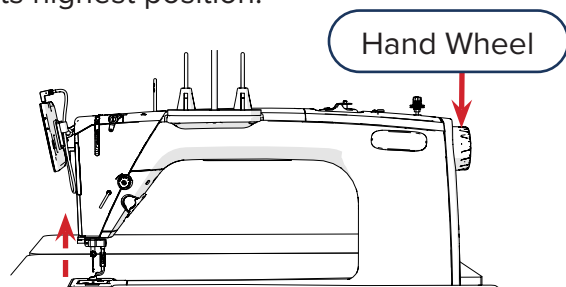


## Adjust the Hopping Foot (continued)

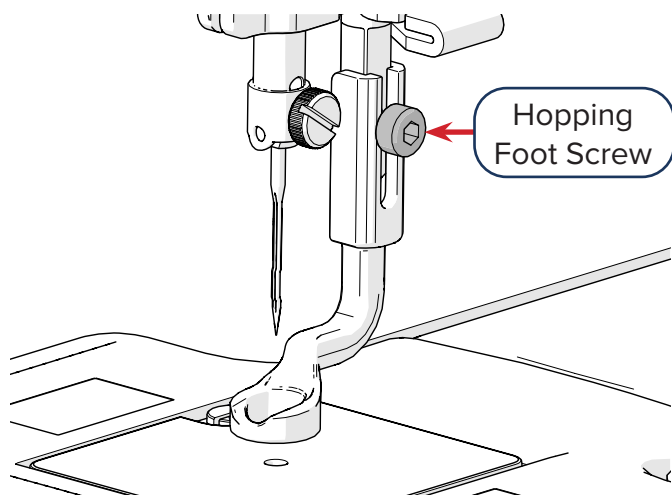
## Rotation Instructions

Rotating the hopping foot collar improves line of sight for the area you want to stitch. If desired, take the following steps:

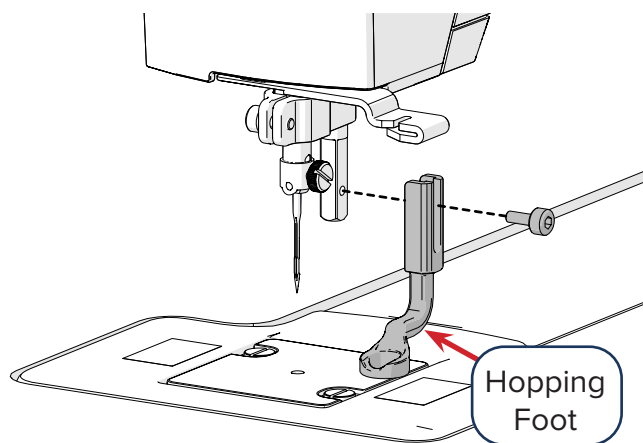
- 1 Power **off** the machine.
- 2 Rotate the **hand wheel** to raise the needle to its highest position.



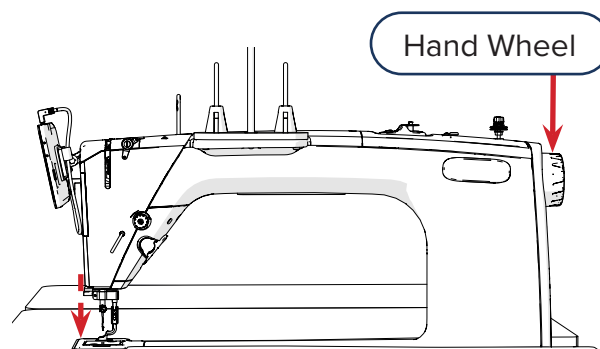
- 3 Use the 3 mm Allen wrench to remove the **hopping foot screw**.



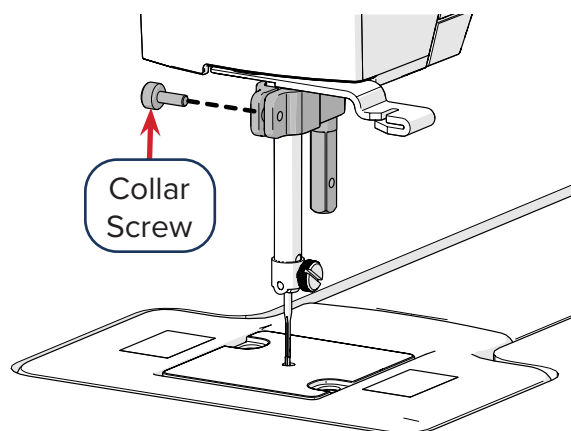
- 4 Slide the **hopping foot** from the collar.



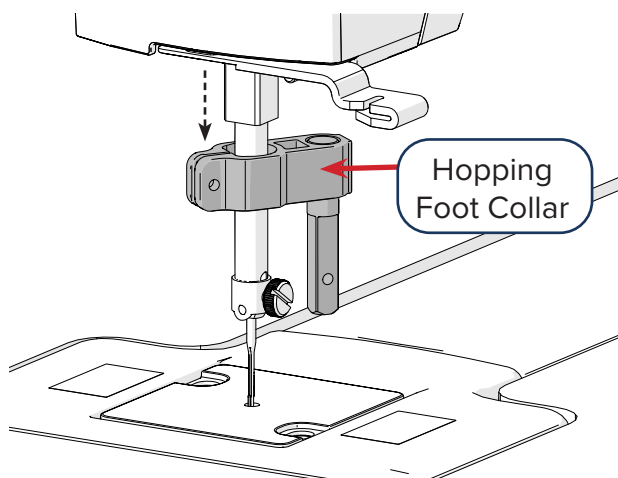
- 5 Rotate the **hand wheel** to lower the needle.



- 6 Use the 3 mm Allen wrench to remove the **collar screw** that holds the hopping foot collar to the presser bar.

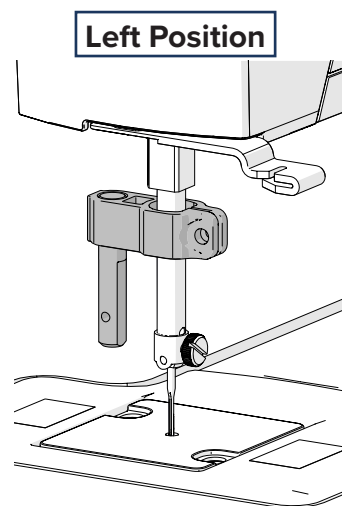
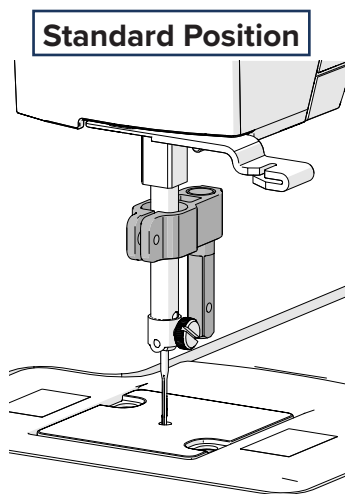


- 7 Lower the **hopping foot collar** below the presser bar so it rotates freely.

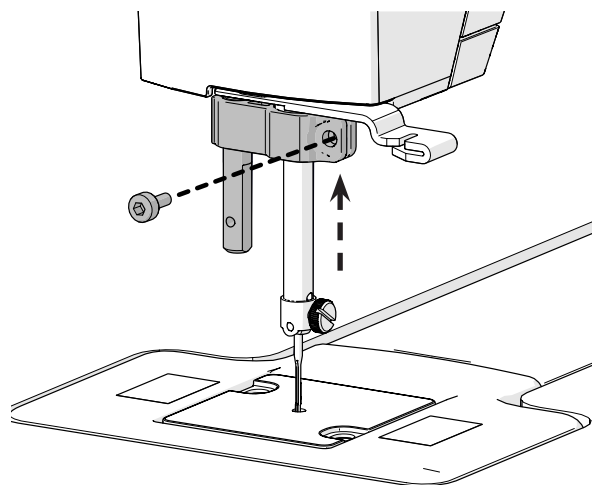
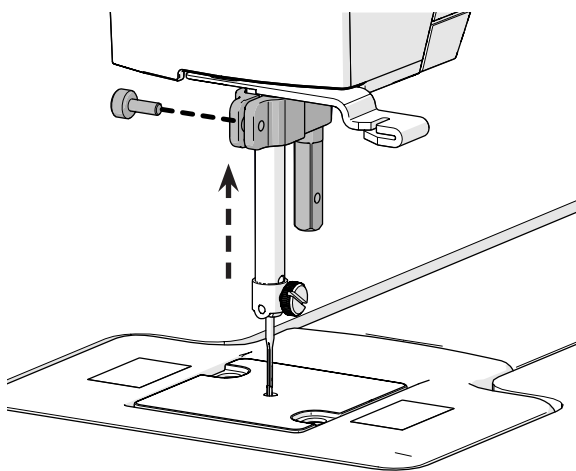


## Adjust the Hopping Foot (continued)

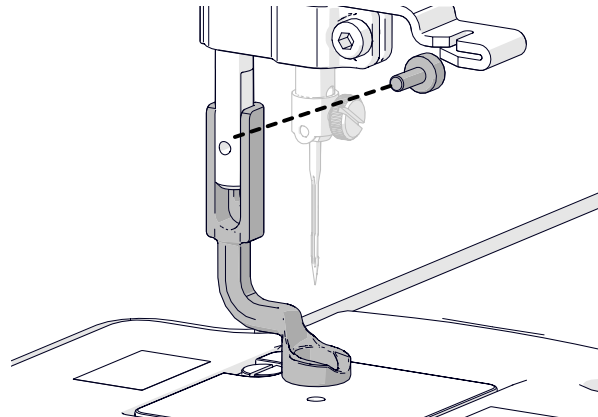
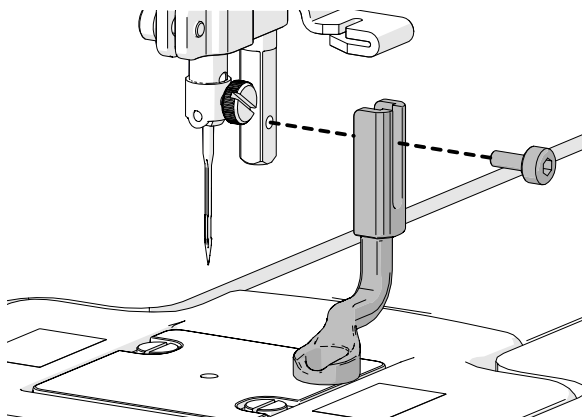
- 8 Rotate the hopping foot collar to one of the two positions:



- 9 Lift the hopping foot collar back up to the presser bar and re-tighten the collar screw.



