



# **How to Attach Butler Robotics to an ABM Innova**

**Bag #****Contents****Picture****X1**

1-White Belt (12')  
4 - Plastic Belt Clamps  
4 - Screws (4-40 x 0.5)

**Y1**

1 - Black Belt (86")  
4 - Plastic Belt Clamps  
4 - Screws (4-40 x 0.5)

**Z1**

1- Stylus  
5 - Zip Ties  
5 - Plastic Anchors  
2 - Washers (M5 Flat)  
2 - Screws (M5 x 12mm)

**Z3**

1 - Motor Pulley Cover  
2 - Nuts (M5 K-Lock)

**D3**

1 - Universal Display Bracket  
4 - Screws (M6 x 8mm)  
4 - Nuts (M6)  
2 - Screws (8-32 x 0.5)  
2 - Plastic Washers



**X5**

- 4 - Metal Clamps
- 2 - Eye Bolts (M5)
- 4 - Screws (M5 x 60 mm)
- 8 - Nuts (M5 K-Lock)



**M17**

- 1 - Front Motor Box Bracket
- 2 - T Nuts (w/ Screws)
- 2 - Washers
- 2 - Screws (M5-12mm)



**Y21**

- 1 - Carriage Bracket
- 2 - T Nuts
- 1 - Small Screw (10-24 x 0.25)
- 1 - Thumb Screw (10-24 x 0.5)
- 1 - Eye Bolt (M5)
- 2 - Nuts (M5 K-Lock)



**I16**

- 1 - Idler Pulley Bracket
- 2 - T Nuts
- 1 - Shoulder Screw
- 1 - Pulley
- 1 - Nut (10-24 K-Lock)
- 1 - Plastic Washer



**Cables**

Vary by machine



# How to attach a T-Nut

Frames and machines made from extruded aluminum have channels built into them when they are manufactured.

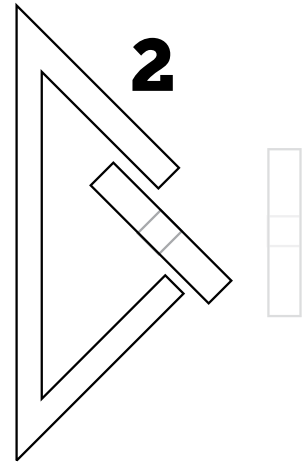
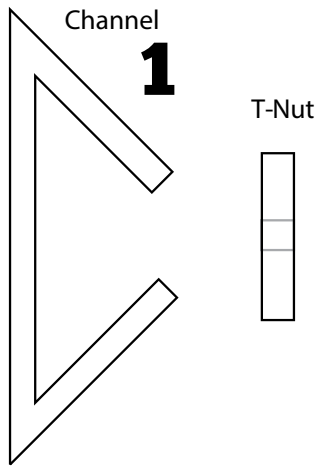
We will insert nuts, called T-Nuts, into these channels to attach to the frame.



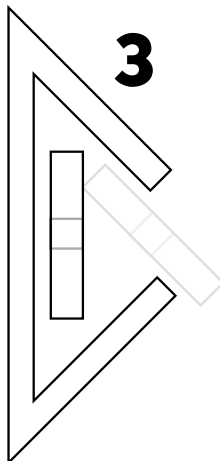
## Cross-section view

### How to attach a T-Nut

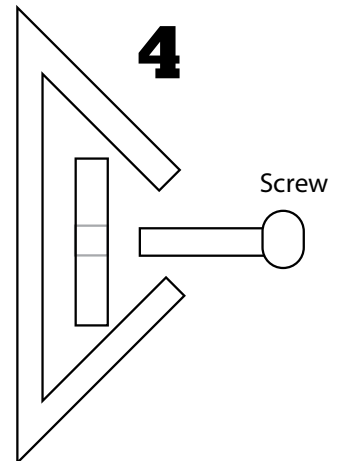
Slide one end of the T-nut into the channel



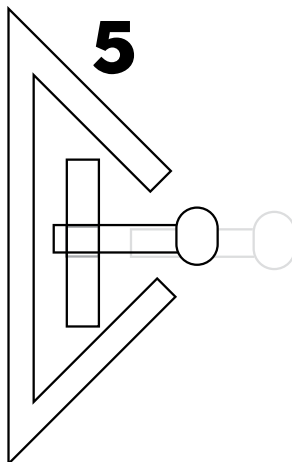
With one end inside, slide the remaining end into the channel.



Position the screw above T-nut.

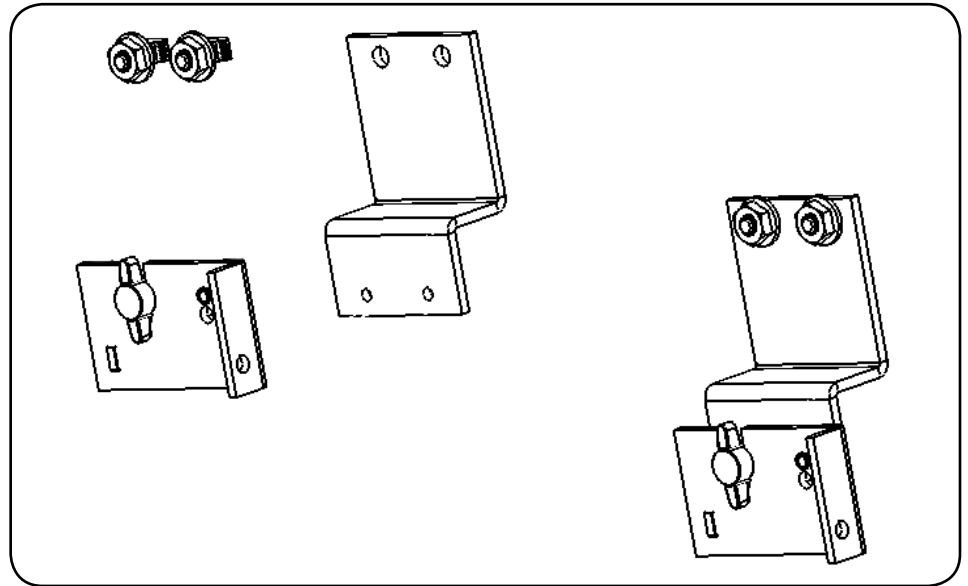


Screw into place.



