

Regalia ST

Instruction and Reference Guide

Model BLRG20ST



FOR THE LOVE OF SEWING

To register your machine warranty and receive Baby Lock product updates and offers, go to babylock.com/login. If you have questions with registration, visit your Authorized Baby Lock Retailer.

Baby Lock Consumer Helpline: 800-313-4110

www.BabyLock.com

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How to Use this Manual

Special Information

-  **NOTE:** A NOTE indicates important information that helps you make better use of your Baby Lock product.
-  **IMPORTANT:** An IMPORTANT note provides information that is essential to properly using your Baby Lock product.
-  **CAUTION:** A CAUTION indicates a potential for causing harm to your quilting machine, the quilt, or to yourself.
-  **QUILTING TIP:** Baby Lock educators share tips to get you started quilting.

Finding Information

What are you looking for?	Find it here
Warranty Information	<i>User manual</i>
Safety Information	<i>User manual</i>
Regulatory Information	<i>User manual</i>
What's Included with Your Machine	<i>User manual</i>
Machine Specifications.....	<i>User manual</i>
Table Setup Information.....	<i>Table installation manual</i>
Machine Setup Information.....	<i>User manual</i>
How to Thread your Machine.....	<i>Quick reference card</i>
Needle System for your Machine	<i>Quick reference card</i>

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Package Contents/Included Accessories



Part Name

Regalia ST Quilting Machine
Bobbins (5)
Bobbin case
Needle (134) size 100/16 (pack of 10)
Needle (134) size 110/18 (pack of 10)
Thread tray and thread mast
Oiler
Power cord
Screwdriver
2 mm hex wrench
2.5 mm hex wrench
3 mm hex wrench
5 mm hex wrench
Open-toe foot (closed-toe foot installed)
Touchscreen display
Quick Reference Card
Baby Lock Bobbin Winder
USB Flash Drive

Part Code

BLRG20ST
BLJ-BOB
JW000586/
QM00586
134FG-100
134FG-110
QM00302
QM10271
JW020277
JW010269
QM10284
QM10286
JW010287
JW010289
QM10510
QM29302-0101
QRC BLRGST20
BLQBW
QM30293-02-BL

Important Safety Information

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. See the full Declaration of Conformity in the Appendix.

- ➔ **IMPORTANT:** Do not operate your Regalia quilting machine until you have completely read the information contained in this manual. Please keep all packaging and order information for warranty purposes.

IMPORTANT SAFETY INSTRUCTIONS

Read all instructions before using this machine.

When using this machine, basic safety precautions should always be followed, including the following:

DANGER — To reduce the risk of electric shock:

- A quilting machine should never be left unattended when plugged in. Always unplug the machine from the electrical outlet immediately after using and before cleaning.

WARNING — To reduce the risk of burns, fire, electric shock, or injury to persons:

- The Regalia ST is heavy. Never attempt to lift it alone. Always use two people when lifting and always lift from the throat of the machine. Always lift from the throat of the machine.
- Always unplug the Regalia from the electrical outlet when performing any maintenance, changing the needle, removing thread locks, or when left unattended.
- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Keep fingers away from all moving parts. Use caution around the needle or sharp external components.
- Change the needle often. Do not use bent or dull needles. “Every quilt deserves a new needle”.
- Switch the machine to the symbol off, or O, position to turn it off when making any adjustments in the needle area, such as threading needle, changing needle, threading bobbin, changing hopping foot, and so forth.
- Never drop or insert foreign objects into any opening.
- The Regalia ST should only be used indoors away from moisture.

- The Regalia ST should not be stored or used in extreme temperatures.
- Use the Regalia ST only for its intended use as described in this manual.
- To disconnect from the wall outlet, push the switch to the off position, then remove the plug from outlet pulling from the plug, not the cord. Never operate the Regalia ST if the cord is damaged or not working correctly. If a mechanical or electrical problem is encountered, return the Regalia ST to the nearest authorized Baby Lock Retailer for examination, repair, electrical, or mechanical adjustment.
- It is not recommended that the Regalia ST quilting machine be used with any table other than those recommended by Baby Lock.
- Use this quilting machine only for its intended use as described in this manual. Use only attachments recommended by Baby Lock as contained in this manual.
- Never operate the machine with any air openings blocked. Keep ventilation openings of the machine free from the accumulation of lint, dust, and fabric.
- Do not operate where aerosol (spray) products are being used or where oxygen is being administered.
- Do not pull or push the fabric under the machine excessively while stitching. It may deflect the needle, causing it to break.
- Use only needles designed for free-motion quilting and recommended by Baby Lock for this machine. Other types of needles may be break during normal quilting.
- Baby Lock strongly advises against children playing with the machine. Close attention is necessary when this machine is used by or near children.
- This machine is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction on the use of this machine by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with this machine.
- Cleaning and user maintenance shall not be done by children without supervision.

Save These Instructions

This machine is intended for household or commercial use only.

Disclaimer

Baby Lock and its Retailers are in no way legally responsible or liable for damage to the Regalia ST when used improperly or not in accordance with the guidelines stated in this manual or when used on machine quilting tables not recommended by Baby Lock.

To use the machine safely

1. Carefully watch the needle when sewing. Do not touch the handwheel, take-up lever, needle, or other moving parts while stitching.
2. Turn the machine off and unplug the cord in the following cases:
 - when you have stopped using the machine
 - when you replace or remove the needle or any other part
 - when you check or clean the machine
 - when you leave the machine unattended
3. Connect the machine directly to the wall outlet or to a surge protector that connects directly to the wall outlet. Do not use extension cords.

To increase the life of your machine

1. Do not store this machine in areas exposed to direct sunlight or high humidity. Never use or store the machine near a heater, an iron, a halogen lamp or other high heat producing appliances.
2. Use only neutral soaps or detergents to clean the machine. Benzene, solvents and scouring powders can damage the case and the machine and therefore should never be used.
3. Do not drop or bump the machine.
4. Always consult the manual to replace or attach the hopping foot, needle or any other part of the machine. If necessary, contact an authorized Baby Lock Retailer or Baby Lock Product Support.

California Residents:

**CALIFORNIA PROPOSITION 65 WARNING
PROPOSITION 65 DE L'ETAT DE CALIFORNIE
CALIFORNIA - PROPUESTA DE LEY NÚM. 65**

 **WARNING:** Cancer and Reproductive Harm - www.P65Warning.ca.gov

 **AVERTISSEMENT:** Cancer et dommages à reproduction - www.P65Warning.ca.gov

 **ADVERTENCIA:** Cáncer y daño reproductivo - www.P65Warning.ca.gov

To repair or adjust the machine

If the machine breaks down or needs adjustment, first check the troubleshooting chart in the appendix to inspecting and adjusting the machine yourself.

For more product information and updates, visit our website at www.BabyLock.com.

The contents of this manual and product specifications are subject to change without prior notice. Check for updated manuals and machine information at <https://babylock.com/support/>.

Recommended Use and Storage

1. It is recommended that our products be operated within in a temperature range of 60°F to 90°F.
2. Store products in a climate-controlled environment with the following provisions:
 - Store machine in the original packaging, which contains the internal supports designed specifically to maintain and protect the machine during transport or storage.
 - Detach cables and accessories before packing.
 - To best protect your electronics, store them in the original packaging, especially any that arrived in antistatic containers.
3. Storage or use in an environment other than what is recommended may result in
 - Damaging condensation
 - Rust
 - Premature wear
 - Overheating
 - Poor performance
 - Shortened battery life
4. The tablet warranty, if applicable, is VOID if the tablet is stored in temperatures below 32°F or above 110°F. Do not leave the tablet in a vehicle or other enclosed space where the temperature may exceed 110°F.
5. If the product is stored at a temperature above or below the recommended operating range, allow the machine to acclimate to the room temperature prior to use.

About Your Machine

General Specifications

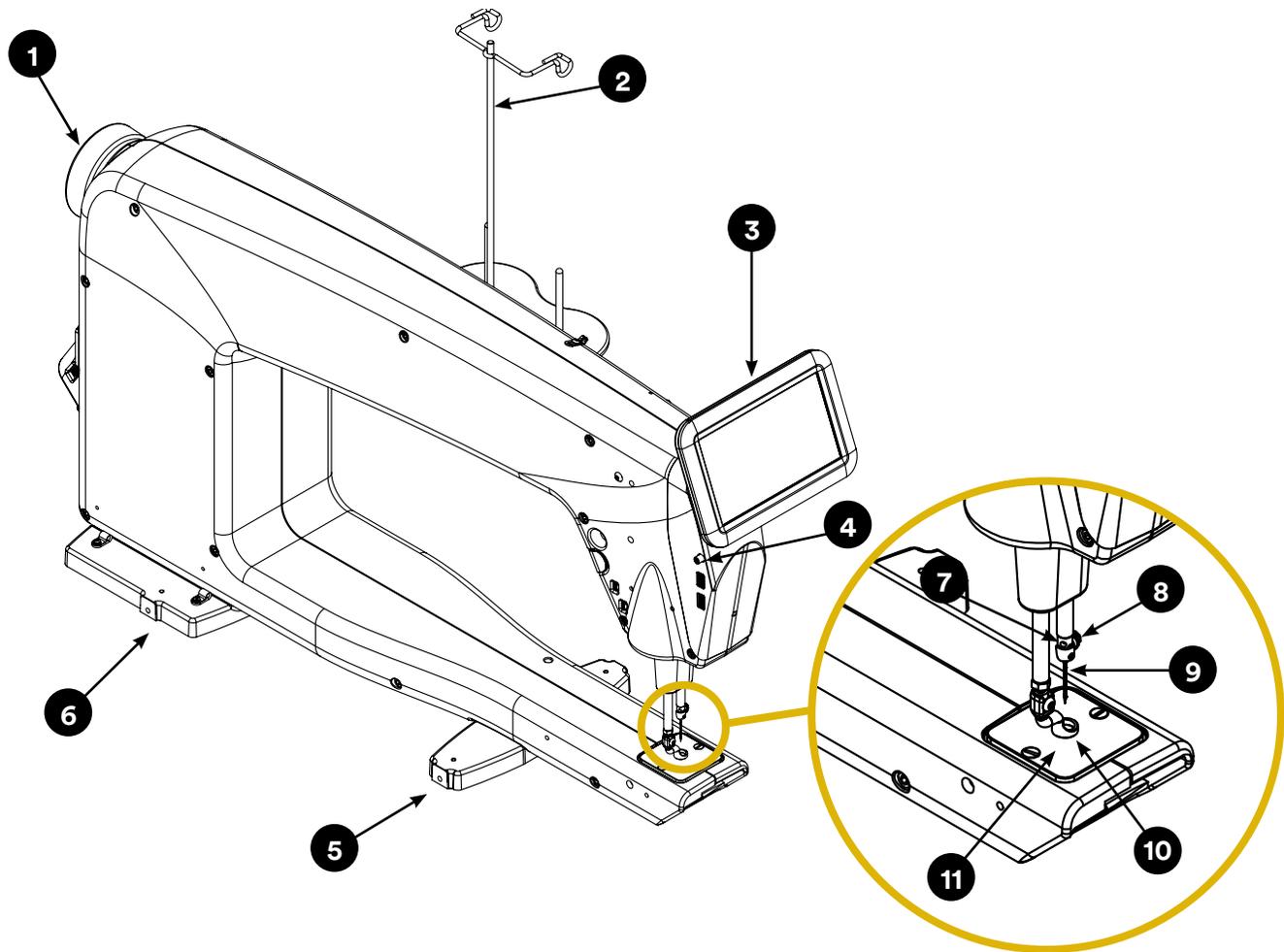
The Baby Lock Regalia ST uses high-tech electronics and an innovative touchscreen user interface to offer greater functionality and ease of operation to quilters than ever before conceived in the quilting industry. The Regalia ST quilting machine is a high-quality machine that incorporates robust design features, making it easy to service.

Sewing Opening Dimensions	(228 mm X 521 mm) 9 inches X 20.5 inches
Sewing Speed	Manual Mode: from 25 stitches per minute to 2500 stitches per minute Regulated Mode: from 0 stitches per minute to full speed
Stitches Per Inch	5 stitches per inch to 24 stitches per inch Basting mode: one stitch per quarter inch, one stitch per half inch, one stitch per inch, one stitch every two inches, and one stitch every four inches
Needle System	134
Needle Sizes (recommended)	From 80/12 to 130/21
Hook System	Rotary, Horizontal Axis, M-class bobbin
Bobbin Type	Aluminum, Class M
Bobbin Case	Type MF
Motor Type	Brushless DC
Needle Positioning	Up and down, walking stitch, onscreen handwheel
Electrical Power	100-240 VAC, 50-60Hz, 1.5-3.3A

This machine conforms to UL and international safety standards for sewing machines and US and international laws for electromagnetic compliance.

