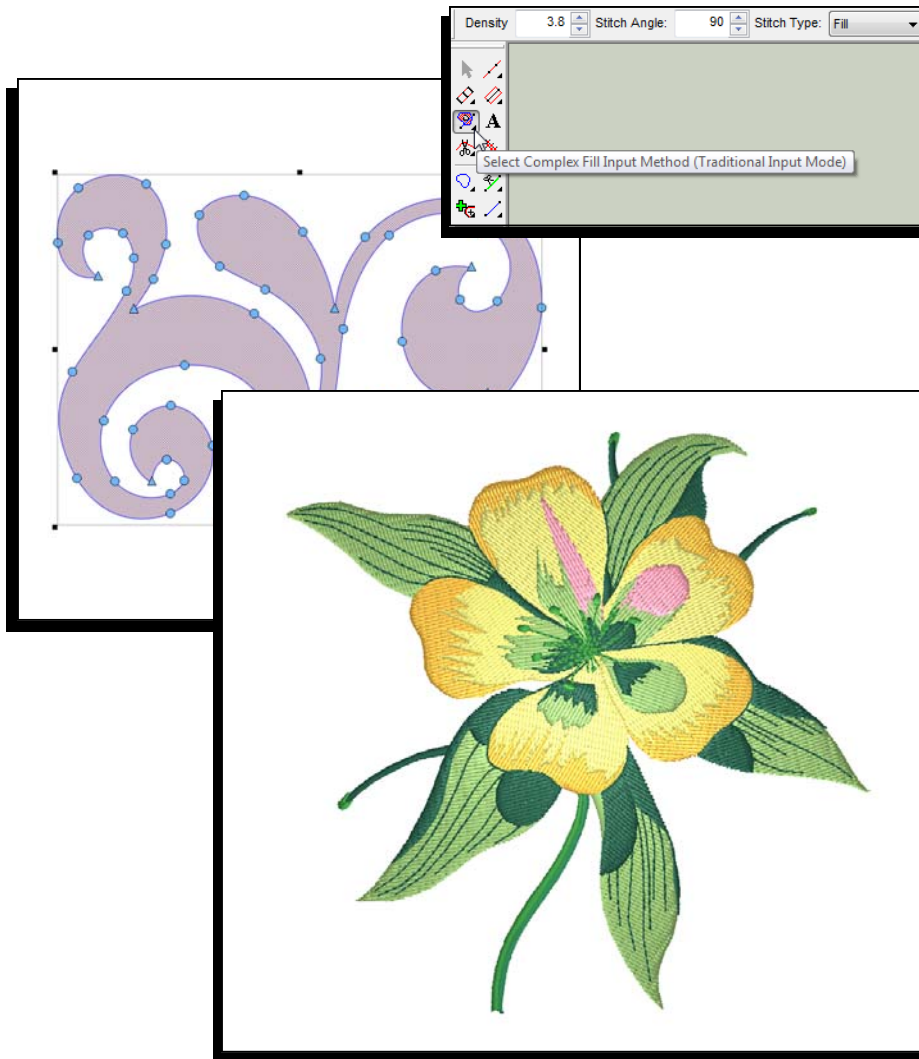


# Complex Fill Input Methods

DesignShop V9 Basic Digitizing Quick Reference Guide

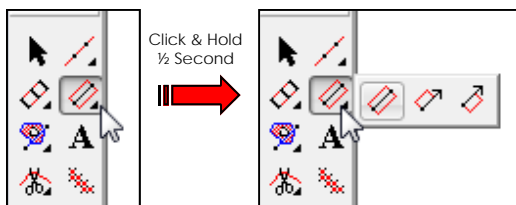


# Digitizing Tools and Basic Functions

## Selecting a Tool

Click on the desired tool in the input toolbar

- If you don't see the desired tool, it may be necessary to select the tool from a flyout.
- To access a flyout, click and hold on the tool within the same tool family. After a half a second, the other tools within this family will appear at the right. You may then select your desired tool. This newly selected tool will now be displayed in the input toolbar for this tool family.
- Tools with flyouts are indicated by a small black arrow in the lower right corner of the tool.