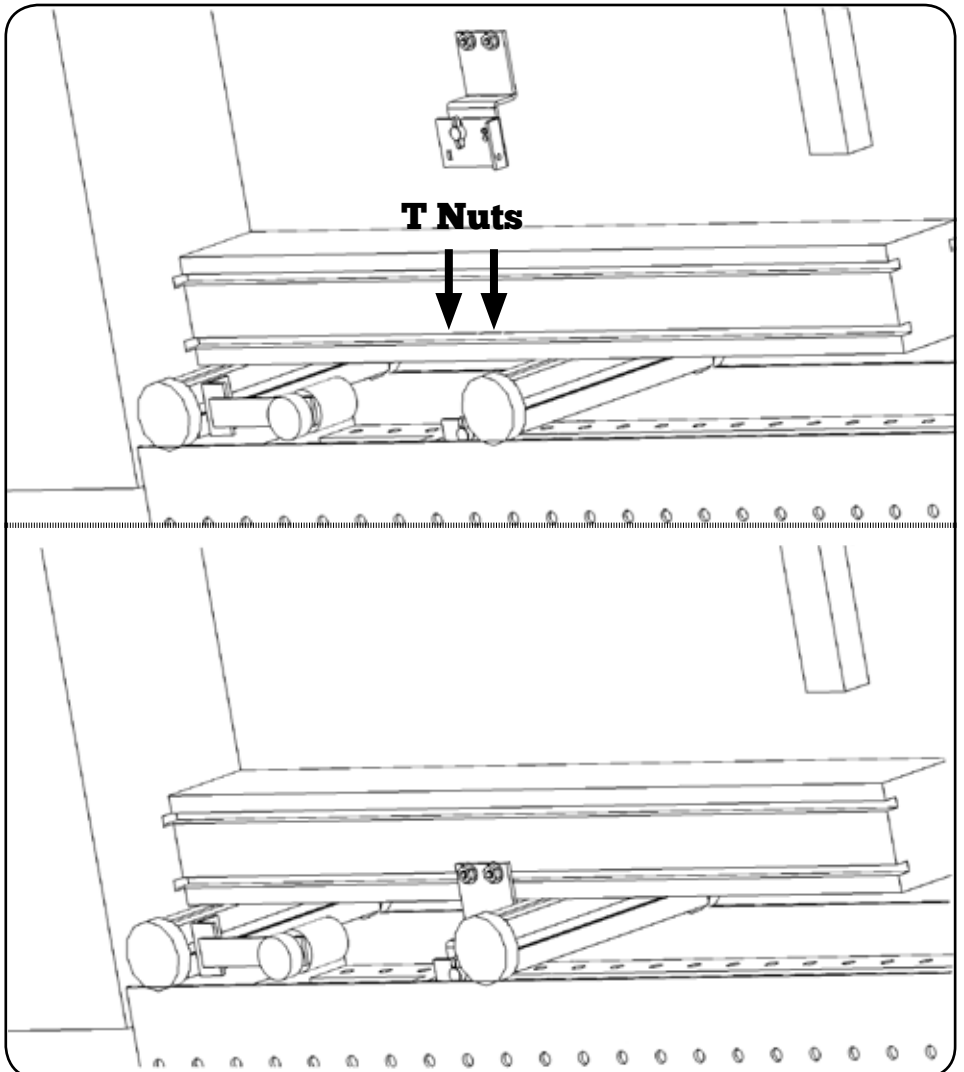
## Install Belt Bracket (Bag Y21)

- 1** Attach two brackets together in not attached already. Insert screws into top two holes.



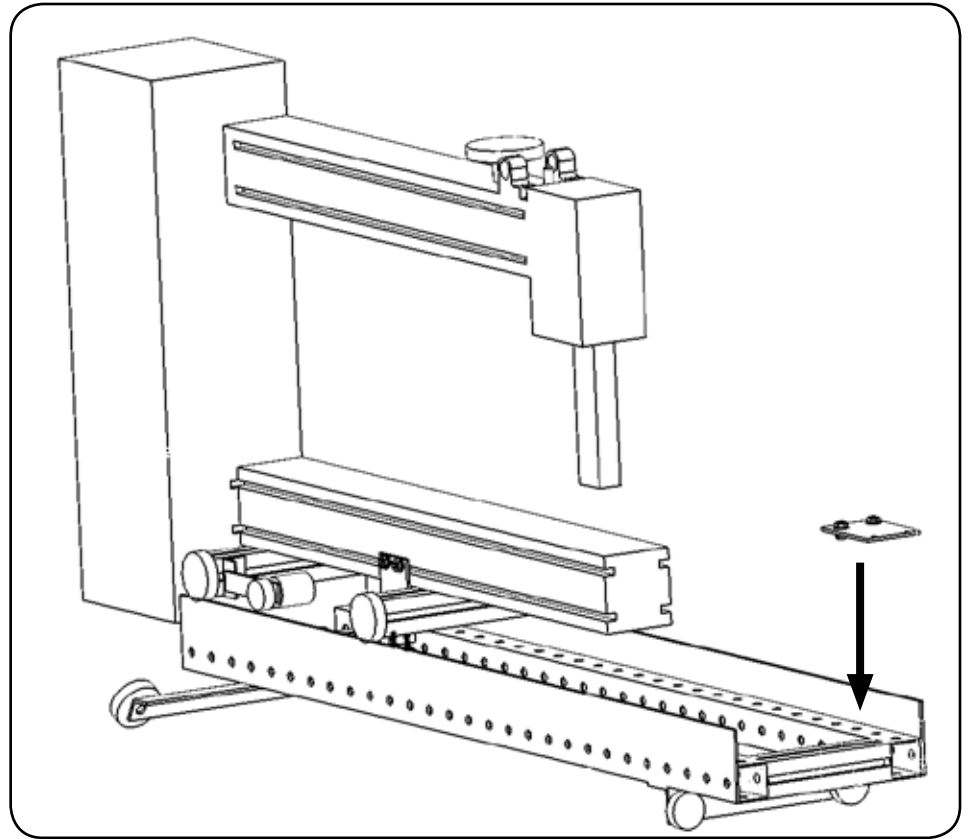
- 2** Insert a pair of T Nuts into the channel on the side of the machine indicated at right.

Install screws into T Nuts to secure Bracket.



