

# Combination Sewing and Embroidery Machine Workflow

Computation + Construction Lab | Iowa State University

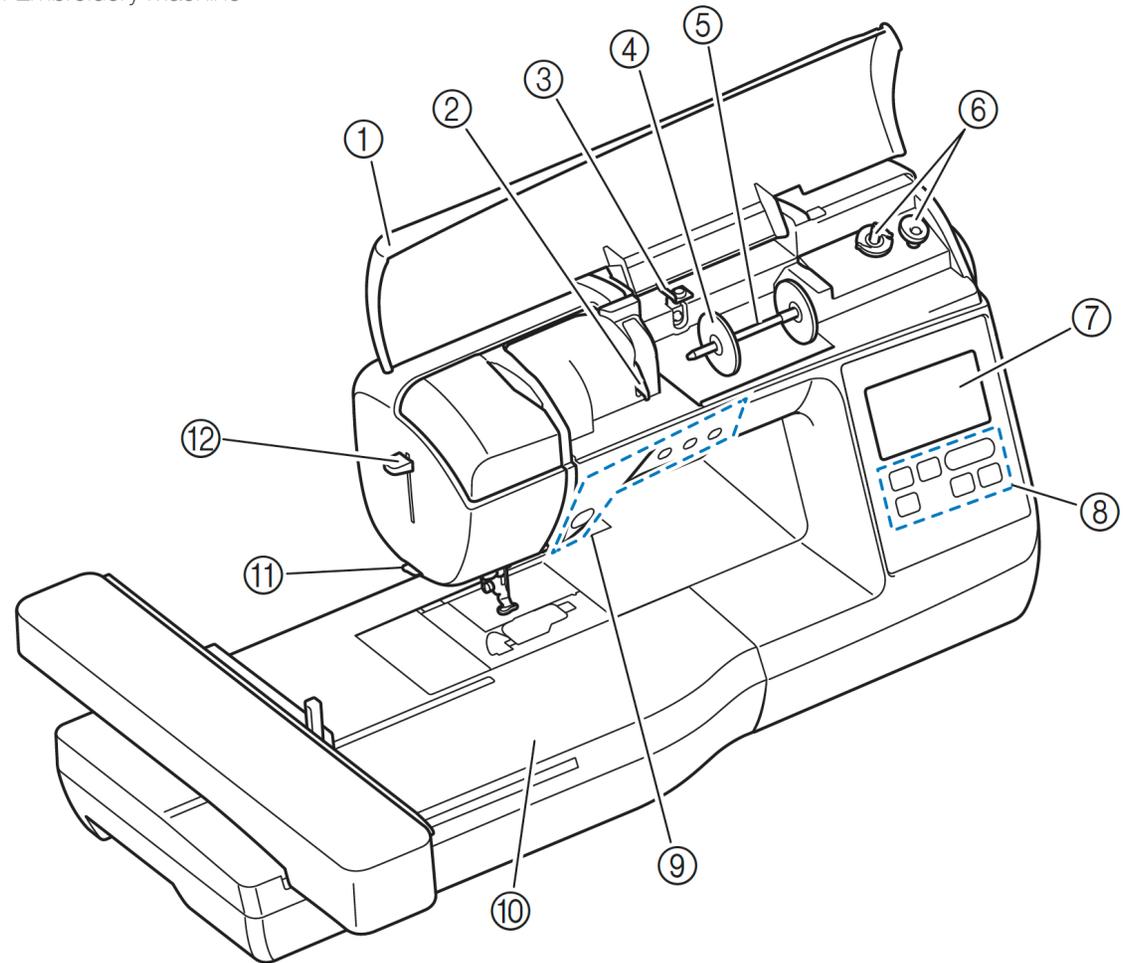
Combination Sewing and Embroidery Machine Workflow



# Machine Overview

1. Top cover- Open the top cover to place the spool of thread on the spool.
2. Thread guide plate- Pass the thread around the thread guide plate when threading the upper thread.
3. Bobbin winding thread guide and pretension disk- Pass the thread guide and around the pretension disk when winding the bobbin thread.
4. Spool cap- Use the spool cap to hold the spool of thread in place.
5. Spool pin- Place a spool of thread on the spool pin.
6. Bobbin winder- Use the bobbin winder when winding the bobbin.
7. LCD (liquid crystal display)- Settings for the selected pattern and error messages appear in the LCD.
8. Operation Panel- From the operation panel, embroidery patterns can be selected and edited, and operations for using the machine can be selected.
9. Operations buttons- use these buttons to operate the machine.
10. Embroidery Unit- Attach embroidery unit to embroider.
11. Thread cutter- Pass the threads through the thread cutter to cut the needle.
12. Needle threader lever- Use the needle threader lever to thread the needle.

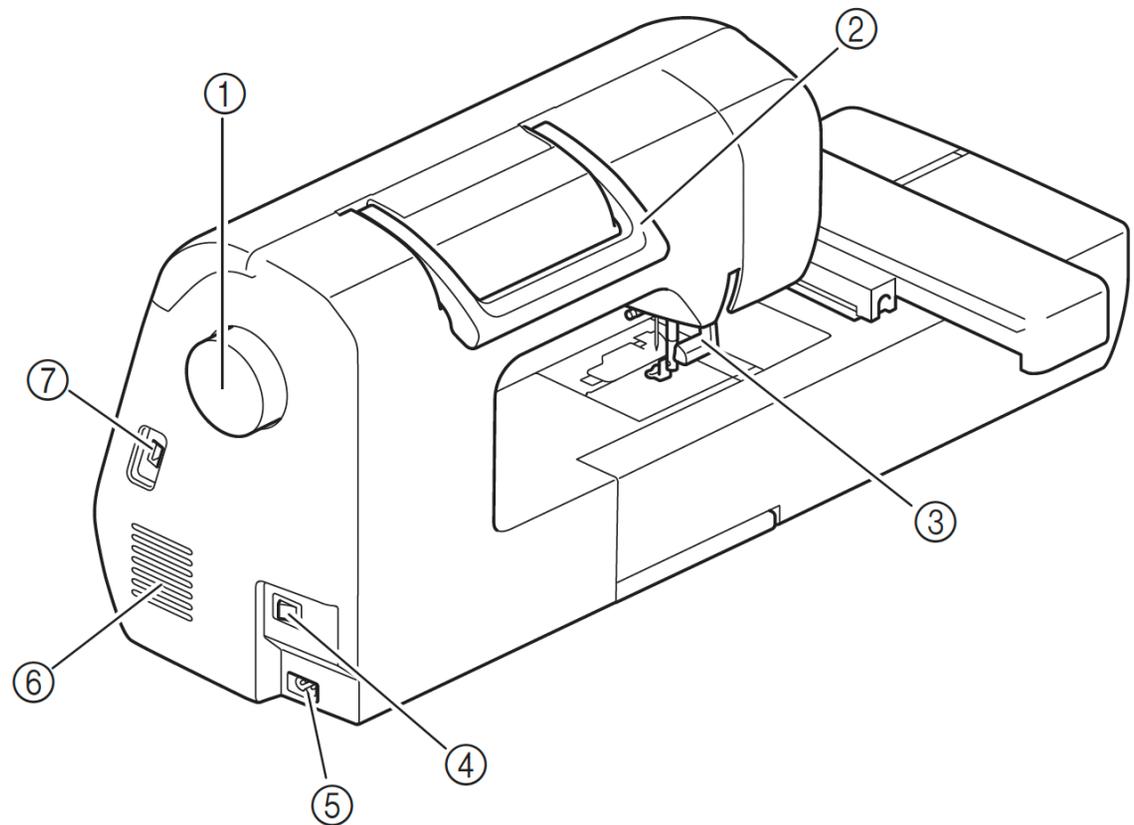
Front of Embroidery Machine



## Machine Overview

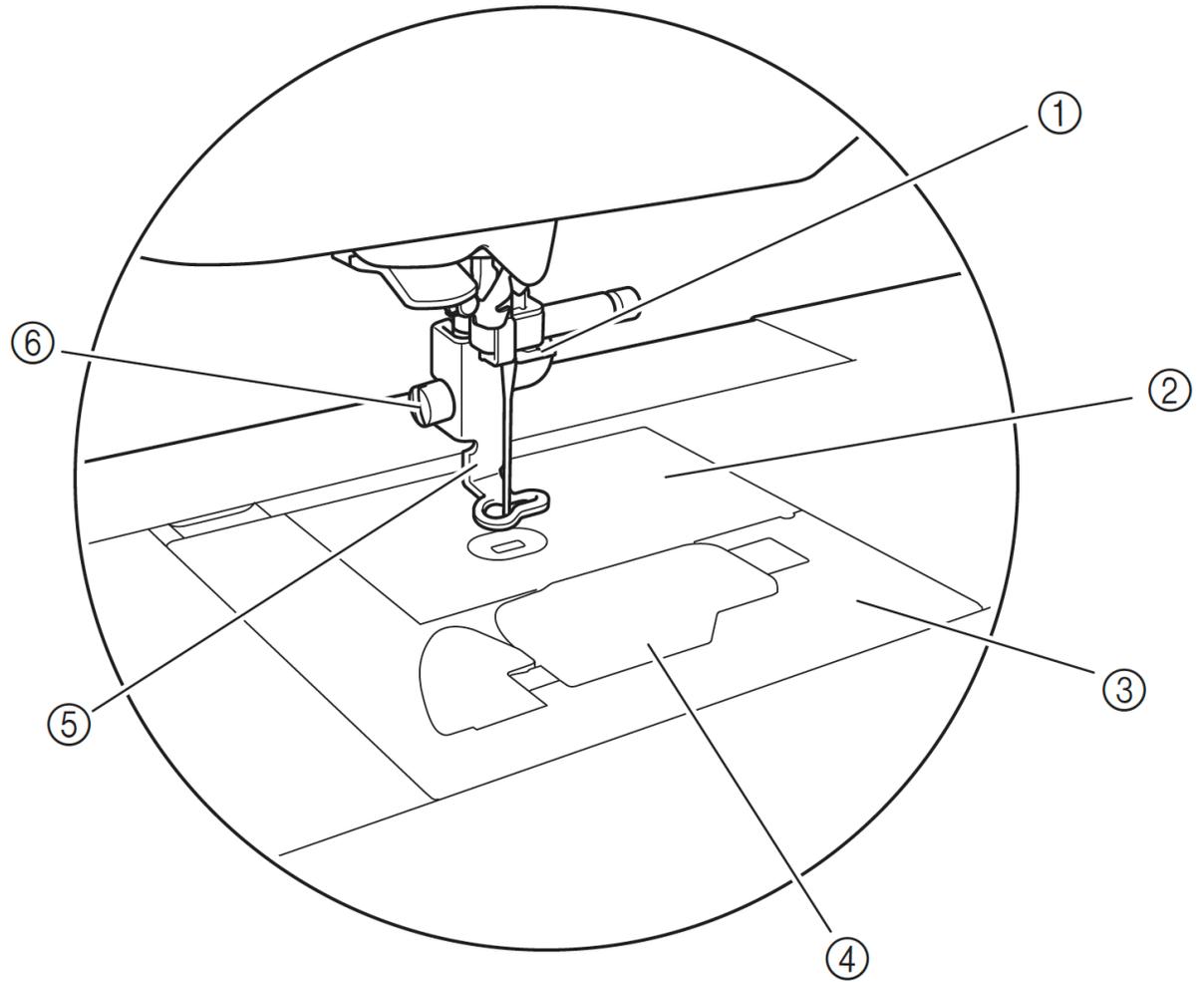
1. Handwheel- Turn the handwheel toward you (counterclockwise) to raise and lower the needle.
2. Handle- Carry the machine by its handle when transporting.
3. Presser foot lever- Raise and lower the presser foot lever to raise and lower the presser foot.
4. Main power switch- Use the main power switch to turn the machine on and off.
5. Power supply jack- Insert the plug on the power cord into the power supply jack.
6. Air vent- The air vent allows the air surrounding the motor to circulate. Do not cover the air vent while the machine is being used.
7. USB port (for a USB flash drive)- In order to import patterns from a USB flash drive, insert the USB flash drive directly into the USB port.

