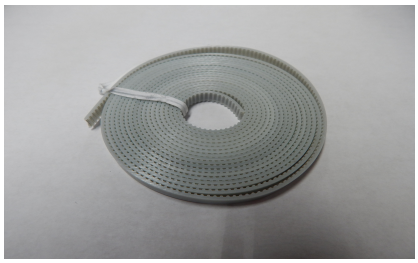
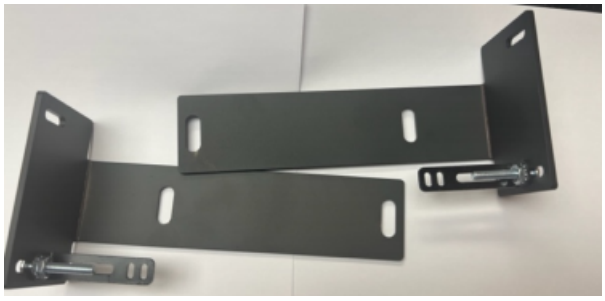
How to Attach Butler Robotics to an A-1 Symphony Frame Non integrated

Revision 5/13/2022

Bag #	Contents	Picture
Cables	1- Power cable 1- Direct Connect Cable	 
X1	*1 - White Belt (15')*	
Y1	*1 - Black Belt (86")*	
Z1	10 - Zip Tie Base Anchors 2 - M5 x 12mm Screws 2 - M5 Washers 5 - 10" Zip Ties 10 -5" Zip Ties	

Bag #	Contents	Picture
D1	1- Display bracket 2- M3 x 8mm screws 2-Remote bases 4- M6 x 8 screws 4-M6 Nuts 2-8-32 x 1/2” screws	
I13	1- Motor pulley 2-M5 x 12mm flat washers 1- Poly disc 1- Hex nut Shoulder screw 1 10-24 x 3/8” screw	 
Y18	1- Carriage bracket 1- Y belt bracket 2-M5 K-lock nuts 2- 1/4-20 x 1/4 screws 1-Y-bracket 1-Thumb screw	
X9	2- X-belt brackets 2- X belt clamp 4- M5 K-lock nuts	

Attaching Carriage bracket

1 Attach the carriage bracket to the bottom of the wheels of the machine.

Stand the machine on its back and remove the two screws on the left hand side of the machine.

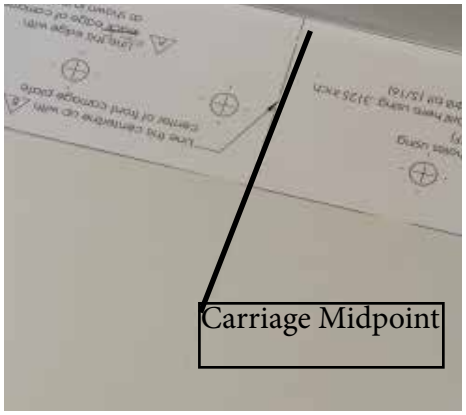
2 Align the two holes on the bracket to the ones on the wheel.

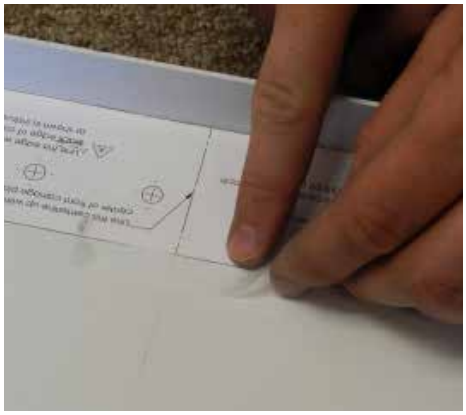
Mount the bracket using two 1/4 -20 x 3/4 screws.

Attaching Motor Box

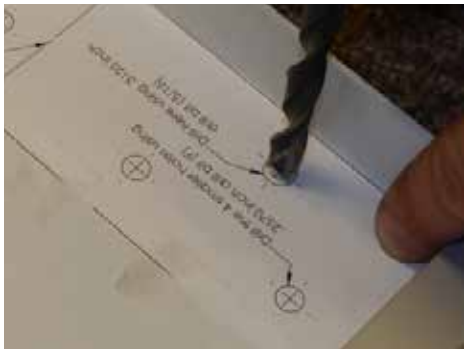
1 Use a tape measure to get the width of the front of the carriage. Use a marker to show where the center of the carriage is.

Align the center of the drill template with the carriage midpoint.



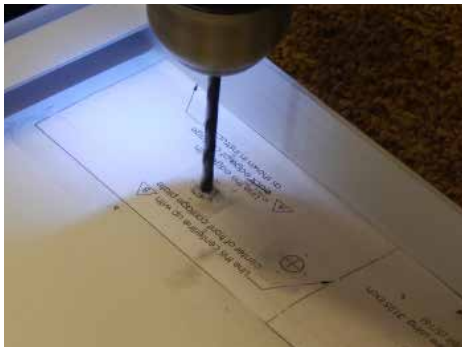


2 Use tape to secure the drill template so it doesn't move while drilling.



3 Drill the holes on the carriage using the bit sizes listed on the templates.

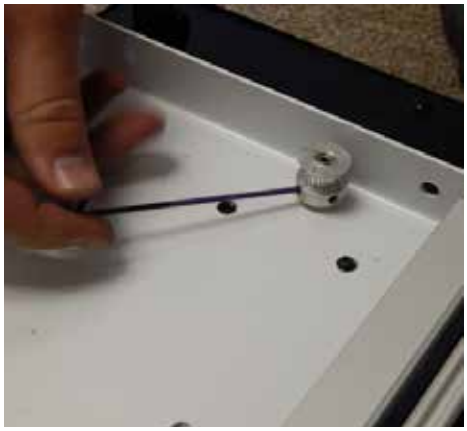
Note: using a smaller drill bit first can make it easier to drill the size that the template calls for.