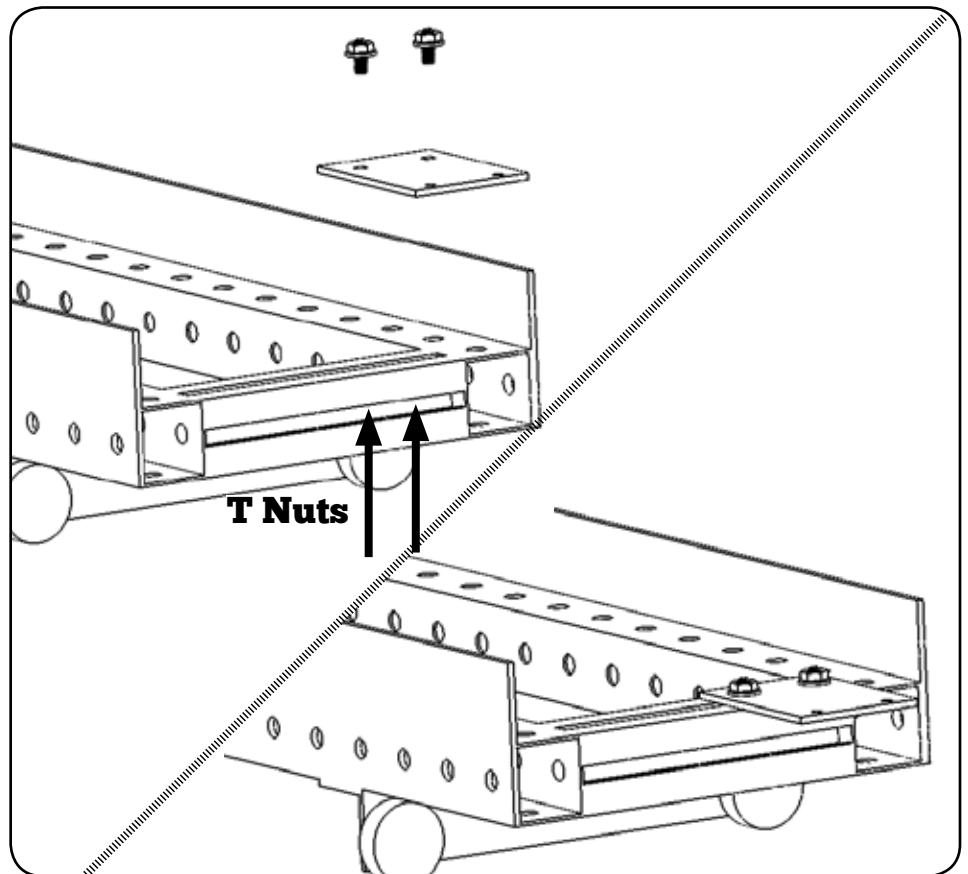
# Attach the Motor Box Bracket (Bag M17)

**1** Install the bracket on the front of the carriage where indicated at right.

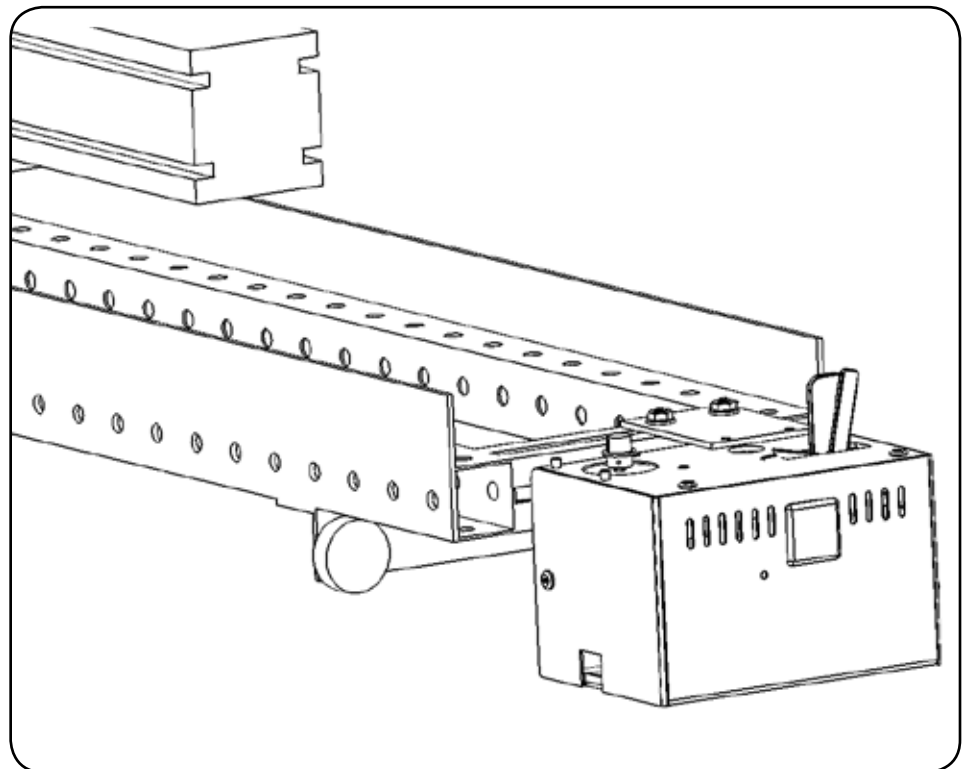
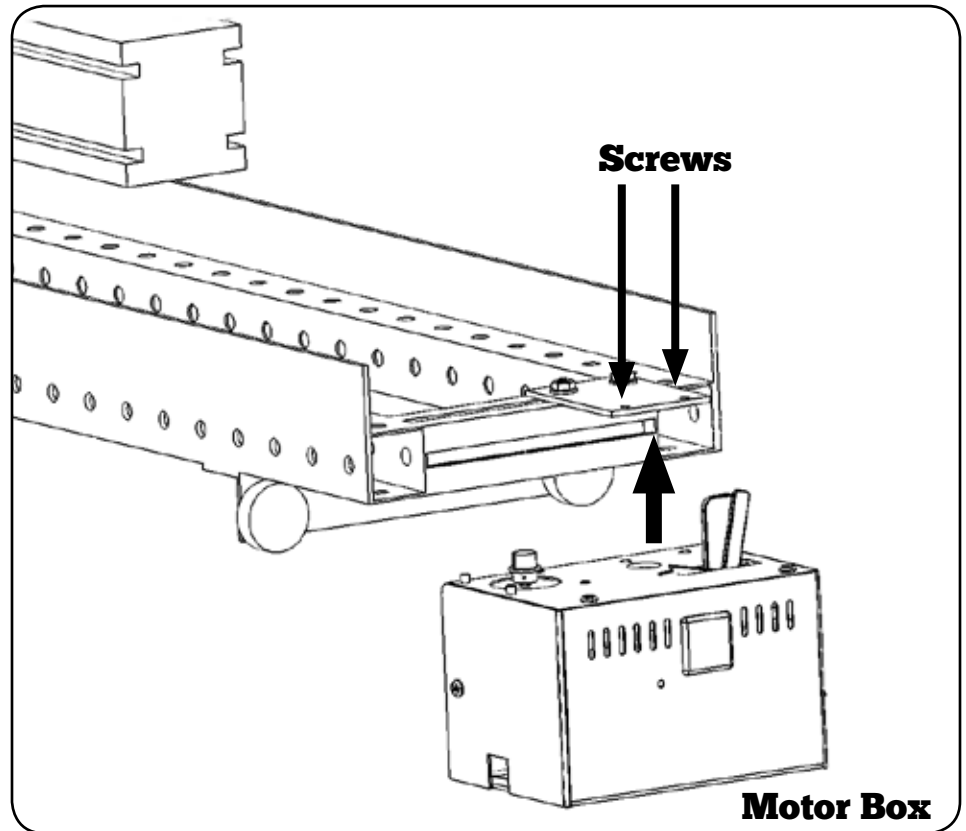


**2** Insert a pair of T Nuts into the channel on the side of the machine indicated at right.

Install screws into T Nuts to secure Bracket.



