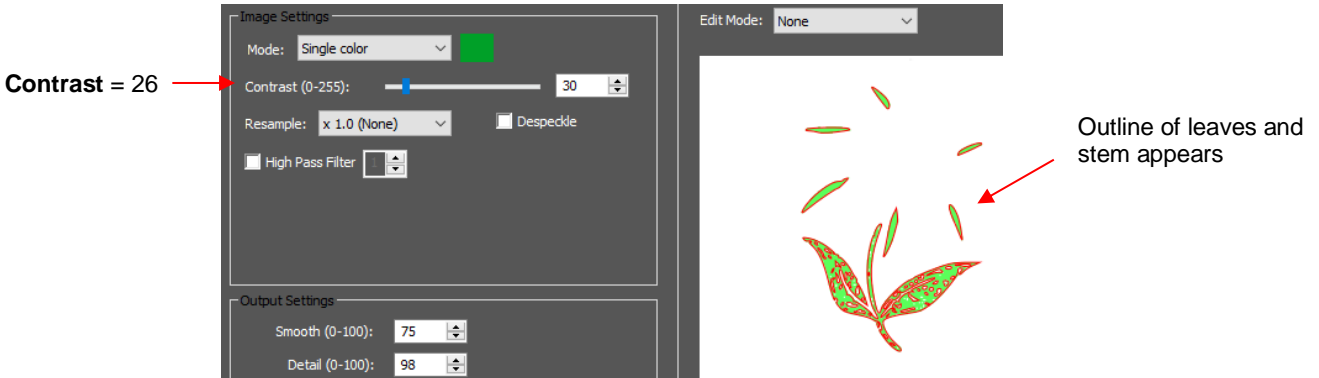
Update Preview

Prompt to continue tracing

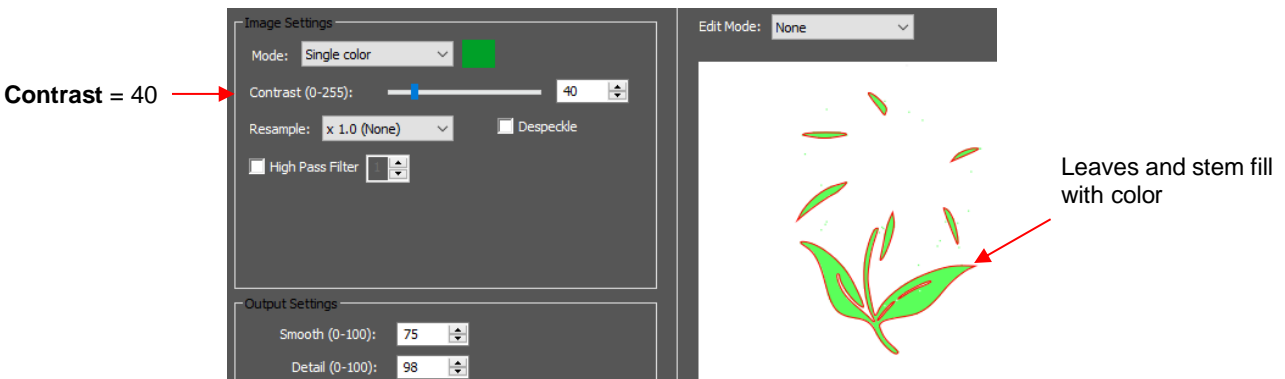
Cancel

OK

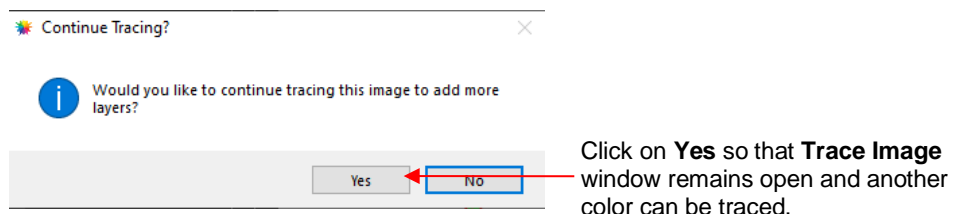
- Mark the option for **Prompt to continue tracing**. After you import each color to the **Page**, the **Trace Image** window can be kept open to trace the next color.
 - In the screenshot, the initial color identified was a shade of green. In the **Preview**, you can see how many parts of the flower were included as being in the range of that shade.
 - If you want to add more of the green parts of the flower, then increase the **Contrast**. With **Show Image Source** minimized, you can better see the results as you test the **Contrast** setting.
- ◇ With a **Contrast** of 30, the outline of the flower stem and leaf appear:



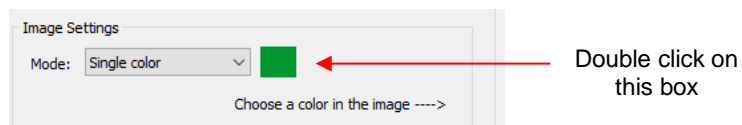
- ◇ With a **Contrast** of 40, the leaves and stem fill:



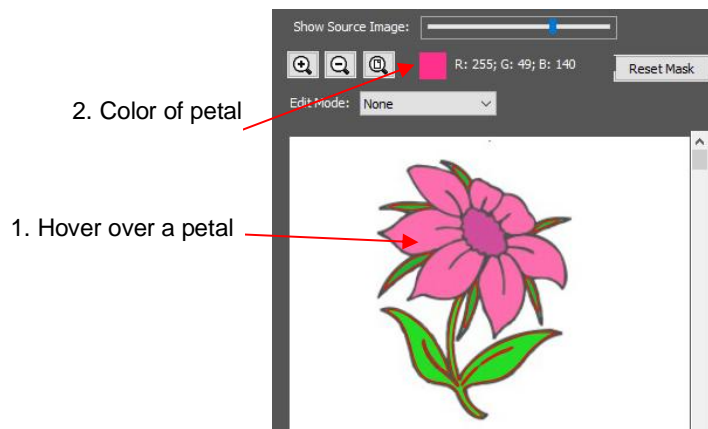
- Once you are satisfied, click on **OK** and you will be asked if you wish to continue tracing. Answer **Yes**:



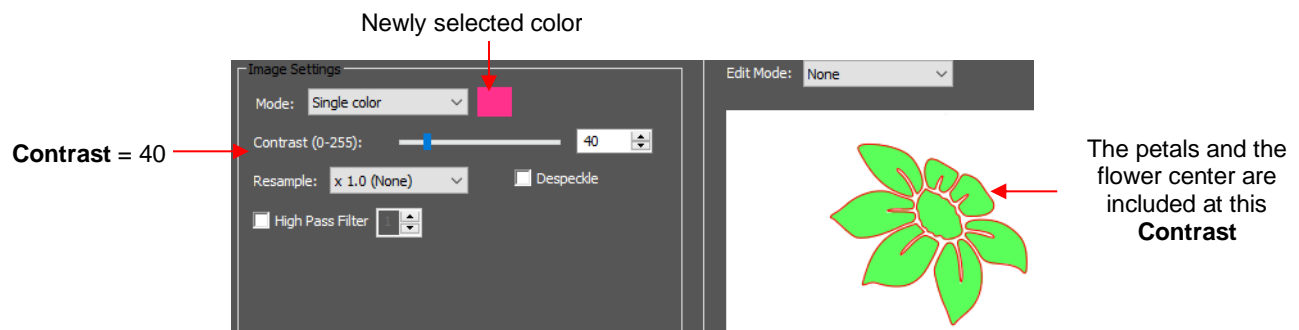
- Double click on the color box next to **Single Color**. A message will pop up indicating you are to click on another color on the **Preview**:



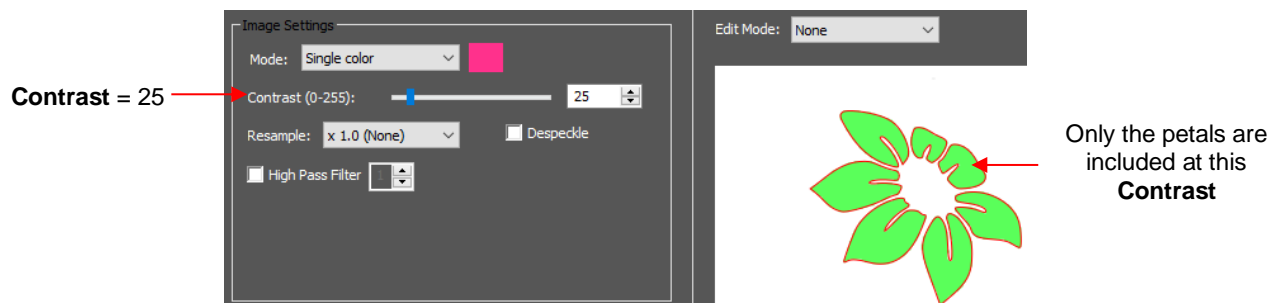
- As move your mouse across the preview image, colors will change in the color box above the preview:



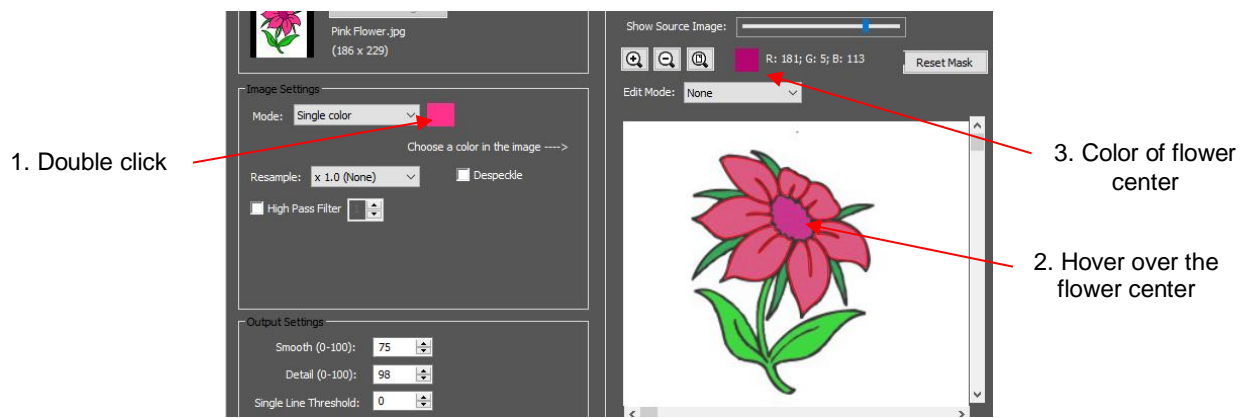
- One of the petals is clicked and the color box turns to that color. The **Preview** shows how much of the image is now included at the current **Contrast** of 40:



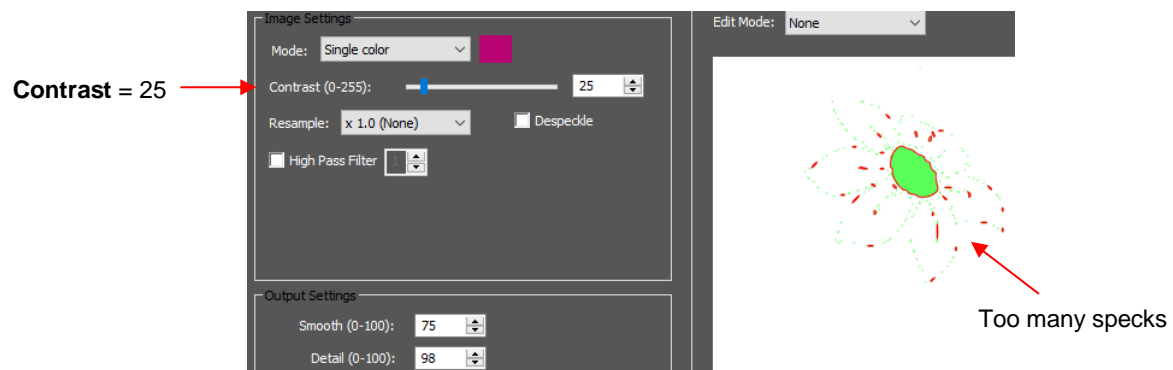
- Notice the petal and the flower center are all included at that **Contrast** setting. If you prefer to capture the flower center, which is a darker shade, separately, then decrease **Contrast** until the center is no longer filled. For this image it happens to 25:



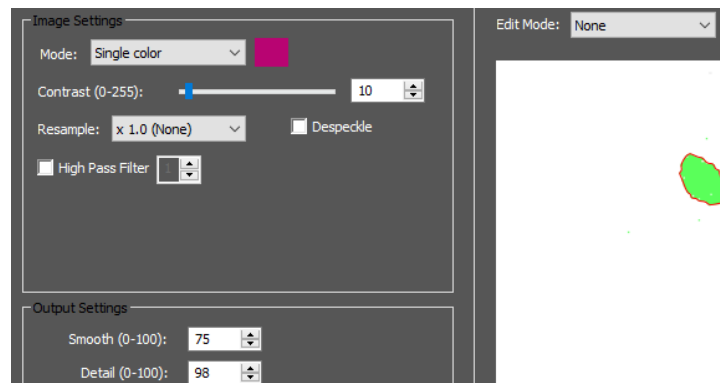
- Then, the same procedure is used to capture the flower center. Click on OK to import the trace of the petals. Then double click its color box so that you can then hover over the flower center and left click to set the new color for the trace:



- The center of the flower is clicked and at a **Contrast** of 25, too much of the petal color is being picked up:



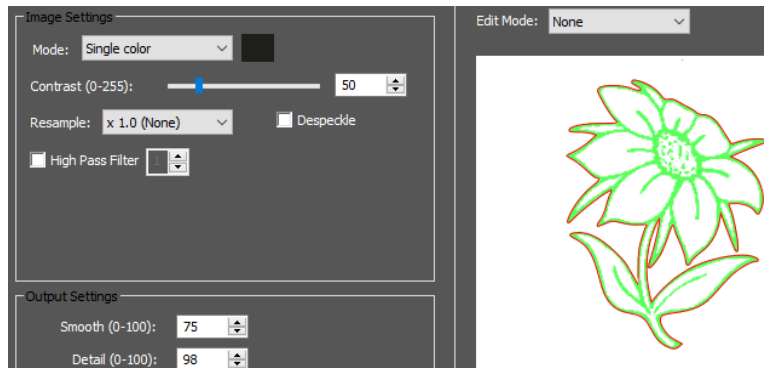
- Reducing the Contrast to 10 removes the specks but keeps the flower center fully traced:



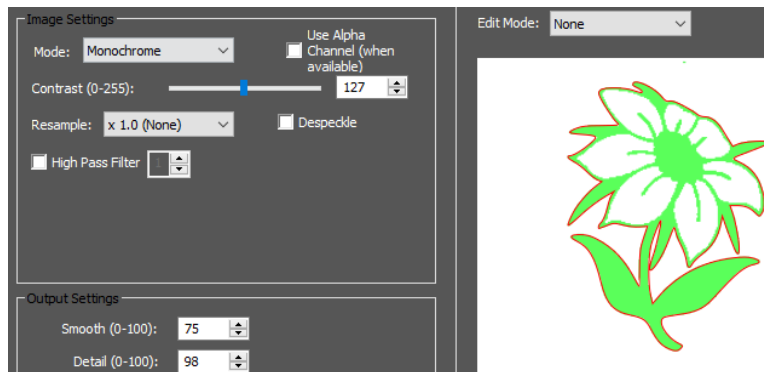
- Click on **OK**. The resulting trace using this particular method results in the following image:



- You now have several options for completing the trace which involves adding a final outline/shadow layer to the flower:
 - ◇ Continue to use **Single Color**, click on the part of the image that is black, mark the **Blackout** option:

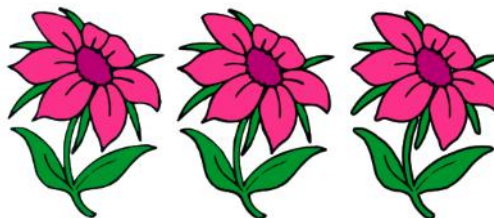


- ◇ Switch to **Monochrome** mode, mark the **Blackout** option:



- ◇ Forgo using the **Trace** window. Select the layers traced so far and use the **Shadow Layer** function to add a black outline. Details of this procedure are covered in *Section 7.05*.

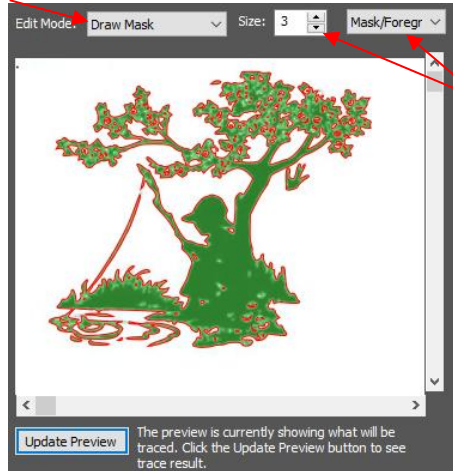
- The final results, using the three options, are virtually identical:



5.03.11 Draw Mask Function *Video Video*

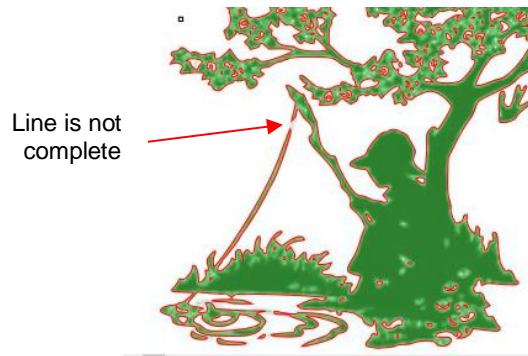
- In the **Output** section of the **Trace Image** window, under **Edit Mode** is a **Draw Mask** option which can be used to erase or add to a trace. With some images, finding the trace optimum settings can be tricky. You'll end up with some parts not quite traced and, perhaps, other parts not needed. This function allows you to "complete the task."
- When **Draw Mask** is selected, another option menu appears:

Select **Draw Mask**

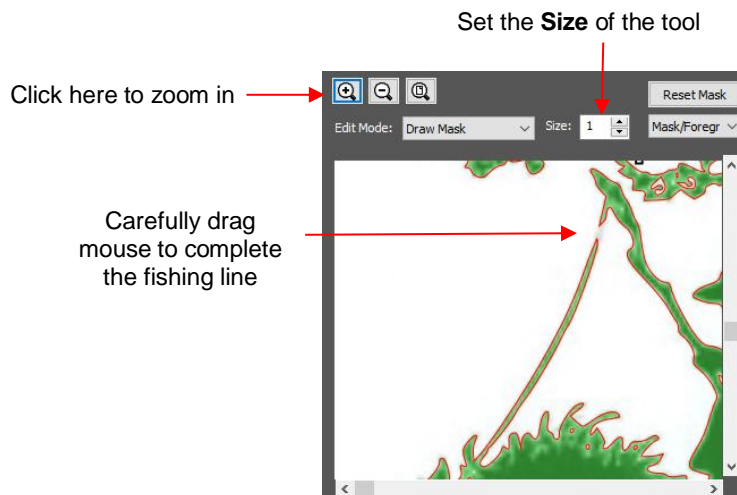


A **Size** setting and options for either **Mask/Foreground** or **Mask/Background** appear

- **Mask/Foreground:** This option allows you to freely draw shapes to be added to the trace. For example, in the prior screenshot, you'll observe that the fishing pole line is not completely traced:

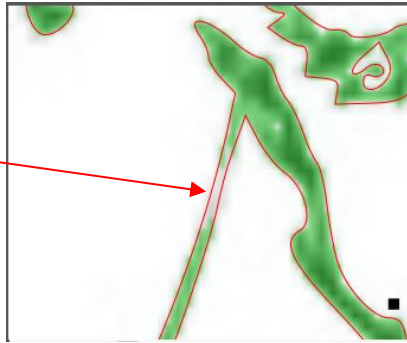


- ◇ Zoom in using the **Zoom In** icon and change the **Size** setting until the circle ~ matches the size of the fishing line. In this instance, the minimum of 1 will work best because the fishing line is so thin:



- ◇ Drag the mouse along the image where the fishing line wasn't trace. A pale green path appears:

Mask is dragged along here...

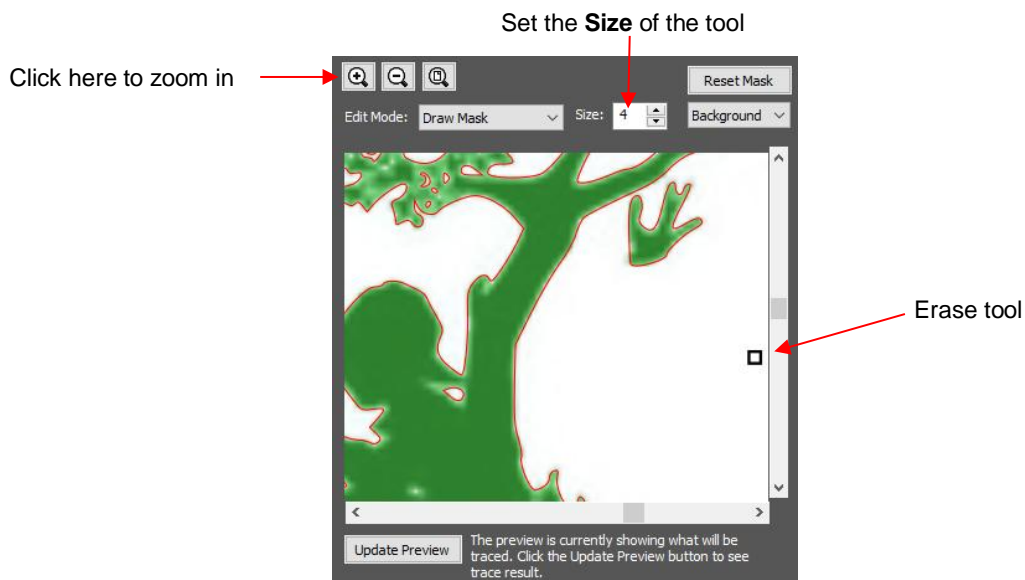


- ◇ Click on **Update Preview**. The added paths will be automatically welded to the part of the fishing line that was traced:

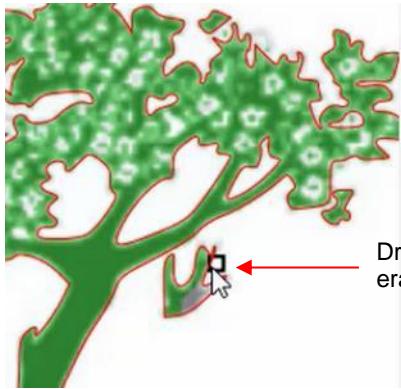


- **Background:** This option allows you to erase anything that's not wanted in the current tracing. For example, the bird just to the right of the tree, can be removed.

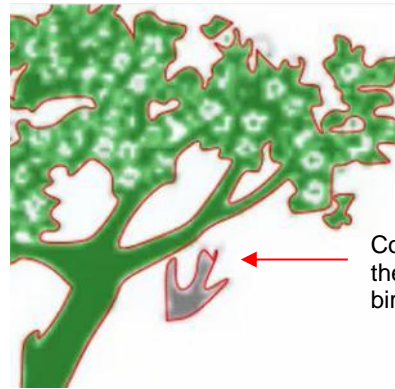
- ◇ As before, zoom in and set a **Size** for the tool:



- ◇ Drag the **Mask** icon across the image of the bird and the green shading indicating a traced image will begin to be erased. Continue until there's no longer any green:

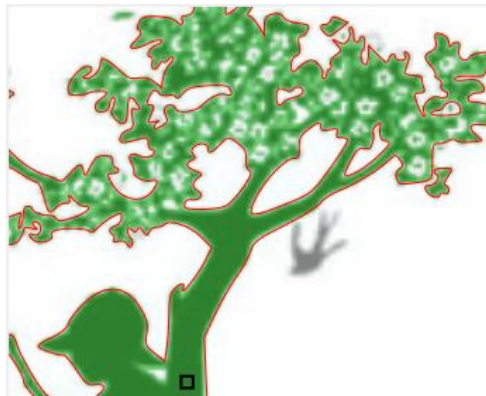


Drag mouse to
erase the green



Continue until all of
the green inside the
bird is removed

- ◇ Click on **Update Preview** and the red outline and green fill of the bird is now gone:



- Click on **OK** and the resulting changes from both masks have been applied:



5.03.12 High Pass Filter Application

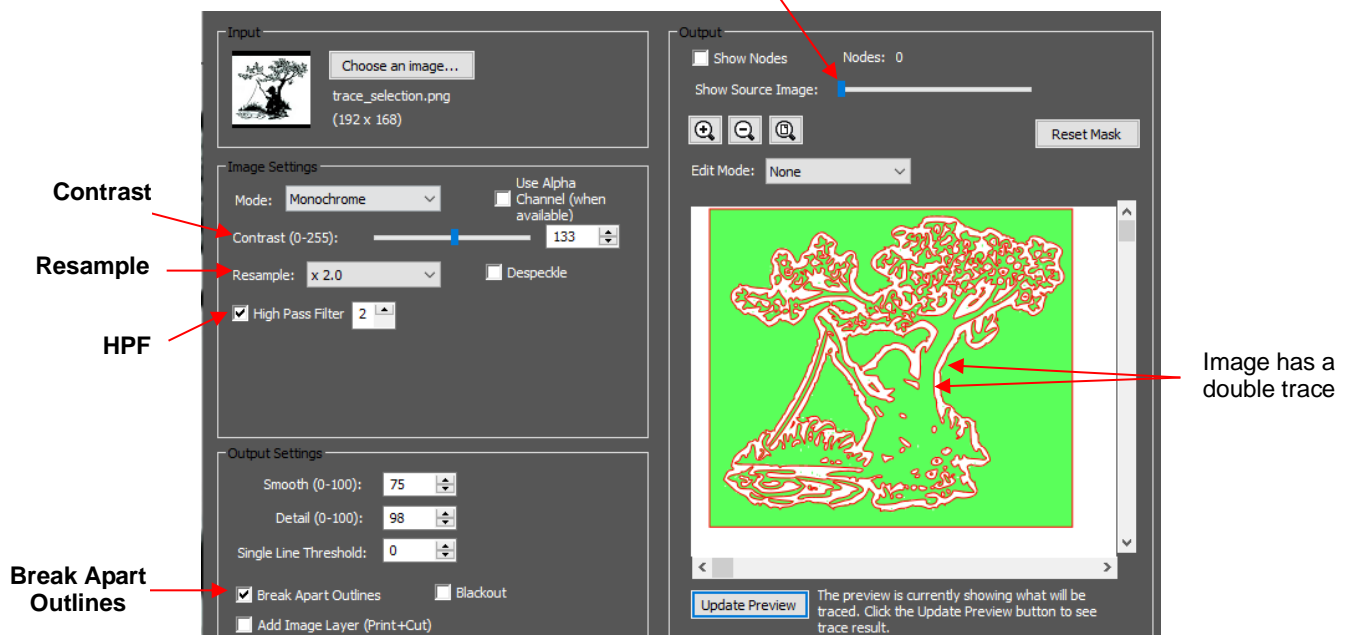
Video

- The **High Pass Filter (HPF)** setting is used to improve the tracing of photographs and other challenging images. It sharpens the image it's tracing by identifying a certain number of pixels along an edge between two contrasting colors.

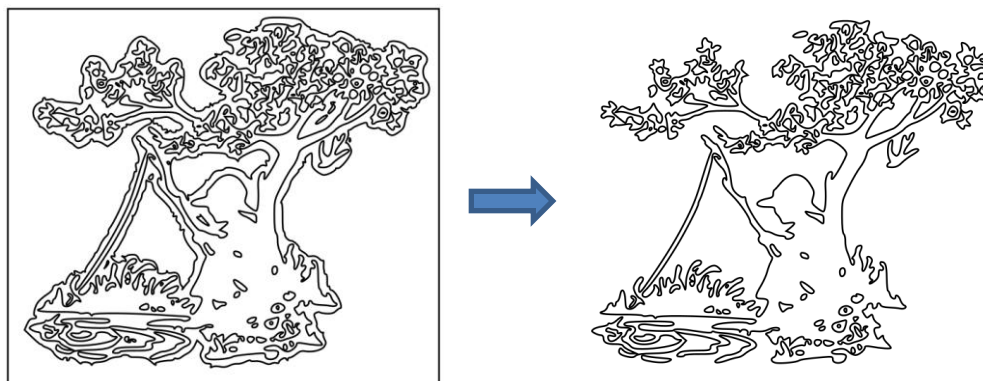
Improved Detail

- The key to using it successfully with a black and white image is to combine it with the other trace settings to get double trace lines as shown here:

Show Source Image set to minimum



- For this particular image, these settings are modified for the following reasons:
 - ◇ **Show Source Image:** By scrolling all the way to the left, it's easier to see ONLY the trace lines themselves and none of the original image
 - ◇ **Contrast:** Needs to be adjusted until complete inner tracing and outer tracing lines are achieved. May need to be readjusted after every change in **Resample** and/or **HPF**.
 - ◇ **Resample:** Increased to provide a tighter fit to the image
 - ◇ **HPF:** Increased to sharpen the image
 - ◇ **Break Apart Outlines:** Enabled because the outer trace lines will need to be deleted.
- Click on **OK** and enable **Show Outlines Only** on the **Document Panel**. Delete the outer tracing lines and any other random unneeded traced shapes, leaving only those that define the original image:



- The **Stroke** is set to **None** and **Object>Merge** is applied to yield the final trace:



Original Image



Tracing with **Resample** applied



Tracing with **Resample** and **HPF** applied

Converting a Photo to a Digital Stamp

- The **High Pass Filter** setting will allow a much better conversion of a photo to a black and white image. The following photo of a rose will be used as the example:



- The best monochrome tracing without using the **High Pass Filter** required tracing in stages: one to get an overall outline, another to get the internal details of the rose, and a third to get the internal details of the leaves.
- Object>Merge** was then applied and the resulting traced image looked like this:



- Instead of using three separate traces, the **High Pass Filter** could have been set instead:

Resample x2.0

HPF: 2

Detail lowered to remove specks

- Obviously, it was not only quicker to simply apply the **High Pass Filter**, but the results turned out much better.

5.04 Draw Functions

5.04.1 The Draw Tool

- The **Draw Tool** is accessed by clicking on the 5th icon  on the **Tools Panel**. This tool is used to draw straight lines and Bézier curves. It can be a bit tricky to master but just like with many good things- practice makes perfect!

Drawing Straight Lines

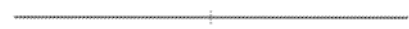
- To draw a single straight line, use your mouse to click once where you want to start the line and click again where you want to end the line. Then immediately press **Esc** or the **Enter** key:



Left click once to begin.



Move cursor to where you want to finish the line.



To stop drawing, press **Esc** or the **Enter** key

- If you wish to continue drawing a connecting straight-line path, keep left-clicking each time you need to change directions. Each click produces a node:



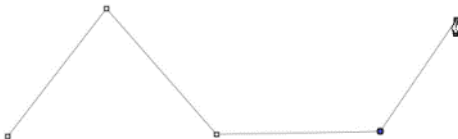
Left click to start and left click at a 2nd location



Move to a 3rd location and left click again.



Move to a 4th location and left click again.

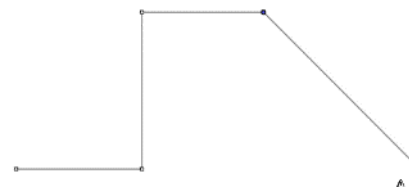
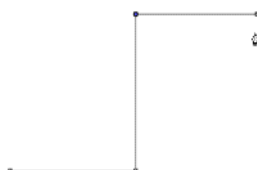


Move to a 5th location and left click again.



Continue clicking until you are ready to end. Click **Esc** or the press the **Enter** key.

- If you want to draw perfectly vertical lines, perfectly horizontal lines, or lines at a 45° angle, hold the **Shift** key while clicking:



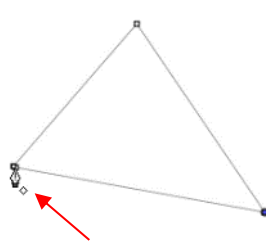
- Note that if you are on a Mac and you draw a 45° diagonal, you need to release the **Shift** key before clicking.
- If are drawing a closed path then, just as the mouse cursor approaches the starting node, a small diamond will appear next to the cursor and you can click one last time to end the process. The shape will automatically join the first and last nodes and fill with color, provided a **Fill** color is assigned:



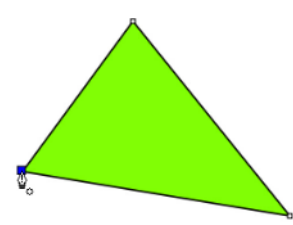
Left click to start and then left click at a 2nd location



Move to a 3rd location and left click again



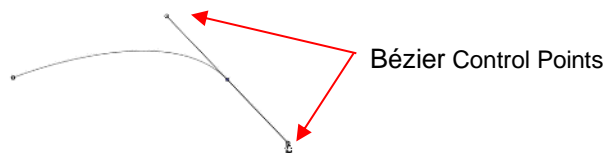
As you approach the start, watch for the cursor change.



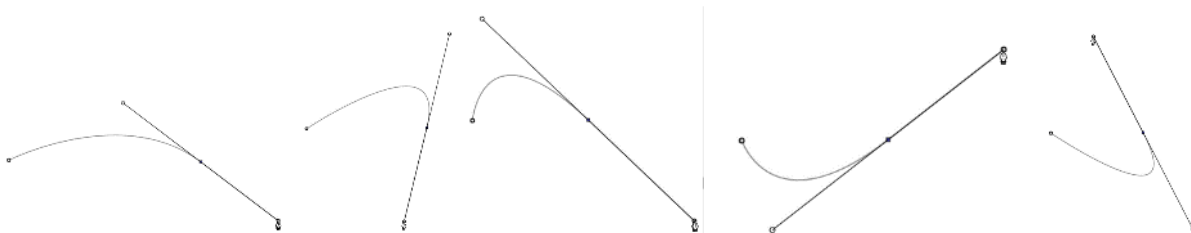
Left click and the shape will close and fill with color

Drawing Bézier Curves

- Drawing curves is a bit more difficult. The key is to take it one step at a time, practice the technique a lot, and remember that you can later correct your curves using the **Shape Tool** (refer to *Section 6.11*).
- To draw a curve, use your mouse to left-click once where you want to begin the curve. Then, instead of left-clicking, hold the left mouse button down and begin dragging the mouse. Continue holding the left button and notice a second line appears with two circles at either end. These are called Bézier control points:



- As you drag the mouse, you'll see that you have full control over how long this line will be, as well as where the control points are positioned. Remember to just keep pressing the left mouse button. Experiment with longer and shorter control lines, as well as rotating the line to bend the curve in a range of different ways:



- When you are satisfied with the curve, you have two choices at this point:
 - ◇ Release the left mouse button, move the mouse to a new spot, left-click, and you'll begin creating a new curve connected to the prior curve:

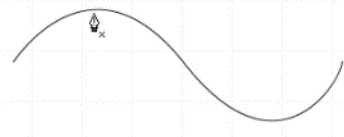


- ◇ Release the left mouse button and press the **Esc** key or press the **Enter** key to stop the drawing process:



Adding and Deleting Nodes

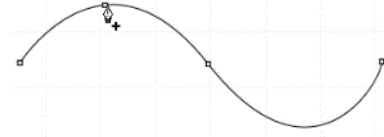
- Zoom in on the curve, select it, and then click on the **Draw Tool** icon.
- To add a node, move the cursor next to the path and watch for the cursor to change. With the cursor right on the path, left-click to add a node:



Note the cursor has a small x next to it as it approaches the curve

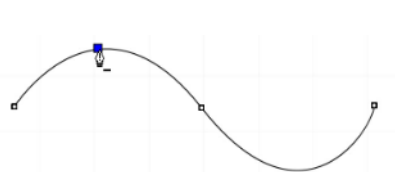


After cursor changes, left click once and a node is added

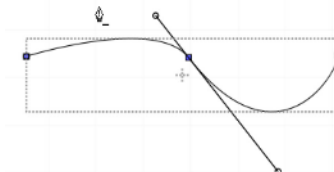


New node has been added

- To delete a node, move the cursor over an existing node until the cursor changes and you can see the node turn blue. Left-click once to delete that node:




Once the cursor changes and the node turns blue, left click

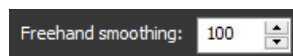


The node is deleted and the curve will change accordingly

◇ Note that nodes can also be deleted when using the **Shape Tool**. Refer to *Section 6.11.3*.

5.04.2 Freehand Drawing

- The **Freehand** tool is accessed by clicking on the 6th icon  on the **Tools Panel**. This tool is used to freely draw thin lines with your mouse or, better yet, a graphics tablet.
- In the **Tool Options**, there is a setting called **Freehand smoothing**. Increase that setting if you want the software to reduce “shakiness” as much as possible:



- The two extremes for the **Freehand smoothing** setting clearly demonstrate the difference:



smoothing: 0



smoothing: 100

- When drawing closed shapes, the shape will remain an open path regardless of how precise you attempt to be in returning to the start. To close the shape, select it and go to **Path>Close Path**:




Freehand tree



After applying **Path>Close Path** and selecting a **Fill** color

5.04.3 Brush Drawing

- The **Brush** tool is accessed by clicking on the 7th icon  on the **Tools Panel**. It is used to freehand draw thick lines. As with the **Freehand** tool, using a stylus with a graphics tablet will provide the most control.
- In the **Tool Options** is a **Size** setting for the thickness of the **Brush** tool:



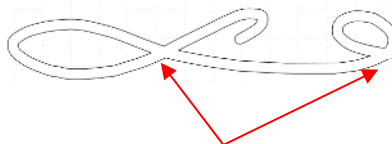
- Select the **Size** you desire and freehand draw:



- One fun application is to use the **Brush** tool to easily add circles to a design. Select the **Size** and then just left-click without dragging the mouse. For example, the tree drawn with the **Freehand** tool in the prior section is now decorated:



- Note that if a path drawn with the **Brush** tool crosses itself, the overlap will be removed:



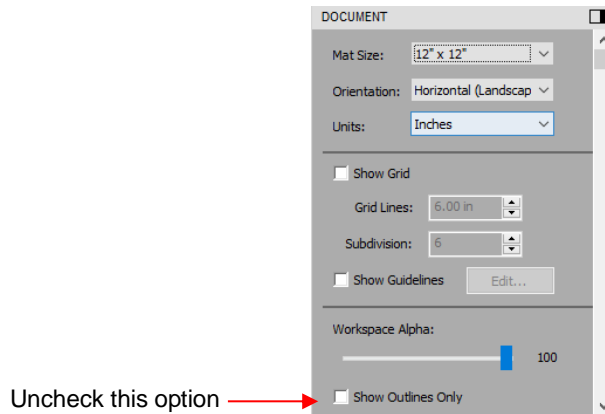
Overlaps automatically removed

5.05 Manual Tracing of an Imported Image

- Sometimes the quality of an image will fail to yield a good auto-trace. It could be that the image is too small or too detailed. If the image is important to you, then manually tracing offers another option for conversion to a vector cut line.
- The easiest way to manually trace a raster graphic is using the **Draw Tool** presented in *Section 5.04.1*. However, instead of trying to create the Bézier curves as you go, it's faster and easier to simply and quickly click, click, click around the image placing a node wherever the path changes directions. Then you can go back and manually move nodes and drag curves to fit the original image. This process is presented in the next few subsections.

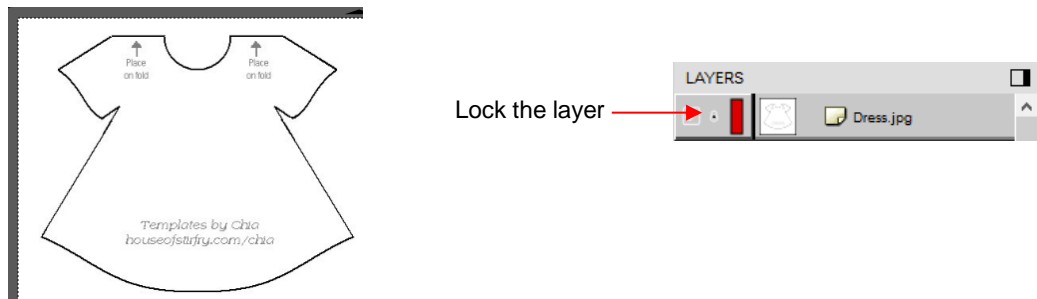
5.05.1 Importing an Image for Manual Tracing

- Since you won't be trying to auto-trace the raster image, use **File>Place Image** to import it onto the **Page**. In this tutorial, the *Dress.jpg* file shared at the link in *Section 5.03* will be used.
- While this dress could easily be auto-traced, it provides a great example of how the **Draw Tool** can be used to fit a shape such as this. So, it will be used for the manual tracing example.
- In order to see the image, make sure **Show Outlines Only** is not checked on the **Document Panel**:



Uncheck this option →

- To avoid inadvertently selecting the image while tracing, lock that layer on the **Layers Bar**:

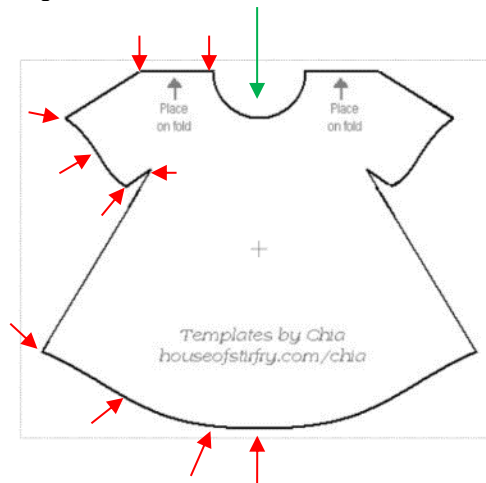


5.05.2 Manual Tracing Using the Draw Tool

- Make sure you have read *Section 5.04.1* to learn how to comfortably and successfully use the **Draw Tool**.
- Now, the best method for tracing a symmetrical image is to only trace one half. Then you can make a copy of it, mirror the copy, and weld the two together to create a perfectly symmetrical shape. This is what will be done in this case because the dress is symmetrical.
- Before beginning the trace, visually note how many changes in curves and straight lines exist. This will help you understand where to click as you work around the image. But don't overthink it. Remember that you can add nodes, delete nodes and move nodes during the editing process:

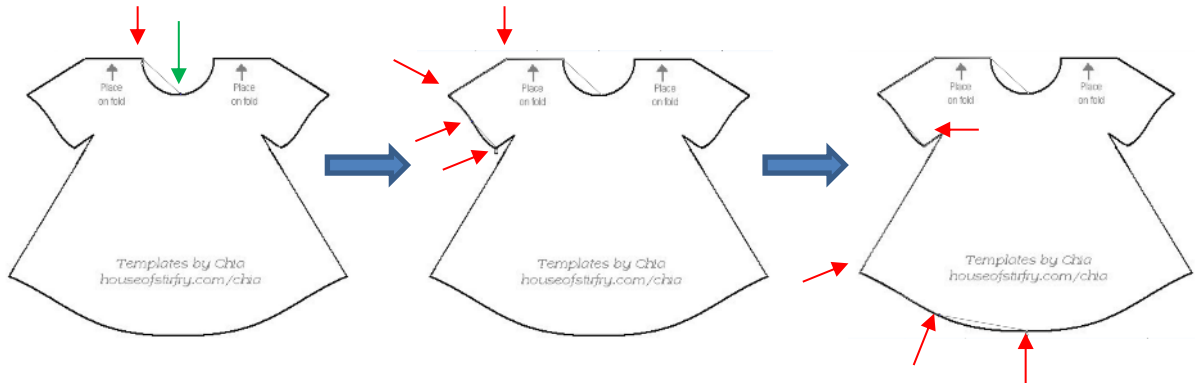
Trace will begin and end at the middle of the neckline, moving counter- clockwise around the dress.

Red arrows indicate where a change in direction or curvature occurs

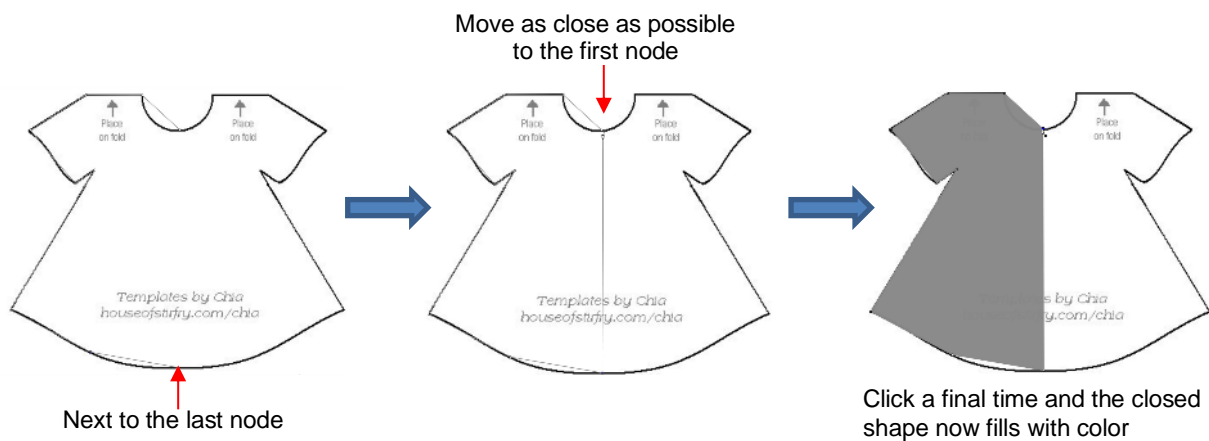


- The process is as follows:


- ◇ Zoom in as close as possible, but make sure the entire image can still be seen. Click on the **Draw Tool** icon.
- ◇ Left-click once in the middle of the neckline (see green arrow below). Then click at each point where the curve changes. A series of straight-line segments will be made, one right after another:

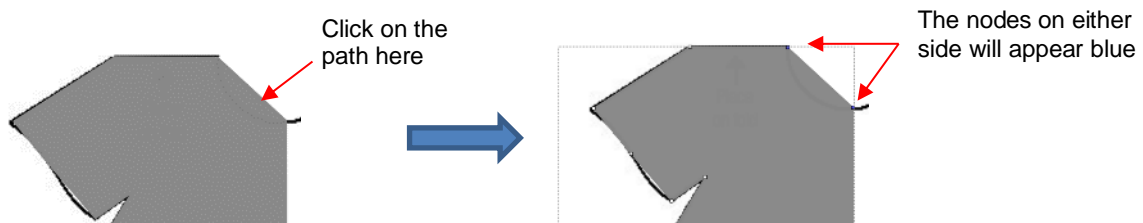


- ◇ Once you've reached the next to the last node, click as close as possible on the first node and the shape will close and fill with color (based on the color currently assigned on the **Fill & Stroke Panel**)

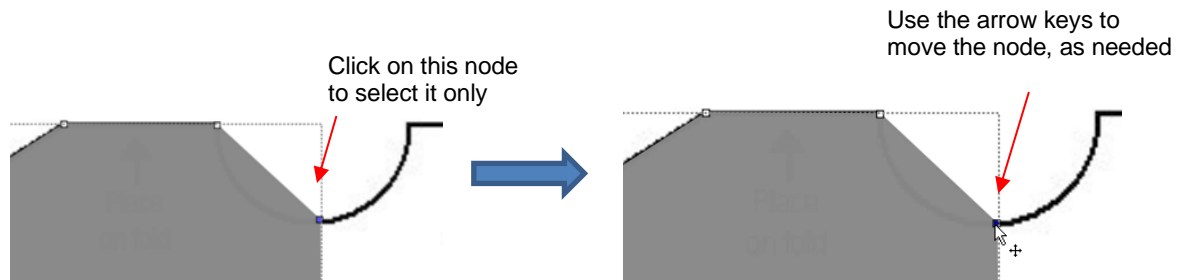


5.05.3 Editing the Trace

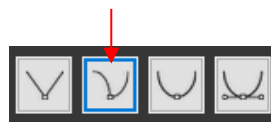
- The next step is to move nodes and convert any straight lines into curves, as needed. This is done using the **Shape Tool**  which is the 3rd icon on the **Tools Panel**. Note that more details about using the **Shape Tool** will be presented in *Section 6.11*. For now, only a portion of this function's capability is needed.
- Using the **Shape Tool** will take a bit of patience and attention. But following the steps exactly as presented should yield successful results:
 - ◇ With the **Shape Tool** selected, click on the neckline path. The two nodes on either side will be blue:



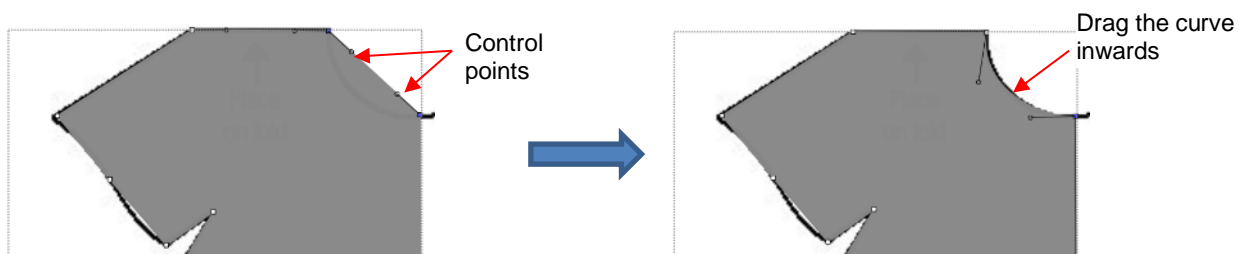
- ◇ If you need to move either node, click on the node to be moved and the other node will turn white. Be very precise in clicking as it is easy to miss the node. If that happens, you will need to click the path again to show the nodes.
- ◇ Once you have the single node highlighted in blue, you can now move the blue node by using the arrow keys on your keyboard:



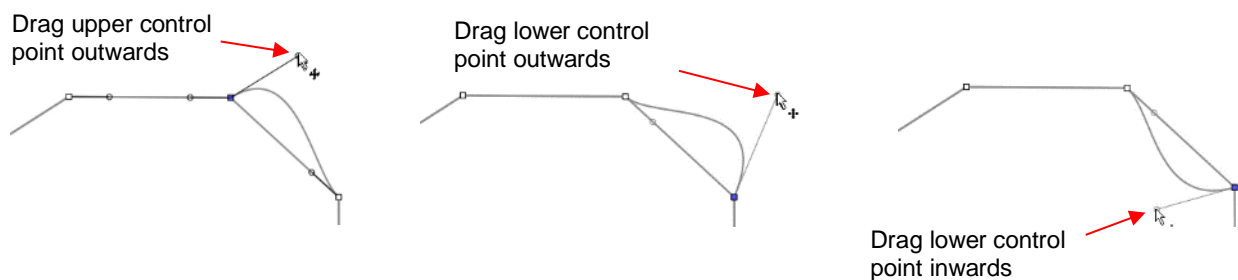
- ◇ Next, click on the second icon on the **Tool Options**:




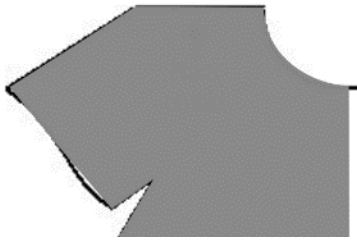
- ◇ Then click again on the neckline path and you will see Bézier control points. This means you can now drag the middle of the path inwards to form the neckline:



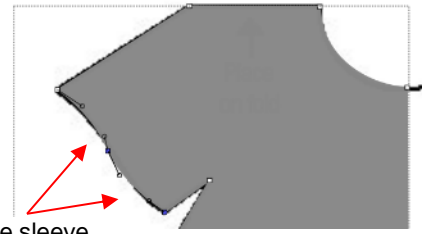
- ◇ Alternatively, the Bézier control points can also be dragged. This is useful if the curve isn't symmetrical. Here are a few examples of how that curve could be altered:



- ◇ Just like with nodes, when selecting a Bézier control point, you need to click precisely on the little circle. If you inadvertently see all of the nodes disappear, just click on the path again.
- ◇ Once the neckline is curved, go over to the sleeve and repeat the process for both parts of the sleeve since one side curves inwards and the other side curves outwards. Again, click on the path, click on the 2nd icon on the **Tool Options** , click on the path again and then drag the curve:

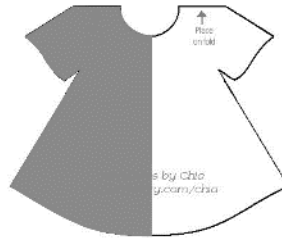


Before editing



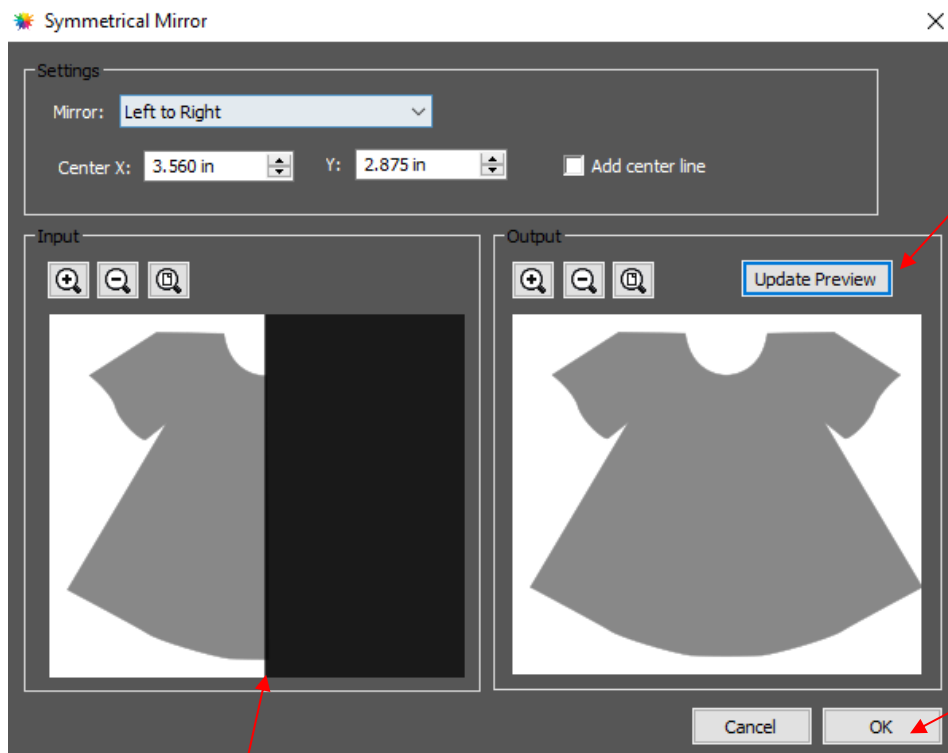
Both parts of the sleeve are reshaped

- ◇ Repeat on the bottom of the dress. The shape you traced should now fit the original image. If it's not a perfect fit, don't worry about it! No one will ever know. 😊



5.05.4 Using Symmetrical Mirror to Complete the Trace

- The final step to complete the dress involves making a mirror image copy and then welding it to the original.
 - ◇ Select the dress and go to **Effects>Symmetrical Mirror**. Increase **Center X** or drag the black rectangle to the right and click on **Update Preview**. Continue adjusting **Center X** until the image is to your satisfaction:

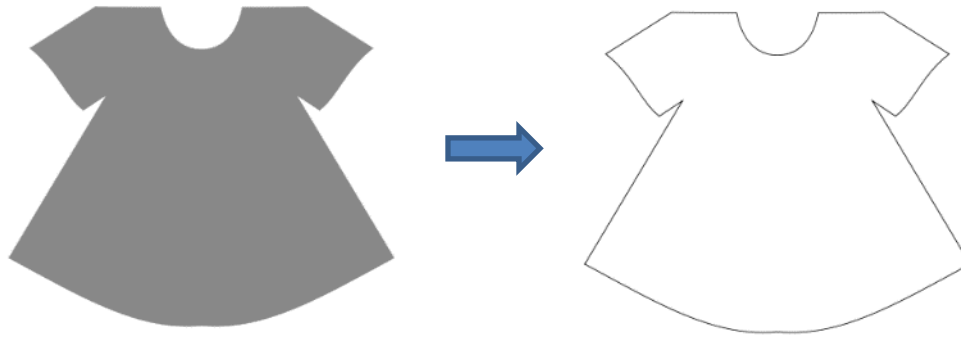


Click on **Update Preview** after each change

Click on **OK** when done

Drag black rectangle to desired location (**Center X**)

- ◇ After clicking on **OK**, the dress is complete and the original image is no longer needed. Turning on **Show Outlines Only** on the **Document Panel** confirms that the symmetrical copy has been welded to the original:



Other applications for **Symmetrical Mirror** are covered in *Section 7.15*.

