

MOXIE

USER MANUAL

VERSION 1.0



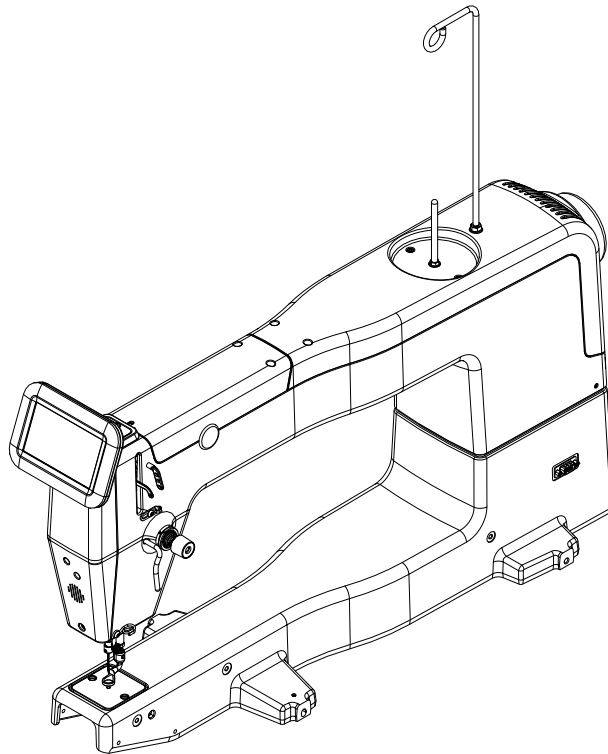
Handi Quilter
BY QUILTERS FOR QUILTERS



MOXIE ST

USER MANUAL

VERSION 1.0



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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 Handi Quilter product.
-  **IMPORTANT:** An IMPORTANT note provides information that is essential to properly using your Handi Quilter product.
-  **CAUTION:** A CAUTION indicates a potential for causing harm to your quilting machine, the quilt, or to yourself.
-  **ONLINE:** Indicates there is more information online, such as a video.
-  **QUILTING TIP:** Handi Quilter educators share tips to get you started quilting.

Finding Information

What are you looking for?	Find it here
Warranty Information	User manual
Safety Information	User manual
Regulatory Information	User manual
What's Included with your Machine	User manual
Machine Specifications	User manual
Table Setup Information	Table installation manual
Machine Setup Information	User manual
How to Thread your Machine	Quick reference card
Needle System for your Machine	Quick reference card
Getting Started with Quilting	Getting Started videos - USB stick
Online Videos	https://www.youtube.com/playlist?list=PL9AWSLDAL8szQy4mKInMleYaROe8OWDwb
Basic Maintenance	User manual
Troubleshooting	User manual
Tips and Tricks	www.HandiQuilter.com/Live/ https://www.youtube.com/user/HandiQuilterHQ/videos
Training and Education Options	www.HandiQuilter.com
Customer Care/Technical Support	1-877-MY-QUILT (697-8458) or 801-292-7988 Available 8:00 AM to 5:00 PM Mountain Time, Monday to Friday HQcares@HandiQuilter.com
Community	Forum: https://support.HandiQuilter.me/hc/en-us/community/topics Blog: https://HandiQuilter.com/blog/ Facebook: www.facebook.com/HandiQuilter
Non-English versions of this manual (when available)	www.HandiQuilter.com/manuals/

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Congratulations on Your Purchase!

You haven't just purchased a quilting machine; you've joined the Handi Quilter family, and we welcome you. You have acquired the most advanced quilting machine available in today's market.

Handi Quilter is committed to innovation, reliability, customer service, and education. Our machines are Designed by a Quilter, for Quilters® and we are committed to your quilting success. With that in mind, we invite you to bookmark our website: www.HandiQuilter.me and invite you to visit to learn more about the art of quilting. We've posted videos on subjects as diverse as Oiling Your Machine to Loading a Quilt to Making Perfect Feathers.

Your new quilting friends are already there, waiting for you! Remember, if you ever have questions, your local HQ authorized retailer can help you. If the retailer is not available, contact Handi Quilter directly at HQCares@HandiQuilter.com or by calling us, Monday through Friday, 8:00 AM to 5:00 PM Mountain Time (1-877-697-8458 or 1-801-292-7988).

Keep the carton and packing materials. You will need them if you need to return the machine to the retailer or send it for repair. If you don't pack the machine properly or if you don't use the correct packaging materials, the machine could be damaged. Handi Quilter is not liable for damage that occurs during return shipping.

- ➔ **IMPORTANT:** These packaging materials are designed to prevent the machine from being damaged. Keep them in case you need to bring this machine to the dealer or send it for repair.

What's Included

- Moxie Stationary 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
- EZ Pen Oiler
- Power cord
- Screwdriver
- 2 mm hex wrench
- 2.5 mm hex wrench
- 3 mm hex wrench
- 5 mm hex wrench
- Open-toe Handi Foot (closed-toe foot installed)
- Touchscreen display
- Quick Reference Card
- Bobbin Winder

Consignes de sécurité

Cet appareil est conforme à la partie 15 de la réglementation de la FCC. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférences nuisibles, et (2) cet appareil doit accepter toute interférence reçue, y compris les interférences pouvant provoquer un fonctionnement indésirable.

Veuillez noter : n'utilisez pas votre machine à quilter HQ Moxie avant d'avoir lu entièrement les informations contenues dans ce manuel. Veuillez conserver tous les emballages et les informations de commande à des fins de garantie.

CONSIGNES DE SÉCURITÉ IMPORTANTES

Lisez toutes les consignes avant d'utiliser la machine.

Lorsque vous utilisez cette machine, vous devez toujours prendre des précautions de sécurité de base, notamment ce qui suit :

— Pour réduire le risque de choc électrique :

Une machine à quilter ne doit jamais être laissée sans surveillance lorsqu'elle est branchée. Débranchez toujours la machine de la prise électrique immédiatement après usage et avant de la nettoyer.

— Pour réduire le risque de brûlures, d'incendie, de choc électrique ou de blessures :

- La HQ Moxie est très lourde. Ne jamais tenter de la soulever seul. Utilisez toujours deux personnes pour la soulever. Soulevez toujours la machine à partir de la gorge, non pas à partir des poignées.
- Débranchez toujours la HQ Moxie de la prise électrique lors des travaux d'entretien, du changement d'aiguille, de la suppression des blocages de fil, ou lorsqu'elle est laissée sans surveillance.
- Ne pas débrancher en tirant sur le cordon. Pour débrancher, saisir la fiche, non le cordon.
- N'approchez pas les doigts des parties mobiles. Faites preuve de prudence lorsque vous vous

approchez de l'aiguille ou de composants externes tranchants.

- Changez souvent d'aiguille. N'utilisez pas d'aiguilles tordues ou émoussées. « Chaque quilt mérite une nouvelle aiguille ».
- Mettez la machine sur la position 0 ou de symbole d'arrêt pour l'éteindre lorsque vous effectuez des réglages dans la zone de l'aiguille : enfilage de l'aiguille, changement d'aiguille, bobinage de la canette, changement de pied, etc.
- Ne faites jamais tomber et n'insérez jamais d'objets étrangers dans une ouverture.
- La HQ Moxie doit être utilisée uniquement à l'intérieur dans un endroit non humide.
- La HQ Moxie ne doit pas être rangée ou utilisée à des températures extrêmes.
- Utilisez la HQ Moxie uniquement pour son usage prévu indiqué dans ce manuel.
- Pour débrancher la machine de la prise murale, mettez l'interrupteur sur arrêt, puis retirez la fiche de la prise en tirant à partir de la fiche et non du cordon. N'utilisez jamais la HQ Moxie si le cordon est endommagé ou ne fonctionne pas correctement. En cas de problème mécanique ou électrique, renvoyez la HQ Moxie au centre de service agréé le plus proche ou au fabricant pour inspection, réparation, ou réglage électrique ou mécanique.
- Il est déconseillé d'utiliser la machine à quilting HQ Moxie avec un cadre de machine à quilting autre que ceux recommandés par Handi Quilter.
- Utilisez cette machine à quilting uniquement pour l'usage prévu décrit dans ce manuel. Utilisez uniquement les accessoires recommandés par le fabricant décrits dans ce manuel.
- Ne jamais utiliser la machine si des ouvertures d'air sont bloquées. Gardez les ouvertures de ventilation de la machine exemptes d'accumulation de peluches, poussières et morceaux de tissu.
- Ne pas utiliser là où des aérosols (vaporisateurs) sont utilisés ou de l'oxygène est administré.
- Ne pas tirer ni pousser trop fort la machine sur le tissu lors de l'exécution des points. Cela pourrait provoquer une déviation de l'aiguille et en entraîner la fracture.
- N'utilisez que les aiguilles conçues pour le quilting en piqué libre et recommandées par Handi Quilter pour cette machine. D'autres types d'aiguilles risqueraient de se fracturer au cours d'un quilting normal.
- Ne pas laisser les enfants jouer avec la machine. Une attention particulière est nécessaire lorsque cette machine est utilisée par ou à proximité d'enfants.

- Cette machine peut être utilisée par des enfants de 8 ans et plus, ainsi que par des personnes atteintes d'un déficit physique, sensoriel ou mental, peu expérimentées ou ayant peu de connaissances, à condition que ces personnes reçoivent les instructions de sécurité et la supervision nécessaires à l'utilisation de la machine et qu'elles comprennent les risques encourus.
- Les travaux de maintenance et de nettoyage ne peuvent pas être effectués par des enfants sans supervision.

California Residents:

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



WARNING: Cancer and Reproductive Harm
ADVERTENCIA: Cáncer y Daño Reproductivo
www.P65Warnings.ca.gov

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 Moxie 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 Moxie is heavy. Never attempt to lift it alone. Always use two people when lifting. Always lift from the throat of the machine.
- Always unplug the Moxie 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 0, 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 Moxie should only be used indoors away from moisture.
- The Moxie should not be stored or used in extreme temperatures.
- Use the Moxie 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 Moxie if the cord is damaged or not working correctly. If a mechanical or electrical problem is encountered, return the Moxie to the nearest authorized service center or the manufacturer for examination, repair, electrical, or mechanical adjustment.
- It is not recommended that the Moxie quilting machine be used with any table other than those recommended by Handi Quilter.
- Use this quilting machine only for its intended use as described in this manual. Use only attachments recommended by the manufacturer 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 loose cloth.
- 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 enough to cause it to break.
- Use only needles designed for free motion quilting and recommended by Handi Quilter for this machine. Other types of needles may be break during normal quilting.
- Children shall not play with the machine. Close attention is necessary when this machine is used by or near children.
- This appliance 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 concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.

Save These Instructions

This machine is intended for household or commercial use.

Disclaimer

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

To use the machine safely

1. Carefully watch the needle when sewing. Do not touch the hand wheel, take up lever, needle, or other moving parts.
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 hot things.
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 fix the hopping foot, needle or any other part of the machine. If necessary contact an authorized Handi Quilter retailer or Handi Quilter technical support.

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WARNING: Cancer and Reproductive Harm
ADVERTENCIA: Cáncer y Daño Reproductivo
www.P65Warnings.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 inspect and adjust the machine yourself.

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

The contents of this manual and product specifications are subject to change without prior notice. Check for updated manuals at www.handiquilter.com/manuals/.

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 operating environment before use.

About Your Machine

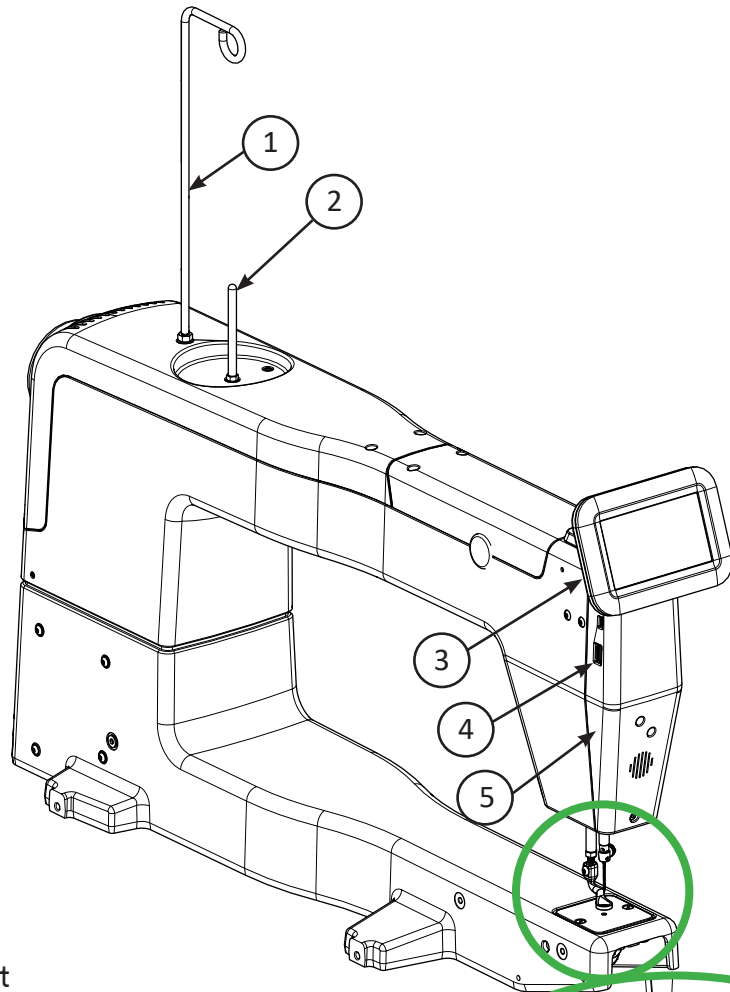
General Specifications

The Handi Quilter Moxie Stationary machine uses high-tech electronics and an innovative touchscreen user interface to offer greater functionality and ease of operation to home quilters than ever before conceived in the quilting industry. The Moxie quilting machine is a high quality machine that both incorporates robust design features and is easy to service.

