

Baby Lock Meridian Embroidery Machine



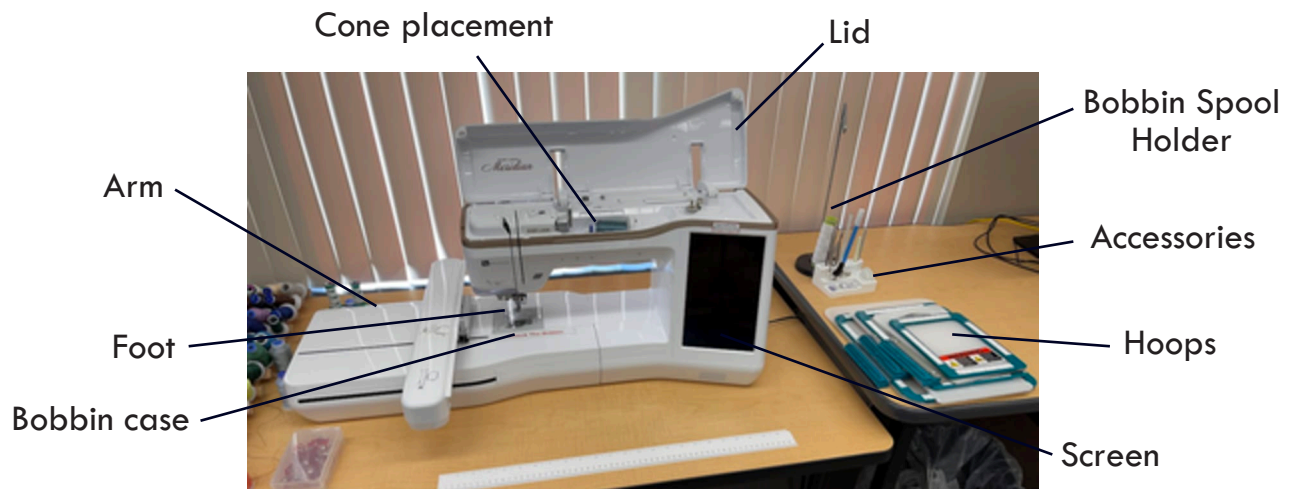
Introduction:

The Baby Lock Meridian is an embroidery machine that can handle flat materials with designs up to 9.5x14" in size. Using a .PES file, this machine has several built in functions for setting up a design, though most work is done with Hatch Embroidery where you can create and export much more custom and unique designs.

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Setting up the machine

Parts of the machine

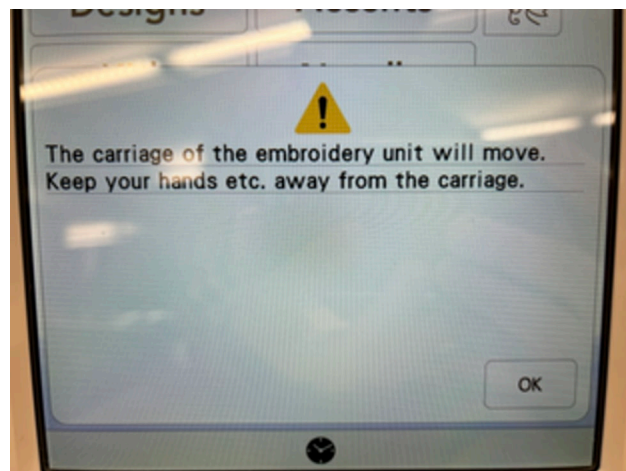


Basic set up

1. Plug in the power cable on the right hand side of the embroidery machine.

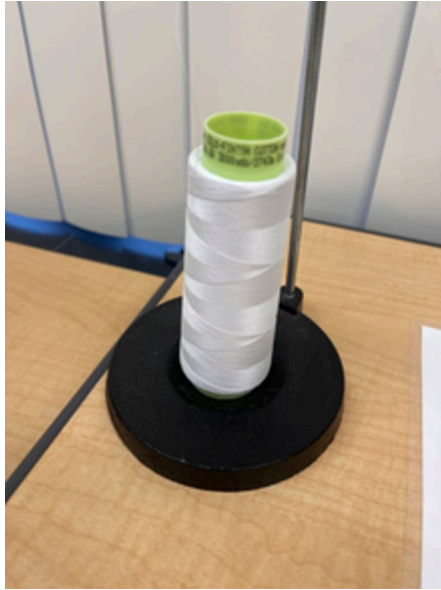


2. Switch the machine on. You'll be greeted by a message about the embroidery unit moving. Tap OK and wait for the machine to come to a rest. To do this, any hoops must be removed.

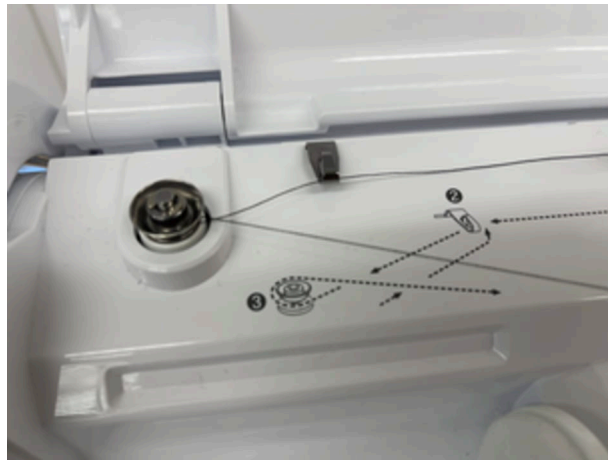


Winding a bobbin

1. Place the bobbin thread on the spool holder to the right of the embroidery machine.



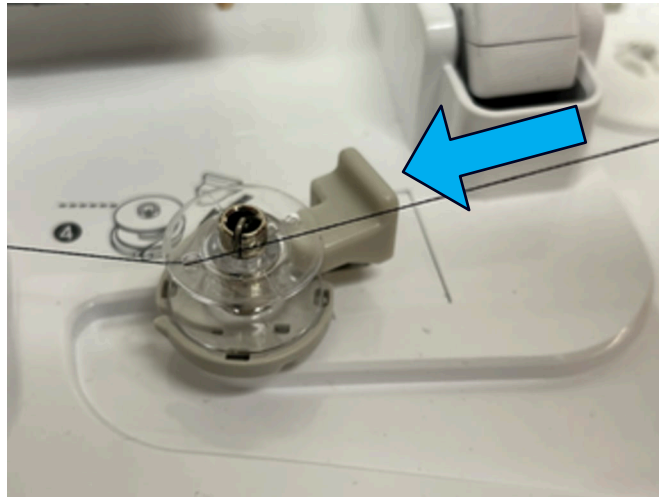
- a. *Note: We supply only a white bobbin thread. This is different than any of the thread used for the sewing machine and different than the other thread used for the embroidery machine. Do not put any kind of thread on the spools as they will not work as intended. For demonstration purposes in this guide we used black thread only for clarity purposes.*
2. Place the thread under the metal clip, then wind the thread counter clockwise around the pin. (Directions are printed on the machine to follow.)



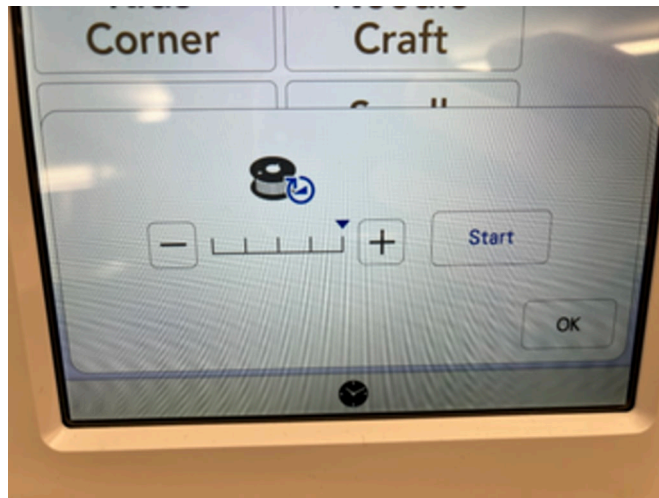
3. Take a bobbin and run the thread through a hole running from the inside out the top.



4. Place this bobbin onto the post and move the winding switch over to the left. Hold the thread coming out of the top tightly.