Right-side/rear view



## Needle and Presser Foot Section

1. Needle bar thread guide- Pass the upper thread through the needle bar thread guide.
2. Needle plate
3. Needle plate cover- Remove the needle plate cover to clean the bobbin case and race.
4. Embroidery foot- Remove the bobbin cover and then insert the bobbin into the bobbin case.
5. Embroidery foot screw- Use the embroidery foot screw to hold the embroidery foot in place.



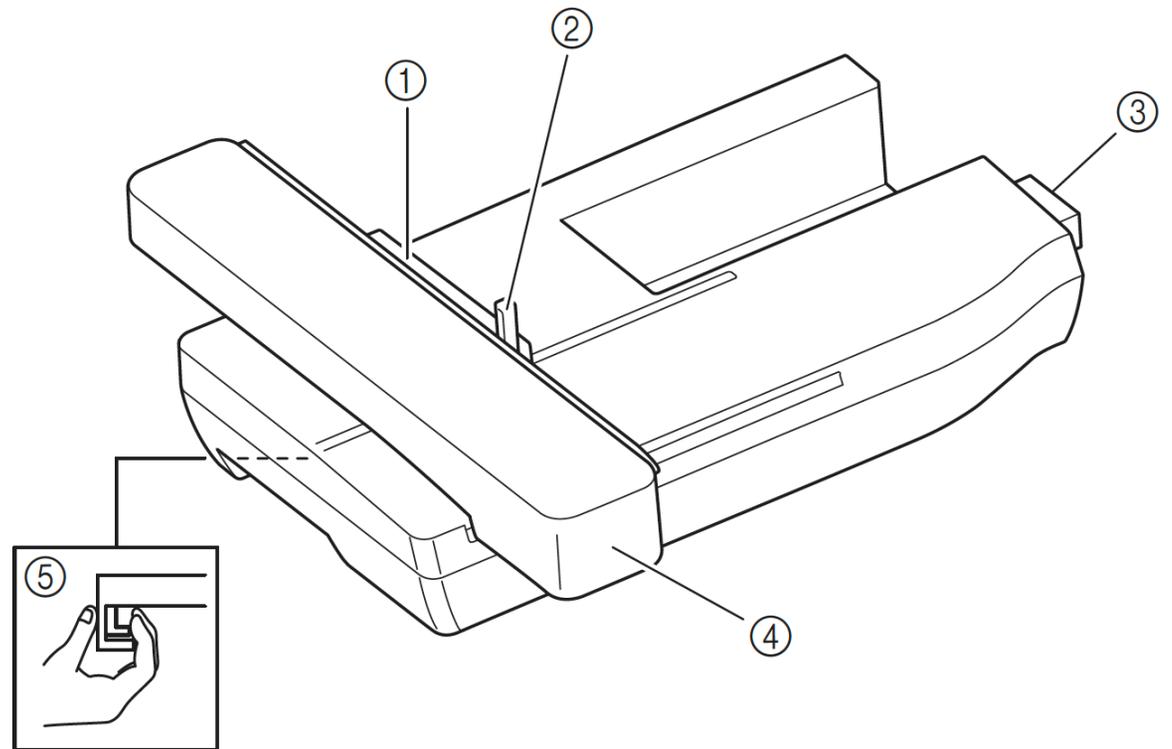
## Embroidery Unit

1. Embroidery frame holder- Insert the embroidery frame into the embroidery frame holder to hold the frame in place
2. Frame-securing lever- Press the frame-securing lever down to secure the embroidery frame.
3. Embroidery unit connection- Insert the embroidery unit connection into the connection port when attaching the embroidery unit.
4. Carriage- The carriage moves the embroidery frame automatically when embroidering.
5. Release button (located under the embroidery unit)- Press the release button to remove the embroidery unit.

### CAUTION!

Before inserting or removing the embroidery unit, turn the main power to OFF.

After the embroidery frame is set in the frame holder, be sure the frame-securing lever is correctly lowered.



# Operation Buttons

1. "Start/Stop" button (↑)

Press the "Start/Stop" button to start or stop embroidering. The button changes color according to the machine's operation mode.

Green: The machine is ready to embroider or is embroidering.

Red: The machine can not embroider.

Orange: The machine is winding the bobbin thread, or the bobbin winder shaft is moved to the right side.

2. Needle position button (↓)

Press the needle position button to raise or lower the needle.

3. Thread cutter button (✂)

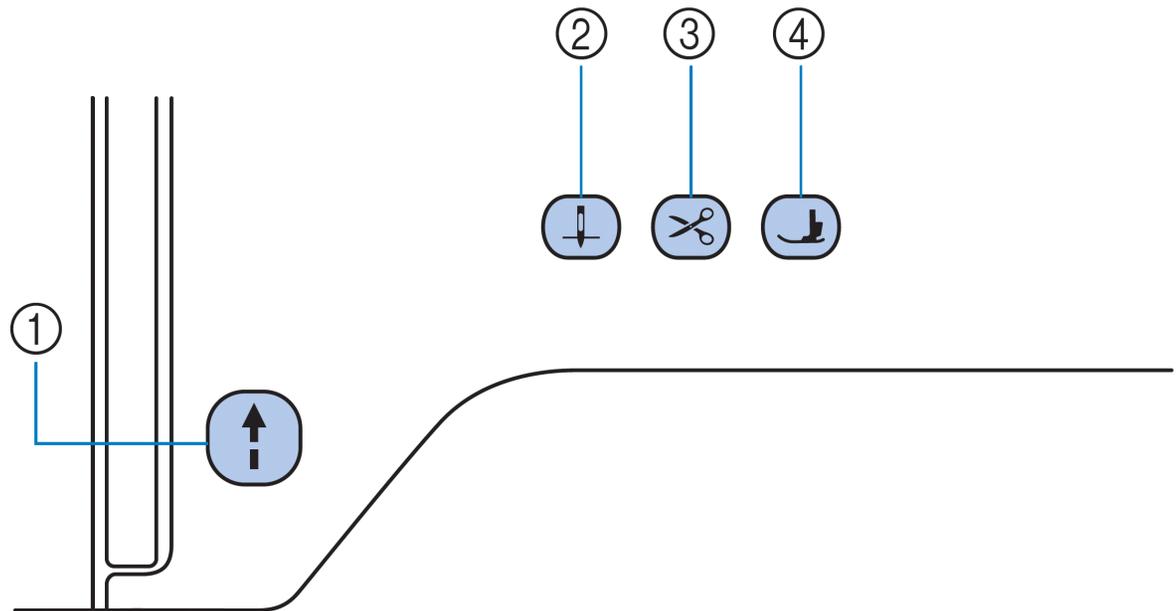
Press the thread cutter button after embroidering is stopped to cut both the upper and the bobbin threads.

4. Presser foot lifter button (⬇)

Press this button to lower the presser foot and apply pressure to the fabric. Press this button again to raise the presser foot.

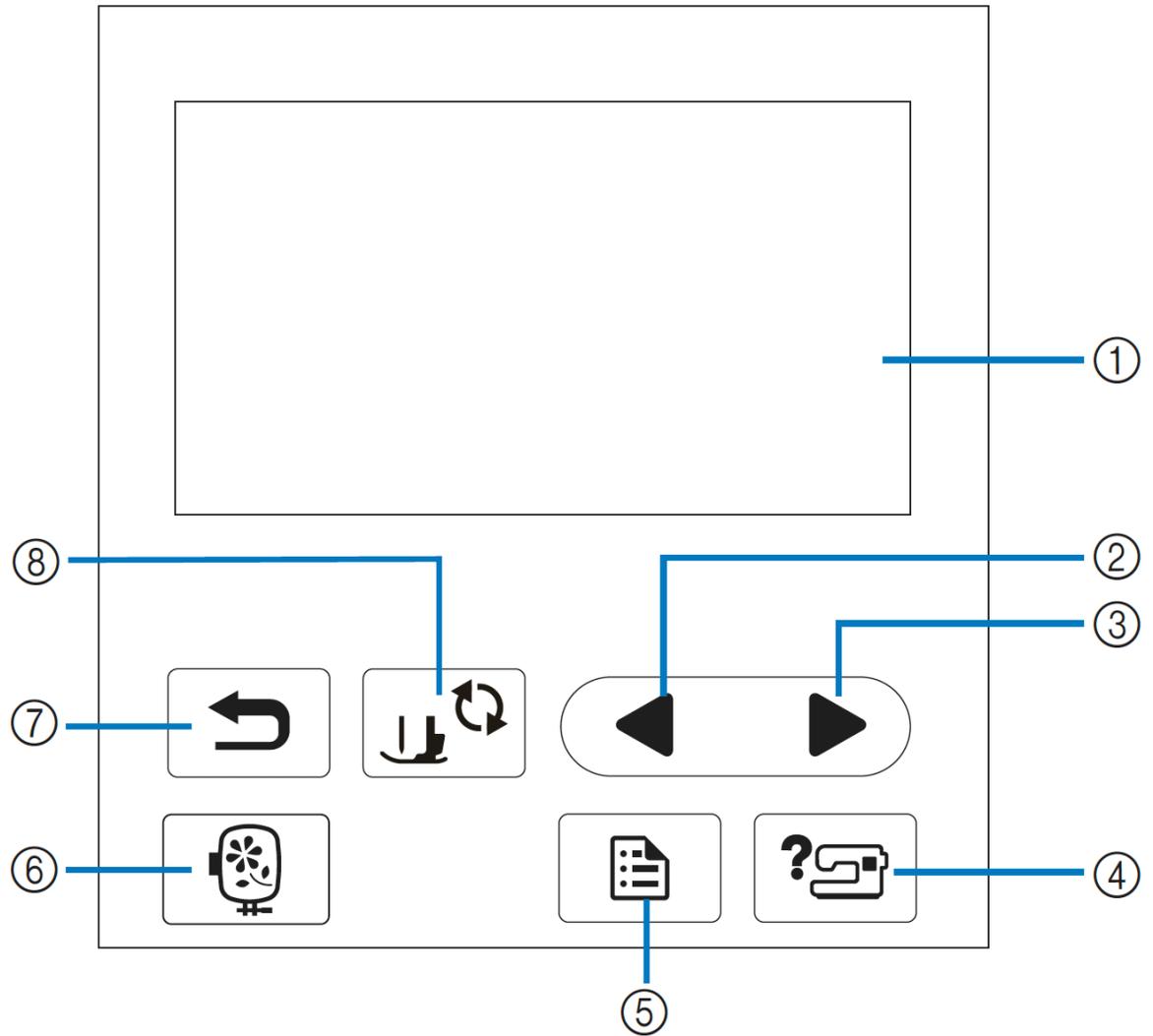
## CAUTION!