Sewing Opening Dimensions	(210mm X 470 mm) 8.25 inches X 18.00 inches
Sewing Speed	Manual Mode: from 25 stitches per minute to 2100 stitches per minute Regulated Mode: from 0 stitches per minute to full speed
Stitches Per Inch	4 stitches per inch to 18 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, servo controlled
Needle Positioning	Up and down

Electrical Power	100-240 VAC, 50-60Hz Average 0.75 ampere at 120 VAC, 60Hz
	This machine conforms to UL and international safety standards for sewing machines and US and international laws for electromagnetic compliance.
Display	4.3-inch color touchscreen
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 Moxie ST

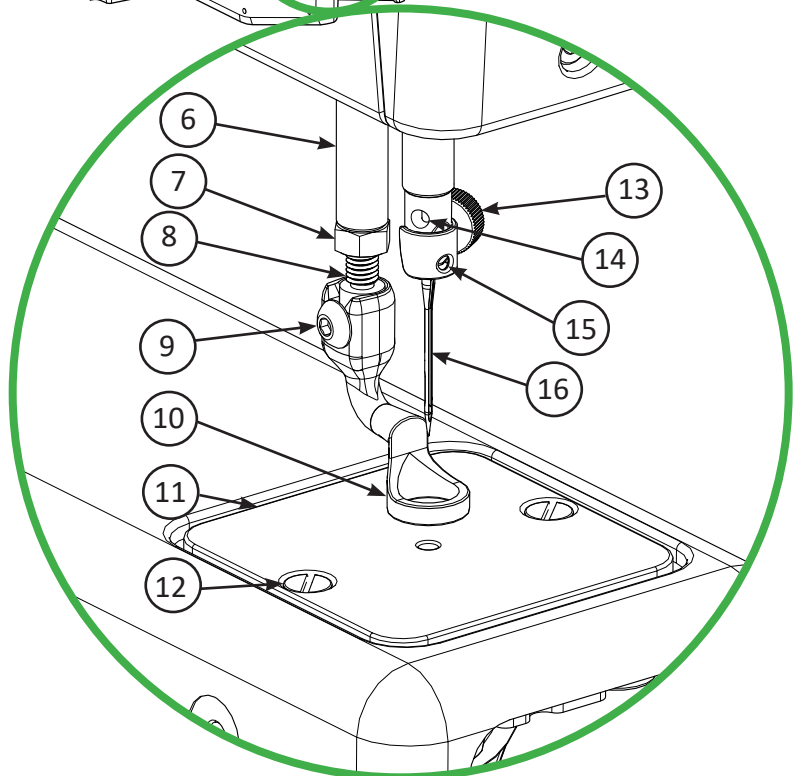


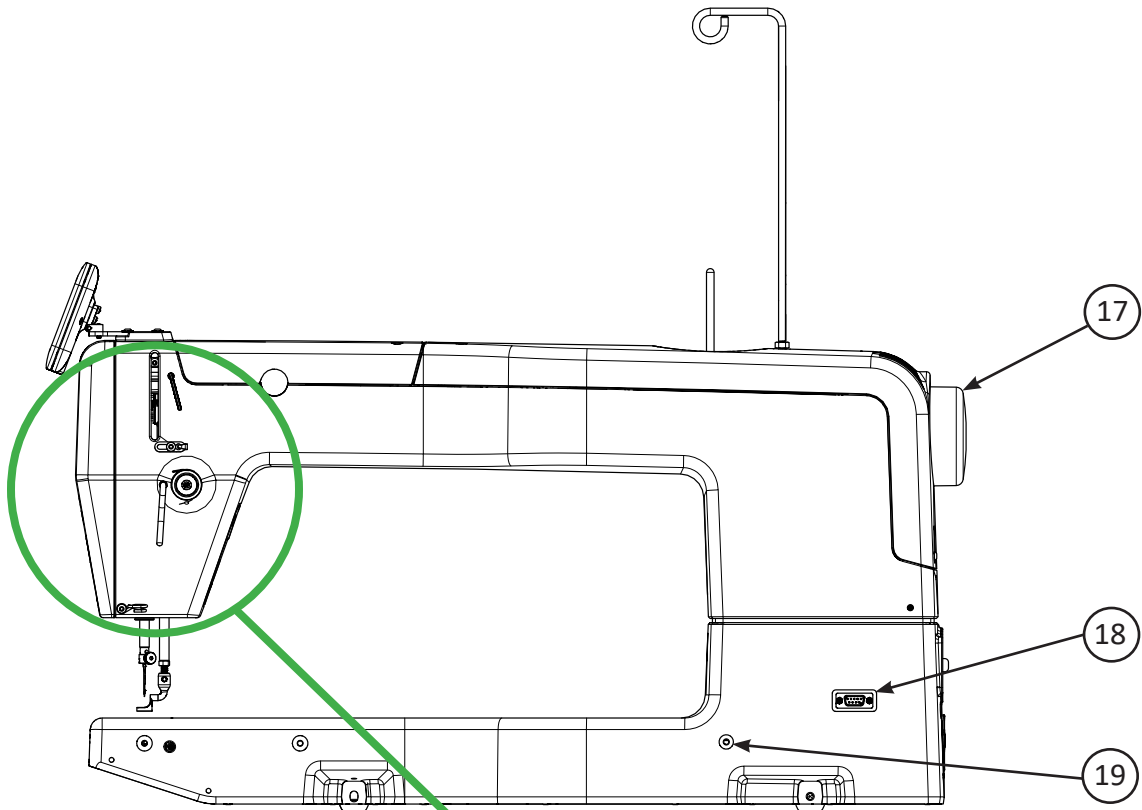
Left Side View

1. Thread mast
2. Spool pin
3. Touchscreen display
4. USB port
5. Magnetic tool minder

Close-up View of Needle Area

6. Presser bar
7. Presser bar jam nut
8. Foot adapter
9. Hopping foot mounting screw
10. Closed-toe hopping foot
11. Needle plate
12. Needle plate screw
13. Needle bar clamp screw
14. Needle stop/sight hole
15. Needle bar thread guide
16. Needle



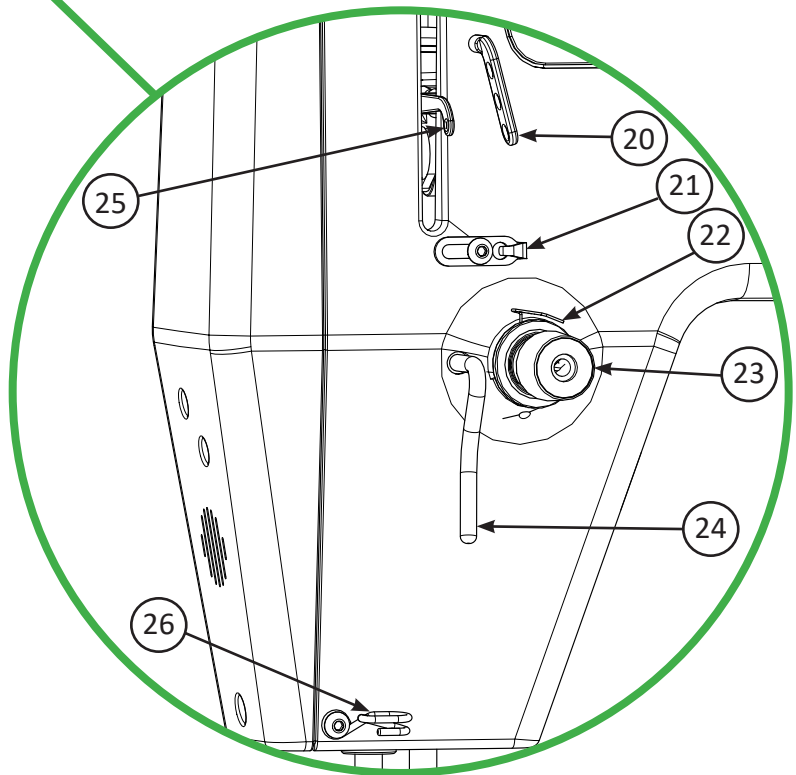


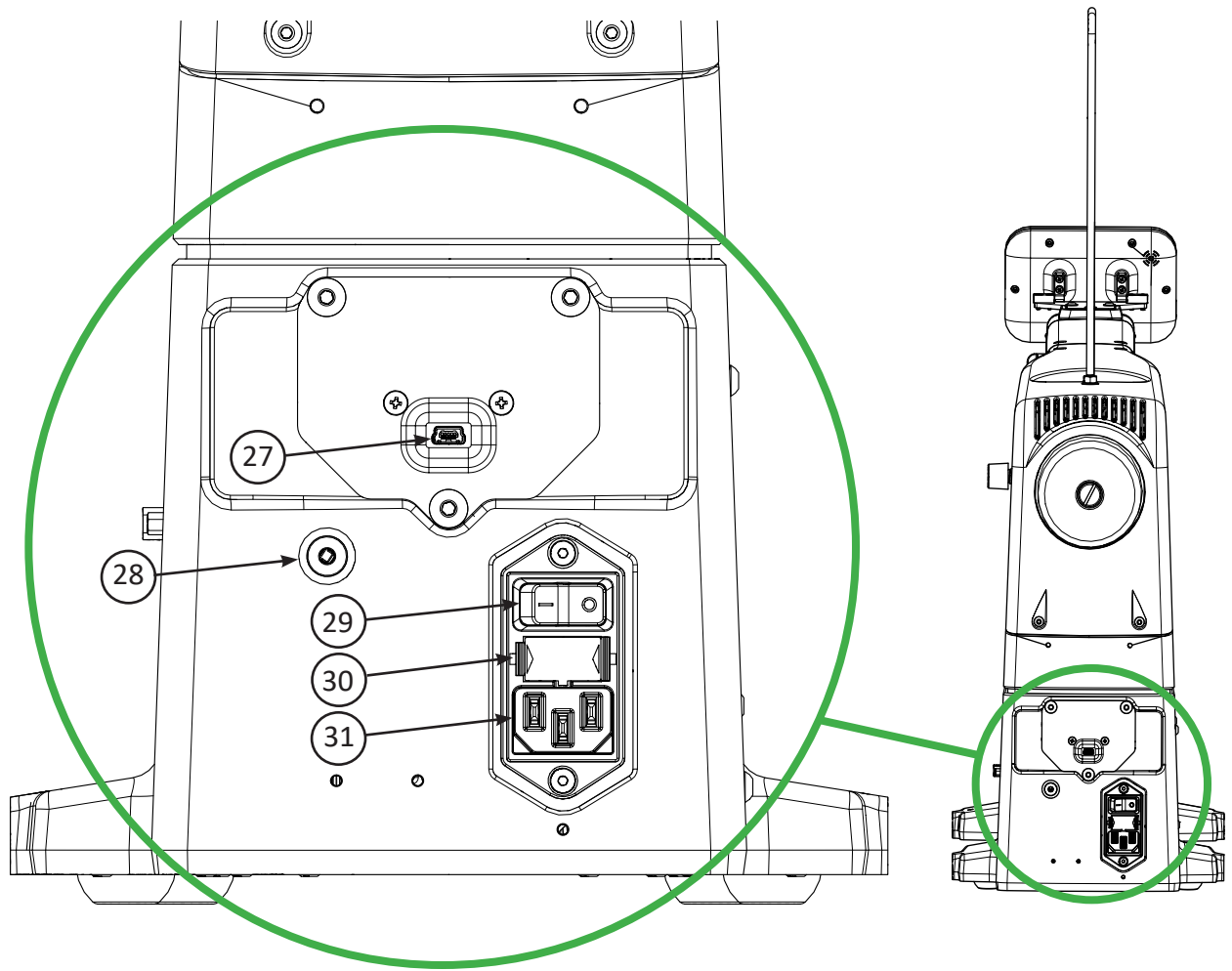
Right Side View

- 17. Handwheel
- 18. 9-pin connection for PSL or laser
- 19. Threaded hole for accessory pin

Close-up of Tension Assembly

- 20. Three hole thread guide
- 21. Thread guide
- 22. Take-up spring
- 23. Top tension assembly
- 24. Thread stirrup
- 25. Take-up lever
- 26. Lower thread guide





Machine Connections

- 27. Insert SR sensor connection
- 28. Foot pedal connection
- 29. Main on/off power switch
- 30. Fuse holder and cover
- 31. Power cord connection

Magnetic Tool Minder

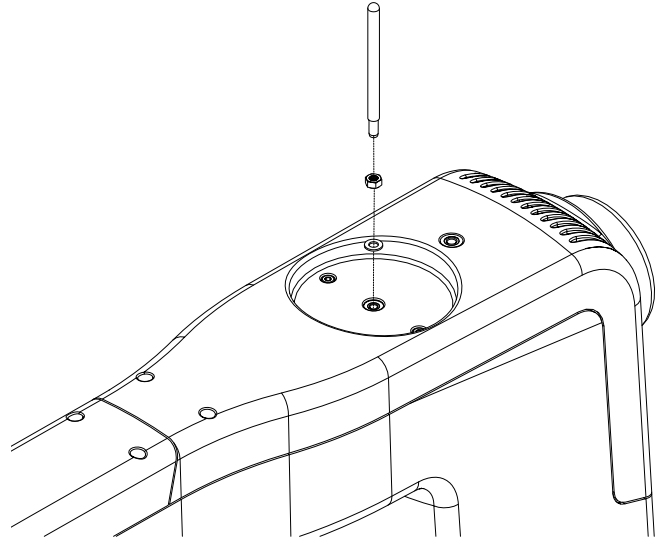


Installation and Setup

Spool Pin and Thread Mast

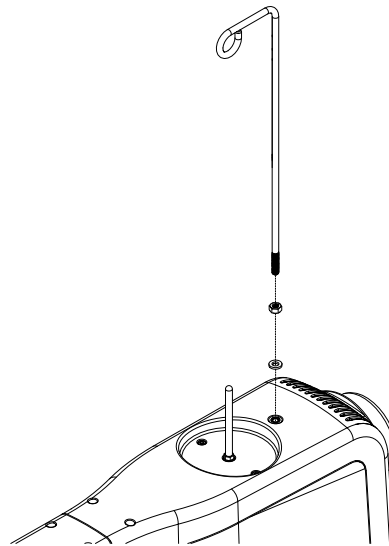
To install the spool pin on the machine

1. You'll need the spool pin with nut and washer.
2. Remove the nut and washer.
3. Place the washer against the top of the machine cover.
4. Screw the nut onto the spool pin all the way.
5. Place the spool pin through the washer and into the top cover and tighten it all the way.
6. Hold the spool pin firmly and tighten the nut with the 8mm wrench (provided). Do not over tighten.