- 10 Use the handwheel to raise the needle, then slide the hopping foot onto the collar and screw it in place with the hopping foot screw.

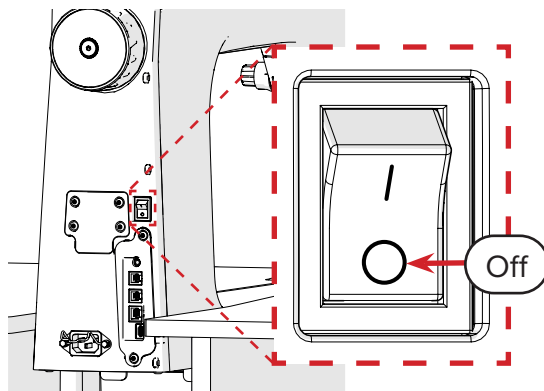


- 11 Set the hopping foot height. See page 77.

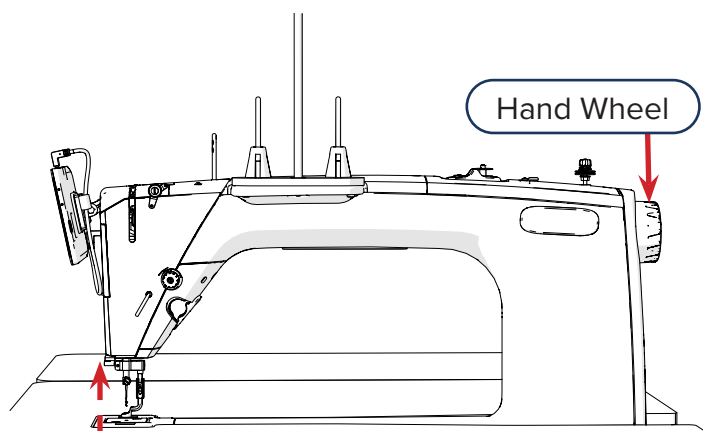
## Removal Instructions

To remove the hopping foot, take the following steps:

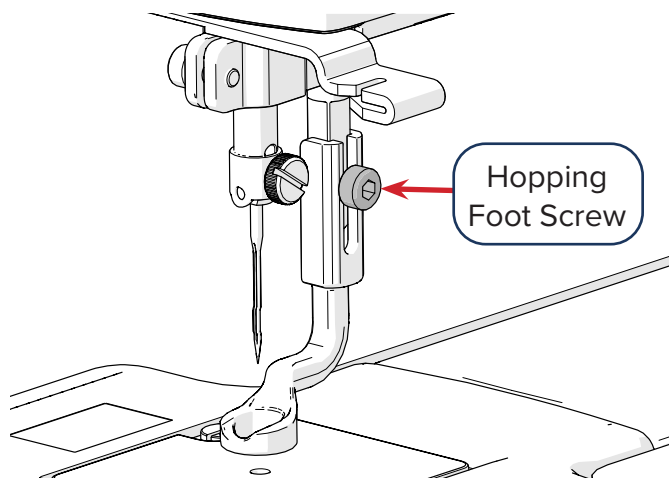
- 1 Power **off** the machine.



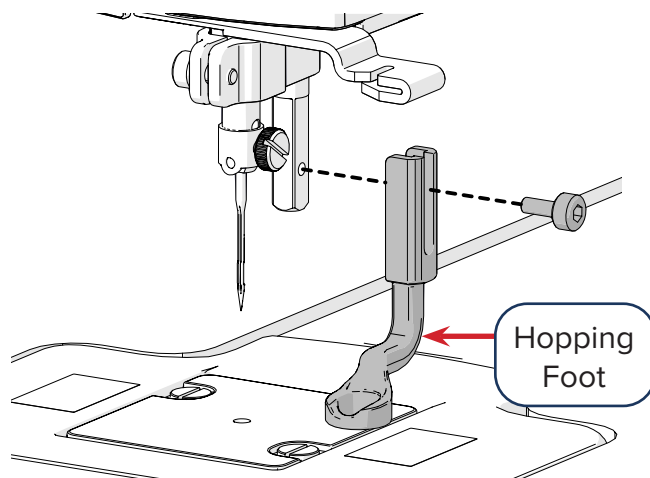
- 2 Rotate the **hand wheel** to raise the needle to the highest position.



- 3 Use the 3 mm Allen wrench to remove the **hopping foot screw**.



- 4 Slide the **hopping foot** from the hopping foot collar.

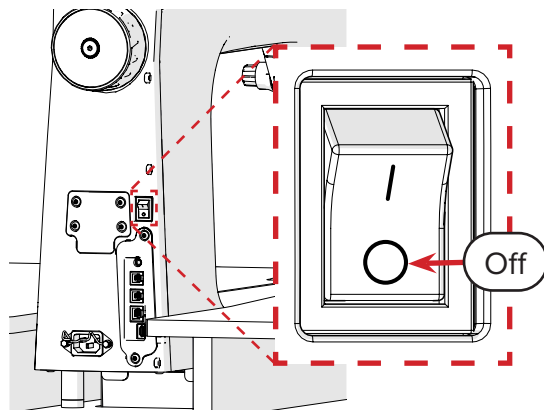


## Adjust the Hopping Foot (continued)

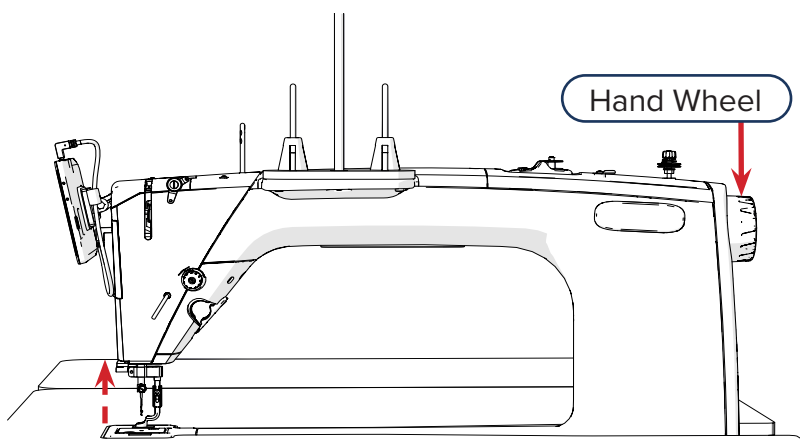
### Installation Instructions

To install the hopping foot, take the following steps:

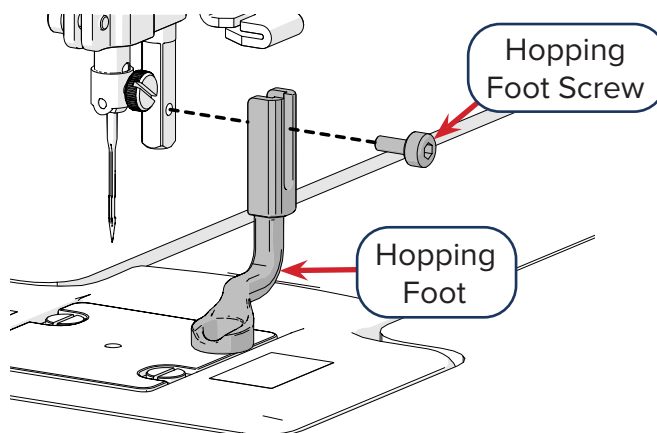
- 1 Power **off** the machine.



- 2 Rotate the **hand wheel** to raise the needle to the highest position.



- 3 Slide the **hopping foot** onto the collar. Use the 3 mm Allen wrench and **hopping foot screw** to attach the foot to the collar.

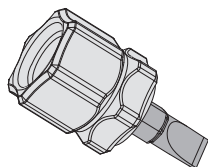


- 4 Set the hopping foot height (see page 77).

## Remove & Install the Needle Plate

### Parts & Tools Needed

Flat Head Screwdriver

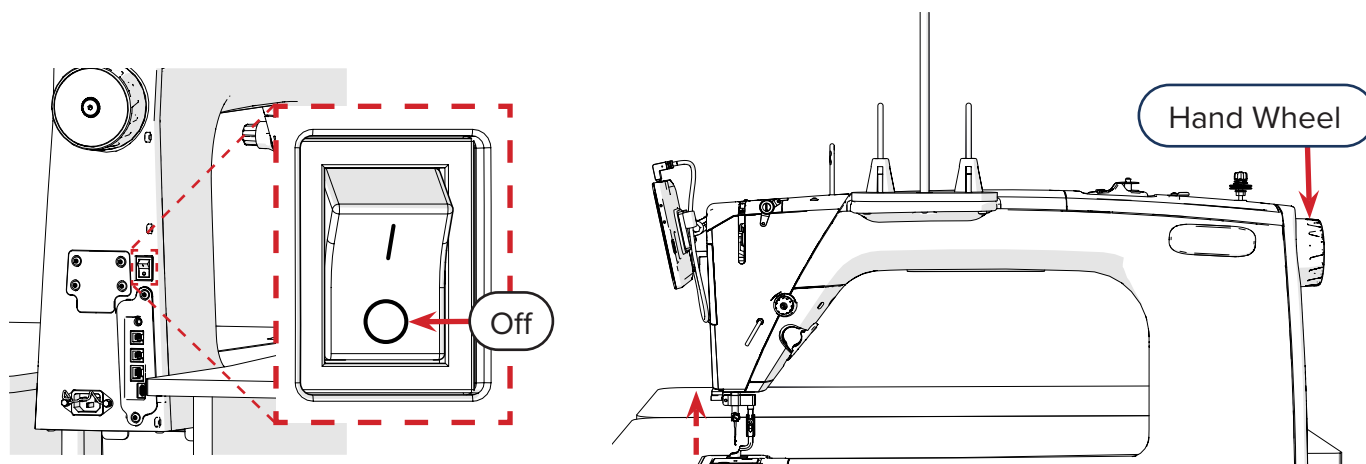


Box 1: Tools Box

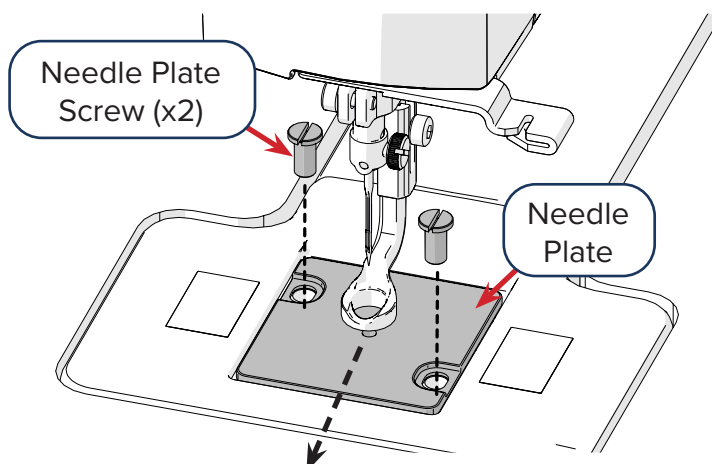
### Removal Instructions

To remove the needle plate from the quilting machine, take the following steps:

- 1 Power **off** the machine and raise the needle to the highest position using the **hand wheel**.