5. On the screen you'll be presented with the following screen. You can select a speed and press start.



6. The bobbin will begin winding. Hold the thread tightly until it eventually snaps at the bobbin.
7. When the process is completed, the switch will snap back to the right automatically and the winding process is complete.
8. Remove the bobbin from the post and cut the thread using the built in thread cutter on the post or a pair of scissors.



Inserting the bobbin

1. Remove the bobbin cover by pulling the switch to the right.



2. Drop the bobbin in with the thread running counter clockwise.



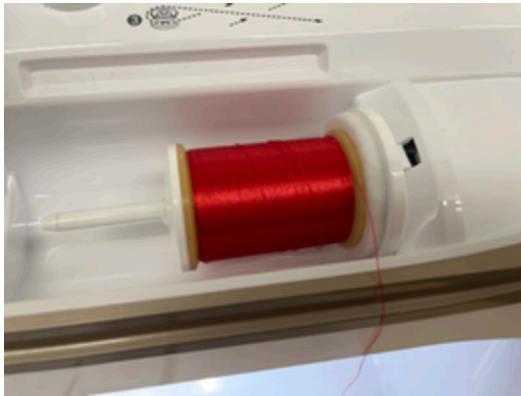
3. Run the thread through the track to the left until you reach the end and it cuts itself.



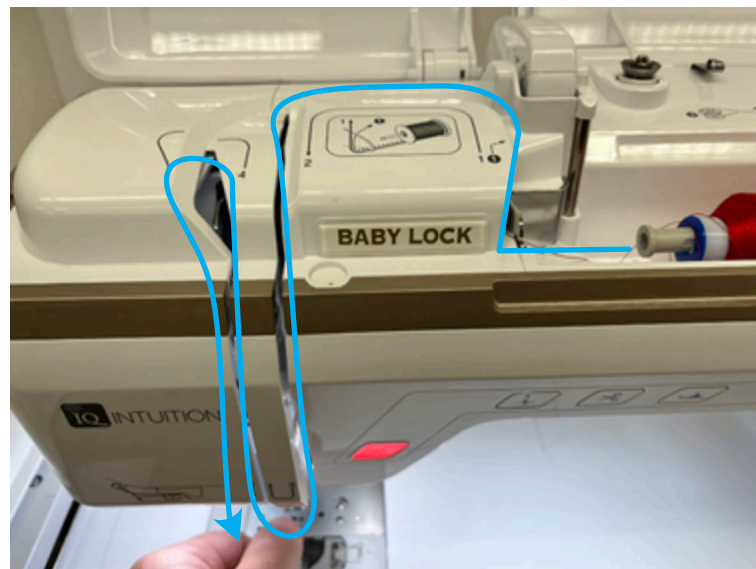
4. Replace the cover.

Threading the needle

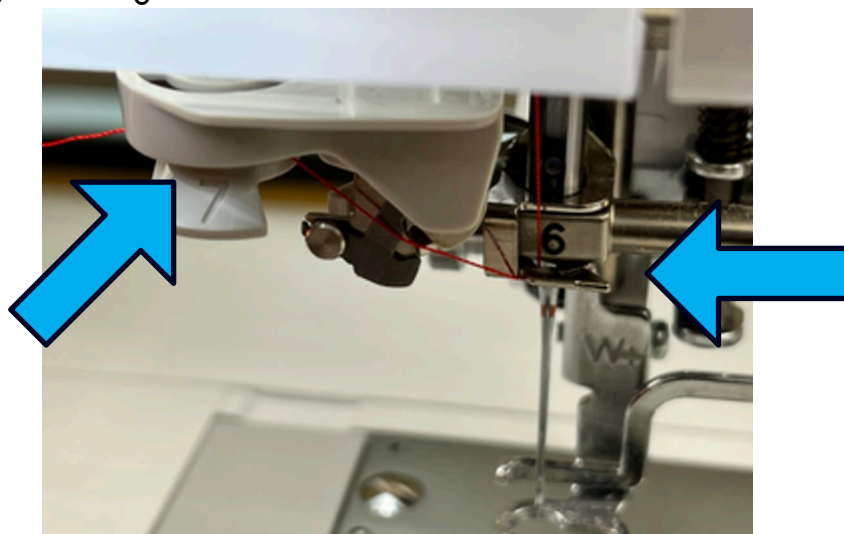
1. Open the lid on the top of the embroidery machine. Place your thread on the front post.
 - a. If using a spool, use a spool cap that is the same size or larger than your spool. If using a cone, use the thread spool insert over the end.



2. Follow the solid line around the machine as you move from steps 1-5 going under the metal post, around the back, down the front, up to the catch, and back down toward the needle.



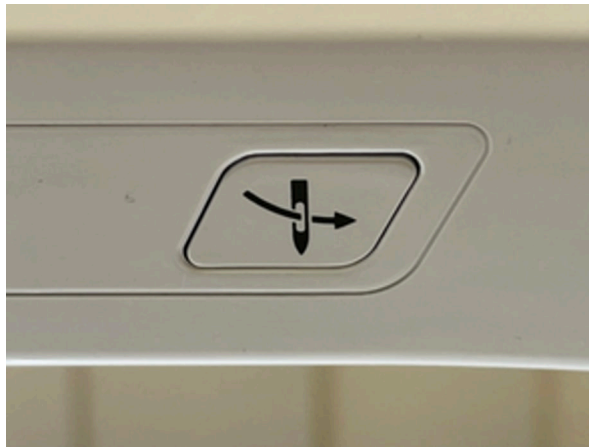
3. At the needle, clip the thread under the hook by 6. Slide your thread into the slot above the 7 so it's caught in the groove.



4. Take the thread out to the left side and cut the excess off using the built in thread cutter.



5. To the left of the screen is a button to thread the machine. Press this button to thread the machine.



- a. If the thread is looped after you press this button, just pull on the loop until the thread comes free.
- b. If you accidentally undo the threading, clip it back into 7 and press the threading button again until it works.

Using thread colors

On the embroidery machine and in the Hatch software, you'll be given a variety of color options on the screen. It does not directly matter which color is located on the screen as to what your project will look like. It can be a good guide, but whatever color thread is on the machine is the color your design will be. Do not worry about matching thread numbers or names 100%. Find something close if you like how it looks on the screen, or substitute any color you want to make the finished product what you intend.

Again use the color in the pattern as a guide. The key thing when creating a design is that each section you want to be a particular color needs to be distinct from the other parts of the design. This signifies to the machine to stop and allow you to change the thread. The color of the actual design is whatever color thread you put into the machine.

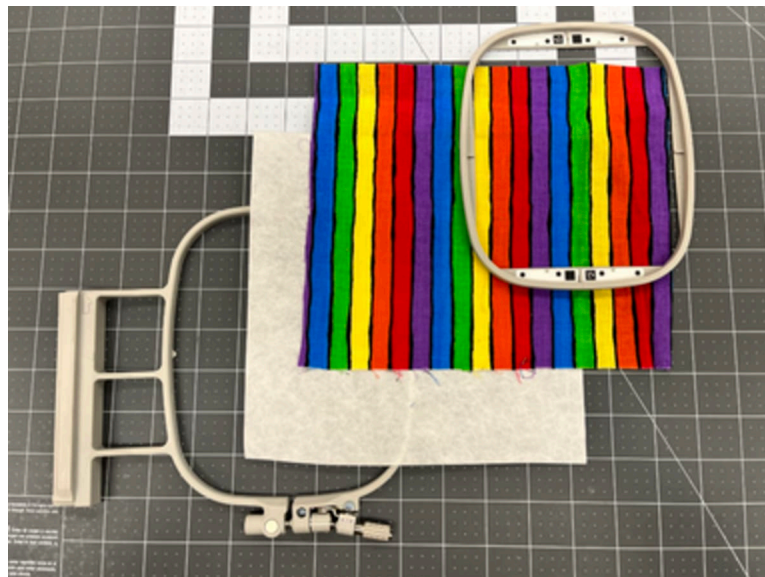
Hooping material

To embroider your material must be stabilized into a hoop. We have four hoop sizes in two kinds. Here is a chart describing the different sizes and types.

Hoop size	Screw down	Magnetic
Small 4x4	X	X
Medium 5x7	X	X
Large 8x8		X
Extra large 9.5x14	X	

Note, for most projects we do not use the extra large hoop. If you wish to use this hoop, talk to Maker Studio staff prior to reserving time on the machine to make sure we can give you the adequate time and space for the project as these typically take hours to complete at this size.

