

# Instruction & Reference Guide Embroidery

# Model BLSA





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# HOW TO USE THIS MANUAL

The Instruction and Reference Guides for this machine consist of the Instruction and Reference Guide (Sewing) and the Instruction and Reference Guide (Embroidery). Refer to the appropriate Instruction and Reference Guide according to your needs. For basic information about, for example, the included accessories or the settings screen, refer to chapter 1 of the Instruction and Reference Guide (Sewing). In the screens appearing in the step-by-step instructions, the parts referred to in the operations are marked

with \_\_\_\_\_. Compare the screen in the directions with the actual screen, and carry out the operation. If, while using the machine, you experience something you do not understand, or there is a function you

would like to know more about, refer to the index at the back of the Instruction and Reference Guide in conjunction with the table of contents to find the section of the manual you should refer to.

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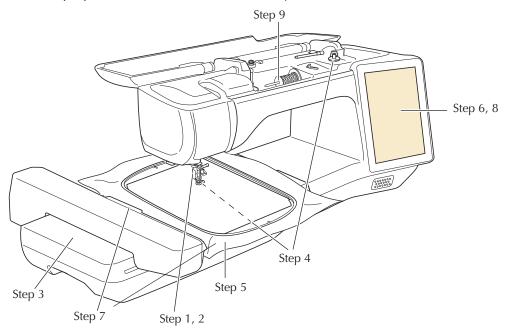
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## **BEFORE EMBROIDERING**

Follow the steps below to prepare the machine for embroidery.



Step #	Aim	Action	Page
1	Presser foot attachment	Attach embroidery foot "W".	9
2	Checking the needle	Use needle 75/11 for embroidery. *	_
3	Embroidery unit attachment	Attach the embroidery unit.	13
4	Bobbin thread setup	For the bobbin thread, wind embroidery bobbin thread and set it in place.	15
5	Fabric preparation	Attach a stabilizer material to the fabric, and hoop it in the embroidery frame.	28
6	Pattern selection	Turn the main power to ON, and select an embroidery pattern.	36
7	Embroidery frame attachment	Attach the embroidery frame to the embroidery unit.	34
8	Checking the layout	Check and adjust the size and position of the embroidery.	46
9	Embroidery thread setup	Set up embroidery thread according to the pattern.	22

\* It is recommended that a 90/14 needle should be used when embroidering on heavy weight fabrics or stabilizing products (for example; denim, puffy foam, etc.). Ball point needle (golden colored) 90/14 is not recommended for embroidery.

## Using the Machine Setting Mode Key

Press it to change the default machine settings (needle stop position, embroidery speed, opening display, etc.). To display the different settings screens, press if for "Sewing settings", if for "General settings", if for "Embroidery settings" or if for "Wireless LAN settings". For details on settings for sewing utility stitches, on common settings and on wireless settings, refer to the Instruction and Reference Guide (Sewing).

Page 9

#### 🔊 Memo

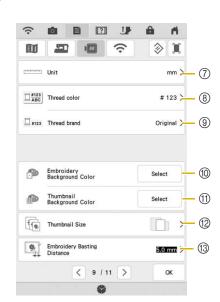
• Press < or > to display a different settings screen.

## **Embroidery settings**

#### Page 8

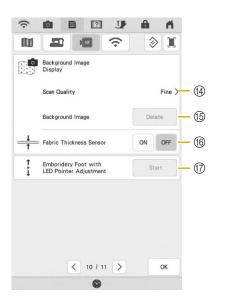


- Select from among 12 embroidery frame displays (page 103).
- ② Change the center point marker or grid lines (page 103).
- ③ Adjust the maximum embroidery speed setting (page 102).
- Adjust the upper thread tension for embroidering (page 98).
- Select the height of the embroidery foot during embroidering.
- (6) Adjust the needle position for embroidering.



- ⑦ Change the display units (mm/inch).
- (8) Change the thread color display on the "Embroidery" screen; thread number, color name (page 102).
- ③ Select the thread brand used to display a pattern when it is opened (page 102).
- ① Change the color of the background for the embroidery display area.
- Change the color of the background for the thumbnail area.
- 1 Press to specify the size of pattern thumbnails.
- ③ Adjust the distance between the pattern and the basting stitching (page 96).

## ■ Page 10



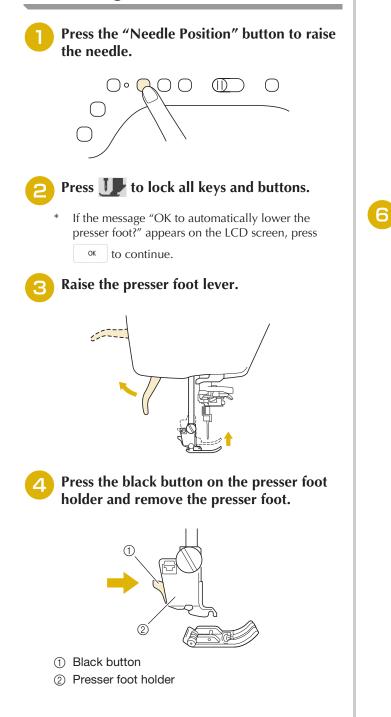
- Gelect the quality for displaying the fabric in the screen (page 94).
- (15) Erase the scanned image (page 94).
- (6) Set to "ON" when positioning the pattern on the thick fabric using the built-in camera (page 95).
- ⑦ Adjust the position and brightness of the embroidery foot "W+" with LED pointer (sold separately). (These settings are not available unless embroidery foot "W+" with LED pointer is installed on the machine.)

# **CHANGING THE PRESSER FOOT**

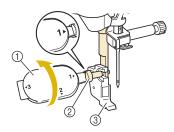
# **A** CAUTION

- Always press **JP** on the screen to lock all keys and buttons before changing the presser foot. If **JP** is not pressed and the "Start/Stop" button or another button is pressed, the machine will start and may cause injury.
- Only use presser feet made for this machine. Using other presser feet may lead to accident or injury.

## **Removing the Presser Foot**

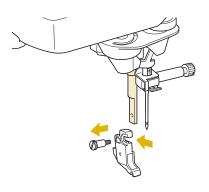


**b** Loosen the screw of the presser foot holder to remove the presser foot holder.



- ① Multi-purpose screwdriver
- O Presser foot holder screw
- ③ Presser foot holder

Remove the screw of the presser foot completely from the presser foot shaft.



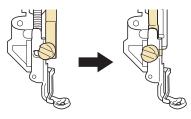
## Attaching Embroidery Foot "W"

## **A CAUTION** When attaching an embroidery foot, always

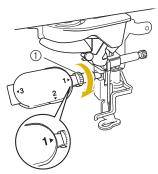
press **U** on the screen. You may accidentally press the "Start/Stop" button and possibly cause injury.

- Be sure to use embroidery foot "W" when doing embroidery. Using another embroidery foot may cause the needle to strike the embroidery foot, causing the needle to bend or break and possibly cause injury.
- **1** Remove the presser foot and presser foot holder. For details, refer to "Removing the Presser Foot" on page 9.
  - Position the embroidery foot "W" on the presser foot bar by aligning the notch of the presser foot to the large screw.

Side view



**3** Hold the embroidery foot in place with your right hand, and then use the included multi-purpose screwdriver to securely tighten the presser foot holder screw.



① Presser foot holder screw

# **A** CAUTION

• Use the included multi-purpose screwdriver to firmly tighten the screw of the presser foot holder. If the screw is loose, the needle may strike the embroidery foot and possibly cause injury.

4

#### Press Up to unlock all keys and buttons.

→ All keys and operation buttons are unlocked, and the previous screen is displayed.

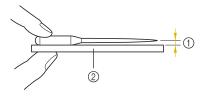
# **CHANGING THE NEEDLE**

# ▲ CAUTION

- Always press **UP** on the screen to lock all keys and buttons before changing the needle. If **UP** is not pressed and the "Start/Stop" button or another operation button is pressed accidentally, the machine will start and injury may result.
- Use only home sewing machine needles made for home use. Other needles may bend or break and may cause injury.
- Never embroider with a bent needle. A bent needle will easily break and may cause injury.

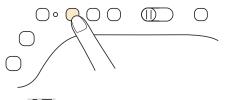
#### 🏹 Memo

• To check the needle correctly, place the flat side of the needle on a flat surface. Check the needle from the top and the sides. Throw away any bent needles.



- ① Parallel space
- ② Level surface (bobbin cover, glass, etc.)

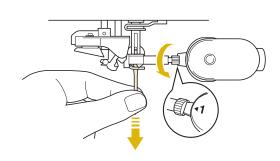
Press the "Needle Position" button to raise the needle.



- Press **IP** to lock all keys and buttons.
- If the message "OK to automatically lower the presser foot?" appears on the LCD screen, press
  - ok to continue.

#### 🟒 Note

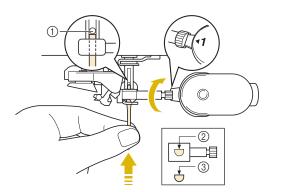
• Before replacing the needle, cover the hole in the needle plate with fabric or paper to prevent the needle from falling into the machine. 3 Use the screwdriver to turn the needle clamp screw toward the front of the machine and loosen the screw. Remove the needle.



Note
 Do not apply pressure to the needle clamp screw. Doing so may damage the needle or machine.



With the flat side of the needle facing the back, insert the new needle all the way to the top of the needle stopper (viewing window) in the needle clamp. Use a screwdriver to securely tighten the needle clamp screw.



- ① Needle stopper
- ② Hole for setting the needle
- ③ Flat side of needle

# Be sure to push in the needle until it touches

- Be sure to push in the needle until it touches the stopper, and securely tighten the needle clamp screw with a screwdriver. If the needle is not completely inserted or the needle clamp screw is loose, the needle may break or the machine may be damaged.
- Press 💵 to unlock all keys and buttons.

# ATTACHING THE EMBROIDERY UNIT

## About the Embroidery Unit

# **A** CAUTION

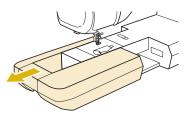
- Do not move the machine with the embroidery unit attached. The embroidery unit could fall off and cause injury.
- Keep your hands and foreign objects away from the embroidery carriage and frame when the machine is embroidering. Otherwise, injuries or damage may result.
- To avoid distorting your embroidery design, do not touch the embroidery carriage and frame when the machine is embroidering.
- Be sure to turn off the power before installing the embroidery unit. Otherwise, the machine may be damaged.
- Do not touch the inner connector of the embroidery unit. The pins on the embroidery unit connection may be damaged.
- Do not apply strong force to the embroidery unit carriage or pick up the unit by the carriage. Otherwise, the embroidery unit may be damaged.
- Store the embroidery unit in a safe place to prevent damage to the unit.
- Do not push on the carriage when installing the embroidery unit onto the machine. Moving the carriage may damage the embroidery unit.
- Allow sufficient space around the embroidery unit. Otherwise, the embroidery unit could fall off foreign object, and may cause injury.
- Do not touch the embroidery carriage until the initialization finishes.

## 🕂 Note

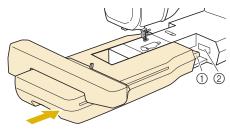
• You can also sew utility/decorative stitches with the embroidery unit attached. Touch

and . The feed dog will automatically raise for utility and decorative stitching.

Turn the main power to OFF, and remove the flat bed attachment.



Insert the embroidery unit connection into the machine connection port. Push lightly on the connection port cover until the unit clicks into place.

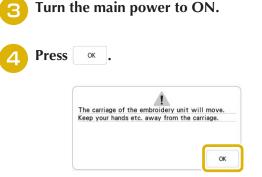


① Embroidery unit connection

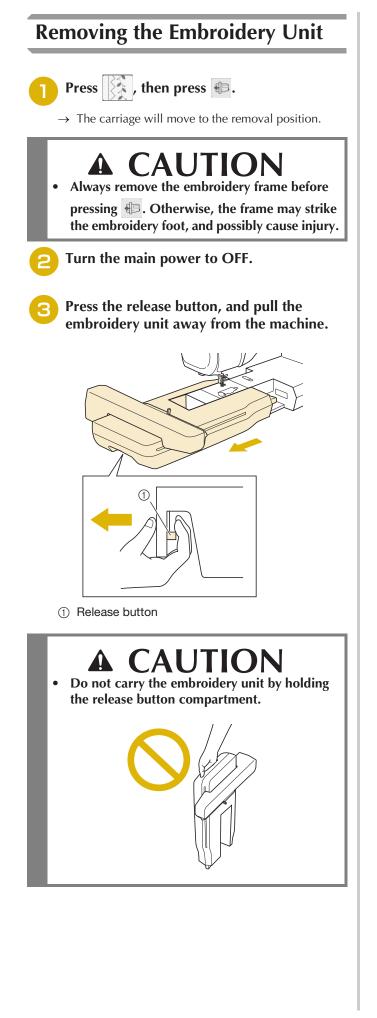
Machine connection port

#### 🗸 Note

• Be sure there is no gap between the embroidery unit and the machine. If there is a gap, the embroidery patterns will not embroider with the correct registration.



 $\rightarrow\,$  The carriage will move to the initialization position.



# LOWER THREADING

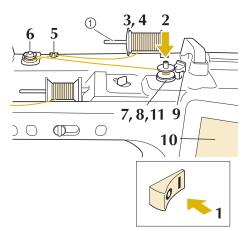
## Winding the Bobbin

# **A** CAUTION

The included bobbin was designed specifically for this machine. If bobbins from other models are used, the machine will not operate correctly. Use only the included bobbin or bobbins of the same type (part code: X52800-150). X52800-150 is Class 15 type bobbin.

## ■ Using the Supplemental Spool Pin

With this machine, you can wind the bobbin during embroidering. While the main spool pin is being used for embroidering, you can wind a bobbin by using the supplemental spool pin.



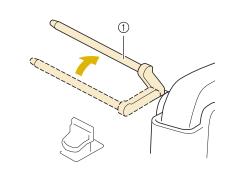
① Supplemental spool pin

- Turn the main power to ON and open the top cover.
- 2 Align the groove in the bobbin with the spring on the bobbin winder shaft, and set the bobbin on the shaft.

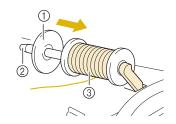


- ① Groove in the bobbin
- ② Spring on the shaft

3 Set the supplemental spool pin in the "up" position.



- ① Supplemental spool pin
- Place the spool of thread on the supplemental spool pin, so that thread unrolls from the front. Push the spool cap onto the spool pin as far as possible to secure the thread spool.



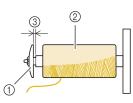
- ① Spool cap
- ② Spool pin
- ③ Thread spool

# **CAUTION**

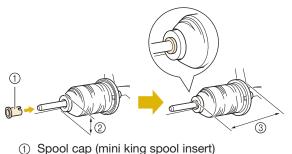
- If the thread spool and/or spool cap are set incorrectly, the thread may tangle on the spool pin and cause the needle to break.
- Use the spool cap (large, medium, small or mini king) that is closest in size to the thread spool. If a spool cap smaller than the thread spool is used, the thread may become caught in the slit on the end of the spool and cause the needle to break.

#### Memo

• When embroidering with fine, cross-wound thread, use the small spool cap, and leave a small space between the cap and the thread spool.

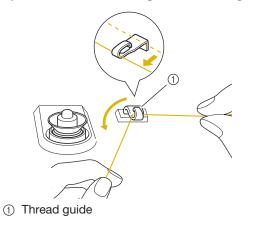


- (1) Spool cap (small)
- ② Thread spool (cross-wound thread)
- ③ Space
- If a spool of thread whose core is 12 mm (1/ 2 inch) in diameter and 75 mm (3 inches) high is inserted onto the spool pin, use the mini spool cap.

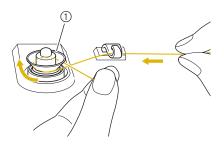


- ② 12 mm (1/2 inch)
- ③ 75 mm (3 inches)

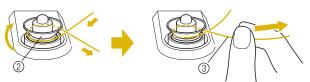
With your right hand, hold the thread near the thread spool. With your left hand, hold the end of the thread, and use both hands to pass the thread through the thread guide.



Pass the thread around the pretension disk 6 making sure that the thread is under the pretension disk.

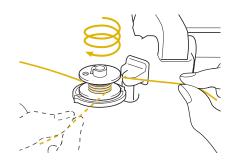


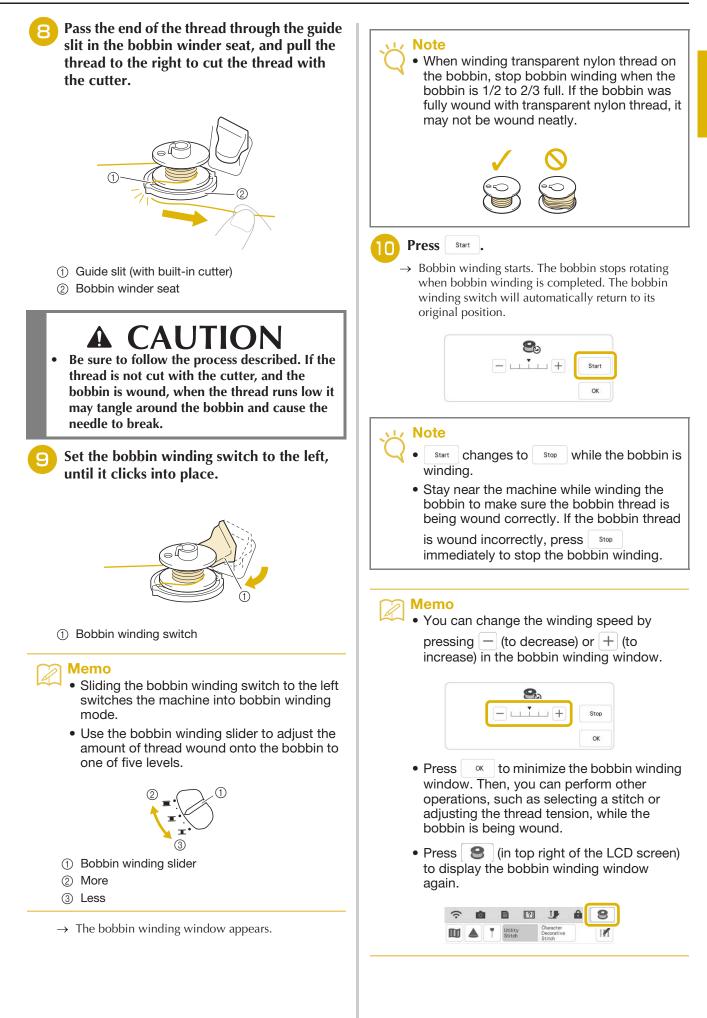
- ① Pretension disk
- $\rightarrow$  Make sure that the thread passes under the pretension disk.

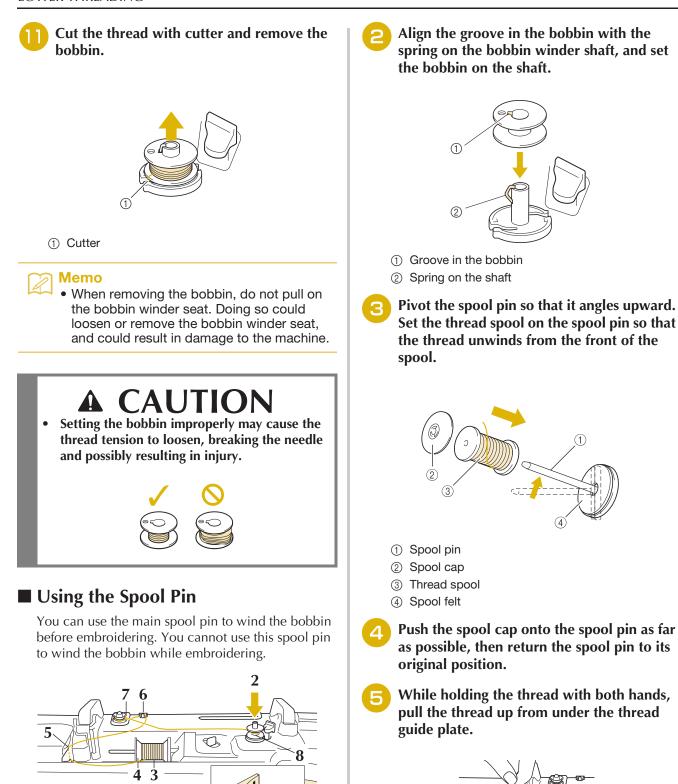


- Pretension disk
- ③ Pull it in as far as possible.
- $\rightarrow$  Check to make sure thread is securely set between pretension disks.

Wind the thread clockwise around the bobbin 5-6 times.







1

(1) Thread guide plate

 $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ 

top cover.

 $\bigcap$ 

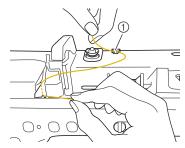
 $\square$ 

 $\bigcap$ 

Turn the main power to ON and open the

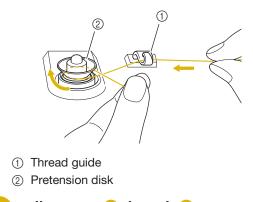


#### Pass the thread through the thread guide.



① Thread guide

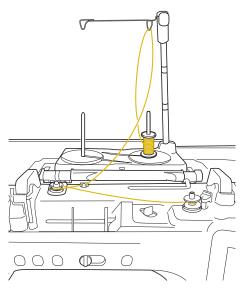
Pass the thread around the pretension disk making sure that the thread is under the pretension disk.



B Follow steps 7 through 1 on page 16 through 18.

## ■ Using the Spool Stand

To wind thread on the bobbin while the spool stand is installed, pass the thread from the spool through the thread guide on the telescopic thread guide, and then wind the bobbin according to steps (5) through (1) of "Using the Supplemental Spool Pin" on page 16 to page 18.



#### 🏹 Memo

- Refer to the Instruction and Reference Guide (Sewing) to assemble the spool stand.
- Refer to page 25 to thread the machine using the spool stand.

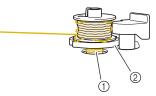
# **A** CAUTION

When winding thread on the bobbin, do not cross the bobbin winding thread with the upper thread in the thread guides.

## Untangling Thread from Beneath the Bobbin Winder Seat

If the bobbin winding starts when the thread is not passed through the pretension disk correctly, the thread may become tangled beneath the bobbin winder seat.

Wind off the thread according to the following procedure.



- ① Thread
- ② Bobbin winder seat

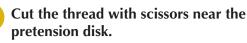


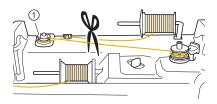
• Do not remove the bobbin winder seat even if the thread becomes tangled under the bobbin winder seat. It may result in injuries.

If the thread becomes tangled under the

bobbin winder seat, press stop once to stop the bobbin winding.







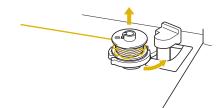
① Pretension disk

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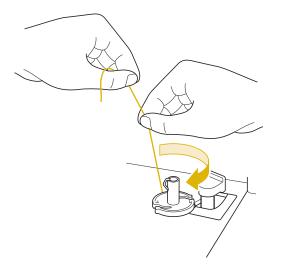
Embroidery Step by Step

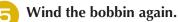
19

**3** Push the bobbin winder switch to the right, and then raise the bobbin at least 100 mm (4 inches) from the shaft.



4 Cut the thread near the bobbin and hold the thread end of the spool with your left hand. Unwind the thread clockwise near the bobbin winder seat with your right hand as shown below.



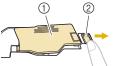


#### **Note**

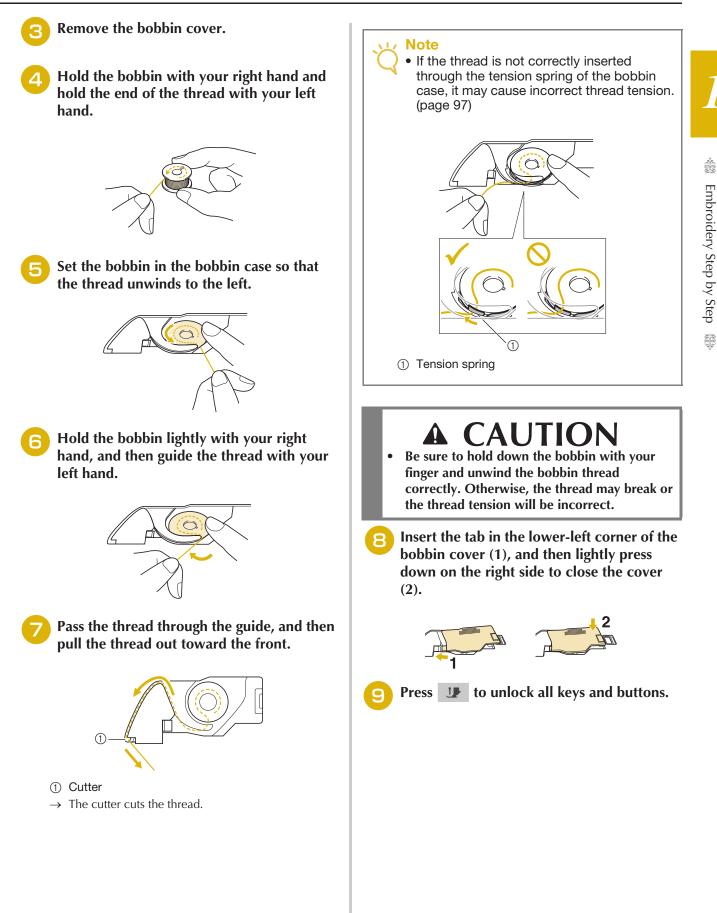
• Make sure that the thread passes through the pretension disk correctly (page 16).

## Setting the Bobbin

## Use a bobbin thread that has been correctly wound. Otherwise, the needle may break or the thread tension will be incorrect. The included bobbin was designed specifically for this machine. If bobbins from other models are used, the machine will not operate correctly. Use only the included bobbin or bobbins of the same type (part code: X52800-150). X52800-150 is Class 15 type bobbin. Before inserting or changing the bobbin, be sure to press 🕕 in the LCD to lock all keys and buttons, otherwise injuries may occur if the "Start/Stop" button or any other button is pressed and the machine starts embroidering. Press **I** to lock all keys and buttons and raise the embroidery foot. If the message "OK to automatically lower the presser foot?" appears on the LCD screen, press OK to continue. Slide the bobbin cover latch to the right.



- ① Bobbin cover
- Latch
- $\rightarrow$  The bobbin cover opens.



21

# **UPPER THREADING**

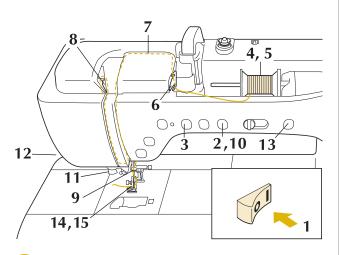
## **Upper Threading**

# **CAUTION**

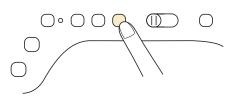
Be sure to thread the machine properly. Improper threading can cause the thread to tangle and break the needle, leading to injury.

#### Memo

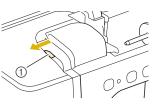
- The automatic threading function can be used with home sewing machine needle sizes 75/11 through 100/16.
- When threads such as transparent nylon monofilament or speciality threads are used it is not recommended to use the needle threader.



- Turn the main power to ON.
- Press the "Presser Foot Lifter" button to raise the embroidery foot.



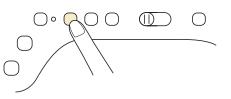
 $\rightarrow$  The upper thread shutter opens so the machine can be threaded.



(1) Upper thread shutter

#### Memo

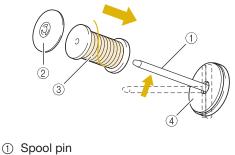
- This machine is equipped with an upper thread shutter, allowing you to check that the upper threading is performed correctly.
- Press the "Needle Position" button to raise the needle.



#### Note

• If you try to thread the needle automatically without raising the needle, the thread may not thread correctly.

Pivot the spool pin so that it angles upward. Δ Set the thread spool on the spool pin so that the thread unwinds from the front of the spool.



- ② Spool cap
- ③ Thread spool
- (4) Spool felt

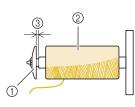
Push the spool cap onto the spool pin as far as possible, then return the spool pin to its original position.

# **A** CAUTION

- If the thread spool and/or spool cap are set incorrectly, the thread may tangle on the spool pin and cause the needle to break.
- Use the spool cap (large or medium) or the thread spool insert (mini king spool insert) that is closest in size to the thread spool. If a spool cap smaller than the thread spool is used, the thread may become caught in the slit on the end of the spool and cause the needle to break.

#### 🔊 Memo

• When embroidering with fine, cross-wound thread, use the small spool cap, and leave a small space between the cap and the thread spool.

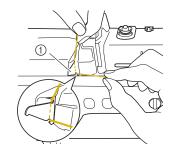


- ① Spool cap (small)
- ② Thread spool (cross-wound thread)
- ③ Space
- If a spool of thread whose core is 12 mm (1/ 2 inch) in diameter and 75 mm (3 inches) high is inserted onto the spool pin, use the thread spool insert (mini king spool insert).



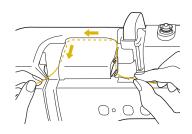
- ① Thread spool insert (mini king spool insert)
- ② 12 mm (1/2 inch)
- ③ 75 mm (3 inches)

6 While holding the thread with both hands, pull the thread up from under the thread guide plate.

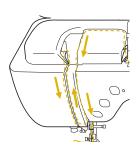


① Thread guide plate

While holding the thread in your right hand, pass the thread through the thread guide in the direction indicated.

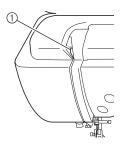


Guide the thread down, up, then down through the groove, as shown in the illustration.



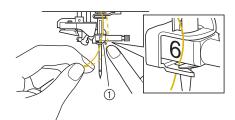
#### 🏹 Memo

• Look in the upper groove area to check if the thread catches on the thread take-up lever visible inside the upper groove area.

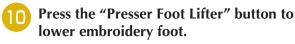


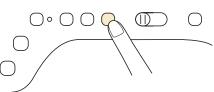
① Look in the upper groove area

Pass the thread through the needle bar thread guide (marked "6") by holding the thread with both hands and guiding it as shown in the illustration.

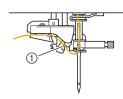


① Needle bar thread guide

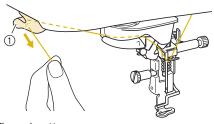




Pass the thread through the thread guide disks (marked "7"). Make sure that the thread passes through the groove in the thread guide.



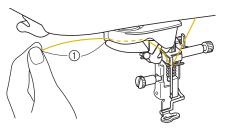
- ① Groove in thread guide
- Pull the thread up through the thread cutter to cut the thread, as shown in the illustration.



① Thread cutter

#### Viv Note

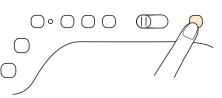
 When using thread that quickly winds off the spool, such as metallic thread, it may be difficult to thread the needle if the thread is cut.
 Therefore, instead of using the thread cutter, pull out about 80 mm (approx. 3 inches) of thread after passing it through the



thread guide disks (marked "7").

① 80 mm (approx. 3 inches) or more

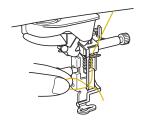
**3** Press the "Automatic Threading" button to have the machine automatically thread the needle.



 $\rightarrow$  The thread passes through the eye of the needle.

#### Memo

- When the "Automatic Threading" button is pressed, the embroidery foot will be automatically lowered. After threading is finished, the embroidery foot moves back to the position before the "Automatic Threading" button was pressed.
- A Carefully pull the end of the thread that was passed through the eye of the needle.
  - <sup>4</sup> If a loop was formed in the thread passed through the eye of the needle, carefully pull on the loop of thread through to the back of the needle.

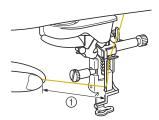


#### V Note

Pulling the loop of thread gently will avoid needle breakage.

#### Pull out about 100-150 mm (approx. 4-6 inches) of the thread, and then pass it under the embroidery foot toward the rear of the machine.

 $\rightarrow$  Raise the presser foot lever if the embroidery foot is lowered.



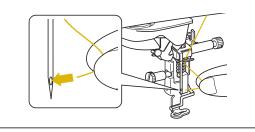
About 100-150 mm (approx. 4-6 inches)

#### Memo

• If the needle could not be threaded or the thread was not passed through the needle bar thread guides, perform the procedure again starting from step  $(\mathbf{3})$ . Then, pass the thread through the eye of the needle after step 9.

#### Note

Some needles cannot be threaded with the needle threader. In this case, instead of using the needle threader after passing the thread through the needle bar thread guide (marked "6"), manually pass the thread through the eye of the needle from the front.



## Using the Spool Stand

The included spool stand is useful when using thread on spools with a large diameter (crosswound thread). This spool stand can hold two spools of thread.

#### Memo

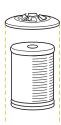
- Refer to the Instruction and Reference Guide (Sewing) to assemble the spool stand.
- Refer to page 19 to wind the bobbin when using the spool stand.

## Using the Spool Stand

Be sure to use a spool cap that is slightly larger than the spool.

If the spool cap that is used is smaller or much

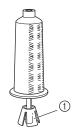
larger than the spool, the thread may catch and embroidering performance may suffer.



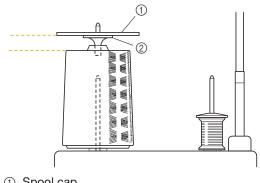
When using thread on a thin spool, place the included spool felt on the spool pin, place the thread spool on the spool pin so that the center of the spool is aligned with the hole at the center of the spool felt, and then insert the spool cap onto the spool pin.