Outlet Power	120 watts maximum
Sew Foot Stroke/Lift	5 mm
Needle Bar Stroke	35.3 mm
Take-Up Stroke	73 mm
Lubrication, main components	Kluber Lube, permanent
Lubrication of hook	Velocite 10, Texaco 22

Get to Know Your Regalia ST

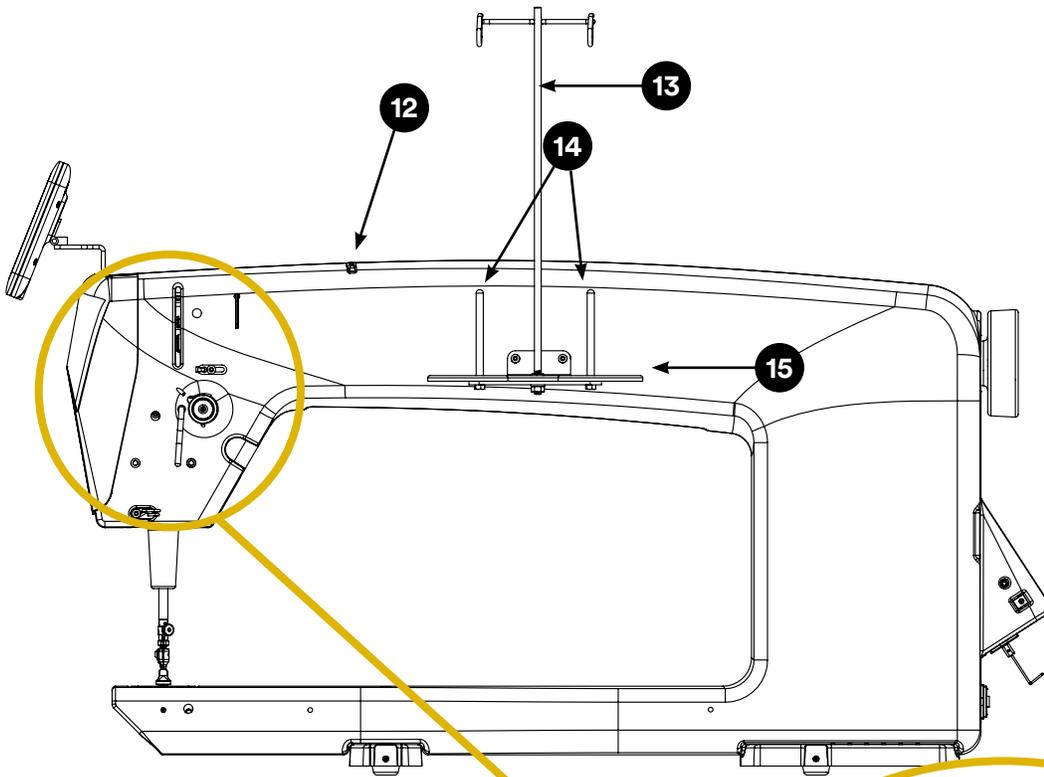


Side View

1. Handwheel
2. Thread mast
3. Touchscreen display
4. Front on/off switch
5. Front Base
6. Rear Base

Close-up View of Needle Area

7. Needle stop/sight hole
8. Needle bar clamp screw
9. Needle
10. Hopping foot
11. Needle plate

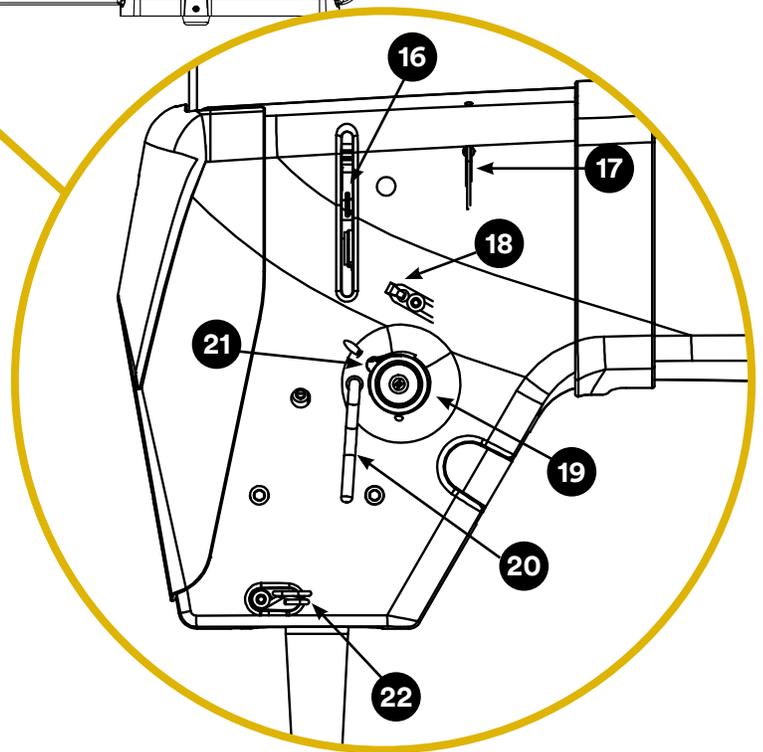


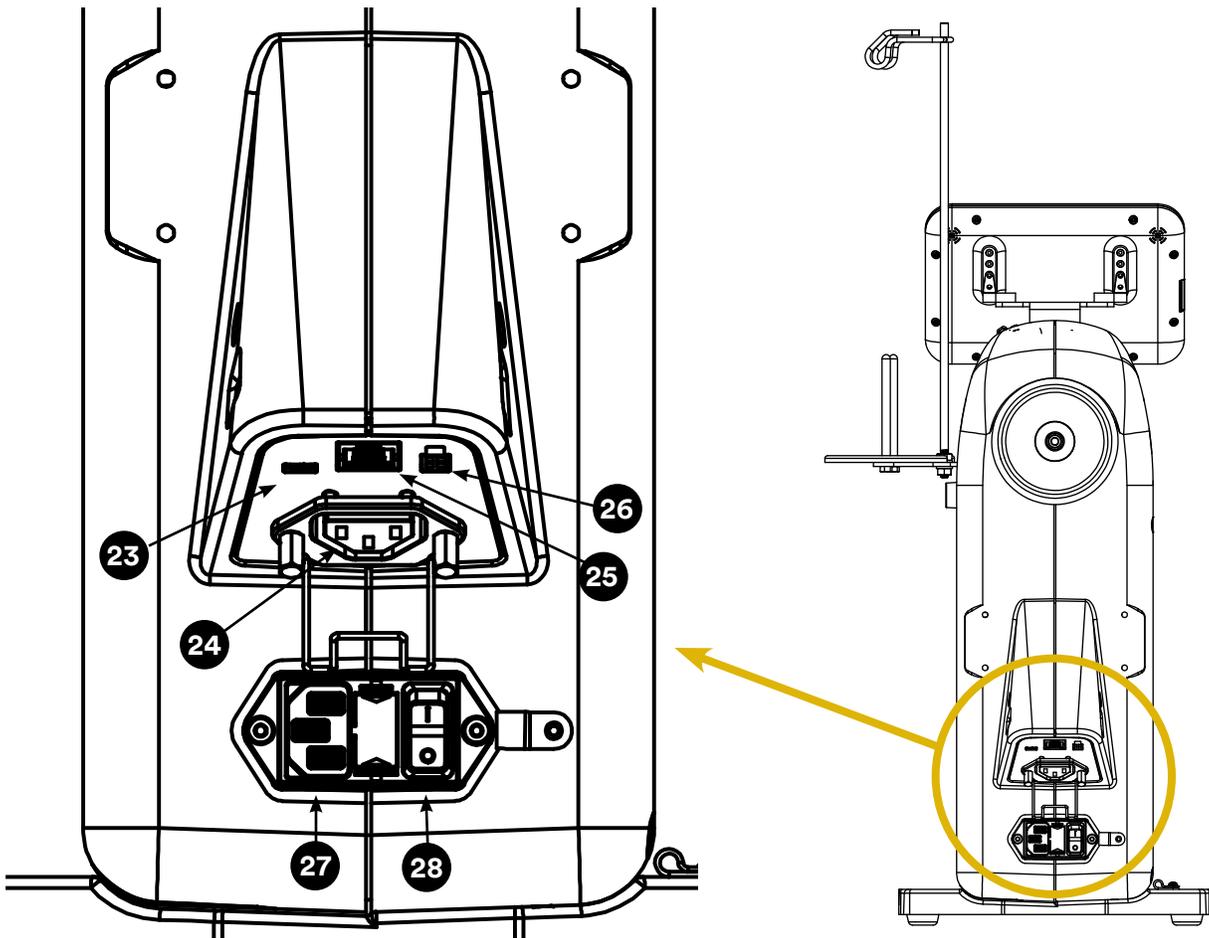
Right Side

- 12. Thread guide
- 13. Thread mast
- 14. Thread spool posts
- 15. Thread tray

Close-up of Tension Assembly

- 16. Thread take-up lever
- 17. Three-hole thread guide
- 18. Thread guide
- 19. Top tension assembly with take-up spring
- 20. Thread stirrup
- 21. Thread break sensor
- 22. Lower thread guide





Machine Connections

- 23. Machine rear display connection (not used)
- 24. Machine auxiliary power connection (not used)
- 25. Machine to handlebar connection (not used)
- 26. Machine to Pro-Stitcher communication (not used)
- 27. Main power connection
- 28. Main on/off power switch connection

Installation and Setup

Installing the Power Cord

Check that the On/Off switch is turned off (the 0 setting). Plug the power cord into the side power outlet on the back of the machine. Do not plug the power cord into a power source at this time.

The top power connector is available for powering future attachments (not available at this time) as they are developed by Baby Lock.



Installing the Foot Pedal

1. Plug in the foot pedal cord end into the foot pedal connector that is attached to the table.
2. Place the foot pedal under the table at the front, under the machine, for easy operation.

Installing the Thread Mast

1. Locate the two small M4x10mm hex button head screws and the thread mast assembly.
2. Align the screws in the thread mast bracket with the two holes in the side of the machine (top tension side). Use a 2.5mm hex tool to tighten the bracket firmly to the side of the machine.



Machine Head USB Port (included)

To be used to power accessories, NOT for programming, which is done through the USB port on the front display.

Horizontal Spool Pin (optional accessory, part #BLJ18-HS)

For certain thread types, it's recommended that you use a horizontal spool pin for better tension results.

Installing the Color Touchscreen

The Regalia ST comes with a touchscreen front display.

To install the front display

1. For the front display, locate the four 4-40 screws and a small Phillips screwdriver (not provided). You'll also need the display with the hinges attached to the bottom row of connectors on the back of the display.
2. Insert the 4-40 screws into the openings on the display's metal hinge. Align the screws in the hinge with the holes on the display bracket. Use the small Phillips screwdriver to fully tighten the screws.



3. Plug the USB mini B cable (with 90° connection), coming out of the top front cover, into the back of the display. This cable provides power and signal connection from the machine to the display.

 **NOTE:** The USB connection on the right of the display is used for updating the display and the machine software.

 **IMPORTANT:** Note the other connections on the bottom of the display for power and audio are not functional. Also, the SD card slot on the left of the display is not used at this time.



Using Your Machine

Power Switch

There are two power switches on the Regalia ST. The main power switch is at the rear of the machine, and the secondary switch is at the front of the machine for added convenience.

The machine is turned on when both switches are turned on. The machine is turned off when both switches are off. However, you may turn off the machine functions by turning off only the front switch if you will be returning to quilting within a day.

Turn on the back switch first by toggling the switch from the "O" position to the "I" position. Then press the front power button. The front power button will not turn on the machine unless the back switch is on.

➤ **IMPORTANT:** If you will not be using the machine for more than a day, we recommend that both switches are turned off and the power cord is unplugged from the power source.

➤ **IMPORTANT:** Refer to the safety instructions.

Lighting

The Regalia ST is equipped with several lights for better visibility when quilting. There are two lights under the throat of the machine providing light to the quilting area and a light ring that illuminates the needle and stitching area. There is also a bobbin area light. For additional lighting, consider a task light.

Turning the lights on and off is controlled through the touchscreen display. For more information about turning on the machine lights, see "To control the lights on the machine" in the Toolbar Options section of this manual.

Machine Needle

Use only the recommended needle system for your Regalia ST quilting machine. The machine was timed to use this specific type of needle (System 134) and it is designed to work with the high quilting speeds and multi-directional stitching the Regalia offers.

The Regalia ST uses the 134 needle system. This needle type has a round shank rather than a shank with a flat side like home sewing machines use.

Using the recommended needle type, you will experience

- Fewer skipped stitches
- Less needle breakage
- Less thread breakage, especially at high speeds
- Less thread splicing or shredding
- Optimum fabric protection

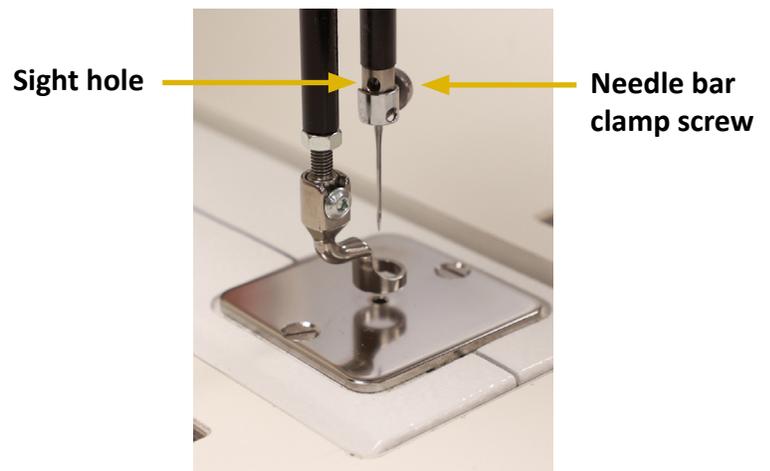


➡ **IMPORTANT:** Change the needle regularly. Baby Lock recommends using a new needle for each new quilt and any time the needle becomes bent, dull, or burred.

⚠ **CAUTION:** A damaged needle may result in poor stitching quality and/or may even damage the machine or your quilt.

To change the needle

1. Move the needle bar to the up position by pressing the needle up/down control on the touchscreen.
2. Turn off all power to the machine.
3. Loosen the needle bar clamp screw with the 2.5mm hex wrench.



4. Remove the old needle by pulling it down. Safely discard the old needle.

5. With the scarf of the needle (indentation at the back of the needle just above the needle eye) facing the rear of the machine and the long groove down the front of the needle facing the front of the machine, push the needle all the way up into the needle bar until it stops. Check the sight hole in the needle clamp to verify that the top of the needle can go no farther up.



Scarf at back of needle just above eye



Long groove at front of needle - shoulder to eye

△ **CAUTION:** Check the needle to confirm it is fully inserted. The needle bar has a sight opening above the needle bar clamp screw. Make sure the needle is touching the top of the sight opening. If it isn't, the machine timing will be off and it may be possible for the needle to collide with internal parts, causing damage not covered by warranty.

6. Carefully tighten the needle bar clamp screw.

△ **CAUTION:** Although you can use your fingers to tighten the needle bar clamp screw, we recommend that after finger-tightening the screw, use the 2.5mm hex wrench to tighten it a bit more. The Regalia ST runs at very high speeds and this ensures the needle will not loosen while quilting. However, do not over tighten the needle clamp screw, as this may strip the threads of the screw. Stripped threads are not covered under the warranty. It may also become difficult to insert the needle properly into the needle bar. Once the screw no longer turns freely by hand, gently turn the screwdriver until the screw is tightened snugly.

Needle Size	Thread Size
12 and 14	monofilament, 100 wt. silk, 60 wt. polyester, mylar
16	monofilament, mylar, 100 wt., 80 wt., 60 wt., 50 wt., 40 wt. silk, polyester and cotton thread
18	40 wt. cotton and polyester, 30 wt. cotton and polyester
19 and 21	Any thread 30 wt. and heavier such as 12 wt., 19 wt., 30 wt.

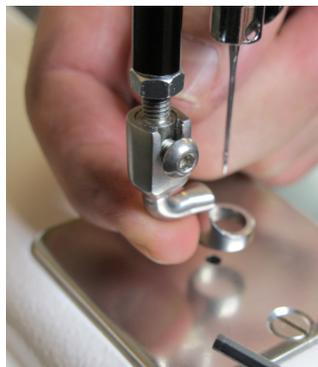
- ✦ **QUILTING TIP:** A size 16/100 needle will accommodate most threads and fabrics. Heavier threads, such as top stitch and some decorative threads, require a larger needle such as 18/110 or 21/130. Lofty batts and heavier fabrics such as denim, canvas, or densely woven fabric may also require a larger needle.