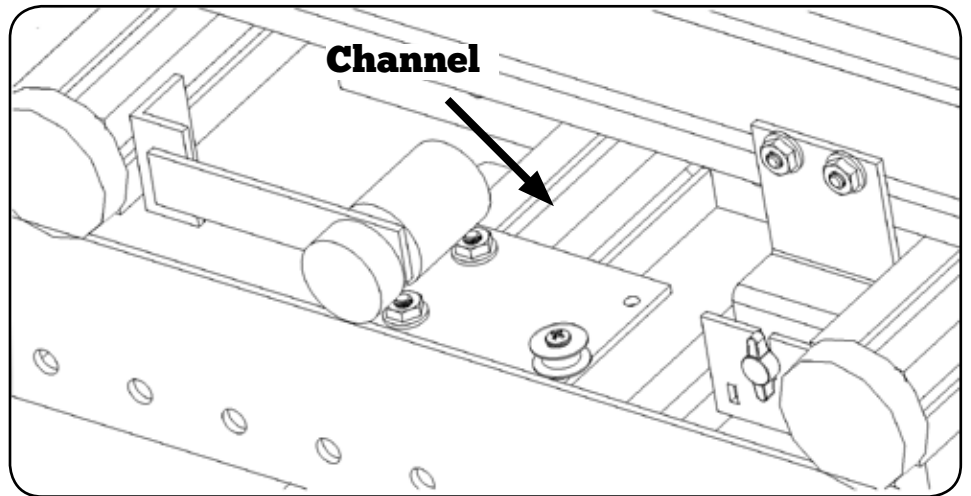
- 3** Attach Motor Box to front carriage bracket with the two provided screws.



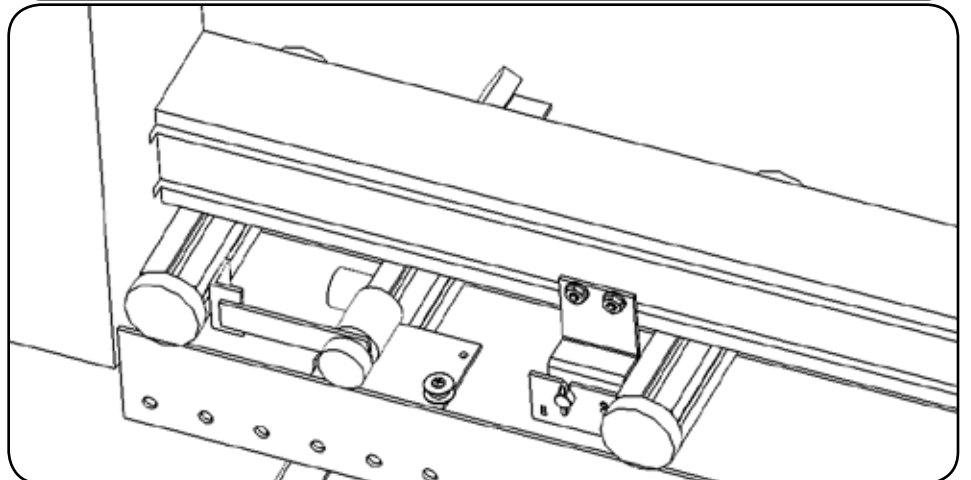
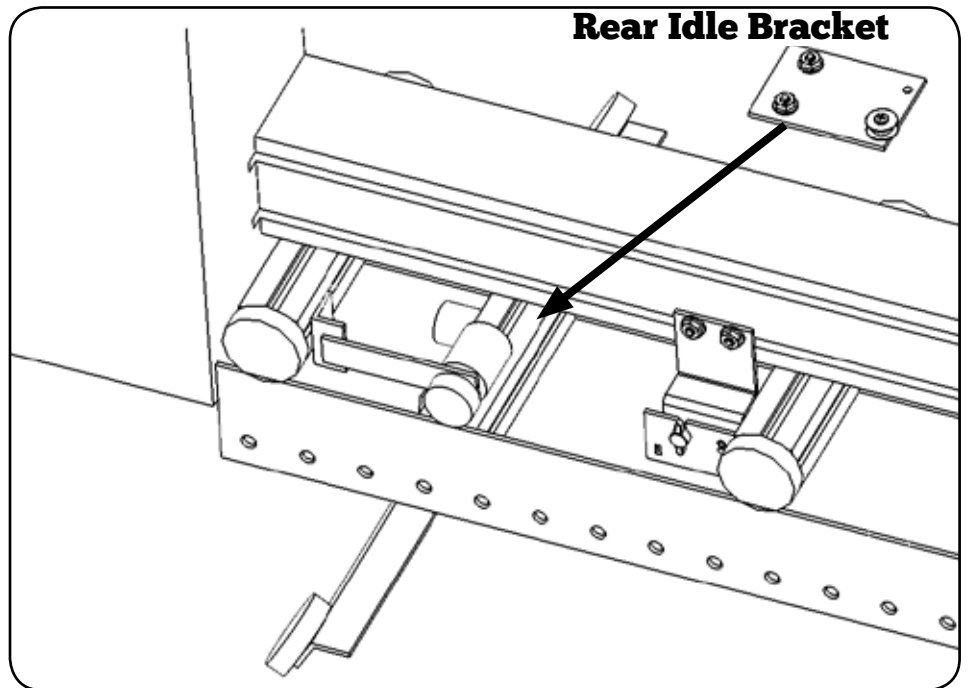


## Attach the Rear Idler Bracket (Bag I16)

- 1** Insert a pair of T Nuts into the channel on the side of the machine indicated at right.



- 2** Install the rear idler bracket screws into T-nuts to secure the bracket.



# Install Black Belt (Bag Y1)

- 1** Use the belt clamps to attach one end of the black belt to the indicated bracket, and wrap the belt around the idle pulley, **teeth-side facing the pulley**.