- 1) Spool felt
- When using thread on a cone spool, use the spool holder. When using cone shaped thread spool with other than cotton thread, it is not necessary to use spool caps.

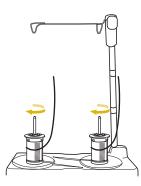


- ① Spool holder
- Depending on the size of spool or the amount of thread remaining, choose the appropriate sized spool cap (large or medium). Spool cap (small) cannot be used with the spool cap base.



- (1) Spool cap
- ② Spool cap base

- Attach the spool stand to the machine.
- Place the spool of thread on the spool pin so that the thread feeds off the spool clockwise. Firmly insert the spool cap onto the spool pin.

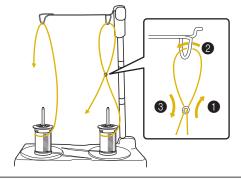


#### Note

- When using 2 spools of thread, make sure that both spools are feeding in the same direction.
- Make sure that the spools do not touch each other, otherwise the thread will not feed off smoothly, the needle may break, or the thread may break or become tangled. In addition, make sure that the spools do not touch the telescopic thread guide at the center.
- Make sure that the thread is not caught under the spool.

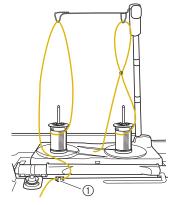
# **3** Pull the thread off the spool. Pass the thread from the back to the front through the thread guides at the top.

When using thread that quickly feeds off the spool, such as metallic thread, use the enclosed ring to prevent the thread from becoming entangled. Threading sequence; Pull the thread from the spool, place the thread through the ring from the bottom up (()), into the thread guide () and through the ring from the top down (). When using the ring, do not use the spool cap base.



#### 🟒 Note

- Guide the thread so that it does not become entangled with the other thread.
- After feeding the thread as instructed, wind any excess thread back onto the spool, otherwise the excess thread will become tangled.
- Pass the thread through the machine's thread guide from the right to the left.



① Thread guide



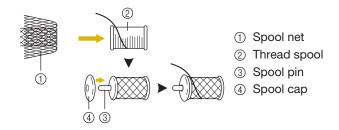
Thread the machine according to the steps to the of "Upper Threading" on page 22.

# Using Threads that Unwind Quickly

## ■ Using the Spool Net

If using transparent nylon monofilament thread, metallic thread, or other strong thread, place the included spool net over the spool before using it. When using specialty threads, threading must be done manually.

If the spool net is too long, fold it once to match it to the spool size before placing it over the spool.



## Memo

- When threading the spool with the spool net on, make sure that 50-60 mm (approx. 2 -2-1/2 inches) of thread are pulled out.
- It may be necessary to adjust the thread tension when using the spool net.

# **PREPARING THE FABRIC**

# **A** CAUTION

• Use fabrics with a thickness of less than 3 mm (approx. 1/8 inch). Using fabrics thicker than 3 mm (approx. 1/8 inch) may cause the needle to break.

#### Note

• When embroidering fabric layers filled with thick batting, for example, a better result can be achieved by adjusting the embroidery foot height in the embroidery settings screen.

Press , and select page 8. Touch the number beside "Embroidery Foot Height" in the embroidery settings screen. Adjust the embroidery foot height for thick or puffy fabrics.

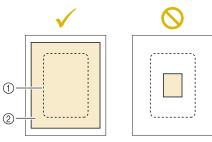


- To increase the space between the embroidery foot and the needle plate, set the "Embroidery Foot Height" to a larger number.
- In the case of thick terry cloth towels we recommend that you place a piece of water soluble stabilizer on the top surface of the towel. This will help to reduce the nap of the toweling and result in more attractive embroidery.

## Attaching Iron-on Stabilizers (Backing) to the Fabric

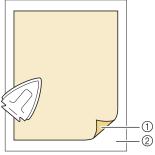
# **A** CAUTION

- Always use a stabilizer material for embroidery when embroidering stretch fabrics, lightweight fabrics, fabrics with a coarse weave, or fabrics which cause pattern shrinkage. Otherwise, the needle may break and cause injury. Not using a stabilizer material may result in a poor finish to your project.
- Use a piece of stabilizer which is larger than the embroidery frame being used.



- 1 Size of the embroidery frame
- ② Iron-on stabilizer (backing)

Iron the iron-on stabilizer material to the wrong side of the fabric.



- ① Fusible side of stabilizer
- ② Fabric (wrong side)

#### 🏹 Memo

• When embroidering on thin fabrics such as organdy or lawn, or on napped fabrics such as towel or corduroy, use water soluble stabilizer (sold separately) for best results. The water soluble stabilizer material will dissolve completely in water, giving the project a more attractive finish.

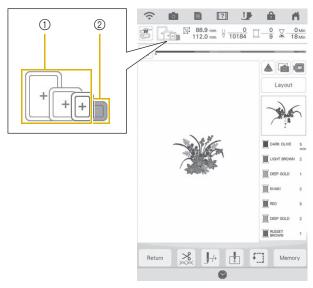
## Hooping the Fabric in the Embroidery Frame

Types of Embroidery Frames

# Embroidery field <th

Other optional embroidery frames can be used. When choosing frames that do not appear on the screen, be sure to check the design size of the embroidery field of the optional frame. Check with your authorized Baby Lock retailer for frame compatibility.

Select a frame that matches the pattern size. Included frame options are displayed on the LCD.



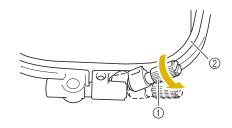
- ① Highlighted: Can be used
- ② Shaded: Cannot be used

## ■ Inserting the Fabric

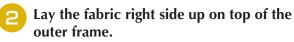
#### Note

 If the fabric is not securely held in the embroidery frame, the embroidery design will embroider out poorly. Insert the fabric on a level surface, and gently stretch the fabric taut in the frame. Follow the steps below to insert the fabric correctly.

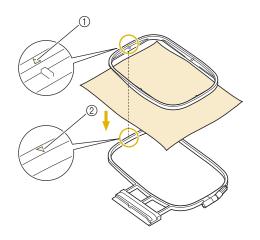
# Lift-up and loosen the frame adjustment screw and remove the inner frame.



- Frame adjustment screw
   Issue frame.
- Inner frame

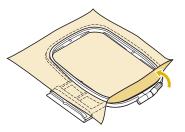


**B** Re-insert the inner frame making sure to align the inner frame's  $\triangle$  with the outer frame's  $\bigtriangledown$ .



- (1) Inner frame's  $\triangle$
- ② Outer frame's  $\bigtriangledown$

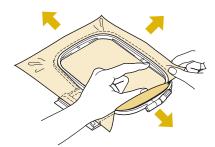
4 Slightly tighten the frame adjustment screw, and then remove the slack in the fabric by pulling on the edges and corners.



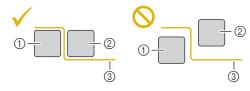
5

# Gently stretch the fabric taut to keep the fabric from loosening after stretching.

\* After stretching the fabric, make sure the fabric is taut.

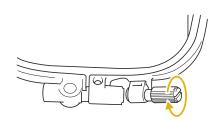


\* Make sure the inside and outside frames are even before you start embroidering.



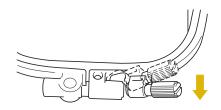
- ① Outer frame
- ② Inner frame
- ③ Fabric
- **6** 1

Tighten the frame adjustment screw.





Return the frame adjustment screw to its initial position.



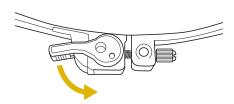
#### Memo

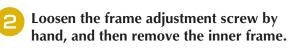
• You can use the included multi-purpose screw driver setting the position to "3", when you loosen or tighten the frame adjustment screw.



 Inserting Fabric into Embroidery
 Frame (408mm × 272 mm (approx. 16 inches × 10-5/8 inches))

Lower the lever.







- 3 Refer to steps 3 through 6 of "Inserting the Fabric" on page 30 to hoop the fabric.
- Tighten the frame adjustment screw by hand.



# **A** CAUTION

• Do not overtighten the screw.

Return the lever to its original position.

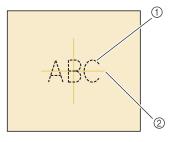


# Using the Embroidery Sheet (sold separately)

When you want to embroider the pattern in a particular place, use the embroidery sheet with the frame.

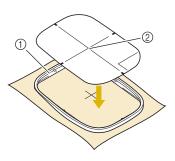


# With a chalk pencil, mark the area of the fabric you want to embroider.

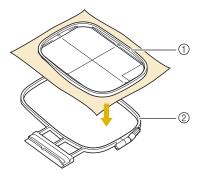


- ① Embroidery pattern
- ② Mark

Place the embroidery sheet on the inner frame. Align the guide lines on the embroidery sheet with the mark you made on the fabric.



- ① Inner frame
- ② Guide line
- **3** Gently stretch the fabric so there are no folds or wrinkles, and press the inner frame into the outer frame.

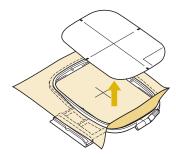


① Inner frame

Outer frame

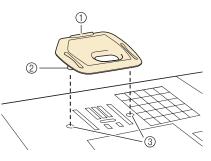


Remove the embroidery sheet.



## Embroidery Needle Plate Cover

Under some conditions, based on the type of fabric, stabilizer, or thread being used, there may be some looping in the upper thread. In this case, attach the included embroidery needle plate cover to the needle plate. Attach the cover by inserting the two projections on the underside of the cover into the notches on the needle plate as shown below.



- ① Groove
- ② Projection
- ③ Notch

To remove the embroidery needle plate cover, place your fingernail in the groove and lift the plate out.

# **A** CAUTION

• Push the embroidery needle plate cover as far as possible to attach it. If the embroidery needle plate cover is not securely attached, it may cause the needle to break.

#### Note

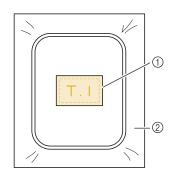
• Do not use the embroidery needle plate cover for any applications other than embroidery.

## Embroidering Small Fabrics or Fabric Edges

Use an embroidery stabilizer to provide extra support. We recommend using a stabilizer for embroidery. After embroidering, remove the stabilizer carefully. Attach the stabilizer as shown in the following examples.

## Embroidering Small Fabrics

Use a temporary spray adhesive to adhere the small piece of fabric to the larger piece in the frame. If you do not wish to use a temporary spray adhesive, attach the stabilizer with a basting stitch.

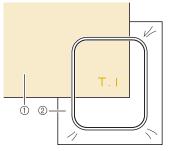


① Fabric

Stabilizer

## Embroidering Edges or Corners

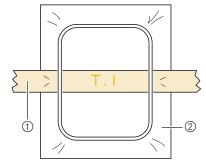
Use temporary spray adhesive to attach the fabric to the stabilizer, and then hoop the fabric. If you do not wish to use a temporary spray adhesive, attach the stabilizer with a basting stitch.



- ① Fabric
- ② Stabilizer

## Embroidering Ribbons or Tape

Secure with double-sided tape or a temporary spray adhesive.



① Ribbon or tape

Stabilizer

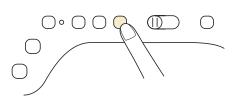
## ATTACHING THE EMBROIDERY FRAME



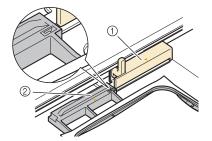
• Wind and insert the bobbin before attaching the embroidery frame.



Press the "Presser Foot Lifter" button to raise the embroidery foot.

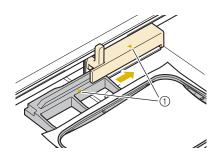


Align the embroidery frame guide with the right edge of the embroidery frame holder.



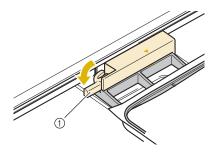
Embroidery frame holder
 Embroidery frame guide

- ② Embroidery frame guide
- Slide the embroidery frame into the holder, making sure to align the embroidery frame's  $\triangle$  with the holder's  $\bigtriangledown$ .

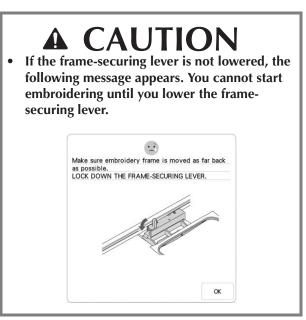


① Arrow mark

4 Lower the frame-securing lever to be level with the frame to secure the embroidery frame in the embroidery frame holder.



① Frame-securing lever

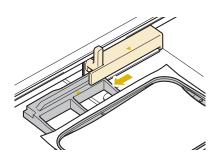


Removing the Embroidery Frame





Pull the embroidery frame toward you.

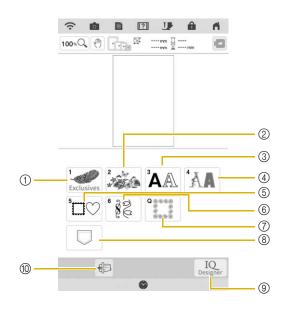


]

# **EMBROIDERY SCREENS**

#### Copyright Information

The patterns stored in the machine and patterns sold separately are intended for private use only. Any public or commercial use of copyrighted patterns is an infringement of copyright law and is strictly prohibited. There are many character and decorative embroidery patterns stored in the machine's memory. You can also use patterns sold separately.



- ① Baby Lock "Exclusives"
- ② Embroidery patterns
- ③ Character patterns
- ④ Decorative alphabet patterns
- ⑤ Frame patterns
- ⑥ Utility embroidery patterns
- ⑦ Quilt sashes (page 127)
- (8) Patterns saved in your favorites
- ③ IQ Designer(page 142)
- 0 Press this key to position the embroidery unit for storage

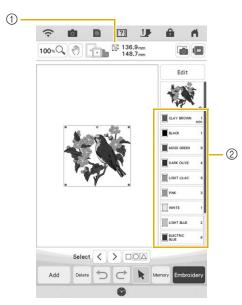
## ■ Pattern Selection Screens

There are 7 categories of patterns in this machine.

/es						
	Animals	Celebrate	Coastal	Delicate		
	Floral	Heirloom	Heritage	Holidays		
	Home Accents	Kids Corner	Monograms	Novelty		
	Ocean Life	Quilting	Sewlebrities	Vintage		
Embroidery patterns						
		01	AN AD			
		*				
Alphabet characters						
	Ex	clusiv	ve Scri	pt		
	ABC	ABC	<sup>®</sup> <b>ABC</b>	ABC		
	os ABC	° ABC	"ABC	ABC		
	"ABC	"ABC	ABC	<sup>12</sup> ABC		
	"ABC	<sup>14</sup> ABC	<sup>15</sup> ABC			
	"ABC	ABC	ABC	<sup>®</sup> ABC		
	50 ABCDE	51 ABCDE				
		<sup>77</sup> АБВ				
Decorative alphabet patterns						
	03	04		<b>▲</b> 06		)7
	B AB	04 A	B			$\mathcal{A}\mathcal{B}$
Frame patterns						
01 02 0	03 04	05	06	07 08	09	10
	$\Diamond \bigcirc$		Õ	$\heartsuit$	) ()	П
					•	
Utility embroidery patterns						
	(					
	01		0	388		
			- Au	67		
00						
Quilting border patterns						
Quilting border patterns						

# **KEY FUNCTIONS**

# **Editing Patterns**

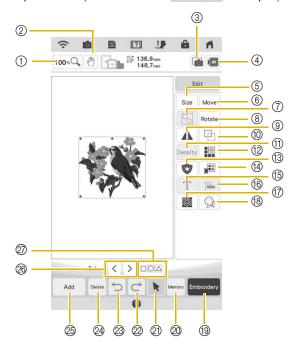


- ) Shows the size of the entire combined pattern.
- ② Shows the color sequence and stitching times of each step of the pattern currently selected.

#### 🥱 Memo

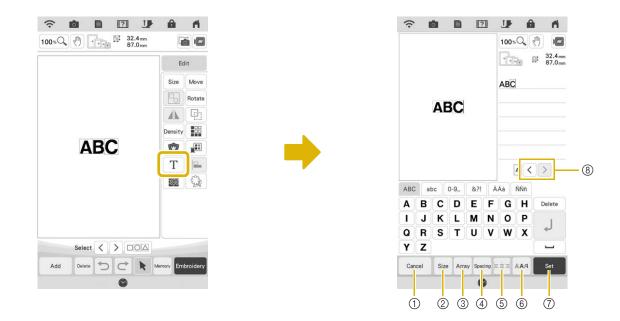
• If a key display is grayed out, you cannot use that function with the selected pattern.

Using these keys, you can edit the pattern as you like. Press to display the editing window.



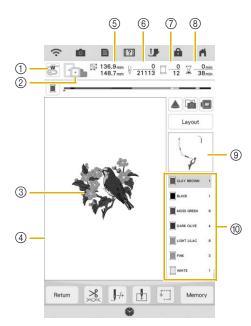
No.	Display	Key Name	Explanation	Page
1	100 %Q	Magnify key	Press this key to select the magnification ratio.	73
2	(In)	Hand key	Press this key to move the canvas when it is magnified.	_
3		Fabric scan key	Press this key to scan the fabric to align the embroidery position.	92
4		Image key	Press this key for a preview of the embroidered image.	62
5	Size	Size key	Press this key to change the size of the pattern. Patterns can be enlarged or reduced.	64
6	Move	Move key	Press this key to display the pattern moving window.	63
7		Group key	Press this key to select multiple patterns in the screen at the same time.	88
8	Rotate	Rotate key	Press this key to rotate the pattern.	63
9		Horizontal mirror image key	Press this key to make a horizontal mirror image of the selected pattern.	67
10		Duplicate key	Press this key to duplicate a pattern.	73
1	Density	Density key	Press this key to change the density of frame patterns or character patterns.	66
12		Border function key	Press this key to create and edit repeated patterns.	67
13	٢	Appliqué piece key	Press this key to create an appliqué piece by sewing an outline around the selected pattern.	116
14		Thread palette key	Press this key to change the colors of the displayed pattern.	81
15	Т	Letter edit key	Press this key to edit character patterns.	40
16		Alignment key	Press this key to arrange multiple patterns on a line.	89
17	Res and the second s	Stippling key	Press this key to create stippling around a pattern.	126
18	E3	Outline key	Press this key to extract the outline of a pattern. The extracted pattern can be used with IQ Designer.	175
19	Embroidery	Embroidery key	Press this key to call up the embroidering screen.	_
20	Memory	Memory key	Press this key to save a pattern in the machine's memory, USB media or an SD card. The pattern can also be transferred to a computer via a wireless network connection.	109, 111
2)	k	Pattern select key	When a combined pattern is selected, use this key to select a part of the pattern to edit.	_
2	¢	Redo key	Press this key to redo the last operation that was undone.	_
23	€	Undo key	Press this key to undo the last operation.	_
24	Delete	Delete key	Press this key to delete the selected pattern (the pattern outlined by the red box).	73
25	Add	Add key	Press this key to add another pattern to the editing pattern.	_
26	<>	Select key	Press this key to change a selected pattern when multiple patterns are in the screen.	87
0		Grouping key / Multiple selection key	Press this key to make multiple patterns are on the screen to be selected at the same time or to be grouped.	87, 88

# **Editing Letters**



No.	Display	Key Name	Explanation	Page
1	Cancel	Cancel key	Press this key to exit the editing character pattern screen.	-
2	Size	Size key	Press this key to change the size of the character pattern.	77
3	Array	Array key	Press this key to change the configuration of a character pattern.	78
4	Spacing	Character spacing key	Press this key to change the spacing of character patterns.	79
5	<b>三</b>  本 三	Alignment key	Press this key to align the characters at the right, left or center.	76
6	RAA	Font type key	Press this key to change the font type.	76
0	Set	Set key	Press this key to apply the text editing.	-
8	<>	Character selection keys	Press these keys to move the cursor and select a character.	-

# **Embroidery Screen**



📲 Embroidery Step by Step

- ① Shows the embroidery foot code.
- Attach embroidery foot "W" for all embroidery projects. When the embroidery foot symbol is displayed on the screen, you are able to embroider.
- ② Shows the embroidery frames that can be used for the selected pattern. Be sure to use the proper frame (page 29).
- ③ Shows a preview of the selected pattern.
- ④ Shows the boundary for embroidering with the selected frame in the settings screen. (page 103)
- (5) Shows the size of the selected pattern.
- (6) Shows how many stitches are in the selected pattern and how many stitches have been embroidered so far.
- ⑦ Shows the number of colors in the selected pattern, and the number of the color currently being embroidered.
- ⑧ Shows the time necessary to embroider the pattern, and the time already spent embroidering the pattern (not including time for changing and automatically trimming the thread).
- ③ Shows the part of the embroidery that will be embroidered with the first thread color.
- 1 Shows the order for thread color changes and the embroidering time for each thread color.
- \* The displayed time is the approximate time that will be required. The actual embroidering time may be longer than the displayed time, depending on the embroidery frame that is used. In addition, the amount of time required to change thread colors is not included.

🗸 Note

• There is an explanation of additional key functions on the next page.

Using these keys, you can move or rotate pattern, etc. Press

Ĥ 11 6 1 2 (18) š (4) Lav (5) 6) Move Rotate 7 8 9 10 -8 Ľ Ш ¢, Ð (12) Me (17) 16 (14) 15 (13)

to display the editing window.

#### V Note

 Some operations or functions are not available for certain patterns. If the key display is darkened, you cannot use that function or operation with the selected pattern.

No.	Display	Key Name	Explanation	Page
1		Needle point check key	Press this key to check the needle drop point with the projector.	47
2		Projector key	Press this key to use the projector to project the pattern.	46
3		Fabric scan key	Press this key to scan the fabric to align the embroidery position.	92
4		Image key	Press this key for a preview of the embroidered image.	62
5	Move	Move key	Press this key to display the pattern moving window.	63
6	Rotate	Rotate key	Press this key to rotate the pattern. You can rotate a pattern 0.1 degree, 1 degree, 10 degrees or 90 degrees at a time.	63
7	<b>3</b>	Basting key	Press this key to add the basting stitch to the pattern. You can set the desired basting distance.	96
8	8	Embroidery positioning key	Press this key to align the embroidering position using the built-in camera.	49
9		Uninterrupted embroidery key	Press this key to embroider the selected pattern with a single color (monochrome).	92
10		Color sorting key	Press this key to reduce the number of thread color changes by rearranging the embroidering order for the selected pattern to combine parts of the same thread color.	84
1		Pattern connect key	Press this key to start pattern connecting embroidering. You can connect the patterns accurately using the built-in camera.	131
12	Memory	Memory key	Press this key to save a pattern in the machine's memory, USB media or an SD card. The pattern can also be transferred to a computer via a wireless network connection.	109, 111
13	<b>f</b> ]]	Trial key	Press this key to check the position of the pattern. The carriage moves to the desired position so you can check that there is enough space to embroider the pattern.	52
14	Ţ	Starting point key	Press this key to move the needle start position to align the needle with the pattern position.	103, 104
15	/+	Forward/Back key	Press this key to move the needle forward or back in the pattern; useful if the thread breaks while embroidering or if you want to start again from the beginning.	57, 58
16	×	Cut/Tension key	Press this key to specify automatic thread cutting, thread trimming or the thread tension. For embroidery, these functions are set automatically.	97 - 98
17	Return	Return key	Press this key to return to the pattern type selection screen.	_
18		Progress bar switching key	Press this key to switch the progress bar (which shows the embroidering progress) between showing only one color or all colors.	-

# Embroidery Step by Step



Celebrate Return

Press Set

0

3

 $\rightarrow$  The pattern selected is outlined in red on the "Edit" display.

? !

Coastal

100% (1) +++ 206.2mm 1 1 196.7mm 2 59 min (1)

101

Ĥ

1

~

Delicate \$5.0

#### Memo X

• If you press 1, you can see detailed information about the pattern.

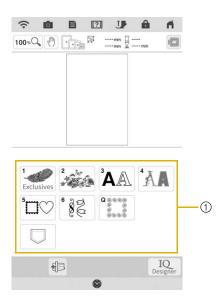


# **SELECTING PATTERNS**

# Selecting Embroidery Patterns/ **Decorative Alphabet Patterns/ Utility Embroidery Patterns**

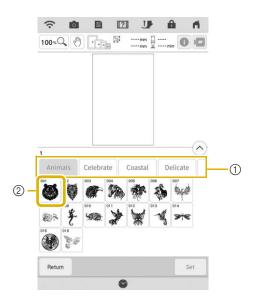


Press the category tab you want to embroider.



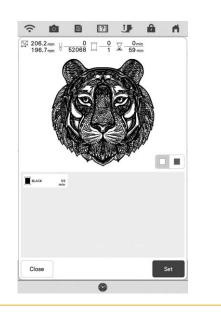
① Pattern category tabs

Select the sub-category, and then select the pattern that you want to embroider.



Sub-category

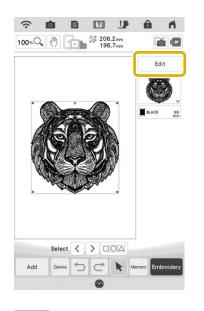
Embroidery pattern





Press Edit to edit the selected pattern.

Refer to "Editing Patterns" on page 38 about the "Edit" display.



- Press Embroidery.
  - $\rightarrow$  The embroidering screen is displayed.
- To reposition the pattern in the embroidering screen before embroidering, press \_\_\_\_\_\_.
  - \* Refer to "Embroidery Screen" on page 41.

\* To return to the previous screen to select another pattern, press Return.

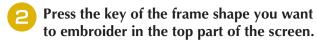


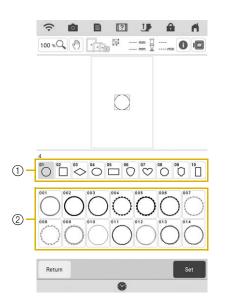
- Press the "Start/Stop" button to begin embroidering.
- \* Refer to "Embroidering Patterns" on page 54.

# **Selecting Frame Patterns**



Press  $\square \bigcirc$ .





- ① Frame shapes
- ② Frame patterns
- → Various frame patterns are displayed at the bottom part of the screen.

# Press the key of the frame pattern you want to embroider.

- \* If you make a mistake selecting the pattern, press the key of the pattern you want to embroider.
- $\rightarrow$  The selected pattern is displayed on the screen.
- Follow the steps from 4 to 7 of "Selecting Embroidery Patterns/Decorative Alphabet Patterns/Utility Embroidery Patterns" on page 43.

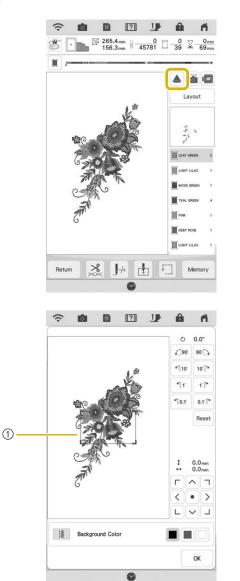
# **CONFIRMING THE PATTERN POSITION**

The pattern is normally positioned in the center of the embroidery frame. If the pattern needs to be repositioned for better placement on the garment, you can check the layout before starting embroidery.

# Checking the Embroidery Pattern with the Projector

Using the projector, the selected embroidery pattern can be projected onto the fabric.

#### Press 🔺 in the embroidering screen.

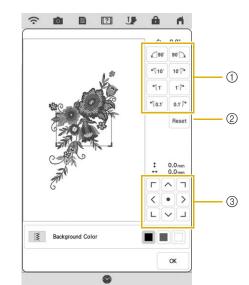


#### ① Display area

→ The part of the pattern within the display area will be projected onto the fabric.

#### Check the embroidery pattern.

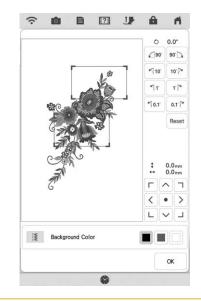
While the display area remains in place, the pattern can be moved.



- ① Press to change the angle.
- ② Press to return the pattern to its original angle.
- ③ Press to move the pattern.

#### 🏹 Memo

 To change the position of the display area, drag the display area with your finger. At the same time, the embroidery frame is moved.

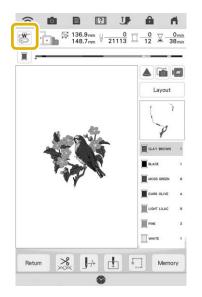


# Checking the Needle Drop Point With the Projector

With the projector pointer, you can check the needle drop point before embroidering.

#### Press 🐷 in the embroidery screen.

→ The pointer of the projector indicates the needle drop point.



#### א Memo

- When the pointer of the projector is turned on, the embroidery foot height is automatically adjusted according to the fabric thickness.
- If embroidery foot "W+" with LED pointer (sold separately) is installed, the LED pointer is turned on.

<sup>c</sup> The pointer of the projector turns off automatically by lowering the embroidery foot or returning to the previous page.

#### <sub>レ</sub>Note

• With fabric that has a very uneven surface such as thick fabric or quilting, the fabric thickness may not be correctly measured. In this case, the pointer indication should be used only as a reference.

# Aligning the Embroidering Position Using the Built-In Camera

The camera built into this machine can be used to easily align the embroidering position. This is

useful for patterns which need to be embroidered in a particular position as shown below.



Use a chalk pencil to draw a cross at the desired embroidering location.



① Chalk pencil mark

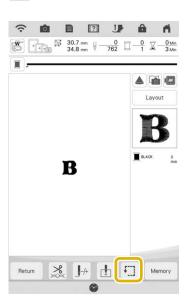
Hoop the fabric.

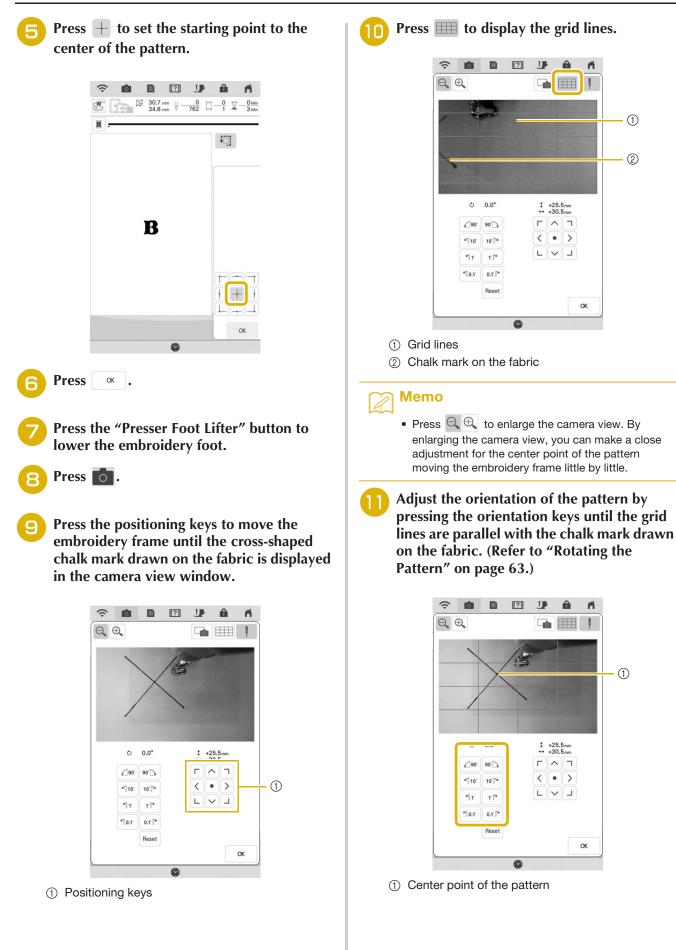


Select the pattern on your machine and press Embroidery.



Press 🗊 in the embroidering screen.





Press the positioning keys to move the embroidery frame until the center point of the pattern in the camera view window is aligned with the chalk mark drawn on the fabric.



13

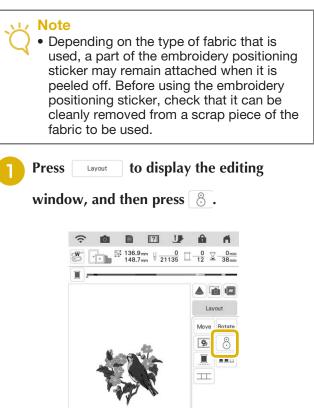
# Press or to return to the previous screen.

Press the "Start/Stop" button to begin embroidering.

\* Refer to "Embroidering Patterns" on page 54.

# Using the Embroidery Position Sticker to Align the Embroidering Position

The embroidering position can easily be aligned using the machine's built-in camera and the included embroidery positioning sticker.



\*

Following message appears. Press

position, even if you changed before.

OK to revert to the original position and/or angle?

The embroidering position will return to the original

Return

Cancel

 $\rightarrow$ 

J++ 🗄 🗂

Memory

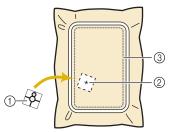
OK



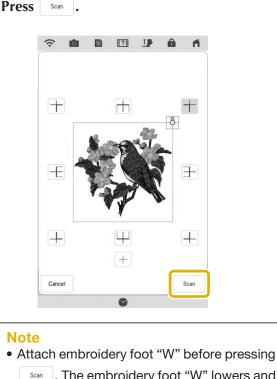
Select the position you want to set as the reference point.



- Select + if you want to embroider referring the embroidery positioning sticker as the center of the pattern.
- Affix the embroidery positioning sticker to the location in the fabric to be embroidered. Place the embroidery positioning sticker so that the center of the larger circle is at the center or edge of the embroidery pattern.



