



Artist Plus

This section will focus on how to digitize basic embroidery designs using the Tajima DG16 software. The goal of this class is to introduce you to the features and concepts required to start producing quality digitizing immediately. Some features and settings will NOT be covered, as they are supplemental and can be learned through practice and experimentation.

At this point, you should be comfortable in the Tajima DG16 Software environment and well-versed in all of the basic functions and processes. You should have already attended the Basic Embroidery Training Class which covered Lettering and Editing. If you have questions or are unsure of a process, please feel free to ask the Instructor.

NOTE: The software is officially recognized as Tajima DG16 by Pulse Microsystems

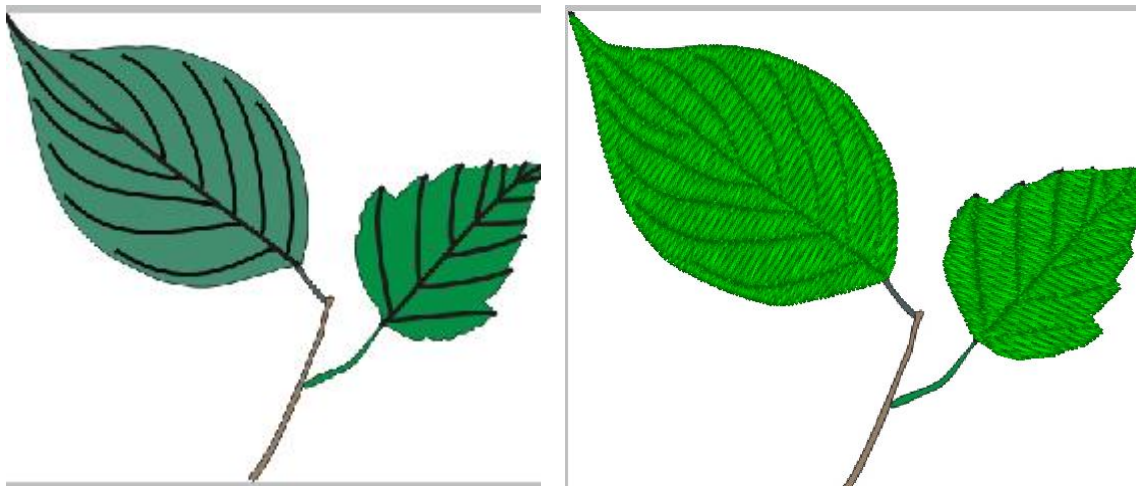
Line Carving
Region Carving
Radial Fill
Satin Swirl
Shape Echo
Custom Cornering
Creating Carved Fill Patterns
Editing existing Carved Fill patterns
Elastic and Turning Stitch Effects for Carved Fills
Waves
Push Compensation
Advanced Pull Compensation

Line Carving

Line Carving allows you to create carved lines to an existing Carved or Standard fill. The Line Carving Tool can also be used to improve the quality of small lettering that is sewn on the top of a background Fill. When you sew small letters on top of a Standard Fill, the underlay stitches for the lettering may sew irregularly because the Fill stitches shift during the sewing of the underlay. To prevent the stitches in the Fill from shifting, you can use the Line carving, instead of regular underlay. The Line Carving provides a suitable underlay to make the lettering stand out from the background Fill and ensures that the Fill background does not move while the text is sewn thus improving stitch quality, for your Text.

To use line carving:

1. Start a new file. Load in the Image called Line carving leaves.
2. Select the Complex Fill tool from the digitizing drawer of the tool cabinet.
3. Digitize both the leaves.
4. Select the Line carving tool from the digitizing drawer of the tool cabinet and digitize all the black vines.
5. Select the fill and the line carving and generate stitches (g on the keyboard)
6. Turn on the 3D view which will display the line carving in the fill.

