

BERNINA EMBROIDERY WORKBOOK

for BERNINA 7 Series and 5 Series



BERNINA
made to create



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MACHINE REFERENCE GUIDE

This workbook encompasses a wide variety of machines and not all of the listed functions and exercises are applicable to every model. Please refer to this reference guide for all the functions and exercises that apply to your specific machine model before beginning.

Please note that only the embroidery capable machines, the BERNINA 7 and 5 Series, are included in this workbook.

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B 790 PRO

Every function and exercise in this workbook is applicable to the B 790 PRO.

INTRODUCTION

Welcome to the Embroidery Workbook for your BERNINA 5 or 7 Series embroidery capable machine. Designed to complement your machine's manual, this workbook will guide you on a step-by-step journey to uncover your machine's full potential. Knowing all about your machine allows you to expand your embroidery skills and enhance your creativity.

It is highly recommended to work through the activities in this workbook in sequential order, without skipping any lessons, at least once. Once you have completed all the exercises, keep this workbook as a reference guide as you use your machine and explore the creative possibilities. Then, after a period of using your machine, come back to the exercises again to reaffirm the knowledge you have been putting into practice. Revisiting the lessons regularly will cement your confidence in your BERNINA.

Sew at your own pace. You can also follow along with the corresponding [BERNINA Skill Hub](#) online course for your machine. In that course, you will find helpful videos and unique learning tools. In addition to the workbooks, online courses, and classes from your BERNINA dealer, there are tutorials and helpful information built directly into the machine.

Instructional video tutorials are available on the BERNINA website at bernina.com and the [BERNINA International YouTube channel](#). You will also find inspiring sewing projects and eBooks on the BERNINA website in the [Learn & Create](#) section.



PREPARING FOR EMBROIDERY

EXERCISE MATERIALS

Fabric & Stabilizer

- Cut (3) 10" x 15" dark-colored woven fabric
- Cut (3) 10" x 15" sheets of stabilizer

Notions

- Temporary adhesive spray
- Chalk
- Straightedge ruler
- Various colors of embroidery and bobbin thread

Hoops & Presser Feet

- Large Oval Embroidery Hoop
- Embroidery Foot #26L

SETTING UP THE MACHINE

When the embroidery module is attached, your BERNINA machine will automatically start in Embroidery Mode when the machine is turned on. If you have been sewing and then wish to embroider, select Embroidery Mode from the Home Screen. On the screen, you will see a prompt to lower the feed dogs. You can do so by using the button on the right side of the machine. The feed dogs need to be lowered manually every time the machine enters Embroidery Mode.

[Home » Embroidery](#)

Review the manual and/or the following video references for your machine to attach the module and prepare for embroidery.



5 Series



7 Series

FILE FORMATS

Your BERNINA embroidery machine reads multiple formats. The native format is the BERNINA EXP extension which, when exported from BERNINA Embroidery Software, often includes two additional supporting files: a BMP file that provides a preview of the embroidery motif, and an INF file with the color information. If the INF file is missing, the embroidery may not be displayed in the actual colors, but only in standard colors. In that case, simply follow the thread chart that is provided with most designs, or enter the colors manually in the color overview of the motif on the machine. See your machine's manual for more information.

Besides the BERNINA embroidery file format, your machine can also read: PES, PEC, XXX, PCS, JEF, and DST.

Customizable Quilting Designs

In addition to embroidery formats, certain models can also read longarm quilting designs, or Customizable Quilt Designs, in the BQM format.



Fig. 1

STITCH PLATE

The 0 mm Straight/CutWork Stitch Plate ensures precise stitch formation for straight stitching, resulting in clean, attractive embroidery. This is the recommended stitch plate for all standard embroidery.

PRESSER FOOT SELECTION

To enable stitching, select the Embroidery Foot #26 (or a compatible foot) (Fig. 1) and attach the 0 mm Straight/CutWork Stitch Plate to the machine. The machine will start the stitchout only when both the foot and stitch plate are selected (indicated in yellow on the Status Bar).

HIGH THREAD TENSION BOBBIN CASE



Using the High Thread Tension Bobbin Case (HTTBC), or the yellow bobbin case, enables greater thread tension in the bobbin compared to the Standard Bobbin Case, or the black bobbin case. The additional tension from the HTTBC may be necessary for achieving proper embroidery tension based on the project.



Fig. 2

HOOPS

Setting up the Hoop and Stabilizer

For each exercise, use the Large Oval Hoop, a 10" x 15" piece of fabric, and 10" x 15" piece of stabilizer.

1. Separate the inner and outer rings of the embroidery hoop.
2. Loosen the screw. It should be loose enough that fabric and stabilizer both will EASILY fit into the hoop.
3. Lay the outer hoop on a hard, flat surface.
4. Secure stabilizer to the back of the fabric by lightly spraying the stabilizer (not the fabric) with temporary adhesive spray. Adhere the stabilizer to the back of the fabric.
5. Place fabric and stabilizer on a firm surface.
6. Grasping both inner hoop and fabric/stabilizer, lift and insert them into the outer hoop, making sure that the arrows align at the edges of both the inner and outer hoops.
7. Tighten the screw on the hoop, but DO NOT DISTORT THE FABRIC as you do so. Hooped fabric should be taut, but not stretched or distorted (Fig. 2). Do not tug on the fabric to

get rid of bubbles or to get the fabric taut. Re-hoop as needed until it has been hooped sufficiently.

Attaching the BERNINA Hoop

Pre-selection

If a hoop is not already attached to the module, you can select a hoop beforehand after selecting a design from the Selection Menu or from the Edit Menu.