- ① Embroidery positioning sticker
- ② Center or edge of the embroidery pattern
- ③ Embroidery field

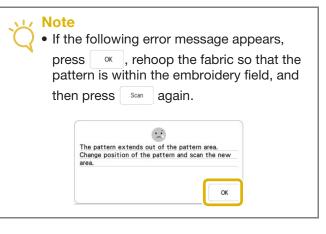


scan . The embroidery foot "W" lowers and check the fabric thickness, to help the builtin camera recognize the embroidery positioning sticker.



6

embroidery positioning sticker, and then the carriage is moved so that the selected reference point of the embroidery pattern is aligned with the embroidery positioning sticker.

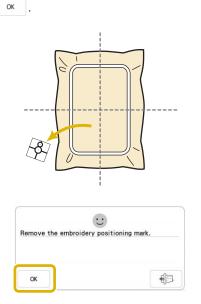


# A reminder message appears. Remove the embroidery positioning sticker from the

fabric, and press or .

\* To remove the embroidery positioning sticker more easily, press so that the carriage moves slightly

forward and away from under the needle. After the embroidery positioning sticker is removed, press



# Press the "Start/Stop" button to begin embroidering.

\* Refer to "Embroidering Patterns" on page 54.

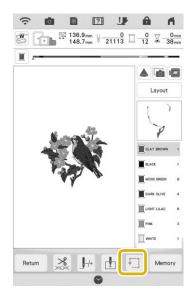
#### Note

• After the included embroidery positioning stickers are used up, optional stickers are available. For details, refer to the Instruction and Reference Guide (Sewing).

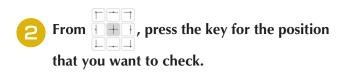
# **Checking the Pattern Position**

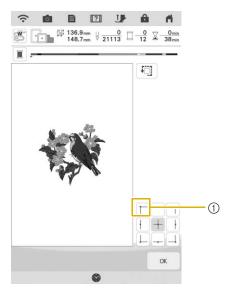
The carriage moves and shows the pattern position. Watch the embroidery frame closely to make sure the pattern will be embroidered in the right place.





 $\rightarrow$  The following screen is displayed.





- ) Selected position
- → The carriage will move to the selected position on the pattern.

# <section-header><section-header><image><image><image><image><section-header><section-header><section-header><section-header><section-header>

# **EMBROIDERING A PATTERN**

# **Embroidering Attractive Finishes**

Many factors are involved in achieving a beautiful embroidery result. Using the appropriate stabilizer (page 28) and hooping the fabric in the frame (page 29) are two important factors mentioned earlier. Another important point is the appropriateness of the needle and thread being used. See the explanation of threads below. Included with this machine are two bobbin cases. Follow the explanation below.

Thread		Use embroidery thread intended for use with this machine. Other embroidery threads may not yield optimum results.
	Bobbin thread	Use embroidery bobbin thread intended for use with this machine.

#### Memo

• If you use threads other than those listed above, the embroidery pattern may not embroider out correctly.

Bobbin case (recommended for sewing and for embroidering with included 60 weight bobbin thread)



Standard bobbin case (green marking on the screw)

Standard bobbin case originally installed in the machine has a green marking on the screw. We recommend using the included embroidery bobbin thread with this bobbin case. Do not adjust the tension screw on this bobbin case with the green marked screw.

Bobbin case (for prewound or other embroidery bobbin threads)



① Bobbin case (no color on the screw)

The bobbin case with no color on the screw is set with tighter tension for embroidery with different weights of bobbin threads and a variety of embroidery techniques. This bobbin case is identified with a dark colored mark on the inside of the bobbin cavity. The tension screw on this case can be adjusted if necessary.

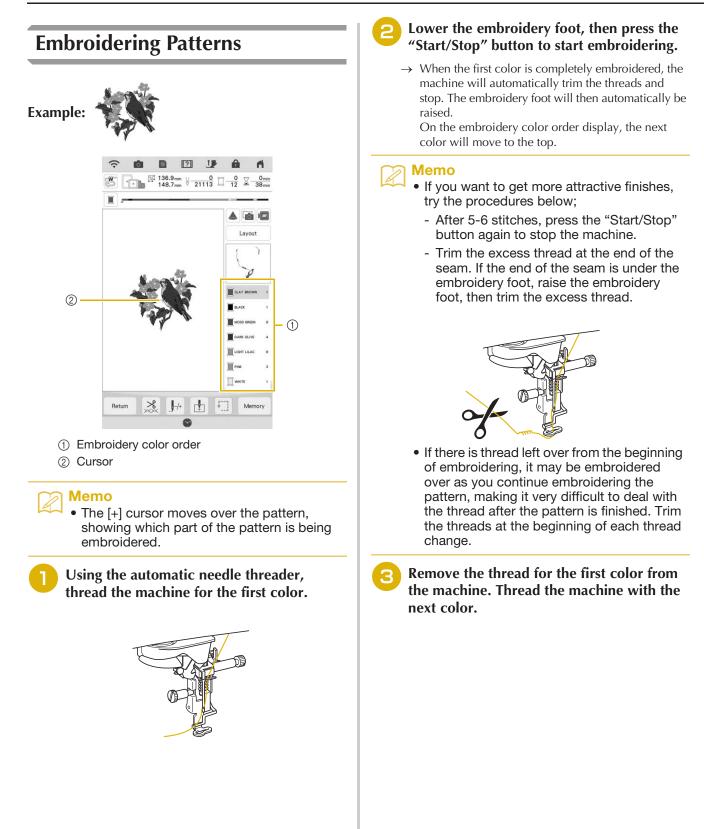


 When embroidering on large garments (especially jackets or other heavy fabrics), do not let the fabric hang over the table.
 Otherwise, the embroidery unit cannot move freely and the embroidery frame may strike the needle, causing the needle to bend or break and possibly cause injury.
 Place the fabric so that it does not hang off the

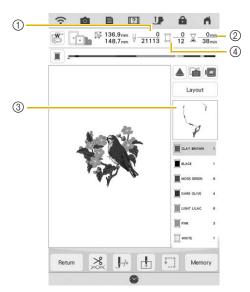
Place the fabric so that it does not hang off the table or hold the fabric to keep it from dragging.

#### 🟒 Note

- Before embroidering, check that there is enough thread in the bobbin. If you start to embroider your project without enough thread in the bobbin, you will need to rewind the bobbin in the middle of the embroidery pattern.
- Do not leave objects in the range of motion of the embroidery frame. The frame may strike the object and cause a poor finish to the embroidery pattern.
- When embroidering on large garments (especially jackets or other heavy fabrics), do not let the fabric hang over the table. Otherwise, the embroidery unit cannot move freely, and the pattern may not turn out as planned.



# Repeat the same steps for embroidering the remaining colors.



- ① Current stitch numbers/Total stitch numbers
- ② Current time/Total time
- ③ The part of pattern embroider next
- ④ Embroidered colors/Total colors
- → When the last color is embroidered, "Finished embroidering" will appear on the display. Press

, and the display will return to the original screen.

#### Memo

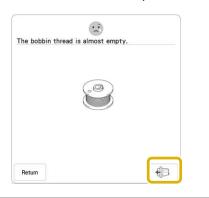
 The Thread Trimming Function is originally set to trim excess thread jumps (threads linking parts of the pattern, etc.). Depending on the type of thread and fabric that are used, an end of upper thread may remain on the surface of the fabric at the beginning of the stitching. After embroidering is finished, cut off this excess thread.
 If the setting has been turned off, trim the excess thread jumps using scissors after the pattern is finished.
 Refer to page 101 for information on the thread trimming function.

# **ADJUSTMENTS DURING THE EMBROIDERY PROCESS**

• Be careful not to bump the embroidery unit carriage or the embroidery foot when removing or attaching the embroidery frame. Otherwise, the pattern will not embroider correctly.

# If the Bobbin Runs Out of Thread

When the bobbin begins to run out of thread during embroidering, the machine will stop and the message below will appear. Press s and follow the directions below to replace the bobbin.



🟒 Note

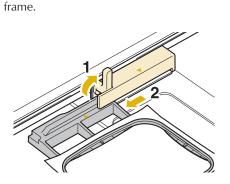
- If "Upper and Bobbin Thread Sensor" in the General settings screen of the machine setting mode is set to "OFF", the message shown above does not appear.
- You can embroider 10 final stitches without replacing the bobbin by pressing Return .



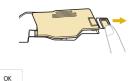
→ After the thread is automatically cut, the carriage will move.

# Unlock the frame-securing lever and

remove the embroidery frame.
\* Be careful not to apply strong force to the fabric at this time. Otherwise, the fabric may loosen in the



3 Insert a wound bobbin into the machine. (Refer to "Setting the Bobbin" on page 20.)





Press

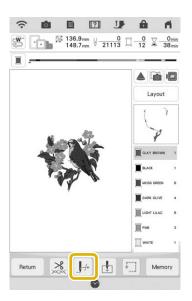
Attach the embroidery frame.

**6** To return to the spot in the pattern where you stopped embroidering, follow steps **2** through **3** in "If the Thread Breaks During Embroidering" on page 57.

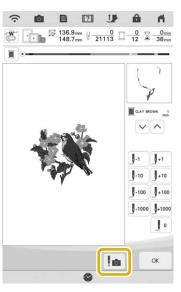
<sup>🗸</sup> Note

# If the Thread Breaks During **Embroidering**

- If the upper thread is broken, redo the upper threading. If the bobbin thread is broken, press 🕀 and follow the directions in steps 1 through 5 in "If the Bobbin Runs Out of Thread" on page 56.
- Press J-+.



- Press the "Presser Foot Lifter" button to lower the embroidery foot.
  - Press In .



 $\rightarrow$  The camera view window appears.

- Press  $J_{-1}$  or  $J_{-10}$  to move the needle back 5 the correct number of stitches before the spot where the thread broke.
  - \* If you cannot move back to the spot where the thread broke, press  $\checkmark$  or  $\land$  to select the color and move to the beginning position of that color,

then use  $\mathbf{J}^{+1}$  or  $\mathbf{J}^{+10}$  to move ahead to slightly before where the thread broke.



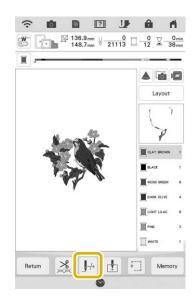
- Press  $\bigcirc$   $\bigcirc$  to enlarge the image in the screen. \*
- Press ! to remove " 🛶 " from the screen. \*
- Press Close to close the camera view window.

**Press** or to return to the original screen.

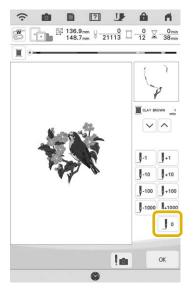
Press the "Start/Stop" button to continue embroidering.

# **Restarting from the Beginning**

Press J++.



Press J •.

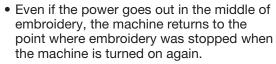


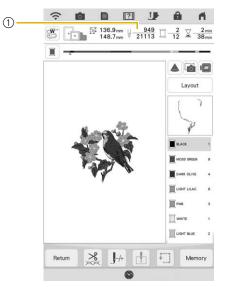
- → The carriage moves, returning the needle to the pattern's beginning position.
- Press the "Presser Foot Lifter" button to lower the embroidery foot and start embroidering.

# **Resuming Embroidery After Turning Off the Power**

The current color and stitch number are saved when embroidery is stopped. The next time the machine is turned on, you have the option to continue or delete the pattern.







① Current stitch number when embroidery was stopped

#### Vote

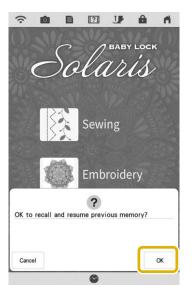
• Do not remove the embroidery unit or the memory will no longer remember your design.

Turn the main power to ON.

# Follow the instructions shown on the screen and remove the embroidery frame.

 $\rightarrow\,$  The following message will appear.

3	Attac	ch the embroidery frame and press
	OK	].

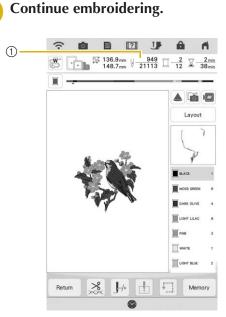


→ The previous embroidering screen displayed before the machine was turned off appears.

#### 🏹 Memo

Δ

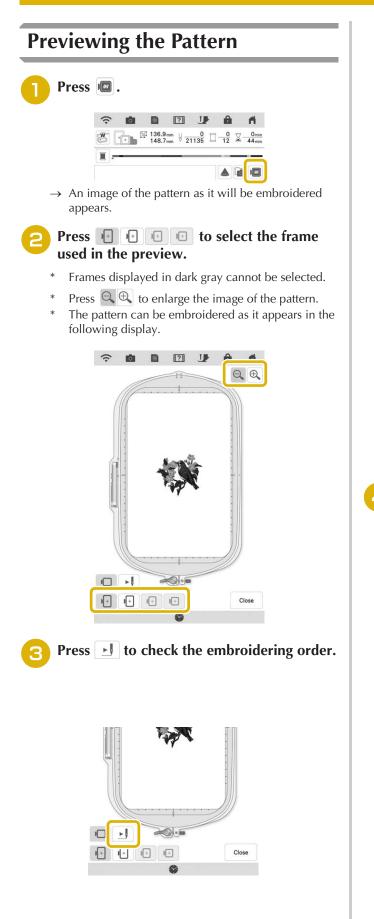
• If you want to start a new embroidery pattern, press cancel so the pattern selection screen appears.



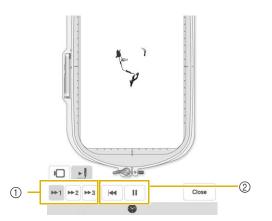
1 Stitch number when embroidery is resumed



# **BASIC EDITING**



 $\rightarrow$  The stitch simulator screen appears.



- Select the simulation speed. Press ▶1, ▶2 or ▶3 to change the speed. The speed can even be changed while the simulation is running.
- Operation keys

Press to start the simulation at the set

Press this key while the simulation is running to pause it. When pressing II, icon changes to

• Press 🔲 to return to the embroidery frame holder/ embroidery frame selection screen.



# Moving the Pattern

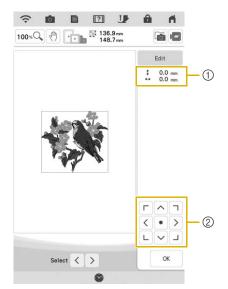


Press Edit , and then press Move to display the pattern move window.

- Select the desired pattern by pressing <
  <ul>
  , if there are several patterns on the screen.
- 3

Use (•) to move the pattern in the

direction shown by the arrow. Press • to center the pattern.



- ① Distance from the center
- ② Pattern select key

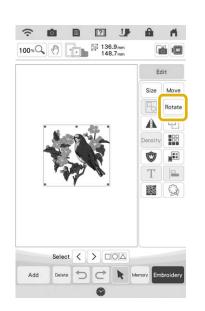
If a USB mouse is connected, move the mouse to position the pointer on the desired pattern, and then select and drag the pattern. The pattern can also be dragged by selecting it directly in the screen with your finger or the dual purpose stylus.



# **Rotating the Pattern**



Edit , and then press Rotate.



Basic Editing 👺

<u>(10)</u>

Select the key indicating the desired direction and angle for rotating the pattern. (Example: Imple: Totates 90 degrees clockwise.)

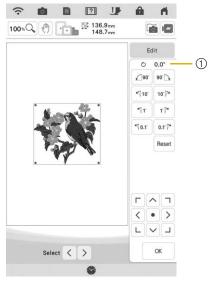




0°

90.

\* Press Reset to return the pattern to its original position.



1 Degree of rotation

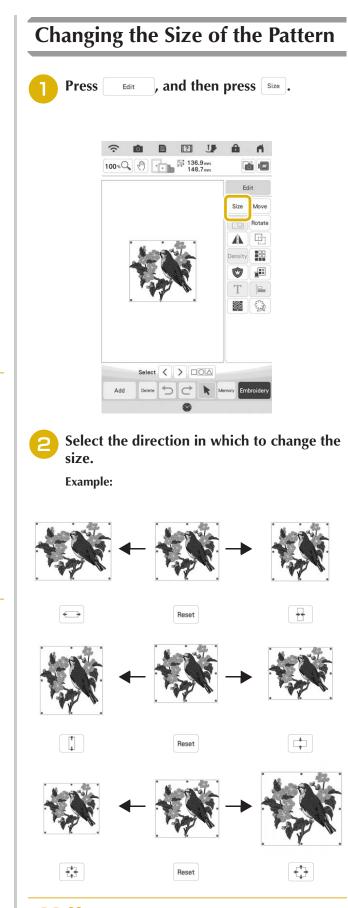
#### n Memo

- If the USB mouse is connected, you can rotate the pattern by rotating the mouse wheel. Rotate the mouse wheel away from you to rotate the pattern 10 degrees to the left. Rotate the mouse wheel toward you to rotate the pattern 10 degrees to the right.
  - ГЛЛ
- You can move patterns using < > on

the window.

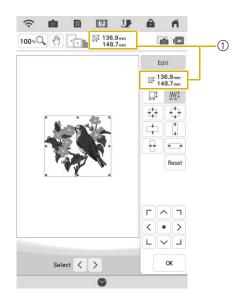
- You can also rotate patterns by dragging
  - \_\_\_\_ at the top of the pattern.

Press or .



#### א Memo

• Press Reset to return the pattern to its original size.



Size of the pattern

#### Memo

- In order to maintain embroidering quality, there is a limit to how much the embroidery pattern can be enlarged or reduced.
- Some patterns or characters can be enlarged to a greater degree if they are rotated 90 degrees.
- If the USB mouse is connected, you can change the size of the pattern by rotating the mouse wheel. Rotate the mouse wheel away from you to shrink the pattern. Rotate the mouse wheel toward you to enlarge the pattern.
- You can move patterns using

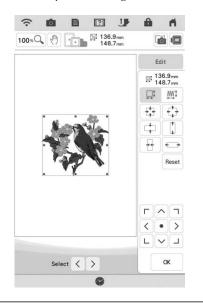


the window.



#### Changing the Size by Dragging

You can also change the pattern size by dragging the red point on the pattern image.



#### V Note

 You can change the pattern size with one finger. Using two or more fingers does not work.

#### Changing the Size and the Density of the Pattern

You can change the pattern size while maintaining the desired thread density. The machine recalculates the stitch density automatically. With this function, the pattern will be enlarged or reduced at a larger ratio than with normal pattern resizing.

#### 🗤 Note

- Be sure to do trial embroidery using same fabric and threads as project in order to check the embroidering results.
- This function cannot be used with character patterns, frame patterns or border patterns. However, a border pattern can be edited after this function has been used.
- Patterns with a large number of stitches cannot be resized while maintaining a thread density.

#### 河 Memo

• Depending on the pattern, the size of the pattern increases up to 200 % or reduces to 60 %.

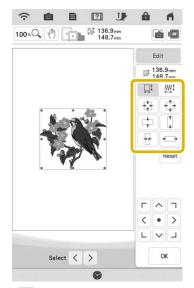
**Press**  $\square$   $\square$  in the size window.

: When you want to increase or decrease the density of the design. When the pattern size is changed, the thread density for the pattern increases or decreases, but the number of stitches is maintained.

\* When changing the size, the pattern keeps the original density. The number of stitch is recalculated.



Select the direction in which to change the size.



- \* Press to make the pattern less dense.
- \* Press + to make the pattern more dense.

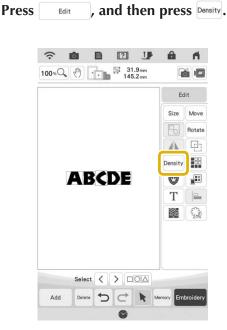
#### **Note**

- If the pattern is enlarged and there is space between stitches, a better effect can be achieved by increasing the thread density.
- If the pattern is reduced and the stitching is too thick, a better effect can be achieved by reducing the thread density.



# Changing the Density

The thread density can be changed. A setting between 80% and 120% in 5% increments can be specified. This setting is available for some alphabet character patterns, frame patterns and so on. Other patterns are available after enabling patterns to change the density. For details, refer to "Changing the Size and the Density of the Pattern" on page 65.

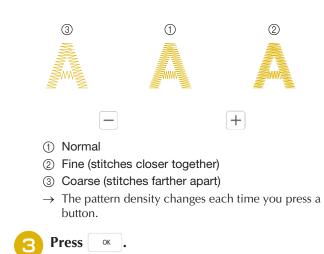


#### Change the density.

Press - to make the pattern less dense.

<sup>c</sup> Press [+] to make the pattern more dense.





# Creating a Horizontal Mirror Image

Press <u>Edit</u>, and then press **(A)** to create a horizontal mirror image of the selected pattern.







# **Designing Repeated Patterns**

## Embroidering Repeated Patterns

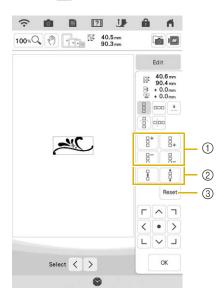
Using the border function, you can create repeated patterns. You can also adjust the spacing of the patterns.





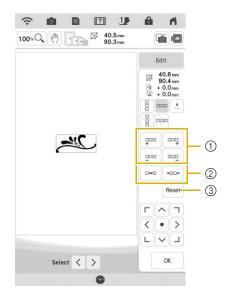
- Select the direction in which the pattern will be repeated. Use <sup>\*</sup> to repeat the pattern above and <sup>\*</sup> to repeat the pattern below.
  - \* To delete above pattern, press 📳.
  - \* To delete below pattern, press  $\blacksquare$ .

#### Vertical direction



- 1) Repeating and deleting keys
- ② Spacing keys
- ③ Key to cancel pattern repeating

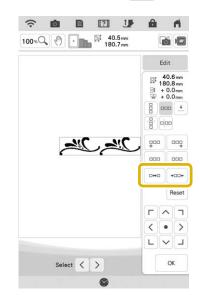
#### Horizontal direction



- ① Repeating and deleting keys
- ② Spacing keys
- ③ Key to cancel pattern repeating
- $\rightarrow$  The pattern direction indicator will change depending on the direction selected.

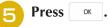
#### Adjust the spacing of the repeated pattern. З

- To widen spacing, press
- To tighten spacing, press \*\*\*\* .



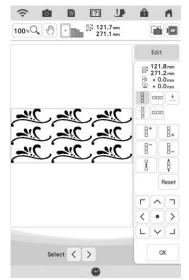


#### Complete repeated patterns by repeating steps 😑 through ও.



#### Memo

• When there are two or more patterns, all patterns will be grouped together as one pattern in the red frame.



• When changing the direction in which the pattern will be repeated, all of the patterns in the red frame will automatically be grouped as one repeating unit. Refer to the following section on how to repeat one element of a repeated pattern.

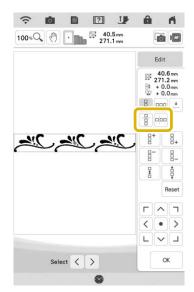
#### **Repeating One Element of a Repeated Pattern**

By using the Cut function, you can select one element of a repeated pattern and repeat only that single element. This function allows you to design complex repeated patterns.



#### Choose the direction in which the repeated pattern will be cut.

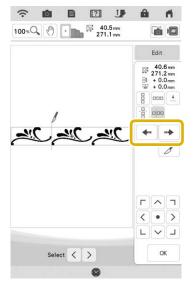
- \* Press **n** to cut vertically.
- Press 🗄 to cut horizontally. \*



 $\rightarrow$  The pattern direction indicator will change depending on the direction selected.

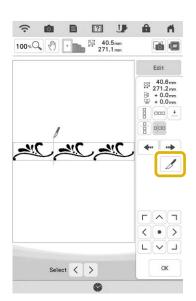


Use  $\bigstar$  and  $\bigstar$  to select the cut line.



 $\rightarrow$  The cut line will move.

Press 🥖 . 4



- Ś
- $\rightarrow$  The repeated pattern will be divided into separate elements.



Use  $\langle$  and  $\rangle$  to select the element to repeat.





Repeat the selected element.

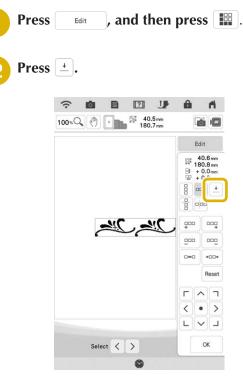


#### ر Note

- Once you have cut a repeated pattern into separate elements, you cannot return to the original repeated pattern.
- Each element can be edited separately in the edit screen. Refer to "Selecting combined embroidery patterns" on page 87.
- Press Embroidery to change the embroidering order in order to minimize the number of the thread color changes.

#### Assigning Thread Marks

By embroidering thread marks, you can easily align patterns when embroidering a series. When embroidering is finished on a pattern, a thread mark in the shape of an arrow will be sewn using the final thread. When embroidering a series of patterns, use the point of this arrow for positioning the following designs to be embroidered.

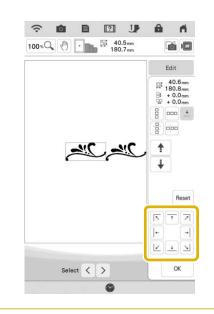


Pres

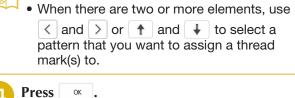
З

to select the thread mark to be

sewn.

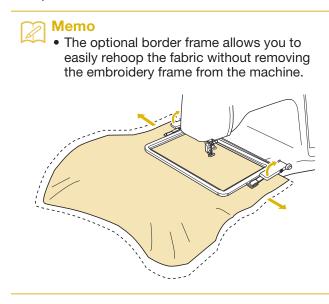


#### Memo



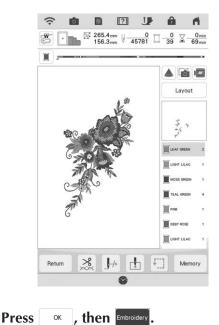
# Embroidering the Pattern Repeatedly

After creating the repeated pattern, rehoop the embroidery frame and keep embroidering for the next pattern.



#### Select the boarder pattern with the thread mark at the center of the end of the pattern.

Refer to "Assigning Thread Marks" on page 70. \*





#### Press the "Start/Stop" button to begin embroidering.

 $\rightarrow$  When embroidering is finished, the thread mark is sewn with the last thread color.



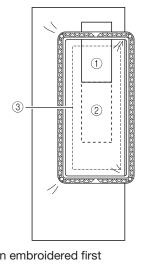


Remove the embroidery frame.

Rehoop the fabric in the embroidery frame.

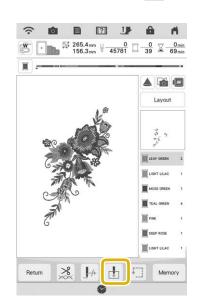
#### Note

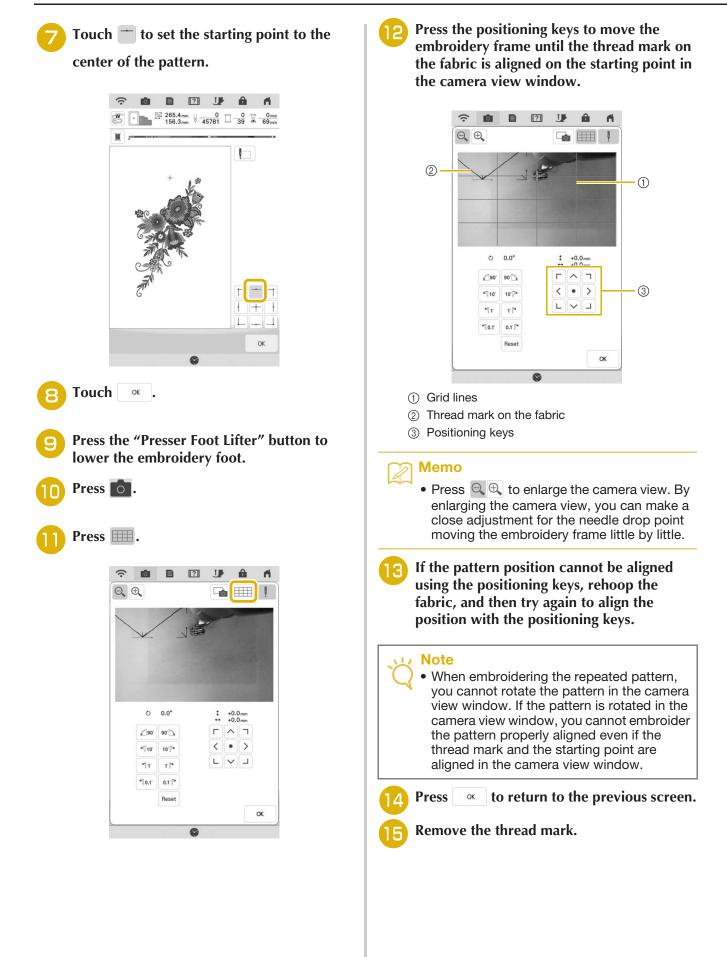
• Adjust the position of the fabric so that the embroidering area for the next pattern is within the embroidering area of the embroidery sheet.



- ① Pattern embroidered first
- ② Position of pattern to be embroidered next
- ③ Embroidering area of embroidery sheet

#### Attach the embroidery frame to the 6 machine, and then touch **±**.





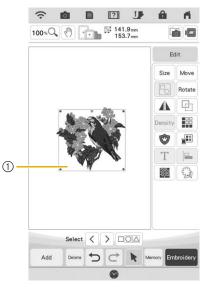


Press the "Start/Stop" button to begin embroidering.

# **Duplicating a Pattern**



 $\rightarrow$  The duplicate is positioned.



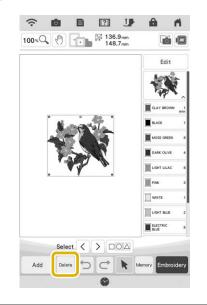
① Duplicated pattern

#### ப் Note

- If multiple patterns are displayed in the screen, only the pattern selected using < and > is duplicated.
- Move and edit each duplicated pattern individually.

# **Deleting the Pattern**

Press Delete to delete the pattern from the screen.



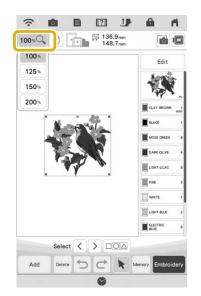
Basic Editing 🎇

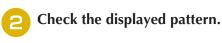
# Displaying Patterns in the Screen Magnified



#### Press 100 % to magnify the image.

The image is magnified by 125%, 150% and 200% as you press 100 sQ.







#### Memo

• When magnifying, pressing 💮 enables you to move displayed area. At this time, the embroidery pattern in the location in the embroidery field does not move.

# **EDITING LETTERS**

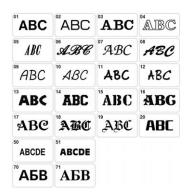
### Selecting Alphabet Character Patterns

Example: Entering "The Sky is Blue".

Press ÅA.



Press the key of the font you want to embroider.





Press the tab to select a character type.

	ÑŇñ	Ăà I	Â	&?!	)-9,.	oc I	at	ABC
Delete	$\mathcal{H}$	G	F	£	$\mathcal{D}$	С	В	A
1	Р	0	N	М	L	K	I	I
رچ ا	X	W	V	U	T	S	R	Q
							<i>Z</i> .	V



#### Press ABC and then enter "T".

If you want to change the size of a character, select the character and then press to change the size. The size changes each time you press the key, from large to medium to small.

\* If you make a mistake, press Delete to erase the mistake.

#### Memo

• If you continue adding characters after changing the size, the new characters will be entered in the new size.

	(;		0			2	J	li fi		11
			Г	ĥe			100 +++ The			36.1 mm 51.7 mm
	ABC	al	bc	D-9,.	&?!	Â	Äà	A < ŇŇň		
	a	b	С	ď	e	f	g	ĥ	De	lete
	i	j	k	l	m	n	0	p		T
	9	r	\$	t	u	v	W	x	Ľ	
	у	z				_			_	
	Ret	um	LM	S Arr	ay Spa	cing	= =	RAA	<u></u>	Set
Press				to		er		spa		
	(î:	1	0	B		2	J	ĥ		<b>n</b>
							100 +++ The			36.1 mm 75.8 mm
			T	he						

A < >

5

6

ABC abc 0-9,. &?! ÅÄà

 $a \quad b \quad c \quad d \quad e \quad f \quad g \quad h \quad Delete$ 

i

9 r

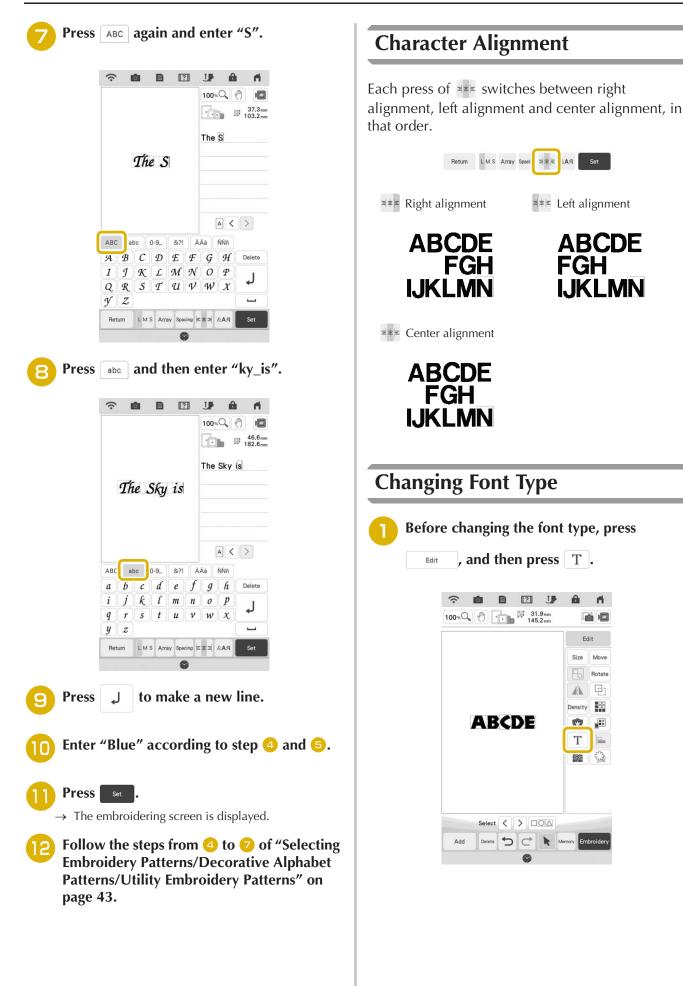
4 Z

Return

k l m n o P

tuvwx

LMS Array Spacing EEE AAA





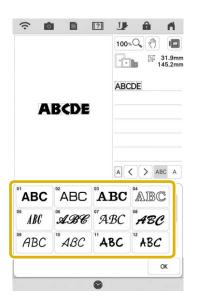
Press AAA .