Setting up a hoop requires four pieces. The inner and outer (or top and bottom) frames of the hoop itself, your material, and a backing stabilizer. Occasionally a piece of topping material may also be added to this.



Choosing a backing stabilizer

We offer a variety of backings to use with your project. Here is a breakdown of the general guidelines to choose a backing.

Light, Medium, or Heavy: Choose the thickness of the backing based on the weave of your fabric. For a looser weave choose a heavier backing. For a dense weave, use a light backing. For something similar to standard cotton fabric a medium is fine.

Cut away or tear away: Choose this based on the stretch of your material. If your material has a lot of stretch to it like t-shirts, sweatshirts, and knit materials, use a cut away to provide lasting support. If your material is stable on its own like a towel or canvas, a tear away will work, especially if you'll regularly see the back side of it.

StabilStick: This is a specialized backing that is adhesive. Used with odd items that can't be adequately hooped into the frame due to size or complexity.

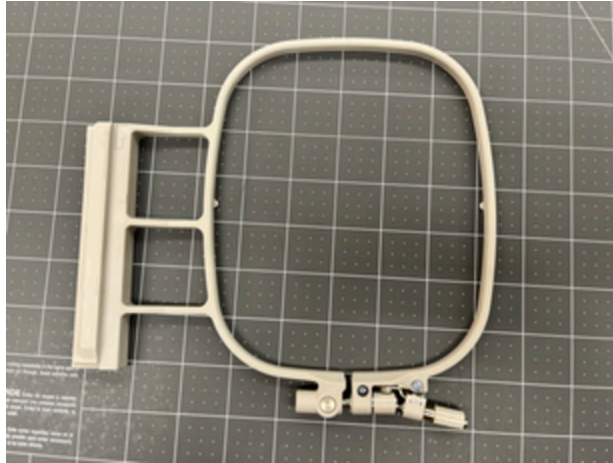
AquaMesh: This is a water soluble backing used for free standing designs like lace or cut outs where you don't want to see any stabilizer left behind.

Heat N Gone: This is a topping that can be used in addition to a backing stabilizer to help the design stand out on a material like terrycloth or microfiber where the threads may get lost in the texture of the material. It can be torn off and then ironed away when done.

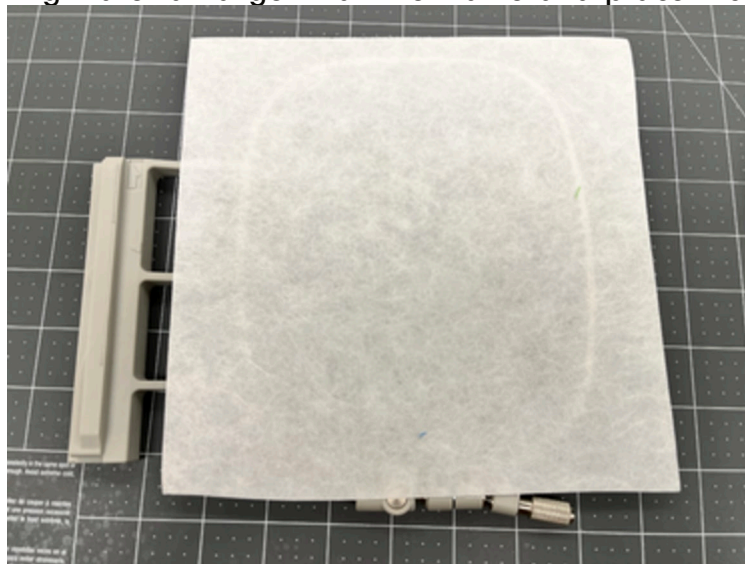
Fuse and Seal: This is a secondary material that can be ironed onto your design creating an iron on patch.

Using a screw based hoop

1. If your frame is currently held together, loosen the screw on the bottom and separate the two parts.
2. Set the outer frame flat to the table with the screw at the bottom and the attachment point on the left.



3. Cut a piece of backing material larger than the frame and place it over the outer frame.



4. Set your material on top of the backing material.



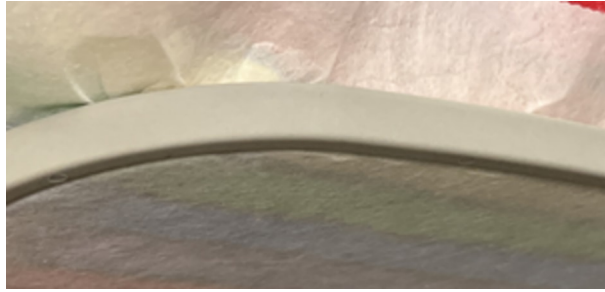
5. Set the inner frame so that the ^ is pointing toward the top and the black dots are facing upward.



6. Press in the inner frame until it is seated fully inside the outer frame. You may need to loosen the thumb screw further to achieve this.



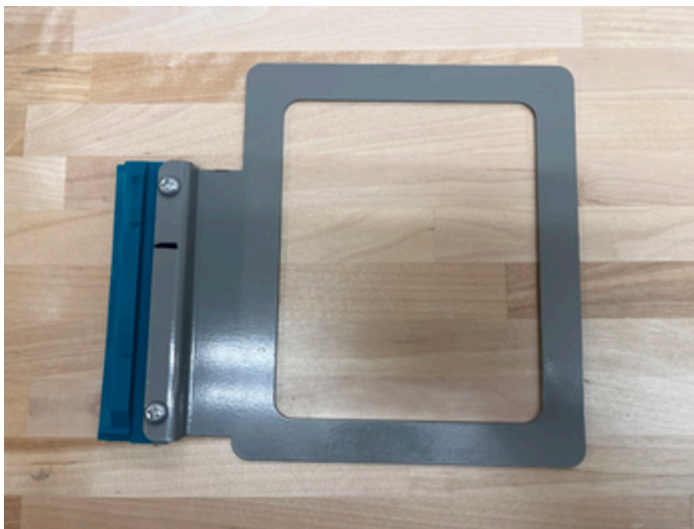
7. Once properly set the inner and outer frames should sit even with each other on the bottom side.



8. Tighten the thumb screw until it will go no further. A small screwdriver may be needed to fully tighten on a particularly thick material.
9. Your hooped material should be taut but not stretched.

Using a magnetic hoop

1. If your frame is currently held together, remove the top hoop and set the plastic protector sheet to the side. Be sure to leave the two hoop pieces a part for now.
2. Set the bottom frame flat to a table with the green tab sticking up and on the left.



3. Cut a piece of backing material larger than the frame and place it over the bottom



4. Set your material on top of the backing material.



5. Set the top frame so that the rulers are facing up. It's best to align one edge of it before laying it down. Be careful not to catch your fingers inside the frame as the magnets are quite strong.



6. Align the edges of the top and bottom frames so there isn't an overhang.



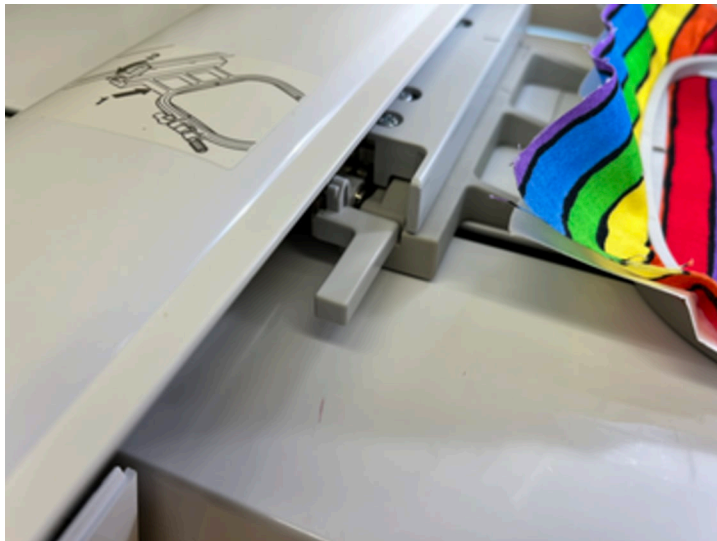
7. Smooth out the material inside the hoop by lightly pulling from the outside. Don't pull it so the material is stretched tight, just enough to remove the wrinkles.

