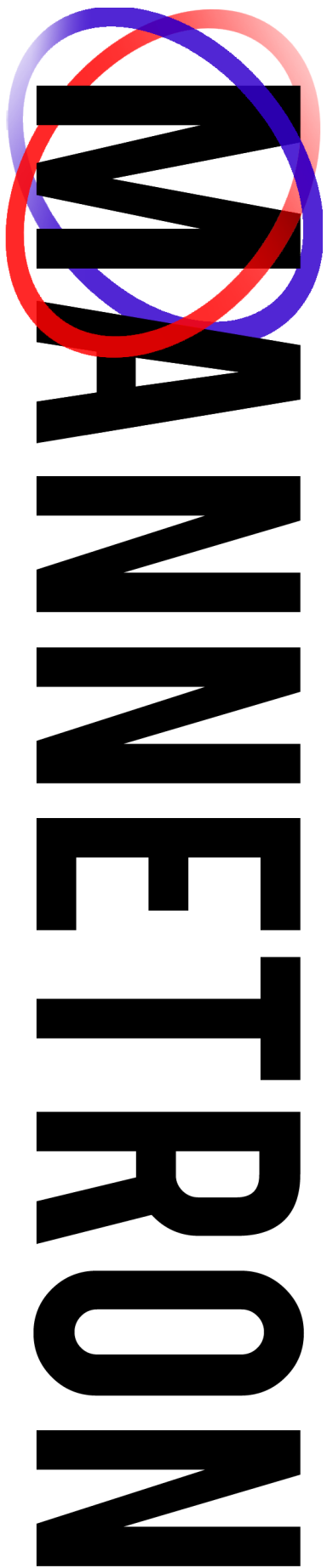


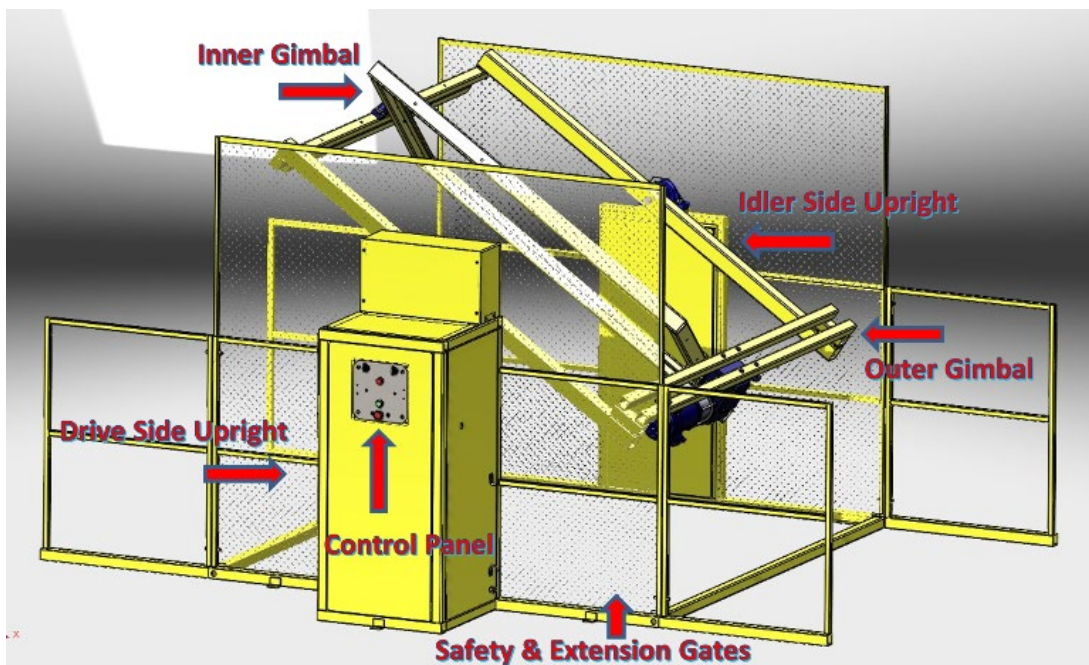


6'x6' ROTATIONAL CASTING MACHINE

ASSEMBLY GUIDE

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Tools List to Assemble Your Rotational Casting Machine

Below is a list of tools that are necessary to assemble your machine, and tools that we recommend to make certain steps easier for you.