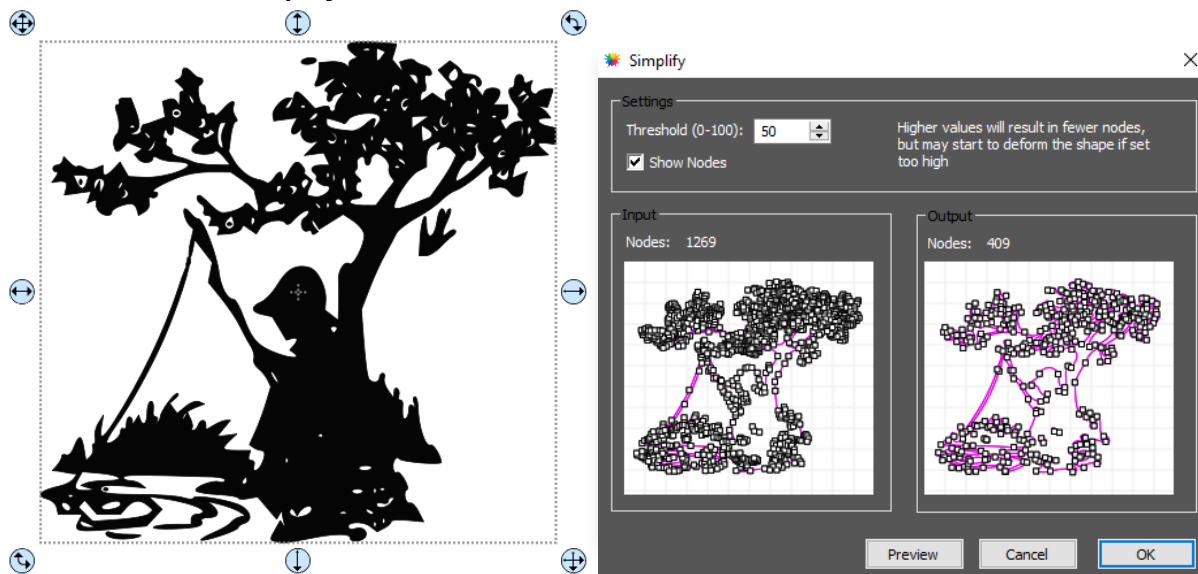
6. Editing

This chapter covers functions that are used to modify shapes as well as prepare shapes for cutting. For functions used in designing, refer to *Chapter 7*.

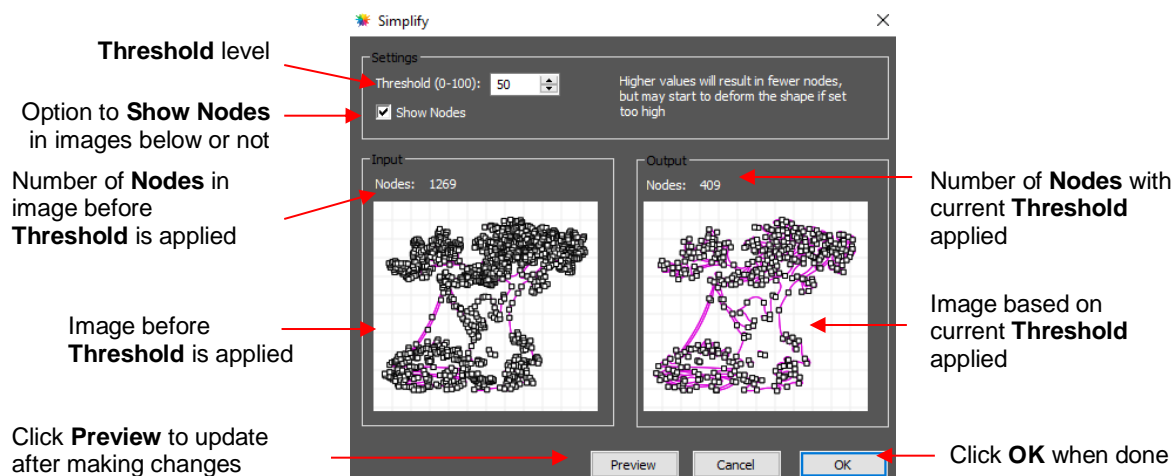
6.01 Simplify

- The purpose of the **Simplify** function is to reduce the number of nodes. This can be important when cutting small vector shapes in which clustering of nodes in tight locations can sometimes lead to poor cutting.
- There are two ways to open the **Simplify** window after selecting a shape:

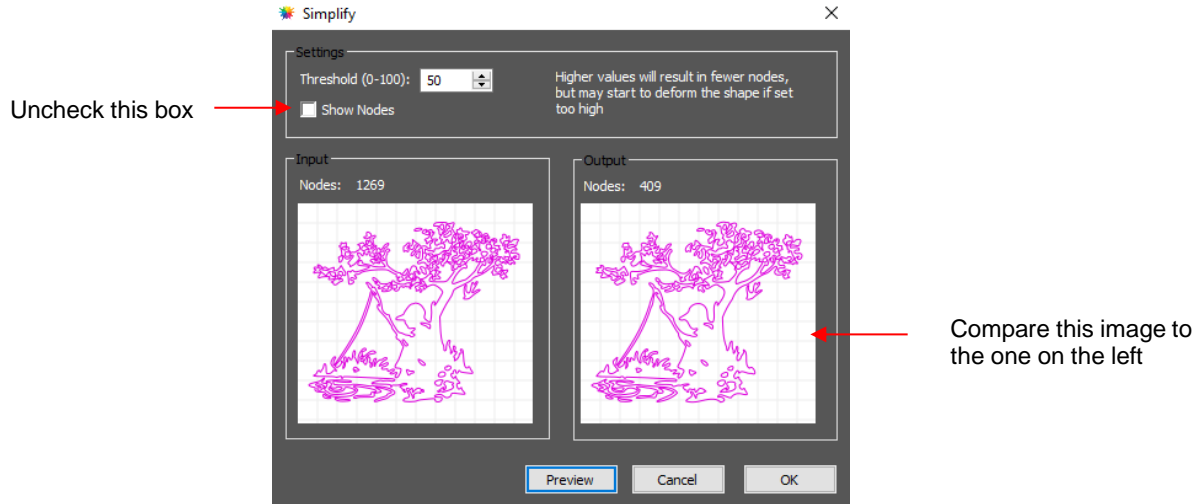
- ◇ Right-click and select **Path>Simplify**
- ◇ Go to **Path>Simplify**



- The **Simplify** window shows the nodes of the selected image in two side-by-side windows: an **Input** and an **Output**, along with the number of **Nodes** in each one. That count is based on the current **Threshold** setting:




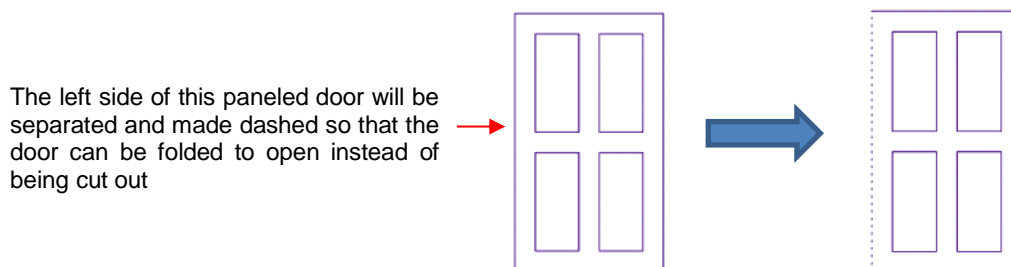
- To see the effect of **Threshold**, uncheck the **Show Nodes** box. You can drag the corner of the window to enlarge the images. Make sure the shapes haven't become distorted as a result of applying the current **Threshold** setting:



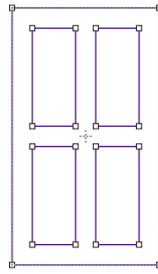
- If the image is distorted, decrease the **Threshold**. If you cannot tell a difference and there are still more nodes than you want, try increasing the **Threshold** setting.

6.02 Split Path

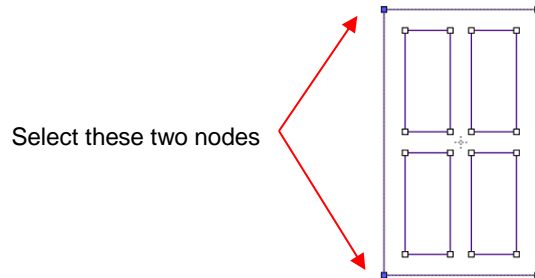
- The **Split Path** function allows you to break the connection between two paths.
- Activate the **Shape Tool**  on the **Tools Panel** and select a node. Note that it's usually easier to select a node by zooming in on the shape and, as you move your cursor towards the node, the cursor icon will change when you are close enough to click on it. Then you can access **Split Path** using either of the following:
 - ◇ Right-click and select **Path>Split Path**
 - ◇ Go to **Path>Split Path**
- You can also select two nodes at one time and apply **Split Path**. The following door shape will be used as an example to show the steps. The goal is to change the left side of the door from a solid cut line to a dashed outline:



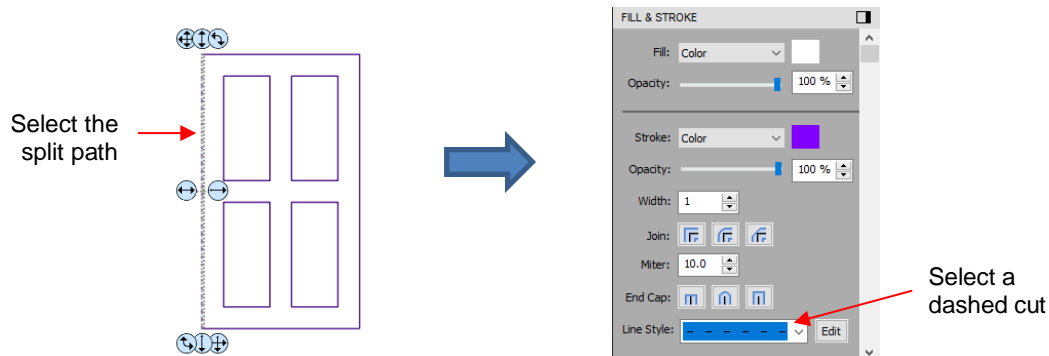
- ◇ Select the shape and again click on the **Shape Tool** icon on the **Tools Panel**. The nodes will appear on the shape:



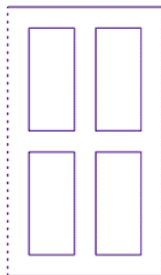
- ◇ Drag your mouse to marquee-select the two nodes on the left side of the window:



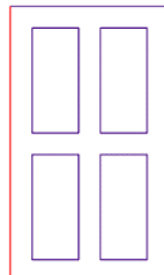
- ◇ Break that path by going to **Path>Split Path**. Then return to normal **Select** mode. Now you can separately select that left side line and change to a dashed cut on the **Fill & Stroke Panel**:



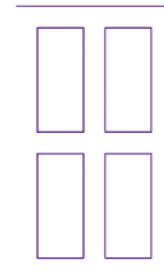
- ◇ The left side of the window will now cut dashed. Alternatively, the left side could have been left solid and scored with an embosser in the cutter or the left side could have been deleted and the fold made by hand:



Left side will cut dashed



Left side will be scored separately

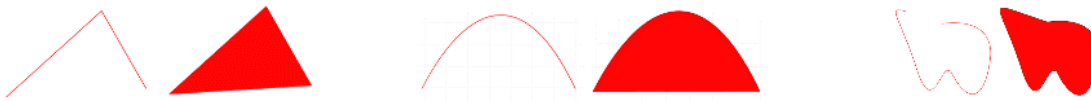


Left side won't cut at all

IMPORTANT: Use this function cautiously. In some cases, more than one break can occur on a closed path.

6.03 Close Path

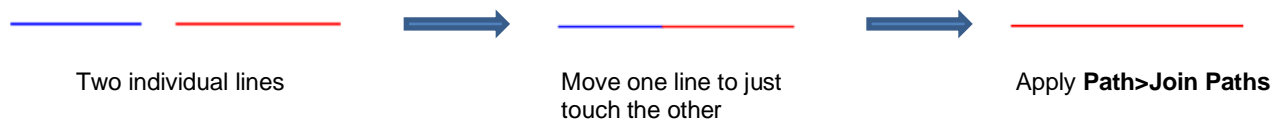
- The **Close Path** function can be applied to any open shape, other than a straight line, to join the start and ending nodes with a straight line:



- To apply **Close Path**, select an open shape and use either of the following:
 - ◇ Go to **Path>Close Path**
 - ◇ Right-click and select **Path>Close Path**
- The path will then fill with whatever **Fill** property is currently assigned to that shape.

6.04 Join Paths

- Join Paths** will connect two nodes from two different open paths if those nodes are in very close proximity to one another.
- To access **Join Paths**, select the two open shapes and go to **Path>Join Paths**:



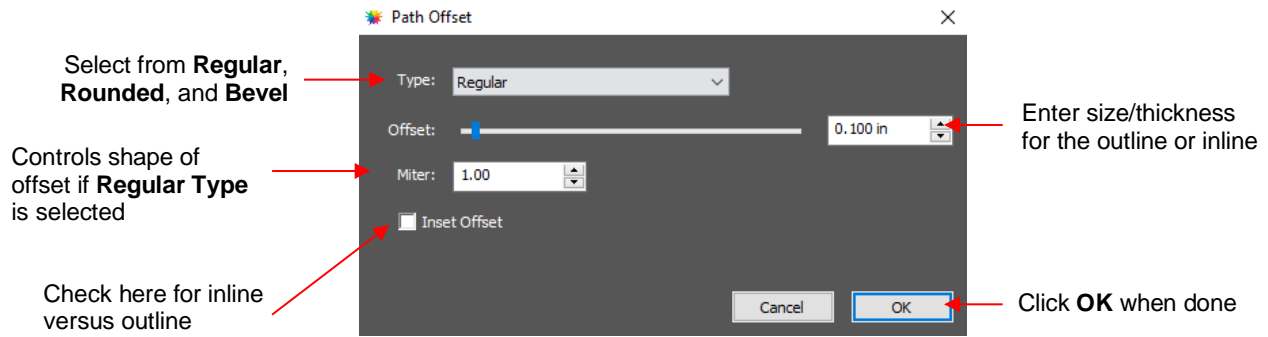
- If you are joining several lines at once, such as these four lines to create a box, then all four lines can be selected at one time and be joined. However, for the new shape to be an actual closed shape, you must then apply **Path>Close Path**:



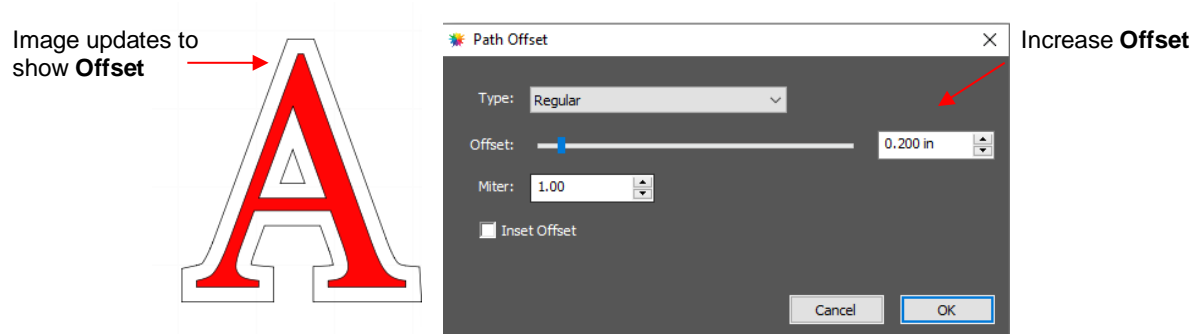
6.05 Path Offset

Video

- Path Offset** creates an outline or inline of a shape and will delete the original upon clicking on **OK**. Note that if you want the original, either make a backup copy or use the **Shadow Layer** function presented in *Section 7.05*.
- To access **Path Offset**, select the shape and go to **Path>Path Offset**:



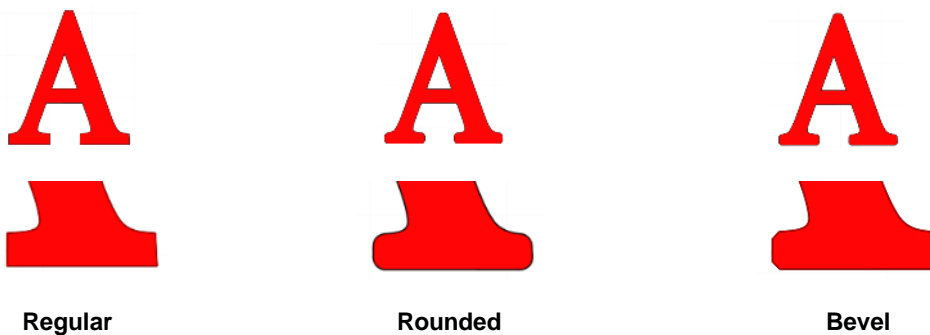
- As you increase the **Offset**, you will begin to see the outline form on your selected shape:



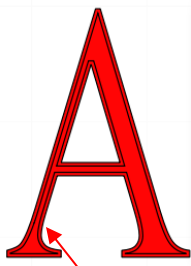
- After clicking on **OK**, the **Offset** will fill with the same color and the original will be deleted:



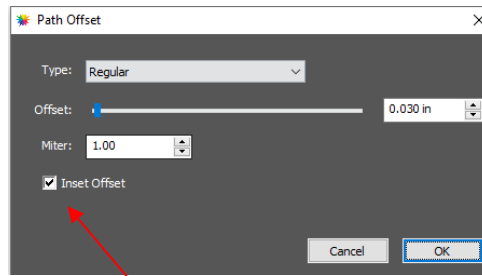
- Type** controls the style or shape of the offset at the corners. There are three choices:



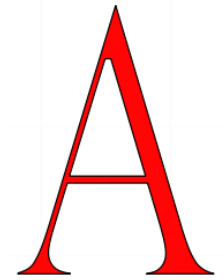
- Note that the first choice, **Regular**, also has a **Miter** setting which should work in the same way as **Miter** affects the **Stroke** (refer to *Section 3.15*). However, at this time, it appears that the **Miter** setting is not working.
- Checking the **Inset Offset** box creates an inline instead of an outline:



Inline appears as a black line



Check this box



Inline version

- A practical example of using **Path Offset** is when you have a font that is too thin to cut at the size you need. Applying a very small **Offset** can make the difference in whether or not text can be cut at certain small sizes. In the case below, the 1" lettering was offset by only 0.005":

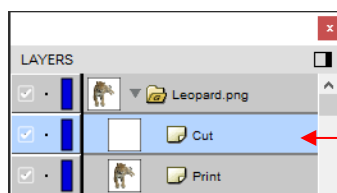


- A second practical example showing the use of **Inset Offset**, is the following print and cut application. A PNG with a transparent background was imported into CREATE. However, based on the location of the cut line, relative to the printed image, there will be small amount of white surrounding the image:



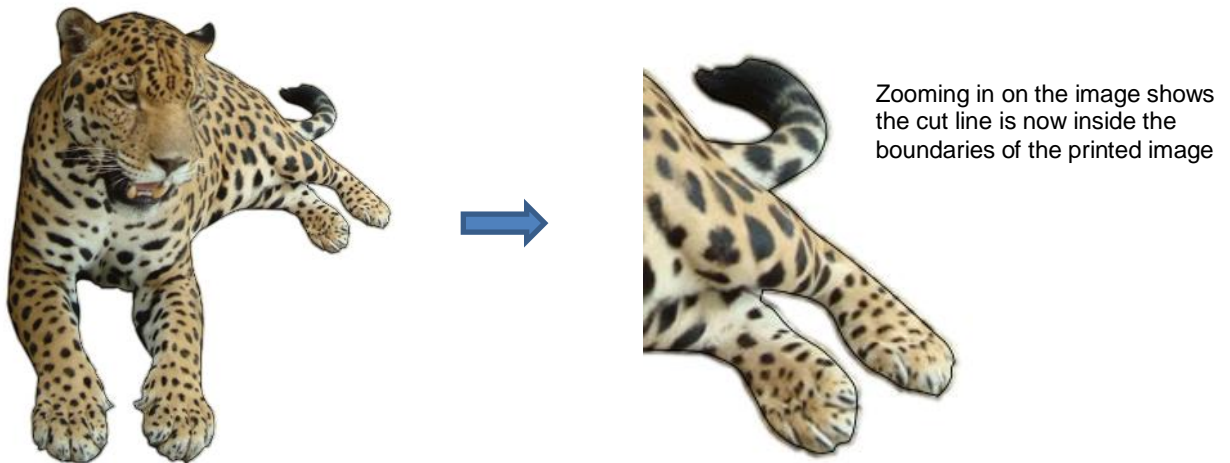
Zooming in on the image shows a white border around the image

- ◇ Select the **Cut** layer only on the **Layers Panel**:



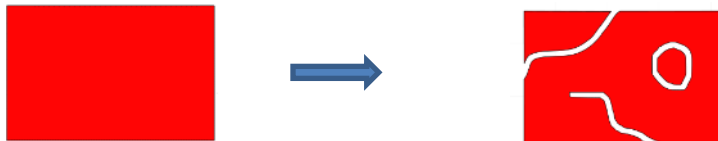
Select the **Cut** layer only

- ◇ Open the **Path Offset** window. Set the **Offset** to a small size, such as 0.03". Be sure to mark the box for **Inset Offset**. The result is a cut line which will eliminate that white border around the image:

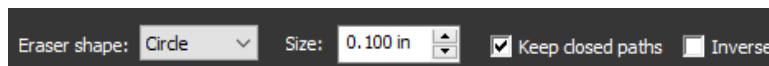


6.06 Eraser

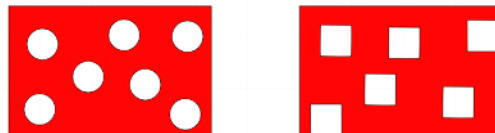
- The **Eraser** is the 8th icon  on the **Tools Panel**. Use this tool to erase parts of a shape by dragging your mouse across the shape:



- The **Tool Options** for the **Eraser** include the following:



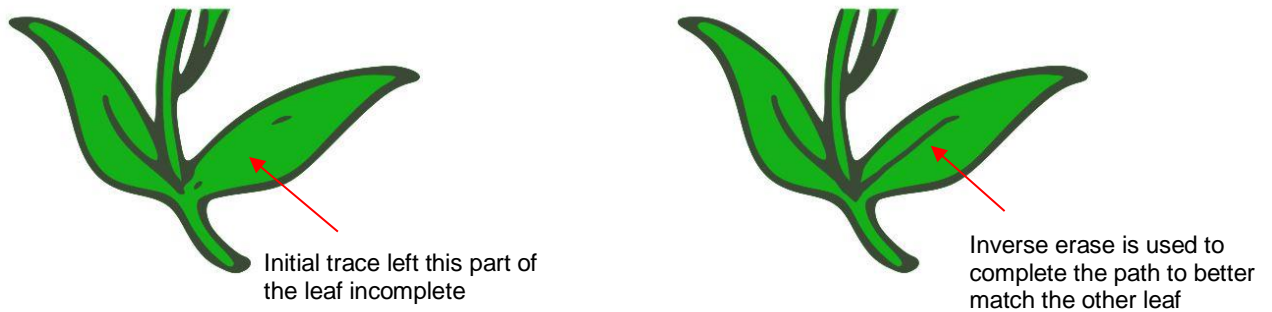
- ◇ **Eraser Shape:** Choose either **Circle** or **Square**:



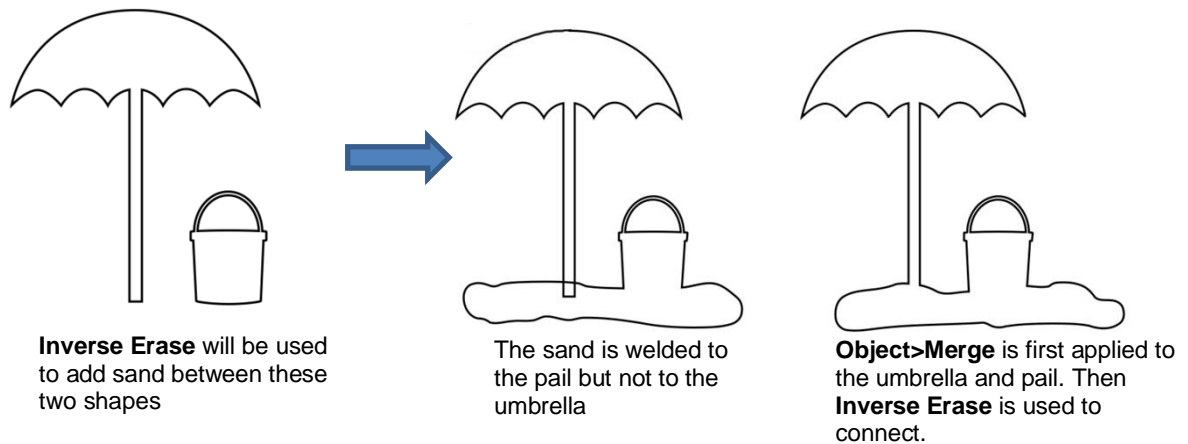
- ◇ **Size:** select a thickness for the erasure. Scroll up and down or enter a specific size.
- ◇ **Keep closed paths:** Mark this option if you split a shape and you want the two resulting shapes to be closed. Otherwise, you end up with two open shapes:



- ◇ **Inverse:** when this option is marked, the **Eraser** will “add to” shapes. This can be used to fill in holes connect broken paths, serve as a brush tool, etc.:

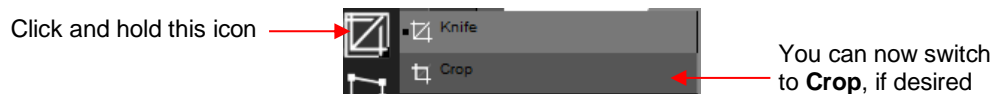


- Note: If you use **Inverse Erase** to connect two or more separate shapes, those shapes should first have **Object>Merge** applied. Otherwise, the connection will not become part of the new shapes:



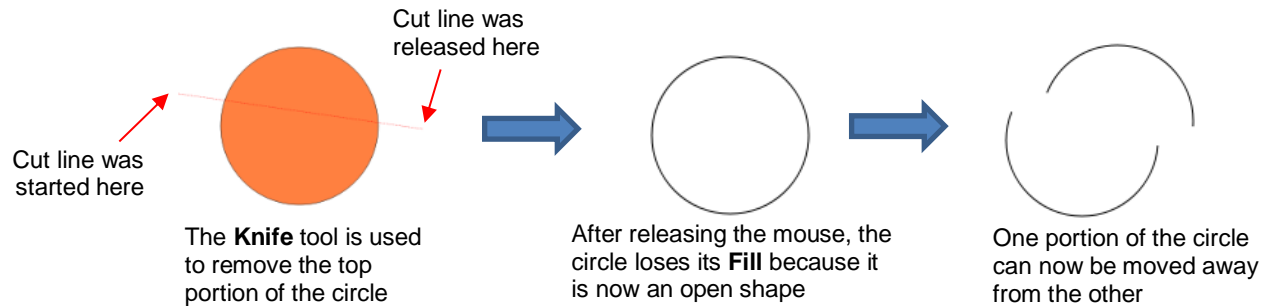
6.07 Knife and Crop

- The **Knife** tool can be accessed by clicking the 6th from the bottom icon  on the **Tools Panel**. Note there is another option available. The **Crop** tool  can be accessed by holding down the left mouse button on the **Knife** icon and then selecting **Crop** from the popup menu.

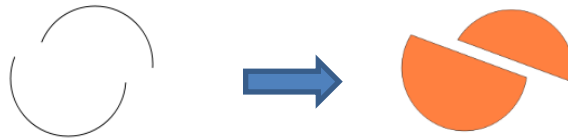


6.07.1 Using Knife

- The **Knife** tool always makes a straight line cut. Starting outside the shape, click and hold the left mouse button and drag across the shape at the desired location for the cut. When you release the mouse button the cut will be applied and one shape can be moved away from the other:

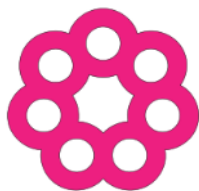


- There are four ways to control the angle of the cut:
 - ◇ Click and hold the left mouse button – you can freely drag the red cut line to cut at any angle (as shown in the screenshot)
 - ◇ Hold the **Shift** key and click and hold the left mouse button and drag left or right: the red cut line will be perfectly horizontal
 - ◇ Hold the **Shift** key and click and hold the left mouse button and drag up or down: the red cut line will be perfectly vertical
 - ◇ Hold the **Shift** key and click and hold the left mouse button and drag diagonally: the red cut line will be at exactly 45°
- If you wish to close the cut shapes, select them and either:
 - ◇ Go to **Path>Close Path**
 - ◇ Right-click and select **Path>Close Path**

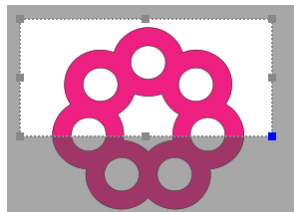


6.07.2 Using Crop

- With the **Crop** tool, you drag the mouse to marquee-select an area to be retained. Then you press the **Enter** key to complete the crop. Everything outside of the selected area will be deleted:



The top part of this shape will be cropped

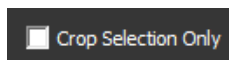


Marquee-select the area to be retained

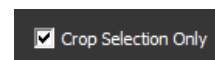


After pressing the **Enter** key

- There are two options when using the **Crop** tool based on a setting on the **Options Bar**:



IMPORTANT: If left unchecked, only the marquee-selected part of the shape will be retained. The rest of that shape and every other shape on the page will be deleted, even those that might be hidden or locked!

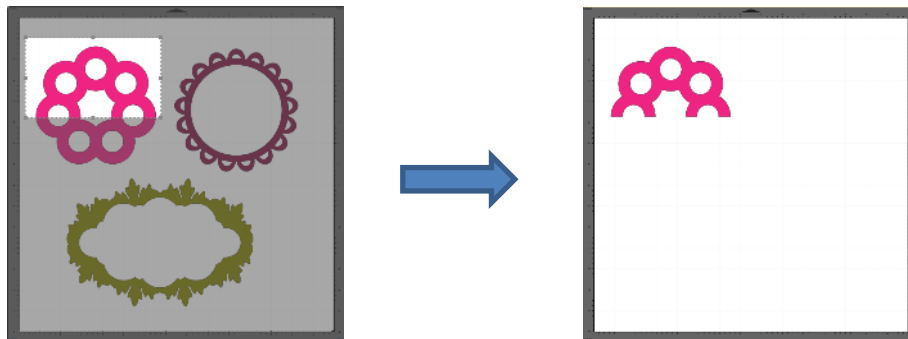


If checked, the marquee-selected part of the selected shape will be retained, as well as all other shapes on the page.

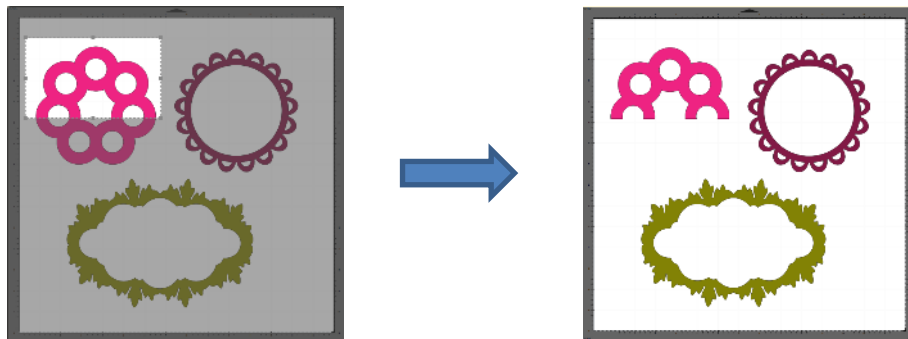
- Here is an example to show what would happen in both cases. The file has three shapes and the top right shape will be cropped just as in the prior screenshot:




- ◇ With the **Crop Selection Only** box not checked, the other shapes are deleted as well as the lower half of the pink doily:

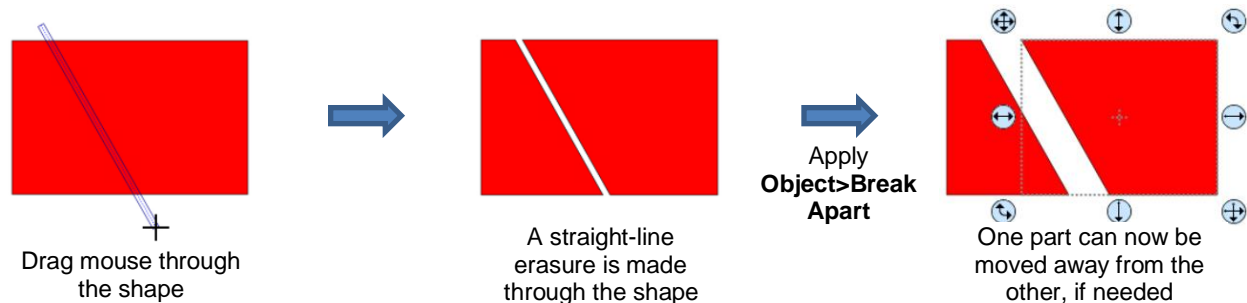


- ◇ With the **Crop Selection Only** box checked, the shape is selected first and then only the bottom half is deleted:



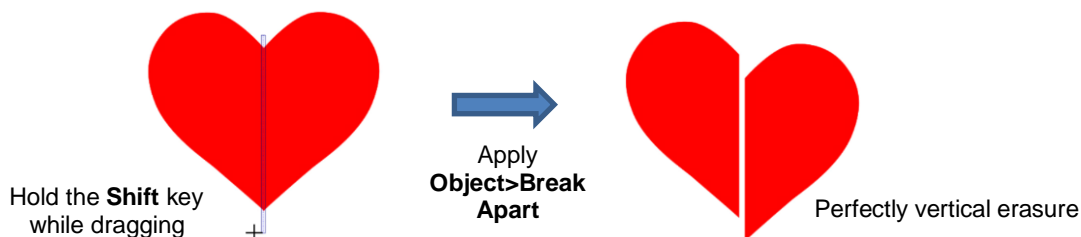
6.08 Stencil Bridge

- The **Stencil Bridge** tool is typically used to cut a rectangular bridge from an interior path to the outside of that path. An example showing the stenciling of text is covered in *Section 4.10*.
- Another useful application is when you need to erase a path but maintain a straight line versus the freehand nature of the **Eraser** tool covered in *Section 6.06*. Select the **Stencil Bridge** tool  on the **Tools Panel** and drag the mouse to create a straight-line cut through a shape:

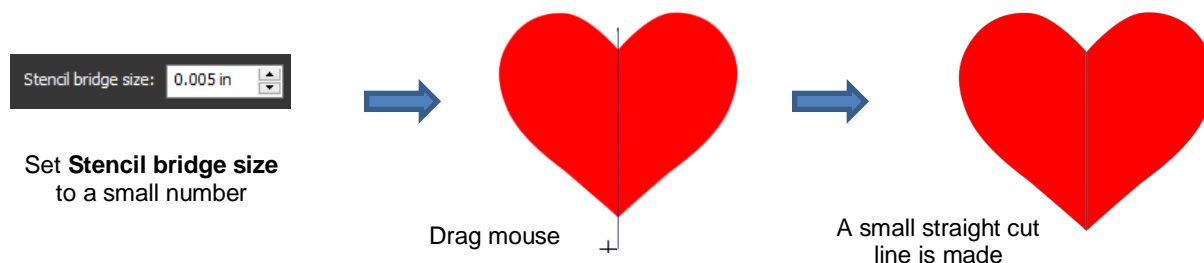


◇ If you wish to separate the shapes, apply **Object>Break Apart**, as shown.

- If you need the cut to be perfectly horizontal, vertical or at a 45° angle, hold the **Shift** key as you drag the mouse:



- Change the **Stencil Bridge Size** to a very small number and the erasure is essentially a cut line and can be used to bisect a shape or whatever thin, straight, cut line is needed:


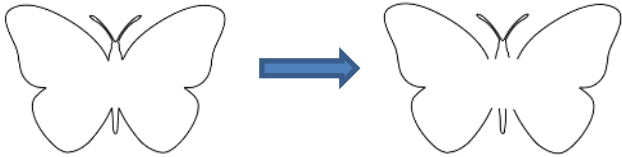


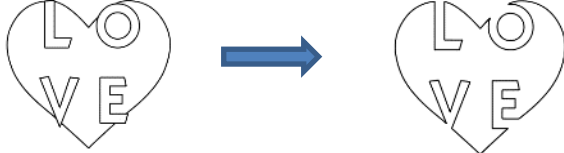


6.09 Which Cutting Tool to Use?

- Having so many cutting functions to use can make it difficult to know which one to use in a particular instance. Experience will be your best guide, as well as testing them out. But a summary of the functions is presented in this section and this may prove to be helpful when selecting which tool to try first.
- The following table summarizes the capabilities of the various options:


	Can make straight line cuts	Can force horizontal, vertical cuts	Can force diagonal cuts	Can do freehand cuts	Can change thickness of the cut	Can cut using square or circle shapes	Can cut using any shape	Can cut with open shapes remaining	Can cut with closed shapes remaining
Eraser Section 6.06				✓	✓	✓		✓	✓
Knife Section 6.07.1	✓	✓	✓					✓	
Crop Section 6.07.2	✓	✓			✓				✓
Split Section 6.02								✓	
Stencil Bridge Section 6.08	✓	✓	✓		✓				✓
Boolean Join Section 7.06	✓	✓	✓		✓	✓	✓		✓

- Here are a few samples to show which functions would be the best choices for making the cut:

Eraser:		Cut the leaf and stem away from the apple – used for creating paper piecing designs
Knife or Split:		Cut up the butterfly without closing the shapes. Used for projects where the shapes are folded along one side instead of cut out
Crop:		Slice off the top and bottom of a word. Used for a popup card.
Stencil Bridge:		Separate a shape using a straight line cut
Boolean Join:		Cut a shape with any other shape or shapes

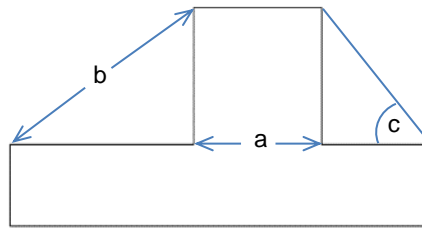
- Knife** and **Split** have the same effect. **Split** is a bit more limiting because there needs to be nodes present in the location where the cut will occur. It might be useful if you are already in the **Shape Tool** mode where you can then select the nodes and apply the **Split**. Otherwise, **Knife** is probably the easier tool to use.

6.10 Ruler

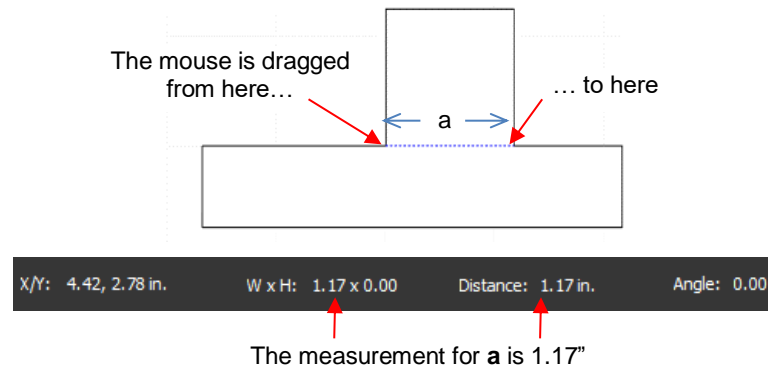
- The **Ruler** function allows you to measure the distance and angle between any two points on the screen. It is accessed by clicking on the second icon from the bottom  on the **Tools Panel**.
- No shapes need to be preselected. Just hold down left mouse button at any location and then drag the mouse to a new location. The **Tool Options** provide the following information:

Starting location on the screen	→	X/Y: 1.73, 3.79 in.	W x H: 6.03 x 2.06	Distance: 6.37 in.	Angle: -18.87	←	Angle formed by the W & H move
			Distance moved in the X direction and in the Y direction		Distance from starting location to the current location		

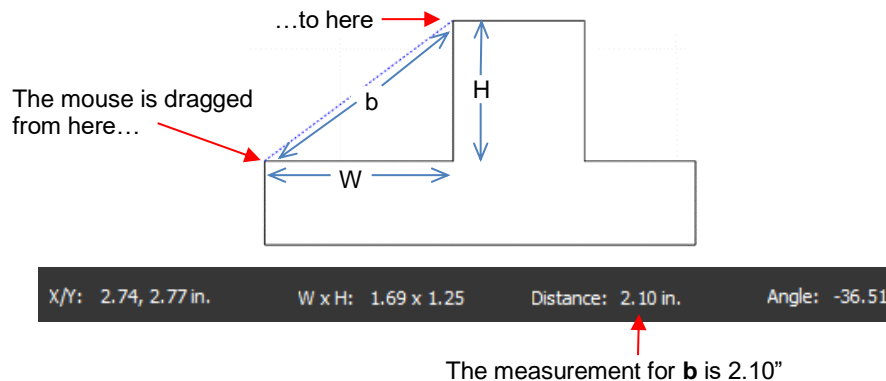
- To better illustrate these variables, the following shape will be used and the various measurements will be determined using the **Ruler**:



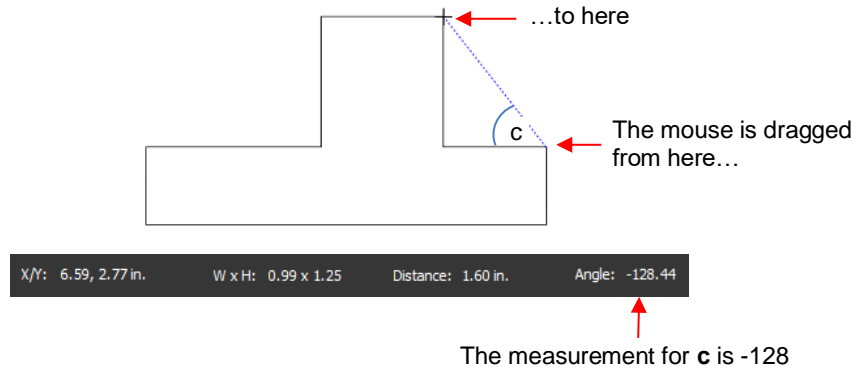
- ◇ **X/Y:** This is the starting position on the screen and will match the X/Y grid location on the **Page**. You can extend beyond the boundaries of the mat, if needed.
- ◇ **W x H:** Indicates how far the mouse has been dragged away from the starting point. Note that as the mouse is dragged, a blue dotted line will appear. In this example, when measuring for the distance “a”, the **H** should be zero since it's a vertical measurement only. In fact, making sure **H** is 0 is one way to make sure the **W** is the correct measurement needed:



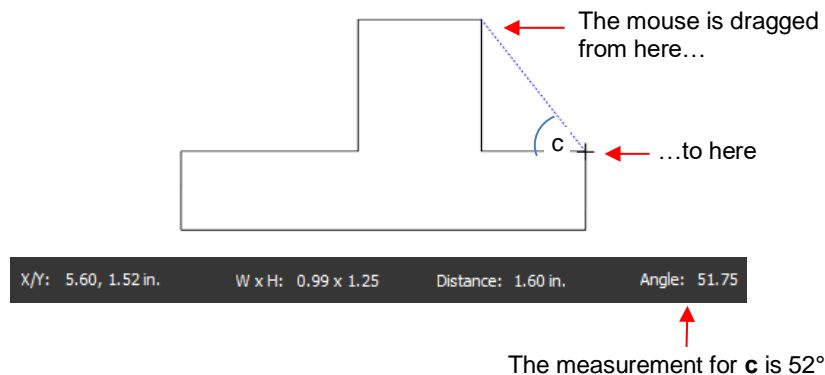
- ◇ **Distance:** This is the actual measurement between the starting location and the ending location. In the prior measurement, **W** is the same as **Distance** because the measurement was a horizontal one. But measuring the length of “b” is not:




- ◇ **Angle:** This is the angle of the **Distance** line relative to the X axis.
 - In the first measurement of “a”, the angle was 0° because it was a horizontal line. On the other hand, if the mouse had been dragged from the right side to the left side instead of the other way around, the angle would have read 180°.
 - If the measurement had been vertical, then the **Angle** would have read 90° if measured from the top to the bottom. It would have read -90° if measured from the bottom to the top.
 - In the example being used, the angle “c” is measured to be ~ -128°:



- Obviously, “c” is an acute angle so -128 doesn’t represent the actual angle shown in the screenshot. To get the true value, you subtract -128 from 180 (degrees in a straight line) to get 52°.
- However, the other way to get “c” without having to do a calculation is to drag from the other direction:

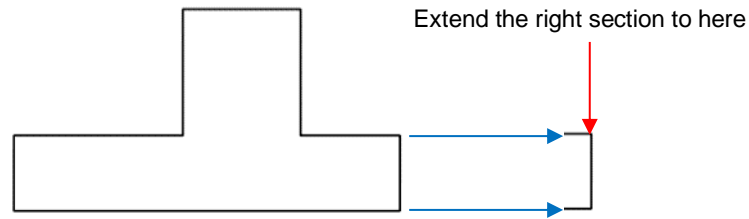


6.11 The Shape Tool - Path and Node Editing

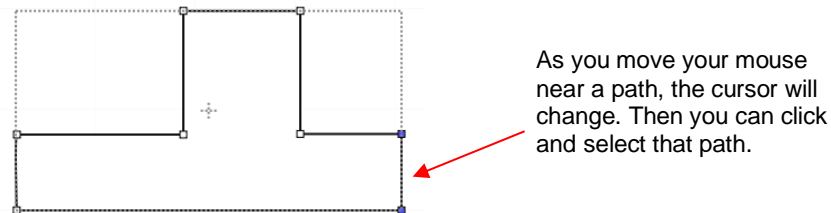
- Path editing involves moving paths as well as reshaping them. This topic was first introduced in *Section 5.05* where you were shown how to draw with the **Draw Tool** and then curve a straight-line path. If you haven’t read *Section 5.05*, please do so before proceeding with the rest of this section.
- To use the **Shape Tool**, click on the third icon  on the **Tools Panel** and then click on a shape. You should see the nodes which currently define that shape. If you do not see any nodes, then most likely you have clicked on a group of shapes. Go to **Object>Ungroup** and then try again. With text, you will need to apply **Text>Convert Text to Outlines** prior to applying **Ungroup**.
- Path editing involves dragging a path or dragging **Bezier** control points to reshape them. Node editing involves moving nodes and changing the type of node to then form desired curves.
- The most likely mistake you’ll make while learning path and node editing is failing to zoom in close enough so that you can click precisely on paths and nodes. Keep that in mind while experimenting.

6.11.1 Moving a Path

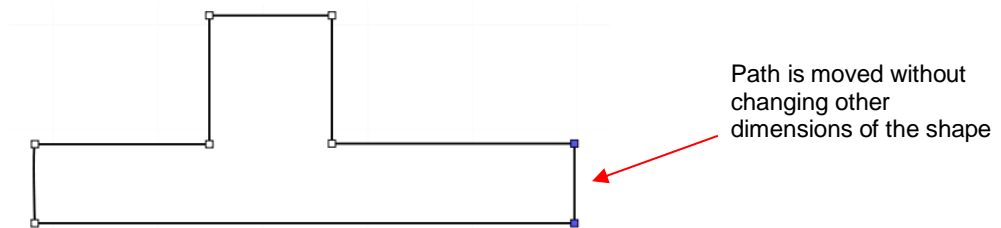
- Sometimes a path needs to be extended without resizing the rest of the shape. For example: let’s say you need to extend the right section of this shape by a few inches:



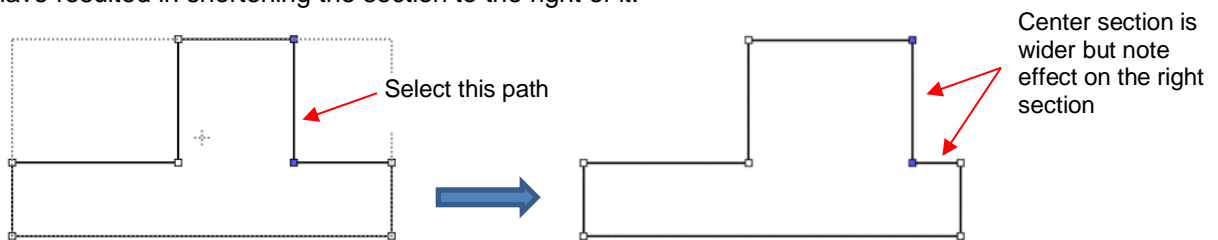
- ◇ Select the **Shape Tool**  on the **Tools Panel** and then click on that path:



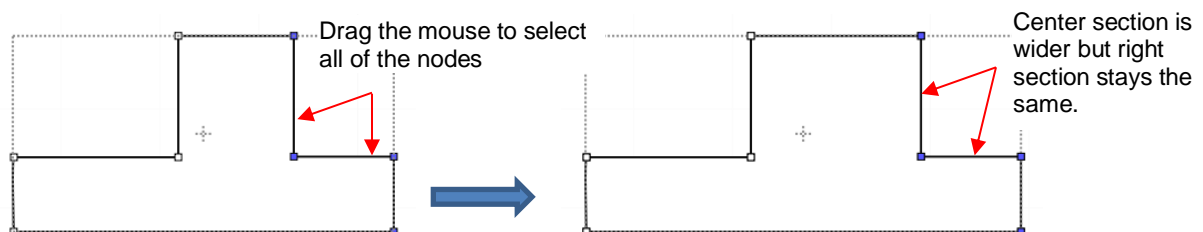
- ◇ You can now use the arrow keys on your keyboard to move that path. Holding the **Shift** key while clicking on an arrow key will move it in larger increments:



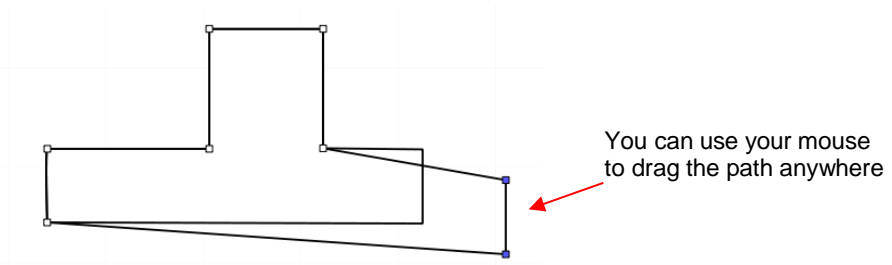
- ◇ If instead, the center section had been widened by selecting the path on its right side, then that would have resulted in shortening the section to the right of it:



- ◇ Thus, to maintain the dimensions of the right section, both paths need to be moved at the same time. To do this, marquee-select the nodes as shown and then move with the keyboard arrow:



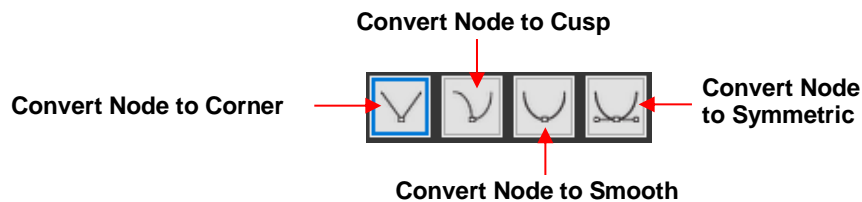
- If the shape is made up of straight-line segments, versus curves, you can also drag the segments with your mouse instead of using the keyboard arrows. Note that it can be a bit tricky getting the cursor in the perfect spot to start dragging. However, you won't have the same control if you wish to keep the paths perfectly horizontal or vertical:



- Some practical examples of moving paths include resizing boxes and envelopes where you need the overall dimensions of the final project to be different but you do not want to change the size/thickness of the flaps.

6.11.2 Reshaping a Path

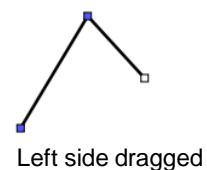
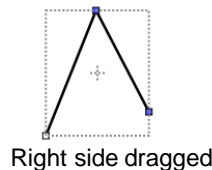
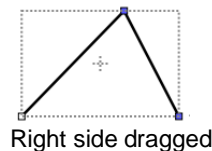
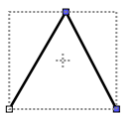
- With the **Shape Tool** selected, you'll observe four icons in the **Tool Options**. The purpose of each option is to convert one or more selected nodes to that type of node:



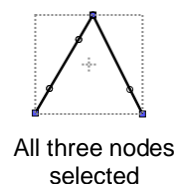
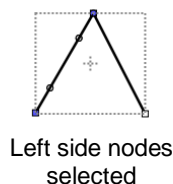
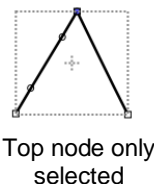
- One or more nodes are highlighted and then the appropriate icon selected. These same four functions can also be accessed by right-clicking and selecting **Path>Convert Node to**.
- To illustrate each one of these options, a simple path with a sharp corner will be used. This shape is already in **Corner Node** mode. To change to a different mode (in the examples that follow the first one), the top node is selected and then the option is clicked from the **Tool Options** or using the right-click and **Path>Convert Node to** menu option.



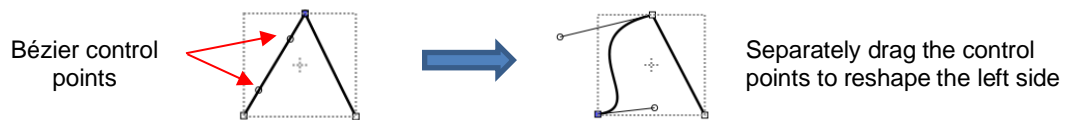
- ◇ **Corner Nodes:** These are the nodes that make up straight-line shapes such as rectangles, squares, triangles, stars, etc. Once selected, the shape will appear as below and either path can be moved as was demonstrated in the prior Section 6.11.1.