Inserting and removing the hoop

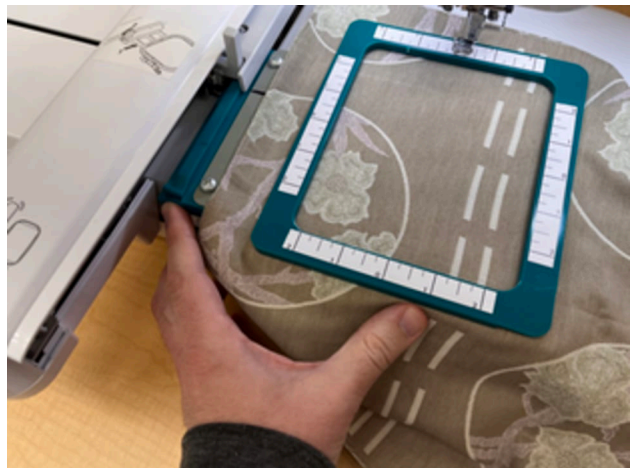
1. Take the hoop and slide the attachment point into the slot on the embroidery unit.



2. Once it is fully inserted, flip the locking lever down.



3. To remove a hoop reverse these steps by opening the lock, then pulling the hoop out.
4. When using the magnetic hoops, it is best to push directly on the left side where it meets the machine. If you must press on the front side, press from the bottom frame rather than along the top side. If you push from the top the material could shift if the top frame slides away.



Hooping a shirt

This process covers how to hoop a shirt, but it could cover any object that is two layers when flat but open on at least one end like a pillow case or a tote bag. The key thing to remember is that materials like this need to be able to turn inside out as demonstrated below, otherwise you will sew your object shut and can run the risk of the material slipping and damaging your object or the machine.

1. Place the bottom frame of the hoop with the backing material inside the shirt.



2. Using your fingers find the corners of the bottom frame through the top of the shirt. Adjust the bottom frame to align where you wish the design to be located.



3. Once the bottom frame is located where you want, attach the top frame.



4. Holding the hoop from the side, gather the material and turn it inside out so that the bottom of the hoop is fully exposed.



5. Insert the hoop into the machine. Be careful when guiding the material under the foot while inserting.



6. Spread out all the material to see the embroidery area cleanly.



7. Ensure that no material is under the hoop on all sides.



8. You can optionally use some clips to hold back the material out of the way of the machine. This is highly recommended unless you're planning to manually adjust the material the entire time you're embroidering.



9. Proceed with your embroidery project as listed below.

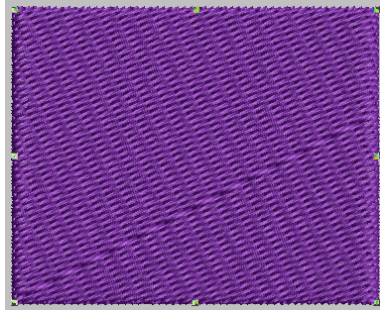
Using Hatch Digitizer

Hatch Embroidery's Digitizer function is a piece of software located on the computer beside the embroidery machine. This is a highly robust design tool for creating embroidery patterns. Anything beyond the pre-installed designs on the machine itself should run through here. There are five areas we'll look at with this software. Ready to go designs, Lettering and Monogramming, Digitizing artwork, Creating freehand designs, and Outputting a design.

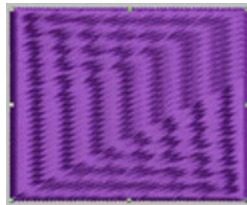
General Hatch concepts - Fills

Hatch has a variety of fills that can be used for your embroidered designs. There are plenty more than what are listed in this section, and not all patterns are available for all uses.

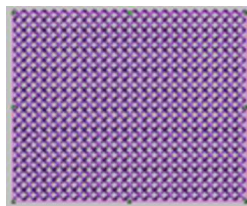
Tatami - Tatami is made in rows using multiple stitches. This is great to fill large areas



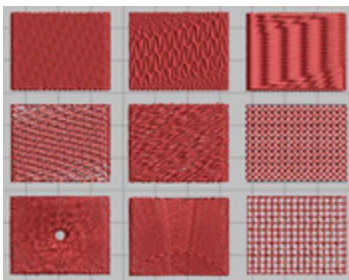
Satin - This is great for outlines and narrow stretches where you want clean back and forth stitches without a lot of interruptions.



Cross stitch - Converts your image into the X pattern seen in cross stitch. Can be used to create patterned designs with low stitch counts.

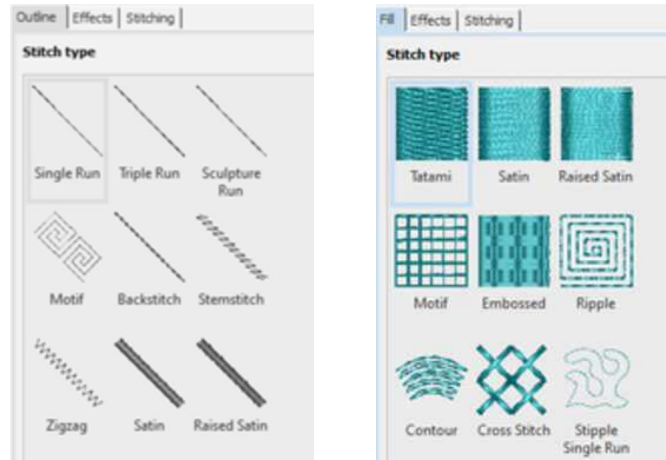


There are many more that can be attempted, modified, tweaked, and customized within the fill menu of the object properties.



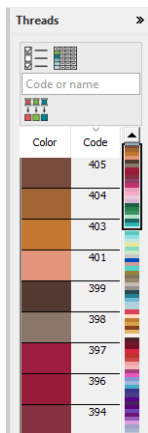
Object properties

The right toolbar has the Object properties tab. This has a wide variety of features depending on the object you've got selected within your design. The two most common you'll use are Outline and Fill depending on whether you have just an exterior line or a filled shape.



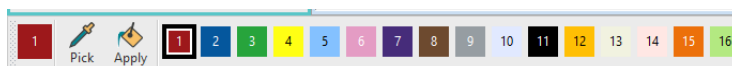
Here you apply how you want these elements to look. The Effects and Stitching tabs offer even more fine tune refinement of these elements if you want to truly customize and modify your design, but these first screens will be the main approach used at a basic level.

Threads



On the right side you have a variety of colors. When you have any element of a design selected, you can click on one of these thread colors on the right to apply that color to that element. This can help you visualize the design as it will come out with the colors you want to use in your embroidery project. Changing colors also helps in forcing a color change with the machine when you go to embroider your design. (Reminder, the colors on the design are for visualization purposes only. The color you thread into the machine is the color your project will be.)

You can also quickly adjust the colors by using the color bar on the bottom of the screen.

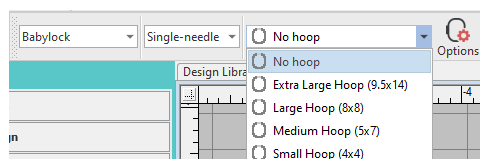


Hoop layout



Hatch is set up with our four hoop sizes to allow you to easily see how your design will fit into the hoop. Click the hoop button on the top bar. This will display a box around your design.

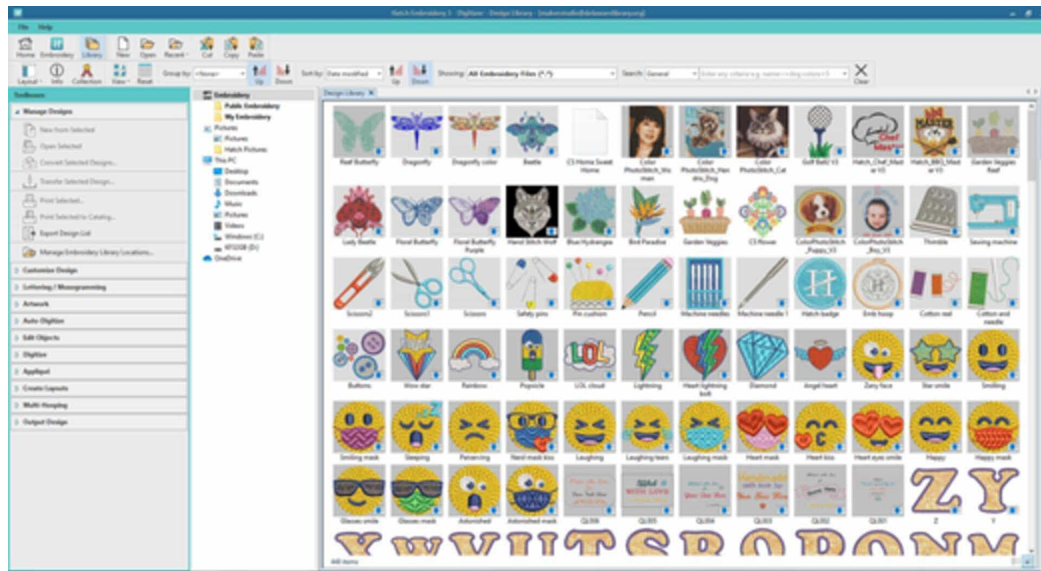
You can change the hoop size by choosing small, medium, large, or extra large from the drop down. Choose the hoop size that best fits your design. Note this won't have any actual effect on the finished design whether you use the hoop tool, it's just handy to assess what fits and in what size hoop.