A.) Tools Needed

- Forklift
- At least 4 lift straps
- 3/8 Ratchet
- Socket extension
- Sockets (1/2 and 9/16)
- Combination Wrenches (1/2 and 9/16)
- Set of SAE (Standard) Allen Keys

B.) Tools Recommended

- 2 Long Flat Head Screwdrivers
- 2 pieces of 2x4 @ 95" or longer. (*This is to rest the gimbals on while mounting them, see step 3.1 and 3.2*)

List of Components

There are several loose components that you will need to assemble to get your machine running.

A.) Parts

- 1x: Drive Side Upright
- 1x: Idle Side Upright
- 2x: Cross Bars
- 1x: Enclosure Top Cover
- 1x: Big Pulley
- 1x: Tapered Bushing
- 1x: Key Stock
- 2x: Large Pulley Belt
- 1x: Mercotac with Plate
- 1x: Control Panel
- 2x: Top Safety Screen
- 4x: Safety Gate Extension

B.) Nuts and Bolts

- 4x: 3/8-16 x 3/4 Hex Head Cap Screw and washers
- 4x: 5/8-16 x 1-3/4 Hex Head Cap Screw and washers
- 8x: #10-32 x 3/8 Button Head Cap Screw
- 20x: 1/4-20 x 1/2 Button Head Cap Screw with fender washers
- 8x: 3/8-16 x 2-3/4 Hex Head Cap Screw with Hex Nuts

Receiving Your Rotational Casting Machine

1) Getting Started

1.1 When you receive your 6x6 Roto Mold Casting Machine it will be boxed in a crate. You will need to remove the top and sides of the crate, leaving the disassembled machine that is fastened to the shipping pallet.



1.2 Remove all plastic and hardware securing the machine to the pallet.

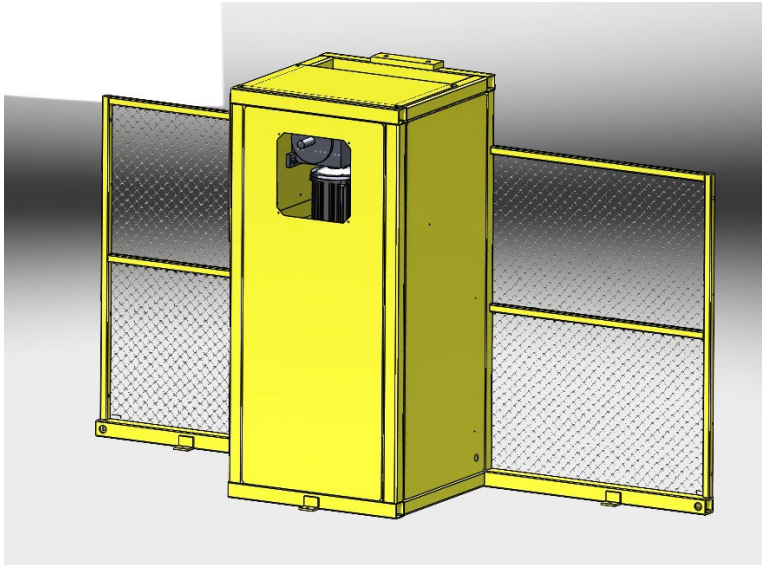
1.3 The boxes containing the parts and hardware needed to assemble your machine are inside the drive side upright. Remove these items and set aside.