Hopping Feet

The Regalia ST comes with two hopping feet: a closed-toe foot (installed) and an open-toe foot. Use the closed-toe foot for everyday quilting and the open-toe foot for greater visibility when stitching (for example, micro quilting).

To change the hopping foot

1. Remove the foot on the mount using the 2.5mm hex wrench to loosen the mounting screw far enough to slide the foot off the mount.
2. Slide the desired foot onto the mount. The opening on the side of the foot will line up with the screw insert. Push the foot up as far as it will go.
3. Tighten the foot the 2.5mm hex wrench.



4. Ensure the middle of the foot opening is centered with the needle when the foot is fully tightened with the 2.5mm hex wrench. If it isn't properly centered, loosen the lock nut on the foot adaptor with an 8mm wrench, center the foot with the needle; hold the foot firmly in position; and tighten the lock nut.



 **NOTE:** Before threading the needle, test that the machine is threaded properly and the tension is correct by carefully pulling the top thread. It should pull smoothly with light to medium tension. If thread pulls freely with no tension, rethread the machine, ensuring that the thread is flossed into the tension discs.

 **IMPORTANT:** The Regalia ST does not have a presser foot lever or top tension release like a home sewing machine. On a home sewing machine the top tension is released when the presser foot is raised, allowing the thread to come freely out of the machine. When a home machine is threaded the tension discs are released and open to allow the thread to easily fall between the tension discs. This isn't the case with the Regalia ST quilting machine. The top tension is always engaged and the tension discs are never open. Therefore the thread must be pulled up, or flossed, between the tension discs or it will stay outside the discs and float without tension, causing serious tension problems and/or thread nests.

Bobbin and Bobbin Tension

The Regalia ST quilting machine uses M-class bobbins, which are larger than home sewing machine L-class bobbins. The larger bobbins hold more thread for more quilting time between bobbin changes.

The Regalia ST also has a low-bobbin alarm. For more information about the low-bobbin alarm, see "*To configure the low-bobbin alarm settings*" in the Toolbar Options section of this manual.

To wind the bobbin

The Regalia ST comes with a separate bobbin winder. For full instructions about using the bobbin winder, see the instruction manual packaged with the bobbin winder.

To insert the bobbin into the bobbin case

△ **CAUTION:** To prevent personal injury, **always turn off the front power switch** while inserting and/or removing the bobbin case or anytime your hands are near the needle area, to prevent personal injury.

1. Place the bobbin in the bobbin case so that the thread pulls off the bobbin clockwise when viewing the open side.
2. Slide the thread through the slot and under the tension spring, leaving approximately 5" to 6" thread tail.



To test bobbin tension

The bobbin tension is the foundation for stitch tension. Always set the bobbin tension first.

✎ **NOTE:** Check the bobbin tension each time a new bobbin is inserted.

1. With the bobbin properly in the bobbin case, hold the bobbin case in the palm of your hand with the open side facing up.
2. Wrap the thread tail two to three times around the index finger of the opposite hand and attempt to lift the bobbin up by the thread. The bobbin case should stand up on its side, and slightly lift out of your hand. If the bobbin will not stand up on its side, the bobbin tension is too loose. If it lifts completely out of your hand and hangs by the thread, the bobbin tension is too tight.

To adjust the bobbin tension

Adjust the tension using the screw in the center of the tension spring. (The larger of the 2 screws) Turn clockwise to tighten and counterclockwise to loosen the tension. Make tiny adjustments to the bobbin tension and test again.



To insert the bobbin case into the machine

1. Position the needle in the up position. Turn off the power to the machine using the front button.
2. Place the bobbin in the bobbin case with the thread pulling off clockwise when viewing the open side of the bobbin case.
3. Slide the thread through the slot and under the tension spring, leaving a 5" to 6" thread tail.
4. Position the bobbin case onto the hook spindle in the machine, orienting the bobbin case as shown in the photo. Align the notch to the right and push the bobbin case inward until it clicks into place.



 **NOTE:** Do not insert the bobbin case into the machine by lifting the lever on bobbin case. Use the lever only for removing the bobbin case.

Tension

One of the joys of quilting with the Regalia ST is its ability to handle a wide variety of thread types. Quilt with almost any high-quality thread, making sure to adjust the bobbin tension first, followed by the top tension for the selected thread.

Puckering, gathers, and thread breakage occur when the top tension is too tight. Loops and thread nests occur when the top thread tension is too loose. Tension may need to be adjusted depending on the fabric, thread, or batting being used on the project.

 **NOTE:** Top tension should be adjusted after the bobbin case tension adjustment is made.

 **NOTE:** Dark threads will be thicker (because of dye) than light threads of the same weight and may require a tension adjustment. The type or brand of thread may also affect tension settings. Each time you change threads, the tension settings should be checked.

➤ **IMPORTANT:** Before adjusting your top tension remember to floss the top thread between the tension discs or it will float outside the discs providing little or no top tension. This could cause significant tension or thread nesting problems.

✦ **QUILTING TIP:** Test the tension settings before quilting. The best way to make sure the top and bottom tension settings are balanced is to test the stitching using a fabric scrap. Keep 4-inch squares of light solid fabric on hand to place at the side of the quilt on the extra batting and backing. Then stitch loops, swirls, and straight lines. Look at the stitches on top and underneath to ensure the tension looks good. Fine-tune the tension as needed.

To adjust the top tension

1. Test stitching with a fabric scrap placed on the extra batting and backing at the side of the quilt.
2. Adjust the tension by turning the tension dial clockwise to tighten and counter-clockwise to loosen. The tension value appears on the touch screen. The value changes as you turn the tension dial.
3. Continue to test the stitching on the fabric scrap and adjust the tension until the stitches are ideal for the project.



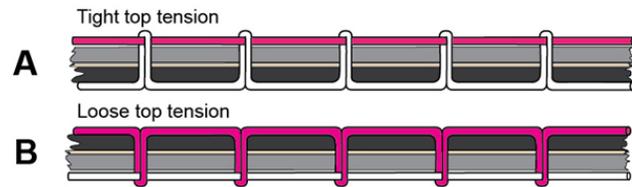
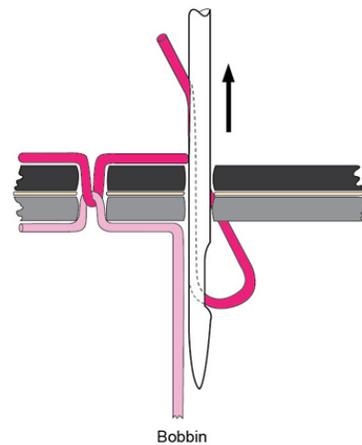
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Tension Quick Start Guide

Bobbin adjustments are minute, like ticks of a clock.

1. Always adjust the bobbin tension first.
2. Stitch to check top tension.
3. If thread looks like Diagram A
Problem: The top thread is too tight. **Solution:** Turn the top tension dial counter-clockwise to loosen the top tension.
4. If thread looks like Diagram B
Problem: The top thread is too loose. **Solution:** Turn the top tension dial clockwise to tighten the top tension.



Threading the Machine

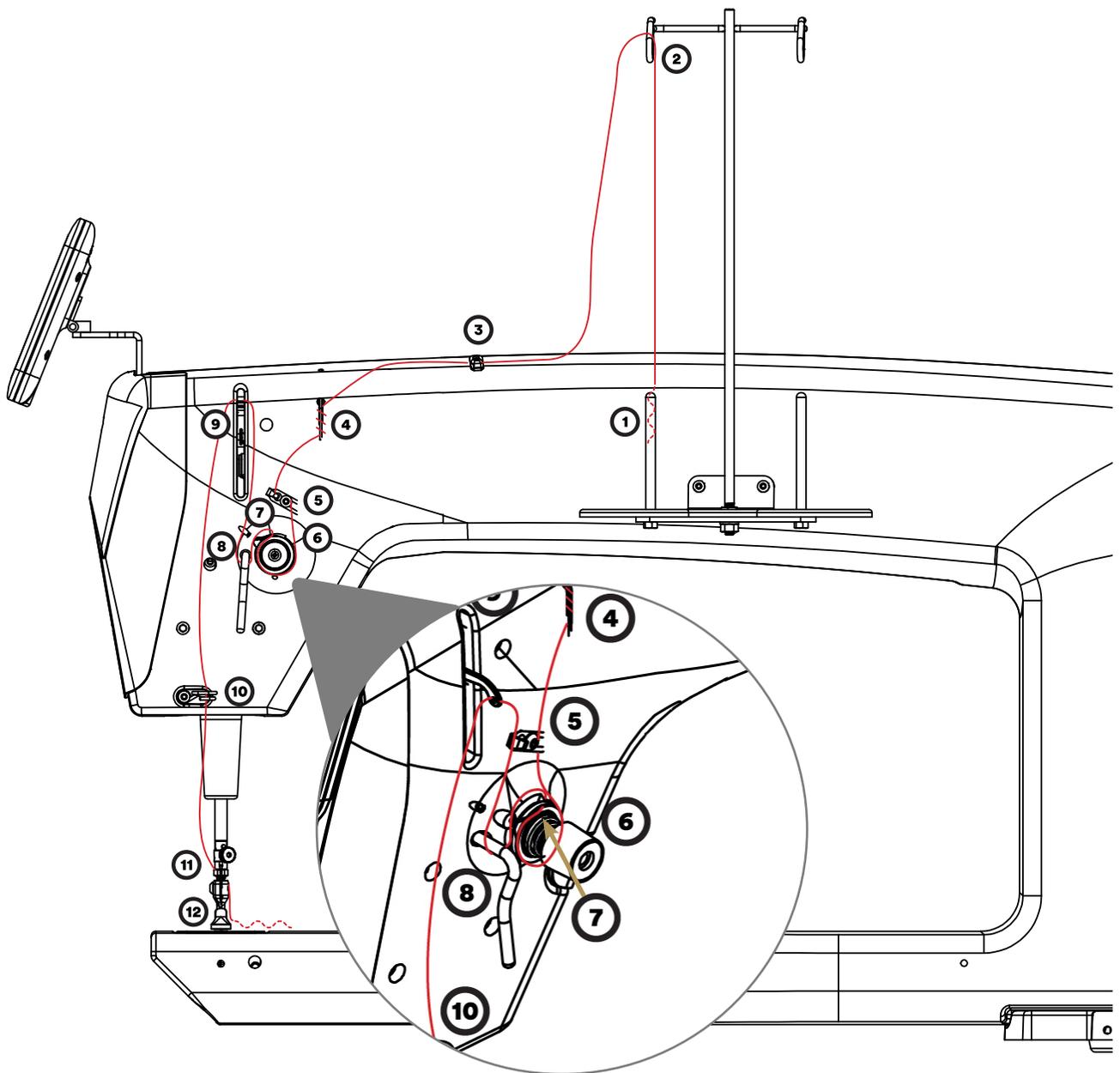
Baby Lock recommends that selecting and using only high-quality threads for your quilts.

To thread the machine

1. Place thread cone onto spool post ① on the thread tray, insert the thread through the thread-mast eyelet ② from back to front, sliding the thread into the guide ③.
2. Continue to the three-hole thread guide ④. Thread each of the three holes from back to front, wrapping the threads on the guide, being careful not to cross the threads. Threading the three holes is recommended for most threads. However, some very delicate threads or metallic threads may require less tension, using only one or two holes. If you are experiencing thread breaks, try threading only one or two holes on the thread guide.
3. The thread continues down to thread guide ⑤ just above the top tension and then on to the top tension assembly ⑥.

➡ **IMPORTANT:** The thread must be flossed between the two tension discs. If the thread is not firmly in place between the two tension discs, the thread will lay on top of the tension discs (no tension) and thread looping on the bottom of the quilt can occur.

4. With the thread is in place between the tension discs, guide the thread into the take-up spring. Place the thread under the stirrup thread guide (8).
5. Bring the thread up and through the hole on the take-up lever (9) from back to front, to and through the pigtail thread guide (10), and through the needle bar thread guide hole (11).
6. The thread will follow the groove down the front of the needle. Insert the thread through the eye of the needle from front to back (12). While pulling thread through the eye of the needle, be careful that the thread does not twist around the needle.



Quilting with the Regalia ST

Preparing to Quilt

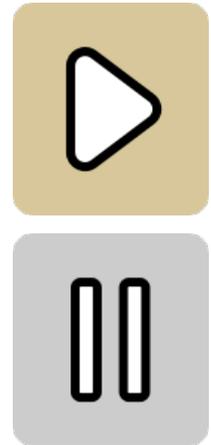
1. Make sure the machine has been cleaned, oiled, has a new needle, and that the table is free from threads or other debris. If the machine isn't already plugged in, plug it in.
2. Wind one or more bobbins from the selected thread.
3. Turn on the main power switch at the back of the machine, and using the front power button on the left side of the machine, turn the machine on or off as needed.
4. Thread the needle and insert the bobbin. Set the bobbin and top tension.
5. After loading your quilt, use a 4" fabric scrap along the edge of the quilt backing and batting to test the top tension. Make any adjustments to the tension as needed.

To bring bobbin thread to the top of the quilt

1. Firmly holding the needle thread with your left hand, choose one of the following methods to cycle the needle through one full rotation to bring the bobbin thread to the top of the quilt.
 - A. Foot Pedal Method. **LIGHTLY** tap the foot pedal to make the needle go down. Then **LIGHTLY** tap again to bring the needle up.
 - B. Needle Up/Down Button Half-Stitch. Find the Needle Up/Down Button in the center of the color touchscreen main display. Press once to cycle the needle down. Press again to cycle the needle back up.
 - C. Needle Up/Down Button, Full-Stitch. Find the Needle Up/Down Button in the center of the color touchscreen main display. Press and hold briefly to cycle the needle through one complete stitch cycle (down and back up).
2. Pull the fabric 3-4 inches away while holding the needle thread.
3. The bobbin thread will pull up to the top of the quilt. Grasp the loop and pull the thread tail (loop) to the desired length.

To start or stop quilting

- Much like a domestic sewing machine, the foot pedal can be used to control the speed of the machine as it stitches. The more the pedal is pressed, the faster the machine stitch.
- The **Start/Stop** button on the bottom left of the screen may be used to start and stop the machine instead of using the foot pedal. When the **Start/Stop** button is pressed, the machine will start, even if the foot controller is not pressed, and the symbol on the button will change from the play arrow to a double line pause icon; the button color will turn gold. When the button is pressed again, the machine will stop, and the pause icon (gray background color) will become the play icon with a gold background.
- When the foot pedal is pressed, the button color and icon show that the machine is running by changing the button to the pause icon and blue background. When the foot pedal is released, this button will return to the gold button with the play icon.



