



**Handi Quilter**  
BY QUILTERS FOR QUILTERS



# **ELECTROMAGNETIC CHANNEL LOCKS**



For HQ Amara™ and HQ Forte™ longarm machines.

HG00720

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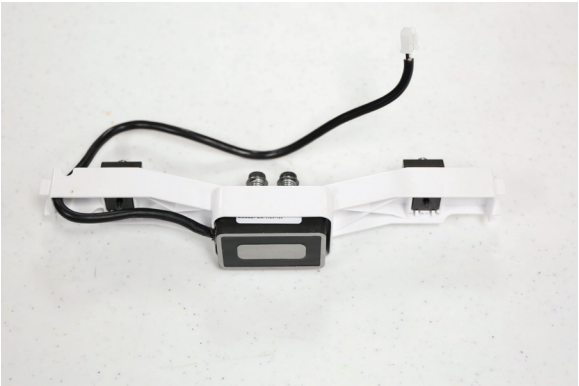
## Overview

The HQ Electromagnetic Channel Locks attach to the quilting machine base, carriage and frame. They constrain the machine to quilt a straight horizontal line or a straight vertical line. This is useful when basting down the quilt edges, quilting a plumb line for aligning the quilt top, stitching in the ditch, quilting piano keys, crosshatching, and more.

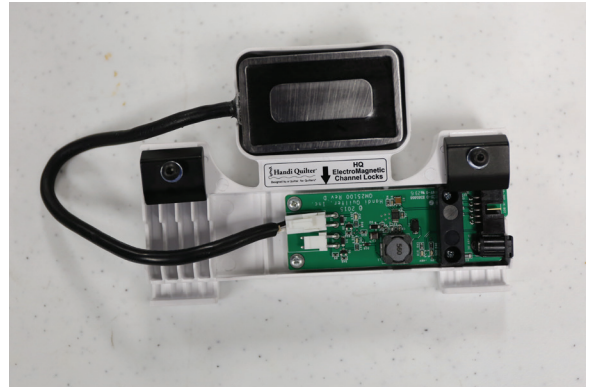
This kit is compatible with only the HQ Amara and HQ Forte machines. Read all instructions carefully before beginning installation.