Attaching Motor Box

4 Use a hex key to loosen the screw on the pulley. Then remove the pulley from the top of the motor box.

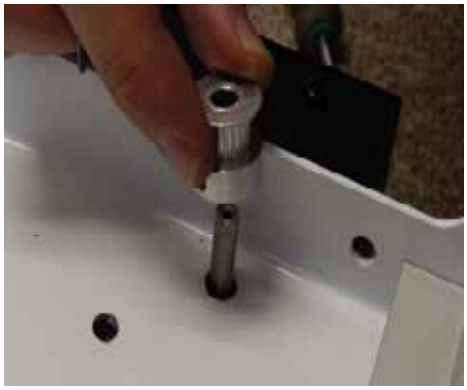
Attach the motor box to the carriage inserting the pulley shaft into the closest hole to the edge.

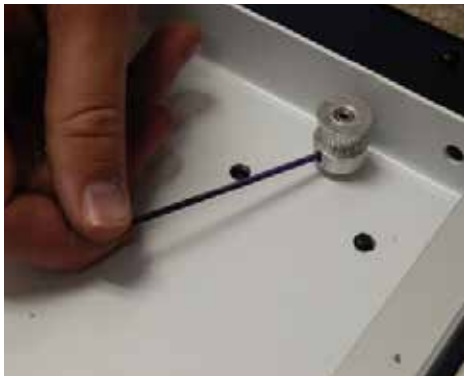
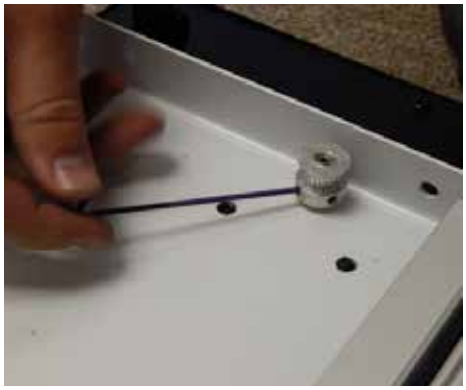



5 Reattach the motor box pulley to the shaft of the motor box.

Align the screw on the pulley with the flat side of the shaft.

Use the hex key to tighten the screws, and pulley in place.



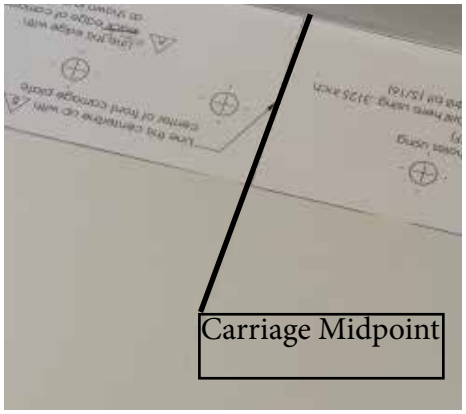



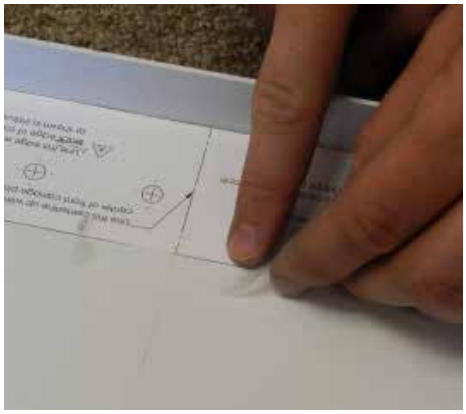
Attaching Rear Idler Pulley

1 Use a tape measure to get the width of the back of the carriage. Use a marker to mark the carriage midpoint.

Align the center of the drill template with the carriage midpoint.

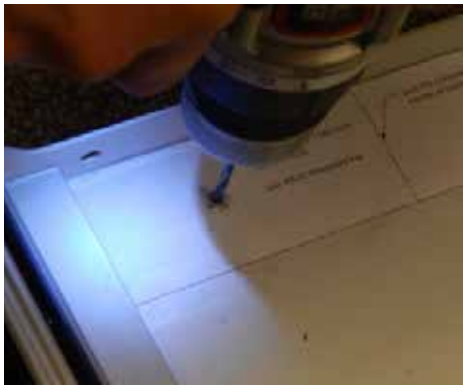
Use tape to secure the drill template so it doesn't move while drilling





2 Drill the holes on the carriage using the bit sizes listed on the templates.

Note: using a smaller drill bit first can make it easier to drill the size that the template calls for.