Ready to go designs

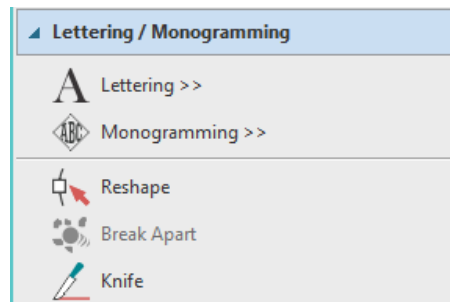


When you open Hatch you'll be presented with two options in the top left corner of the screen. The Design Library provides you with a large list of pre-programmed patterns ready to use.



The rest of this section will deal with Design Space, where you can design your own patterns and convert images into patterns.

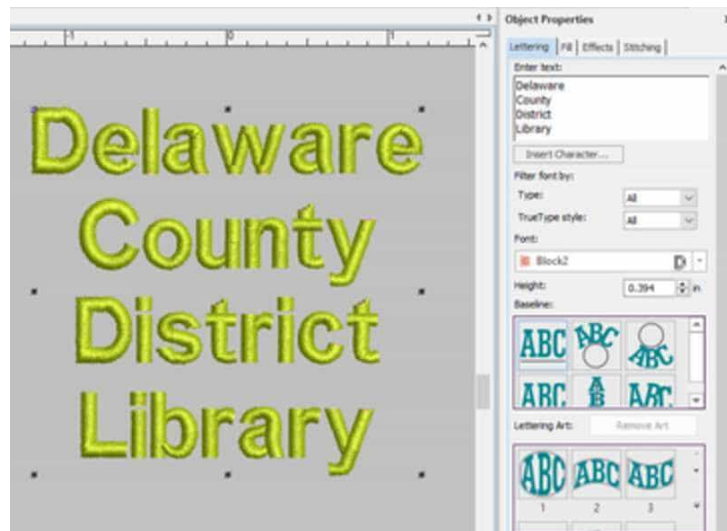
Lettering / Monogramming



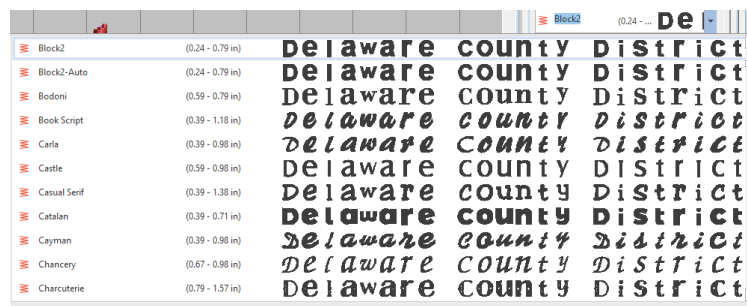
When adding text to your design you have two options. Lettering lets you type specific text onto the screen and adjust how it is laid out. Monogramming will use an initial design and modify it with additional elements. We'll look first at lettering.

Lettering

From the left side of the screen you can find the “Lettering/Monogramming” tab. Clicking on Lettering will provide you with a screen to enter text on the right side.



The top box lets you type text and then it will appear in the design area. You are able to modify it with the various tabs and areas found on that right side toolbar. You can curve and arrange the letters. You have a variety of built-in font options for your design in addition to using any font installed on the computer you're using. If you wish to use a font installed on the computer, these are located toward the bottom of the dropdown list.



On the left sidebar is an option to Reshape the text. This will put dots and lines on your text which let you manipulate the angle, spacing, size, and more of the individual words. These options are located in the “Object properties” on the right side, but this gives you a more free form ability to modify them.

Second in that section is the “Break Apart” feature. Here you can break a paragraph into lines, a line into words, and words into letters. This gives you the ability to customize and tweak individual elements of your text after you get it initially established.



Monogramming

Monograms are a fun way to easily add character to some letters. When you choose this feature on the left sidebar, it creates a monogram option on the right sidebar. Here you can type in the letters you wish to use, and what style you want to start with.

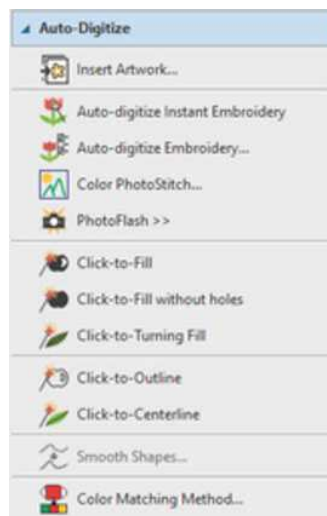


Note, in many of these designs the central letter is enlarged which is commonly used to be the last name initial so you may need to adjust the order of your letters to get the monogram to appear as you wish.

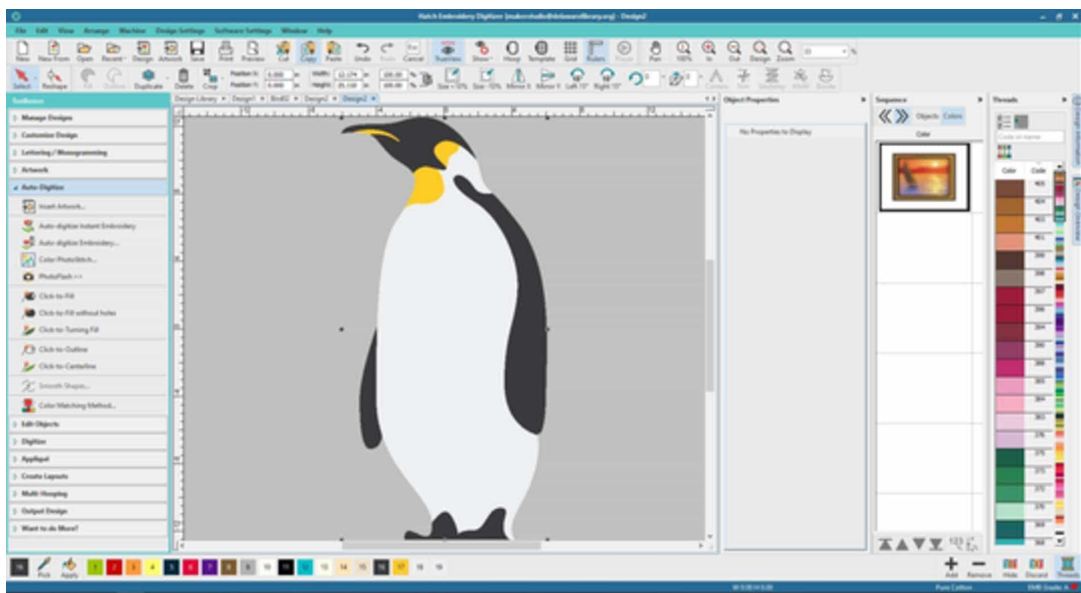
There are a variety of options within the right sidebar to tweak the outer shape, the style of the letters, the ornamentation, and even more fine detail. Much of this will be to taste and needs to be adjusted to see how they work.



Digitizing Artwork



On the sidebar is an option for Auto-Digitize. This will convert a PNG or JPG into an embroidery pattern. The first step is to select Insert Artwork and choose the file you want. This will put it in the center of your page. You may need to resize it depending on the size of your design. You can do this by dragging the corner dots around your image or by typing a specific size in the toolbar.



Note: The simpler your image the better. Your design can have multiple colors, but a photograph or design with lots of small details will not embroider very well. Here you can see an example with significant shading from white to black and how it breaks down to just a couple of bands of color once digitized.