1. Select the Hoop Selection icon from the Status Bar.
2. Scroll through the options with your stylus or finger and select Oval Hoop (Fig. 3).



Fig. 3

Attaching Hoop to the Module

Do not attach the hoop to the machine until prompted by the machine to do so.

1. Hold the hoop, with the right side of the fabric facing up and the attaching mechanism to the left, and position underneath the presser foot.
2. Squeeze both attaching mechanisms toward each other.

3. Position the hoop above the bracket of the module's embroidery arm.
4. Press down until the hoop clicks into place.
5. Release the attaching mechanisms.

On the 7 Series machines, the hoop is automatically recognized by the machine, indicated by the selected hoop showing in yellow in the Status Bar and, in the Hoop Selection Menu, the selected hoop will be highlighted with a white border.

On 5 Series machines, the machine will check and recognize the hoop when selecting Stitchout. Select the appropriate hoop in the Edit Screen to ensure your design fits your hoop.

Removing the Hoop

- Squeeze both attaching mechanisms of the hoop toward each other.
- Remove the hoop by lifting up.

Hoop Selection Menu

Functions for re-positioning the hoop are found in the Hoop Selection Menu.

-  **Centered:** Hoop moves to center for easier threading of the needle.
-  **Sewing Position:** Arm moves all the way to the left so that you can remove the module or sew with the module attached (you will be prompted to remove the hoop).
-  **At the Rear:** Hoop moves to the back for easy access to the bobbin.

- 
Grid: Tap the Grid Icon once to see a cross hair appear at the center of the hoop. Tap a second time to see a grid within the hoop. Tap a third time to turn off all grid selections.
- 
Motif Center: By touching this icon, the center of the embroidery motif will be displayed. The machine will move to position the needle directly in the center of the design. Tap the icon again to return the cursor and needle position to the start point.
- 
Virtual Positioning: The machine moves the attached hoop to the position of your selected point in the design on the screen, or where the selected crosshair symbol is. As long as this icon is active (highlighted yellow) and the hoop is attached, the position within the hoop on-screen can be tracked, the hoop will track to the needle position. This allows you to precisely place to a single stitch if desired.

SUGGESTED HOOP

When selecting a new design, the motif will open in the suggested hoop size, which is the smallest hoop the design can fit in. It will be highlighted in the Hoop Selection Menu on the Status Bar and the shape of the hoop will appear on-screen with the motif. You can change the hoop to your preferred hoop in the Hoop Selection Menu, which is helpful when creating the design, but always wait for the machine to prompt you before attaching the hoop.

EMBROIDERY ARM CALIBRATION SEQUENCE



Fig. 4

Upon starting the embroidery machine or changing to the sewing screen, the embroidery arm needs calibration. When you see this screen (Fig. 4), it means the Embroidery Calibration Sequence is about to begin, so make sure the embroidery arm is clear for free movement before confirming. If the hoop is attached before arm calibration, detach it, then press the green check to begin calibration. The machine may ask you to attach a hoop pre-calibration; if prompted, attach it and the calibration screen will appear. Don't attach the hoop until the machine prompts you.

ESSENTIAL NAVIGATION

In this section, learn about how to adjust the embroidery settings on the machine and how to work with embroidery designs.

EMBROIDERY SETTINGS



Embroidery Settings can be accessed by selecting Setup Program, then Embroidery Settings.

Setup Program » Embroidery Settings

Upper Thread Tension



This sets the tension up or down for all embroidery designs. The default tension will work for most projects. This should only be used if you find an adjustment is needed.

Tip:

The default Upper Thread Tension on your machine is set for traditional embroidery, which allows the top thread to pull slightly to the back so the bobbin thread does not show on top. For quilting in the hoop, adjust the tension up by .5 to 1, allowing the back and front of the quilting to look the same.

Embroidery Speed



Sets the maximum embroidery speed. The default is 1000 SPM, which is the max for BERNINA Embroidery machines. However, you can reduce the speed if you prefer to always stitch slower.

Thread Cutting



The settings for the thread cut can be customized.

-  **On Jump Stitch:** Set the length from where the connecting stitches are cut. Use the toggle to turn on/off the automatic cutting of connection stitches. On the 7 PRO Series machines, this is automatically deactivated when Quilt Settings are turned on.
-  **On Thread Change:** When activated, the threads are cut automatically before the color change within the motif. Use the toggle to turn on/off. On the 7 PRO Series machines, this is automatically deactivated when Quilt Settings are turned on.
-  **Thread Cut After Start:** When activated, the machine will stop stitching after approximately seven stitches and the thread tails can be cut. When deactivated, the machine will not stop.

Thread Away



When activated, the thread ends are pulled to the wrong side of the fabric automatically after a thread cut (followed by an additional movement from the embroidery module). When deactivated, the threads will remain on the right side of the fabric after a thread cut.

Hoop Calibration



To set your hoop center, use the Hoop Calibration program. Follow the prompts and use the appropriate template to reset calibration. After a firmware update, it is recommended to calibrate the hoops.

Quilt Settings



On the 7 PRO Series machines, this setting allows you to set the stitches per inch for your customizable quilt designs.

Unit of Measurement



Set the unit of measurement to inches or millimeters. The activities in this workbook use millimeters.

Fabric Thickness



Set the Fabric thickness to 4 mm (default), 7.5 mm or 10 mm.

Securing Stitches



Activate/deactivate securing stitches at the beginning and end of embroidery motifs. 7 PRO Series machines automatically deactivate this setting when Quilt Settings are enabled.