To install the thread mast onto the machine

1. You'll need the thread mast with washer and nut.
2. Remove the nut and washer.
3. Place the washer against the top of the machine cover.
4. Screw the nut onto the thread mast all the way.
5. Place the thread mast through the washer and into the top cover and tighten it down to the nut. Turn until the loop of the mast is directly over the spool pin.
6. Hold the thread mast firmly and tighten the nut with a 10mm wrench (provided). Do not over tighten.



Machine Head USB Port (built-in)


The USB port is a full USB port that can be used to power a USB device or communicate with accessories. It is located on the side of the machine to the left of the display at the front. This USB Port is NOT used for machine and display updates. For more information, go to the Updates section on page 40.

Installing the Power Cord

To install the power cord

- Insert the plug into the power connector on the rear of the machine. Plug the three-prong plug end into your power source.

To disconnect the power cord

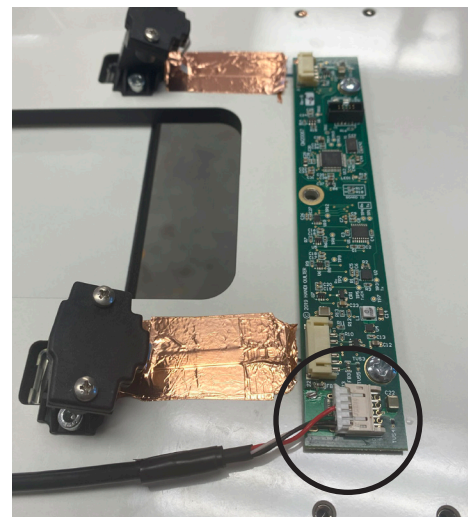
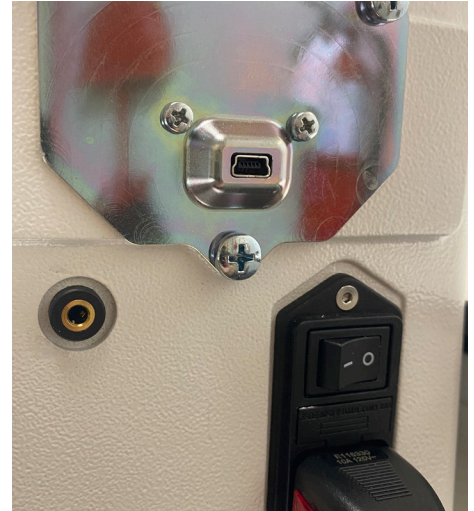
- First pull out on the red buttons on the sides of the plug and then pull the plug out of the machine.
 **NOTE:** Make sure that the machine is off before plugging into a power source. The main power switch should be in the O (off) position.

Installing the Foot Pedal

- Plug the foot pedal extension cable into the back of the machine
- Plug the other end of the extension cable into the foot pedal and place it on the floor within easy reach of the desired foot.

Connecting the Table Insert

Plug the 90° USB cable into the back of the machine and the white connector into the white connector on the rear of the Optical Sensor Board at the front of the table. (Shown with board cover off)




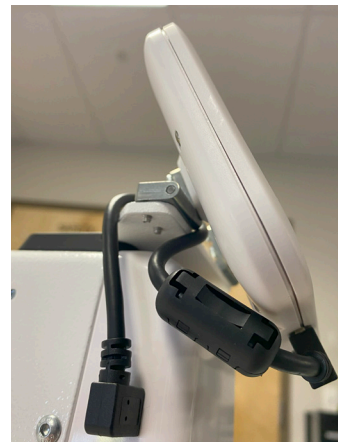
Installing the Touchscreen Display

The Moxie ST comes with one 4.3-inch touchscreen front display.

To install the front display

1. Locate the three screws for the touchscreen bracket. Line up the black adapter piece and the white touchscreen bracket with the holes on top of the Moxie ST. Insert and tighten the screws with the included hex wrench.
2. Plug the USB mini B cable (with 90° connections) into the left side of the machine and into the bottom of the display. This cable provides power and signal connection from the machine to the display. The ferrite goes on the end into the display.

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



Optional Accessories

Horizontal Spool Pin

 **ONLINE:** To see how to install the horizontal spool pin, watch the video at:
<https://www.youtube.com/watch?v=lb9MEK7bkLo&t=3045s>

The optional Horizontal Spool Pin allows you to use threads that need to feed from the side of the spool horizontally. Examples would be straight-wound spools or mylar holographic threads.

The kit comes with 3 parts; a threaded post, a pin and a clamp. The Moxie ST does not require the threaded post, so set that aside.

1. Loosen thumbscrew on clamp and attach to the top of the Moxie ST spool pin through the opening closest to the thumbscrew.
2. Place the pin through the other opening and position it so that it is horizontal, at a 90-degree angle to the Moxie ST spool pin and pointing out to the right of the machine.
3. Tighten the thumbscrew.
4. Place spool of thread on the horizontal spool pin and thread machine normally.

Handi Feet

Handi Quilter offers several optional accessory feet that can be used for everyday quilting as well as special techniques. Explore the possibilities with these videos.

 **ONLINE:** For more information about changing the feet, watch the video at:
<https://www.youtube.com/watch?v=lb9MEK7bkLo&t=720s>

 **ONLINE:** For more information about optional HQ Handi Feet, watch the HQ Live video HQ Live - Mary Beth Krapil at: <https://youtube/AEREeMa9wDg>.

Operating Instructions

Power Switch

The main power switch is at the rear of the machine.

Turn on the main power switch first by toggling the switch from the O position (off) to the - position (on).

- **IMPORTANT:** When you are finished quilting, if you will not be using the machine for more than a day, we recommend you turn off the main power switch and unplug the power cord from the power source.
- **IMPORTANT:** Refer to the safety instructions.

Lighting

The Moxie ST includes bright LED lights above the needle to make it easy for you to see your quilting. You can adjust the intensity of the lights to suit your environment.

Machine Needle

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

The Moxie ST uses the 134 needle system. Note that the needle has a round shank rather than a shank with a flat side, like home sewing machines use.

If you use the recommended needle, 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. We recommend you use 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 or may even damage the machine or your quilt.



To change the needle

 **ONLINE:** For more information about replacing the needle, watch the video at:
<https://www.youtube.com/watch?v=lb9MEK7bkLo&t=610s>

1. Move the needle bar to the UP position by pressing the Needle Up/Down control on the handlebar.

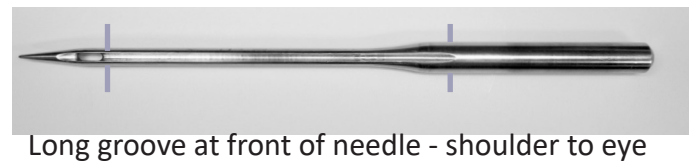
2. Turn off all power to the machine.

3. Loosen the needle bar clamp screw with the 2.5mm hex wrench.

4. Remove the old needle by pulling it down. Discard the old needle in a safe way.




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 to verify that the top of the needle can go up no farther.



6. Check the needle to confirm it is fully inserted. The needle bar has a sight hole above the needle bar clamp screw. Make sure the needle is touching the top of the sight hole. If it is not all the way up, 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.

7. 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, you use the 2.5mm hex wrench to tighten it just a bit more. The Moxie 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.) Once the screw no longer turns freely by hand, gently turn the hex tool 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 batting and heavier fabrics such as denim, canvas, or densely woven fabric may also require a larger needle.

Hopping Feet


Your machine comes with two hopping feet: a closed-toe foot (comes installed) and an open-toe foot. Use the closed-toe foot for everyday quilting, the Sure Foot for ruler work, and the open-toe foot when you need greater stitch visibility (such as when you are micro quilting).

 **ONLINE:** For more information about changing the hopping feet, watch the video at: <https://www.youtube.com/watch?v=lb9MEK7bkLo&t=720s>

To change the hopping foot

1. Turn off all power to the machine
2. Raise the needle and foot to their highest position. Remove the foot that is on the mount by using the 2.5mm hex wrench to loosen the mounting screw far enough that you can slide the foot off of the mount.
3. Slide the desired foot onto the mount. Note that the opening on the side of the foot is lined up with the screw. Push the foot up as far as it will go.
4. Fully tighten the screw with the 2.5mm hex wrench.



 **IMPORTANT:** The Moxie 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 Moxie ST 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 stitch quality problems and/or thread nests.

Bobbin and Bobbin Tension

The Moxie ST quilting machine uses M-class bobbins that are much larger than home sewing machine L-class bobbins. The larger bobbins hold more thread and enable you to quilt for a longer time between bobbin changes.

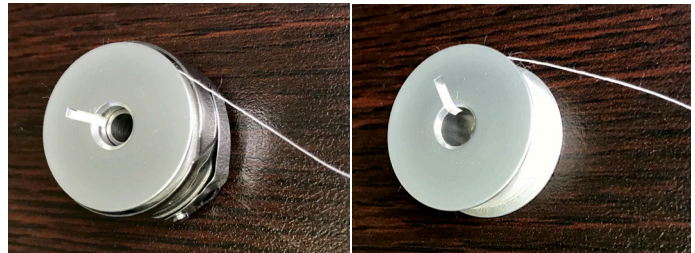
To wind the bobbin

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

To insert the bobbin into the bobbin case

△ **CAUTION:** To prevent personal injury, always turn off the power switch while inserting and/or removing the bobbin case or anytime your hands are near the needle area, such as when you change the needle or the hopping foot.

1. Place the bobbin in the bobbin case so the thread is wound clockwise and coming off top right.



2. The thread will then backtrack through the slot.



3. Guide the thread under the bobbin case tension spring.



4. The bobbin should rotate counterclockwise when the thread is pulled when properly threaded under the tension spring.

✍ **NOTE:** The rule is for the thread to backtrack as it comes off the bobbin under the tension spring. It should rotate the opposite way it is wound. It should not rotate the same direction it is wound. **ONLINE:** For more information about inserting the bobbin and adjusting bobbin tension, watch the video at: <https://www.youtube.com/watch?v=lb9MEK7bkLo&t=493s>

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 end facing up.
2. Wrap the thread once 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 barely 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

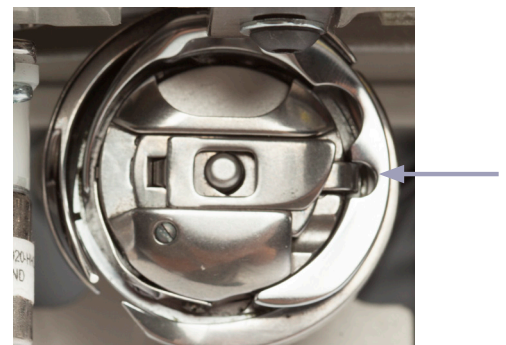
- Make the adjustment using the screw in the center of the tension spring (the larger of the 2 screws). Turn clockwise to tighten and counterclockwise to loosen the tension. Make tiny adjustments to the screw and test again.



To insert the bobbin case into the machine

1. Move the needle to the up position. Turn off the power to the machine.
2. Place the bobbin in the bobbin case.
3. Leave 5 to 6 inches of thread hanging loose. See page 24 for more details
4. To fit the bobbin case onto the hook spindle in the machine, orient the bobbin case as shown in the photo with alignment tab into the notch to the right. Push the bobbin case inward until it clicks into place.

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



Quilting with the Moxie ST

Preparing to Quilt

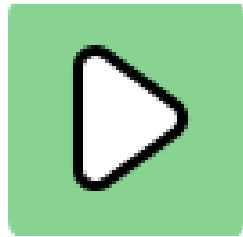
- **IMPORTANT:** Make sure your machine has been cleaned, oiled, has a new needle, and that your table top is free from threads or other debris.
1. If the machine isn't already plugged in, plug it in now.
 2. Select your thread and wind one or more bobbins.
 3. Set your bobbin tension and thread your machine.
 4. Turn on the main power switch at the back of the machine.
 5. Use a scrap sample of your quilting material, batting, and backing to test your top tension. Make adjustments to the top tension as needed.

To bring bobbin thread to the top of the quilt

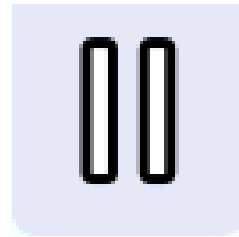
1. After threading the machine, plug it in and turn on the power. Place quilt sandwich under hopping foot.
2. While firmly holding the tail of the needle thread with the left hand, choose one of the following methods to cycle the needle through one full rotation to bring the bobbin thread to the top 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 on the right side 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 on the right of the color touchscreen main display. Press and hold briefly to cycle the needle through one complete stitch cycle (down and back up).
3. Pull the fabric 3-4 inches away while holding the needle thread.
4. The bobbin thread will pull up and through to the top, allowing you to grasp the loop and pull it to the desired length.

To start or stop quilting

- In Manual Mode, much like a domestic sewing machine, you may use the foot pedal to control the speed of the machine as it stitches. The further the pedal is pressed, the faster the machine will make stitches. In Stitch Regulation Mode, both in Precision and Cruise, the foot pedal acts more like an On/Off switch. In Regulation Mode the speed of the machine is controlled by how fast the fabric is moved over the machine needle plate.
- The Start/Stop button at the top right of the screen may be used 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 pedal 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 also change to green. When the button is pressed again, the machine will stop and the pause icon with a blue background color will turn into the play icon with a green background.
- 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 green button with the play icon.