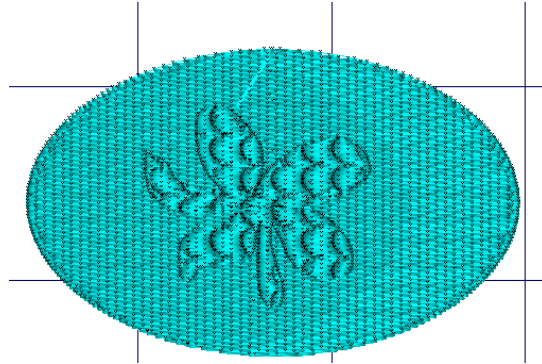


Exercise – Using the Line Carving Tool with small letters

1. Select your Complex Fill tool from the digitizing draw of the tool cabinet.
2. Press the R on the keyboard to activate the Round mode, place three points to close the circle. Then press enter to finish, place your start, stop, and angle line.
3. Select your Text tool from the lettering drawer of the tool cabinet; bring your name in at .25in.
4. Place your text on top of your circle fill.
5. Select your Line Carving Tool from your digitizing draw of the tool cabinet. Digitize with the line carving tool in the middle of your satin letters.
6. Open your segment list and resequence your line carving so that it is on top of your fill.

Region Carving

Region Carving is used to create a Region within an existing Carved Fill that is a different pattern from the carved background. You can also use this to place a border around the Region Carving to have it stand out from the background fill.



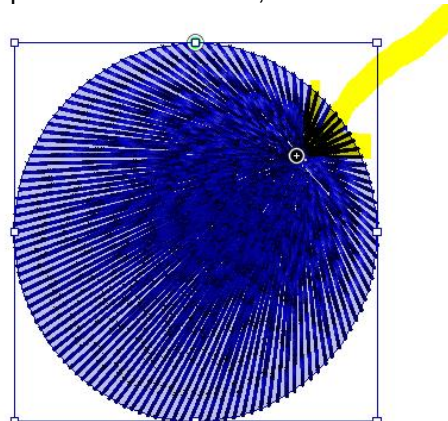
To Use Region Carving:

1. Create a Complex Fill segment.
2. On the ribbon bar change the Fill Type to Carved.
3. Change the Carved Pattern to a pattern name or number.
4. Select the Region Carving tool.
5. Digitize the region, H to close the segment.
6. Select a Pattern name or number making sure it is different from the background pattern.
7. Select both segments, generate stitches (G on the keyboard)
8. Turn on the 3D view which will display the region carving in the background fill

Radial Fill

The Radial Fill Tool allows you to create a segment with stitches sewn from the inside towards the outside. The center of the radial fill segment can be moved manually to create an interesting effect.

1. Select the Radial Fill tool from the digitizing drawer of the tool cabinet.
2. In the pattern list on the ribbon, select a satin type or fill pattern.
3. Hit the R on your keyboard to activate the round mode and create a circle.
4. To change the position of the Start/Stop point of the fill segment, click on the green start bead and drag it.
5. To change the center point of the radial fill, move the mouse pointer over the center bead until it changes to an arrow. Click and drag to change the position of the center, and release.



Satin Swirl

You can create a swirl like effect by using the Satin Swirl option. This option can be used only with a satin type of segment. You have the option of creating a swirl effect or even a dual swirl effect. This will give your satin stitches a new and unique effect.

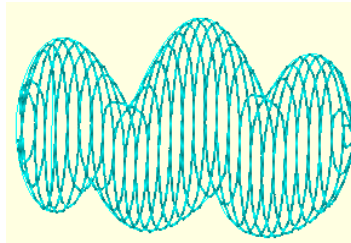
To create a Satin Swirl:

Select the Satin Path tool.

Click on the Stitch Type arrow and change it from Standard to Swirl.