- 2 Use the flat head screwdriver to remove the two **needle plate screws**. Slide the **needle plate** from the machine.

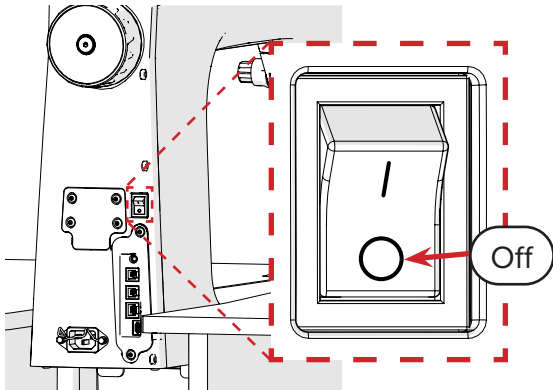


## Remove & Install the Needle Plate (continued)

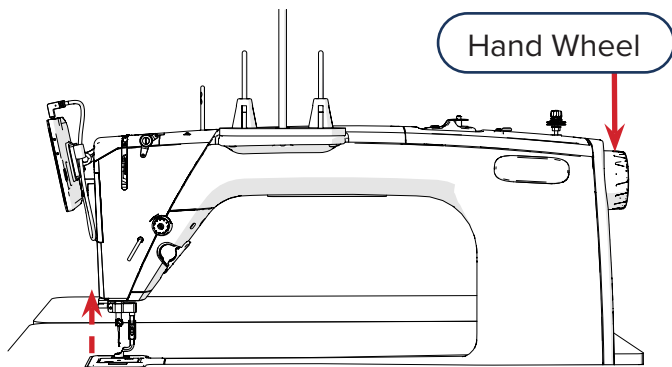
### Installation Instructions

To install the needle plate onto the quilting machine, take the following steps:

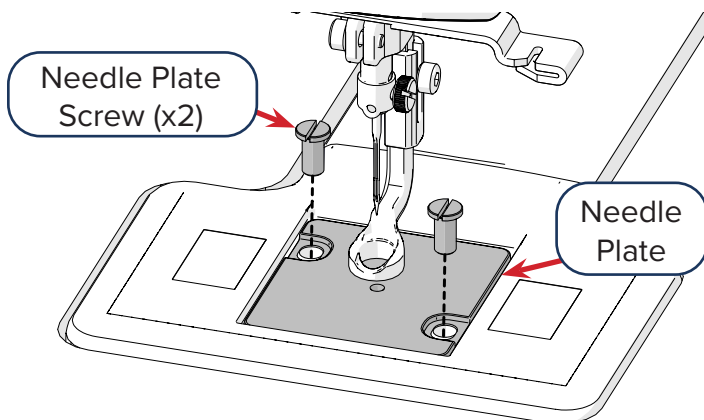
- 1 Power **off** the machine.



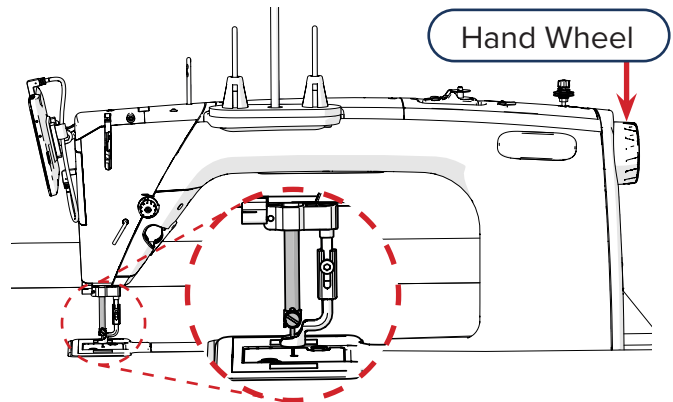
- 2 Use the **hand wheel** to raise the needle to the highest position.



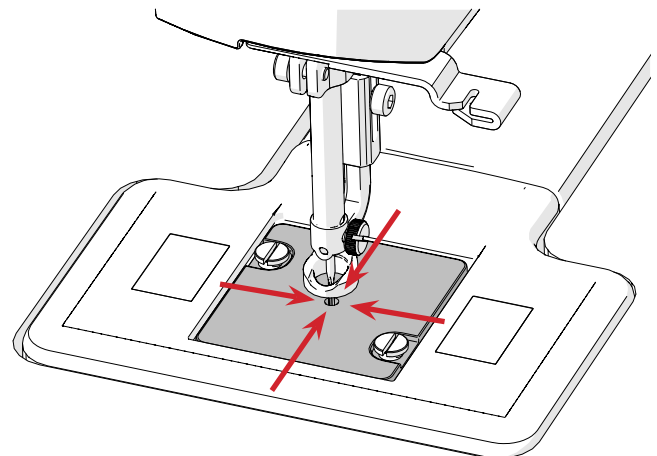
- 3 Align the **needle plate** with the screw holes on the machine and loosely attach the **needle plate screws**. Do not tighten.



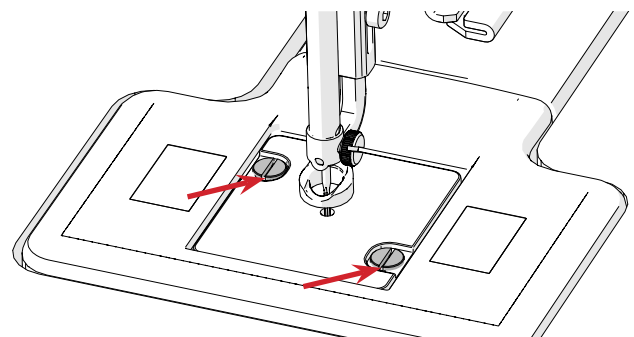
- 4 Use the **hand wheel** to lower the needle.



- 5 Adjust the position of the needle plate to center the needle in the opening.



- 6 Tighten the needle plate screws with the flat head screwdriver till you meet resistance, then tighten a quarter turn more.

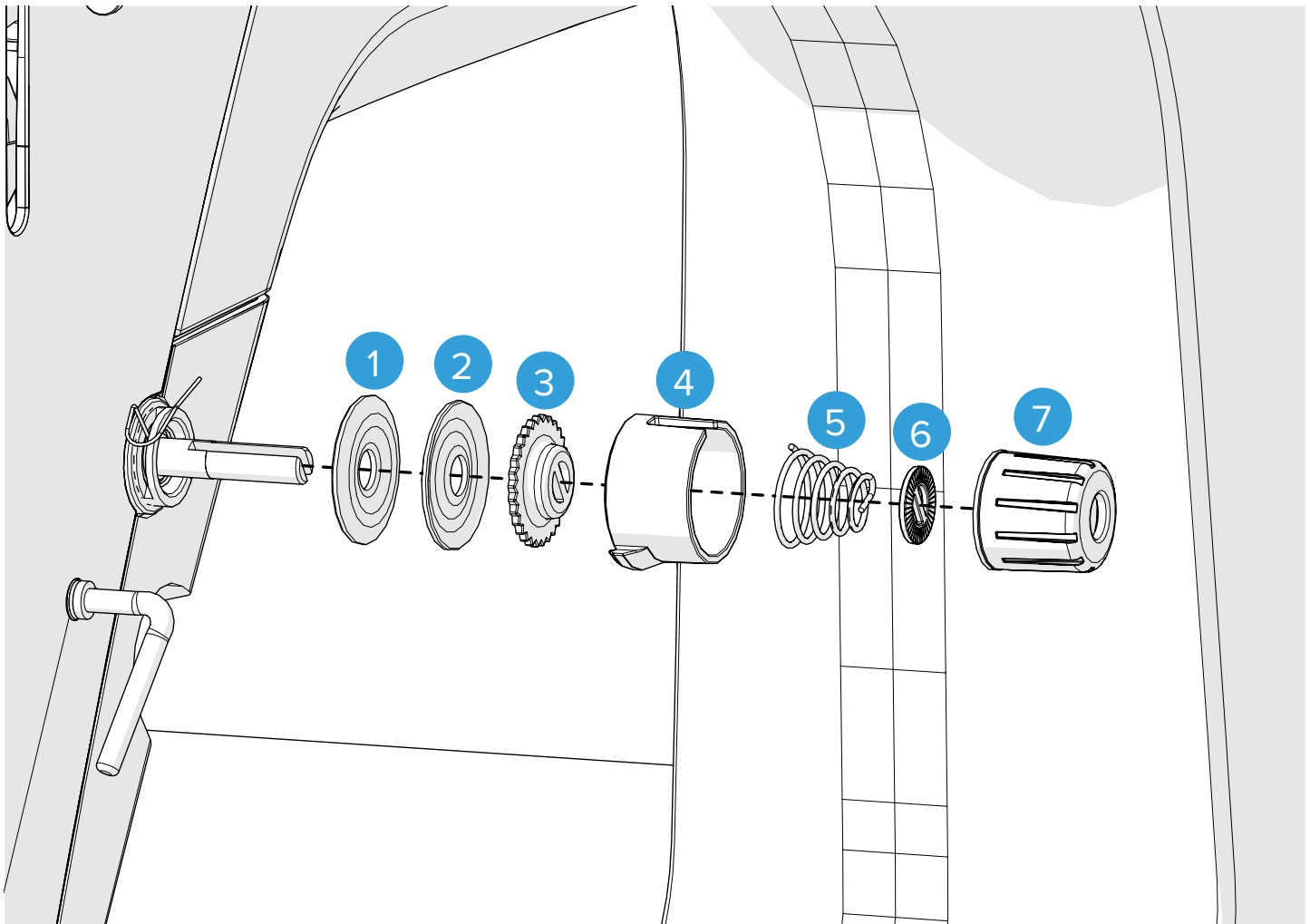


- 7 Reset the hopping foot height (see page 77).

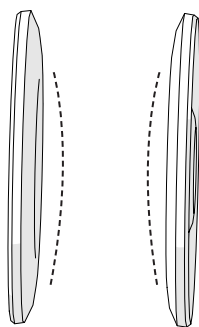
## Re-assemble the Thread Tensioner

### Instructions

If you over-loosen the large thread tensioner knob, the tensioner may come apart and need to be re-assembled. The following diagram is the order of the tensioner.