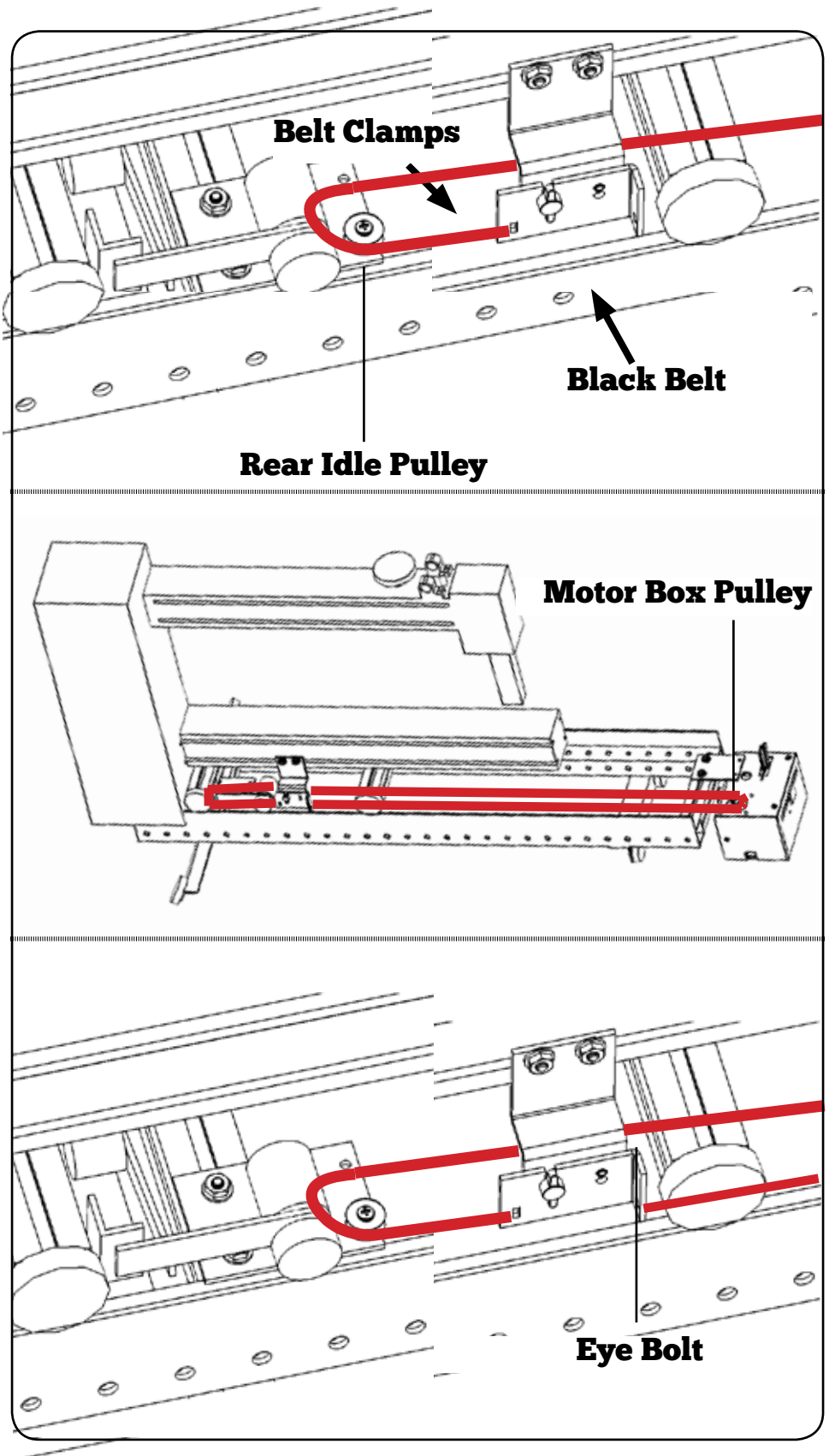
*For help using belt clamps refer to Appendix A*

- 2** Loop the belt around the Motor box pulley as shown at right, **teeth side facing the pulley**.

- 3** Install eye bolt into bracket.

Using the belt clamps, attach the remaining end of the black belt to the included eye bolt.

The belt should be taut with less than 1/4" of play



# Install White Belt (Bag X1 and Bag X5)

**1** Attach the frame clamps onto both sides of the frame and secure into place with the provided screws.

Align them roughly level with the side pulley on the black motor box.



**Inside view**



**Outside view**

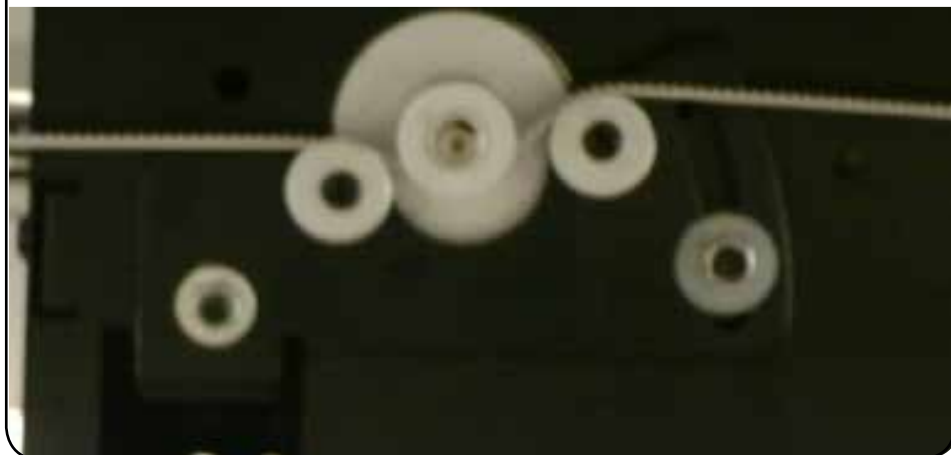
*\*Frame depicted may not be the same*

**2** Attach end of white belt to eye bolt with belt clamps.

Install the eyebolt into the frame clamp using the available hole.

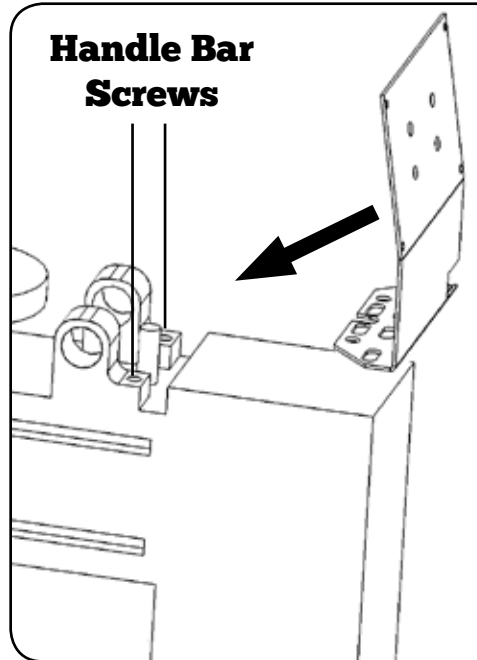
Draw the belt through the Motor box pulley and attach the belt to the clamp with the available hole on the opposite side of the frame.

