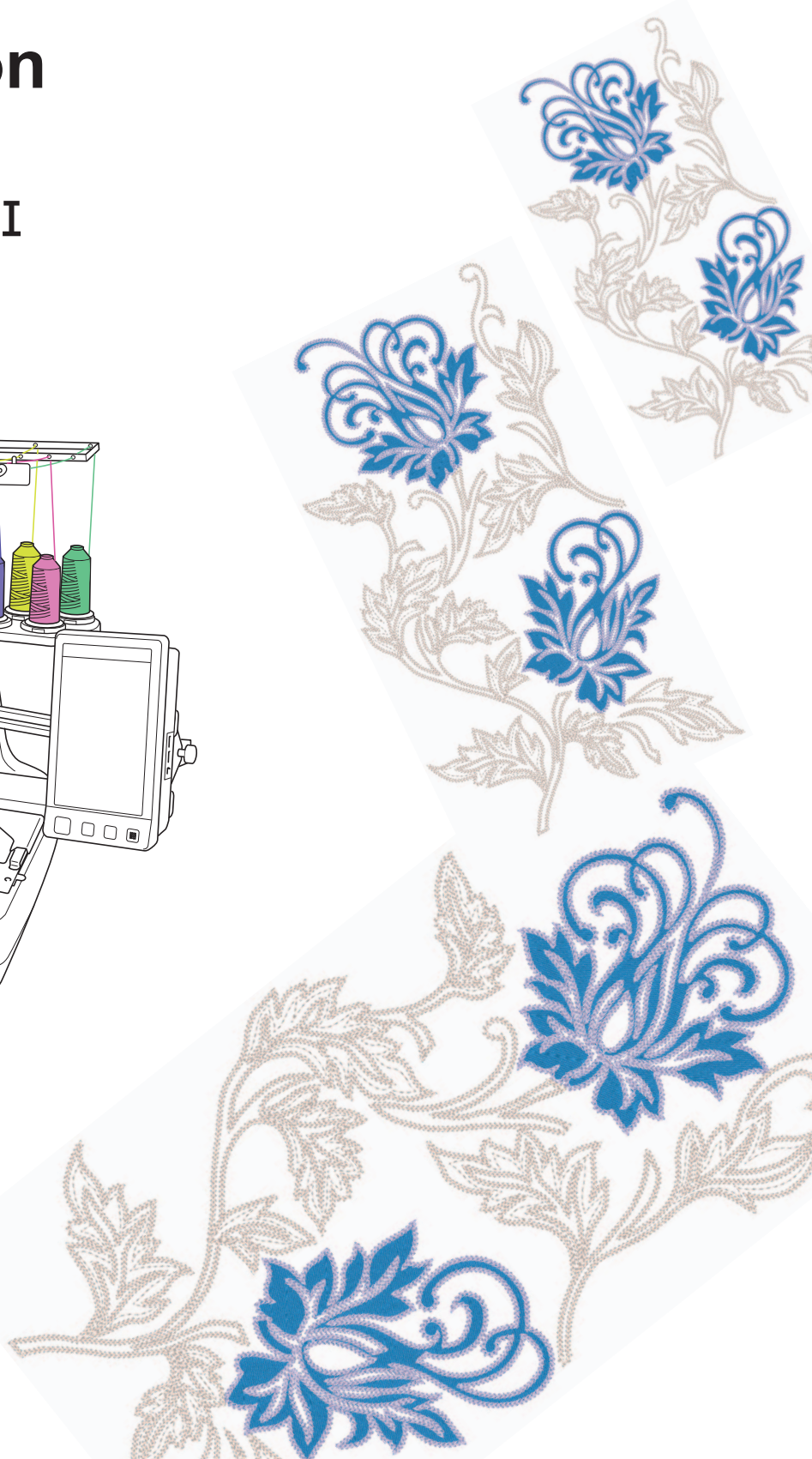
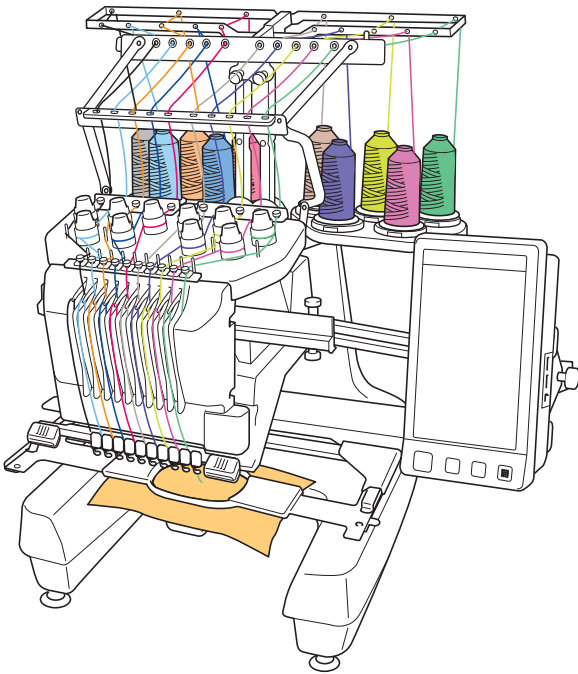


# Operation Manual

## Upgrade KIT I



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## BEFORE YOU START

It is important to perform the upgrade according to the procedure outlined in the Installation Guide. The machine can then be used as outlined in this upgrade Operation Manual.

## NEW FEATURES

The following features will be activated with the upgrade for Kit I.

- Positioning of the embroidery pattern can be aligned while displaying the fabric being used in the LCD screen. Embroidery can easily be positioned. (page 3)
- Embroidery patterns can be enlarged or reduced while maintaining their thread density. (page 6)
- Color Shuffling function is added to find new color schemes suggested by your embroidery machine. Select the desired effect from one of the four available color schemes, then the sample for the selected effect is displayed. (page 8)
- The custom thread table setting can be saved to USB media as a data file, and then recalled again. (page 10)
- Embroidery patterns can be connected using the built-in camera function, replacing the use of thread marks. (page 12)
- 10 new embroidery patterns have been added. (page 37)
- 2 new fonts are added to the font selection screen. (page 37)

# DISPLAYING THE FABRIC WHILE ALIGNING THE EMBROIDERY POSITION

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


This feature can be used from the pattern editing screen and embroidering settings screen.



## Note

- When installing the following optional frame, the built-in camera cannot be used to align the embroidering position:  
Cylinder frame, 80 mm (H) × 90 mm (W) (3 inches (H) × 3-1/2 inches (W))  
Wide cap frame, 60 mm (H) × 360 mm (W) (2-3/8 inches (H) × 14 inches (W))  
Advanced cap frame 2, 60 mm (H) × 130 mm (W) (2-3/8 inches (H) × 5-1/8 inches (W))  
Advanced cap frame, 50 mm (H) × 130 mm (W) (2 inches (H) × 5-1/8 inches (W)).
- For details on using fabric thicker than 2 mm, refer to "Positioning the pattern on thick fabric" (page 5).

**1 Hoop the fabric in the embroidery frame, and then attach the frame to the embroidery machine.**

**2 Select the pattern, and then press .**



## Note

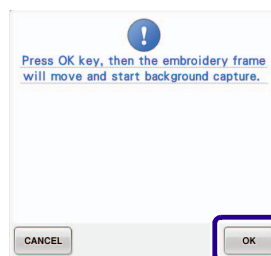
- Check page 7/7 of Settings screen to make sure the "Fabric Thickness Sensor" is set to "OFF" when using light to medium weight fabrics.

**3 Press .**



**4 When the following message appears, press**

**.**




→ The embroidery frame moves so the fabric can be scanned.

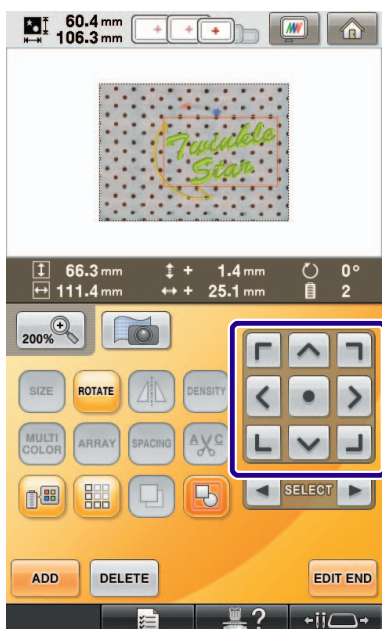


- 5 When the fabric appears as a background for the pattern, the pattern can be edited if it is necessary.




- 6 Use  to align the pattern with the desired embroidery position.

- The pattern can be moved to the desired position by using your finger or the touch pen to drag the pattern displayed on the screen.



#### Memo


- If necessary, press  to display a preview in order to check the pattern position.

- 7 Press  to display the embroidery settings screen.



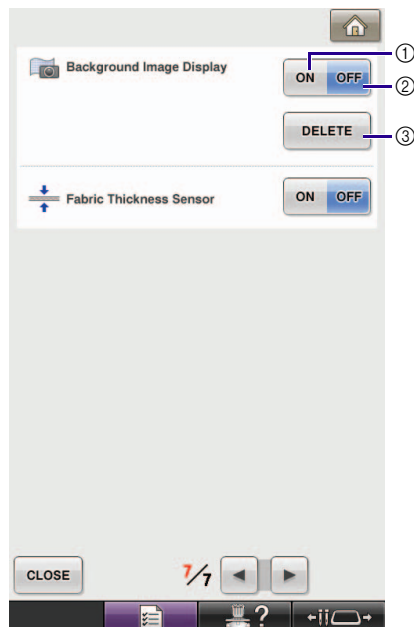
#### Memo


- The pattern can also be aligned from the embroidery settings screen.

- 8 Press  to start embroidering.

→ When embroidery is finished, the fabric displayed in the background disappears.

Whether the fabric disappears or remains displayed can be specified from page 7/7 of the settings screen.




- Set to "ON" to leave the fabric displayed in the background.
- When set to "OFF", the background will disappear.
- Press  to remove the background image completely.



#### Note

- If the embroidery is not sewn, the fabric background will remain on the screen.

In the Settings screen 7/7, press  to erase the background image.

## ■ Positioning the pattern on thick fabric

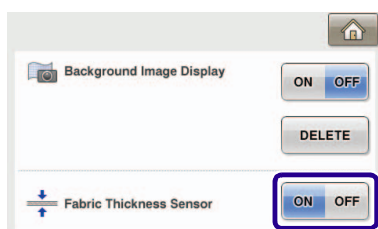
When positioning the pattern on the fabric thicker than 2 mm, the fabric may not be detected correctly. In order for the fabric to be correctly detected, its thickness must first be measured.



### Memo

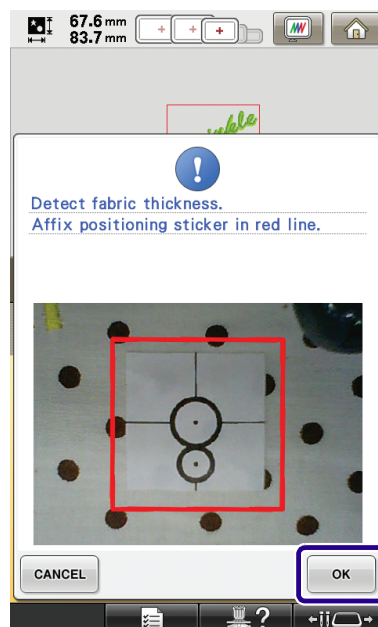
- This feature is functional only when the fabric is scanned. It will not affect embroidering if it is turned on with normal embroidery.

- 1 Hoop the fabric in the embroidery frame, and then attach the frame to the machine.
- 2 Select the pattern, and then press **SET**.
- 3 Display page 7/7 of the settings screen, and then set "Fabric Thickness Sensor" to "ON".

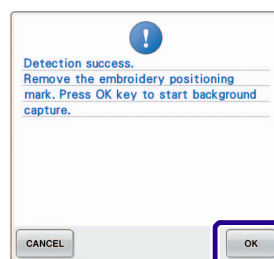


- 4 Press **CLOSE**.
- 5 Press

- 6 Affix the embroidery positioning sticker to the fabric within the area indicated by the red frame in the LCD, and then press **OK**.



- 7 When the following message appears, remove the embroidery positioning sticker, and then press **OK**.



→ The embroidery positioning sticker affixed to the fabric is detected, and then the embroidery frame will be moved.

- 8 Continue with step 5 on page 4 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.

# CHANGING THE PATTERN SIZE WHILE MAINTAINING THE DESIRED THREAD DENSITY (STITCH RECALCULATOR)

In the embroidery edit screen, the size of the pattern can be changed while the desired thread density is maintained.

With this function, the pattern will be enlarged or reduced at a larger ratio than with normal pattern resizing.



## Note


- Be sure to sew trial embroidery using same fabric and threads as project in order to check the embroidering results.

- 1 Select the pattern to be resized, and then press .