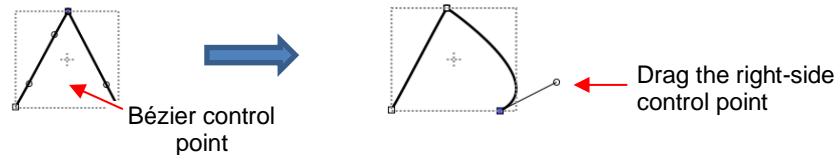
- ◇ **Cusp Nodes:** In this mode the Bézier control points appear and can be moved independently. First note how the paths appear when in this mode, depending on how many of the adjacent nodes are selected:




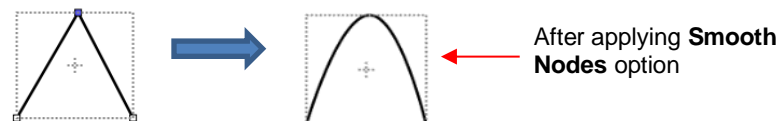
- The dots along the path are Bézier control points which are not linked to one another. You can freely drag either or both to create curves:



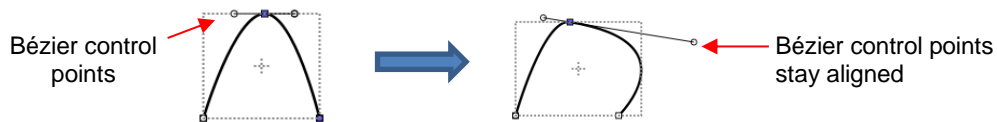
- In the case where there is a single Bézier control point on the right side, you can again drag the control point to create a curve:



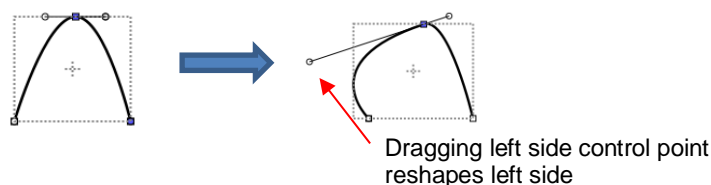
- ◇  **Smooth Nodes:** In this mode the Bézier control points always stay in a straight line. Notice that when you convert to **Smooth Nodes**, the shape immediately forms a curve:




- When the newly formed shape is selected again, the Bézier control points appear in a straight line. If you move one, the other will move as well, in order to maintain that straight line:



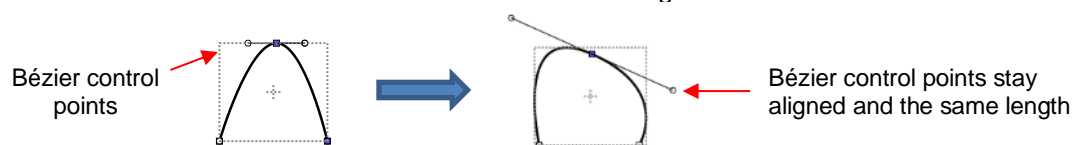
- The left side Bézier control point controls the curve on the left side. Thus, if it had been moved instead this would have resulted:



- ◇  **Symmetric Nodes:** In this mode the Bézier control points not only stay in a straight line, they also stay the same length. As with **Smooth Nodes**, when you convert to **Symmetric Nodes**, the shape immediately forms a curve:



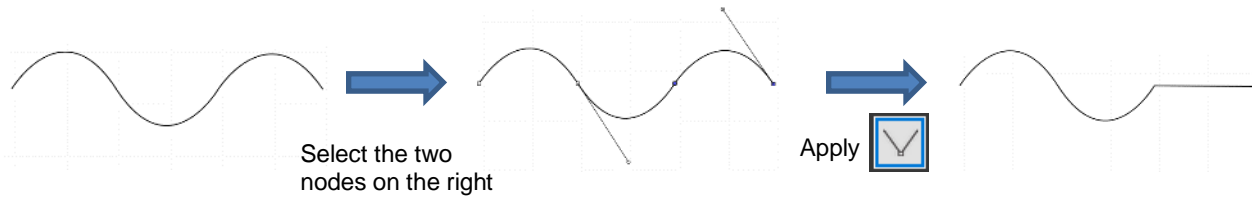
- When the newly formed shape is selected again, the Bézier control points appear in a straight line and the image appears the same as with **Smooth Node** status. However, when you now move one control point, the other will not only maintain that straight line, but also the same length. And the curves on both sides of the selected node will change:



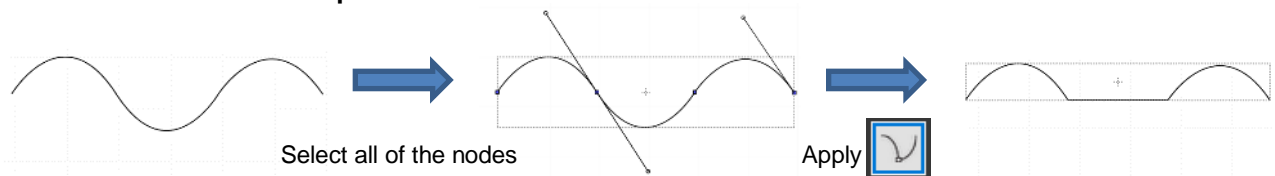
- To further illustrate these options, marquee-select a group of nodes to select more than one path and then click on whichever option you want to apply. The following examples show what occurs when the first two options are applied to curves and the last two options are applied to straight lines:



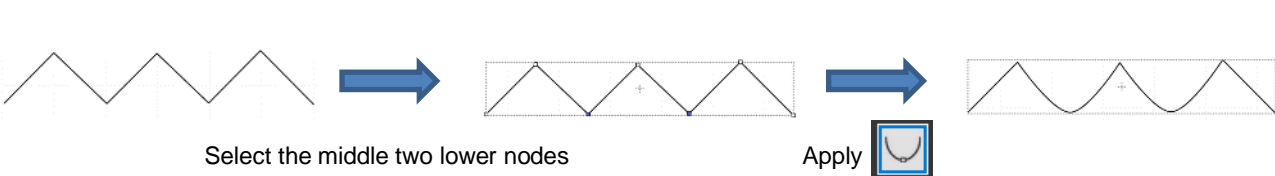
Convert Node to Corner:



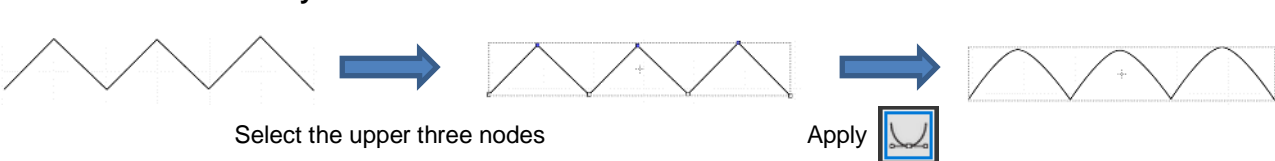
Convert Node to Cusp:



Convert Node to Smooth:

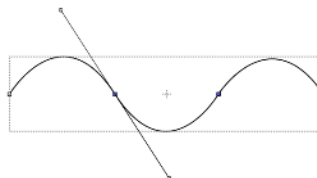


Convert Node to Symmetric:

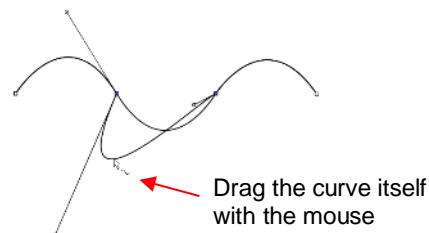


- As was shown in *Section 5.05.3*, you can also drag the path itself to reshape it, if one of the nodes has been converted to **Cusp**, **Smooth**, or **Symmetric**. For example:

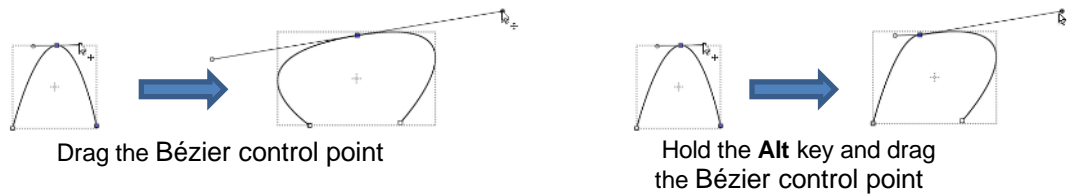
- ◇ The following curve has the lower path selected and the  option marked:



- ◇ The path can now be dragged with the mouse:




- You will recall that when a node is in either **Smooth** or **Symmetric** mode, adjusting one Bézier control point will automatically affect the other one and the curves on either side will change. To avoid this, hold the **Alt** key while dragging the control point and the other control point will remain in place:
 - For example, with the following **Smooth** node shape, the same change is made with and without holding the **Alt** key during the adjustment:

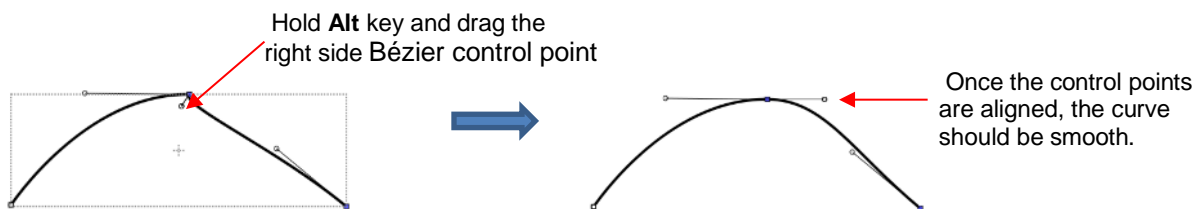



6.11.3 Examples of Smoothing Curves

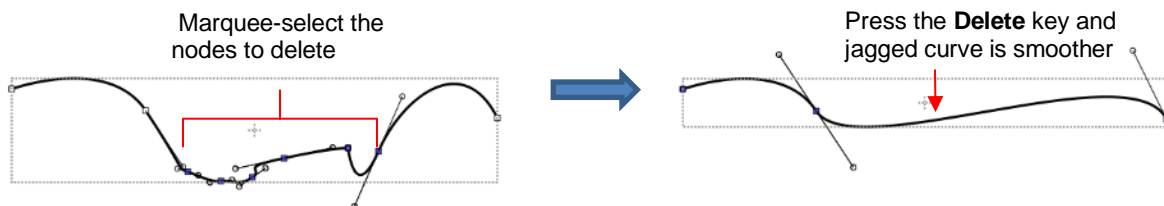
- The last method shown in the prior section can be used to correct kinks in what should be a smooth curve.
 - For example, let's say you want to make the following shape have a nice smooth curve:



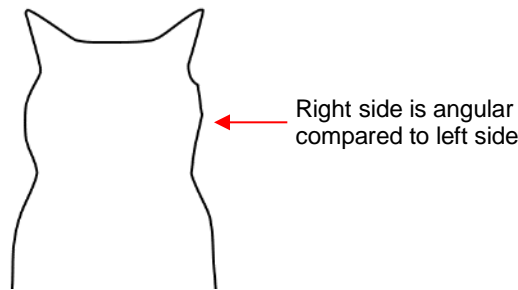
- Using the **Shape Tool**, click on the curve to reveal the node. Then click on the third icon , if needed, so that option will be highlighted. Hold the **Alt** key and drag the Bézier control point that's closest to the curve needing adjustment until the two control points are in a straight line:



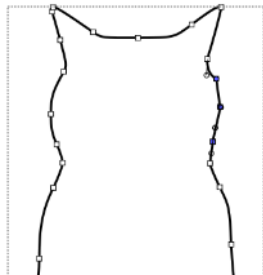
- In *Section 5.04.1*, you were shown how to add or delete nodes while in the **Draw Tool**  mode. Any time you want to add nodes to an existing path, you will need to be in this mode. However, you can delete nodes while in the **Shape Tool** mode. Select a node or marquee-select a group of nodes and press the **Delete** key on your keyboard:



- Based on such a drastic change, it's worth noting that deleting smaller numbers of nodes at a time is usually advisable to avoid losing the original structure of the shape.
 - As a practical example, here is a traced image of a cat. Note the right side of the cat's head is not smooth and rounded like the left side:



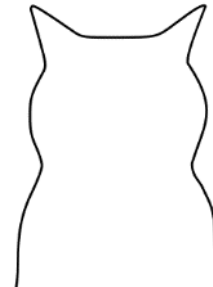
- Using the **Shape Tool**, the nodes causing the angular shape are marquee-selected and deleted. Then the path is reshaped:



Shape Tool shows nodes causing angular shape



After deleting the nodes, the right side is flat



After reshaping the line into a curve

6.11.4 Applications for the Shape Tool

- It's not always obvious when the **Shape Tool** might be needed. Here are a few examples to keep in mind:
 - ◇ Editing of pixel traced images: Sometimes a pixel trace will appear to be perfect until, for example, you use it for a print and cut and discover that some of the paths are slightly outside the printed areas of the original image:



Trace line doesn't follow shape here.



A node can be added or the Bezier curve can be reshaped.



- ◇ Manual tracing: As shown in *Section 5.05*, one of the quickest ways to manually trace a raster image is to use the **Draw Tool** and simply click/click/click around the image and then use the **Shape Tool** to create curves and move nodes to more closely align with the original image.
- ◇ Improving a cut: If you have problems with a particular location on a cut shape, examine the nodes in that location. You may find a cluster of nodes or a sharp cusp. Delete those excess nodes, reform the path, and then retest the cut.
- ◇ Modifying poorly designed files: Sometimes you will pick up free files that don't quite cut the way you expected. Examples are often fold-up templates where corners and fold lines do not quite meet. Having the ability to move paths and nodes can correct these kinds of files and provide cleaner and more professional end products.

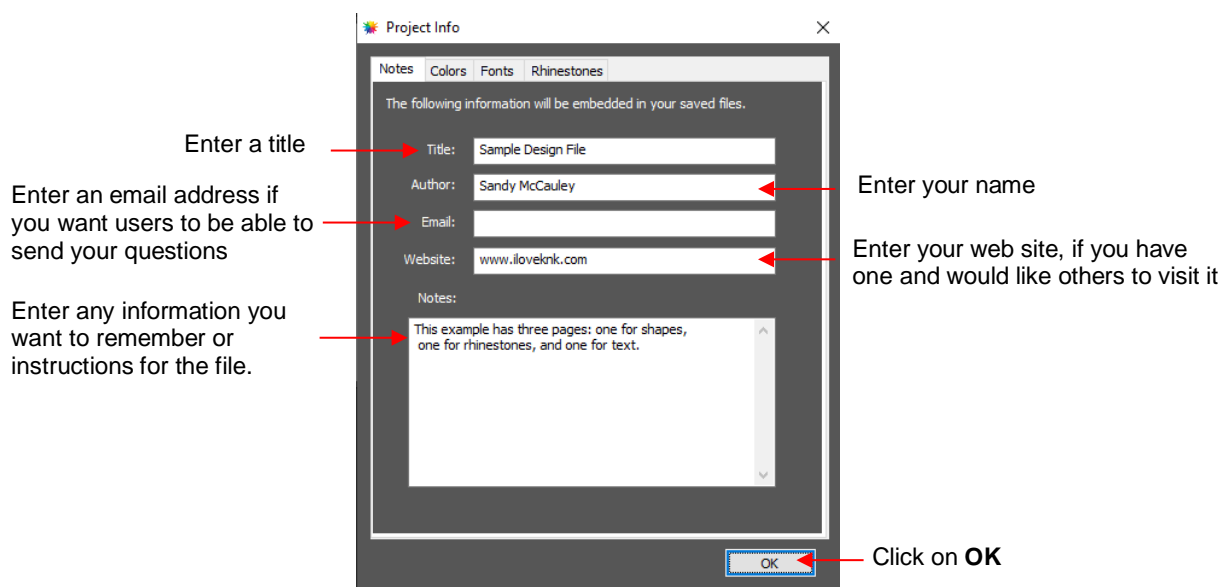
7. Designing

7.01 Where Do I Start with Learning to Design?

- CREATE offers some excellent easy-to-use designing tools to assist you in creating whatever you can imagine. The best way to learn these tools is to focus on only one at a time and play with settings. You aren't going to break anything in the software by experimenting and you never know what you might discover!

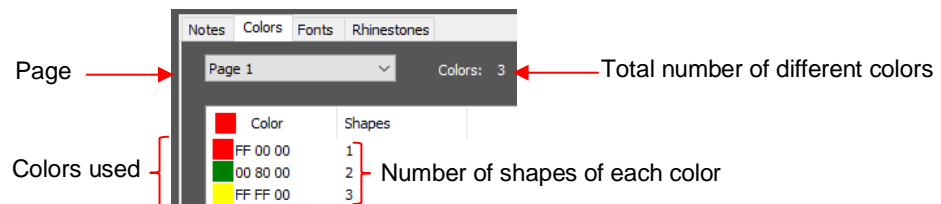
7.02 Project Info

- Before getting started on the fun and amazing design capability of CREATE, it's worth noting a feature that allows you to add your name and some other details to your file. This can save you time later when you're not remembering some of the original details and also help others with whom you share your files. Using this feature is, of course, entirely optional.
- To open the **Project Info** window, go to **Window>Project Info**. The following example shows some of the optional information you can add in this window that will be saved with your actual project:

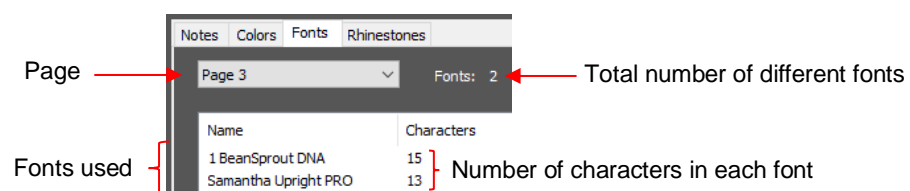


- Note the other tabs in this window: **Colors**, **Fonts**, and **Rhinestones**. These do not require your input. Instead, they automatically track, by **Page**, those elements that are currently present in the file. For example:

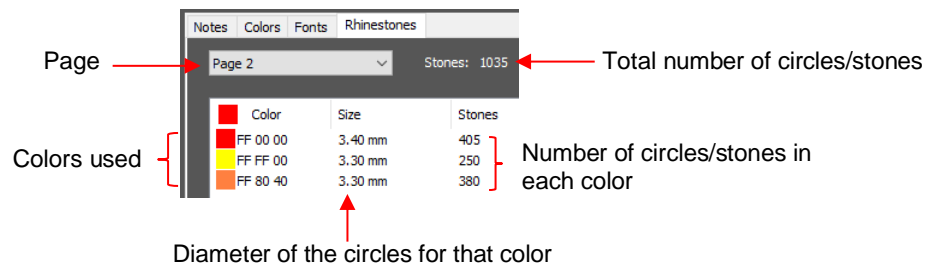
Colors Tab



Fonts Tab



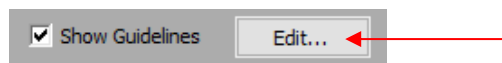
Rhinestones Tab



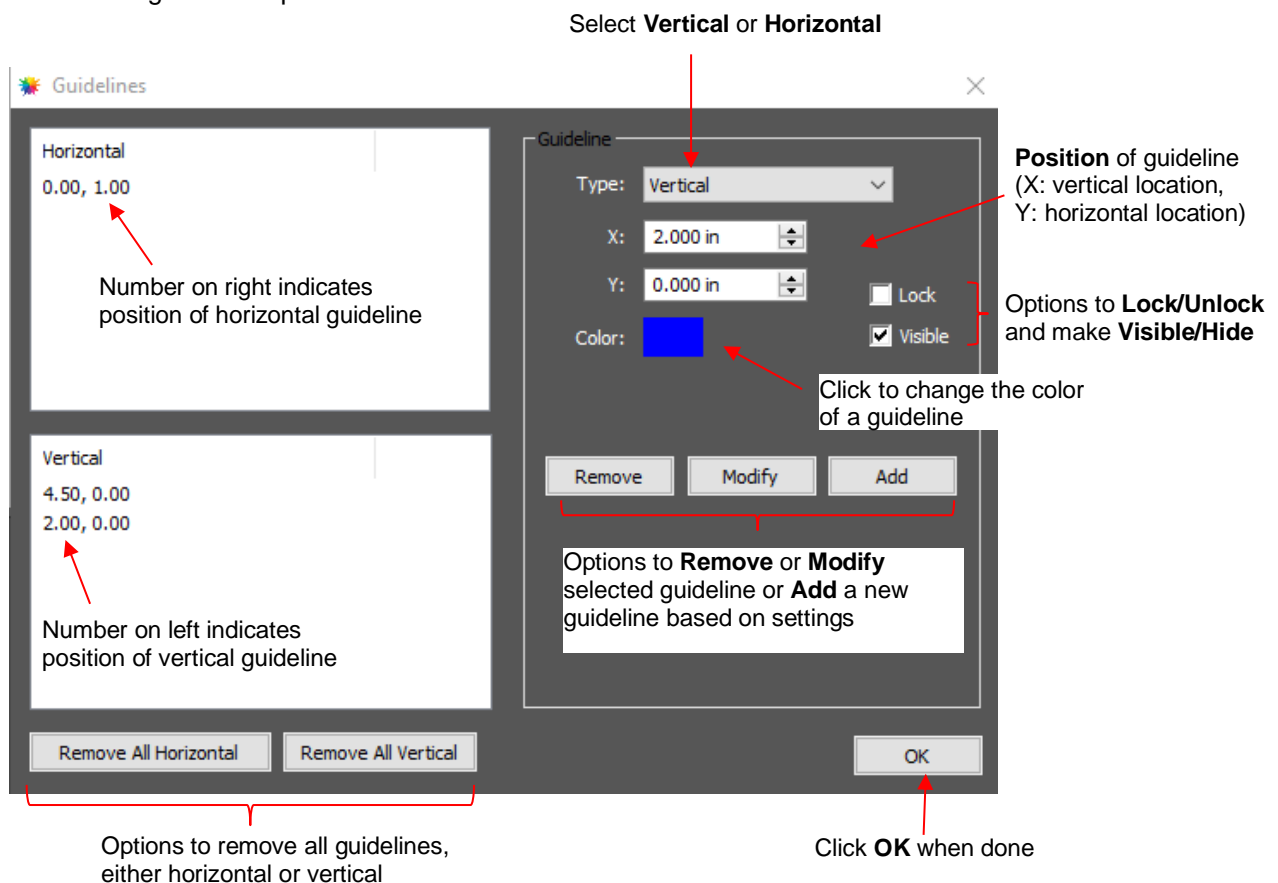
- Note: When changing tabs, such as from **Colors** to **Fonts**, always take note of the **Page** name. It will not automatically update to the page you were just checking. Thus, if you are on *Page 2* when on the **Colors** tab, you may discover you're on *Page 1* on the **Fonts** tab. Simply change to the page you need from the drop-down menu.

7.03 Guidelines

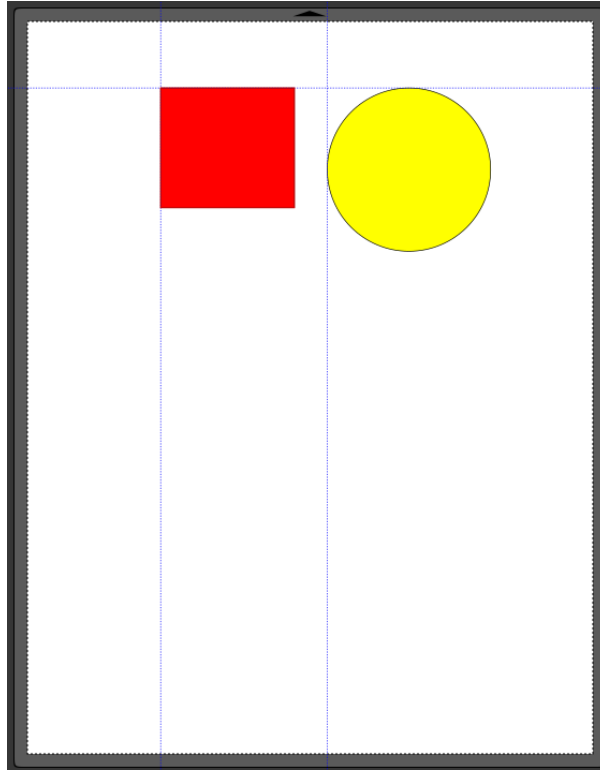
- Guidelines were first introduced in *Section 1.06.5*. It was noted that they can be added to the **Page** in two ways:
 - By dragging your mouse from the horizontal or vertical rulers on the screen
 - By manually adding in the **Guidelines Edit** window
- You can toggle guidelines on and off by clicking on the box next to **Show Guidelines** on the **Document Panel**. To open the **Guidelines Edit** window, either go to **View>Guidelines>Edit Guidelines** or click on the **Edit** button next to **Show Guidelines**:



- The following window opens:



- This window serves three functions:
 - ◇ Ability to delete guidelines: Select a guideline on the left and then click on **Remove**. You can also remove all of the horizontal guidelines and/or all of the vertical guidelines using the buttons shown.
 - ◇ Ability to edit an existing guideline: Select a guideline on the left and make changes such as position, color, lock/unlock and show/hide. Then click on **Modify**.
 - ◇ Ability to add a new guideline: Enter desired settings and click on **Add**.
- Based on the setting in the prior **Guidelines** window, the **Page** would look like this:



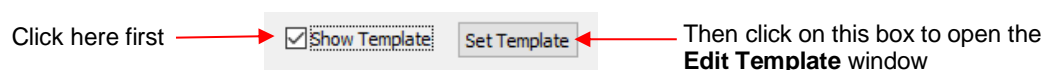
- The ability to show/hide all guidelines, lock/unlock all guidelines and delete (clear) all guidelines is also available under **View>Guidelines**.
- To have shapes snap to the guidelines, go to **View>Snap To>Guidelines** and make sure that option is checked. More about **Snap To** is covered in *Section 1.07*.

7.04 Templates

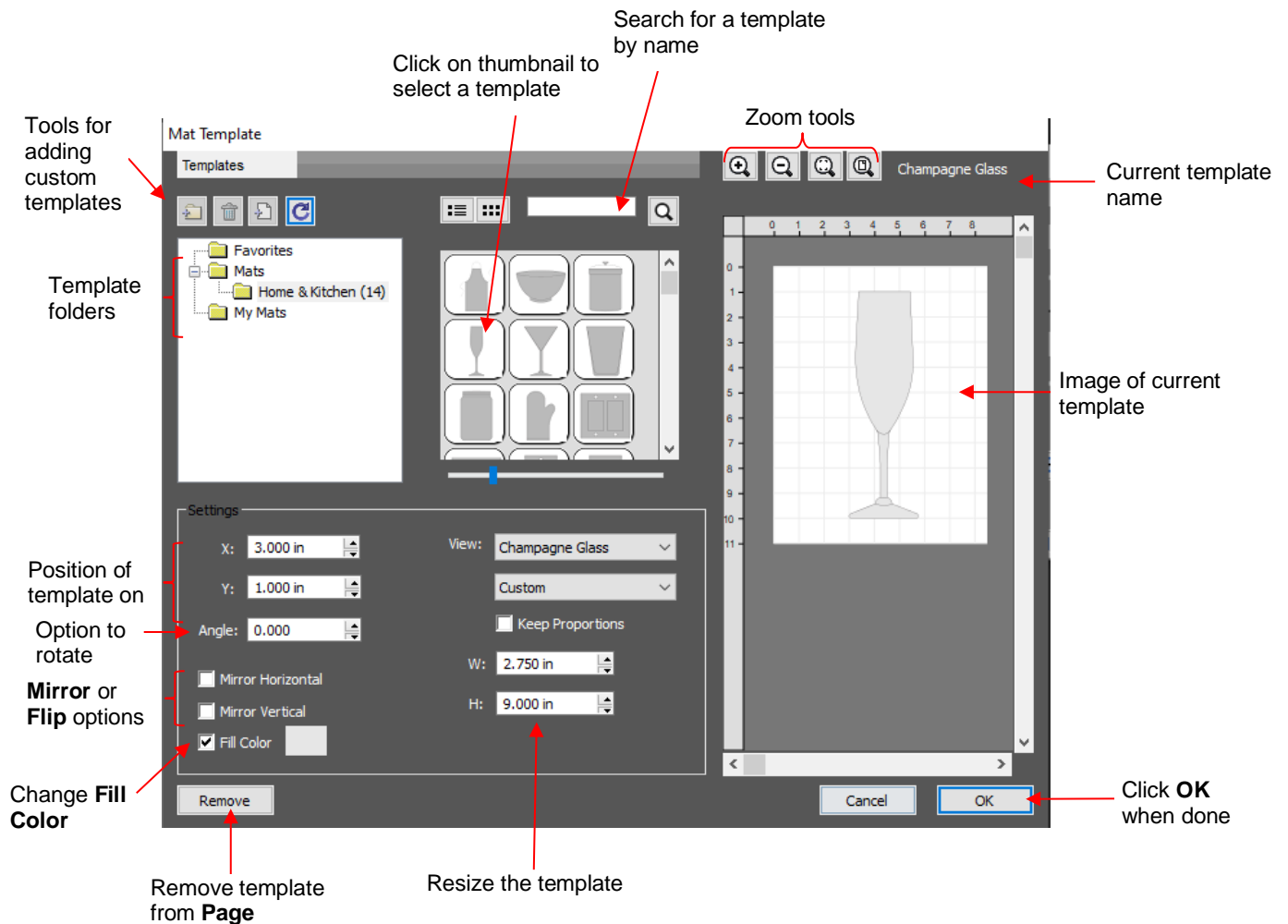
- As was first presented in *Section 1.06.11*, CREATE has the ability to add templates to the **Page** that are non-selectable shapes to aid in various designing situations.

7.04.1 Mat Template Window

- There are fourteen templates included in CREATE. However, you can import your own templates if they are in .SVG format or .CREATE format.
- To access templates, mark the option for **Show Template** and then click on the **Set Template** button:

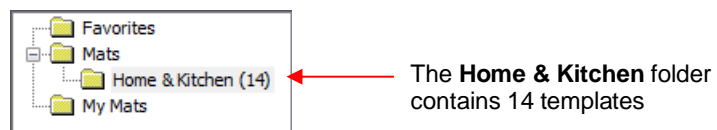


- The following **Mat Template** window opens:



- The **Mat Template** window has a lot in common with the **Shapes** tab in the Library:

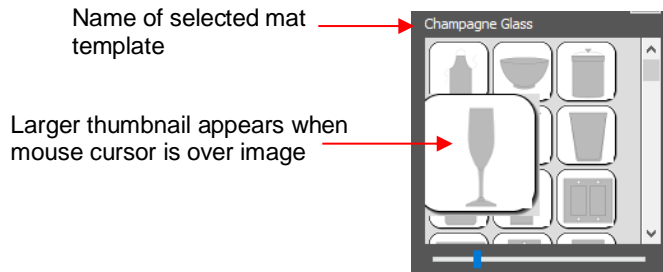
- ◊ The **Mats** folder contains templates that come with CREATE. The number in parentheses indicates how many templates are included in that folder:



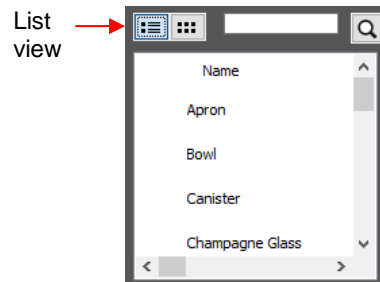
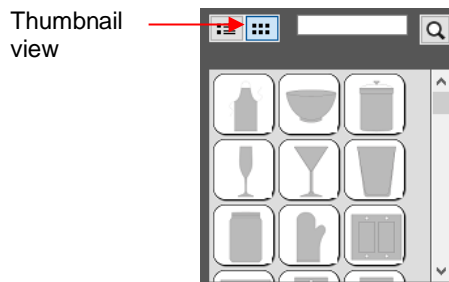
- ◊ A scrollbar beneath the thumbnails window can be used to resize the thumbnails:



- ◊ Hovering over a thumbnail will cause it to become larger and will display the name of the template:



- ◇ Templates can be displayed either with a thumbnail image or a list view:



- ◇ You can assign templates to a **Favorites** folder for quicker access. To do that, right click on a thumbnail image and select **Add to Favorites**. That popup menu also has two other options:
 - **Delete File**: This option isn't used except when you import your own template files
 - **Reveal File**: Opens the location on your computer where the template file is located
- ◇ You can create your own subfolders and import templates. Details are covered in *Section 7.04.3*.

7.04.2 Template File Settings

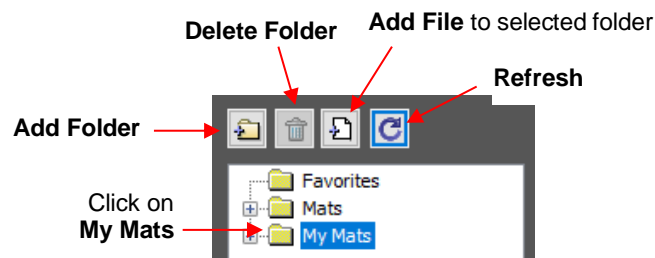
- The right side of the **Mat Template** window has a preview of the selected template on a simulation of the **Page**. This preview is useful while customizing the settings.
- Once a template is selected, you have the following settings for customizing:
 - ◇ Size: adjust the **W** and **H** settings to change the width and height of the template. The optional **Keep Proportions** box, when checked, will maintain the aspect ratio as you change either the width or height.
 - ◇ Position: Increasing **X** and/or **Y** will move the template away from the upper left corner of the **Page**.
 - ◇ Rotate: increase the **Angle** setting to rotate the template, if needed.
 - ◇ Color: Mark the **Fill Color** box and then click on the colored box to open a color selection window.
- When you are satisfied with the settings, click on **OK** to add the template to the **Page**. Note that the template will not print or cut. Again, it's a tool for designing:



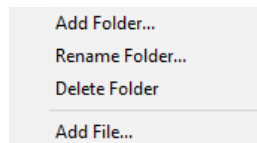
- To replace the template, reopen the **Mat Template** window and select a different template file.
- To remove the template from your **Page** either uncheck the **Show Template** option on the **Document Panel** or return to the **Mat Template** window and click on **Remove** button.

7.04.3 Importing Your Own Templates

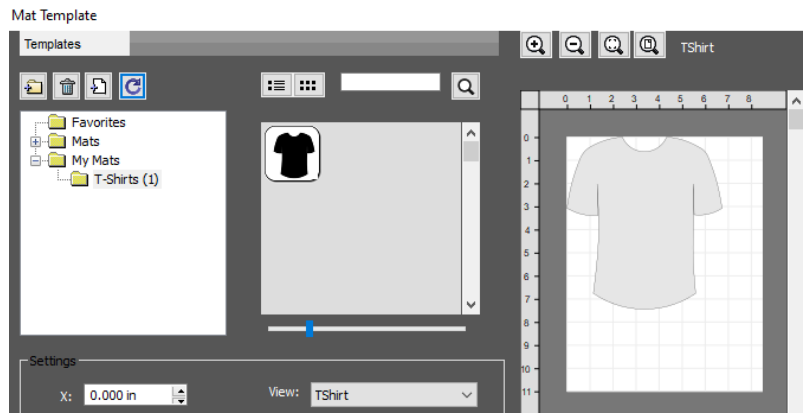
- SVG files can be imported into the **Mat Template** window. If you are designing them in CREATE, use a **DPI** of 72 in the SVG export window and the size of your imported template will match that of your original design.
- Once an SVG file is imported it is saved as a scalmat file. These files can be located in the following folder on your computer: **Documents>Craft Edge>My Mats**.
- To import and organize templates, first click on **My Mats**. The following functions become available:



- You can import new template files into the **My Mats** folder by clicking **Add File**. You can also create new subfolders within **My Mats** by clicking on **Add Folder**.
- These same two functions are also accessible when you right click while **My Mats** is selected. Note: this is also how you would rename one of your custom folders:



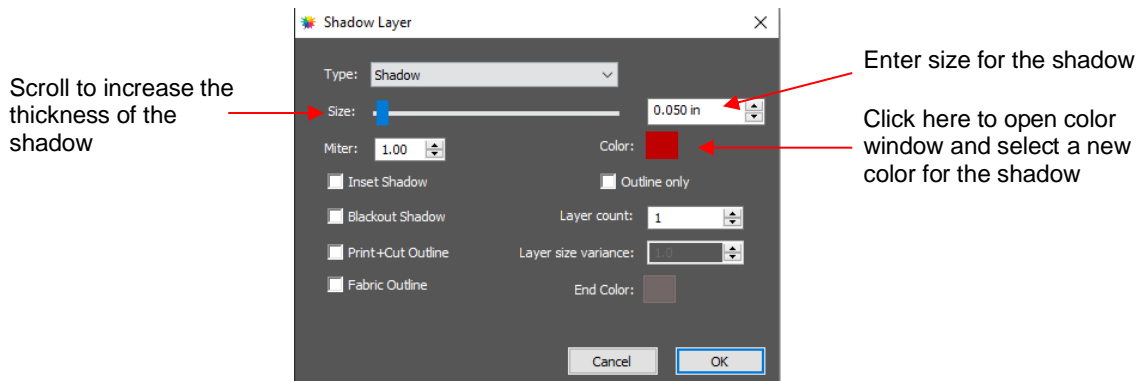
- If you need to delete a folder, first empty it by right clicking on each thumbnail and selecting **Delete File**. Then you will be able right click on the folder name and select **Delete Folder**.
- Sometimes you may need to click on the **Refresh** icon in order to see new folders or to see deleted folders removed.
- When you select **Add File**, browse to locate the SVG file you wish to add as a template. It will then appear as a thumbnail image. Clicking on the thumbnail adds the shape to the simulated **Page** on the right:



- **IMPORTANT!** As mentioned before, when an SVG file is imported, its file format changes to scalmat. This is important to note because this is where a significant difference lies between the **Mat Template** window and the **Library**. Referring back to *Section 2.03.1*, it was noted that you can import an entire folder at one time into **My Designs** in the **Library**. While it appears that the same functionality is available when creating a new folder in **My Mats**, you cannot import an entire folder of SVG files that same way. Instead, the folder you wish to import (create a shortcut to) must contain scalmat files.

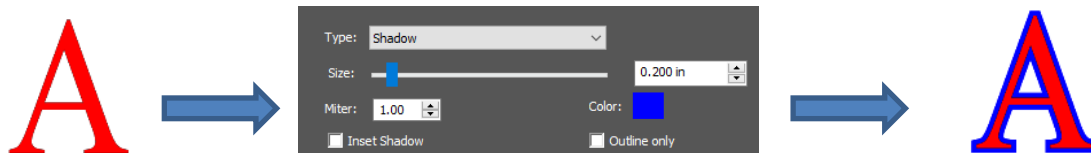
7.05 Shadow Layer

- The **Shadow Layer** function allows you to create an outline or an inline of any shape including, of course, text. After selecting a shape, you can access the function in either of two ways:
 - ◇ Go to **Effects>Shadow Layer (Contour Cut)**
 - ◇ Right-click and select **Appearance>Add Shadow Layer**
- The following window will open:

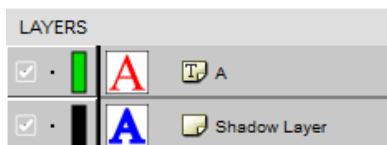


7.05.1 Shadow Layer Settings

- **Size** changes the thickness of the shadow layer. You can either scroll the **Size** bar or type in a size in the input window to the right.
- **Color** refers to the color of the shadow. Clicking on the color box opens the standard color window where a new color can be selected.
- As an example, a Times New Roman upper-case A is used. After increasing the **Size** and changing the **Color** to blue, the following result is obtained:



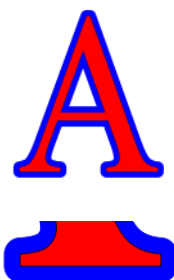
- ◇ The **Layers Panel** shows the addition of a new **Shadow Layer**:



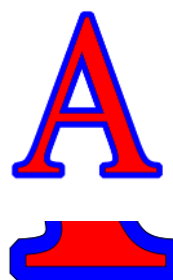
- **Type** controls the style or shape of the shadow at the corners. There are three choices:



Shadow



Shadow (Rounded)



Shadow (Straight)

- ◇ Note that the first choice, **Shadow**, also has a **Miter** setting which should work in the same way as **Miter** affects the **Stroke** (refer to *Section 3.15*). However, at this time, it appears that the **Miter** setting is not working.

- **Inset Shadow** is the opposite of **Shadow** – instead of creating a contour that is larger than the original shape, a contour is created that is smaller and fits inside the original shape.

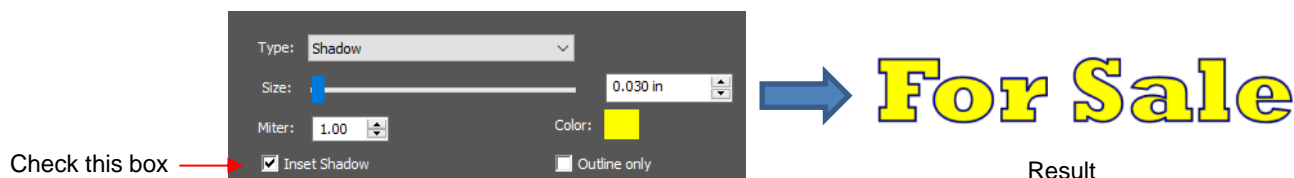
- ◇ For example, let's say you are going to create a two-color vinyl sign that says "For Sale":

For Sale

- ◇ If a normal **Shadow** is used to create the second layer, the letters will automatically be welded because of their proximity to one another. This may not be suitable for your application:

For Sale

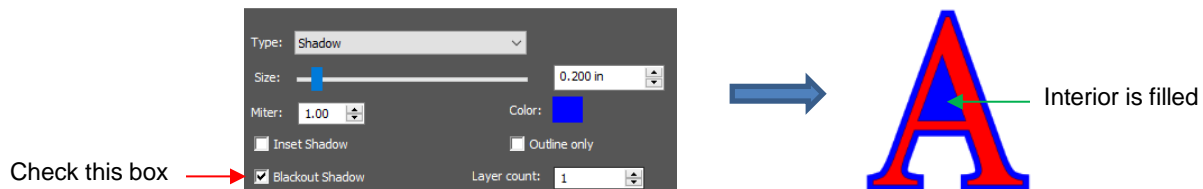
- ◇ Instead, create an **Inset Shadow** by checking the **Inset Shadow** option:



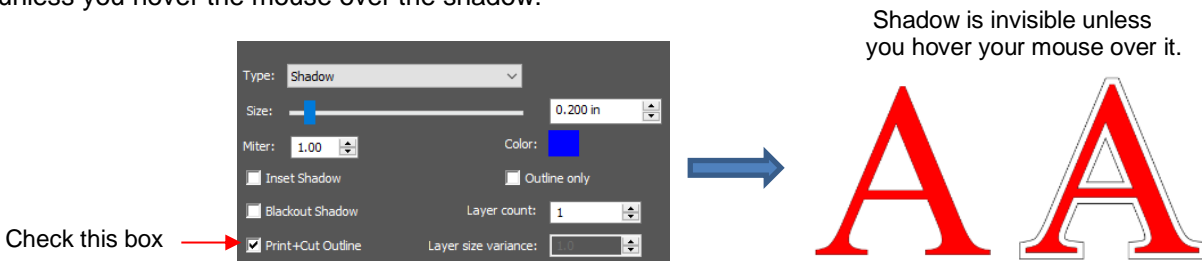
- **Outline only** can be checked to set the **Fill** on the shadow to **None**. The **Stroke** color will be whatever is set in **Color**:



- **Blackout Shadow** can be used to remove any interior shadow lines, leaving only a single outset:



- **Print +Cut Outline** creates a shadow with a **Fill** and **Stroke** both set to **None**. The shadow will be invisible unless you hover the mouse over the shadow:



◇ Two print and cut examples for this function are:

- To add a contour cut around a printed shape
- To cut just inside the boundaries of a printed image (in this case you also use the **Inset Shadow** option)

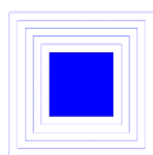
- **Fabric Outline** is also an option which creates a rounded outset shadow without needing to select the **Shadow Rounded** option in the **Type** menu.

- **Layer** settings: There are three additional settings in the **Shadow Layer** window used to create multiple shadows on a shape:

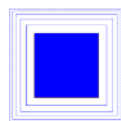
◇ **Layer count:** Total number of shadow layers to be created

◇ **Layer size variance:** If left at 1.0, the increasing thickness of each layer will be based on the original **Size** of the first shadow. If less than 1, the increasing thickness of each layer will be progressively less than the prior, based on the variance. If greater than 1, the increasing thickness of each layer will be progressively larger based on the variance.

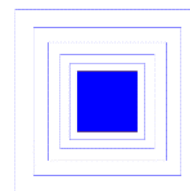
- For example, a square is used where the original shadow **Size** is 0.25 and the **Layer count** is set to 5. Outline only mode is also chosen so that the individual layers are easier to see. Note the different results when **Layer size variance** is set 1, 0.75 and 1.25:



Variance: 1.0

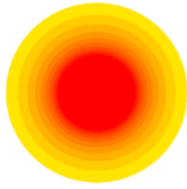


Variance: 0.75



Variance: 1.25

- ◇ **End color:** If the **End color** is chosen to be different from the original **Color**, a gradual transition between the two colors will be created. This can be used to create some beautiful designs for a print and cut:

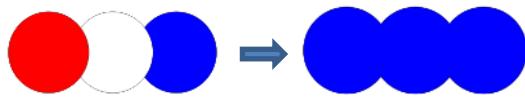


7.06 Boolean Operations

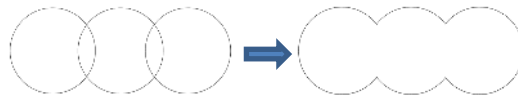
- Under **Path** on the **Menu Bar**, there are five Boolean operations that are very useful when designing cutting files. This section illustrates how each works and provides a practical example for each one.

7.06.1 Union

- The **Union** operation, also commonly called welding, removes the overlap between two or more selected shapes. The color of the new shape will be that of the bottom-most shape:

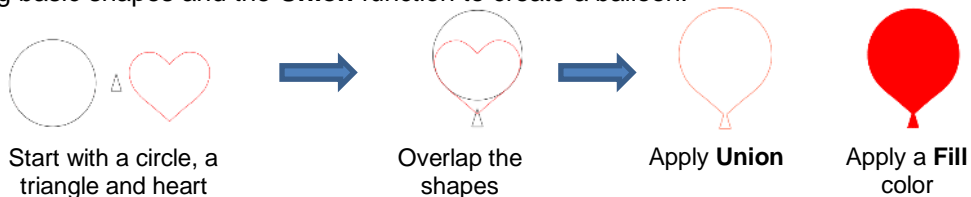


With a **Fill** color: before and after **Union**



With no **Fill**: before and after **Union**

- To apply this operation, select two or more shapes and use one of the following:
 - ◇ Go to **Path>Union**
 - ◇ Press **Alt+U**
 - ◇ Right-click and select **Path>Union**
- Sections 4.07 – 4.09 showed several examples of the **Union** operation applied to text. Here's an example using basic shapes and the **Union** function to create a balloon:



Start with a circle, a triangle and heart

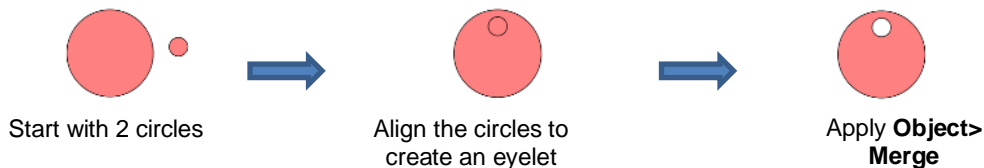
Overlap the shapes

Apply **Union**

Apply a **Fill** color

- In this next example, a scalloped border will be designed:

- ◇ Start with two circles that will be used to create an eyelet circle:

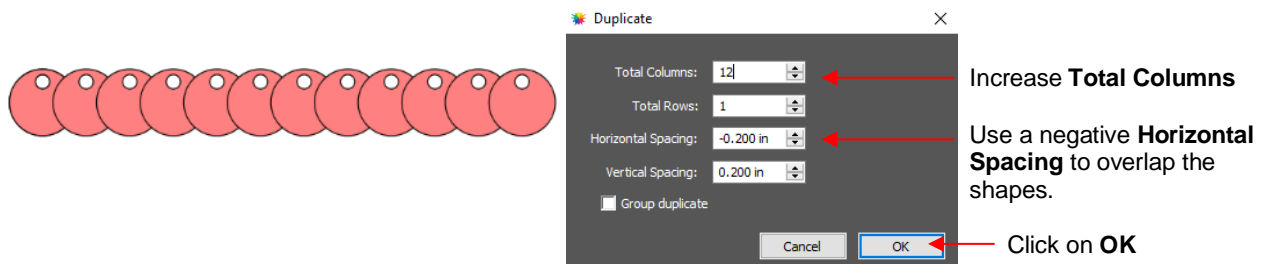


Start with 2 circles

Align the circles to create an eyelet

Apply **Object>Merge**

- ◇ Select this new shape and use **Object>Duplicate** to open the **Duplicate** window:

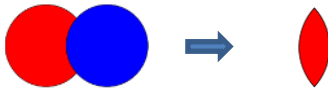


- ◇ Add a long rectangle and align with the pattern of circles. Apply the **Union** function:



7.06.2 Intersection

- The **Intersection** operation is the opposite of the **Union** operation. Instead of removing overlap, the overlap is what remains. The color of the new shape will be that of the bottom shape:

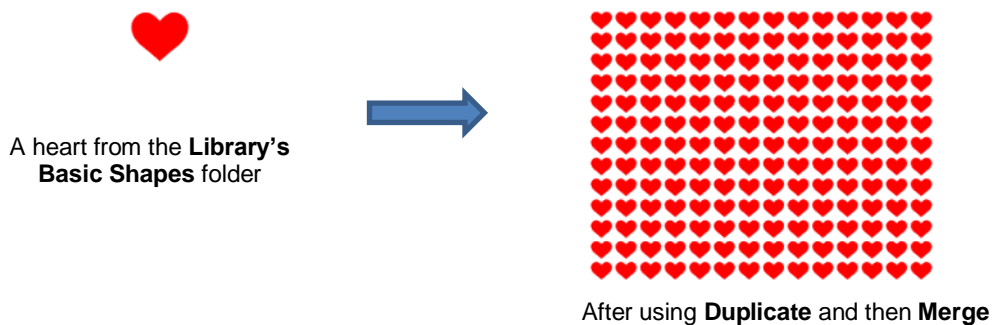


With a **Fill** color: before and after **Intersection**

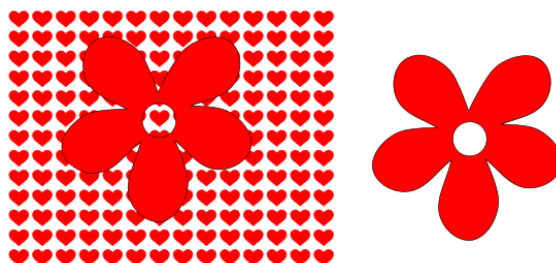


With no **Fill**: before and after **Intersection**

- To apply this operation, select two shapes and use one of the following:
 - ◇ Go to **Path>Intersection**
 - ◇ Right-click and select **Path>Intersection**
- One example involves filling a shape with a pattern:
 - ◇ This pattern was designed by using the **Duplicate** function to create a grid of hearts. Then, by applying **Object>Merge** on the hearts, it is now a single shape:



- ◇ Arrange the shape to be filled (in this case, a flower) over the pattern. Also, set aside a copy of the flower shape to use later as a border.



- ◇ Select the pattern and flower and apply **Path>Intersection**:

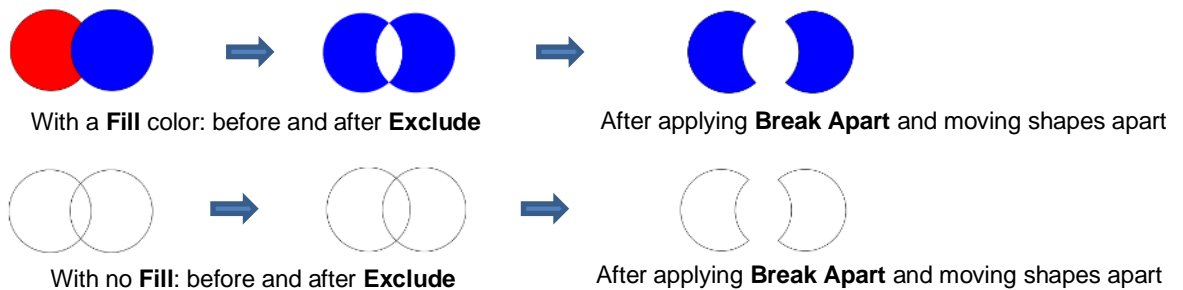


- ◇ Recolor the spare flower white with a red **Stroke**. Then center the pattern with the spare flower. Perfect for a print and cut!



7.06.3 Exclude

- The **Exclude** operation subtracts the intersection of two shapes from both of the shapes. The color of the new shapes will be that of the upper shape.



- To apply this operation, select two shapes and use one of the following:
 - ◇ Go to **Path>Exclude**
 - ◇ Right-click and select **Path>Exclude**
- After applying, use **Object>Break Apart** if you need to move one shape away from the other.
- **Exclude** is a useful function in adding weeding lines before cutting (refer to *Section 8.06*). As another example, use the heart-filled flower from the prior section as a cut design on the front of a greeting card:
 - ◇ Start with a rounded rectangle as the card base (refer to *Section 3.01.2*):



- ◇ Add the pattern from *Section 7.06.2*, without the spare flower shape. Arrange the pattern so that it will cut from the front of the card:

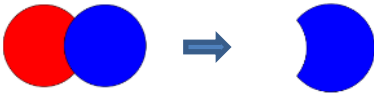


- ◇ Select the card and pattern and apply **Path>Exclude**:



7.06.4 Front Minus Back

- The **Front Minus Back** operation subtracts the intersection of two shapes from the front (or upper) shape, leaving only that front shape:



With a **Fill** color: before and after **Front Minus Back**



With no **Fill**: before and after **Front Minus Back**

- To apply this operation, select two shapes and use one of the following:
 - ◇ Go to **Path>Front Minus Back**
 - ◇ Right-click and select **Front Minus Back**
- As an example, add the word HELLO to the card designed in *Section 7.06.3*.
 - ◇ Select a font and type out the letters. Add a rectangle (with no **Fill** color) so that the tops and the bottoms of the letters will just overlap the rectangle:



- ◇ Select the rectangle and the lettering and apply **Path>Front Minus Back**:



or when a **Fill** color is added:

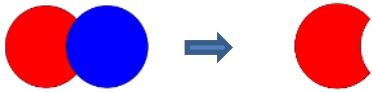


- ◇ Arrange the greeting on the front of the card designed in *Section 7.06.3*. Select both and apply either **Object>Merge** or **Path>Exclude** so that all internal shapes are cut before the outside card base:



7.06.5 Back Minus Front

- The **Back Minus Front** operation is the opposite of **Front Minus Back**. It subtracts the intersection of two shapes from the back (or bottom) shape, leaving only that back shape:



With a **Fill** color: before and after **Back Minus Front**



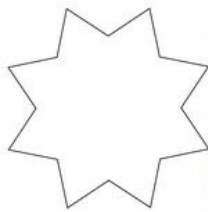
With no **Fill**: before and after **Back Minus Front**

- To apply this operation, select two shapes and use one of the following
 - ◇ Go to **Path>Back Minus Front**
 - ◇ Right-click and select **Back Minus Front**
- Any examples for **Back Minus Front** are essentially the same as for **Front Minus Back**. When choosing which to use, check the **Layers Panel** and think about which one you need to remain. Alternatively, just try one and, if it's the wrong choice, use **Undo** to back up one step and then pick the other function. ☺

7.07 Clip Path and Clip Mask

7.07.1 Clip Path

- Clip Path** applies one selected shape as a die cutter onto another selected shape (vector or raster) positioned below it:



Use **File>Place Image** to import photo and select a shape to fill

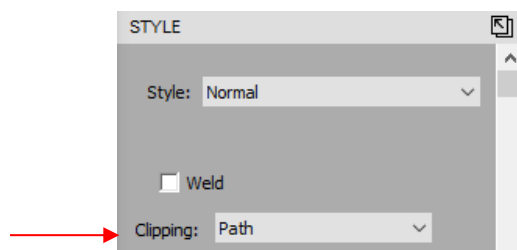


Arrange shape over photo



Select both and apply **Object>Clip Path>Set Clip Path**

- There are two ways to access the **Clipping** function:
 - ◇ Select both shapes and go to **Object>Clip Path>Set Clip Path**
 - ◇ Select the two layers and, on the **Style Panel**, change **Clipping** from **None** to **Path**:



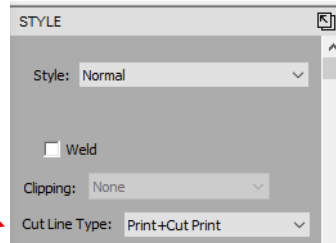
- Unlike other path functions (**Union**, **Intersection**, **Exclude**, etc.), the original two shapes are still intact. To restore the original shapes:
 - ◇ Go to **Object>Clip Path>Release Clip Path**
 - ◇ Reset the **Clipping** option to **None** on the **Style Panel**

- ◇ Note that the shapes will be grouped, thus you'll need to apply **Object>Ungroup** in order to individually select one of the shapes but not the other.

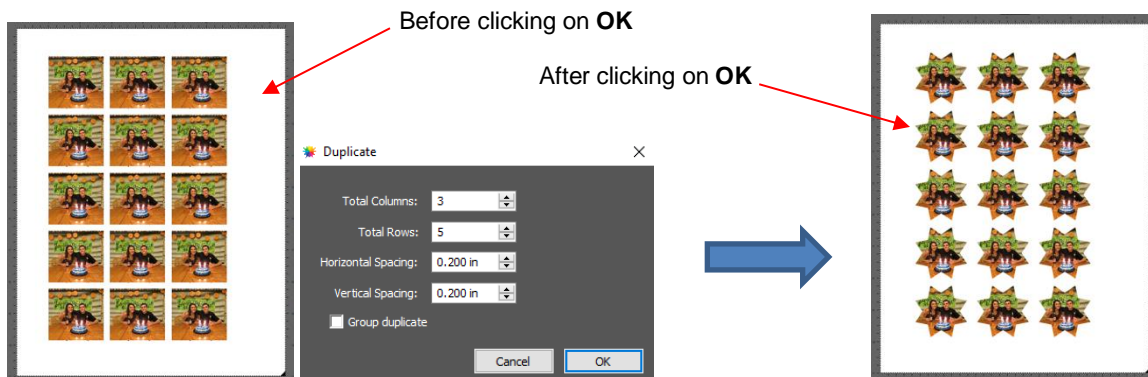
- A few other things to note about **Clip Path**:

- ◇ If you apply **Clip Path** to two vector shapes, both shapes will still cut out. To avoid that, select the shape that you do not want to cut, and change the **Cut Line Type**, on the **Style Panel**, to **Print + Cut Print**. Then apply **Clip Path** to the two vector shapes.

