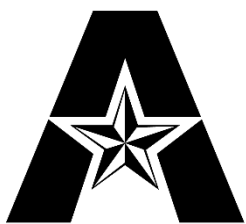


UT ARLINGTON  
**FABLAB**

# **Brother SE400 Sewing & Embroidery Machine**



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## Overview

The Brother SE400 Sewing & Embroidery machine is a household sewing and embroidery machine capable of automatic functions to expedite the sewing and embroidery process. This FabLab sewing quick-guide will teach you the basics of the Brother SE400; including machine preparation, stitch selection, and fundamental sewing technique.

As this guide is a generalized rundown of the Brother SE400's sewing functions, some of the more complex functions and parts of the Brother SE400 will not be covered, including the embroidery functions. Most of the information found in this guide is general instruction to most household sewing machines. However, important functions specific only to the Brother SE400 will be covered in the quick-guide as essential to the sewing process, such as certain buttons and procedure.

## Terminology

### **Bobbin**

The wheel that comprises the lower thread of a stitch.

### **Ending Stitch**

The stitches layered on top of each other to secure the ending of a stitch.

### **Feed Dogs**

Rows of thin moving edges that move the fabric forward while sewing.

### **Presser Foot**

An attachment beside the sewing needle that holds the fabric in place during sewing.

### **Reverse Stitching**

Sewing backwards onto a seam to reinforce the stitching.

### **Starting Stitch**

The stitches layered on top of each other to secure the beginning of a stitch.

### **Seam**

The row(s) of stitches that fasten two or more surfaces together.

### **Seam Allowance**

The leftover perimeter of fabric. This is to further ensure that the stitches does not come loose from being too close to the fabric's frays.

### **Stitching Area**

The space directly underneath the sewing needle where the fabric will lay to be sewed upon. The stitching area has engraved measurements for sewing allowance.

## IMPORTANT SAFETY INSTRUCTIONS

- While the machine is in operation, pay special attention to the needle location. Be careful to keep your hands away from the needle while sewing, or injuries may occur.
- Do not pull or push the fabric too hard while sewing, otherwise injuries may occur or you may break/bend the needle.
- Never use bent needles. Bent needles can easily break, possibly resulting in injuries.
- If using pins to hold the fabric, make sure the needle does not strike the pins. Otherwise, the needle may break or bend.

## Setting up the Machine

### Selecting your Thread and Fabric

For most basic projects, all you'll need to consider is how closely the color of your thread matches your fabric and whether you want them to contrast or blend together.

For more complicated projects, you'll need to consider the thread weight and the fabric weight. Fabric weight is the weight in ounces per square yard of fabric (or grams per square meter if you're working in the metric system). Thread weight is a little more ambiguous, but the general rule is the higher the number on the thread, the thinner the thread is. You'll want thicker threads for higher fabric weights and vice versa.

## Fill Your Bobbin

Now that you've selected your thread, it's time to fill your bobbin. The Brother models we have on the floor do have a quick overview of how to fill a bobbin, as highlighted in Figure 1. Essentially, you'll follow the dotted line on the machine with your thread.