#### Select the font type.

→ All the characters in the screen change into the selected font type.



\* Scroll the bar to display the font type that is not on the screen.

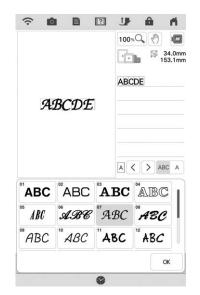
#### Memo

• To change the character font type for only the selected character, press ABC A. The font type on the left side of the selected

character is changed.

A Press or .

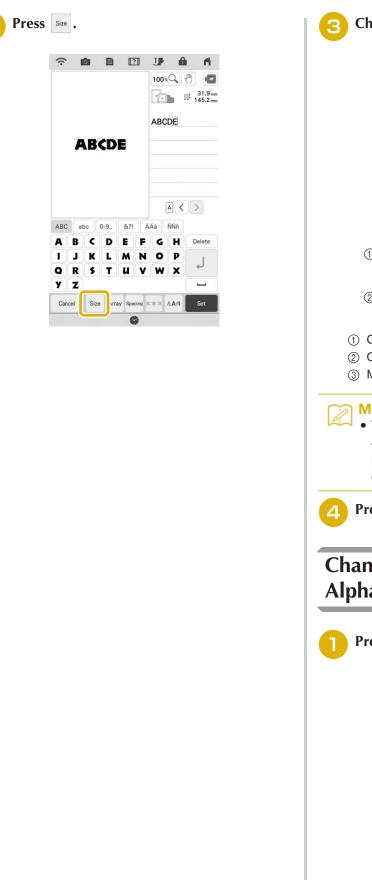
 $\rightarrow$  The new font is selected.



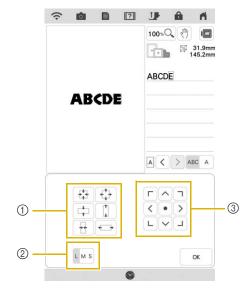
# Changing Letter Size



#### EDITING LETTERS



Change the size of letters.



- ① Change the size to the specific direction.
- ② Change the size from L, M or S size.
- ③ Move the text.

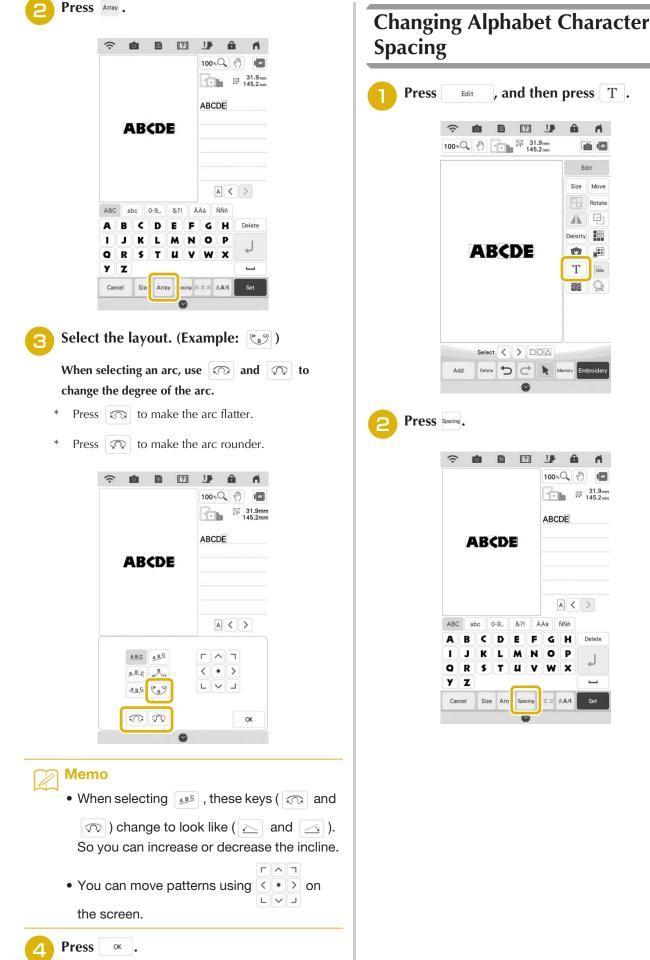
#### Memo

• To change the character letter size for only the selected character, press ABC A. The letter size on the left side of the selected character is changed.

Press or .

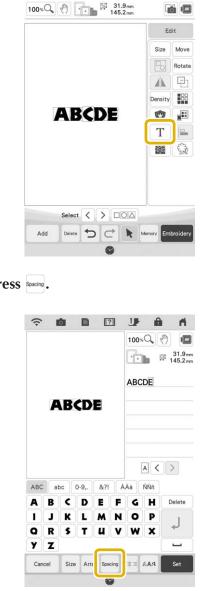
# Changing the Configuration of **Alphabet Character Patterns**





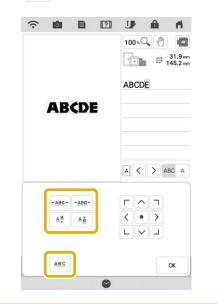
# , and then press T .

â ri.



#### Select the spacing.

- Press **\*ABC\*** to increase the character spacing.
- Press **\*ABC**\* to decrease the character spacing.
- Press ABC to return the pattern to its original appearance.
- Press  $\mathbb{A}^{\mathbb{B}}_{+}$  to move the text up.
- Press At to move the text down.



#### Memo

• To change the character spacing for only the selected character, press ABC A. The spacing on the left side of the selected character is changed.

▲ ABCD E ↔ ABCDE	
ABC $A B C D E \leftrightarrow ABCDE$	
+ <u>ABC</u> +	
<ul> <li>You can move patterns using く・&gt; on</li> </ul>	
the screen.	
4 Press or .	
<ul> <li>Note</li> <li>It is not recommended to edit data and transfer to other or older version machine.</li> <li>Some features do not apply in other machines, so problems may occur.</li> <li>Character spacing can be reduced only when characters are arranged normally or straight line.</li> </ul>	

#### Memo The spacing between characters can be reduced to 50% of the narrowest character in the group. **Re-editing Character Patterns** Even after text has been entered, the characters can be re-edited. Press , and then press T . Edit ? 9 0 J ri. 100% 🖓 ++ 31.9mm 145.2mm ABCDE ABCDE A < > 0-9,. &?! ABC abc ÅÄà ¢ D Delete A В E н G I J 0 P M Q R u W x т Y z \_ Cancel Size Array Space $\rightarrow$ The character pattern can be re-edited.

#### Note

а

• A line feed cannot be added when reediting character patterns.

# **EDITING COLORS**

# **Changing the Thread Color**

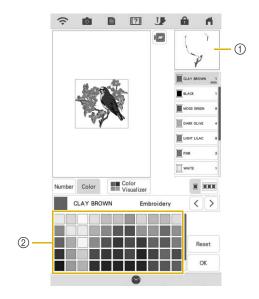
You can change the thread color by moving the color to be changed to the top of the embroidering order and selecting a new color from the thread colors in the machine.



 $\rightarrow$  The thread color palette screen displays.

#### Press the color of the part to be changed.

- \* Scroll color palette area to display the thread color that is not on the screen.
- $\rightarrow$  The selected thread color image is displayed.

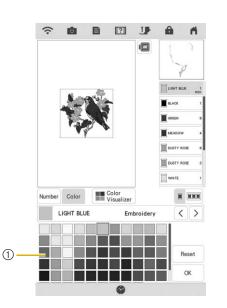


- ① Selected thread color image
- ② 64 Embroidery thread color palette

#### 3 Select a new color from the color palette,

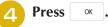
#### and then press or .

\* To return to the original color, press Reset. If multiple colors have been changed, this command will return all colors to their original colors.



#### ① Color palette

- → The selected color appears at the top of the embroidering order.
- $\rightarrow$  The display shows the changed colors.



#### ቅ Memo

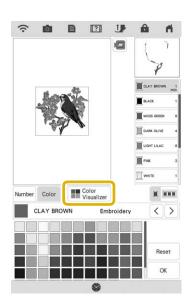
Press Number to find a thread color by entering its number. If you enter the wrong number, press c, and then enter the correct number. After entering the number, press or .



# Find New Color Schemes With the Color Visualizer Function

With the color visualizer function, the machine suggests new color schemes for the embroidery pattern that you have selected. After you select the desired effect from the four available ("Random", "Vivid", "Gradient" and "Soft"), sample color schemes for the selected effect are displayed.





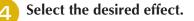
 $\rightarrow$  The color visualizer screen appears.

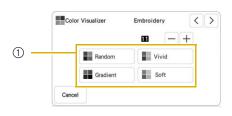
#### V Note

- This function may not be available depending on the pattern you select (ex. a bordered embroidery pattern, licensed pattern).
- Select the thread brand for colors and the number of colors you want to create the pattern with.



- ① Thread brand for colors
- ② Number of colors to be used.





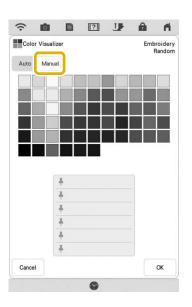
① Effects for schemes

- → If you select "Random" or "Gradient", the color specifying screen will appear.
- \* If you select "Vivid" or "Soft", proceed to step 6.

| (

# Press Manual and specify the thread color to use in the desired effect.

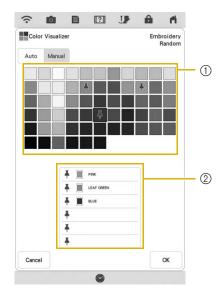
\* If you don't need to specify the thread color, just set to Auto.



#### "Manual" setting for "Random"

You can select up to 6 colors to be used in the "Random" effect.

The effect will be created using the selected colors.

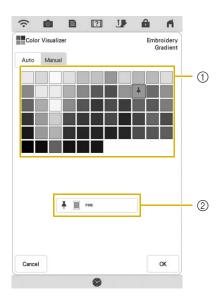


- ① Select colors from the pallet.
- ② Selected colors are listed.

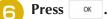
#### "Manual" setting for "Gradient"

You can select one color to be used in the "Gradient" effect.

The effect will be created with a color you select.



- ① Select a color from the pallet.
- ② Selected color is displayed.

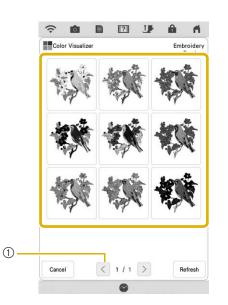




8

# Press the desired color scheme from samples.

\* Press Refresh to display the new schemes.



- ① Press to review the previous schemes.
- Note
   Maximum 10 pages of schemes can be reviewed. After 10 pages of schemes, the oldest page is deleted every time you press
   Refresh.

Press set and then, select the displayed color scheme.

- \* Press or to return to the previous screen.
- You can continue selecting color schemes from the selected page prior to pressing set

\* Press  $\triangleleft$  or  $\succ$  to display the other color schemes.



 $\rightarrow$  The thread color palette screen will appear.

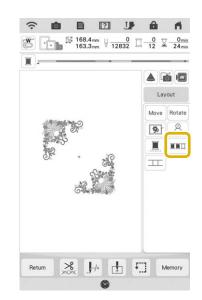
# **Thread Color Sorting**

This function allows you to embroider while replacing the thread spool a minimal number of times.

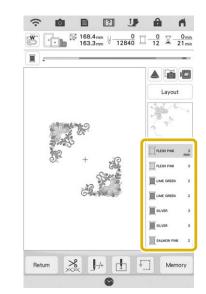
Before starting to embroider, press **m** in the embroidery screen to rearrange the embroidery order and sort it by thread colors.



Press III.

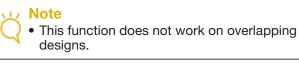


\* Press Layout again to check the sorted thread colors.



The embroidery color order is rearranged and sorted by thread colors.

Press Layout, then **HEL** to cancel color sorting and embroider with the original embroidery color order.



# **COMBINING PATTERNS**

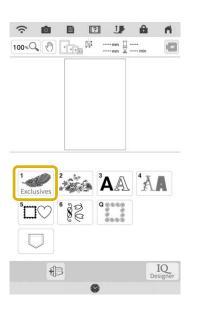
# **Editing Combined Patterns**

Example: Combining alphabet characters with an embroidery pattern and editing





Press Lusives to select an embroidery

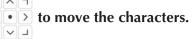






changing the layout.





\* With a USB mouse, your finger or the dual purpose stylus, drag the characters to move them.

# Press <u>Edit</u>, and then press **B** to change the color of the characters.

 Refer to page 81 for more information about changing the color.



9

When all editing is finished, press Embroidery.

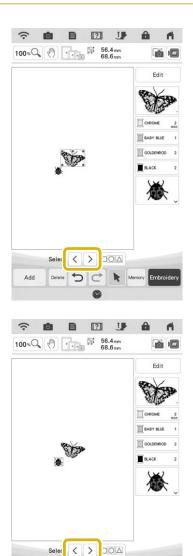


### Selecting combined embroidery patterns

If multiple patterns have been combined, use  $\checkmark$  to select the pattern to be edited. If a USB mouse is connected, the pattern can be selected by clicking it. Move the mouse to position the pointer over the desired pattern, and then click the left mouse button. In addition, patterns can be selected by directly touching the screen with your finger or dual purpose stylus.

#### 🏹 Memo

• Use <>> to select patterns that are overlapping and cannot be selected by clicking them or by touching the screen.



Delete

C .

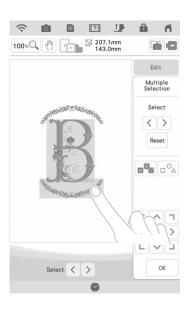
Add

# Selecting Multiple Patterns at the Same Time

Multiple patterns can easily be edited, for example, when moving patterns that are combined, if they are all selected together.



- $\rightarrow$  The Multiple Selection screen appears.
- **2** Touch each pattern to select multiple patterns.



#### 🏹 Memo

- Multiple patterns can also be selected by dragging your finger in the screen.
- Multiple patterns can be selected or deselected from the Multiple Selection

screen. Press  $\langle$  or  $\rangle$  to check the patterns to be selected, and then press set .





The selected patterns are surrounded with a red box.

- Press **w** to select all patterns in the pattern display area.
- Press \_\_\_\_ to deselect all selected patterns.
- The patterns can also be selected by touching them directly in the screen.
- While the Multiple Selection screen is displayed, patterns can be moved with
  - **Г Л**
  - < >
  - LVJ.
- The following functions cannot be used while multiple patterns are selected.
  - Resizing
  - Rotating
  - Appliqué
  - Border
  - Thread color changing

\* Each selected pattern is surrounded with a red box.

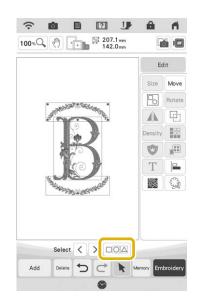
## Grouping Multiple Selected Patterns

If the multiple patterns selected in "Selecting Multiple Patterns at the Same Time" on page 87 are grouped, they can be edited as a single pattern.



Press De to select multiple patterns.

 $\rightarrow$  The selected patterns are grouped.



\* Press by to ungroup the patterns. If there are multiple grouped patterns, the selected pattern group is ungrouped.

#### 🏹 Memo

- When patterns are grouped, the following functions are applied to all patterns in the pattern group.
  - Moving
  - Rotating
  - Appliqué
  - Border
  - Extracting pattern outlines
  - Simple stippling or echo quilting
  - Thread color changing

#### Aligning the Embroidery Patterns Press DOA, select each pattern that you want to align, and then press or . **?** ? J 6 fi. Ó 244.2 mm 261.9 mm 100% 🖓 🕂 Ó Edit Move Rotate A -----.... Ô Т -88 🖏 Select < > 5

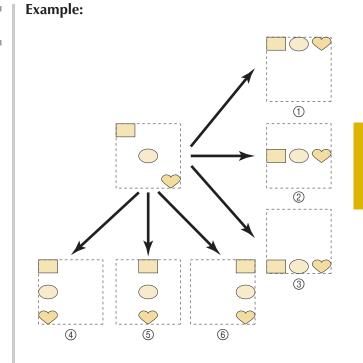
Add

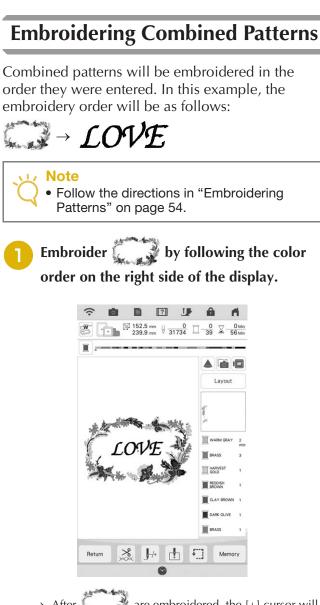
Delete

, 😑 , and then press the key Press Edit for the desired alignment.

 $\subset$ R

No.	Display	Explanation
1		Тор
2		Middle
3		Bottom
4		Left
5	4	Center
6		Right





→ After are embroidered, the [+] cursor will move to the "LOVE" part of the pattern.

# 2 Embroider LOVE.



→ When "LOVE" is embroidered, the display returns to the embroidering screen.



# VARIOUS EMBROIDERING FUNCTIONS

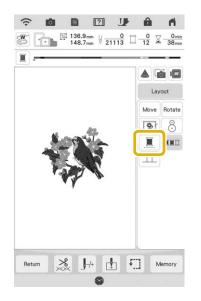
# Uninterrupted Embroidering (Using a Single Color : Monochrome)

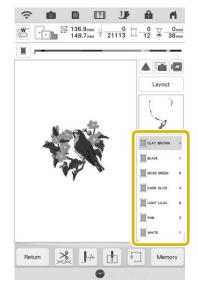
A selected pattern can be stitched out in one color instead of multicolor. The machine will continue till the pattern is completed.



### 2 Press 🔳.

Press the key again to return to the original setting.





→ The thread color displayed on the screen will be grayed out.

#### 河 Memo

• Even if uninterrupted embroidering I has been set, the automatic thread cutting function and the thread trimming function can be used (page 100 and 101).

# Display the Fabric While Aligning the Embroidering Position

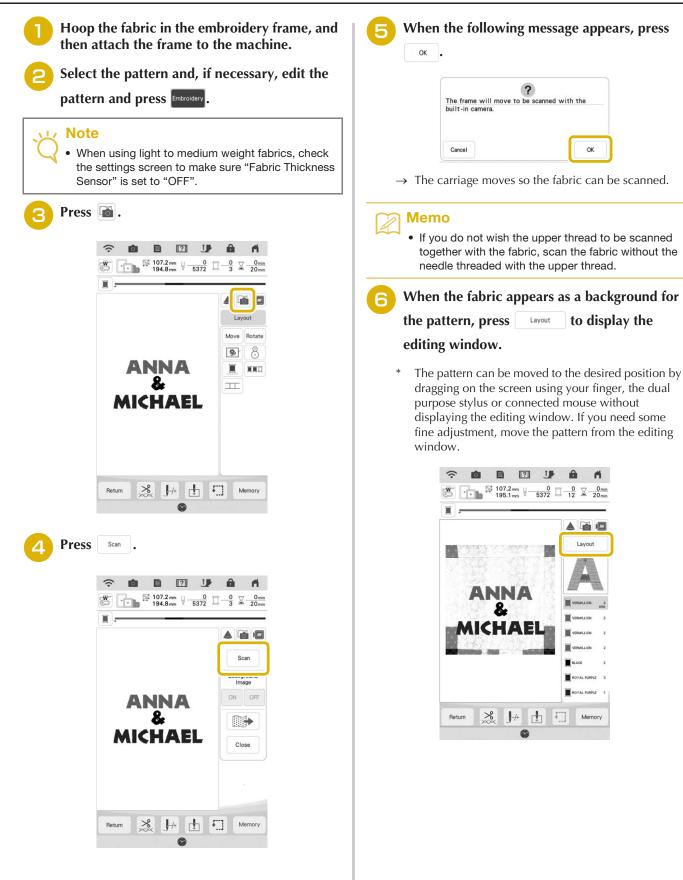
The fabric hooped in the embroidery frame can be displayed on the LCD so that the embroidery position can be easily aligned.

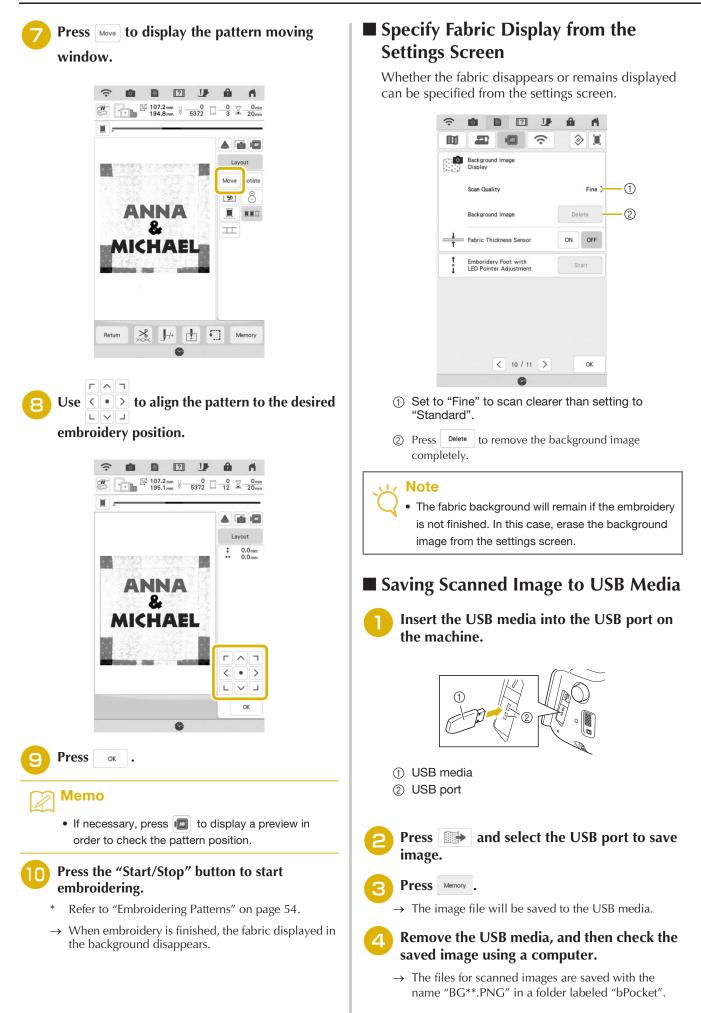
#### Example:



#### Vote

- When embroidery frame (small: H 2 cm × W 6 cm (H 1 inch × W 2-1/2 inches)) is installed, the built-in camera cannot be used to align the embroidering position.
- For details on using thicker fabric such as quilting, refer to "Positioning the Pattern on Thick Fabric" on page 95.





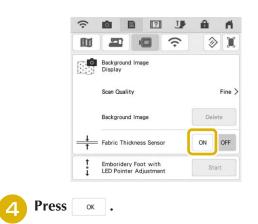
\* "\*\*" in the name "BG\*\*.PNG" will automatically be replaced with a number between 00 and 99.

#### Positioning the Pattern on Thick Fabric

When positioning the pattern on thick fabric such as quilting, the fabric may not be detected correctly. In order for the fabric to be correctly detected, its thickness must first be measured.

#### 河 Memo

- This feature is functional only when the fabric is scanned. It will not affect embroidering if it is turned on with normal embroidery.
- Hoop the fabric in the embroidery frame, and then attach the frame to the machine.
- Select the pattern and, if necessary, edit the pattern and press Embroidery.
- Display page 10 of the settings screen, and then set "Fabric Thickness Sensor" to "ON".



Press 📷

Scan

Press

Affix the embroidery positioning sticker to the fabric within the area indicated by the red frame displayed with the projector, and then press .



B When the following message appears, remove the embroidery positioning sticker, and then press .

Detection success.	
	ery positioning mark.
Press OK key to start	
Tess OK key to start	t background capture.
	_

- → The carriage is moved, and the embroidery positioning sticker affixed to the fabric is detected.
- Continue with step <sup>6</sup> on page 93 to align the pattern with the desired embroidery position.

# **CAUTION**

Use fabrics with a thickness of less than 3 mm (approx. 1/8 inch). Using fabrics thicker than 3 mm (approx. 1/8 inch) may cause the needle to break.

# **Basting Embroidery**

Before embroidering, basting stitches can be sewn along the outline of the pattern. This is useful for embroidering fabric that cannot have stabilizer material affixed with an iron or adhesive. By stitching stabilizer material to the fabric, shrinkage of the stitching or misaligned pattern can be minimized.

#### Note

 It is recommended to finish combining and editing the pattern before selecting the basting setting. If the pattern is edited after selecting the basting setting, the basting and pattern may become misaligned, and the basting under the pattern may be difficult to remove after embroidering is complete.

Layout , and then press 💽 to select Press the basting setting.



#### Memo

To cancel the setting, press 3.

→ Basting is added to the beginning of the embroidering order.

Press

Touch the number to specify the distance from the pattern to the basting stitching.

		(2)
נוווווווו	Unit	mm )
#123 ABC	Thread color	#123 🕽
🗐 #123	Thread brand	Original 🕽
	Perhapidan	
•	Embroidery Background Color	Select
<b>?</b>		Select Select
<b>&gt;</b>	Background Color Thumbnail	
) ) ) ) ) )	Background Color Thumbnail Background Color	Select

#### Memo

- The higher the setting, the farther the • basting is from the pattern.
- The setting remains selected even if the machine is turned off.



**Press** or to return to the previous screen.

Press the "Start/Stop" button to begin embroidering.



When embroidering is finished, remove the basting stitching.



# MAKING EMBROIDERY ADJUSTMENTS

# Adjusting Thread Tension

When embroidering, the thread tension should be set so that the upper thread can slightly be seen on the wrong side of the fabric.

### Correct Thread Tension

The pattern can be seen from the wrong side of the fabric. If the thread tension is not set correctly, the pattern will not finish well. The fabric may pucker or the thread may break.



- ① Right side
- ② Wrong side

Follow the operations described below to adjust thread tension according to the situation.

#### 🟒 Note

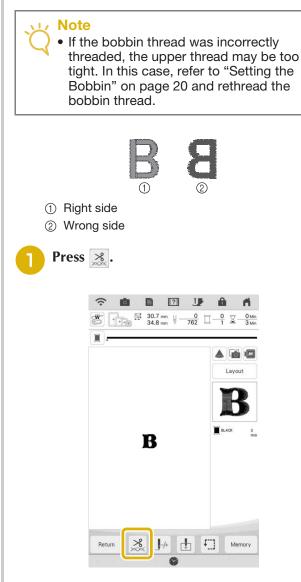
 If the thread tension setting is made extremely loose, the machine may stop during embroidering. This is not the sign of a malfunction. Increase the thread tension slightly, and begin embroidering again.

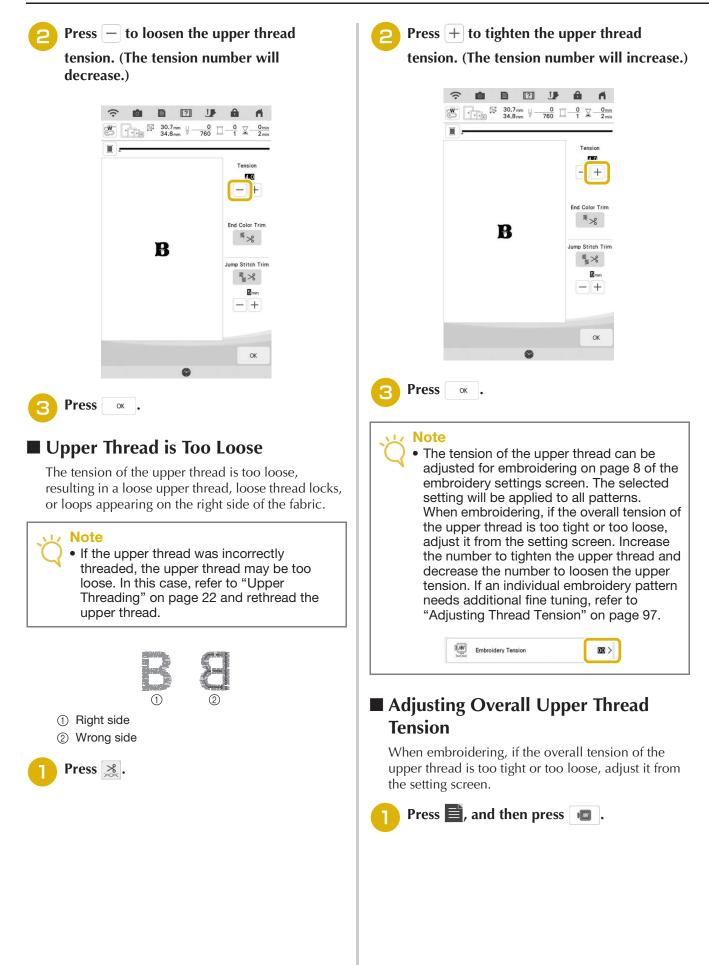
#### ן Memo

• If you turn the main power to OFF or select a different pattern, the thread tension will reset to the automatic setting.

### ■ Upper Thread is Too Tight

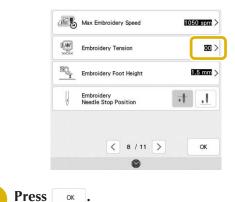
The tension of the upper thread is too tight, resulting in the bobbin thread being visible from the right side of the fabric.





#### In the "Embroidery Tension", touch the number to adjust the upper thread tension.

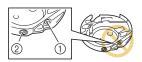
- Increase to tighten the upper thread tension.
- Decrease to loosen the upper thread tension.



# Adjusting the Alternate Bobbin Case (with No Color on the **Adjusting Screw**)

When using the embroidery bobbin thread provided, please be sure to choose the green marked bobbin case when performing utility stitch sewing and embroidery functions. When in the embroidery function mode, the alternate bobbin case (with no color on the screw) should be selected when substitute embroidery bobbin threads (other than what is accompanied with your machine) are being used. The alternate bobbin case (with no color on the screw) can be easily adjusted when bobbin tension changes are required to accommodate different bobbin threads. Refer to the Instruction and Reference Guide (Sewing).

To adjust the bobbin tension for embroidery function, using the alternate bobbin case (with no color on the screw), turn the slotted screw (-) with a (small) screwdriver.



- ① Do not turn a phillips screw (+).
- (2) Adjust with a screwdriver (small).

### Correct Tension

Upper thread slightly appears on the wrong side of fabric.



1) Right side ② Wrong side

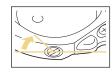
### Bobbin Thread is Too Loose

Bobbin thread appears slightly on the right side of fabric.

B	8
1	2

- ① Right side
- ② Wrong side

If this occurs, turn the slotted screw (-) clockwise, being careful not to over-tighten the screw, approximately 30-45 degrees to increase bobbin tension.



### Bobbin Thread is Too Tight

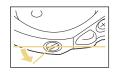
Upper thread on the right side of fabric seems to be lifting/looping and bobbin thread is not seen on the wrong side of fabric.



- ① Right side
- ② Wrong side

If this occurs, turn the slotted screw (-)

counterclockwise, being careful not to over-loosen the screw, approximately 30-45 degrees to decrease bobbin tension.



# **A** CAUTION

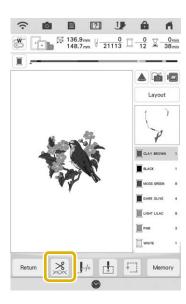
- When adjusting the alternate bobbin case, be sure to remove the bobbin from the alternate bobbin case.
- DO NOT adjust the position of the phillips (+) screw on the alternate bobbin case as this may result in damage to the bobbin case, rendering it unusable.
- If the slotted screw (-) is difficult to turn, do not use force. Turning the screw too much or providing force in either (rotational) direction may cause damage to the bobbin case. Should damage occur, the bobbin case may not maintain proper tension.

# Using the Automatic Thread Cutting Function (End Color Trim)

The automatic thread cutting function  $\blacksquare$  will cut the thread at the end of embroidering each color. This function is initially turned ON. To turn this function OFF, press  $\bowtie$  key and then  $\blacksquare$ . This function can be turned on or off during embroidering.

\* This setting returns to its default show the machine is turned off.







Press solution.



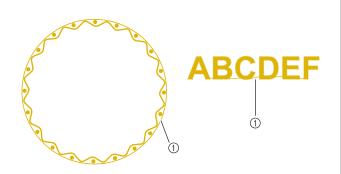
- → The key will display as  ${}^{\blacksquare}$  .
- \* When one color thread is embroidered, the machine will stop without cutting the thread.