Change to **Print + Cut Print** on the vector shape that is not to be cut

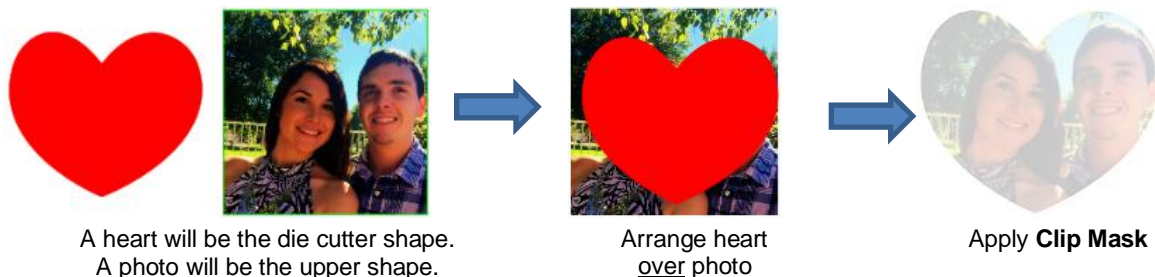


- ◇ When applying the **Duplicate** or **Rotated Duplicate** function on shapes that have **Clip Path** applied, you will initially see the copies in their original “unclipped” format. But once you click on OK, the correct result will appear:

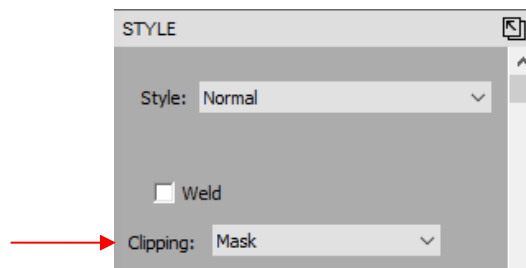


7.07.2 Clip Mask

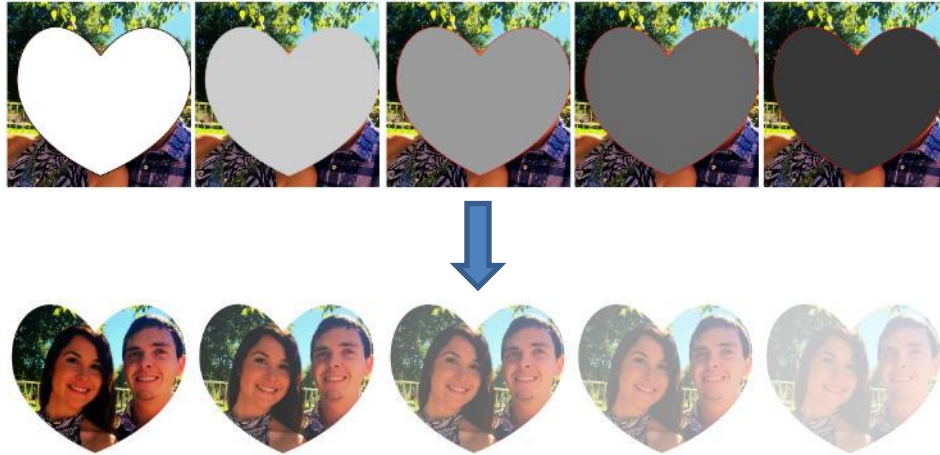
- **Clip Mask** is similar to **Clip Path** except the shape performing the die cut will alter the opacity of the other shape based on its color intensity.
- As with **Clip Path** the die cut shape is placed on top of the other image:



- To apply **Clip Mask** to selected shapes, either
 - ◇ Go to **Object>Clip Mask>Set Clip Mask**
 - ◇ Select the two layers and, on the **Style Panel**, change **Clipping** from **None** to **Mask**:



- In the following five examples, the color of the heart ranges from white to dark gray. Notice the differences in the five results after **Clip Mask** is applied:

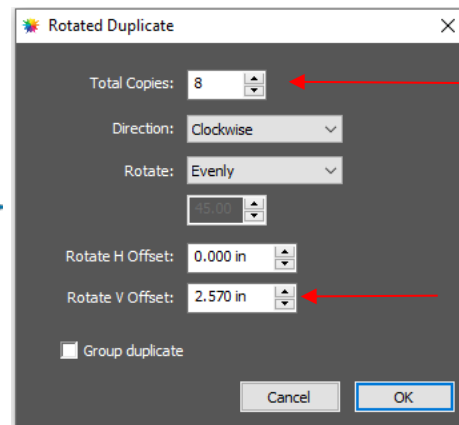


- To restore the original shapes, either:
 - ◇ Go to **Object>Clip Mask>Release Clip Mask**
 - ◇ Reset the **Clipping** option to **None** on the **Style Panel**
 - ◇ Note that the shapes will be grouped, thus you'll need to apply **Object>Ungroup** in order to individually select one of the shapes but not the other.
- The same additional things to note that applied to **Clip Path** also apply to **Clip Mask**. Refer to the last bullet in *Section 3.07.1*.

7.08 Duplicate Rotated

7.08.1 Duplicate Rotated Settings

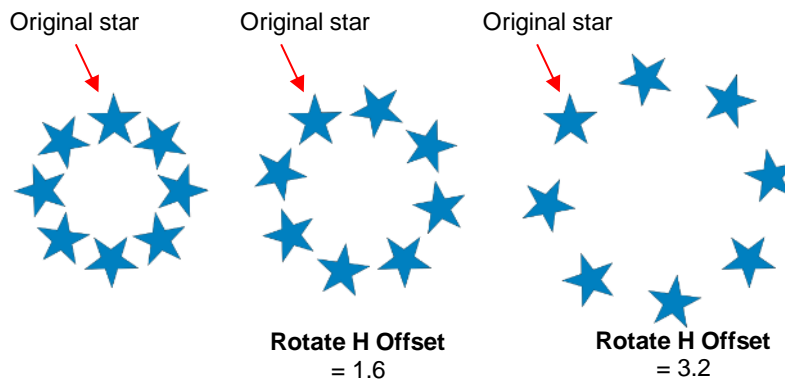
- The **Duplicate Rotated** function allows you to make duplicates arranged in a circle or partial circle pattern.
- To access **Duplicate Rotated**, first select the shape(s) and then use either of the following:
 - ◇ Go to **Object>Duplicate Rotated**
 - ◇ Press **Ctrl+Shift+D**
- To illustrate how this works, start with a small shape. Select it and then activate the **Duplicate Rotated** function using either of the methods just mentioned. The following window opens:



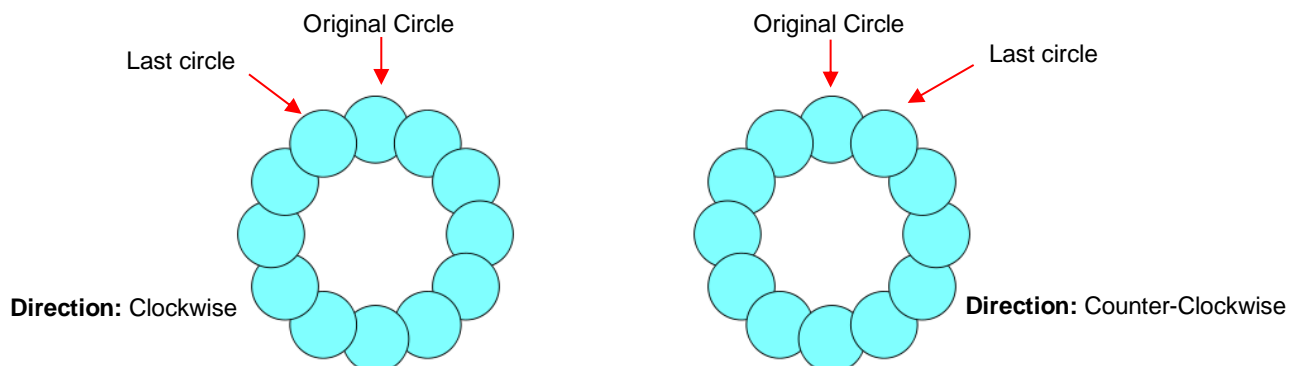
Enter **Total Copies**

Increase to space out the copies

- ◇ Start by increasing the number of copies. If the shapes are overlapping too much, increase **Rotate V Offset** which is the distance from the center. Increasing the **Rotate H Offset** setting shifts the center of rotation toward the right, leaving the original in the same location on the **Page**:

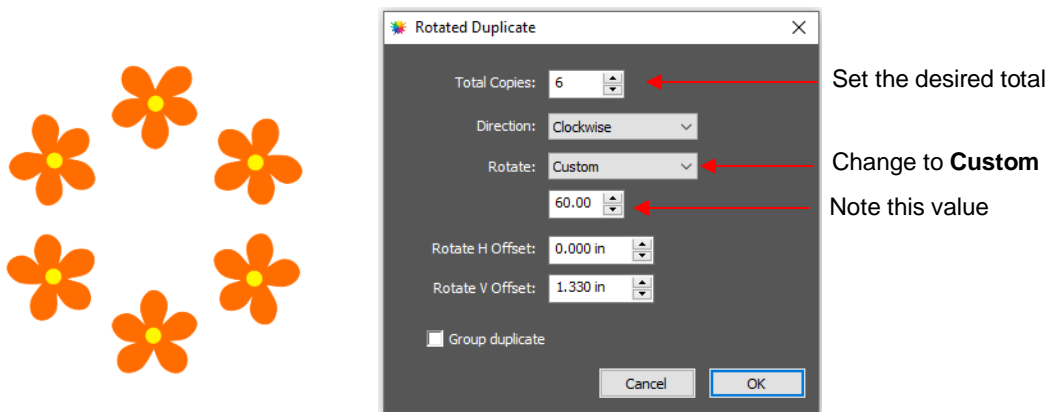


- ◇ Because the stars must spread out in order to keep the original in its same position, one can then decrease the **Rotate V Offset** at the same time as increasing the **Rotate H Offset**, if you need to spread the shapes but keep the design in the current display area of CREATE.
- ◇ The **Direction** setting changes the order of the duplicates around the circle.
 - With clockwise selected, the order of the shapes follows a clockwise progression so that the last copy is just to the left of the original at the top. You can visually see that circle is on top. The opposite is true if counter-clockwise is selected:

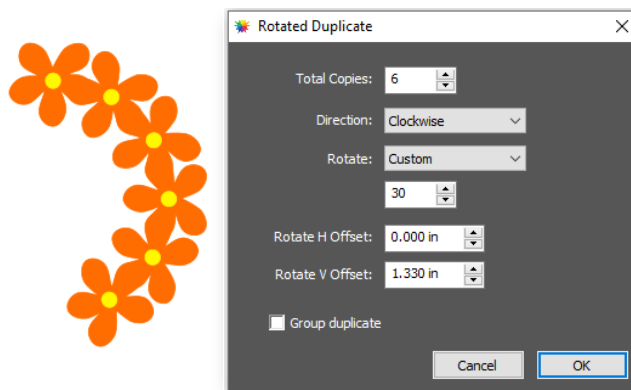


- Does it matter which **Direction** is used? Most likely, it would only matter for display or possibly in a print and cut design.
- ◇ **Rotate** has two options: **Evenly** and **Custom**. With **Evenly** selected, the copies are distributed evenly in a full 360° circle. But let's say you want a semi-circle of shapes:

- First, create a circle pattern using the desired number of shapes. Change the **Rotate** to **Custom** and note the number that appears below it:



- Divide that number by 2. Thus, in this example, it will be changed to 30:



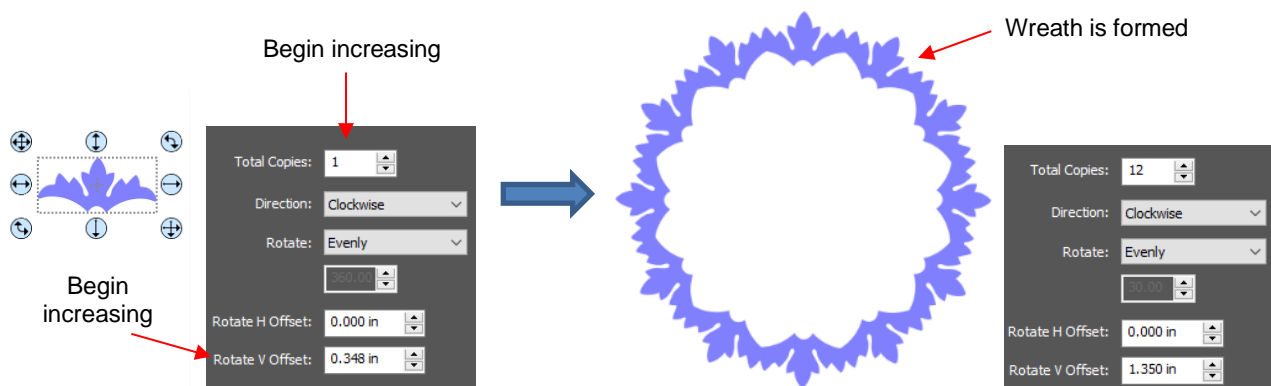
- If you want the shapes to be grouped, mark the **Group duplicate** box. Otherwise leave it unchecked.

7.08.2 Using Duplicate Rotated to Design a Wreath

- Begin with a desired shape. In this example, a shape from the **Library's Swirls** folder will be used.



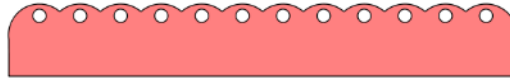
- Select and go to **Object>Duplicate Rotated**. Begin increasing **Total Copies** and the **Rotate V Offset** until a desired overlapping pattern is obtained:



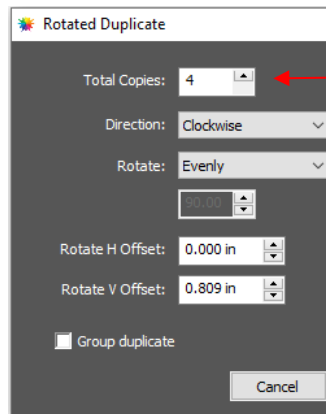
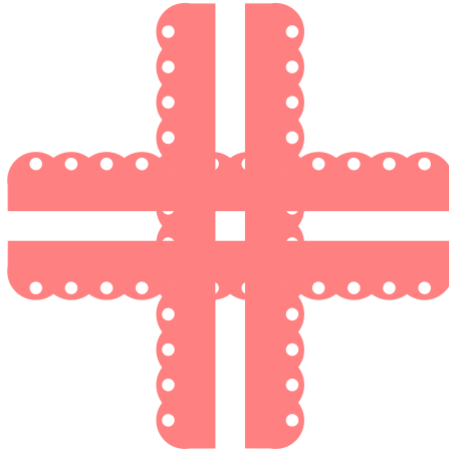
- After creating the pattern, go to **Path>Union** to remove the overlap and the shape is ready to cut.

7.08.3 Using Duplicate Rotated to Design a Frame

- In *Section 7.06.1*, the **Duplicate** and **Union** functions were used to create this scalloped border:

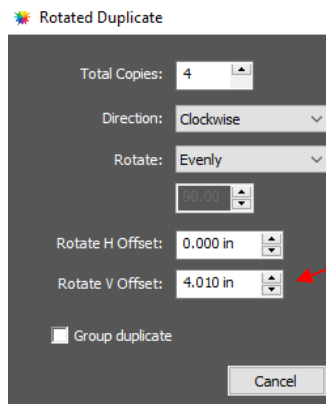
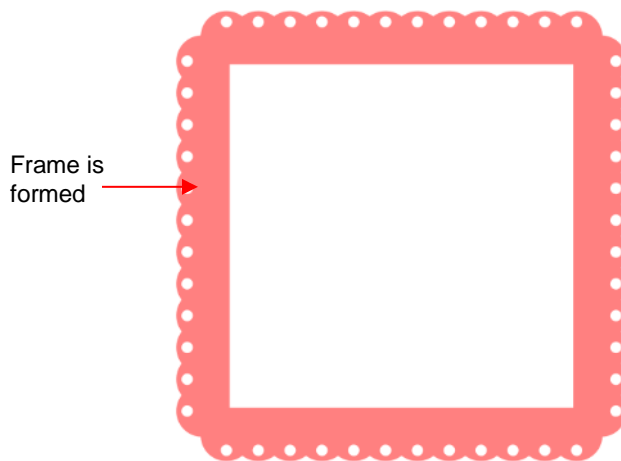


- Select the shape, go to **Object>Duplicate Rotated**, and enter 4 for **Total Copies**:



Set **Total Copies** to 4

- Begin increasing the **Offsets** until the four corners overlap evenly:



Increase **V Offset** until the four corners look perfect

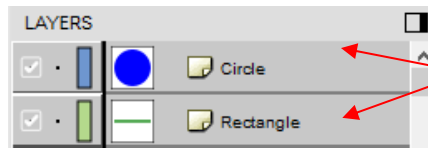
- Click on **OK** and then apply **Path>Union**.

7.09 Object on Path

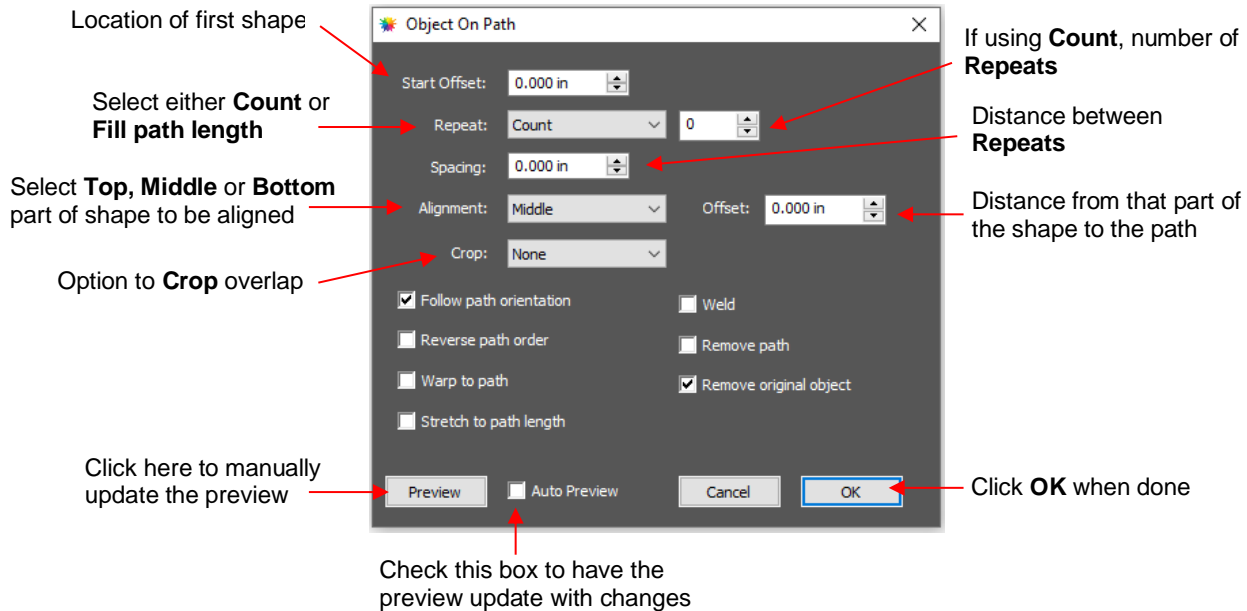
- The **Object on Path** function can be used to align repeats of a shape along the path of another shape:



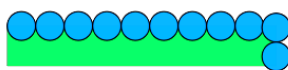
- **IMPORTANT:** Before applying the function, check the **Layers Panel** to make sure the shape to be repeated is on a higher layer than the path:



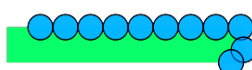
- To open the **Object on Path** window, select both the path and the shape to be repeated and go to **Effects>Object on Path**. Because there are so many settings in this window, only about half will be explained at this point:



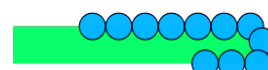
- ◇ **Start Offset:** This is the distance from the left side of the path to the location of the first shape:



Start Offset = 0

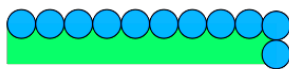


Start Offset = 0.5"

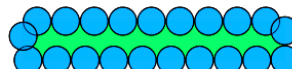


Start Offset = 1.5"

- ◇ **Repeat:** Choose **Count** if you want to specify how many copies to place along the path. Choose **Fill Path length** if you want the program to automatically fill in the number of repeats that will fill the path using the **spacing** you enter:

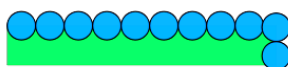


Repeats: Count 10

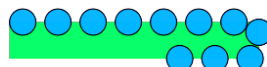


Repeats: Fill path length

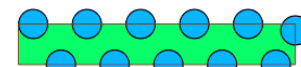
- ◇ **Spacing:** Enter the desired spacing between repeats:



Spacing = 0

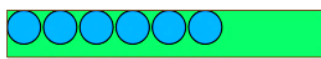


Spacing = 0.2"

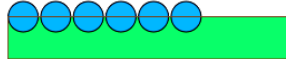


Spacing = 0.5"

- ◇ **Alignment:** This refers to the object being repeated. Choose **Top** to have the top of the shape aligned along the path. Choose **Bottom** to have the bottom of the shape aligned along the path. Choose **Middle** to have the center of the shape aligned along the path:



Alignment: Top

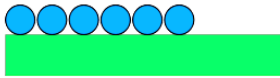


Alignment: Middle



Alignment: Bottom

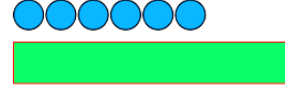
- ◇ **Offset:** This is how far away from the path you want the repeats to be. For example, if you choose **Bottom** for **Alignment** and then 0.15" or 0.25" for **Offset**, then the bottom of the shapes will be 0.15" or 0.25" above the path:



Offset = 0



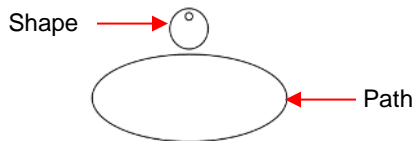
Offset = 0.15"



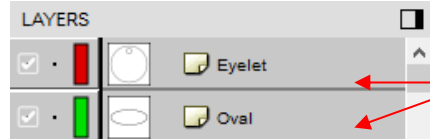
Offset = 0.25"

7.09.1 Designing a Scalloped Oval

- Create an eyelet circle like the one shown in *Section 7.06.1*. Also, use the **Circle** tool to create an oval for the path:

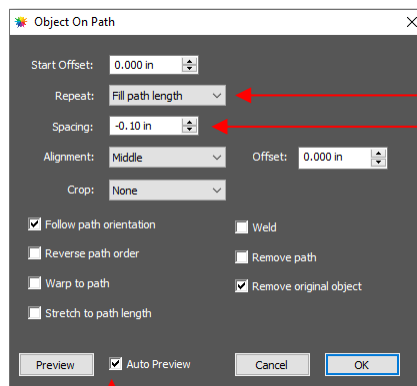
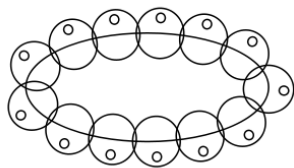


- Before using the **Object on Path** function, make sure the eyelet shape is above the oval path on the **Layers Panel**:



Shape to be repeated should be above the path shape

- Select the shapes and open the **Object on Path** window using **Effects>Object on Path**. Begin by marking the **Auto Preview** option so that all changes will be immediately reflected. Then choose **Fill path length** so the shapes will be distributed over the entire path. Set the **Spacing** to a negative number so that the shapes will overlap:

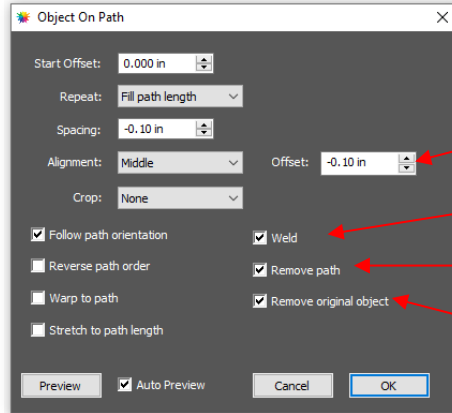
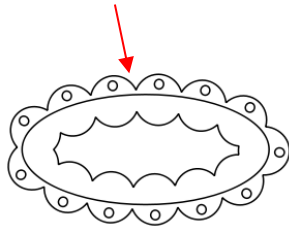


Note the settings used to fill the path and overlap the shapes

Mark this first

- Next the **Offset** can be decreased to soften the scallop. Also a few new settings are noted as shown and described below:

Lowering the **Offset** makes the scallop less acute



Lower the **Offset**

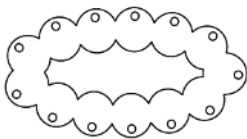
Removes overlap

Removes original path

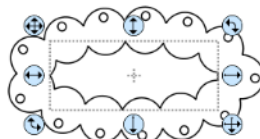
Removes original shape

- ◇ **Weld:** Mark this option if you want the repeated shapes welded together, as shown in the screenshot
- ◇ **Remove path:** Mark this option if you will no longer need the path shape (in this case, the oval)
- ◇ **Remove original object:** Mark this option if you will no longer need the original shape (in this case, the eyelet circle)

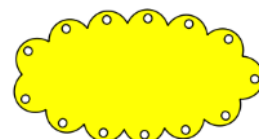
- Click on **OK** and the scalloped oval is mostly complete. To remove the internal scallop, apply **Object>Break Apart**. Carefully select the internal scallop shape and delete. Then marquee-select the remaining scalloped border with eyelet circles and apply **Object>Merge**:



After clicking on **OK**



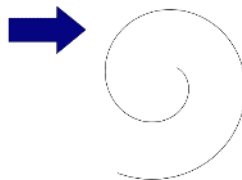
After applying **Break Apart**, select inner scallop



After deleting inner scallop, apply **Merge** and a **Fill**

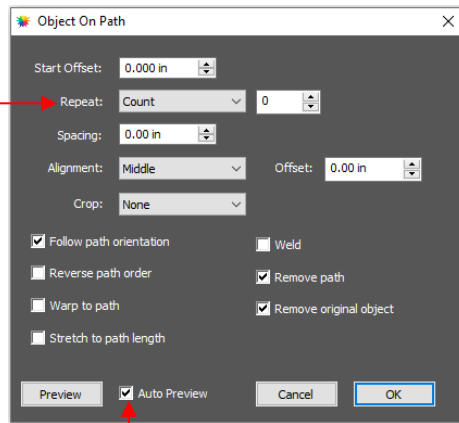
7.09.2 Warp a Shape to a Path

- The **Object on Path** function can also be used to stretch a shape to fit a path. For example, let's start with an arrow (from the **Library's Arrows**) and a spiral (refer to *Section 3.01.7*):

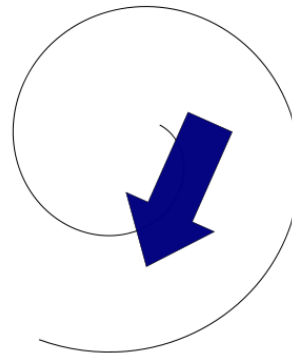


- Verify that the arrow is above the spiral on the **Layers Panel**. Then select both and go to **Effects>Object on Path**. Note that since there is only one shape involved, **Repeat** is left at **Count** and set to 0:

Repeat is set to Count but the number of repeats is set at 0

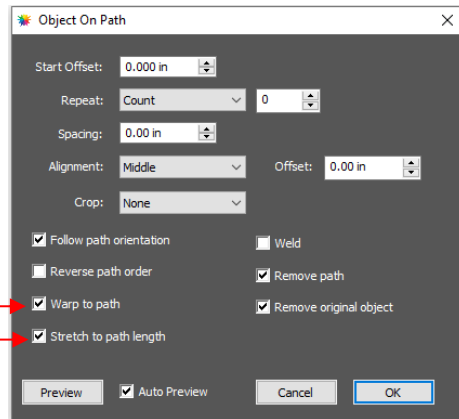


Mark this first



Original arrow appears positioned at start of spiral

- Next, two new settings are applied:

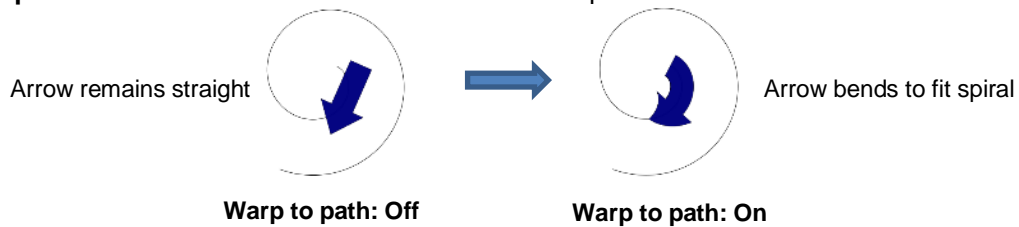


Mark these two options

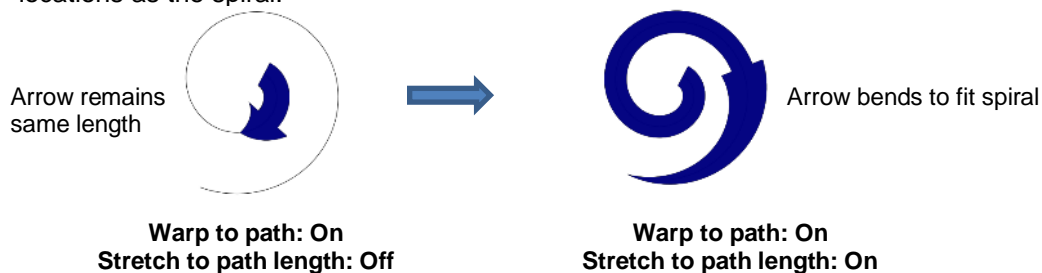


Arrow is now curved and stretched to fit the spiral

- ◇ **Warp to path:** causes the arrow to bend/curve to fit the spiral:



- ◇ **Stretch to path length:** causes the arrow to be elongated so that it starts and ends at the same locations as the spiral:

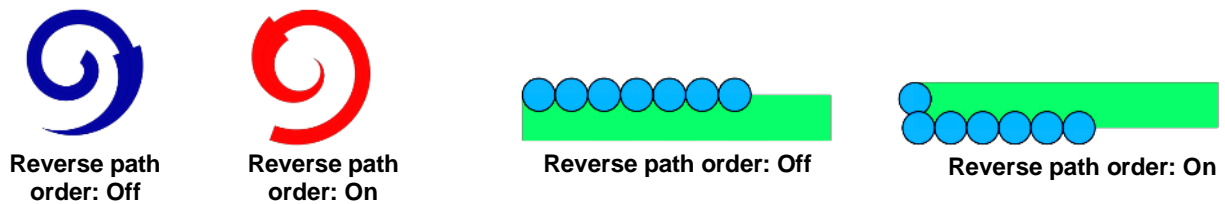


7.09.3 Remaining Settings

- The two remaining settings in the **Object On Path** window are:
 - ◇ **Follow path orientation:** With this setting turned on, the repeats will rotate so that they stay aligned with the path. With the setting turned off, the shapes never rotate:



- ◇ **Reverse path order:** Changes the direction the shapes are applied. With **Reverse path order** turned off, the shapes are applied clockwise around the path. With **Reverse path order** selected, the shapes are applied counter-clockwise:



7.10 Wrapper

- The **Wrapper** feature can be used for shaping designs to fit around conical shapes in which the top is a different diameter than the bottom. Some typical applications include tumblers and cupcake wrappers.
- This function can be accessed by selecting one or more shapes and going to **Effects>Wrapper**. For this example, the following design was created with the intention of having it applied to a small cup:



- Select the design and go to **Effects>Wrapper**. The following window will open:

Enter **Top** and **Bottom Diameters**, as well as the **Height** of the **Tumbler**, along the actual surface.

Add Template will create the cut line for the tumbler

Y Offset will move the design higher or lower on the template

Resize the design using **X Scale** and **Y Scale**

Click here to see latest changes before accepting

X Offset will move the design left or right on the template.

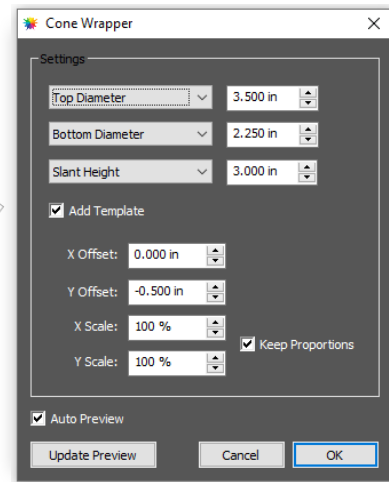
Check this box to have **Y Scale** change automatically with a change to **X Scale** and vice versa.

Click **OK** when done

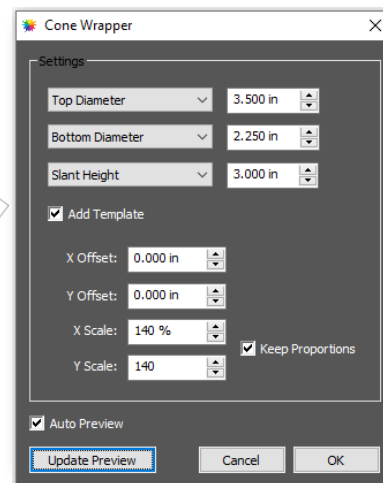
- ◇ Measure the cup: diameter of the top, diameter of the bottom, and length along the side from bottom to top. Enter those as shown in the screenshot. Alternatively, you can measure the radius or the circumference, as well as use the actual vertical height versus the slant height. These other choices are in the drop-down menus.
- ◇ Once these measurements are entered, click on **Update Preview** to see how the design will fit on the cup. Note that the design will be displayed in outline mode while working in this window:



- ◇ The template is the outside pattern based on the cup's dimensions. If you plan to cut that template, then check the box next to **Add Template**. Otherwise, it won't be on the **Page** after you click on **OK**.
- ◇ Adjust the **X Offset** and/or **Y Offset** to move the design, if needed. For example, making **Y Offset** a negative value moves the design higher up on the template:



- ◇ Adjust the **X Scale** and/or **Y Scale** to resize the design, if needed. If you want to scale proportionately, mark the **Keep Proportions** box:

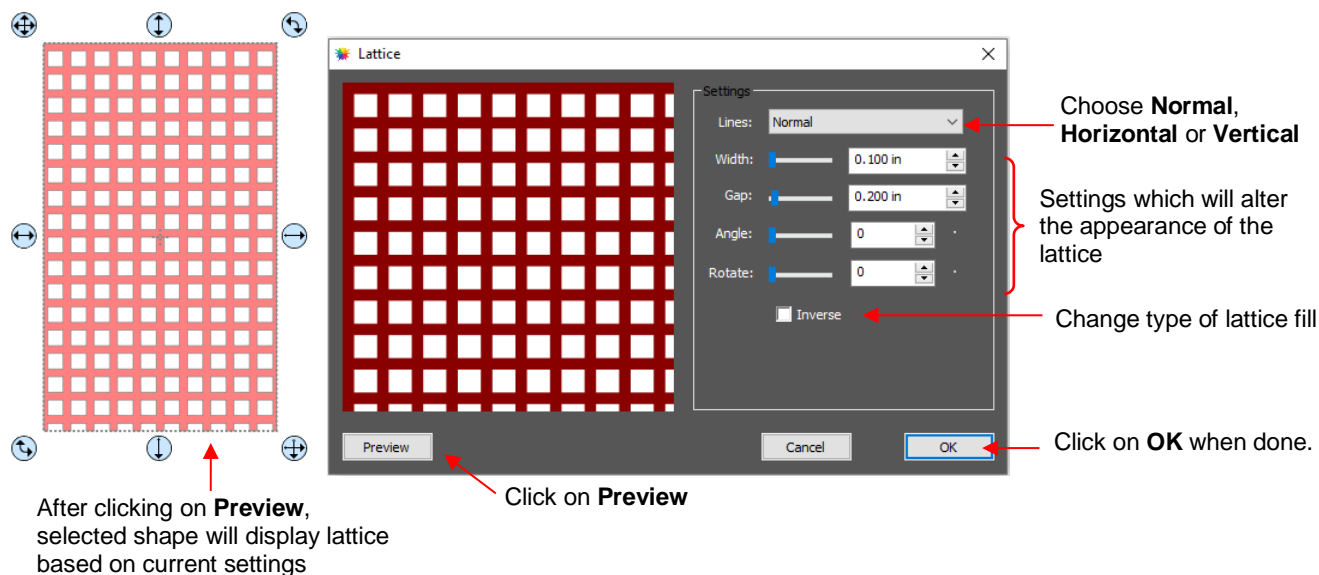


- After clicking on **OK**, the fill color returns to the design and the project is ready for completion:

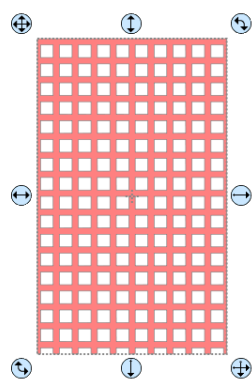


7.11 Lattice

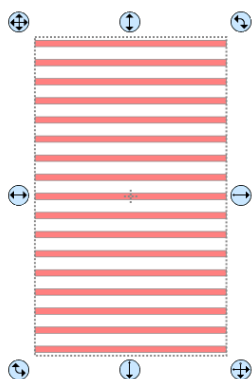
- The **Lattice** feature can be used to create a lattice design within a shape or as part of the shape itself. To access this feature, select one or more shapes and then use either of the following:
 - ◇ Go to **Effects>Lattice**
 - ◇ Right-click and select **Appearance>Lattice**
- In this example, a rectangle is used to show the effects of the settings in the **Lattice** window:



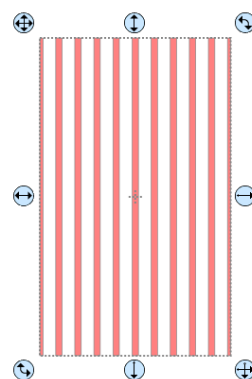
- ◇ **Lines:** Besides the traditional crisscross pattern, you can also choose to only have horizontal lines or only have vertical lines:



Lines: Normal

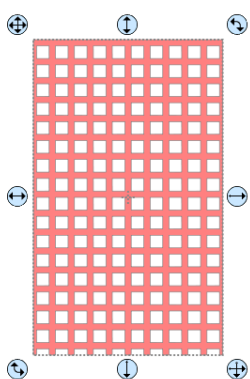


Lines: Horizontal Only

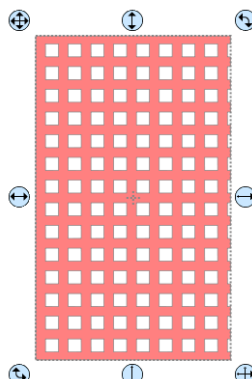


Lines: Vertical Only

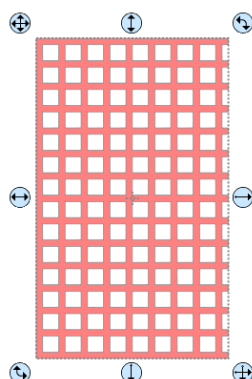
- ◇ Change **Width** and **Gap** to produce desired appearance. Remember that if the lattice pattern is too small, it might be difficult to cut:



Width: 0.1 in
Gap: 0.2 in

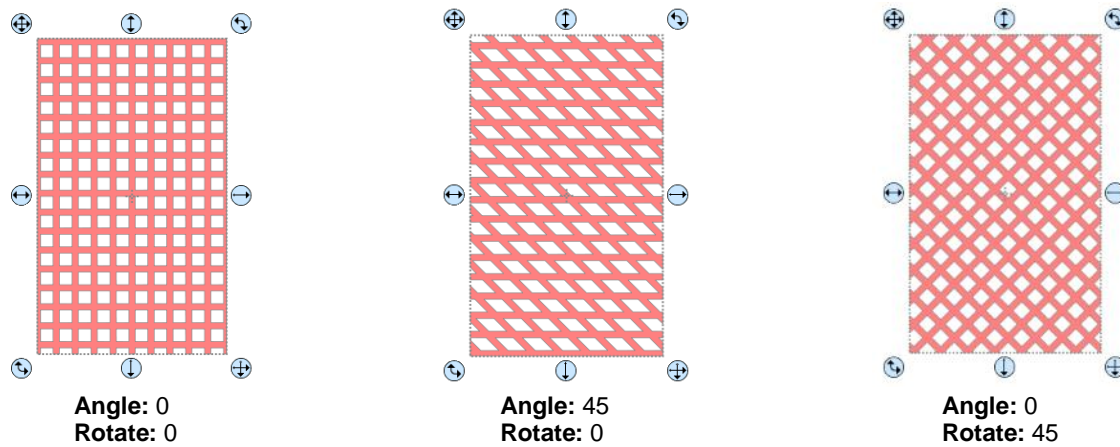


Width: 0.15 in
Gap: 0.2 in

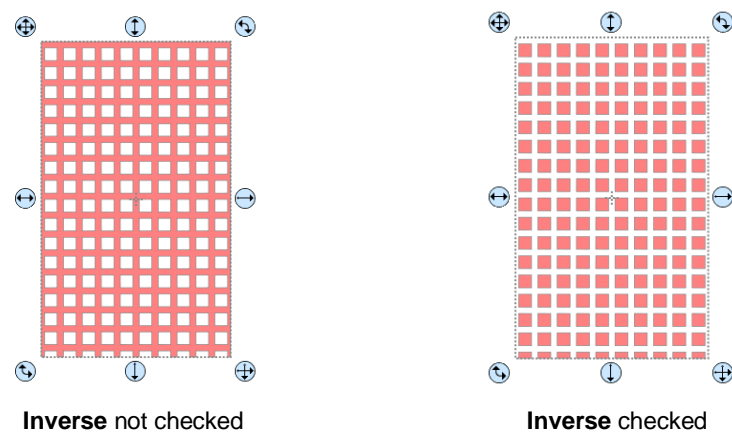


Width: 0.1 in
Gap: 0.25 in

- ◇ The **Angle** setting will skew the lattice shape while the **Rotate** setting will simply rotate the overall pattern:

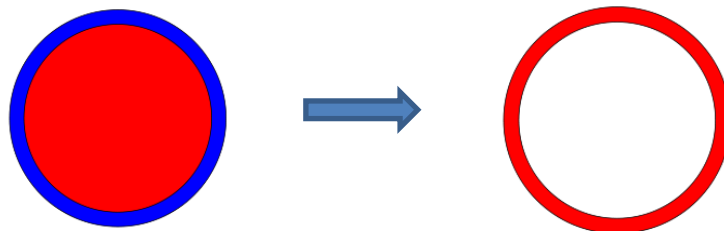


◇ **Inverse** is used to create a kind of negative lattice. An example will follow later in this section:

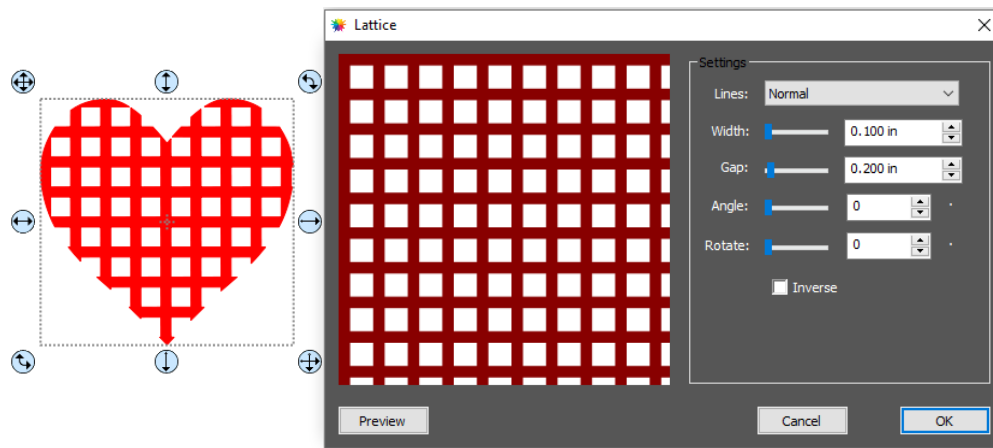


- An example of when **Inverse** would not be checked is when you want to attach/weld a latticed shape to something else. In the following example, a latticed heart is attached to the center of a ring:

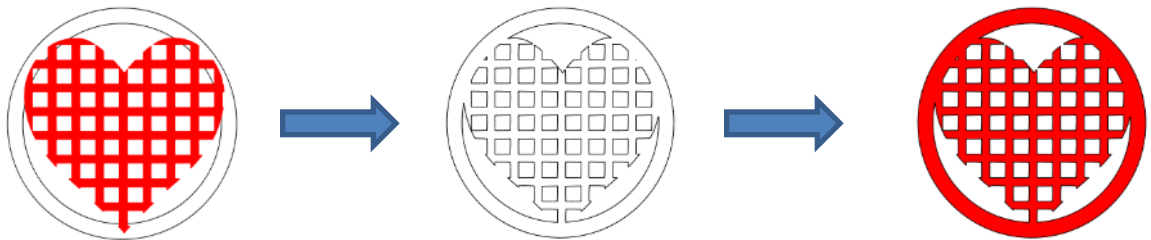
◇ A ring is created by applying **Object>Merge** to two centered circles:



◇ Select a heart shape from the **Library** and apply **Effects>Lattice**:



- ◇ Align the latticed heart in the center of the ring and weld using **Path>Union**:



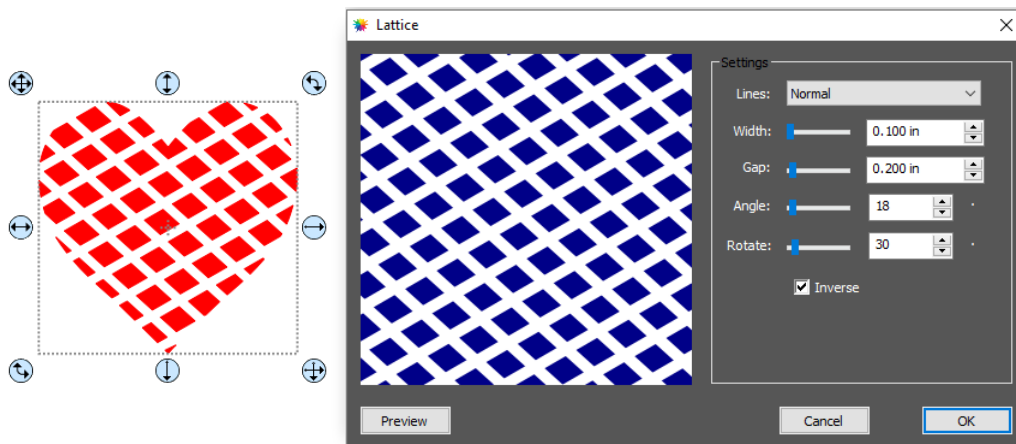
Remove **Fill** from ring to make overlap easier to see

After applying **Path>Union**

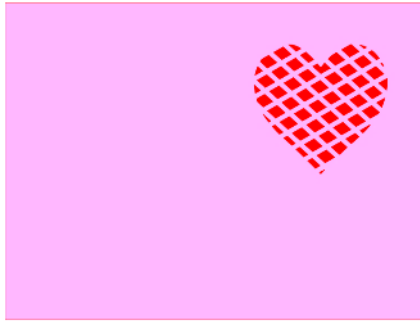
Set **Fill** to red again

- An example of when **Inverse** would be checked is when you want a lattice aperture cut from the front of a greeting card:

- ◇ Using the same heart as above, make sure **Inverse** is selected:



- ◇ Arrange the latticed heart over a base greeting card:



- ◇ Select all and go to **Object>Merge**. The card is complete:



- If you have a shape that has the **Lattice** effect applied and want to remove it (even after the file has been saved and re-opened), select the shape and go to **Object>Remove Effects**.

7.12 Rhinestones

- CREATE's **Rhinestones** feature provides both outlining and horizontal fill of shapes with the size of circles needed for your rhinestones and the desired spacing. After selecting a shape, the feature can be accessed in either of the following ways:
 - ◇ Go to **Effects>Rhinestones**
 - ◇ Right-click and select **Appearance>Rhinestones**

7.12.1 Guidelines for Rhinestone Pattern Design

- There are some guidelines to follow when designing a rhinestone pattern:
 - ◇ In general, you want to size the shape before applying the rhinestone circles. If you later want to resize the design, CREATE does have the ability to regenerate the rhinestone pattern, maintaining the original selected stone size and spacing. But in order to have a good sense of how the design is going to appear on your garment and to make sure the lettering is readable, you want to design close to the target size.
 - ◇ **IMPORTANT:** Always make a backup copy of your design before entering the **Rhinestone** window because the original design will be replaced with the new rhinestone pattern. You might later want to use that same original design but apply a different size rhinestone or create a shadow layer from it, or some other change.
 - ◇ The circle size selected will need to be larger than the stone size you purchase. As a general rule, select a size three numbers larger than your stones. Thus, if you purchased SS10 stones, then in the rhinestone design window, you would select SS13 stones. This larger size will allow the SS10 stones to more easily brush into the holes, saving a lot of time and tedium.

- ◇ When selecting a font to use, be leery of “fancy fonts.” You want the lettering to be readable after it is converted to circles. When in doubt, have someone who doesn’t know the words you’ve used attempt to read the rhinestone design on your monitor or from a printout of the design. If they cannot easily decipher the words, then try a more basic font.
- ◇ If you plan to do a lot of rhinestone applications, create and cut a template with small patterns (~ 15 – 20 circles) in different sizes so that you can test brush your rhinestones to find out the optimum size to use when designing. A difference of just 0.1 or 0.2 mm can affect how easily the stones will brush into a pattern right side up. If the size is too small, the stones will tend to not fall in. If the size is too large, then the ones that land right side up will tend to get flipped over by the brush. Also, stones can vary slightly in size from one manufacturer to the next and also from one color to the next. Further, the size of the cut holes can vary slightly from one template material to the next.

7.12.2 Rhinestone Outline Video

- In this example, the initials from a high school will be outlined. As mentioned previously, the first step is to size the width and height of the design. Make sure there is enough space between the letters so that the circles will not overlap. Also, you may want to resize the lettering vertically, leaving the width the same. This will better fill a T-shirt, allow more circles to be applied, and will improve the readability of the design:



- To apply a rhinestone outline, first make a backup copy of the shape. Then select the shape and go to **Effects>Rhinestones**:

Rhinestone

Stone Size	Pearl Plate	mm	inch
SS 10	PP 22	2.80 - 2.90	0.11
SS 11	PP 23	2.90 - 3.00	0.11 - 0.12
SS 12	PP 24	3.00 - 3.20	0.12 - 0.13
SS 13	PP 25	3.20 - 3.30	0.13
SS 13	PP 26	3.30 - 3.40	0.133
SS 14	PP 27	3.40 - 3.50	0.133 - 0.14
SS 14	PP 28	3.50 - 3.60	0.14
SS 15	PP 29	3.60 - 3.70	0.14 - 0.15
SS 15	PP 30	3.70 - 3.80	0.15

Stone Size: 3.30 mm ☐ Fill shape with stones

Stone Spacing: 0.50 mm Stone Count: 329

☐ Adjust spacing to fit path

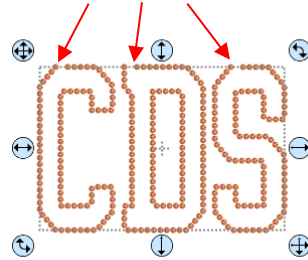
Preview Cancel OK

Annotations:

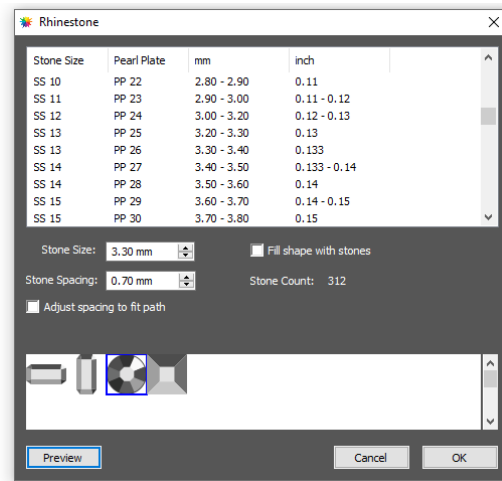
- Select a **Stone Size** but larger than your actual stones
- Stone Size** will update based on what you select in upper window or you can enter a size directly
- Select a spacing for the stones: usually between 0.5 and 1.0 mm
- This setting is used to improve spacing
- Option to **Fill** shape versus outline
- Number of stones based on current settings (must click on **Preview** first)
- Click on **Preview** to see effects of settings
- Select the shape of the stones to be used
- Click on **OK** when done.

- After inputting the initial settings, click on **Preview** and your selected design will be outlined with simulated stones:

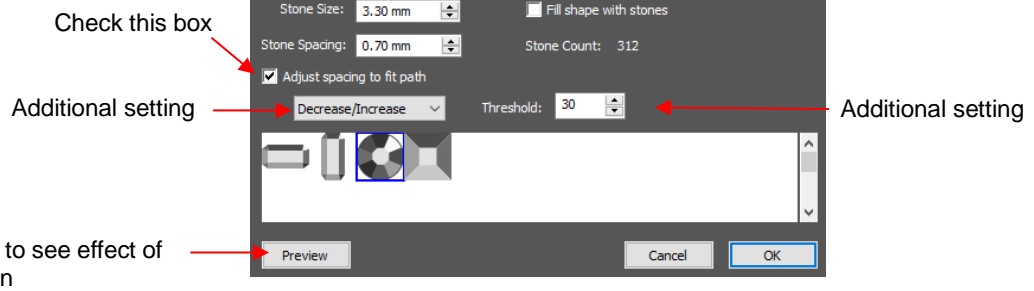
Slight adjustments needed



Preview of design

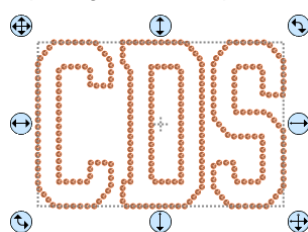


- The preview shows that the spacing is off a bit at the top of the letters. There is an option which can be used to make adjustments. Check the box next to **Adjust spacing to fit path** and additional settings will appear:

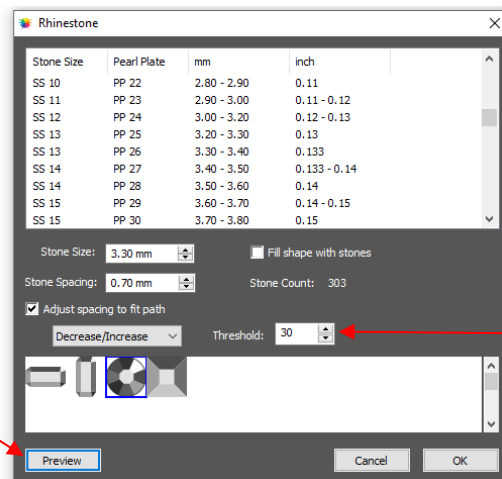


- These settings will require experimentation in order to optimize equal spacing between the stones. Initially, however, just click on **Preview** after marking the box and the spacing should change. This is often all that is required. However, from the drop-down menu, you can also choose to only **Decrease** or only **Increase** the spacing. The **Threshold**, which controls how much spacing will be used, is also available to adjust.

Spacing is much improved



Click on **Preview** after each change

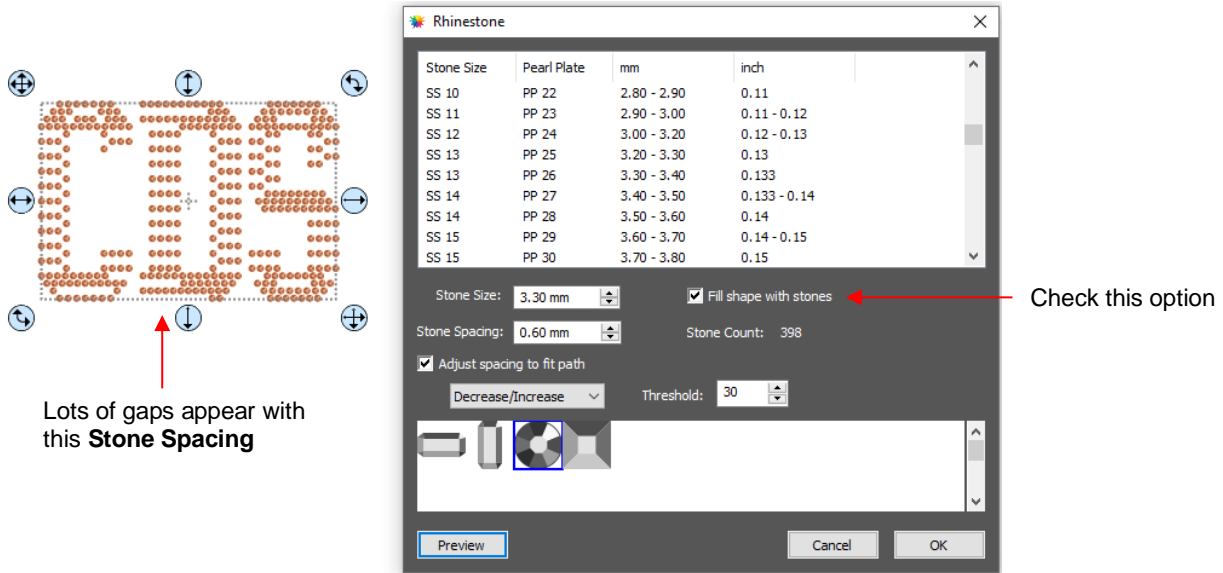


- Note that the higher the **Threshold**, the more increase in spacing you may see. So, typically you want to keep that value lower versus higher.
- If additional stone-by-stone editing will be needed, note that the simulation will initially be lost. If you want to restore it, write down the **Stone Size** before clicking on **OK**. Also note, however, that the simulation is not

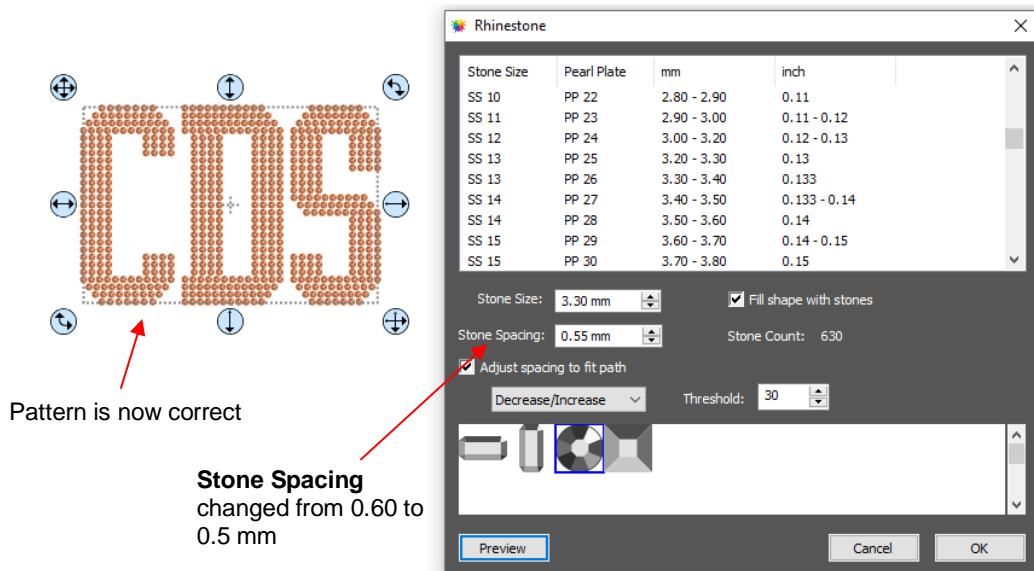
needed when cutting the design from your template material. For guidelines on editing, refer to *Section 7.12.4*.

