

Resolving Longarm Machine Issues

The steps in this section should help resolve or identify the issue you are having with your longarm machine. Please do not skip steps, even the obvious ones, such as “Is your machine turned on?”. They would not be listed here if someone had not actually had that specific issue.

Restart Everything

1. If your machine is on, **do a proper shutdown**. Turn off the front power switch, then the rear power switch, and then unplug from the wall.
2. Before powering up, **visually and physically inspect every cable connection**. Disconnect and reconnect each connection. Verify that the cables are plugged into the correct ports.
3. **Plug in your machine**. Newer machines may have multiple plugs if you have Pro-Stitcher. Make sure you are plugging the Pro-Stitcher charging cable into the correct port and not the audio port on the tablet.
4. **Turn on the machine first!** Turn on the switch at the rear of the machine and then the switch at the front of the machine, if present. Confirm that the machine has powered up by the lights and beeps that occur. If the machine fails to power up, perform the following checks:
 - a. Use another lamp or appliance to confirm that there is power to the outlet or un-interruptible power supply (UPS) that you are plugged into.
 - b. Check that the power cords are firmly plugged into the machine (and into Pro-Stitcher, if installed).
 - c. On older models, make sure your front handlebars are plugged into the machine.
 - d. Unplug any accessories you may have drawing power from the machine’s USB ports and try again.
 - e. If possible, check the fuse found near the power plug at the back of the machine. (It is extremely rare for this fuse to be a problem.)
 - f. Call for support.
5. **Turn on the Pro-Stitcher**, if installed. Newer machines only have a virtual machine panel when Pro-Stitcher is installed, so Pro-Stitcher must be running for proper machine operation even if not using the Pro-Stitcher functionality. The virtual machine panel is accessed by touching the silver bar at the top left of the Pro-Stitcher screen. (Pro-Stitcher troubleshooting is found in a different guide.)

Testing Basic Functionality

It is important to understand that the machine, not Pro-Stitcher, controls whether the machine stitches. Pro-Stitcher simply moves the machine around once the Run button is pressed.

All current Handi Quilter longarm machines have three modes of operation:

- **Manual mode:** This is a constant speed mode. The stitch length is determined by how quickly you move the machine head (or the fabric, for sit-down machines.)
- **Precision mode:** In Precision mode, the machine will stitch at the specified number of stitches per inch, but only when the machine moves. When the machine stops moving, the stitches stop. This mode is commonly used for ruler work or other times when you want the machine to not keep stitching when the machine stops moving.

- **Cruise mode:** In Cruise mode, the machine will provide the correct number of stitches per inch during normal sewing, but will continue to stitch at a minimum speed when you stop moving the machine. This mode is commonly used while free-motion quilting or when using Pro-Stitcher, and it will ensure that points are not missed when changing the quilting direction.

Intermittent Problems

If you are trying to diagnose an intermittent problem, your smartphone can be your best tool. Take video as you are testing. Sharing the video with technical support can save a lot of time. Sharing or emailing these videos may be challenging due to their size, but technical support can help you find the best method of sending the videos to them.

Testing Stitching - Controls and Encoders

1. Turn on your system as stated above. (Plug in your machine. Turn on the machine, then turn on Pro-Stitcher if installed.)
2. Remove the bobbin case and the needle from your machine. This will ensure that no quilt is damaged if currently loaded.
3. Clean out the bobbin case area using a soft brush or canned air. (Canned air can only be used on some of the newer machines. Do not use canned air unless your User Manual specifically says that it is allowed.)
4. Turn the rear hand wheel through several rotations counter-clockwise (when viewed from the rear). If there is any unreasonable restriction or blockage, attempt the following as necessary:
 - a. Rock the handwheel back and forth to clear a thread jam at the Hook & Basket (the main part where you snap in the bobbin case). There are grooves inside the Hook & Basket that are designed to cut thread.



Figure 1 - Hook & Basket

- b. Remove your hopping/presser foot and then remove the needle plate.
- c. Examine and clean the Hook & Basket from the top. Rotate the hand wheel slowly to advance the Hook & Basket, while using a small brush to clean out any thread or lint. There should be no noticeable nicks or scratches.
- d. If you have had recent tension or stitching issues, check the timing while you are there. This does not require tools.
 - 1) Temporarily re-insert the needle.
 - 2) Rotate to the lowest point the needle will travel.
 - 3) Rotate the hand wheel until the hook point reaches the far side of the needle. There should not be a visible gap between the needle, nor should it hit and deflect the needle to

any extent. The hook should be lightly touching the needle inside the scarf. (See Figure 2.)



Figure 2 - Proper Timing Hook Position

- 4) Use a smartphone camera with zoom to document any questionable configuration.
- 5) Remove the needle and replace the needle plate and hopping/presser foot before proceeding.
 - e. If you cannot get the Hook & Basket to rotate using the back wheel, call technical support.
5. Press the left needle Up/Down button. One press for down, one press for up. If the needle bar does not move up and down, do the following:
 - a. Check that the machine has power.
 - b. Check that the handlebars are plugged into the machine.
 - c. Check that the handlebar buttons have not been reversed through the control panel. This would result in the left up/down button becoming the “+” button and the symbols would be wrong. In some rare cases, people put the stickers on the opposite handlebars and intentionally operate this way.
 - d. If you have Pro-Stitcher, press the “Half Stitch” and/or “Full Stitch” buttons found on the Pro-Stitcher Tab. If the buttons work, call technical support about a faulty front handlebar. (Note that the handlebar buttons will not work on older HQ16 machines when Pro-Stitcher is installed.)
 - e. If you have rear handlebars, attempt to use them instead. If they work, call support about a faulty front handlebar.
 - f. Hit the run/stop button and move the machine in a circle. If it stitches, hit run/stop again. Call support about a faulty up/down button.
6. Put the machine in Manual mode, and press the run/stop button. The needle bar should go up and down. Increase and decrease the speed using the front panel or the handlebar buttons. Press the run/stop button to stop the machine. If not working properly, take a video of the test and call support. (NOTE: When equipped and enabled, the machine may stop with a “Thread Break Sensor Error” because the thread is not pulling the tension spring past the sensor. You can disable the sensor to run the test longer.)
7. Put the machine in Precision mode, and press the run/stop button. (Remember that the machine will not stitch until you move the machine.) Move the machine in straight lines forward and back to test the Y-axis encoder. Move the machine in a straight line to the left and right to

