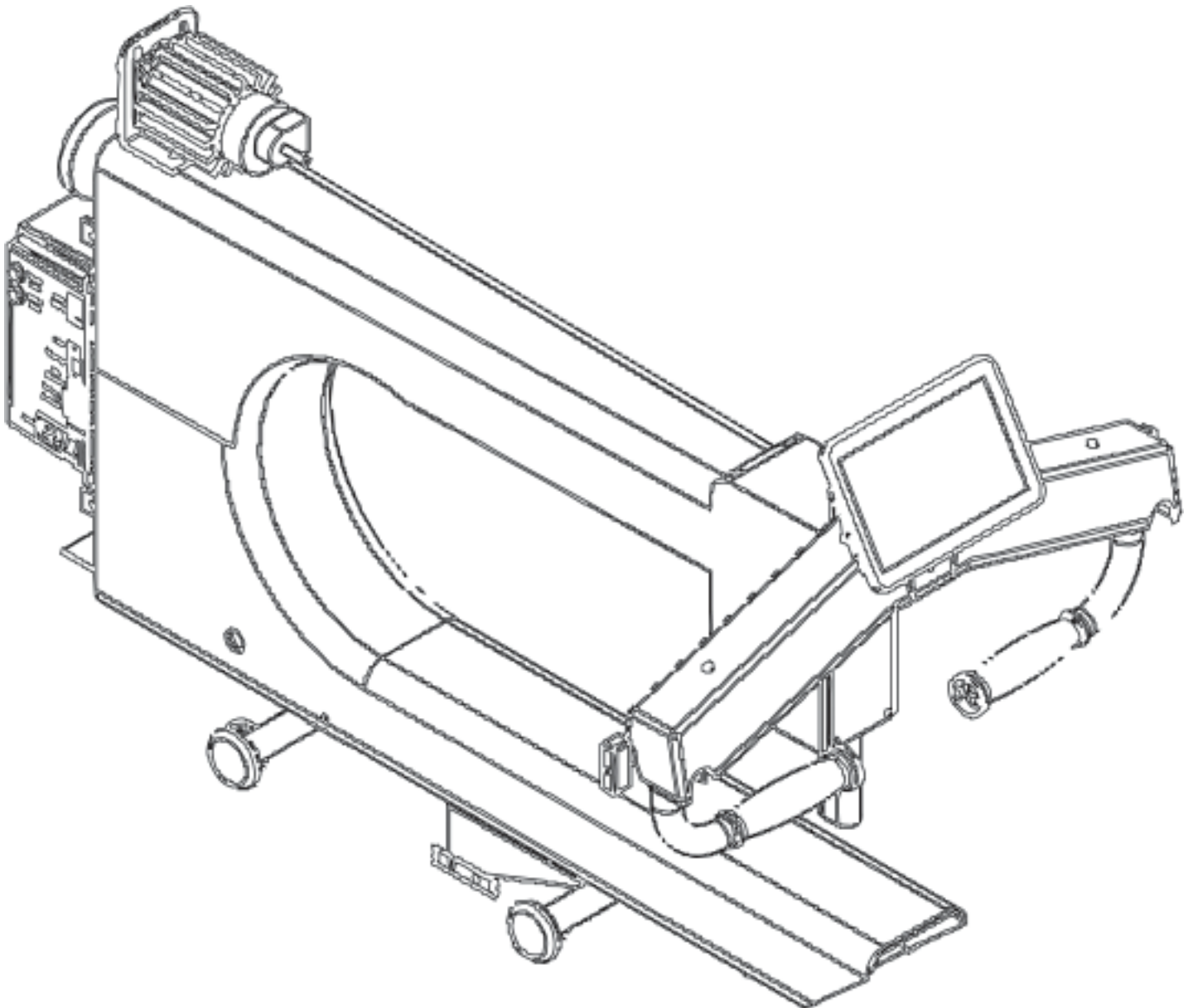


Perfect Stitch

Machine Upgrade



A-1 Long Arm

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17	ATTACHING THE REAR DISPLAY

Before You Begin

Test the Machine

Before installing the upgrade, make sure that the machine is fully operational. Do not remove any electronics until the machine has been tested.

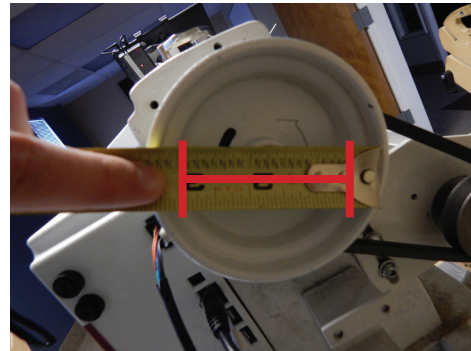
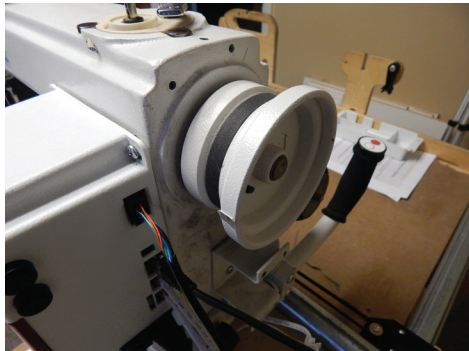
While upgrading keep in mind

- All cables ran properly and out of the way of any moving parts.
- All cables plugged in securely so they will not come loose from the vibrations of the machine.
- All screws are tight and will not come loose from the vibrations of the machine
- Proper belt tension with approximately 1/4" of play in between

Determine Pulley Size

To get the correct ratio you will need to make sure that you install the correct size motor pulley.