## Selecting Properties

Once a digitizing tool or an element is selected, you can change the properties on the dynamic properties bar.

## Creating the Elements

After selecting a digitizing tool and setting the properties, you can create the elements in the view window.

- Left Click = Creates a Straight Point
- Right Click = Creates a Curve Point
- Click & Drag = Pulls Bezier Handles from a point as you digitize
- [Backspace] = Deletes the last input point you created
- [Enter] = Completes the element or moves to the next step of an element
- [Ctrl] + [Enter] = Completes a column with the exit point on the opposite side
- [Shift] + [Enter] = Closes and open shape and completes the element
- Holding [Alt] = Constrains line angles to 15° increments
- [Esc] = Removes all points from the element
- [Esc] x 2 = Deselects Input Tool
- Watch the Status Bar for prompts when using the different input tools







***Economy of Points***

*Use as few points as possible to create your shapes when digitizing. The fewer point an element has, the easier that element is to edit and scale. A straight line doesn't get any straighter by adding more straight points to it. A straight line is most effectively created by two straight points.*











*When working with curves, try stay within 180° in any sequence of three points.*

# DesignShop Symbols

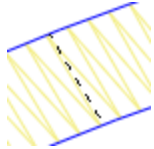
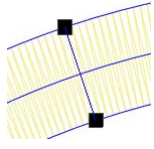
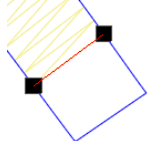
## Icons

-  **Straight Point**  
(Non-Selected points display in blue)  
(Selected Points display in black)
-  **Curve Point**  
(Non-Selected points display in blue)  
(Selected Points display in black)
-  **Bezier Handle**  
(From a Straight Point, handles work independently)  
(From a Curve Point, handles work in tandem)
-  **Entry Point**  
(Indicates the start of an element)
-  **Exit Point**  
(Indicates the end of an element)
-  **Last Stitch of Previous Element**  
(Displays the last stitch of the previous element. If you are creating the first element of the design, it indicates the origin of the design.)

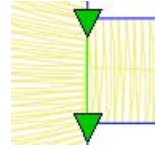
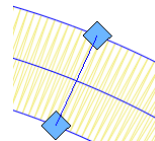
## Cursors

-  **Edit Mode**  
(You can select elements)
-  **Cursor Over an Element**  
(You can click and drag to move the element)  
(Hold [Alt] to constrain the movement to the X or Y axis)
-  **Cursor Over a Line**  
(You can add points along the line)  
(Click and drag to move the line)
-  **Cursor Over a Straight Point**  
(Click and drag to move the point)  
(Hold [Shift] and click on the point to change it to a Curve Point)
-  **Cursor Over a Curve Point**  
(Click and drag to move the point)  
(Hold [Shift] and click on the point to change it to a Straight Point)
-  **Cursor Over an Entry, Exit, or Handle**  
(Click and drag to move the point or letter)  
(Hold [Ctrl] and click and drag to move the letter off the line)
-  **Insert Hole, Split Line, or Fill Island**  
(Inserts holes, split lines, or fill islands into selected elements)
-  **Insert Entry/Exit Points**  
(Insert or change the entry and exit points of the selected element)  
(Can also resequence with multiple elements selected)
-  **Insert Splice Line**  
(Inserts splice lines within an element)
-  **Insert Stitch Direction Line**  
(Inserts stitch direction lines within an element)

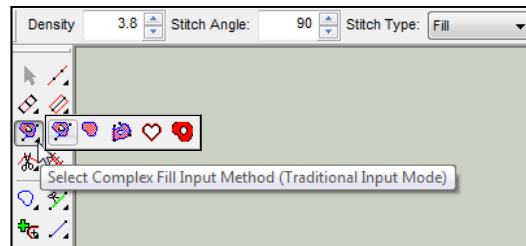
## Stitch Direction Lines

-  **Stitch Direction Line (Wireframe Editing Mode)**  
(Indicates the stitch direction of an element)
-  **Stitch Direction Line (Stitch Direction Editing)**  
(Creates a stitch direction line across a form. Multiple stitch direction lines can be used to create different effects. Created by clicking and dragging across an element with the stitch direction tool))
-  **End Line (Stitch Direction Editing)**  
(Creates an end line before the end of the shape. This allows for the compensation of stitch push. Created by right-click and dragging across an element with the stitch direction tool))

