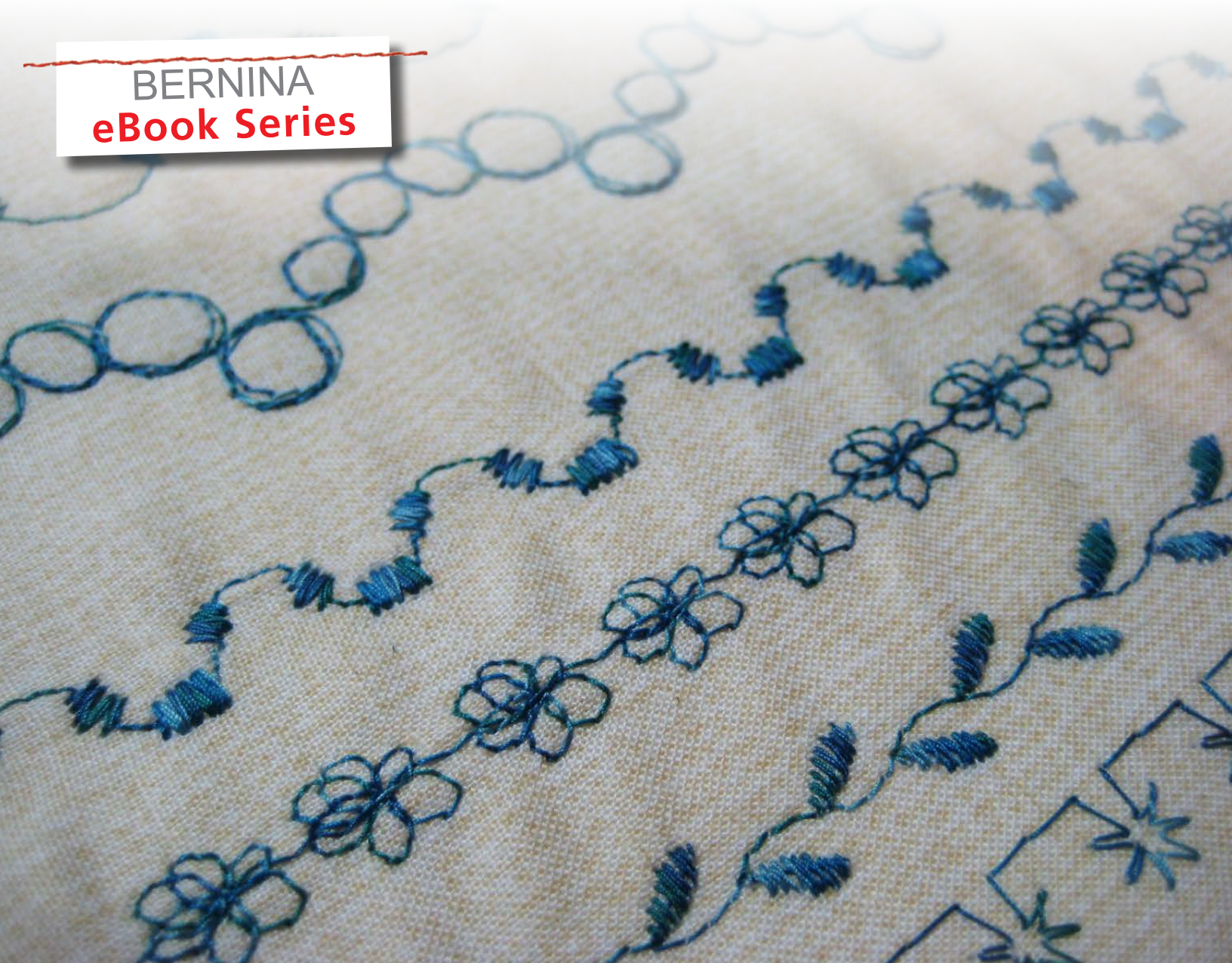# JUST DESIGN IT!