3 Once the hole has been drilled tap the hole using the tap size listed on the template.

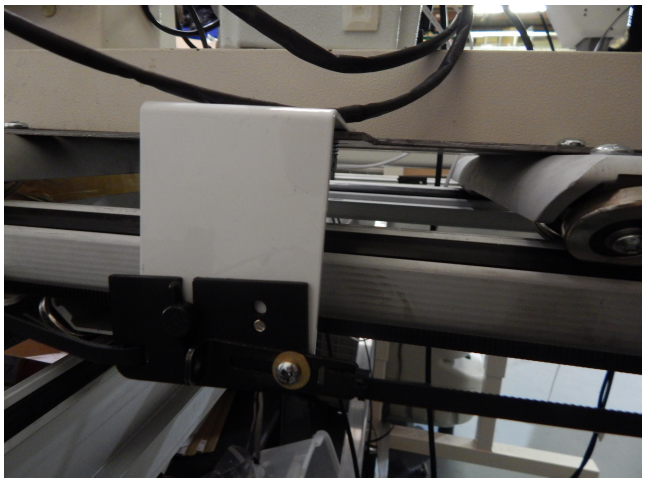
Attaching Rear Idler Pulley

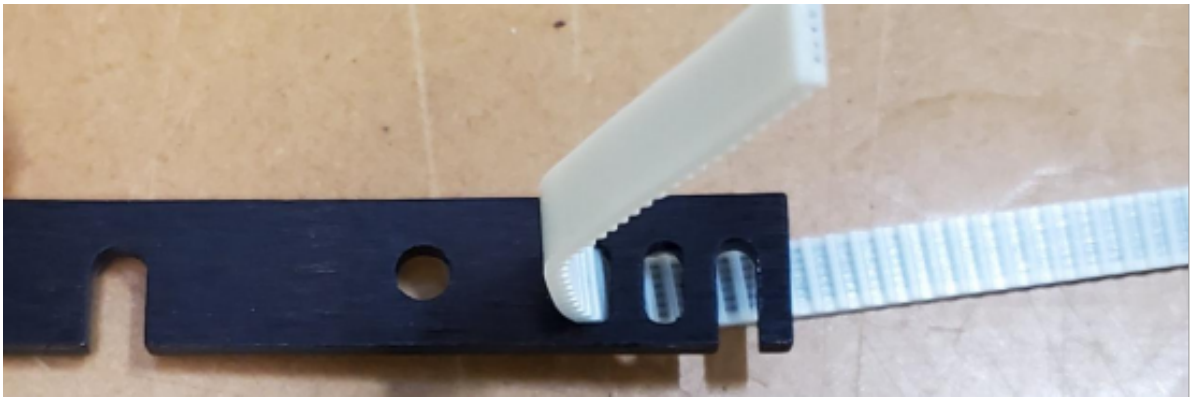
4 Insert the assembled pulley into the drilled hole on the carriage, and use a hex key to fasten it into place.

Do not over tighten, the pulley needs to be secure and able to spin easily.