## Other Lines

-  **Splice Lines**  
(Breaks up larger, more complex shapes into smaller regions. Each region can have its own stitch direction line. Created by clicking and dragging across an element with the splice tool. This is usually done at a junction or odd angle in the shape.)
-  **Singleline Width**  
(Indicates the width of a single line column. The width of the column can be changed by clicking on one of the points of the width and dragging.)

## Complex Fill Input (Traditional Input Mode)



### Traditional Input Mode

The Complex Fill Input Method (Traditional Input Mode) will create shapes with one stitch direction. To create a traditional complex fill, you must first select the tool by left-clicking on the icon in the input toolbar. If the tool is not visible, you may need to select it from the tool flyout.

To create a Complex Fill with the Traditional Input Method, follow the steps below. Be sure to watch the status bar in DesignShop for prompts to guide you through the creation of the element.

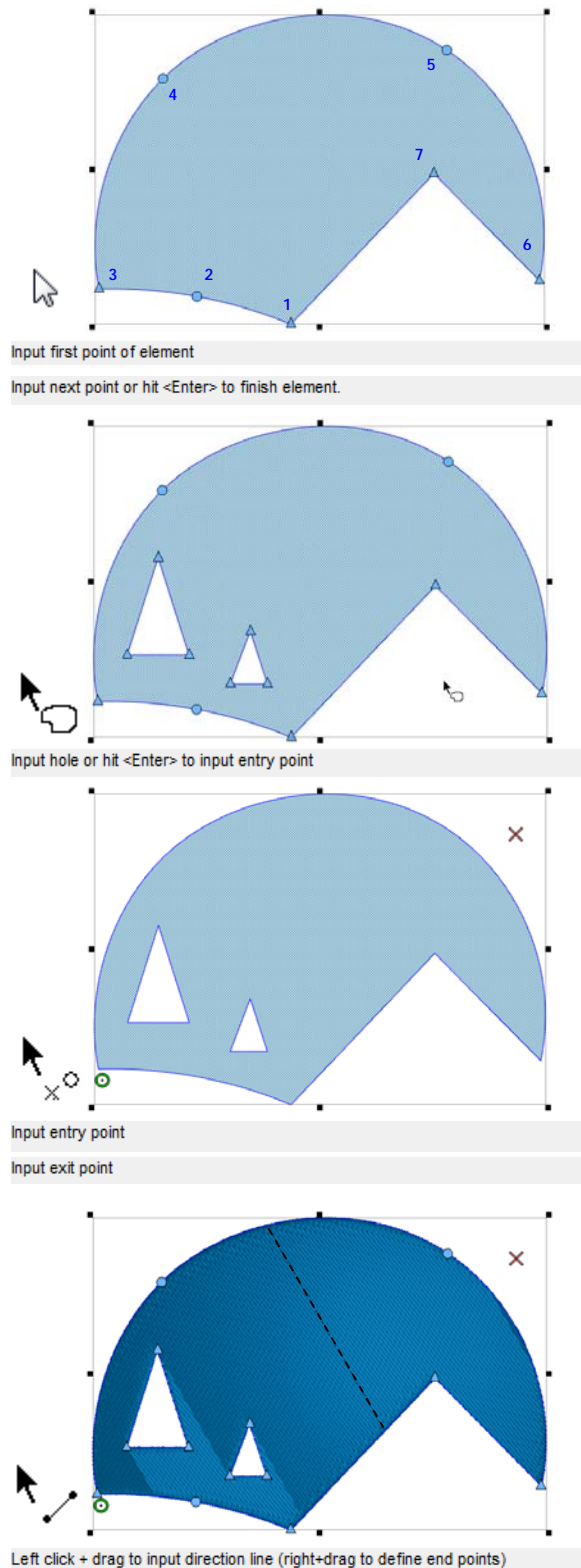
1. Select the Complex Fill Input Method (Traditional Input Mode)
2. Input the wireframe outline of the complex fill by left-clicking on the mouse to create straight points and right-clicking on the mouse to create curve points. Try to use as few points as possible. Lines are the straightest when between two straight points, and curves are smoother when fewer points are used. While fewer points are ideal, avoid creating curves that exceed 180° in any set of three points.
3. To complete the shape, press ENTER on your keyboard. This will connect the line between the first and last point, closing the shape.
4. If the shape has holes or places that you do not wish to have stitches, you may digitize a wireframe outline around those areas next, pressing ENTER after each one. When you have finished adding any holes, press ENTER again.
5. Input your Entry Point by clicking where you would like the fill to start stitching. Many times, this will be where the previous element ended. The last stitch of the previous element is displayed by a white crosshair. This can be inside or outside the wireframe shape.
6. Now, Input the exit point. This is where you would like the fill to end. This can be inside or outside the wireframe shape.
7. Lastly, a stitch direction must be determined. To do this, left-click and drag across the form, using the line created to control the stitch angle. When the mouse button is released, the stitch direction will be created. To use the default stitch direction, you could press ENTER on the keyboard instead of clicking and dragging across the form.
8. Stitches will be generated once the stitch direction has been determined.