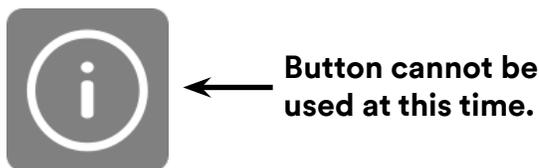
Using the Touchscreen Displays

The Regalia ST touchscreen displays on the front of the machine. Use the display to alternate between stitch regulation and manual operation. Make changes to the control settings to set your machine preferences and tools, such as counting stitches on a quilt or logging how much time it took to finish your quilt, and more, depending on your quilting needs.



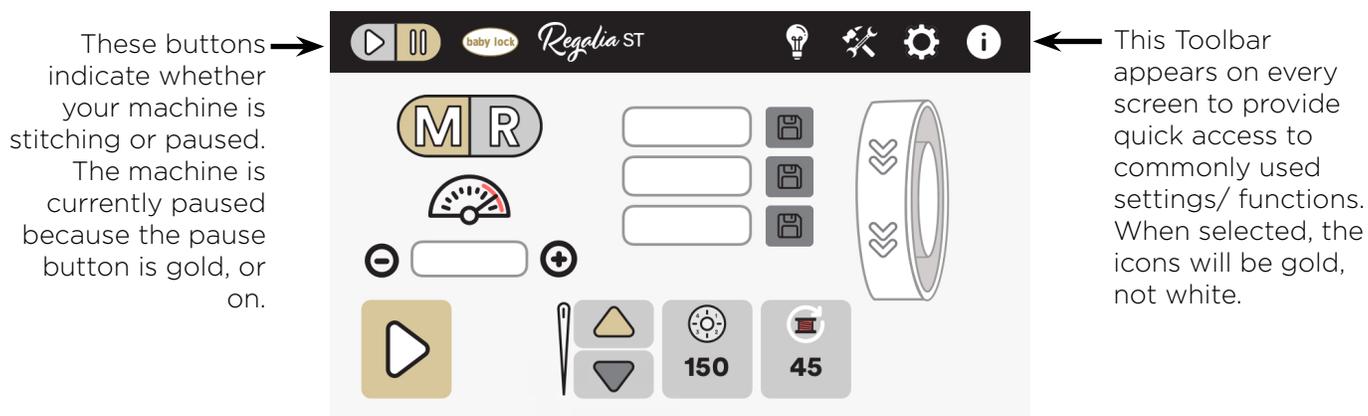
Buttons are selected, or on, when they are gold and display black text or graphics. Buttons are off when they are gray and display white or lighter gray text or graphics. When you touch a button, it will toggle on or off, open a pop-up box for you to enter information, or open a screen with more options.

If a button cannot be used, usually because another process is underway, it will be gray.



Overview of the Main Screen

The Regalia ST main screen provides quick access to all functions.





Touch this icon to open the **Lights** screen. For more information about turning lights on and off, see **Controlling the lights** in the **Toolbar Options** section of this manual.



Touch this icon to open the **Tools**. For more information about the various tools, see **Machine Tools** in the **Toolbar Options** section of this manual.

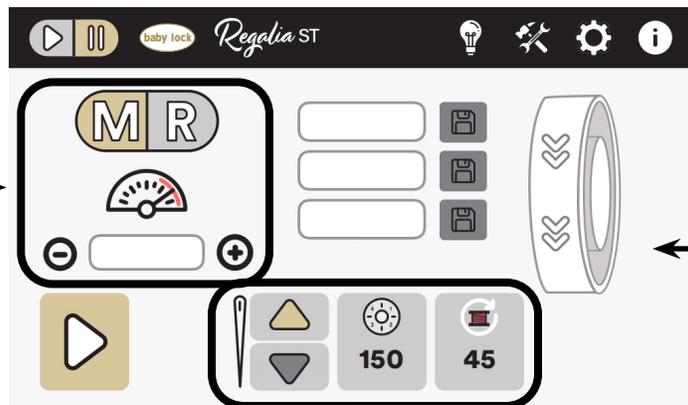


Touch this icon to open the **Settings**. For more information about the various settings, see **Machine Settings** in the **Toolbar Options** section of this manual.



Touch this icon for system information, as well as a machine threading guide and needle/thread guide. For more information about the system information that is available, see **Information Screens** in the **Toolbar Options** section of this manual.

This area of the main screen controls the stitching modes. It is currently set to manual mode. It also shows the current stitches per minute setting and three stitches-per-minute presets. This area changes according to the selected stitching mode



The on-screen handwheel enables you to rotate the machine's handwheel from the main screen rather than reaching around to manually make this change.

These buttons remain the same regardless of the selected stitching mode.



Start/Stop buttons: Use this button on the bottom left of the screen to start and stop the machine instead of the foot pedal. When the **Start/Stop** button is pressed, the machine will start, even if the foot controller is not pressed, and the symbol on the button will change from the play arrow to a double line pause icon. The button color will change to gold. When the button is pressed again, the machine will stop and the pause icon with a gray background color will turn into the play icon with a gold background. The foot pedal does not need to be pressed in this application.

When the machine foot controller is pressed, the button color and icon show that the machine is running by changing the button to the pause icon and blue background. When the foot pedal is released, this button will return to the gold button with the play icon.



Needle-stop button: Touch the button to alternate between having the needle stop in the up or down position. When the stop/start button is selected to stop stitching, the needle-stop position is gold.

This button does not move the needle but rather indicates your preference for the final needle position when quilting is stopped.



Reset-bobbin button: Press this button after a bobbin change when using the low-bobbin alarm. This will reset the low-bobbin reading to indicate a full bobbin is being used. The number indicates an estimate of how much thread remains on the bobbin. This number updates while quilting. As the number approaches zero, this indicates the bobbin is running out of thread. For more information about the low-bobbin settings, see *"To add a new bobbin configuration"* and *"Record bobbin capacity"* in the **Toolbar Options** section of this manual.

- **IMPORTANT:** Touch this button only to reset the bobbin capacity to indicate a full bobbin. To open the Low Bobbin Alarm screen, select the **Machine Settings** toolbar button and then select the **Low Bobbin Alarm** screen.

To use the on-screen handwheel



The on-screen handwheel enables you to rotate the handwheel from the Main screen rather than reaching around the machine to do it manually.

Drag your finger down from the top of the on-screen handwheel (in the direction of the arrows) to cycle the needle bar and the presser bar.

 **NOTE:** If necessary, move your finger in an upward motion to turn the handwheel in the opposite direction. Typically, this handwheel is only moved down.

Stitching Modes

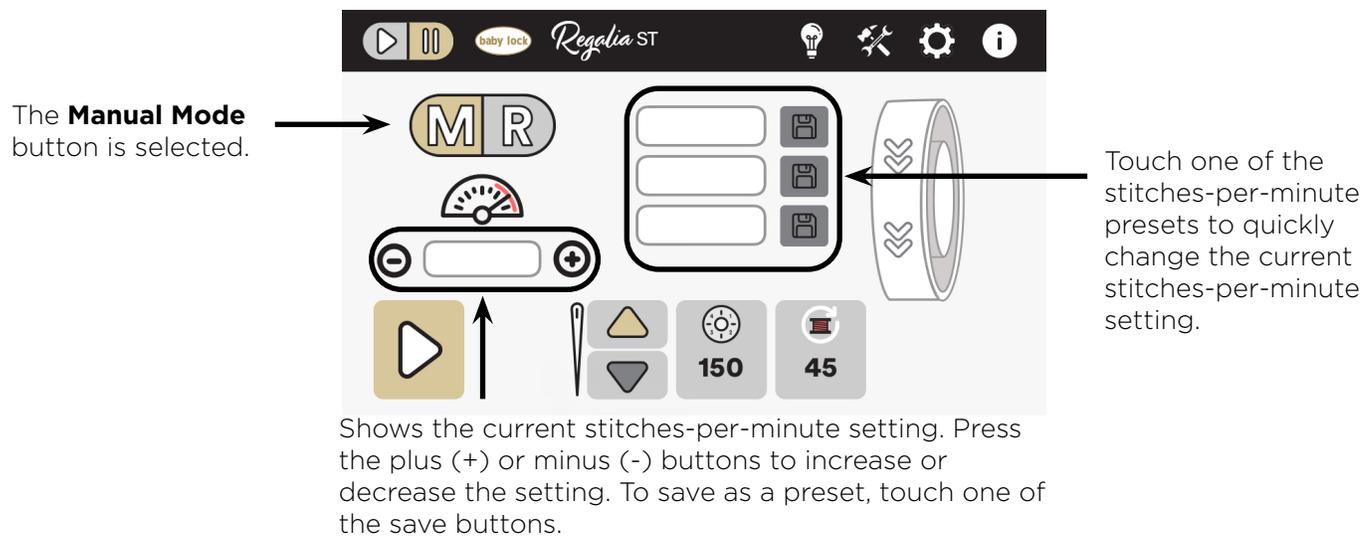
The Regalia ST enables you to choose between two stitch regulation modes (Cruise or Precision), manual stitching mode, and a Basting Stitch Mode.

Manual Stitching Mode

When using the manual stitching mode, the stitch length is determined by how quickly or slowly the fabric is moved and the number of stitches-per-minute (up to 2,500) that is selected. For a consistent stitch length, the fabric needs to be moved at a consistent speed. Experiment with different combinations of quilting speed and stitches per minute to find the optimal setting that works for you.

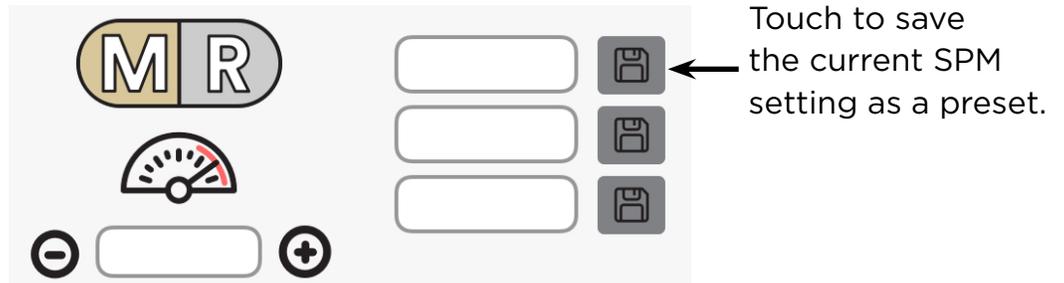
To use manual stitching mode

- Touch the **Manual** button and then specify the stitches-per-minute (SPM) by pressing the **plus (+)** or **minus (-)** buttons on the screen or selecting one of the stitches-per-minute presets.



To configure the manual stitching mode preset speeds

The manual stitching mode preset speeds are three different stitches-per-minute speeds, that are saved for quick access from the Main screen. After the speed is set, select one of the presets when in Manual stitching mode. This setting becomes the current speed. For example, you set one preset for the speed you prefer for continuous line free motion quilting, a different speed for ruler work, and yet another speed for micro quilting.



1. Select Manual stitching mode by touching the **Manual** button.
2. Press the plus (+) button to increase or the minus (-) button to decrease the current stitches per minute setting. Touch the save button next to one of the stitches per minute presets to save the current setting as a preset.

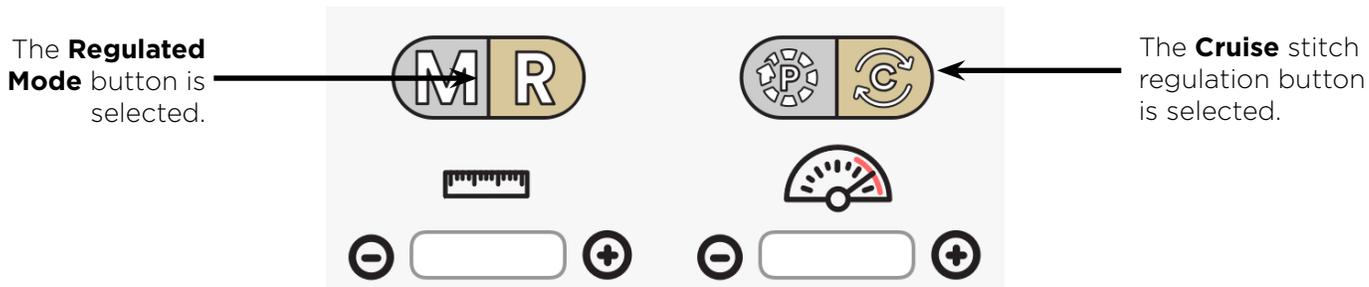
✦ **QUILTING TIP:** Set the machine at a medium speed (such as 1000) and begin moving fabric until you become accustomed to the resistance. By moving the fabric faster, the stitches will begin to elongate. To adjust the look of the stitch, either increase the speed or move the fabric slower to get the desired stitch length. By moving the fabric slower, the stitches get shorter and can build up on top of each other, break the thread, or make it extremely difficult to remove. The stitching speed can be decreased, while maintaining a constant motion with the fabric to bring the stitches to the desired length.

Stitch Regulation Mode

There are two stitch regulation modes: Cruise and Precision.

To use Cruise stitch regulation

- Touch the **Regulated** button and then touch the **Cruise** button.



After pressing the **Start/Stop** button, the Start stitching indicator in the upper-left corner of the screen turns gold and the needle begins moving up and down according to the cruise speed or stitches-per-minute setting.

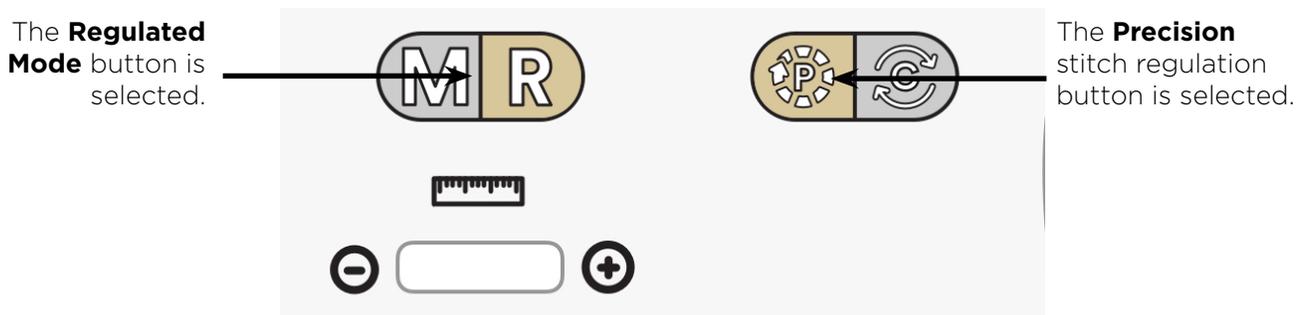
When moving the fabric, the needle will move according to the stitches-per-inch setting. Similarly, when the fabric is stopped, the needle will continue moving at the cruise speed (stitches-per-minute) until you press the **Stop** button on the touchscreen.