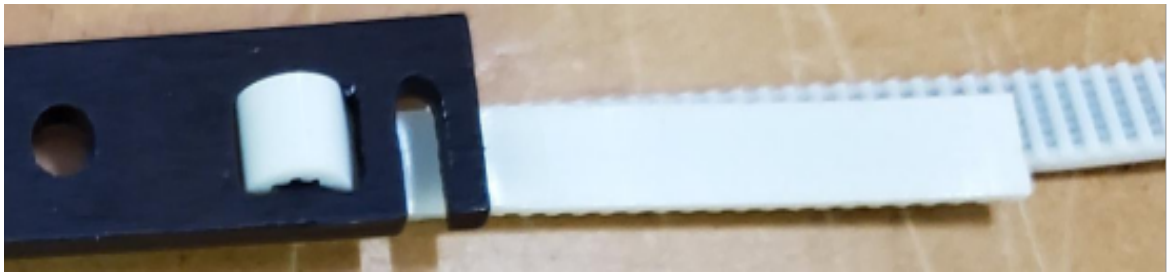
Attaching Black belt

1 To install the black belt, start on the left hand side of the carriage bracket with the slot on it.

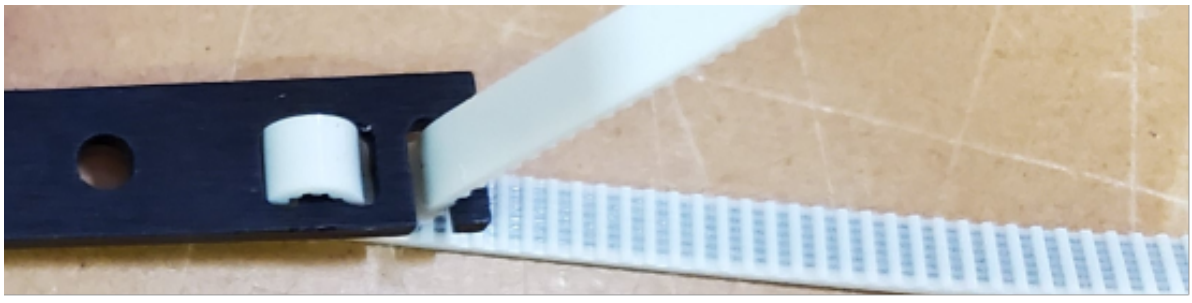




Thread the belt up the inner most slot



Thread the belt down the next outer slot

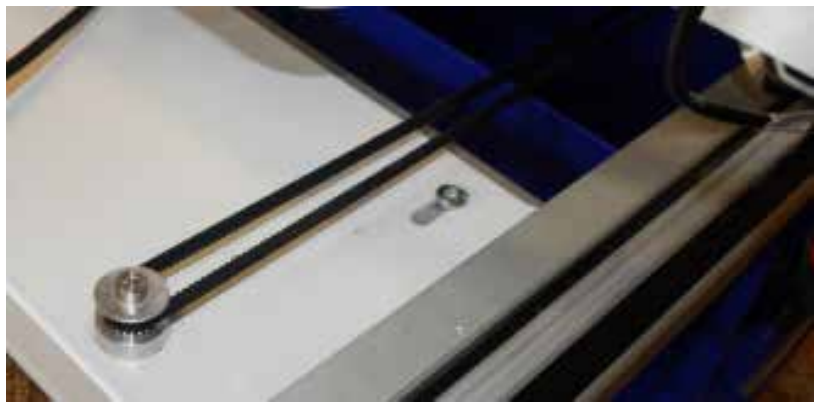


Finish by threading the belt up through the final slot

Add a zip tie to secure the belt together
Repeat on the other side of frame

2 Run the belt around the rear idler pulley making sure the teeth face the grooves on the pulley.

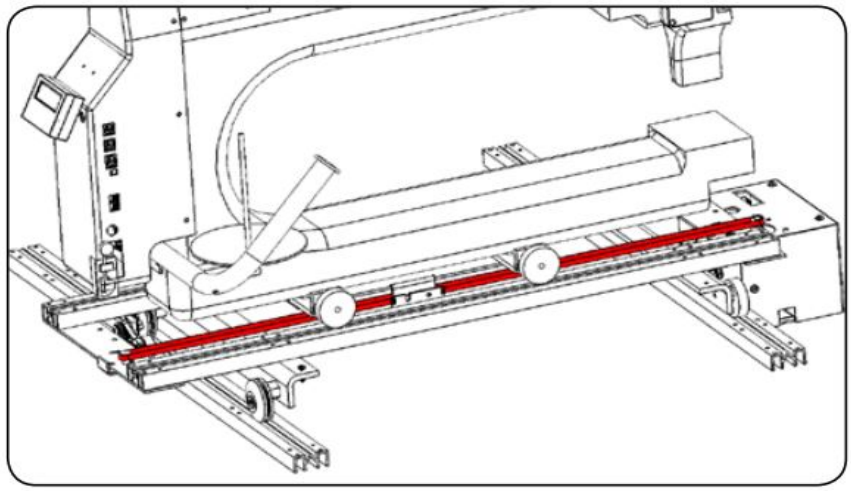
Continue to run the belt behind the carriage bracket and around the motor box back toward the carriage bracket.



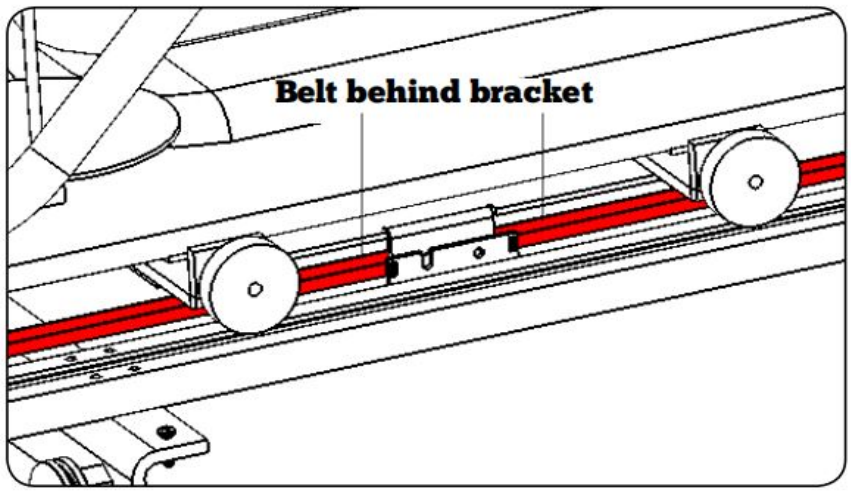
Please note that your machine and bracket may not look exactly like this, the main thing here is to make sure your the black belt travels **BEHIND** the bracket as shown in the pictures below.

Using the zip ties, attach one end of the black belt to the carriage bracket.

Wrap the toothed side of the black belt (highlighted at right) around both the Idle and Motor Box pulleys, then use zip ties to attach the remaining end of the belt to the carriage bracket.



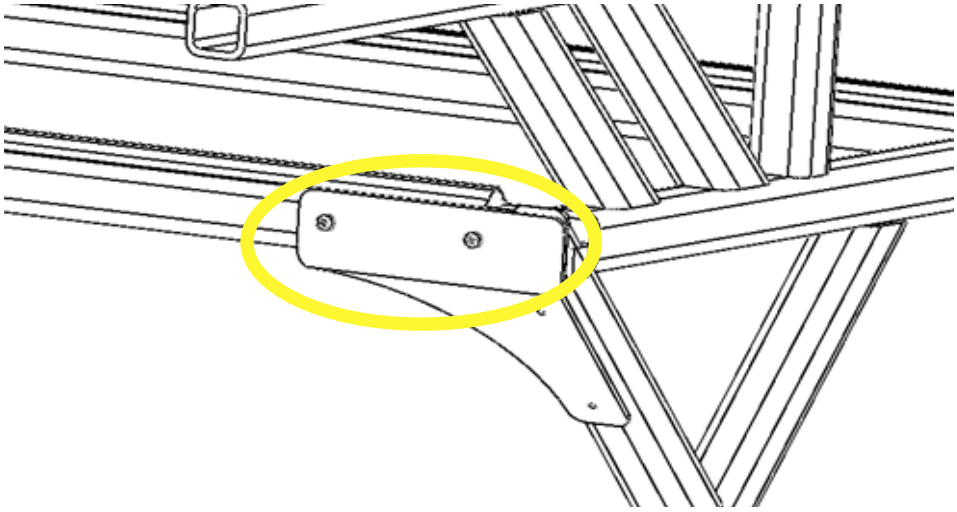
Ensure that the black belt travels **behind** the carriage bracket (shown at right).



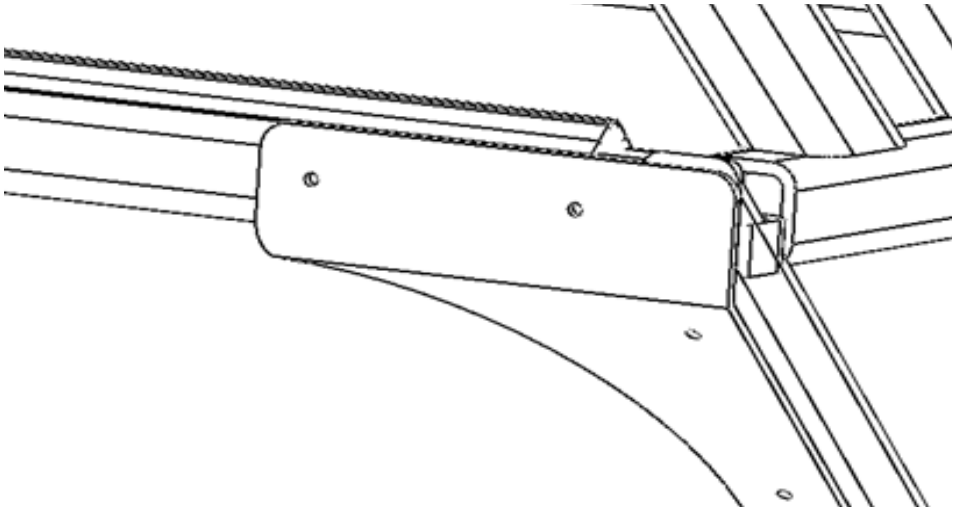
Attaching White Belt

1 To mount the X axis belt you will need to remove two screws from the front of the frame.

Remove the two screws that are circled in the picture to the right.