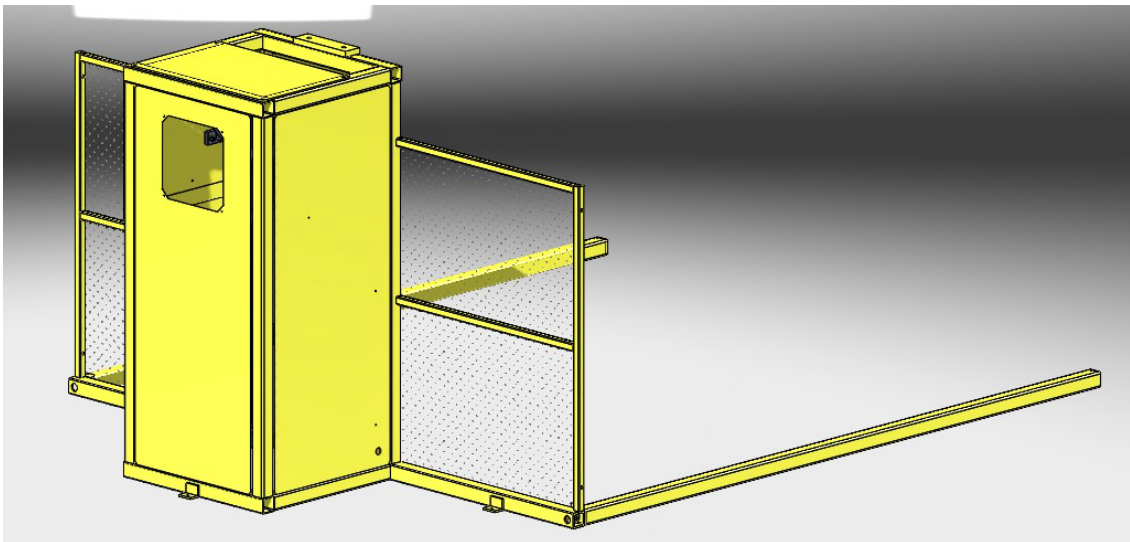
Assembling Your Rotational Casting Machine

2) Frame Uprights and Crossbars

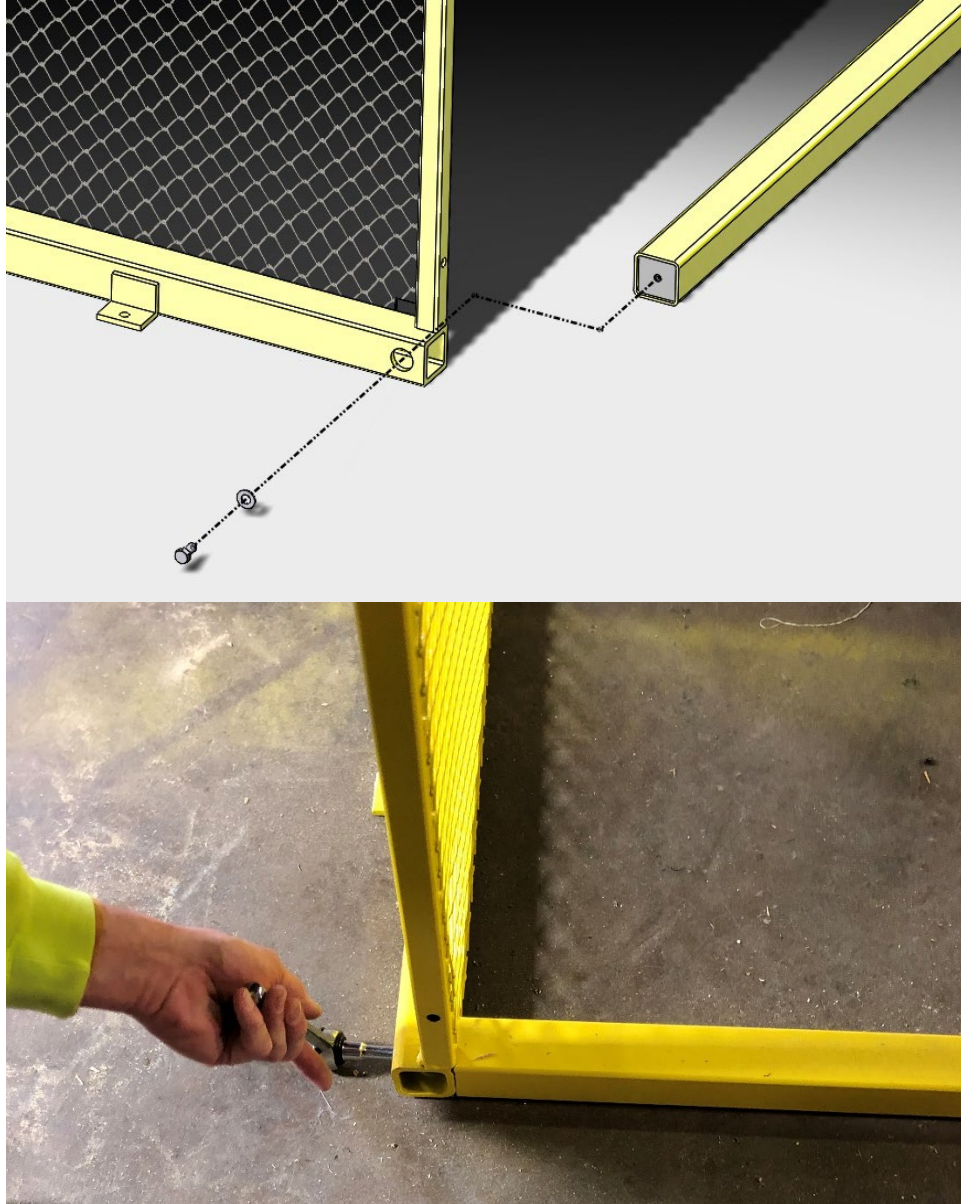
2.1 Remove the drive side upright from the pallet and place on the floor.