# Using the Thread Trimming Function (Jump Stitch Trim)

The thread trimming function will automatically trim any excess thread jumps within the color. This function is initially turned ON. To turn this function OFF, press key and then

This function can be turned on or off during embroidering.

\* Your customized setting remains after turning the machine off and on.

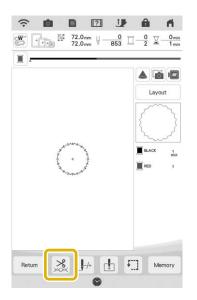


① Jump stitch

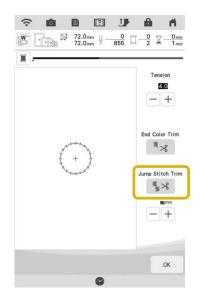
#### V Note

• When this function is turned on, use the included ball point needle 75/11 for embroidering patterns with short jump stitches such as alphabet characters. Using other needles may cause the thread to break.

Press 😹.



Press **1** to turn off the thread trimming function.



- $\rightarrow$  The key will display as 3.
- \* The machine will not trim the thread before moving to the next stitching.

### Selecting the Trim Function to Adjust Jump Stitch Length

When the thread trimming function **\*** is turned on, you can select the length of the jump stitch. Stitch below the value will not be trimmed. This function can be turned ON or OFF during embroidering.

Select a setting from 5 mm to 50 mm in 5 mm increments.

\* Your customized setting remains after turning the machine off and on.

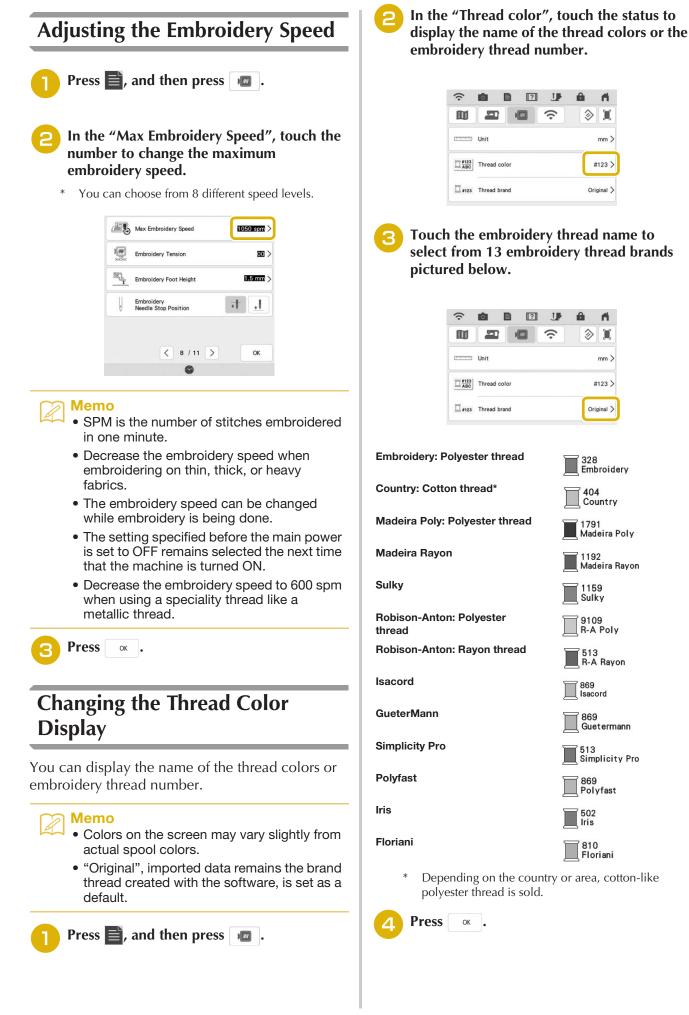
Press + or - to select the length of jump stitch.

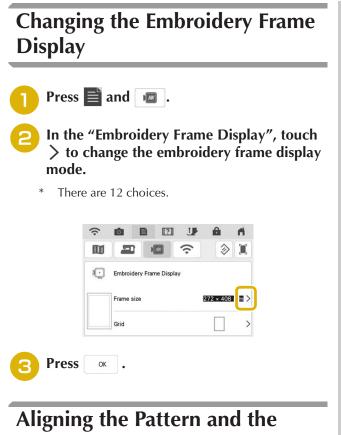
For example: Press + to select 25 mm (1 inch) and the machine will not trim a jump stitch of 25 mm or less before moving to the next stitching.



#### V Note

- If design has many trims it is recommended to select a higher jump stitch trim setting in order to reduce the amount of excess tails on backside of fabric.
- The higher number of the jump stitch length selected, the fewer number of times the machine will trim. In this case, more jump stitches remain on the surface of the fabric.

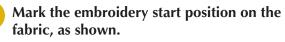


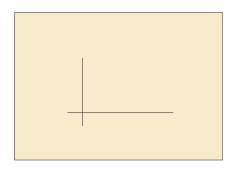


# Needle

**Example:** Aligning the lower left side of a pattern and the needle

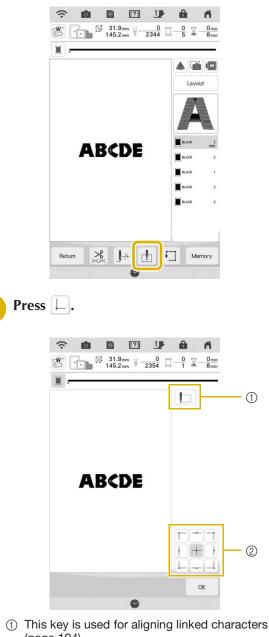




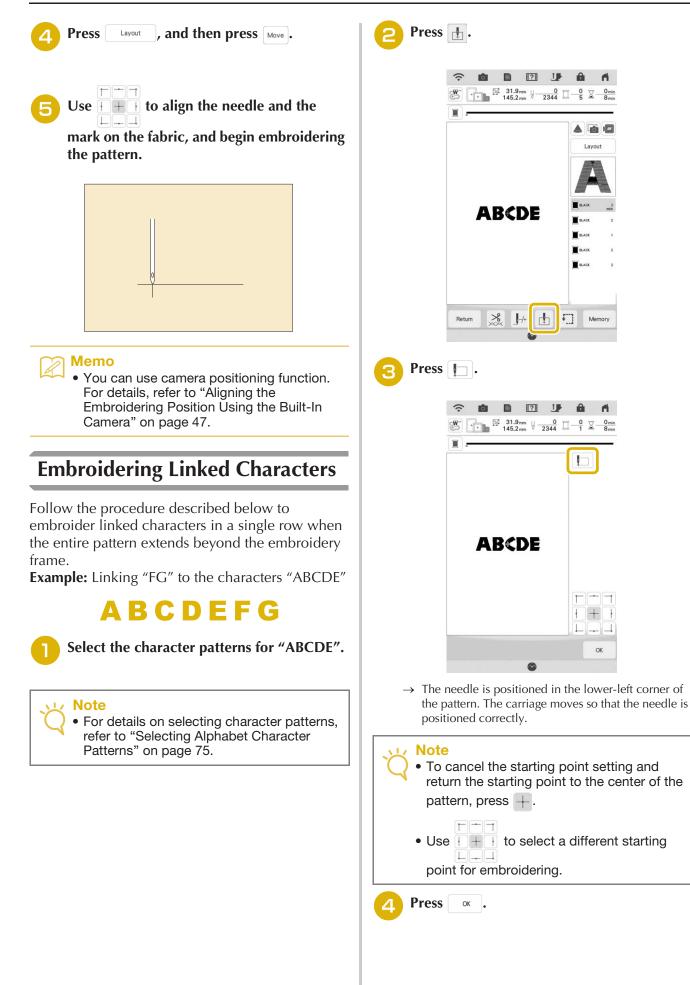


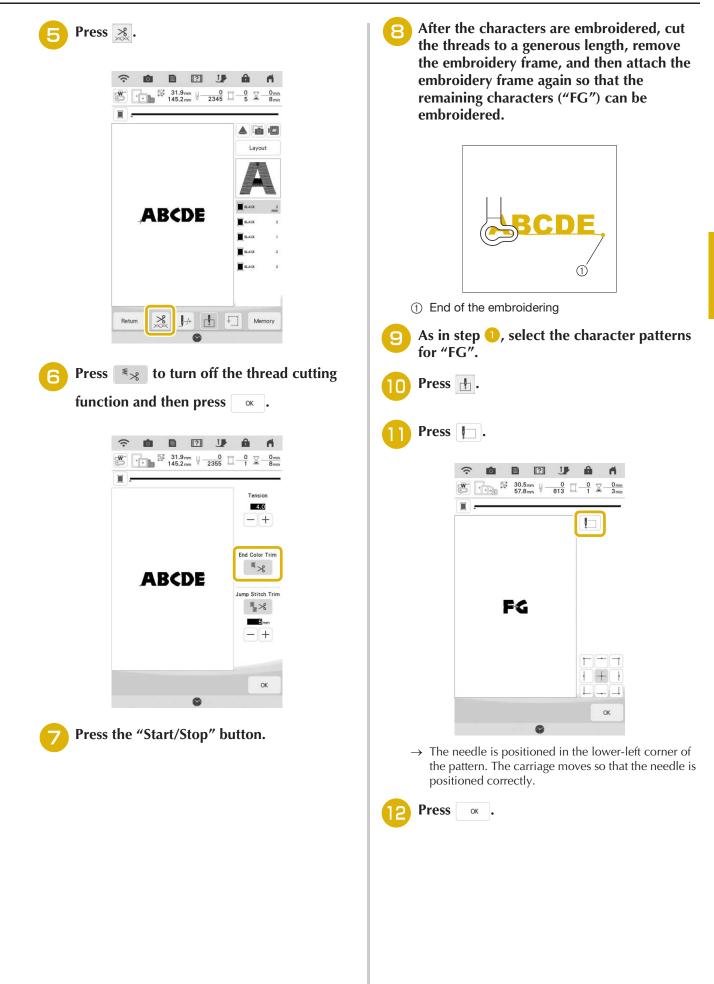
Press 🚹.

3



- (page 104).
- ② Start position
- $\rightarrow$  The needle position moves to the bottom left corner of the pattern (the embroidery frame moves so that the needle is positioned correctly).







## USING THE MEMORY FUNCTION

## **Embroidery Data Precautions**

Observe the following precautions when using embroidery data other than that created and saved in this machine.

## **A** CAUTION

• When using embroidery data other than our original patterns, the thread or needle may break when embroidering with a stitch density that is too fine or when embroidering three or more overlapping stitches. In that case, use one of our original data design systems to edit the embroidery data.

## **Types of Embroidery Data that can be Used**

• Only .pes,.pha,.phb,.phc, .dst and .phx embroidery data files can be used with this machine. Using data other than that saved using our data design systems or machines may cause this machine to malfunction. When the machine is used to save a file with any extension, it is saved as a .phx data file.

## ■ Types of USB Devices/Media that can be Used

Embroidery data can be saved to or recalled from USB media. Use media that meets the following specifications. • USB Flash drive (USB Flash memory)

- Embroidery data can be recalled only.
- USB CD-ROM, CD-R, CD-RW drives

You can also use the following types of USB media with the USB Memory Card Reader/USB card writer module.

- Secure Digital (SD) Card
- CompactFlash
- Memory Stick
- Smart Media
- Multi Media Card (MMC)
- xD-Picture Card

### 🟒 Note

- The processing speed may vary by port selection and quantity of data stored.
- Some USB media may not be usable with this machine. Please visit our website for more details.
- The access lamp will begin blinking after inserting USB devices/media, and it will take about 5 to 6 seconds to recognize the devices/media. (Time will differ depending on the USB device/media).

### 🦙 Memo

- To create file folders, use a computer.
- Letters and numerals can be used in the file names. In addition, if the file name contains no more than eight characters, the entire file name will appear on the screen.
   If the file name is more than eight characters long, only the first six characters followed by "~" and a number appear as the file name.

## ■ Precautions on Using the Computer to Create and Save Data

- If the name of the embroidery data file/folder cannot be identified, for example, because the name contains special characters, the file/folder is not displayed. If this occurs, change the name of the file/folder. We recommend using the 26 letters of the alphabet (uppercase and lowercase), the numbers 0 through 9,"-", and "\_".
- If embroidery data larger than 408 mm (H) × 272 mm (W) (approx.16 inches (H) × 10-5/8 inches (W)) is selected, a message is shown asking if you wish to rotate the pattern 90 degrees.
   Even after being rotated 90 degrees, embroidery data larger than 408 mm (H) × 272 mm (W) (approx.16 inches (H) × 10-5/8 inches (W)) cannot be used. (All designs must be within the 408 mm (H) × 272 mm (W) (approx.16 inches (H) × 10-5/8 inches (W)) design field size.)
- .pes files saved with the number of stitches or the number of colors exceeding the specified limits cannot be displayed. The combined design cannot exceed a maximum number of 750,000 stitches or a maximum number of 127 color changes (Above numbers are approximate, depending on the overall size of the design). Use one of our design software programs to edit the embroidery pattern so that it meets these specifications.
- Embroidery data stored in a folder created in USB media can be retrieved.
- Even if the embroidery unit is not attached, the machine will recognize embroidery data.

## Tajima (.dst) Embroidery Data

- .dst data is displayed in the pattern list screen by file name (the actual image cannot be displayed). Only the first eight characters of the file name can be displayed.
- Since Tajima (.dst) data does not contain specific thread color information, it is displayed with our default thread color sequence. Check the preview and change the thread colors as desired.

# Saving Embroidery Patterns in the Machine's Memory

You can save embroidery patterns that you have customized and will use often; for example, your name, patterns that have been rotated or had the size changed, patterns that have had the embroidering position changed, etc. A total of about 10 MB of patterns can be saved in the machine's memory.

### 🟒 Note

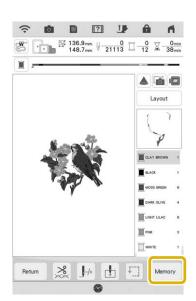
• Do not turn the main power to OFF while the "Saving..." screen is displayed. You will lose the pattern you are saving.

### 🔊 Memo

- It takes a few seconds to save a pattern to the machine's memory.
- Refer to page 110 for information on retrieving a saved pattern.

Press Memory when the pattern you want to

save is in the embroidering screen.



ົ	Press	-	,

<sup>6</sup> Press <u>Cancel</u> to return to the original screen without saving.

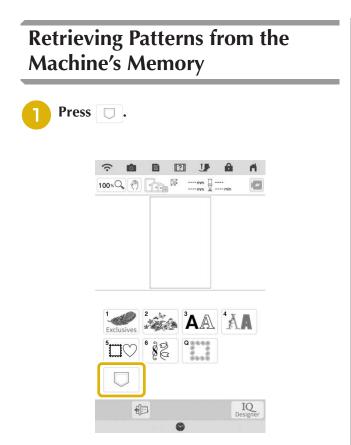


→ The "Saving..." screen is displayed. When the pattern is saved, the display returns to the original screen automatically.

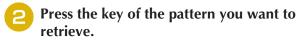
## ■ If the Memory is Full

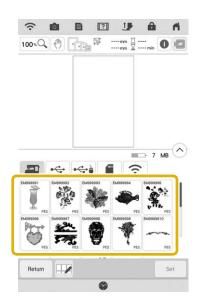
If the screen below displays, either the maximum number of patterns have been saved or the pattern you want to save takes a lot of memory, and the machine cannot save it. Refer to "Retrieving Patterns from the Machine's Memory" on page 110.

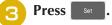
		•		
Not enough a	vailable r	memory	to save	the pattern.



 $\rightarrow$  The machine displays the patterns currently in the memory.







\* Press Return to delete the embroidery pattern.



 $\rightarrow\,$  The embroidering screen is displayed.

# Saving Embroidery Patterns to USB Media/SD Card

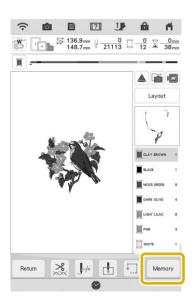
When sending embroidery patterns from the machine to USB media/SD card, plug the USB media/SD card into the machine's USB port/SD card slot.

### Memo

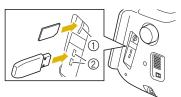
- USB media is commercially available, but some USB media may not be usable with this machine. Please visit our website for more details.
- Depending on the type of USB media being used, either directly plug the USB device into the machine's USB port or plug the USB media Reader/Writer into the machine's USB port.
- The USB media/SD card can be inserted or removed at any time.

Press Memory when the pattern you want to

save is in the embroidering screen.



Insert the USB media/SD card into the USB port/SD card slot on the machine.



- ① SD card slot
- ② USB port

#### 🗸 Note

- Do not insert anything other than USB media into the USB media port. Otherwise, damage to the machine may result.
- Do not insert anything other than SD card into the SD card slot. Otherwise, damage to the machine may result.

### Press the key for the corresponding media.

Press cancel to return to the original screen without saving.

	•	• <del>~</del> }	-	0
_			_	· ·

→ The "Saving..." screen is displayed. When the pattern is saved, the display returns to the original screen automatically.

### ក្រ Note

• Do not insert or remove USB media/SD card while "Saving..." screen is displayed. You will lose some or all of the pattern you are saving.

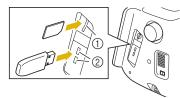
# Recalling from USB Media/SD card

You can recall a specific embroidery pattern from either direct USB media/SD card or a folder in the USB media/SD card. If the pattern is in a folder, check each folder to find the embroidery pattern.

#### Note

• The processing speed may vary by quantity of data.

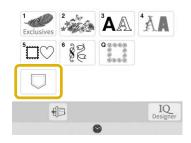
## Insert the USB media/SD card into the USB port/SD card slot on the machine.



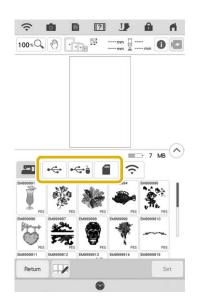
- ① SD card slot
- USB port







**B** Press the key for the corresponding media.

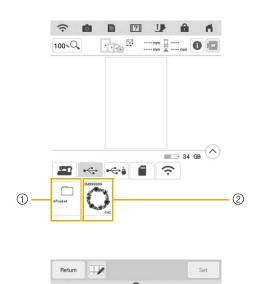


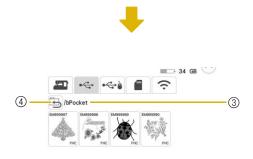
 $\rightarrow\,$  Embroidery patterns and a folder in a top folder are displayed.



Press when there is a subfolder to sort

two or more embroidery patterns to USB media/SD card, the embroidery pattern in the subfolder is displayed.



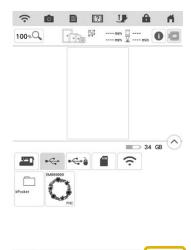


- ① Folder name
- ② Embroidery patterns in USB media/SD card
- ③ Path
- \* The path to show the current folder at the top of the list.

Embroidery patterns and subfolders within a folder are displayed.

- ④ Press 🔄 to return to the previous folder.
- \* Use the computer to create folders. Folders cannot be created with the machine.

**5** Press the key of the pattern you want to retrieve.



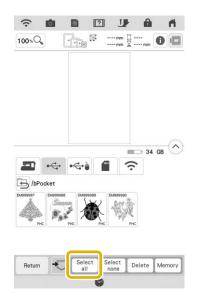


- $\rightarrow$  The pattern is selected.
- \* Press Cancel to return to the original screen.

## Saving/Deleting Multiple Patterns

It may be useful to save all or multiple data from USB media/SD card, for example, to the machine. The data can only be saved to the machine's memory (bPocket).

Press , and then either select the thumbnails of the patterns or press select.



→ The thumbnails of selected patterns appear in blue. To deselect the pattern, either press the thumbnail again or press Select none.

### Memo

• When selecting USB media or SD card,

Memory is displayed. When Memory is selected, all the selected files are saved to the machine's memory.

## Transferring Embroidery Patterns

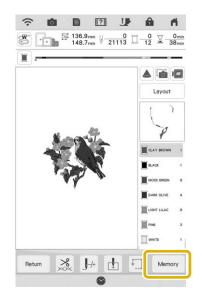
For detailed procedures, refer to Palette manual (Version 11 or higher).

### 🏹 Memo

- Embroidery patterns cannot be transferred if the computer and machine are connected to different home network. Be sure to connect to the same home network.
- In the pattern type selection screen on the

1

machine, press Memory .



→ A list of embroidery patterns saved in the machine appears.

Select the pattern to be transferred to the application, and then press \_\_\_\_\_.



→ The pattern is saved in a folder to be transferred via the wireless network.

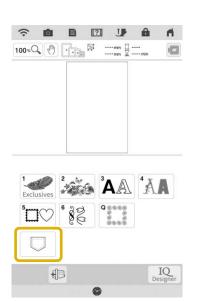
# Receiving Embroidery Patterns on the Machine

For detailed procedures, refer to Palette manual (Version 11 or higher).

## Memo

• Embroidery patterns cannot be transferred if the computer and machine are connected to different home network. Be sure to connect to the same home network.

In the pattern type selection screen on the machine, press  $\Box$ , and then press  $\overline{\Box}$ .





Return	Set



## Select from the list the pattern to be recalled

## EMBROIDERY APPLICATIONS

## **Creating an Appliqué Piece**

Appliqué pieces can be created from the built-in patterns and imported patterns. This is convenient for fabrics that cannot be embroidered or when you wish to attach an appliqué to a garment.

## Creating an Appliqué Piece

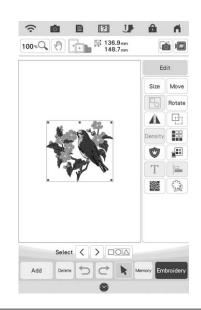
The following pattern will be used to create an appliqué piece.



#### Note

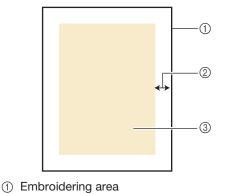
- Felt or denim fabrics are recommended to make the appliqué piece. Depending on the pattern and fabric used, lighter weight fabrics may cause the stitching to appear smaller.
- For best results, be sure to use stabilizer material for embroidering.
- Select a frame that matches the pattern size. Frame options are displayed on the LCD screen.
- When making appliqué pieces, do not use the border embroidery frame. Depending on the pattern density and fabric used, shrinkage of the stitching may occur.

Select the pattern, and edit it if necessary.

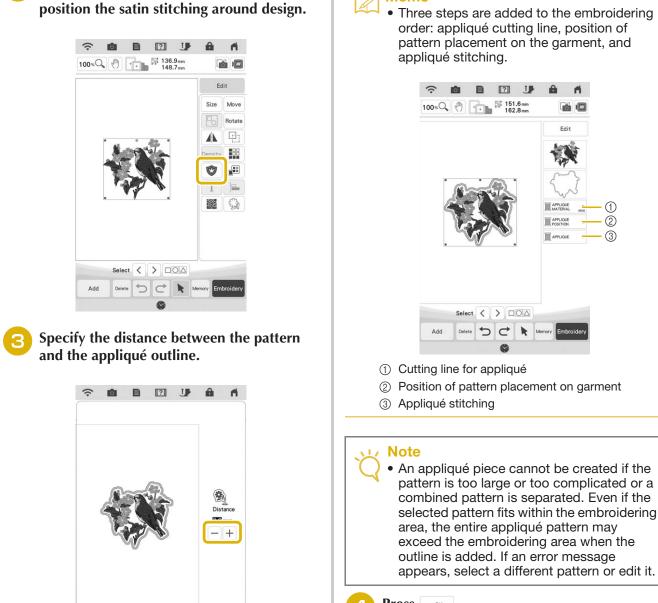


### 🗸 Note

- Finish combining and editing the pattern before selecting the appliqué setting. If the pattern is edited after selecting the appliqué setting, the appliqué stitching and pattern may become misaligned.
- Since an outline is added, the pattern for an appliqué piece (when the appliqué setting is selected) will be larger than the original pattern. First, adjust the size and position of the pattern as shown below.



- (2) Approx. 10 mm (3/8 inch)
- ③ Pattern size



appears, select a different pattern or edit it. Press ок . Fuse or stick a piece of stabilizer to the

## back of the felt or denim fabric to be used as the appliqué piece.

#### Note

· For best results, be sure to use stabilizer material for embroidering.

 $\rightarrow$  The steps for creating the appliqué piece are added

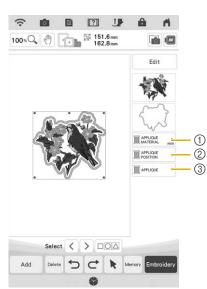
to the embroidering order.

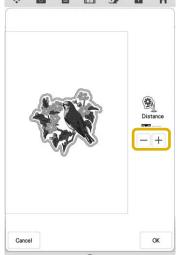
Memo

are grouped.

### Memo

Three steps are added to the embroidering order: appliqué cutting line, position of pattern placement on the garment, and





• At this time, the pattern and appliqué piece

, and then press 👩 to

Press

Edit

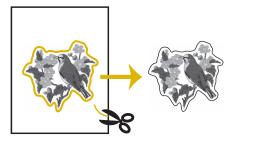
- 6 Hoop the appliqué fabric in the embroidery frame, attach the embroidery frame to the machine, and then start embroidering.
- After the pattern is embroidered, thread the machine with the thread for the cutting line, and then sew the cutting line (APPLIQUE MATERIAL).



① Cutting line for appliqué

#### 🥱 Memo

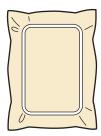
- We recommend using thread for the cutting line that is closest to the color of the fabric.
- Remove the appliqué material from the embroidery frame, and then carefully cut along the stitching. After cutting, carefully remove all of the cutting line thread.



### بر Note

- Depending on the pattern density and fabric used, there may be shrinking of the pattern or the appliqué may be misaligned with the placement line. We recommend cutting slightly outside of the cutting line.
- When using patterns that are vertically and horizontally symmetrical, use a chalk pencil to indicate the pattern orientation before cutting it out.
- Carefully cut out the pattern on the outline you just sewed. Do not cut inside the cutting line, otherwise the appliqué fabric will not be caught by the appliqué stitch.

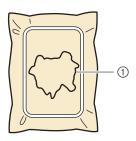
**9** Use two layers of adhesive water soluble stabilizer material with their sticky sides together, and then hoop them in the embroidery frame.



### 🟒 Note

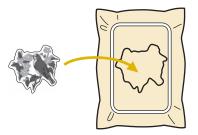
- If water soluble stabilizer is used, it is not necessary to remove the stabilizer material after sewing the appliqué outline. To reduce shrinkage of the pattern, we recommend using water soluble stabilizer.
- Put together two layers of water soluble stabilizer, otherwise the stabilizer material may tear during embroidering.

**10** Thread the machine with the thread for the outline from step (2), and then sew the placement line for the appliqué position (APPLIQUE POSITION).



① Pattern placement line

Lightly apply glue or spray adhesive, and paste the appliqué piece so that it aligns with the placement line.



#### 🟒 Note

• Before pasting the appliqué piece down, make sure the appliqué piece is positioned correctly within the placement line. With the machine threaded using the thread for the outline from step 10, sew the outline (APPLIQUE).



① Outline of appliqué piece

### 🏹 Memo

- The outline is sewn using satin stitching.
- Some glue may get onto the embroidery foot, needle, and needle plate at this time. Finish embroidering the appliqué pattern, and then clean off the glue.
- 3 After sewing is finished, remove the stabilizer material from the embroidery frame.
- Use scissors to cut the excess water soluble stabilizer from outside the appliqué outline.
- Soak the appliqué piece in water to dissolve the water soluble stabilizer.



**b** Dry the appliqué piece, and then iron it if necessary.

#### Note

 Do not apply a strong force when ironing, otherwise the stitching may be damaged.

# Using a Frame Pattern for the Outline

Using a frame pattern, the desired shape can be added as the outline of the appliqué. To select the desired frame, refer to "Selecting Frame Patterns" on page 45.

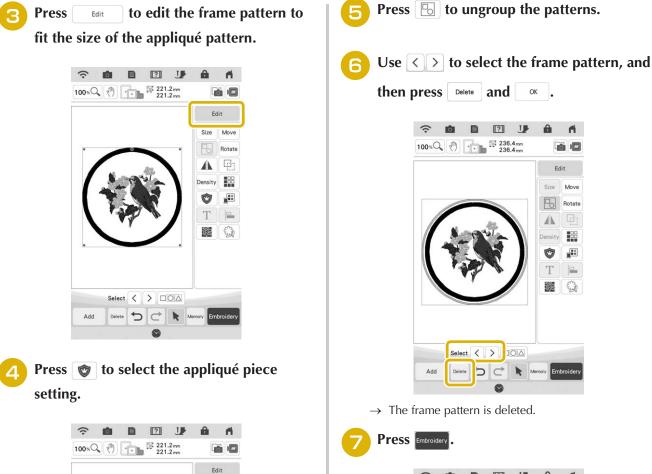




Select the pattern and edit, if necessary.

Select the desired frame shape and pattern, and add it to the appliqué pattern.





Move Size

Rotate

(P1 

T

88 🖏

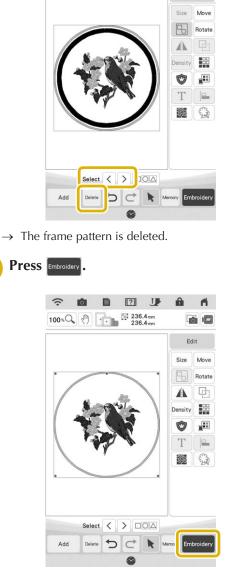
Densitv 

Ŵ .....

Select < > Delete 5 C k Men

0

Add



100% (100%) +++ 1 236.4mm

ô. 11

6

Edit

Continue with step **5** of "Creating an 8 Appliqué Piece" on page 117 to complete the appliqué piece.

## Using Appliqués

This machine can embroider patterns that contain an appliqué. Follow the procedure described below to embroider patterns with APPLIQUE (appliqué piece), APPLIQUE POSITION (appliqué position) and APPLIQUE (appliqué) in the embroidery color order display.

- 1. Create the appliqué piece.
- 2. Sew the appliqué position on the base fabric.
- 3. Affix the appliqué piece to the base fabric.
  - .
- 4. Embroider the remainder of the pattern.

## **Required materials**

- Fabric for the appliqué piece
- Fabric for the appliqué base
- Stabilizer material
- Craft glue
- Embroidery thread

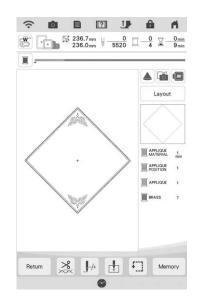
## 🕂 Note

• If APPLIQUE (appliqué piece), APPLIQUE POSITION

(appliqué position) and APPLIQUE (appliqué) appear in the embroidery color order display, the names and numbers of the thread colors to be used will not appear. Select the thread colors according to those in the appliqué pattern.

## ■ 1. Creating the Appliqué Piece

## Select the appliqué pattern, and then continue to the embroidering screen.

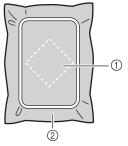


# Attach stabilizer material to the wrong side of the appliqué fabric.

Hoop the fabric in the embroidery frame, and then attach the embroidery frame to the embroidery unit.

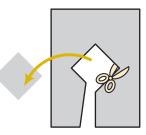


- ① Appliqué (cotton, felt, etc.)
- ② Stabilizer
- 3 Thread the machine with the embroidery thread, lower the presser foot lever, and then press the "Start/Stop" button to sew the cutting line of the appliqué piece.
  - → The outline of the appliqué piece is sewn, and then the machine stops.



- ① Cutting line for appliqué piece
- ② Fabric for appliqué piece

Remove the fabric for the appliqué piece from the embroidery frame, and then carefully cut along the sewn cutting line.



### Note

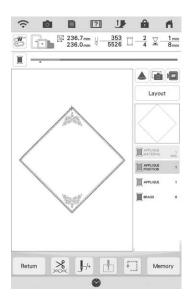
- If the appliqué piece is cut out along the inside of the cutting line, it may not be correctly attached to the fabric. Therefore, carefully cut out the appliqué piece along the cutting line.
- After cutting out the appliqué piece, carefully remove the thread.

## 2. Sewing the Appliqué Position on the Base Fabric

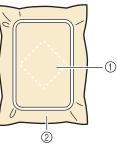
Attach stabilizer material to the wrong side of the fabric for the appliqué base.

Hoop the fabric in the embroidery frame, and then attach the embroidery frame to the embroidery unit.

2 Thread the machine with the embroidery thread, lower the presser foot lever, and then press the "Start/Stop" button to sew the appliqué position.



→ The position of the appliqué is sewn, and then the machine stops.



- ① Appliqué position
- ② Base fabric

Remove the embroidery frame from the embroidery unit.

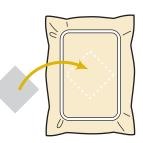
### Viv Note

• Do not remove the base fabric from the embroidery frame until all sewing is finished.

# 3. Affixing the Appliqué Piece to the Base Fabric

1

Lightly apply craft glue to the back of the appliqué piece, and then attach it to the base fabric within the outline of the position sewn in step <sup>(2)</sup> of "2. Sewing the Appliqué Position on the Base Fabric".