- |                  |             |                |        |
|------------------|-------------|----------------|--------|
| 1 Tensioner Disc | 3 Meter Key | 5 Spring       | 7 Knob |
| 2 Tensioner Disc | 4 Meter     | 6 Keyed Washer |        |



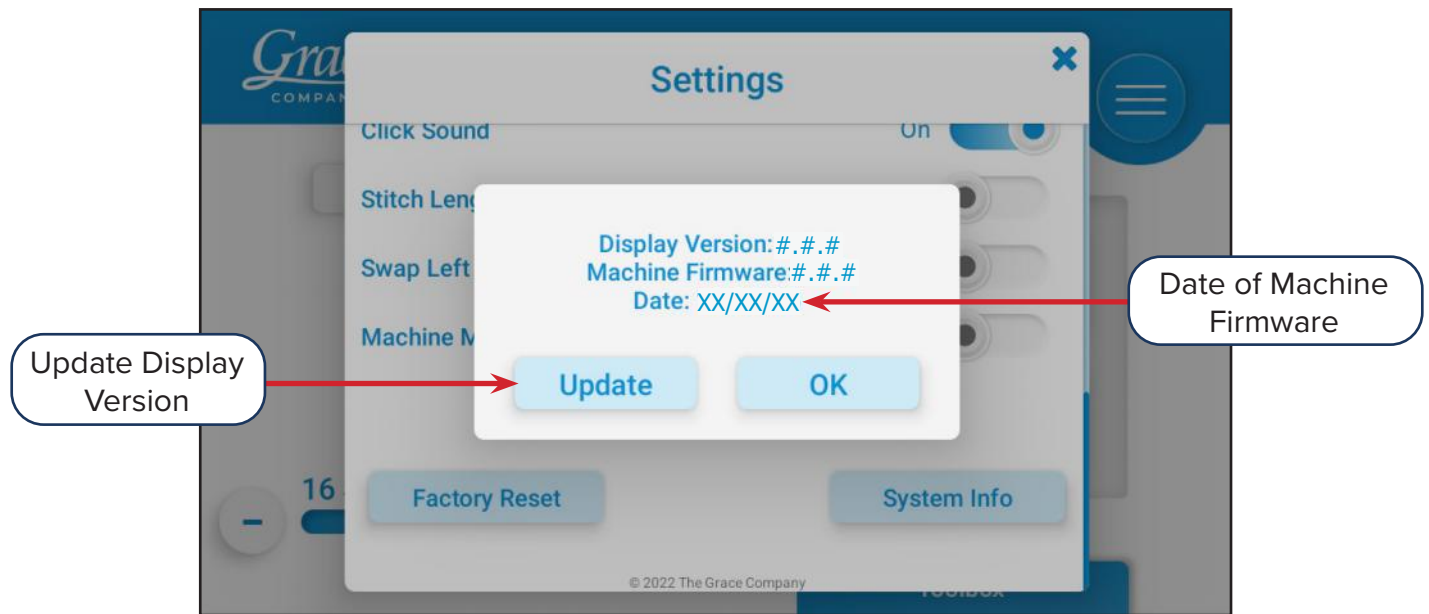
**Note:** Place the tension discs so the curved sides face each other.



**Note:** Install the keyed washer so the grooved side faces toward the knob.

### Check the Firmware

The firmware versions for the machine and the display are found by pressing System Info at the bottom of the Settings menu.



The following information and options display:

- **Display Version:** Shows the software version for the touch display.
- **Machine Firmware:** Shows the firmware version for the machine.
- **Date:** Shows the date when the machine firmware was last updated.
- **Update Button:** Checks to see if an SD card with an available software update has been inserted into the display. If it detects the update, it will update the display to the newest version.
- **OK Button:** Click to return to the Settings menu.

# Repairs and Diagnostics

**The instructions in this section should only be taken at the direction of a Grace Company support technician.** If you are experiencing problems with your machine, please contact our technical support team:

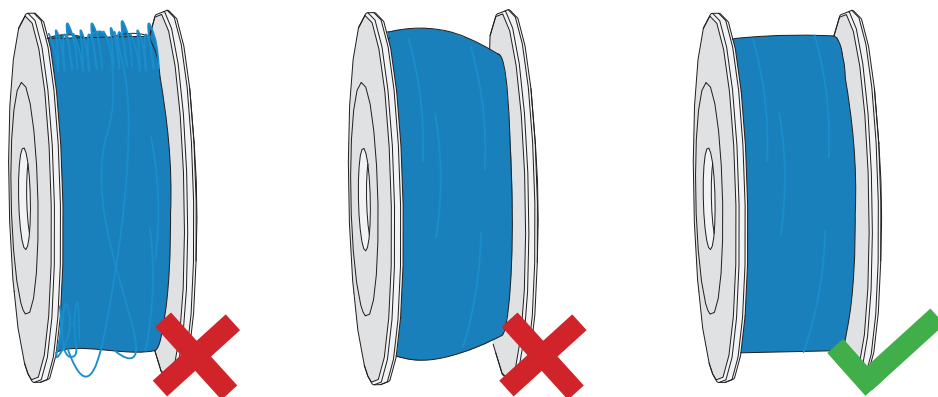
- Phone: (801) 485-6688
- Email: [support@graceframe.com](mailto:support@graceframe.com)

Troubleshoot the Bobbin Winding .....88

Remove and Install the Hook Holder .....90

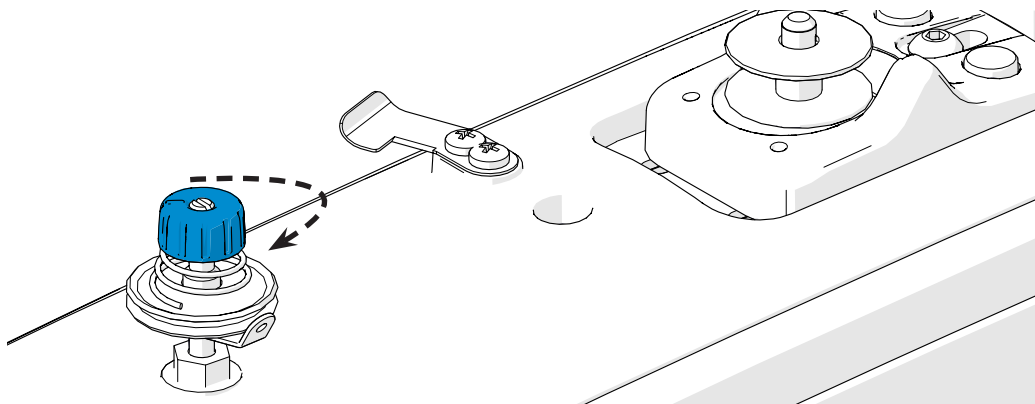
### Troubleshoot the Bobbin Winding

A quality bobbin wind is essential for a properly functioning machine and for setting your baseline thread tension. The thread on the bobbin should be smooth and evenly wound. The threads should be tightly packed together.



#### Bobbin Wound Too Loose

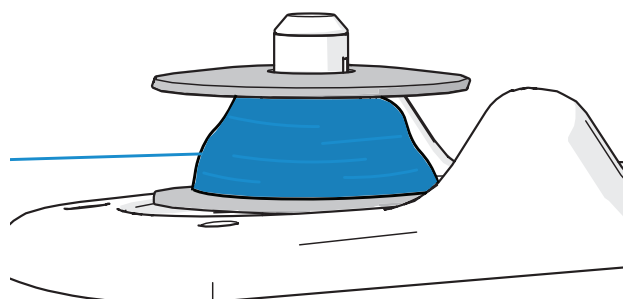
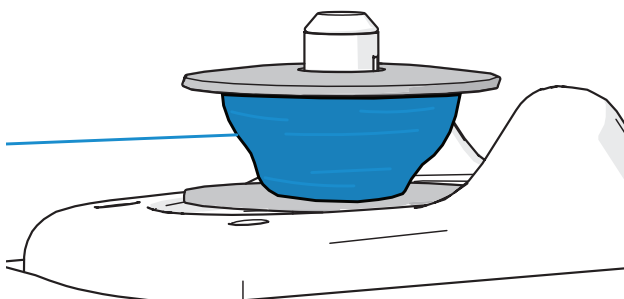
The tension of the bobbin wind is determined by the bobbin thread tensioner. Turn the **knob** (shown in blue) one full rotation clockwise and re-test the bobbin wind. Repeat until the bobbin wind is tight and smooth.



#### Bobbin Filling to One Side

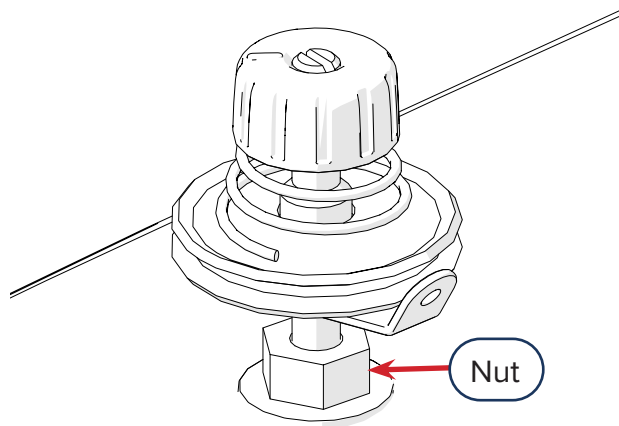
If the bobbin is filling to one side, the bobbin thread tensioner is positioned incorrectly and will need to be adjusted.

- 1 Determine whether the bobbin is filling more toward the top or bottom.

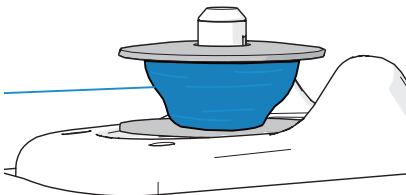


## Troubleshoot the Bobbin Winding (continued)

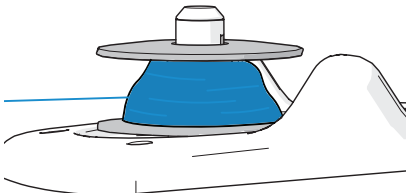
- 2 Unthread the bobbin thread tensioner. With a 7 mm wrench or needle-nose pliers, loosen the **nut** at the base of the tensioner.



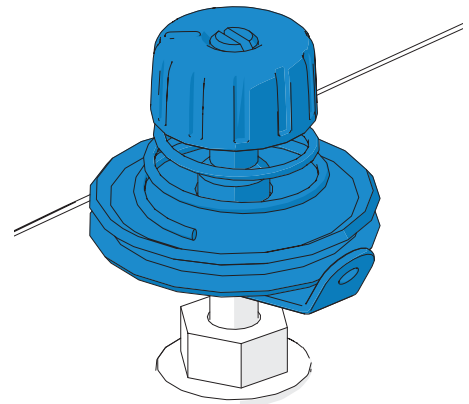
- 3 Turn the top part of the tensioner assembly (shown in blue) a full rotation to adjust the height of the tension discs.