Adjust frame clamps as necessary to align white belt with Motor box pulley.



# Install Display (Bag D3)

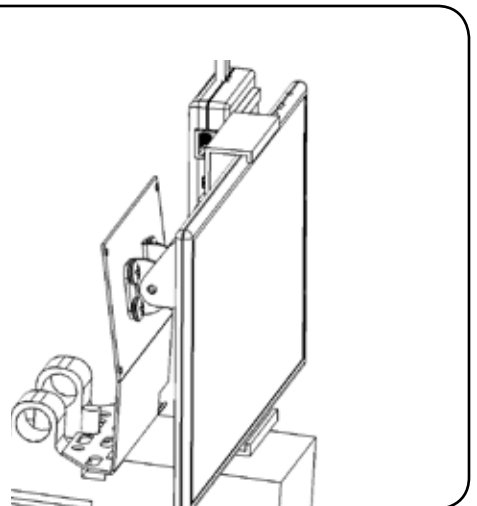
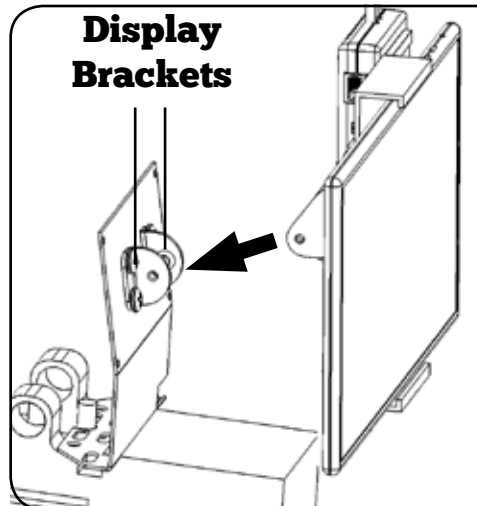
- 1** Remove top two screws on machine head, position the bracket on the head, then reinstall screws to attach display.



## For “Android” Display

Install the remote bases with the provided screws, then install display onto display brackets using provided screws.

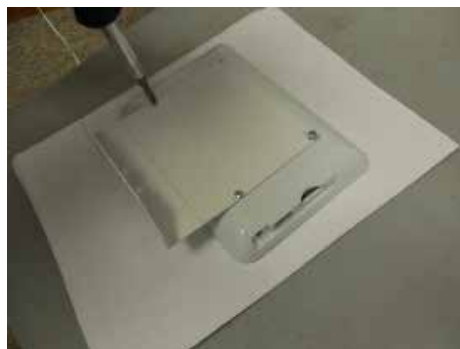
Refer to the Android Installation Guide.



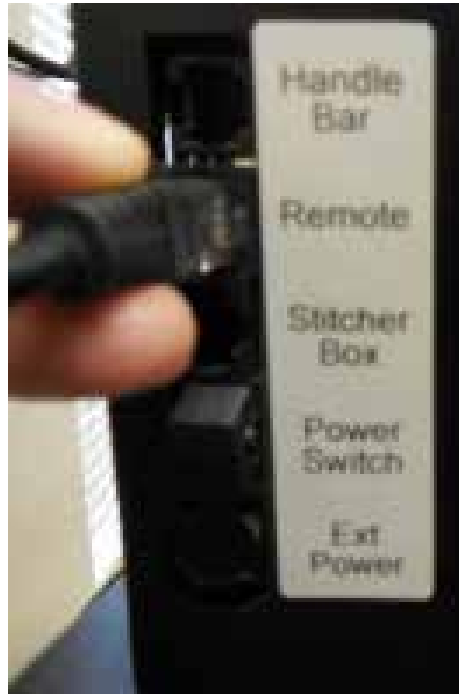
## For “Linux” Display

Use included screws to attach to bracket.

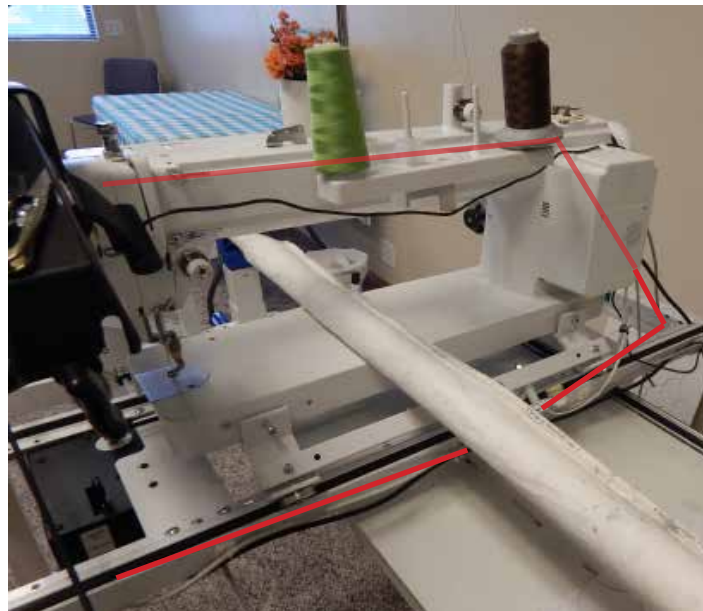
Insert SD Card into display (in the side port).



- 2** Plug the longer network cable into the remote port.



- 3** Run the cable around the back of the machine up to the display.



\*Image not representative of machine type.

- 4** Connect the other end of the display cable into the display.

Android cables will plug into the RJ45 network connection on the hub on the back of the tablet.

Standard displays will plug into the slot on the bottom of the display.



## Connect Handle Bars

- 1** Plug the phone style end of the handlebar cables into the Handlebar port on the black motor box.



**2** Use the anchors and zip-ties from bag Z1 to secure the cables to the carriage and the machine in such a way that they will not be in the way of moving parts.