## HQ Electromagnetic Channel Locks Kit Contents

Kit for HQ Amara and HQ Forte: part number HG00720

Item	Quantity	Photo
1. Carriage Frame System X-axis HG19003	1	

2. Carriage Frame System Y-axis  
HG19000-01 1



3. Zip Tie: small 4"  
No Part # 1



4. Wire Guide with 2 small zip  
ties 1 each  
QM14405



5. Screw, 1/4-20x1/2 SKB ZN  
QM10774

6. Washer, 1/4 Flat ZN  
QM10638

7. Switch Box with hard wired  
cable for connection to Amara  
/ Forte nose cover board  
HG19004-01 1



8. Machine Steel Plate (24")  
QM14413 1

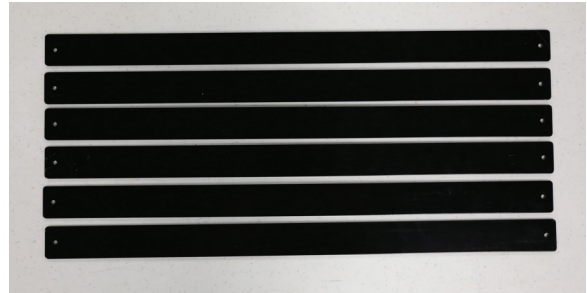


9. Screws  
QM11739, 10-24 x 1/2SKC ZN 2

10. Washers:  
QM10137, #10 flat ZN



11. Frame Steel Plates  
QM14409 6



12. Power Supply Extension Cord  
QM20403 1



13. Power Supply  
QM20405 1



14. Power Supply Plug US  
QM20396



15. Cable Clips  
QM14404 2



16. Cable Twist Lock  
QM14402 1





19. 2.5mm hex tool  
QM10286

1



20. 3mm hex tool  
QM10287

1



21. 4mm hex tool  
QM10288



22. Cable from Carriage Frame  
System Y-axis assembly to  
Amara rear connection panel  
QM25101-01

1



23. Instruction Sheet  
HG00720-01

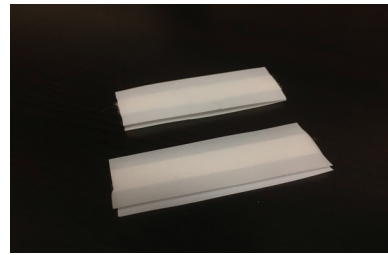
1

not pictured

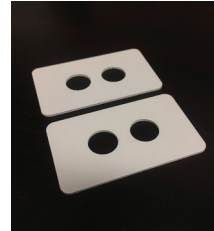
## Tools Required

- 2.5mm hex tool (provided)
- 4mm hex tool (provided)
- Tape Measure
- Flat Screwdriver

17. Velcro Strips 2  
Hook - QM10619  
Loop - QM10620



18. Plastic Shims (Use only if necessary to adjust magnet height; see *Troubleshooting* at the end of this manual for more information.) 2  
QM14415




## Installation

### *To install the channel locks on the carriage*

1. Unplug the carriage encoder from the back of the machine. Then carefully lift the machine off the carriage and set the machine aside.

2. Measure the length of the carriage. Mark the center point. (See the picture to ensure you mark the correct side of the carriage.)

 **NOTE:** It may be helpful to use something to prop up both ends of the carriage to ensure that the encoder is not damaged.



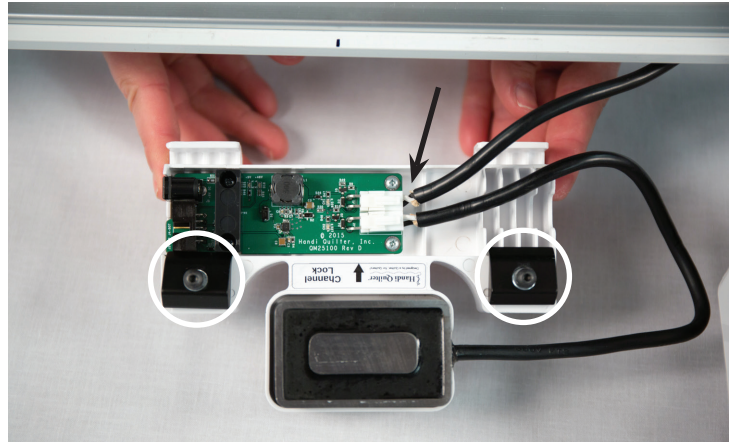
3. Locate Carriage Frame System X-axis. Loosen the two screws with the 2.5 mm hex tool so that the clamps can slide onto the long carriage rails.



4. With clamps still attached, slide the Carriage Frame System X-axis underneath the carriage and against the crossbar farthest from encoder.
5. Ensure that the clamps are on top of the white rails. Then tighten the two screws with the 2.5 mm hex tool.



6. Locate the Carriage Frame System Y-axis. Loosen the two screws (circled at the right) with 2.5mm hex tool. Plug in the cable from the Carriage Frame System X-axis into the receptacle on the circuit board (see arrow at the right).



7. Use the zip tie to join the two cables together., and trim off the excess of the zip tie. With the clamps still attached to the Carriage Frame System Y-axis, slide it underneath the carriage. Ensure the clamps are on top of the white rails. (See the next picture.)