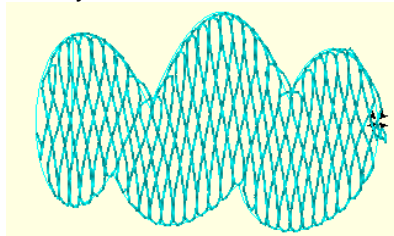
Create the shape that you would like to apply the satin swirl effect to. Set the starting point, stopping point and angle lines as usual, enter to complete. If the stitches don't generate, tap the G key to generate the segment.

You will now see the satin swirl effect.



The density can be changed or adjusted to create more swirls or swirls that are closer together. This will be dependent on the size and shape of your object.

Try changing from Swirl to Dual Swirl for an entirely different effect.



Adjusting the Satin Swirl:

After the segments are created and the Satin Swirl effect has been applied. Go into the segment settings properties page and click the Satin property page.

To adjust the satin swirl settings, change one or more of the following:

- In the Swirl Density box, enter a density value for the swirls. This setting should be adjusted according to the size of the shape. The default value is -57.7 spi.
- Select Auto Swirl Compression to enable this setting and allow swirl compression to be handled automatically by the software. Only when this setting is disabled (unselected) the swirl compression box will become active.
- In the Swirl Compression box, enter a value to control the compression of swirls. The allowed values are from 0 to 100.

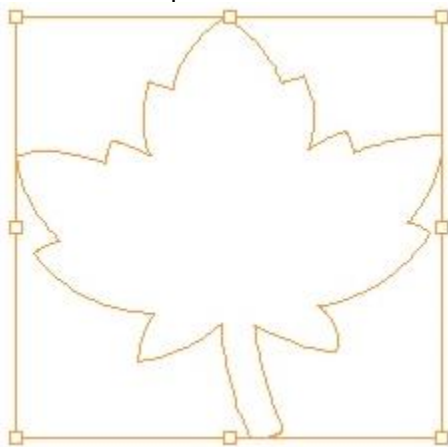
Click ok when done.

Creating a Shape Echo Segment

The Shape Echo tool is used to fill the space between two outlines with spiral fill stitches. The spiral fill pattern is generated such that it automatically follows the contours of the inner outline.

To create a Shape Echo Segment:

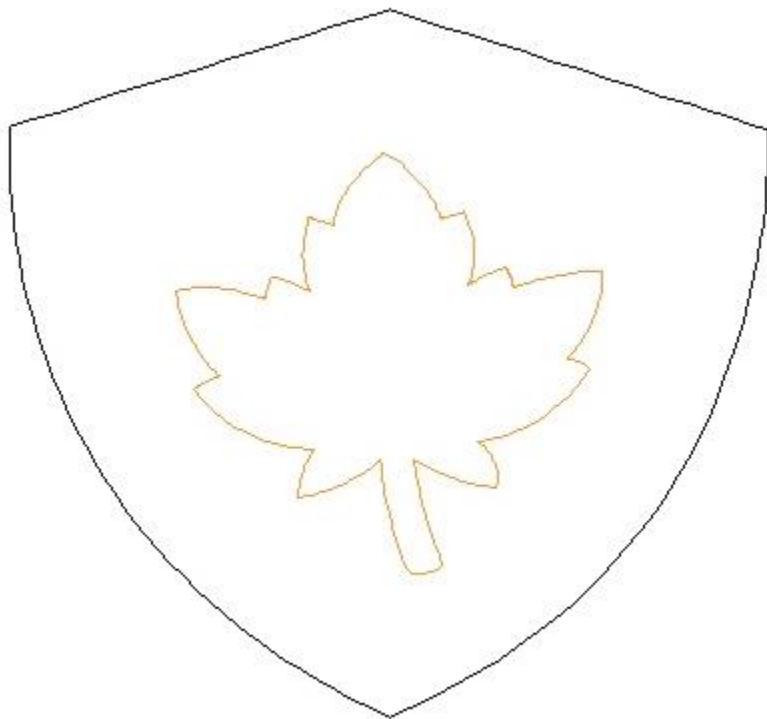
- 1) Open a new design file.
- 2) Create an outline shape (artwork) to serve as the basis for the Shape Echo stitching shape; the stitches will follow this shape's contour



- 3) On the Specialized Digitizing toolbar, select the Shape Echo tool.