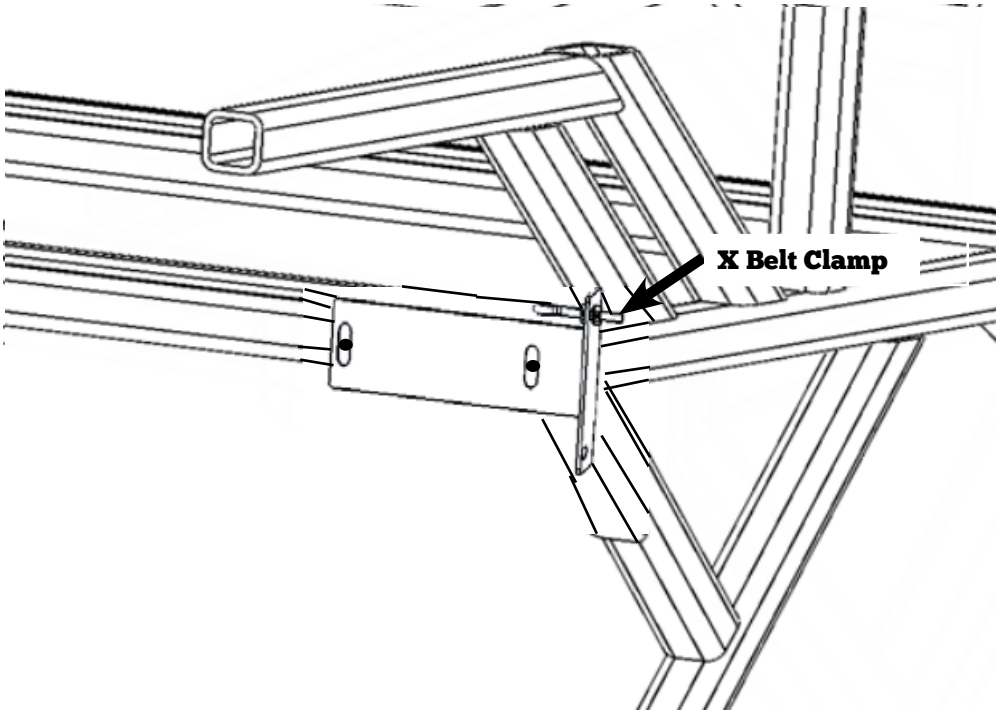


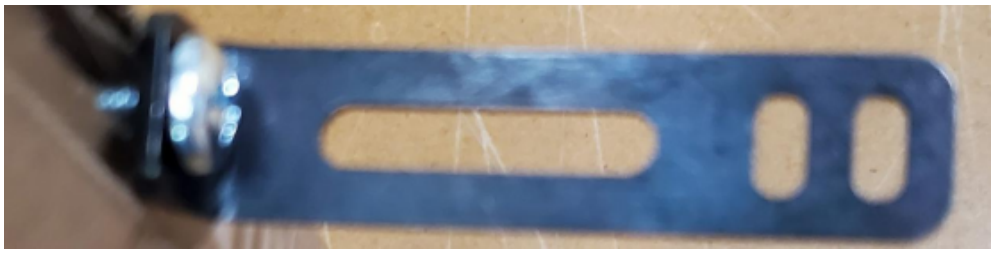
2 Once the screws have been removed you will go ahead and align the bracket to the frame and match the holes.



3 Use the same screws that were previously removed to mount the bracket to the frame.

Do the same for the opposite side of the frame.

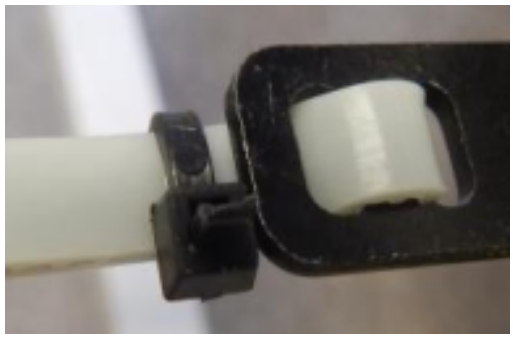




This is what the X belt clamp will look like

Thread the belt up through the inner paired slots

Then thread the belt through the outer slot and pull tight



Add a zip tie to secure the belt together
Repeat on the other side of frame

4

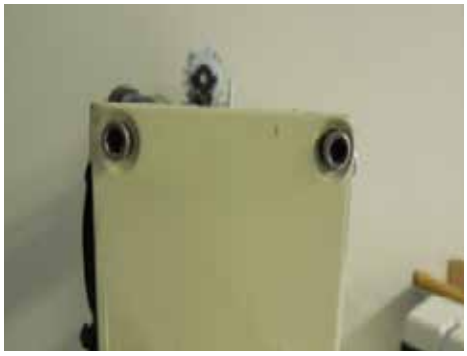
Release the tension on the motor box, by unlocking the belt tension lever on the top of the motor box.

Loop the belt through the pulleys on the back of the motor box, by running over the first pulley, under the middle pulley and over the last pulley.

Re-engage the belt lock lever, and adjust the eye-bolts as needed to remove excess slack in the belt.

