



Handi Quilter®

HQ HighRise2™

INSTALLATION AND OPERATION MANUAL

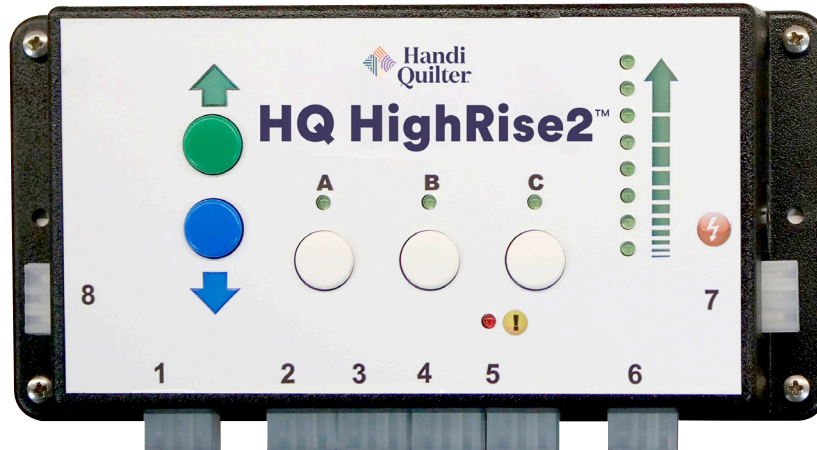









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Contents of the HQ HighRise2™ kit

The HQ HighRise2 works with the straight-leg HQ Studio Frame, HQ Studio2 Frame, HQ Fusion Frame, HQ Gallery Frame and HQ Gallery2 Frame systems. Be sure to verify that you have the straight-leg frame and not the slanted legs on your frame.

Item	Part Number(s)	Quantity	Photo
A. Actuators with cable	QT10800	6 (<i>labeled 1-6</i>)	
B. Saddle brackets	QT10817	6	
C. Top-left brackets	QT10815	6	
D. Top-right brackets	QT10816	6	
E. Extension cables of different lengths	QT20110-170 (#5) QT20110-146 (#6) QT20110-113 (#4) QT20110-65 (#3)	4 (<i>labeled 3-6</i>)	
F. Controller with mounting plate	QT20105	1	

Item	Part Number(s)	Quantity	Photo
G. Power supply	QT20110	1	
H. Power cord	QM20277	1	
I. Cable ties	none	18	
J. Adhesive tie-wrap pads	none	12	
K. Fir-tree plugs	none	4	
L. Cable sheath	none	2	
M. M6 x 55mm screws	QT10813	6	

Item	Part Number(s)	Quantity	Photo
N. M6 x 50mm screws	QT10819	6	
O. M6 x 35mm screws	QT10812	6	
P. M6 x 16mm screws	QT10811	24	
Q. Control Box Mounting Adapter	QT10820	1	
R. Screw M8x.25X25 SBHCS	QF09318-06	2	
S. Manual	QT30520	1	

Tools required

- Screwdrivers: Phillips screwdriver and flat-blade screwdriver
- Small, adjustable wrench
- 5mm hex wrench, or if available, a 5mm hex-head drill bit mounted in a cordless drill
- Level (*optional*)
- Isopropyl alcohol to wipe the frame before attaching adhesive tie-wrap pads

➡ **IMPORTANT:** If your frame has the optional casters, make sure you have positioned the frame where you want to use it before installing the HQ HighRise2. If you need to move the frame after installing the HQ HighRise2, see the **caution note**.

△ **CAUTION:** The HQ HighRise2 system is not designed to work with casters. If your frame has the optional casters installed and you need to move the frame after installing the HQ HighRise2, you must first lower the frame to its lowest position, disconnect the power cable, and disconnect each actuator. You may leave the brackets attached to the legs, but must disconnect the bottom or top of each actuator and swing it out of the bracket. All pressure must be removed from the actuator to prevent any twisting or bending of the actuator while moving the frame. After moving the frame, remount the actuators and reconnect the power cable. Make sure the frame is level before resuming use of the HQ HighRise2. Failure to follow the above recommendation may cause damage to the actuators resulting in system failure.