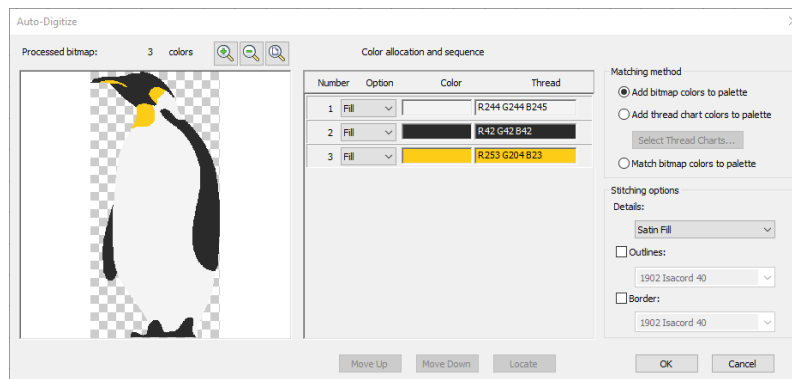


The next step is to digitize the design. There are two options. “Auto-digitize Instant Embroidery” will convert your image into a pattern in one click, but will not let you set any options with your design. Thus it is recommended to do the “Auto-digitize Embroidery” instead.

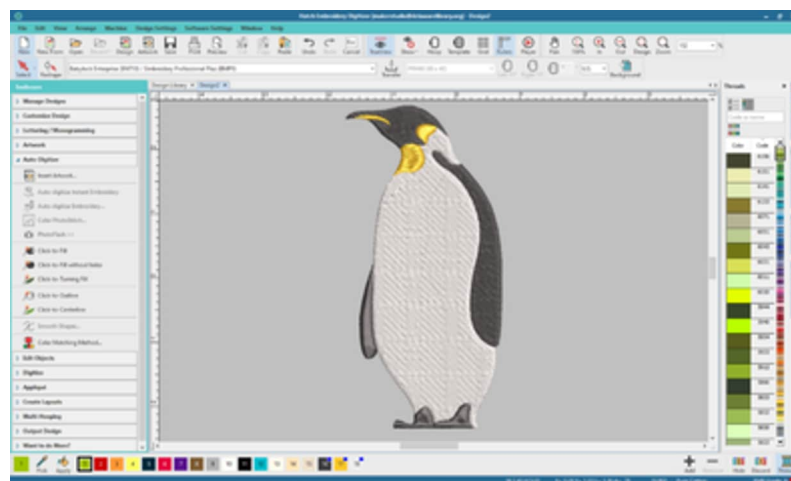
This will open a box showing your design, their processed version of it, and a series of colors. You can add or remove colors to increase or decrease complexity in your pattern. Once you’re happy, click OK.



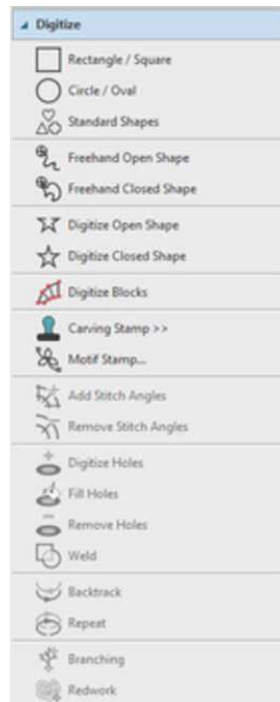
The next screen will assign a fill pattern to each of the colors. You can set them to be either details (which are good for outlines), fill (good for large blocks of color), or omit which will completely ignore that color in the finished pattern. Click OK to set your design.



Your design will now be set up as an embroidery design. As discussed earlier, you can adjust the colors by clicking on one of the sections of your design and choosing a new color from the Threads section on the right.



Creating freehand designs

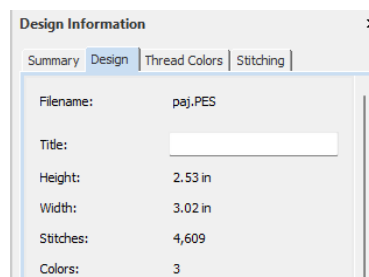


If you wanted to create a free handed design, you can use the “Digitize” tab.

This allows you to create basic shapes in either an outline or filled in shape, freehand drawn shapes, and more. The work in this tab is more labor intensive than the auto-digitize, but can be used to augment designs and add extra details like borders or backgrounds. With enough time you can create whole custom and detailed designs from scratch.

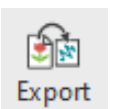
Checking stitch count

You can see the approximate stitch count by finding the “Design Information” tab and navigating to the Design tab. Here you can see the number of stitches in the design. Note this will change slightly on the actual machine, but is a close approximation of the overall count.



Outputting a design

Once your design is ready go to, insert a USB flash drive into the computer. On the top toolbar, select the option for Export. This will open a dialog box where you can locate the flash drive and save the design as a .PES file. This is the file type read by our embroidery machine.



You can then take that flash drive out and use it on the Embroidery Machine.

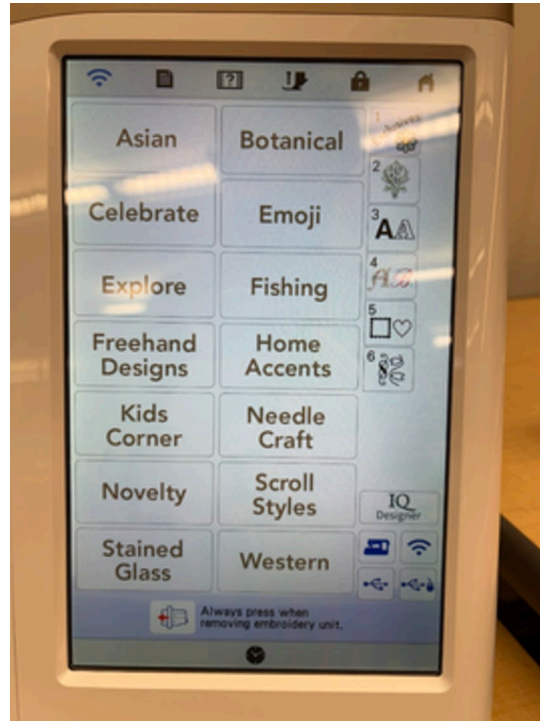
Note: If you want to save your work for a future project, you can save the project. Saving a project gives you an EMB file which opens in Hatch, but will not work on the embroidery machine. But this lets you easily modify or adjust the project at a later time.

Performing the embroidery

Using a pattern on the machine

The embroidery machine comes with a variety of patterns pre-loaded, as well as 20 font choices for monogramming. The creation of unique patterns and any large blocks of text is best created utilizing Hatch Digitizer which was detailed in the previous section.

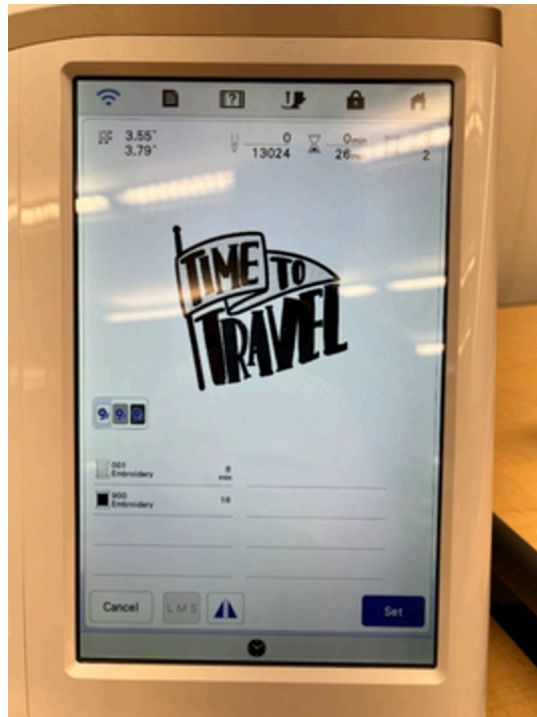
1. On the main screen of the embroidery machine you'll see a variety of categories.