BERNINA Stitch Designer

Written by:
Susan Fears, BERNINA Educator,
Top of the Line and BERNINA Machine Specialist

Getting Started ▪ **Designing A Stitch** ▪ **Editing an Existing Stitch**
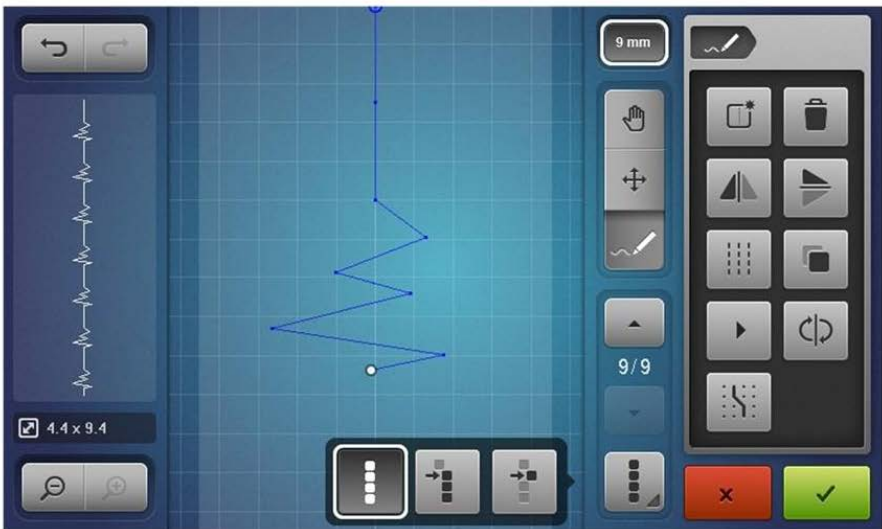**A Few More Tools** ▪ **The BERNINA Software Advantage**

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GETTING STARTED

Use Stitch Designer to create new stitches or modify existing stitches. Stitch Designer can also be used as the vehicle to import/export stitches via USB stick for exchange with BERNINA Embroidery Software or to swap stitches with others.

Patterns may be created by free-hand drawing on the touch screen or by tapping points to set stitches with the stylus or a fingertip in a variety of sizes including large Sideways Motion patterns.

Stitch Designer is a feature on the B 880 and B 790 machines.

STITCH DESIGNER ICON CHEAT SHEET

Icon	Description
	Undo
	Redo
	Zoom Minus
	Zoom Plus

Personal Program Icons

Icon	Description
	Personal Program
	Retrieve/Open
	Save
	Delete
	Transition/Full View
	Machine/USB

Icon	Description
9 mm	9mm Lock
	Move View of the Screen
	Move
	Draw/Pencil
	Up Arrow
	Down Arrow
	Selection - All
	Selection - Partial
	Selection - Single Point

Icon	Description
	New
	Mirror Left/Right
	Triple Stitch
	Playback
	Snap to Grid
	Delete (Trashcan)
	Mirror Up/Down
	Duplicate
	Invert
	Cancel Edits & Exit
	Confirm Edits & Exit

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GENERAL INFORMATION

- The Stitch Designer grid represents 1mm. The line in the middle of the drawing area represents center needle position and is faintly darker than the rest of the lines. The grid will change to a dot formation when Snap to Grid is selected. Snap to Grid offers more precision when straight lines are desired. Snap to Grid can be turned on and off within the same pattern.

- There are of 20 levels of Undo and created patterns can have a maximum of 2,000 stitches. The maximum stitch length is 6mm between needle points and the width of a pattern is unlimited.

- Patterns can be designed as single or triple stitches.

- Created stitches are sewn only from the sew out screen after selecting the Check in Stitch Designer. It is possible to sew while the Stitch Designer screen is open, but the resulting stitch will be the one displayed on the main screen.

- Created stitches can be saved to the machine memory through Personal Program, imported into embroidery and embroidered, saved to a USB stick for swapping, or imported into the BERNINA Embroidery Software for further manipulation.

DESIGNING A STITCH

FREE HAND DRAWING A DAISY

- Select the Stitch Designer Icon to begin designing a stitch. The pattern displayed on the Stitch Designer screen is the current stitch displayed on the sewing screen (Stitch Altering Area).