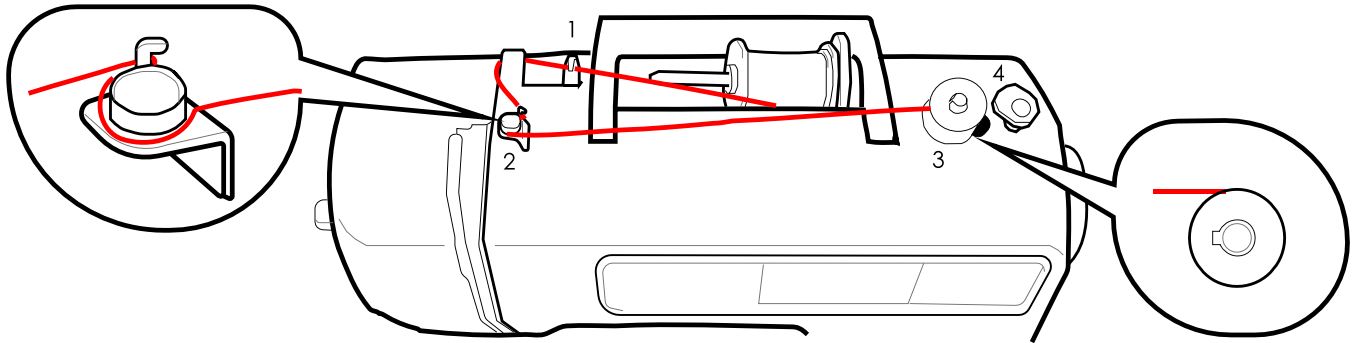


Figure 1

- 1) Take your thread and run it through Part 1. You can pull the thread slightly in front and then pull it back to get it within the metal loop of Part 1.
- 2) Run your thread around Part 2. Make sure to pull it in front of the metal hook before you pull it between the round button and the main metal plate. See the detail bubble on the left side of Figure 1.
- 3) Pull your thread to the bobbin, which you should have placed on Part 3. On the Brother, Part 3 rotates clockwise to wind the thread on the bobbin, so pull the thread behind the bobbin and wind it clockwise to finally thread it through a gap on the bottom of Part 3. See the detail bubble on the right side of Figure 1.
- 4) Push Part 3 towards Part 4. Now, you can either press the forward button on the front of the machine (if the foot pedal is disconnected) or you can press the foot pedal with your foot (if the foot pedal is connected). We recommend until thread fills the bobbin halfway to three quarters of the way between the shaft of the bobbin and the edge of the bobbin's end.
- 5) Once your bobbin is full, cut the thread between parts 1 and 2 and gently push part 3 away from part 4. Remove the bobbin from part 3 and set aside.



## Threading the Machine

With a full bobbin, you're ready to start threading the machine. Again, the Brother models we have on the floor have a quick overview as well as numbers labelling the steps for you to follow to thread the machine.

When you filled the bobbin, you followed the dotted line on the machine. For threading the machine proper, you'll follow the solid line in the order of the numbered parts on the machine. See Figure 2 for reference.

- 1) If you filled your bobbin right before this, you should already have your thread through Part 1 and under Part 2. See the upper right detail bubble in Figure 2.
- 2) Pull your thread down to Part 3.
- 3) Pull your thread around Part 3 and up to Part 4. Make sure that the metal lever in the slot is as high as it will go. You can adjust the lever's height by turning the handwheel. Pull your thread towards the back of the slot.
- 4) The lever in the slot has a hook to hold your thread, so when you pull your thread forward to bring it down to Part 5, it'll catch on the lever. See the upper left detail bubble in Figure 2.
- 5) Carefully take your thread to pull it through the loop on Part 6. You can perform a motion like getting the thread through Part 1 but sideways to do this.
- 6) Pull your thread through the loop on Part 6 and wrap it between the flat above part 7 and the round thing that defines Part 7. See the lower detail bubble in Figure 2.
- 7) Pull your thread towards Part 8 and pull it down against the sharp edge in Part 8 to cut it.
- 8) Press the lever of Part 9 and the machine will thread your needle for you.
- 9) When the automatic threading function pulls away from the needle, your thread should be partially through the eye of the needle. Gently coax the remainder of the thread through the eye of the needle and below the presser foot.

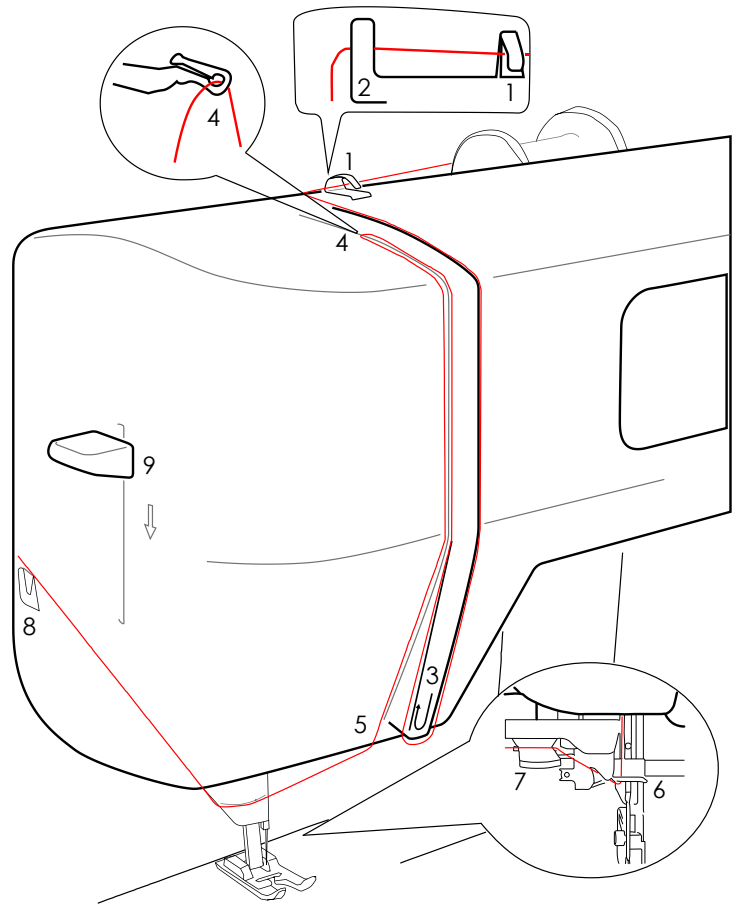


Figure 2

## Threading the Bobbin

Once again, the Brother models have a quick guide right there on the machine that you can reference, though this time they didn't number the parts. See Figure 3 for an overview.