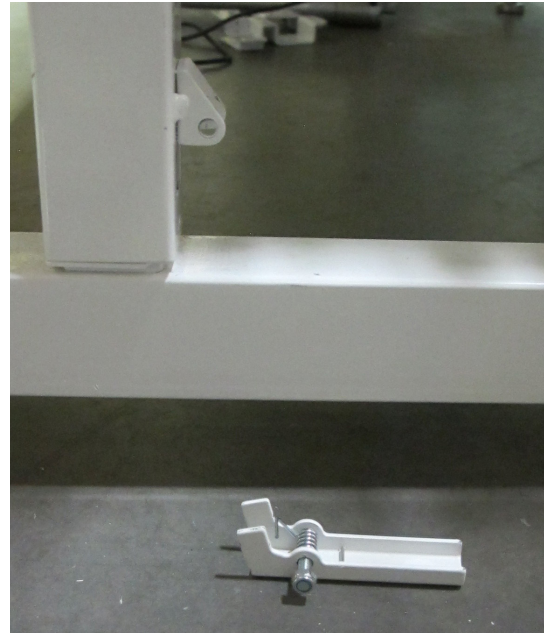
Installation

To prepare the frame legs for the HQ HighRise2

1. Lower the frame to its lowest position.
2. Remove the frame's leg latches. Use a #3 hex wrench and an adjustable wrench (or 5/16-inch socket wrench) to remove all of the leg latches.

⚠ **CAUTION:** Be careful when removing the screw because the spring is under slight tension.

🔑 **IMPORTANT:** Keep the leg latches, springs, and screws in case you need to remove the HQ HighRise2 system.

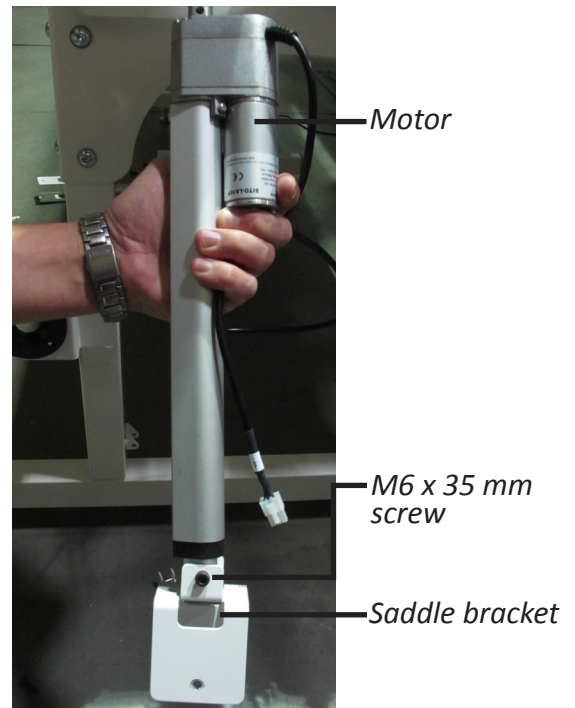


To prepare the actuators for installation

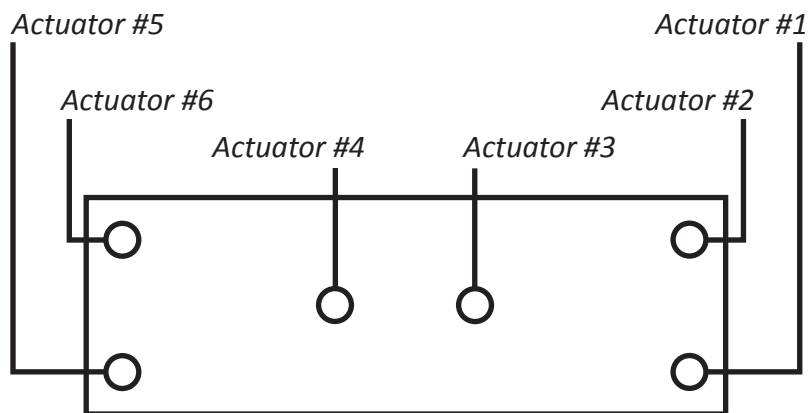
Mount the saddle bracket to the non-motor end of all six actuators with M6 x 35mm screws. Slide the screw through the flat hole on the bracket, then through the opening on the actuator, and out through the hole on the other side of the bracket, tightening as you go.