Do not press (✂) (Thread cutter button) after the threads have already been cut, otherwise the needle may break, the threads may become tangled or damage to the machine may occur.

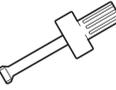
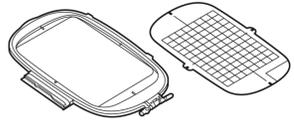
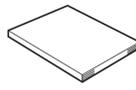
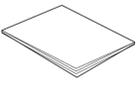
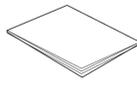


# Operation Panel and Keys

1. LCD (liquid crystal display) (touch panel)  
Select pattern settings and messages are displayed. Touch the keys displayed on the LCD to perform operations.
2. Previous page key ◀  
Displays the previous screen when there are items that are not displayed on the LCD.
3. Next page key ▶  
Display the next screen when there are items that are not displayed on the LCD.
4. Help Key ?  
Press to get help on using the machine.
5. Settings key [Settings icon]  
Press to set the needle stop position, the buzzer sound, and more.
6. Embroidery Key [Embroidery icon]  
Press this key to sew embroidery.
7. Back Key [Back icon]  
Press to return to the previous screen.
8. Presser foot/Needle exchange key [Presser foot icon]  
Press this key before changing the needle, the presser foot, etc. This key locks all key and button functions to prevent operation of the machine.



# Accessories

<p><b>1.</b></p> 	<p><b>2.</b></p> 	<p><b>3.</b></p> 	<p><b>4.</b></p> 	<p><b>5.</b></p> 	<p><b>6.</b></p> 
<p>Embroidery foot "U"</p>	<p>Needle set 75/11 3 needles 90/14 1 needle</p>	<p>Bobbin (4) One is on machine.</p>	<p>Seam ripper</p>	<p>Scissors</p>	<p>Cleaning brush</p>
<p><b>7.</b></p> 	<p><b>8.</b></p> 	<p><b>9.</b></p> 	<p><b>10.</b></p> 	<p><b>11.</b></p> 	<p><b>12.</b></p> 
<p>Screwdriver (large)</p>	<p>Screwdriver (small)</p>	<p>L-shaped screwdriver</p>	<p>Disc-shaped screwdriver</p>	<p>Spool cap (large)</p>	<p>Spool cap (medium) On machine</p>
<p><b>13.</b></p> 	<p><b>14.</b></p> 	<p><b>15.</b></p> 	<p><b>16.</b></p> 	<p><b>17.</b></p> 	
<p>Spool cap (small)</p>	<p>Thread spool insert (mini king thread spool)</p>	<p>Spool net</p>	<p>Bobbin case (no color on the screw) (on machine)</p>	<p>Embroidery frame set (extra large) 26 cm (H) × 16 cm (W) (10-1/4 inches (H) × 6-1/4 inches (W))</p>	
<p><b>18.</b></p> 	<p><b>19.</b></p> 	<p><b>20.</b></p> 	<p><b>21.</b></p> 	<p><b>22.</b></p> 	<p><b>23.</b></p> 
<p>Poly 90 weight bobbin thread</p>	<p>Accessory bag</p>	<p>Dust cover</p>	<p>Operation Manual</p>	<p>Quick Reference Guide</p>	<p>Embroidery Design Guide</p>

## Turning on/off the Machine

1. Make sure that the machine is turned off (the main power switch is set to "O"), and then plug the power cord into the power supply jack on the right side of the machine.
2. Insert the plug of the power cord into a household electrical cord.
3. Press the right side of the main power switch on the right side of the machine to turn the machine on (set it to "I").

The light, LCD and the "Start/Stop" button light up when the machine is turned on.

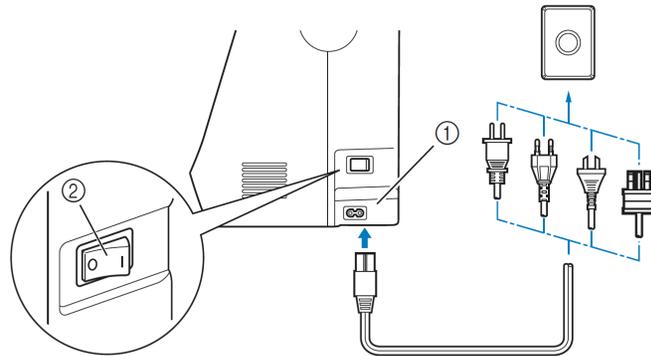
When the machine is turned on, the machine will make a sound when it moves; this is not a malfunction. If the machine is turned off in the middle of embroidering, the operation will resume after turning the power on again.

4. When the machine is turned on, the opening movie is played. Press anywhere on the screen.

When you are finished using the machine, turn it off. In addition, before transporting the machine to another location be sure to turn it off.

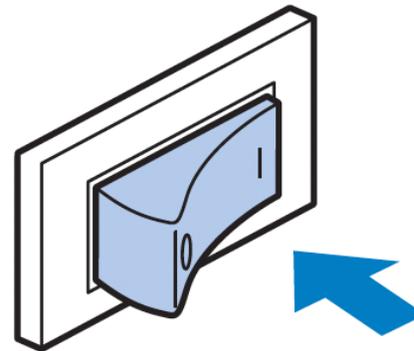
5. Make sure that the machine is not embroidering.
6. Press the main power switch on the right side of the machine in the direction of the "O" symbol to turn the machine off.

2.

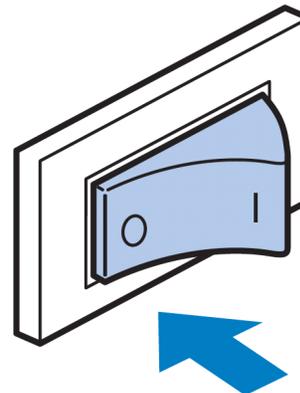


- ① Power supply jack  
② Main power switch

3.



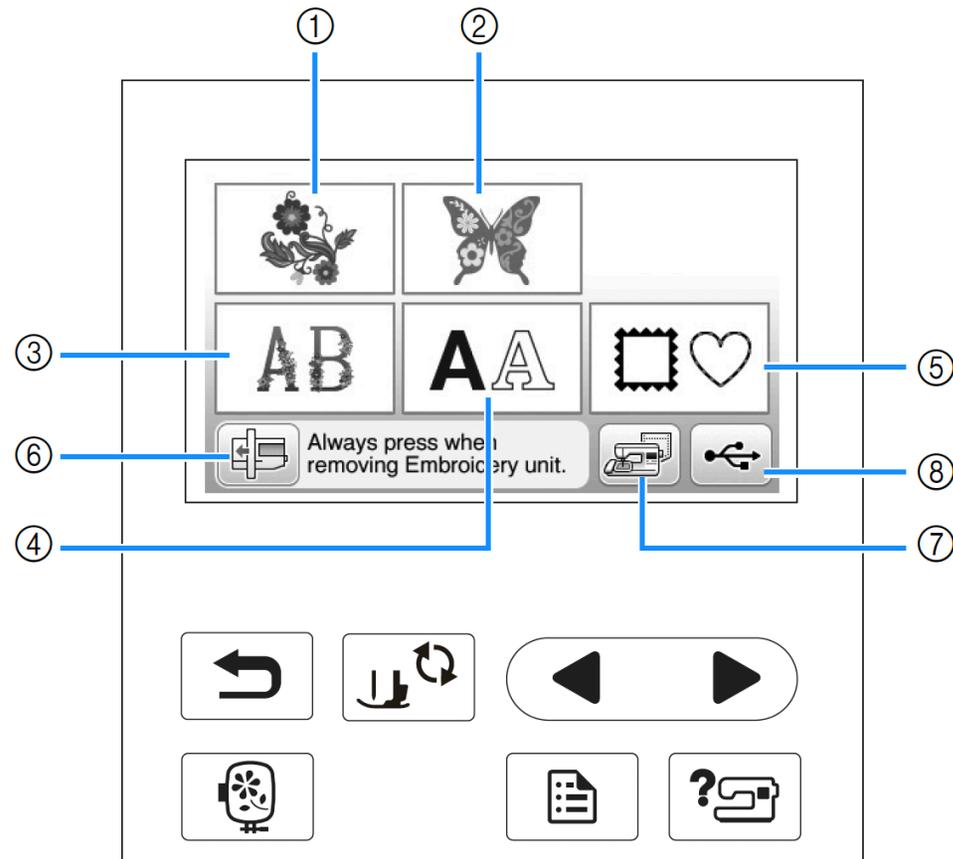
6.



## Viewing the LCD

An opening movie may be displayed when the power is turned on. When the opening movie is displayed, the screen will be displayed if you touch the LCD with your finger. Press a key with your finger to select the embroidery pattern, to select a machine function, or to select an operation indicated on the key.

The screen to the right appears after the embroidery carriage moves to its initial position.



- ① Embroidery patterns
- ② Brother “Exclusives”
- ③ Floral alphabet patterns
- ④ Character patterns
- ⑤ Frame patterns
- ⑥ Press this key to position the embroidery unit for storage
- ⑦ Patterns saved in the machine's memory
- ⑧ Patterns saved in USB flash drive

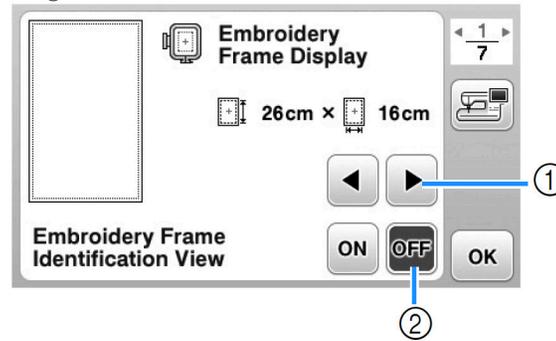
# Using the Setting Key

Press  to change the default machine settings (needle stop position, embroidery speed, opening display, etc.). Press OK, after you change necessary settings.

## Embroidery Settings

1. Select the embroidery frame to be used and displayed as a guide.
2. When set to "ON", the embroidery pattern can be selected according to the embroidery frame size that you have selected in number 1.
3. Change the thread color display on the "Embroidery" screen; thread number, color name.
4. When the thread number "#123" is selected, select from six thread brands.
5. Adjust the maximum embroidery speed setting.
6. Adjust the upper thread tension for embroidering.
7. Select the height of the embroidery foot during embroidering.
8. Change the color of the background for the embroidery display area.
9. Change the color of the background for the thumbnail area.
10. Press to specify the size of pattern thumbnails.
11. Change the display units (mm/inches).