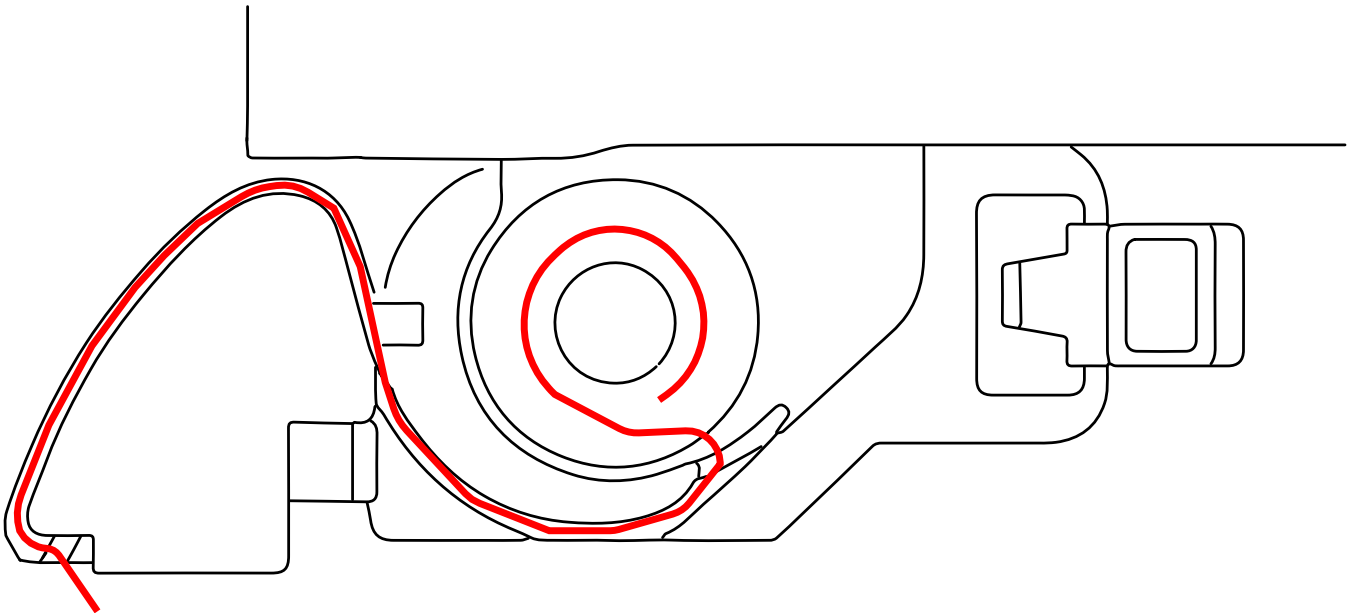


Figure 3

To load the bobbin:

- 1) Make sure that your bobbin is unwinding counterclockwise. If your bobbin is unwinding clockwise, simply flip the bobbin over vertically.
- 2) Place the bobbin (unwinding counterclockwise) in the bobbin case. Make sure that a thread remains outside the case so you can guide the thread through the process.
- 3) Guide the thread through the groove next to the bobbin case. The thread should go take a sharp turn if it is unwinding counterclockwise.
- 4) Pull the thread against the sharp edge until you cut the end off.
- 5) Turn the handwheel counterclockwise towards you to bring the needle down to catch the bobbin thread. Tug on the main thread to pull the bobbin thread up through the throat plate.
- 6) Once the needle has pulled up the bobbin's thread, you can use tweezers or a pin to pull the thread out further and towards the back of the machine.

## Start Sewing

### Test Sew on Scrap Fabric

Test your chosen thread and settings on scrap fabric to make sure you achieve the desired results. The FabLab has fabric scraps available for you to test your sewing on. Likewise, when you have a substantial amount of remaining fabric from your project, please dispose of it to the scrap containers/piles for future use.

To test your sewing/stitches,

1. Select your desired fabric scraps and place the scrap in the stitching area.
2. Select your desired stitch. *For details, refer to “Selecting your Stitch” (page 8).*
3. Lower the presser foot.
4. Begin to sew by lowering and holding your foot onto the sewing pedal. Begin with light pressure, then slowly increase your force. The harder you push down, the faster the needle will sew.
5. Use your hands to guide the fabric while the feed dogs move the fabric forward (your hands should be on top of the fabric; left hand to the upper left side, right hand to the lower right side).
6. To secure the starting and ending stitches, refer to “Starting Stitches” (page 10).
7. When finished, refer to “Cutting the Thread” (page 11).