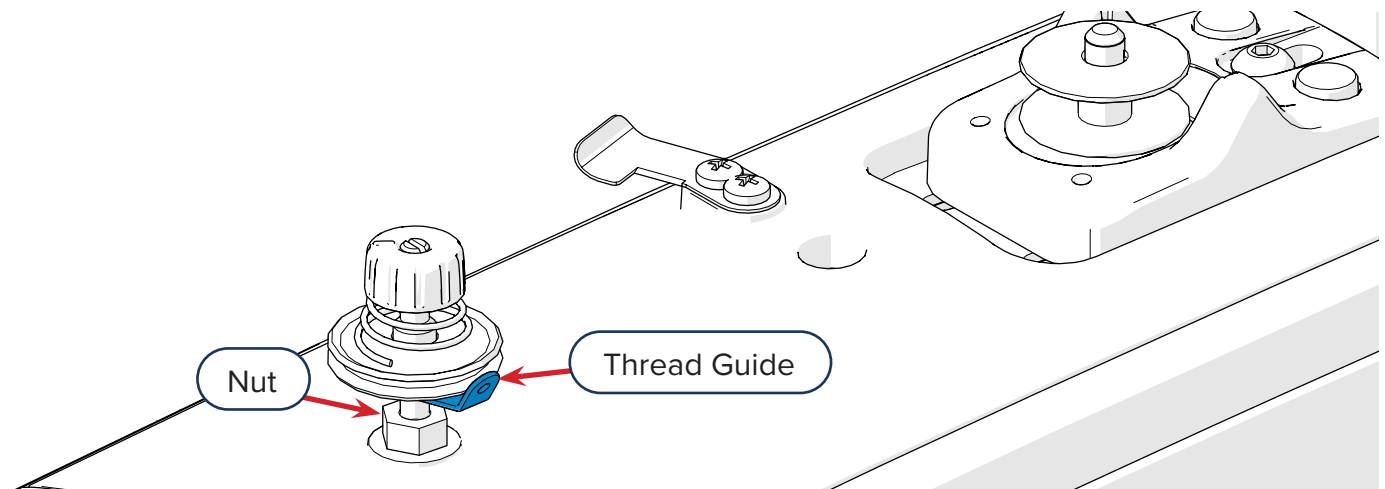
If the bobbin is filling more toward the top, turn the tensioner one full rotation clockwise and re-test.



If the bobbin is filling more toward the bottom, turn the tensioner one full rotation counter-clockwise and re-test.



- 4 Once the bobbin is filling correctly, re-tighten the **nut**. Make sure the **thread guide** is on the correct side of the tensioner assembly.



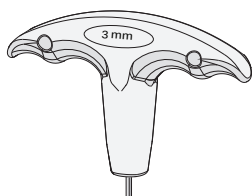
## Remove and Install the Hook Holder

Please speak to a Grace Company support technician before attempting these instructions.

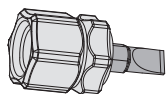
### Parts & Tools Needed

T-handle Allen Wrench  
3 mm

Flat-Head Screwdriver



Box 1: Tools Box

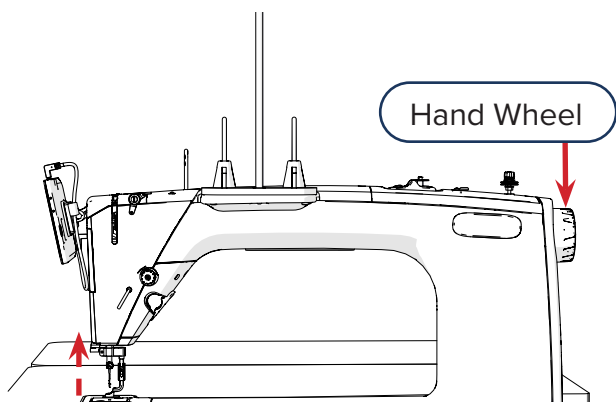


Box 1: Tools Box

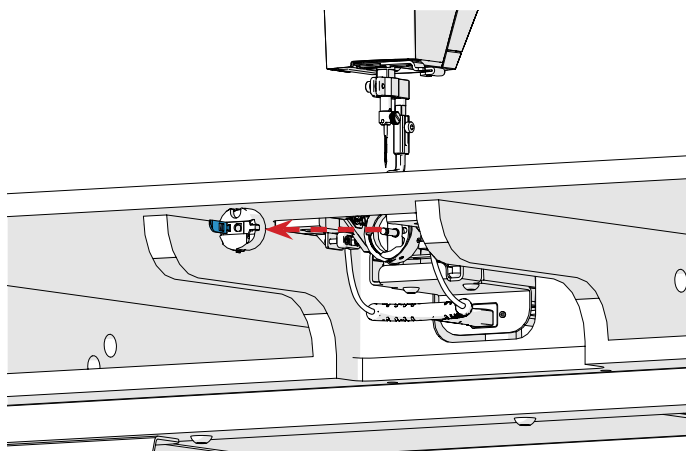
### Removal Instructions

The hook holder keeps the hook assembly in place. The following procedure should only be attempted if determined necessary by a Grace Company support technician. If done incorrectly, major machine problems can result. Please call 1-801-485-6688 before attempting this procedure.

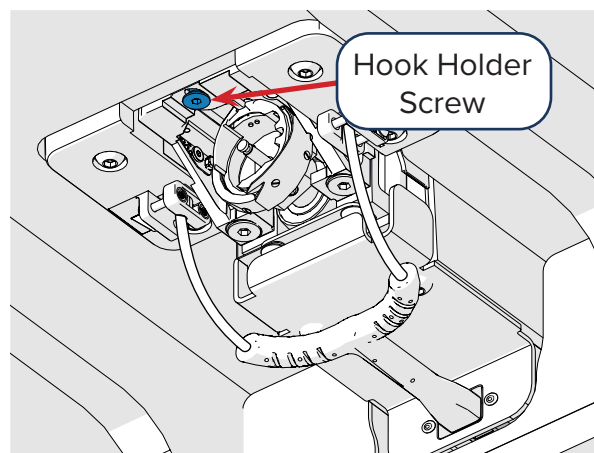
- 1 Power **off** the machine.
- 2 Raise the needle to the highest position with the **hand wheel**.



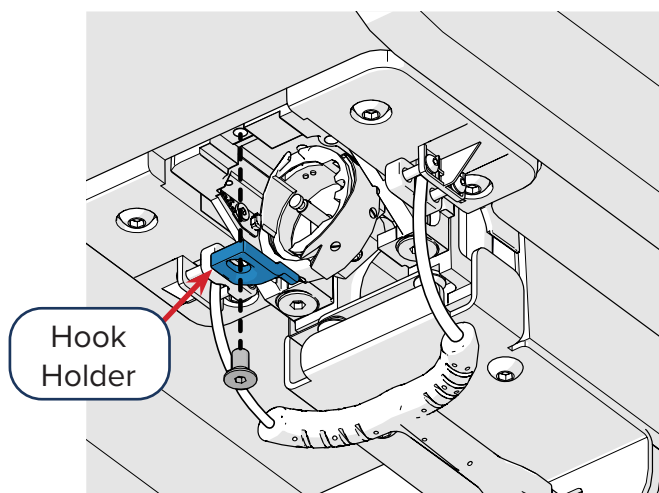
- 3 Pull on the bobbin case **release lever** (shown in blue) to remove the bobbin case from the hook assembly.



- 4 With the 3 mm Allen wrench, remove the **hook holder screw** that attaches the hook holder to the machine.



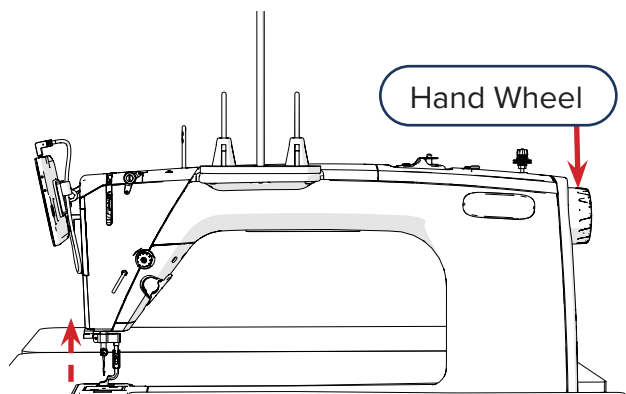
The **hook holder** will fall free of the machine.



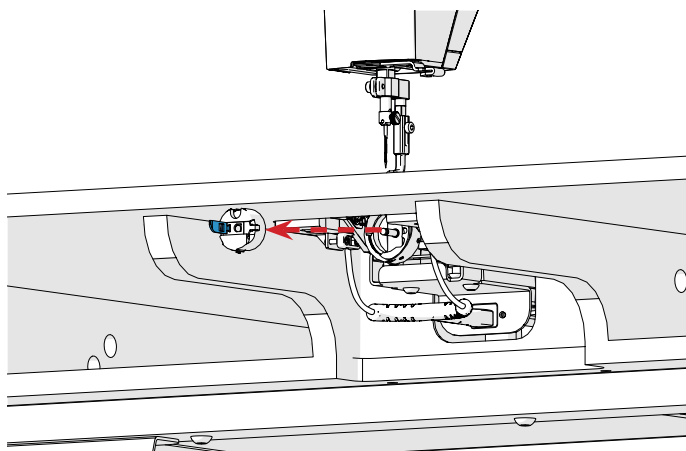
## Remove and Install the Hook Holder (continued)

## Installation Instructions

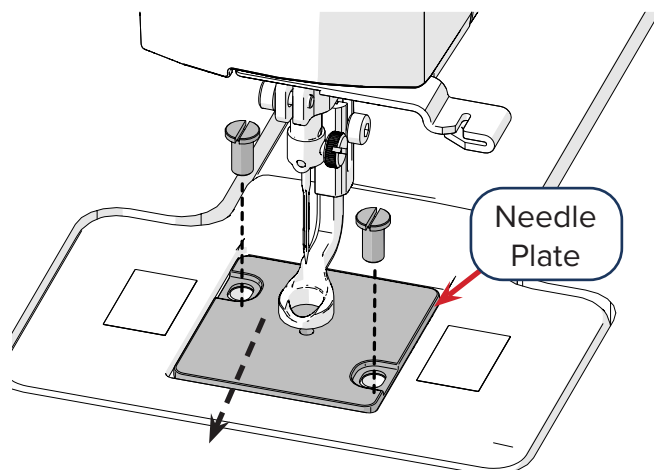
- 1 Power off the machine and raise the needle to the highest position with the **hand wheel**.