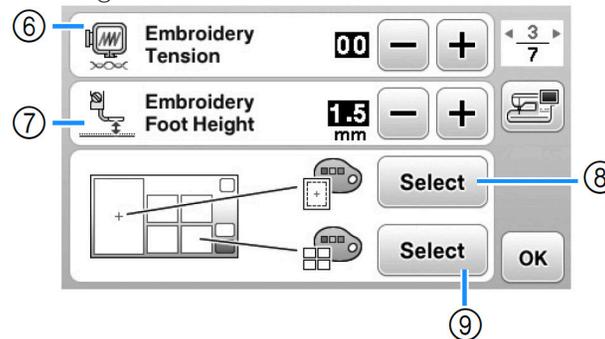
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Page 2



Page 3

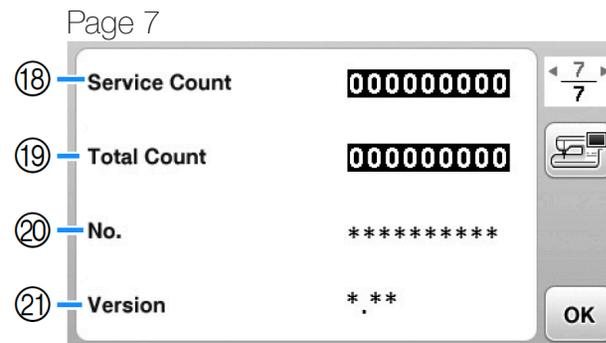
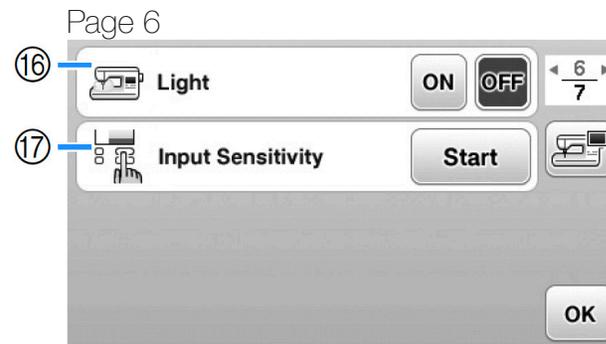


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## General Settings

12. Select the needle stop position (the needle position for when the machine is not being operated) to be up or down.
13. Select whether to hear that beep operation sound.
14. Select whether to display the opening screen when the machine is on.
15. Select the display language.
16. Select whether to turn on the light for the needle and work area.
17. Select the level of the input sensitivity for operation keys.
18. Display the service count which is a reminder to take your machine in for regular servicing.
19. Display the total number of stitches sewn on this machine.
20. The "No." is the internal machine number for your machine.
21. Display the program version of the LCD panel.

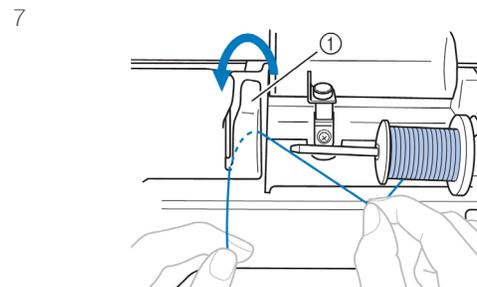
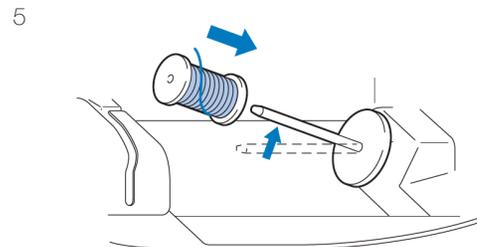
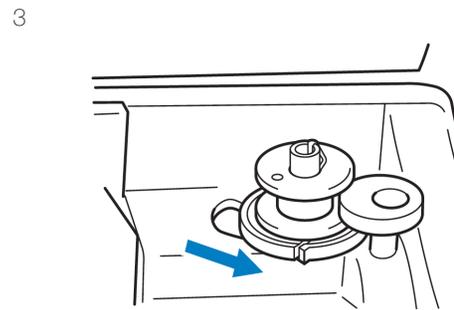
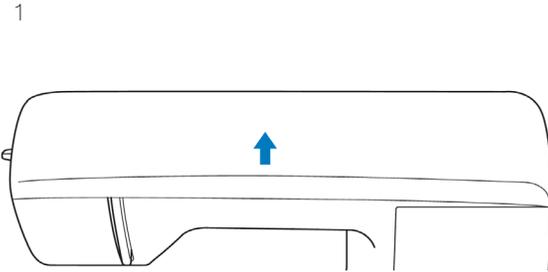


# Winding Bobbin

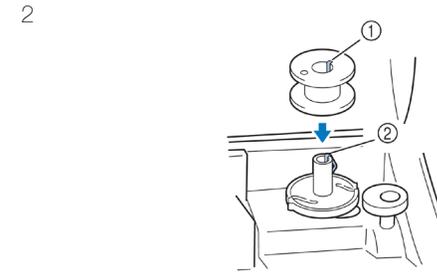
## Caution!

Only use the Bobbin (part code: SA 156, SFB:XA5539-151) design specifically for this machine. Use of any other bobbin may result in injuries or damage to the machine.

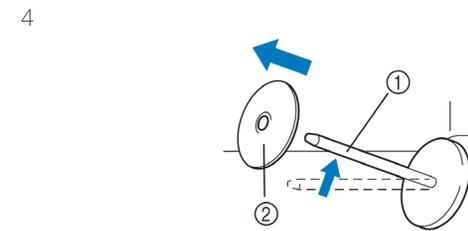
1. Open the top cover.
2. Place the bobbin on the bobbin winder shaft so that the spring on the shaft fits into the notch in the bobbin. Press down on the bobbin until it snaps into place.
3. Slide the bobbin winder in the direction of the arrow until it snaps into place. The "Start/Stop" button lights up in orange.
4. Remove the spool cap that is inserted onto the spool pin.
5. Place the spool of thread for the bobbin onto the spool pin. Slide the spool onto the pin so that the spool is horizontal and the thread unwinds to the front at the bottom. If the spool is not positioned so that the thread unwinds correctly, the thread may become tangled around the spool pin.
6. Slide the spool cap onto the spool pin. Slide the spool cap as far as possible to the right, as shown to the right, with the rounded side on the left.



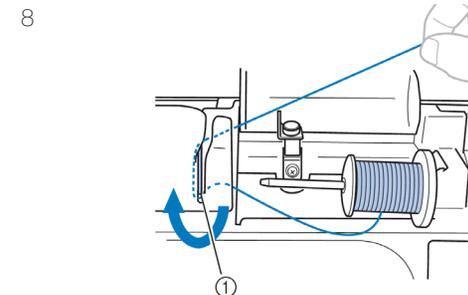
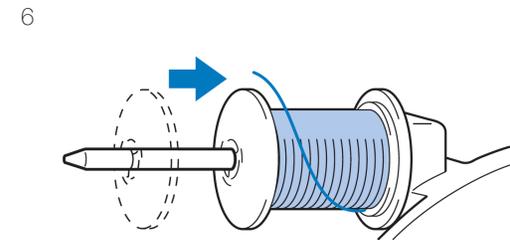
① Thread guide cover



① Notch  
② Bobbin winder shaft spring



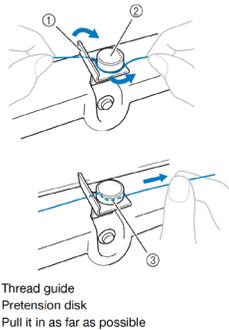
① Spool pin  
② Spool cap



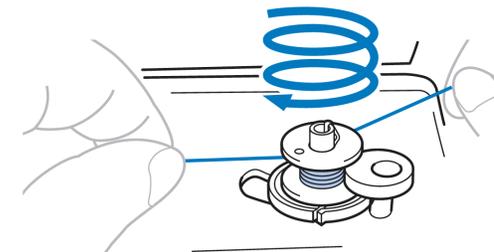
① Thread guide plate

9. Pass the thread under the hook on the thread guide, and then wind it counterclockwise under the pretension disk.
10. While holding the thread with your left hand, wind the thread that was pulled out clockwise around the bobbin five or six times with your right hand. Make sure that the thread between the spool and the bobbin is pulled tight. Be sure to wind the thread clockwise around the bobbin, otherwise the thread will become wrapped around the bobbin winder shaft.
11. Pass the end of the thread through the guide slit in the bobbin winder seat, and then pull the thread to right to cut it. Caution: be sure to cut the thread as described. If the bobbin is wound without cutting the thread using the cutter built into the slit in the bobbin winder seat, the thread may become tangled in the seat or the needle may bend or break when the bobbin thread starts to run out.
12. Turn on the machine
13. Press the "Start/Stop" button once to start winding the bobbin.
14. When the bobbin winding becomes slow, press the "Start/Stop" button once to stop the machine. Caution: When the bobbin winding becomes slow, stop the machine, otherwise the machine may be damaged.
15. Use Scissors to cut the end of the thread wound around the bobbin.
16. Slide the bobbin winder shaft to left, and then remove the bobbin from the shaft. If the bobbin winder shaft is set to the right side, the needle will not move. (Embroidering is impossible.)
17. Remove the spool for the bobbin thread from the spool pin. When the machine is started or the handwheel is turned after winding the bobbin, the machine will make a clicking sound; this is not a malfunction.

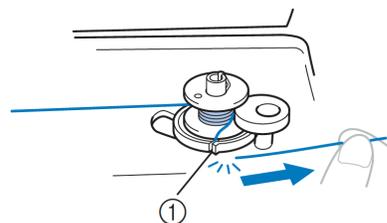
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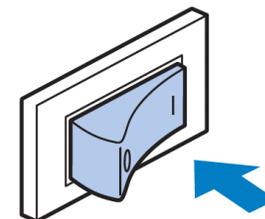
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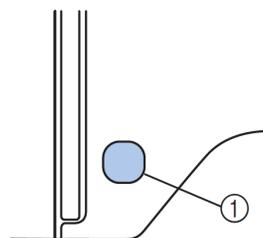


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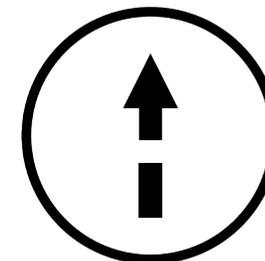


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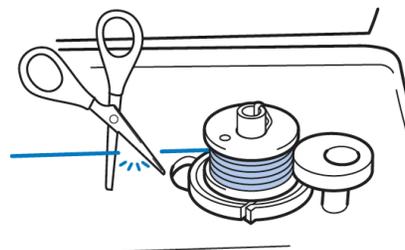
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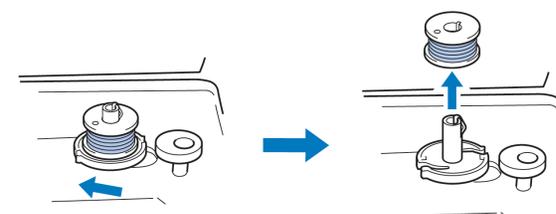
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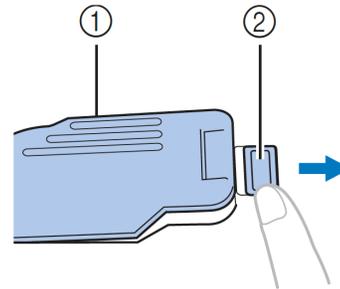


# Installing the Bobbin

Install the bobbin wound with thread. You can begin embroidering immediately without pulling up the bobbin thread by simply inserting the bobbin in the bobbin case and guiding the thread through the slit in the needle plate cover. Be sure to use a bobbin that has been correctly wound with thread, otherwise the needle may break or the thread tension will be incorrect. Before inserting or changing the bobbin, be sure to press  on the operation panel 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.