#### ***Watch for Clues***

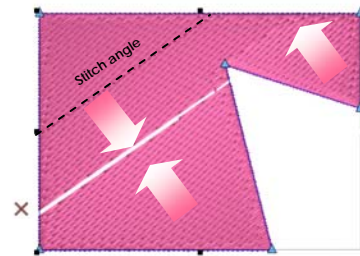
*Watch the Status Bar will prompt you and the cursor will change as you move through the steps of creating a complex fill.*

Steps for Traditional Input Mode

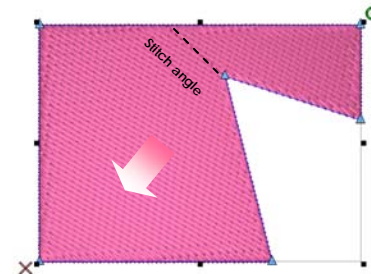
Plan it Out!



As you proceed through your elements, think about the direction of the stitching. Try to complete simple shapes in one fluid fill. If a fill has to sew back towards with-itself, there is the possibility that it will push a ripple of fabric back with it. This will create a line of fabric where the fill doesn't meet up. This effect can be minimized with the use of appropriate underlay, but sewing in one direction can alleviate any potential issues with material push.



In this example, the stitches have pushed a ripple of material and don't quite meet in the final sewout.



By altering the stitch direction and the entry and exit points, a much smoother final sewout can be achieved. These edits can be made using the tools discussed on page nine.

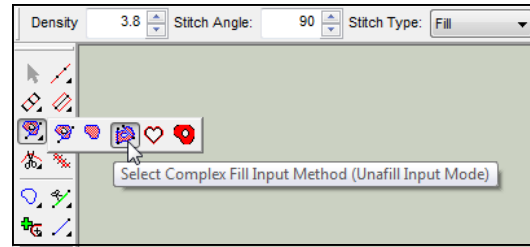
# Complex Fill Input (Unafil Input Mode)

## Unafil Input Mode

The Complex Fill Input Method (Unafil Input Mode) can be used to create shapes with multiple stitch directions. The Unafil Input Mode can even create multiple regions in a single fill that can contain opposing stitch angles. To create a Unafil Input Mode, you must first select the tool by left-clicking on the icon in the input toolbar. If the tool is not visible, you may need to select it from the tool flyout.