Design Position



The default position is Center of Hoop. If you are transferring designs to/from BERNINA Embroidery Software or a previously saved design you have

customized on the machine, change this setting to Saved Position so the design will be placed in the hoop as you positioned it when saving.

Wi-Fi



Some BERNINA models can connect to a local Wi-Fi network. When your machine is online, you can use BERNINA Embroidery Software DesignerPlus V9 to transfer embroidery designs to and from the machine for editing and stitching. A Wi-Fi connection also enables you to monitor your design stitchout with the BERNINA Stitchout app.

DESIGN SELECTION

There are several ways to select a pre-installed embroidery design.

Folder Navigation

When first entering Embroidery Mode, the Embroidery Designs menu will open with multiple folders, including: Alphabets, Embroidery Motifs, Sewing Stitches, and Personal Memory.

1. Select the Embroidery Motifs folder (the butterfly).
2. Select folder #4. Notice the Navigation Path at the top left of the menu shows the nested folders.



3. Select a design and your design is ready to edit or stitch.

4. To change to a new design, select the Embroidery Motif icon (the butterfly) in the Navigation Path to go back to the Embroidery Motif folder. Then, select the first folder in the Navigation Path, the Selection function, to return to the main Selection screen.
5.  Tap the Selection Menu tab.

Selection Menu

The Selection Menu (a folder) tab is to the right of the screen in the Selection Bar (Fig. 5). When selected, you will have options for opening, saving, and deleting motifs.



Fig. 5

- **New Motif:** Open a new motif. This will replace any of the embroidery motifs currently open.
- **Add a Motif:** On 7 Series models, you will also find the Add a Motif icon in this menu. The new motif will be added as another design layer in the Layer Bar. This option will only appear when a motif is already selected. Models without the Add a Motif icon add

motifs to their embroidery design using the Add Layer icon in the Layer Bar.

- **Save a Motif:** Save the motif(s) to the USB stick or Personal Folder. This option will only appear when a motif is already selected.
- **Delete a Motif:** Delete motifs from the USB stick or Personal Folder. This action is permanent.

Layer Bar



On all models, adding an embroidery design is simple from the Edit Screen, tap Add Motif (the plus (+) icon) at the top of the Layer Bar to add a motif to the hoop. This will open the menu to the last motif folder you selected from.

As you add motifs or lettering to your design, they will appear in the Layer Bar as separate layers.

New layers are added to the top of the Layer Bar, above the existing layers. Layers are numbered from bottom to top, and their arrangement shows the order in which they will be stitched.

Edit functions, such as Move, Duplicate, and Rotate, apply to the selected layer. To select a layer, tap it in the Layer Bar. The current layer will appear in color on the Edit Screen, while the unselected layers will be grayed out within the hoop. To select a different layer, tap a numbered layer on the screen or use the up and down arrows to cycle through the layers.

Edit functions can also be applied simultaneously to all layers. To select all layers, click on the bottom (unnumbered) layer in the Layer Bar.

EDIT MENU



The Edit Menu (a pencil) tab, in the Selection Bar below the Selection Menu, shows the active design(s) and editing options. You'll learn more about editing options in the next chapter.

DESIGN INFORMATION



When a motif is in the hoop, you can view the stitchout time and size in the Design Information box in the lower left corner of the Edit Screen.

In this section, you will explore embroidery design editing. All design editing, except for the motif colors, takes place on the Edit screen. After choosing a motif in the Selection screen, the design will automatically open on the Edit screen.

THE INFORMATION MENU

When on the Edit screen, you will find all your editing tools in the Information Menu ("i" icon). When you have used a function, and changed the default settings, a yellow frame will appear around the icon to indicate that a change to default has taken place. To reset to default, tap the altered icon again, and the yellow highlight will disappear.

Many of the editing functions work with one or all layers selected.

Move



When the Move icon is selected, the dialog box will open and display the current X and Y axis position values. You have a variety of ways to move the design around.

- Move the embroidery motif with your finger or stylus directly on the screen.
- Move the embroidery motif horizontally with the upper Multi-function Knob, and vertically with the lower one.



Center the embroidery motif by tapping the Center Motif icon.

Rotate



The design can be rotated in 1 to 3-degree increments, depending on model, with the Multi-function Knobs or in 90-degree increments with the +90 icon.

Resize Proportionally



In the Resize dialog box, Maintain Proportions is on by default; this locks the height and width to maintain proportion when resizing.

- Resize the embroidery motif proportionally using the Multi-function Knobs.
-  Deselect the Maintain Proportions icon to resize a motif disproportionately, then make your size adjustments using either of the Multi-function Knobs.

Placement



Pinpoint Placement enables embroidery motifs to be placed within the hoop in a specific position. You will explore this tool in Exercise 2.

Mirror Left/Right and Up/Down



The Mirror Left/Right and Up/Down icons flip the selected layers on the vertical or horizontal axis.



Fig. 6

Duplicate



When selected, the current selected layer will be duplicated. The duplicated layer is always added to the top layer (Fig. 6). Duplicate can also be used to duplicate all the layers at once.

Undo/Redo



Some models have the option to undo or redo any of the edits made to a design.

Delete



You can delete selected layers by selecting the Delete icon. A confirmation window pops up to confirm. The green checkmark will delete the item(s), the "x" will close the window.