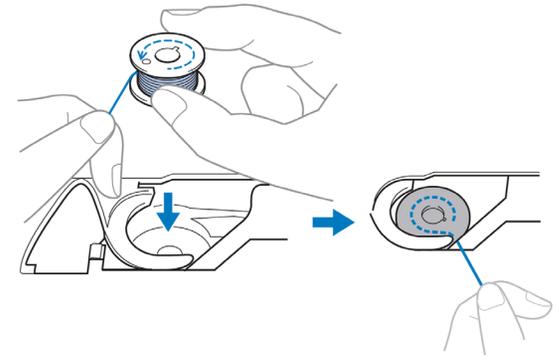
1. Press  (Needle position button) once or twice to raise the needle.
2. Press  .  
When the message "OK to automatically lower the presser foot?" appears on the LCD screen, press OK to continue.  
The screen changes, and all keys and operation buttons are locked (except ).
3. Raise the presser foot lever.
4. Slide the bobbin cover latch to the right.
5. Remove the bobbin cover.
6. Hold the bobbin with your right hand with the thread unwinding to the left, and hold the end of the thread with your left hand. Then, with your right hand, place the bobbin in the bobbin case.
7. Lightly hold down the bobbin with your right hand , and then guide the end of the thread around the tab of the needle plate cover with your left hand . Be sure to hold down the bobbin with your finger and unwind the bobbin thread correctly, otherwise the thread may break or the thread tension will be incorrect.
8. While lightly holding down the bobbin with your right hand , guide the thread through the slit in the needle plate cover  and lightly pull it with your left hand . The thread enters the tension spring of the bobbin case.

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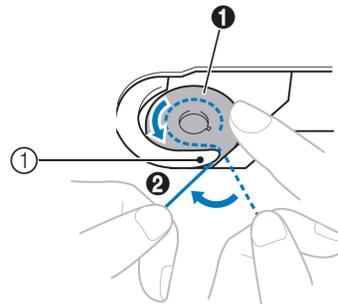


- ① Bobbin cover
- ② Latch

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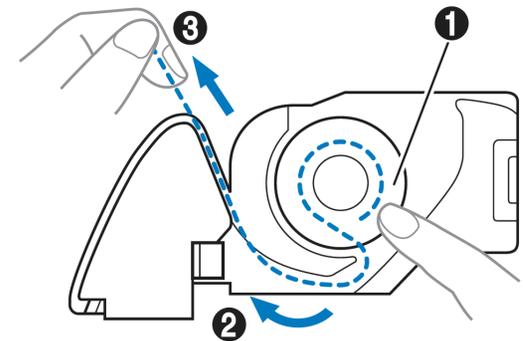


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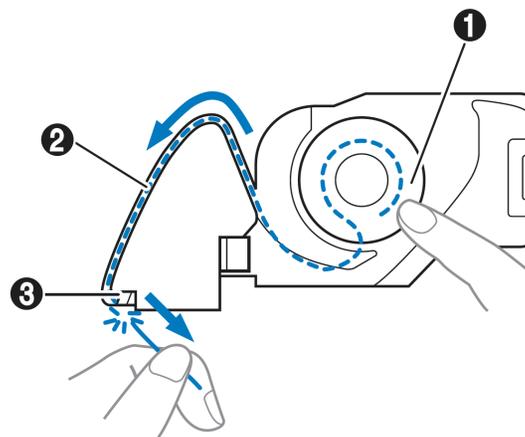
- ① Tab

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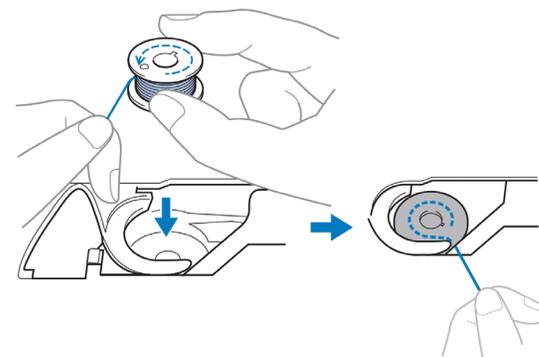


9. While lightly holding down the bobbin with your right hand (1), continue guiding the thread through the slit with your left hand (2) then, cut the thread with the cutter (3).
10. Reattach the bobbin cover. Insert the tab in the lower-left corner of the bobbin cover, and then lightly press down on the right side. The bobbin threading is finished. Next, thread the upper thread. See next section.
11. Press  to unlock all keys and buttons.

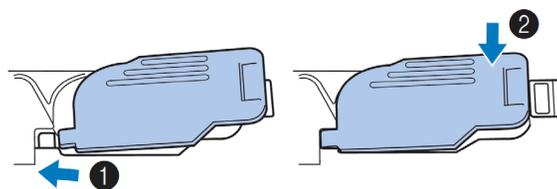
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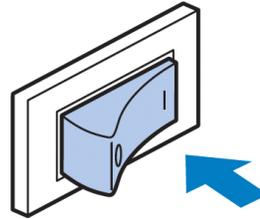
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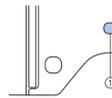
# Threading the Upper Thread

1. Turn on the machine.
2. Raise the presser foot lever to raise the presser foot.
3. Press  (Needle position button) once or twice to raise the needle. If the presser foot is not raised, the machine cannot be threaded.
4. Remove the spool cap that is inserted onto the spool pin.
5. Place the spool of thread onto the spool pin. Slide the spool onto the pin so that the spool is horizontal and the thread unwinds to the front at the bottom. Caution: If the spool or the spool cap is not positioned correctly, the thread may become tangled around the spool pin or the needle may break.
6. Slide the spool cap onto the spool pin. Slide the spool cap as far as possible to the right, as shown, with the rounded side on the left.
7. While holding the thread lightly with your right hand, pull the thread with your left hand, and then pass the thread behind the thread guide cover and to the front.
8. Pass the thread under the thread guide plate, and then pull it up.

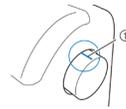
1



3

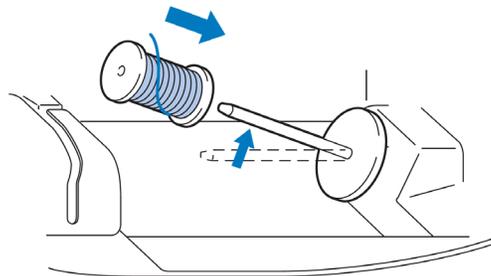


① Needle position button  
→ The needle is correctly raised when the mark on the handwheel is at the top, as shown below. Check the handwheel and, if this mark is not at this position, press ① (Needle position button) until it is.

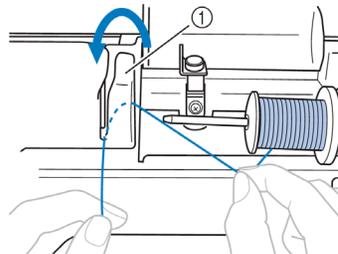


① Mark on handwheel

5

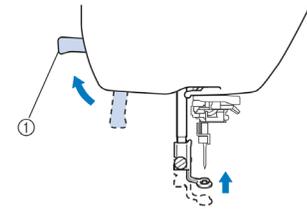


7



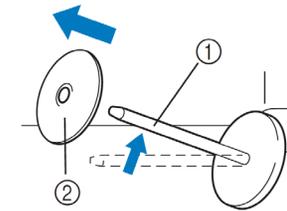
① Thread guide cover

2



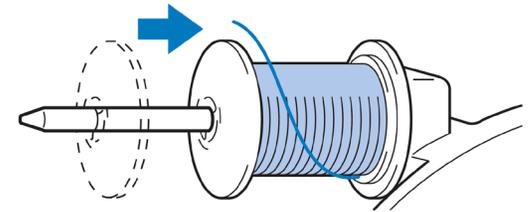
① Presser foot lever  
→ The upper thread shutter opens so the machine can be threaded.

4

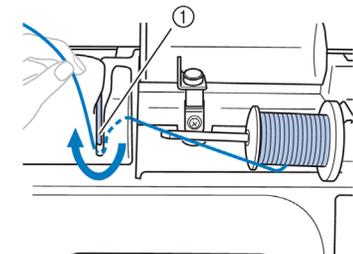


① Spool pin  
② Spool cap

6



8



① Thread guide plate

9. While using your right hand to lightly hold the thread passed under the thread guide plate, pass the thread through the guides in the order shown below.

10. Press 

When the message "OK to automatically lower the presser foot?" appears on the LCD screen, press "OK" to continue.

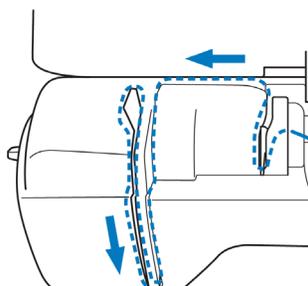
The screen changes, and all keys and operation buttons are locked (except ).

11. Slide the thread behind the needle bar thread guide.

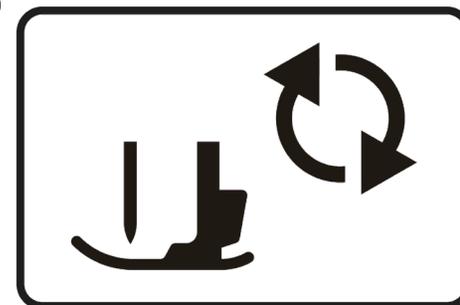
The thread can easily be slid behind the needle bar thread guide by holding the thread in your left hand, then feeding the thread with your right hand, as shown.