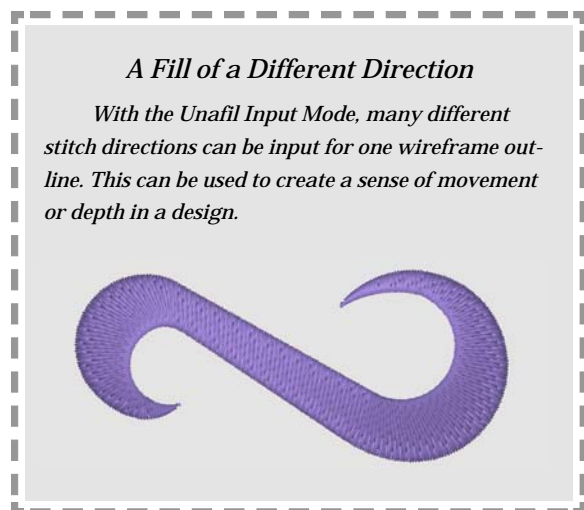
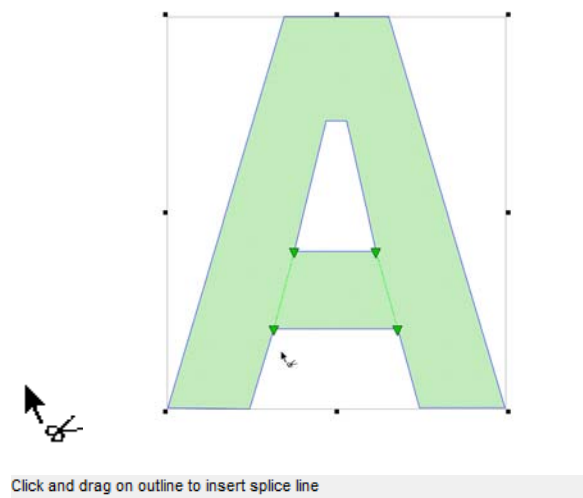
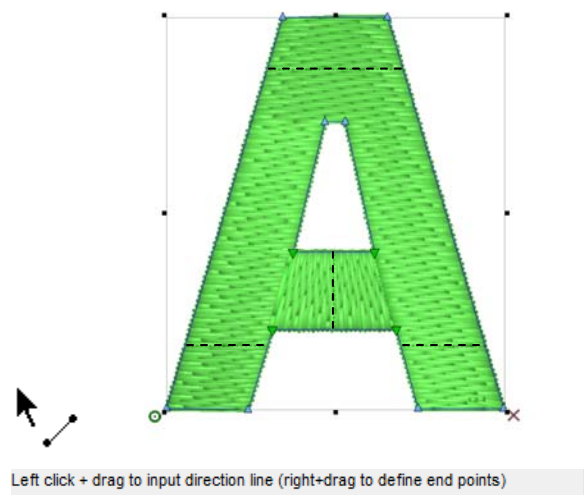
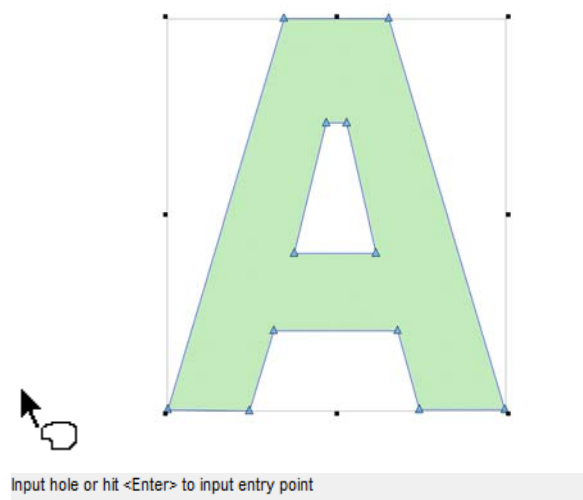
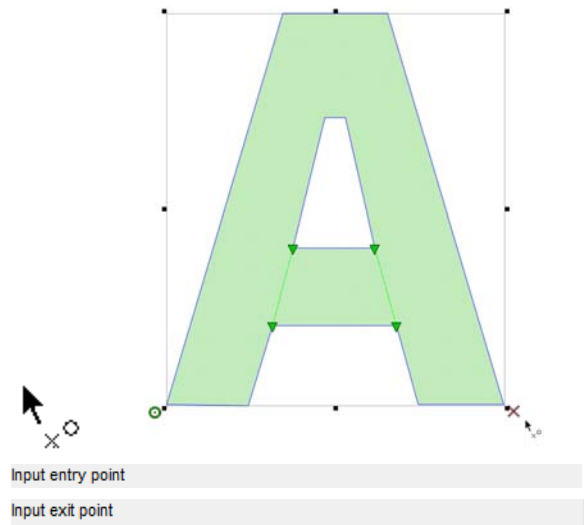
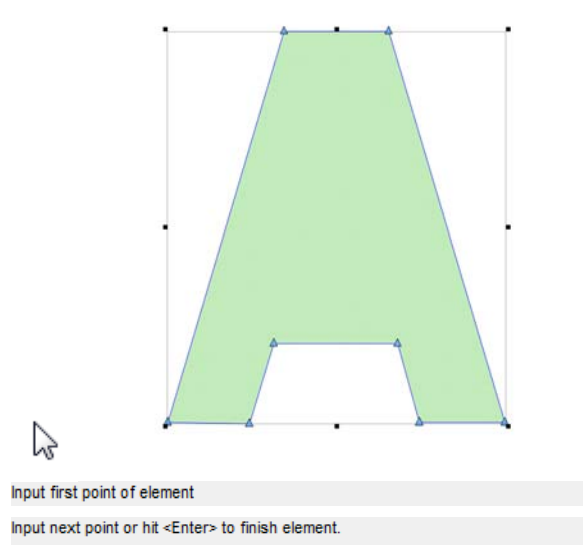
To create a Complex Fill with the Unafil Input Method, follow the steps below. Be sure to watch the status bar in DesignShop for prompts to guide you through the creation of the element.