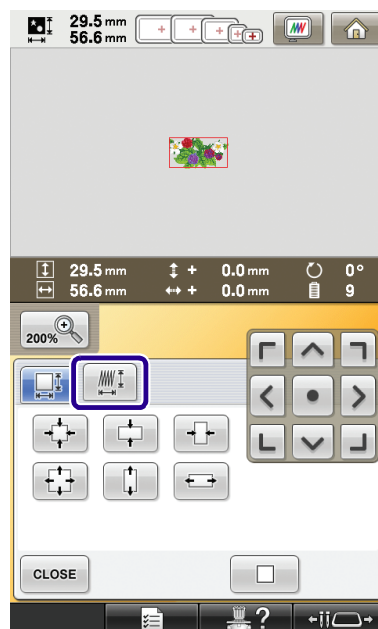
## Note

- This function cannot be used with alphabet 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 (about 100,001 or more) cannot be resized while maintaining a desired thread density. The maximum limit for the number of stitches differs depending on the data size of pattern.
- If this function is used, thread density is maintained while the pattern is enlarged/reduced. However, the needle drop point pattern is not entirely maintained.


Use the normal resizing mode  depending on the results of trial embroidering.

- 2 Press .

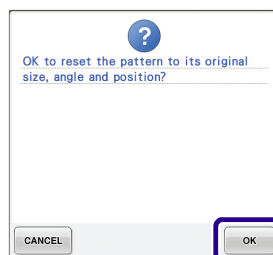
- 3 Press  to enter Stitch Recalculator mode (.



## Memo

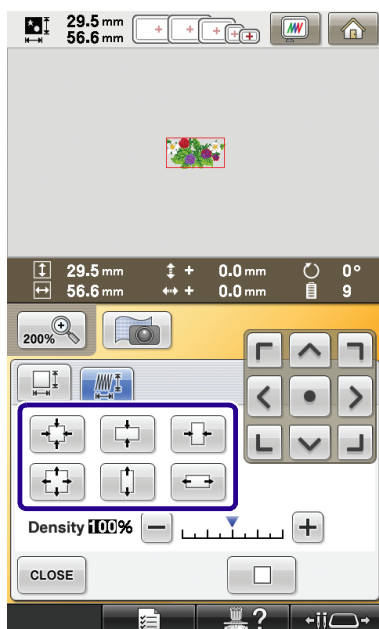
- Stitch Recalculator cannot be used if  does not appear.








- 4 When the following message appears, press



- The pattern will be returned to its original size, angle, and position as it was before it was edited.

## 5 Select how to change the pattern size.

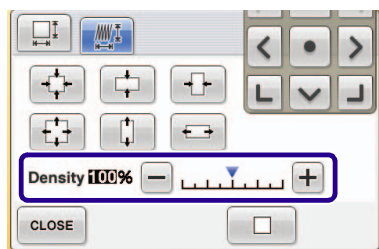




- \* Press  to enlarge the pattern proportionately.
- \* Press  to shrink the pattern proportionately.
- \* Press  to stretch the pattern horizontally.
- \* Press  to compact the pattern horizontally.
- \* Press  to stretch the pattern vertically.
- \* Press  to compact the pattern vertically.
- \* Press  to return the pattern to its original appearance.



### Memo

- With the density scale bar, the thread density can be changed.  
A setting between 80% and 120% in 5% increments can be specified.



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

## 6 Press .



### Note

- Depending on the pattern, embroidering may not be possible at the appropriate thread density. Before sewing on your project, be sure to embroider a trial sample on a piece of scrap fabric that is the same as the fabric used in the project, using the same needle and embroidery thread.
- 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.



### CAUTION

- Depending on the pattern, the stitching may become entangled or the needle may break when the pattern is reduced. If this occurs, slightly enlarge the pattern.

# FIND NEW COLOR SCHEMES WITH THE COLOR SHUFFLING FUNCTION

## The Color Shuffling Function

With the Color Shuffling function, the machine suggests new color schemes for the embroidery pattern that you have selected. After you select the desired effect from one of the four available color schemes ("RANDOM", "VIVID", "GRADIENT" and "SOFT") the sample for the selected effect is displayed.

1 Press .



→ The thread color palette screen appears.

2 Press .

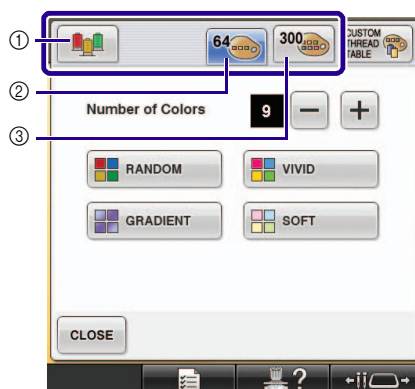


### Note

- This function may not be available depending on the pattern you select (ex. a bordered embroidery pattern). If the color shuffling key is grayed out, select another pattern.
- If you have not created a custom thread table, the color shuffling key will be grayed out. In that case, use the thread table (64 colors) instead or create colors in the custom thread table. Refer to "Creating a custom thread table" in the Operation Manual of the machine for the details.

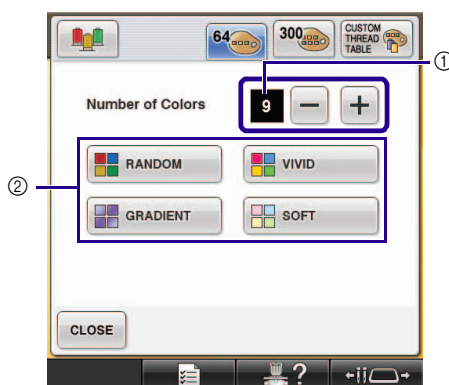
3 Select the color group you want to use.

→ You can select the color shuffling function from the following color groups. ① Thread colors currently on the spool stand, ② thread table (64 colors: preset color table) and ③ custom thread table (300 colors: color table that you can set as you like). By setting the embroidery thread colors of the brand you have on the custom thread table, you can create your embroidery pattern with your own thread colors.

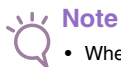


- ① Thread colors currently on the spool stand
- ② Thread table (64 colors)
- ③ Custom thread table (300 colors)

4 Select the number of colors you want to use and then select the desired effect.

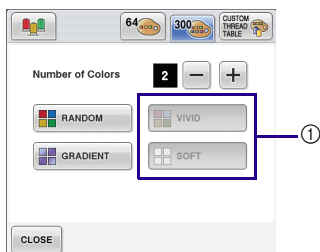


- ① Number of colors to be used in the pattern
- ② Effects for schemes



### Note

- When any of the color scheme selection keys are greyed out, there are not enough colors in the selected color group. If you selected the custom thread table, set more colors in the custom thread table, or select less colors in the Color Shuffling function. Refer to "Creating a custom thread table" in the Operation Manual for the machine, about setting the colors in the custom thread table.



① Unavailable effects



### Memo

- Selection for the desired number of colors must stay within the range for the number of thread changes for the pattern you selected.
- When using this function the PES data pattern recalled on the machine, and the "PES Thread Code" is set to "ON" in the Settings Screen, the thread colors which are not in the thread table of the machine will not be used to make the color schemes. You can get the color schemes using all the thread colors in the selected pattern by setting "PES Thread Code" to "OFF" in the Settings Screen.

## 5

Press the desired color scheme from samples.

- \* Press **REFRESH** to display the new schemes.



①

① Press to review the previous schemes.



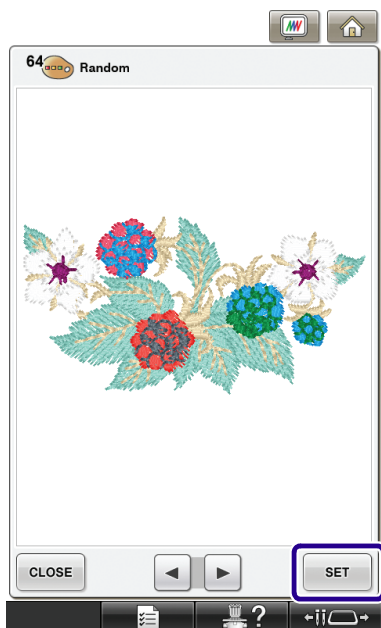
### Note

- Maximum 10 pages of schemes can be reviewed. After 10 pages of schemes, the oldest page is deleted every time you press **REFRESH**.



## 6 Press **SET** to select the displayed color scheme.

- \* Press **CLOSE** to return to the previous screen.
- \* You can continue selecting color schemes from the selected page prior to pressing **SET**.
- \* Press **◀** or **▶** to display the other color schemes.



→ The embroidery edit screen will appear.

### Note

- The following settings in the settings screen cannot be changed in this function;
  - Thread color brand selection
  - Reserved needle setting
  - PES Thread Code setting

## Saving and Recalling the Custom Thread Table using USB media

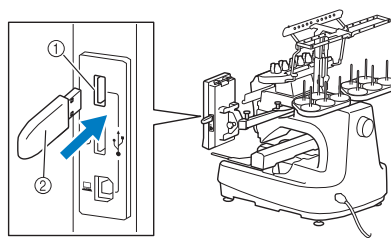
You can save a custom thread table data file to USB media, and then you can recall the saved data from USB media again. Refer to “Creating a custom thread table” in the Operation Manual of the machine, for the detailed instructions about a custom thread table.

### Note

- Custom thread table data can only be saved to USB media. You cannot save the data in the machine's memory or in the computer.
- Custom thread table data is saved as “.pcp” data file.

## ■ Saving the custom thread table in USB media

### 1 Insert the USB media into the primary (top) USB port on the right side of the machine.



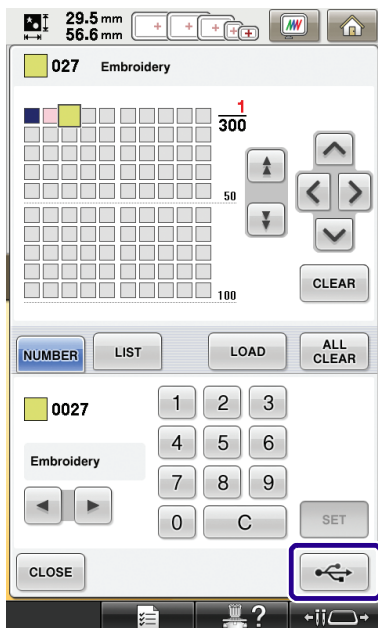
- ① Primary (top) USB port for media
- ② USB media

### Note

- Two USB media cannot be used with this machine at the same time. If two USB media are inserted, only the USB media inserted first is detected.

### 2 Press **TABLE** and then press **CUSTOM THREAD TABLE**.

**3** Press .



→ The “Saving” screen is displayed. When the data is saved, the display returns to the original screen automatically.

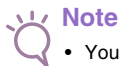


#### Note

- Do not insert or remove USB media while “Saving” screen is displayed. You will lose some or all of the data you are saving.

### ■ Recalling the custom thread table in USB media


**1** Insert the USB media containing the custom thread table data into the primary (top) USB port.



#### Note

- You can only recall one custom thread table data at a time. Do not store two or more “.pcp” data file in USB media.


**2** Press  and then press .

**3** Press .

→ The “Saving” screen is displayed. When the data is loaded to the machine, the display returns to the original screen automatically.



#### Note

- Do not insert or remove USB media while “Saving” screen is displayed. You will lose some or all of the data you are saving.
- To delete all the specified colors from the custom thread palette, press .

# USING THE CAMERA TO CONNECT PATTERNS

Instead of using thread marks, the camera can be used to connect patterns.

An area of 17 cm × 33 cm (6-1/2 inches × 13 inches) can be embroidered when the camera is used to connect patterns. Select the appropriate frame depending on the size of the embroidery. We recommend using the large embroidery frame (200 mm × 360 mm (7-7/8 inches × 14 inches)) when using the camera to connect patterns.



## Note

- When installing the embroidery frame (small) (40 mm × 60 mm (1-1/2 inches × 2-3/8 inches), cap frames, cylinder frame or the round frames, you can not connect patterns using this function.
- Split (Large-size) embroidery patterns cannot be used with this function.
- You can not connect patterns using this function while the machine is set to the Link mode.

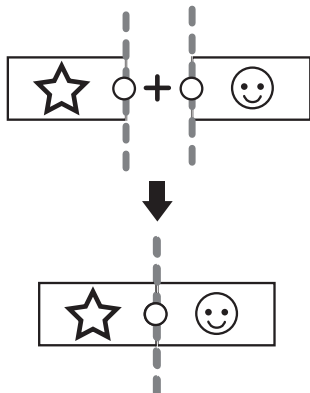
## Connecting Patterns

Two patterns can be connected by selecting the reference point and reference edge of each pattern so that they can be aligned using the camera. When connecting patterns, the reference edge of each pattern will be along a single straight line.