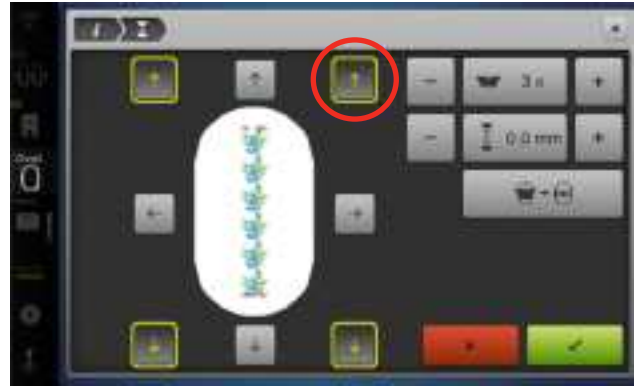


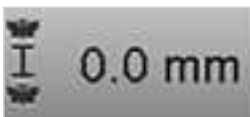
Fig. 7

Endless Embroidery

The Endless Embroidery function allows for easy alignment of embroidered borders that are longer than the hoop. When selected, the design in the hoop is multiplied to fill the hoop, and marker positions are inserted to help with the re-positioning of the embroidery hoop.

- Reference Marker:** Set or modify marker points by selecting the arrow buttons around the hoop (Fig. 7); the yellow arrow icon corresponds to the red arrow marker point shown within the hoop. Arrows are generated as they are selected and are all grouped together on a single layer.
- Number of Embroidery Designs:** Select the number of desired motif repeats using the upper Multi-function Knob or the plus (+) and minus (-) icons in the dialog box. Repeats are added without spacing as default.

- Spacing:** Adjust the spacing between design repeats by using the lower Multi-function Knob or the plus (+) and minus (-) icons. Value is changed in 0.1 mm increments, ranging from -300 mm to 300 mm. You will see the modifications in the dialog box.
- Fit to Hoop:** When Fit to Hoop is enabled, designs automatically resize to match your selected hoop size.



Practice this technique on the screen. From the Selection Menu, select:

New Motif » Embroidery Motifs folder

- Select the folder and design number applicable to your machine using the stitch reference chart below.
- Select the Oval Hoop from the Hoop Selection Menu, then close the menu.
- Select the Information Menu icon, then Endless Embroidery. Activate the top and bottom center reference markers by tapping them.
- Set the number of repeats to 5.
- Increase the spacing to 3.0 mm.
- Activate Fit to Hoop (Fig. 8), then confirm the Endless Embroidery selections by tapping the green check mark.

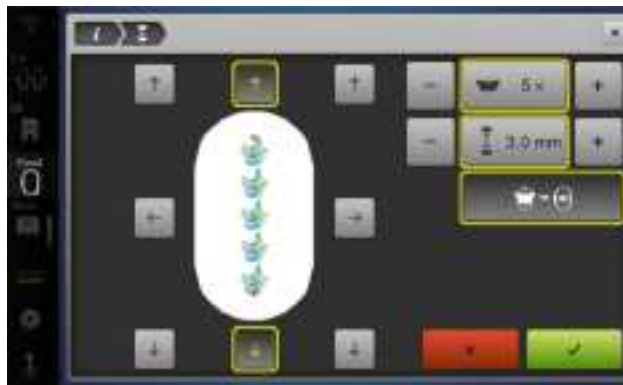


Fig. 8

When ready to embroider, you would then continue on to Stitchout.

To repeat and continue your Endless Embroidery design, re-hoop the fabric so that the stitched-out marker positions are within the stitching field of the hoop. Use Pinpoint Placement with Free Point Selection to align your next hooping, selecting and matching the points of the marker positions.

Shape Designer



The B 790 PRO and B 700 PRO have the Shape Designer feature, which allows you to arrange embroidery motifs around a designated shape and with options such as count, width, height, mirror, and rotate. You can create some truly unique design combinations.

- Continue with the same motif from the previous Endless Embroidery practice. If available

B 790 PRO	B 790 PLUS	B 770 QE PRO	B 735 PRO	B 700 PRO	B 700	B 590	B 500
Folder 8	Folder 8	Folder 10	Folder 12	Folder 8	Folder 8	Folder 3	Folder 3
design #12	design #18	design #13	design #13	design #12	design #20	design #37	design #37

on your machine model, tap Undo to reset the design. For machines that do not have Undo, select the same design again as a New Motif, then select the Oval Hoop in the Hoop Selection Menu.

2. Select Information Menu, then Shape Designer.
3. Select the hexagon shape.
4. Under Item Count, use the plus (+) and minus (-) icons to change the number of motifs to 6 (values range from 1 to 100 and can be reset by tapping the adjusted value box).
5. Ensure the Proportional icon is selected (the chain link) and, in either the Shape Width or Height boxes, adjust the size to 50%.
6. Change the Item Count to 12.
7. Change the Width and Height to 85%.
8. Tap the +90° icon once.
9. Tap the Mirror image icon (Fig. 9).
10. When finished, confirm with the green check mark.



Fig. 9

Check Motif Size



Verifies the position of the embroidery motif before stitchout by moving the hoop so that the needle is centered over each location tapped. A hoop must be attached to use this function; if the icon is selected and no hoop is attached, a prompt will appear to attach the hoop.

You can use the Multi-function Knobs to move the embroidery design horizontally or vertically. The hoop will move in conjunction with the design movement.

Word Art



Word Art offers many ways to edit lettering designs created within the machine. The Word Art icon will be grayed out unless a lettering layer is selected.

- **Spacing:** use the upper Multi-function Knob to adjust the spacing of the lettering.
 
- **Line Spacing:** use the lower Multi-function Knob to adjust the line spacing of multi-line lettering. Only for machines with multi-line text capability.
 