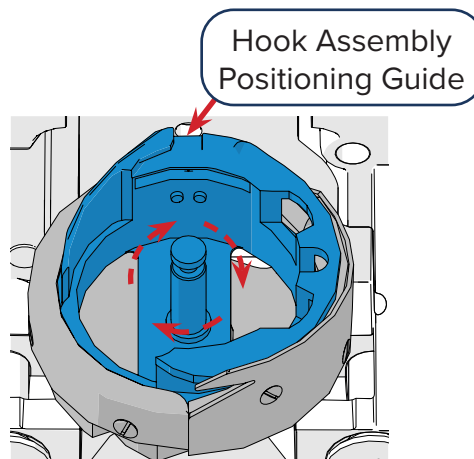
- 2 Pull on the bobbin case **release lever** (shown in blue) to remove the bobbin case from the hook assembly.



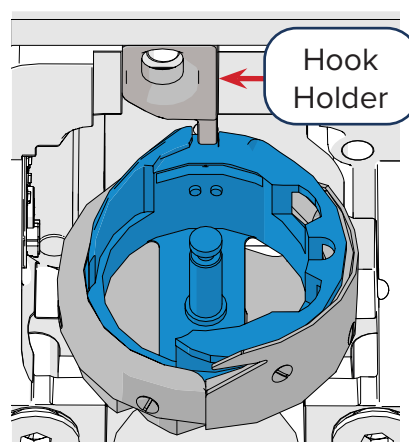
- 3 Remove the **needle plate** using a flat head screwdriver (see page 83).



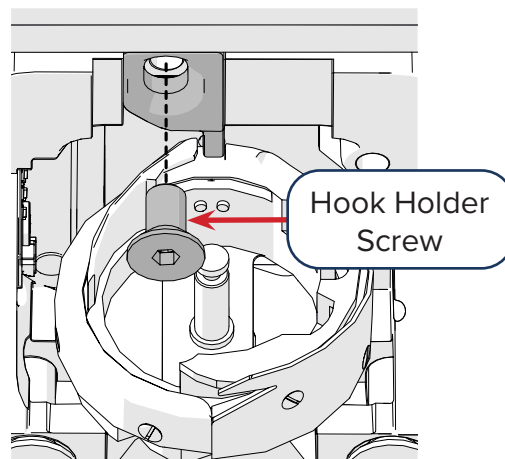
- 4 Turn the inside part of the **hook assembly** (shown in blue) so that the **positioning guide** is at the highest point.



- 5 Slide the finger of the **hook holder** into the middle of the hook assembly's positioning guide.

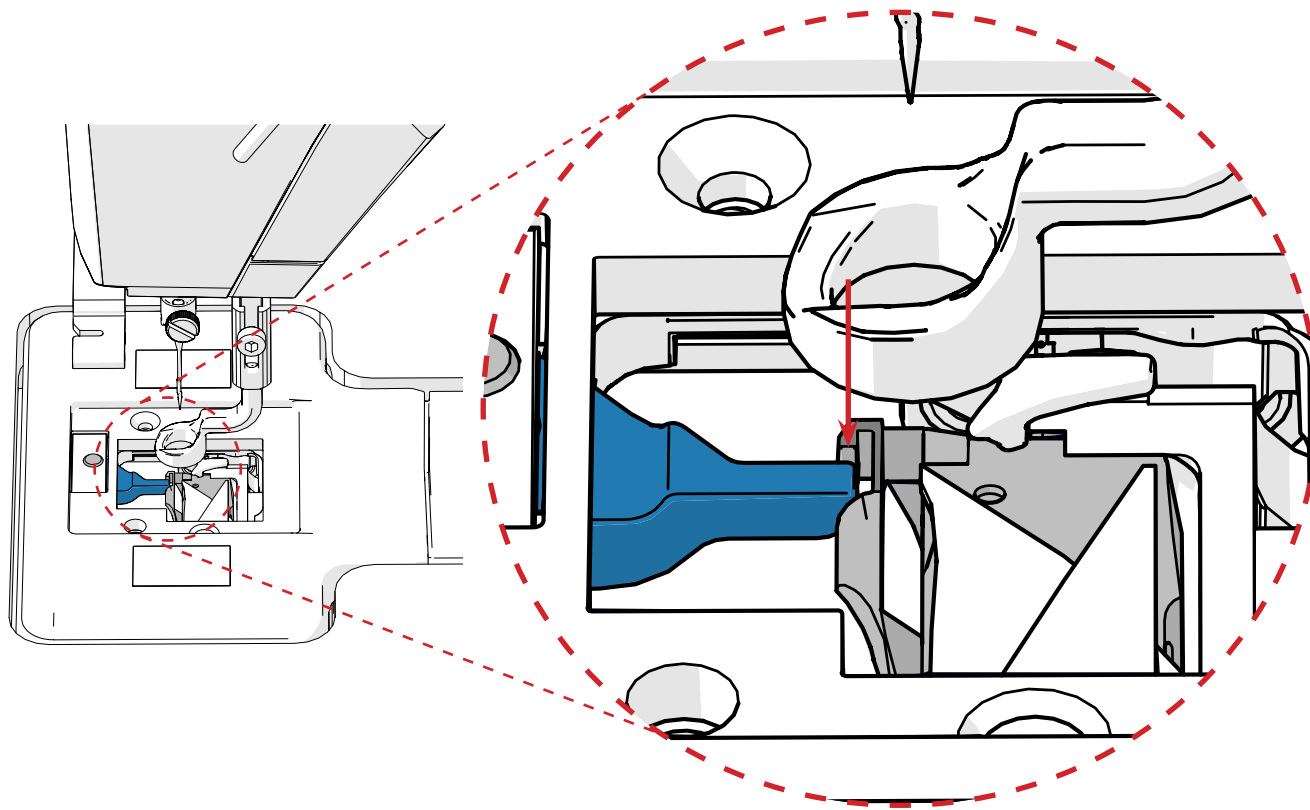


- 6 Loosely attach with the **hook holder screw**. Do not tighten.

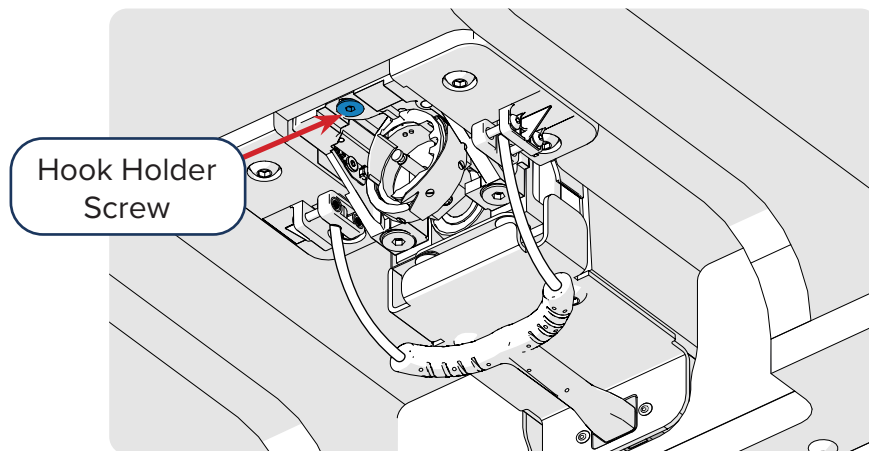


### Remove and Install the Hook Holder (continued)

- 7 Align the hook holder with the inside edge of the positioning guide, as shown below.



- 8 Tighten the **hook holder screw** to fasten the hook holder in place. The inside part of the hook assembly should no longer rotate freely by hand.



- 9 Re-install the needle plate (see page 83).

# Appendix

This section of the manual covers additional information on quilting with your machine.

|                                       |     |
|---------------------------------------|-----|
| Choose Your Needle.....               | 94  |
| Choose Your Thread.....               | 96  |
| Choose Your Fabric and Batting.....   | 98  |
| Troubleshoot the Thread Tension ..... | 99  |
| Troubleshooting Guide.....            | 101 |
| Index.....                            | 103 |

### Choose Your Needle

Using the wrong type of needle, or using a needle that is bent, broken, or blunt, can damage the fabric, the machine, and the needle. For best results:

- Purchase needles directly from [graceframe.com](http://graceframe.com). Needles from other sources might be poorly manufactured, leading to skipped stitches, breaking thread, and other thread tension problems.
- Use the recommended needle style for your machine (see below).
- Use the needle size appropriate for the weight and type of thread you're using (see below).
- Never use a needle that is dull, bent, burred, or damaged.
- Use multi-directional (MR) needles. These needles can handle the rapid changes in direction needed for free-motion quilting.
- Change your needle after 8 hours of use and at the beginning of each project.

### Needle Style

The following are the recommended needle styles for your machine:

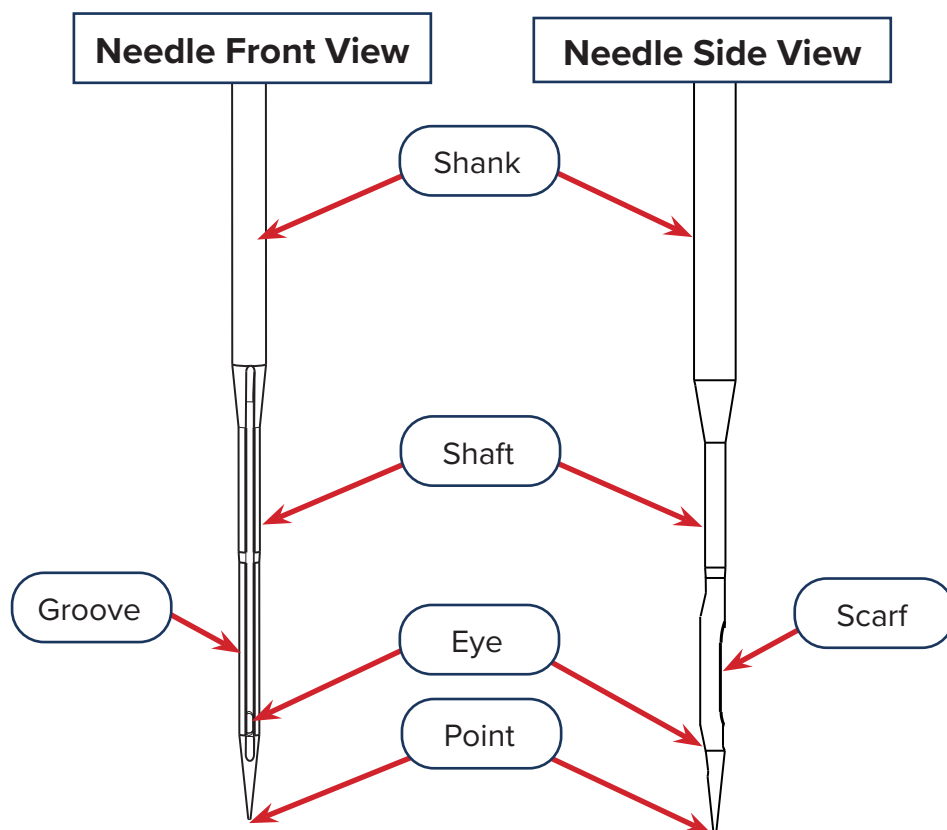
- DPx5 MR
- 134 MR
- 1955 MR

### Needle Sizes

Choose the size of your needle based upon the thread you're using. Thicker thread requires a thicker needle. Remember, the thicker the thread, the lower the thread weight (wt.) number.