Measure the machine pulley from end to end. Remember you are measuring the Pulley and not the handwheel. For example this pulley has a larger handwheel, but the pulley is only 3" in diameter.



Divide that measurement by 1.5
(e.g $3'' / 1.5'' = 2''$)

The divided number translates to the ratio and corresponding size of pulley to be used in the upgrade. This number is likely to be a fraction, round up or down to the nearest whole number.

Use this rounded number to choose the correct pulley size. The pulley diameter should equal the rounded number.

Pulley Sizes

1”

1 1/2”

2”

3”

AIDES

Tools

- Power drill
- Safety glasses
- Hex key set
- Hammer
- Punch
- Tin snips
- #1 Phillips screwdriver
- #2 Phillips screwdriver
- #25 drill bit
- Tap wrench
- #10-24 tap
- Tapping oil

Perfect Stitch Parts

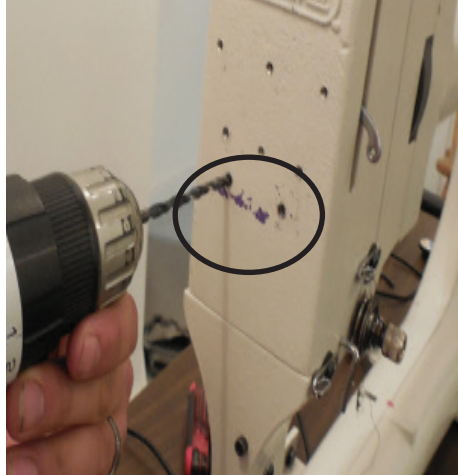
- (1) Touch screen display either:
Android 10" [106AA009]
Android 7" [106AA015A-7]
Linux 7" [110EA164A-PS]
- (1) Rear display
[105AW010A-UPGRADE]
- (2) Remote base assembly
[105AW025A]
- (1) Stylus (Linux display only)
[103MA71A]
- (1) USB flash drive (Linux display
only) [100EZ161A]
- (1) External remote cable
[105AW006]
- (1) Internal remote cable (Android
tablet only) [105AW007]
- (1) Continuous remote cable (Linux
display only) [114EW005B]
- (1) Continuous handlebar cable
[105AW005B]
- (1) 110V Power cable [AB178]
- (1) Handlebar assembly
[106MA002B-B]
- (1) 180W Motor [105EW57400-
AMP]
- (1) Motor Bracket [Q-UNI-MOT-1]
- (1) Motor Belt [2L150]
- (1) Motor pulley 1.5" [114MA003A]
- (2) Motor heat sink [AB173]
- (1) Index bracket [Q-UNI-PER-BRK-1]
- (1) Index L bracket short [Q-UNI-MAG-2]
- (1) Metal collar[P-UNI-MSC-6]
- (2) Foam tape [P-UNI-MSC-10]
- (1) Upgraded rear handlebar assembly
[105AW011A]
- (1) Index sensor assembly [Q-E-UNI-PER-
MAG-1]
- (1) Encoder assembly set- includes 2 encod-
ers [130AA007A]
- (1) PCB control box [112EW001A]
- (1) Metal back plate [Q-UNI-PB-PBK-1]
- (6) Anchors and zip ties [103MW072A]
- 40" Nylon Wrap
- (25) 8-32 x 1/2" screw
- (6) 10-24 x 1/2" screw
- (6) 10-24 K-lock nut
- (2) 1/4-20 x 1/2" screw
- (4) #4 x 1/4" thread forming screw
- (2) 10-32 x 3/4" socket head screw

Attaching Front Handlebars

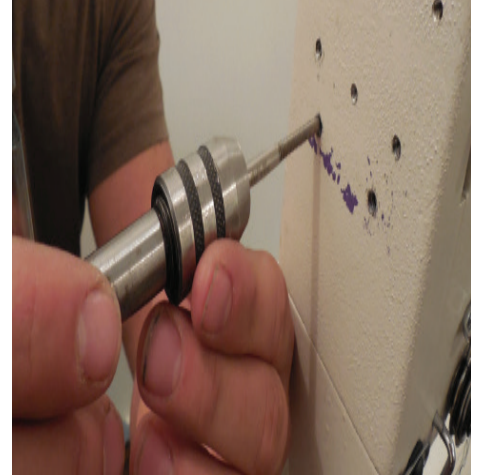
1 See drill templates at end of instructions.