- **Arch:** Use the lower Multi-function Knob to adjust the arch of single-line lettering. Only available for single-line text.
 
- **Align Text:** Center, Left, or Right justification of multi-line lettering for select models.

Group/Ungroup



With the group function, you can group together the selected layers. The group is displayed in place of the lowest selected layer in the Layer Bar. When grouping, the selected layer will group with the layer above it. You can ungroup layers, motifs, and even thread elements in a design. The layers are then displayed individually in the Layer Bar and can be edited separately with functions such as delete, move, rotate, etc.

Rearrange



With the Rearrange function, the sequence of embroidery motifs within a design combination can be rearranged.

- **Move Up:** the embroidery motif is placed further up within the sequence
- **Move Down:** the embroidery motif is placed further down within the sequence

Stitch Density



With this function, you can change the stitch type and stitch density of your embroidery design.

-  **Stitch Type:** Adjust the satin stitch to a step stitch and increase or decrease the length
-  **Stitch Density:** increase or decrease the stitch density of the embroidery design

Align



7 PRO Series machines have the Align function, which enables you to perfectly align multiple selected layers.

- Align Horizontally Left
- Align Vertically at the Top
- Align Horizontally Centered
- Align Vertically Centered
- Align Horizontally Right
- Align Vertically at the Bottom
- Distribute Horizontally

ZOOM



Fig. 10

Zoom in and out using the plus (+) and minus (–) icons. Tapping the + Zoom icon will direct you to the Zoom screen (Fig. 10), where you can then zoom in to individual design stitches. You can select specific stitches as needed, as illustrated by the crosshair. This feature is highly beneficial for the precise placement of designs.

- **Design Preview:** In the upper left corner (circled in Fig. 10), you'll see the full hoop with all the motifs.

-
-  **Pan:** Allows you to move around the hoop without moving the design. The red square in the Design Preview shows the viewfinder's position.
 -  **Move:** When activated, Move enables you to reposition the selected layer within the hoop, and the Design Preview will refresh to reflect the new placement.

However, a design can still be stitched even if part of it extends beyond the hoop border. When the machine nears the area outside the hoop border, it will issue a warning that it is at the limits of the stitching field. Clear the warning, and the machine will advance to the next stitch that can be sewn, allowing you to resume the design.

EDGE WARNING

When a design extends beyond the hoop's stitch field, a red border will appear around the hoop (Fig. 11) to indicate that the design is either partially or entirely outside the stitching area. When designs extend beyond the red border, certain features, such as Placement, will not function properly.



Fig. 11

STITCHOUT SCREEN



When you are ready to stitch your embroidery design, select the Stitchout tab at the bottom right of the Selection Bar. This brings up the Stitchout Screen and allows you to make some edits before stitching it out.

STITCHOUT INFORMATION

Design Preview

The Design Preview displays the design as it will be stitched out (Fig. 12). Only the current color layer is shown, with the other color layers grayed out.

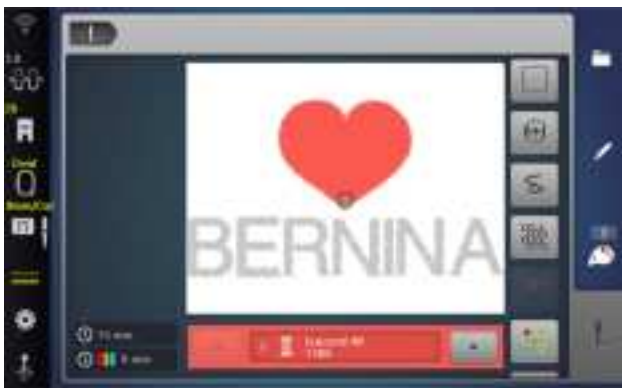
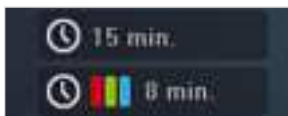


Fig. 12

Embroidery Information



The estimated stitchout time is at the bottom left. The top number is the estimated stitchout time for the whole design and the bottom the stitchout time for the current color within the design.

The Embroidery Information Bar displays the current color: number, design type, thread brand, and color number. Use the arrows to select color numbers in the design. Selecting a different color starts the machine sewing at that color.

STITCHOUT FUNCTIONS

Basting



Basting stitches can be embroidered along the embroidery hoop or the embroidery motif.

- Tap once to activate basting stitches around the design.
- Tap twice to activate basting stitches around the hoop.
- Tap a third time to deactivate basting stitches.

Move The Hoop



Move the Hoop allows you to change the position of the hoop if the fabric of a large motif has to be re-hooped.

- When selected, a screen with plus (+) and minus (-) symbols, as well as information on the X and Y axis, appears. Follow the information in the icons to see which Multi-function Knob affects which axis.

Embroidery Sequence Control



The Embroidery Sequence Control function (also called Go to Stitch in some models) is used to reposition the needle placement, which may be necessary after thread breakage, for example.

- The left preview screen shows the full design preview.
- The right preview screen shows the zoomed in view, directly on the current stitch.
- Turn the Multi-function Knobs counterclockwise (or clockwise) to move the embroidery hoop backward (or forwards) in the embroi-

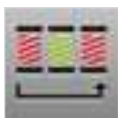
dery sequence. Turn the upper Multi-function Knob slowly to move the hoop stitch by stitch. Turn the lower Multi-function Knob to move the embroidery hoop in big steps.

Quilt Settings



Available only on 7 PRO Series machines, the Quilt Settings function activates the quilting settings and deactivates the thread cutting, thread away mode, and securing stitches (unless the embroidery design contains programmed securing stitches).