7.12.3 Rhinestone Fill

- Another option in the **Rhinestone** window is **Fill shape with stones**. Instead of outlining the shape, the image will be filled with circles in horizontal rows. In our prior example, the same letters will now appear like this:



- The gaps in the design can be easily corrected by adjusting the **Stone Spacing**. Instead of 0.60, the spacing is decreased to 0.55 mm. The result is a complete correction of the spacing and the design looks great:



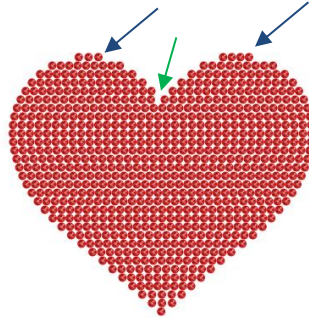
- Also, note the increase in the number of stones as a result of switching to a full fill. Rhinestones are typically sold by the gross and 1 gross equals ~ 144 stones. Thus, this design would require over 4 gross of stones compared to just over 2 gross for the outline version.
- As with the outline option, any stone-by-stone editing will cause a loss of the simulation. If you wish to restore the simulation after editing, write down the **Stone Size** before clicking on **OK**. Also note, however, that the simulation is not needed when cutting the design from your template material. For guidelines on editing, refer to the following section.

7.12.4 Editing Rhinestone Designs

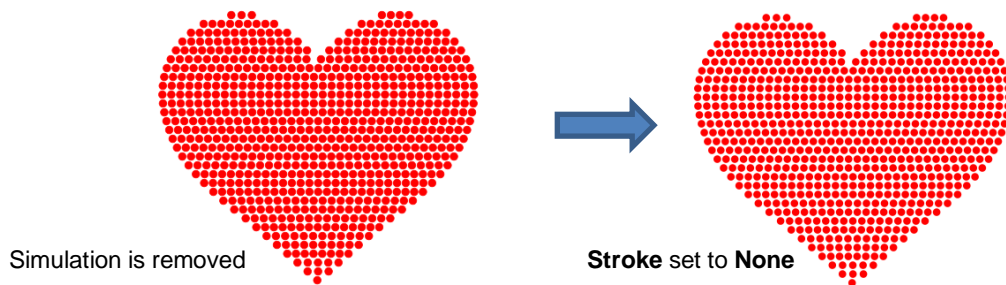
- Before editing, make a backup of the design created by the **Rhinestone** function. As was mentioned earlier you can resize rhinestone designs but if certain editing has occurred, you might or might not get the results you want after editing.
- Rhinestone designs will sometimes need “tweaking” which involves adding, deleting, moving, or re-spacing circles. In the following example, there are two corrections required:

1. The blue arrows indicate the top row on each side does not contain the same number of circles.

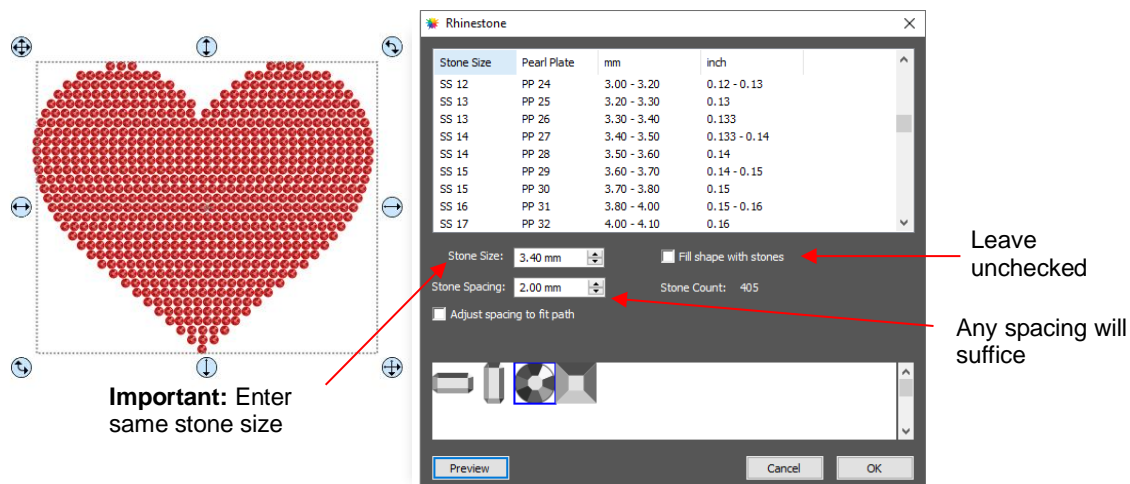
2. The green arrow indicates a gap in that row that can easily be corrected.



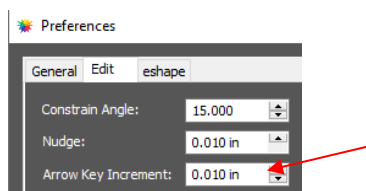
- The first step is to break the design so that a row of circles or even individual circles can be moved. Select the pattern and apply **Object>Break Apart** or **Ctrl-B**. You may wish to turn off **Stroke** to have a better sense of the actual spacing:



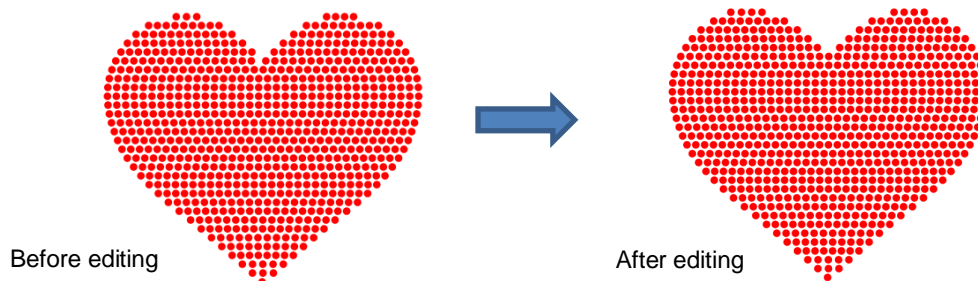
- The simulation can be restored now or after editing or not at all. The circles will still remain as individual shapes. Again, this does not affect how the design cuts; the simulation is only for displaying or printing. If the design is extremely large or you have a slow computer, you may find that the simulation causes more lagging as you are editing the design. In that case, save the following step until after editing is completed.
- To restore the simulation, select the design and reopen the **Rhinestone** window. Enter the same **Stone Size** setting used to create the design. Note that the **Spacing** doesn't matter any longer, nor is it necessary to select the **Fill** option:



- Click on **OK** and the simulation will return. But you will now be able to individually select stones and move them or delete them.
- The following list shows the most common functions applied when editing rhinestone designs:
 - ◇ Use the **Zoom** functions (*Section 1.09*) to move in close for easier selection of individual or small groups of circles
 - ◇ Use the **Lasso Selection** tool (*Section 3.02.2*) to more easily select a group of circles
 - ◇ To quickly add a circle, hold the **Alt** key and left click once on a circle. A duplicate is created in the same spot.
 - ◇ To delete multiple circles, hold the **Delete** key while clicking on individual circles
 - ◇ Use the **Nudge** arrow keys on the **Position & Size Panel** to move circles to new locations
 - ◇ Alternatively, use the arrow keys on your keyboard to move a circle or row of circles. If needed, change the increment to 0.01" (0.25 mm) by going to **Edit>Preferences** (or, on a Mac, press **Command + ,**). Then click on the **Edit** tab and change the **Arrow Key Increment**, as shown here:



- ◇ To realign a row or column of circles, use the alignment functions covered in *Section 3.18.2*.
 - ◇ To respace a row or column of circles, use the spacing functions covered in *Section 3.19.2*.
- In the heart example, an additional heart is added at the top to balance the two sides. Also, the sixth row of circles are selected and **Distribute Center Horizontally** is applied:

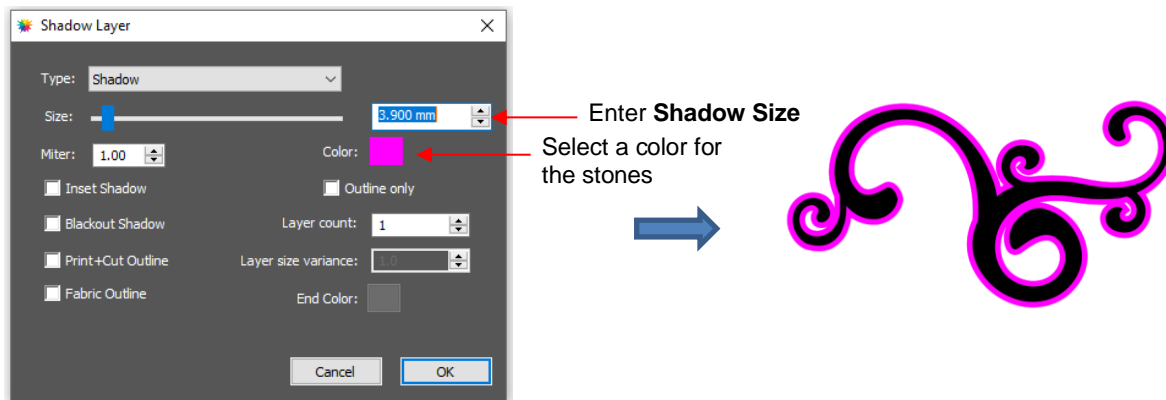


- Sometimes the circles you want to re-space equally may fall closer to a 45° angle versus vertically or horizontally. Select your entire design and rotate until the line of circles is closer to vertical or horizontal. Re-space the circles and then rotate back into place.
- After editing the design, you may wish to group the design to avoid inadvertently moving one or more stones out of place. To do that select the design and go to **Object>Group** or apply **Ctrl+G**.
- If you have a shape that has a **Rhinestone** effect applied and want to remove it (even after the file has been saved and re-opened), select the shape and go to **Object>Remove Effects**.

7.12.5 Adding an Outline to a Rhinestone Design

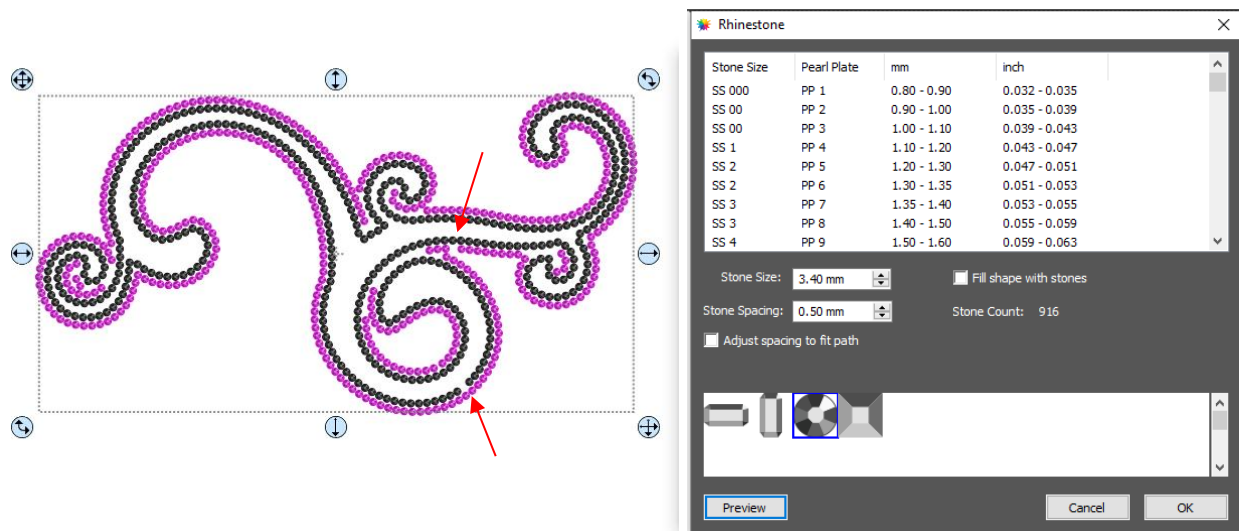
- If you want to outline your design, then create the outline first using the **Shadow Layer** function (*Section 7.05*). Choose a **Shadow Size** at least the size of the circles plus the spacing. Otherwise, the stones will overlap. Since rhinestone design programs work in metric, it's easier if you temporarily change **Units** to mm on the **Document Panel**.

- For the following example, a swirl design from the **Library** is added to the **Page** and sized for a T-shirt. The same settings for SS 10 stones will be used - the circles will be 3.4 mm in diameter and the spacing will be 0.5 mm. Thus, the **Shadow Size** needs to be 3.9 mm:

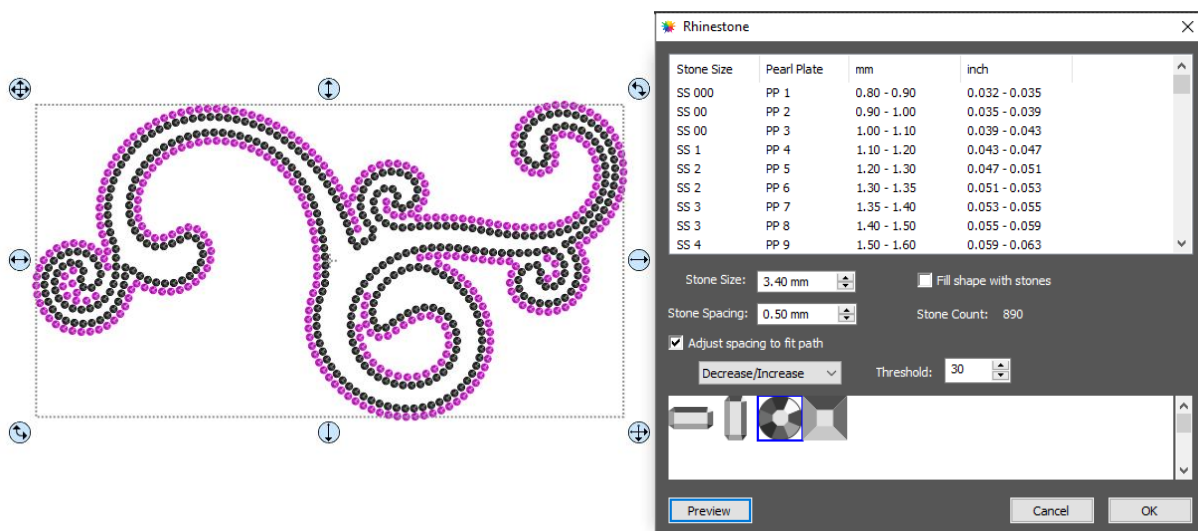


◇ Note: this was the **Shadow Size** to use if the same size stones are used for both the original design and the shadow layer. At the end of this section, the **Shadow Size** formula is shown for the situation when the stones are not identical in size.

- Next, select the design and the shadow and make a backup copy. Then go to the **Rhinestone** window. Since the same settings will be used for both the original design and the outline, both can have the rhinestone effect applied in the same step:



- The red arrows indicate that the spacing should be adjusted. In this case the **Adjust spacing to fit path** was again used to improve the design:



- However, additional editing is needed to improve the overall look. After removing some of the circles, the final design is ready to cut:



- If the stones are not the same size, the average should be used, plus the spacing:

Shadow Size = (Size of circle for smaller stone + Size of circle for larger stone) ÷ 2 + **Spacing**

◇ Thus, if the circle sizes were 3.4 mm and 4.6 mm, with a desired **Spacing** of 0.5 mm, then:

$$\begin{aligned}
 \text{Shadow Size} &= (3.4 + 4.6) \div 2 + 0.5 \text{ mm} \\
 &= 8.0 \div 2 + 0.5 \\
 &= 4.5 \text{ mm}
 \end{aligned}$$

◇ Note that this is the same calculation if the outline is using the smaller circles or the larger circles.

7.12.6 Using Purchased Rhinestone Fonts and Designs

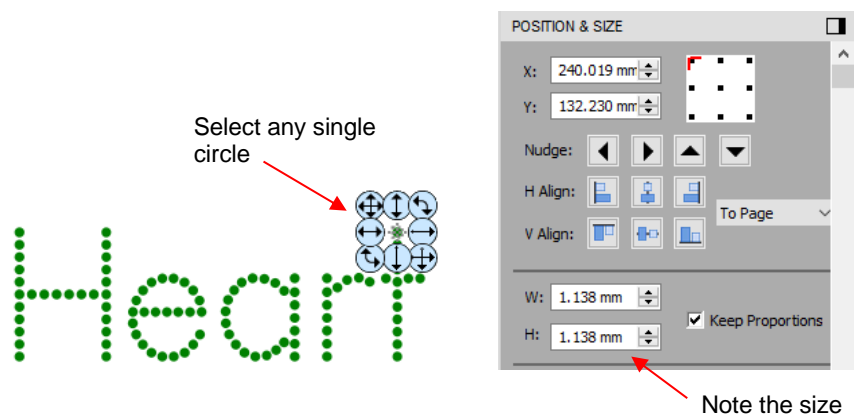
- One of the best investments you can make if you are planning to do a lot of rhinestone applications is to buy files instead of trying to make your own. While the disadvantage is that you will be somewhat limited in the sizing of the final design, the time-saving advantage can make it well worth the cost.
- This section will explain how to properly size a purchased font. The same technique would be used with a design. You can find beautiful rhinestone designs and fonts at the following two web sites:
 - ◇ [Synergy 17](#)
 - ◇ [The Rhinestone World](#)
- The first step with a rhinestone font is to install it the same way you would install any TTF font on your computer. Then open CREATE and the font should appear in your font menu.
- Enter text using the same method with any font. This was presented in *Section 4.04.1*. In this tutorial, the phrase "Irish at Heart" will be typed out in a rhinestone font called *Dreamer*.

Irish at Heart

- If the circles seem too close together, set the **Stroke** to **None** on the **Fill & Stroke** panel:

Irish at Heart

- Remember that it's pointless to resize the design. The goal is to scale it so that the circles will be the correct size for the rhinestones you plan to use. Since rhinestone designing typically uses mm for measurement, change the **Units** to **mm**. Later you can switch back to inches, if needed, to know how large the final design will be at the size of rhinestones you'll be using:
- To find out what size these circles are, select the text and go to **Object>Break Apart**. Then select just one circle and check the size on the **Position & Size** Panel:

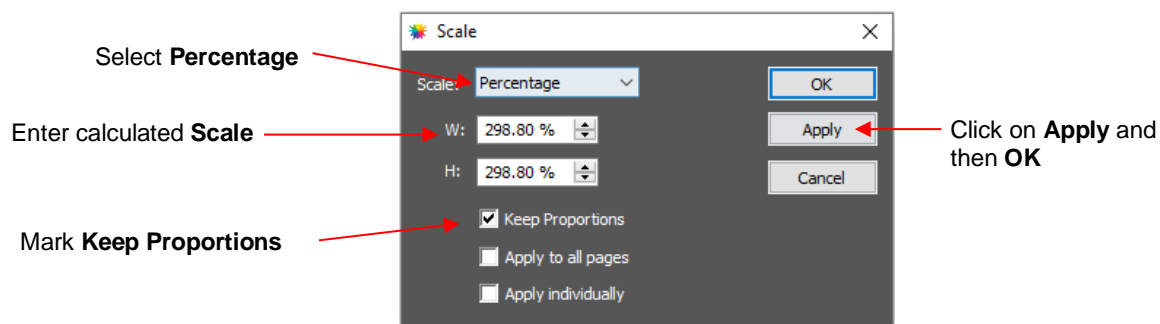


- The circle size in this case is 1.138 mm but let's say the size needs to be 3.4 mm in order for the template holes to work with the SS10 rhinestones purchased. The **Scale** factor is always calculated as:

Size Needed divided by **Current Size** times **100**

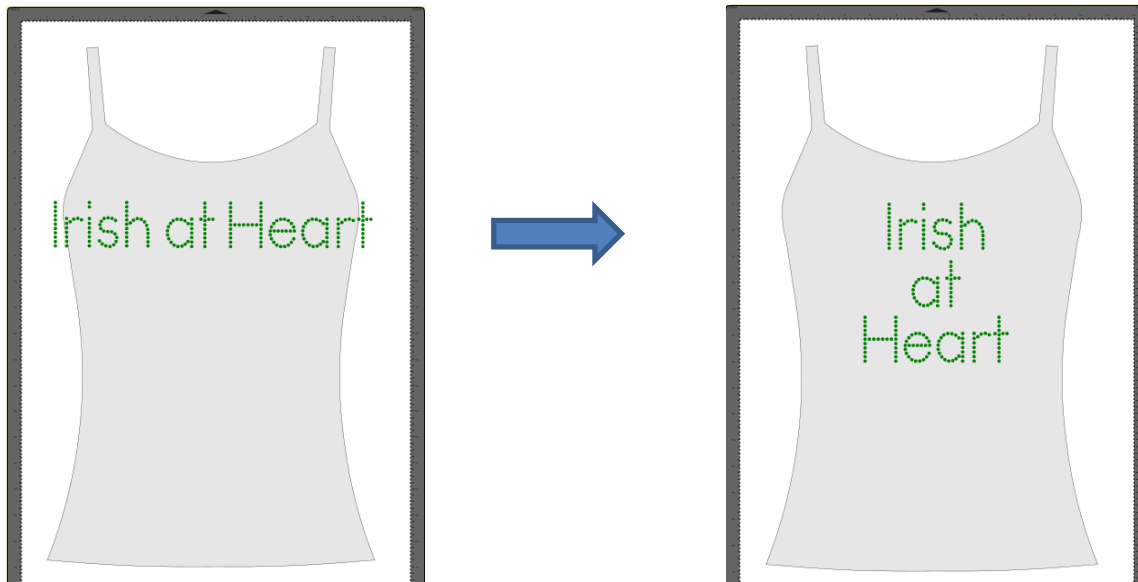
◇ Thus, in this case, the **Scale** = 3.4 divided by 1.138 times 100 = 298.8%.

- To now Scale the phrase to the correct size, select all of the wording and go to **Object>Transform>Scale**. In the window that opens, switch to **Percentage**, make sure the **Keep Proportion** option is marked, enter the **Scale** calculated and then click on **Apply**:



- The text is resized. You can then select a single circle and verify the new size is what you need (3.4 mm in this example) or within several hundredths of a mm.
- If you normally work in inches, switch back to inches to check the final size of your design to make sure it will fit onto your shirt or other medium. In this case, the phrase is now over 12" in width and will not fit onto

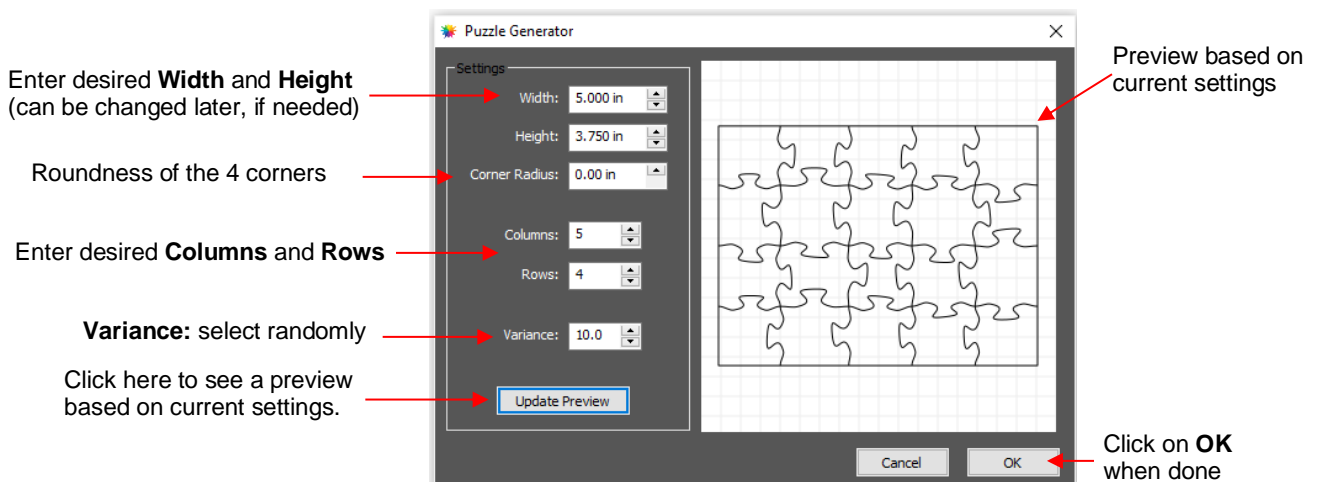
the shirt in this arrangement. However, the words can be arranged in a different manner and the design will work:



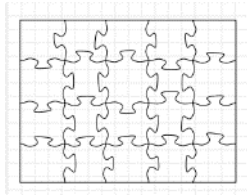
- The other alternative would have been to use size SS8 or size SS6 stones instead.
- Resizing patterns involves the same process. Insert the purchased file, **Break Apart**, determine the size of a circle and then calculated the needed **Scale** factor. Use the **Scale** window to resize the design and determine if it will work with the size of stones you plan to use.

7.13 Jigsaw Puzzle

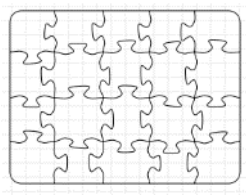
- The **Jigsaw Puzzle** feature will generate a rectangular jigsaw puzzle with a number of options from which to choose. To open the window, go to **Effects>Puzzle Generator**:



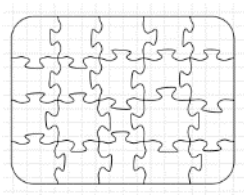
- **Width and Height:** If you plan to apply this puzzle over a specific image, you may want to choose dimensions that correspond to your image. For example, let's assume you have a photo that is 5" x 3.75" and plan to make a print and cut jigsaw puzzle. Enter those dimensions into the **Puzzle Generator**, as shown in the prior screenshot.
- **Corner Radius:** With a setting of 0, the corners of the rectangle are 90°. If you want rounded corners, increase this setting:



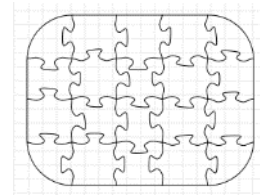
Corner Radius = 0



Corner Radius = 0.25

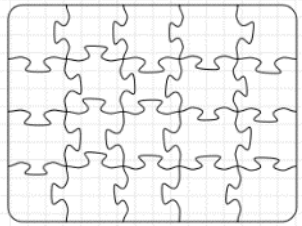


Corner Radius = 0.5

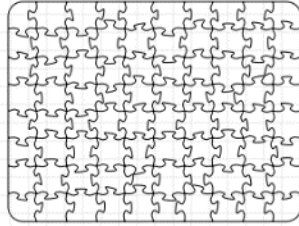


Corner Radius = 1.0

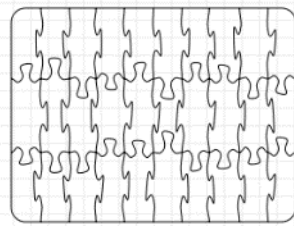
- **Columns and Rows:** To keep the shapes from becoming too distorted, make the number of **Columns** and **Rows** similar to the dimensions. If you want more pieces, then increase the number of **Columns** and **Rows** proportionately. For example, instead of having 5 **Columns** and 4 **Rows**, double the number to 10 **Columns** and 8 **Rows**. But don't use, for example, 10 **Columns** and 3 **Rows** with these dimensions:



5 Columns, 4 Rows

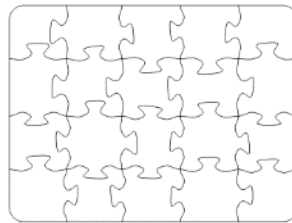


10 Columns, 8 Rows

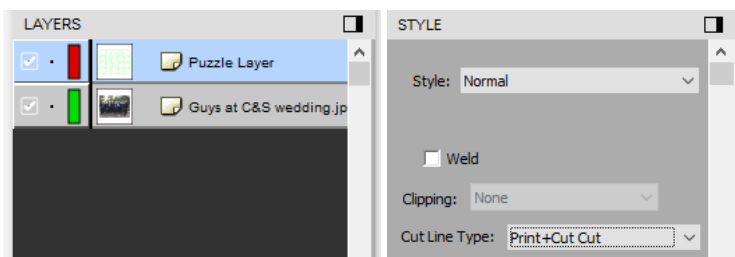


10 Columns, 3 Rows

- **Variance:** This setting can be used to make sure one puzzle is not identical to the next, if all other settings are the same.
- When you are satisfied with the appearance of your puzzle pieces, click on **OK** and the puzzle will be on the **Page**:



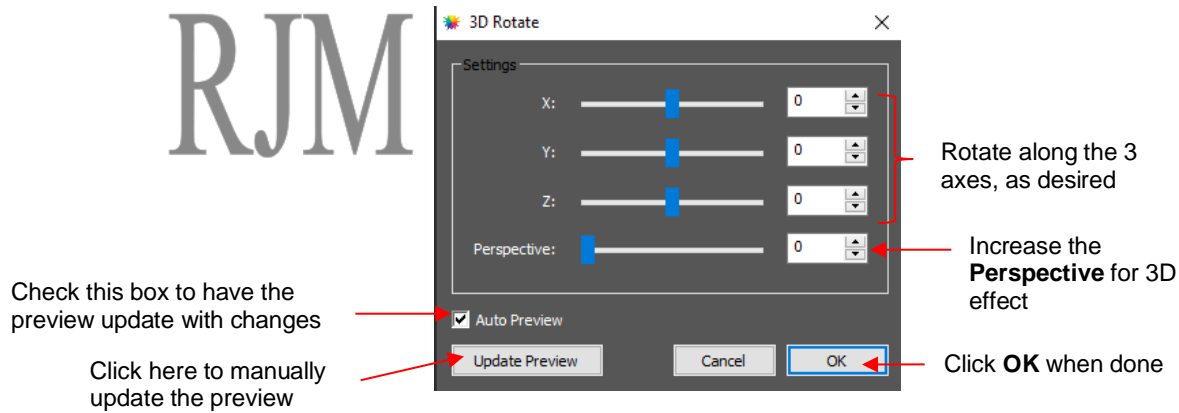
- For a print and cut application, use **File>Place Image** to import the photo or other image that will be printed. Arrange the puzzle design over the image and make sure it is assigned **Print+Cut Cut** on the **Style Panel** (refer to *Section 8.01*).



◇ The project is now ready for print-and-cut!

7.14 3D Rotate

- The **3D Rotate** function is used to rotate a shape along the X, Y, and/or Z axis. To access this function, select a shape and go to **Effects>3D Rotate**. In the following example, text will be used to show the effects of the settings:



◇ X Axis Rotation:

RJM
X: 60

RJM
X: 73

—
X: 90

RJM
X: 120

◇ Y Axis Rotation:

RJM
Y: 60

RJM
Y: 73

—
Y: 85

RJM
Y: 120

◇ Z Axis Rotation:

RJM
Z: 30

RJM
Z: 60

RJM
Z: 90

RJM
Z: 120

- ◇ **Perspective:** This is where the fun begins. Combining this setting with another rotation provides the 3D illusion. Here are examples:

RJM

X: 0 Y: -50 Z: 0
Perspective: 65

RJM

X: 0 Y: 50 Z: 0
Perspective: 65

RJM

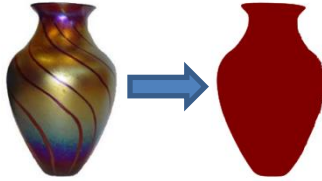
X: 50 Y: 0 Z: 0
Perspective: 100

RJM

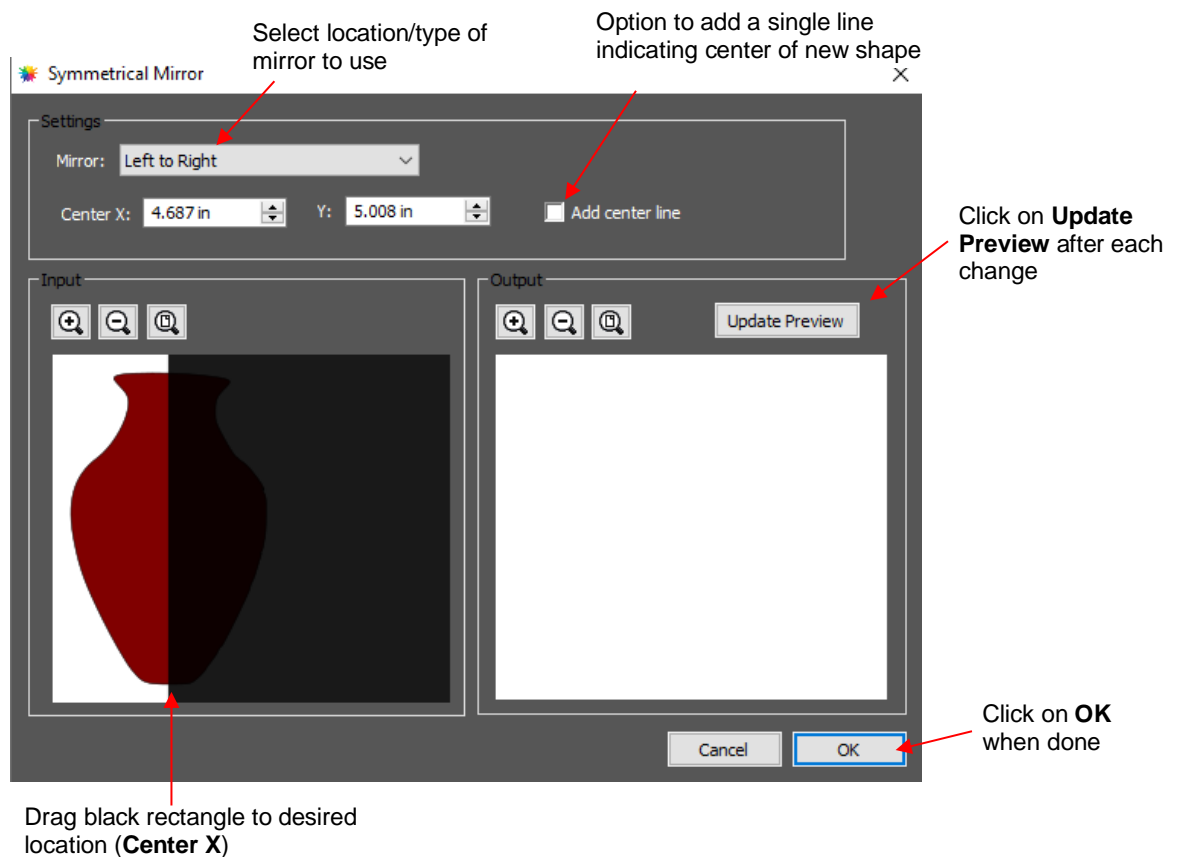
X: -26 Y: 26 Z: -20
Perspective: 100

7.15 Symmetrical Mirror

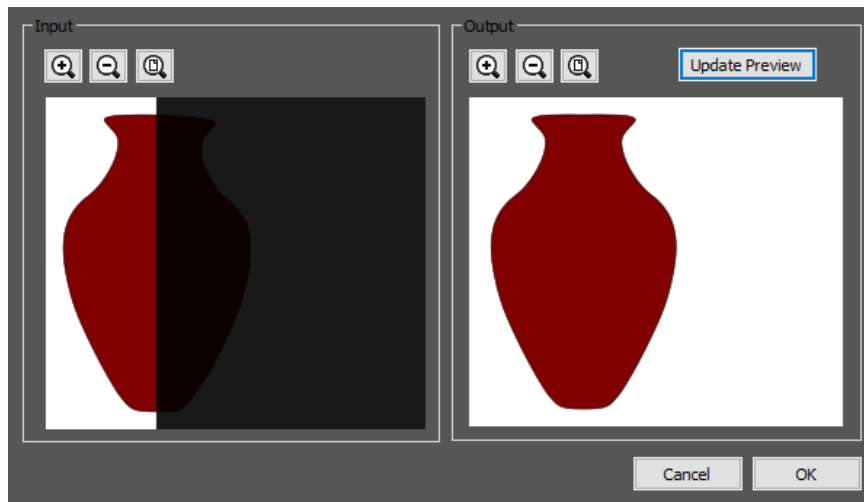
- The **Symmetrical Mirror** function creates a symmetrical copy of a selected shape and welds that copy onto the original.
- For example, when tracing symmetrical images, the resulting trace may not appear perfectly symmetrical when can then appear unbalanced and unappealing. For example, here is a trace of a vase from a photo:



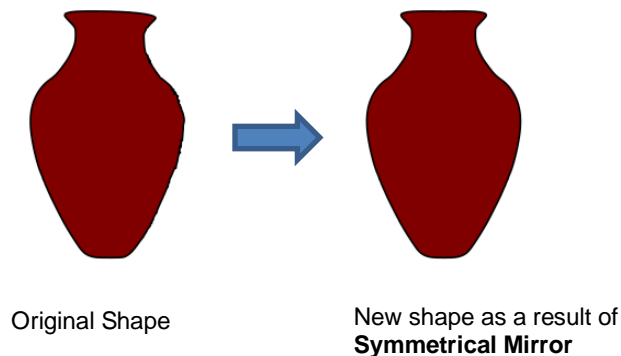
- ◇ Notice how the left side traced nicely but the right side isn't smooth and, overall, the vase doesn't appear symmetrical.
- To use **Symmetrical Mirror** to correct this image, select the traced shape and go to **Effects>Symmetrical Mirror**. The following window opens:



- ◇ **Mirror:** the default is **Left to Right** which is the correct option for this example since the right side is the half that needs to be replaced. Other options include **Right to Left**, **Top to Bottom**, and **Bottom to Top**.
- ◇ **Center X and Y:** You can manually enter the location for the mirror to be positioned. The default is the center of the currently-selected shape, but that can be changed to any location along the shape. Note that you can also drag the edge of the black rectangle to move the mirror, as well.
- ◇ **Update Preview:** Click on this button right away so that you can see how the current settings will change the shape:



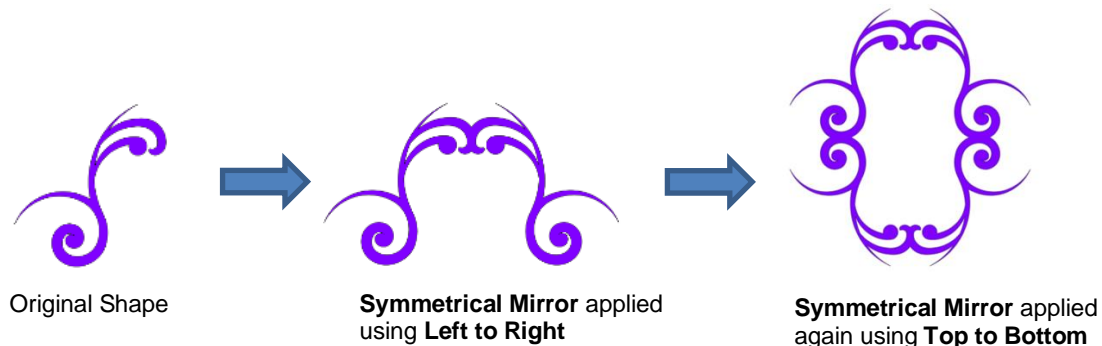
- ◇ **Zoom** tools can be used on either or both of the **Input** and **Output** views to more accurately position the mirror and to verify the resulting shape is what you need it to be.
- ◇ **Add Center Line:** This will add a single line at the location of the mirror. This line might be needed as either a cut line or a fold line, depending the application for the design.
- When you are satisfied with the image in the **Preview** window, click on **OK** and the new shape will replace the prior one on the **Page**:



- **Symmetrical Mirror** can also be used in designing. The following shape was created by welding several flourishes together from the *Swirl* folder in the **Library**:

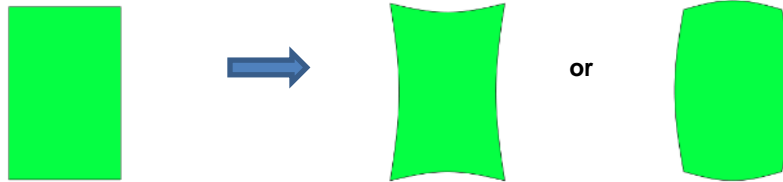


- ◇ **Symmetrical Mirror** can be used to expand this one element into more designs:

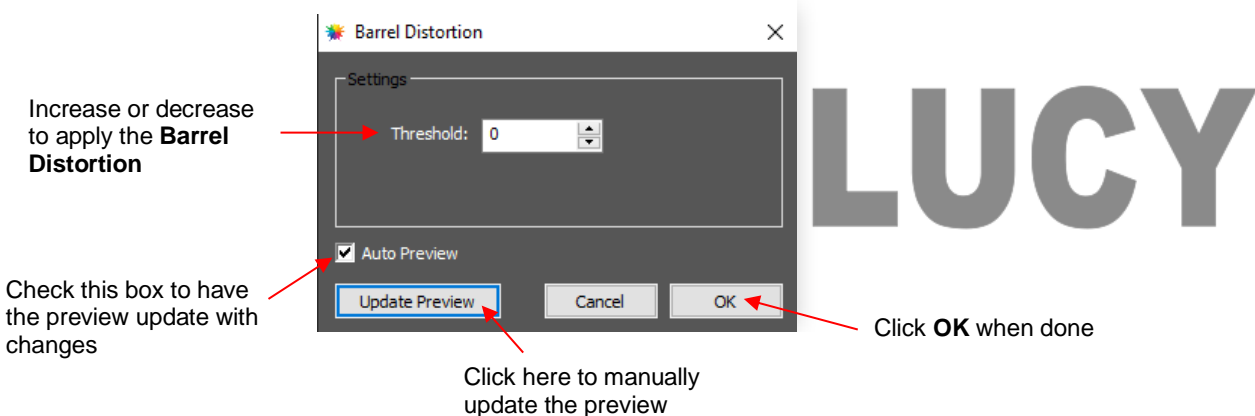


7.16 Barrel Distortion

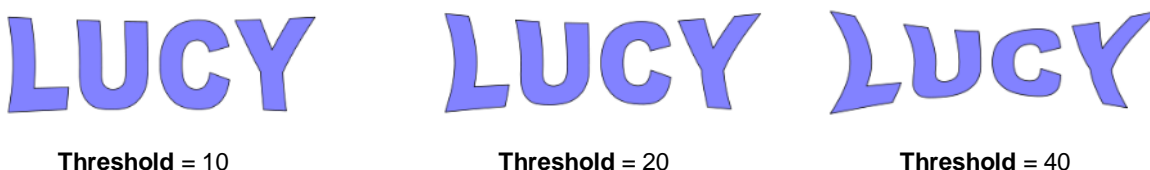
- The **Barrel Distortion** feature will warp a shape by narrowing or thickening the middle part of the shape:



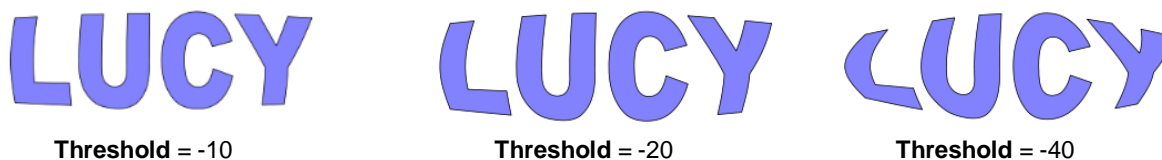
- In the following example, text will again be used to show the effects of the settings. To open the **Barrel Distortion** window, select the text and go to **Effects>Barrel Distortion**:



- As you increase the **Threshold**, you will see a narrowing of the shape in the middle:



- As you decrease the **Threshold**, you will see a thickening of the shape in the middle:



7.17 Bulge

- The **Bulge** feature allows you to apply various expanding or shrinking distortions to a shape. These distortions can be applied to the top side of the shape, the bottom side, or both. They can be applied to the left side, the right side, or both. And the distortions can be expanding on both sides, shrinking on both sides, or a combination.
- To open the **Bulge** window, select the shape and go to **Effects>Bulge**:

Choose from **Separately**, **Together**, or **Opposite**

Increase to round up, decrease to curve down

Add more customization to the effect of the bulge

Same settings as above, but applied to the **Left** and **Right** sides instead of **Top** and **Bottom**

Check this box to have the preview update with changes

Click here to manually update the preview

Bottom side settings

Right side settings

Click **OK** when done

- In the top portion of the window are settings for applying **Bulge** to the top or bottom of a shape. The **Top/Bottom** setting allows you to choose if you want to apply the settings in one of three ways:

◇ **Separately:** The **Offset** and **Curve** settings can be different for the top versus the bottom

LUCY

◇ **Together:** The **Offset** and **Curve** settings will be applied equally to both the top and the bottom. In this case the **Bottom Offset** and **Bottom Curve** settings will be grayed out.

LUCY

◇ **Opposite:** The **Offset** and **Curve** settings will be applied opposite to one another on the top and the bottom. In this case, the **Bottom Offset** and **Bottom Curve** settings will again be grayed out.

LUCY

- The **Top Offset** rounds the top side of the shape up or down depending on whether a positive or negative value is applied. The **Bottom Offset** does the same, but applies it to the bottom side of the shape:

NIKKI

Top Offset = 1.0
Bottom Offset = 0

NIKKI

Top Offset = 2.0
Bottom Offset = 0

NIKKI

Top Offset = -0.5
Bottom Offset = 0



Top Offset = 0.0
Bottom Offset = 1.0



Top Offset = 0.0
Bottom Offset = 2.0



Top Offset = 0.0
Bottom Offset = -0.5

- The **Top Curve** setting will alter the roundness of the **Top Offset** to add even more customization to the **Bulge** effect. Likewise, the **Bottom Curve** setting does the same to the **Bottom Offset**:



Top Offset = 1.5
Top Curve = 0



Top Offset = 1.5
Top Curve = 50



Top Offset = 1.5
Top Curve = 90



Bottom Offset = 1.5
Bottom Curve = 0



Bottom Offset = 1.5
Bottom Curve = 50



Bottom Offset = 1.5
Bottom Curve = 90

- The **Left/Right** settings all work in the same manner, except they affect the shape horizontally versus vertically. Here are some examples similar to the prior **Top/Bottom** ones:

◇ **Left/Right:** choose from **Separately**, **Together**, or **Opposite**:



Separately



Together



Opposite

◇ Effect of **Left Offset** and **Right Offset**:



Left Offset = 1.0



Left Offset = - 1.0



Right Offset = 1.0

◇ Effect of **Left Curve** and **Right Curve**:



Left Offset = 1.0
Left Curve = 50



Left Offset = 1.0
Left Curve = 90



Right Offset = 1.0
Right Curve = 75

◇ Or just have some fun with it:

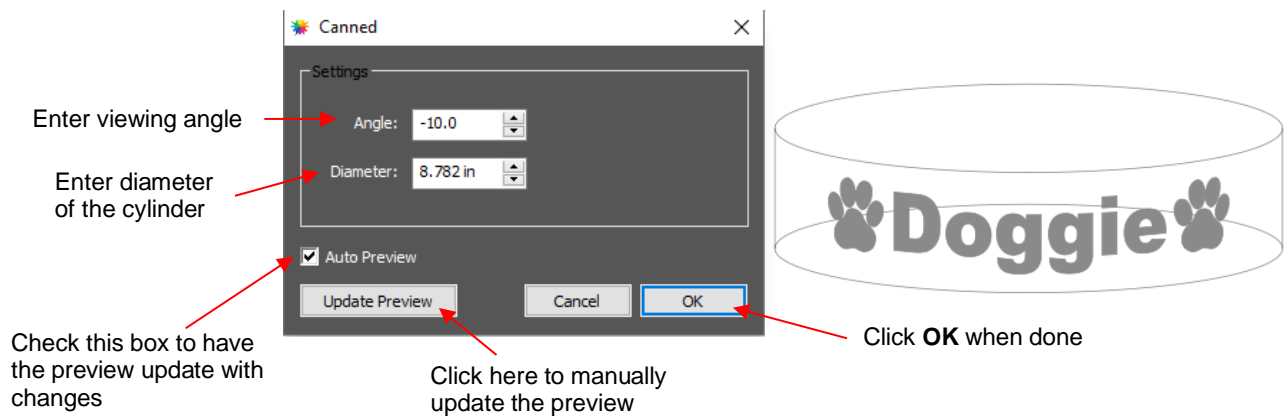


7.18 Canned

- The **Canned** effect will curve lettering as if it were wrapped around a cylinder (can) and viewed at an angle:



- To open the **Canned** window, select the shape and go to **Effects>Canned**:



- Decreasing the **Angle** setting (i.e., making the setting more negative) will increase the perspective and cause a greater roundness to the lettering.



- Increasing the **Angle** has the opposite effect. At an **Angle** of 0, the lettering is horizontal. A positive **Angle** setting results in curving the lettering in the other direction:



- The **Diameter** of the cylinder can be increased or decreased, as well. A larger **Diameter**, applied at the same **Angle**, will lessen the roundness, while a smaller **Diameter** will increase it.

Doggie

Angle = -30
Diameter = 3.0

Doggie

Angle = -30
Diameter = 7.5

Doggie

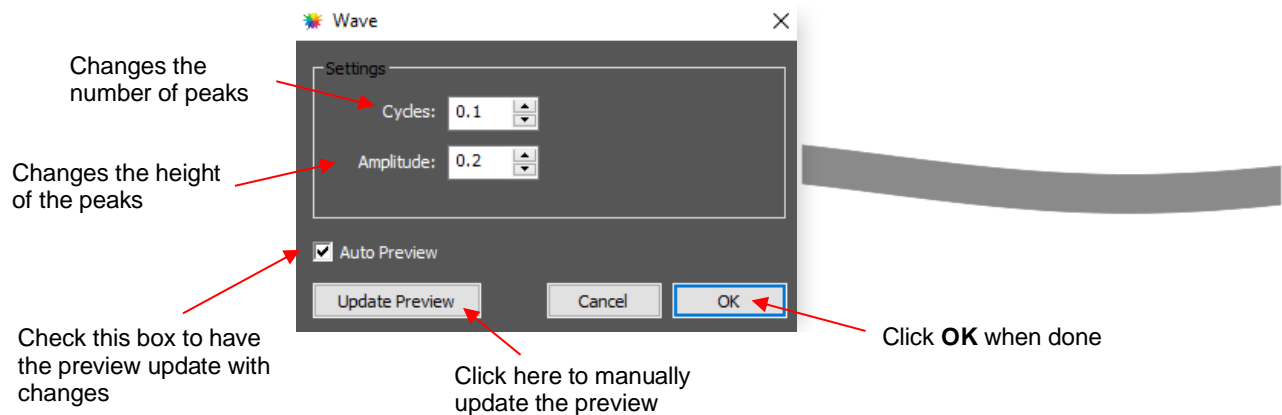
Angle = -30
Diameter = 3.5

7.19 Wave

- The **Wave** function will transform any shape into a wave:



- To open the **Wave** window, select a shape and go to **Effects>Wave**:



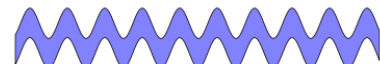
- Increasing **Cycles** adds more peaks along the shape:



Cycles = 0.5

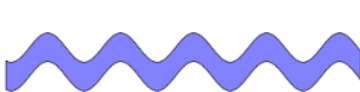


Cycles = 1.0



Cycles = 2.0

- Increasing **Amplitude** make the peaks higher:



Cycles = 1.0
Amplitude = 0.2



Cycles = 1.0
Amplitude = 0.5



Cycles = 1.0
Amplitude = 1.0

- The **Wave** function can be used on text to achieve this effect:

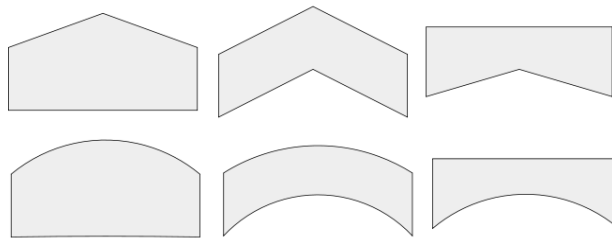
Twinkle Twinkle Little Star

↓

Twinkle Twinkle Little Star

7.20 Bridge Warp

- The **Bridge Warp** function will transform shapes into the following styles:



- For this example, the following text will be used:

TEXAS A&M

- To open the **Bridge Warp** window, select the shape and go to **Effects>Bridge Warp**:

Check this box if you want straight effects versus curved

Adjust the amount of warp

Resize the image

Check this box to have the preview update with changes

Click here to manually update the preview

Option to have both top and bottom change the same

Click **OK** when done

The screenshot shows the 'Bridge Warp' dialog box with the following settings: 'Straight Warp' is unchecked, 'Top Offset' is 0.00 in, 'Bottom Offset' is 0.10 in, 'Scale Width' is 5.63 in, and 'Scale Height' is 0.75 in. The 'Sync Offsets' checkbox is checked. The 'Auto Preview' checkbox is checked. The 'Update Preview' button is highlighted. The 'OK' button is also highlighted. The 'Cancel' button is visible. The background shows the 'TEXAS A&M' text with a bridge warp effect applied.

- Increasing **Top Offset** warps the top of the shape:



- With these same settings, note the difference if the **Straight Warp** setting is marked:



- In a similar way, when **Bottom Offset** is increased the bottom is warped:



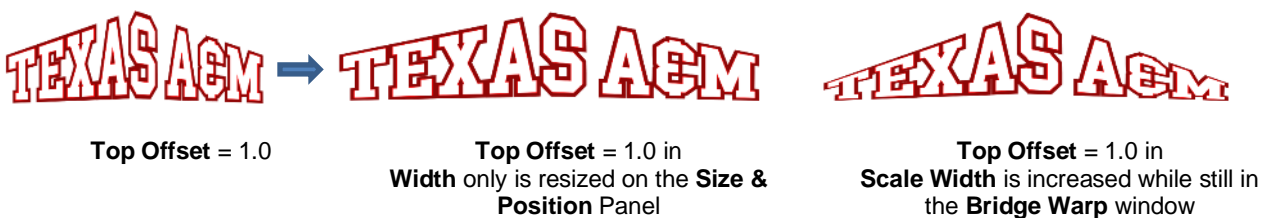
- If the **Sync Offset** option is checked, then both the top and the bottom will be warped together:



- With both the **Straight Warp** and **Sync Offset** options marked, then these are results with the same settings:



- Finally, there is a scaling setting which can be used to rescale and, essentially, exaggerate the effect of the warp. Notice the difference between using **Bridge Warp** to rescale the width versus simply resizing to the same width normally:



- ◇ The two examples on the right have the same overall width and height, but the lettering from scaling in the **Bridge Warp** window is compressed more towards the two ends

7.21 Drop Shadow

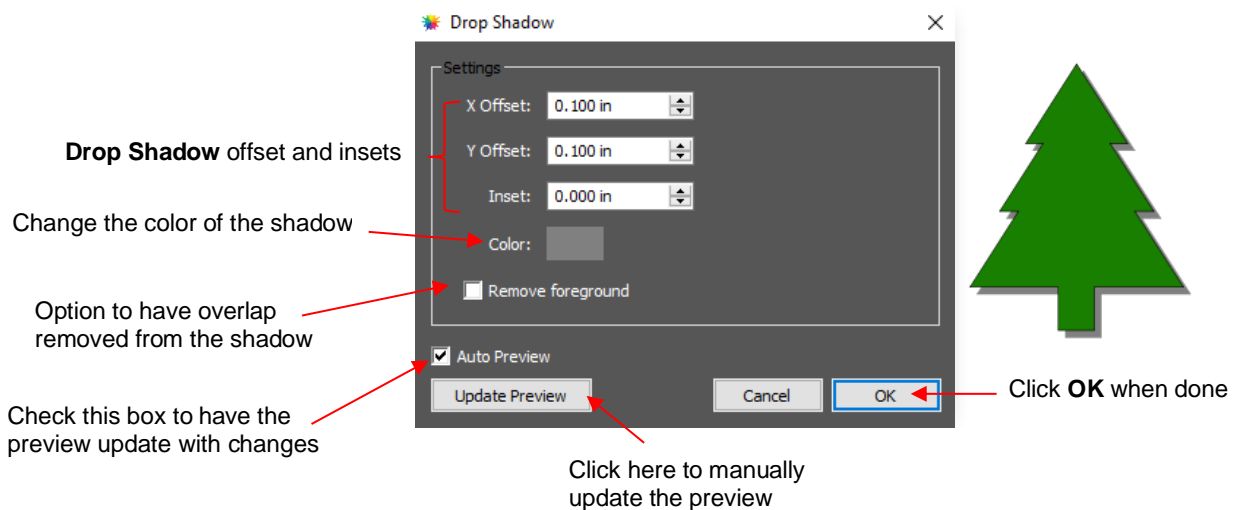
- The **Drop Shadow** function is yet another way to produce a 3-dimensional shadow effect:



- For this example, the following shape from the **Library** will be used:



- To open the **Drop Shadow** window, select the shape and go to **Effects>Drop Shadow**:



- Increasing **X Offset** moves the shadow to the right, while decreasing it moves the shadow to the left:



X Offset = 0
Y Offset = 0.3



X Offset = 0.5
Y Offset = 0.3



X Offset = -0.5
Y Offset = 0.3

- Increasing **Y Offset** moves the shadow down, while decreasing it moves the shadow up:



X Offset = 0.3
Y Offset = 0



X Offset = 0.3
Y Offset = 0.3



X Offset = 0.3
Y Offset = -0.3

- The **Inset** option can be used to create a gap between the original and the shadow, similar to the **Knock Out** function:



X Offset = 0.5
Y Offset = 0.2
Inset = 0



X Offset = 0.5
Y Offset = 0.2
Inset = 0.1



X Offset = 0.5
Y Offset = 0.2
Inset = 0.2

- The color of the shadow can be changed by clicking on the color box next to **Color** and then selecting any available color or entering actual color values. The following three samples are just a few of the thousands of possibilities:



X Offset = 0.3
Y Offset = -0.1
Inset = 0.1



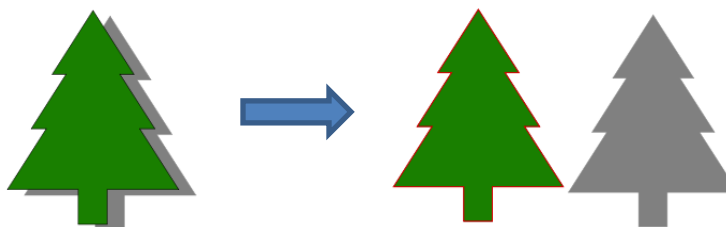
X Offset = -0.4
Y Offset = -0.2
Inset = 0.1



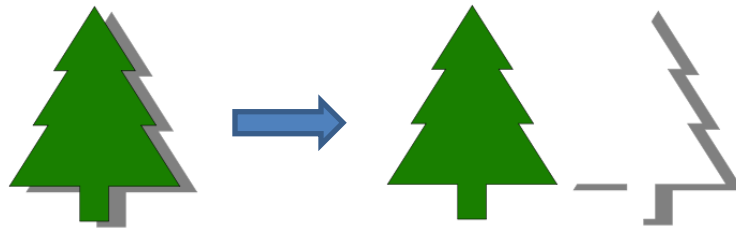
X Offset = 0.6
Y Offset = 0.2
Inset = 0.05

- The **Remove foreground** option is the same as that used in the **3D Extrude** function. It removes the overlap so that one piece is not covering the other. This option is obviously not needed when the **Inset** value is greater than 0.

