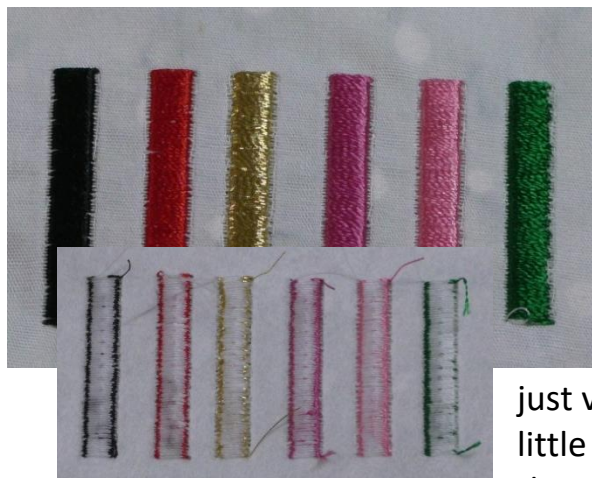


Everyday Embroidery

Multi-Needle Tension

Multi-needle machines handle tension differently than most standard flat-bed machines.



- Because they are embroidery only machines, the tension settings are set for standard embroidery where the top threads of the embroidery are pulled slightly to the back in a slightly “un-balanced” stitch. A special design of six colored bars is used to check the tension settings of all six needles. After stitching the design, turn the embroidery over and check that the top thread is just visible on the edges of the six bars. If none or very little of the top thread is visible on the backside, loosen the tension after checking that the thread is not caught

or snagged in the thread path. If very little of the embroidery bobbin thread is visible, tighten the top tension after first checking that the machine is threaded properly through all the guides and around the roller tension knob.

- The tension for each needle is controlled with an individual tension knob and a pre-tension thread guide (red circle). The tension knob uses a roller tension that is sensitive to any thread breakage and stops the embroidery quickly if a thread breaks. Thread tension is first adjusted with the tension knob and further adjustments if necessary are made with



the thread guide tension knob.

- The tension setting on the tension knobs is shown with black lines that are not numbered. When adjusting tension for a specialty thread, make note of the pre-adjustment setting on the knob and quickly return to the standard setting after embroidering with a specialty thread. Do not loosen the tension knob too far or it will become un-assembled. To reassemble the knob, refer to page 140 of the operation guide.
- A multi-needle machine uses pre-wound bobbins, but a bobbin winder with metal bobbins is available as an optional accessory. Keep the bobbin case clean and free of lint. Use a business card to clean the tension spring on the bobbin case periodically to remove lint. A special weight in the accessory box is included to check the bobbin tension. See page 102 of the Instruction and Operation guide for instructions on how to check the bobbin tension with this special weight.

Needle Color Settings

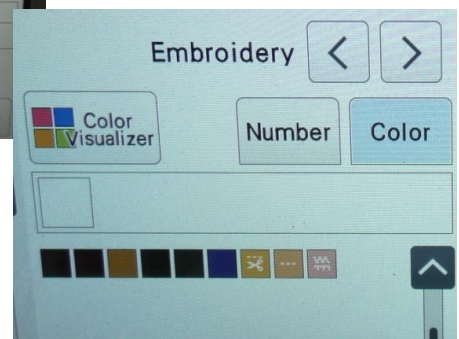
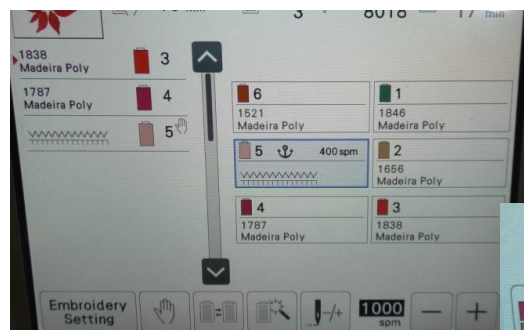
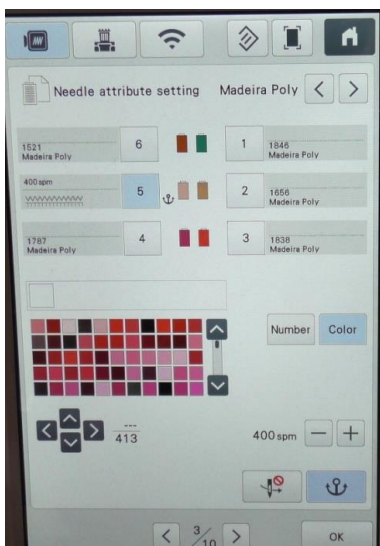
Multi-needle machines automatically change thread colors when stitching a design.

Management of color placement on the machine is naturally different than on standard single needle machines.

- The machine will select a needle location for each of the first colors of the design when advancing to the Embroidery screen. A six-needle machine will place the first six colors of the design on spool pins and display the location of the colors on the screen so those needles can be threaded. The machine places colors that are identical from the previous design on the same spool pin. The colors will not necessarily match the order of colors in the design. (The first color of the design may not be placed on spool pin number one.)
- Designs with more colors than spool pins available will stop stitching after the first “color run” and display the locations for the next set of colors.
- Take care when threading the machine to place the correct color on the correct spool pin. To correct threads mistakenly placed on the incorrect spool pin, use the Exchange key to swap the location of colors. Touch the Exchange key, select the two spool pin numbers to switch, touch the exchange key at the bottom and then touch OK.
- If before or during embroidery, a color change to a different spool pin is needed use the Temporary Needle setting key (Magic Wand) to assign a spool location to any

color. Touch the color on the screen, touch the Magic Wand key and select the spool pin desired.