- Select New to clean the drawing space. The default is the Pencil Tool which enables you to draw on the screen. Begin at the top portion of the drawing screen around the center needle line and draw a curvy vine, then a daisy, followed by a curvy vine along the center needle line and stopping around the same y-axis as the starting point. Drawing the pattern in this manner creates a fluid stitch with the needle moving forward on the fabric. Starting and stopping on the same y-axis yields a smooth continuous stitch.

- With Free-hand drawing, the stylus is not lifted until the pattern is complete. The resulting pattern is blue indicating all points are selected. If the Trash Can were selected, everything would be deleted. To turn the pattern to white (and with one point selected) use the Selection Icon and select the Single Point option.
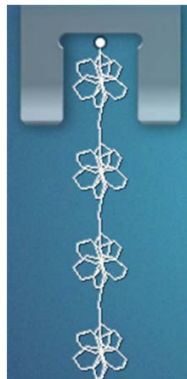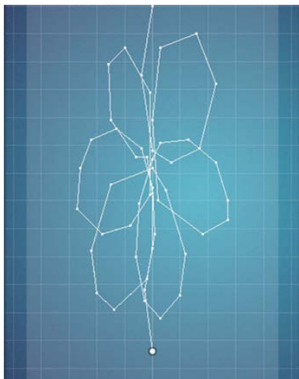
TIPS

- Upon entering Stitch Designer, the 9mm lock is engaged and is denoted by a highlighted area on the grid. With the 9mm lock engaged, it is not possible to draw beyond that highlighted area and ensures the stitch is 9mm or less.

- Use the Zoom Minus to shrink the view of the screen and make the grids smaller which may provide a surface area that is easier to draw a full 9mm stitch.

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- Check the stitch in the preview window on the left. The stitch should be visible with multiple copies. If there is only one copy of the drawn pattern, it is likely that the start and stop point are on top of each other, and the needle cannot travel through the design. If the pattern in the preview area is one solid white pattern, it is likely that the needle start/stop points are too close together and the needle is not able to advance (as shown in photo to the right).

- To sew out the pattern, select Check. If the pattern is not the full 9mm width, use the Stitch Width and Length Knobs to enlarge and re-proportion the stitch.

- To edit the stitch, select Move, tap the offending point, and move with the knobs or stylus. Watch the preview to know when it is right. Select additional points in this manner until the preview reflects a pleasing and continuous stitch. Editing a stitch can occur before or after stitching. To edit the pattern after stitching, re-open Stitch Designer.
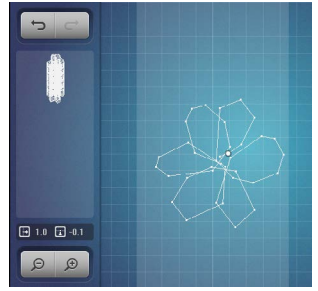
TAPPING POINTS

- Select Stitch Designer and Select New for a clean drawing screen. Engage the 9mm lock and select Snap to Grid. The Snap to Grid icon changes the linear grid to a dotted grid. If the user-selected screen background has dots, it will be difficult to see the Stitch Designer dotted grid and it is suggested that a different background screen be selected through Setup.

- Tap close to the dot and a needle point is set. Draw the stitch as pictured. Use the Selection icon to select all and select Duplicate. Duplicate places the pattern after the last needle point of the drawn pattern. The duplicate pattern will be blue indicating it is selected. With the duplicate selected, engage Mirror Image left/right. Deactivate Snap to Grid and select the Move Icon. Use the Stitch Length knob to move the selected portion of the stitch to overlap with the first portion to complete the Triple Diamond Stitch.

- Use the Play icon to view a simulation of the pattern stitchout. Select Check and at the sew out screen, stitch and/or save the design to Personal Program.
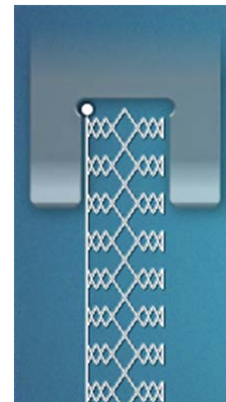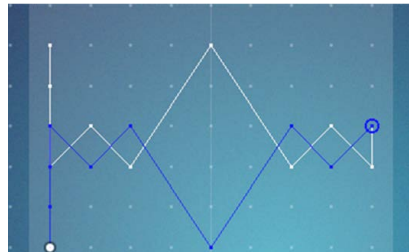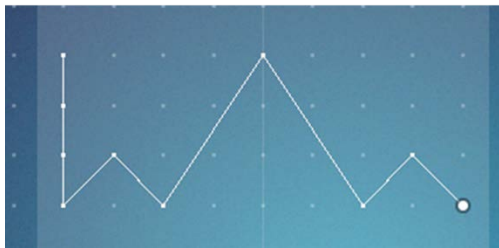
Click for Video!