12. Raise the presser foot lever.

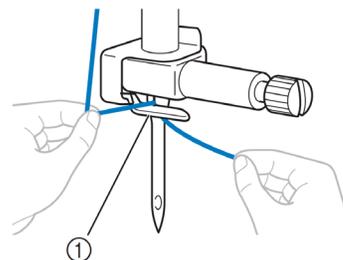
9



10



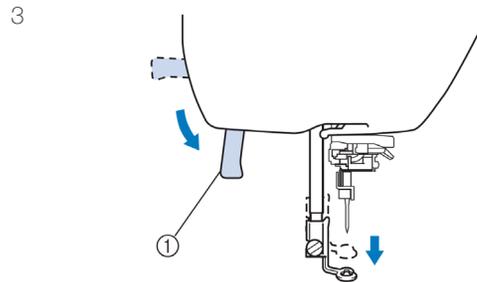
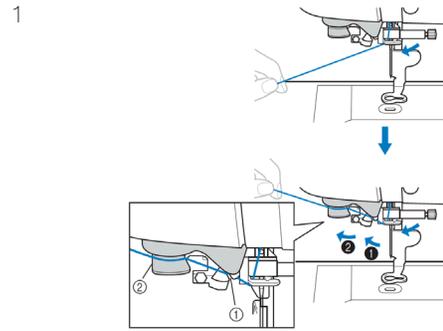
11



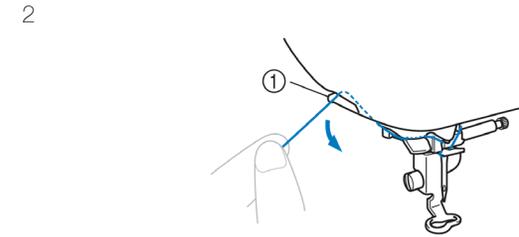
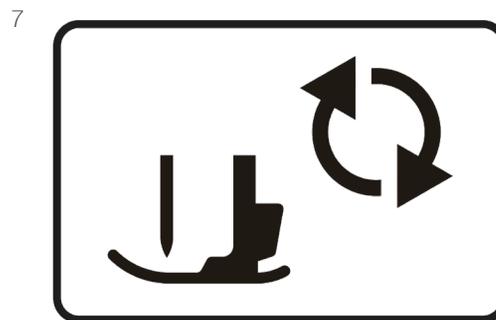
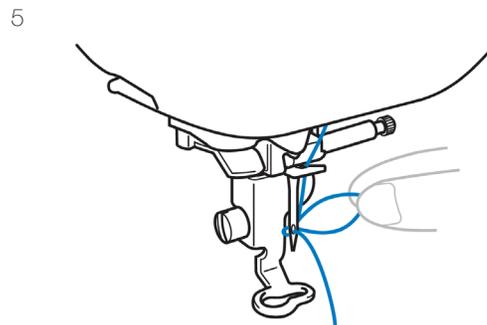
① Needle bar thread guide

# Threading the Needle

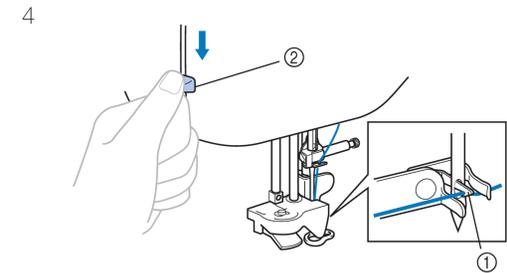
1. Pull the end of the thread, which has been passed through the needle bar thread guide, to the left, then pass the thread through the notch of the threader thread guide ①, and then firmly pull the thread from the front and insert it into the split of the threader thread guide disk marked "7" all the way ②. Make sure that the thread passes through the notch of the threader thread guide.
2. Cut the thread with the cutter on the left side of the machine.
3. Lower the needle threader lever on the left side of the machine until it clicks, and then slowly return the lever to its original position. The hook is rotated and passes the thread through the eye of the needle.
4. Lower the needle threader lever on the left side of the machine until it clicks, and then slowly return the lever to its original position. The hook is rotated and passes the thread through the eye of the needle.
5. Carefully pull the end of thread that was passed through the eye of the needle. If the needle was not completely threaded, but a loop in the thread was formed in the eye of the needle, carefully pull the loop through the eye of the needle to pull out the end of the thread. Caution: when pulling out the thread, do not pull it with extreme force, otherwise the needle may break or bend.
6. Raise the presser foot lever, pass the end of the thread through and under the presser foot, and then pull out about 5 cm (approx. 2 inches) of thread toward the rear of the machine.
7. Press  to unlock all keys and buttons.



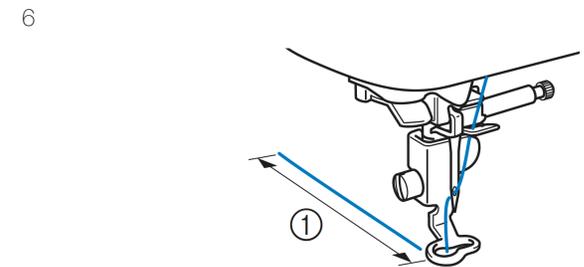
① Presser foot lever



① Cutter



① Hook  
② Needle threader lever



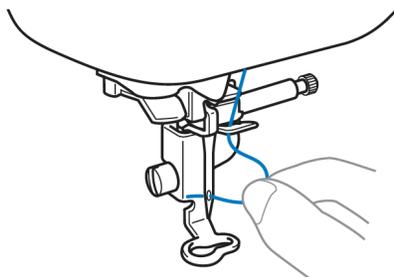
① 5 cm (approx. 2 inches)

## Threading the Needle Manually

Thread the machine to the needle threader. In this case, thread the needle as described below.

1. Thread the machine to the needle bar thread guide.
2. Insert the thread through the eye of the needle from front to back.
3. Raise the presser foot lever, pass the end of the thread through and under the presser foot, and then pull out about 5 cm (approx. 2 inches) of thread toward the rear of the machine.
4. Press  to unlock all keys and buttons.

2



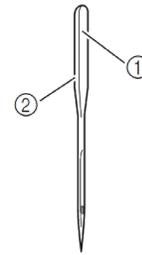
# Replacing the Needle

Sewing with a bent needle is extremely dangerous since the needle may break while the machine is being operated.

Before using the needle, place the flat side of the needle on a flat surface and check that the distance between the needle and the flat surface is even.

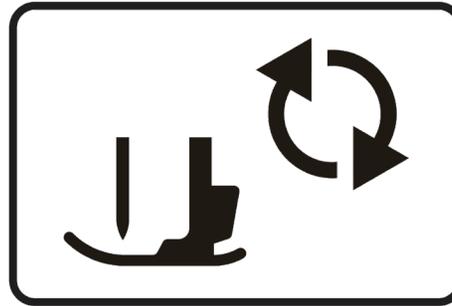
1. Press  (Needle position button) once or twice to raise the needle.
2. Place fabric or paper under the presser foot to cover the hole in the needle plate. Before replacing the needle, cover the hole in the needle plate with fabric or paper to prevent the needle from falling into the machine.
3. Press . When the message "OK to automatically lower the presser foot?" appears on the LCD screen, press OK to continue. The screen changes, and all keys and operation buttons are locked (except ).
4. Hold the needle with your left hand, and then use a screwdriver to turn the needle clamp screw toward you (counterclockwise) to remove the needle. The needle clamp screw can also be loosened or tightened with the L-shaped (or disc-shaped) screwdriver. Do not apply a strong force when loosening or tightening the needle clamp screw, otherwise certain parts of the machine may be damaged.
5. With the flat side of the needle toward the rear of the machine, insert the needle until it touches the needle stopper.
6. While holding the needle with your left hand, use the screwdriver to tighten the needle clamp screw by turning it clockwise. Caution: be sure to insert the needle until it touches the needle stopper and securely tighten the needle clamp screw with the screwdriver, otherwise the needle may break or damage may result.
7. Press  to unlock all keys and buttons.

## Checking the Needle

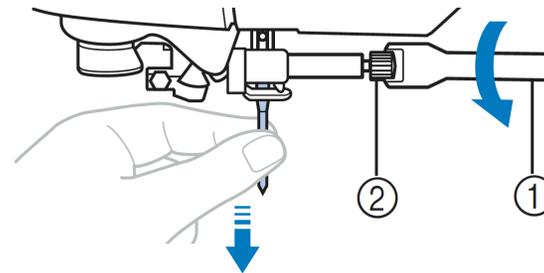


- ① Flat side
- ② Needle type marking

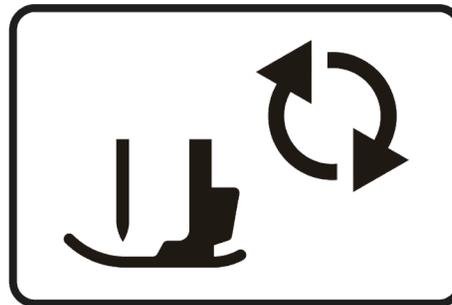
3



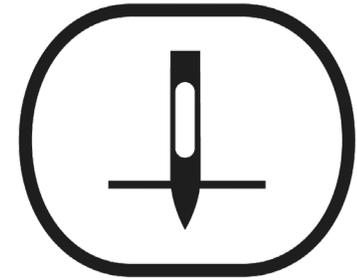
5



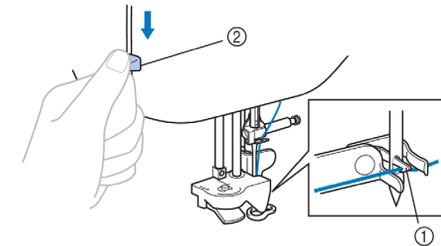
7



1

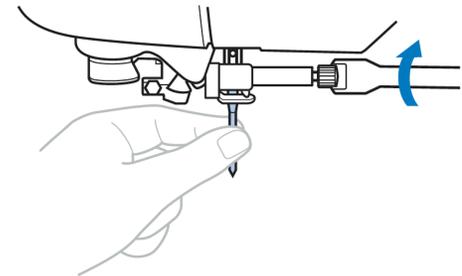


4



- ① Hook
- ② Needle threader lever

6

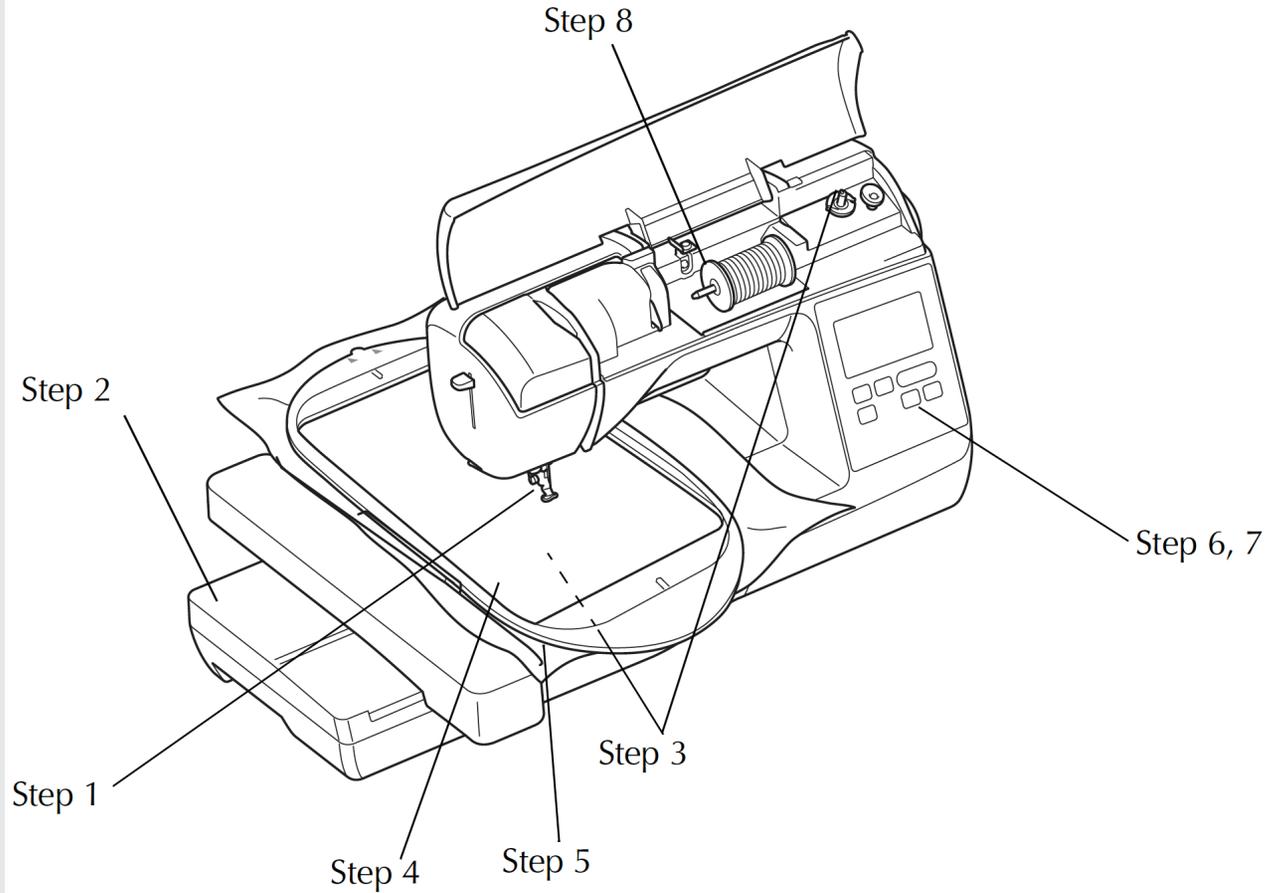


# Preparing for Embroidery

The following steps in the image to the right will prepare the machine for embroidery.