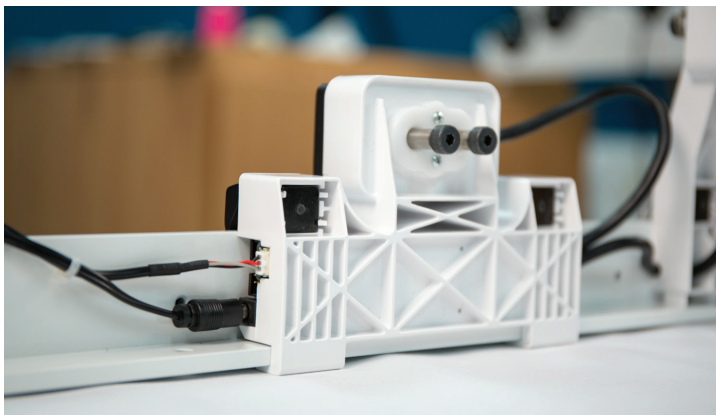



8. Align the arrow with the center measurement mark you made it step 2. Tighten the two screws with 2.5mm hex tool.





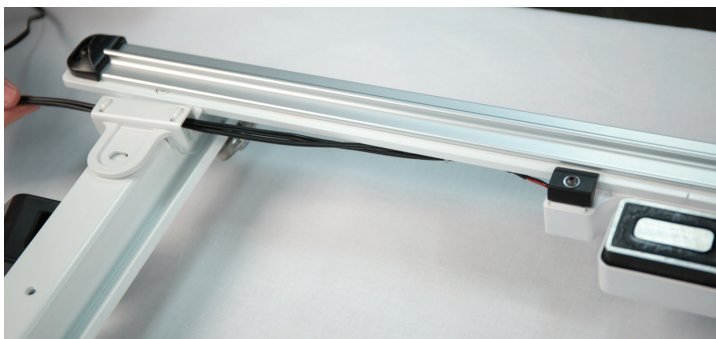
9. Plug the Power Supply Cable and Switch Box Cable into the Carriage Frame System Y-axis.



 **NOTE:** The magnet wire length in the HQ Amara/HQ Forte Electromagnetic Channel Lock Kit is different for the two machines. Because the carriage length is shorter for the HQ Amara, customers will need to loop this wire and secure with the provided tie to ensure it is managed properly. This customization will keep the wire away from the underside of the carriage – see image at right.

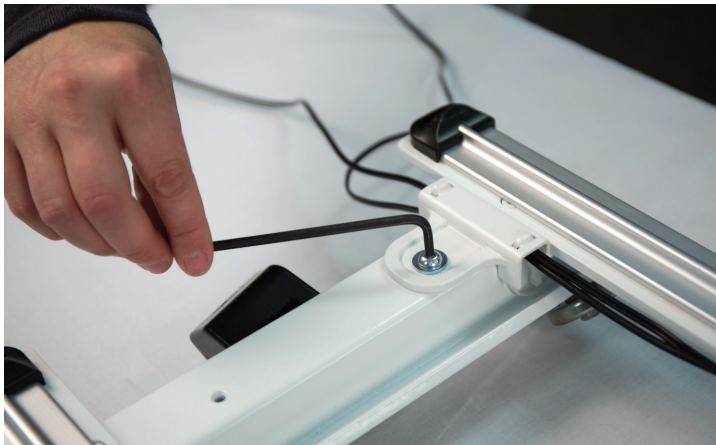


10. Run the Power Supply Extension Cord and Switch Cables over the cross bar with the encoder. Install the Wire Guide using the ¼-inch screw and washer.



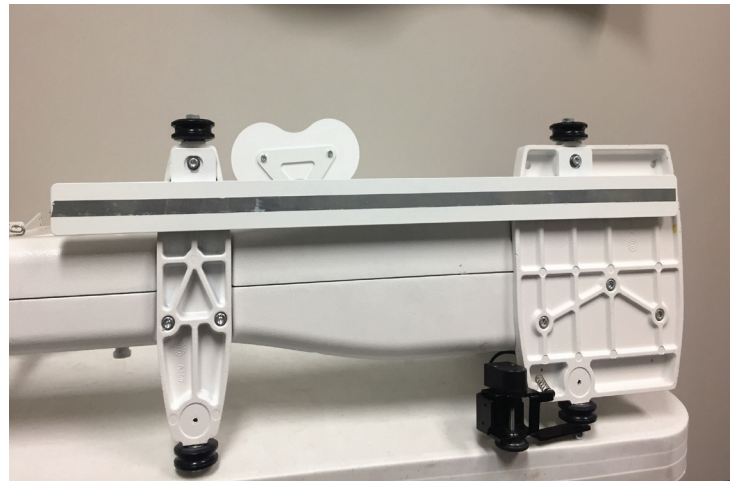
11. Ensure that the wires run inside the Wire Guide channels and that the two tabs are under the long carriage rail.