◇ Remove foreground not marked:

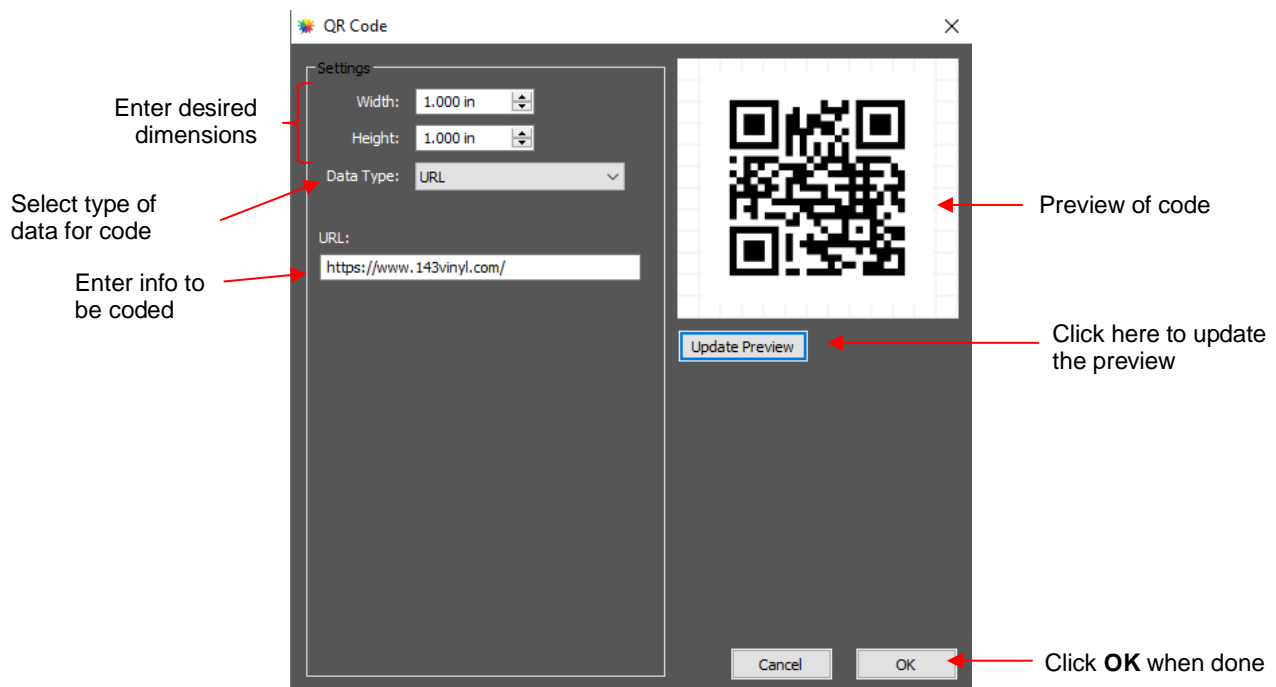


◇ Remove foreground marked:

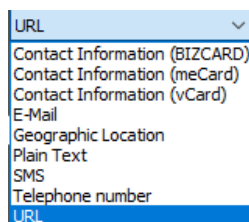


7.22 QR Code

- A **Quick Response Code** is a machine-readable optical label that contains information about the item to which it is attached. They have become quite commonplace in product advertising. One can download free apps for smart phones and tablets to scan these codes with a camera to obtain that additional item of information about the product. For example, if a web site link is encoded, then the app will pop up that link and you can then click on it to be taken to the web site.
- CREATE offers the ability to create a QR code. Go to **Effects>QR Code** and the following window will open:



- Enter the dimensions for the code and select the **Data Type**, which includes the following options:

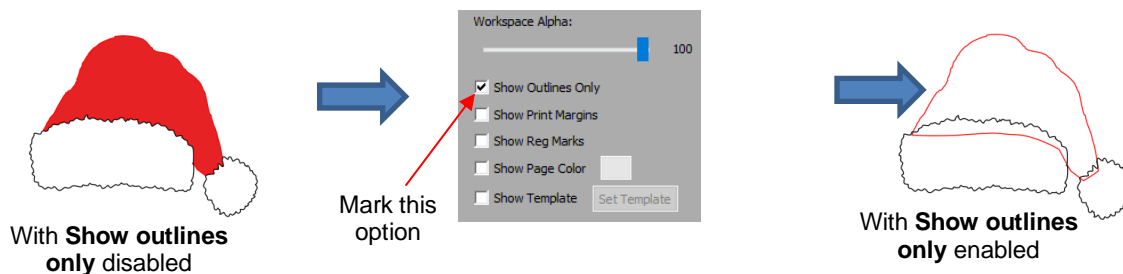


- Each **Data Type** has its own specific fields to complete. In some cases, like the URL option, there is only one field. In a case such as the **Contact Information** options, more data fields are provided.
- IMPORTANT!** Once data is entered, you must click on **Update Preview** to generate the correct QR code. Note that if you have a QR code app on your phone you can launch it, hold the phone up to your monitor so that the camera can scan the code, and immediately verify that the information you entered correctly appears.

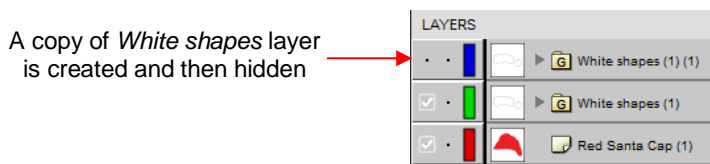
- After clicking on **OK**, the QR code appears on the **Page**. It can now be used as needed, including being exported in any of the available file formats.

7.23 Knockout

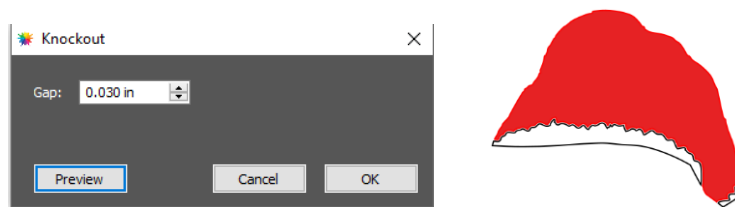
- The **Knockout** function is used to cut one vector design from another vector design with or without a gap added. Note that an example using text is covered in *Section 4.12*.
- Another useful application is when needing to remove overlap between shapes, such as in HTV applications where you do not want to layer the HTV. While **Path>Back Minus Front** could be used in the following example in a similar way, but the **Knockout** feature's gap option can provide a more interesting appearance, as well be shown.
- In the following example, the white fur overlaps the red Santa cap which is more clearly seen if **Show outlines only** is enabled on the **Document Panel**:



- Select the two white shapes and apply **Object>Group** so that they will be treated as one. Because the white shapes layer is on top, a duplicate is needed before using the **Knockout** function. Go to **Edit>Copy**, followed by **Edit>Paste in Place**. Hide one of the copies on the **Layers Panel**:



- Select the remaining *White shapes* and *Red Santa Cap* layers and go to **Effects>Knockout**. Enter the desired gap size and click on apply:



- Select and delete the white overlap shape that is formed during the **Knockout**. Then show the backed up *White shapes* layer and change the **Page** color on the **Document Panel** to show how the final design would appear on a black background, such as a T-shirt:



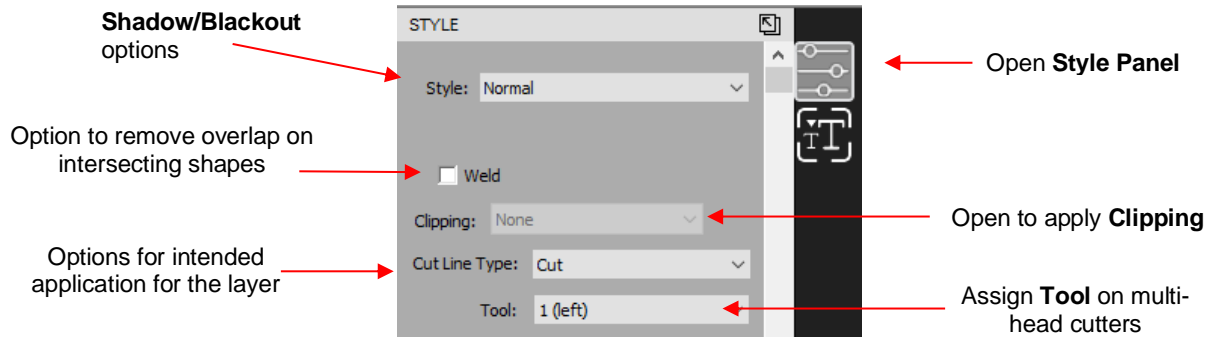
Knockout Gap between the white fur and the red cap form a pleasing look

8. Cutting (and Printing)

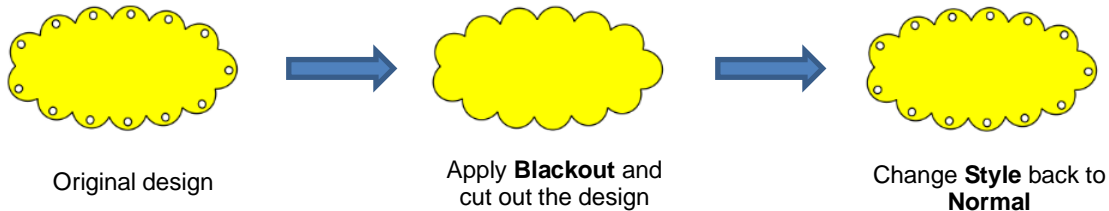
8.01 The Style Panel


Video

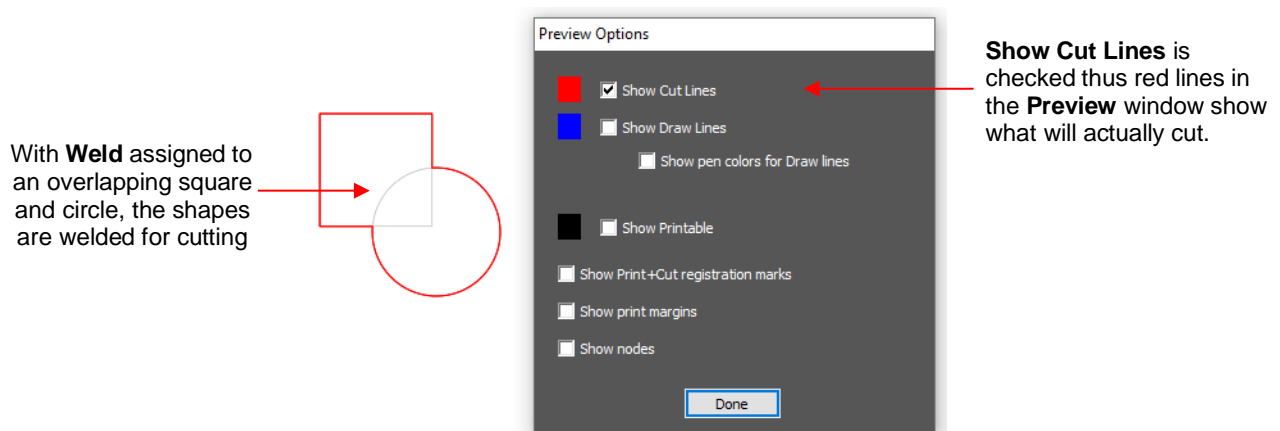
- The **Style Panel** (located on the **Properties Panel**) has various settings that are typically, but not necessarily, applied for the purpose of cutting and printing:



- Style:** In this menu are various combinations of **Shadow** and **Blackout** applications. Note, however, that if you later change your mind and you haven't applied any subsequent changes (such as those in the **Path** menu), then re-selecting **Normal** from the **Style** drop-down menu will restore the original shape.
 - For example, let's say you've applied **Blackout** to a shape and then cut it out. You can now select that same shape and return the style to **Normal**:




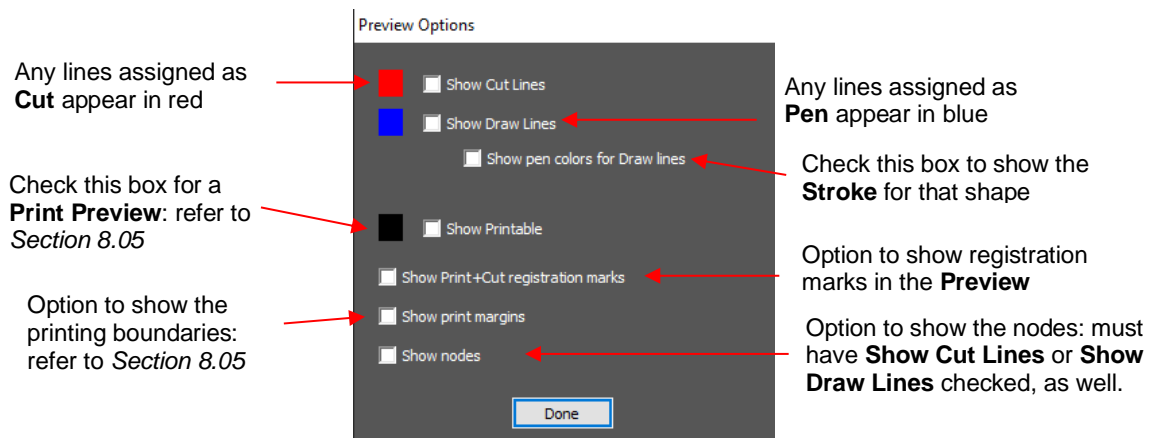
- Weld:** This option applies the **Union** function (refer to *Section 7.06.1*) to any overlapping shapes.
 - Note that if the shapes are on different layers, the **Weld** option needs to be marked on each layer.
 - As mentioned before, settings in the **Style** window do not become permanent changes to the shapes on the **Page**. However, you can verify the **Weld** effect by clicking on the **Preview** icon  on the **Toolbar** (for more details on **Preview**, refer to *Section 8.02*):



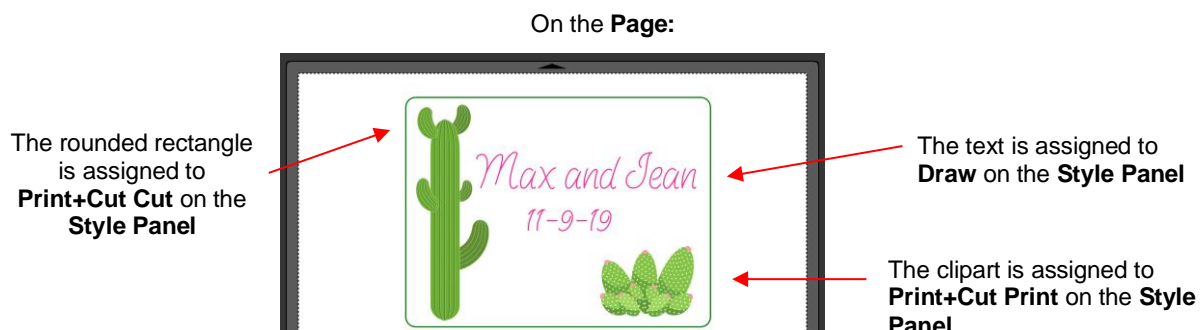
- **Clipping:** options are available for either **Clip Path** or **Clip Mask**. Refer to *Section 7.07*. The clipping is only applied during the cutting process.
- **Cut Line Type:** There are five options in this menu:
 - ◇ **Cut:** Choose this option for regular cutting. Because this is the default, you don't normally need to select it. In a **Print+Cut** application, layers assigned as **Cut** will both print and cut.
 - ◇ **Draw:** Choose this option when using a pen, embosser, engraver, glue pen, rotary tool or other device that doesn't require a blade offset.
 - ◇ **Score:** Choose this option for a layer that will be cut at a different pressure which can then be set in the **Cut Settings** window. This option is only available for certain brands of cutters.
 - ◇ **Print+Cut Cut:** In **Print+Cut** applications, choose this option for the layer that will be cut only. It will not be printed.
 - ◇ **Print+Cut Print:** In **Print+Cut** applications, choose this option for the layer that will be printed only. It will not appear in the cut window.
 - ◇ **Color layer alignment:** In applications such as vinyl where several layers will be cut from different colors and aligned, choose this option for the layer that has alignment shapes that need to be cut from every color along with that color's shapes. These alignment shapes can then be used to layer the colors perfectly. Refer to last part of *Section 8.03.3*.

8.02 Preview

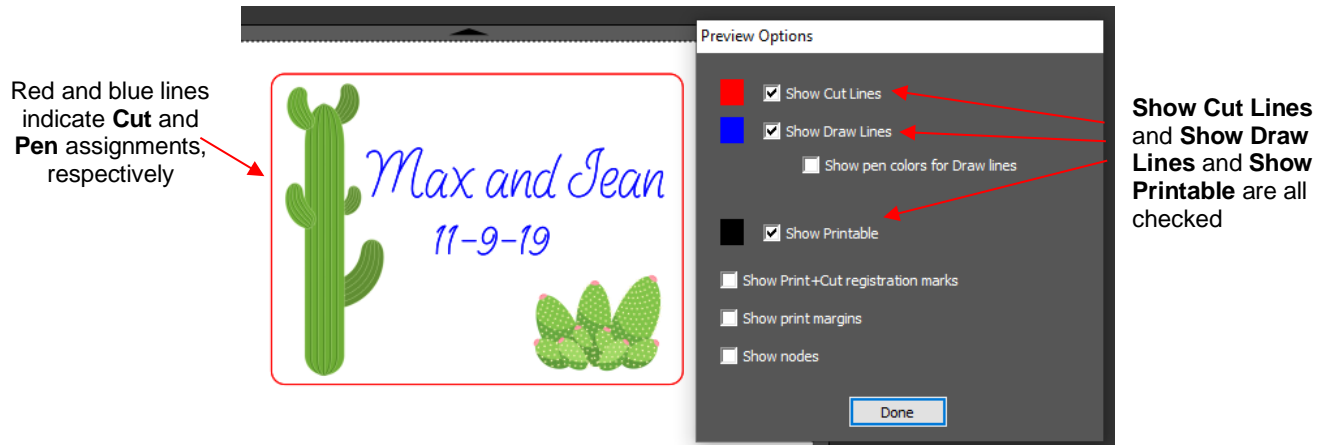
- To see what your cutter will cut or what your printer will print, click on the **Preview** icon  on the **Toolbar**. The following window will open. Note that settings applied on the **Style Panel** are reflected in the **Preview** window:



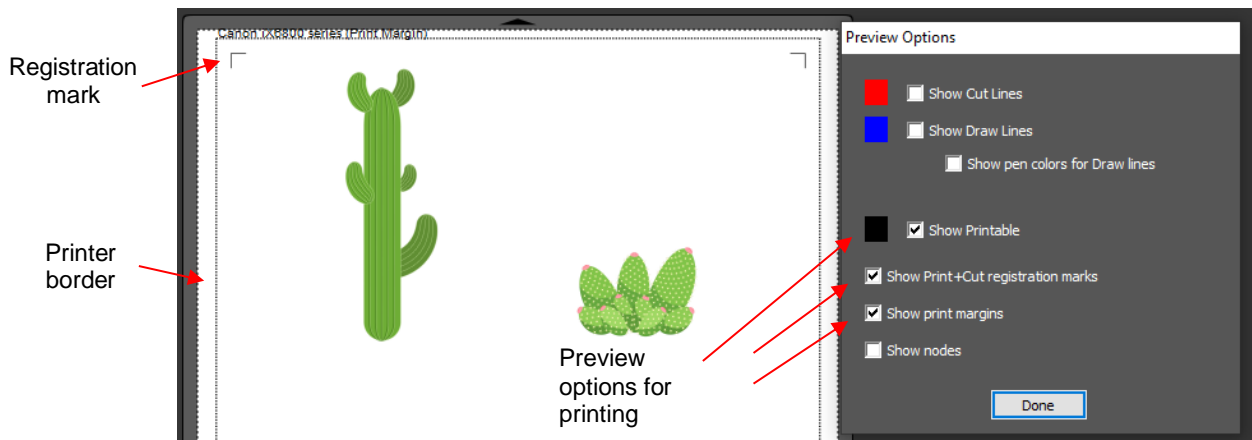
- The following example shows what would be seen in the **Preview** window compared to how it appears on the **Page**:



In the **Preview Options** window:



- For **Print+Cut** applications, you might wish to verify what will be printed, along with where it will be printed and where the registration marks will print:




- NOTE:** If you mark the option for **Show Print+Cut registration marks** and they do not appear:
 - ◇ Verify that you have set up your cutter (refer to *Section 1.06.2*)
 - ◇ Verify that all layer(s) you wish to view are not hidden on the **Layers Panel**

8.03 Cut Settings

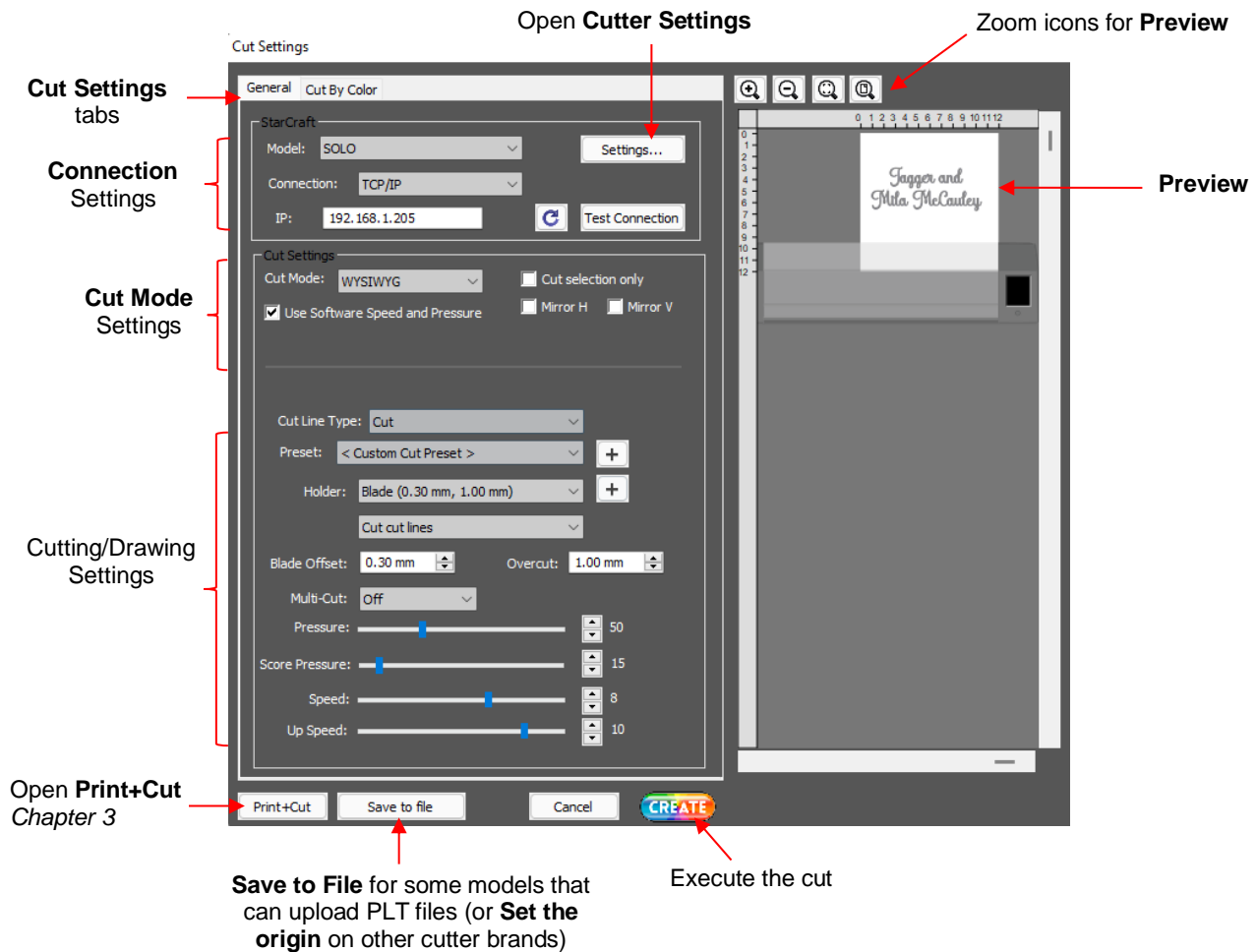
The **Cut Settings** window will vary from one cutter to the next based on the manufacturer of that cutter and its own built-in functionality. Thus, not all settings presented here will necessarily pertain to all cutters.

8.03.1 Cut Window Settings

Video


- When you are ready to execute a cut (or draw), the cut window can be opened using either of the following:
 - ◇ Click on the **CREATE** icon  in the upper right corner of the screen.
 - ◇ Go to **Cutter>Cut With xxx** (select the cutter you have added)

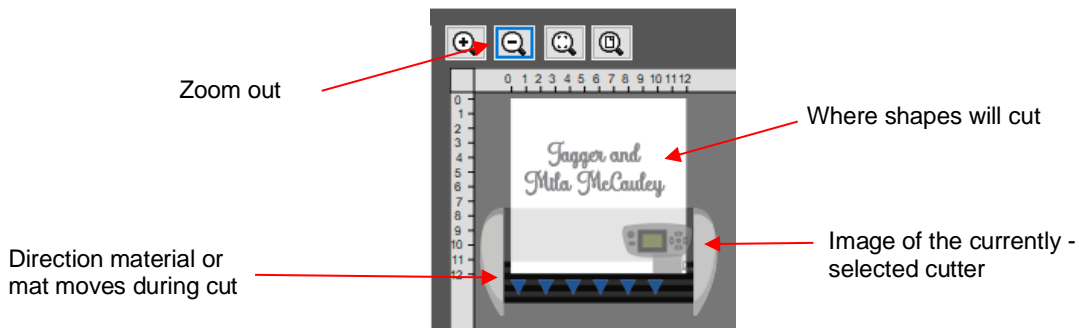
- The following window will open:



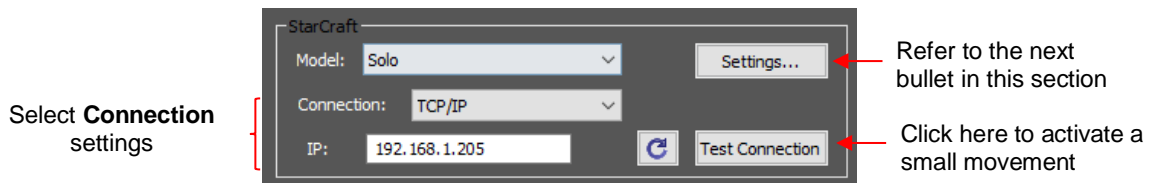
◇ **Cut Settings tabs:**

- **General** (covered below)
- **Cut by Color** (refer to *Section 8.03.3*)

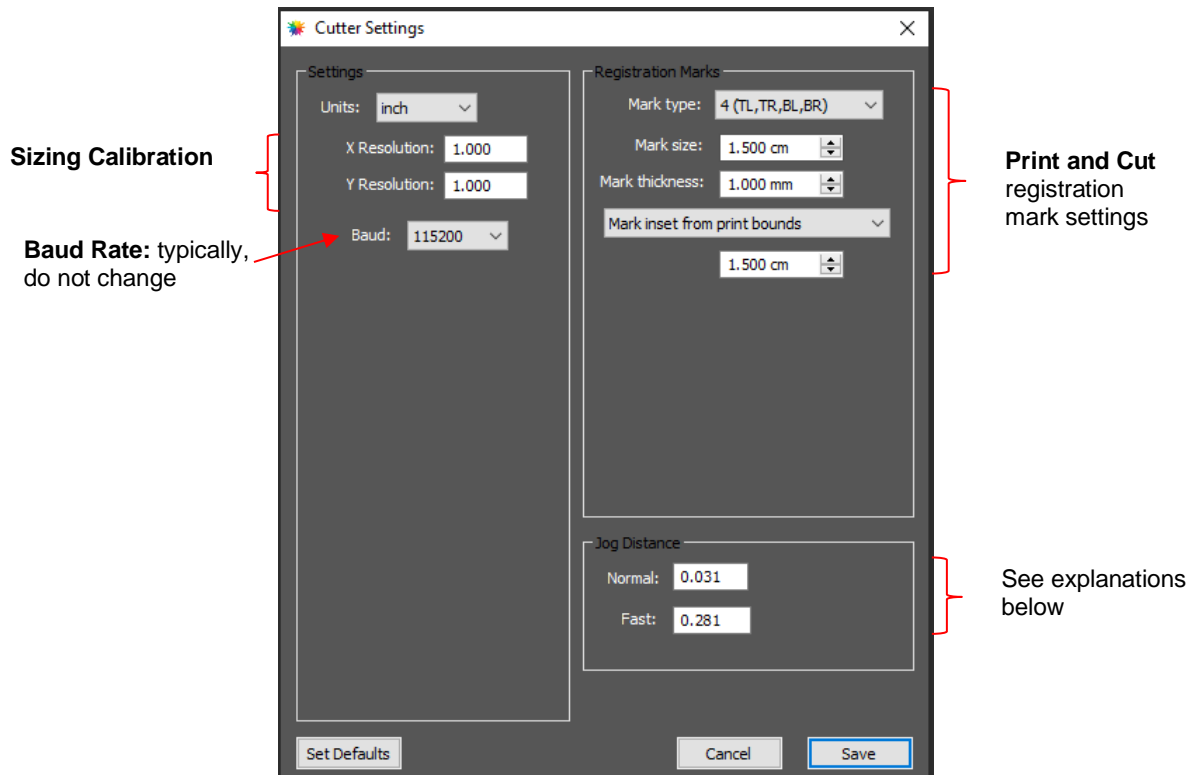
- ◇ **Zoom icons** apply to the **Preview** window. Click on the **Zoom Out** icon  for a better view of the cutter, orientation, and where shapes will cut on the material:



- ◇ **Connection Settings:** Choose the model of cutter being used and the connection settings:

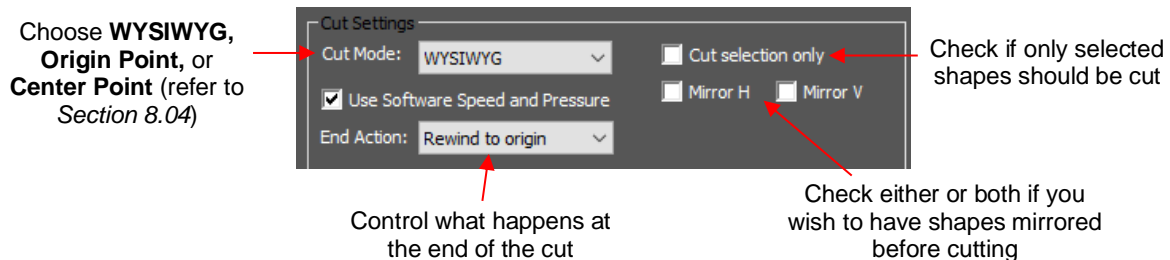


- **Cutter Settings**, which can also be accessed by going to **Cutter>Cutter Settings**, opens a new window with additional settings relevant to that model. For the SOLO, as an example:



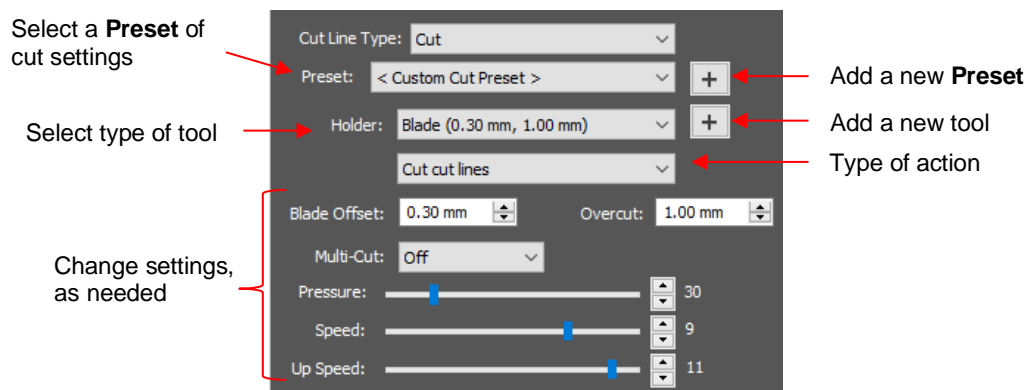
- **Jog Distance:** The following settings apply when moving the head left/right or moving the mat or material in and out of the cutter (if performed within CREATE):
 - **Normal:** the distance the head or mat moves with each arrow key increment
 - **Fast:** the distance the head or mat moves while holding **Shift** with each arrow key increment

◇ **Cut Mode Settings:** This section covers the following:

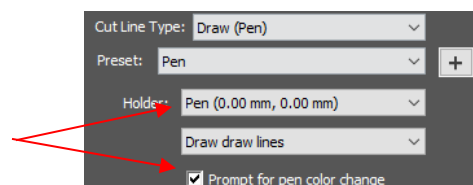


- **Cut Mode:** Refer to Section 8.04 which covers controlling where shapes will cut.

- **Cut selection only:** If you only want the shapes you have selected on the **Page** to cut, then mark this box.
- **Mirror H** and **Mirror V:** Use one or the other option if you want the shapes mirrored for cutting. This is very handy when cutting HTV or when embossing. In both cases, you will be flipping over the material once the cutting or embossing is complete.
- **End Action:** Its three options control what happens when a cut is completed (not included on some cutters which have this feature on their control panel):
 - **Rewind to origin:** The cutting head returns to the origin set before the cut was executed.
 - **Nothing:** The cutting head stops in place where the cut completed.
 - **Advance amount:** The cutting head advances beyond the end of the project by the amount you enter and the origin should now be in the correct location for a repeat cut.
- ◇ **Cutting/Drawing Settings:** As mentioned earlier, this section will vary from one brand/model of cutter to the next:

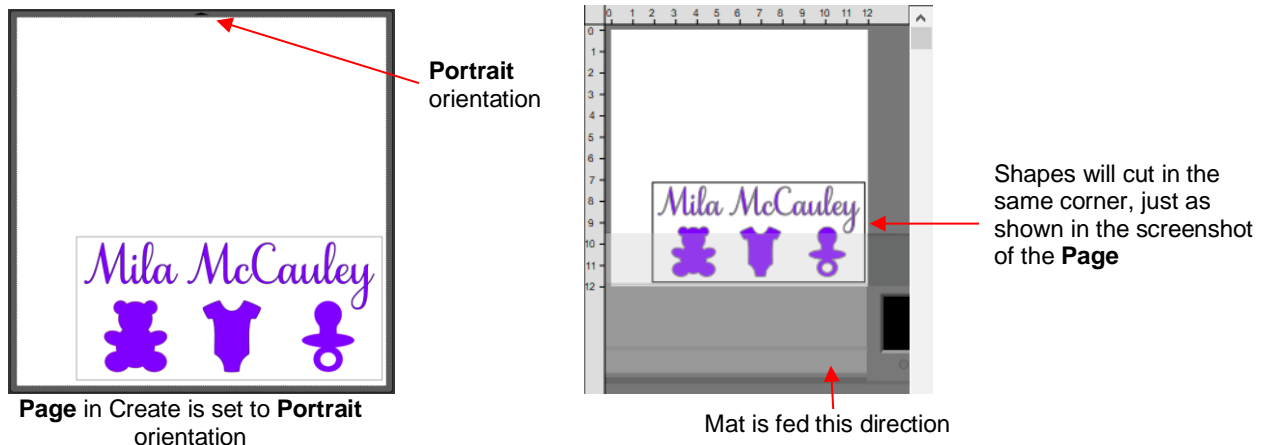


- **Preset** is a customizable menu where you can store settings for a particular material or application. Refer to *Section 8.03.2* for directions.
- **Holder** has choices for **Blade** or **Pen**. Like **Preset**, you can enter your own menu choices, such as other blades. Again, refer to *Section 8.03.2*.
 - If you select **Pen** under **Holder**, then **Draw draw lines** is typically selected. There is also a **Prompt for pen color change option**. Marking that option will cause the cutter to pause after each pen color is executed so that a different pen or tool can be mounted:

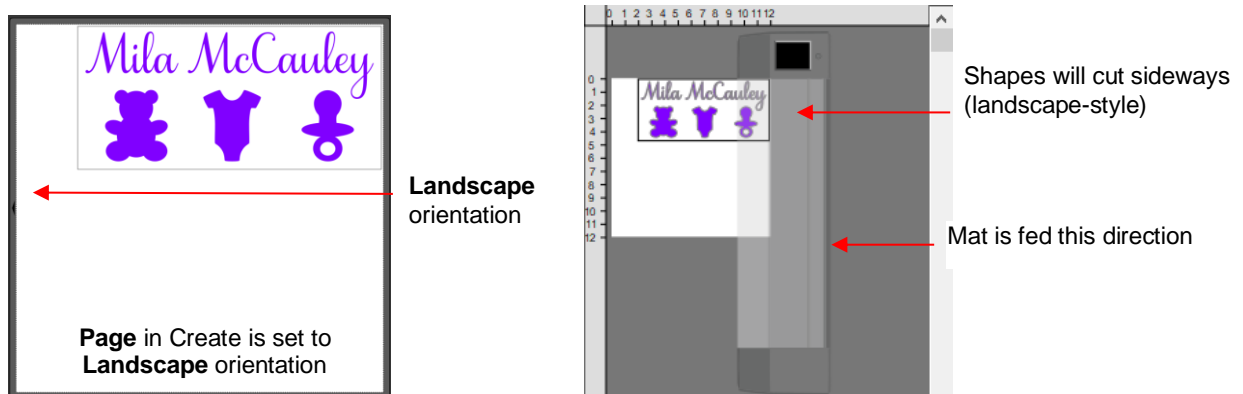


- ◇ **Blade Offset** controls how sharp corners are handled and the setting should be provided with the blades you use. If set too low, corners will be rounded. If set too high, little bubbles will appear on outside corners and divots will appear on inside corners. Adjust as needed using 0.1 increments.
- ◇ **Overcut** controls the closing of shapes. If left at 0, you will find that fairly large shapes will still be attached to the waste material. In general, a setting of 1.0 mm is sufficient.
- ◇ **Multi-cut** is used when cutting thicker or denser materials where more than one pass is recommended. Each shape is cut the number of passes selected before the blade moves to the next shape to cut.
- ◇ **Pressure** and **Speeds** (or other settings for your brand of cutter) should be covered in the user manual provided with your cutter.

- ◇ **Print+Cut** (not present with certain models): Clicking on this button opens the **Print and Cut** window. Because this function differs for each cutter, refer to for detailed instructions available for your cutter or read the on-screen instructions.
- ◇ **Set Origin** (not present with certain models): Click this button to open a window where you can use the keyboard arrows or on-screen arrows to move the cutting head to the origin for cutting.
- ◇ **Save to File** (not present with certain models): Click on this button to export and save the cut project as a PLT file onto a USB flash drive. That file can then be directly loaded into a cutter's control panel.
- ◇ **Preview**: The preview displays the shapes that will cut and their orientation plus location based on other settings. Note that these images are based on cutters with a lower right home origin versus other brands which have a top left home origin (such as the Silhouette Cameo):
 - For example, with a **Portrait** orientation and **WYSIWYG** cut mode, the **Preview** indicates the shapes will cut exactly in the same location and orientation as you see on the **Page**:



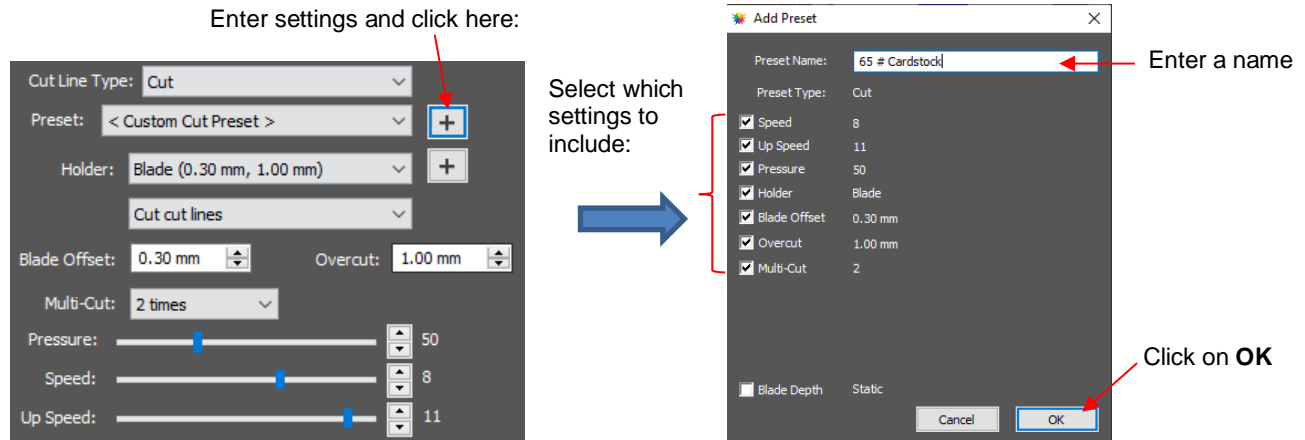
- Using the same **WYSIWYG** cutting mode, but having the **Page** orientation set as **Landscape** and the shapes moved to the upper right corner, the **Preview** changes indicating the shapes will be cut in a landscape position:



- In **Origin Point** mode, it doesn't matter where the shapes are located on the **Page**, they will cut so as to align with the origin you set. Additional details on controlling where shapes will cut are presented in *Section 8.04*.

8.03.2 Presets

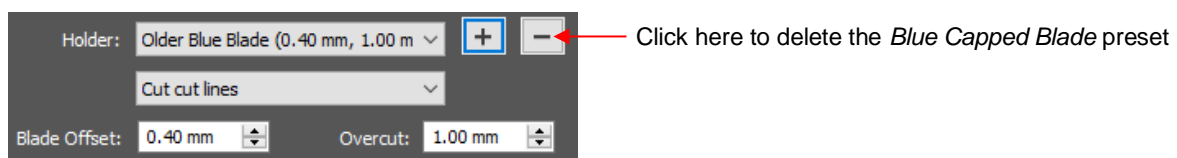
- **Presets** allow you to save your settings for a particular material or blade type. To do this, enter the settings you wish to save. Then click on the "+" to the right of **<Custom Preset>**:



- After clicking on **OK**, the new preset will be found at the bottom of the list.
- In a similar manner, you can also add other **Holders** to your list, which would typically be blades with other **Blade Offset** values. For example:

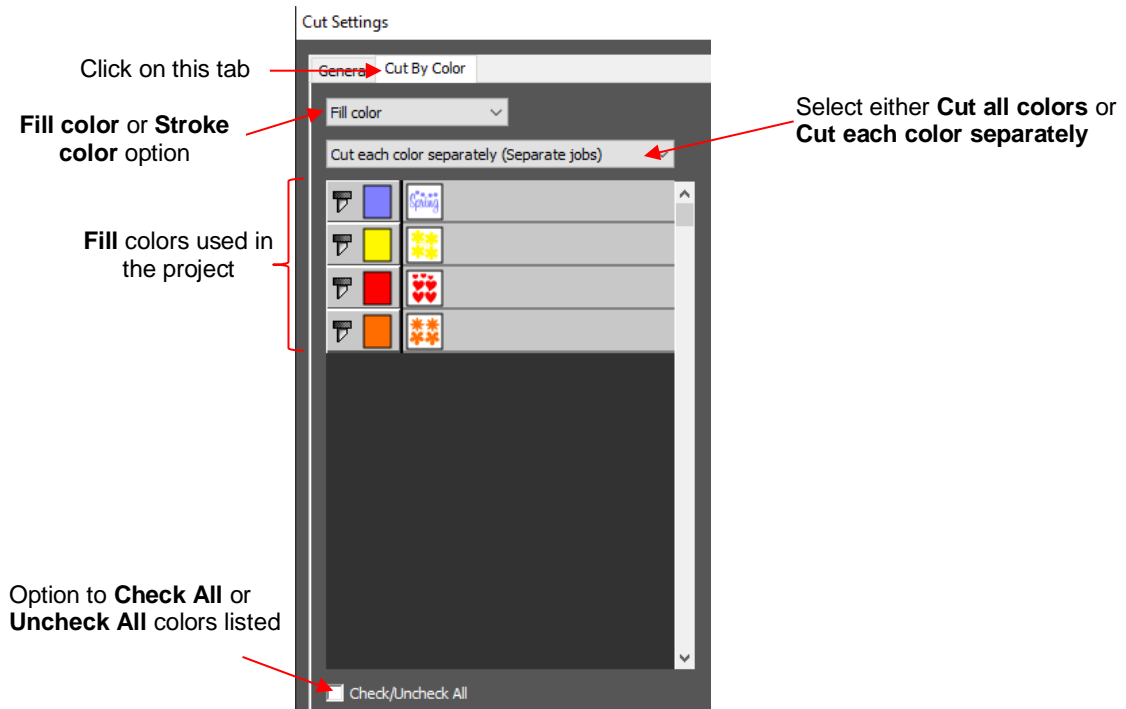


- To delete either type of preset that you personally added, select it from the menu and a “ – ” button will appear. Clicking on that button will then remove it from the list:

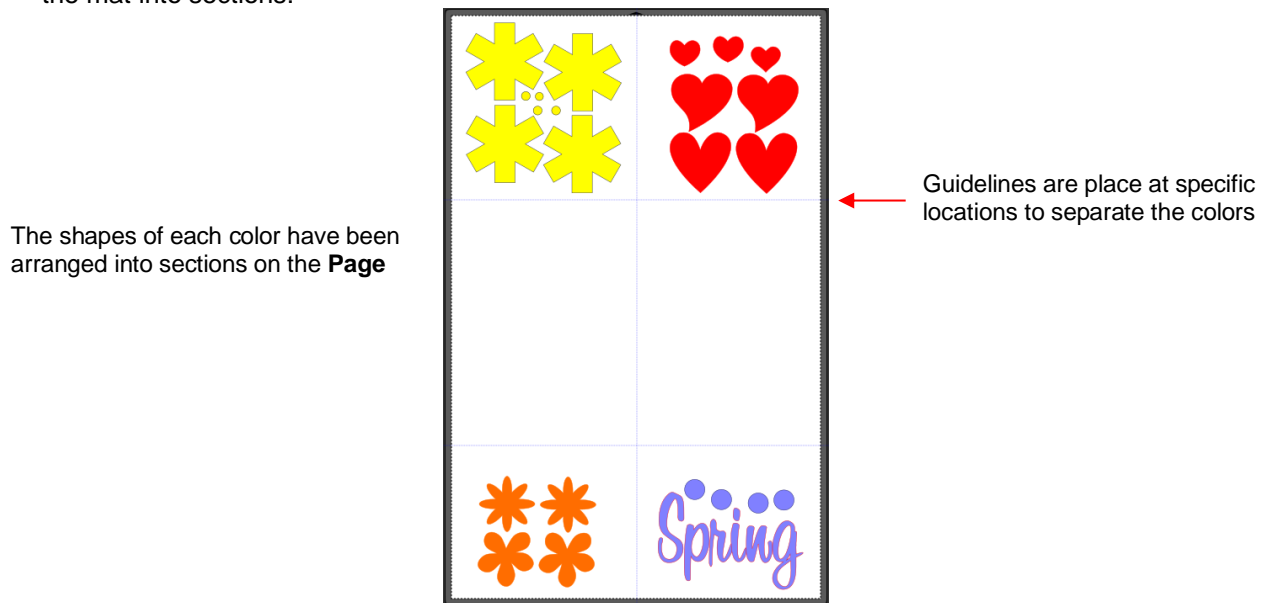


8.03.3 Cut by Color Video Video

- The **Cut by Color** function offers two capabilities:
 - ◇ Turn on and off colors to be cut without the need to hide layers on the **Layers Panel** or pre-select shapes to cut. In fact, you don't even need to ungroup mixed-color groups.
 - ◇ Cut all of the colors at once or have the cutter pause between colors, thus permitting the change out of materials
- The **Cut by Color** tab in the **Cut Settings** window has the following options:

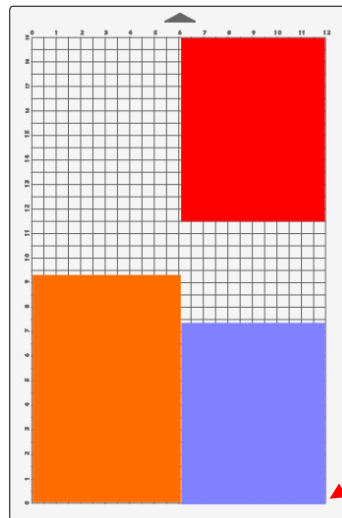



- **Cut all colors (Single job):** In this mode all of the colors marked in this window will be cut at one time.
 - ◇ As an example, here are some shapes laid out on the **Page**. Note how guidelines were placed to divide the mat into sections:



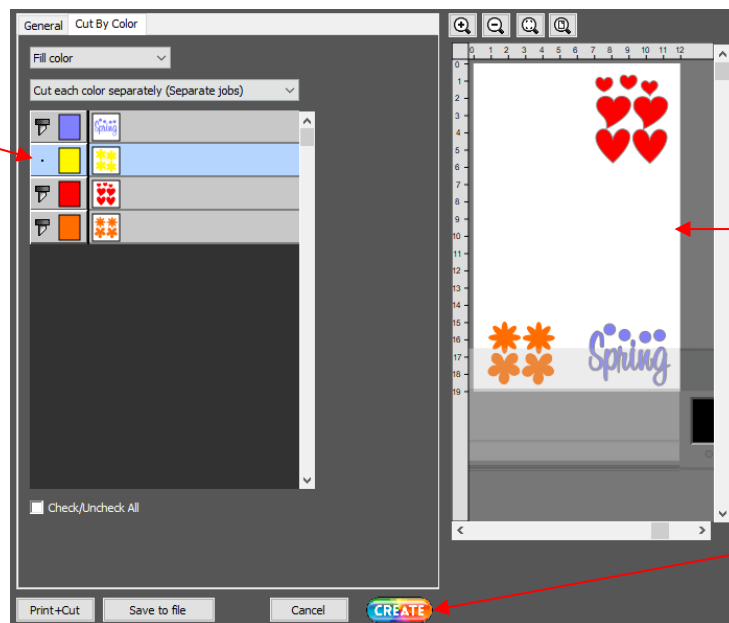
- ◇ Let's say you also have scraps of vinyl you want to use, however the yellow you plan to use won't fit onto the mat with the other scraps. So, you want to cut lilac, red, and orange first. You place those colors into quadrants on the mat that match the layout on the **Page**:

Three of the scraps are placed on the mat in the same locations as on the **Page**



- ◇ In the **Cut Settings**, make sure **WYSIWYG** mode is selected and you have the other cut settings selected. Then select the **Cut by Colors** tab and click on the blade icon  next to the yellow layer to hide those from cutting:

The yellow layer is turned off

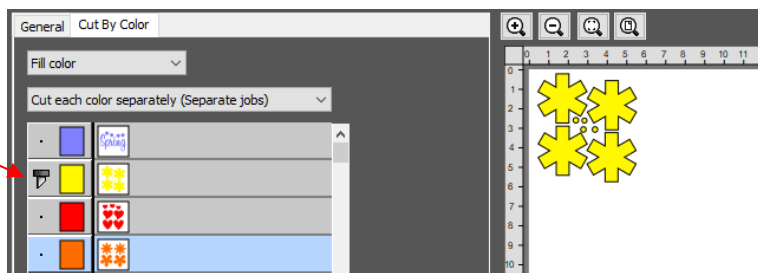


The **Preview** shows where the shapes will cut and shows that the yellow ones are excluded

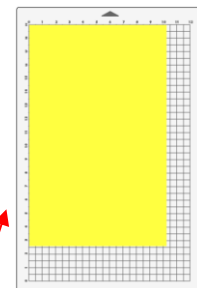
Click on **CREATE** to cut from the 3 colors of vinyl

- ◇ The cut is executed and the red, orange, and lilac shapes are cut. Then the same procedure can be used for the remaining yellow shapes:

Only the yellow layer is selected



The yellow scrap is placed in the upper left corner of the mat to match the **Preview** window

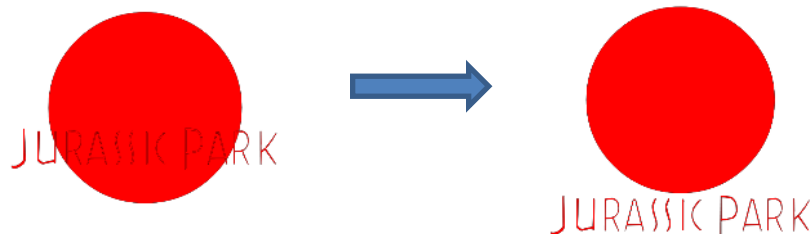


- **Cut each color separately (Separate jobs):** In this mode you can also turn on/off colors for cutting. However, a prompt for each color will appear before executing the cut.