Start / Play



Stop / Pause

Threading the Machine

Use the visual guide on the following page as well as the instructions below to thread your machine. Handi Quilter recommends that you select and use only high-quality threads for your quilts.

To thread the machine

1. Place thread cone onto spool pin (1) at the top of the machine; insert the thread through the thread-mast eyelet (2) from back to front, continuing to the three hole thread guide (3).
2. On the three hole thread guide, thread all three holes from back to front, wrapping as you go, being careful not to cross threads. Threading all 3 holes is recommended for most threads. However, some very delicate threads, like metallic or monofilament, may require less tension. If you are having problems with thread breaking, try threading only one or two holes of three-hole thread guide.
3. Continue through the thread guide just above the top tension assembly (4).
4. The thread continues down to the top tension assembly (5).

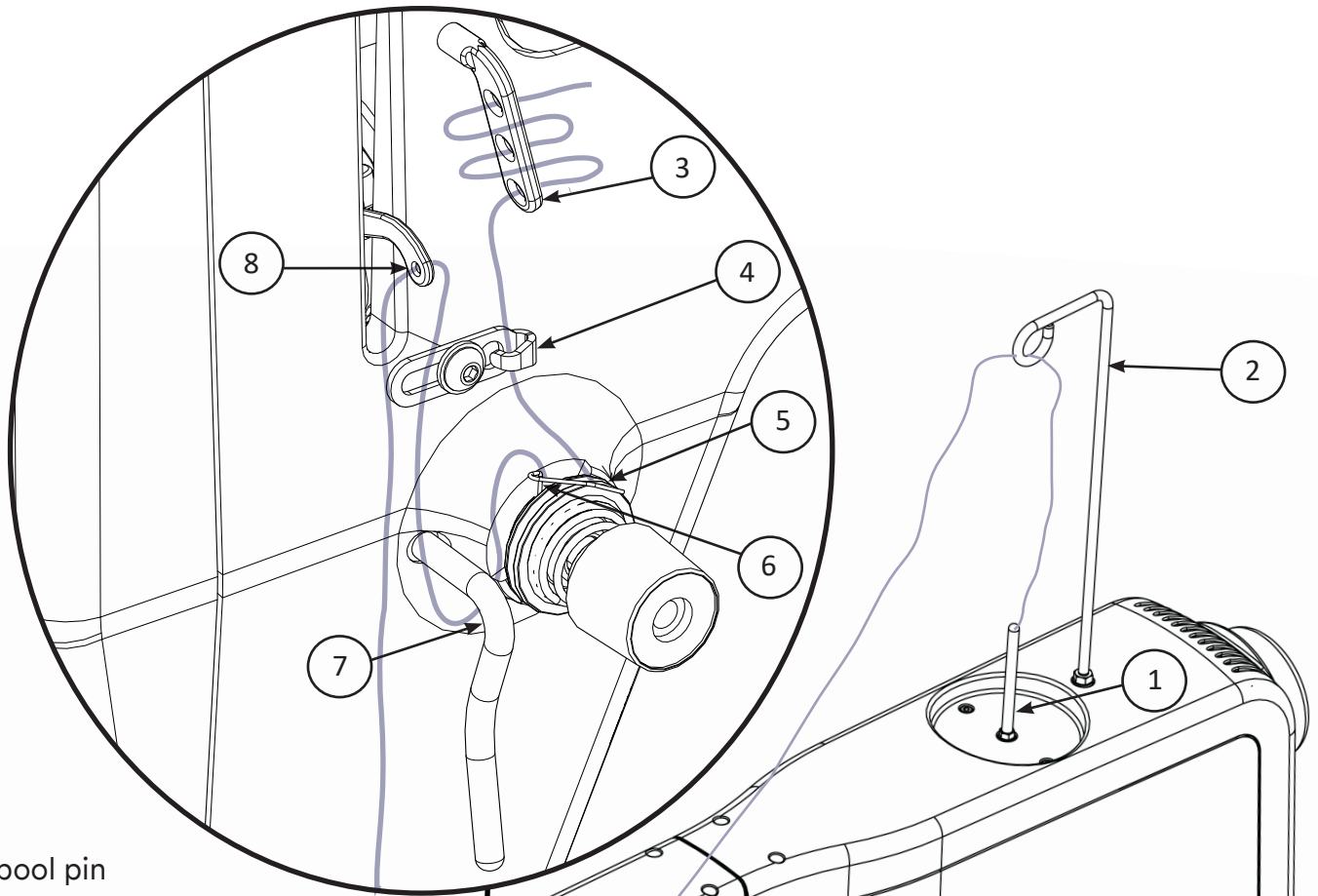
➡ **IMPORTANT:** The thread must be flossed up between the two tension discs. If the thread is not firmly in place between the two tension discs, the thread will lay on top of the tension discs (no tension) and thread looping on the bottom of the quilt can occur.

5. After the thread is in place between the tension discs, be sure that the thread catches on the take-up spring (6). Then guide the thread under the thread stirrup guide (7). Bring the thread up and through the hole of the take-up lever (8) from back to front, and then through the lower thread guide (9).

✍ **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, re-thread the machine, ensuring that the thread is flossed all the way between (pulled up into) the tension discs.

6. Thread through the needle bar thread guide hole (10), this time from front to back. Almost there! Make sure the thread follows the groove down the front of the needle and insert the thread through the eye of the needle from front to back (11). While pulling thread through the eye of the needle, be careful that the thread does not twist around the needle.

📺 **ONLINE:** For more information about threading the machine, watch the video at: <https://www.youtube.com/watch?v=lb9MEK7bkLo&t=377s>




1. Spool pin
2. Thread mast eyelet
3. Three hole thread guide
4. Thread guide
5. Top tension assembly
6. Take-up spring
7. Thread stirrup
8. Take-up lever
9. Lower thread guide
10. Needle bar thread guide
11. Needle


Top Tension


One of the joys of quilting with the Moxie ST is its ability to utilize many different types of thread. You can quilt with almost any high-quality thread as long as you first adjust the bobbin tension and then adjust the top tension to suit the thread you've chosen.

Puckering, gathers, and thread breakage occur when the top thread 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 you are using for your project.

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

 **NOTE:** Dark threads will be thicker (because of more 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, you should check your tension.

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

 **QUILTING TIP:** Test the tension settings before quilting. The best way to make sure the top and bobbin tension settings are balanced is by quilting a test sample. Keep small pieces of light solid fabric on hand to place at the side of the quilt on the extra batting and backing. Then quilt some small loops and swirls and look at the stitches on top and underneath to ensure the tension looks balanced. Fine tune the tension as needed.

To adjust the top tension

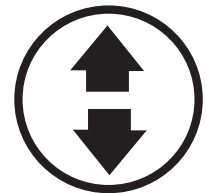
1. Test stitching with a scrap of fabric placed on the extra batting and backing at the side of the quilt. Examine the stitches both on the top and on the underside of the quilt.
2. Adjust the tension by turning the tension dial clockwise to tighten and counter-clockwise to loosen.
3. Continue to test the stitching on the fabric scrap and adjust by turning the tension dial until you are happy with the stitches.

Threading the Needle with the Needle Threader

1. Turn off the power to the machine.
2. Hold the needle threader by the grip, with the triangle mark facing up.
3. Guide the thread, inserting it into the Y groove from right to left horizontally.
4. Place the V groove around the needle, above the eye.
5. Slide the automatic threader down the needle, while pushing it gently against the needle, until the threader pin goes into the needle eye.
6. Push the grip gently. You should see the threader pin and thread loop at the back of Remove the threader from the needle slowly, then pick up the loop with the hook on the threader, pulling the end of the thread out to the back.
7. Turn machine power back on.

To bring bobbin thread to the top of the quilt

1. After the machine is threaded, move the machine over the quilt to your starting location.
2. While firmly holding the tail of the needle thread, press the needle up/down key (button) twice, causing the needle to go down through the quilt sandwich and then back to the up position.
3. Move the machine two to three inches while holding the needle thread in place. The bobbin thread will pull through to the top of the quilt.
4. Grasp the bobbin thread and pull it to the desired length. Reposition the needle to the starting location. Tie off the threads by quilting a few very tiny stitches while holding both the top and bobbin thread. Press the Start/Stop key (button) to begin quilting.



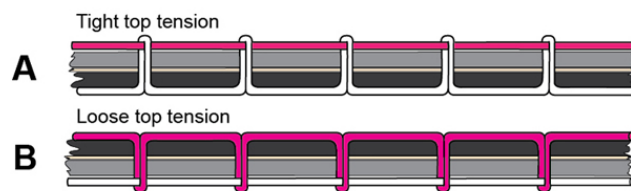
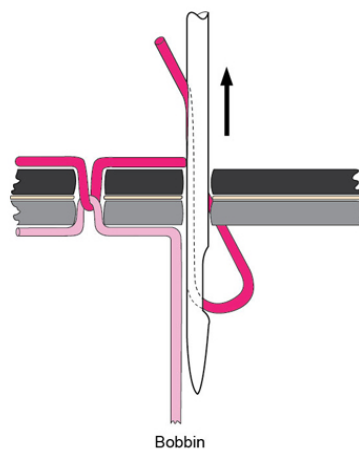
To start or stop quilting

- Start or stop the machine at any time by pressing the Start/Stop key on the handlebars.
- To start quilting press the Start/Stop key. Do not hold the key down.
- To stop quilting press the same Start/Stop key.



Tension Quick Start Guide

1. Always adjust bobbin tension first. Bobbin adjustments are minute. Turn the screw in small increments like single minutes on the clock.
2. Stitch to check top tension. To adjust the top tension, turn the knob in quarter turns or 15 minute increments.
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.

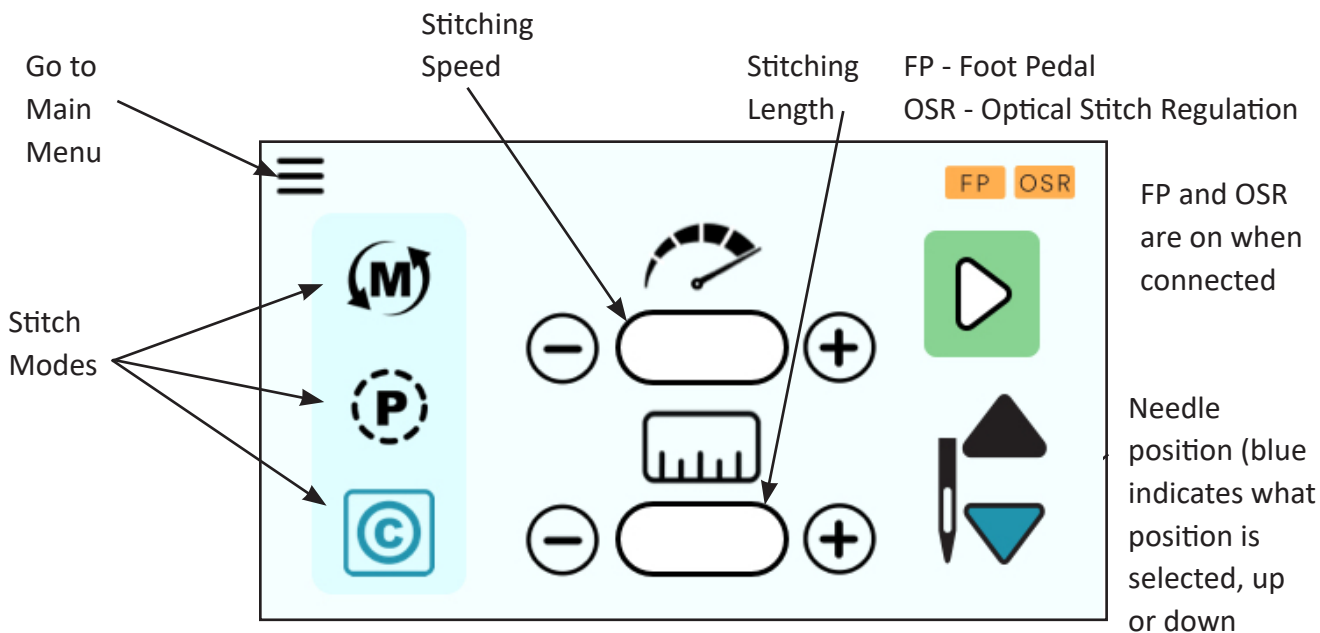



Moxie ST Screen Navigation


Complete detailed information for navigation and operation can be found on the following pages.

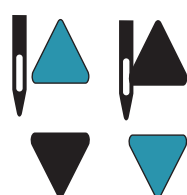
Home Screen

The home screen is the main stitching screen that looks like this or something similar to this. The machine's touchscreen will need to be showing the Home Screen when you are stitching.