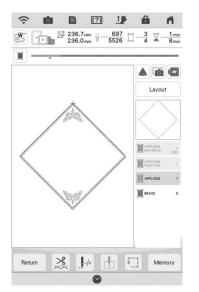


#### <sub>ヒ</sub> Note

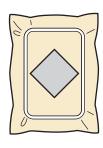
- If the appliqué piece is not securely attached to the base fabric, the appliqué piece may lift off the base fabric during embroidering, causing misalignment.
- If the appliqué piece cannot be attached to the base fabric with craft glue, securely baste it in place with basting stitches.
- If thin fabric is used for the appliqué piece, reinforce and secure it in place with an ironon adhesive sheet. An iron can be used to attach the appliqué piece to the appliqué location.
- Do not remove the fabric from the embroidery frame when attaching the appliqué piece to the base fabric.

## After the appliqué piece is attached, attach the embroidery frame to the machine.

Thread the machine with the embroidery thread, lower the presser foot lever, and then press the "Start/Stop" button to embroider the appliqué.



→ The appliqué piece is embroidered to the base fabric, and then the machine stops.



### 🥱 Memo

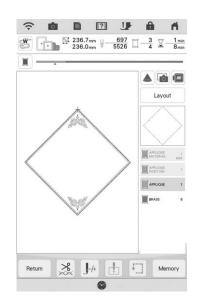
• Depending on the pattern that is selected,  $\boxed{\mathbb{I}_{MATERIAL}^{APPLIQUE}}$  (appliqué piece),  $\boxed{\mathbb{I}_{POSITION}^{APPLIQUE}}$ 

(appliqué position) and APPLIQUE (appliqué) for all three steps may not appear. If

APPLIQUE (appliqué) appears as a color, embroider using thread of that color.

# ■ 4. Embroidering the Remainder of the Pattern

Change the embroidery thread according to the embroidery color order display, and then finish embroidering the remainder of the pattern.





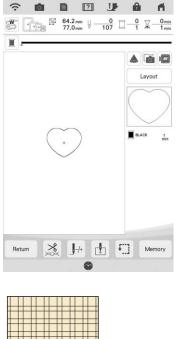
### 🔊 Memo

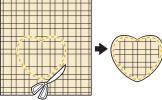
- Since glue may become attached to the embroidery foot, needle or needle plate, clean off any glue off after finishing embroidering the appliqué pattern.
- For best results, trim all excess threads each time the thread color is changed.

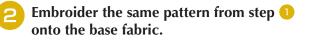
## Using a Frame Pattern to Make an Appliqué (1)

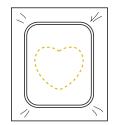
You can use framed patterns of the same size and shape to create an appliqué. Embroider one pattern with a straight stitch and one pattern with a satin stitch.

Select a straight stitch frame pattern. Embroider the pattern onto the appliqué material, then cut neatly around the outside of the shape.

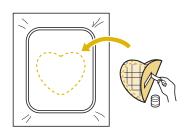




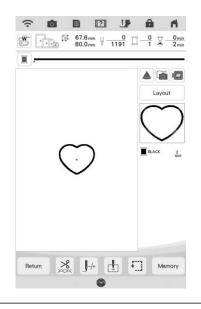




3 Apply a thin layer of fabric glue or a temporary spray adhesive to the rear of the appliqué created in step 1. Attach the appliqué to the base fabric matching the shapes.

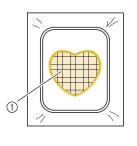


Select the satin stitch frame pattern of the same shape as the appliqué. Embroider over the appliqué and base fabric from step <sup>3</sup> to create the appliqué.



### Note

• If you change the size or position of the patterns when selecting them, make a note of the size and location.



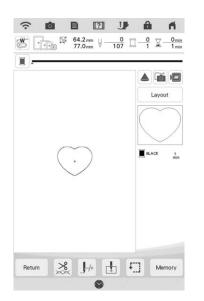
① Appliqué material

## Using a Frame Pattern to Make an Appliqué (2)

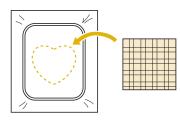
This is a second method to make appliqué using embroidery patterns. You do not have to change the fabric in the embroidery frame using this method. Embroider one pattern with a straight stitch and one pattern with a satin stitch.

0

Select a straight stitch frame pattern, and embroider the pattern onto the base fabric.

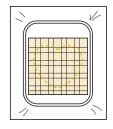


- Place the appliqué fabric over the pattern embroidered in step **1**.
  - \* Be sure that the appliqué fabric completely covers the seam.

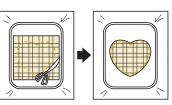




Embroider the same pattern on the appliqué fabric.

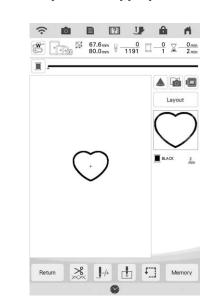


4 Remove the embroidery frame from the embroidery unit, and cut around the outside of the stitches.



• Do not remove the fabric from the embroidery frame to cut it. Also, do not pull strongly on the fabric. Otherwise, the fabric may loosen in the frame.

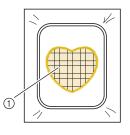
## 5 Select the satin stitch frame pattern of the same shape as the appliqué.



### 🖌 Note

Note

- Do not change the size or position of the pattern.
- If you change the size or position of the patterns when selecting them, make a note of the size and location.



① Appliqué material

6 Reattach the embroidery frame to the embroidery unit, and embroider the satin stitch pattern to create an appliqué.



## Creating Stippling or Echo Patterns Automatically

Stippling or echo quilting patterns can be created around the machine's built-in patterns or original embroidery data without using IQ Designer.

### 🏹 Memo

 If this simple stippling operation is used with batting sandwiched between two layers of fabric, the embroidery pattern and stippling may become misaligned. For quilting, refer to "Decorative Stitching Around a Pattern in Embroidery (a Quilting Function)" on page 175.

Select the pattern that stippling will be added around.

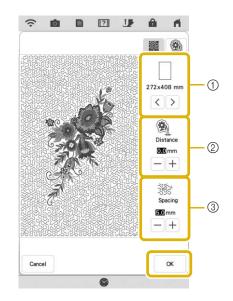


Press in the embroidery edit screen.



 → Stippling is automatically applied around the selected pattern.
 To select multiple patterns, refer to "Selecting Multiple Patterns at the Same Time" on page 87. \* Press () in the stippling settings screen to create an echo quilting pattern.

# After specifying the stitch settings for the stippling, press .

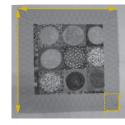


- ① If an embroidery frame size is selected, the stippling is added within the area of the selected frame size. If the pattern is larger than the selected frame size, the area indicating the frame size will appear in gray.
- ② Specify the distance from the outline of the pattern to the stippling.
- ③ Specify the spacing for the stippling.

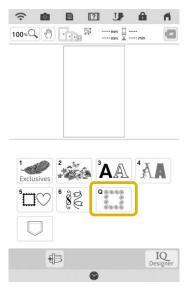
## Embroidering Quilting Border Patterns

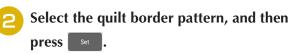
Quilting border patterns larger than the embroidery frame can be split in order to be embroidered.

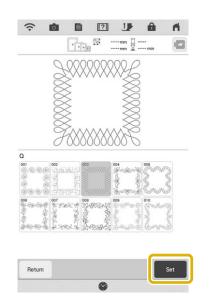
It is recommended to measure the size of quilting border you want to embroider in the beginning.



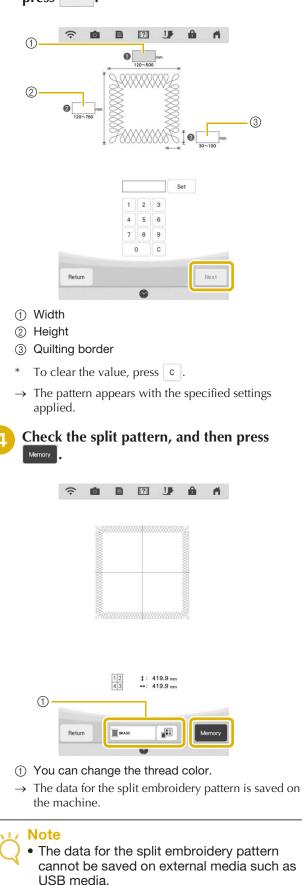


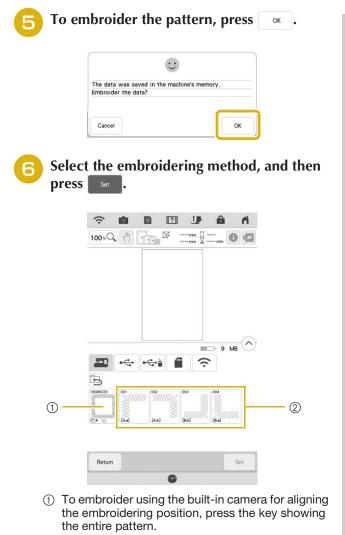






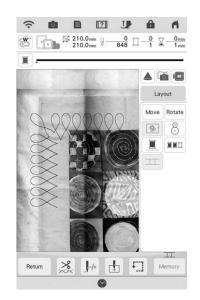
Enter values to each of the width and height of the sash and quilting border, and then press Set . After entering all three values, press Next .





- ② To embroider by visually aligning the pattern sections, press the pattern section to be embroidered.
- This manual shows method ①. For method ②, refer to "Embroidering Split Embroidery Patterns" on page 129.
- 7 Press \_\_\_\_\_.
- Attach the embroidery frame along with the first section being embroidered, and scan the frame. For scanning the background, refer to "Display the Fabric While Aligning the Embroidering Position" on page 92.

9 Move and rotate the pattern to align with the background.



- For moving the pattern, refer to "Moving the Pattern" on page 63.
- For rotating the pattern, refer to "Rotating the Pattern" on page 63.



11

Embroider the first section.

After embroidering the first section, following message appears. Press or .

	?
Embroidery is fi	inished.
OV to consist -	next pattern?
UK to connect n	love partonn:
UK to connect n	
OK to connect n	
OK to connect n	

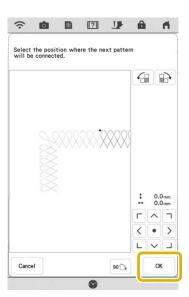
 $\rightarrow\,$  Move to embroider the second section.





## **Press**

OK



4 Embroider the rest of the section following the step (3) on page 133 through step (1) on page 136 of "Connecting Three Patterns".

## Embroidering Split Embroidery Patterns

Split embroidery patterns created with Palette Ver.7 or later can be embroidered. With split embroidery patterns, embroidery designs larger than the embroidery hoop are divided into multiple sections, which combine to create a single pattern after each section is embroidered.

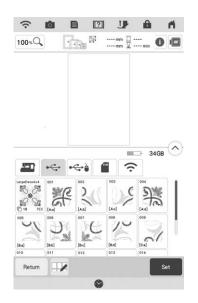
For details on creating split embroidery patterns and for more detailed embroidering instructions, refer to the operation manual included with Palette Ver.7 or later.

The following procedure describes how to read the split embroidery pattern shown below from USB media/SD card and embroider it.



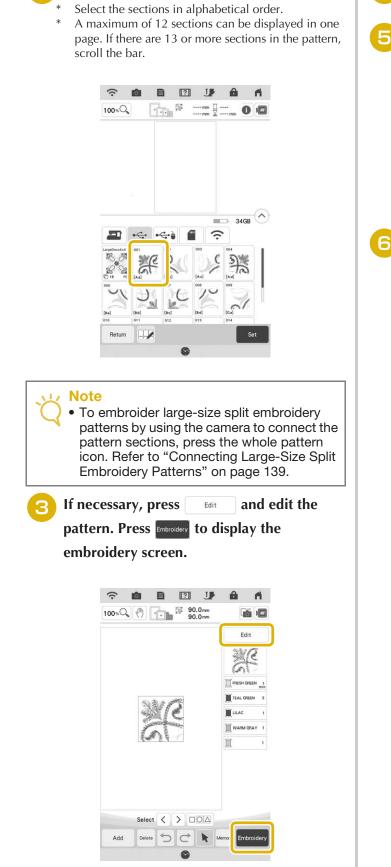
### Connect to the machine the media containing the created split embroidery pattern, and then select the split embroidery pattern to be embroidered.

\* For details on recalling patterns, refer to "Recalling from USB Media/SD card" on page 112.



→ A screen appears so that a section of the split embroidery pattern can be selected.

Select section **K** to be embroidered.



- 🦙 Memo
  - The pattern can be rotated 90° to either the left or right when Rotate is pressed.

- Press the "Start/Stop" button to embroider the pattern section.
- B When embroidering is finished, the

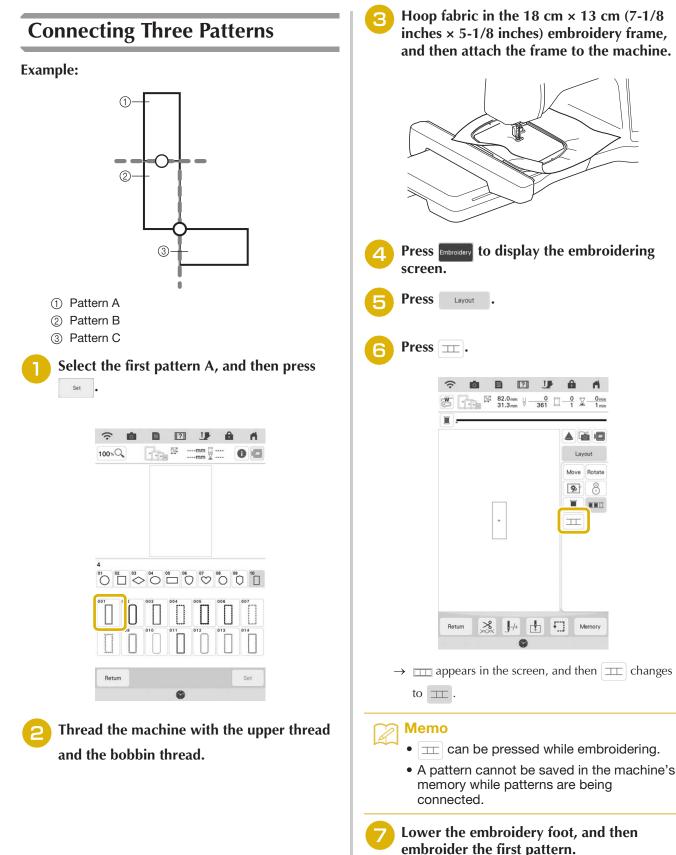
following screen appears. Press or .

	?
Embroider the next segme	ent?
Cancel	ок

- $\rightarrow$  A screen appears so that a section of the split embroidery pattern can be selected.
- Repeat steps **(2)** through **(5)** to embroider the remaining sections of the pattern.

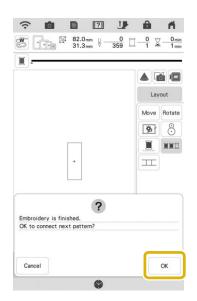
## **USING THE CAMERA TO CONNECT PATTERNS**

Instead of using thread marks, the camera can be used to connect patterns in the Embroidery Edit screen. Select the appropriate frame depending on the size of the embroidery. At this time, the margin for the pattern is about 3 cm (1-3/16 inches). The small embroidery frame (2 cm  $\times$  6 cm (1 inch  $\times$  2-1/2 inches)) cannot be used with the camera function.



2

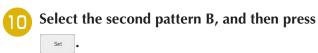
After embroidering of the first pattern is finished, the following message appears. Press .

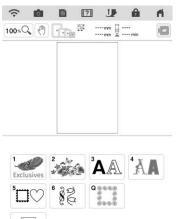


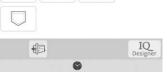


When the following message appears, press  $\overline{o\kappa}$ .

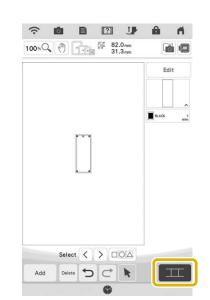








Press **1**, and then select how the patterns will be connected.

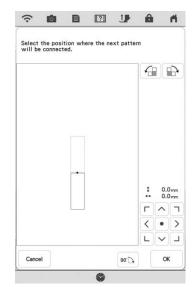


 $\rightarrow$  The pattern connection setting screen appears.

#### 🏹 Memo

• You can edit the second pattern in this screen.

Select the position of the second pattern by pressing on the screen. Press or after specifying the position.



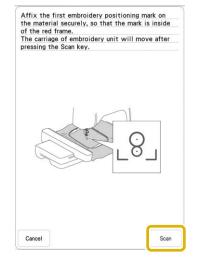
You can adjust the position of the second pattern using the keys described below.

Prepare two embroidery positioning stickers. Follow the on-screen instructions to affix the two stickers to the fabric so that the positioning marks can be detected by the camera.

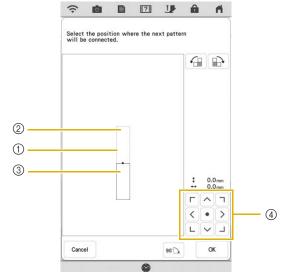
### V Note

14

- Use the embroidery positioning stickers included with this product or purchase replacement stickers (BLSO-EPS) from your authorized Baby Lock retailer. If any other sticker is used, the camera may not recognize it.
- The 182 mm × 257 mm (7 inches × 10 inches) embroidery positioning sticker sheet with strong adhesive is most appropriate for connecting patterns (BLSO-EPS). If any other positioning sticker is used, it may peel off. If the sticker peels off, the patterns cannot be connected.
- Affix the first embroidery positioning sticker onto the fabric within the red lines that now appear on the screen of the machine by using both hands to press down on each corner of the sticker. Affix the sticker with the large circle to the top as shown on machine. Then, press Scan .



 $\rightarrow\,$  The camera detects the first embroidery positioning sticker.



- ① Connecting point
- ② First pattern A
- ③ Second pattern B
- ④ Press to move the second pattern.

	Press to rotate the second pattern in a clockwise arc referring the first pattern as a center.
	Press to rotate the second pattern in a counterclockwise arc referring the first pattern as a center.
<b>80.</b> [ <b>7</b>	Rotate the second pattern 90 degrees in a clockwise arc.

→ Message appears on screen and carriage will move after pressing  $o_{K}$ .

### Vie Note

The second pattern will be automatically connected to the first pattern without adjustment. Change the position of the

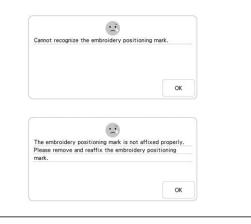
second pattern manually using C.

- The position of the second pattern can be moved using your finger or the included dual purpose stylus.
- Use , for which if you want to align the pattern to the corner of the center of the first pattern, when changing the pattern's connecting position.

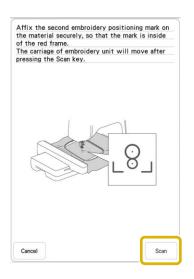
3

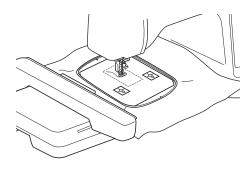
### Vote

- Do not peel off the first embroidery positioning sticker to use it for the second embroidery positioning mark.
- Use new embroidery positioning stickers. If a sticker is reused, it may easily peel off. If the sticker peels off during this procedure, the patterns cannot be connected.
- Use your fingers to apply pressure to the corners of the embroidery positioning sticker to firmly affix it to the fabric. If the sticker is not firmly attached, the camera may incorrectly detect the sticker.
- If any of the following messages appear, reattach the embroidery positioning sticker in the correct position. Make sure that the sticker is affixed with the large circle at the top.

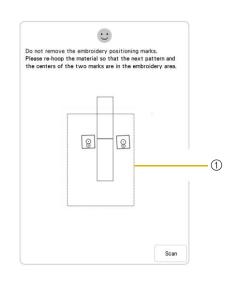


Use both hands to affix the second embroidery positioning mark within the red lines that now appear on the machine by pressing down on each corner of the positioning mark onto the material and then touch scan.





- → The camera detects the second embroidery positioning sticker.
- 16 After the two embroidery positioning stickers have been detected, the following message appears.



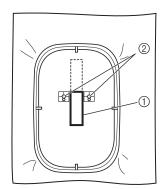
① Embroidering area

#### 🟒 Note

• The positioning markers are shown with a tilted appearance to make sure that as long as the markers were placed with the red outlined square, they will be read properly and correct connection can be assured.

While making sure that the two embroidery positioning stickers do not peel off, remove the embroidery frame from the machine, and then rehoop the fabric. Be sure to hoop the fabric so the next pattern and both the embroidery positioning stickers are within the embroidery area. Reattach the frame

and press Scan .



- ① Pattern to be embroidered next
- ② Centers of large circles for stickers
- → The camera detects the two embroidery positioning stickers.

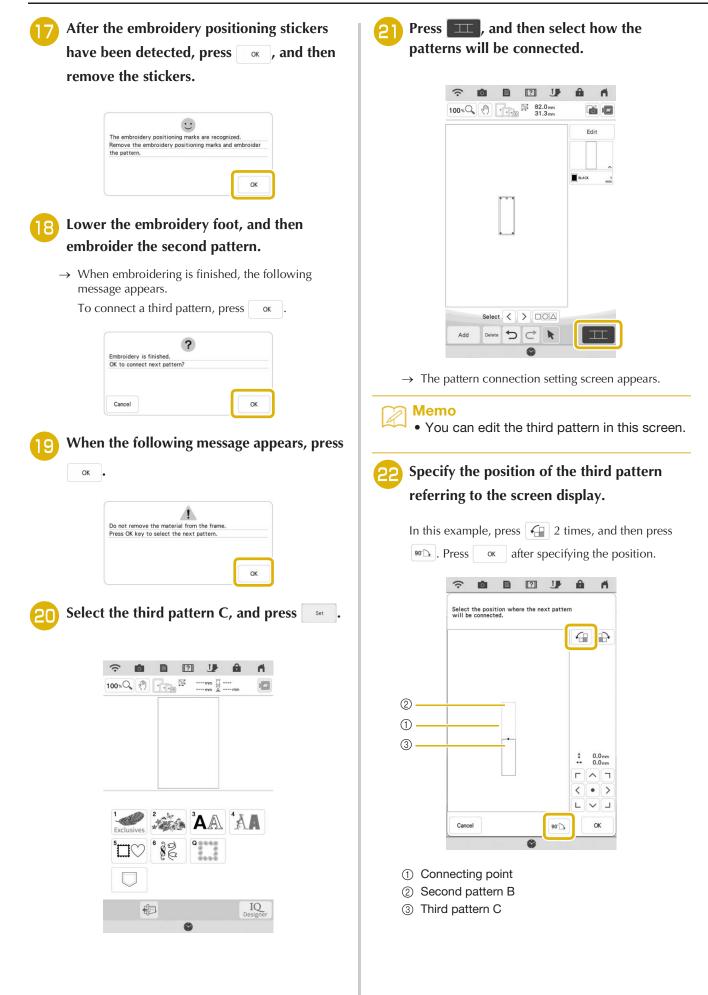
#### 🟒 Note

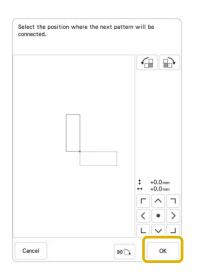
 If either of the following messages appear, rehoop the fabric so that the next pattern and both the embroidery positioning stickers are within the embroidery area as indicated in the screen.

Press scan to detect the embroidery positioning stickers.

Please re-ho pattern and the embroid	op the material so that the centers of the two ery area.	the next marks are in
	8 - 8	
Cancel		Scan
	ttern is out of the embr	
Please re-ho pattern and	ttern is out of the emb op the material, so that the centers of the two	the next
Please re-ho	ttern is out of the emb op the material, so that the centers of the two	the next

- If the machine detects that the next pattern and the centers of the large circles of the two embroidery positioning stickers do not fit within the embroidering area, the operation will be paused. Follow the onscreen instructions to reposition the embroidery positioning stickers. Refer to "Changing the Position of a Sticker" on page 137 to reposition the stickers.
- If the sticker peels off during this procedure, the patterns cannot be connected. If this occurs, restart the procedure from the beginning.
- To quit positioning, press Cancel .





→ Message appears on screen and carriage will move after pressing  $o_{K}$ .

## 23

## Lower the embroidery foot, and then embroider the third pattern.

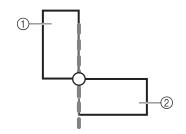
→ When embroidering is finished, the following message appears. When finished connecting patterns, press cancel.

OV +	inished.	
OK to connect	next pattern?	

## .

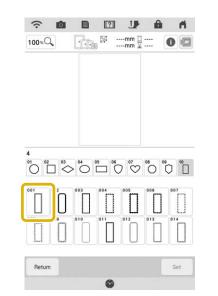
## Changing the Position of a Sticker

If the selected pattern or embroidery positioning stickers for connecting the next pattern do not easily fit in the embroidering area, follow the on-screen instructions that appear after step 15 on page 134 in order to move the embroidery positioning stickers. For an example, the on-screen instruction appears when you use the embroidery frame with a size of 10 cm × 10 cm (4 inches × 4 inches) to connect patterns as shown below.

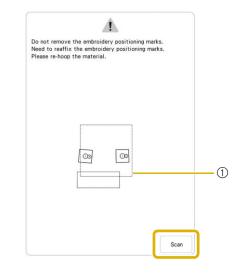


- ① Pattern A
- ② Pattern B

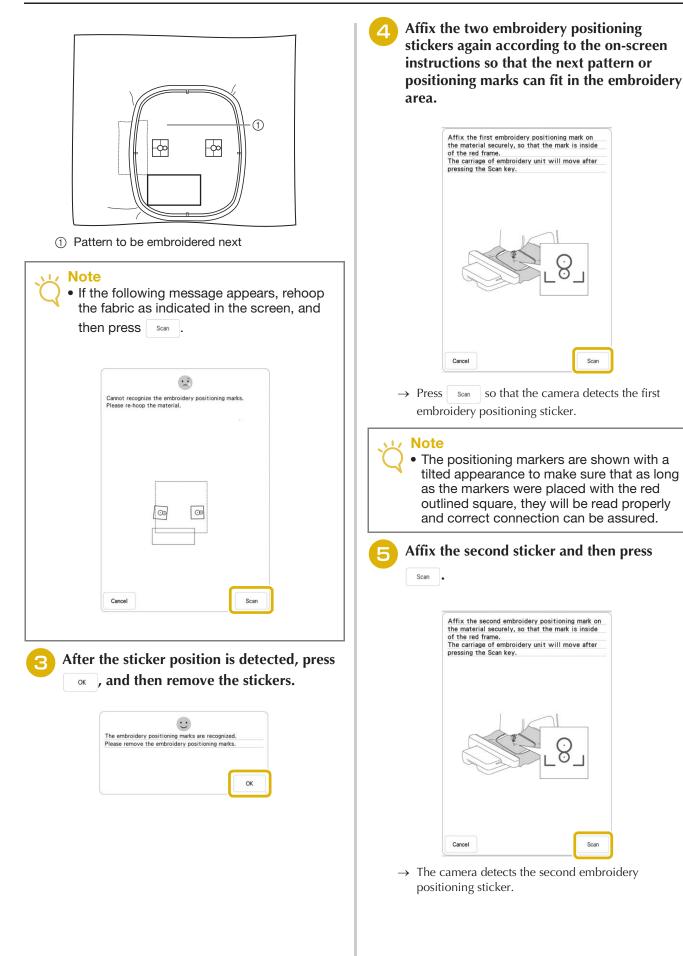
Refer to steps 1 through 1 of "Connecting Three Patterns" using the embroidery frame with a size of 10 cm × 10 cm (4 inches × 4 inches) to embroider the first pattern and to connect the second pattern.



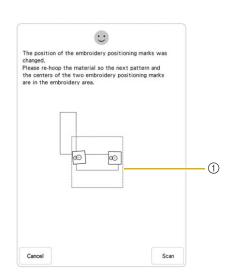
Following message appears in step **1**<sup>©</sup> if the next pattern or affixed embroidery positioning stickers are close to being out of the embroidering area. Follow the instructions and then press **Scan**.



① Embroidering area

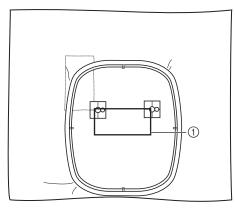


After the two embroidery positioning stickers have been detected, the following message appears. While making sure that the embroidery positioning stickers do not peel off, rehoop the fabric according to the example displayed on the on-screen instruction.

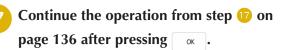


① Embroidering area

6

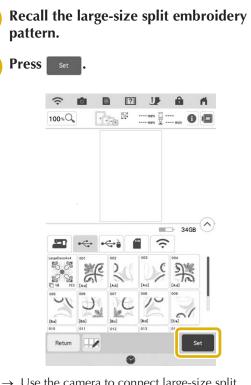


① Pattern to be embroidered next



## Connecting Large-Size Split Embroidery Patterns

Large-size split embroidery patterns can be embroidered if embroidery positioning stickers are used.



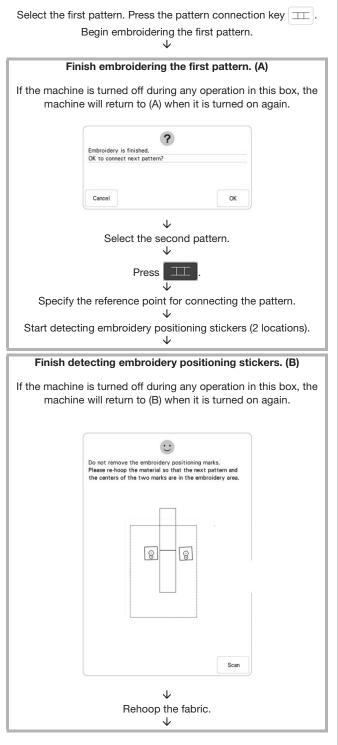
- $\rightarrow$  Use the camera to connect large-size split embroidery patterns.
- Embroider the first pattern.
- 4. Refer to steps 18 to 17 of "Connecting Three Patterns" on page 131 to embroider the remaining patterns.

Advanced Editing 🛞

## **Resume Feature**

If the machine is turned off while the pattern connecting function is being used, the machine will return to the operation indicated below when it is turned on again. The machine operation will differ depending on when it is turned off.

### Example: When connecting two patterns



Finish detecting embroidery positioning stickers (2 locations).



 $\Psi$  Finish embroidering the second pattern.



## ABOUT IQ DESIGNER

With IQ Designer, you can use the functions listed below:

- Hand-drawn functions creating embroidery patterns by drawing on the LCD screen
- Scanning functions creating embroidery patterns by not only scanning object with built-in camera, but also imported data from USB media or SD card.

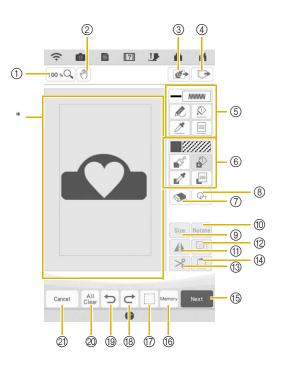
You can also combine patterns that you have created with the machine's built-in patterns.

Start IQ Designer by pressing	IQ	in the home page screen or pre-	ssing IQ Designe	in the embroidery pattern
selection screen.				

## **A** CAUTION

- Only touch the screen with your finger or the dual purpose stylus included with the machine. Do not use a mechanical pencil, screwdriver or any other hard or sharp object. In addition, do not press the screen with extreme pressure. Otherwise the screen may be damaged.
- All or part of the screen may sometimes become darker or lighter due to changes in the surrounding temperature or other changes in the environment. This is not a sign of a malfunction. If the screen is difficult to read, adjust its brightness.

## PATTERN DRAWING SCREEN



\* Pattern drawing area

### Memo

- The actual dimension of the pattern area is the size of the embroidery frame, which is 40.8 cm × 27.2 cm (approx. 16 inches × 10-5/8 inches). The pattern you drew may be bigger than you expected. Please resize the pattern after converting the design to the embroidery pattern.
- When the pattern is enlarged so that only a part of it appears in the pattern drawing area, the entire pattern is displayed in the pattern preview area. The red frame in the pattern preview area indicates the part of the pattern displayed in the pattern drawing area. Move the red frame in the pattern preview area with the dual purpose stylus or your finger to display the corresponding area in the pattern drawing area.

## **Key functions**

No.	Display	Key Name	Explanation	Page
1	100 %Q	Magnify key	Press this key to magnify the pattern.	147
2		Hand key	Press this key to move the canvas when it is magnified.	_
3	<b>2</b>	Scan key	Press this key to select background image scanning, line scanning or illustration scanning.	155, 159, 162
4		Recall key	Press this key to recall image data created with IQ Designer from the machine's memory, USB media, SD card or the computer.	_
5		Line tool key	Draw lines and set the color. You can select the line type, stitch type and color as you need.	145
			Press <i>to pick up the color, line type and stitch type from a line in the pattern within the pattern drawing area. The picked up color is shown as the currently selected line color beside the button and as the selected color in the Line Property screen.</i>	
6		Brush tool key	<ul> <li>Paint with brush and set the color. You can select the brush type, fill type and color as you need. Painted lines and areas will be converted to the pattern embroidered with fill stitch.</li> <li>Press  to pick up the color, brush type and fill type from a region</li> </ul>	147
			in the pattern within the pattern drawing area. The picked up color is shown as the currently selected region color beside the button and as the selected color in the Region Property screen.	
7		Erase key	Press this key to erase lines and shapes that have been drawn. You can select the size/shape of the eraser.	149
8	P	Stamp key	Press this key to select the stamp shape for pattern drawing.	148
9	Size	Size key	Press this key to change the size of the selected section.	149, 166
10	Rotate	Rotate key	Press this key to rotate the selected section.	149
1		Mirror image key	Press this key to create a mirror image of the selected pattern.	150
12		Duplicate key	Press this key to duplicate the selected section. The temporarily positioned section can immediately be rotated, enlarged, reduced or moved.	150
13	*	Cut key	Press this key to cut out the selected section.	150
14		Paste key	Press this key to paste in the selected section duplicated with the duplicate key or a selected section using the cut key.	150
15	Next	Next key	Press this key to continue to the stitch settings screen.	—
16	Memory	Memory key	Press this key to store the pattern being created.	-
17		Select key	Press this key to select a section for moving by finger or pen, copying, deleting, changing size and rotating lines and shapes that have been drawn.	150
18	¢	Redo key	Press this key to redo the last operation that was undone.	—
19	C	Undo key	Press this key to undo the last operation that was performed and return to the previous state. Each press of this key will undo one operation.	-
20	All Clear	All Clear key	Press this key to clear all the lines and shapes and start from the beginning. The background image is also cleared.	_
2)	Cancel	Cancel key	Press this key to exit from IQ Designer. All lines and shaped are erased when you press this key.	_

## **Before Creating Designs**

The pattern preview displays the design smaller than the actual size. You can view the actual pattern size by setting the "Embroidery Frame Display".