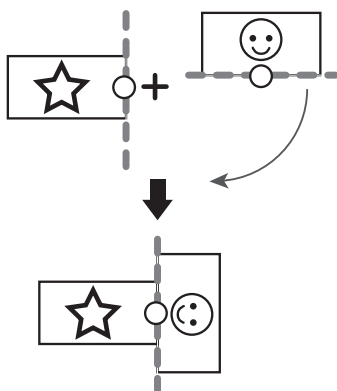
(Example)

- : Reference edge  
○ : Reference point

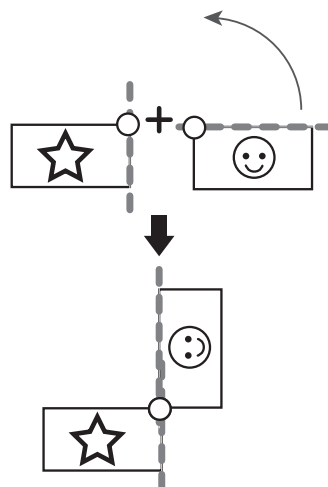
①



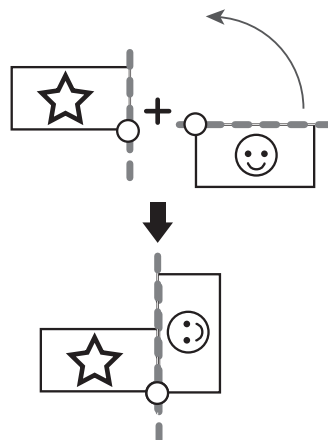
②



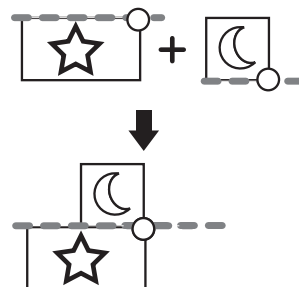
③



④



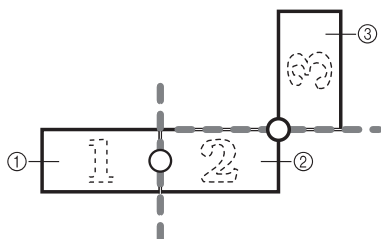
⑤



In order to understand how to connect patterns, first try following the procedure outlined in "Practice (Connecting Three Patterns)" on page 13.

## Practice (Connecting Three Patterns)

In order to practice aligning pattern edges by using the camera, we will connect three patterns as shown below. These 3 patterns for practicing are available on the included CD.



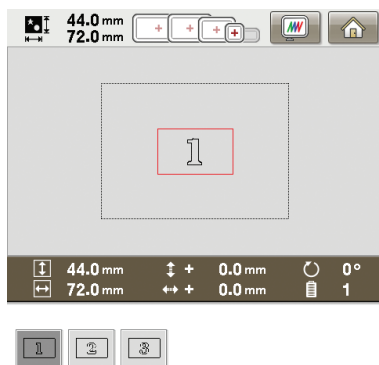
- ① Pattern1.pes
- ② Pattern2.pes
- ③ Pattern3.pes



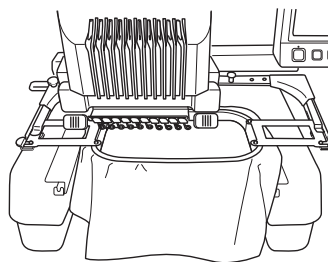
### Memo


- The patterns for practicing are contained in the "sample" folder in "manual" folder on the included CD. Refer to the Operation Manual of your embroidery machine for the procedure of recalling the embroidery data.


- Select the first pattern for practicing [1], and then press **SET**.

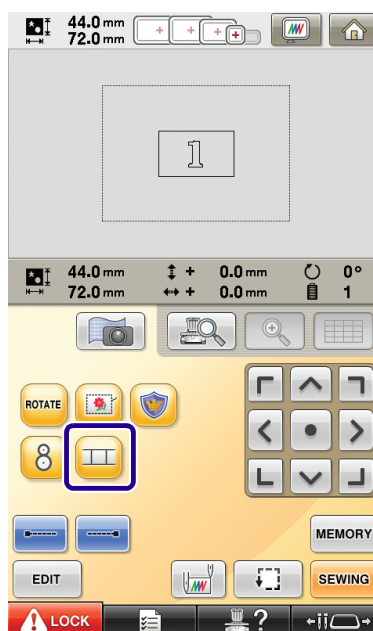


- Hoop fabric in the large embroidery frame (13 cm × 18 cm (5-1/8 inches × 7-1/8 inches)), and then attach the frame to the embroidery machine.



- Press **EDIT END** to display the embroidery settings screen. Press  in the embroidery settings screen.

-  needs to be selected in order to continue connecting patterns.



→ The pattern connection setting screen (screen for connecting the selected pattern to the next one) appears.



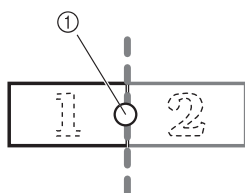
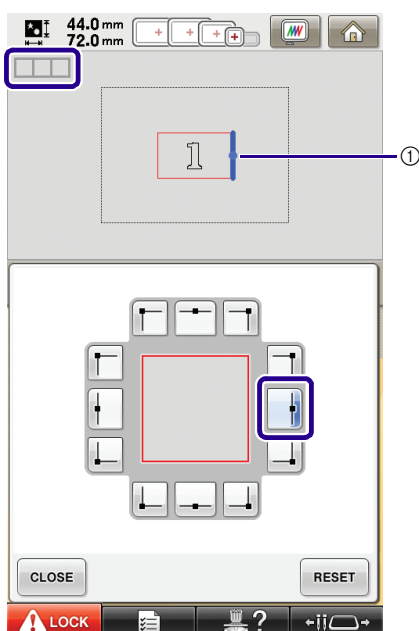
### Memo

- A pattern cannot be saved in the machine's memory while patterns are being connected.




- 4 Select the reference edge and reference point of the selected pattern for connecting the next pattern. Since, in this example, we will connect the center point of the right edge for the first pattern with the center point of the left edge for the next pattern, select the center point of the right edge, and then press

**CLOSE**.

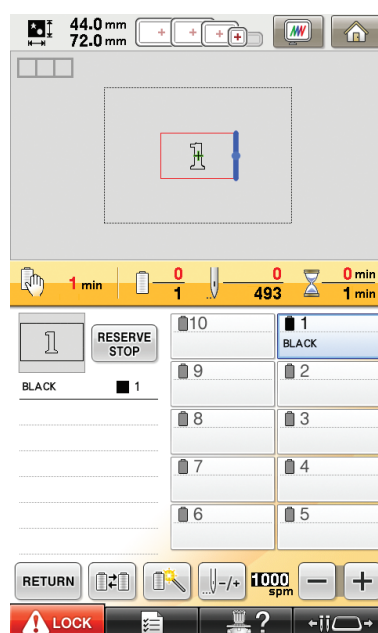
- To cancel the selection, press **RESET**.



- ① Reference edge and reference point of first pattern

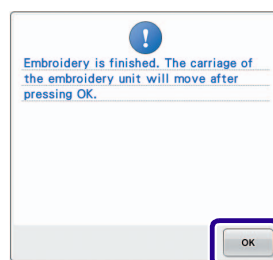
→  appears in the screen, and then  changes to .

- 5 Press **SEWING**, then press **LOCK** and then press the start/stop button to embroider the first pattern.



- 6 When the following message appears, press

**OK**.



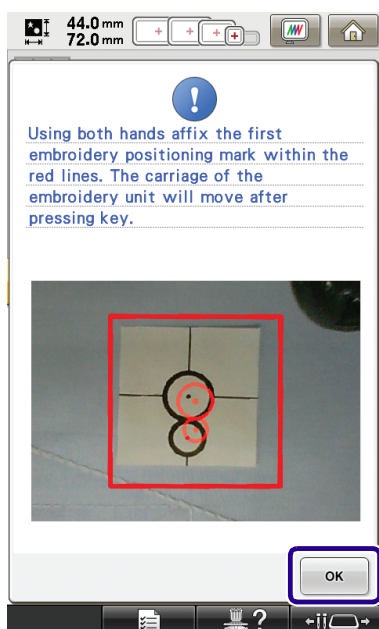
→ The carriage will move.

- 7 Prepare two embroidery positioning stickers. We will follow the on-screen instructions to affix these two stickers to the fabric so that the positioning marks can be detected by the camera.

### Note

- Use the positioning stickers included with this product or purchase replacement stickers (SAEPS2, EPS2: XF0763-001) from your Brother dealer. 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 adhesion is most appropriate for connecting patterns (SAEPS2, EPS2: XF0763-001). If any other positioning sticker is used, it may peel off. If the sticker peels off, the patterns cannot be connected.

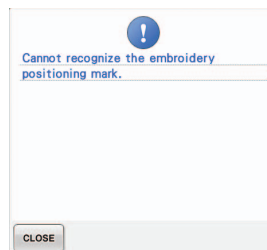
- 8 Affix the first embroidery positioning sticker onto the fabric within the red lines by using both hands to press down on each corner of the sticker. Affix the sticker with the large circle to the top as shown on machine. Then, press .




→ The camera detects the first positioning sticker.

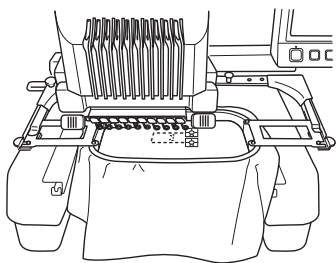
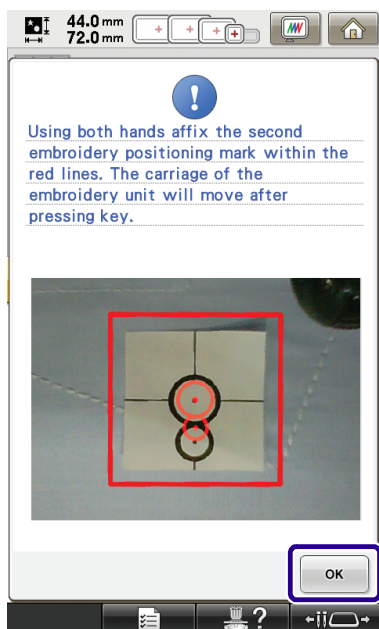
#### Note

- Use new 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. Start the project again with new fabric and stabilizer.
- Using fingers apply pressure to the corners of the 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 positioning sticker in the correct position. Make sure that the sticker is affixed with the large circle at the top.




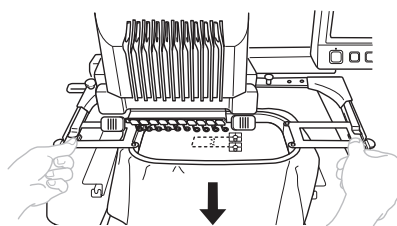
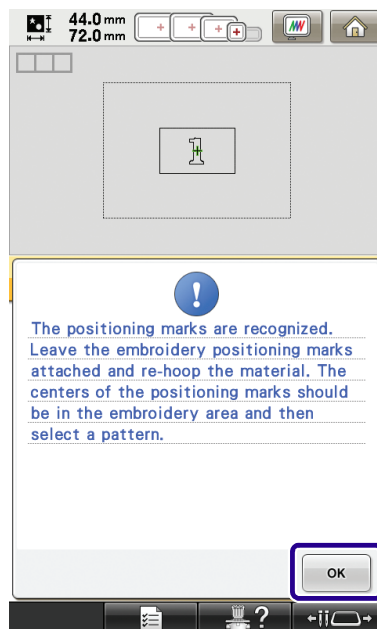


- 9 Using both hands affix the second embroidery positioning mark within the red lines by pressing down on each corner of the positioning mark onto the material and then touch .

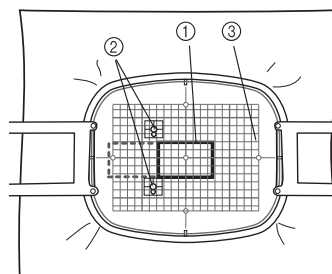


→ The camera detects the second positioning sticker.

- 10 After the two positioning stickers have been detected, the following message appears. With the stickers remaining attached, remove the frame, and then press .



- 11 While making sure that the positioning stickers do not peel off, re-hoop the fabric so that the next pattern and the centers of the large circles of the two stickers are within the embroidering area. Check with the position using the embroidery sheet. After checking, attach the embroidery frame to the machine.