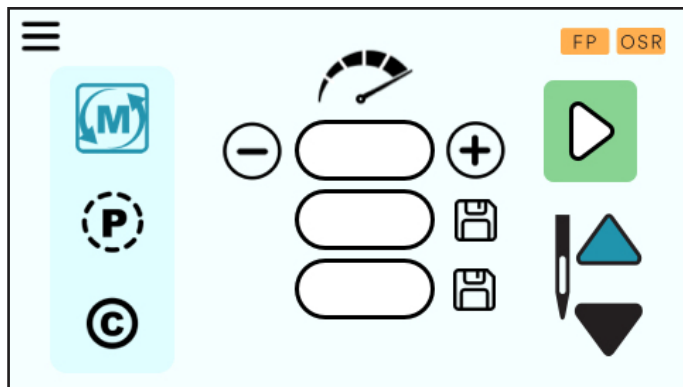
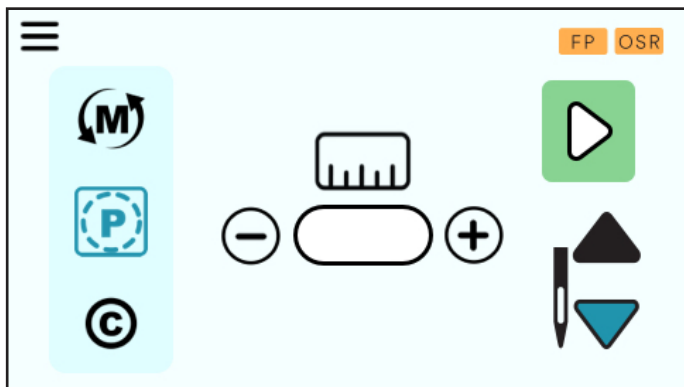


 Box around icon indicates which item is selected

 Menu symbol indicates screen is a sub-menu


 Needle Stop Position indicates the final needle position when the machine stops stitching

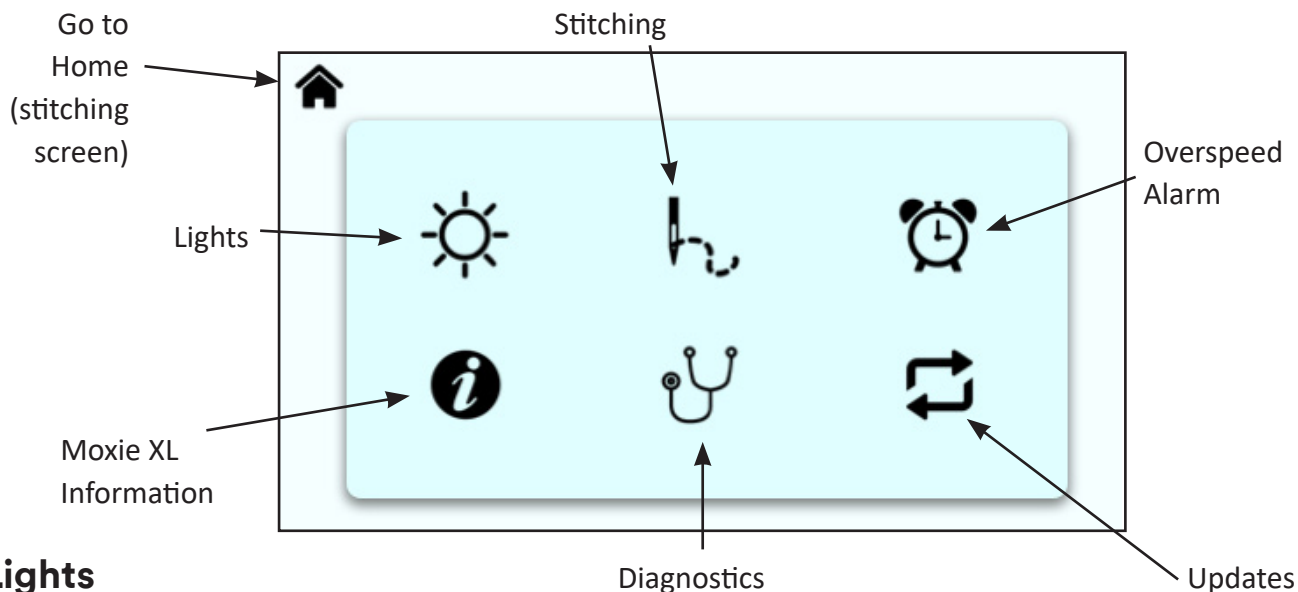
There are two other variations of the home screen, which change depending on the Stitch Mode that is selected.



For more information about sewing with the different stitch modes, see the Stitch Modes section on p. 45.

Main Menu - Toolbar Options

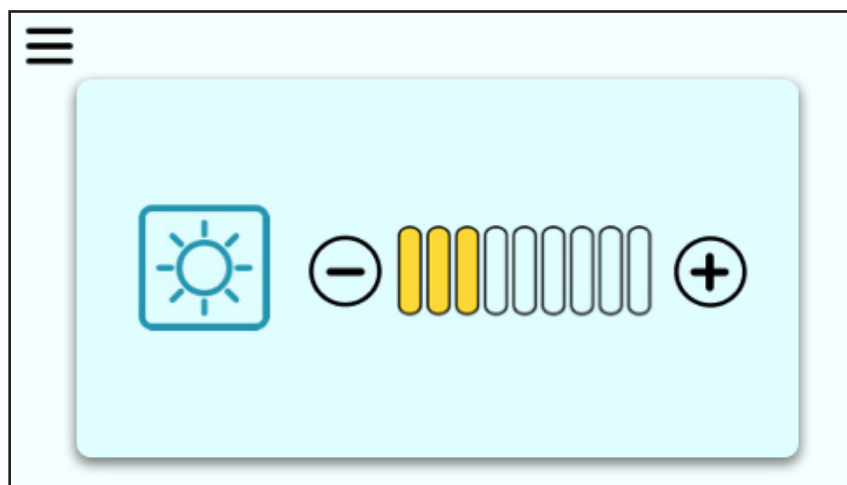
Press the Menu symbol  to go back to the Main Menu. This is the main menu that you will use to go to the machine settings that are shown below. When you click on one of the icons, you will be sent to that icon's sub-menu. Press the Home button to go back to the stitching screen.



Lights



When you click on the Lights icon on the main menu, you will be taken to this screen. This will allow you to adjust the brightness of the light under the nose of the machine.



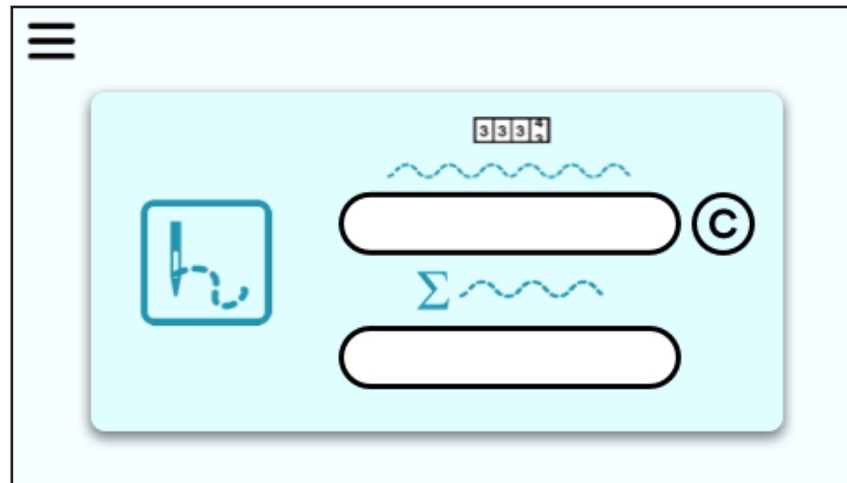
Press the Plus icon (+) to increase the brightness of the light. Press the Minus icon (-) to decrease the brightness of the light. The level of brightness is indicated by the yellow fill lines in the progress bar.

Press the Menu symbol  to go back to the Main Menu.




Stitch Counter

When you click on the Stitching icon on the main menu, you will be taken to this screen. This screen will tell you the stitch count of a project and the lifetime stitch count of the machine.



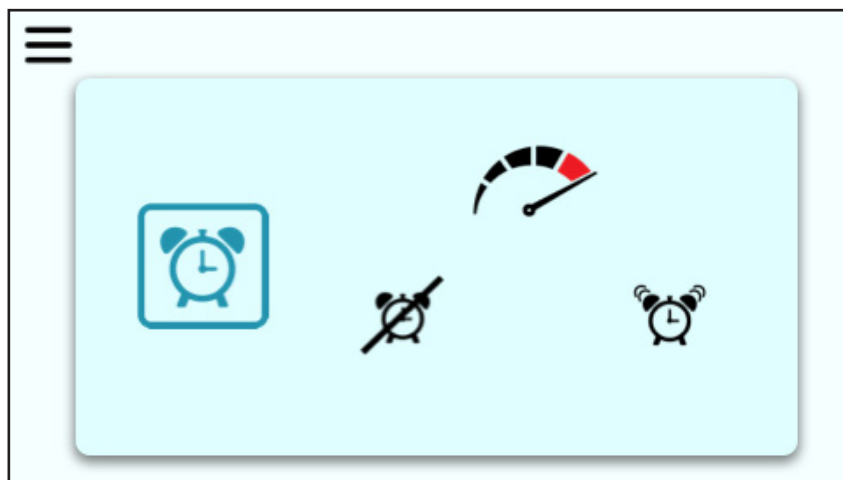
Press the C icon next to the project stitch count to reset the count back to zero. The lifetime stitches cannot be reset

Press the  Menu symbol to go back to the Main Menu.



Overspeed Alarm

Your machine has an alarm that will alert you when you are moving the machine faster than the stitch regulation encoders can track. This may result in uneven quilting. The remedy is to slow down your movement, which the alarm will alert you to.



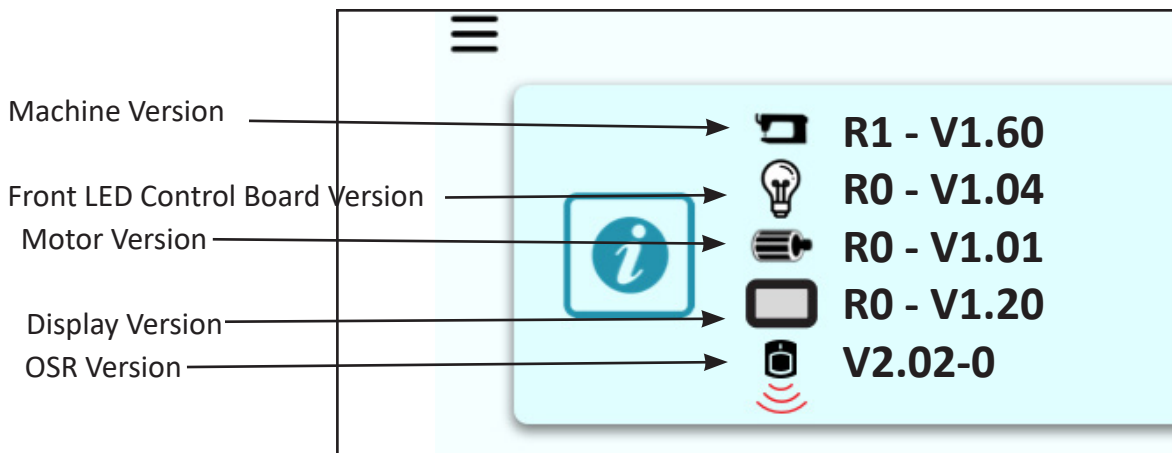
To turn the alarm ON, make sure you select the alarm clock icon on the right that does not have a line going through it. To turn the alarm off, select the icon on the left that has the line going through it.

When the alarm is OFF, the alarm will not sound, regardless of how fast you move the machine.

Press the Menu symbol  to go back to the Main Menu.

Information

The Information screen displays the Machine, LED Control Board, Motor, Display, and Optical Sensor hardware and firmware versions. To check the current versions of the quilting machine and the display or touchscreen, touch the Information icon.

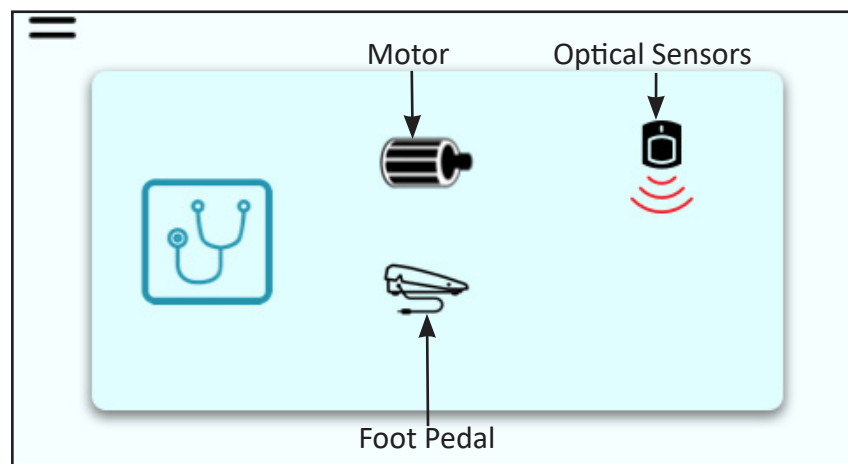


The hardware version is listed first followed by the firmware version is shown. The Machine information is on top.

Press the Menu symbol  to go back to the Main Menu.

Diagnostics

You may be asked to perform diagnostic tests by Handi Quilter's Technical Solutions team or an authorized HQ retailer.



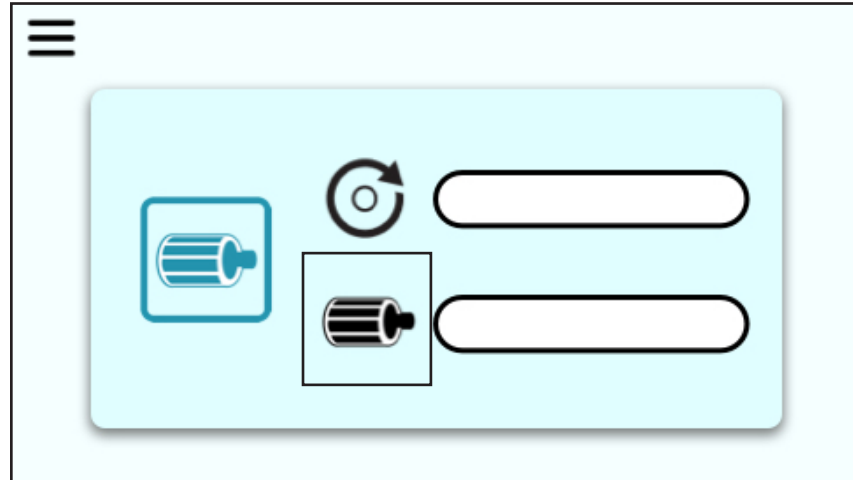
There are three different items you can run diagnostic testing on: motor, foot pedal, and optical sensors.



Motor

Select this icon to start the test for the motor functionality.