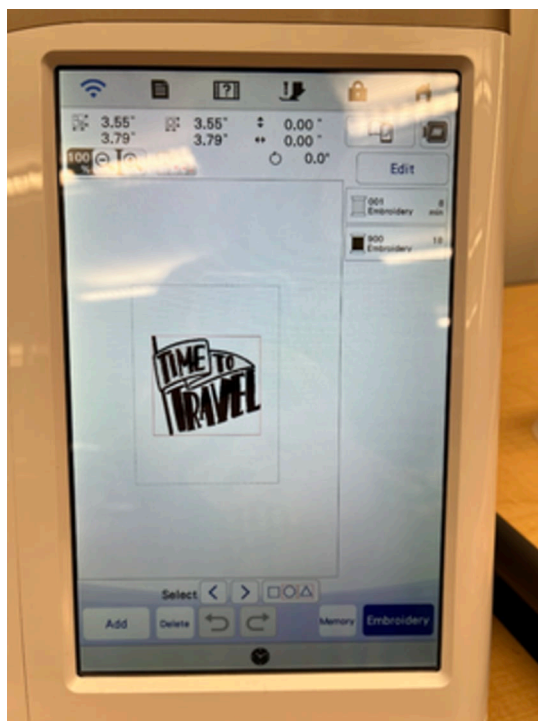
2. Select one of these to see the included designs in that category.



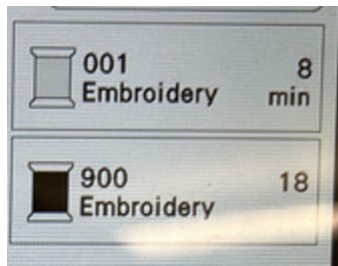
3. Tap on the one you wish to embroider to get more information including size, colors, time, and stitch count.



4. If this design works for you, press Set in the bottom right.
5. On this screen you'll see a preview of your design. The large box equates to the largest size hoop we have, and the smaller rectangle is the currently set up hoop size.
 - a. This size can be modified by tapping on the page on the top toolbar and navigating through the list of hoop sizes to find the one that matches your design. This is just for visualization purposes and won't have any direct bearing on your project.
6. If you want to adjust anything about the design, tap on Edit. (Details located in the next section "Edit Settings")
7. When you are finished adjusting your design, tap Embroidery. The machine will move to where it needs to be to begin the project.



8. Thread the machine with your first color as listed on the right side of the screen.



9. Press the right button to lower the foot. The “Start/Stop” button should turn green. Press this button to begin.



10. When your project completes its first color it will stop and raise the foot. Take the thread out and thread in a new color. Thread the machine, lower the foot, and press the “Start/Stop” button to begin the next color.
11. When your project is completed, press OK on the screen. Remove the hoop and remove your project from the hoop.

Opening a pattern from USB

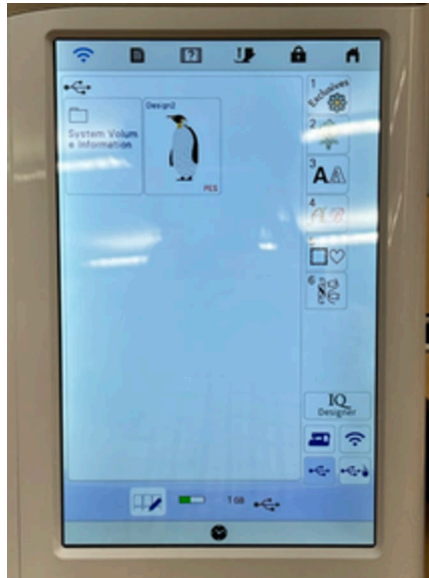
1. To use files stored on a USB flash drive, plug it into the top slot on the right side of the machine.



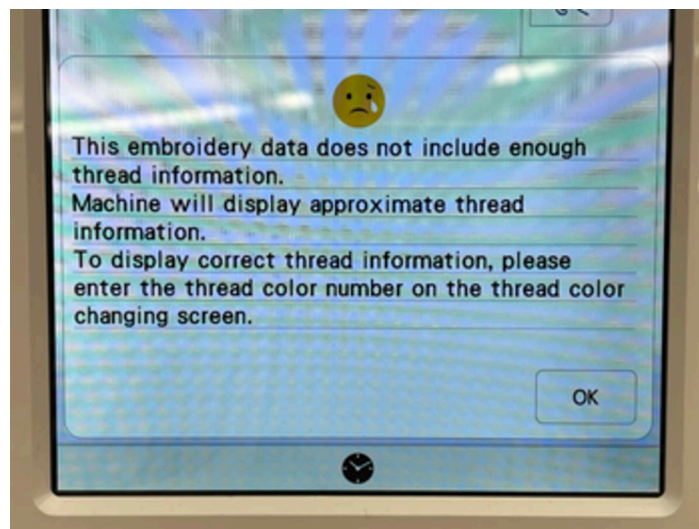
2. Locate the panel in the bottom right of the screen and click on the bottom left icon.



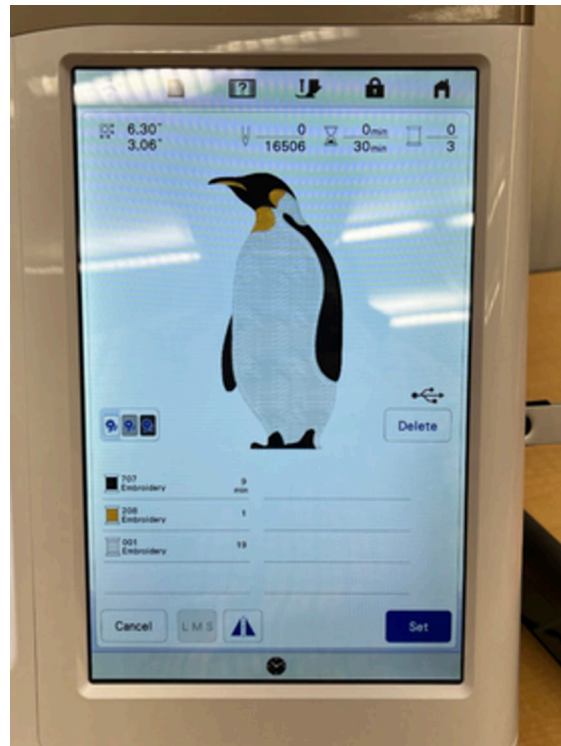
3. You'll be presented with all of the patterns saved onto the flash drive. Select the one you wish to use by tapping on its picture.



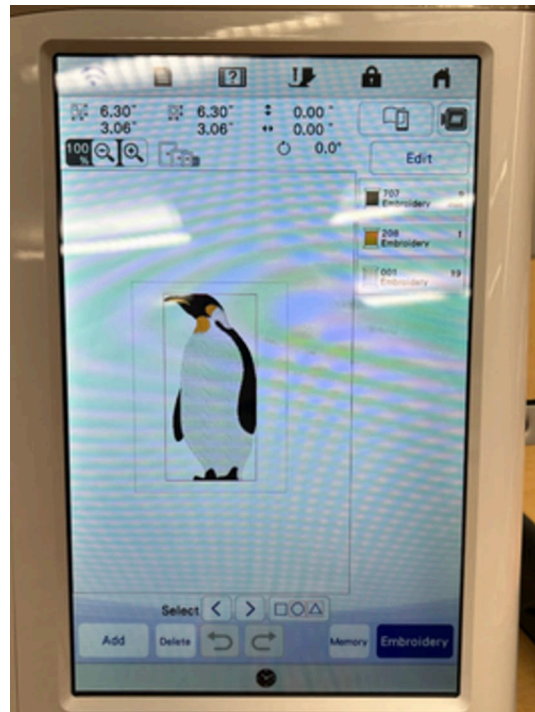
4. It is rare, but if the machine displays this error message, you can hit OK and move on. It refers to the Hatch software not providing a color code the machine can recognize. This may mean some of your colors look different. Remember the color of the thread is what determines the color in your design, not what is displayed on the screen.



5. It will then provide some information on your design such as size, stitch count, and time to complete. If you're happy with this, press Set.