The minimum speed of the needle is dependent upon the stitches-per-minute setting you choose. Baby Lock recommends beginning with a setting of 200. Begin moving the machine immediately after pressing the **Start/Stop** button to avoid stitching in place for too long.

- ✦ **QUILTING TIP:** The constant minimum stitching speed featured in the Cruise stitch regulation is useful when creating sharp points such as the point of a star or the bottom of a heart.

To use Precision stitch regulation

- Touch the **Regulated** button and then press the **Precision** button.



After pressing the **Start/Stop** button on the touchscreen, the fabric must be moved for the machine to begin quilting according to the stitches-per-inch setting. The Start button in the upper-left corner of the screen turns gold but the needle doesn't automatically begin moving up and down. Begin moving the fabric to begin stitching. Stitching pauses when the fabric is not moved and will start once the fabric is moved. To stop stitching, press the **Start/Stop** button on the touchscreen.

-  **NOTE:** When using Precision Stitch regulation, if you stop moving the fabric but do not press the **Start/Stop** button, after two minutes it will time out and a message box appears to let you know you will need to press the **Start/Stop** button to resume quilting.

-  **CAUTION:** Always make sure the power is off when changing the needle, replacing the bobbin, or placing your hands near the needle to avoid unwanted stitching.

-  **QUILTING TIP:** Precision (stitch regulation) Mode is useful for ruler work. Stitch along the length of the ruler the span of your hand and stop moving the fabric, but do not press the Stop button. When the fabric is stopped, the needle pauses. Move the ruler and then begin moving the fabric to continue quilting. Precision (stitch regulation) Mode helps prevent bobbles and uneven stitches. Precision Mode is also perfect for precise backtracking or over-stitching, such as backtracking over the tops of feathers.

-  **QUILTING TIP:** To get started with Cruise (stitch regulation) Mode, set the machine to the desired stitch length. Begin moving the fabric. The machine motor will slow down or speed up to maintain a consistent stitch length according to how quickly or slowly the fabric is moved. Moving the fabric too fast or in radical or jerky movements will defeat the stitch regulator function.

-  **QUILTING TIP:** Regarding the quilting speed while in Cruise (stitch regulation) Mode, it is unlikely that you will move the fabric along the table too fast. However, if you do, it will result in an over-speed condition, and the machine will not maintain stitch regulation. An over-speed alarm, if turned on, will alert you that you should slow down your quilting to maintain stitch regulation.

Basting Mode

The Regalia ST includes five basting stitch options for basting a quilt. The basting stitch options are only available in stitch regulation mode.

The stitches-per-inch setting ranges between 24 stitches per inch and 5 stitches per inch. If you continue to press the minus (-) button on the screen, after 5 you will see B1/4", B1/2", B1", B2", and B4".

B1/4"	One stitch every quarter inch of movement
B1/2"	One stitch every half inch of movement
B1"	One stitch every one inch of movement
B2"	One stitch every two inches of movement
B4"	One stitch every four inches of movement

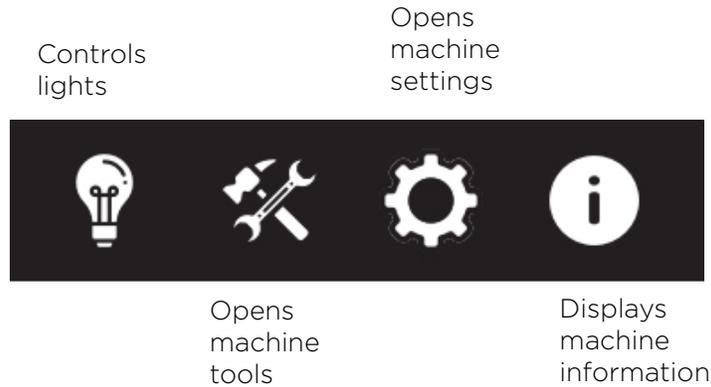
To baste a quilt

1. Touch the **Regulated** button.
2. Press the **minus** (-) button next to the stitches-per-inch box on the screen until you see 5 stitches per inch. Continue touching the **minus** (-) button and the five basting stitch options appear. Choose the one you want to use - either B1/4", B1/2", B1", B2", or B4".
3. Begin basting by pressing the Start button. As the fabric is moved across the table, there will be a stitch (needle down and then needle up) every quarter, half, one, two, or four inches according to the selected basting stitch length.

 **QUILTING TIP:** If you are basting the edges of the quilt to the batting and backing, choose a low number of stitches per inch, somewhere between 4 to 8 stitches per inch, rather than one of the basting-mode stitches. This will help to prevent the hopping foot from going between the batting and quilt top.

Toolbar Options

The toolbar buttons remain in the upper-right corner of the screen.

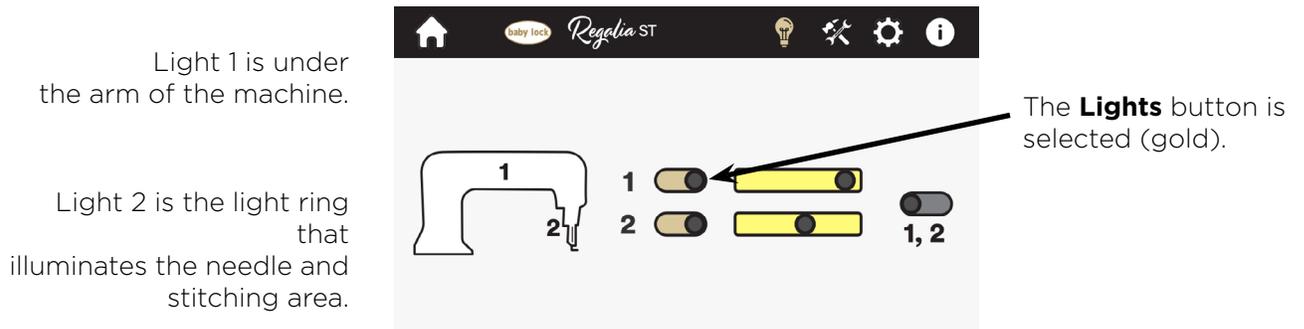


Controlling the Lights

The Regalia ST comes equipped with three standard lighting areas: throat, needle, and bobbin.

To control the lights on the machine

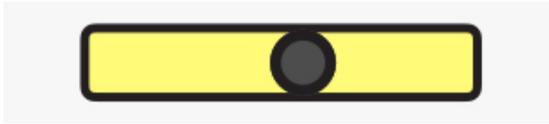
- Touch the Lights icon in the Toolbar to open the Lights screen. The button will turn gold, and the screen opens.



When lights are on, the on/off button displays in color. When off, the button is gray. Touch the on/off button to quickly turn on (or off) the light.



Touch the **All Lights** (labeled 1,2) button to turn on (or off) the light in the throat space and the ring light under the needle.



Touch the black dot on the slider and drag to the right to increase the intensity or to the left to decrease the intensity. The intensity settings are saved when lights are turned off and will be the same when they are turned on.

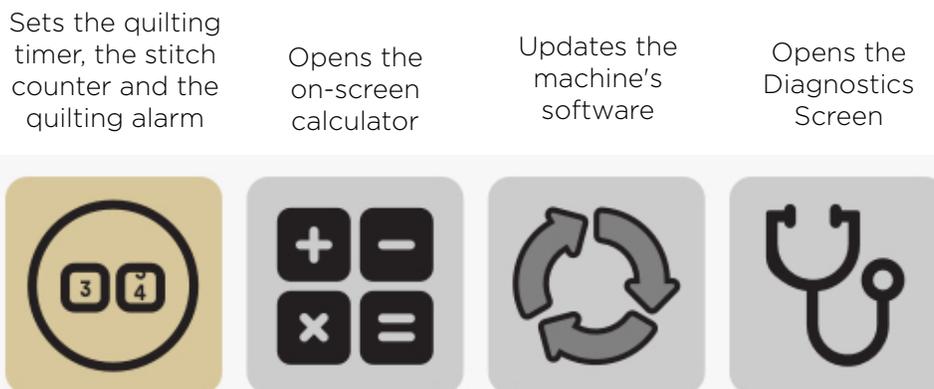
Machine Tools

To open the machine tools, touch the **Tools** icon in the Toolbar. After selecting it, the icon turns gold.

The **Tools** button is selected (gold).



Choose from the five tools at the bottom of the screen.

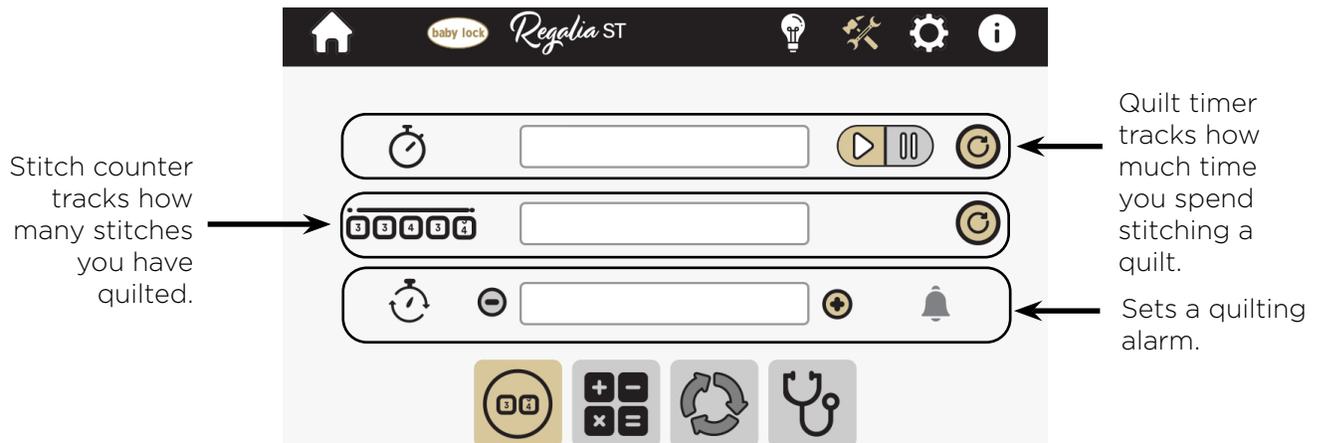


After you select an option, the button background turns gold and the screen changes allowing you to customize that setting. The next time you touch the **Tools** icon, the last Tools option used appears.

Quilting Timer, Alarm, and Stitch Counter

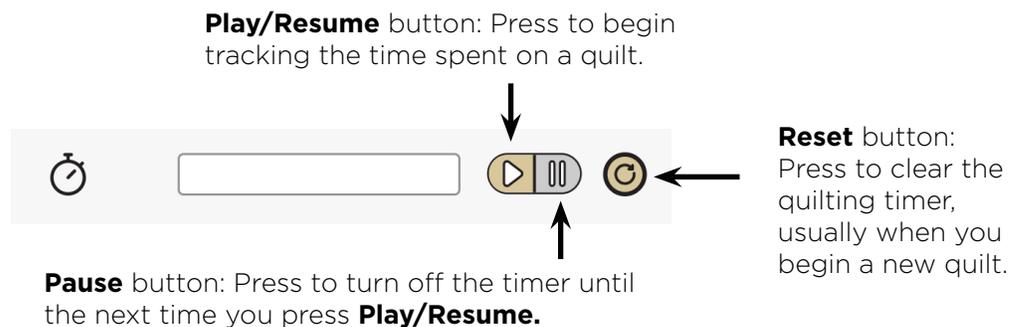
The timers screen tracks the amount of time spent working on a quilt. Set the timer as a reminder when your quilting time is up. The Stitch Counter will track the number of stitches in a quilt while stitching.

- Touch the **Tools** icon in the Toolbar. Select the **Timers** button. Press the **Home** button to return to the Main screen.



To track how much time you spend on a quilt

Use the quilting timer to keep track of the time spent stitching. The quilting timer measures stitching time of the machine, not the time the machine is on and idle. The timer operates like a stopwatch.



1. Press **Reset** when starting a new quilt.
2. When you are ready to track the stitching time, press **Play**. Proceed with stitching. When you are through quilting for a time, press **Pause**.
3. When you resume quilting, press **Play**. The quilting timer will continue tracking your time and add it to the previously recorded time.

To track the number of stitches in a quilt

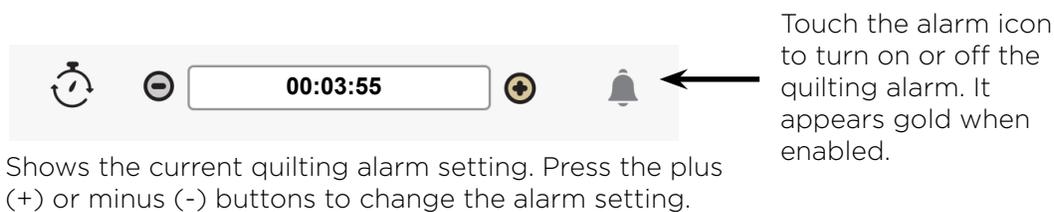
Use the stitch counter to count the number of stitches in a quilt.

- Press the **Reset** button to clear the counter when beginning a new quilt. To view the lifetime stitch count for your machine, see the Information screen.



To set the quilting alarm

Use the quilting alarm to set an alert when the allotted quilting time is done. Once the alarm is enabled, the time begins to count down. Unlike the quilting timer, this alarm measures elapsed time, not machine quilting time. The example below shows only 3 minutes and 55 seconds are remaining before the alarm will sound.

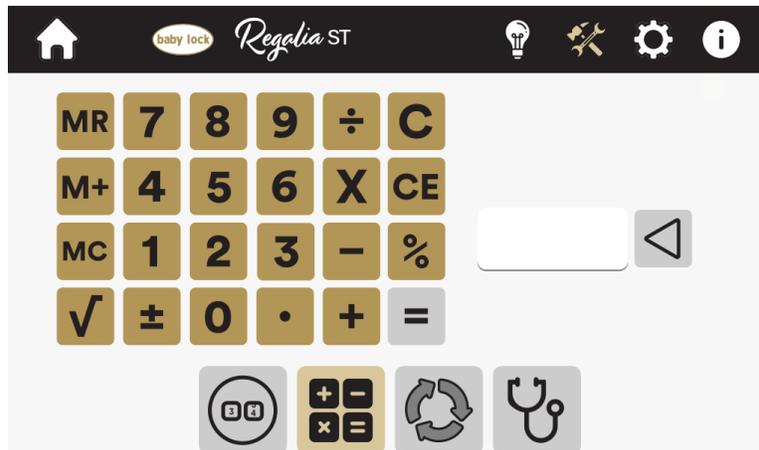


1. Specify the amount of time that will elapse before the alarm goes off. Change the alarm setting by pressing the **plus** (+) or **minus** (-) buttons which changes the setting by one minute at a time.
2. Touch the alarm icon to turn on the quilting alarm. When the time has elapsed, an alarm will sound.