With "Embroidery Frame Display" in the settings screen, the embroidery frame and grid can be specified separately. For details on the types of embroidery frames and grids available, refer to "Changing the Embroidery Frame Display" on page 103.





Select the grid line of the "Embroidery Frame Display".

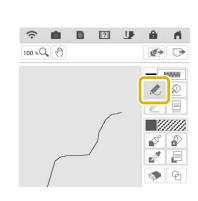
I (•	Embroidery Frame Display		
	Frame size	272 × 408 mm >	-1
	Grid		2
	ал. 		
(;	<b>d e</b> ? .	ur a n	
		> > 1	

+)( 215	Embroidery Frame Display	
	Frame size	272 × 408 mm

- ① Embroidery frame types
- ② Grid types
- Select the grid size 10 mm (3/8 inch) or 25 mm (1 inch).

## **Drawing Lines**







• When *k* is pressed, all regions will be displayed in the background to clarify the drawing lines on the screen.

### Setting the line types, stitch types and colors

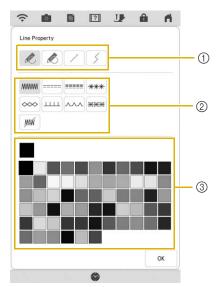
You can set or change the line types, stitch types and colors anytime. You can also specify the line types, stitch types and colors before drawing lines.



# Press 📃 to set the line types, stitch types and colors.



### $\rightarrow$ The settings screen appears.



- ① Line types
- Stitch types
- ③ Line color selection: touch the color palette to activate the drawing pen color.

### Line types

R	Freehand line with the end open.	
	Freehand line closing the end automatically.	
	Straight line with one stroke	
5	Straight line changing directions to the point you select. If the end point is created near the start point, a closed object will be created.	

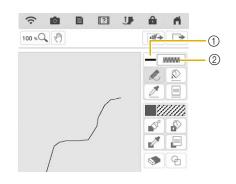
### Stitch types

	Zigzag stitch	
====	Running stitch	
	Triple stitch	
**	Candlewicking stitch	
~~	Chain stitch	
111	L E stitch	
~~	V stitch	
<del>56 56</del>	Select motif stitches Displays motif stitch selection screen, where Select can be pressed to select a pattern.	
J##	Line without stitch for creating a region. Created region will be defined by the gray line.	

### **2** P

# Press or to return to the pattern drawing screen.

 $\rightarrow$  You can check the selected stitch type and color.



- ① Color bar
- Stitch type

# Press 🔊 then press on the line to change its color.

→ The connected line will be changed to the selected color.



- Press 100 % to magnify the image when you cannot press on the line correctly. For details on magnify the image, refer to "Displaying Patterns in the Screen Magnified" on page 73.
- Press , and then select a color within the pattern drawing area to apply the same color to other lines or parts of the pattern.

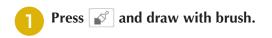


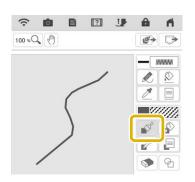
() Use  $\nearrow$  to select the line color.



② Press for changing the line color, and then select the pattern to be changed.

## **Drawing Regions**

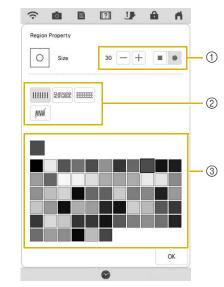




### Setting the brush types and fill colors



Press 📄 to set the brush types and fill colors.



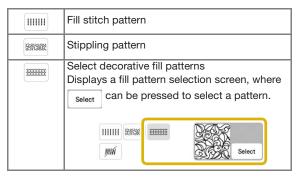
- ① Brush types
- ② Fill stitch types
- ③ Fill color selection: touch the color palette to activate the paint brush color.

### **Brush shapes**

	Square brush	
	Round brush	

To select the brush size, press - or +.

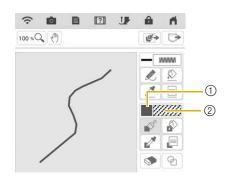
### Fill stitch types



Select when you don't want fill stitch.



 $\rightarrow$  You can check the selected stitch type and color.

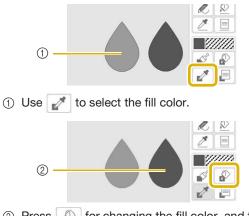


- ① Color bar
- \* If a stippling pattern or decorative fill pattern has been specified, the settings are displayed.
- Stitch type

Press and press on the brush line to change color and fill stitch types. You can also set the fill color, stitch type and fill pattern of a closed area made of the lines and brush lines.

### 🥱 Memo

- Press 100 KQ to magnify the image when you cannot press on the fill correctly.
- Press , and then select a pattern color in the pattern drawing area to apply that fill color to other patterns.



② Press for changing the fill color, and then select the pattern to be changed.

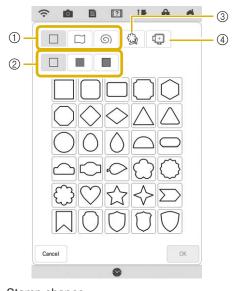
### Using the Stamp Key







Select a stamp type and stamp shape.



- ① Stamp shapes
- ② Stamp types
- ③ Saved outlines
- ④ Frame embroidering areas

### **Stamp shapes**

	Basic shapes
	Closed shapes
9	Open shapes

### Stamp types (Only for Basic shapes)

Γ		Outline	
Γ		Fill stitch	
Outline and fill stitch			
*	Select the outline ( ), fill stitch ( ), or outline		

and fill stitch ( 🔲 ) of a basic shape.

### Saved outlines

£3	Embroidery pattern outlines can be registered
B	as stamp shapes. When registering stamp
	shapes, select from the last six embroidery
	patterns used. If more than six shapes are
	registered, the oldest one is automatically
	erased. For details on registering a stamp
	shape, refer to "Decorative Stitching Around a
	Pattern in Embroidery (a Quilting Function)" on
	page 175.

### Frame embroidering areas

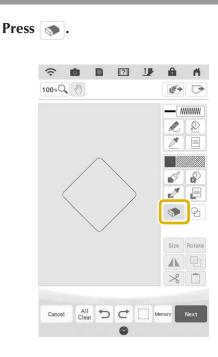
Select an embroidering area in o arrange the pattern to fit an embroidering area in o		ect an embroidering area in order to inge the pattern to fit an embroidery frame.	
*	Press	Cancel	to return to the pattern drawing screen.

### <mark>3</mark> P

Press or to set the selected stamp.

- $\rightarrow$  The pattern drawing screen is displayed.
- \* You can change size of, rotate or move the shape right after you create it by pressing Size or Rotate.

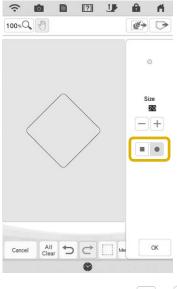
## Using the Erase Key



Select the shape of the eraser.

2





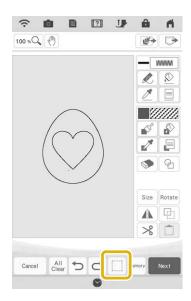
\* To select the eraser size, press - or +.

Drag along the area or line that you want to erase while the key appears as .

## Using the Select Key

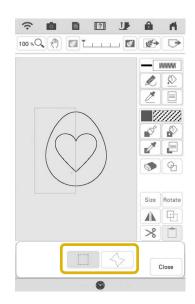
You can select the part of the design to move and/ or edit. Some keys are available only after you select the part.



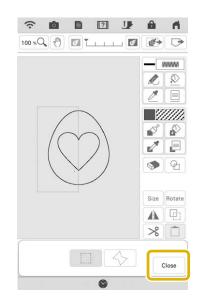




Select the method for selecting an area.



- Select the area you want to edit, and then press Close .
  - \* To select an area you want to edit, hold the dual purpose stylus at a point on the screen and drag the dual purpose stylus to create the red box around your selected area to be edited.



- 4 Edit the design with available keys. (Refer to "Key functions" on page 144 for the details of each key function.)
- **5** Press **Next**, and then specify the stitch setting.

# STITCH SETTINGS SCREEN

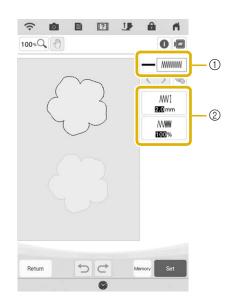
Before creating the embroidery pattern, specify the stitch settings. Lines of the design are sewn with various stitches and areas are sewn with fill stitches or stippling stitches. Stitching of the areas was already selected in "Drawing Regions" on page 147, so specify values of detailed settings.

After specifying the settings, press or to create the embroidery pattern.

## Specifying Individual Stitch Settings

Select a pattern in the stitch settings screen to specify its line and region stitch settings. If multiple patterns are selected, the settings are applied to those patterns.

### Line settings



① Shows the stitch type and color for the selected line.

② Shows the stitch settings for the selected line.

### Line sew stitch settings

Select the type of stitching you want applied to your

line art, from zigzag stitch ( mmm), running stitch

(-----), triple stitch (-----), candlewicking stitch \*\*\*\*

or chain stitch  $\infty$ .

### Zigzag stitch

MMI 2	Zigzag width	Specifies the width of the zigzag stitches used to sew the lines of the design.
///////	Density	Specifies the density of the zigzag stitches used to sew the lines of the design.

Running stitch ----- /Triple stitch ------\* Both includes an under sewing.

	-
i tun piton	Specifies the length of the straight stitch of the design.

### Candlewicking Stitch \*\*\*

** <b>≭</b> I Size	Increases/reduces the size of the pattern.
<u>**</u> ** Spacing	Specifies the spacing of the candlewicking stitch.

### Chain stitch \infty

Size	Increases/reduces the size of the pattern.
د <del>کھ</del> ∙ Thickness	Sets repeated sewing at the same part.

### E stitch ....

<u>⊥⊥⊥⊥</u> ፤ Stitch width	Increases/reduces the size of the pattern.			
⊥⊥⊥⊥⊥ ₩ Spacing	Specifies the spacing of the E stitch.			
د Thickness	Sets repeated sewing at the same part.			
Arrange	Specifies the orientation of the pattern.			
🔆 Flip	Specifies the decorative line shows up inside or outside.			

### V stitch

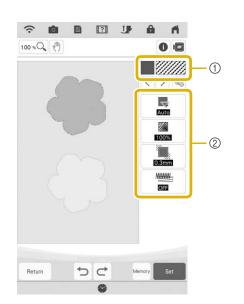
∧_∧_↓ Stitch width	Increases/reduces the size of the pattern.			
Spacing	Specifies the spacing of the V stitch.			
• <del>ڪچ</del> ∙ Thickness	Sets repeated sewing at the same part.			
Arrange	Specifies the orientation of the pattern.			
🔆 Flip	Specifies the decorative line shows up inside or outside.			

### Motif stitch \*\*\*

— <u>米米米</u> Pattern selection	Select the pattern.			
<del>%%%</del> ्रा Size	Increases/reduces the size of the pattern.			
🛪 💥 Spacing	Specifies the spacing of the motif stitch.			
DDDD Flip	Specifies the decorative line shows up inside or outside.			

Magner 🛞

### Region settings



- ① Shows the stitch type and color for the selected region.
- O Shows the stitch settings for the selected region.

#### Fill stitch settings

Direction	Specifies the sewing direction. Select "Manual" to change to the desired direction of fill stitch.
Density	Specifies the stitch density of fill stitch.
Pull compensation	Specifies to correct the shrinkage of the pattern by slightly shortening or lengthening the stitching. Change the setting after you embroider the pattern and can check the shrinkage.
Under sewing	Select if you need or do not need the under sewing for the stabilized fabric.

### Stippling stitch settings

Run pitch	Specifies the length of a stitch of the stippling stitch.
र्देईट्र Spacing	Specifies the spacing between the stitches when embroidering the stippling stitch.
Distance	Specifies the offset from the pattern outline.
Single/ Triple stitch	Specifies the stitch type.

#### Decorative fill

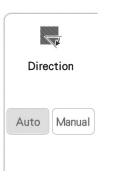
Size	Increases/reduces the size of the pattern.			
Direction	Specifies the rotation angle of the pattern.			
Outline	Select whether "ON" or "OFF" the outline is also converted to embroidery data. If "ON" is selected, the number of thread jumps can be reduced.			
8 Random shift	Randomly varies the line.			
Position offset	Specifies the reference point for the pattern.			

# Use $\langle \rangle$ to select the line or region to be changed.

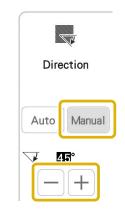
- → Each press of  $\checkmark$  > moves the highlighting of the selected pattern in order.
- Select the setting to be changed, and then change the setting in the screen that appears. (In this example, the sewing direction will be changed.)



 $\rightarrow$  The setting screen appears.



Press Manual, and then use -+ to change the direction.





Press or to apply the setting.

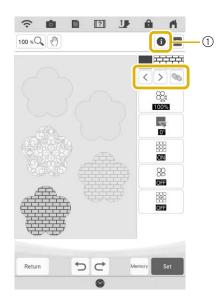
Change other settings in the same way.

## **Specifying Global Stitch Settings**

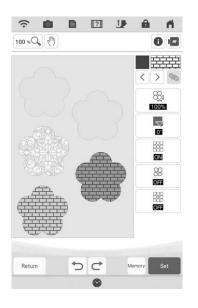
The same stitch settings can be changed at the same time for multiple patterns of the same type.



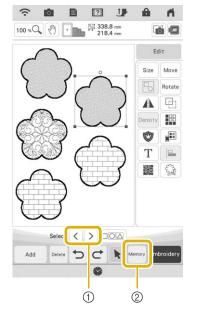
Use  $\langle \rangle$  to select the stitch whose settings are to be changed, and then press  $\infty$ .



- Press 1 to check various information such as the thread colors.
- → The same stitch type areas will be selected at the same time.



- 2 Follow steps 2 through 4 in "Specifying Individual Stitch Settings" on page 151 to change the settings.
- Press set to display the pattern editing screen.



- Press < > to check an enlarged view of the pattern.
- ② Press Memory to save the embroidery data.

# IQ DESIGNER WITH SCAN

## Using the Scanning Frame



Prepare the desired drawing/illustration.

# **CAUTION**

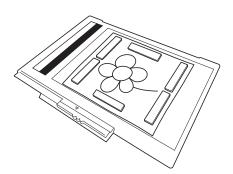
• To avoid having the embroidery foot strike the frame during the scanning process and possibly causing injury, check the following: the thickness of the fabric or paper, creases or folds in the fabric or paper that may be rolled up too close to the frame.

### 🔊 Memo

• Only one sheet of paper can be placed in the scanning frame per scan.

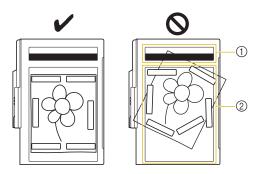
# Place the paper to be scanned in the scanning frame, and then secure the paper in place with the magnets.

 Place the magnets at six locations around the paper to secure it, making sure that the line drawing is not covered.



### V Note

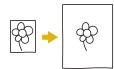
• When placing the paper in the scanning frame, make sure that the white balance area is not hidden; otherwise, the drawing cannot be scanned correctly. At the same time, be sure to place the scan image within the scan area. The image out of the scan area will not be scanned.



- ① White balance area
- ② Scan area
- Make sure that the white balance area or the scan area is not dirty or scratched; otherwise, the image cannot be scanned correctly.
- Be sure to use the magnets which are included with the scanning frame. If any other magnets are used, they may become attached to the machine during scanning, or other problems, such as a misaligned scan image, may occur.
- Be sure to place the magnets so that they secure the paper firmly. If the paper is placed unevenly, the image cannot be scanned correctly.
- If the scanning frame is dirty, wipe it with a cloth dampened with a diluted neutral detergent solution.

### Memo

 If you want to scan an image from a small piece of paper that can't be held with the magnets, copy that image onto a larger piece of paper, to then be placed on the scanning frame.



# Attach the embroidery unit to the machine, and then turn on the machine.

\* Refer to "ATTACHING THE EMBROIDERY UNIT" on page 13.

### 🗸 Note

• Unthread the machine to avoid having the thread slipping out of the needle or getting caught on the embroidery frame.

Press the "Presser Foot Lifter" button to raise the embroidery foot, and then press the "Needle Position" button to raise the needle.

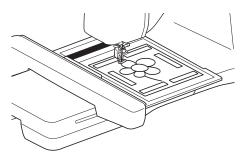
\* The embroidery foot is not raised high enough when raised with the presser foot lever.

# **A** CAUTION

• Make sure that embroidery foot and needle are fully raised. If scanning is started with the embroidery foot and needle lowered, the scanning frame may hit the machine, causing damage.

After attaching the scanning frame to the embroidery unit, swing the frame-securing lever toward you to secure the frame.

 Refer to "ATTACHING THE EMBROIDERY FRAME" on page 34.

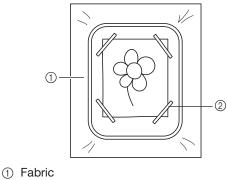


### 🟒 Note

• Be sure not to attach any embroidery foot other than the embroidery foot "W", otherwise the embroidery foot will be scanned.

### Scanning with an Embroidery Frame

Drawings and illustrations can also be scanned using an embroidery frame. Hoop the embroidery frame with fabric larger than the frame. Place the paper to be scanned on the fabric, and then secure it, with tape.



② Tape

## Scanning to Trace Background Image

If you have a favorite picture or drawing, it can easily be traced on the scanned background image and you can create your own pattern.





 $\rightarrow\,$  The image display screen appears.

- Using the magnets, affix a picture to the scanning frame and attach the frame to the machine. Refer to "Using the Scanning Frame" on page 154.
- Press Scan .

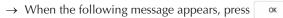


o convert an image to a line or fill image, scan the design vith the Scanning Frame so that your mashine can retrieve



### Note

• When scanning starts, some of the machine lights will turn off in certain circumstances, in order to increase the scan quality. The machine lights will return to their original brightness when scanning ends.





- $\rightarrow$  Scanning begins.
- To stop scanning and return to the screen in step 4, press cancel.

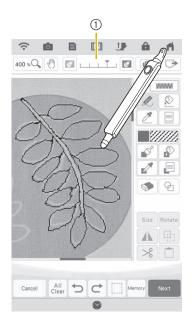
When scanning is finished, scanned image is 5 displayed transparently in the pattern drawing area.



Using the included dual purpose stylus, 6

> press *n*, and then draw lines to trace the image.

For details on drawing lines, refer to "Drawing Lines" on page 145.



① Transparency adjustment

Press *I* or *I* to adjust the transparency of the background.

Each press of **III** lightens the background, making

the line pattern darker. Each press of *darkens* the background, making the line pattern lighter.

After editing the pattern, press **Next** to specify the settings for pattern.

\*



Press **Set** to display the pattern editing

### ■ Importing the Background image

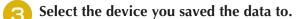
Prepare the data file of your favorite picture so that you can create an embroidery pattern. Save data as a .jpg file type in your computer, on a USB media stick or SD card.



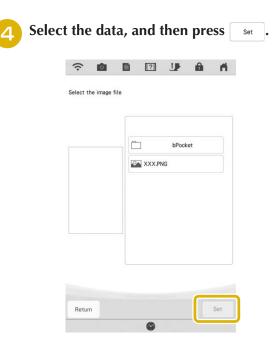
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	Cancel	All Clea	. 5	¢	[] M	emory	Next
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Press	<b>₩</b> +lm	lage scan					



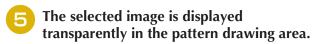
 $\rightarrow$  The image display screen appears.

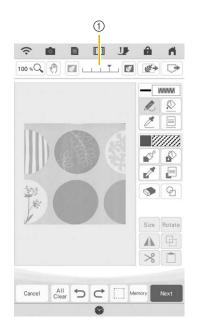


ŝ o i ? J ô 1 To convert an image to a line or fill image, scan the design with the Scanning Frame so that your mashine can retrieve appropriate color information. Scan Importing an image file • . Return 0 Note • You can import an image of 2 MB or smaller from USB media or SD card.



4





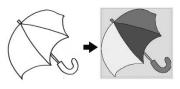
\* After the scanned image is converted to stitching, it appears as a background in the pattern drawing screen. Use gauge ① to adjust the transparency of

the background. Each press of 💽 lightens the background, making the line pattern darker. Each

press of 🔳 darkens the background, making the line pattern lighter.

## LINE SCAN

Custom patterns can be created from drawings. You can create patterns by scanning your drawings using the included scanning frame or importing an image from USB media or SD card.



### **Recommended line drawings for Line Scan**

- Line drawings must be drawn clearly using lines with approximately 1 mm thickness.
- Line drawings should be drawn in a strong contrast.
- If the lines are too short or gathered too densely, they will not be scanned correctly.

### V Note

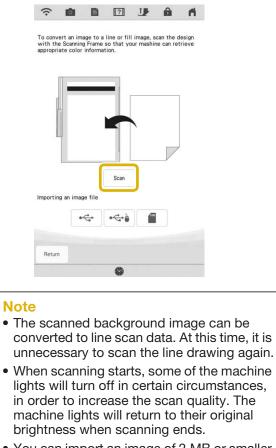
- For details on creating patterns using color illustrations, refer to "ILLUSTRATION SCAN" on page 162.
- If you cannot scan the drawings as expected, you can edit the design in IQ Designer. Refer to "PATTERN DRAWING SCREEN" on page 143.
- Line drawings are scanned without recognizing the thickness of lines. If you want to change the thickness of lines, specify in the settings screen. Refer to "STITCH SETTINGS SCREEN" on page 151.
- Line drawings are scanned as black lines. If you want to change the colors, specify in IQ Designer. Refer to "Drawing Regions" on page 147.

## Using the Scanning Frame to Create a Pattern with Line Scan



### Press Scan .

To import an image from USB media or SD card, press , or . For details, see "Importing the Background image" on page 157. \* If you scan the image, make sure that the scanning frame is attached to the machine. Refer to "Using the Scanning Frame" on page 154.



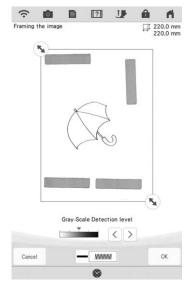
• You can import an image of 2 MB or smaller from USB media or SD card.



- $\rightarrow$  Scanning begins.
- \* To stop scanning and return to the screen in step (3), press Cancel.

### 4. When scanning is finished, specify the "Gray-Scale Detection level" on the screen if necessary.

The "Gray-Scale Detection level" can change the black and white threshold for the image.



- \* If you do not know how the settings should be changed, first continue the operation without specifying settings and check the results.
  - To stop scanning and return to the screen in
     step 3, press Cancel
     The scanned image will be

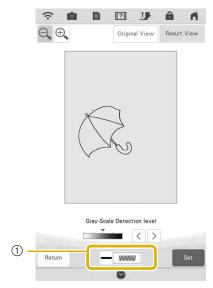
deleted when you return to the previous screen.

Move 📡 to frame the image for the pattern.

Press or .

 $\rightarrow$  The screen for confirming the converted image appears.

7 In the screen for confirming the converted image, you can adjust the "Gray-Scale Detection level" again, if necessary.



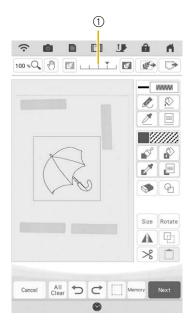
① The settings for the lines to be sewn appear.

- \* If you do not know how the settings should be changed, first continue the operation without specifying settings and check the results.
- \* To enlarge the image, press  $\oplus$ .
- To display the image before being converted, press
   Original View
   Compare the images before and after
- being converted, and then change the settings if necessary.
- \* To return to the previous screen, press Return .
- → After changes to the settings for "Detection level" is applied, Set changes to Retry. Press Retry to check that the image is as desired.

### Press Set .

 $\rightarrow$  The pattern drawing screen is displayed.





\* After the scanned image is converted to stitching, it appears as a background in the pattern drawing screen. Use gauge ① to adjust the transparency of

the background. Each press of 📧 lightens the background, making the line pattern darker. Each

press of s darkens the background, making the line pattern lighter.

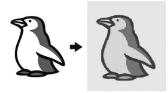
### Note

• During scanning, the small dots that appear and unnecessary lines can be erased.

Mail IQ Designer

## **ILLUSTRATION SCAN**

Custom patterns can be created from color illustrations. You can create patterns by scanning an illustration using the included scanning frame or importing an image from USB media or SD card.



### **Recommended illustrations for Illustration Scan**

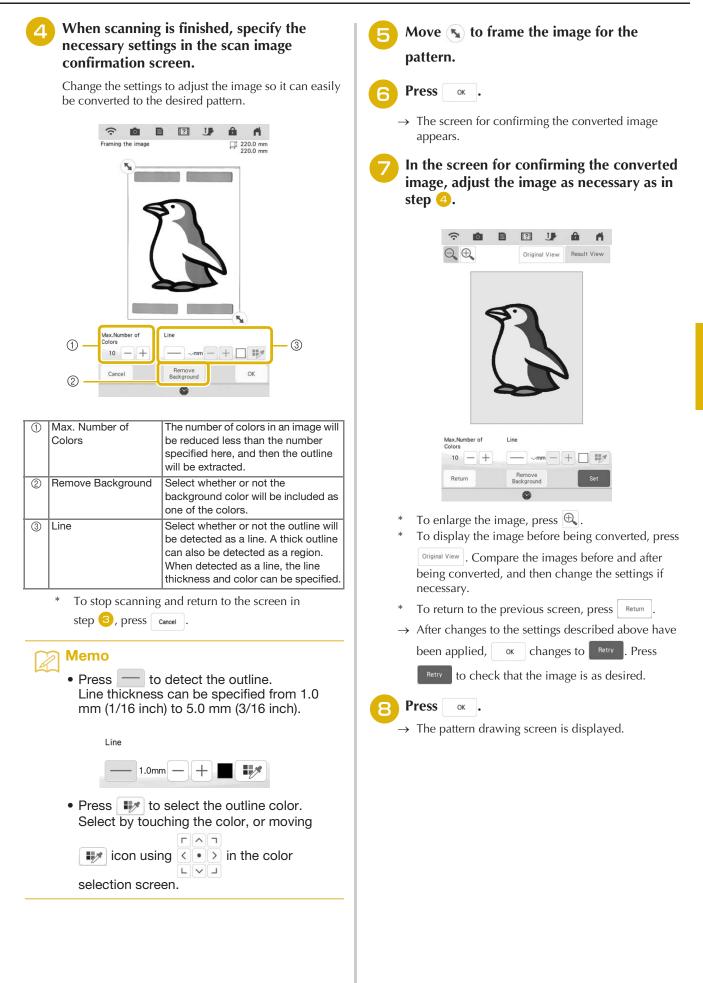
- Patterns that are clearly drawn, with no gradation, fading or blurriness.
- Patterns that are at least a 5 mm square
- Patterns that are extremely simple images

## Using the Scanning Frame to Create a Pattern with Illustration Scan

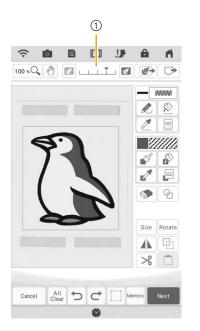
Press 🚁.



Press Illustration design .
Image scan         Image scan
<ul> <li>→ The image display screen appears.</li> <li>Press Scan .</li> <li>* To import an image from USB media or SD card, press e, e, or .</li> </ul>
To convert an image to a line or fill image, scan the design with the Scanning Frame so that your mashine can retrieve appropriate color information.
Importing an image file
Return
<ul> <li>Note</li> <li>The scanned background image can be converted to illustration scan data. At this time, it is unnecessary to scan the</li> </ul>
<ul> <li>illustration again.</li> <li>When scanning starts, some of the machine lights will turn off in order to increase the scan quality. The machine lights will return to their original brightness when scanning ends.</li> </ul>
$\rightarrow$ When the following message appears, press $\sim$ .
The frame will move to be scanned with the built-in camera.
<ul> <li>→ Scanning begins.</li> <li>* To stop scanning and return to the screen in step <sup>(C)</sup>, press <sup>(Cancel)</sup>.</li> </ul>



### **9** If necessary, edit the scanned image.



\* After the scanned image is converted to stitching, it appears as a background in the pattern drawing screen. Use gauge ① to adjust the transparency of

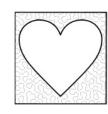
the background. Each press of slightens the background, making the illustration pattern darker.

Each press of starkens the background, making the illustration pattern lighter.

# STIPPLING

## **Basic Stippling with IQ Designer**

Create a stippling design with the basic procedure. Example:





\* You can also start the function by pressing [IQ] in "Embroidery" mode.





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			$\bigcirc$	$\bigcirc$	
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Press	<b>P</b> .				
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			]		

Select the square shape, and then press

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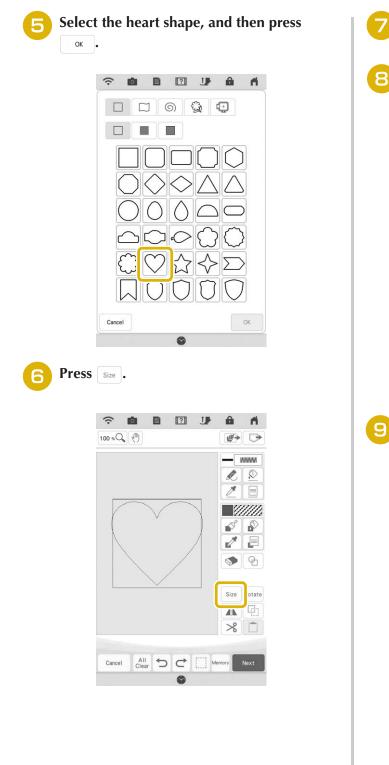
Size Rotate

\* 📋

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Cancel



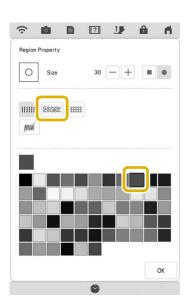
Press 🔢 until the heart shape fits in the 7 square shape, and then press ок .



Press  $\mathbb{A}$ , and then press  $\mathbb{P}$ .

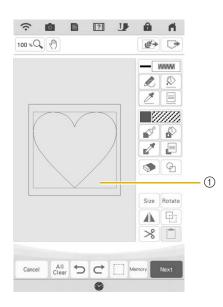


Press with and then select the stitch color. after setting the color. Press ОК





Select the area you want to set stippling effect.



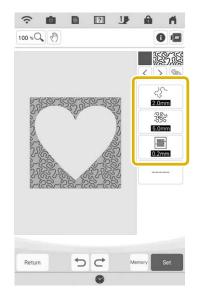
) Select this area.





# Adjust the stippling settings to create the desired effect, and then press

\* For details, refer to "Specifying Individual Stitch Settings" on page 151.

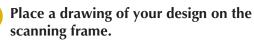


- 4
- Follow the procedure described on "Editing Patterns" on page 38 to edit the pattern as desired.

## Scanning Drawing to Create Stippling Pattern

Create a custom pattern with stippling design. **Example:** 



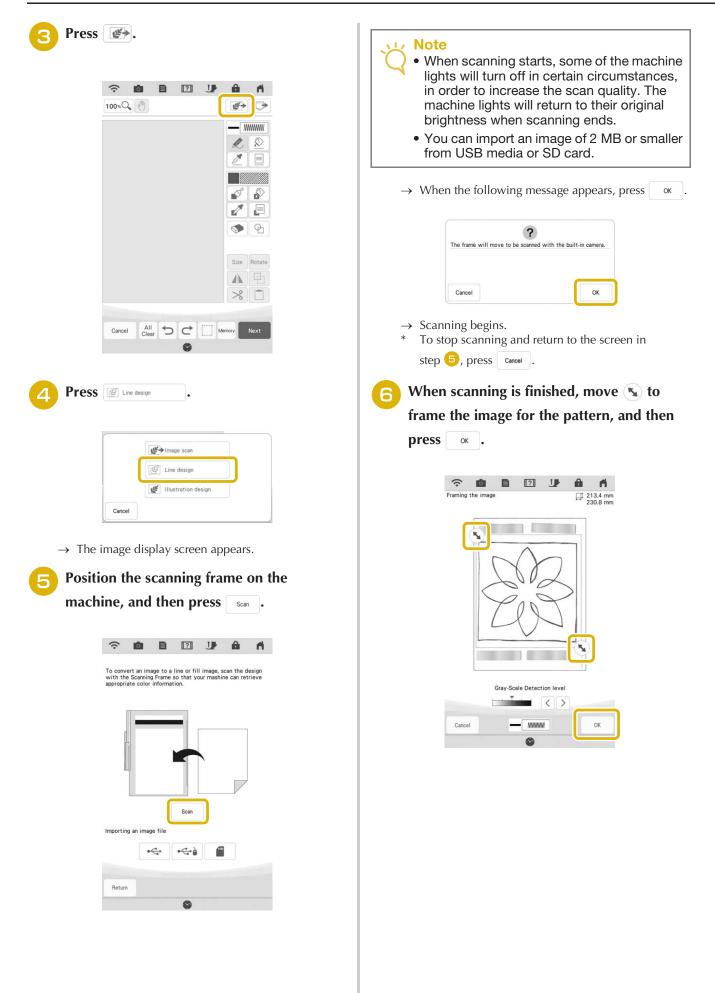




\*

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You can also start the function by pressing IQ Designer in "Embroidery" mode.