test the X-axis encoder. The needle bar speed should follow the speed of your movements. If you do not see the consistent needle bar movement that you expect, do the following:

- a. Make sure that you are not in Baste mode. Set your stitches per inch to at least 10.
 - b. Try doing the same movement test at different places on the frame.
 - c. Examine the encoders. The Y-encoder is on the side of the longarm with the wheel rolling on top of the carriage. The X-encoder is on the back of the carriage with the wheel rolling on the back edge of the frame. Make sure both encoder wheels fully rotate when the machine is moving. You can make a small mark with chalk or a small piece of tape on the side of the wheel to confirm that it rotates properly.
 - 1) Make sure the rubber on the wheel touches the carriage or frame so that it rolls when moved.
 - 2) Look for dirt and obstructions that may keep the wheel from turning on the encoder.
 - 3) Watch for cables that may lift the encoder wheel during movement of the machine.
 - 4) With the machine in Precision mode and in Run mode, manually rotate the wheel on the encoder.
 - d. Examine and reconnect the encoder cables. (Note that some cables can disconnect from both ends.)
 - e. Reverse the X and Y encoder cables to see if the problem follows the cable. Newer machines have separate cables. Older machines share a ribbon cable. In both cases, a temporary swapping of the cables connected to the encoders can be done without a reset.
 - f. If the Y-encoder is scraping on the carriage, it is likely that the bracket has been bent. Lay the machine on its side and bend the bracket with the spring back into place. Newer models have been modified to prevent this. Details can be found on the MKQU Troubleshooting course.
 - g. If only one of the encoders is exhibiting problems, it is likely the cable or encoder that needs to be replaced. If neither are working, the controller board may need to be replaced. In either situation, take video of the testing and call technical support.
 - h. Pay attention to possible issues with the frame. Are the tracks aligned? Does the carriage or machine rock? Does anything else look suspicious?
8. Re-install the bobbin case and needle for further stitch testing.
 9. Load a practice sandwich of quality fabric, batting, and backing. If a quilt is already loaded, placing spare fabric over the exposed batting at the edge of the quilt may give you enough area to stitch.
 10. It is time to test the stitch quality.

Unexpected Machine Noise

There are several different noises the machine makes, and some of those noises can be beneficial. For example, as the bobbin is used up, it will begin to rattle in the basket of the Hook & Basket to let you know that you will be running out of the bobbin thread soon. Sometimes noise can indicate a problem, and other times it is just a nuisance and does not cause any problem. But if you purchase a new machine, you don't want to have a rattle. (This is why MK Quilts prefers to sell the floor model systems that they have been able to certify as sound.)

Due to the poor audio quality and noise cancellation on cell phones, it is best to record a video with your cell phone from various points around the machine. If this is a new machine, you need to make it

an issue sooner rather than later. While MK Quilts has been known to swap out a new machine because of noise issues, other retailers may not do so.

Hook & Basket Noise

The Hook & Basket is the heart of the machine because it is the part that creates the stitch. Although not clearly stated, Handi Quilter considers the Hook & Basket an expendable item, because failure to oil or using the incorrect oil can cause the Hook & Basket to deteriorate. In most cases, the stitching does not suffer but the level of noise will increase. The unofficial point at which we believe the Hook & Basket becomes noisier is just over 20 million stitches, but this does not mean that your stitches start to suffer. At the time of this writing, the cost for Hook & Basket replacement is approximately \$150-\$200, and it requires that your machine be re-timed (at additional cost).

Hook & Basket Replacement Policy

As stated earlier, Handi Quilter considers the Hook & Basket an expendable item. The Hook & Basket should last the life of a machine, maintaining good stitch quality as long as it is properly oiled and maintained. A bobbin case should not be getting hot from use in a Hook & Basket. If it does, swap out the bobbin case to avoid damaging the Hook & Basket. Only use the Handi Quilter-provided oil on the Hook & Basket, because third party substitutes have proven to lead to extra wear.

MK Quilts has experienced situations where a new system makes more noise in the Hook & Basket area and has swapped out the part at no cost to the customer. (This is one benefit of buying MK Quilts floor models.) The noise cannot be measured by simple decibel measurements.

Some of our busiest customers have noticed that there is an increased amount of noise from the Hook & Basket after stitching 20-25 million stitches, however stitch quality has not suffered. At present, we do not have an easy way to define an unacceptably noisy Hook & Basket and must go by stitch quality.

MK Quilts will continue to work closely with a new machine owner to ensure that their machine is not “too noisy.” We have shipped new machines to swap out a noisy system more than once. Not all of these cases have been due to the Hook & Basket assembly. After the initial 3 to 6 months of operation, we must consider it an expendable item.