EDITING AN EXISTING STITCH

- Navigate to Stitch #736 and select the Stitch Designer icon. Engage the 9mm lock if necessary. Set the Selection icon to single point. The single (needle) point selected is the last one in the pattern and is indicated by a white dot with blue ring.

- To edit a stitch, needle points will be moved and new needle points will be inserted to create a palm tree stitch. When new needle points are added, they are added to the right of cursor or current needle point. Adding points requires selecting the needle point before the place of insertion. To advance through the design to desired needle points, activate Move and use the arrows OR tap on the desired needle point. To add the new point, select the Pencil and tap to place.

- Stitch #736 is made up of 14 needle points. Select Move and tap the up arrow until the stitch count reads 4/14. Select the Draw tool and tap in the middle of the line to add the new stitch.

- Select Move and drag the new stitch down (as pictured). The multifunction knobs may also be used to move points. The Stitch Width knob moves items horizontally and the Stitch length knob moves items vertically. With the added needle point, the new stitch count is 15.

- With Move still selected, use the forward arrow to advance to needle point 8/15. Select Move and drag the new needle point to the left. The multifunction knobs may also be used to move points.

- A quicker and alternate method of selecting a point, is to select Move and tap the desired point. This eliminates traveling through the pattern to get to a needle point. With Move selected, select needle point #12/16. Repeat adding another point and moving it to produce the final altered pattern.

- Select Check to confirm and exit the Stitch Designer Screen. At the sew out screen, stitch and/or save the design to Personal Program
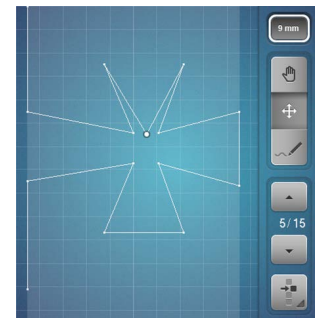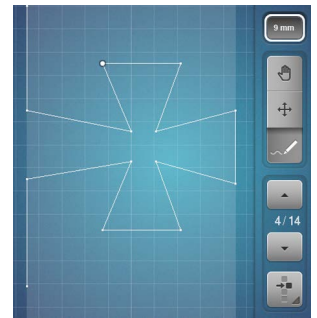
A FEW MORE TOOLS

USING INVERT TO CREATE A PATTERN – HEART
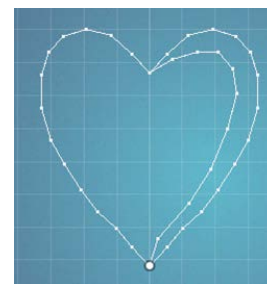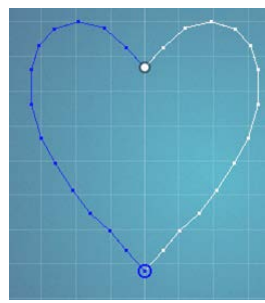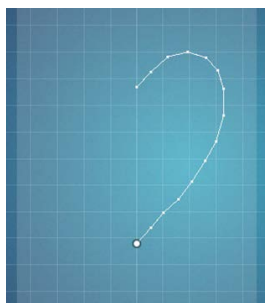
- Select Stitch Designer and engage the 9mm Lock. Tap in a series of points to create a half of a heart beginning and ending on the center line (center needle position). The closer the points are together, the more curve the heart shape will have.

USING INVERT TO CREATE A PATTERN – HEART (CONTINUED)

- Use the Selection icon and Select All. With the heart half selected, use Duplicate and select Mirror Image left/right. Select the 'hand' icon to move the view of the screen to see more and if necessary, use the zoom tools to see both heart halves. With the heart duplicate active (blue) select Invert. Invert changes the start/stop needle points causing the design to pair up to make the heart.