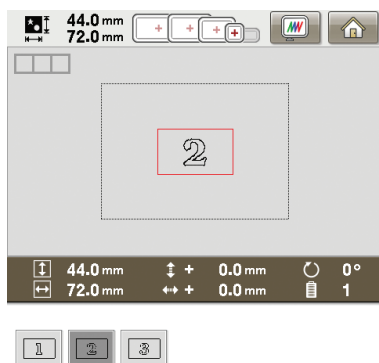
- ① Pattern to be embroidered next
- ② Centers of large circles for stickers
- ③ Embroidery sheet



## Note

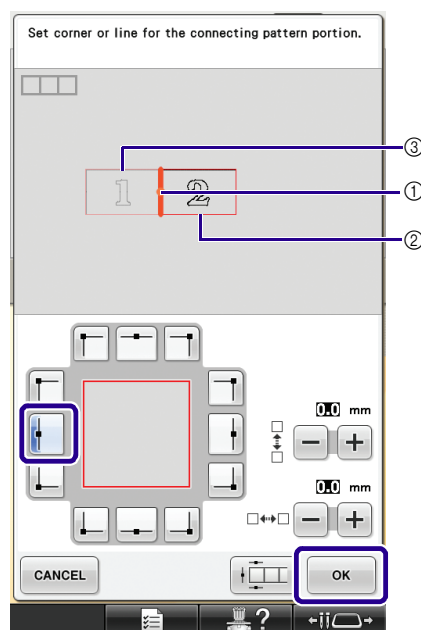
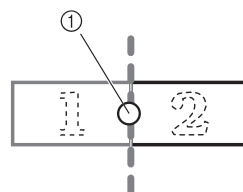
- If the next pattern and the centers of the large circles of the two positioning stickers do not fit within the embroidering area, use a larger embroidery frame. If a larger embroidery frame cannot be used, continue to step 13, and then refer to “Changing the Position of a Sticker” on page 21 to reposition the sticker.
- If the sticker peels off during this procedure, the patterns cannot be connected. In that case, restart the procedure from the beginning.

- 12 Select the second pattern for practicing [2], then press **SET**, and then press **EDIT END**.



13

- When the pattern connection setting screen (screen for connecting the selected pattern to the previous one) appears, select the reference edge and reference point where you want to connect to the first pattern, and then press **OK**. Since, in this example, we will connect the center point of the left edge for the second pattern with the center point of the right edge for the first pattern. Select the center point of the left edge, and then press **OK**.



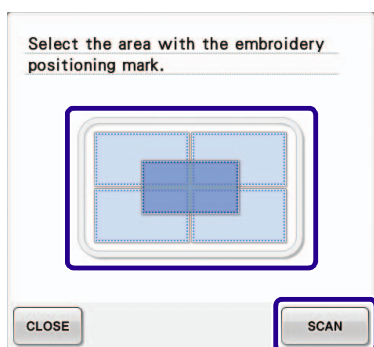
- ① Reference edge and reference point
- ② Second pattern
- ③ First pattern



## Note

- In this screen, the reference edge and reference point of the first pattern can be changed. For details, refer to “Changing the Reference Edge and Reference Point for Connecting the Next Pattern after a Pattern has been Embroidered” on page 28.
- If the positioning stickers do not fit within the embroidering area, refer to “Changing the Position of a Sticker” on page 21 to reposition the sticker.
- Using **+** and **-** in this screen, the position of the second pattern can be changed. For details, refer to “Sliding the Position of the Pattern to be Connected” on page 31.

**14** Select the area containing one of the two stickers, and then press **SCAN**.

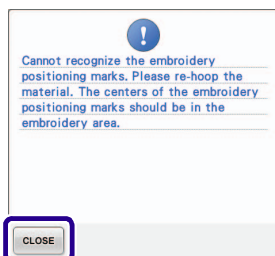


→ The camera detects the two marks.



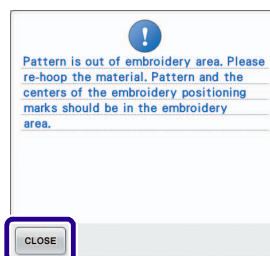
**Note**

- To return to the embroidery settings screen, press **CLOSE**. Pressing **EDIT**, then **EDIT END** displays the pattern connection setting screen (screen for connecting the selected pattern to the previous one), where the reference edge and reference point can be selected.
- If the following message appears, press **CLOSE**, and then re-hoop the fabric so that the centers of the large circles of the positioning stickers are within the embroidering area or hoop the fabric in a larger embroidery frame. After checking that the area containing one of the two stickers have been correctly selected in step **14**, press **SCAN**.

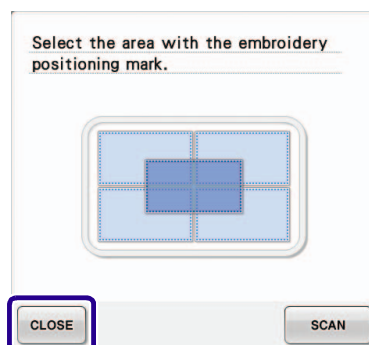


The message above also appears when the positioning sticker is too closely attached to the perimeters of the embroidering area. In that case, re-hoop the fabric so that the stickers fit more within the embroidering area.

- If the following message appears, press **CLOSE**, and then re-hoop the fabric so that the pattern and the centers of the large circles of the positioning stickers are within the embroidering area or hoop the fabric in a larger embroidery frame.

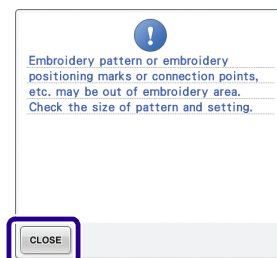


If the positioning stickers do not fit within the embroidering area, press **CLOSE** in the screen shown below.

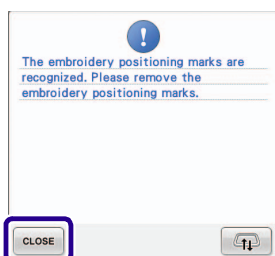




Next, press **EDIT**, then **EDIT END** to display the pattern connection setting screen. Refer to "Changing the Position of a Sticker" on page 21 to reposition the sticker.

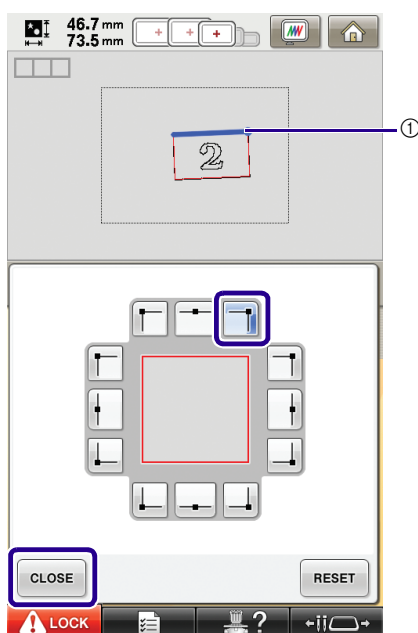
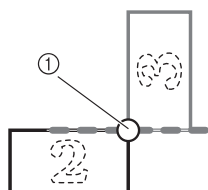
- If the following message appears, press **CLOSE** to return to the pattern editing screen. Check the pattern size and pattern connection settings, and then repeat the previous steps.



- 15 After the positioning stickers have been detected, press **CLOSE**, and then remove the stickers.

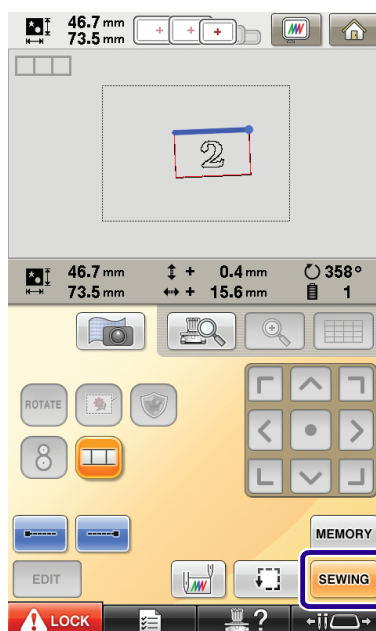


- Press  to remove the positioning stickers when it's hard to reach the stickers behind the needles.
- 16 Before embroidering, press  to display the pattern connection setting screen (screen for connecting the selected pattern to the next one) appears. Select the reference edge and reference point for connecting the second and third patterns, and then press **CLOSE**. In this example, we will select the right point of the top edge.

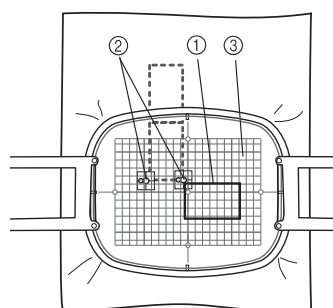


① Reference edge and reference point

- 17 Press **SEWING**, then press **LOCK** and then press the start/stop button to embroider the second pattern.

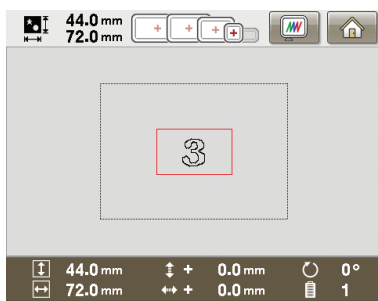


- 18 Follow the on-screen instructions to perform steps 6 through 10.
- 19 While making sure that the positioning stickers do not peel off, re-hoop the fabric so that the next pattern and the centers of the large circles of the two stickers are within the embroidering area. Check the position using the embroidery sheet. After checking, attach the embroidery frame to the machine.

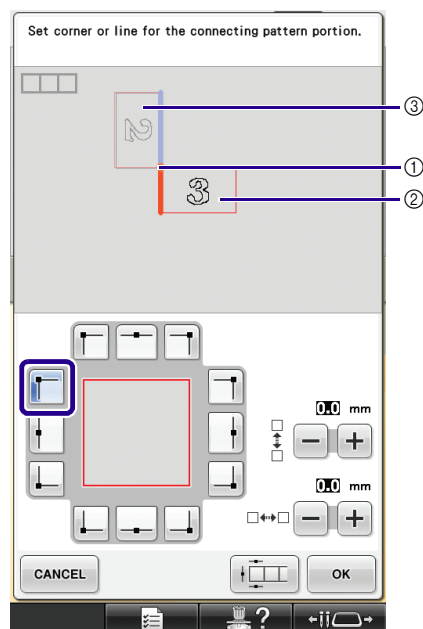
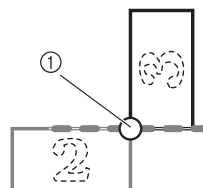


- ① Pattern to be embroidered next
- ② Centers of large circles for stickers
- ③ Embroidery sheet

- 20 Select the third pattern for practicing [3], and press **SET** then **EDIT END**.

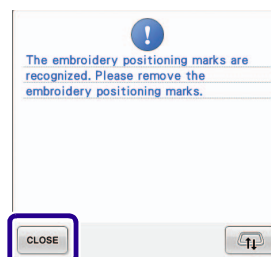


- 21 When the pattern connection setting screen (screen for connecting the selected pattern to the previous one) appears, select the reference edge and reference point for connecting the third pattern with the second one, and then press **OK**. Since, in this example, we will connect the top point of the left edge for the third pattern with the right point of the top edge for the second pattern, select the top point of the left edge, and then press **OK**.





- ① Reference edge and reference point
- ② Third pattern
- ③ Second pattern

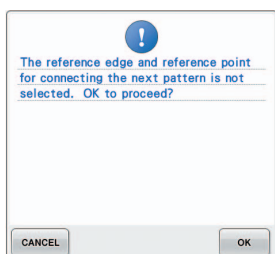
- 22 Perform steps 14 and 15.



## 23 Press **SEWING**.

→ Following screen appears when you proceed to the embroidering screen without pressing .

Press  to finish connecting the patterns.




- To return to the embroidery settings screen, press




## 24 Press **SEWING**, then press **LOCK** and then press the start/stop button to embroider the third pattern.




### Note

- If the machine is stopped and  is pressed while embroidering or after embroidering has begun, the reference edge and reference point for connecting the next pattern can be set.

→ After embroidering is finished,  disappears.

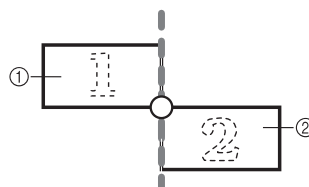
The three patterns have been connected.

Press  to clear the pattern.

## Changing the Position of a Sticker

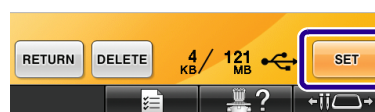
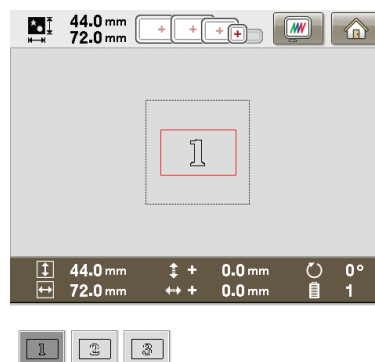
While using the camera to connect patterns, a sticker can be repositioned if the fabric cannot be re-hooped so that the next pattern and the centers of the large circles of the two stickers are within the embroidering area.

As an example, we will use the embroidery frame with a size of 10 cm × 10 cm (4 inches × 4 inches) to connect patterns as shown below.