The number of actuators you will install to the frame depends on the size and configuration of your frame.

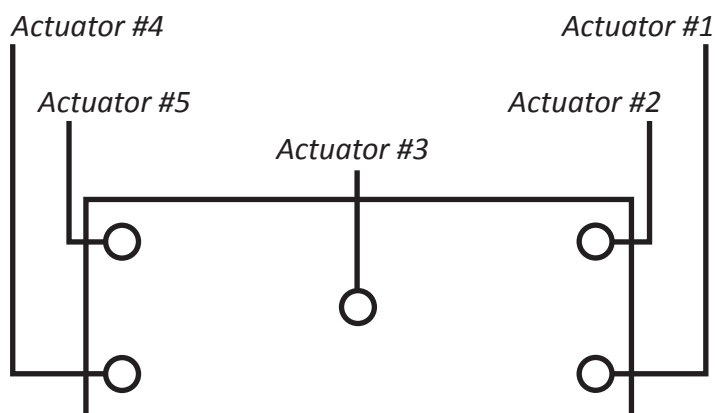
- If you have a 12-foot frame or a 10-foot frame, use all six actuators (*number 1 through 6*) – one each on the front and back side legs and one on each of the center legs.
- If you have an 8-foot frame or a 6-foot frame, use five actuators (*number 1, 2, 3, 4, and 5*) – one each on the front and back side legs and one on the center leg.
- If you have a 4-foot frame, use four actuators (*number 1, 2, 3, and 4*) – one each on the front and back side legs



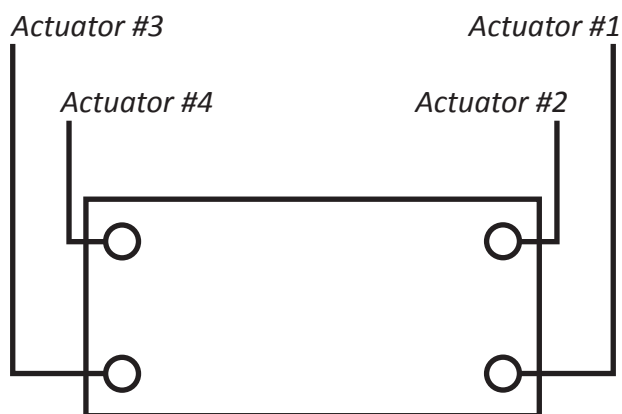
Use the following diagrams to determine which actuator to mount to each leg of the frame. Lay each of the prepared actuators next to the leg to which it will be mounted and double check before proceeding.



Front of 12-foot or 10-foot frame



Front of 8-foot or 6-foot frame




Front of 4-foot

Actuator #4, mounted behind left-center leg



Actuator #3, mounted behind right-center leg

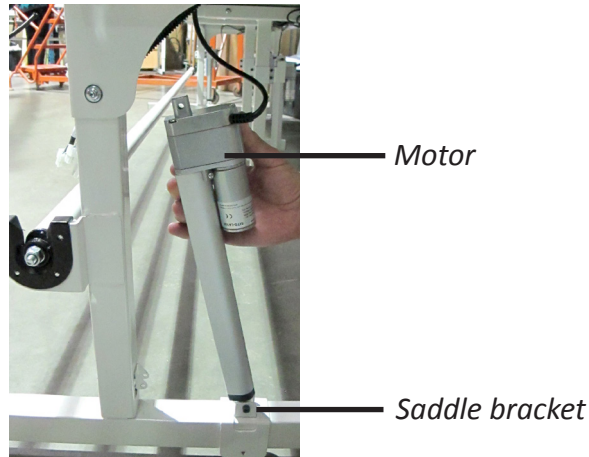
➡ **IMPORTANT:** The photograph above shows the Studio Frame. If you have a Fusion or Gallery Frame, the center legs have two vertical posts. Mount the actuator behind the front post of each center leg.