1. Check the needle. Use needle 75/11 for embroidery.
2. Embroidery unit attachment. Attach the embroidery unit.
3. Bobbin thread setup. For the bobbin thread, wind embroidery bobbin thread and set it in place.
4. Fabric preparation. Attach a stabilizer material to the fabric, and hoop it in the embroidery frame.
5. Embroidery frame attachment. Attach the embroidery frame to the embroidery unit.
6. Pattern selection. Turn the main power to on, and select an embroidery pattern.
7. Checking the layout. Check and adjust the size and position of the embroidery.
8. Embroidery thread setup. Set up embroidery thread according to the pattern.

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.)

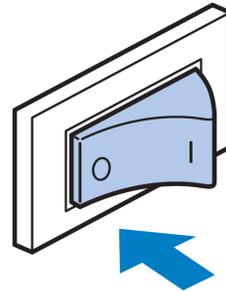


## Attaching the Embroidery Unit

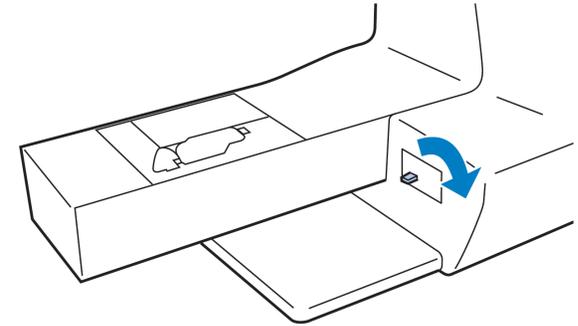
Do not move the machine with the embroidery unit in place. The embroidery unit may be dropped and cause injury. Keep your hands and other objects away from the embroidery carriage and frame. Otherwise injury may result.

1. Before attaching the embroidery unit, be sure to turn off the machine. Otherwise, injuries may occur if one of the operation buttons is accidentally pressed and the machine starts sewing.
2. Slide the tab on the cover of the connection port in the direction of the arrow to open the cover. Be sure to close the cover of the connection port when the embroidery unit is not being used.
3. Insert the embroidery unit connector into the connection port, and then lightly push in the embroidery unit until it snaps into place. Make sure that there is no gap between the embroidery unit and the machine, otherwise the embroidery pattern may not be sewn correctly. Be sure to fully insert the connector into the connection port. Do not push on the carriage when attaching the embroidery unit to the machine, otherwise damage to the embroidery unit may result.
4. Turn on the machine.
5. Be sure that no objects or hands are near the embroidery unit and press OK. The carriage of the embroidery unit will move. Keep your hands etc. away from the carriage as it moves to its initial position.

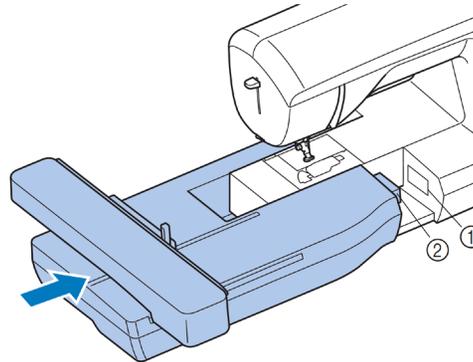
1



2



3



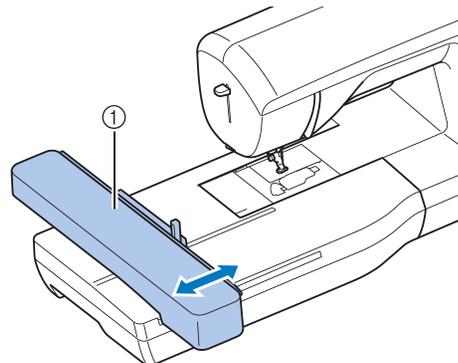
4

→ A message appears in the screen.

① Connection port

② Embroidery unit connector

5



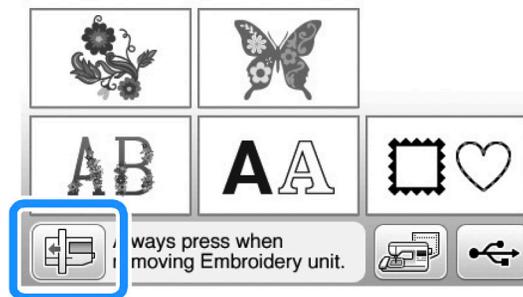
① Carriage

## Removing the Embroidery Unit

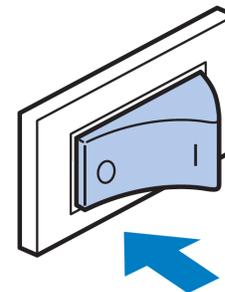
Make sure that the machine is completely stopped and follow the instructions.

1. Remove the embroidery frame. See section on Attaching the Embroidery Frame.
2. Press , and then press OK. The embroidery carriage moves into a position where it can be stored.
3. Always turn the machine off before removing the embroidery unit. It may cause malfunctions if removed when the machine is turned on.
4. Hold the release button on the bottom left of the embroidery unit, and slowly pull the embroidery unit to the left.
5. Do not carry the embroidery unit by holding the release button compartment.

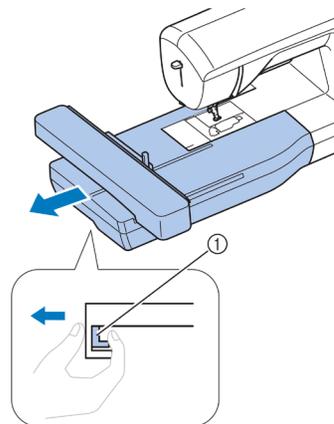
2



3

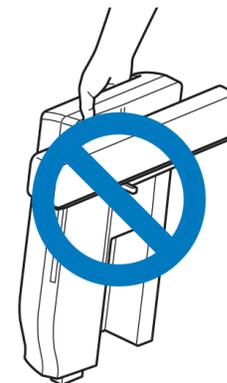


4



① Release button

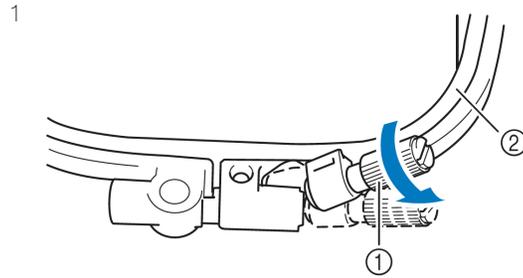
5



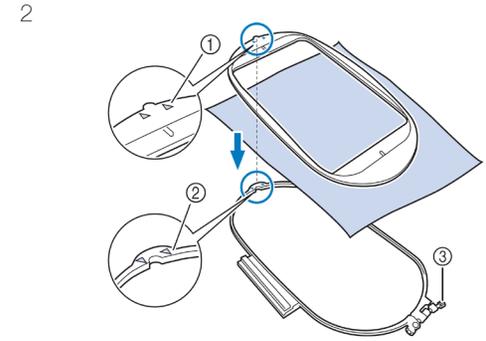
## Inserting the fabric

If the fabric is not securely held in the embroidery frame, the embroidery design will sew 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.

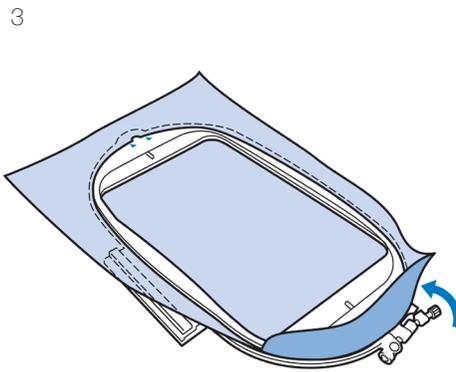
1. Lift-up and loosen the frame adjustment screw and remove the inner frame.
2. Lay the fabric right side up on the top of the outer frame. Re-insert the inner frame making sure to align the inner frame's  $\triangle$  with the outer frame's  $\triangle$ .
3. Slightly tighten the frame adjustment screw, and then remove the slack in the fabric by gently pulling on the edges and corners. Do not loosen the screw.
4. Gently stretch the fabric taut, and tighten the frame adjustment screw to keep the fabric from loosening after stretching. After stretching the fabric, make the fabric is taut (4A). Make sure the inside and outside frames are even before you start embroidering (4B). After stretching the fabric, lightly tapping it should produce a drum-like sound. Stretch the fabric from all four corners and all four edges. While stretching the fabric, tighten the frame adjustment screw.
5. Return the frame adjustment screw to its initial position. You can use the included screwdriver when you loosen or tighten the frame adjustment screw.



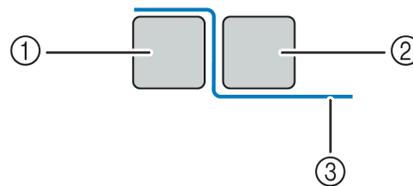
- ① Frame adjustment screw
- ② Inner frame



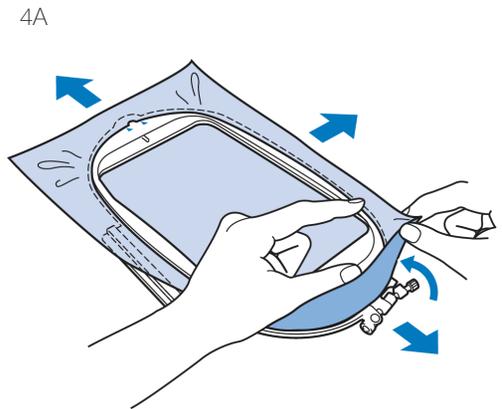
- ① Inner frame's  $\triangle$
- ② Outer frame's  $\nabla$
- ③ Frame adjustment screw



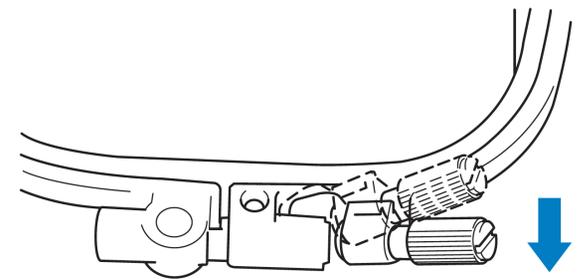
4B



- ① Outer frame
- ② Inner frame
- ③ Fabric



5



# Selecting Embroidery Pattern

## Embroidery Pattern Types

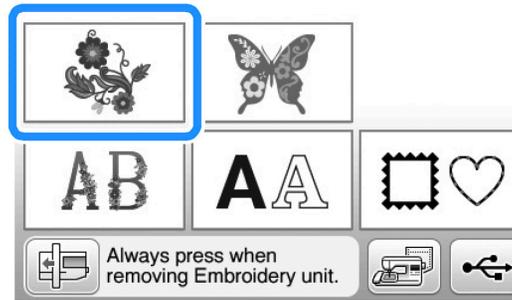
There are many character and decorative embroidery patterns stored in the machine's memory (see the "Embroidery Design Guide" for a full summary of patterns in the machine's memory).