Use a number 25 drill bit to drill two holes into the casting of the face of the machine.

Then use a 10-24 Tap to tap the holes.



Drill



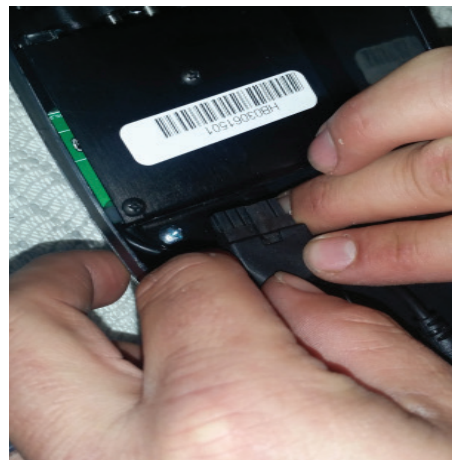
Tap

2 Align handlebars with the drilled holes.

Then mount the handlebar with two 10-24 x 1/2 screws onto the machine.



3 Connect the handlebar cable to the junction box in the center on the underside of the handlebars.



Mounting Display

- 1** Attach the remote bases with the #4 x 1/4" screws.



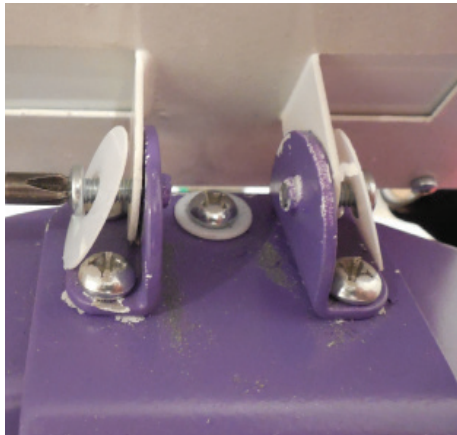
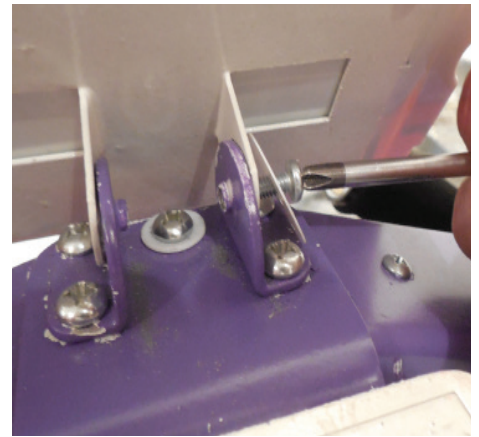
- 2** Attach the display bracket to the touch screen display with the four display screws.



Note: Colors may vary by machine.

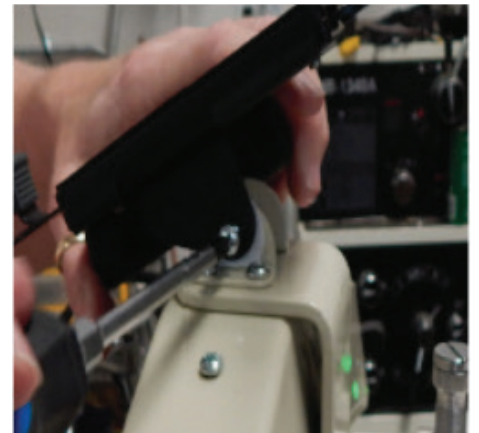


- 3** Attach the remote bracket to the remote bases.



Mounting Android Display

- 1** Mount the remote bracket to the remote bases with the white poly disc in between.

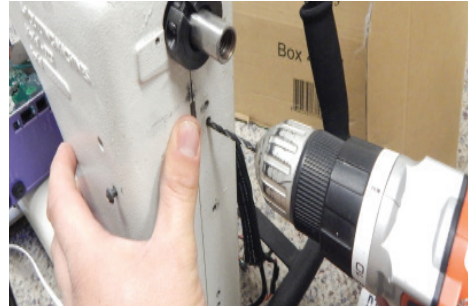
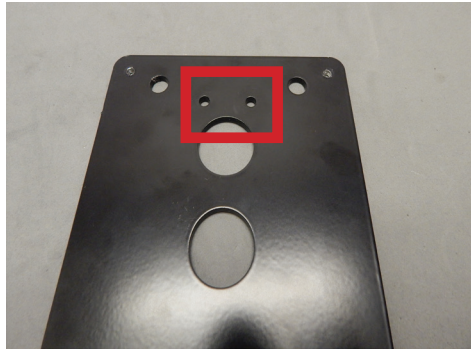


- 2** For installation instructions on the tablet please refer to the *Installing/Troubleshooting your Android Tablet* guide.