1. Select the Complex Fill Input Method (Unafil Input Mode)
2. Input the wireframe outline of the complex fill by left-clicking on the mouse to create straight points and right-clicking on the mouse to create curve points. Try to use as few points as possible. Lines are the straightest when between two straight points, and curves are smoother when fewer points are used. While fewer points are ideal, avoid creating curves that exceed 180° in any set of three points.
3. To complete the shape, press ENTER on your keyboard. This will connect the line between the first and last point, closing the shape.
4. If the shape has holes or places that you do not wish to have stitches, you may digitize a wireframe outline around those areas next, pressing ENTER after each one. When you have finished adding any holes, press ENTER again.
5. Now, you can input any splice lines that are needed. To input a splice line, click from one edge of the fill and drag to the other. The splice line will show in green. Splice lines divide a fill into smaller regions. Each region can con-

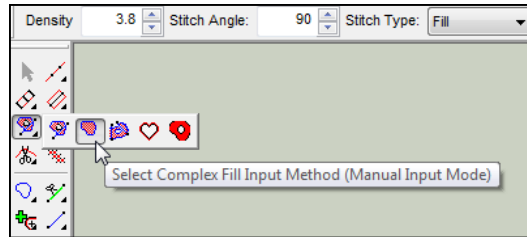


- tain its own stitch direction. Press ENTER on the keyboard when all desired splice lines have been placed.
6. Input your Entry Point by clicking where you would like the fill to start stitching. Many times, this will be where the previous element ended. The last stitch of the previous element is displayed by a white crosshair. This can be inside or outside the wireframe shape.
7. Now, Input the exit point. This is where you would like the fill to end. This too can be inside or outside the wireframe shape.
8. Lastly, stitch directions must be determined. To do this, left-click and drag across the form or region, using the line created to control the stitch angle. When the mouse button is released, the stitch direction will be created. Continue adding stitch directions for all spliced regions. If desired, multiple stitch directions can be added to one region to create a fan effect. Stitch direction lines will be displayed as a blue line with black squares on each end.
9. Optional – While determining stitch directions, you may also define end lines. End lines are used to both determine a stitch direction and stop the stitching before the wireframe edge of a shape. Most commonly, this feature is used to compensate for the push of stitches or to ensure a full stitch at the end of a shape. To create an end line, right-click and drag from one edge of the element to the other. An end line will be created and displayed as a red line. The stitches will also stop at that line.
10. Press ENTER to complete the shape.