 **NOTE:** The controller can be mounted on the left side or the right side of the frame. These instructions show photographs for mounting the controller on the right side of the frame. If you mount the controller on the left side of the frame, reverse the actuator numbers and positions (e.g. put actuator #1 on the back-left side leg, put actuator #2 on the front-left side leg, etc.). However, you should still connect the cables into the controller according to their numbers as described later.

To mount the actuators to the frame legs

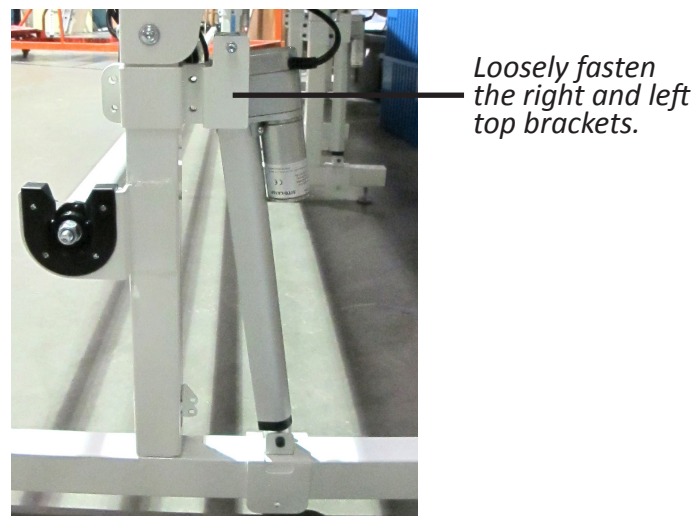
Follow steps 1 through 7 to mount each actuator required for the size and configuration of your frame.

1. Place the bottom saddle bracket over the inside bottom frame tube with the motor side of the actuator facing away from the leg.

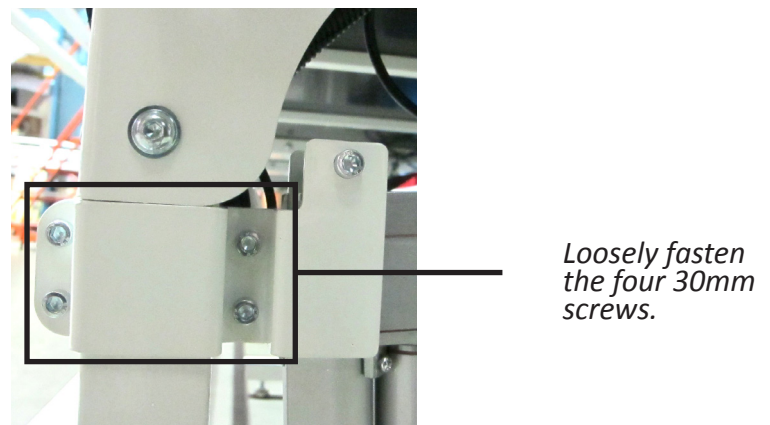


2. Tilt the bottom of the actuator (saddle bracket end) away from the leg and place the right and left top brackets around leg and over the top of the motor end of the actuator.

3. Insert a M6 x 50mm screw between the right and left top brackets and loosely fasten.



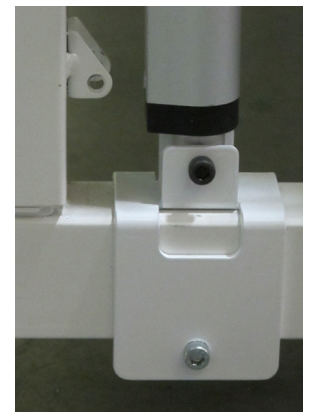
4. Insert four M6 x 16mm screws to clamp the right and left top brackets together around leg tube and loosely fasten.