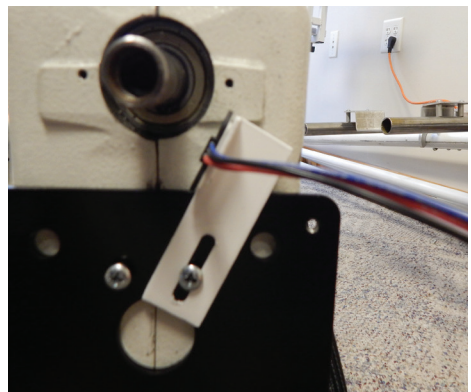
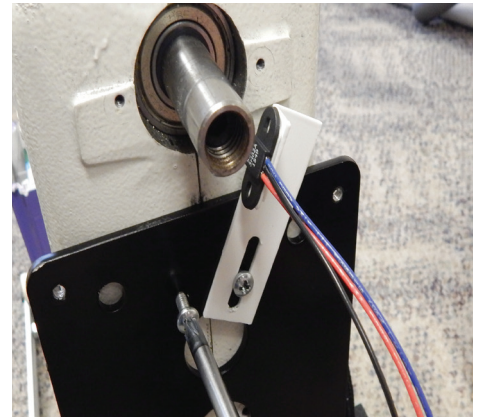
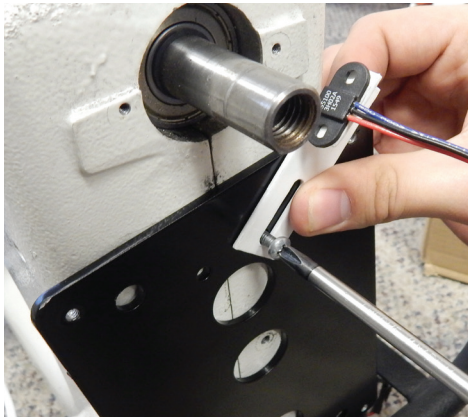
Mounting Metal Plate and Magnetic Index

1 Line up the metal plate with the center of the rear of the machine.

Mark the two small circles that are closest together, and drill with a size 25 bit, and then tap with size 10-24 bit.



2 Attach the metal plate with the index sensor bracket mounted to the right screw at an angle.

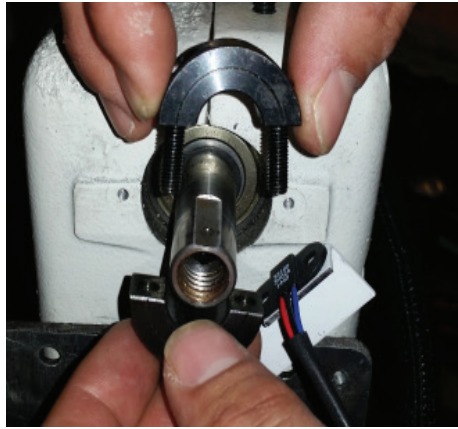


3 Rotate the handwheel until the needle is in the up position.

Clamp the index collar over the handwheel shaft with the magnet over the sensor. **Be careful to not move the needle.**

Secure the clamp with the magnet and sensor approximately 1/4" apart.

Note: move the index bracket as needed.



Installing Motor

1 Remove the original motor from the machine. Save the screws to mount the new motor.

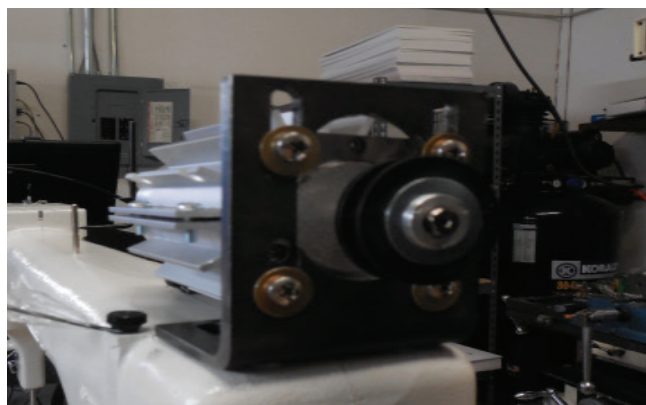
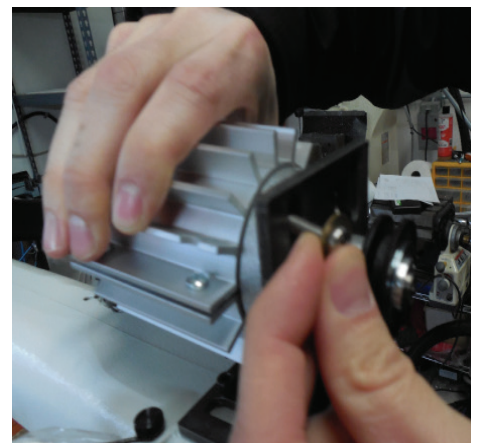
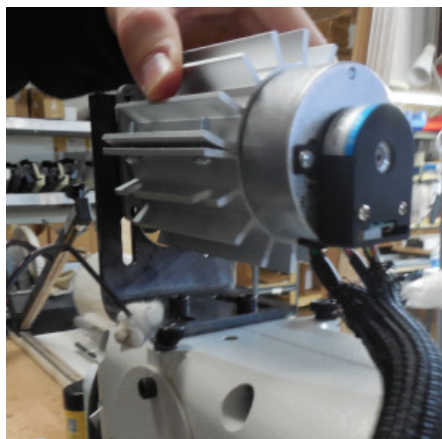


- 2** Mount the motor bracket to the rear of the frame with two of the original screws.