| Needle Size   | Thread Size and Type                                                                                                                           |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>14/90</b>  | <ul style="list-style-type: none"><li>• mono-filament</li><li>• 100 wt. silk</li><li>• 60 wt. polyester</li></ul>                              |
| <b>16/100</b> | <ul style="list-style-type: none"><li>• mono-filament</li><li>• 60 wt. polyester or cotton</li><li>• 50 wt. cotton</li></ul>                   |
| <b>18/110</b> | <ul style="list-style-type: none"><li>• 50 wt. polyester</li><li>• 40 wt. cotton and polyester</li><li>• 30 wt. cotton and polyester</li></ul> |
| <b>20/125</b> | <ul style="list-style-type: none"><li>• 30 wt. or heavier of any thread</li></ul>                                                              |

## Needle Diagram



- **Shank:** Where the needle bar grasps the needle.
- **Shaft:** The long, narrow part of the needle. Needle size is based upon the diameter of the needle shaft.
- **Groove:** Reaching from the top to the bottom of the needle shaft, the groove allows thread to pass through the fabric more easily and without getting damaged.
- **Eye:** Hole near needle point where the needle is threaded.
- **Scarf:** A cut-away on the back of the needle that allows the needle to fit smoothly within the hook assembly when quilting.
- **Point:** The sharp end of the needle. Choose the type of needle point to fit your project, and always replace your needle once the point is dull.

### Choose Your Thread

Choosing the best thread for your project is just as important as choosing the correct needle. Good thread is strong and can pass the “Yank Test” (see page 36). It holds its color well over time (colorfast), and uses long fibers (extra-long staple) that resist creating lint.

Thread type and size determines not only which needle size to choose and what the thread tension must be set to on your machine, but also how visible the thread is on the project.

#### For best results:

- Use a cone-style thread unless you have the thread spool accessory for your machine.
- Test the strength of thread before use with the “Yank Test” (see page 36).
- Practice using new thread on spare quilting materials to find the ideal thread tension. Write this information down and store it with your thread for later reference.
- Keep thread out of sunlight to prevent fading, and do not store near extreme temperatures.
- Select thread that is ideal for the fabric you’re using (see the chart below).
- Use similar thread for top and bottom thread.

### Thread Type Guide

Threads can be multiple strands spun together, called ply, or they can be single ply. The fibers that make up the ply can come from many sources, but the most common threads used in quilting are made from cotton, polyester, and silk. The unique properties of each material make some threads better suited for use on some fabrics than others.

| Thread Type      | Ideal Fabric                                                                                                   |
|------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Cotton</b>    | <ul style="list-style-type: none"><li>• Cotton</li><li>• Linen</li><li>• Rayon</li></ul>                       |
| <b>Polyester</b> | <ul style="list-style-type: none"><li>• Knit or stretch</li><li>• Woven synthetic</li></ul>                    |
| <b>Silk</b>      | <ul style="list-style-type: none"><li>• Silk</li><li>• Wool</li><li>• Basting thread for all fabrics</li></ul> |

### Thread Size

The thickness of the thread is called the weight (wt.). This number is usually stamped on the edge of the top or bottom of the thread cone. Notice that as the thread becomes heavier and thicker, the weight decreases:

- 60 weight: Very thin, fine thread that will blend into the fabric.
- 40 weight: Thicker thread that will show up on the fabric.

**Note:** Choose matching weight and thread type when picking top and bottom (bobbin) threads.

## Choose Your Thread (continued)

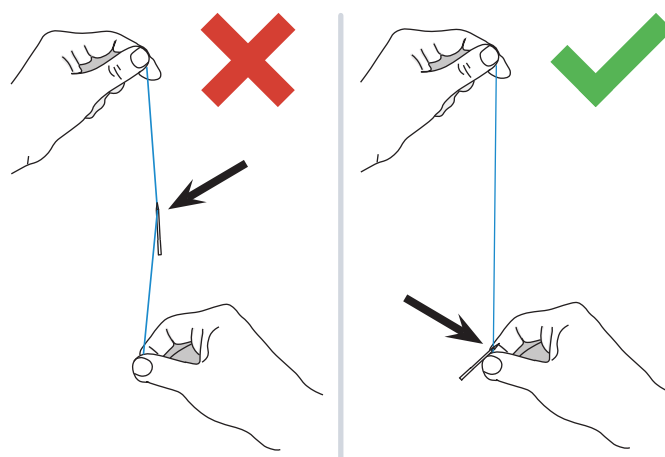
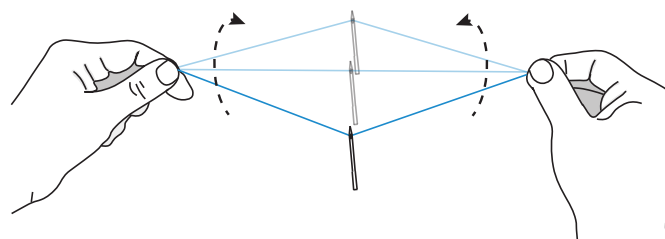
**Tip:** Not all manufacturers will have the same sizing method for their thread. Threads can be measured by weight, tex, denier, or scaling that is unique to its brand. Take the time to understand how the sizing works for a brand you're considering, and keep a few common sewing rules in mind:

- The thicker the thread, the larger the needle required. A needle that is too thin can shred thread.
- The thinner the thread, the smaller the needle should be. A needle that is too large will cause uneven stitching and can leave holes in the fabric.

### Testing Thread-Needle Compatibility

To test if your thread is thin enough for your needle:

- 1 Thread the needle with the thread you're testing.
- 2 Hold the thread horizontally with the needle dangling from the middle.
- 3 Swish the thread in circles until the needle spins.
- 4 Turn the thread vertically and wait for it to stop spinning.



### Results:

- If the needle remains in the center, the thread is too thick. Use finer thread or a larger needle.
- If the needle drops toward your lower hand, the thread is not too thick.

### Thread Processing

Sometimes thread is processed to change its properties. The chart below lists the processes common to cotton and polyester. No extra processing or treatments are typical for silk.

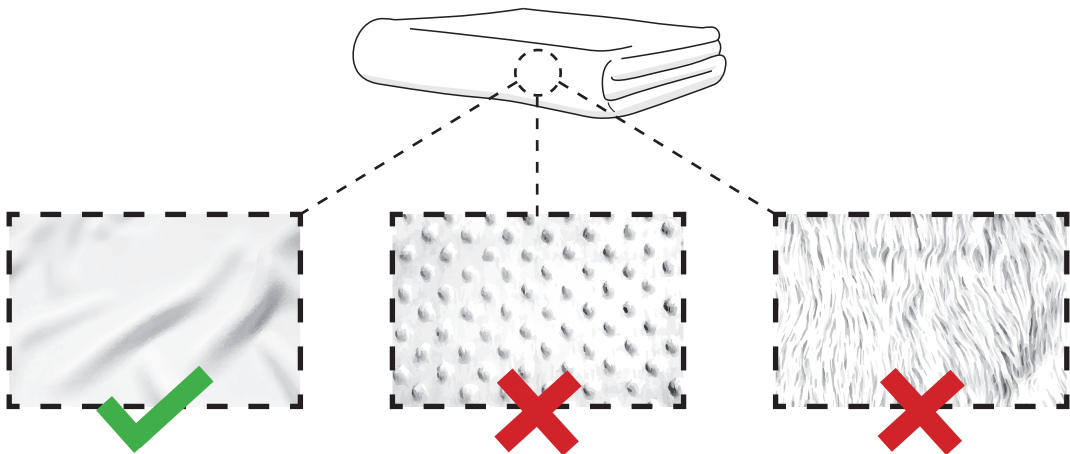
| Thread Type | Processes                                                                                                                                                                                                                                                                                                                                                            |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cotton      | <ul style="list-style-type: none"> <li>• <b>Mercerized:</b> Treated to improve strength and colorfastness.</li> <li>• <b>Glazed:</b> Waxed or coated to give a polished appearance. The coating may rub off and build up in the machine.</li> <li>• <b>Gassed:</b> Exposed briefly to a gas flame to burn away fuzz and lint, giving a smooth appearance.</li> </ul> |

Choose Your Fabric and Batting

| Thread Type | Processes                                                                                                                                                                                                                                                                                         |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Polyester   | <ul style="list-style-type: none"><li>• <b>Lubricated:</b> Treated with lubricant to reduce friction. Avoid thread that is oily to the touch.</li><li>• <b>Bonded:</b> Treated with resin to increase strength. This is typically used for heavy-duty applications, such as upholstery.</li></ul> |

Fabric

Some fabrics are not recommended for use with your quilting machine. Thick fabrics, such as denim or leather, have a lot of resistance that can bend or snap a needle, and misalign or break internal machinery. Avoid any fabrics that are difficult to pierce. Long-fibered fabrics with a high pile, such as faux fur or thick plush fabrics, can interfere with the fabric sensors and are also not recommended. When quilting, make sure any dark-colored fabric used for the quilt backing is free of lint, as it can interfere with the fabric sensors.



Faux fur and minky fabrics can cause the fabric sensors to malfunction, resulting in skipped stitches or other stitch problems when using stitch regulation modes (precise and cruise). If you wish to use these fabrics, use manual mode for a better stitching experience.

Batting

To choose the best batting for your project, consider the look and feel of the quilt that you’re making. Batting thickness is measured by its loft. A low loft batting is thinner and lighter, ideal for a quilt with a flatter appearance. High loft batting should be used if a fluffy, full quilt is desired. Generally, cotton has a lower loft while polyester has a higher loft.

Typically, wool batting is the thickest batting while bamboo is the lightest. Wool provides the most warmth, followed by polyester, and then cotton.