- ① Pattern1.pes
- ② Pattern2.pes

## 1 Select the first pattern for practicing [1], and then press **SET**.

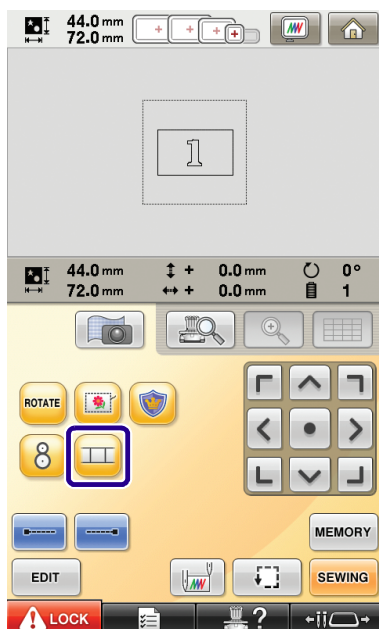


## 2 Hoop fabric in the embroidery frame with a size of 10 cm × 10 cm (4 inches × 4 inches), and then attach the frame to the embroidery machine.

## 3 Press **EDIT END**.

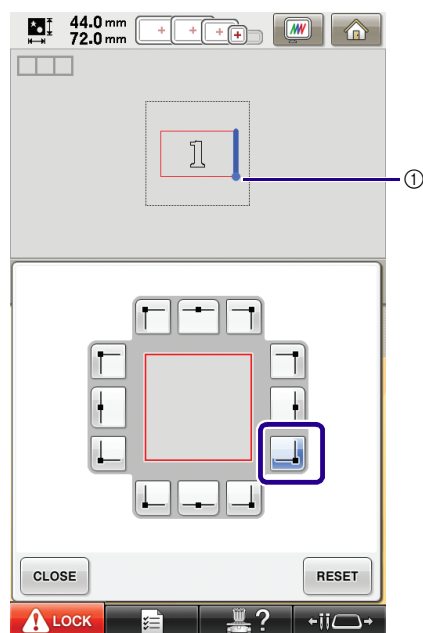
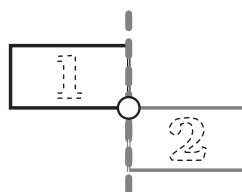


- 4 Press  in the embroidery settings screen.



→ The pattern connection setting screen (screen for connecting the selected pattern to the next one) appears.

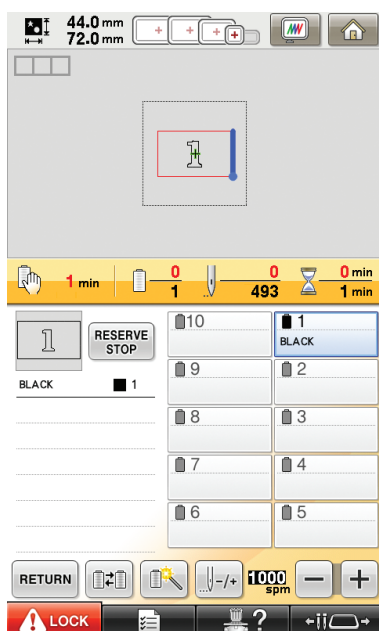
- 5 Select the reference edge and reference point for connecting this pattern to the next one.  
For this example, select the bottom point of the right edge.



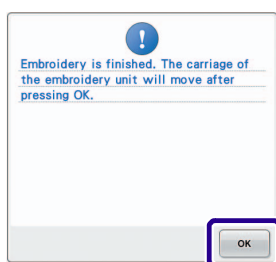
① Reference edge and reference point

- 6 Press .

- 7 Press **SEWING**, then press **LOCK** and then press the start/stop button to embroider the first pattern.

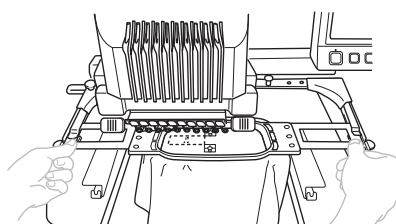
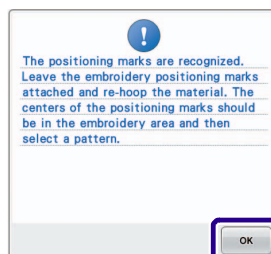


- 8 When the following message appears, press **OK**.

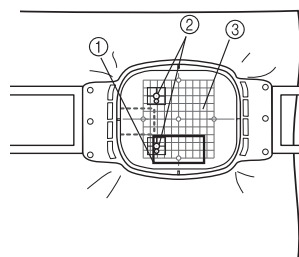


- 9 Follow the machine's on-screen instructions until the two stickers are detected. For details, refer to steps 7 through 9 in "Practice (Connecting Three Patterns)" on page 13.

- 10 After the two stickers have been detected, the following message appears. With the stickers remaining affixed, remove the frame, and then press **OK**.



- 11 If the fabric cannot be re-hooped so that the next pattern and the centers of the large circles of the two positioning stickers are within the embroidering area, hoop the fabric with the centers of the large circles of the two stickers within the embroidering area and the next pattern as close as possible within the embroidering area, then attach the frame to the machine.

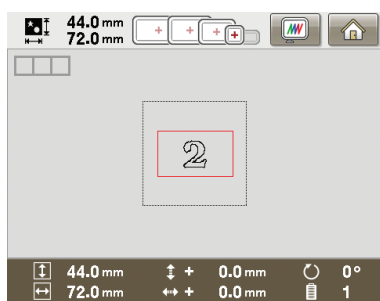


- ① Pattern to be embroidered next
- ② Centers of large circles for stickers
- ③ Embroidery sheet

### Note

- When re-hooping the fabric, the centers of the large circles on the two stickers should be positioned within the embroidering area. If they are not within the embroidering area, the stickers cannot be repositioned.

- 12 Select the second pattern for practicing [2], and then press **SET**.

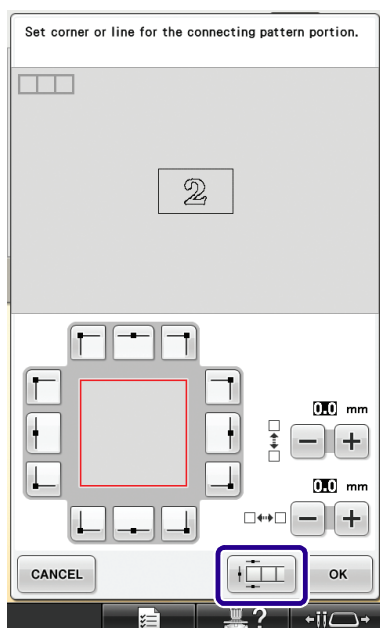


- 13 Press **EDIT END**.

- 14 When the pattern connection setting screen (screen for connecting the selected pattern to the previous one) appears, press

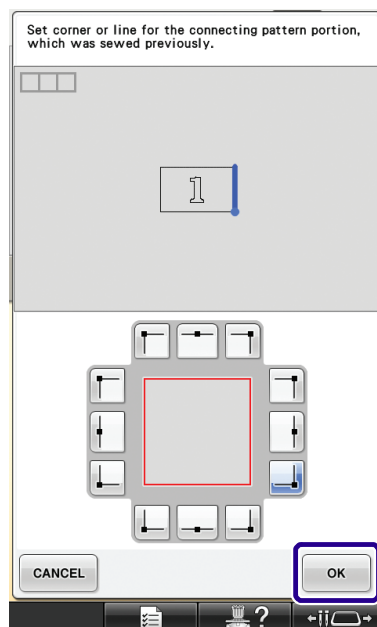
- To return to the embroidery settings screen, press

**CANCEL**.



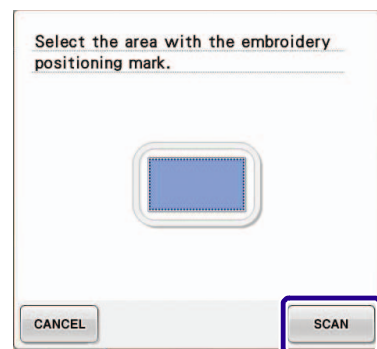
- 15 Without changing the reference edge and reference point settings, press **OK**.

- To return to the previous screen, press **CANCEL**.



- 16 After the following message appears, select the area containing one of the two affixed stickers, and then press **SCAN**.

- It is not necessary to select the area containing one of the two stickers, when using the embroidery frame with the size of 10 × 10 cm (4 inches × 4 inches) as exemplified in this procedure.



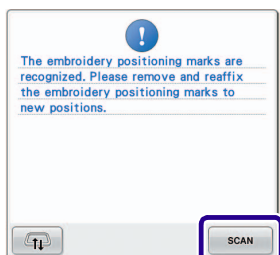
→ The camera detects the two stickers.




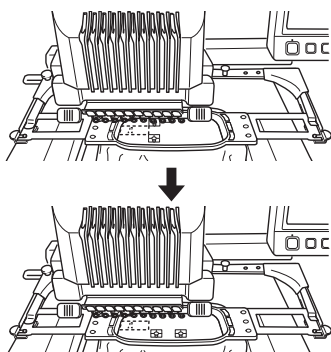
#### Note

- If an error message appears, refer to page 19 to solve the problem.

- 17 When the following message appears, remove the two stickers, and then re-affix them so that the fabric can be re-hooped with the next pattern within the embroidering area. This time, keep the distance between stickers 5 cm (2 inches) or more. After the stickers have been affixed, press **SCAN**.

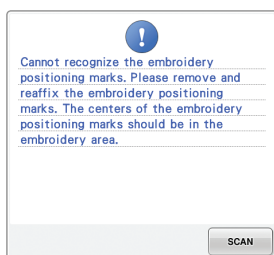


- Press  to remove the positioning stickers when it's hard to reach the stickers behind the needles.



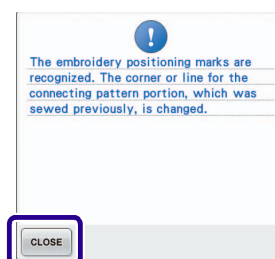
#### Note

- If the stickers are re-affixed within or near the area where the next pattern is to be embroidered, the stickers and the next patterns will fit within the embroidering area more easily after being re-hooped.
- When the following message appears, reaffix the stickers within the embroidering area.

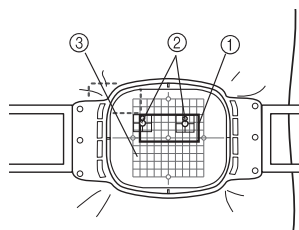


The message above may also appear when the sticker is attached slightly out of the embroidering area. In that case, reaffix the stickers so that they fit more within the embroidering area.

- 18 If the stickers has been successfully detected, the following message appears. Press **CLOSE**.

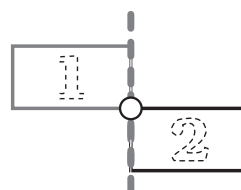


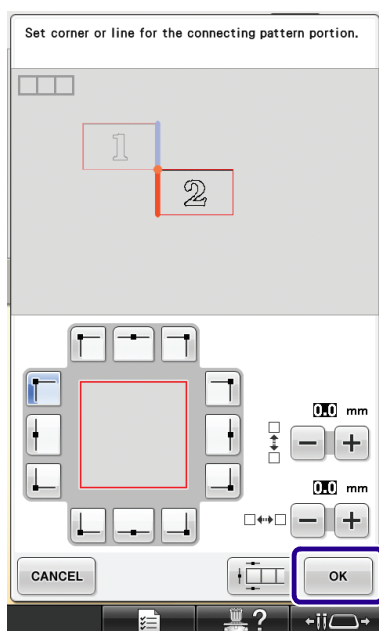
- 19 Hoop the fabric so that the next pattern and the centers for the large circles of the two marks are within the embroidering area, and then attach the embroidery frame to the machine.



- ① Pattern to be embroidered next
- ② Centers of large circles for stickers
- ③ Embroidery sheet

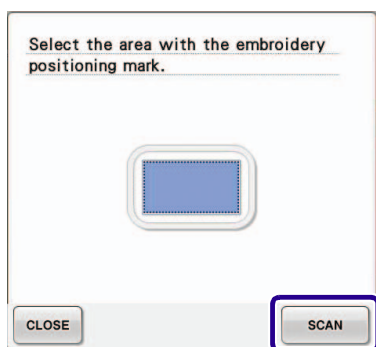
- 20 When the pattern connection setting screen (screen for connecting the selected pattern to the previous one) appears, select the reference edge and reference point for connecting this pattern to the previous one, and then press **OK**. For this example, select the top point of the left edge, and then press **OK**.





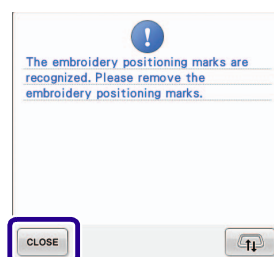
**21 Select the area containing one of the two stickers, and then press SCAN.**

- It is not necessary to select the area containing one of the two stickers, when using the embroidery frame with the size of 10 × 10 cm (4 inches × 4 inches) as exemplified in this procedure.



**22 After the stickers have been detected, press**

CLOSE, and then remove the stickers.

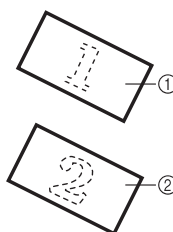


**Note**

- If an error message appears, refer to page 18 to solve the problem.