- 3** Slide a washer on each of the screws, and fasten the motor to the motor bracket.

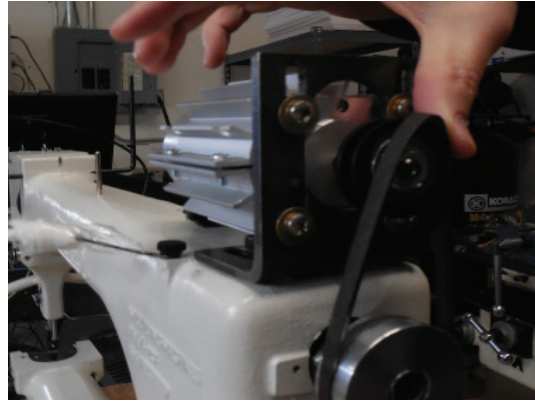
Do not tighten all the way at this point.



4 Slide the new belt over the rear pulley and the smaller pulley on the motor.

Raise the motor to get proper belt tension and then tighten screws.

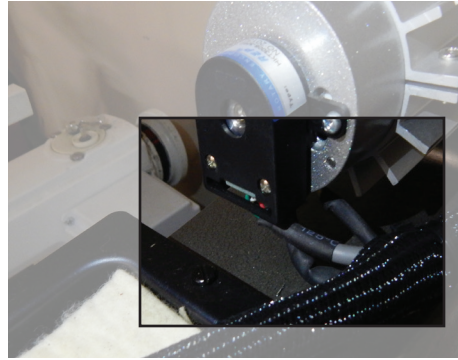
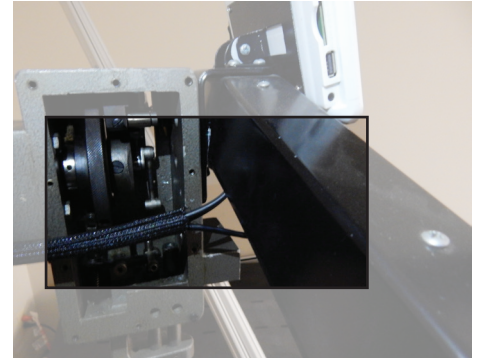
The belt should have approximately 1/4" inch of play. Squeeze both sides at the middle to gauge tension.



Installing Nylon Wrap

- 1 Wrap the wires from the handlebars, display, and motor into the mesh nylon wrap.

Note: Machine depicted is not the A1 Longarm, but the procedure is the same.



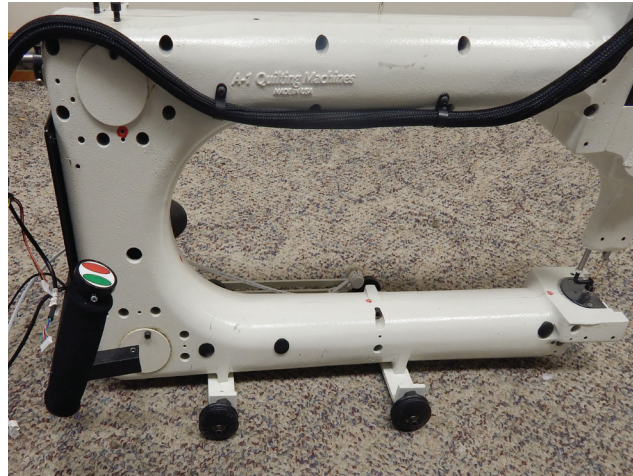
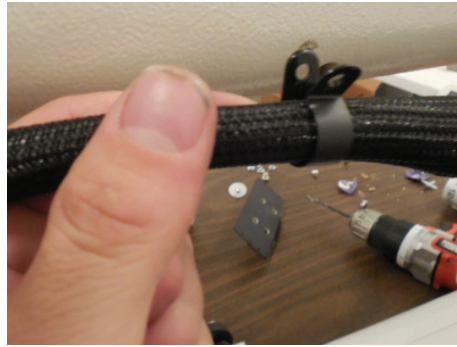
- 2 Remove two screws from the side of the machine.



Remove these screws

3 Loop a clamp around the sheath at each location and attach the sheath to the frame with the removed screws.

Run the nylon wrap so that it is as visually appealing as possible.