- A closer look at the preview area shows only one occurrence of the heart, indicating the needle start and stop points are at the same place. This is good for single scattered stitches in a project, but additional stitches are needed in order to stitch a continuous pattern.

- To add stitches to advance the needle through the stitch to sew a continuous pattern, Select the pencil and add travel stitches next to one side of the heart.

USING PARTIAL SELECTION TO CREATE STITCHES

There are 3 options in the Selection Icon: Select All, Select Some and Select One. Select Some allows the selection of multiple points that may need to be edited or deleted in a pattern.

- Select Stitch #112 and open Stitch Designer, note the current needle point position. It is at the end of the pattern with the solid leaf. Activate Move and Select Some and use the back arrow to trace and select the solid leaf portion. As the arrow goes through the pattern, it selects and turns the traced stitches blue.

- Select Duplicate and Mirror Left/Right. The pattern has one open leaf and two satin leaves. Select the hand to move the view of the screen to see the start of the design. Select Move and Single Point Selection and tap the start of the pattern.

- Change the Selection option to Select Some and use the down arrow to select needle points 1-11. They will be blue and the Delete icon can be selected to create the stitch with two satin leaves.

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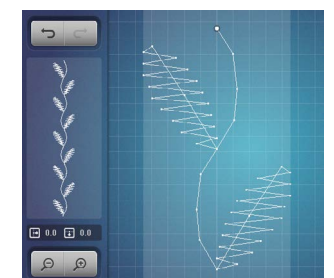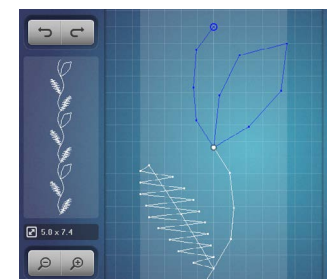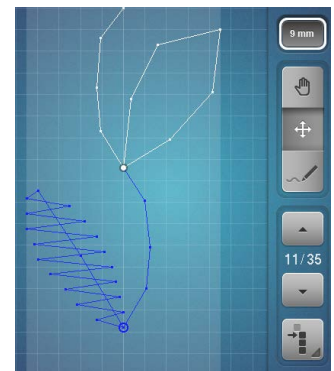
CREATING SIDEWAYS MOTION STITCHES – LARGE EYELASH STITCH
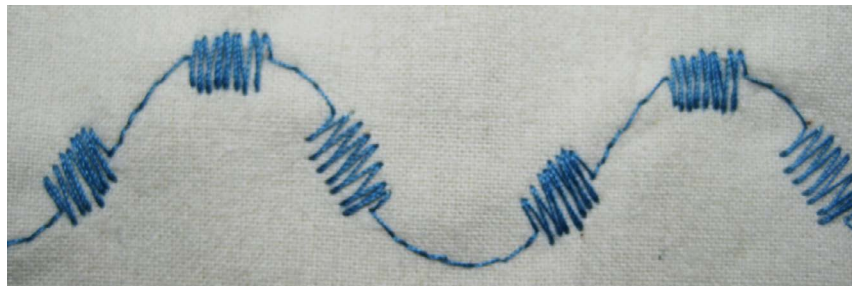
- Open Stitch Designer and select New to clear the screen. Turn off the 9mm lock and zoom out 3-4 levels to have more drawing space. Begin at the upper left and tap in a few stitches to create a curve and add a group of zigzag stitches to form an satin rectangle. Repeat this sequence creating the stitch as pictured.
- Edit the stitch as necessary and when complete, select Check to go to the sew out screen. Note the size of the pattern, and attach Sideways Motion Foot #40C to the machine. Click here to learn more about Sideways Motion.
- Stitch and Save.

> **TIP:** As a stitch moves sideways, it can be a bit of a challenge to guide the fabric. If you find yourself having trouble, import the stitch into embroidery, duplicate with Endless Embroidery, and embroider it for a perfect stitch.

CHANGING 9MM STITCHES INTO SIDEWAYS MOTION STITCHES AND VICE VERSA - CHANGING STITCH SIZES THROUGH EMBROIDERY

When a pattern is designed in Stitch Designer, there is no option for changing sizes, however, the pattern can be maniuplated in embroidery.