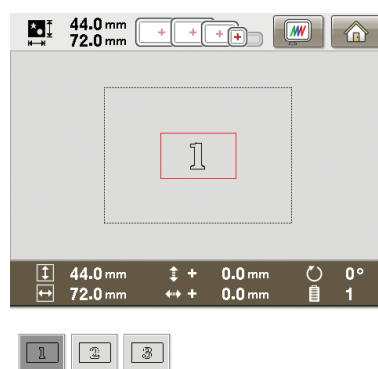
## Connecting Rotated Patterns

Greater design variations can be created by rotating patterns. The following procedure describes how to connect patterns that are rotated.



- ① Pattern1.pes
- ② Pattern2.pes

**1 Select the pattern, and then press SET.**

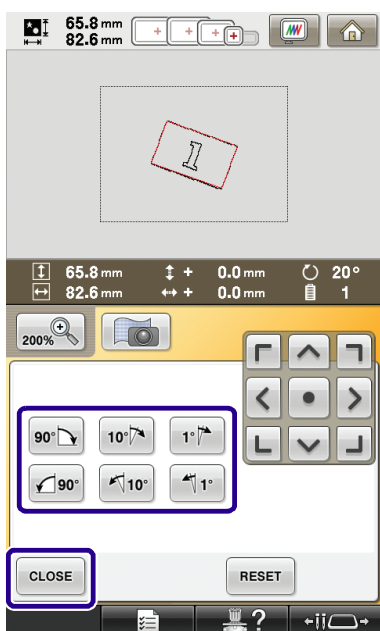


→ The pattern editing screen appears.

2 Press **ROTATE** in the pattern editing screen.



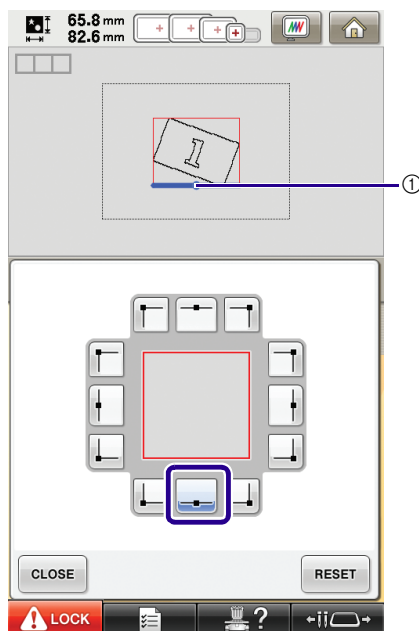
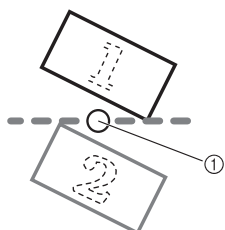
3 Rotate the pattern, and then press **CLOSE**.



4 Press **EDIT END** to display the embroidery settings screen.

5 Press **LOCK**.

6 Select the reference edge and reference point for connecting this pattern to the next one. Press **CLOSE**.



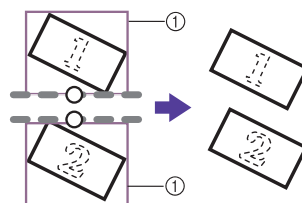
① Reference edge and reference point of first pattern



#### Note

- Be sure to rotate the pattern from the pattern editing screen. The reference edge and reference point are specified along the smallest rectangle (not angled) that contains all patterns selected when the embroidery settings screen is displayed.

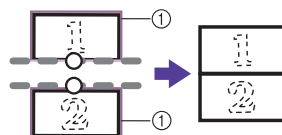
#### Rectangles and angled patterns



① Rectangle

Refer to "Connecting Patterns to be Joined Along an Edge", to joining the first and second patterns along an edge.

#### Rectangles and patterns (not angled)

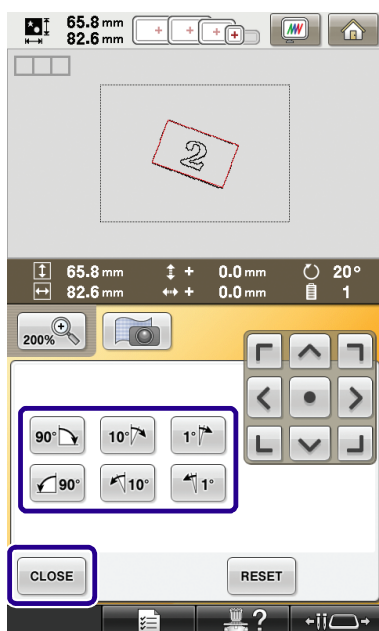


① Rectangle

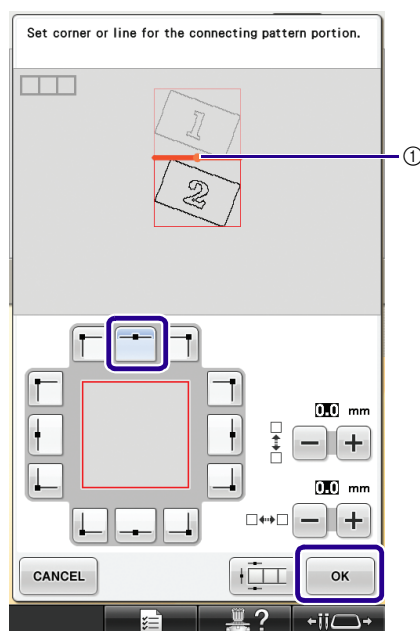
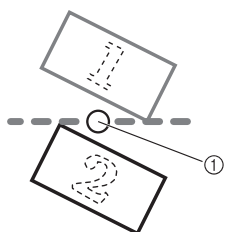
- Pressing **ROTATE** in the embroidery settings screen changes the angle at which patterns are connected.



- 7 Refer to steps 5 through 11 of “Practice (Connecting Three Patterns)” to embroider the first pattern and re-hoop the fabric.
- 8 Select the pattern, and then press **SET**.
- 9 Press **ROTATE** in the pattern editing screen.
- 10 Rotate the pattern to the same angle as the first pattern, and then press **CLOSE**.



- 11 Press **EDIT END** to display the embroidery settings screen.
- 12 Select the reference edge and reference point corresponding to those for the first pattern, and then press **OK**.

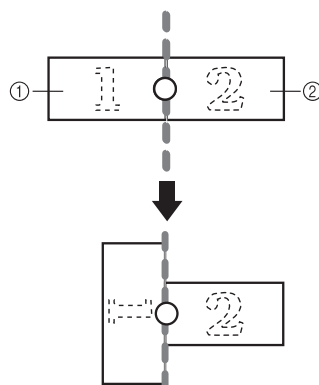


① Reference edge and reference point

- 13 Continue with step 14 of “Practice (Connecting Three Patterns)” to finish connecting the patterns.

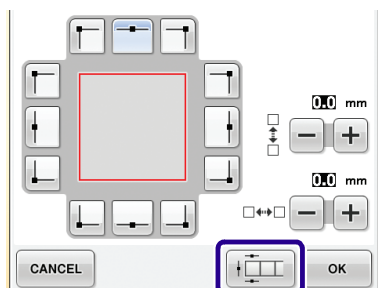
## Changing the Reference Edge and Reference Point for Connecting the Next Pattern after a Pattern has been Embroidered

The reference edge and reference point for connecting the next pattern can be changed after a pattern has been embroidered.



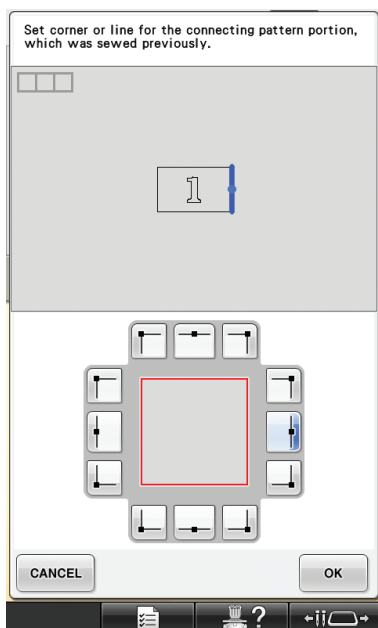
① Pattern1.pes  
② Pattern2.pes

- 1 Perform the procedure in “Practice (Connecting Three Patterns)” up to step 13, and when the pattern connection setting screen (screen for connecting the selected pattern to the previous one) appears, press

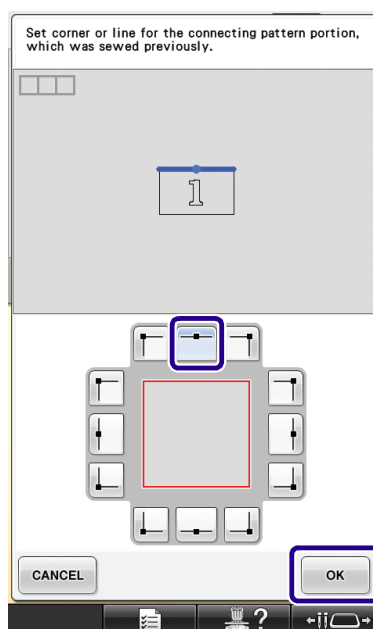


- 2 Select the new reference edge and reference point for connecting the pattern, and then press

(Old setting)



(New setting)

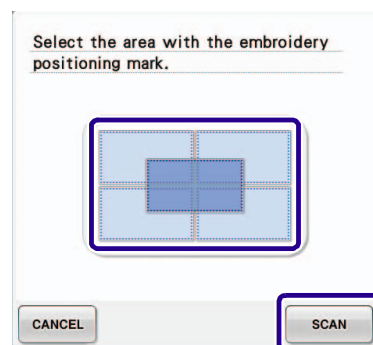


- To return to the previous screen, press

CANCEL

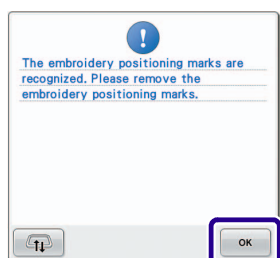
- 3 After the following message appears, select the area containing one of the two affixed stickers, and then press


SCAN




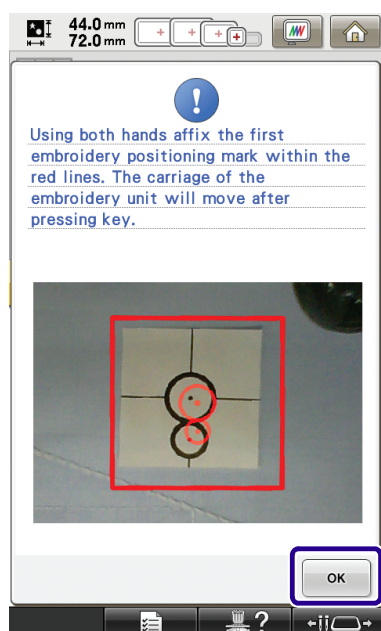
- 4 After the stickers have been successfully detected, the following message appears. Remove the two stickers, and then press


OK.

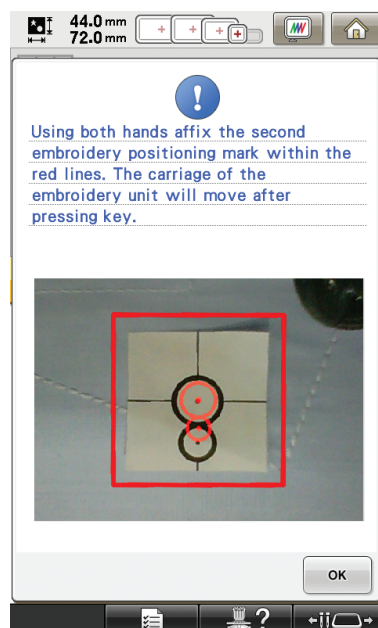



- Press  to remove the positioning stickers when it's hard to reach the stickers behind the needles.

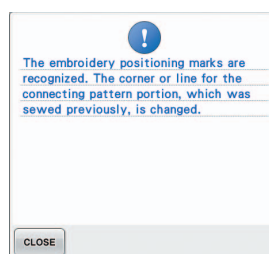
- 5 Affix the first embroidery positioning sticker onto the fabric within the red lines by using both hands to press down on each corner of the sticker, and then press . Affix the sticker with the large circle at the top as shown on the machine's screen.



- 6 Using both hands affix the second embroidery positioning sticker within the red lines by pressing down on each corner of the positioning sticker onto the material and then touch .

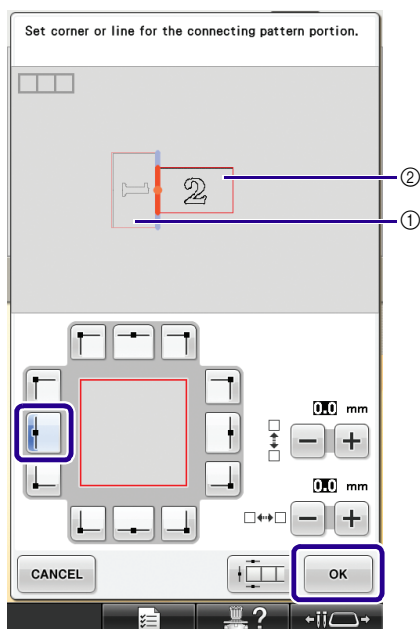


- 7 If the stickers have been successfully detected, the following message appears. Press .