Color Resequencing



When the Color Resequencing icon is active (yellow frame), identical colors are grouped together wherever possible to minimize thread changes. This shortens stitch out time, especially with a single color. Some colors cannot be grouped if stitched over another element and must remain separate for proper layering.

When the Color Resequencing icon is inactive (default), colors will be stitched in their original sequence without thread change reduction. For some designs, this could cause colors to stitch out of order and not correctly stitch to hide overlaps, so consider this when using the function.

Single Color/Multi-Color Motif



When the icon is inactive (default), the colors of the motif will embroider individually.

When the icon is active (yellow frame,) the entirety of the motif will stitch in one color with no prompts to change thread colors.

High Speed



When High Speed is selected, the embroidery will stitch at the fastest speed allowed for the current embroidery design. Slower speeds are recommended for specialty threads or fabrics. Note that on some models, this function only becomes visible after the machine has begun stitching.

When the design stitching is complete, you will see two additional icons:

Endless Embroidery



Allows the placement and continued stitching of an endless embroidery motif (see p. 18 for more information about this feature).

Finish Embroidering



To end the Stitchout session, select Finish Embroidering.

BERNINA STITCHOUT APP



If your 7 PRO Series machine is connected to Wi-Fi, you can monitor your stitchout with the free BERNINA Stitchout app. This app enables you to track your design's progress by color or visually see the machine's current stitching location. You will also receive notifications for events like a color change, thread break, or when you run out of bobbin thread. This app is compatible with both Apple and Android phones and tablets.

BASIC EDITING

Materials & Machine Settings

-  (1) 10" x 15" piece of fabric and (2) 10" x 15" piece of stabilizer
-  **Needle:** Embroidery Needle 80/12 130/705 H-SUK
-  **Hoop:** Oval Hoop
-  **Presser Foot:** Embroidery Foot #26L

Hoop your fabric and attach to the module following the instructions on p. 11.

1. From the Selection Menu, select:

New Motif » Embroidery Motifs folder

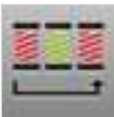
2. Open a new motif using the chart below.
3. Select the Oval Hoop if not already selected.
4. Rotate your design so that it is vertical in the hoop, if needed.
5.  From the Information Menu, select Duplicate.
6.  Select Mirror Left/Right.



Fig. 13

B 790 PRO	B 790 PLUS	B 770 QE PRO	B 770 QE PLUS	B 735 PRO	B 735	B 700 PRO
Folder 13	Folder 14	Folder 11	Folder 11	Folder 9	Folder 9	Folder 13
design #31	design #31	design #25	design #15	design #15	design #13	design #31

B 700	B 590	B 570 QE	B 540	B 535	B 500
Folder 10	Folder 4	Folder 5	Folder 8	Folder 8	Folder 7
design #31	design #19	design #18	design #3	design #3	design #19

7. Drag the designs using the stylus or by touching and dragging, so that they are directly next to each other (Fig. 13).
8. Select Move. If the Y axis has any number besides 0, tap it to reset it to zero. This aligns the designs together.
9. Select the bottom layer in the Layer Bar (to select all).
10.  Navigate back to the Information Menu and tap Group. Select the icon with the plus sign to group the layers.
11.  From the Information Menu, tap the Move icon, then select Center Design (Fig. 14).
12. Close the Information Menu.
13.  Select the Stitchout Menu.
14.  Select Color Resequencing icon. This will reduce the machine stops between designs.
15. Stitch out the design.

FEATURE FOCUS

Align



The BERNINA 7 PRO Series machines feature a powerful Align function that instantly aligns all your selected layers with precision, streamlining your design workflow.



Fig. 14

Exercise 2

LETTERING

Materials & Machine Settings

-  (1) 10" x 15" piece of fabric and (2) 10" x 15" piece of stabilizer
-  **Needle:** Embroidery Needle 80/12 130/705 H-SUK
-  **Hoop:** Oval Hoop
-  **Presser Foot:** Embroidery Foot #26L

Hoop your fabric and attach to the module following the instructions on p. 11. Delete any designs currently on your screen before beginning.

1. From the Selection Menu, select:

New Motif » Alphabets folder » Alphabet #3

2. Type "SEWING" in all caps and confirm with the green check mark.
3. Select the Oval Hoop if not already selected.
4.  From the Information Menu, select Word Art.
5. Set the spacing to 10 and the arch to 45 (Fig. 15).

For Machines B 770 QE PLUS, 735, 700, 590, 570 QE, 540, 535, and 500 ONLY

6. Close the Information Menu and then select the Stitchout Menu from the Selection Bar.
7. Stitch the Design in hoop.

For B 790 PRO, 770 QE PRO, 735 PRO, and 700 PRO ONLY

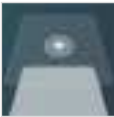
6. Drag the design toward the top of the hoop.
7.  Select Add Motif (+) icon in the Layer Bar, then alphabet #3 again.



Fig. 15

8.  Select the Lowercase Letters icon, then type "mends the", tapping Return (enter) between the two words. Confirm with the green check mark.

10. Open Word Art. Set the line spacing to -100 and select Center Justification (Fig. 16).

11. Add Motif (+) in the Layer Bar, then alphabet #7.

12. Select the Lowercase Letters icon, then type "soul" and confirm.

14. Move the design underneath the previous lettering designs. Adjust the spacing as desired between the lettering motifs, but do not attempt to center them.