12. Tighten the screw and washer for the Wire Guide with the 4mm hex tool. Remove any slack in the cable from the Carriage Frame System Y-axis to the Wire Guide, being careful not to pull out the cables. Tighten the zip ties around the wires and trim excess material from the zip ties.





13. Locate the Machine Steel Plate.  
Carefully lay the machine onto its left side (i.e. the non-thread path side of machine). Take particular notice of the machine encoder assembly during this process so as not to damage it.



14. Align the Machine Steel Plate with the machine baseplates. The holes in the machine baseplate are pre-tapped for the screws. Use the 10-24 x1/2 machine screws and the #10 washers to attach the Machine Steel Plate to the base of the machine.

15. Place the carriage back onto the frame, aligning the wheels with the track.

16. **HQ Studio, HQ Studio 2, HQ Gallery and HQ Gallery2 Frame:** Move the carriage to one side of the frame. Slide one of the Frame Steel Plates under the carriage toward the frame's sidearms, parallel to the tracks running left to right on the table.




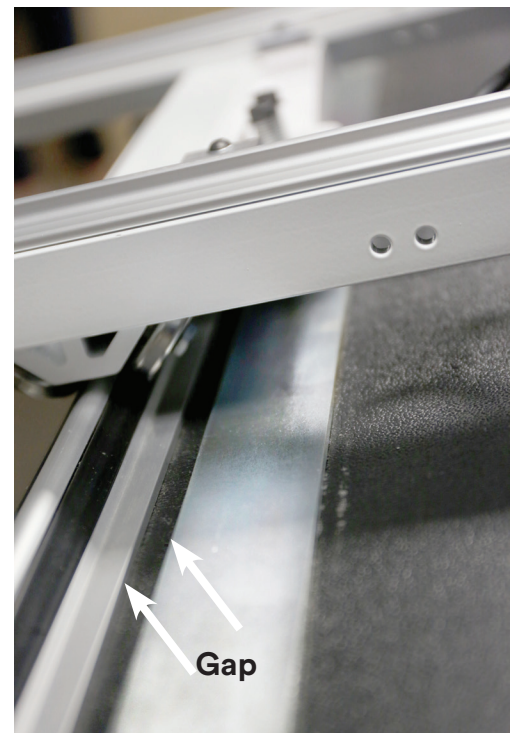
**HQ Little Foot Frame:** Move the carriage to one side of the frame. Align one end of the Frame Steel Plates with the midpoint, or center of the Little Foot Frame table surface. The two ends of the Frame Steel Plates meet at the center of the table.

17. Center the Frame Steel Plate front to back under the Carriage Frame System X-axis by looking from the side.

The center photo shows the steel plate as seen when looking from the back of the carriage to the front.

The bottom photo shows the steel plate centered below the Carriage Frame System X-axis from side to side with a gap between the steel plate and the track support.

 **NOTE:** The Frame Steel Plate is not placed against the track support but there is a gap. This gap is necessary to align the Frame Steel Plate under the X-axis magnet as shown in the photo.



18. Position the remaining Frame Steel Plates along the full length of the frame. Ensure the Frame Steel Plates span the full length of the frame and that they align with the Carriage Frame System X-axis magnet. (For the HQ Little Foot Frame you'll use two Frame Steel Plates. For the HQ Studio Frame you'll use up to six Frame Steel Plates, depending on the length of the frame.)

19. Remove the release paper from the bottom of the Frame Steel Plates and carefully adhere to the table top.

20. Plug the switch cable from the back of the carriage into the back connection plate on the Amara. The connection is a four pin outlet labeled Pro-Stitcher.