Steps for Unafil Input Mode



# Complex Fill Input (Manual Input Mode)



## Manual Input Mode

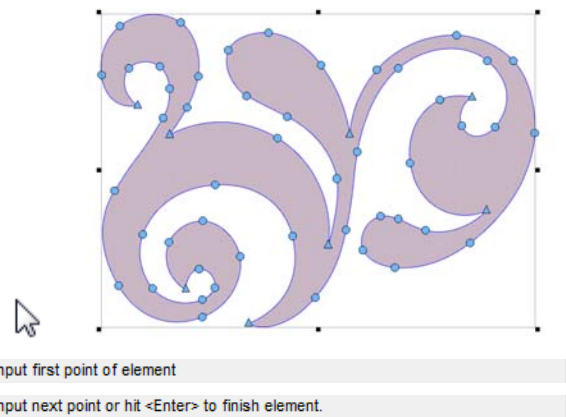
The Complex Fill Input Method (Manual Input Mode) will create shapes without stitches. The entry points, exit points, and stitch directions can be determined later using their respective editing tools. To use the Manual Input Mode, you must first select the tool by left-clicking on the icon in the input toolbar. If the tool is not visible, you may need to select it from the tool flyout.

To create a Complex Fill with the Manual Input Method, follow the steps below. Be sure to watch the status bar in DesignShop for prompts to guide you through the creation of the element.

1. Select the Complex Fill Input Method (Manual Input Mode)
2. Input the wireframe outline of the complex fill by left-clicking on the mouse to create straight points and right-clicking on the mouse to create curve points. Try to use as few points as possible. Lines are the straightest when between two straight points, and curves are smoother when

fewer points are used. While fewer points are ideal, avoid creating curves that exceed 180° in any set of three points.

3. To complete the shape, press ENTER on your keyboard. This will connect the line between the first and last point, closing the shape and completing the element. There are no stitches in the shape at this point and it is displayed as a Vector Fill in the Project View.
4. Holes, entry points, exit points, splice lines and stitch directions lines can be added to the element later.



# Element Editing Tools

Just below the input toolbar, you'll find the editing tools. These tools are used for changing existing complex fills, or converting manual and vector fills into stitches. They can also be used on many column elements.



To use these tools, you must first have the element that you wish to modify selected.



## Insert Entry/Exit Points

This tool is used to change the entry and exit points of an element. The entry and exit points of an element can also be changed by selecting the element and clicking on the entry or exit point and dragging it to the desired location.

If multiple elements are selected, this tool can be used to resequence those elements, starting where the entry point is placed and ending where the exit point is placed.

1. To insert an entry point and an exit point into a complex, manual, or vector fill, select the element.
2. Then, select the Insert Entry/Exit Points tool.
3. Click where you want the element to start stitching. An entry point will be inserted.
4. Click where you want the element to finish stitching. An exit point will be inserted.



## Insert Hole Into Selected Element

1. To insert a hole into a complex, manual, or vector fill, select the element.
2. Select the Insert Hole tool.
3. Input the wireframe outline of the hole by left-clicking on the mouse to create straight points and right-clicking on the mouse to create curve points.
4. To complete the shape, press ENTER on your keyboard. This will connect the line between the first and last point, closing the shape and completing the hole.



## Insert Stitch Direction

1. To insert or edit a stitch direction into a complex, manual, or vector fill, select the element.
2. Select the Insert Stitch Direction tool. (Insert Curved Direction Line and Auto Compute Direction Lines can also be found in the flyout.)
3. Left-click and drag across the form where a stitch direction line is desired. Right-click and drag across the form to create an end line.
4. Press ESC to deselect the tool when finished editing stitch directions.



## Insert Splice

1. To insert a splice into a complex, manual, or vector fill, select the element.
2. Select the Insert Splice tool. (Insert Curved Splice and Auto Compute Splice can also be found in the flyout.)
3. Left-click and drag across the form where a splice line is desired.
4. Press ENTER to finish editing splices.