Attaching PCB Box

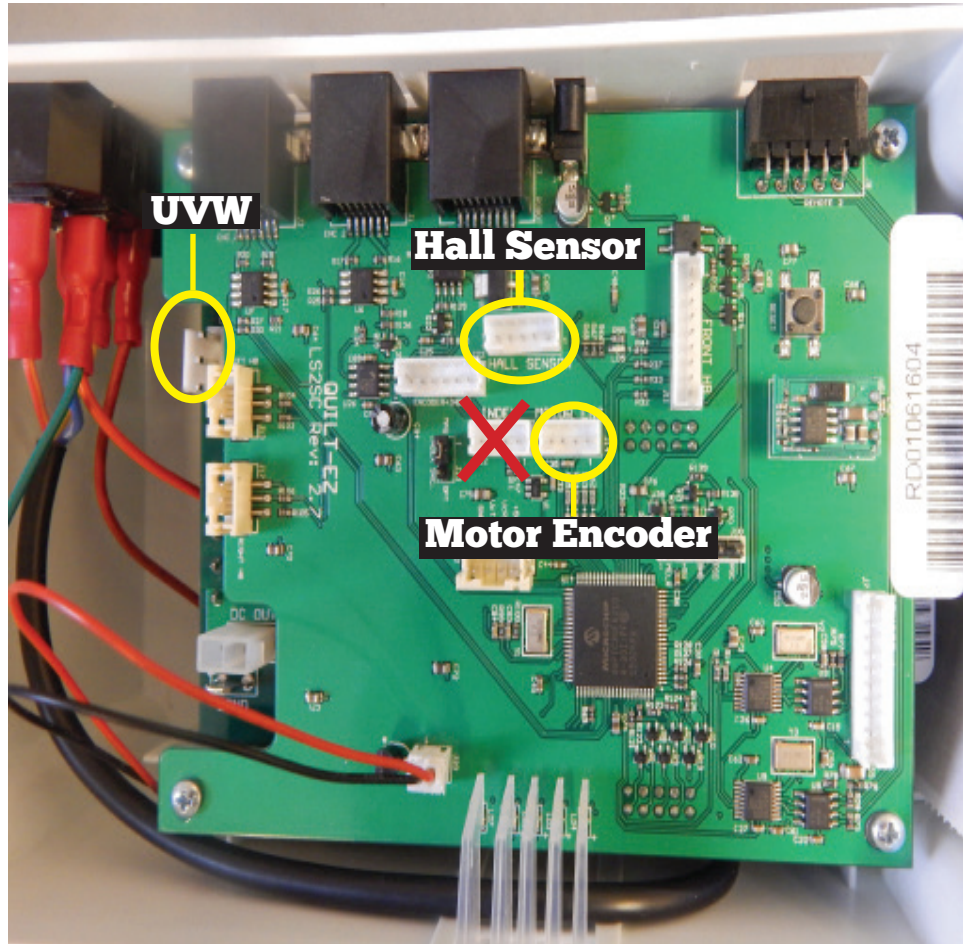
1 Connect Motor Wires

Connect the motor wires as shown at right.

Each of the ports will be labeled. Be sure to plug into the correctly labeled ports on the PCB.

Images to the right are not representative of the A1 PCB, but the connections are the same