While rotating the handwheel the numbers in the top fill screen will toggle from 0 to 359 degrees indicating where the main shaft is located in its rotation. (Main shaft encoder)



Zero indicates needle up position (take-up lever in its highest position).

The lower fill screen should have numbers changing indicating the motor is turning and communicating. (Motor encoder). If this fails the machine will have a critical error and will not run.

Press the Menu symbol  to go back to the Main Menu.



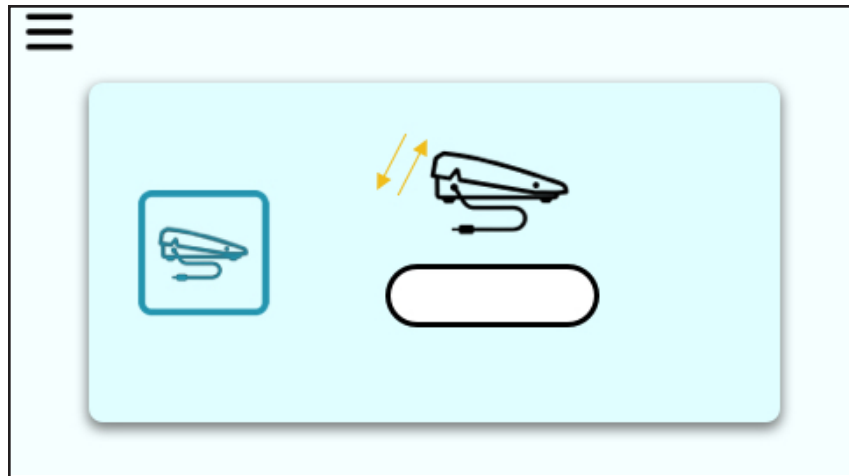
Foot Pedal

Select this icon to test the foot pedal. Press the foot pedal down and the number should go up from zero to 100 and back down as it is released.

Pass: The number will increase as the pedal is pressed down and decrease as the pedal is released.

Note: if the number area has three lines in it, no foot pedal is attached.

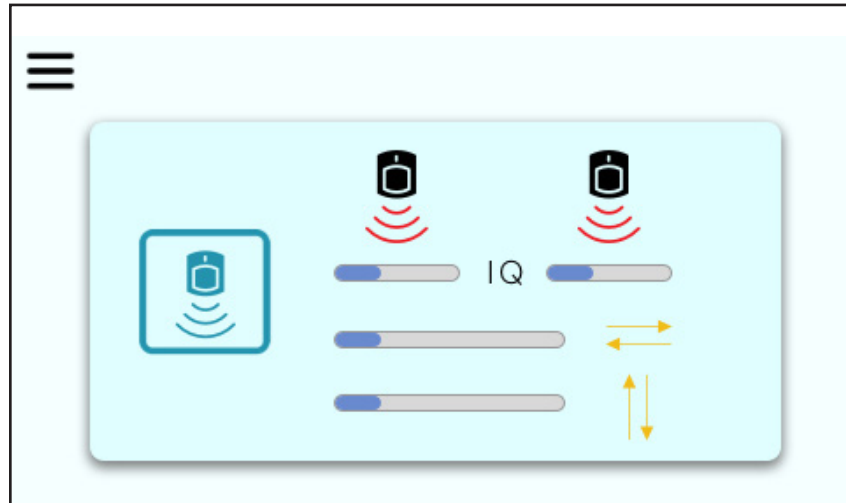
Press the Menu symbol  to go back to the Main Menu.





Optical Sensors

Select this icon to test the Image Quality functionality of the two optical sensors.



Pass: The Image Quality (IQ) bars will change when the fabric is moved left to right.

Pass: The Image Quality (IQ bars) will change in the number area when the fabric is moved front to back.

The more the bar moves the stronger the Image Quality

Press the Menu symbol  to go back to the Main Menu.

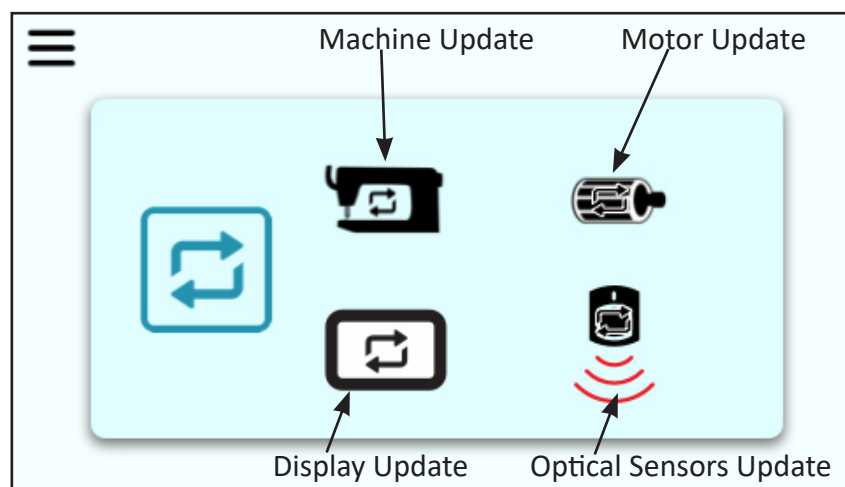


Updates

From time to time, it may be necessary to perform updates to your quilting machine's software. When the update screen is open, this is what you will see:

Through this screen, you can update the display and machine software by using a USB drive (with the updated firmware versions) inserted into the USB port at the bottom of the touchscreen.

 **NOTE:** When you need to update both the Machine or Motor and Display software at the same time, **ALWAYS COMPLETE THE DISPLAY UPDATE FIRST.** Then proceed with the Machine update.



To complete an update, follow these steps:

1. Download the update(s) and save to a USB drive.

For the latest software update, visit <https://handiquilter.com/machine-software-updates> and select the Moxie ST tab.

2. Insert the USB drive into the USB port on the bottom of the touchscreen on the Moxie ST.

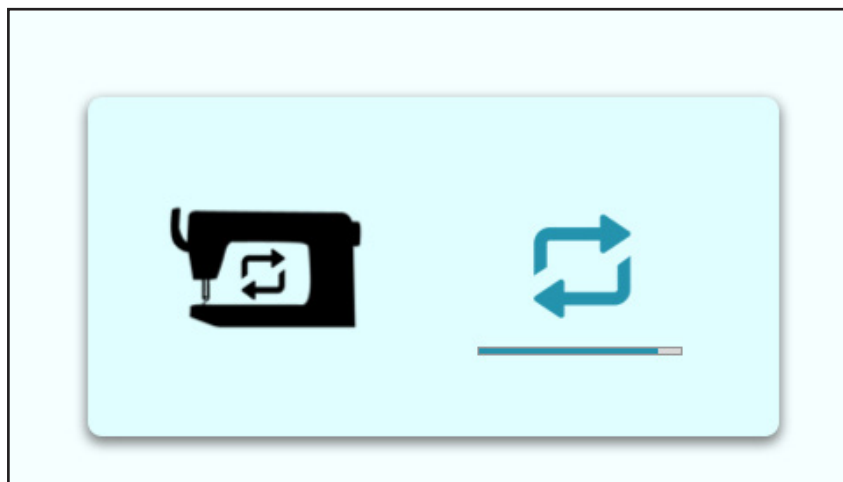
➔ **IMPORTANT:** the download must be unzipped and on the root directory of the USB

✎ **NOTE:** This USB port is used for both the Machine and Display updates.

✎ **NOTE:** When you need to update both the Machine or Motor and Display software at the same time, **ALWAYS COMPLETE THE DISPLAY UPDATE FIRST.** Then proceed with the Machine update.

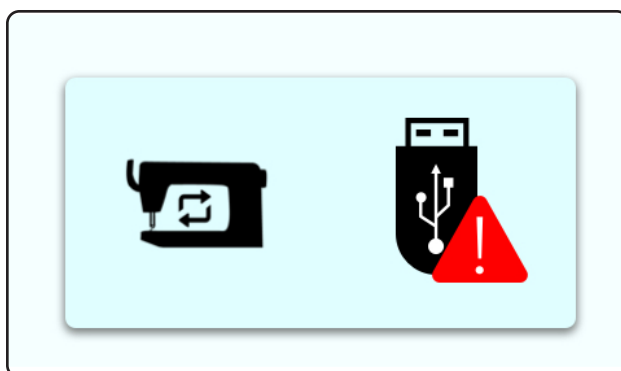
3. Press the Machine icon, the Display icon, the Motor icon, or the Optical Sensors icon to begin the update.

You will see a progress bar like the one below while the **MACHINE** update is being completed.



After an update is complete, the display will go dark briefly and reboot to the Home screen.

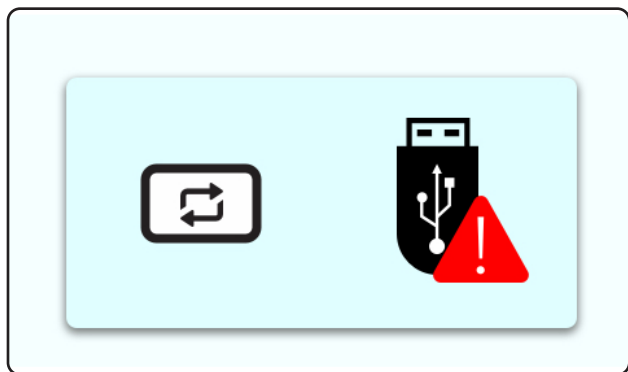
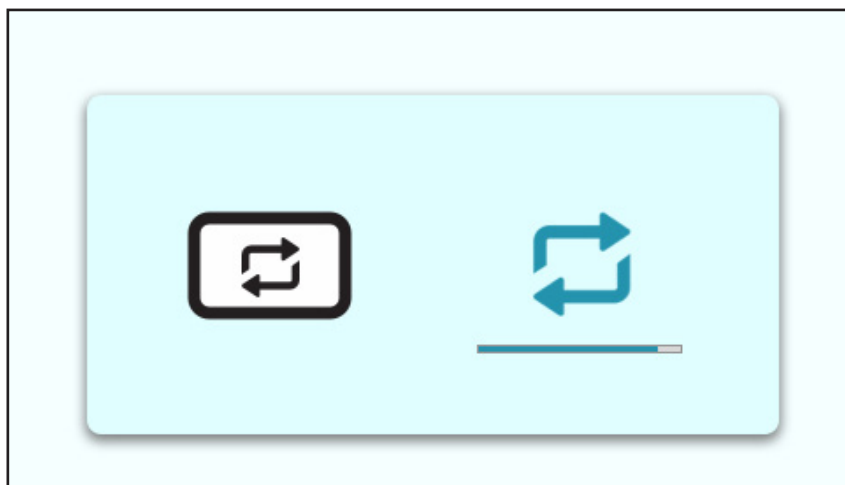
If you see either of these icons, there is a problem with either the USB drive or the update file..



You will see a progress bar like the one below while the **DISPLAY** update is being completed.

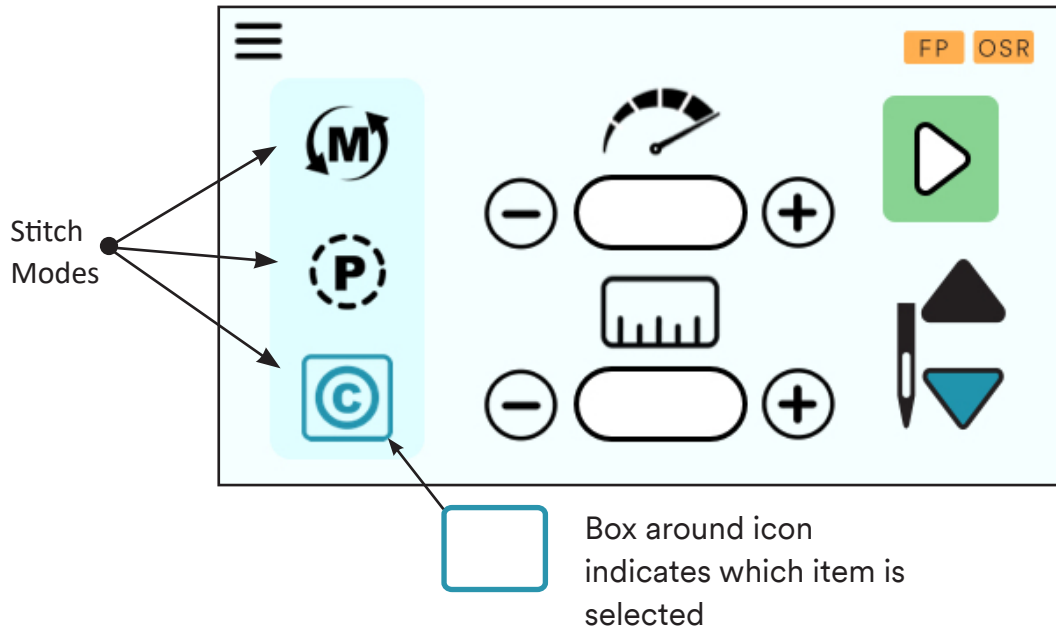
After an update is complete, the display will go dark briefly and reboot to the Home screen.

If you see any of these icons, there is a problem with either the USB drive or the update file..



Stitch Modes

On the home screen, you can view the different Stitch Modes that you are able to access. Each Stitch Mode varies the look of the home screen and has slightly different functions.