- With an often-used thread color or a specialty thread that needs special settings such as a reduced speed, the thread color can be reserved or assigned to a certain needle in the setting pages of the machine. This function can only be performed when the machine is on the Embroidery Settings screen. After setting up the reserved needle, the machine keeps the setting even after the power is turned off until the setting is re-set. In the Embroidery Setting screen, touch the Setting page icon on the top of the screen. Touch any of the keys representing a needle color location and then select a color. Different manufacturer thread colors are available using the toggle key on the top right of the screen. After selecting a color, touch the Anchor key on the bottom right of the screen and then select the maximum embroidery speed setting for that color. Automatic needle threading can also be turned off here for extremely fragile threads that may shred when the automatic needle threader is used.
- On a six-needle machine, up to five spools can be reserved for a color. When stitching a large project where some (but not all) the colors are identical colors are repeated in the designs, reserve some of the needles for those colors to minimize thread changes. Remember to re-set the needles after the project is completed by removing the reserved colors.
- The machine will only choose the spool pin for the reserved color if the color in the design is IDENTICAL to the color set on the reserve screen. When choosing a color to reserve, choose one that can be easily found and remembered on the color setting screen. To ensure that the machine will choose that color and assign it to the correct needle, change the embroidery design color to the specific color in the Embroidery Edit screen. Consider using an unusual “color” such as the Embroidery Placement color in the “Embroidery” color palette.



Some Special Situations in Multi-Needle Embroidery

Color Stop and Color No-Sew Settings

Embroidery projects stitched in the hoop of the machine require activity between colors of the design, such as adding a fabric piece or placing a zipper. The multi-needle machine will continue through these steps if not set to stop stitching after a certain color.

- Before or during embroidery, insert a color stop by touching the color on the screen and then selecting the Hand key on the Embroidery screen. Insert multiple stops in any embroidery.
- To perform the in the hoop activity, remove the hooped project from the machine and place the hoop on a flat surface. Do NOT remove the project from the hoop. Bring the hoop forward for adjustments on the fly by selecting the Needle Exchange key (two needles and a hoop with arrows) on the bottom of the screen. Touch the key to move the frame forward and then move the frame back before continuing the embroidery.
- Part of any embroidery design can be not stitched (“Deselect Region”) by touching the color on the screen and then touching the color stop key on the Embroidery screen. Select the icon for no-sew and to not stitch that color during embroidery. Multiple colors can be “deselected” in any design. To deselect a repeated color in a design, touch the link key on the upper right of the color tree on the screen and then touching the No-Sew key. Choosing this setting will not remove the color or modify the design permanently. To alter the design by removing a color permanently or to remove a section of a color, software is required.

Automatic Appliqué

Convert an embroidery design to an embroidery appliqué patch. This function is convenient for fabrics to not be easily embroidered. In the embroidery Edit screen, select the Appliqué icon. For complete detailed instructions, refer to page 95 in the Instruction and Reference Guide.

Repeating a Pattern

An embroidery design can be repeated to create a border or fill the hoop for an all over design. Select the Border Function on the Embroidery Edit screen. Use the keys to repeat the pattern and create matching points for joining embroidery. This is a powerful feature and in-depth instructions can be found in the [Sewing Tech Talk October 20, 2021 video and handout, “Could You Repeat That?”](#). The video features the Altair Embroidery/Sewing machine, but the process is very similar for the multi-needle machine.

Jump Stitch Trim

The machine will automatically trim jump stitches during embroidery. A jump or traveling stitch will be trimmed only if it is longer than a distance specified in the settings of the machine. This distance can be adjusted in the settings pages or turned off entirely. Special situations for not trimming jump stitches include stitching small lettering, stitching a cross stitch design, stitching a design with areas of tiny stitches or to decrease total run time of a design.

The machine can read multiple design formats including .DST. The .DST format is common in commercial designs and older designs. It contains no color information for the machine and colors must be assigned to the machine in the Embroidery Edit screen. The design will also not contain the code for jump stitch trimming. The machine can be set to convert the jump or traveling code in the design to a thread trim code. See page 109 in the Instruction and Reference Guide for complete instructions.

Delete Short Stitches

Some designs may contain very short stitches or short stitches created when reducing the size of a design. Short stitches increase the run time of a design and may cause the thread breakage especially with fragile threads. Automatically remove short stitches in the settings pages by adjusting the value. See page 110 in the Instruction and Reference Guide for complete instructions.

Advanced Embroidery with Software

Link Feature

Several Baby Lock multi-needle machines can be linked using Palette software version 9 or higher and a computer. (Brother machines will require PE Design software version 9 or higher.) Up to four machines can be linked using a powered USB hub and the grey cable that comes with each machine or up to ten machines can be linked over WiFi. The advantage of linking machines is in design management, use of software to create more advanced designs or advanced design editing or the name drop feature to create multiple text embroideries by automatically digitizing from a spread sheet of names. Consider this feature when running an embroidery business or managing multiple large projects.

Extra Large Patterns

Software can create very large embroideries with multiple parts and multiple hoopings. The software will split a large design of fit into the hoop size desired. The designs match well because the edges are feathered (overlap) to avoid a hard line. The split designs are stitched in the order designated by the software and are labeled a,b,c,d... when transferred to the machine on a USB stick. Alignment of the designs is perfect using the cross hair light feature on the machine.