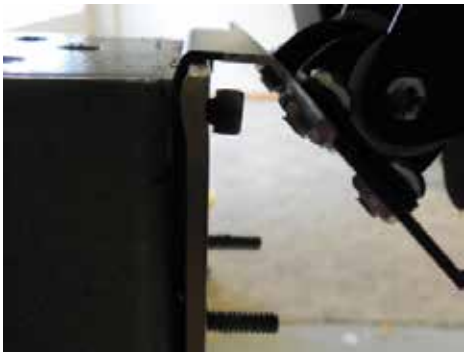
Mounting Display

1 Remove the two top screws on the head of the machine.



2 Next you will slide the Display bracket in between the head and metal plate of the machine.

3 Once the display is sandwiched in between the machine head and the metal face plate you will go ahead and install the original screws you removed at the beginning .

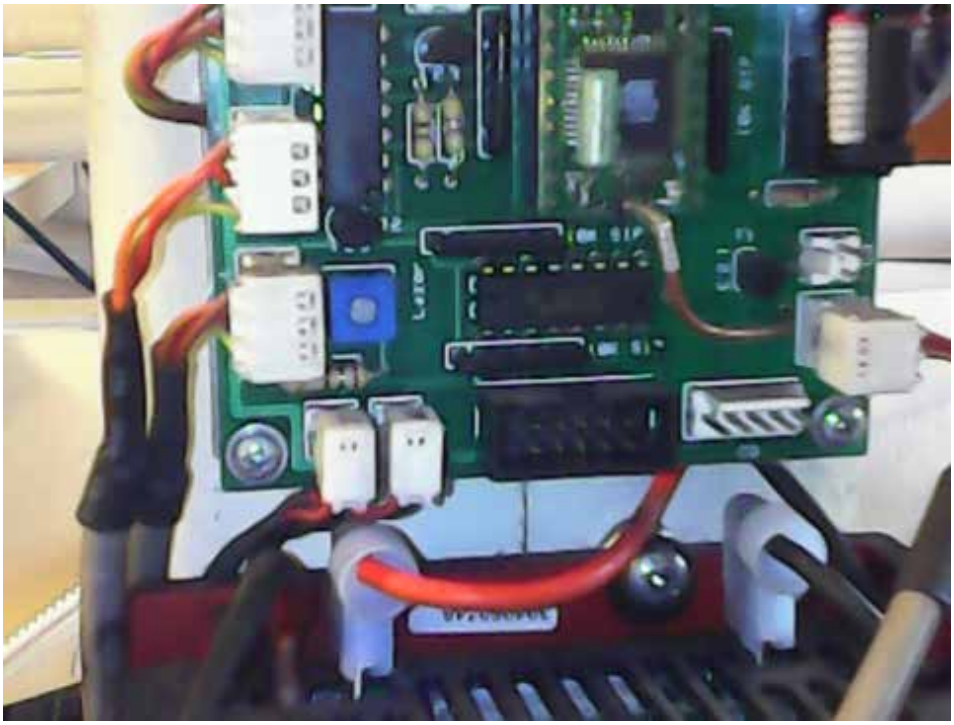


Plug the display wire into the remote port

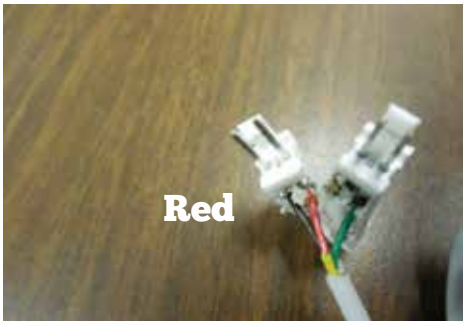
Plug the remaining end into the display.

Connect Handle Bars- This step is for Ruby, Imperial and Professional Butlers Only

1 Unplug the indicated wires from the PCB located at the rear of the machine.



2 Plug the red wire into the Start/Stop port and the green wire into the Needle Up port (The two ports you just unplugged)

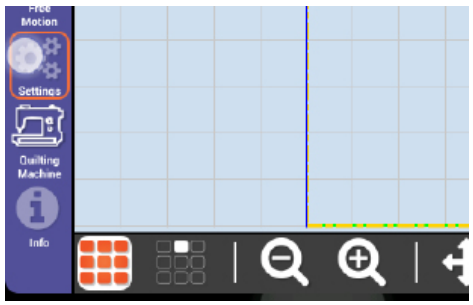


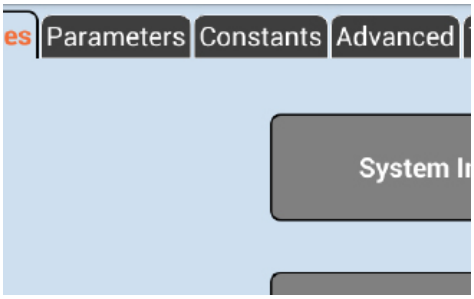
3 Plug the remaining end of the handle bar wire into the handle bar port.

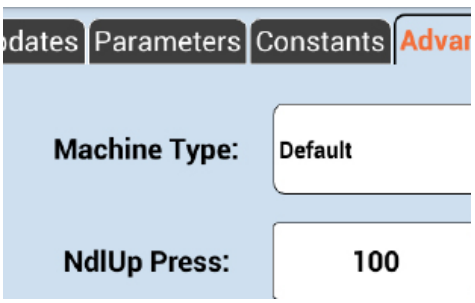
Set Machine Type-This step is for Ruby, Imperial and Professional Butlers Only

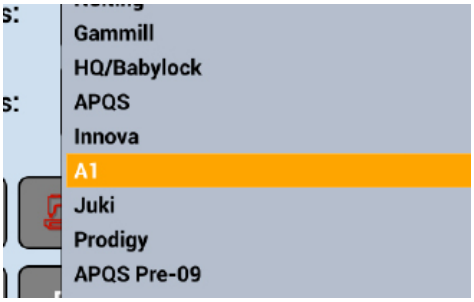
This Machine needs to have the machine type set to A1

1 Power on the display, go to **Settings** > **Advanced** tab. Set the machine type to A1









Appendix- Additional help

Installing cables

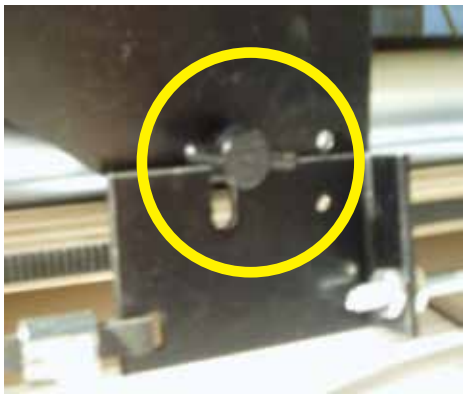
Please refer to the Connecting Robot to Quilt Machine instruction set for help installing cables.