- With the pattern on the sewing screen, select Home and Embroidery. Select the My Designs Folder (heart) and select the pattern. Select the Information icon and select Re-scale. Change the size of the stitch as desired. The size of the pattern is displayed on screen in millimeters for reference.
- When the changes are complete, Save the pattern to the USB stick. Navigate to sewing and open the pattern through Personal Program. The stitch is ready to be sewn.
- Changing sizes of stitches can also be accomplished in the BERNINA Embroidery Software. For larger size changes stitches will be added and subtracted while maintaining the original look of the pattern.

SAVING NEW PATTERNS

Use Personal Program to save stitches to the machine memory or to a USB stick.

- With the desired stitch visible on the sew-out screen, select Personal Program (heart icon). If the Heart/Personal Program is not visible, close the information menu.
- Managing machine memory occurs through Personal Program. The 3 options are Open (arrow out of the folder), Save (arrow into the folder), and Delete (trash can). Selecting the correct option will be imperative in order not to overwrite designs unintentionally. Once the Save Folder is selected, four folders appear. Personal Program is divided into four sections to help with file organization. Consider storing all of your designed stitches in one folder. Select one of the four folders and tap on the highlighted stitch to save it permanently to the machine memory.
- To save to a USB stick, place a USB stick in the machine port, select Personal Program and Save. At the top of the screen, select the USB portion of the USB/Machine icon, then tap on the highlighted stitch to save it permanently to the USB stick.

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RETRIEVING SAVED PATTERNS

- Use Personal Program to retrieve saved patterns from the machine memory or a USB stick. To retrieve stitches from the machine memory, select Personal Program and Retrieve (arrow out of folder). Select one of the four folders and select the desired stitch.

- To retrieve stitches from a USB Stick, insert the USB stick into the machine port and select Personal Program and Retrieve (arrow out of folder). Select the Transition icon in order to see the USB icon and select USB and then the desired stitch.

THE BERNINA SOFTWARE ADVANTAGE

Stitches from the BERNINA Embroidery Software Designer Plus can be imported into the B 880/790 via USB stick and Personal Program. This includes stitches that are not built into the machine such as candlewicking or blackwork stitches, as well as any stitches designed in the software.

IMPORTING STITCHES FROM THE BERNINA EMBROIDERY SOFTWARE

- To get one repeat of a stitch, use the Open Object Tool and draw a line 1 grid wide. Exit the tool, select the line and change the single stitch to the desired stitch, such as a candlewicking knot or blackwork stitch. With the stitch on the computer screen, select Write to Machine and select the USB/exp option.

- Insert the USB stick into the machine, and open the stitch through the Personal Program. At this point the stitch can be stitched as singles, but it lacks the travel stitches to stitch successive knots. With the imported stitch visible on the machine sewing screen, select Stitch Designer. With candlewicking, the needle starts and stops in the same place, requiring the addition of travel stitches. Use the Pencil and add some straight stitches until the preview reflects the spacing desired. Select Check in order to sew the new pattern.

- Candlewicking is a thick knot. Most feet will get stuck on the thread build up. Use a light-weight thread, such as Isacord and a foot with a tunnel underneath, such as Bulky Overlock Foot #12C.

- Use the BERNINA Embroidery Software Designer Plus to create stitches that can be imported to the machine. Designing some patterns may be easier to do on a computer screen rather than the sewing machine screen. Writing a name in script on a horizontal plane with the open freehand tool may be more natural.

- In the BERNINA Embroidery Software Designer Plus, select the Open Freehand Tool and write your name. Select Enter to set the pattern. The pattern can be resized to be a 9mm stitch or a Sideways Motion Stitch. Set the beginning of the pattern as the first needle point from the View menu. And rotate the stitch 90°. Select Write to Machine and select USB. Insert the USB into the machine and open the pattern through Personal Program.

There are many options with Stitch Designer with or without the BERNINA Embroidery Software Designer Plus. For additional Stitch Designer inspiration, watch the video tutorials on bernina.com or the BERNINA YouTube Channel.

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