On-screen Calculator

The Regalia ST includes a basic on-screen calculator, which functions like all basic calculators. For example, press a number button and a function button followed by another number button. Function buttons include **addition** (+), **subtraction** (-), **multiplication** (x) and **division** (÷). After pressing the numbers and the function buttons, press the **equal** sign (=) for the answer.

- Touch the **Tools** button in the Toolbar. Then touch the **Calculator** button along the bottom of the screen. Press the **Home** button to return to the Main screen.



The **Tools** button is selected, or gold.

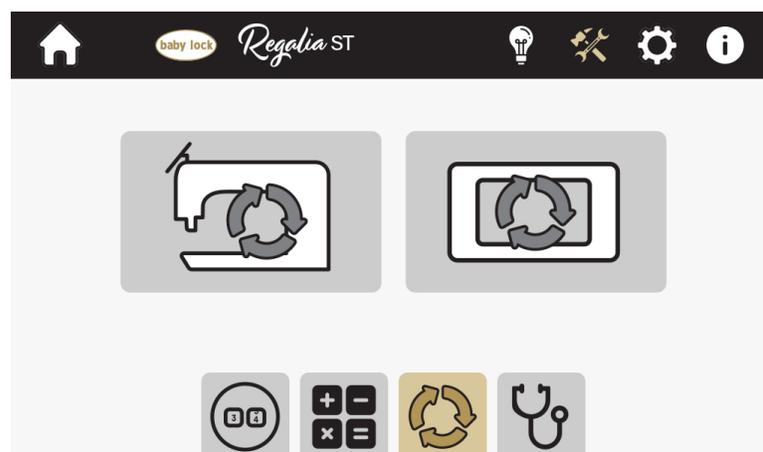
Software Updates

From time to time, Baby Lock releases a software update for our machines. This update feature enables you to take advantage of the latest new capabilities added to machines. When an update is released, download the updated file(s) to a USB drive (formatted and at least 4GB) using a computer that is connected to the Internet.

You can check for updates on <https://babylock.com/support/machine-support>.

NOTE: The downloaded files may be in a zipped folder. If this is the case, make sure to extract all files before continuing.

- Touch the **Tools** button in the Toolbar on the front display. Then touch the **Update** button along the bottom of the screen.

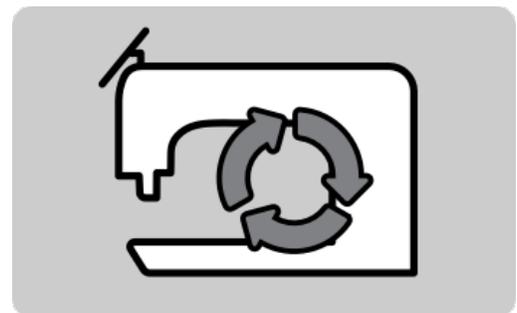


- After downloading the updated software to a USB drive, insert the drive in the designated USB port on the bottom of the front display. Look for the message in the bottom bar that confirms a USB drive has been inserted. If it doesn't appear, reinsert the USB drive. Touch the **Update** button. Press the **Home** button to return to the Main screen.

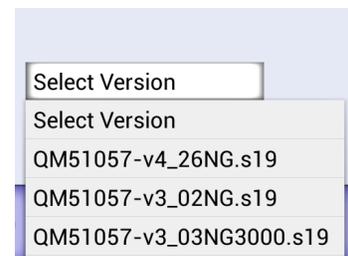


To update the machine's software

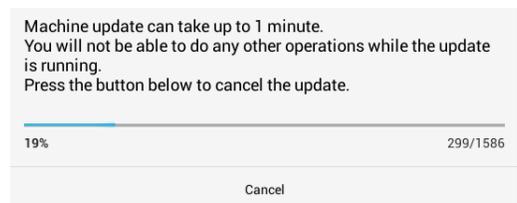
1. After confirming that the inserted USB drive has connected to the front display, touch the machine icon to update the machine's software.



2. You will then be prompted to choose the file you want to use to update the machine software. Touch the **Select Version** box and then select the filename of the update file you downloaded. (The software version downloaded may be different or more recent than what is shown here.)

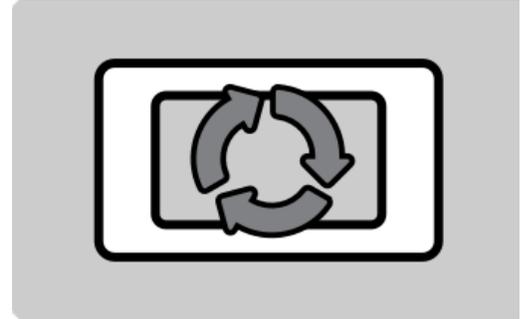


3. Be patient as this will take a few minutes.
4. When complete, the machine will beep. Restart the machine to apply the updates.



To update the display software

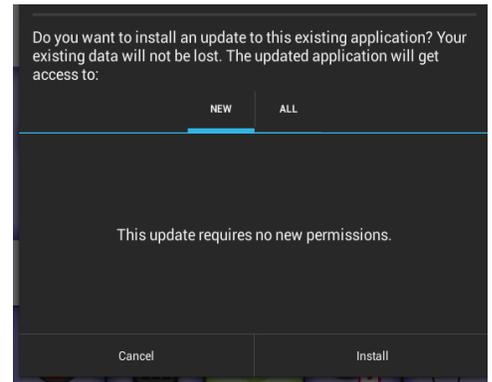
1. After inserting the USB drive into the USB port on the bottom-side of the display, touch the display icon to update the display's software.



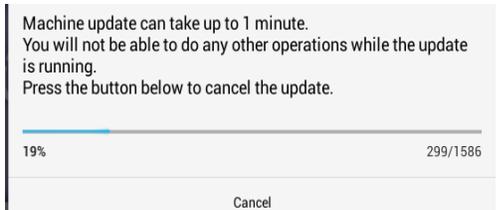
2. You will be prompted to choose the update file needed to update the display software. Touch the **Select Version** box and then select the filename of the update file you downloaded.



3. When the message box appears, select **New** and **Install**.



4. Be patient as this will take a few minutes.



5. Confirm that you want to overwrite the current software with the new software by choosing **Install**. If you decide to not update the software, choose **Cancel**.

Quick-Set Tension™ Reset

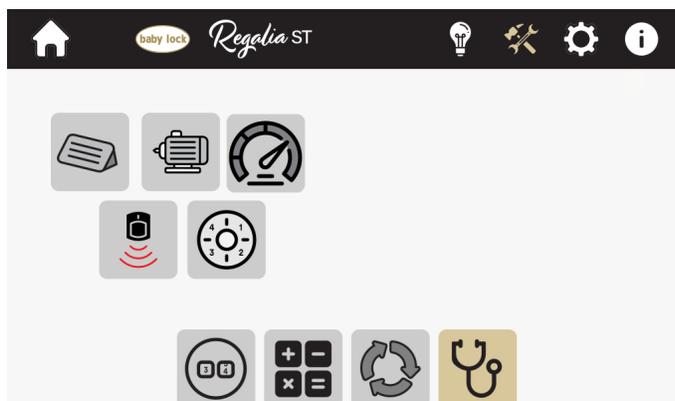
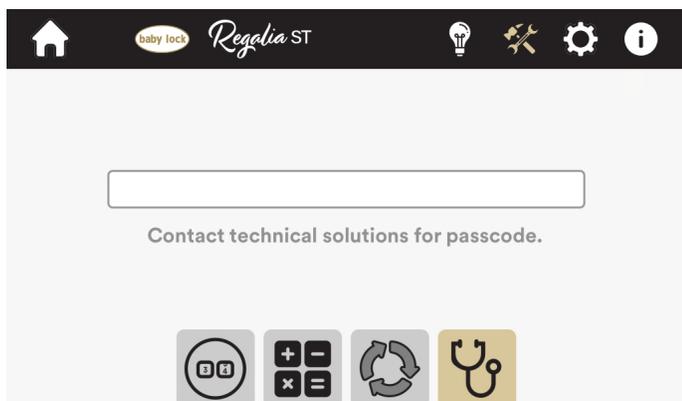
1. Loosen the tension discs by turning the Quick-Set Tension knob counter-clockwise until the two tension discs move freely. This may take a few complete turns.
2. Then turn the Quick-Set Tension knob clockwise until the tension discs come together enough with a bit of resistance.
3. Touch the **Quick-Set Tension** button in the Toolbar. The Quick-Set Tension Display will now read as 0.
4. Turn the Quick-Set Tension knob three full clockwise turns to return the tension close to factory settings.



Diagnostics

There are several diagnostics tests that you may be asked to perform by an authorized Baby Lock Retailer. They will give you a code to enter when in the Diagnostics screen to perform the necessary tests.

- Touch the **Tools** button in the Toolbar. Then touch the **Diagnostics** button along the bottom of the screen. Enter the code and follow the instructions for the different diagnostics tests.



Contact your local retailer or Baby Lock technical solutions.

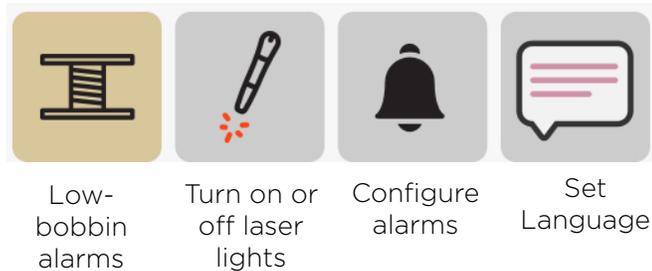
Machine Settings

To open the machine settings, touch the **Settings** icon in the Toolbar. After selecting it, the icon turns gold.



Then choose one of the several options that appear along the bottom of the screen.

After you select an option, the button background turns gold and the screen changes, allowing you to customize that setting. The next time the **Settings** icon is selected, the last Settings option used appears.

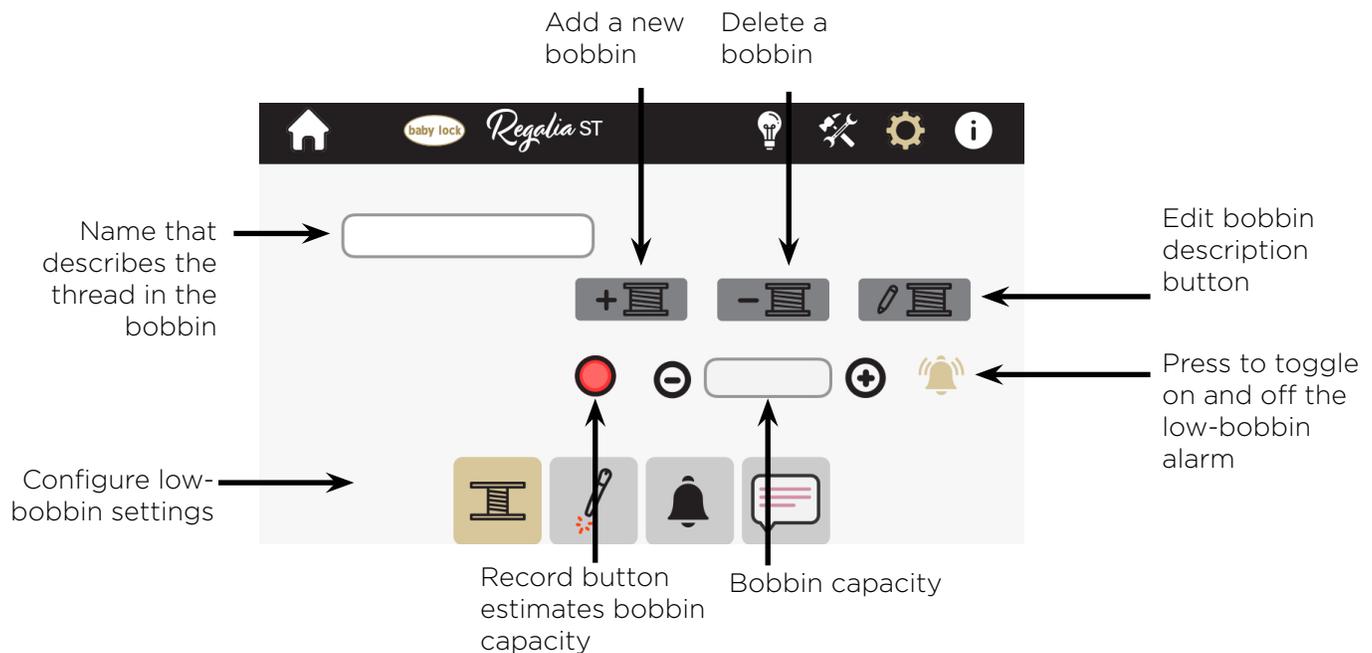


- Press the **Home** icon in the upper left corner of the screen to close **Settings** and return to the Main screen.

Low-Bobbin Alarm

The amount of thread that fits on a bobbin varies according to the type and weight of thread being used. Create a low-bobbin capacity alarm for up to twenty types of thread that you use in your bobbin. Use this capacity for setting a low-bobbin alarm to alert you to when the bobbin thread is running out.

- Touch the **Settings** icon in the Toolbar. Then touch the **Low-bobbin Alarm** button.



To add new bobbin configuration and record bobbin capacity

1. When you are ready to define a new bobbin capacity for a particular type of thread, completely fill a bobbin with that thread and insert it into the machine.
2. Touch the icon to add a new bobbin. Use the pop-up keyboard to enter a descriptive name to help identify the thread type this configuration applies to. Close the pop-up keyboard by touching the arrow in the lower-left corner of the screen.



3. Touch the **Record** button. The bobbin capacity value will reset to zero. Quilt until the bobbin runs out.



 **NOTE:** The Reset Bobbin button on the Main Screen shows the bobbin level while quilting. When the **Reset Bobbin** button is selected, it shows the estimated capacity of the full bobbin. This number counts down while stitching. While recording the bobbin capacity of a bobbin, the number increases while quilting until it runs out of thread.

4. Return to the low-bobbin alarm screen and press the **Record** button again to stop recording. The number that appears in the Bobbin Capacity box is an estimate of how much thread is on the bobbin.



5. It is best to estimate how much bobbin thread will be used for tie-offs and decrease the bobbin capacity by that much. Press the **Minus** (-) button to decrease the capacity, or touch the **Bobbin Capacity** box to pop-up an onscreen number pad and enter the number directly.



6. When you are ready to use a full bobbin with that type of thread, insert the full bobbin and press the **Reset Bobbin** button on the Main screen



7. Make sure the alarm icon is enabled (gold). If not, touch the **Alarm** icon to toggle it on. When the bobbin level reaches zero, the low-bobbin alarm will sound.