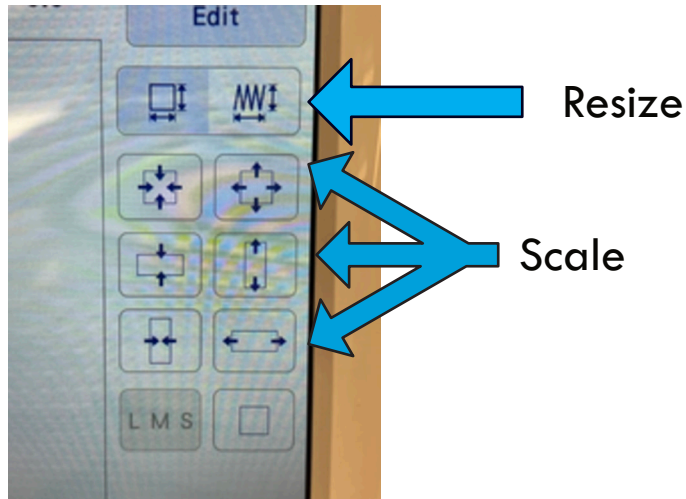
6. Here you'll be in the embroidery screen and you can follow all the steps from this point forward by referring to the section "Using a pattern on the machine" starting at step 5.



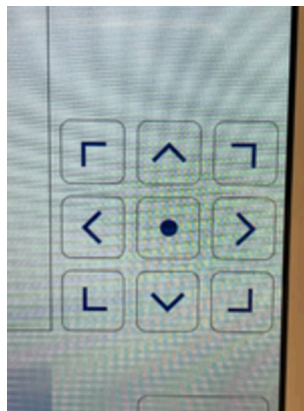
Edit Settings

The three main options in this menu you'll most likely use are Size, Move, and Rotate, though there are other options that may be helpful.

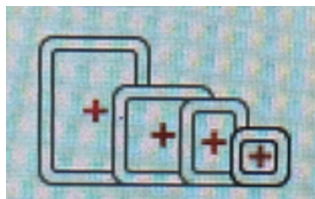
1. Size - This lets you resize your design. There are two methods to resize. The left resizes your design while maintaining the planned stitches. This is best used for very small changes. If you're doing a significant resizing, use the right option which will redraw the stitches based on the size you choose. With either option there are size limitations for a design. You cannot make any given pattern incredibly small or overly large.



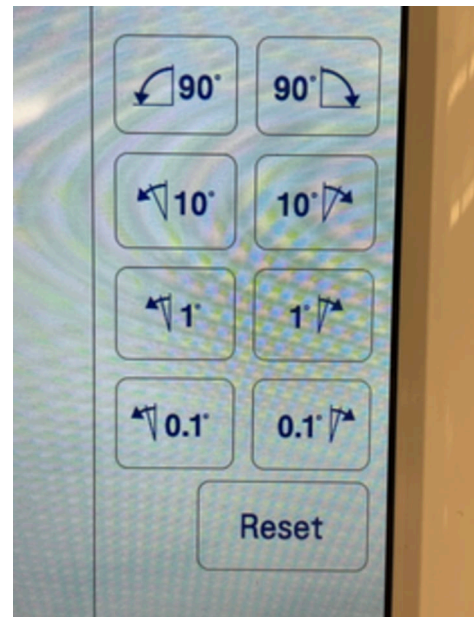
- a. You are able to adjust your design's size in a few ways. Primarily you will use the 4 direction scale which resizes your design uniformly in all directions. However you are able to stretch and shrink a design in one direction only if you wish to do so.
2. Move - You can use the arrows here to precisely nudge your design in any direction, or press the dot in the center to recenter your design in the middle of the hoop. You can also free form move your design at any time by tapping and dragging your design on the preview.



- a. Note: There is a small image of a series of hoop icons located above the preview. When moving and resizing your design, you can see which hoops this design will fit on by which are visible and which are grayed out. The largest is the extra large hoop, the second is the large hoop, the third is the medium size, and the right is the smallest.



3. Rotate - Here you can adjust the direction of your design either 90 degrees, 10 degrees, 1 degree, or 0.1 degree. Most often you'll rotate it 90 degrees to align to your material depending how it was hooped. You can also combine these to create an angle in between these measurements such as 45 degrees.



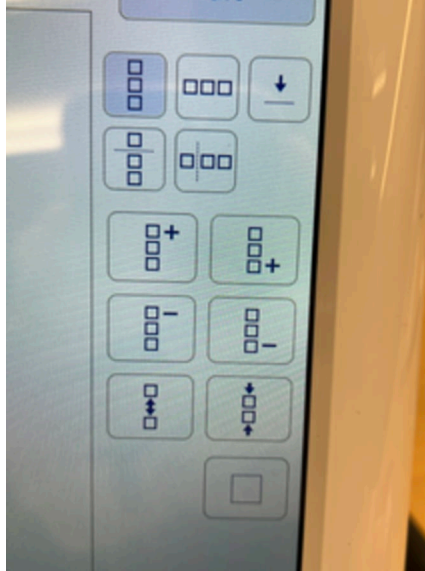
4. Mirror - Mirrors your design in case you want it to be flipped horizontally.



5. Duplicate - Creates a duplicate copy of your design.



6. Repeat - Creates and removes additionally copies precisely lined up in a grid. You can select whether to add on the vertical or horizontal direction, then add or remove them. You can then space them out using the bottom set of buttons.



7. Border - You can add a border around your design easily with the border button. Using the - and + buttons lets you expand or contract the offset of the border from the edge of the design.



Premade design files

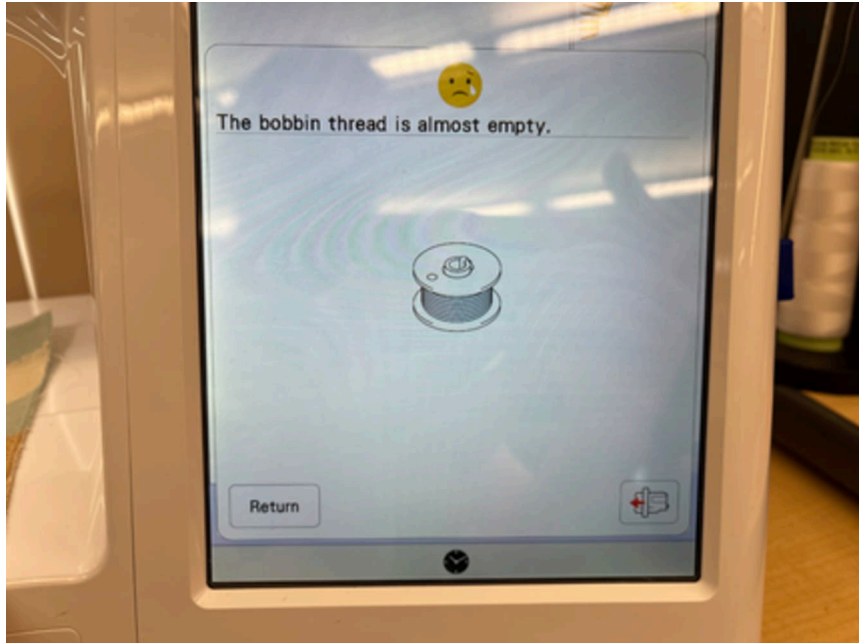
In addition to the files stored on the machine and those provided by Hatch, you can find a variety of patterns in many places across the internet. As long as the file is provided in a .PES file type, you can use it on our machine. Note that not all patterns are created equal, and while a file is in a .PES file type, it may not embroider well if it was digitized poorly.

You can also buy .PES files from various embroidery websites as well as online stores like Etsy.

Replacing the bobbin mid project

If the bobbin runs out during your project, the machine will stop and alert you to replace it. It can be a risk to do this as shifting may occur but you can reduce this risk by moving the hoop only by applying pressure on the bottom frame.

1. Press return on the warning.



2. Cut the thread using the cut button. Raise the needle and foot if they does not raise on its own.



3. Remove the hoop by grasping the side where it touches. Do not pull on the outer edge of the hoop itself or you risk shifting the fabric within the hoop. Try only to remove the frame using the bottom frame.
4. Remove the bobbin and replace it with a new one as described at the start.
5. Place the hoop back into the arm of the machine by once again pushing only on the bottom frame as to keep your design where it intends to be.
6. Lower the foot and resume embroidering.

For Staff Use

Fixing the Hatch License

Occasionally Hatch glitches and forgets the license we own and refuses to open. Follow these steps to reset it. This must be done with the computer thawed for the changes to stick, but this can be done while frozen to speed the process along for a patron.

1. If the error appears saying the license cannot be found, click OK.
2. Go to C:\Program Data\SafeNet Sentinel\SentinelSDK\installed\30918\ and delete all the files in this folder.
3. Under the Start menu, go to the Hatch Embroidery 3 folder and choose the “Reinstall HASP Drivers” option.
4. A command prompt will pop up on the screen and run a process. Once it is done the screen will close and you should be able to open Hatch without issues.