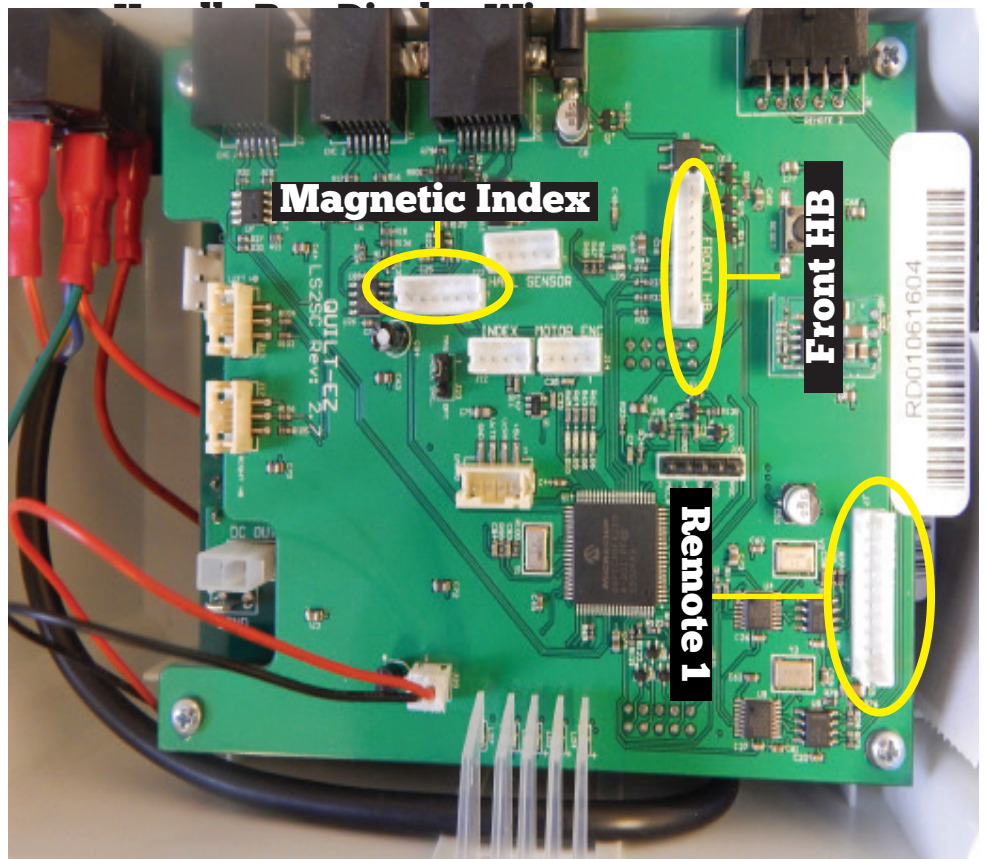
Motor Wires



2 Connect Index, Handle Bars

Connect the handle bar and display wires as shown at right. Each of the ports will be labeled. Be sure to plug into the correctly labeled ports on the PCB.

Attach the ground wire to a screw on the metal plate.

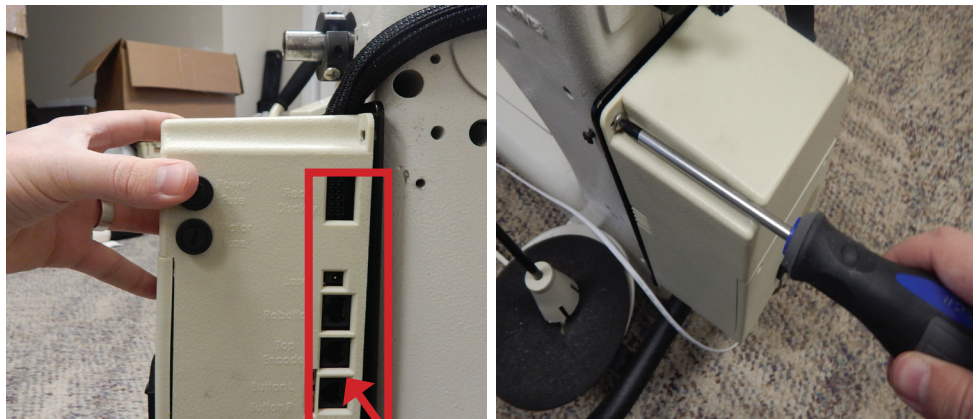


- 3** Cut a square notch in the top of the PCB control box with tin snips large enough for the mesh wire to go through.



- 4** Mount the PCB to the metal plate with the wrap tucked into the notch by inserting screws into each corner.

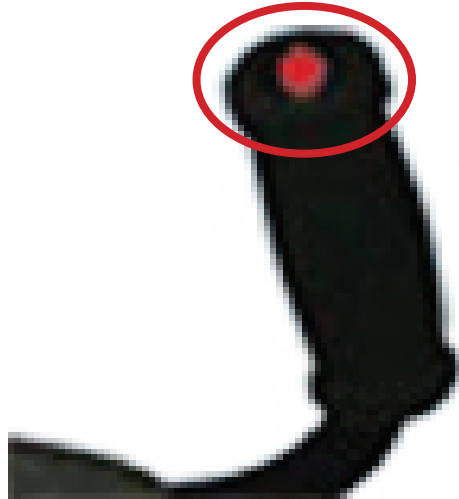
Note: Make sure that as the PCB box is mounted no wires are touching any of the ports in the box. Zip tie wires as needed.



Make sure no wires rest on these ports

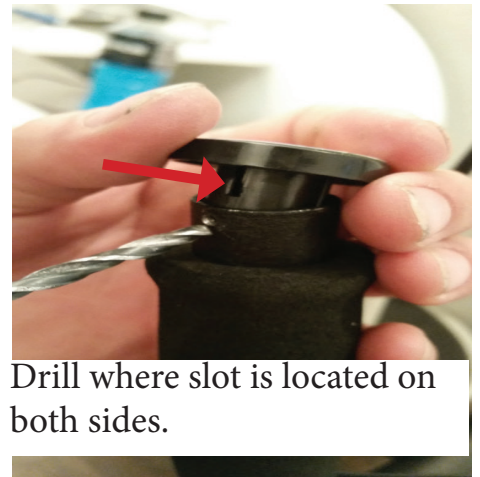
Attaching Rear Handlebars

1 Remove the existing buttons from the rear handlebars.



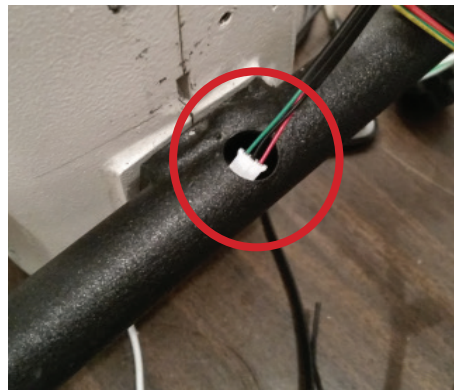
2 Hold the button up to the handle bar and use the slots on each side as reference points on where to drill.