5. Push the bottom of the actuator forward so the actuator is parallel to the leg.
6. Fully tighten all screws.



7. Insert a M6 x 55mm screw under the bottom frame tube and tighten.
8. Repeat steps 1 through 7 for each actuator.



To lay out and connect the cables

1. Lay out extension cables #5 (longest), #6 (next longest), #4, and #3 (shortest) on the floor behind the frame. Make sure the cables are oriented such that the connector ends can be plugged into the actuators.
2. Connect the numbered extension cables to the #5, #6, #4, and #3 actuator cables. If you are using fewer actuators, connect extension cables to only those actuators.
3. Pull the other ends of extension cables over to the right front side of the frame. (They will be connected to the controller later in the setup.)

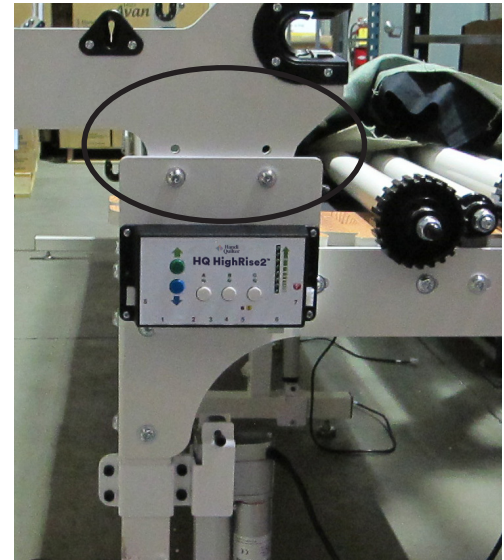


Mount the controller to the side of the frame

For installation on HQ Studio, Fusion, Gallery, and Gallery2 frames, only.

(See page 12 for Studio2 instructions)

1. Remove the front poles from the pole brackets.
2. Use a small, adjustable wrench to remove two bolts from the front right side of the pole brackets.
3. Insert the bolts you just removed through controller's mounting plate and place the bolts back into the front right side of the pole brackets. Tighten the bolts.



To mount the controller to the side of the HQ Studio2 frame

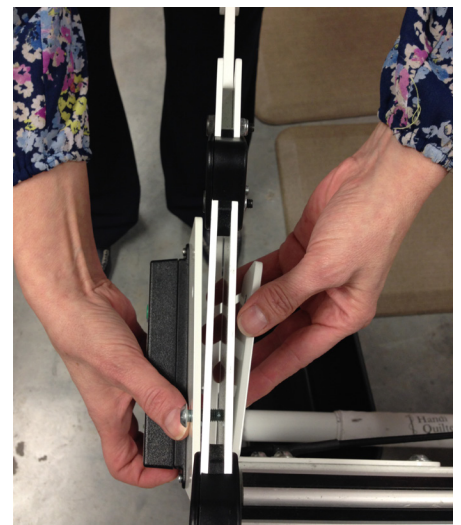
For installation on Studio2 frames, only.

(See page 11 for instructions for other frames)

1. Place the two 8M x 1.25 x 25 screws through the controller box assembly and the double metal pole bracket slot .



2. Turn the screw into the threaded holes in the control box mounting adapter.

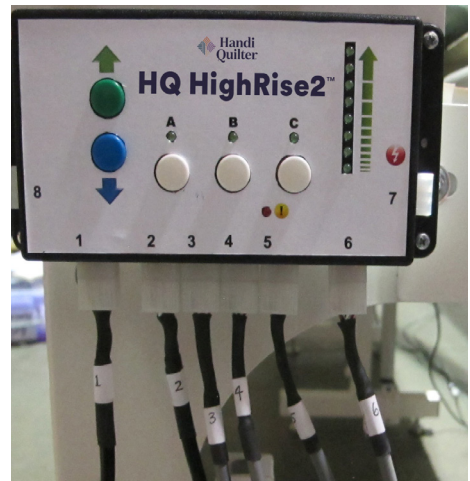


3. Tighten the two screws firmly with a 5mm hex tool. The mounted controller should look like the images to the right.



To connect cables and power supply


1. Connect the #1 and #2 actuator cables to labeled connectors #1 and #2 on the controller.
2. Connect extension cables #3, #4, #5, and #6 to labeled connectors on the controller. Connectors #7 and #8 are open (*nothing connected*).