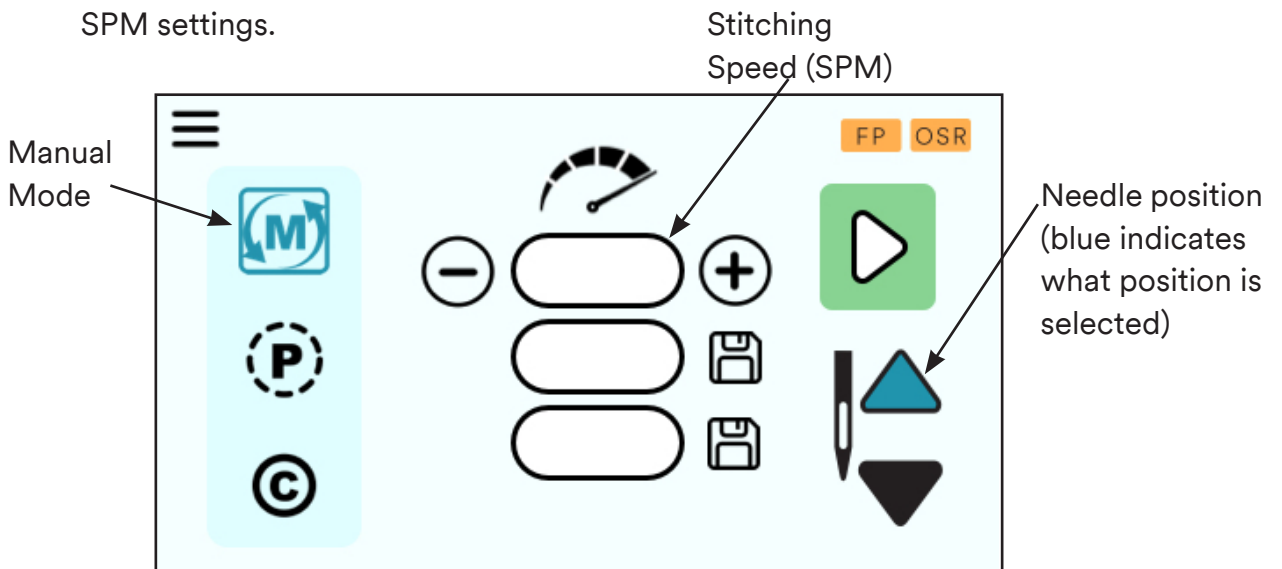


- **IMPORTANT:** The Stitch Mode settings cannot be adjusted while the machine is stitching. Ensure the machine has been paused and make your desired changes. Then you may continue stitching.



Manual Mode

When using manual stitching mode, the length of the stitch is determined by how quickly or slowly you move the quilt thru the needle of the machine, in combination with the number of stitches per minute (up to 1800) that you choose. You can save two SPM settings.



For a consistent stitch length, move the fabric at a consistent speed. Experiment with different combinations of quilting speed and stitches-per-minute to find what the optimal conditions are for you.

Select the Manual icon and then specify the stitches per minute (speed) by pressing the Plus or Minus key on the screen.

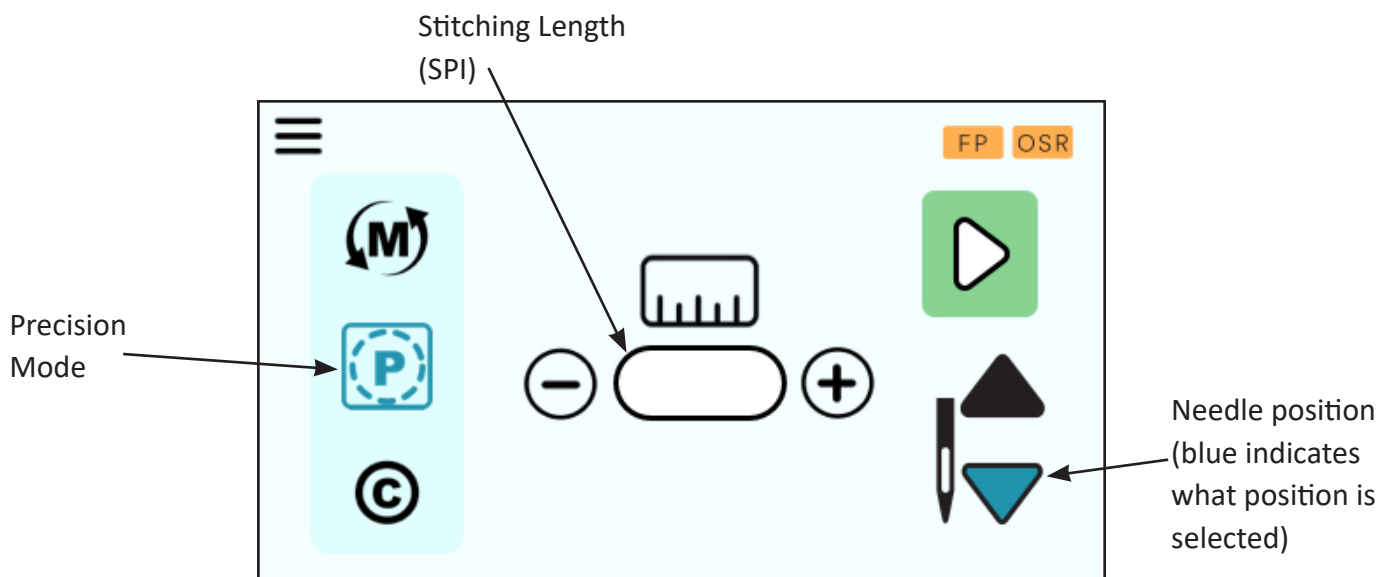


Precision Mode

Stitch regulation maintains a consistent stitch length (stitches-per-inch) regardless of how quickly or slowly you move the fabric through the needle of the machine. When quilting in Precision mode, the needle only moves when you move the fabric.

After you press the Start/Stop key or press on the foot pedal move the quilt to begin quilting according to the stitches-per-inch setting.

When you pause moving the quilt, the needle will pause until you move again.



Press the Start/Stop key on the machine to fully stop quilting.

Select the Precision icon and then specify the stitches per inch by pressing the Plus or Minus key on the screen.

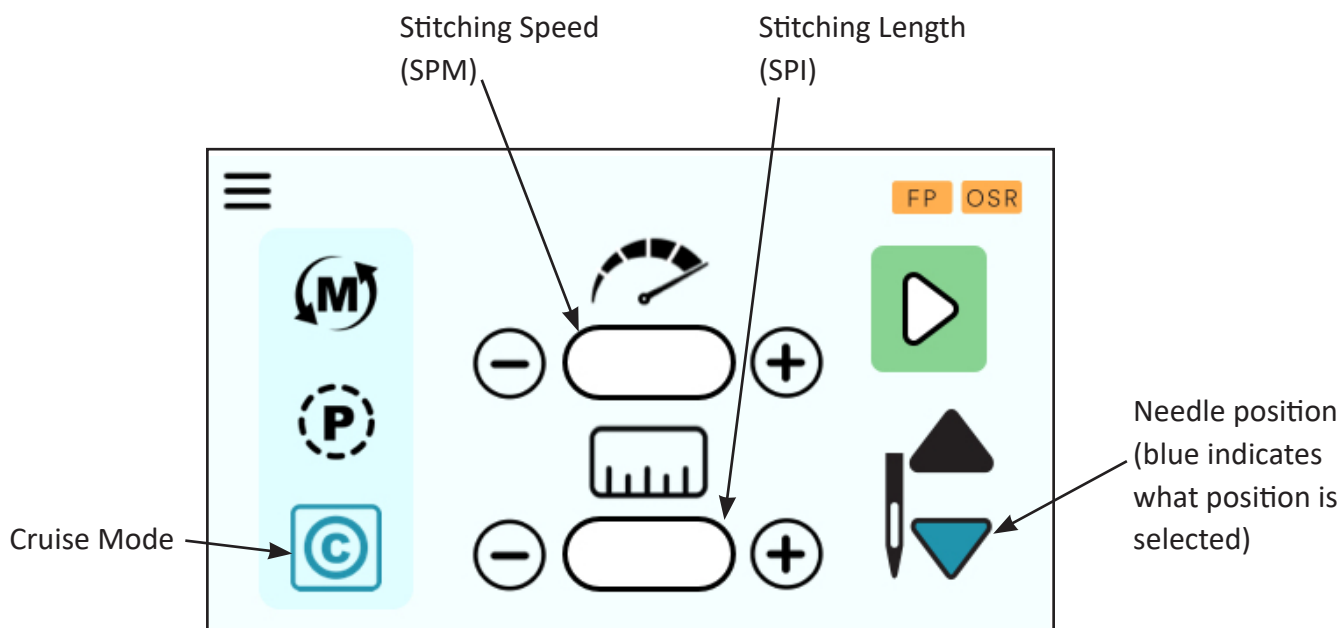


Cruise Mode

When quilting in Cruise mode, the needle will start to move immediately when you press the Start/Stop key on the machine or press down on the foot pedal, according to the cruise speed (stitches-per-minute) setting.

Once you hit the start button or press the foot pedal, the needle will immediately start stitching according to the stitches-per-inch (SPI) setting (even if you do not move the quilt). The needle continues to move at the Cruise speed (stitches-per-minute) anytime you pause moving the quilt, until you press the Start/Stop key on the handlebar or release the foot pedal to fully stop quilting. Select Cruise Mode by touching the Cruise icon on the Home screen.

Note: The Cruise speed is the minimum SPM the machine will stitch, regardless of how the quilt is moved.



Alerts

Alert screens display an icon that indicates an issue with the operation of the machine. The Alert might indicate a minor problem you can remedy on your own, like a loose cable. Other times you may need to seek help from your local retailer or Handi Quilter's Technical Solutions team.

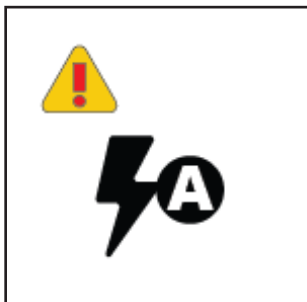
An icon will be displayed on the screen along with a code number that appears in the upper right corner of the screen. This number will help a certified technician or Handi Quilter's Technical Solutions team diagnose the issue. The number will not mean anything to you, but make note of it so you can relay it to your technician.

The icons that can be displayed are shown as follows:



Over/under voltage: This icon appears when the machine has detected a voltage that is out of range for an extended period of time.

Power cycle the machine by turning the machine off at the power switch, wait 10 seconds, and then turn back on. If the trouble repeats, please contact your retailer for service.



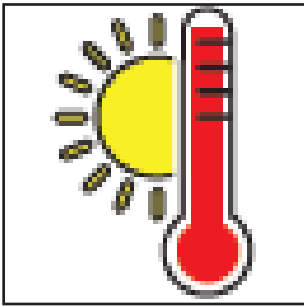
Over-current: This icon may appear when the machine has hit an obstruction or is unable to sew through the fabric.

Check your quilt for any obstruction, such as a pin, and remove it. Check that the hand wheel can rotate freely then clear the screen by pressing any key. If the trouble repeats, please contact your retailer.



Obstruction: This icon indicates there may be thread or lint trapped in the bobbin race.

Check for thread or lint in the bobbin race. You may need to have someone turn the hand wheel while you watch the bobbin race. Remove the obstruction and oil the hook. Check that the hand wheel can rotate freely. Clear the screen by pressing any key.



Over-temperature: The over-temperature icon appears if:

- the machine is being stressed by an obstruction
- the machine is stitching through extremely difficult fabric to sew, or
- the machine is operating in a hot environment.

Power off the machine and allow it to cool down. If the problem persists, contact your retailer.



Magnetic Encoder: This icon indicates a problem with the main shaft position sensor.

Please contact your retailer for service.



Service: This icon indicates that the machine should be serviced.

Please contact your retailer for service

Machine Maintenance

Clean and Oil Your Moxie ST

The only place where you need to regularly oil your machine is the bobbin hook assembly. Failure to keep the hook assembly lubricated can cause severe damage to the machine.

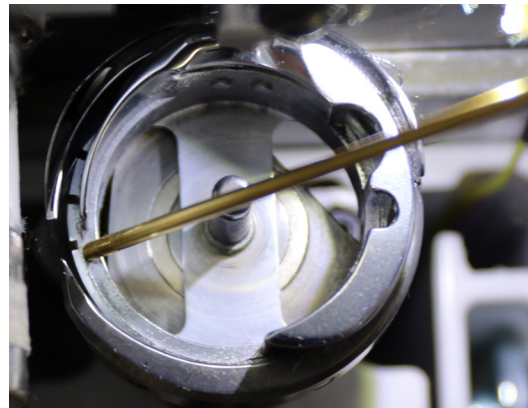
We recommend that you oil the hook assembly with each bobbin change and before use if you haven't used the machine for a few days. A change in the sound of the machine while quilting also indicates that it may need to be oiled.

- ✍ **NOTE:** Internal lubrication will 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:** Only use light sewing machine oil on the hook when oiling your machine.

To clean the bobbin area and oil the bobbin hook

📺 **ONLINE:** To see how to clean and oil the bobbin area, watch the video at:
<https://www.youtube.com/watch?v=lb9MEK7bkLo&t=2920s>

1. Turn off the machine. Remove the bobbin and bobbin case.
2. Clean the bobbin basket area using a lint brush (provided) or a quick blast of canned air.
3. Put 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 case with bobbin and turn on the machine.



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

To clean the Moxie display

- Use a soft rag or microfiber cloth (dampened with diluted isopropyl alcohol if needed) and 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 performance.

Maintenance Schedule

In addition to the ongoing cleaning and oiling maintenance that you do on a regular basis when you quilt, you should have your machine serviced by an authorized Handi Quilter technician 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 optimal working order.

Troubleshooting

You can correct many problems on your own. If you need additional help, contact your local, authorized Handi Quilter retailer who supports you and your machine. You can also contact Handi Quilter technical solutions at 1-801-292-7988, 1-877-MY-QUILT (697-8458), or TechCares@HandiQuilter.com.