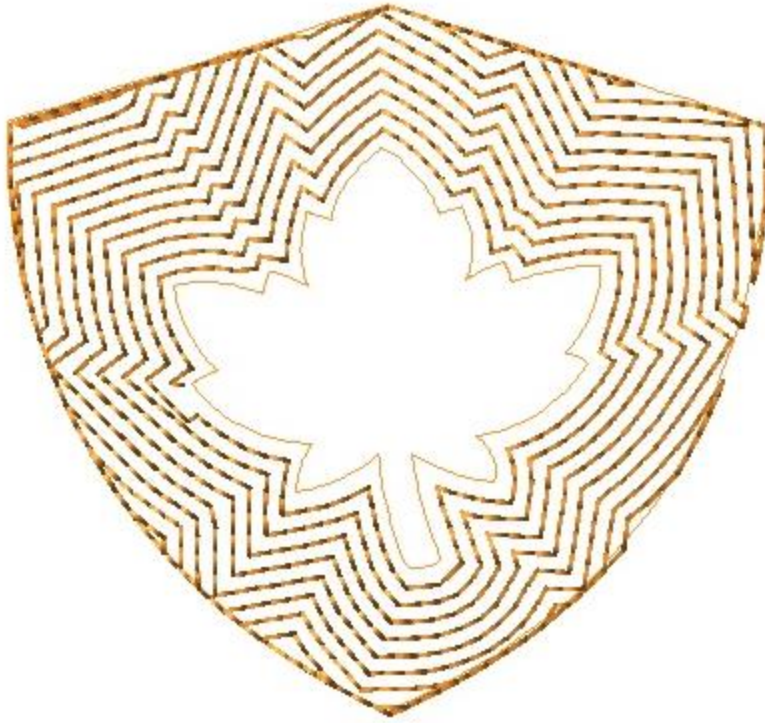


- 4) With the Shape Echo tool active, click in the design workspace to place points to define the outer boundary of the Shape Echo segment. You can also create an artwork outline, and then use the Convert tool to convert this outline to Shape Echo.







- 5) Using the Select tool, select both shapes (or open the Sequence view and select them from the list of segments).
- 6) Combine the two shapes by doing one of the following:
 - a. On the Artwork Tools toolbar, select the Combine Tool
 - b. Press Ctrl + L on the keyboard

The area between the two shapes will now be filled with run stitches in a spiral pattern



You can now adjust the spiral run in the properties panel, changing (for example) the spacing, spacing profile, and run stitch style

Custom Cornering

Corner type	What it does	What it looks like
Standard	Generates and shortens Corner stitches according to the Short-Stitch Style.	
Auto-turn	Like Standard, but the corner stitches will not turn until they are close to the corner. You define how close you want the corner stitches.	
Mitered	Joins the corner stitches like a picture frame; ideal for corners that have a sharp angle. Use Mitered for corner angles from 60 to 130 degrees.	
Hand-Sewn	Generates corner stitches that look like they have been sewn by hand or sewing machine. Used mainly for appliqués.	

Capped Overlaps stitches that are at a very sharp angle such as 30 or 45 degrees. Use Capped for corner angles from 0 to 60 degrees. Capped works well on spiky shapes.
Avoid using Capped for average corners. Because Capped is designed for sharp corners, you may not get the desired result.



To apply Custom Corners to Satin stitches:

First you should be working on a sharp corner angle such as a V shape for the custom cornering feature to work.

1. Select your Satin Path Tool from the Digitizing drawer of the tool cabinet. And create a satin with a sharp corner.
2. Add an angle line to the corner of the segment, if the segment does not already have one.
3. Place the pointer over the angle line bead in one of the corners of the object. The pointer becomes a small triangle.
4. Right-click and choose the custom corner type from the menu. Once you selected a corner type, the angle line beads change color so you know that a Custom Corner is activated.
5. Press (G) on the Key Board to refresh stitches. You should see the changes to your corner.