Drill into the handle bars with a number 30 bit to create a place to insert the button holder screws.

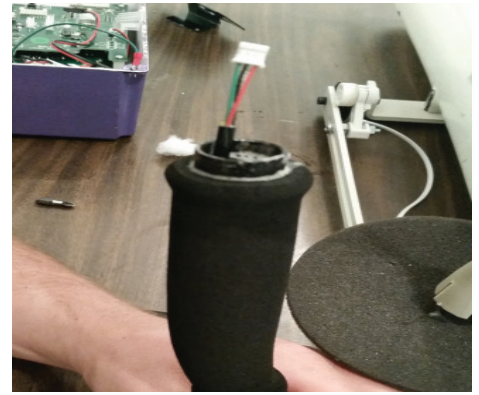


Drill where slot is located on both sides.

3 Feed the handlebar cables through the hole in the center of the bars out both sides.



- 3** If desired replace the foam grips. Applying soapy water to the inside makes this step easier.

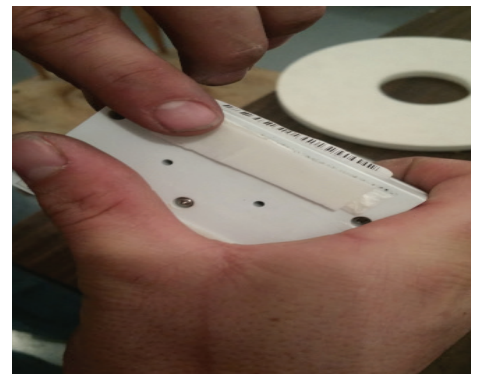
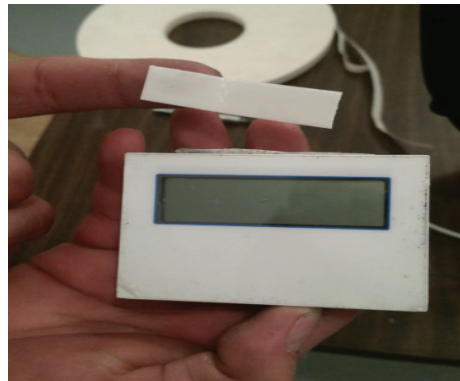


- 4** Plug the wire into the port on the back of the buttons, and then insert the small screw through the hole drilled in step 1 and into the hole on the button to fasten in place.

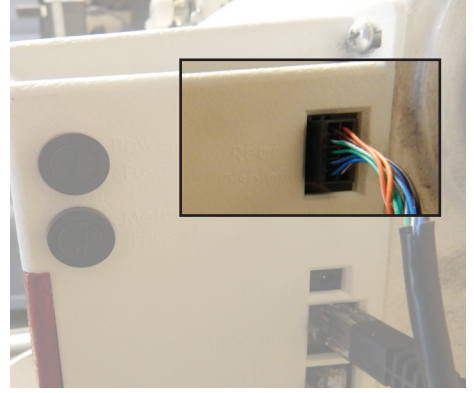


Attaching Rear Display

- 1** Mount the rear display to the top of the PCB control box with the double sided tape.

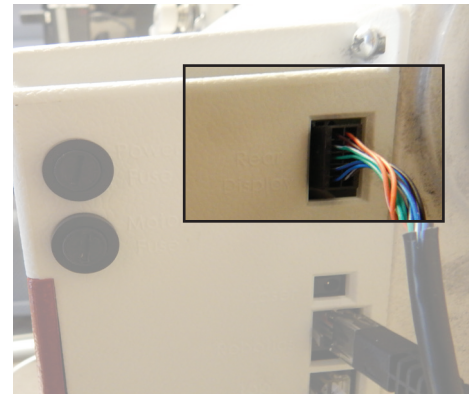
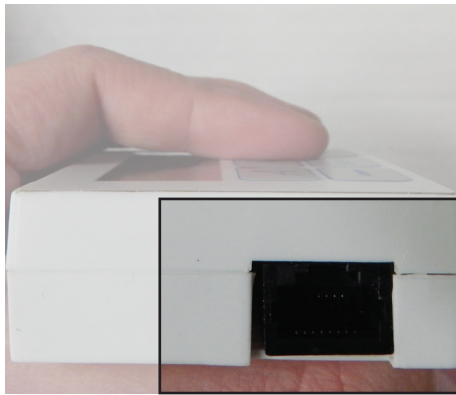


- 2** Plug the other side of the rear handlebar wires into the bottom of the rear display using the respective sides.



- 3** Plug the ethernet end of the rear display cable into the port on the rear display

Plug the other end into the port labeled Rear Display on the PCB control box.





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