→ The reference point for connecting a pattern is changed.

- 8** When the pattern connection setting screen (screen for connecting the selected pattern to the previous one) appears, select the reference edge and reference point, and then press **OK**.



- ① First pattern  
② Second pattern

- 9** Continue with step 14 of “Practice (Connecting Three Patterns)” to finish connecting patterns.

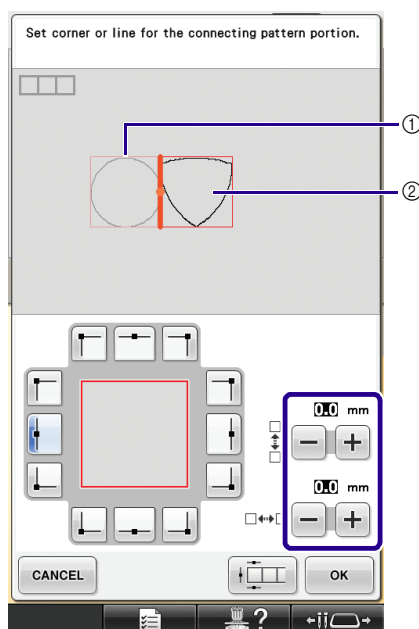
## Sliding the Position of the Pattern to be Connected

When using the pattern connecting function, patterns can be connected by sliding them, instead of only aligning patterns along reference edges and reference points. This can be done when you want the pattern to be equally spaced when embroidered. The vertical and horizontal shifts can be set up to  $\pm 99.9$  mm.

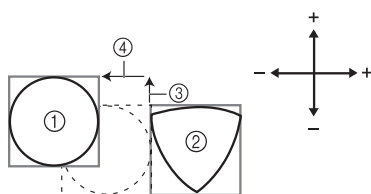
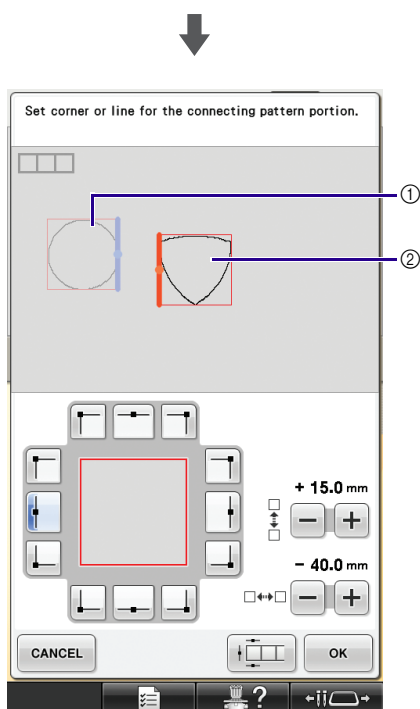


### Note

- The arrangement of patterns displayed in the screen may differ slightly from the actual embroidery. Use a ruler to measure the vertical and horizontal shifts before changing the settings.



- ① First pattern  
② Second pattern

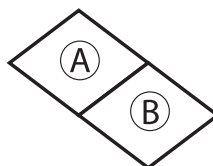


- ① First pattern
- ② Second pattern
- ③ Vertical distance : + 15.0 mm
- ④ Horizontal distance : - 40.0 mm

## ■ Connecting Patterns to be Joined Along an Edge

Greater design variations can be created by sliding the patterns being connected.

The following procedure describes how to use this function to connect patterns so they are joined along an edge. Before connecting the patterns, the basting function will be used to measure the distance that the pattern will be slid.



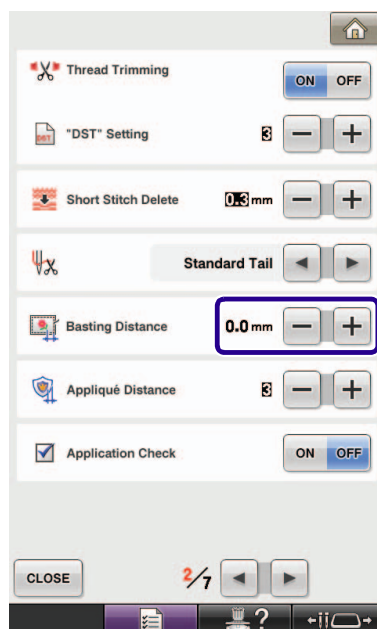
- A: First pattern
- B: Second pattern

## Measuring the Distance That the Pattern Will Be Slid

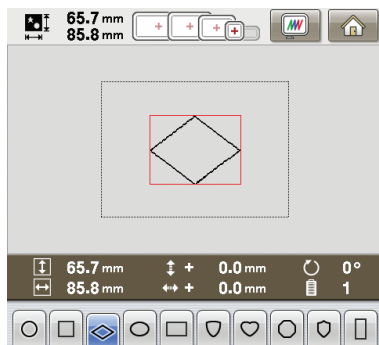
### Note


- Steps ① through ④ are for measurement placement only. Be sure to sew trial embroidery using same fabric and threads as project in order to check the embroidering results.

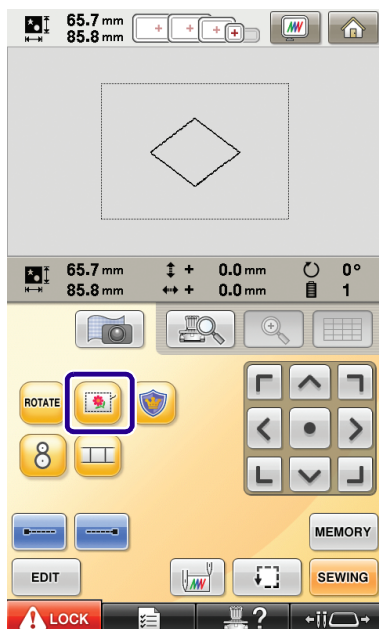
- 1 Set "Basting Distance" in the settings screen to "0.0".





- 2 Select the pattern whose slide distance is to be measured.

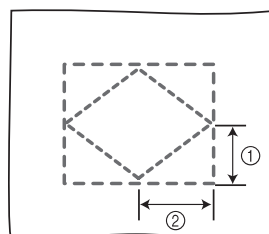


- 3 Continue to the embroidery settings screen, and then press  to select the basting function.



→  changes to .


- 4 After the pattern is sewn, remove the fabric from the frame, and then measure the distance that the pattern is to be slid.

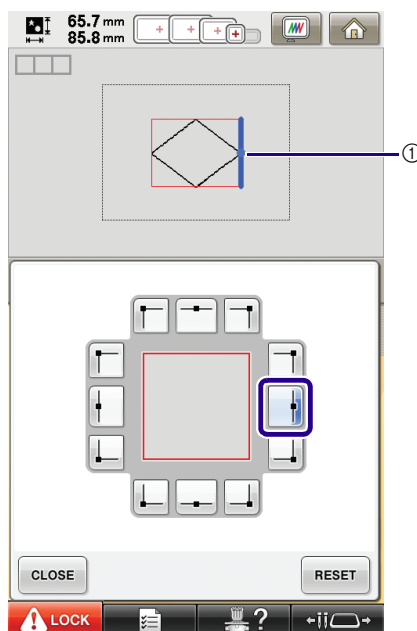
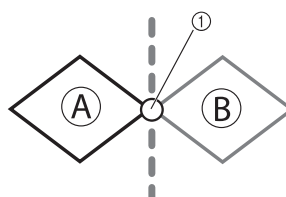


- ① Vertical: 32.8 mm  
② Horizontal: 42.8 mm

### Trial Sewing

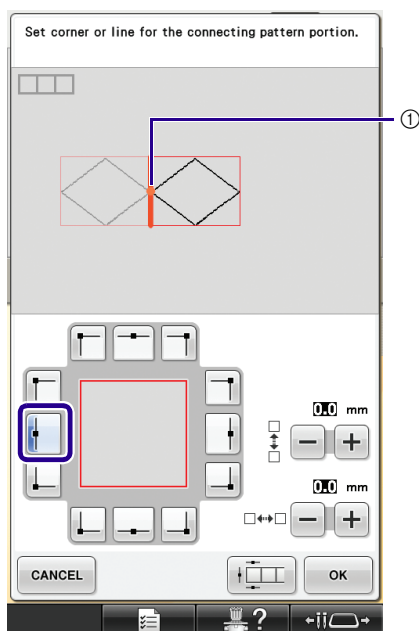
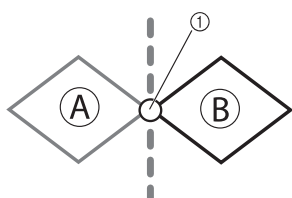
Sew trial embroidery to check that the pattern will be slid the correct distance.

- 1 Select the pattern, and then continue to the embroidery settings screen.
- 2 Press  in the embroidery settings screen.
- 3 Select the reference edge and reference point for connecting this pattern to the next one.



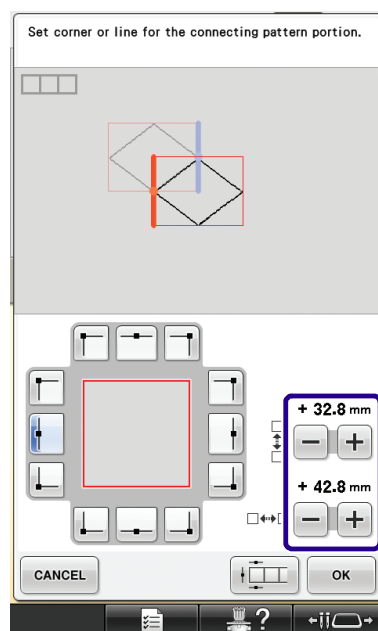
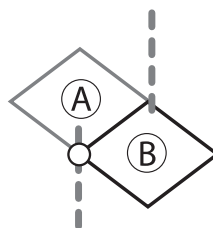
- ① Reference edge and reference point of first pattern

- 4 Refer to steps 5 through 11 of “Practice (Connecting Three Patterns)” to embroider the first pattern and re-hoop the fabric.
- 5 Select the next pattern, and then continue to the embroidery settings screen.
- 6 When the pattern connection setting screen (screen for connecting the selected pattern to the previous one) appears, select the reference edge and reference point corresponding to those for the first pattern.



① Reference edge and reference point

- 7 Specify the distance that the pattern is to be slid, and then press **OK**.



- 8 Continue with step 14 of “Practice (Connecting Three Patterns)” to finish connecting the patterns.














#### Note






- After checking that the trial embroidery results are satisfactory, sew the actual embroidery. If you decide to change the distance that the pattern is slid after checking the trial embroidery, change the settings selected in step 7.



## Troubleshooting and Quick Reference Chart

If any problems occur, refer to the following to resolve them.

Operation		
1	Select the first pattern.	
2	Press the pattern connection key.	
3	Select the reference point of the first pattern for connection to the second pattern.	
4	Begin embroidering the first pattern.	
5	Finish embroidering the first pattern.	
6	Start detecting marks (2 locations).	
7	Finish detecting marks.	
8	Re-hoop the fabric.	
9	Select the second pattern.	
10	Select the reference point of second pattern for connection to the first pattern.	
11	Start detecting marks (2 locations).	
12	Finish detecting marks.	
13	Remove the two stickers.	
14	Select the reference point of second pattern for connection to the third pattern.	
15	Begin embroidering the second pattern.	
16	Finish embroidering the second pattern.	
17	Start detecting marks (2 locations).	
18	Finish detecting marks.	
19	Re-hoop the fabric.	
20	Select the third pattern.	

Operation		
21	Select the reference point of third pattern for connection to the second pattern.	
22	Start detecting marks (2 locations).	
23	Finish detecting marks.	
24	Remove the two stickers.	
25	Select the reference point of third pattern for connection to the fourth pattern.	
26	Begin embroidering the third pattern.	
27	Finish embroidering the third pattern.	

### Operation: No. 8 & 19

**Issue:** When re-hooping the fabric, a sticker peels off the fabric.

**Solution:** The patterns cannot be connected. Restart the procedure from the beginning with a new piece of fabric and stabilizer in the hoop.

### Operation: No. 8, 11, 19 & 22

**Issue:** The next pattern to be embroidered and the centers of the large circles on the stickers do not fit within the embroidering area.

**Solution1:** Change the embroidery frame to a larger one.

**Solution2:** Reposition the stickers so that they fit within the embroidering area. With the embroidery frame remaining attached to the machine, select the next pattern, and then continue with the procedure in "Changing the Position of a Sticker" on page 21.