 **NOTE:** If the low-bobbin alarm is turned on and off on this screen, it is also turned on or off on the Alarms screen.

The next time you use one of the threads that was set-up as a low-bobbin threshold is used, touch the bobbin name box and select the specified thread name. Insert a full bobbin with that thread into the machine and press the **Reset Bobbin** button on the Main screen.

To delete a low-bobbin configuration

- Touch the **bobbin name** box and select the specified thread name. Then touch the **Delete Bobbin** button.

To edit a low-bobbin configuration

- Touch the **bobbin name** box and select the specified thread name. Select the **Edit Bobbin** button. Make any changes using the pop-up keyboard.

Pinpoint Needle Laser

The Regalia ST comes equipped with a needle laser, which shows precisely where the needle will enter the quilt. Turn the laser on or off with the Laser settings.



To turn the laser on or off

Touch the **toggle button** to turn the laser on or off.

Control the needle laser. The laser is currently on.

- Touch the **Settings** icon in the Toolbar. Then touch the **Laser** button. Touch the **toggle button** to turn the laser on or off.



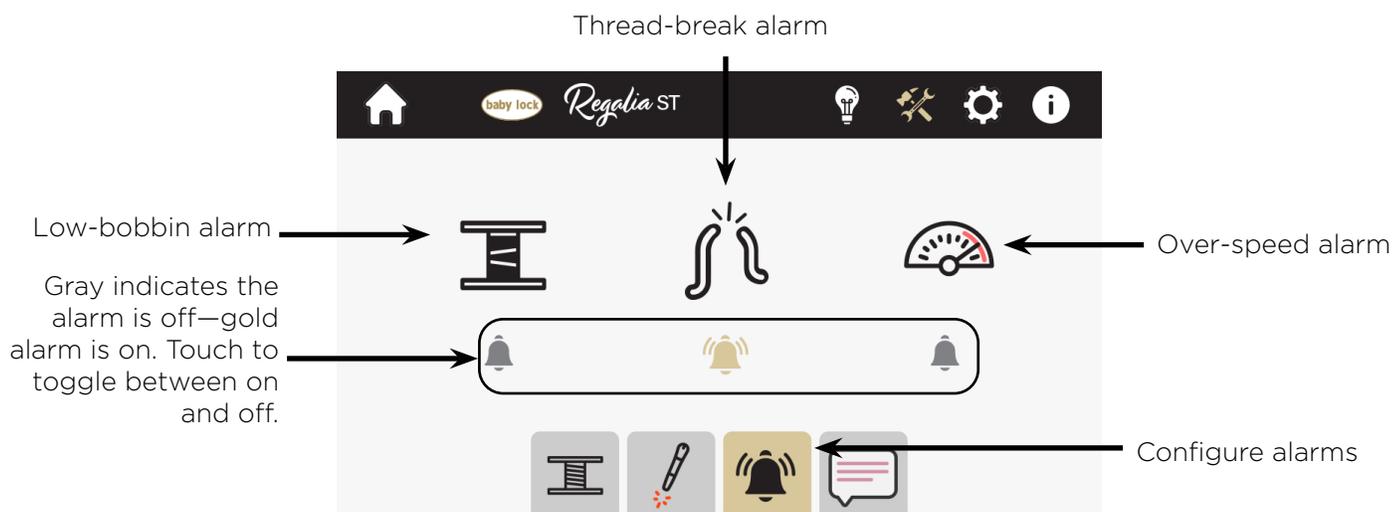
Alarms

The alarm settings can be quickly turned on or off for the low-bobbin, thread breaks, and over-speed alarms.

Low-bobbin alarm: When the low-bobbin threshold has been reached, indicating you will soon run out of bobbin thread, an alarm will sound. For more information about the low-bobbin alarm, see *Low-Bobbin Alarm* on a previous page.

Thread-break alarm: Alerts when the top thread breaks while quilting.

Over-speed alarm: Alerts you when the the fabric is moving faster than 100% of motor capacity and the quilting is too fast for stitch regulation to work properly. Because of the high speeds that the Regalia ST can handle, you will most likely never encounter this alarm.



To turn on or off alarms

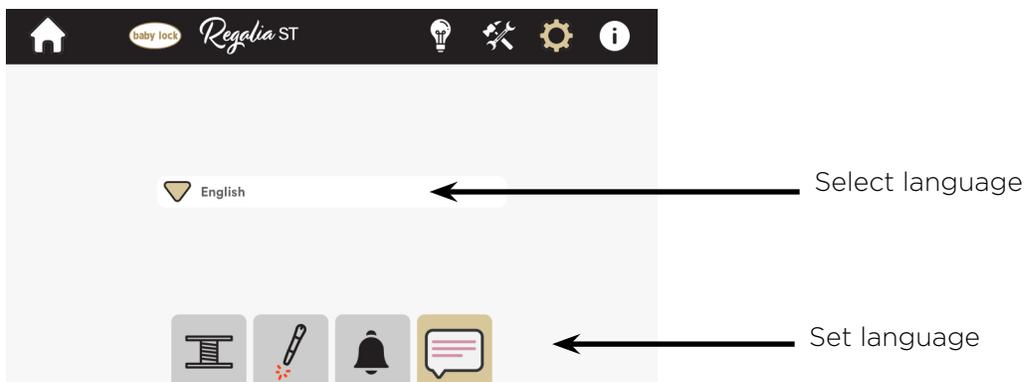
- Touch the **bell** button below the alarm to turn it on or off. It is on when it appears gold with the sound-wave symbols. It is off when it appears gray.

Set Language

The language setting determines the language used on the Regalia ST information screens. The choices are **English**, **French**, **German**, and **Spanish**.

To select a language

- Touch the **Settings** icon in the Toolbar. Then touch the **Languages** button to set the language. Press the **down arrow** to display the list of available languages. Select your preferred language.



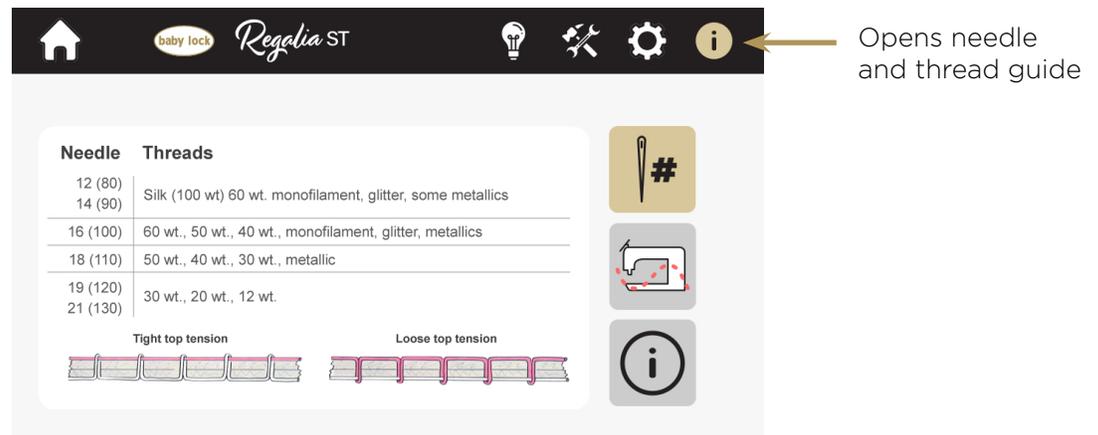
Information Screens

The Information option provides system information and quick reference guides about your Regalia ST.

To see the needle and thread chart

For quick reference, the Regalia ST has an onscreen guide for which size needle is appropriate for different weights of thread.

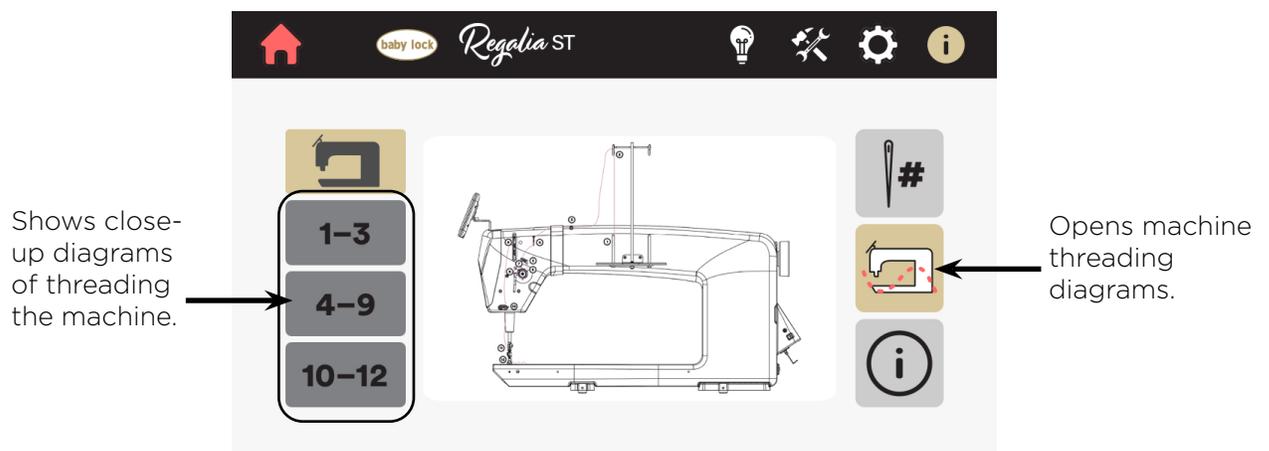
- Touch the **Information** icon in the Toolbar. Then touch the **Needle** button.



To see the machine threading diagram

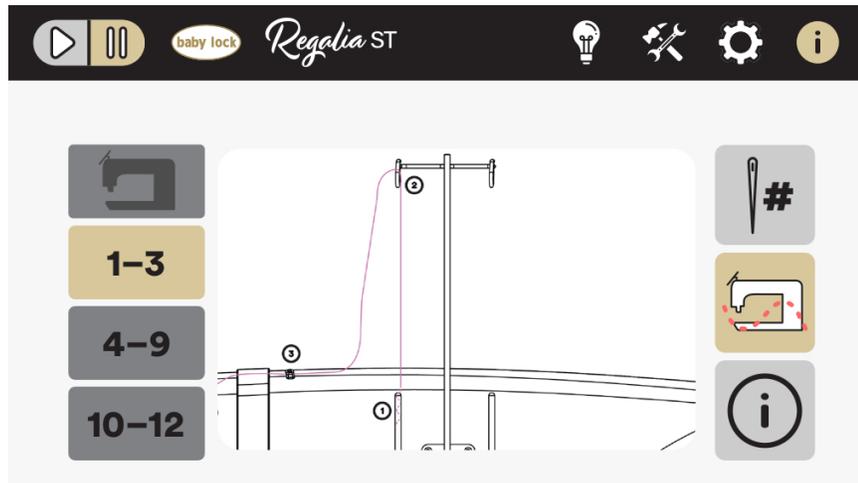
For quick reference, the Regalia ST has an on-screen guide that shows how to thread the machine. For more information about threading the Regalia ST, see **Threading the Machine** in the **Using Your Machine** section of this manual.

- Touch the **Information** icon in the Toolbar. Then touch the **Machine Threading** button.

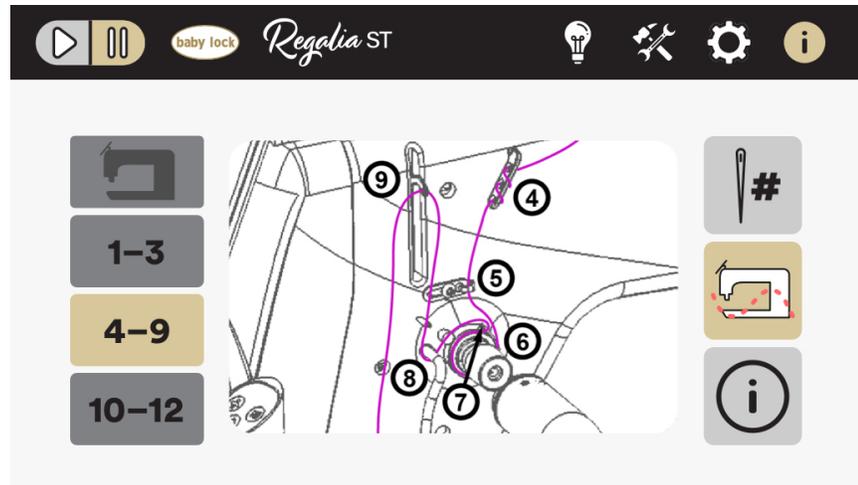


Select one of the buttons along the left to see close-up diagrams of steps 1 through 3, 4 through 9, and 10 through 12.

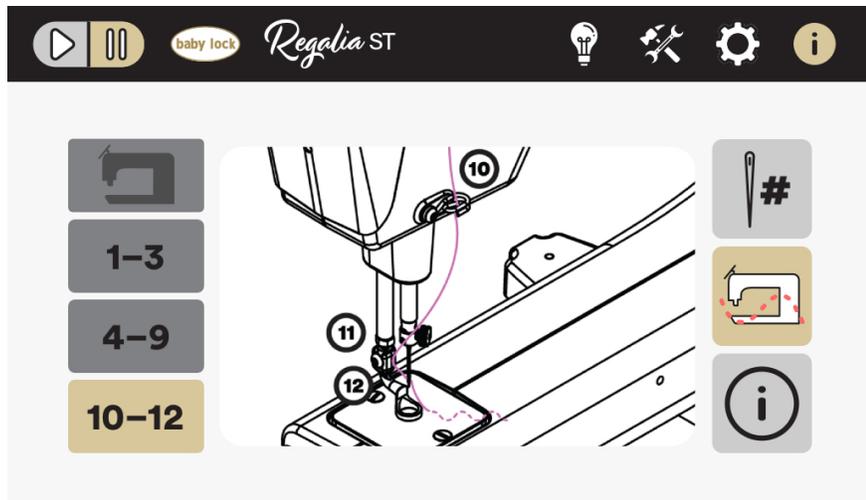
1-3



4-9



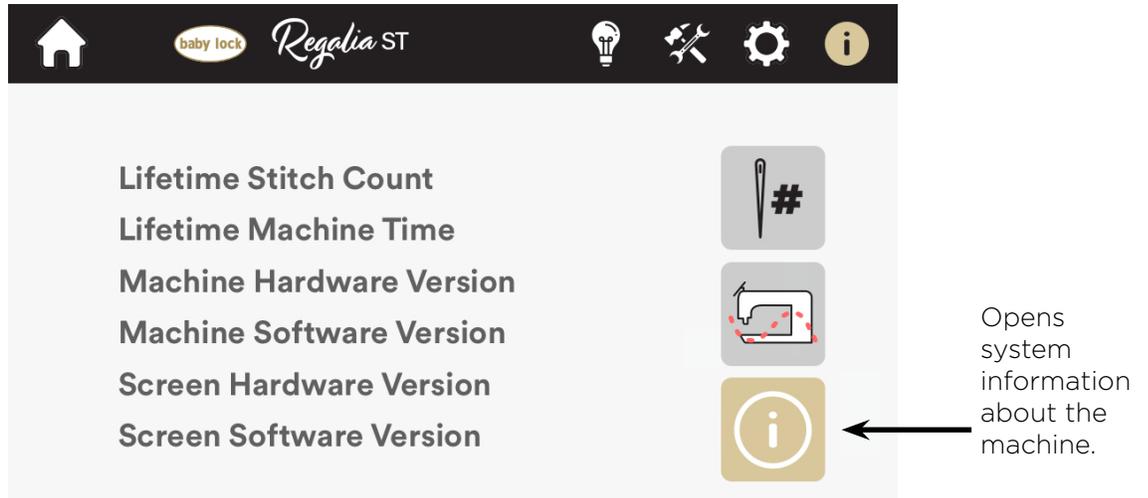
10-12



To monitor system information about your machine

You may need to provide system information to Baby Lock or an authorized Baby Lock Retailer when purchasing machine accessories or receiving assistance.