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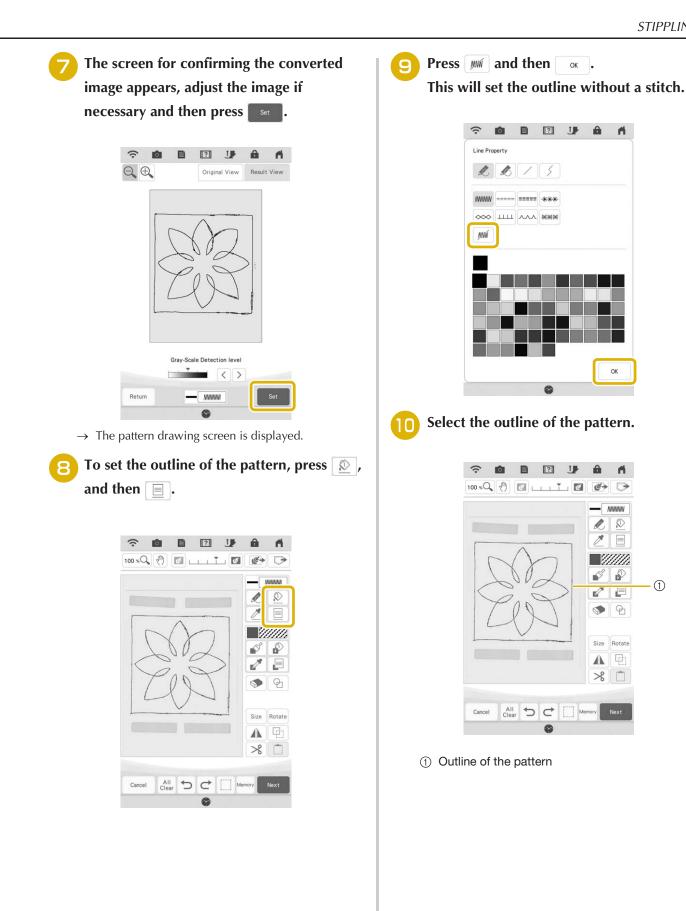
•

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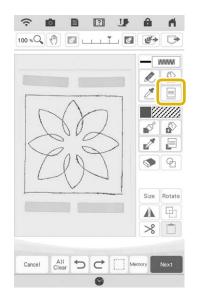
P

P

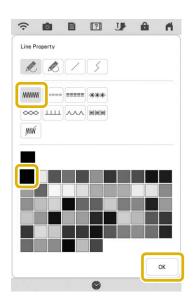
1



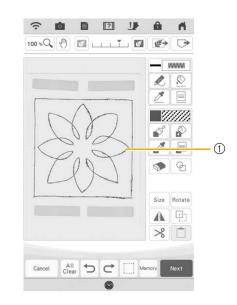
Press 📄 to select the color of the stitch around the stippling effect.



Press mmm and select the stitch color, and then press .



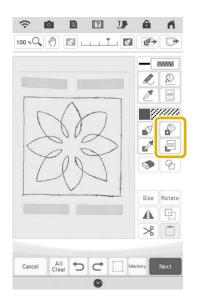
Select the stitch line around the stippling effect.



### ① Stitch line

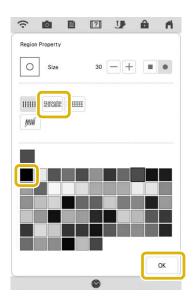


To set the stitch color and fill stitch type, press  $\bigcirc$ , and then  $\bigcirc$ .



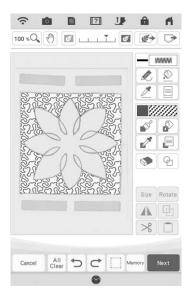


Press , and then select the stitch color. Press or after setting the color.





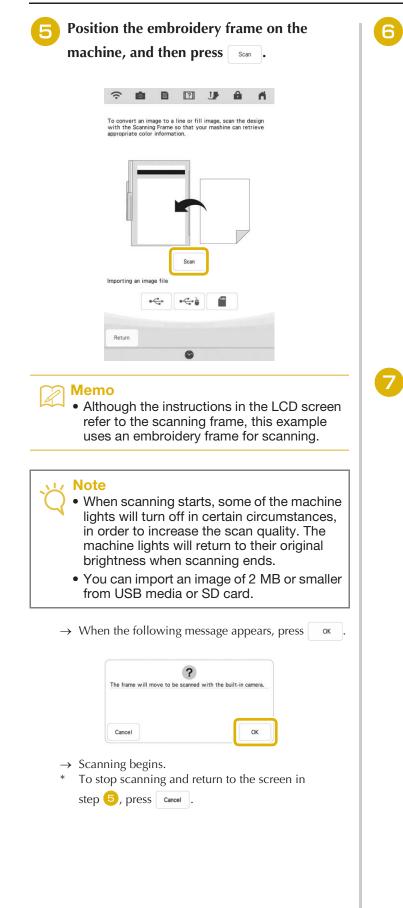
Select the area you want to set stippling effect.



Follow the procedure from step 1 of "Basic Stippling with IQ Designer" on page 165.

### **Scanning Fabric and Stippling** Use the fabric pattern to coordinate with the stippling pattern. Set the fabric to the embroidery frame. Press IQ You can also start the function by pressing IQ Designer in "Embroidery" mode. Press 🛃. ŝ Ó ? !! â ri. 100%Q ⓒ→ . WWWWW 0 1 P 2 E P Size Rotate > 📋 All Clear C Memory Next Cancel Press u → Image scan 🕼 Line design 🕊 Illustration design Cancel $\rightarrow$ The image display screen appears.

- IQ Designer

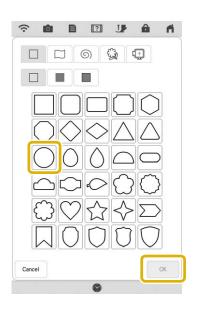


Press 🕞 .

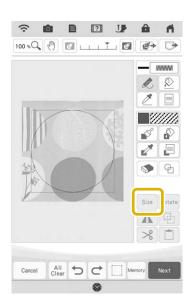




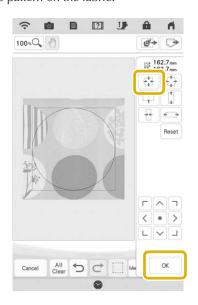
Select the circle shape, and then press







- Press 📳 until the size of circle fits the pattern on the fabric, and then press 🔍.
  - \* Use < >> to align the position of the circle to
    L < J</li>
    the pattern on the fabric.



To set the stitch color and fill stitch type, press 🔊, and then 📄.



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 Region Property

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OK

Press and then select the stitch color.

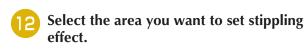
after setting the color.

11

Press

OK

173

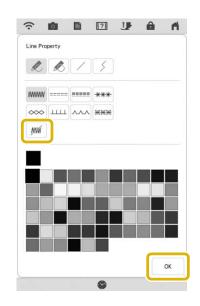




To set the outline of the pattern, press 🔊, and then 📄.

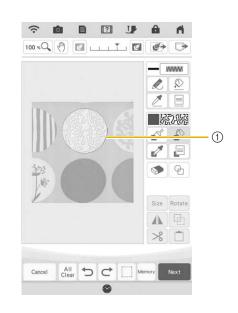


Press *m* and then <u>.</u>. This will set the outline without a stitch.





Select the outline of the pattern.



① Outline of the pattern

- Follow the procedure from step 10 of "Basic Stippling with IQ Designer" on page 165.
  - → Start embroidering on the fabric that you scanned at first.

## Decorative Stitching Around a Pattern in Embroidery (a Quilting Function)

### 🦙 Memo

• For best results, reduce the sewing speed.

A quilt can be created with stippling around an embroidery pattern.

- Hoop the embroidery frame with batting sandwiched between two layers of fabric, and then attach the frame to the machine.
  - Press and select the pattern that decorative stitching will be added around, and then press in the embroidery edit screen.



 $\rightarrow$  The outline of the pattern is displayed.

Press Memory



→ A message appears, and the pattern outline is registered as a stamp shape in IQ Designer. Press



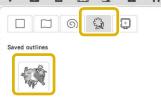
- Press Embroidery to continue to the embroidery screen, and then embroider the pattern.
- Press IQ in the home page screen to start IQ Designer.

6 Press I to scan the embroidered fabric. Refer to "Importing the Background image" on page 157 for details.



Press , press shape registered in step , and then arrange it over the scanned pattern.





# B Use a stamp or rectangular frame to determine the area to be stitched.

### V Note

 If the area is to be drawn by hand, be sure to draw a completely closed shape. If the area is not closed, it cannot be correctly filled with the decorating.



**9** Use the brush tool keys to select the pattern and color of the decorative stitching.





Fill the area to be stitched outside of the stamp shape outline.



D

### to *m*, and then press **Next**.

\* Stitch settings can be adjusted in the stitch settings screen. For details, refer to "STITCH SETTINGS SCREEN" on page 151.

Set the line type for the frame and pattern



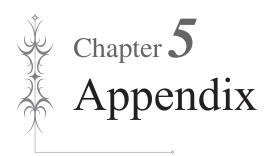
Specify the stitch spacing and length in the stitch settings screen, and then press stitch settings.





## Embroider the stippling around the embroidery pattern.

4



# TROUBLESHOOTING

If the machine stops operating correctly, check the following possible problems before requesting service. You can solve most problems by yourself. Visit us at "<u>www.babylock.com</u>". If the problem persists, contact your authorized Baby Lock retailer.

## **List of Symptoms**

### ■ Getting ready

Problem	Cause	Solution	Page
Cannot thread the needle.	Needle is not in the correct position.	Press the "Needle Position" button to raise the needle.	_
	Needle is installed incorrectly.	Reinstall the needle correctly.	11
	Needle is turned, bent or the point is dull.	Replace the needle.	11
	Upper threading is incorrect.	Check the steps for threading the machine and rethread the machine.	22
	The needle threader hook is bent and does not pass through the eye of the needle.	Contact your authorized Baby Lock retailer.	_
	The needle threader lever cannot be moved or returned to its original position.	Contact your authorized Baby Lock retailer.	-
	A size 65/9 needle is being used.	The needle is incompatible with the needle threader. Manually pass the thread through the eye of the needle.	25
Cannot lower the embroidery foot with the presser foot lever.	Embroidery foot was raised using the "Presser Foot Lifter" button.	Press the "Presser Foot Lifter" button to lower the embroidery foot.	_
Bobbin thread does not wind neatly on the	The thread is not passed through the bobbin winding thread guide correctly.	Correctly pass the thread through the bobbin winding thread guide.	16
bobbin.	Bobbin spins slowly.	Press + in the bobbin winding window to increase the bobbin winding speed.	17
	The thread that was pulled out was not wound onto the bobbin correctly.	Wind the thread that was pulled off around the bobbin 5 or 6 times clockwise.	16
	The empty bobbin was not set on the pin properly.	Set the empty bobbin on the pin and slowly turn the bobbin until you hear it click in place.	15
While winding the bobbin, the bobbin thread was wound below the bobbin winder seat.	You have not wound the bobbin thread properly when you are initially winding thread on the bobbin as well as being sure that the bobbin thread is set in the guides.	After removing the thread wound below the bobbin winder seat, wind the bobbin correctly. Follow the drawn images on the top of the machine for guidance when threading the machine for bobbin winding.	15
The bobbin thread	Needle is turned, bent or the point is dull.	Replace the needle.	11
annot be pulled up.	Bobbin is set incorrectly.	Reset the bobbin thread correctly.	20
Vachine does not operate	All keys and buttons have been locked by	Press to unlock all keys and Up buttons.	9, 11
Nothing appears in	Main power switch is not turned on.	Turn the main power to ON.	_
he LCD.	The plug of the power cord is not inserted into an electrical outlet.	Insert the plug of the power cord into an electrical outlet.	_
The LCD screen does not look very clear.	The brightness of the screen is not adjusted.	Adjust the "Screen Display Brightness" in the settings screen.	_
Nothing happens, even if the LCD display is pressed	The screen has been locked.	Press either of the following keys to unlock the screen.	-

Problem	Cause	Solution	Page
The LCD screen is fogged up.	Condensation has formed on the LCD screen.	After a while, the cloudiness will disappear.	-
	Embroidery unit is not attached correctly.	Reattach the embroidery unit correctly.	13
not operate.	Embroidery frame was attached before the unit was initialized.	Remove the embroidery unit, and then perform the initialization process correctly.	13
Pointer of the projector does not	With thick elastic fabric, the position will be misaligned only at raised parts in the fabric.	Manually adjust the position according to the thickness of the fabric.	47
indicate the position correctly	With fabric having a very uneven surface, the position is not correctly aligned.	The pointer indication should be used only as a reference.	-

## ■ While embroidering

Problem	Cause	Solution	Page
Machine does not	"Start/Stop" button was not pressed.	Press the "Start/Stop" button.	_
operate.	There is no pattern selected.	Select a pattern.	36
	Embroidery foot is not lowered.	Lower the embroidery foot.	_
leedle breaks.	Needle is installed incorrectly.	Reinstall the needle correctly.	11
	Needle clamp screw is not tightened.	Tighten the needle clamp screw.	12
	Needle is turned or bent.	Replace the needle.	11
	Using improper needle or thread for the selected fabric.	Refer to the "Fabric/Thread/Needle Combinations" chart in the Instruction and Reference Guide (Sewing).	-
	Wrong embroidery foot was used.	Use the recommended embroidery foot.	10
	Upper thread tension is too tight.	Adjust the thread tension.	97
	Fabric is pulled during embroidering.	Do not pull the fabric during embroidering.	_
	Spool cap is set incorrectly.	Check the method for attaching the spool cap, then reattach the spool cap.	22
	There are scratches around the opening in the needle plate.	Replace the needle plate, or consult your authorized Baby Lock retailer.	_
	There are scratches around the opening in the embroidery foot.	Replace the embroidery foot, or consult your authorized Baby Lock retailer.	9
	There are scratches on the bobbin case.	Replace the bobbin case, or consult your authorized Baby Lock retailer.	_
	Needle is defective.	Replace the needle.	11
	A bobbin designed specifically for this machine is not used.	Incorrect bobbins will not work properly. Only use a bobbin designed specifically for this machine.	20
	Upper threading is incorrect.	Check the steps for threading the machine and rethread the machine.	22
	Bobbin is set incorrectly.	Reset the bobbin thread correctly.	20
	Embroidery foot is attached incorrectly.	Attach the embroidery foot correctly.	9
	Screw of the presser foot holder is loose.	Securely tighten the screw of the presser foot.	10
	Fabric is too thick.	Use fabric that the needle can pierce when the handwheel is turned.	-
	Stabilizer is not attached to fabric being embroidered.	Attach stabilizer.	28
	Bobbin thread is incorrectly wound.	Use a correctly wound bobbin.	15

Problem	Cause	Solution	Page
Upper thread breaks.	Machine is not threaded correctly (used the wrong spool cap, spool cap is loose, the thread did not catch the needle bar threader, etc.)	Rethread the machine correctly.	22
	Knotted or tangled thread is being used.	Remove any knots or tangles.	_
	The selected needle is not appropriate for the thread being used.	Refer to the "Fabric/Thread/Needle Combinations" chart in the Instruction and Reference Guide (Sewing).	_
	Upper thread tension is too tight.	Adjust the thread tension.	97
	Thread is twisted.	Use scissors, etc., to cut the twisted thread and remove it from the race, etc.	-
	Needle is turned, bent or the point is dull.	Replace the needle.	11
	Needle is installed incorrectly.	Reinstall the needle correctly.	11
	There are scratches around the opening of the needle plate.	Replace the needle plate, or consult your authorized Baby Lock retailer.	_
	There are scratches around the opening in the embroidery foot.	Replace the embroidery foot, or consult your authorized Baby Lock retailer.	9
	There are scratches on the bobbin case.	Replace the bobbin case, or consult your authorized Baby Lock retailer.	-
	Using improper needle or thread for the selected fabric.	Refer to the "Fabric/Thread/Needle Combinations" chart in the Instruction and Reference Guide (Sewing).	_
	While embroidering, the thread became knotted or tangled.	Rethread upper and lower thread.	20, 22
	A bobbin designed specifically for this machine is not used.	Incorrect bobbins will not work properly. Only use a bobbin designed specifically for this machine.	20
The thread is tangled on the wrong side of the fabric.	Upper threading is incorrect.	Check the steps for threading the machine and rethread the machine. Be sure that the embroidery foot is in the raised position when threading the machine so that the upper thread sets properly in the upper tension.	22
	Using improper needle or thread for the selected fabric.	Refer to the "Fabric/Thread/Needle Combinations" chart in the Instruction and Reference Guide (Sewing).	-
The upper thread is too tight.	The bobbin thread is incorrectly installed.	Correctly install the bobbin thread.	20
Bobbin thread	Bobbin is set incorrectly.	Reset the bobbin thread correctly.	20
oreaks.	Bobbin thread is incorrectly wound.	Use a correctly wound bobbin.	15
	There are scratches on the bobbin or it doesn't rotate properly.	Replace the bobbin.	20
	Thread is twisted.	Use scissors, etc. to cut the twisted thread and remove it from the race, etc.	-
	A bobbin designed specifically for this machine is not used.	Incorrect bobbins will not work properly. Only use a bobbin designed specifically for this machine.	20
abric puckers.	There is a mistake in the upper or bobbin threading.	Check the steps for threading the machine and rethread it correctly.	20, 22
	Spool cap is set incorrectly.	Check the method for attaching the spool cap, then reattach the spool cap.	22
	Using improper needle or thread for the selected fabric.	Refer to the "Fabric/Thread/Needle Combinations" chart in the Instruction and Reference Guide (Sewing).	_
	Needle is turned, bent or the point is dull.	Replace the needle.	11
	Thread tension is set incorrectly.	Adjust the thread tension.	97

Problem	Cause	Solution	Page
Skipped stitches	Machine is threaded incorrectly.	Check the steps for threading the machine and rethread it correctly.	22
	Using improper needle or thread for the selected fabric.	Refer to the "Fabric/Thread/Needle Combinations" chart in the Instruction and Reference Guide (Sewing).	-
	Needle is turned, bent or the point is dull.	Replace the needle.	11
	Needle is installed incorrectly.	Reinstall the needle correctly.	11
	Needle is defective.	Replace the needle.	11
	Dust or lint has collected under the needle plate.	Remove the dust or lint with the brush.	-
High-pitched sound	Pieces of thread are caught in the race.	Clean the race.	_
while embroidering	Upper threading is incorrect.	Check the steps for threading the machine and rethread the machine.	22
	A bobbin designed specifically for this machine is not used.	Incorrect bobbins will not work properly. Only use a bobbin designed specifically for this machine.	20
	There are needle holes or friction scratches in the bobbin case.	Replace the bobbin case, or consult your authorized Baby Lock retailer.	-
Fabric does not feed	Needle is turned, bent or the point is dull.	Replace the needle.	11
through the machine.	Thread is entangled.	Cut the entangled thread and remove it from the race.	-
The fabric feeds in the opposite direction.	The feed mechanism is damaged.	Contact your authorized Baby Lock retailer.	-
The needle contacts the needle plate.	The needle clamp screw is loose.	Firmly tighten the needle clamp screw. If the needle is bent or blunt, replace it with a new one.	11
	Needle is turned, bent or the point is dull.	Replace the needle.	11
Fabric being embroidered with the machine cannot be removed.	Thread is tangled below the needle plate.	Lift up the fabric and cut the threads below it, and clean the race.	-
A broken needle has fallen into the machine.	_	Turn off the machine, and then remove the needle plate. If the needle that fell into the machine can be seen, use tweezers to remove it. After removing the needle, return the needle plate to its original position. Before turning on the machine, slowly turn the handwheel toward you to check that it turns smoothly. If the handwheel does not turn smoothly or the needle that fell into the machine cannot be removed, consult your authorized Baby Lock retailer.	_
The handwheel feels sluggish when it is turned.	Thread is tangled in the bobbin case.	Remove the tangled thread from the bobbin case. Re-install the bobbin case so it is correctly positioned.	_
The machine does not detect the embroidery positioning sticker.	Sunlight or light from the outside comes into the machine.	Block light from the outside.	-
The scanned image is too bright or too pale.			

# After embroidering

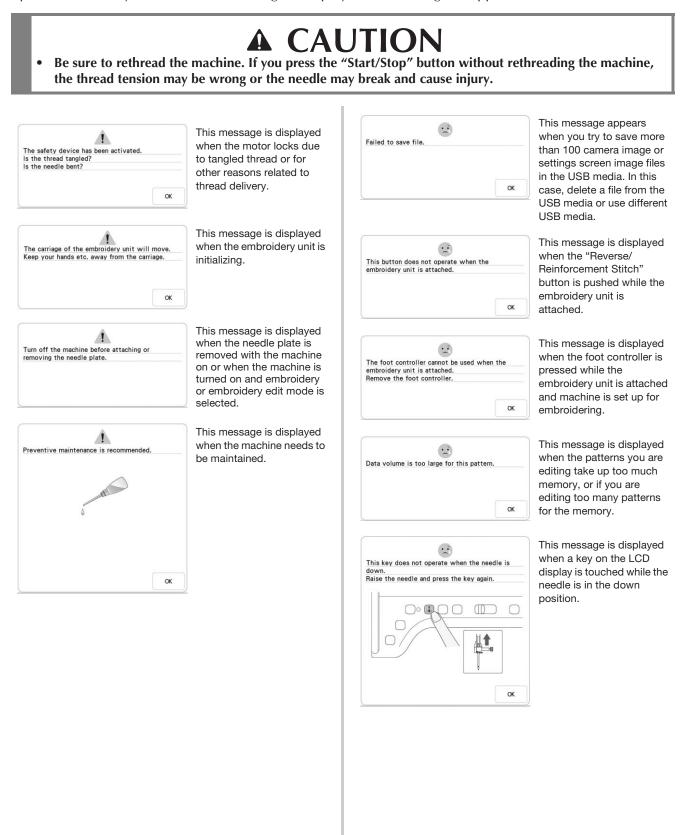
Problem	Cause	Solution	Page
Thread tension is incorrect.	Upper threading is incorrect.	Check the steps for threading the machine and rethread the machine.	22
	Bobbin is set incorrectly.	Reset the bobbin. (If needle plate was removed, reinstall needle plate.)	20
	Using improper needle or thread for the selected fabric.	Refer to the "Fabric/Thread/Needle Combinations" chart in the Instruction and Reference Guide (Sewing).	_
	Thread tension is set incorrectly.	Adjust the thread tension.	97
	Bobbin thread is incorrectly wound.	Use a correctly wound bobbin.	15
	Needle is turned, bent or the point is dull.	Replace the needle.	11
	A bobbin designed specifically for this machine is not used.	Incorrect bobbins will not work properly. Only use a bobbin designed specifically for this machine.	20
Embroidery pattern does not embroider	Thread is twisted.	Use scissors, etc., to cut the twisted thread and remove it from the bobbin case, etc.	_
out correctly.	Thread tension is set incorrectly.	Adjust the thread tension.	97
	Fabric was not inserted into the frame correctly (fabric was loose, etc.).	If the fabric is not stretched tight in the frame, the pattern may turn out poorly or there may be shrinkage of the pattern. Set the fabric into the frame correctly.	30
	Stabilizing material was not attached.	Always use stabilizing material, especially with stretch fabrics, lightweight fabrics, fabrics with a coarse weave, or fabrics that often cause pattern shrinkage. See your authorized Baby Lock retailer for the proper stabilizer.	28
	There was an object placed near the machine, and the carriage or embroidery frame hit the object during embroidering.	If the frame bumps something during embroidering, the pattern will turn out poorly. Do not place anything in the area where the frame may bump it during embroidering.	53
	Fabric outside the frame edges interferes with the free arm, so the embroidery unit cannot move.	Reinsert the fabric in the embroidery frame so that the excess fabric is away from the free arm, and rotate the pattern 180 degrees.	30
	Fabric is too heavy, so the embroidery unit cannot move freely.	Place a large thick book or similar object under the arm head to lightly lift the heavy side and keep it level.	-
	Fabric is hanging off the table.	If the fabric is hanging off the table during embroidery, the embroidery unit will not move freely. Place the fabric so that it does not hang off the table or hold the fabric to keep it from dragging.	53
	Fabric is snagged or caught on something.	Stop the machine and place the fabric so that it does not get caught or snagged.	_
	Embroidery frame was removed during embroidering (for example, to reset the bobbin). The embroidery foot was bumped or moved while removing or attaching the embroidery frame, or the embroidery unit was moved.	If the embroidery foot is bumped or the embroidery unit is moved during embroidering, the pattern will not turn out. Be careful when removing or reattaching the embroidery frame during embroidering.	56
	Stabilizer is incorrectly attached, for example, it is smaller than the embroidery frame.	Attach the stabilizer correctly.	28
Loops appear on the	The thread tension is incorrectly set.	Adjust the thread tension.	97
surface of the fabric when embroidering	The tension of the upper thread is incorrectly set for the combination of the fabric, thread and pattern being used.	Use the embroidery needle plate cover.	32
	The combination of the bobbin case and bobbin thread is incorrect.	Change the bobbin case or bobbin thread so that the correct combination is used.	53

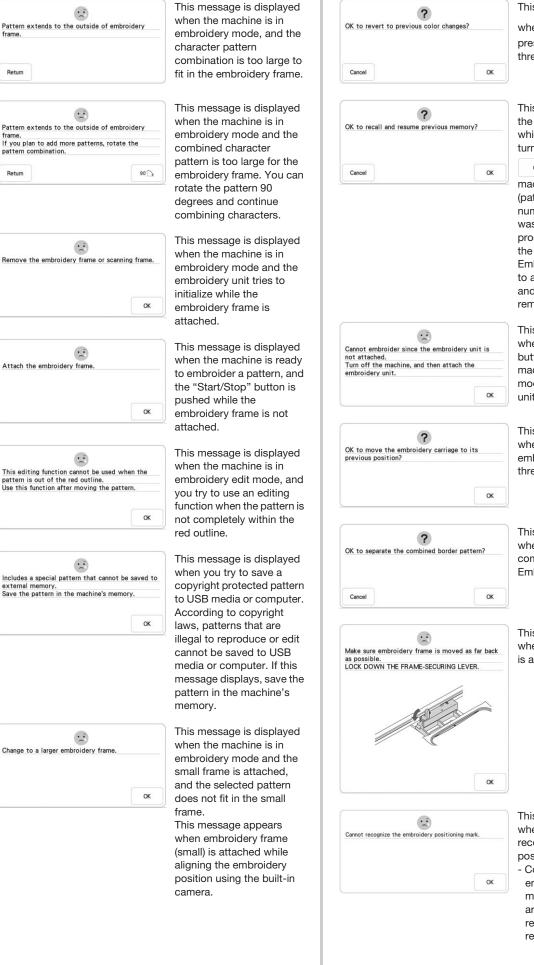
- **A CAUTION** This machine is equipped with a thread detection device. If the "Start/Stop" button is pushed before the • upper threading is done, the machine will not operate properly.
- If the power is disconnected during embroidering: • Turn the main power to OFF and unplug the machine. If you restart the machine, follow the Instruction and Reference Guide for operating the machine correctly.

# **ERROR MESSAGES**

If the machine is not properly set and the "Start/Stop" button or the "Reverse/Reinforcement Stitch" button is pressed, or if the operation procedure is incorrect, the machine does not start. An alarm sounds and an error message is displayed on the LCD. If an error message displays, follow the instructions in the message.

Below is an explanation of error messages. Refer to these when necessary (if you press or do the operation correctly while the error message is displayed, the message disappears).





Return

Return

This message is displayed when Reset is pressed when changing thread colors.

This message appears if the machine is turned off while embroidering, then turned on again. Press

ok to return the machine to the condition (pattern position and number of stitches) when it was turned off. Follow the procedure described in "If the Thread Breaks During Embroidering" on page 57 to align the needle position and embroider the remainder of the pattern.

This message is displayed when the "Start/Stop" button is pushed and the machine is in embroidery mode, but the embroidery unit is not attached.

This message is displayed when replacing the embroidering bobbin thread.

This message is displayed when rotating a saved combined pattern in the Embroidery screen.

This message is displayed when the embroidery frame is attached.

This message is displayed when the machine failed to recognize the embroidery positioning mark. - Confirm that the

embroidery positioning mark is in the selected area. If problem persists, refer to page 51 to reposition mark.

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Appendix 👺













This message is displayed when the machine has recognized the embroidery position mark. Remove the embroidery positioning

sticker and press ок to continue. To remove the embroidery positioning sticker more easily, press

1. (page 51)

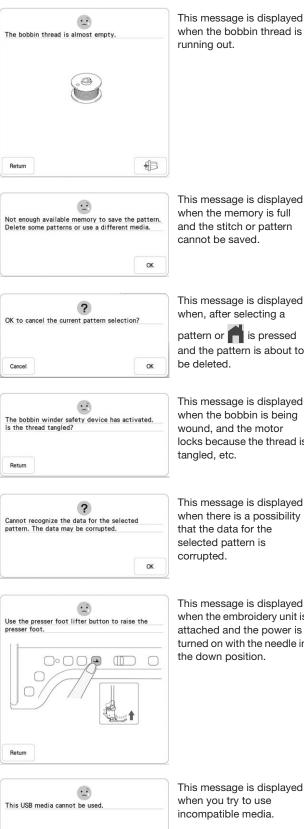
This message appears when the built-in camera is being used to align the embroidery position, but the embroidery positioning sticker is too near an edge or the pattern extends from the embroidery frame. Change the positioning of the embroidery position sticker, and then try aligning the position again. Refer to page 46.

This message is displayed when the upper thread is broken or not threaded correctly, and the "Start/ Stop" button or the "Reverse/ Reinforcement Stitch" button is pressed.

This message is displayed when the "Presser Foot Lifter" button is pushed while the presser foot lever is raised/the needle is lowered.

This message is displayed when the "Start/ Stop" button is pushed while the machine is in embroidery edit mode and a pattern is being edited.

This message is displayed when there is no stitch or embroidery pattern selected and the "Start/ Stop" button or the "Reverse/Reinforcement Stitch" button is pressed.



.: The USB media was changed. Do not change the USB media while it is being OK

OK

This message is displayed when the memory is full and the stitch or pattern cannot be saved.

This message is displayed when, after selecting a

pattern or **m** is pressed and the pattern is about to

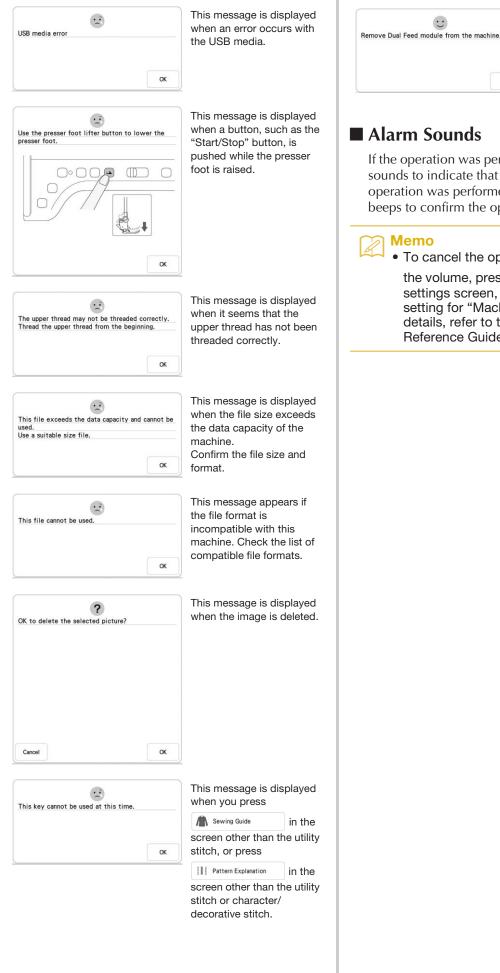
This message is displayed when the bobbin is being wound, and the motor locks because the thread is tangled, etc.

This message is displayed when there is a possibility that the data for the selected pattern is

This message is displayed when the embroidery unit is attached and the power is turned on with the needle in the down position.

This message is displayed when you try to use incompatible media.

This message is displayed when you attempt to select a pattern after the USB media in which the pattern is saved has been changed.



This message appears when you try to start embroidering with the dual feed foot attached to the machine. Remove the dual feed foot before entering the embroidery mode.

### Alarm Sounds

If the operation was performed incorrectly, an alarm sounds to indicate that an error occurred. If the operation was performed correctly, the machine beeps to confirm the operation.

OK

• To cancel the operation beep or to change the volume, press **=**, display page 4 of the settings screen, and then change the setting for "Machine Speaker Volume". For details, refer to the Instruction and Reference Guide (Sewing).

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