### Operation: No. 10 & 21

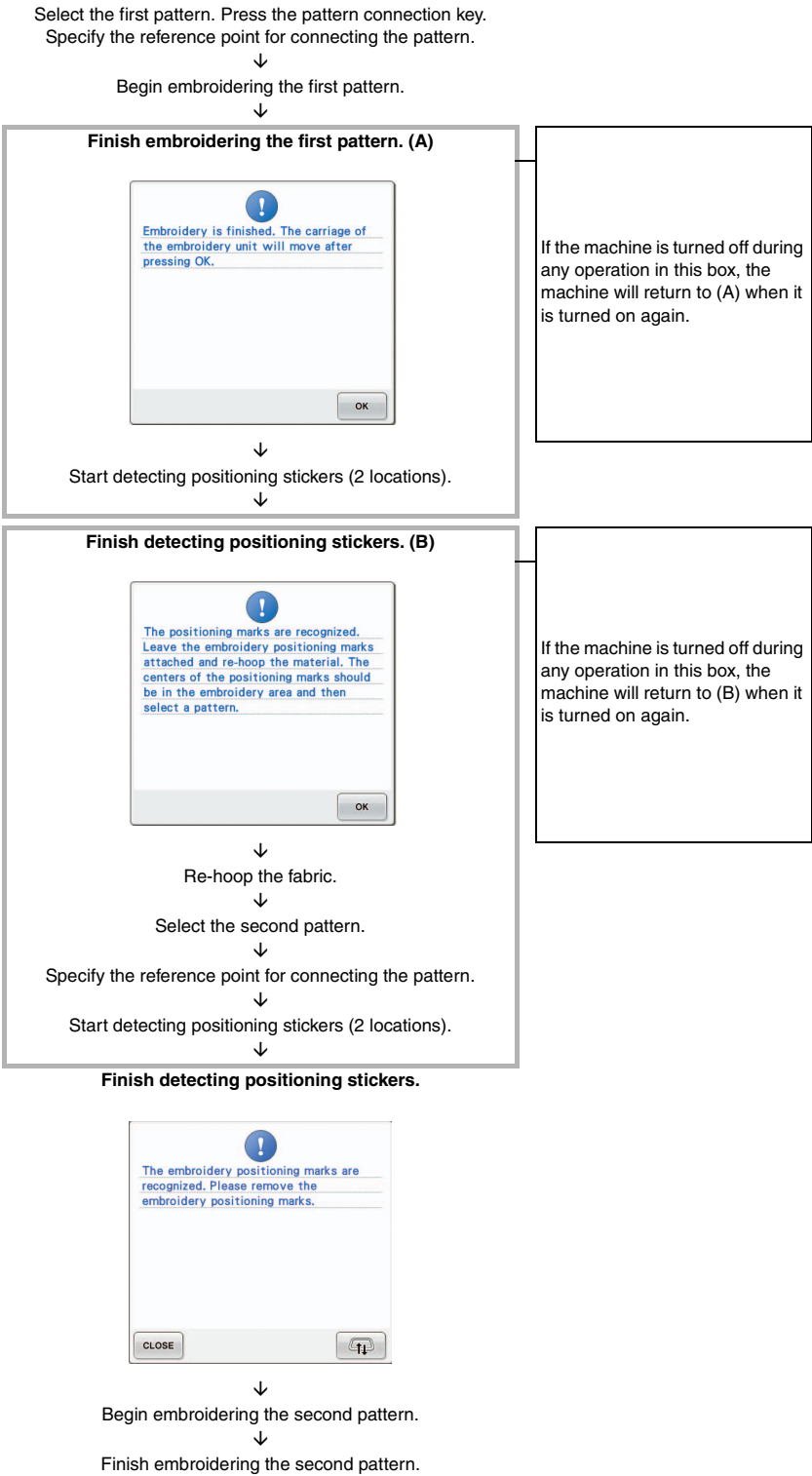
**Issue:** You wish to change the selected reference point.

**Solution:** The selected reference point can be changed. For details, refer to "Changing the Reference Edge and Reference Point for Connecting the Next Pattern after a Pattern has been Embroidered" on page 28.

# 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**



# NEW PATTERNS

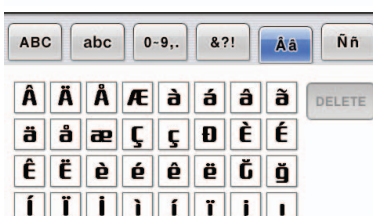
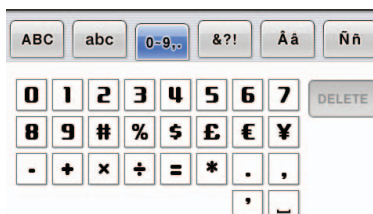
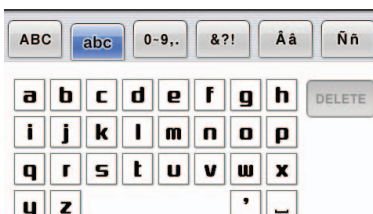
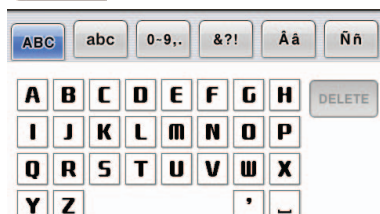
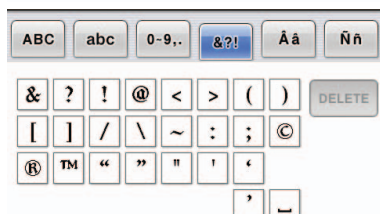
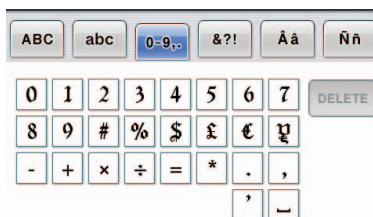
## Thumbnail List



Embroidery patterns



Alphabet patterns



## Color Change Table for the Embroidery Patterns

### ● No. 01

151 min			
1 (900)	14 (613)	27 (800)	40 (001)
2 (206)	15 (800)	28 (001)	41 (900)
3 (209)	16 (085)	29 (085)	42 (085)
4 (800)	17 (206)	30 (900)	43 (800)
5 (085)	18 (515)	31 (085)	44 (612)
6 (515)	19 (513)	32 (001)	45 (515)
7 (513)	20 (085)	33 (206)	46 (085)
8 (001)	21 (900)	34 (800)	47 (206)
9 (515)	22 (206)	35 (206)	48 (900)
10 (001)	23 (209)	36 (513)	49 (001)
11 (513)	24 (800)	37 (613)	50 (800)
12 (900)	25 (513)	38 (800)	
13 (612)	26 (515)	39 (085)	

◇ 184.4 mm ⇔ 278.2 mm

① Time required for embroidering

② Embroidery thread color/  
Embroidery thread color number

③ Embroidery size



### No. 02



140 min			
1 (001)	5 (017)	9 (323)	13 (517)
2 (817)	6 (209)	10 (030)	14 (707)
3 (812)	7 (348)	11 (330)	15 (058)
4 (205)	8 (513)	12 (704)	

◇ 181.0 mm ⇔ 180.9 mm

### No. 04



99 min			
1 (126)	9 (513)	17 (126)	25 (001)
2 (348)	10 (348)	18 (348)	26 (704)
3 (513)	11 (513)	19 (323)	27 (812)
4 (812)	12 (812)	20 (079)	28 (323)
5 (126)	13 (126)	21 (001)	29 (707)
6 (348)	14 (348)	22 (817)	30 (001)
7 (812)	15 (513)	23 (704)	
8 (126)	16 (812)	24 (707)	

◇ 169.9 mm ⇔ 165.7 mm

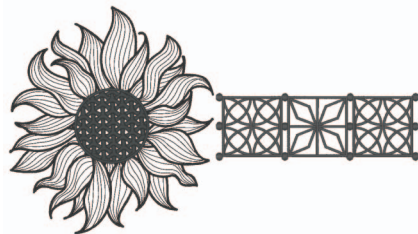
### ● No. 03



74 min			
1 (502)	9 (214)	17 (810)	25 (206)
2 (807)	10 (502)	18 (612)	26 (214)
3 (612)	11 (010)	19 (086)	27 (614)
4 (810)	12 (502)	20 (612)	28 (804)
5 (804)	13 (810)	21 (804)	29 (810)
6 (502)	14 (086)	22 (807)	30 (612)
7 (010)	15 (807)	23 (612)	31 (214)
8 (206)	16 (214)	24 (810)	32 (614)

◇ 160.1 mm ⇔ 213.6 mm

### No. 05



40 min		
1 (900)	2 (707)	3 (704)

◇ 188.7 mm ⇔ 340.4 mm



### Memo

- Patterns marked with ● have been rotated. Check your design placement prior to embroidering.

No. 06



65 min			
1 (001)	9 (005)	17 (005)	25 (005)
2 (800)	10 (007)	18 (405)	26 (001)
3 (405)	11 (405)	19 (001)	27 (406)
4 (007)	12 (001)	20 (007)	28 (007)
5 (005)	13 (005)	21 (005)	29 (005)
6 (405)	14 (001)	22 (007)	
7 (001)	15 (405)	23 (405)	
8 (007)	16 (007)	24 (001)	

⌀ 119.5 mm ⇔ 346.0 mm

No. 09



85 min		
1 (019)	3 (399)	5 (804)
2 (804)	4 (019)	6 (399)

⌀ 187.1 mm ⇔ 338.6 mm

No. 07



66 min			
1 (804)	8 (513)	15 (513)	22 (202)
2 (017)	9 (209)	16 (209)	23 (206)
3 (027)	10 (030)	17 (030)	24 (027)
4 (513)	11 (337)	18 (337)	25 (513)
5 (707)	12 (202)	19 (202)	
6 (337)	13 (707)	20 (707)	
7 (027)	14 (027)	21 (337)	

⌀ 197.1 mm ⇔ 222.8 mm

No. 10



132 min			
1 (209)	15 (612)	29 (086)	43 (612)
2 (086)	16 (019)	30 (017)	44 (017)
3 (017)	17 (509)	31 (019)	45 (509)
4 (612)	18 (209)	32 (612)	46 (001)
5 (001)	19 (019)	33 (001)	47 (086)
6 (019)	20 (509)	34 (086)	48 (019)
7 (810)	21 (017)	35 (001)	49 (001)
8 (509)	22 (019)	36 (810)	50 (086)
9 (086)	23 (001)	37 (086)	51 (019)
10 (209)	24 (612)	38 (810)	52 (810)
11 (086)	25 (209)	39 (017)	53 (612)
12 (810)	26 (509)	40 (509)	54 (509)
13 (001)	27 (001)	41 (019)	
14 (017)	28 (810)	42 (209)	

⌀ 192.4 mm ⇔ 350.8 mm

No. 08



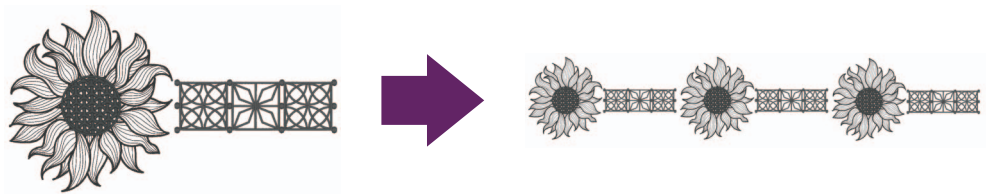
102 min			
1 (339)	10 (517)	19 (328)	28 (208)
2 (030)	11 (208)	20 (339)	29 (001)
3 (808)	12 (812)	21 (030)	30 (517)
4 (517)	13 (019)	22 (339)	31 (208)
5 (019)	14 (339)	23 (808)	32 (812)
6 (328)	15 (808)	24 (517)	33 (019)
7 (208)	16 (517)	25 (812)	34 (339)
8 (812)	17 (019)	26 (019)	35 (808)
9 (001)	18 (808)	27 (328)	

⌀ 188.8 mm ⇔ 347.2 mm

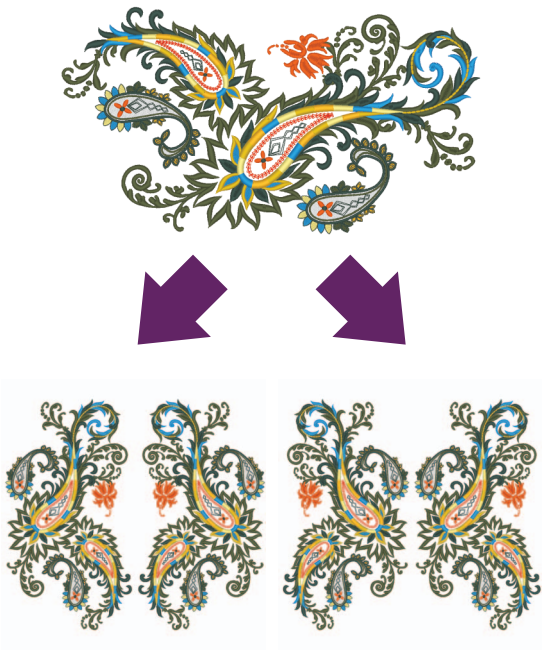


■ Examples of Combinations

No. 05



No. 08



No. 09