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.

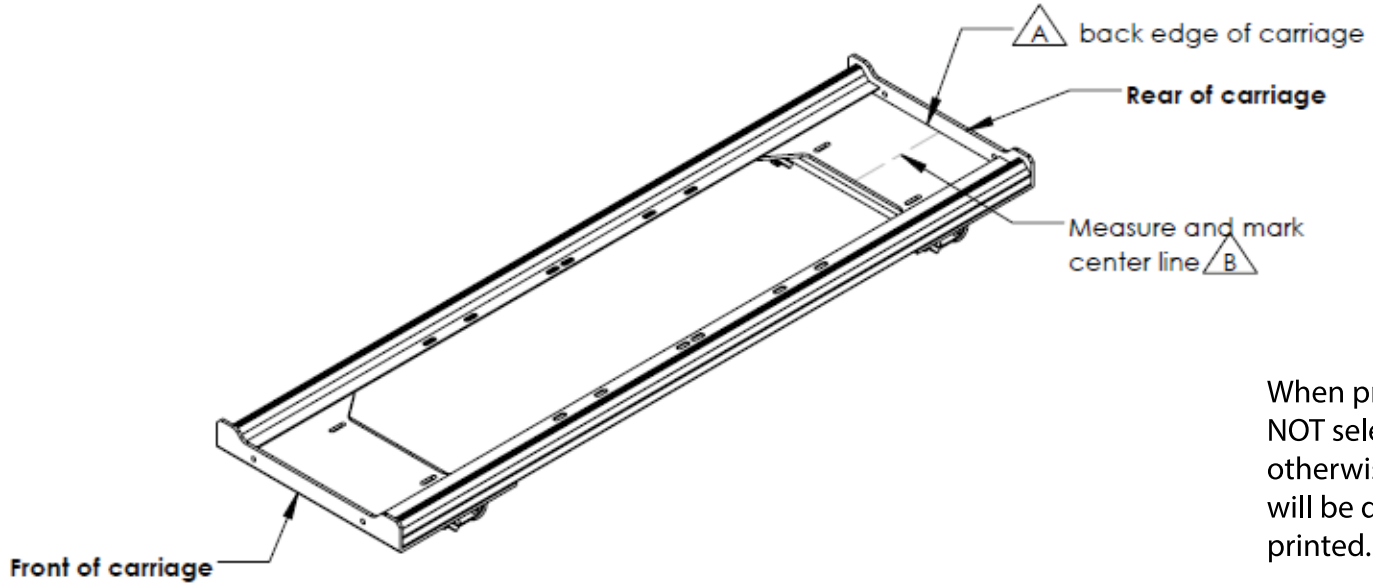


To disengage the x-belt, move the locking lever away from the edge of the motorbox.

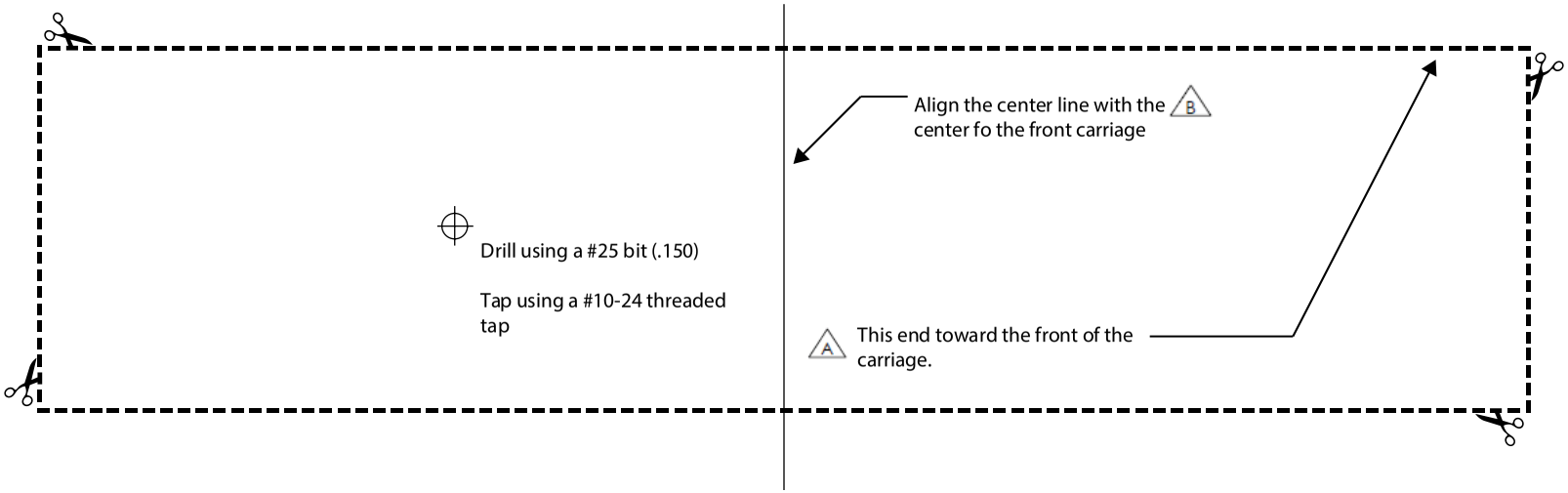
To disengage the y-belt (Black belt)
loosen the wingnut on the carriage bracket.