## Troubleshoot the Thread Tension

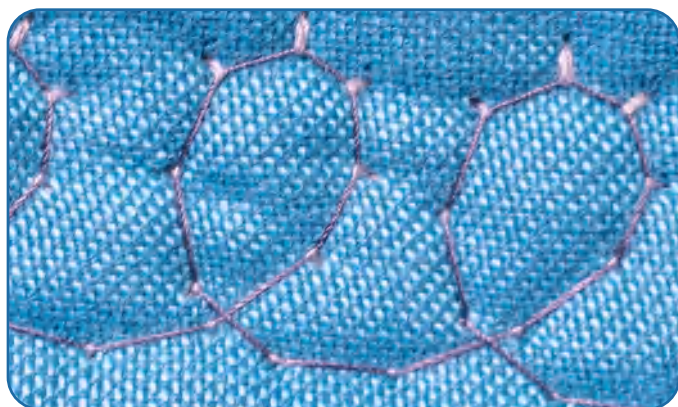
Thread tension is influenced by all of the following factors:

- The thread itself
- Proper machine threading
- Top thread tension (large tensioner)
- Bottom thread tension (bobbin case)
- Bobbin wind tension
- Needle
- Hopping foot height
- Fabric and batting
- Cleanliness of thread guides, bobbin case, hook assembly, needle plate, and fabric sensors

When thread tension is off, a variety of problems can arise. Review the stitch problems below to find solutions for specific stitch issues.

### Eyelashing

Eyelashing occurs when the thread is being pulled from the other side of the fabric.

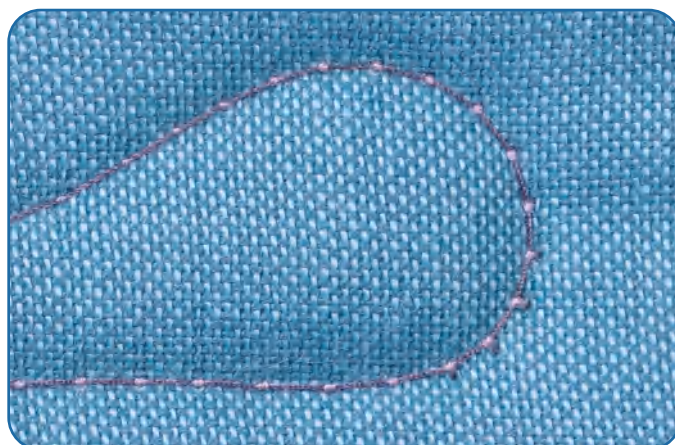


**Eyelashing on the top:** The bottom thread is being pulled up to the top layer of fabric. Eyelashing on the top of the quilt indicates an issue with the bobbin. Remove the bobbin from the case. Re-install the bobbin in the case and check the bobbin case tension (see page 34). Re-install the case in the machine. If the issue persists, reduce the top thread tension.

**Eyelashing on the bottom:** The top thread is pulled down to the bottom layer of fabric, indicating an issue with the threading on your machine. Check that the machine thread is fully flossed between the tension discs on the thread tensioners, and make sure the thread is hooked onto the check spring on the top thread tensioner. If the problem persists, re-thread the machine (see page 37), and tighten the top thread tension (see page 61).

### Railroad Tracks

Railroad tracks occur when one thread looks like it's laying flat on the quilt, while the other thread crosses over it, like little railroad tracks.



**Railroad tracks on the top:** The tension on the top thread is too great, and the tension on the bottom thread is too slack. Remove the bobbin from the case. Re-install the bobbin in the case and check the bobbin case tension (see page 34). Re-install the case in the machine. Lower the top thread tension (see page 61).

**Railroad tracks on the bottom:** The top thread tension is too slack. Confirm the machine is threaded correctly (see page 37), paying special attention to the check spring on the top thread tensioner. Confirm the needle is straight, sharp, and correctly positioned. Double-check your hopping foot height (see page 44). Finally, increase the top thread tension (see page 61).

## Troubleshoot the Thread Tension (continued)

## Bearding



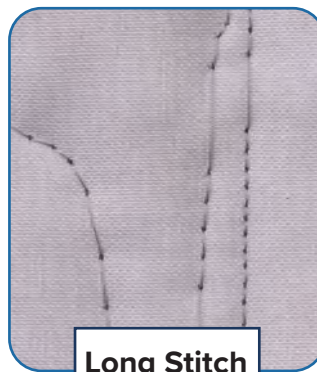
Bearding occurs when tufts of the batting material are pulled up through the top of the quilt. This happens when the batting has been installed with the scrim side up rather than down, or if there is a burr in the needle snagging the batting on the way back up.

## Thread Bunching

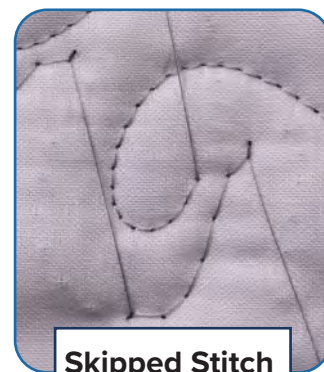


The thread is bunching up underneath the stitches due to excessive thread looping. This happens if the check spring on the top thread tensioner is bypassed when threading the machine, or if the thread was not flossed through the tension discs on the thread tensioners (see page 37). If the problem occurs only at the start of stitching, it could be that the bobbin thread tail coming out of the case is creating the looping. When installing the bobbin case into the machine, hold the tail toward you with your free hand.

## Long or Skipped Stitches



Long Stitch



Skipped Stitch

**Long Stitches:** The fabric sensors are not properly tracking the movement of the fabric, so stitch regulation isn't working. Clean both fabric sensors with a scratch-free, soft cloth (see page 74). Reset the hopping foot height (see page 44).

**Skipped Stitches:** A skipped stitch has a tale-tell hole (or series of holes) where the needle penetrated the fabric in an attempt to make a stitch, but the bottom thread didn't catch the top, and the stitch wasn't completed. Check the needle orientation and that the needle is straight. Replace as needed (see page 75). Check your hopping foot height (see page 44). Check the machine threading (see page 37) and top thread tension (see page 61).

## General Tension Troubleshooting

- 1 Check the bobbin tension (see page 34).
- 2 Check the top tension (see page 61).
- 3 Re-thread the machine (see page 37).
- 4 Test your thread quality (see page 36).
- 5 Reset the hopping foot height (see page 44).
- 6 Check your needle (see page 75).
- 7 Oil and clean the machine (see page 71).
- 8 Clean the fabric sensors (see page 74).

## Troubleshooting Guide

| Issue                               | Possible Causes                                                                                 | Solutions                                                                                                                                           |
|-------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Machine won't turn on.</b>       | Loose cables                                                                                    | Unplug the power cord and firmly plug it back in (page 28).                                                                                         |
|                                     | Machine is not turned on                                                                        | Flip up the power switch on the back of the machine (page 28).                                                                                      |
|                                     | If your problem persists, contact a Grace Company support technician at <b>1-801-485-6688</b> . |                                                                                                                                                     |
| <b>Machine is skipping stitches</b> | Damaged needle                                                                                  | Check the needle (page 75).                                                                                                                         |
|                                     | Machine is improperly threaded                                                                  | Make sure all tensioners and guides are threaded correctly (page 37). Check for accidental double wrapping around the thread guides and tensioners. |
|                                     | Bobbin case is improperly threaded                                                              | Make sure the bobbin is properly installed in the bobbin case (page 33).                                                                            |
|                                     | Bobbin is improperly wound                                                                      | Make sure the bobbin is wound evenly and adjust the bobbin tensioner if needed (page 88).                                                           |
|                                     | Unbalanced thread tension                                                                       | Adjust the bottom thread tension (page 34), and then adjust the top thread tension (page 61) as needed.                                             |
|                                     | Improper distance between hopping foot and needle plate                                         | Reset the hopping foot height (page 77).                                                                                                            |
|                                     | If your problem persists, contact a Grace Company support technician at <b>1-801-485-6688</b> . |                                                                                                                                                     |
| <b>Thread is breaking</b>           | Damaged needle                                                                                  | Install a new needle (page 75).                                                                                                                     |
|                                     | Unbalanced thread tension                                                                       | Adjust the bottom thread tension (page 34), and then adjust the top thread tension (page 61) as needed.                                             |
|                                     | Machine is improperly threaded                                                                  | Make sure all tensioners and guides are threaded correctly (page 37). Check for accidental double wrapping around the thread guides and tensioners. |
|                                     | Bobbin case is improperly threaded                                                              | Make sure the bobbin is properly installed in the case. Insert the case firmly into the machine till it clicks in place (page 33).                  |
|                                     | Stitching in place for too long                                                                 | Keep your fabric moving to avoid stitches from building up in one place, or switch to regulated precise quilting mode (page 55).                    |
|                                     | Debris on tension discs                                                                         | Clean the machine (page 71).                                                                                                                        |
|                                     | Burred bobbin                                                                                   | Check the bobbin for sharp edges and replace if needed.                                                                                             |
|                                     | If your problem persists, contact a Grace Company support technician at <b>1-801-485-6688</b> . |                                                                                                                                                     |

## Troubleshooting Guide (continued)

| Issue                                           | Possible Causes                                                                                 | Solutions                                                                                               |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| <b>Thread is bunching up in the bobbin area</b> | Bobbin case improperly threaded                                                                 | Make sure the bobbin is properly installed in the bobbin case (page 33).                                |
|                                                 | Bobbin improperly wound                                                                         | Make sure the bobbin is wound evenly and adjust the bobbin tensioner if needed (page 88).               |
|                                                 | Machine improperly threaded                                                                     | Make sure all tensioners and guides are threaded correctly (page 37).                                   |
|                                                 | Unbalanced thread tension                                                                       | Adjust the bottom thread tension (page 34), and then adjust the top thread tension (page 61) as needed. |
|                                                 | If your problem persists, contact a Grace Company support technician at <b>1-801-485-6688</b> . |                                                                                                         |
| <b>Machine is running louder than usual</b>     | Hook assembly or other machine parts need oiling                                                | Oil the machine (page 71).                                                                              |
|                                                 | Bobbin winder is running                                                                        | Press the stop button on the bobbin winder to turn it off.                                              |
|                                                 | If your problem persists, contact a Grace Company support technician at <b>1-801-485-6688</b> . |                                                                                                         |
| <b>Other issue</b>                              | Contact a Grace Company support technician at <b>1-801-485-6688</b> .                           |                                                                                                         |

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For proper disposal for treatment, recovery, and recycling, please take these products to designated collection points where they will be accepted on a free-of-charge basis.

In some countries you may be able to return your products to your local retailer upon the purchase of a new product.

Disposing of this product correctly will help you save valuable resources and prevent any possible effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest collection point for WEEE.



This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- - Reorient or relocate the receiving antenna.
- - Increase the separation between the equipment and receiver.
- - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- - Consult the dealer or an experienced radio/TV technician for help.ct.

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.



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