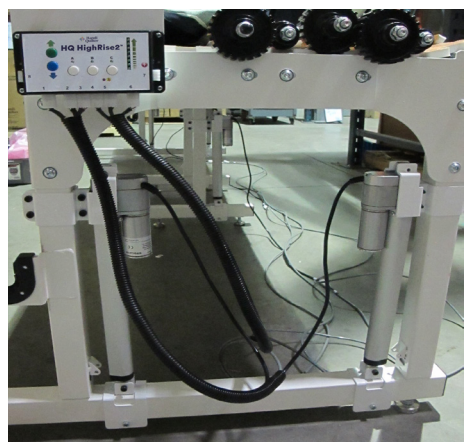


3. Lay the power supply inside the right-front bottom frame tube.
4. Connect the power supply cable to the controller. Wrap the power supply cord around the front-right leg and use cable ties to secure the power supply cable near the controller. Ensure there is sufficient slack in the cable to allow for raising the frame.
5. Connect the power cord to the back of the power supply.

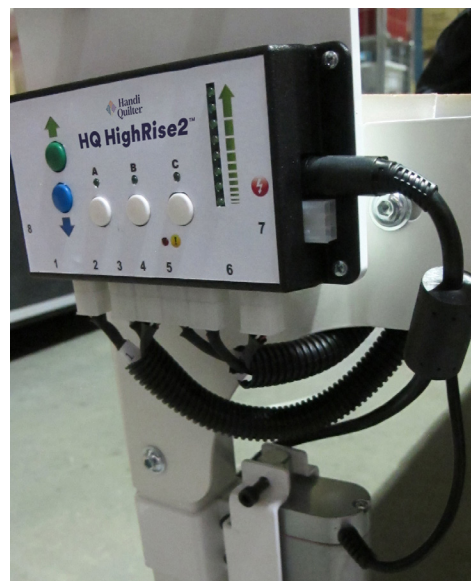


6. Use one piece of cable sheath to bundle cables 1, 2, and 3 connected to the controller. Trim the sheath, if necessary, with a pair of scissors.
7. Use one piece of cable sheath to bundle the cables 4, 5, and 6 connected to the controller

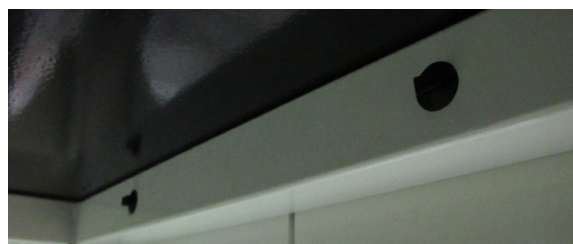
 **NOTE:** Trim the sheath to appropriate length, if necessary, with scissors.



8. Pull the cables with sheaths behind and underneath the right upper frame tube. Push a fir-tree plug into any empty screw hole and use a cable tie to secure the cable bundles



Fir-tree plugs inserted into open screw holes in the frame.




Cable ties inserted into fir-tree plugs and then wrapped around cables.