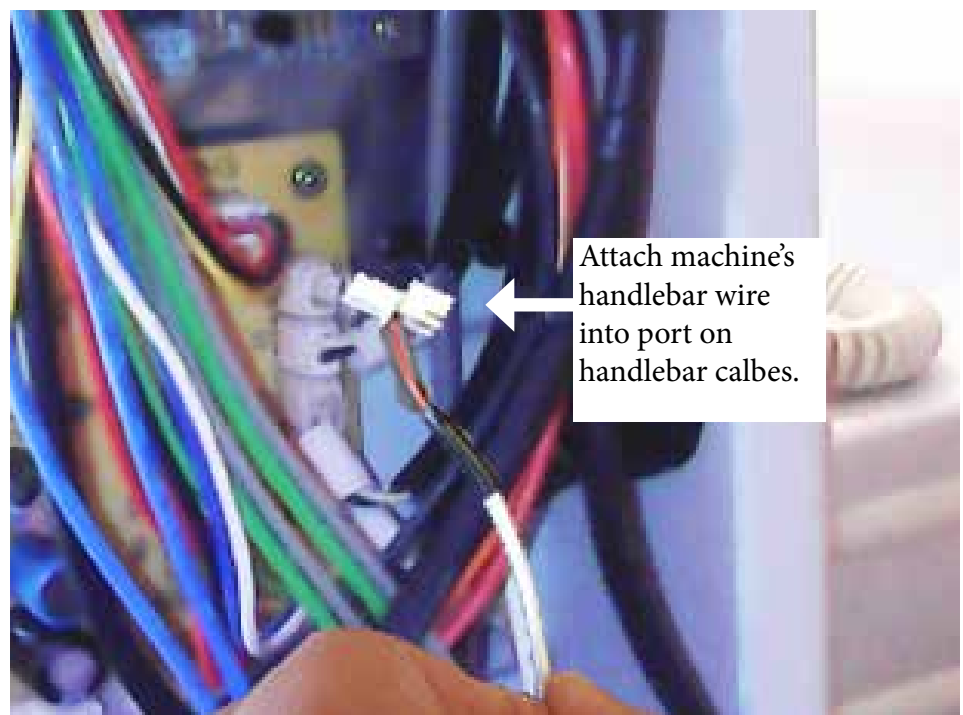
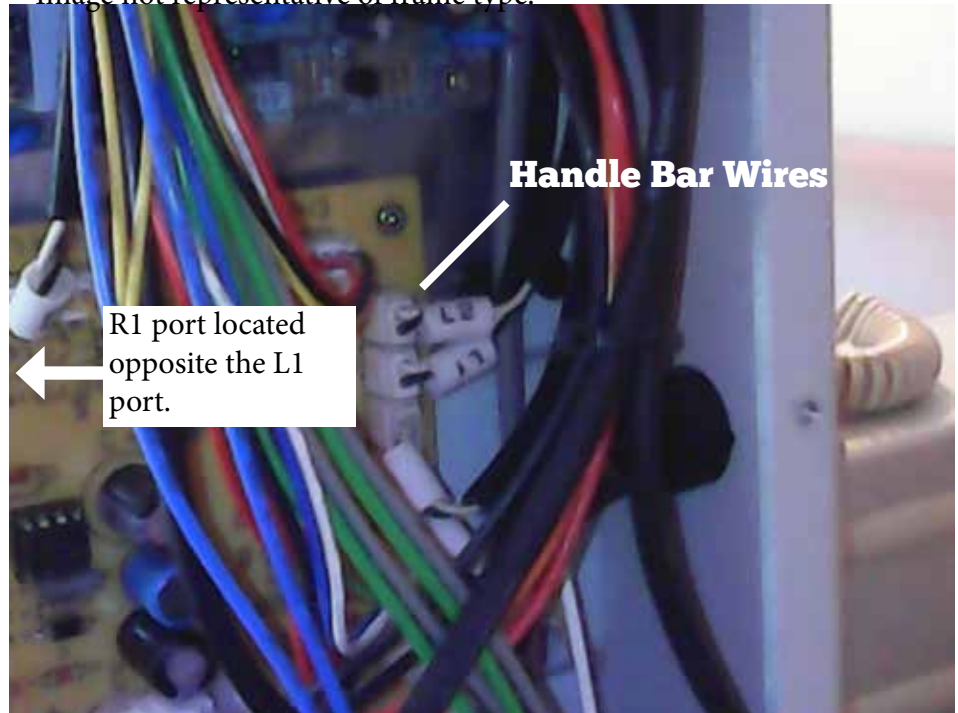
**3** Remove the rear cover on the machine to expose native electronics.

Remove the handlebar wires from the L1 and R2 ports.

Attach the remaining end from the provided handlebar cables into the ports. “Needle Up” to L1 and “Start/Stop” to R1.

Then connect the machine’s handlebar wires into the port on the provided handlebar cables.

\*Image not representative of frame type.

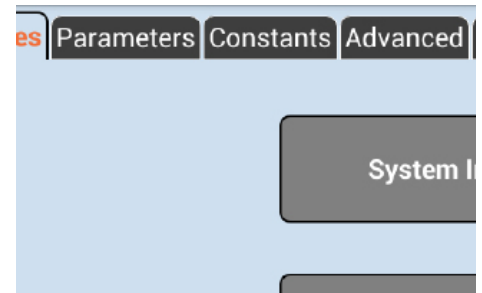
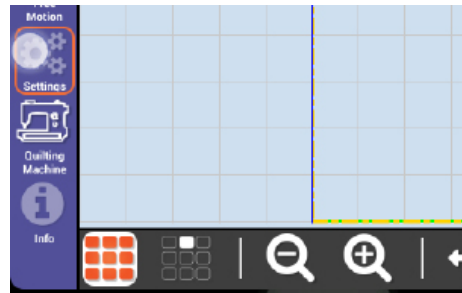


# Set Machine Type

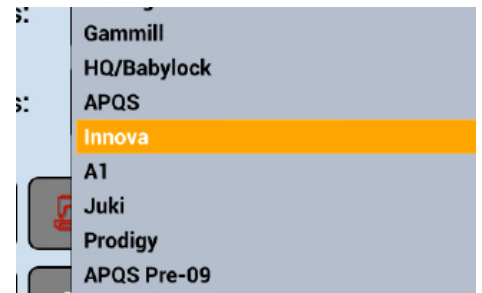
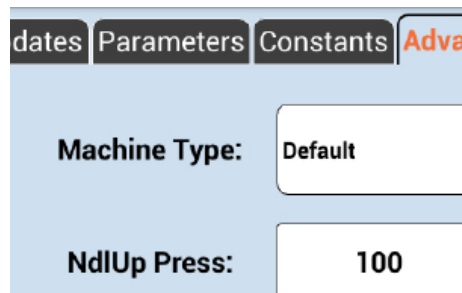
If you have a Quilt-EZ Perfect Stitch Regulator, then set your machine type to Default.

## 10" Android Tablet:

- 1 Power on the display, go to **Settings** > **Advanced** tab.