Creating Carved Fill Patterns

Tajima DG/ML by Pulse comes with many Carved Tile patterns. These patterns create satiny regions with a grooved texture. You can apply Carve Patterns to a Complex Fill segment or to a TrueType® font. You can also create your own Carve Patterns using the Carve Pattern Editor.

The Carved Pattern dialog displays the following settings:

- Preview lets you view the resulting carved pattern.
- Horizontal and Vertical Frame Size settings lets you adjust the size of the grid.
- Load lets you load an existing carve pattern.
- Save lets you save your carve pattern.

To create a new Carved Fill pattern:

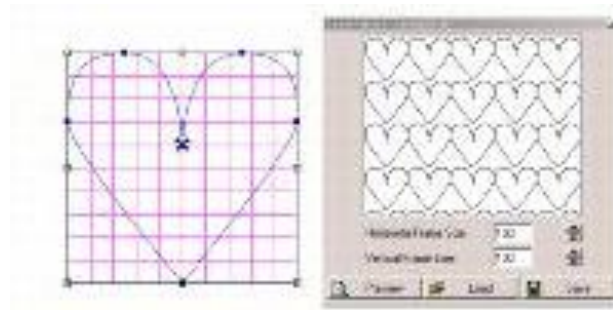
1. Choose File –New to open a new design file.
2. Choose Tools—Pattern Manager left click on carve...
You see a grid in the design workspace as well as the Carve Pattern dialog box where you can preview the pattern.
3. Select any of the Artwork tools:  or 
4. Create a pattern you want by placing points in the grid work area. We recommend that the design touch all four sides of the work area. Keep in mind that Carved Fills are a series of Satin stitches, so avoid large open areas.
5. Press ENTER on your keyboard to complete the segment.
6. In the Carve Pattern Editor dialog, press Preview to see a preview of your pattern.
7. To edit the pattern you have created, go to Segment Edit drawer of the Tool Cabinet and

Select the Vertex Select  tool.

8. To view the points you can edit, click the Show Dots  tool. Save the file with the same name you used when the new file was created.

9. To save your pattern, do the following:

- In the Carve Pattern Editor dialog, press Save to save your pattern.
- You see the Save As dialog box.
- In the File Name box, enter a name for your pattern.
- Your pattern is saved with the file extension VTL.



10. Click Save.

Editing existing Carved Fill patterns

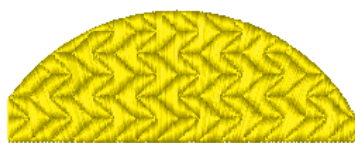
To edit an existing Carved Fill pattern:

1. Choose File - New to open a new design window.
2. Choose Tools—Pattern Manager left click on carve... You will see a grid in the design workspace as well as the Carve Pattern dialog box where you can preview the pattern.
3. Click Load to select one of the patterns available to view. Now you can edit the existing pattern.
4. To edit the Pattern, click the Segment Edit drawer of the Tool Cabinet and select the Vertex Select tool. The Vertex select tool will let you manipulate the points.
5. To view the points you can edit, click on the Show Dots tool.
6. To save changes you made to your pattern, do the following:

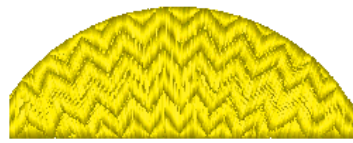
- In the Carve Pattern Editor dialog, press Save to save your pattern. You see the Save as dialog box.
- In the File Name box, enter a name for your pattern. Your pattern is saved with the file extension VTL.
- Click Save.

Elastic and Turning Carved Fills

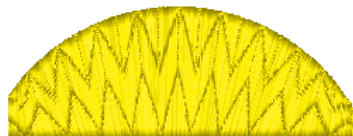
These special effect settings can only be applied to a carved fill applied to a satin path, enhanced column, or column segment.