You can now use free motion quilting.

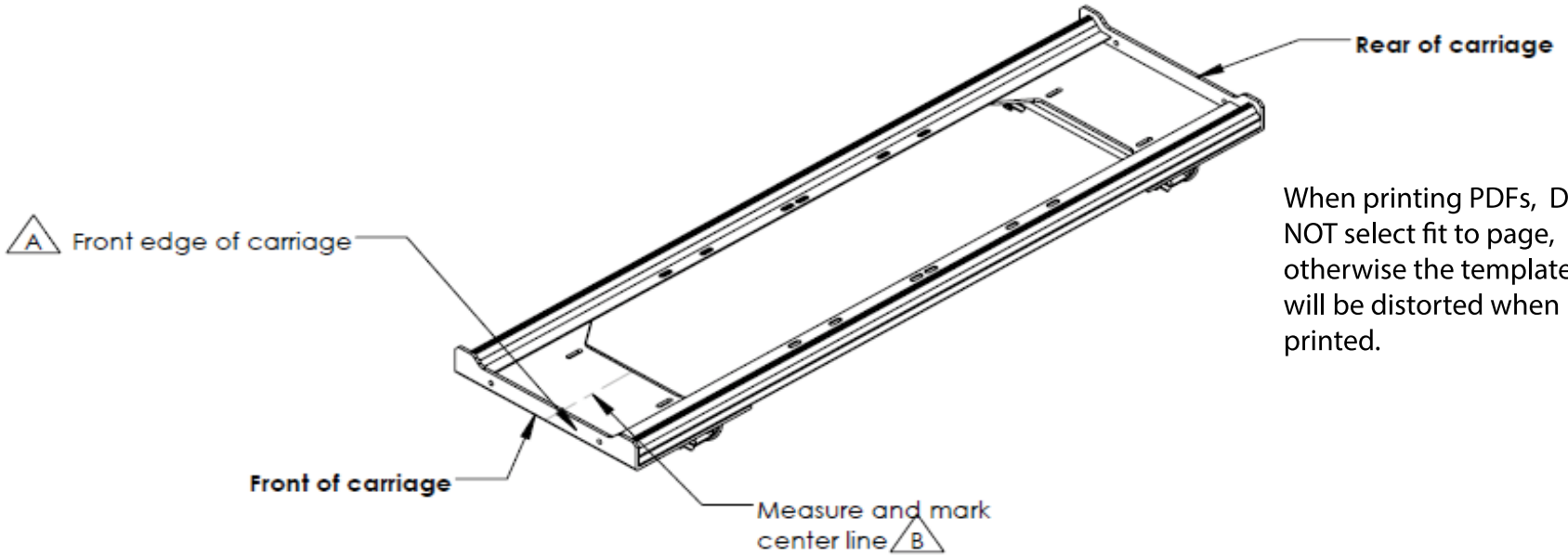
REAR IDLER DRILL TEMPLATE



When printing PDFs, DO NOT select fit to page, otherwise the template will be distorted when printed.



MOTORBOX DRILL TEMPLATE



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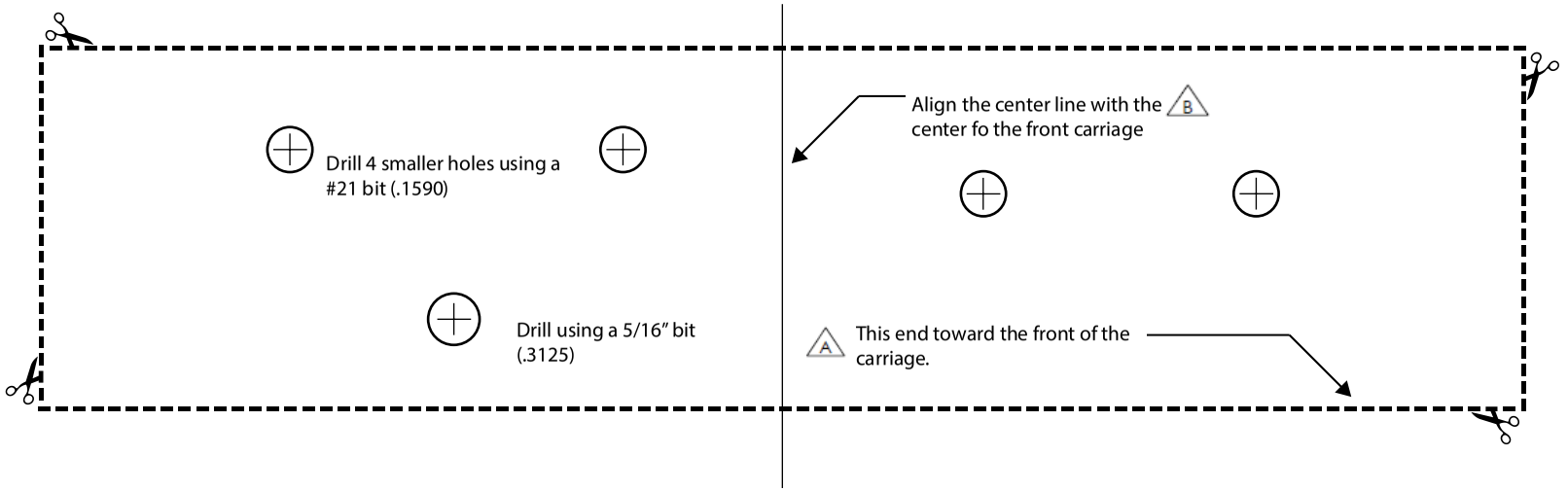

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