15.  Open Resize and resize the Layer 3 to 120%.

16. Select All by tapping the Hoop View, the bottom layer in the Layer Bar.

17. From the Information Menu, select Align and then Align Centers Vertically and Distribute Horizontally (Fig. 17).

18. Navigate back to the Information Menu, select Group/Ungroup, then Group.

19. Navigate back to the Information Menu, select Move, then Center the Motif.

20. Close the Information Menu and then select the Stitchout Menu.

21.  Select the Single Color icon (Fig. 18).

22. Stitch the Design.



Fig. 16



Fig. 17



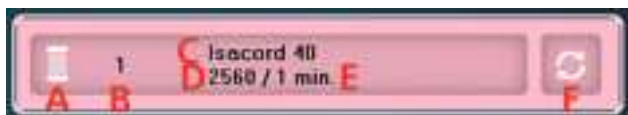
Fig. 18

THREAD COLORS



Fig. 19

Thread colors can be easily modified in embroidery designs by selecting the Colors Information tab in the Selection Bar (Fig. 19).



Colors used in the design are shown in the order they will be stitched. Other color information you will find on this screen includes:

- A. Icon representing the type of embroidery being done (thread, cut, paintwork, crystal)
- B. Thread color order
- C. Thread brand
- D. Thread brand color number
- E. Estimated Stitchout Time
- F. Change Thread Color

CHANGE THREAD COLOR



This enables you to change the individual colors used in the design. When the dialog box opens, you will see the current thread color and/or brand, along with all the thread colors from that manufacturer.



Fig. 20



Fig. 21

Use the left/right arrows at the bottom of the screen to browse through various colors of the thread within the current thread brand (Fig. 20). When you select a new color, a white box will highlight it and the motif will change color in the Design Preview box.

- Search for a color number in the current thread brand by selecting the search icon. When selected, the window opens with the number pad and a preview of available color numbers as you type in the thread number (Fig. 21). Select the color preview to confirm the thread selection.

- To change brands, tap the left/right arrow at the top of the screen. This allows you to change thread brands for every individual thread if you plan to use a mix of threads in the design.

CHANGE THREAD BRAND



To change all the threads in a design to a new single brand, tap the Change Brand icon at the top of the screen. Now all threads in the design will be changed to the selected manufacturer, and the threads colors will be matched as closely as possible to fit what the newly selected manufacturer offers (Fig. 22).

COLOR WHEEL



On some models, selecting the Color Wheel icon, offers you even more ways to edit and change the colors within the design (Fig. 23).

- Use the slider on the color wheel to adjust the color pallet of the whole design.
- The brightness slider at the bottom of the screen allows you to adjust the brightness of the colors on the color wheel.

Returning to the Colors screen, the new colors will auto populate based on changes made using the color wheel.



Fig. 22



Fig. 23

PLACEMENT

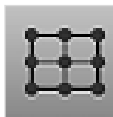


Pinpoint Placement, available on select models, is a feature found in the Information Menu and it allows for easy and precise placement of your embroidery designs.

Depending on machine model, you'll have 2-point Placement and 4-point Placement options.

2-POINT PLACEMENT

Grid



Upon selecting Grid, nine points will auto populate around perimeter and center of the design. When you select a point in the 9-point grid, the hoop will move to match this reference point in the design. Only two points can be positioned in Grid mode.

Free Point



Free Point placement allows the positioning of a design based on any two points in the embroidery motif. You can zoom in on a specific stitch within the design to select it. When you select a stitch, the hoop will move to match where this reference point lies on the fabric. Only two points can be positioned in Free Point mode.

Retain size



Retain Size ensures your design maintains its size while being placed, moved, or rotated. When Retain Size is not locked, the design can be resized while being placed.

Set

After positioning the points of the design, use the Set button to “lock” the position of the point. The point will turn yellow when the first point is set.

Reset

This will reset all the positioning done with Pinpoint Placement.

4-POINT PLACEMENT

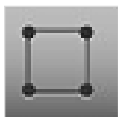
The BERNINA 7 PRO Series machines also offer 4-point Placement, which allows the embroidery motif to be positioned within the hoop based on four points. You will have two different options when using 4-point: Fit and Morph.

Morph



When Morph is selected, the embroidery motif can be transformed to fit within the desired design shape. Note that this may distort or change the look of the design and is most suitable for quilting designs. When you select a point, the hoop will move to match where this reference point lies on the fabric.

Fit

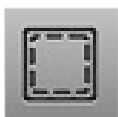


When Fit is selected, a design can be made to fit within the boundaries of the desired design shape, without distorting the design within the shape (Fig. 24). When you select a point, the hoop will move to match where this reference point lies on the fabric. Select Retain Size when using fit to maintain the original size of the motif.



Fig. 24

Inner Margin



The Inner Margin function allows you to adjust the distance between the bounding box and the embroidery design. Can be set to 1/8" to 1 1/2". Because Inner Margin will adjust the size of the motif accordingly, it does not work in conjunction with Retain Size.

TIP:

It is highly recommended to use the Pinpoint Laser when using any Pinpoint Placement mode. It makes it easy to precisely center your needle over the correct placement on the fabric.

The Pinpoint Laser is available on the B 790 PRO, 770 PRO, 735 PRO and 700 PRO.

PLACEMENT EXERCISE

Materials & Machine Settings

-  (1) 10" x 15" piece of fabric and (1) 10" x 15" piece of stabilizer
-  **Needle:** Embroidery Needle 80/12 130/705 H-SUK
-  **Hoop:** Oval Hoop
-  **Presser Foot:** Embroidery Foot #26L

On a 10" by 15" piece of dark fabric, use a straight-edge ruler to draw two non-parallel chalk lines at opposite angles approximately 4" down from the top of the fabric for the first line and another 3-4" below that one for the second line. Below the two lines, draw an additional square shape (Fig. 25).