ABSOLUTE



TURNING



ELASTIC

Absolute: This is the traditional behavior of the carved pattern. The stitchess stay uniform throughout the fill and the pattern is repeated to fill the shape.

Turning: When using the Turning Carve Type setting, the Carved Fill pattern is repeated through the column and the stitches turn with the angle lines you specify for the column.

Elastic: With the Elastic setting, the pattern is not repeated but a single pattern is stretched to fit the width of the column. The stitches will turn with the angle lines you specify for the column.

Wave Fill

The wave fill stitch type lets you apply wave stitches to complex fill segments. Wave stitches follow the contour to the curves you create. Waves are useful to demonstrate motion. For example this pattern type is useful for embroidering rippling water, waving flags or simply for decorative effects. The wave pattern can be created using one or two waves.

To create a single wave:

Start by selecting the Complex Fill tool. From the Properties ribbon at the top of the workspace, change the Fill Type to Wave.

Go into the properties through the black arrow, and click on the Wave Property page.

In the wave number box, enter 1. The default stitch length is 4.0 mm. Click ok.

Digitize the shape that you want the wave fill to represent on the active workspace (H to close if desired) and enter to complete the segment.

Set the Start and Stop points.

Now, to create the wave, punch a Bezier curve to represent how the stitches will travel through the shape. (the curve you draw should be open without overlapping).

Tap enter to complete the wave.

To add a Wave to existing complex fills:

Select the existing complex fill.

On the properties ribbon at the top of the workspace, change the Fill type from Standard to Wave.

Left click the properties/segment settings arrow, click the Wave property page.

In the Wave Number box, enter 1. Click OK.

Create the wave by drawing a Bezier curve to represent how the stitches will travel through the shape. (remember, the curve you draw must be open without overlapping).

To create a Wave with two wave patterns:

Select the Complex Fill tool. From the Properties ribbon at the top of the workspace, change the Fill Type to Wave.

Go into the properties through the black arrow, and click on the Wave Property page.

In the wave number box, enter 2. The default stitch length is 4.0 mm. Click ok.

Digitize the shape that you want the wave fill to represent on the active workspace (H to close if desired) and enter to complete the segment.

Set the Start and Stop points.

Now, to create the wave, punch a Bezier curve to represent how the stitches will travel through the shape. (the curve you draw should be open without overlapping).

Tap the T key on the keyboard which will enable you to create a second line above or below the first wave line and tap enter to complete the second wave.

Shift + G to generate both of the wave lines.

The stitches above the first wave will reflect the top line and the stitches below the second wave line will reflect the second wave.

Wave Stitch Effects

On the wave property page you can select the graduated stitch length profile settings to vary the length of the wave stitches throughout the segment. You can use graduated stitch length profile settings to create special effects in your embroidery designs. You use the graduated stitch length profile settings to vary the stitch length and minimum stitch length values to achieve a special look. The stitch length and minimum stitch length values are displayed and can be changed in the segment settings.

Applying stitch effects to waves:

Select the wave fill you have created and click on the properties/segment settings arrow.

Select the Wave tab to access the settings for the wave.

In the Min. Stitch Length box, enter the minimum stitch length required for the wave stitches you have punched. *Be mindful that the programmed fills have specific stitch lengths that work best for that fill pattern.*

In the Graduated Stitch Length Profile box, select how to vary your wave stitches:

None-The length of the run stitches will be consistent throughout the path.

Liner Increasing- The stitch length will start at the value defined in the Min. stitch length box and will increase to the value defined by the stitch length box on the run property page.

Liner Decreasing- The stitch length will start at the defined value defined in the stitch length box and decreases into the value defined in the Min. stitch length box.

Convex- The convex setting will produce a run stitch where the stitch length is longest at the middle of the path and shortest at the ends.