## Selecting an Embroidery Pattern

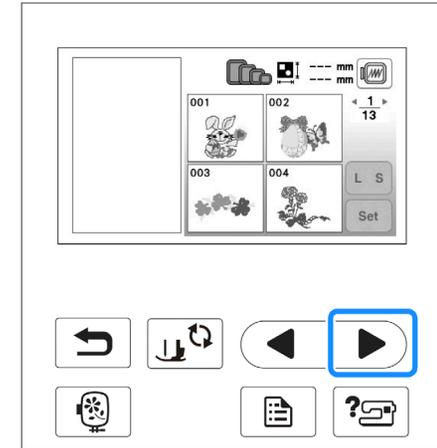
Select a simple pattern built-in your machine and embroider for testing purposes. You can try various selection of patterns and pattern editing in "Embroidering" section.

1. Press  in the pattern type selection screen. Once the machine has finished the initialization and the carriage has moved to the start position, the pattern type selection screen will display. If another screen is displayed, press  to display the screen below.
2. Press  or  to display the desired pattern on the screen. Press  4 times in this procedure.
3. Press , and then .
4. Press . For details on pattern editing refer to the section Editing Patterns. Embroidery settings screen appears.
5. Press .

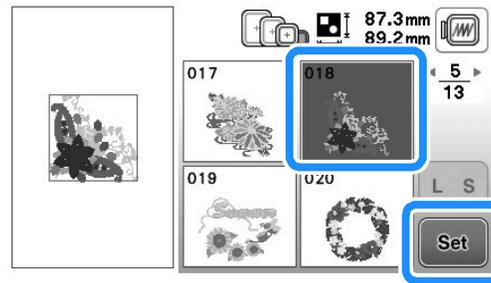
1



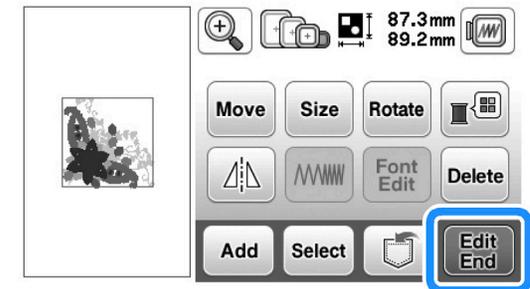
2



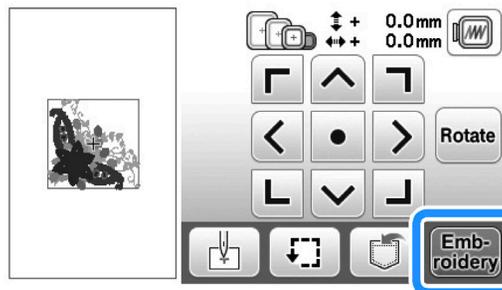
3



4



5

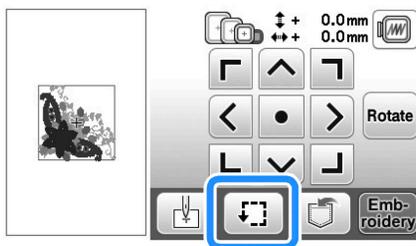


## Confirming the Pattern Position

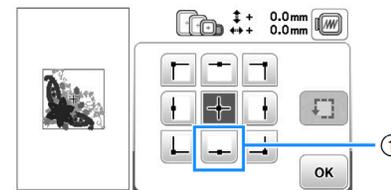
The embroidery frame moves and shows the pattern position. Watch the frame closely to make sure the pattern will be sewn in the right place.

1. Press  on the embroidery settings screen.
2. From , press the key for the position that you want to check. The needle will move to the selected position on the pattern.
3. To see the entire embroidering area, press . The embroidery frame moves and shows the embroidery area. Make sure the needle is up when the embroidery frame is moving. If the needle is down, it could break and result in injury. Make sure that the needle is up when the embroidery frame is moving. If the needle is down, it could break and result in injury.
4. Press OK.
5. To Preview the selected pattern press .
6. Press  to select the frame used in the preview. Frames displayed in light grey cannot be selected. Press  to enlarge the image of the pattern. The pattern can be sewn as it appears in the following display.
7. Press OK to return to the original screen.
8. Frame sizes displayed on screen.

1

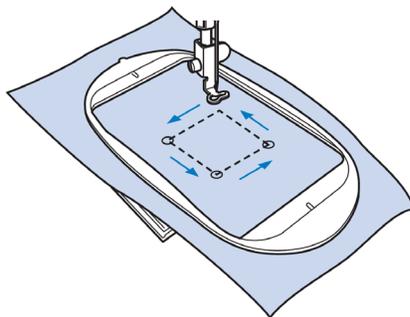


2

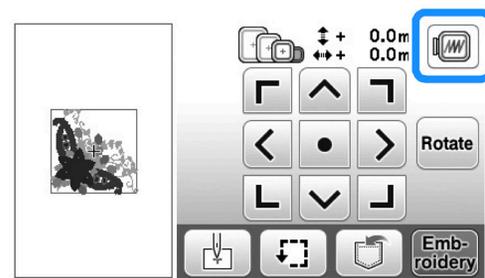


① Selected position

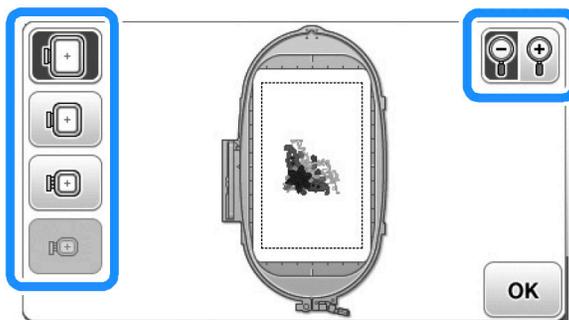
3



5



7



8

Display	Frame type and embroidering area
	<b>Extra large embroidery frame</b> 26 cm × 16 cm (10-1/4 inches × 6-1/4 inches)
	<b>Large embroidery frame (sold separately with some models)</b> 18 cm × 13 cm (7 inches × 5 inches)
	<b>Medium embroidery frame (sold separately with some models)</b> 10 cm × 10 cm (4 inches × 4 inches)
	<b>Small embroidery frame (sold separately with some models)</b> 2 cm × 6 cm (1 inch × 2-1/2 inches)

## Embroidering a Pattern

After the preparations are done, you can try embroidering. This section describes the steps for embroidering and appliquéing. Embroidery patterns are embroidered with a change of thread after each color.

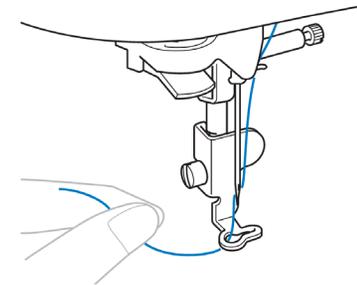
1. Prepare embroidery thread of the color shown on the screen. The thread color number set displayed for the thread colors can be changed. Press , and then change the setting in the setting screen.
2. Set the embroidery thread, and thread the needle. Refer to the sections on Threading the upper thread and threading the needle. Before using the needle threader, be sure to lower the presser foot.
3. Pass the thread through the embroidery foot hole, and hold it lightly in your hand. Give the thread a little slack. If the thread is pulled too tight, the needle may break or bend. Do not let hands or objects hit the carriage while sewing. The pattern may misalign.
4. Lower the presser foot, then press the "Start/Stop" button to start embroidering. After 5-6 stitches, press the "Start/Stop" button again to stop the machine.
5. Trim the excess thread at the end of the seam. If the end of the seam is under the presser foot, raise the presser foot, then trim the excess thread. If the thread is left at the beginning of the stitching, it may be sewn over as you continue embroidering the pattern, making it very difficult to deal with the thread after the pattern is finished. Trim the thread at the beginning.
6. Press the "Start/Stop" button to start embroidering. Stitching stops automatically with reinforcement after one color has been completed. When automatic thread cutting is set, the thread is cut.

1

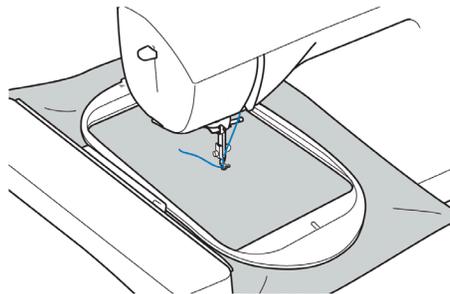


① Embroidery color order

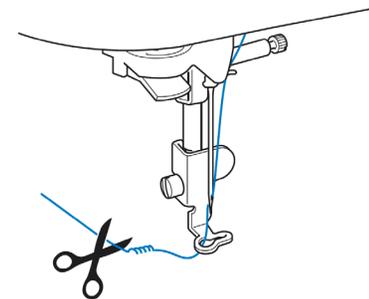
3



4



5

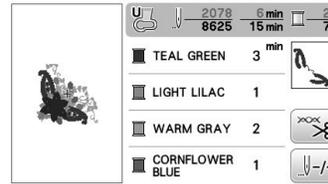


6



7. Remove the thread for the first color from the machine. Thread the machine with the next color.
8. Repeat the same steps for embroidering the remaining colors. When the last color is sewn, the message informing that the embroidering is finished will appear on the display. Press OK, and the display will return to the initial screen.
9. Cut the excess thread jumps within the color.

8



→ When the last color is sewn, the message informing that the embroidering is finished will appear on the display. Press **OK**, and the display will return to the initial screen.

## Changing the Thread Color Display

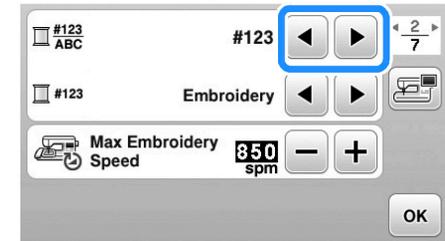
You can display the name of the thread colors or embroidery thread number.

1. Press .
2. Use ◀ or ▶ on operations panel to display the thread color selections.
3. Use ◀ or ▶ to select the name of the thread colors or the embroidery thread number.
4. When the thread number "#123" is displayed, use ◀ or ▶ to select from six embroidery thread brands pictured below.

2



3

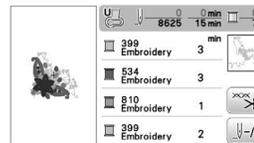


3

### Thread color name



### Thread number



4



### Embroidery (polyester thread)



### Country (cotton thread)\*



### Madeira Poly (polyester thread)



### Madeira Rayon



### Sulky



### Robison-Anton (polyester thread)