9. Use adhesive tie-wrap pads and cable ties to secure cable bundles to the back of the frame.

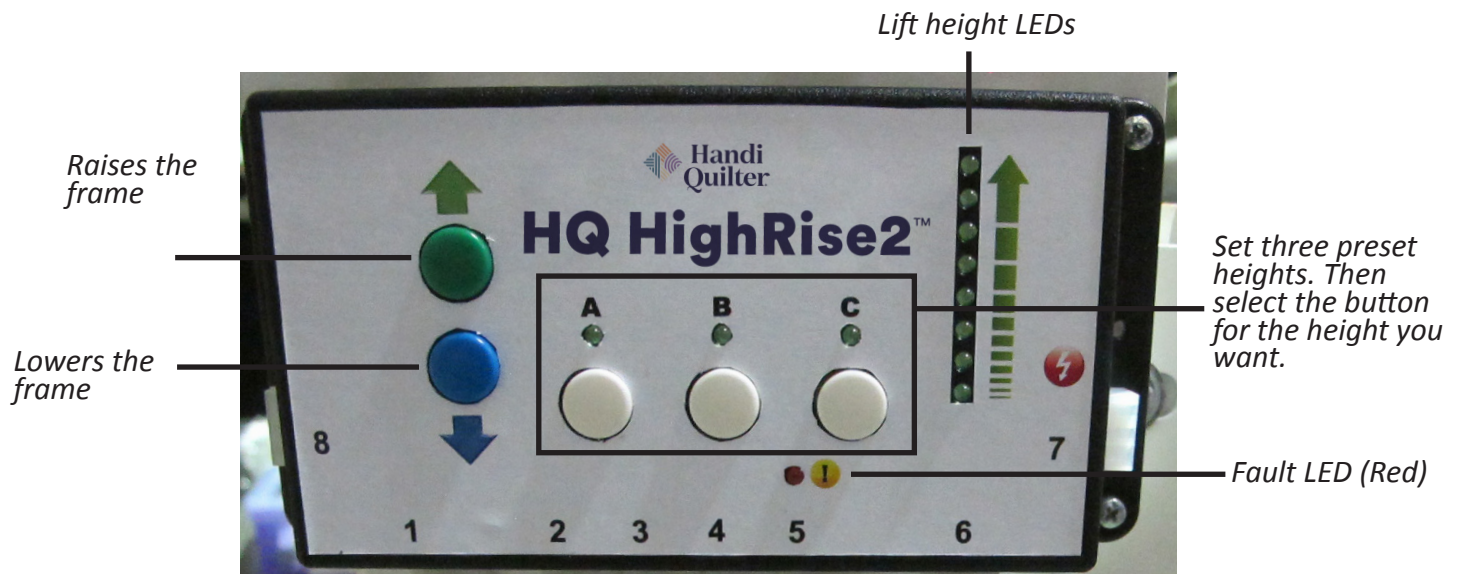


 **NOTE:** To ensure good adhesion of the tie wrap pad, wipe the frame with isopropyl alcohol and allow it to dry before sticking the adhesive tie-wrap pad.

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Operation of the HQ HighRise2

The HQ HighRise2 is simple to operate.





First-time operation

- **IMPORTANT:** The HighRise2 System was calibrated at the factory and does not need to be re-calibrated when it is installed. See HQ HighRise2 Recalibration on page 17 for information on when it should be done.
- **IMPORTANT:** The bottom horizontal piece of the legs should be level front to back. The frame should also be level side to side and in the center before trying to level the frame with the HighRise2 system installed.
- **IMPORTANT:** The actuators must be under load before the frame can be leveled. It is recommended that the frame be raised a minimum of 4 lift height LEDs before attempting to level the frame with the frame levelers.

1. Plug the power cord from power supply into an outlet. At least one LED on the controller will light, indicating power is on.
2. Press the green up arrow button for a few seconds. All actuators should lift. If not, refer to the troubleshooting section of this manual.
3. Press the blue down arrow button for a few seconds. All actuators should lower. If not, refer to the troubleshooting section of this manual.
4. Press the green button and raise the frame at least 4 lift height LEDs.
5. Level the frame. Make sure the frame is level front to back and side to side. Use a spirit, or bubble level, if you have one available. If you need to adjust the leveling feet on the frame, use the 17/13/16mm wrench that came with your frame. When the frame is level, the machine and carriage will not move side to side or front to back when placed by hand and at any location on the frame.

Your HQ HighRise2 is now operational.

-  **NOTE:** When the actuators are extended, there may be a small amount of oil on the inside actuator tube. This is normal. Keep fabrics and other objects away from these inside tubes.
-  **IMPORTANT:** The actuators have a 10% duty cycle which requires that the HQ HighRise2 is not operated constantly. The actuator motors may overheat if the system is run constantly.

To raise the frame

- Press and hold the green UP button until the frame raises to your desired height. It will be at its maximum height when all eight LEDs are lit and motion has stopped, because the frame can't go any higher.