Concave- The concave setting will produce a run stitch where the stitch length is shortest in the middle and longest at the ends.

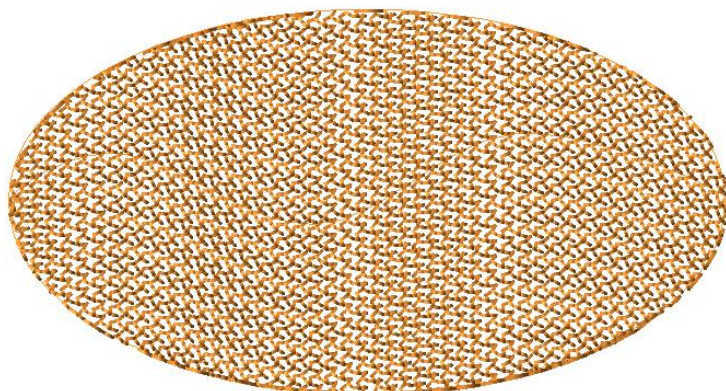
Click OK.

Editing the waves:

Select the complex fill segment that contains the wave.

Right click and select Wave, and Punch.

Left click and drag the new wave line, tap enter to complete.



Section 7.7 – Advanced Segment Settings

7.7.1 Push and Pull Compensation

You should already be versed in the effects of thread on the fabric creating the pull in on the columns and the use of pull compensation to counter this effect on the embroidery. As stitches are sewn, the tension from the thread on the machine can move the stitches towards the ends of the columns therefore creating a “push” type of effect at the end of the column. The Push-Comp feature creates an adjustment to the column so that the stitches are automatically removed at the end of the columns to compensate for this effect. The reduction of stitches can be based either on the number of lines of stitches to remove or on the linear distance from the ends of the column.

To adjust the Push Compensation:

Select the satin piece that you want to adjust.

Click on the segment settings arrow and left click on the Push Comp tab.

Select one of the following options:

None-Makes no adjustments to push-compensation.

By number of lines-Enter a number of lines to be removed from the segment in the value box.

By distance-Enter a value for the distance to be left between the stitching and the edges of the segment.

Click OK.

Pull Comp Advanced Settings

Up to this point you have been able to adjust the pull compensation of segments as a whole which increases the width of the stitch on both sides of the opposing column or shape. The advance settings on the pull comp menu allow you to adjust the width of the column by the x (horizontal) or y (vertical) sides.

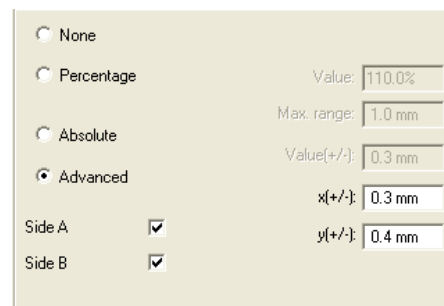
To adjust the Advanced Settings

Select the segment that you want to make the changes to.

Click on the segment settings arrow and left click on the Pull

Left click on the Advance circle to unlock the options.

Select side A or side B or both boxes to choose the side of the you want the pull comp to be applied.



<input type="radio"/> None	
<input type="radio"/> Percentage	Value: 110.0%
	Max. range: 1.0 mm
<input type="radio"/> Absolute	Value(+/-): 0.3 mm
<input checked="" type="radio"/> Advanced	x(+/-): 0.3 mm
Side A <input checked="" type="checkbox"/>	y(+/-): 0.4 mm
Side B <input checked="" type="checkbox"/>	

Comp tab.

segment that

Enter a distance in the X(+/-) to increase or decrease the horizontal pull comp.

Enter a distance in the Y(+/-) to increase or decrease the vertical pull comp.

If you have a shape that the stitches are running only left to right, the X option would be the appropriate choice. Whereas if you have a shape that is running up and down, the Y option would be the appropriate choice. Finally, if you have a shape that the stitches are going both directions, you would choose both the X and the Y.