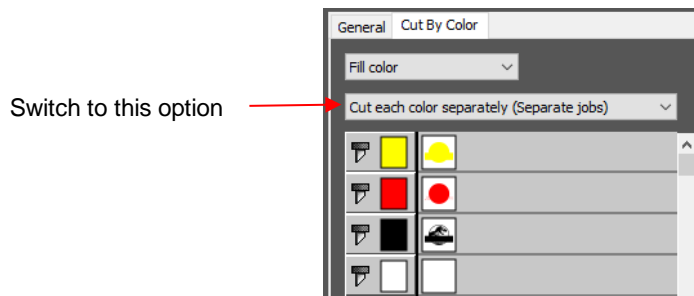
◇ As an example, here is a layered design to be cut from vinyl:



- ◇ Choosing the option to **Cut each color separately** is logical because:
 - The shapes are arranged on top of one another
 - The size is so large that the individual colors cannot be placed on the mat to cut all at one time
- ◇ However, before sending the project to the cutter, take note of any colors that might have shapes that need to be moved. In this example, the thin red lettering “Jurassic Park” would cut through the background red circle, hence it needs to be moved away so that it can be separately applied to the top of the design:

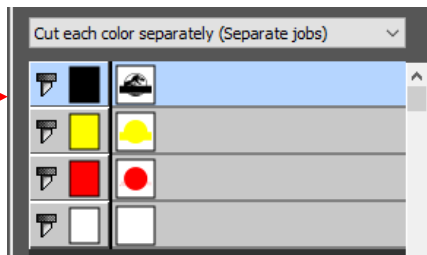


- ◇ In the **Cut Settings** window, **Origin Point** is chosen so that each color is moved to align with the origin. Thus, the material is loaded each time in the same location. In the **Cut by Color** tab, the **Cut each color separately** option is chosen:

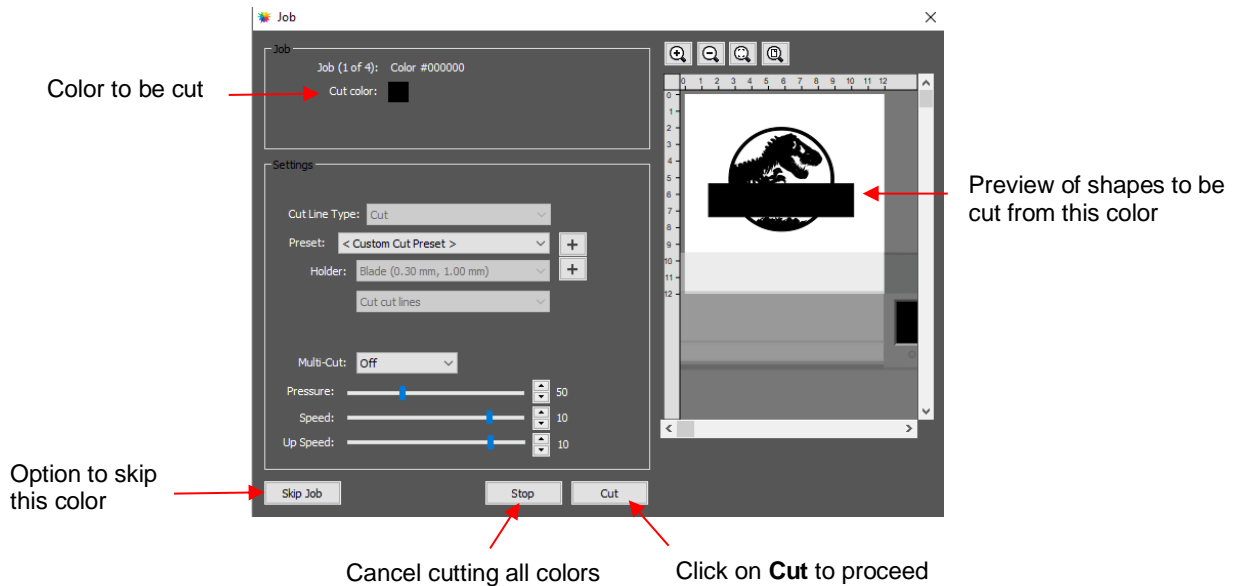


- Note that you can change the cut order by dragging the colors up or down the menu. For example, let say you already have black vinyl loaded into the cutter and the origin set to cut:

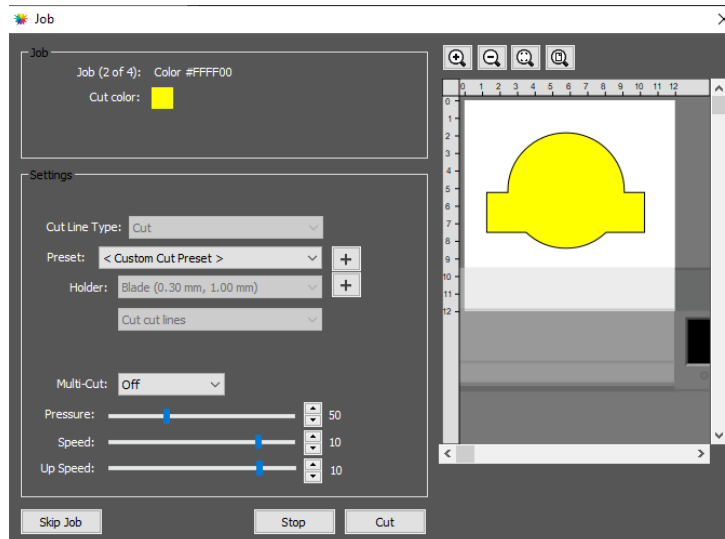
The black layer is dragged to the top to cut first



◇ Upon selecting **CREATE**, the following **Job** window opens:



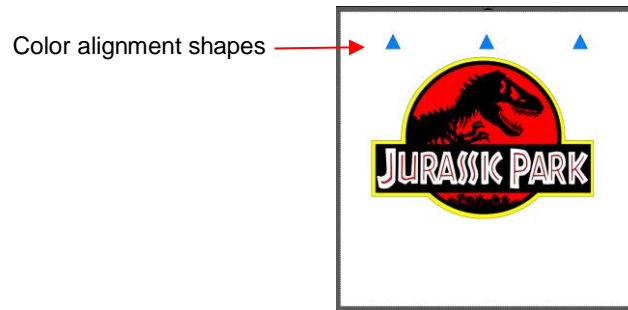
◇ If you decide not to cut this color, click on **Skip Job** and the next color in the menu will be selected. If you clicked on **Cut**, then the black shapes are cut out and then the same “next color window” will open:



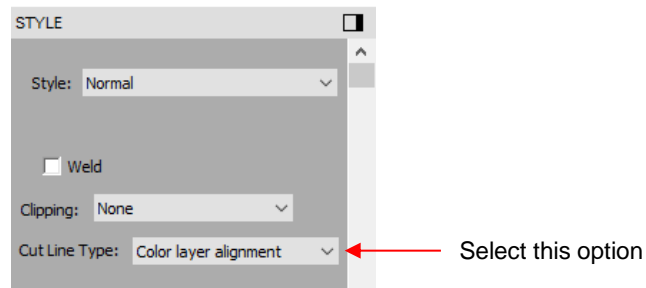
◇ And the process continues until all colors have been cut.

- In *Section 8.01, Color Layer Alignment* was mentioned as one of the options under **Cut Line Type** on the **Style Panel**. In applications such as the *Jurassic Park* example, it can be tricky aligning the various colors after cutting. To make the job easier, small registration/alignment shapes can be added to the design and assigned to always cut with each of the other colors so that they can then be used to accurately align each layer's shapes.

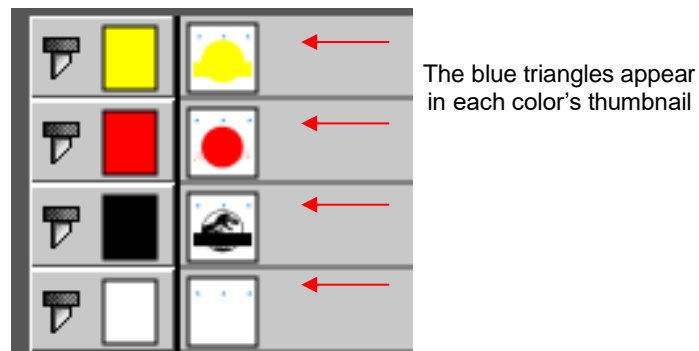
- ◇ In the *Jurassic Park* example, three small triangles are added and grouped to be on the same layer:



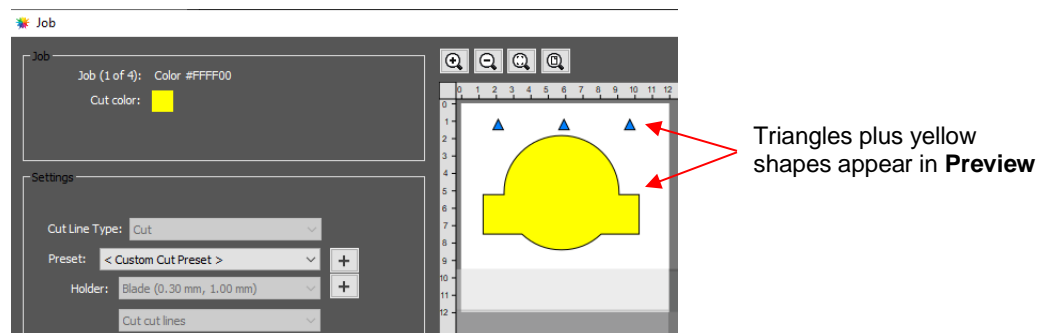
- ◇ The layer is selected and, on the **Style Panel**, the **Cut Line Type** for this layer is changed to **Color layer alignment**:



- ◇ When the **Cut by Color** tab is then selected, the alignment triangles are not a separate layer in the menu. Instead, they appear in the thumbnails for each color:



- ◇ Then, as each color window opens, the triangles will appear in the **Preview** for that color:

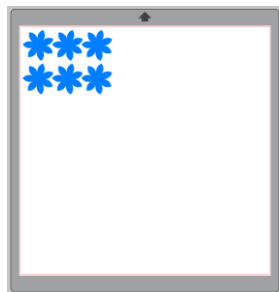


- **IMPORTANT:** After completing a **Separate jobs** application, you need to change back to the **Single job** option. Otherwise, for regular cutting, the **Separate jobs** option remains activated even if you do not have the **Cut by Color** tab selected.

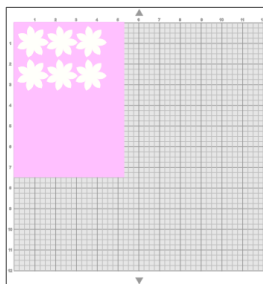
8.04 Controlling Where Shapes Will Cut

8.04.1 Overview

- **Home Origin** – The location of a cutter's home origin varies based on the brand and sometimes the model of cutter. When you first power on cutters, they tend to move the cutting head to the far left or to the far right. That is one indicator. Also, if you feed a roll of vinyl from the back or from the front further indicates the home origin.
- For example, the Silhouette Cameos use the top left corner for the home origin. Thus, the design is typically located near the top left corner of the design area in their software and the material is typically aligned in the top left corner of the cutting mat. Continue this practice in **CREATE**, as well.



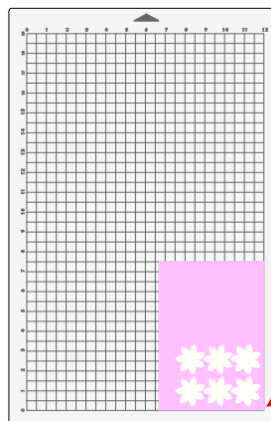
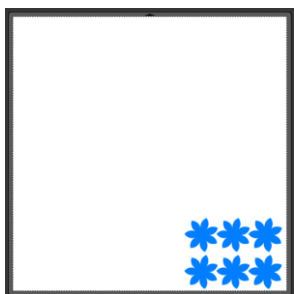
Silhouette Studio



Material is aligned near top left corner of mat

- On the other hand, the StarCraft SOLO (and many other cutter brands/models), have a home origin in the lower right corner (diagonally opposite to that of the Cameos). Thus, it is recommended that the design be located near the bottom right corner in **CREATE** and the blade be placed just inside the bottom right corner of the material before cutting:

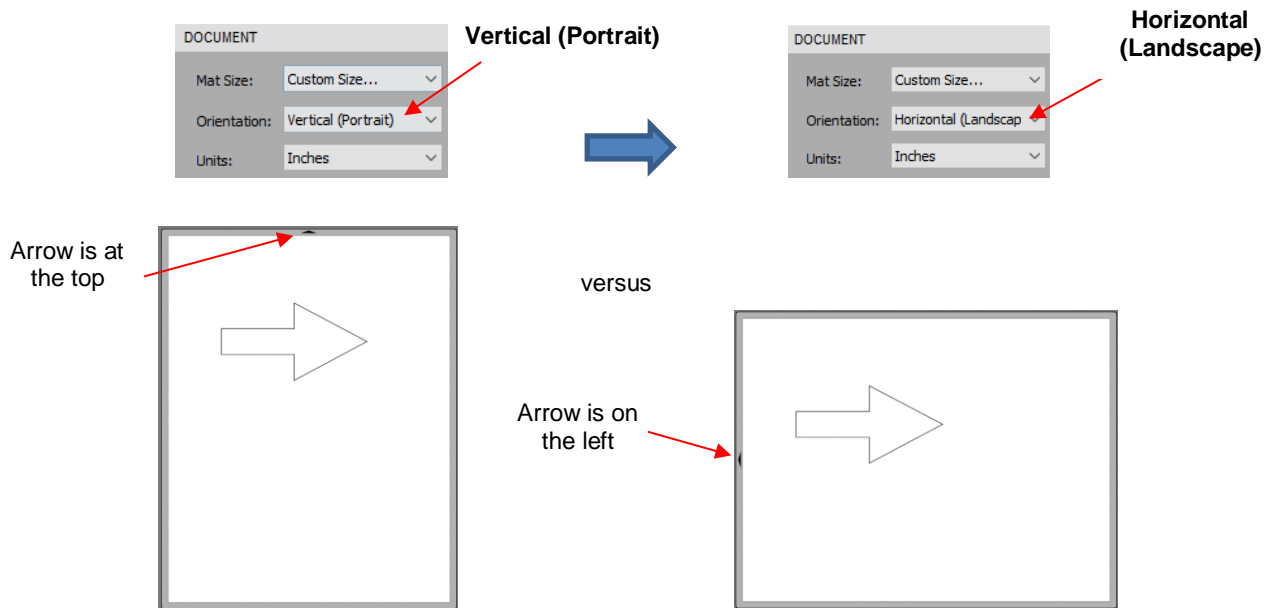
StarCraft CREATE (set to Vertical Portrait orientation)



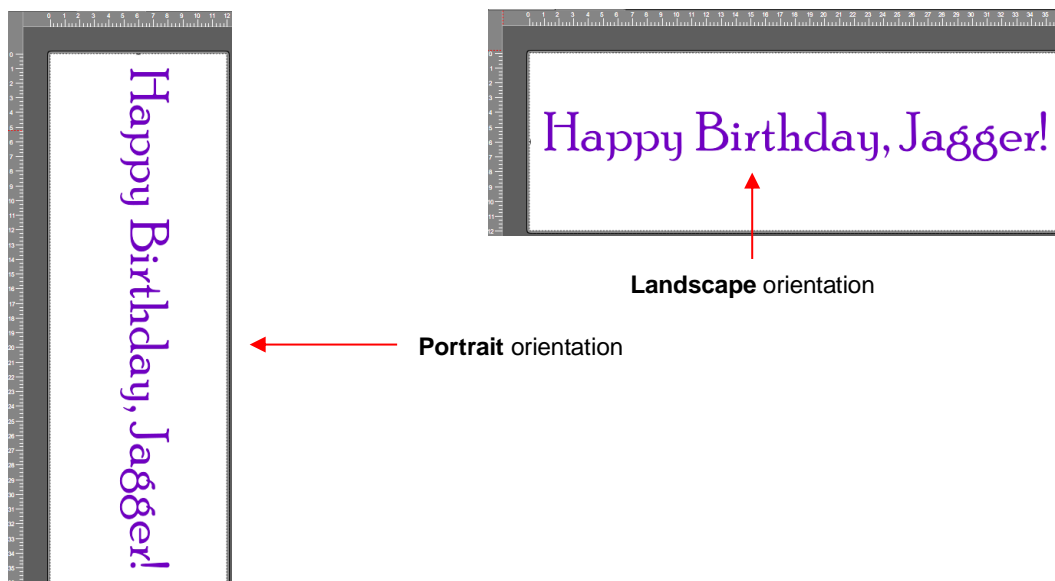
Set the origin (blade tip) here

- In **CREATE**, there are 4 available **Cut Modes** (located in the **Cut Settings** window) when cutting to most cutters (but not all):
 - ◇ **WYSIWYG** – A project will cut relative to its position on the Page
 - ◇ **Origin Point** – A project will cut to align with the origin set before cutting.
 - ◇ **Center Point** – A project will cut to center around the origin you set before cutting
 - ◇ **Print and Cut** – Shapes will cut based on manual or automatic alignment with printed registration marks
- There are two **Orientations** for cutting:
 - ◇ **Vertical (Portrait)** – A project will cut in the same orientation you see on the **Page**
 - ◇ **Horizontal (Landscape)** – A project will cut at 90° to the orientation you see on the **Page**

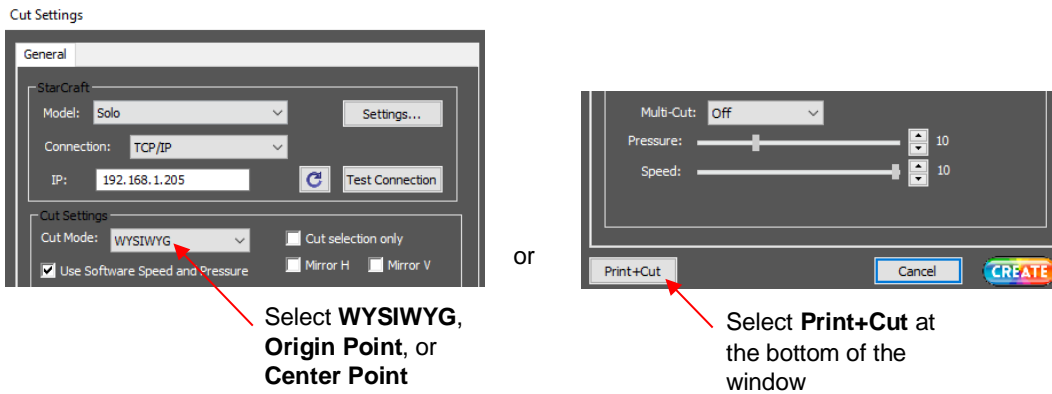
- The option to switch a document area from **Vertical (Portrait)** to **Horizontal (Landscape)** is located on the **Document Panel**. You will be asked if you wish to adjust the objects to match the new orientation. Answer **Yes** to have the project rotated, along with the **Page**. Answer **No** to have the project remain the same, as in the following screenshot, and only rotate the **Page**. Note that when you switch from **Vertical (Portrait)** to **Horizontal (Landscape)** the triangle at the top of the **Page** moves to the left side, indicating the **Page** was rotated counterclockwise:



- The choice between **Portrait** and **Landscape** is a personal one – use whichever one makes the most sense to you. For long projects, such as for large vinyl cuts, **Landscape** is usually chosen because the project displays better on the **Page**. However, you still have the option to use **Portrait**, if desired.



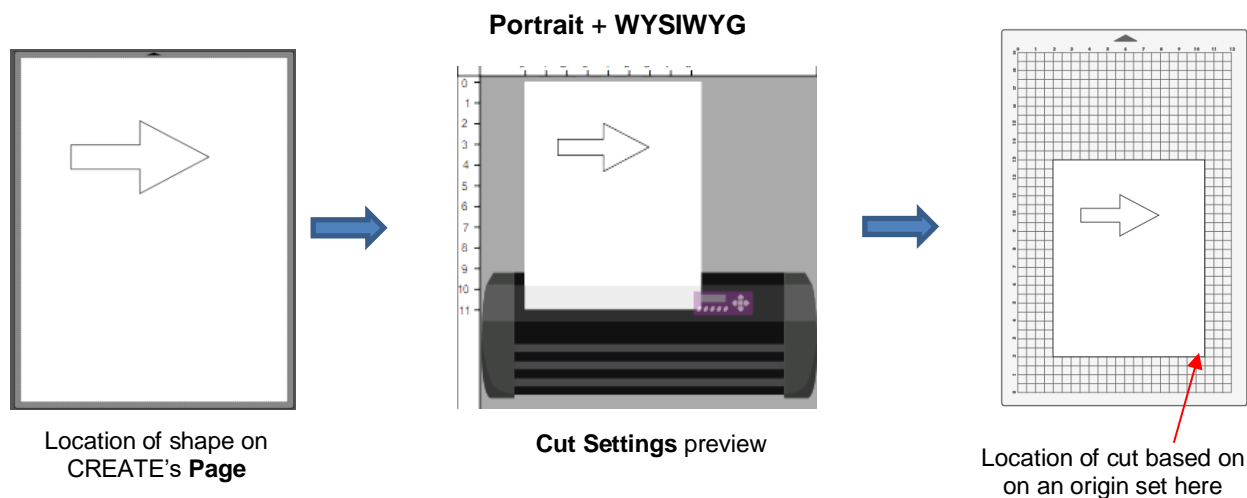
- The **Cut Mode** is set in the **Cut Settings** window. Note that three of the modes are selected in the **Cut Mode** menu near the top, while **Print+Cut** mode is located at the bottom (for those cutters with that functionality available):

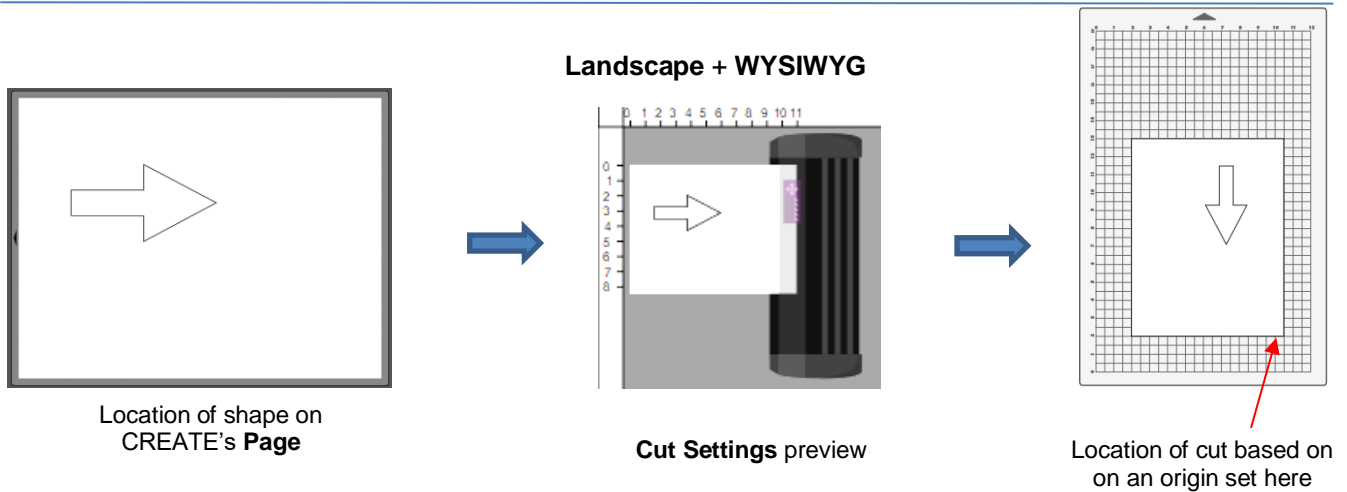


- The following sections show where shapes will cut based on the possible combinations of **Cut Mode** and **Orientation**. Note that these are all based on cutters which have a home origin in the lower right corner. If you own a Cameo or other cutter with a home origin in the top left corner, then the locations will be diagonally opposite.
- The best way to learn how these settings affect where shapes cut is to recreate what you see in these screen shots and test them out with a test pen and paper. Eventually, it will all make sense to you and, of course, there's help available if you need it.

8.04.2 WYSIWYG

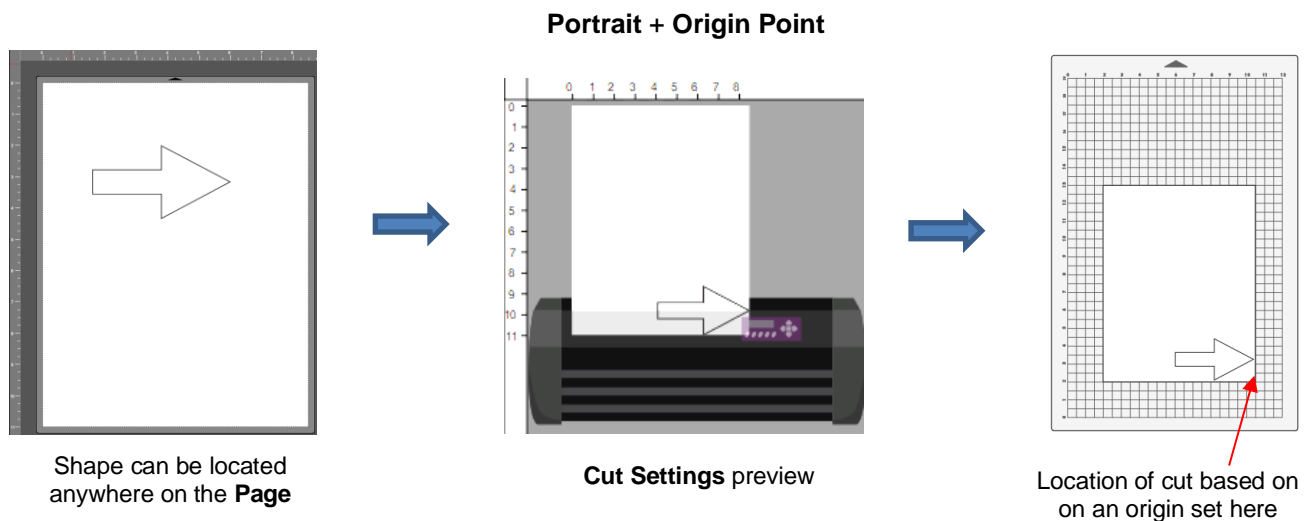
- This is the mode recommended when you need to cut shapes in a very specific location relative to the **Page** or when you are utilizing multiple tools in applications such as draw-and-cut or score-and-cut.
- There are two methods that can be used:
 - ◇ **Cutting Mat Method:** The **Page** dimensions match those of the grid on the actual cutting mat. The material needs to be placed on the cutting mat so that it covers the area where the shapes will be cut. The origin is always set in the lower right corner of the mat. The disadvantage of this method is that you then tend to always place the material in the same location on the mat thus wearing out the tackiness of the mat in that location. Therefore, the following second method is recommended and covered in this section.
 - ◇ **Material Method:** The **Page** dimensions match those of the material being placed on the actual mat (or the material being fed into the cutter without the mat). The origin is set in the corner of the material regardless of where the material is placed on the mat. In the example later on, the material is assumed to be letter size (8.5" x 11").

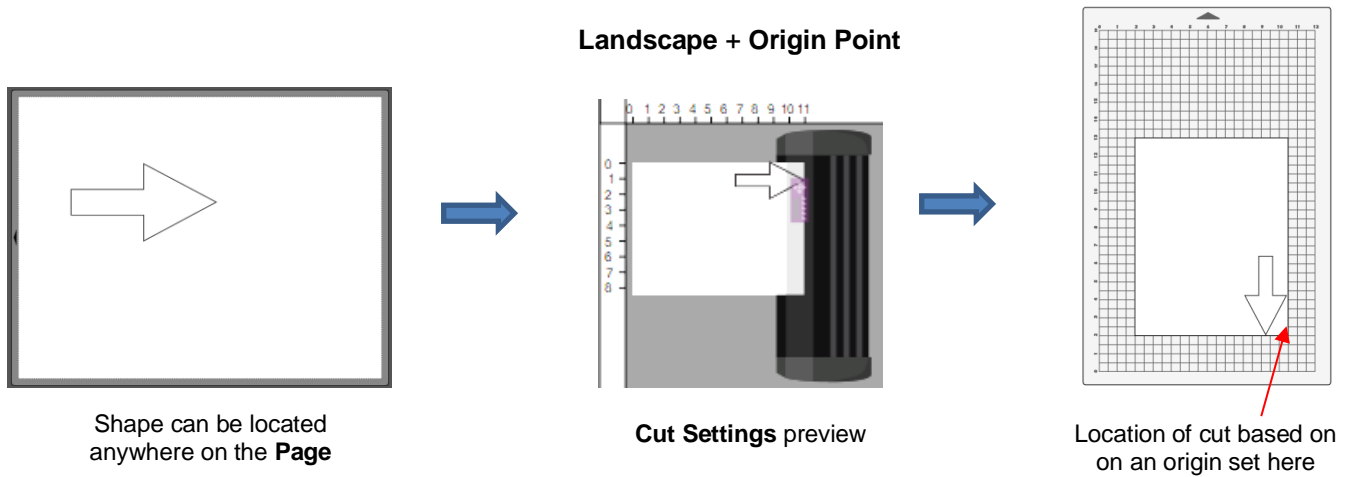




8.04.2 Origin Point

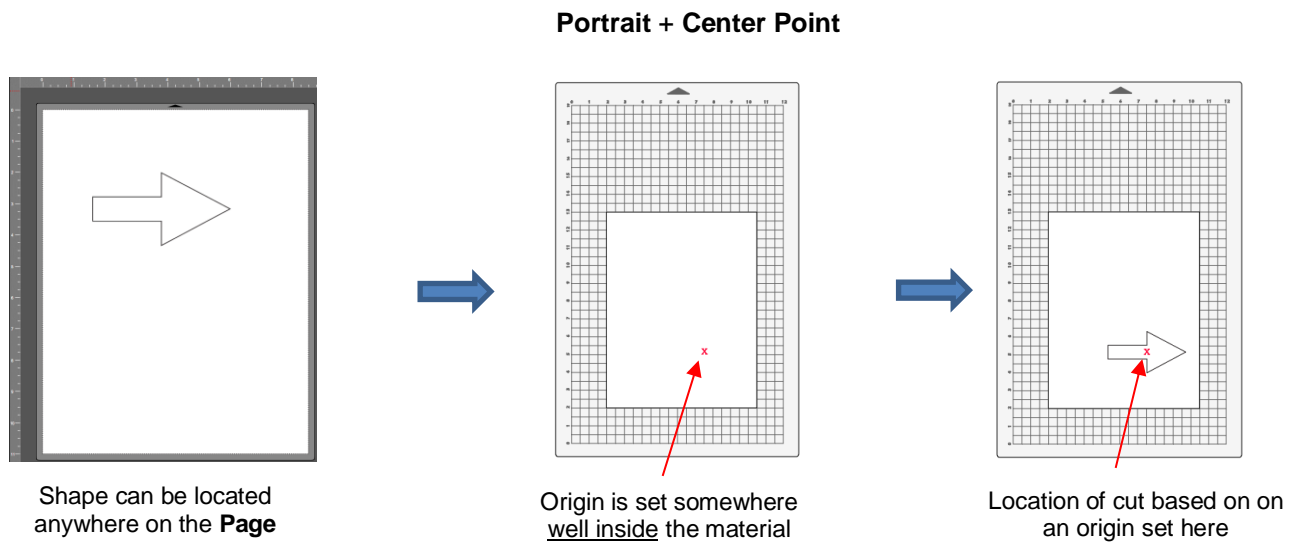
- This is the mode recommended for most applications as it economizes the use of your materials.
- Shapes can be located anywhere on the **Page**. The shapes will be moved and aligned to cut with the origin you set on the material.
- When more than one shape will be cut, the shape closest to the origin will be cut at the origin and any other shapes will be cut the distance and direction from that shape as positioned on the screen. The following figures show examples of where an image will cut. Use the small black triangle on the **Page** as a guide to the direction to insert the actual mat or material into your cutter.



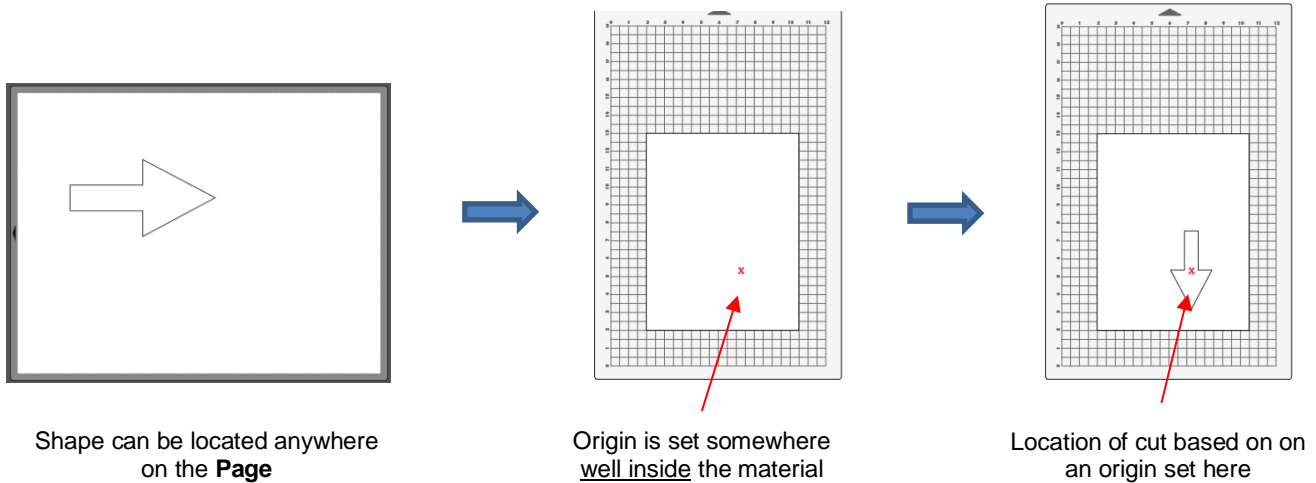


8.04.4 Center Point

- Shapes can be located anywhere on the **Page**. The shapes will be moved and centered around the origin you set on the material. While in the other two cut modes, the origin is typically set just inside the lower right corner of the mat or material, with **Center Point** mode, you want to set the origin in the center of the material or mat:



Landscape+ Center Point

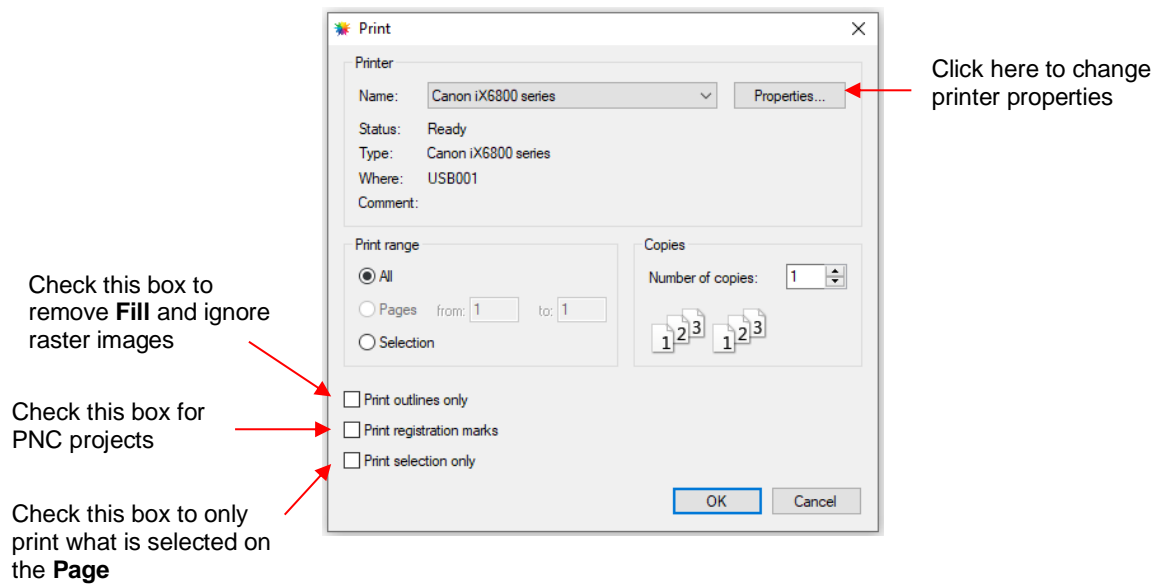


8.04.5 Print+Cut


- **Print+Cut** varies even more than home origin between one cutter and the next:
 - ◇ Some cutters do not even have the functionality available.
 - ◇ Some cutters have automatic **Print+Cut** using, for example, an optic eye or a camera. The printed registration marks are automatically scanned or photographed so that the software (or cutter's firmware) then calculates where to cut out shapes from the printout.
 - ◇ Some cutters have manual **Print+Cut** using, for example, a test pen, an alignment pin, or a laser dot. The user manually aligns the pin or laser dot with each printed registration mark so that the software then calculates where to cut out shapes from the printout.
 - ◇ Further, some cutters utilize only three registration marks, some utilize four registration marks and some utilize even more. The order in which the marks are scanned or photographed or manually positioned also varies between cutters.
 - ◇ Thus, this is the reason why attempting to cover this topic is impossible. Instead, once you click on the **Print+Cut** button, on screen instructions for your particular cutter should be sufficient to calibrate your cutter (if needed) and perform all necessary steps.

8.05 Printing

- To print from CREATE, go to **File>Print** or press **Ctrl+P**. The following window will open:



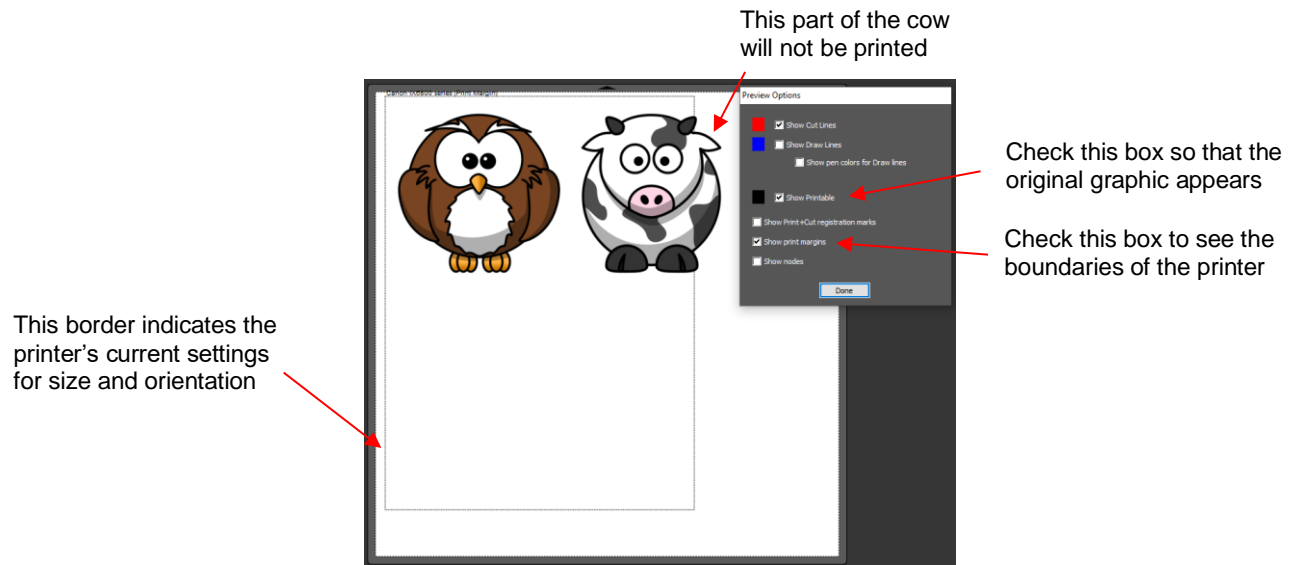
- ◇ To set up printer settings, click on the **Properties** button. (Note that you can also access your printer's properties by going to **File>Print Setup** and clicking on **Properties**.) The window which opens should be familiar to you and will not be covered in this user manual.
- ◇ **Print outlines only:** Only vector shapes will be printed. Imported raster images (.JPG, .PNG, .BMP, etc.) will not appear. If you've applied a **Fill** to shapes including colors, gradients, or patterns, then those will not appear either.
- ◇ **Print registration marks:** If your application is a print and cut, then you will want to check this option. Note that If you have not yet set up a cutter (refer to *Section 1.01.2*), then registration marks will not be sent to the printer.
- ◇ **Print selection only:** This is one way to control what is printed. You will need to select the shapes to be printed prior to entering the **Print** window. Alternatively, you can hide layers on the **Layers Panel** that you do not want printed.
- ◇ If your **Page** is larger than the printout dimensions, then make sure the shapes are located in the upper left portion of the **Page** or else any shapes outside of the printout boundary will be omitted or cut off. To

verify, click on the **Preview** icon  on the **Toolbar** and select **Show Print Margins**.

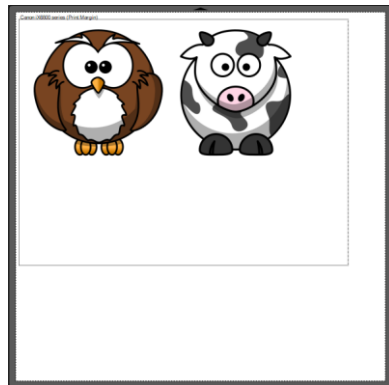
- For example, let's say you have a **Print+Cut** application and your shapes are arranged like this on a 12" x 12" **Page**:



- ◇ When you click on the **Preview** icon and mark **Show print margins**, you can see that a portion of the cow will not be printed:



- ◇ You have two choices. You can either switch to **Landscape** printing under **File>Print Setup** or you can move the shape on the right to be below the left shape:



Option 1: Switch to **Landscape** under **File>Print Setup**



Option 2: Rearrange the shapes

8.06 Weeding

- Weeding is an important function for those who do vinyl applications. When removing the waste vinyl from around the cut shapes, it's very helpful to have extra cut lines. This way you don't end up trying to weed out large pieces at one time.
- There are two types of weed lines, depending on the application:
 - ◇ Regular weeding: the cut lines are outside the design, such as used in the normal vinyl and HTV applications where the waste material will be removed around the cut design.
 - ◇ Inverse weeding: the cut lines are inside the design because the design itself will be weeded out of the surrounding material. This is used in applications like paint stencils or glass etching.
- In this tutorial, both types will be covered. The initial design steps for both are the same:
 - ◇ Weeding typically starts by adding a rectangle around the outside of the project a bit larger than the overall size of the design:

Add a rectangle around the outside of the design



- ◇ Before adding individual weed lines, lock both the rectangle and design layers on the **Layers Panel**. This will make it much easier to add the lines without them inadvertently connecting onto the paths of the other shapes.
- ◇ Using the **Draw** tool (refer to *Section 5.04.1*), click twice: once where you want the line to start and again where you want the line to end. Then press the **Enter** key to complete the line:

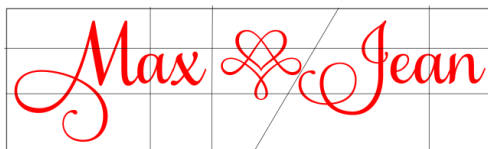
Click once to start the line



Click again at the end and press **Enter**

- Note that holding the **Shift** key while clicking the start and end points will keep the lines perfectly horizontal or vertical but remember that weeding lines do not have to be so.
- Don't worry about the lines passing through the design. These will be handled in two different ways as presented in *Section 8.06.1* and *Section 8.06.2*.

- Continue to add more weeding lines where you deem appropriate:



- Once you had added the lines, select them all and apply **Object>Merge** to create one single *Merge* layer. At this point, the *Outer Rectangle* and *Design* layers should still be locked and will be unaffected:

2. Select all of the weeding lines

1. These two layers should still be locked

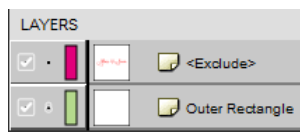
3. Apply **Object>Merge**

Three layers remain

Section 8.06.1 Regular Weeding

Video

- Unlock the *Design* layer only (leaving the *Outer Rectangle* layer locked). Select both it and the *Merge* layer of weeding lines. Apply **Path>Exclude**. The weeding lines no longer pass through the inside of the letters:

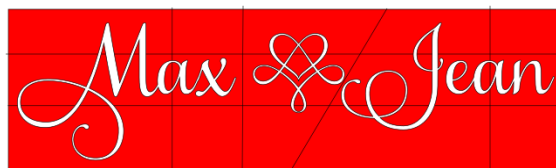


After applying
Path>Exclude



The weeding lines no longer
cut into the design

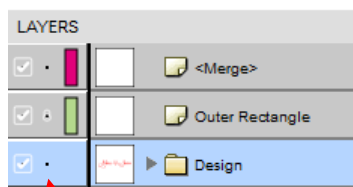
- Unlock the *Outer Rectangle* layer. Select all and apply **Object>Merge**. The interior paths will now cut before the outer rectangle:



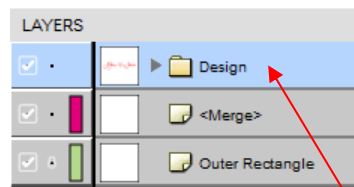
Section 8.06.2 Inverse Weeding

Video

- Start with the same design before *Section 8.06.1* and immediately after merging the individual weed lines, unlock and move the *Design* layer to the top of the **Layers Panel**:

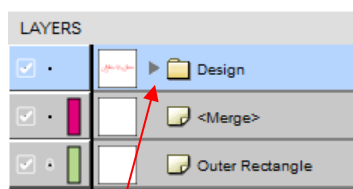


Unlock and select the *Design* layer



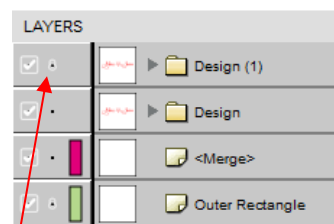
Drag to the top

- With the *Design* layer still selected, apply **Edit>Copy**, followed by **Edit>Paste in Place** to make an exact duplicate in the same position. Then hide one of them:



Select the
Design layer

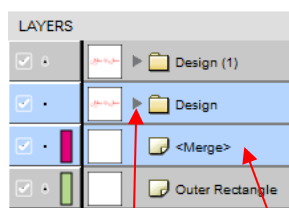
Edit>Copy
Edit>Paste in Place



Lock one of
the copies

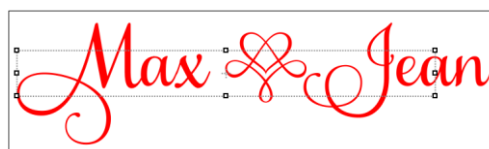
Two *Design*
layers

- Select the *Design* layer which is unlocked and the layer of merged weed lines and apply **Path>Intersection**:



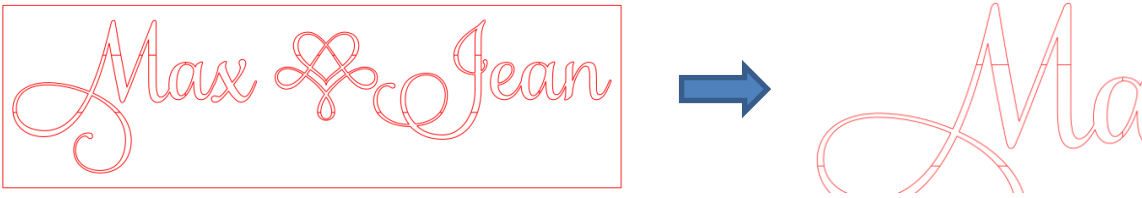
Select the *Design* and *Merge* layers

Apply
Path>Intersection



Enable **Show outlines only**

- ◇ It may appear at first that nothing occurred, but click on the **Preview** icon and the small interior weed lines will display more clearly:



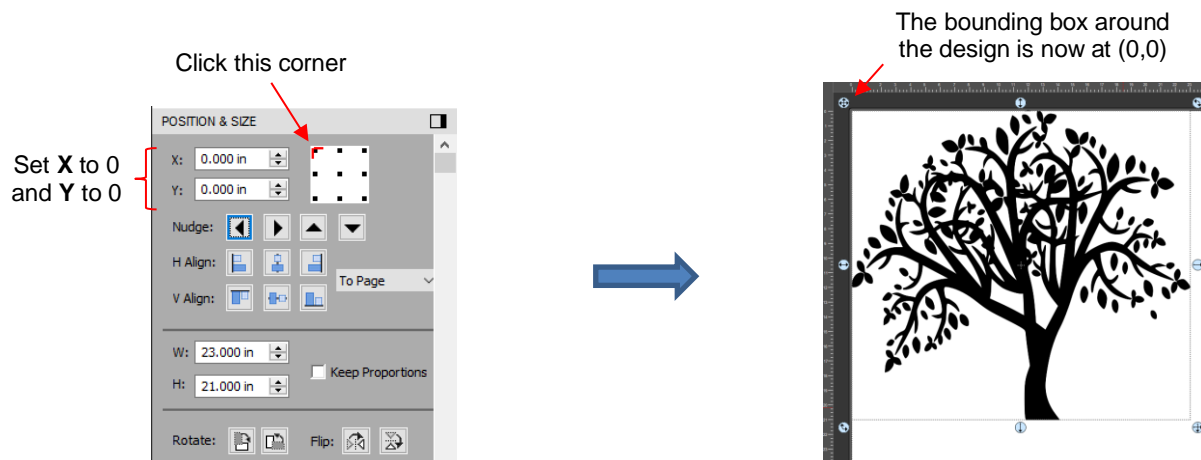
- Unlock the remaining *Design* and *Outer Rectangle* layers, select all, and apply **Object>Merge**. The design is ready to cut.

8.07 Tiling Video

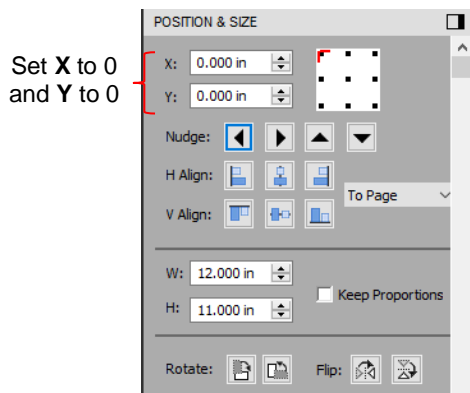
- Tiling is used to break an image into rectangles because your cutter either can't cut as wide as you need or as long as you need or both. In this example the following tree will be tiled:
- (1) The overall size of the tree is 23" x 21" and the **Page** dimensions have been set to 24" x 24" so that the design fits within the boundaries:



- (2) Select the design and move it to the exact upper left corner of the **Page** by changing settings on the **Position & Size Panel**. The location reference point is set and the **X** and **Y** locations are both set to 0:



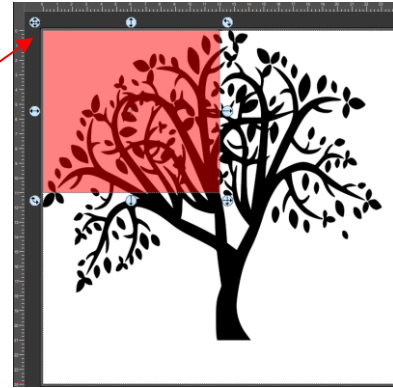
- (3) Decide how large you want the tiles to be. In this example, it is decided to split the design into 4 tiles, so each tile will be 12" x 11". So, a rectangle with those dimensions is added to the **Page** and this rectangle is also positioned at (0,0):



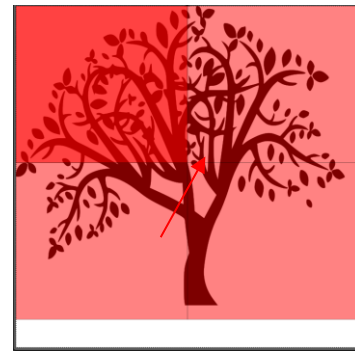
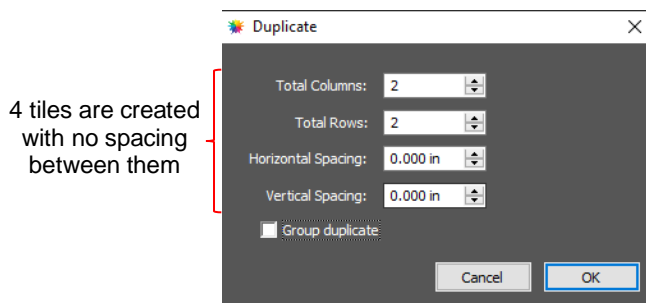
The rectangle is now also at (0,0)



Note: the **Opacity** on the red rectangle has been set to 50% for clearer viewing in this tutorial.

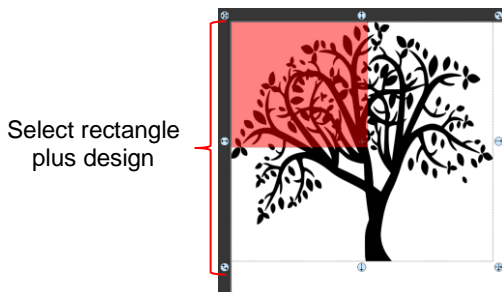


- (4) Select the rectangle and use **Ctrl+D** to open the **Duplicate** window. Entering settings that will create 4 tiles that have no spacing:

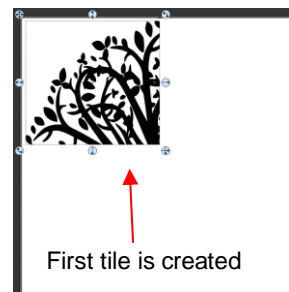


- ◇ Note that mounting vinyl can be easier if a small amount of overlap is allowed. This ensures there will be no unsightly gaps in the final project after application. To do this, use a very small negative **Horizontal** and **Vertical Spacing** (e.g. - 0.08" or - 2mm) when duplicating the tiles (instead of the 0.000 as shown above). This will overlap the tiles by the negative spacing amount entered.

- (5) Add three more new pages to the project file. Then **Select All** (tree plus the 4 tiles) and go to **Edit>Copy**. Go to each of the new pages and apply **Edit>Paste in Place**. You will now have four pages with identical contents.
- (6) Return to **Page 1** and delete all but the first, top left tile. Select the design and the first tile and apply **Path>Intersection**:



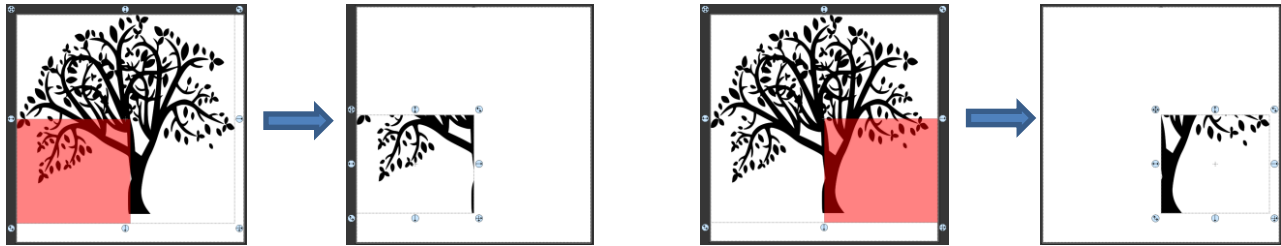
Apply **Path>Intersection**



- (7) Go to the **Page 2** and delete all rectangles but the upper right one. Again, select all and apply **Path>Intersection**:



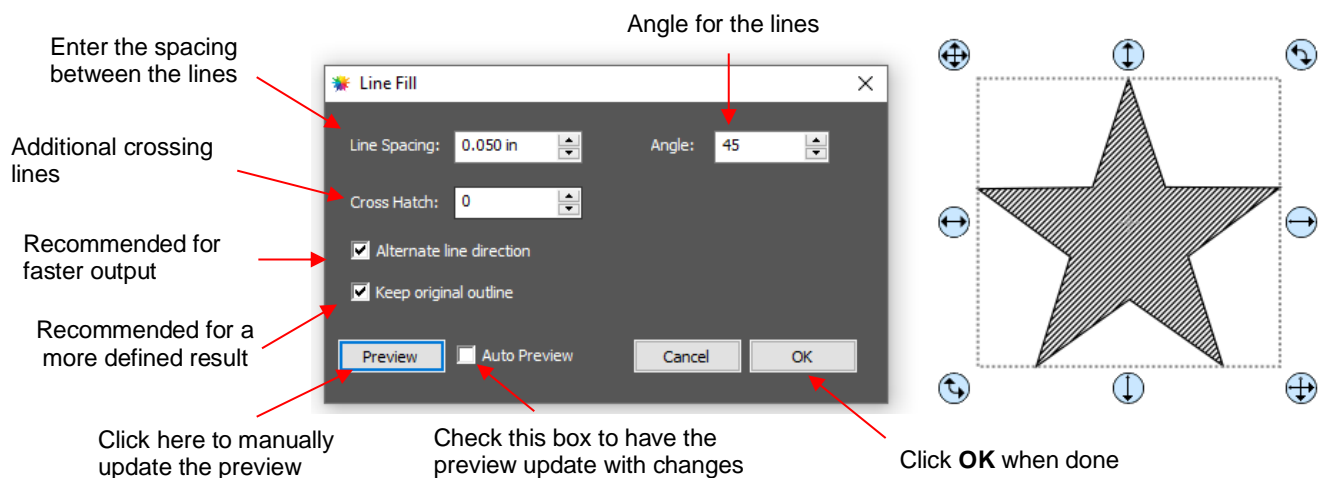
(8) Repeat on **Page 3** and **Page 4**, each time leaving one of the rectangles that hasn't been used:



(9) You are now ready to cut each tile.