21. Bring the HQ Electromagnetic Channel Lock Switch Box to the front of the machine. Peel back the release paper from the loop side of the two Velcro pieces. Attach the loop side of the Velcro to the Switch Box. Decide where you would like the Switch Box to sit on the machine. Attach hook side of the Velcro at that location.

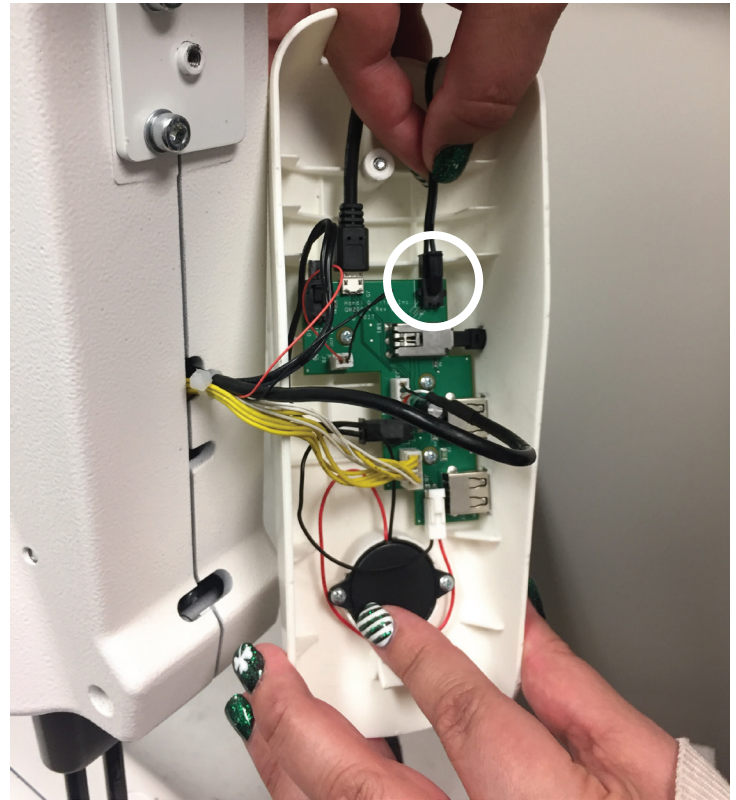


22. Remove the front nose cover with a 3mm hex tool





23. Plug the switch cable into the connection closest to the switch on the front nose cover board. See the photo for detail.



24. Replace the front nose cover being careful of small wires and making sure the two cables now coming out of the cover are located in the notch so they will not be pinched. Do not over tighten the screw into the plastic cover.



25. Carefully place the quilting machine back onto the carriage. Plug the carriage encoder back into the machine.

26. Install the Cable Clips and Cable Twist Lock as needed. The Cable Clips enable you to manage the cable to the switch box so it stays out of the way while quilting. The Cable Twist Lock enables you to manage any slack in the cables. Plug the Power Supply Extension Cord into the Power Supply. Then plug the Power Supply into a power outlet.



# Using the HQ Electromagnetic Channel Locks

The HQ Electromagnetic Channel Locks have three operating modes: horizontal on, vertical on, and off. When set to *horizontal on*, the machine moves in a horizontal direction (left to right and right to left) only. When set to *vertical on*, the machine moves in a vertical direction (front to back and back to front) only. When set to *off*, the machine moves in any direction.

## ***To set the channel locks to stitch vertically***

- Press the switch on the switch box toward the **I** symbol. When the channel locks are engaged, the machine moves only front to back and back to front.



## ***To set the channel locks to stitch horizontally***

- Press the switch on the switch box toward the **II** symbol. When the channel locks are engaged, the machine moves only left to right and right to left.



## ***To turn off the channel locks***

- Return the switch to the middle **O** position. Free-motion quilt as you normally would.



# Troubleshooting

## **Carriage Frame System X-axis magnet does not engage with the Frame Steel Plates:**

You may need to use the provided plastic shims to adjust the magnet height. Contact your local Handi Quilter authorized retailer or Handi Quilter technical solutions, Monday through Friday, 8:00 AM through 5:00 PM mountain time.



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