To lower the frame

- Press and hold the blue DOWN button until the frame lowers to your desired height. It will be at its lowest position when a single LED is lit and motion has stopped, because the frame can't go any lower.

To customize the three preset frame heights

Preset three frame heights and quickly recall a height by pressing one of the preset buttons.

1. Set the frame to the desired height using the UP (*green*) and DOWN (*blue*) buttons.
2. Press and hold one of the three preset buttons for two to three seconds. The LED above the button will blink, then the LED will stay illuminated indicating the button is programmed.
3. Repeat these steps for the other two preset buttons with two other frame heights.

To recall a preset frame height

- Quickly press one of the preset height buttons. The HQ HighRise2 will adjust the frame to the preset height.

HQ HighRise2 Recalibration

- ➡ **IMPORTANT:** The HighRise2 System was calibrated at the factory and does not need to be recalibrated when it is installed.
- ➡ If you replace an actuator or the control box, you will need to recalibrate the HQ HighRise2. The purpose of the HQ HighRise2 calibration is to give the control box the low and high actuator sensor readings, so the table can be kept level when raising and lowering.
- ➡ **IMPORTANT:** Turn on the HQ HighRise2 and watch the three preset LED lights. Proceed with the steps below if they flash three or more times.

To recalibrate the HQ HighRise2

To run calibration on the HighRise2 control box (with USB connector at #8) with v2.2 software (2 flashes on the three preset LEDs after power up) or on the HighRise v1.8 software (6 flashes on the three preset LEDs after power-up).

Move the machine to either end of the frame or remove the machine and carriage from the frame.

- ➡ **IMPORTANT:** If you leave the machine and carriage on the frame, have someone hold onto the machine while calibration is underway because the table may become unlevelled during calibration. Alternatively, you can secure the machine from moving by using a bungee cord.

1. Simultaneously press Preset Buttons B and C, then release both buttons to begin the calibration cycle.
2. While calibration is underway, the table will be: (1) lowered to its lowest position, (2) The lift LEDs will flash upward twice.

 **NOTE:** Some actuators may run longer than others.


3. The calibration is complete.
4. Raise the table so 4 LEDs are lit on the lift indicator.
5. Check that the table is level from front to back and side to side. If not, level the table with the frame leveling feet.
6. Once again customize the preset heights as described on page 16.

Troubleshooting

Your HQ HighRise2 requires no maintenance

Troubleshooting

Problem or Symptom	Corrective Measure
Fault LED (red) is illuminated	<p>Fault LED (red) is illuminated. Look at the lift height LEDs. The illuminated LED indicates which actuator has a fault. The bottom LED corresponds to actuator 1, the second LED from the bottom corresponds to actuator 2, and so forth, for the bottom six LEDs.</p> <p>Disconnect the power cord from the wall socket and check all of the cable connections, including the extension cables. Reconnect the power cord.</p> <p>If the red fault LED is no longer illuminated, try to raise or lower the frame. If the red fault LED comes on, disconnect the power cord from the wall and call Handi Quilter technical support.</p>
Fault LED (red) is illuminated. LED 7 (second lift height LED from the top) is illuminated.	<p>One (or more) of the actuators or extension cables is not plugged in. Disconnect the power cord from the wall socket and check that the cables are plugged into the correct connectors on the controller. Reconnect the power cord and confirm that LED 7 and the fault LED are no longer illuminated.</p>
One or more actuator(s) have stopped lifting or lowering the table.	<p>Stop pressing buttons on the controller. Disconnect the power cord from the wall socket and call Handi Quilter technical support</p>
Actuators raise or lower the table with an uneven, non-level motion.	<p>Stop pressing buttons on the controller. Disconnect the power cord from the wall socket and call Handi Quilter technical support</p>

 **NOTE:** in rare instances the small sensor in the top of the actuator may stick or hang up. First see the fault light chart above to determine the actuator at fault. Lightly tap on the top backside of the actuator where the cord comes out, with something like the handle of a screw driver. This may free up the sensor at fault so the actuator will function properly again and the fault light will turn off.