First, check the following:

1. The AC power cord is properly connected (at both ends) and the power switch is 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 do 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.• Always change the needle if the needle has struck any hard object such as a pin. 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 job. Start with matching the needle size with the thread; consult the chart on your Moxie ST Quick Reference Card. Some battings and fabrics used in quilting may require a larger size needle.• 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 Bobbin and Bobbin Tension in the Using Your Machine section of this manual.
Improper threading	<ul style="list-style-type: none"> • Ensure that the machine is threaded correctly. Refer to your Moxie ST Quick Reference Card 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 front (bobbin case side) of the machine, you will see the entire needle eye directly facing you. This is the 6 o'clock position. • Make sure (a) the needle is installed all the way into the needle bar, and (b) the long groove in the needle is toward the front, and (c) the scarf, the scooped out part of the back of the needle, is toward the back of the machine.
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 top thread after ensuring the bobbin tension is adjusted correctly. For more information about adjusting tension, see Bobbin and Bobbin Tension in the Using Your Machine section of this manual.
Needle too large for quilting thread	<ul style="list-style-type: none"> ● Replace the needle with a size better suited for the thread.
POOR STITCH QUALITY	CORRECTIVE MEASURE(S)
The tension is not balanced	<ul style="list-style-type: none"> ● Balance the tension of the top thread after ensuring the bobbin tension is adjusted correctly. For more information about adjusting tension, see Bobbin and Bobbin Tension in the Using Your Machine 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 quilt too fast for needle speed selected (Manual mode)	<ul style="list-style-type: none"> ● Synchronize quilt movement and needle speed to get your desired stitch length. Elongated stitches are an indication of moving the quilt too fast for the current speed.


TENSION IS POOR	CORRECTIVE MEASURE(S)
Lint caught under the tension spring on the bobbin case	<ul style="list-style-type: none"> ● If using short staple threads, inexpensive threads, industrial threads, or coated threads, lint and other material will build up under the tension spring and begin to lift the spring. This reduces the spring's ability to compress against the thread. Insert the corner of a business card under the spring and clear out the lint. The bobbin tension will return fairly 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. Quickly rock the hand wheel, at the back of the machine, back and forth several times. You may need another person to turn the hand wheel while you look for the thread that is caught. Once thread lock is cleared re-oil the hook and make sure the hand wheel turns freely.
There is a thread lock.	<ul style="list-style-type: none"> • Carefully rock the hand wheel in direction of motion and then the other direction until the thread lock breaks free. Once the hand wheel can be turned freely, remove the thread from the hook and basket. Now re-oil the hook and make sure the hand wheel turns freely without the hook hitting the needle. It is possible for a thread lock to cause a timing problem or a bent needle.
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 Bobbin and Bobbin Tension in the Using Your Machine 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 the power switch is in the on position.
Machine not receiving power	<ul style="list-style-type: none"> ● Check that the power connector is securely plugged into the back of the machine and the three-prong end is plugged into the power source. Unplug and re-plug.
THREAD BREAKS	CORRECTIVE MEASURE(S)
Poor Quality Thread, 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 Bobbin and Bobbin Tension in the Using Your Machine section of this manual.)

<p>The machine 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. Refer to diagram on Quick Reference Card. ● Check for accidental double wrapping of thread on thread guides. ● Check the thread mast, making sure the eyelet of the mast is directly over the cone. ● Check the position of the thread cone. 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 sight 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 chart in Machine Needle section.
<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 immediately. Sewing in one place too long will cause the thread to break.
<p>Improper needle/hook relationship</p>	<ul style="list-style-type: none"> ● Machine timing needs to be checked. Consult an authorized Handi Quilter 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 the sharp edge. Consult a repair technician to polish any hard-to-reach or delicate areas.

Wrong type of needle	<ul style="list-style-type: none"> ● Use only the needles recommended by Handi Quilter (needle system 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

 **NOTE:** If the troubleshooting tips do not eliminate the problem, please consult an authorized HQ retailer.

Appendix 1

Federal Communications Commissions (FCC) Declaration of Conformity (For USA Only)

Responsible Party: Handi Quilter, Inc.
501 North 400 West
North Salt Lake, UT 84054

declares that the product,

Product Name: Moxie ST

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.

This equipment has been tested and found to comply with the limits for 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.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the manufacturer or local sales distributor could void the user's authority to operate the equipment.

Canadian Department of Communications Compliance Statement (For Canada Only)

This digital apparatus does not exceed the Class B limits for radio noise emission from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

Radio Interference (Other than USA and Canada)

This machine complies with EN55022 (CISPR Publication 22) /Class B and AUS/NZ 55022/Class B.



501 North 400 West
North Salt Lake, UT 84054
801-292-7988 • 877-697-8458
Email: sales@HandiQuilter.com
www.HandiQuilter.com

Warranty issues should, whenever possible, first be submitted to the Authorized Retailer who completed your service and training. These Retailers have been selected for their dedication to customer satisfaction and have been trained in technical service. They also may provide follow-up advice, training, service, accessories, and other services.

HQ Authorized Retailers may offer their own warranties in addition to those offered by the manufacturer, but do not obligate the manufacturer.

HQ Quilting Machine Limited Warranty

Handi Quilter, Inc. (hereinafter HQ) offers a limited warranty on the HQ Quilting Machine (hereinafter "Machine") to be free of defects in workmanship and materials under normal use upon the terms and conditions hereinafter set forth:

- (a) 90 day Limited Warranty: During the first 90 days from date of purchase, HQ will repair any manufacturing defect without charge for parts or labor. All subsequent warranties include parts costs only.
- (b) 5-year Mechanical Warranty: For any mechanical failure within this period. Manufacturer will provide free replacement parts, customer pays for labor and shipping.
- (c) 5-year Electronic/Electrical Warranty: The electric/electronic components are warranted to be free from manufacturing defects for five years from the date of purchase. If any defect is reported within this period, manufacturer will provide free replacement parts, customer pays for labor and shipping.
- (d) 10-year Limited Manufacturer's Warranty: HQ warrants the sewing head is free of casting or machining imperfections causing product failure. This warranty does not extend to mechanical or electronic/electrical parts, which are covered under a separate warranty, or consequential damage to the head caused by mechanical or electronic/electrical part failures beyond their warranty period.

The limited warranty stated in sections (b), (c) and (d) above shall be limited solely to the replacement of parts which, in the opinion of HQ, are defective in workmanship or material and are returned to HQ, or an authorized repair facility, or such other point or place that may be designated by HQ. All other costs, including cost of freight and shipment for repair under this warranty, shall be the customer's costs.

The machine registration card must be completed and received by HQ before warranty is valid.

Warranty Exclusions: HQ shall have no obligation for any claim under this warranty if the machine has

been misused, abused, neglected, damaged in transit or has been altered from the standard specifications established by HQ, or if proper maintenance and lubrication have not been timely performed.

No warranties extend beyond the express warranty offered. HQ disclaims all other warranties, express or implied, regarding the Products, including any implied warranties of merchantability or fitness for a particular purpose. In the United States, some laws do not allow the exclusion of the implied warranties.

Specific exclusions of warranty limitations include, but are not limited to, the following:

- General, consequential, incidental or special damages including damage to fabric or material, the cost of rework or lost profits, the cost of installation or removal of any Products, and any inspection, testing, or redesign caused by any defect or by the repair or replacement of Products arising from a defect in any Product.
- Products which are received by HQ improperly packaged, altered, or physically damaged.
- Counterfeit or altered label(s) or stickers.
- Broken pins on connectors.
- Stripped screws or nuts.
- Connector(s) damaged, cracked, missing or broken.
- Missing, torn or punctured seal(s).
- Any use besides machine quilting applications using customary fabrics, threads and accessories.
- Operator error in the customary use of the Product.
- Internal adjustments, tampering or parts replacement done by anyone except authorized Retailers or customers specifically authorized by Handi Quilter Customer Support or warranty repair personnel on a case by case basis.

The warranty does not cover and the user assumes the risk of and there is hereby excluded any liability to HQ for failure, defects, loss, deterioration, personal injury or damage which are due to: (1) ordinary wear and tear or exposure, (2) abuse, misuse, negligence, or (3) use of parts not authorized by HQ.

In no event shall HQ be liable to the purchaser of the Machine or to third parties for special or consequential damages, including, but not limited to, death or personal injuries.

HQ does not assume, or authorize any person to assume on its behalf, any other obligation of liability other than that set forth herein.

Some states do not allow exclusion of limitation of incidental or consequential damages, so above limitation or exclusion may not apply. This warranty gives the purchaser specific legal rights and the purchaser may also have other rights, which may vary for State to State.

Exclusive Remedy: Remedy is limited to the repair or replacement of the defective Product. HQ may elect which remedy or combination of remedies to provide at its sole discretion and shall have a reasonable time, after determining that a defective Product exists, to repair or replace the defective product. Replacement Product may be from new or serviceable used parts. HQ's warranty applies to repaired or replaced Products for the balance of the applicable period of the original warranty or ninety days from the date of shipment of a repaired or replaced Product, whichever is longer.

HQ's entire liability for any defective Product shall in no event exceed the purchase price for the defective Product. This limitation applies even if Handi Quilter cannot or does not repair or replace any defective Product.

Service under the above warranties may be obtained by returning the quilting machine, with proof of purchase, to the authorized Retailer from whom the machine was purchased, a local Retailer, or to Handi Quilter Customer Support.

Any product to be returned to the factory, either by customers or Retailers, must be accompanied by a Return Material Authorization Number (RMA). RMAs may be obtained by email (sales@HandiQuilter.com) or by calling customer support toll free at 1-877-697-8458. If it is determined that the Product may be defective, an RMA number will be issued with instructions for Product return. An unauthorized return (a return without an RMA number) will be shipped back to customer at customer's expense. Authorized returns are to be shipped prepaid and insured in an approved shipping container. The original box and packaging materials should be kept for storing or shipping.

Shipping Costs: Shipping is the responsibility of the customer.

Product Service and Maintenance: Replace needles every 2 to 4 hours (1 to 2 per large quilt) and lubricate bobbin hook every 3 to 4 hours of use. Periodically check the thread tensioner. Use a small brush to clean out all lint, loose thread or obstructions from the bobbin hook.

Servicing is recommended annually from a qualified Retailer. Servicing will cover belt tensioning, encoder positioning, bearing retainers, hook axial play and timing, presser and needle-bar adjustment and internal lubrication to take-up lever, hopping foot levers, bushings/bearings

Handi Quilter, Inc.

Customer Relations

501 North 400 West

North Salt Lake, Utah 84054

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HANDI QUILTER WARRANTY REGISTRATION

Online warranty registration is available at HandiQuilter.com/machine-registration, but you may also **mail** or **fax** completed this Warranty Registration card **within 30 days of purchase**. If you have questions, email HQcares@HandiQuilter.com or call Customer Relations at 1-877-697-8458.

MAIL TO: Handi Quilter, Inc.
Warranty Registration Dept.
501 N 400 W
North Salt Lake, Utah 84054

FAX TO: 801-294-3011

The HQ Quilting Machine warranty is 10 years manufacturer's warranty on casting and machining of the case, 5 years electronic/electrical, and 5 years mechanical. Check with your local HQ Retailer for details on service or making warranty claims.

HQ Quilting Machine Model (check one): Moxie ST™ Moxie™ Moxie™ XL
 Amara® ST Amara® 20 Amara® 24 Infinity®

Customer Name: _____

Company/Business Name (if applicable): _____

Address: _____

City, State, Zip: _____

Daytime Phone: _____ Evening Phone: _____

Fax: _____ Email: _____

HQ Serial Number: _____ Order Number (5 digits): _____

Purchase Date: _____ Date Machine Received: _____

Location of Purchase (Shop or Show name, City & State): _____

Type of use intended: Home/Personal Some commercial Share w/Friends Mostly commercial
 Other _____

Type of machine-quilting skills: Novice Intermediate Experienced

Skill at adjusting sewing machines: Novice Intermediate Experienced

Signature: _____ Date: _____

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Moxie ST New Owner and Training Checklist and Certificate



You are entitled to a one-time free introductory training class on the use of your HQ quilting machine as well as free adjustments for 60 days and any repairs covered by the warranty. Present this checklist to your authorized HQ quilting machine Retailer to receive these free services.

Retain a copy for your records.

Table

- How to adjust height

Machine Setup

- Identify the main parts of the machine
- Ensure machine is properly placed on the table
- Check all cable connections
- Ensure power outlet is available and does not cause a trip hazard
- Recommend and explain the importance of a power strip with surge protection
- Ensure the table is level
- How to wind a bobbin (*including how to adjust the tension and the capacity*)

Machine Operation

- How to turn the machine on and off
- How to change the needle
- How to change the Handi Feet
- How to properly thread the machine
- How to set the bobbin tension; teach the drop test
- How to set the upper tension
- How to bring up the bobbin thread
- How to tie off)
- How to use the menus: explain each menu
- How to adjust lighting
- Explain timers and stitch counters
- How to switch between stitch regulation and manual mode
- How to set the speed in manual mode; how to set the presets
- How to set the stitches-per-inch in stitch regulation
- How to use Cruise stitch regulation
- How to use Precision stitch regulation
- Explain the alarms

Machine Maintenance

- How to oil the bobbin hook: where, how, and when
- How to clean the bobbin hook area

IMPORTANT: Read before signing

By signing this training checklist you are acknowledging you have been personally instructed in the operation of the Amara machine you purchased. Additional training by this HQ Retailer or any other HQ Retailer may result in being charged for additional instruction.

Customer Name _____

Customer Signature _____

Training Date _____

Trainer Name _____

Retailer Signature _____

HQ Retailer Business Name _____

Business City and State/Province _____

Machine Serial Number _____

HQ Retailer: To register training services provided, return completed and signed certificate by FAX (1-801-294-3011) or MAIL:

Handi Quilter
501 North 400 West
North Salt Lake, UT 84054

OR email to your customer relations coordinator.

Cut along dotted line and mail or fax this registration information within 30 days of purchase.



Handi Quilter, Inc.
501 N 400 W
North Salt Lake, UT 84054

1-877-MY-QUILT (697-8458) • www.HandiQuilter.com

Moxie ST™ is part of the family of innovative quilting products from Handi Quilter®



Amara® ST



Moxie™



Moxie™ XL



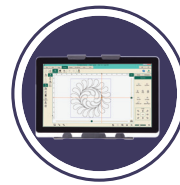
Amara® 20



Amara® 24



HQ Infinity®



Pro-Stitcher® or
Pro-Stitcher Lite®

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