**NOTE:** *When fastening two or more fabric together, the fabric’s exterior surfaces should face each other, so you will be sewing on the interior surfaces. This is to ensure that the seam will be hidden when you invert the finished product.*

To test if your stitches are strong enough, stretch your fabric on all sides. Pull on your stitches/seam to see if they are properly imbedded into the fabric and not loose. Make sure that there are no gaps in your stitches, or any accidental ‘loops’ made in the stitches.

## Turning Fabric

While sewing, to change the direction of your stitch...

### Rounded turns

To sew a rounded turn, rotate the fabric in the direction of the turn while you are still sewing. The feed dogs will move the fabric while you are steering.

### 90 degree turns

To sew a sharp corner,

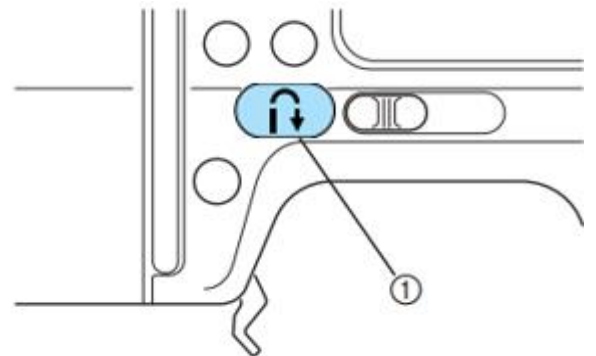
1. Stop sewing in the location where you want to begin your corner.
2. If the needle is not already striking the fabric, turn the handwheel until the needle is in the fabric.
3. Lift the presser foot.
4. Turn the fabric in the direction of your turn.
5. Lower the presser foot.
6. Continue sewing.

## Starting Stitches

To begin sewing, you will need to secure your seam by reverse stitching. This will make sure that your stitches do not come undone at the ends.

To secure your starting stitch,

1. Place your foot on the foot pedal and stitch forward a few stitches.
2. Stop, press and hold the reverse button (shown below).
3. Stitch backward to the beginning of your stitch.
4. Stop, press the reverse button again to disable reverse stitching.
5. Continue to sew forward over your existing stitch to secure your starting stitch.



① Reverse/reinforcement stitch button

You may want to repeat these steps to further secure your starting stitch. The more stitches layered over each other, the more secure your stitch's ends will be. Generally, stitch over your starting stitch about 3 to 5 times.

## Ending Stitches

When ready to finish off your seam, you will need to secure an ending stitch. An ending stitch is similar to a starting stitch in both purpose (to secure the ends of your stitches) and procedure.

To secure your ending stitch,

1. Press and hold the reverse button (shown above) when at the desired end of your stitch.
2. Sew backward a few stitches over your original stitch.
3. Stop, press the reverse button again to disable reverse stitching.
4. Sew forward a few stitches over your original seam.

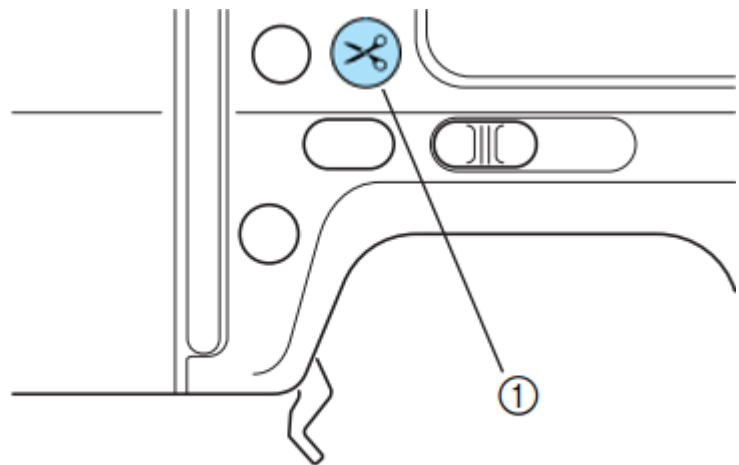
To further secure your ending stitch, you may want to repeat steps 1-4 before lifting the sewing needle and finishing your project. The more stitches layered over each other, the more secure your stitch's ends will be. Generally, sew over your ending stitch about 3 to 5 times.

## Cutting the Thread

Regular thread

1. When satisfied with your ending stitch, press the thread cutter button.
2. Raise the presser foot, then remove your project.

**CAUTION:** Do not press the thread cutter button after the threads have already been cut, otherwise to the needle or machine may occur.



① Thread cutter button