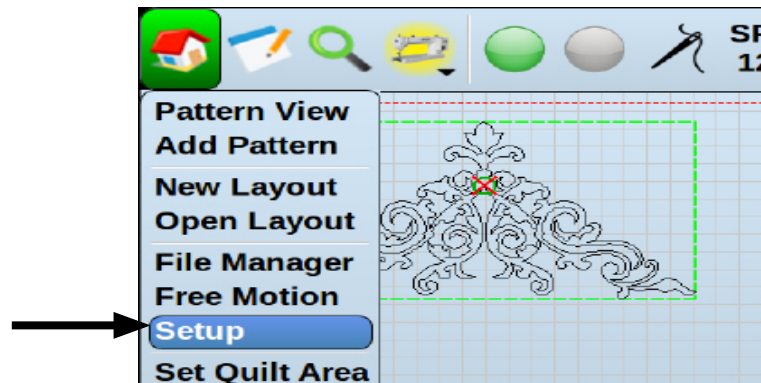


- 2 Select Machine Type and set the machine type to Innova.



## 7" Tablet:

- 1 Power on the display, go to **Home** > **Setup**



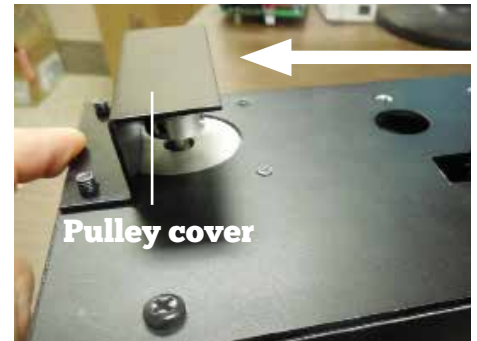
- 2 Go to the **Advanced** tab and set the machine type to Innova.





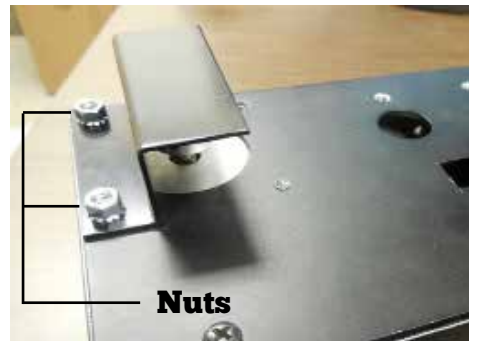
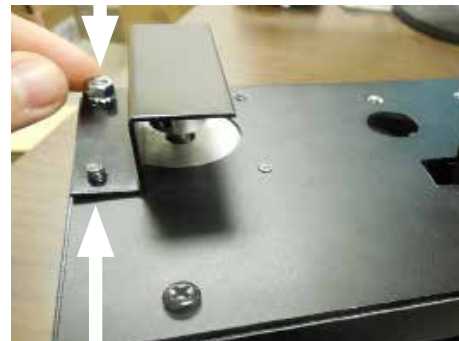
# Motor Pulley Cover (Optional)

- 1 Place cover onto two screws near the top motor box pulley.



Tighten nuts onto top of screws to secure the Pulley cover.

(Refer to **Bag #28**)



## What is the Pulley Cover for?

The Motor Pulley cover is an extra safety precaution to protect your fingers from getting entangled in the belt.

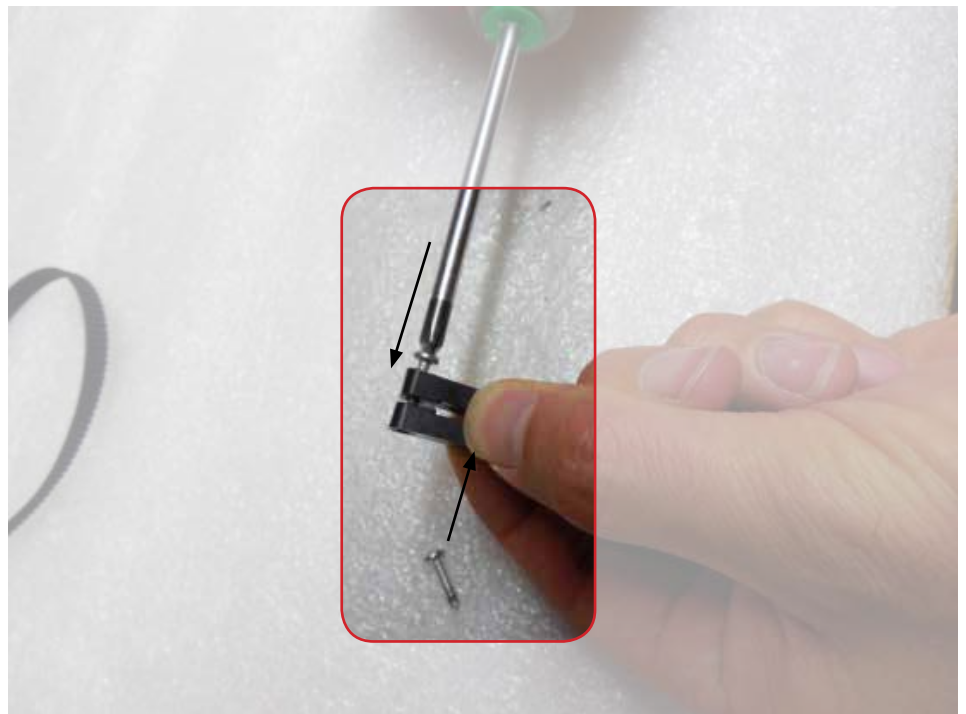
We recommend it is installed after all your belts are installed and connected to the pulleys.

## Appendix A - How to use Belt Clamps

A belt clamp consists of two clamps and two screws.



- 1** Use a Phillips screwdriver to insert each screw on opposite sides of the clamps and tighten halfway.



- 2** Thread the belt between the clamps, loop it around and reinsert it between the clamps.



- 3** Align the belt teeth, then finish tightening the clamps.



# Appendix B- Additional help

## Installing cables

Please refer to the Connecting Robot to Quilt Machine instruction set for help installing cables.

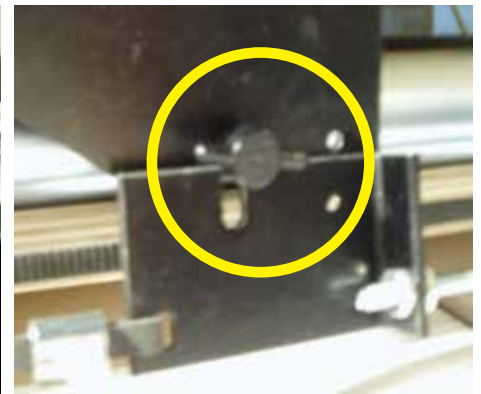
## Power on the robotics

Use the power switch located on the side of the motor box with the ports to power the motor box off and on.

## Disengage belts for free motion

In order to use free motion with the butler connected the belts will need to be disengaged.

To disengage the x-belt, move the locking lever away from the edge of the motorbox.



To disengage the y-belt, loosen the wingnut on the carriage bracket.

You can now use free motion quilting.



**Still need help?**

Visit [support.quiltez.com](http://support.quiltez.com) for  
tutorial videos and additional  
help documentation