Hoop your fabric and attach to the module. Delete any designs currently on your screen before beginning.

2-Point Placement

- From the Selection Menu, select:
New Motif » Embroidery Motifs folder
- Open a new motif using the chart below.



Fig. 25

B 790 PRO	B 790 PLUS	B 770 QE PRO	B 770 QE PLUS	B 735 PRO	B 735	B 700 PRO
Folder 5	Folder 14	Folder 2	Folder 1	Folder 5	Folder 6	Folder 5
design #2	design #27	design #26	design #13	design #8	design #13	design #2

B 700	B 590	B 500
Folder 10	Folder 3	Folder 3
design #31	design #37	design #37

3.  If your model the Pinpoint Laser, turn it on.
4. Select Information Menu, then choose Pinpoint Placement.
5. Attach the hoop to the machine as directed.
6. Select 2-point Placement and Grid option.
7. Select Retain Size.
8. Tap the middle-left point of the grid (Fig. 26). Use the Multi-function Knobs to move this point onto the left side of the top line marked on your fabric. Use the Pinpoint Laser or use the handwheel to lower the needle to confirm placement.
9. When the point is aligned, tap Set.
10. Select the middle-right point of the grid. Use either Multi-function Knob to rotate the design until satisfied with its placement on the line.
11. Tap Set to confirm the placement.
12. Return to the Information Menu, then tap Add Motif and select Lettering. Select an Alphabet according to the chart below.
13. Type "Happy", then confirm.
14. Select Pinpoint Placement and then 2-point Placement.
15. Select Retain Size and Free Point.
16. Select the bottom left corner of the letter H (Fig. 27). Use the Multi-function Knobs to move this point onto the second drawn line and select Set.



Fig. 26



Fig. 27

B 790 PRO	B 790 PLUS	B 770 QE PRO	B 770 QE PLUS	B 735 PRO	B 735	B 700 PRO
Font #7	Font #16	Font #7	Font #2	Font #7	Font #2	Font #7

B 700	B 590	B 500
Font #11	Font #2	Font #2

B 790 PRO	B 770 QE PRO	B 735 PRO	B 700 PRO
Folder #2	Folder #2	Folder #6	Folder #2
design #49	design #74	design #17	design #49



Fig. 28



Fig. 29

17. Select the bottom of the upper portion of the letter "y" (the portion that would rest on the line if writing on lined paper). Use the Multi-function Knobs to align this portion of letter on top of the line. Now "Happy" looks like it was written on lined paper with the "y" going below the chosen baseline.

18. Tap Set to confirm design placement. The placement points will disappear once the second point is set.

19. Close the Information Menu.

4-point Placement with Morph

20. Add a new layer and select the design listed from the chart to the left above.

21. Drag the design toward the bottom on the hoop.

22. Open the Information Menu and select:

Pinpoint Placement » 4-point » Morph

23. Select one corner of the design (Fig. 28). Use the Multi-function Knobs to align that point to match the corresponding corner of the marked shape on the hooped fabric.

24. Repeat with all four points of the design.

25. Set Inner Margin to $\frac{1}{8}$ ". The design is now set within the shape, with an equidistant margin from the sides.

26.  Close out of the Information Menu and then select the Stitchout Menu from the Selection Bar.

27. Select the Single Color icon (Fig. 29).

28. Stitch the Design in hoop.

SAVING DESIGNS

This section covers how to save your customized designs for future use. You can save any design by saving it to the machine in the Personal Folder.

SAVE TO PERSONAL FOLDER OR USB

- 1. From the Selection Menu, select:

New Motif » Embroidery Motifs folder
- 2. Open a new motif using the chart below (Fig. 30).
- 3. Select Add Motif (+) icon from the Layer Bar. Use the Navigation Path to return to the Selection Screen.
- 4. Select Alphabets and choose any font, type your initials, and confirm with the green check mark.
- 5. Select Word Art from the Information Menu and use the upper Multi-function Knob to adjust the spacing to 10. Use your finger or stylus to move both designs so they fit within the hoop (Fig. 31).



Fig. 30



Fig. 31

B 790 PRO	B 790 PLUS	B 770 QE PRO	B 770 QE PLUS	B 735 PRO	B 735	B 700 PRO
Folder 10	Folder 8	Folder 8	Folder 7	Folder 7	Folder 7	Folder 10
design #7	design #20	design #6	design #1	design #24	design #1	design #7

B 700	B 590	B 570 QE	B 540	B 535	B 500
Folder 8	Folder 8	Folder 5	Folder 2	Folder 2	Folder 8
design #20	design #1	design #7	design #2	design #2	design #1

-
6.  Close the Information Menu. In the Selection Menu, select Save a Motif. At the top of the menu (Fig. 32), select either the:
- Machine icon to save the design on the machine in the Personal Memory.
 - USB icon to save the design on a USB drive to save space on your machine.
7. Confirm save location with the green check mark.



Fig. 32

RETRIEVE FROM PERSONAL MEMORY

1. From Selection Menu, select:

Add a Motif » Personal Memory
2. Select the saved design to place it on the screen as a new design (clearing the previous designs).
3. To add to an existing motif, select Add Motif (+) from the Layer Bar, then Personal Memory (Fig. 33).



Fig. 33

NOTES

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made. to create