- Touch the **Information** icon in the Toolbar. Then touch the **Information** button.



Lifetime Stitch Count	Shows the lifetime stitch count for your machine
Lifetime Machine Time	Shows the cumulative time your machine has quilted
Machine Hardware Version	Shows the electronics board version number
Machine Software Version	Shows the machine’s software version number
Screen Hardware Version	Shows the screen’s version number
Screen Software Version	Shows the screen’s software version number

Machine Maintenance

Clean and Oil Your Regalia

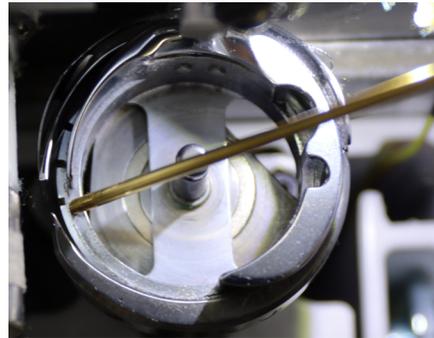
The bobbin hook assembly on the Regalia ST should be oiled on a regular basis. Failure to keep the hook assembly lubricated can cause damage to the machine. We recommend oiling the hook assembly with each bobbin change and before use if the machine hasn't been used for a few days. A change in the sound of the machine while quilting also indicates that it may need to be oiled.

✂ **NOTE:** Internal oiling needs to be done when the machine is taken to a service technician for routine maintenance and cleaning, every 24 months or 10 million stitches (whichever comes first).

➡ **IMPORTANT:** Use clear, light sewing machine oil (recommended) on the hook when oiling your machine.

To clean the bobbin area and oil the bobbin hook

1. If needed, turn off the machine by pressing the front switch. Then remove the bobbin and the bobbin case.
2. Clean the bobbin basket area using a lint brush.
3. Place a small drop of oil on the hook in the region where the bobbin basket assembly and the rotating hook meet. The oil will work its way back into the interlocking area of the hook and bobbin basket.



4. Replace the bobbin and bobbin case and turn on the machine.

✂ **QUILTING TIP:** After oiling, always sew on a scrap piece of fabric off to the side of the quilt as oil may cling to thread. Over-oiling can cause excess dripping from the bobbin assembly.

To clean the touchscreen display

- Use a soft rag or microfiber cloth dampened with isopropyl alcohol and then gently wipe the display to remove any dust or finger marks.
- △ **CAUTION:** Never use any chemicals to clean your display as this may negatively affect the display's touchscreen response.

Maintenance Schedule

In addition to the ongoing cleaning and oiling maintenance, your machine should be serviced by an authorized Baby Lock Retailer every 24 months or 10 million stitches, whichever occurs first. They will take care of oiling and greasing internal parts and ensure the machine is in proper working order.

When your machine reaches 10 million stitches, a pop-up message appears to remind you to have your Regalia ST serviced.

Troubleshooting

You can correct many problems on your own. If you need additional help, contact your local, authorized Baby Lock Retailer or contact the Baby Lock Product Support Team at 1-800-313-4110.

First check the following:

1. The AC power cord is properly connected and both power switches are turned on.
2. Confirm that all cables are properly seated into their connections.
3. Turn off the machine completely. Wait for at least ten seconds and then turn it back on.

If the above checks did not solve the problem, refer to the information below.

Skipped Stitches	Corrective Measure(s)
The needle is damaged, dull, bent, or installed improperly	<ul style="list-style-type: none">• Replace the needle often, normally once or twice per day for continuous quilting or at least once per quilt. Use only the recommended needle system, 134.• Always change the needle if the needle has struck any hard object such as a pin, etc. The tip of the needle can become damaged or burred, resulting in fabric damage as well as skipped stitches, thread breakage, or shredding.• Always change the needle if it has been hit, bumped, or pulled off center while maneuvering the machine over the quilt. A slightly bent needle can be a major cause of skipped stitches.

Incorrect needle size	<ul style="list-style-type: none"> • Use the proper size needle for the work and thread being used. Some battings and fabrics used in quilting may constrict or impede the thread passing through the front groove of the needle. This diminishes the loop required for stitch formation. Typically, a larger needle will solve the problem. However, using certain smaller sizes of needles and ball pointed needles solve some specific problems. You will need to experiment to determine which works best with your combination of fabric, thread, and batting.
Thread tension too tight	<ul style="list-style-type: none"> • Check bobbin case tension and then check top thread tension. (For more information about adjusting tension, see <i>Bobbin and Bobbin Tension</i> and <i>Quick-Set Tension</i> in the <i>Using Your Machine</i> section of this manual.)
Improper threading	<ul style="list-style-type: none"> • Ensure that the machine is threaded correctly. Refer to the on-screen threading guide if needed.
The needle is not positioned properly	<ul style="list-style-type: none"> • Position the needle properly to the needle bar. Inspect the position of the needle to make sure the needle is at the 6 o'clock position. When you stand directly in front of the needle (facing the bobbin case side of the machine), you will see the entire needle eye directly facing you. This is 6 o'clock position. • Make sure (a) the needle is installed all the way into the needle bar to the needle-stop hole, (b) the long groove in the needle is toward the front (bobbin case side), and (c) the scarf (scooped out part of the back of the needle) is toward the back of the machine. • The needle can sometimes be rotated to 5 o'clock (slightly right) or 7 o'clock (slightly left) to adjust for a more positive thread loop pickup by the hook point.

The Needle Breaks	Corrective Measure(s)
The needle is bent or not installed properly	<ul style="list-style-type: none"> • Replace the needle. Make sure that the needle is pushed into the needle bar clamp until it can go no further. Visually check that it is up to the top of the sight hole above the needle bar clamp screw. If the needle isn't installed properly, it can cause damage in the bobbin area and throat plate.
The needle hits the throat plate	<ul style="list-style-type: none"> • Correctly position the needle, throat plate, or hopping foot. Replace with a new needle.
Stitches Are Puckered	Corrective Measure(s)
The tension is not balanced	<ul style="list-style-type: none"> • Balance the tension of the needle thread after ensuring the bobbin tension is adjusted correctly. (For more information about adjusting tension, see <i>Bobbin and Bobbin Tension</i> and <i>Quick-Set Tension</i> in the <i>Using Your Machine</i> section of this manual.)
Needle too large for quilting fabric	<ul style="list-style-type: none"> • Replace the needle with a size better suited for the fabric.
Poor Stitch Quality	Corrective Measure(s)
The tension is not balanced	<ul style="list-style-type: none"> • Balance the tension of the needle thread after ensuring the bobbin tension is adjusted correctly. (For more information about adjusting tension, see <i>Bobbin and Bobbin Tension</i> and <i>Quick-Set Tension</i> in the <i>Using Your Machine</i> section of this manual.)
Bobbin case is damaged, corroded, dirty, etc.	<ul style="list-style-type: none"> • Since thread slides over the surface of the bobbin case at a high speed, make sure the case is free of any lint or foreign matter that could impede thread passage through the machine.
Moving the fabric too fast for needle speed selected (Manual mode)	<ul style="list-style-type: none"> • Synchronize fabric movement and needle speed to get your desired stitch length. Elongated stitches are an indication of moving the fabric too fast for the machine's current speed.

Tension Is Poor	Corrective Measure(s)
Lint caught under the tension spring in the bobbin	<ul style="list-style-type: none"> If using short staple threads, inexpensive, or industrial threads, or coated threads, lint and other material will build up under the tension spring and begin to lift the spring, reducing the spring's ability to compress against the thread. Insert a pin or the corner of a business card under the spring and clear out the lint. The bobbin tension will return close to its preset tension. Test the tension before quilting.
Hand Wheel Won't Rotate	Corrective Measure(s)
Thread is entangled and caught in the hook	<ul style="list-style-type: none"> There may be a thread lock. With the machine on, use the onscreen handwheel to break the thread lock. Quickly move your finger down and up several times. If this doesn't solve the problem, turn the machine off and use the handwheel at the back of the machine to resolve the thread lock.
There is a thread lock.	<ul style="list-style-type: none"> Carefully rock or turn the handwheel in direction of motion and then the other direction until the thread lock breaks free. Once the handwheel can be turned freely, remove the thread from the hook and basket. Now re-oil the hook and make sure the handwheel turns freely without the hook hitting the needle. It is possible for a thread lock to cause a timing problem.
Thread Nests Under Quilt	Corrective Measure(s)
Not enough tension on top thread	<ul style="list-style-type: none"> Check that the machine is threaded correctly. Make certain that the thread is flossed snugly in place between the two tension discs. If the machine is threaded correctly, tighten top tension by rotating the tension knob clockwise. (For more information about adjusting tension, see <i>Bobbin and Bobbin Tension</i> and <i>Quick-Set Tension</i> in the <i>Using Your Machine</i> section of this manual.)
Improper threading	<ul style="list-style-type: none"> Refer to threading diagram and threading instructions.

Thread Backlash	Corrective Measure(s)
Bobbin thread tangles within the bobbin case, tangles and winds onto the hook spindle, or occasionally forms loops on the bottom of the quilt	<ul style="list-style-type: none"> • Make sure the bobbin is in the bobbin case correctly and the thread is coming out from under the tension spring. The bobbin should rotate clockwise when the thread is pulled.
Motor Fails to Run	Corrective Measure(s)
On/Off switch turned off	<ul style="list-style-type: none"> • Make sure that both power switches are turned on. First turn on the rear power switch (to the "I" position); then turn on the power button on the front-left side of the machine.
Machine not receiving power	<ul style="list-style-type: none"> • Check that the power connector (cord) is securely plugged into the back of the machine and the three-prong end is plugged into the power source.
Thread Breaks	Corrective Measure(s)
Thread is poor quality or may have severe twisting or thread rot	<ul style="list-style-type: none"> • Look for severe twisting of threads when approximately 12 to 15 inches has been pulled off, with the ends pinched together. Cotton threads are particularly susceptible to dry rot or wet rot which makes thread brittle. Do not use poor quality thread, or thread that is rotted or brittle.
Top and bobbin tensions not balanced	<ul style="list-style-type: none"> • Balance the tension of the needle thread after ensuring the bobbin tension is adjusted correctly. (For more information about adjusting tension, see <i>Bobbin and Bobbin Tension</i> and <i>Quick-Set Tension</i> in the <i>Using Your Machine</i> section of this manual.)

<p>The machine head has been threaded incorrectly or thread spools are not positioned correctly</p>	<ul style="list-style-type: none"> • Check that the machine is threaded correctly. • Inspect for accidental double wrapping of thread on thread guides. • Inspect the thread mast, making sure the eyelets of the mast are directly over the spools. • Inspect the vertical positioning of the thread cones. Tipped cones can dramatically affect thread tension and can cause breakage.
<p>Debris in tension discs</p>	<ul style="list-style-type: none"> • Inspect for particles and remove any fuzz or debris.
<p>Bobbin rotation is not smooth</p>	<ul style="list-style-type: none"> • Change the bobbin. The slightest hesitation of the bobbin rotation can be the cause of dramatic tension change and thread breakage.
<p>Needle is burred, bent or dull, or installed incorrectly</p>	<ul style="list-style-type: none"> • Change the needle at least once per quilt. Make sure the needle is installed to the top of the stop hole in the needle bar.
<p>Needle not suitable for thread</p>	<ul style="list-style-type: none"> • Replace the needle to one better suited for the thread. Use the proper size needle. Refer to onscreen chart.
<p>Hesitating too long at one point in quilting motif</p>	<ul style="list-style-type: none"> • Move more quickly so stitches don't overlap or build up. When starting the machine, begin moving the fabric immediately. Sewing in one place too long will cause the thread to break or build-up.
<p>Improper needle/hook relationship</p>	<ul style="list-style-type: none"> • Machine timing needs to be checked. Consult an authorized Baby Lock technician.
<p>Damage or burr at needle hole of throat plate or other thread handling part</p>	<ul style="list-style-type: none"> • If thread is shredding at the throat plate, check for burrs or jagged edges. Gently rub with emery cloth to remove any sharp edges. Consult an authorized Baby Lock retailer to polish any hard-to-reach or delicate areas, or if the burr is inside the throat.

Wrong type of needle	<ul style="list-style-type: none"> • Use only the needles recommended by Baby Lock (134, sizes 12 through 21).
Other possible problems	<ul style="list-style-type: none"> • Needle too close to hook, causing friction and possible collision of hook point and needle (causing broken thread). • Needle plate damage • Hook damage • Broken needles or damaged needle bar clamp
Nothing visible on the display	Corrective Measure(s)
Display cables unplugged	<ul style="list-style-type: none"> • Locate the black cables that plug into the touchscreen display and connect to the side of the machine. Make sure both ends are plugged in securely.
Thread Break Sensor	Corrective Measure(s)
Thread Break Alarm sounds	<ul style="list-style-type: none"> • Thread has broken and the alarm is functioning as expected; re-thread the machine.
Thread Break Alarm sounds but the threads are not broken	<ul style="list-style-type: none"> • Re-thread the machine.
Thread Break Alarm sounds but the machine is threaded correctly	<ul style="list-style-type: none"> • If the tensions are not tight enough to make the take-up spring pass by the Thread Break Sensor, then the alarm will sound. Increase the tensions until the take-up spring passes by the sensor. The sensor is located above and to the front of the top tension assembly.

 **NOTE:** If the troubleshooting tips do not eliminate the problem, please consult an authorized Baby Lock Retailer.