8.08 Line Fill *Video*

- 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 a shape and go to **Effects>Line Fill**:



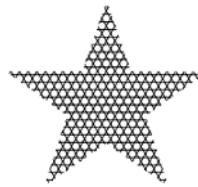
- ◇ **Line Spacing:** This is selected based on the width of the line produced by the tool to be used. If it's too small to accurately measure, use 0.02" or 0.5 mm for a small test shape and then adjust, as needed, to fit the tool and application.
- ◇ **Angle:** Choose an angle for the **Line Fill**.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

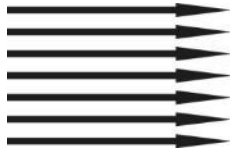


Cross Hatch = 2

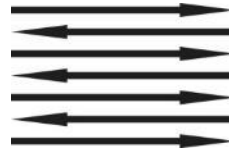


Cross Hatch = 4

- ◇ **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 advisable to have enabled as it better defines the original shape:



Keep Original Outline disabled

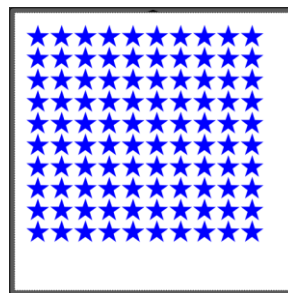
versus



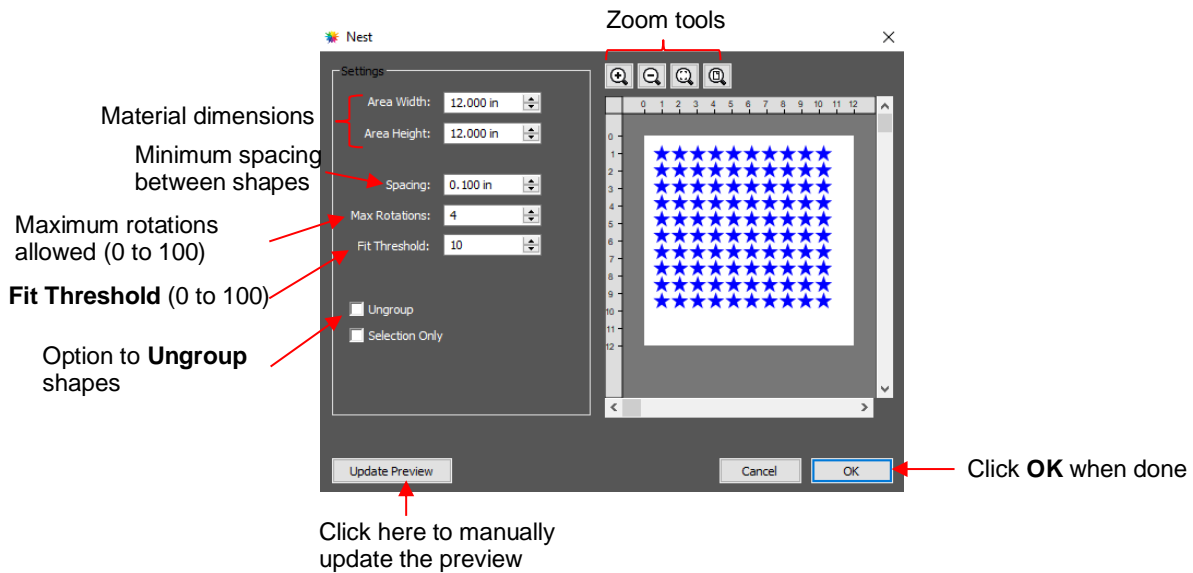
Keep Original Outline enabled

8.09 Nest

- The **Nest** function rearranges all of the shapes on the current page in an effort to economize the area occupied.
- For example, let's say you want to cut out 100 stars from a sheet of 12 x 12 cardstock:

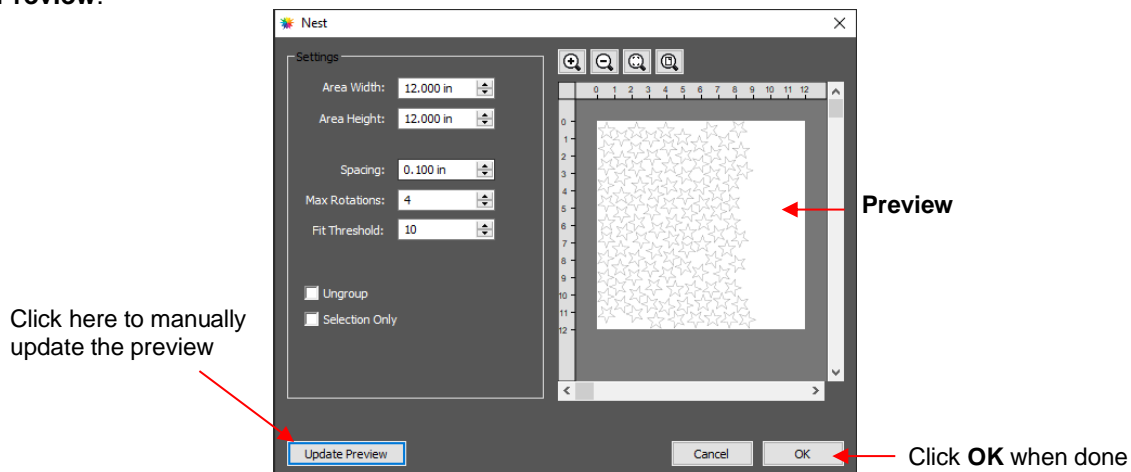


- To access the **Nest** function, go to **Effects>Nest**. The following window opens:

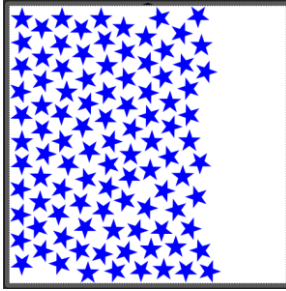


- ◇ **Area Width** and **Area Height**: Enter the dimensions of the material from which you will be cutting so that the nesting will arrange the shapes within that available area, if possible.
- ◇ **Spacing**: Enter the minimum distance allowed between shapes.
- ◇ **Max Rotations**: Shapes will be rotated in an effort to pack them together more closely. The maximum rotations allowed can be set between 0 and 100. However, the more rotations you select, the longer the rendering time for the nesting function. Note: When cutting from a material, such as patterned paper, where the shapes need to be oriented as designed on the **Page**, set **Max Rotations** to 0 so that none of the shapes will be rotated during the nesting process.
- ◇ **Fit Threshold**: Set between 1 and 100 where a higher value attempts to pack the shapes closer together than a lower value. As with **Max Rotations**, the higher the number, the longer the rendering time for the nesting function.
- ◇ **Ungroup**: If any of the shapes are grouped together, but you do not want them treated as a group when nesting, mark this option.
- ◇ **Selection Only**: Only shapes that are preselected before opening the **Nest** window will be nested.

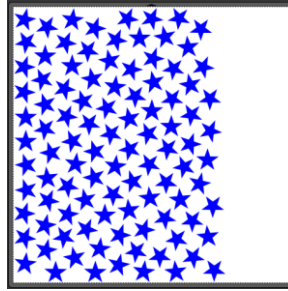
- Clicking on **Update Preview** will perform the nesting process and the resulting arrangement will appear in the **Preview**:



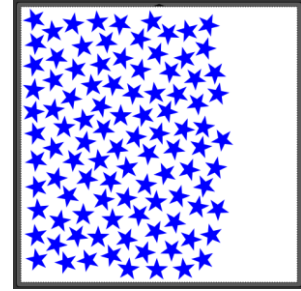
- **IMPORTANT:** Choosing very high values for **Max Rotations** and **Fit Threshold**, when there are many shapes on the page, can lead to freezing of the software. Testing has shown that the amount of space saved may not amount to much compared to more conservative settings:



Max Rotations = 4
Fit Threshold = 10
Area = 109 in²

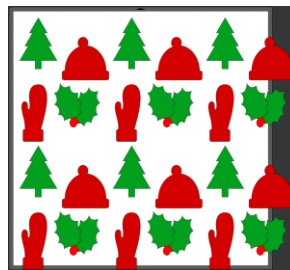


Max Rotations = 12
Fit Threshold = 30
Area = 109 in²



Max Rotations = 36
Fit Threshold = 90
Area = 107 in²

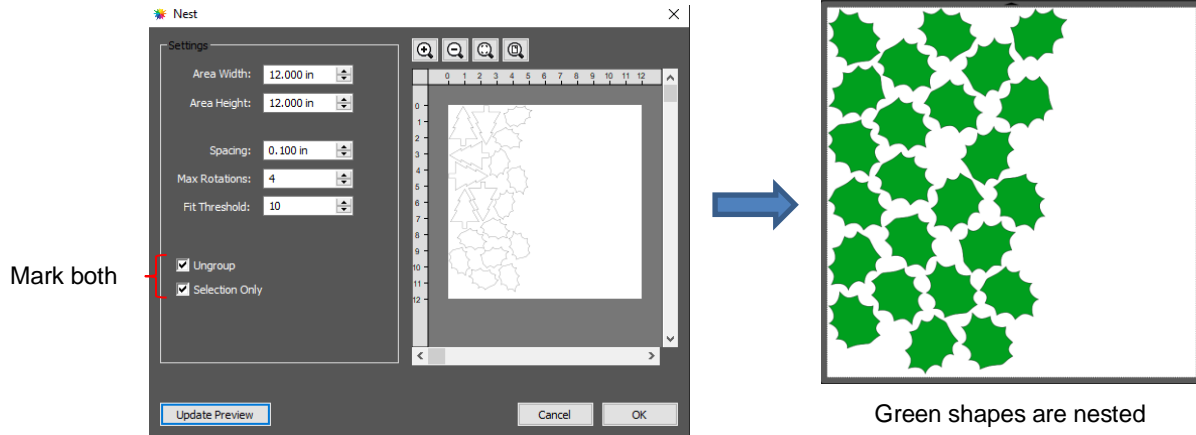
- **Note:** If the **Area Width** and **Area Height** are set to 10" x 10" in this example, the available space turns out to be too small for the 100 stars. CREATE pops up a message to warn you in this event because the shapes will begin to overlap.
- Nesting isn't restricted to identical shapes. In this next example, Christmas shapes are to be cut from red and green cardstock:



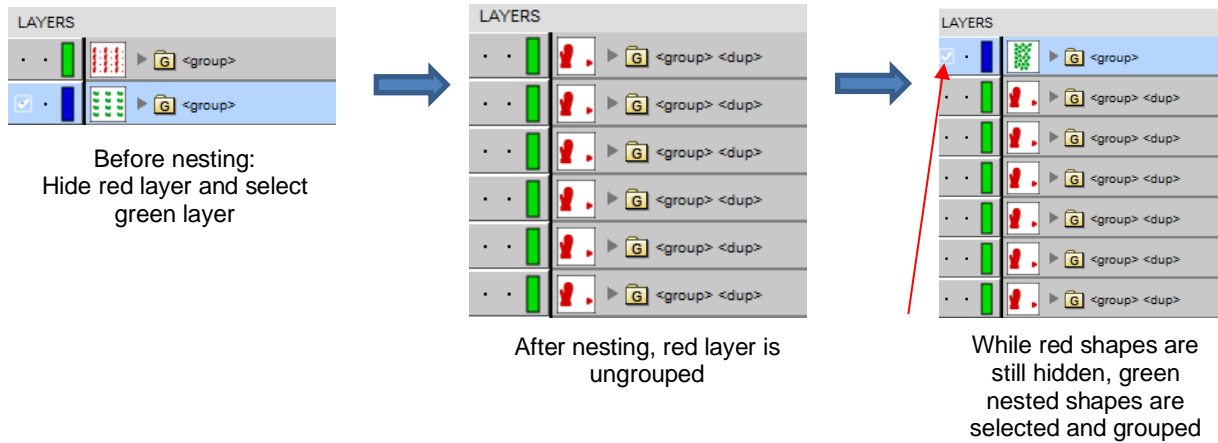
- ◇ Note that the shapes extend beyond the boundary of the **Page**. This is not an issue for the **Nest** function.
- ◇ The green shapes are all selected and grouped together on the **Layers Panel**, as are the red shapes:



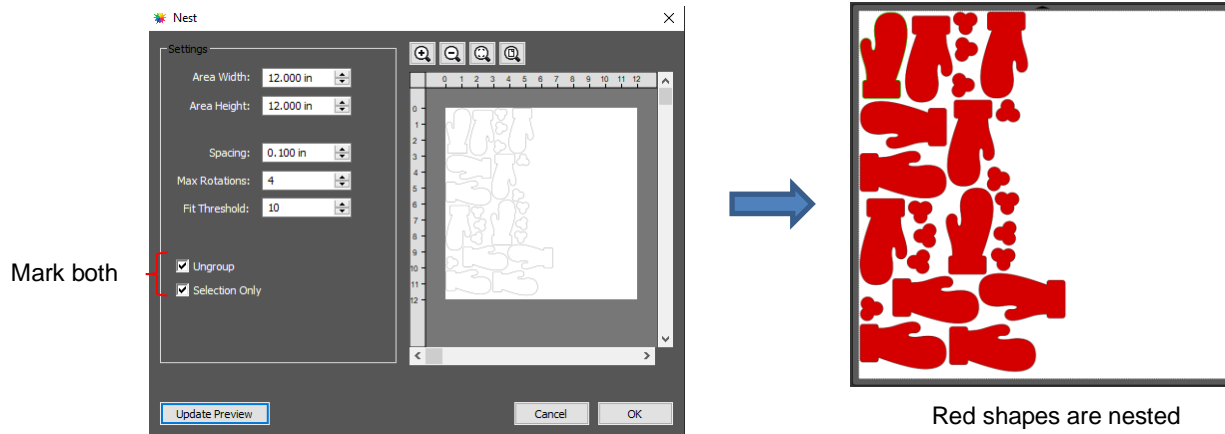
- **IMPORTANT:** At the time of this writing, there is a bug in CREATE whereby the **Selection Only** setting about to be presented is not functioning. Thus, before activating the **Nest** function, hide any of the layers not to be nested. In this example the layer with the red shapes will be hidden.
- Prior to opening the **Effects>Next** screen, select the group still showing (the green shapes). Note that both the **Ungroup** and the **Selection Only** options need to be marked:



- ◇ Even though the layer of red shapes were hidden, they were still ungrouped during the nesting process (thus the indication of a programming bug). So, before showing the red shapes, select all of the green shapes and group those:



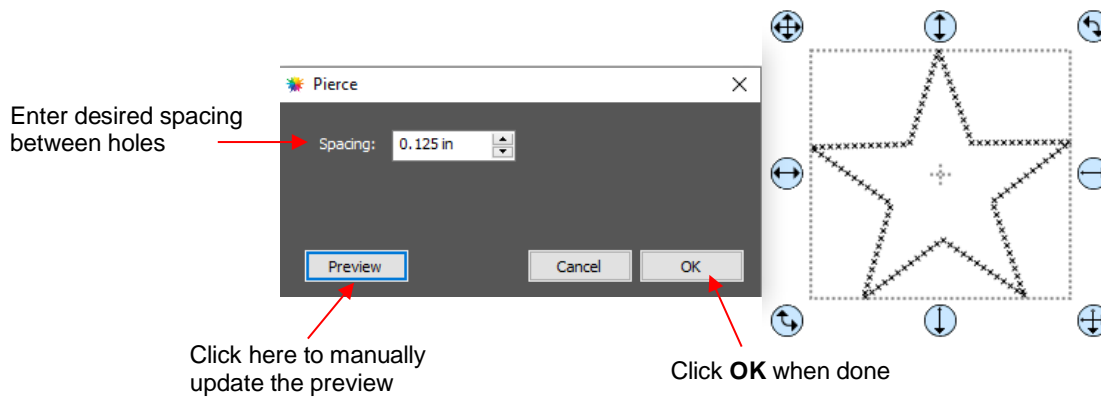
- ◇ The process is repeated except this time the green shape layer is hidden and the red shape layers are selected and



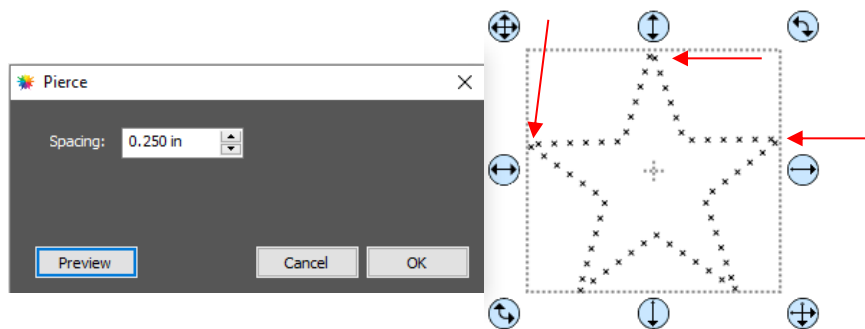
- ◇ You may wish to then group the red before showing the green, as they will now be ungrouped, as well. Hopefully, this issue will be resolved in a future update of CREATE.

8.10 Pierce

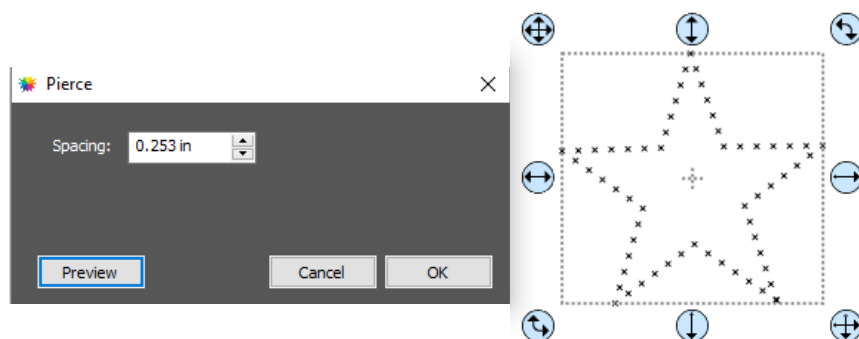
- The **Pierce** function creates holes for punch tools. This can be used to create Pergamano designs and paper embroidery patterns.
- To access this function, select a shape and go to **Effects>Pierce**:



- Note that even though you see “X” shapes on the screen, the cutter head will be making downward punch movements.
 - At this time, there is no editing available for a pattern created using the **Pierce** function. If you find that your design has holes that are not evenly spaced, try altering the spacing by tiny increments and clicking on **Preview**.
- ◇ For example, the star shape used above shows uneven spacing when a value of 0.25” is entered. Note how the star has holes too close to one another at the upper points:



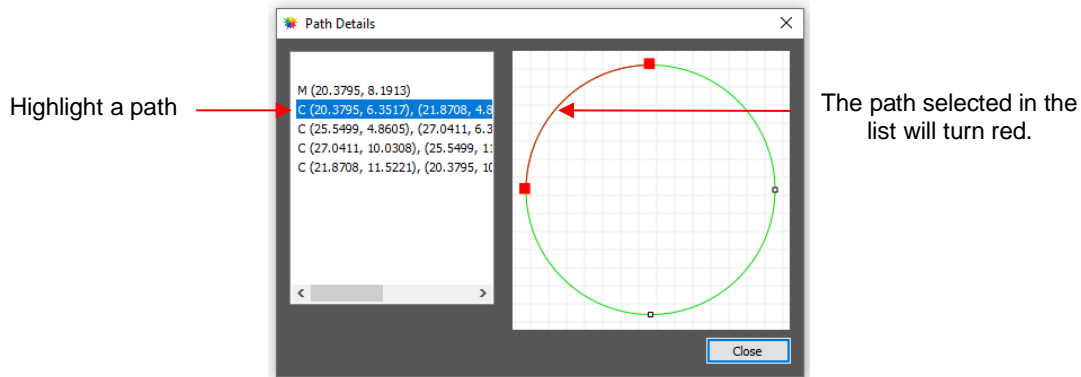
- ◇ Gradually increasing the **Spacing** didn't immediately result in an acceptable pattern until 0.253” was entered. Then the pattern looked even:



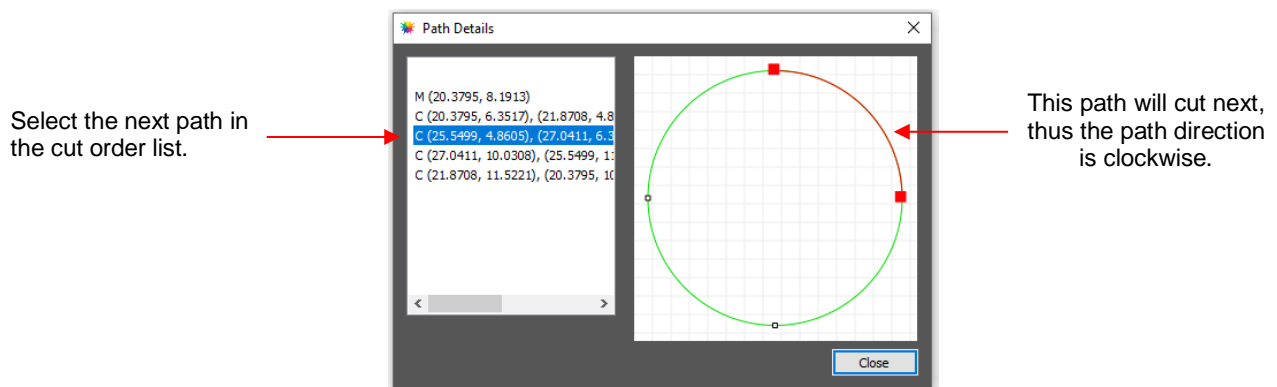
- If you have a shape that has the **Pierce** effect applied and want to remove it (even after the file has been saved and re-opened), select the shape and go to **Object>Remove Effects**.
- If you are unable to get an even pattern, then try using the **Rhinestone** effect instead. Refer to *Section 7.12* and enter the smallest rhinestone circle size available: SS000.

8.11 Path Details and Reverse Path

- Sometimes a cutting issue can be resolved by reversing the direction of a cut. In CREATE, the cut direction (clockwise versus counterclockwise) can be checked using the following steps:
 - ◇ Select the shape, right-click and select **Path>Path Details**.
 - ◇ A window will open. On the left side is a list of the paths in the order they will cut. Click on any path in the list and that path will turn red:








- ◇ Select the next path in the list and you will then be able to determine the direction of the cut:









- To reverse the direction of a path, use either of the following after selecting the shape:
 - ◇ Right-click and select **Path>Reverse Path**
 - ◇ Go to **Path>Reverse Path**






Appendix A Shortcuts and Icons in CREATE

<u>Shortcut</u>	<u>Icon</u>	<u>Description</u>	<u>Menu (m:) and/or Icon (i:) Location</u>
Main Screen and Project Functions			
Ctrl+N		Open a new file/project	m:File>New Project
Ctrl+O		Open an existing .scc file/project	m:File>Open Project
Ctrl+S		Save a file/project	m:File>Save Project
Ctrl+Shift+S		Save file/project in new location	m:File>Save Project As
Ctrl+W		Close current project	m:File>Close Project
Ctrl-Shift+W		Close all projects	m:File>Close All Projects
Ctrl+P		Print	m:File>Print
Ctrl+Z		Undo last action	m:Edit>Undo i:Toolbar
Ctrl+Shift+Z		Redo last action	m:Edit>Redo i:Toolbar
		Open Document Panel	i:Properties Panel
		Pop out a panel	i:Properties Panel
		Return panel to Properties Panel	i:Properties Panel
Right click>Mat Size		Change the size of the Cutting Mat	m:Cutter>Mat Size
Right click>Mat Orientation		Toggle between Landscape and Portrait	m:Cutter>Mat Orientation
Right click>Show Rulers		Toggles Rulers on and off	
Right click>Ruler Units		Set units for software: in, cm, mm	m:View>Ruler Units
Alt+F4		Close Create	m:File>Exit




Zooming and Panning Tools

Z		Zoom in on selected area by dragging mouse	i:Tools Panel
Ctrl+ +++ (or right click>Zoom In)		Zoom in	m:View>Zoom In i:Tools Panel>Tool Options
Ctrl+ - - - (or right click>Zoom Out)		Zoom out	m:View>Zoom Out i:Tools Panel>Tool Options
Ctrl+ Shift+ = (or click on Zoom tool and drag mouse)		Zoom to selected shape	m:View>Zoom Selection i:Tools Panel>Tool Options
Ctrl+F		Zoom so cutting mat fits in window	m:View>Fit to Window i:Tools Panel>Tool Options
Alt+roll mouse wheel		Zoom in and out, centered on middle of cutting mat	
H		Pan workspace	i:Tools Panel
Spacebar+drag left mouse button		Pan workspace while in Select mode or in Zoom mode	



Shortcut**Icon****Description****Menu (m:) and/or Icon (i:) Location****Importing and Exporting**

Ctrl+Shift+I		Import a file	m:File>Import i:Toolbar
Ctrl+Shift+E		Export a file (save in a different format)	m:File>Export i:Toolbar
Ctrl+Shift+T		Open Trace Image window	m:File>Trace Image i:Toolbar
Ctrl+1		Open the Library window	m:Window>Library i:Toolbar
		Open the eshape store window	m:File>Share & Get Shapes>Login i:Toolbar

Selecting and Moving Shapes
















V		Left click on shape to select it	i:Tools Panel
Shift + click on shape		Add additional shapes to selection	i:Tools Panel
Freely drag mouse around shapes		Lasso select shapes	i:Tools Panel
Ctrl+A (or right click>Select All)		Select all shapes	m:Edit>Select All
Ctrl+Shift+A (or right click>Deselect All)		Deselect all shapes	m:Edit>Deselect All
Right click>Transform>Move		Move a selected shape to a new location	

Duplicating Shapes









Alt + drag shape		Creates a duplicate of the shape being dragged	i:Tools Panel
Alt + click on shape		Creates a duplicate of shape on top of original	i:Tools Panel
Ctrl+C (or right click>Copy)		Copy to clipboard	m:Edit>Copy
Ctrl+V (or right click>Paste)		Paste from clipboard	m:Edit>Paste
Ctrl+Shift+V (or right click>Paste in Place)		Paste in place from clipboard (on top of original)	m:Edit>Paste in Place
Ctrl+Alt+Shift+V		Fill the grid with selection from clipboard	m:Edit>Paste (Auto Fill)
Ctrl+D		Create duplicate copies of selected shape (s)	m:Object>Duplicate
Ctrl+Shift+D		Create duplicate copies in a circular formation	m:Object>Duplicate Rotated




Cutting/Deleting Shapes

Ctrl+X (or right click>Cut)		Cut to clipboard	m:Cut to clipboard
Del (or right click>Delete)		Delete selected shape(s)	
Hold Del and click on one shape at a time		Deletes each shape as it is left clicked	









<u>Shortcut</u>	<u>Icon</u>	<u>Description</u>	<u>Menu (m:) and/or Icon (i:) Location</u>
Text and Font Icons			
		Open Text Panel	i:Properties Panel
		Bold	i:Text Panel
		Italic	i:Text Panel
		Reload installed fonts list	i:Text Panel
		Load a font	i:Text Panel
		Left align text	i:Text Panel
		Center align text	i:Text Panel
		Right align text	i:Text Panel
		Justify text	i:Text Panel
		Add font to Favorites	i:Text Panel i: Library>Fonts tab
T		Type Tool: enter text	i:Tools Panel
T		Vertical type	i:Tools Panel (in Type Tool menu)
T		Type on path	i:Tools Panel (in Type Tool menu)
T		Type on arch	i:Tools Panel (in Type Tool menu)
Hold Ctrl		Resize, rotate, move text while in Type Tool mode	i:Tools Panel
Hold Ctrl+Shift		Resize text proportionately while in Type Tool mode	i:Tools Panel
		Stencil Bridge: Connect interior shapes to the outside	i:Tools Panel







Library

Ctrl+1		Open the Library window	m:Window>Library i:Toolbar
		Add folder	i:Library>Shapes tab i:Library>Project tab
		Delete folder	i:Library>Shapes tab i:Library>Project tab
		Add file to selected folder	i:Library>Shapes tab i:Library>Project tab
		Refresh	i:Library>Shapes tab i:Library>Project tab
		Change to List View	i:Library>Shapes tab i:Library>Projects tab
		Change to Thumbnail View	i:Library>Shapes tab i:Library>Projects tab
		Search on keyword	i:Library>Shapes tab i:Library>Projects tab








<u>Shortcut</u>	<u>Icon</u>	<u>Description</u>	<u>Menu (m:) and/or Icon (i:) Location</u>
Library (cont.)			
		Sync with Store or access Download Manager	i:Library>Projects tab
		Temporarily open a font	i:Library>Fonts tab
		Add font to Favorites	i:Library>Fonts tab

Manipulating and Coloring Shapes

		Open Position & Size Panel	i:Properties Panel
Right click>Transform>Scale		Resize a selected shape	m:Object>Tranform>Scale
Right click>Transform>Rotate		Rotate a selected shape	m:Object>Transform>Rotate i:Position & Size Panel
Right click>Transform>Flip Horizontal (Mirror)		Mirror/Horizontally flip a selected shape	m:Object>Transform>Flip Horizontal i:Position & Size Panel
Right click>Transform>Flip Vertical		Vertically flip a selected shape	m:Object>Transform>Flip Vertical i:Position & Size Panel
Ctrl+Shift+Up (or right click>Arrange>Bring to Front)		Bring selected shape to top	m:Object>Arrange>Bring to Front
Ctrl+Up (or right click>Arrange>Bring Forward)		Bring selected shape up one level	m:Object>Arrange>Bring Forward
Ctrl+Down (or right click>Arrange>Send Backward)		Send selected shape down one level	m:Object>Arrange>Send Backward
Ctrl+Shift+Down (or right click>Arrange>Send to Back)		Send selected shape to the bottom	m:Object>Arrange>Send to Back
Ctrl+Alt+L (or right click>Lock)		Lock selected shape	m:Object>Lock
Ctrl+Alt+Shift+L (or right click>Unlock All)		Unlock all shapes	m:Object>Unlock All
Right click>Hide		Hide select shape	m:Object>Hide
Right click>Show All		Show all shapes	m:Object>Show All
Ctrl+G (or right click>Group)		Group selected shapes	m:Object>Group
Ctrl+Shift+G (or right click>Ungroup)		Ungroup selected shapes	m:Object>Ungroup
Ctrl+B (or right click>Break Apart)		Break a shape into all of its individual paths	m:Object>Break Apart
Ctrl+Shift+B		Join selected shapes into a single shape	m:Object>Merge
		Open Fill & Stroke Panel	i:Properties Panel
		Stroke with pointed corners	i:Fill & Stroke Panel
		Stroke with rounded corners	i:Fill & Stroke Panel
		Stroke with beveled corners	i:Fill & Stroke Panel












<u>Shortcut</u>	<u>Icon</u>	<u>Description</u>	<u>Menu (m:) and/or Icon (i:) Location</u>
Manipulating and Coloring Shapes (cont.)			
		Butt end cap	i:Fill & Stroke Panel
		Round end cap	i:Fill & Stroke Panel
		Extended end cap	i:Fill & Stroke Panel
		Dropper: Copy a Fill and/or Stroke color from one shape to another	i:Tools Panel
		Gradient: Edit a gradient start and end points	i:Tools Panel
		Distort a shape	i:Tools Panel

Layers Panel







		Open Layers Panel	i:Properties Panel
Right click>Hide		Hide a layer	m:Object>Hide i:Layers Panel
		Show a layer	i:Layers Panel
Right click>Hide all		Hide all layers	m:Layer>Show/Hide>Hide All Layers
Right click>Show All		Show all layers	m:Layer>Show/Hide>Show All Layers
Ctrl+Alt+L (or right click>Lock)		Lock a layer	m:Object>Lock i:Layers Panel
		Unlock a layer	i:Layers Panel
Right click>Lock All		Lock all layers	m:Layer>Lock/Unlock>Lock All Layers
Ctrl+Alt+Shift+L (or right click>Unlock All)		Unlock all layers	m:Layer>Lock/Unlock>Unlock All Layers
Right click>Delete		Delete the selected layer	m:Layer>Delete Current Layer i:Layers Panel
		Create a new layer	m:Layer>Add Layer Folder i:Layers Panel





Designing Tools

Alt+U (or right click>Path>Union)		Weld selected shapes to remove overlap	m:Path>Union
Right click>Path>Intersection		Apply the Boolean Join intersection to two shapes	m:Path>Intersection
Right click>Path>Exclude		Apply the Boolean Join exclude to two shapes	m:Path>Exclude
Right click>Path>Front Minus Back		Apply the Boolean Join front minus back to two shapes	m:Path>Front Minus Back
Right click>Path>Back Minus Front		Apply the Boolean Join back minus front to two shapes	m:Path>Back Minus Front




<u>Shortcut</u>	<u>Icon</u>	<u>Description</u>	<u>Menu (m:) and/or Icon (i:) Location</u>
Designing Tools (cont.)			
P		Draw: draw straight lines and Bézier curves	i:Tools Panel
		Freehand: freely draw thin lines	i:Tools Panel
		Brush: freely draw thick lines	i:Tools Panel
		Draw rectangle or square	i:Tools Panel
		Draw rounded rectangle or rounded square	i:Tools Panel (in Rectangle menu)
		Draw circle or oval	i:Tools Panel (in Rectangle menu)
		Draw triangle	i:Tools Panel (in Rectangle menu)
		Draw polygon	i:Tools Panel (in Rectangle menu)
		Draw star	i:Tools Panel (in Rectangle menu)
		Draw spiral	i:Tools Panel (in Rectangle menu)
		Ruler: Measure distances and angles on screen	i:Tools Panel
Right click>Appearance>Add Shadow Layer		Add an outline or inline to a selected shape	m:Effects>Shadow Layer
Right click>Appearance>Lattice		Create a lattice design in a selected shape	m:Effects>Lattice
Right click>Appearance>Rhinstones		Create a rhinestone outline or fill on a selected shape	m:Effects>Rhinstones

Editing Tools

A		Shape Tool: Move or reshape a path or move and edit nodes	i:Tools Panel
		Eraser: erase parts of a shape	i:Tools Panel
		Knife: Make thin, straight-line cuts through a shape	i:Tools Panel
		Crop: Drag the mouse to marquee-select an area to be retained	i:Tools Panel (in Knife menu)
Alt + drag Bezier control point		Only reshape the current path and not adjoining path	i:Tools Panel
Right click>Path>Simplify		Reduce the number of nodes in the selected shape	m:Path>Simplify
Right click>Path>Split Path		Break the path between the two selected nodes	m:Path>Split Path i:Tools Panel
Right click>Path>Reverse Path		Reverses the direction the path will cut	m:Path>Reverse Path
Right click>Path>Object to Path		Remove the text, rhinestone or lattice status	m:Path>Object to Path
Right click>Path>Close Path		Close shape by adding a straight line between the start and ending nodes	m:Path>Close Path

<u>Shortcut</u>	<u>Icon</u>	<u>Description</u>	<u>Menu (m:) and/or Icon (i:) Location</u>
Editing Tools (Cont.)			
Right click>Path>Convert Node to Corner		Convert current selected node to corner	i:Tools Panel>Tool Options
Right click>Path>Convert Node to Cusp		Convert current selected node to cusp	i:Tools Panel>Tool Options
Right click>Path>Convert Node to Smooth		Convert current selected node to smooth	i:Tools Panel>Tool Options
Right click>Path>Convert Node to Symmetric		Convert current selected node to symmetric	i:Tools Panel>Tool Options
Right click>Path>Path Details		Show path to be travelled when shape cuts	

Output

Shift+Ctrl+C		Open Cut Settings window for current default cutter	m:Cutter>Cut with (name of cutter) i:Toolbar
Ctrl+Shift+P		Show preview of cut shapes and/or print shapes	m:Cutter>Preview i:Toolbar
Ctrl+P		Open print window	m:File>Print
		Open Style Panel	i:Properties Panel

Help

F1		Open Help window	m:Help>Help
----	--	------------------	-------------

Appendix B Troubleshooting FAQ's

B1 Cutting/Drawing Issues

I am getting large lines sliced through all of my cuts.

- Your CREATE software is still in trial mode. You need to register your copy. Refer to *Section 1.01.2*.
-

My shapes are drawing (cutting) off the material. What am I doing wrong?

- When setting the origin, make sure you are using the tip of the blade as the reference point or, in some cases, the laser light on your cutter.
 - Check whether your **Page** is in **Portrait** or **Landscape** mode. This will change whether your image appears the same way you see it on the screen or rotated 90 degrees relative to the screen.
 - Check which **Cut Mode** is set in the **Cut Settings** window.
 - Details on these various settings are covered in *Section 8.04*.
-

I'm drawing with a pen and there are bubbles at the corners.

- For perfect corners when using a pen, turn off **Blade Offset** (set to 0) since you do not need an offset for pens (or other tools like embossers and engravers). Alternatively, set those layers being drawn to **Draw** on the **Style Panel** and set **Holder** to **Pen** in the **Cut Settings** window.
-

B2 Software Issues

*I set the **Cut Line Type** to **Draw (Pen)** but my shapes are not being drawn. Nothing is happening.*

- In the **Cut Settings** window, you need to change the **Holder** setting to **Pen**.
-

I installed some fonts inside of CREATE but they are no longer there.

- CREATE allows you to open a font for temporary use but once you close CREATE, it is uninstalled. Refer to *Section 4.02.3* for more details.
 - If there are fonts you wish to have installed in CREATE only, then copy/paste those font files into Document\StarCraft CREATE\My Fonts. They will then become a part of the Font menu in CREATE.
-

*I'm trying to use the **Pattern Fill** feature to fill some shapes with a digital scrapbooking paper file. The pattern doesn't look right.*

- Most digital scrapbooking papers are designed for 12" x 12" printing. Thus, in the **Pattern Fill** window, set the **Width** and **Height** equal to 12 inches.
-

*I'm doing a PNC project and the registration marks are not printing. I have the option selected in the **Print** settings but I also don't see them under **Preview** or when I turn on the **Show Reg Marks** on the **Document Panel**.*

- Make sure you have the layer that will be cut showing on the **Layers Panel**.
 - Make sure you have a cutter added that has print and cut functionality. Refer to *Section 1.01.2*.
 - Make sure you have cut lines in the project. For example, if you used **File>Place Image** to import a file, that image will need to be traced before cutting. Refer to *Section 5.03*.
-

Help! I created and saved a file but I can't get it to reopen. It says that it's invalid or corrupt.

- This can happen if you close CREATE before the file has finished saving. Unfortunately, there's no fix.
-

Every time I open an CREATE file where I've previously imported a JPG (or PNG, BMP) image, the image isn't there. How do I fix it so that it will save the image?

- Go to **Edit>Preferences** and make sure the **Embed images** option is marked:
-

*CREATE is suddenly not opening. I get an error message about a problem with the **Library**.*

- This can happen when there's a new file in the **Library** that is invalid for some reason.
 - ◇ On your computer, locate the folder **Documents\StarCraft CREATE**.
 - ◇ There are two personal folders there that are accessed by the **Library**: **My Projects** and **My Designs**.
 - ◇ Copy and paste those two folders to a new location outside of the **StarCraft CREATE** folder.
 - ◇ Delete all files in those two folders that are still in the **StarCraft CREATE** folder.
 - ◇ Verify that you can now open CREATE successfully. If not, start a support ticket. Otherwise, you can now begin copying/pasting back the older files based on their **Modified Date** since it's most likely a newer file in one of those two folders that caused the issue.
-

*I inadvertently dragged part of the **Library** to extend what I can see and now parts of it are missing!*

- Close CREATE and reopen. The **Library**'s window should return to normal.
-

*I dragged the **Library** off the screen and now I can't get it back.*

- Go to **Window>Workspace** and select either **Basic** or **Advanced**.
-

*My shapes are not filling with color and I have **Color** selected on the **Fill & Stroke Panel**.*

- On the **Document Panel**, make sure the **Workspace Alpha** setting is at 100.
 - On the **Document Panel**, make sure the **Show outlines only** option is NOT enabled.
 - On the **Fill & Stroke Panel**, with a shape selected, make sure the **Opacity** is set to 100%.
-

I imported an SVG file and it's the wrong size.

- Refer to the **SVG DPI** setting in *Section 2.05.1*.
-

*I've set up a print-and-cut project and enabled **Show Registration Marks** on the **Document Panel**, but the marks extend outside the boundaries of the **Page**.*

- Do a **Ctrl+A** to see what is being selected. There could be a stray shape (possibly in the upper left corner of the **Page** which is forcing the reg marks outward. You can also look on the **Layers Panel** to see if there are any layers you do not recognize.
 - You might need to select the layers you need for your project and copy/paste onto another page.
-

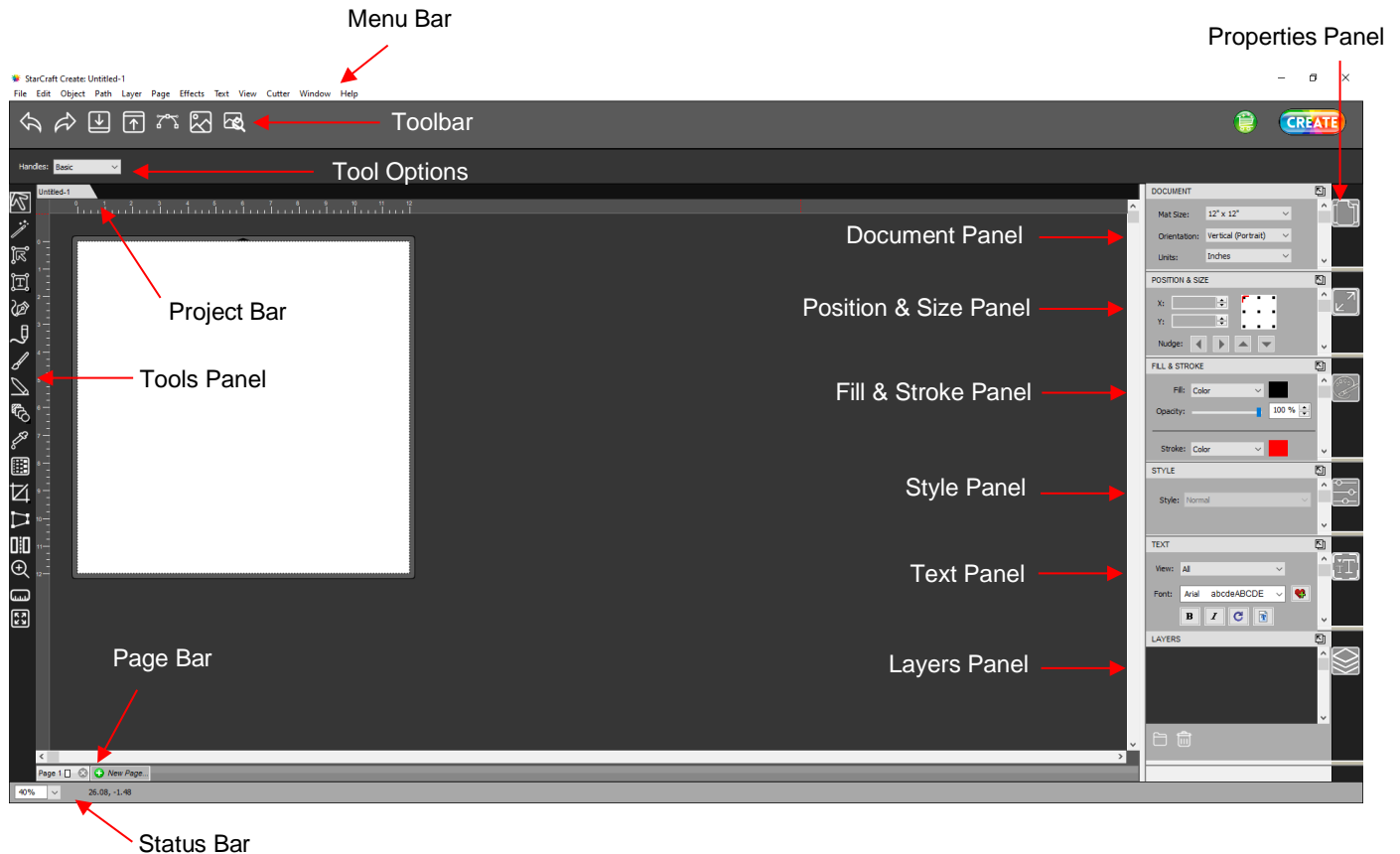
I've exported an SVG file but it is empty. What happened to the shapes?

- When you export an SVG file from **CREATE** only enable the **Selection only** option if you have pre-selected certain shapes to be in the SVG file versus everything on the page.
-

Appendix C CREATE Details

C1 Screenshot of CREATE Screen

Below is a screen shot of the main screen identifying **ONLY Bars and Panels**.



C2 Bars

- The bars have components positioned left to right. The following sections present the five bars and where to find more information for each item on that bar.

C2.1 Menu Bar

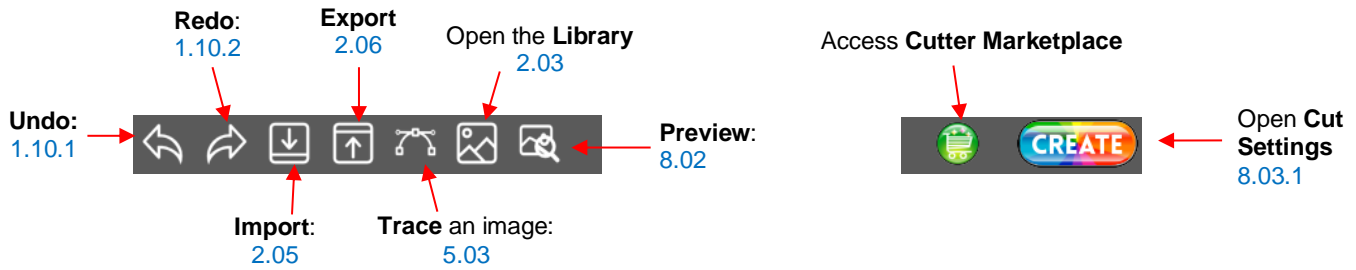
- Like typical computer applications, the **Menu Bar** is located at the top of the screen and provides access to most of the functions in the software.

File Edit Object Path Layer Page Effects Text View Cutter Window Help

- Throughout the user manual, a reference such as this: Go to **Path>Simplify** refers to using the **Menu Bar** to access a function. In this case, you would click **Path** on the **Menu Bar** and then click on **Simplify** in the submenu that appears.
- Because there are dozens of submenu options, each one isn't listed with a reference. Instead, it is recommended that you use a search function to locate any given listing within the user manual.

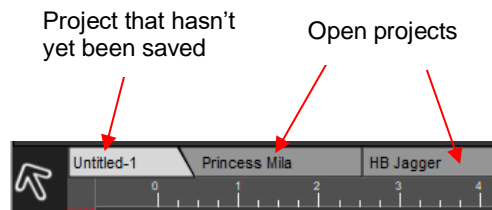
C2.2 Toolbar

- The **Toolbar** is located at the top of the screen, just below the **Menu Bar**.



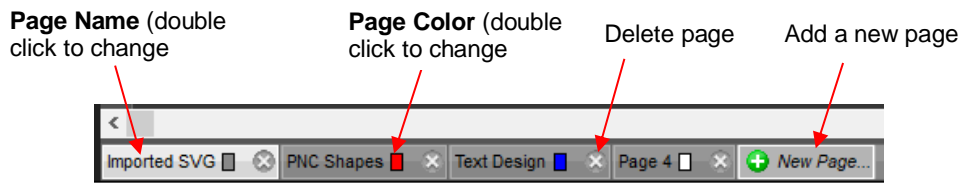
C2.3 Project Bar

- The **Project Bar** is presented in [Section 1.11](#).



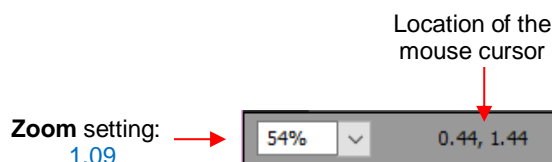
C2.4 Page Bar

- The **Page Bar** is presented in [Section 1.11](#).



C2.5 Status Bar

- The **Status Bar** is located at the bottom of the screen:



C3 Panels

- The panels have components positioned top to bottom. The following sections present the panels and where to find more information for each item on that panel.

C3.1 Tools Panel

- The **Tools Panel** is located along the left side of the screen:

Selection Tool: click or drag mouse to select shapes [3.02](#)

Shape Tool: edit nodes and reshape paths [6.11](#)

Draw Tool: Add straight lines and Beziér curves; also add nodes [5.04.1](#)

Brush: Freely draw thicker lines with a mouse or stylus [5.04.3](#)

Rectangle: add a rectangle/square, rounded rectangle/square, circle/oval, triangle, polygon, star or spiral [3.01](#)

Gradient: drag mouse on a gradient-fill shape to alter gradient-fill positioning [3.14.4](#)

Distort: Drag bounding box handles to warp a shape [3.07.2](#)

Zoom In Tool: Zoom in, out, to selected shape, to **Page**, or custom zoom size [1.09.1](#)

Hand/Pan Tool: Pan around the **Page** while zoomed in close [1.09.2](#)



Selection: drag a path to lasso-select shapes [3.02](#)

Type Tool: Enter text with options for vertical text, type on path, and type on arch [4.04](#)

Freehand: Freely draw with a mouse or a stylus [5.04.2](#)

Eraser: Erase parts of a vector image [6.06](#)

Dropper: Change fill and stroke properties on one shape to match those of another [3.16](#)

Knife: Drag mouse to cut through a shape or **Crop:** Drag mouse to select a portion of a shape to retain [6.07](#)

Stencil Bridge: Bridge interior paths to the exterior or use to do straight-line erasures [4.10](#)

Ruler: Drag mouse to obtain dimensions, distance and angle measurements [6.10](#)

C3.2 Properties Panel

- The **Properties Panel** is located on the right side of the screen and contains 7 subpanels:

Document Panel: Set up **Page** and show/hide its features [1.06](#)

Fill & Stroke Panel: Set color or fill options for shapes, and dashed lines [3.14](#), [3.15](#)

Text Panel: Select font, change sizing, spacing, rotate/skew, assign to **Favorites** [4.05](#)



Position & Size Panel: Resize shapes, position them, align, rotate, and flip [3.04-3.06](#), [3.08](#), [3.18](#)

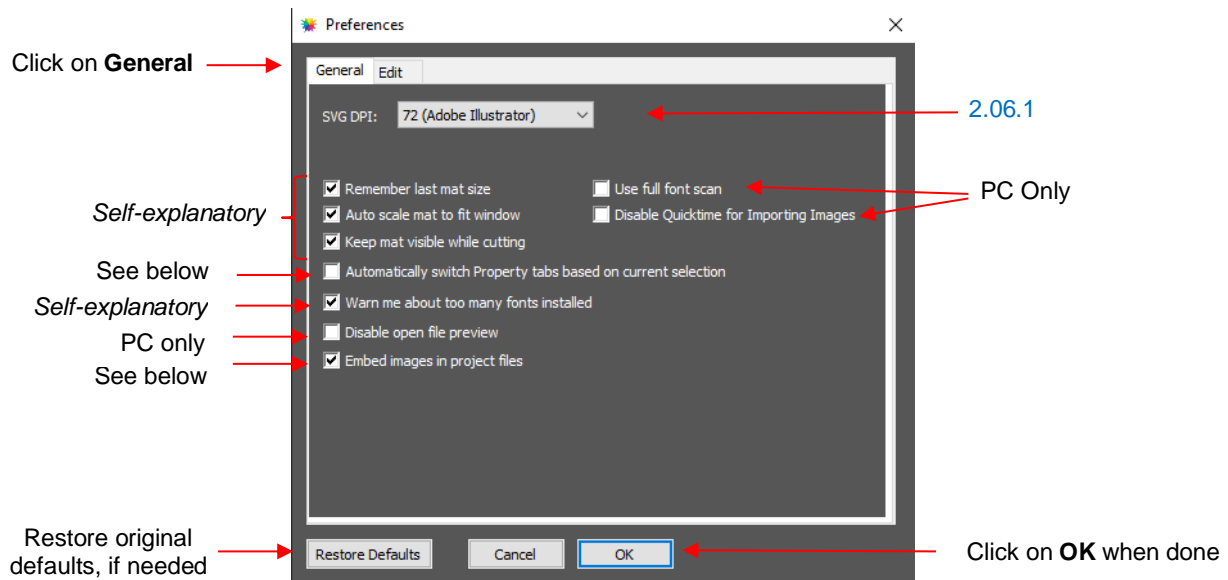
Style Panel: Options for how shapes will cut, print+cut options, apply clipping [8.01](#)

Layers Panel: Organize shapes, group, hide/show, lock/unlock, change order [2.04](#)

C4 Preferences

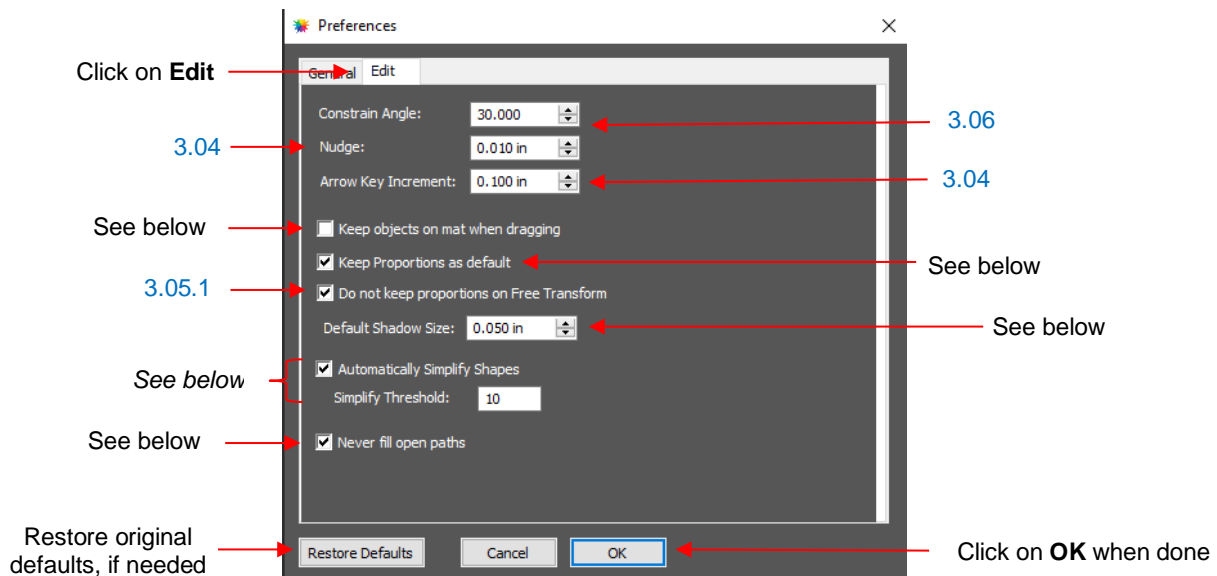
- The following preferences can be found under **Edit>Preferences** (or, on a Mac, press **Command + ,**). If the preference was already presented in other sections, it is noted in the screen shots. For those not previously mentioned, details are presented if they are considered important.

C4.1 Preferences: General Tab

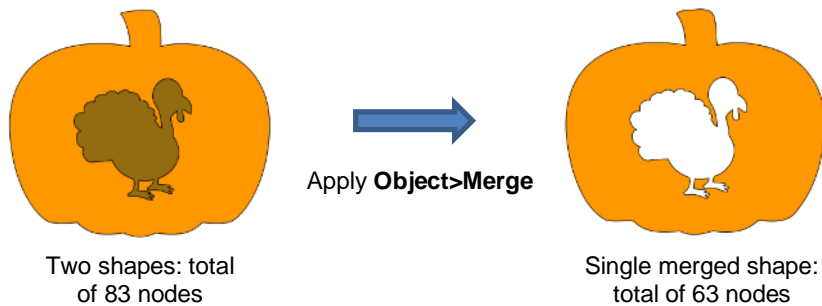


- Automatically switch Property tabs based on current selection:** with this option turned on, the **Properties Subpanel** related to the task at hand will open. For example, when you select a shape, the **Position & Size Panel** will open. When you click on the **Type Tool**, the **Text Panel** will open.
- Embed images in project files:** With this option marked, any imported raster images (PNG, BMP, JPG, and GIF) will be retained in the file when the file is saved. Unmarking this option will cause imported raster images to not be saved, thus not present when you reopen a saved file. Thus, when doing print and cut applications, you're most likely going to want that original image saved, so it is highly recommended that this option remains checked.

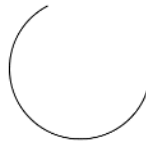
C4.2 Preferences: Edit Tab



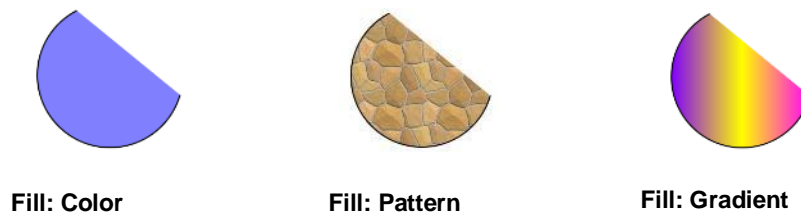
- **Keep objects on mat when dragging:** With this option checked, you cannot drag shapes beyond the outside borders of the **Page**. You can, however, move them beyond the **Page** by entering the desired **X, Y** location on the **Position & Size Panel**.
- **Keep Proportions as default:** With this option checked, the **Keep Proportions** setting on the **Position & Size Panel** will automatically be checked when you launch CREATE and will remain checked until you uncheck it. If you choose to uncheck this option, you will need to relaunch CREATE and the **Keep Proportions** setting will be unchecked.
- **Default Shadow Size:** This affects the initial **Size** shown under **Effects>Shadow Layer**.
- **Automatically Simplify Shapes:** With this option checked, nodes will be reduced after certain functions are applied. For example, the following two shapes (pumpkin and turkey) have a total of 83 nodes. If you select them and apply **Object>Merge** so that the inside turkey will cut before the outside pumpkin, the total number of nodes is reduced to 63 because of the **Automatically Simplify Shapes** option being checked.



- **Never fill open paths:** Unlike most other vector programs, CREATE offers the ability to fill open shapes by applying an invisible straight line to close the shape. By unchecking this option and selecting a **Fill Color**, **Pattern**, or **Gradient**, the open shapes on your **Page** will contain that **Fill**.
 ◇ For example, here is a circle with a section cut off. The option to **Never fill open paths** is still checked:



- ◇ The **Never fill open paths** is now unchecked and various **Fill** options applied:



- ◇ Note that even though the shape appears to be closed, it is not. If you were to cut this shape, it would still be attached to the outside material.