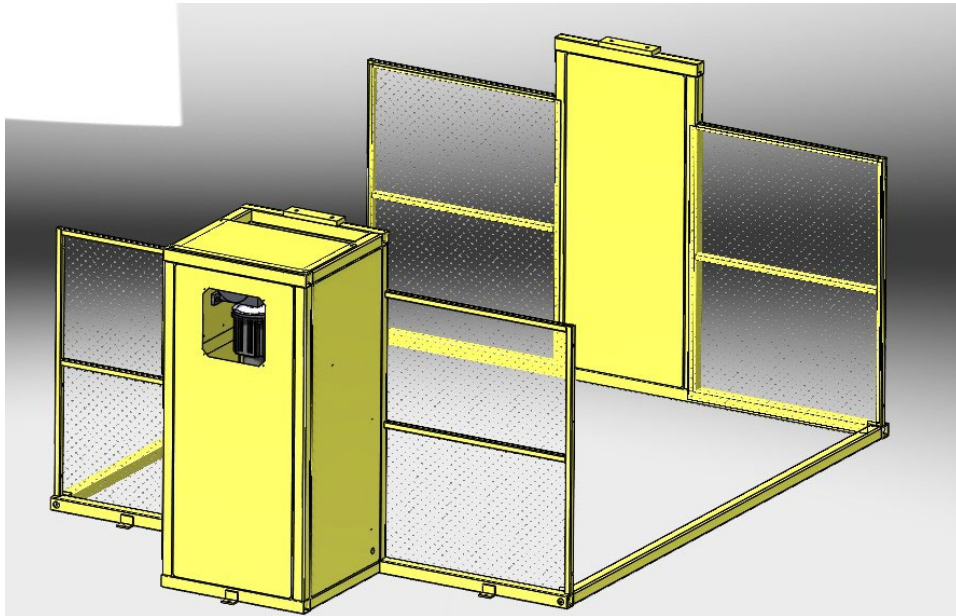
2.2 Remove cross bars and place on the floor



2.3 Insert the 3/8-16 x 3/4 Hex Head Bolts and washers into the cross bars on both ends of the drive side upright and loosely tighten.

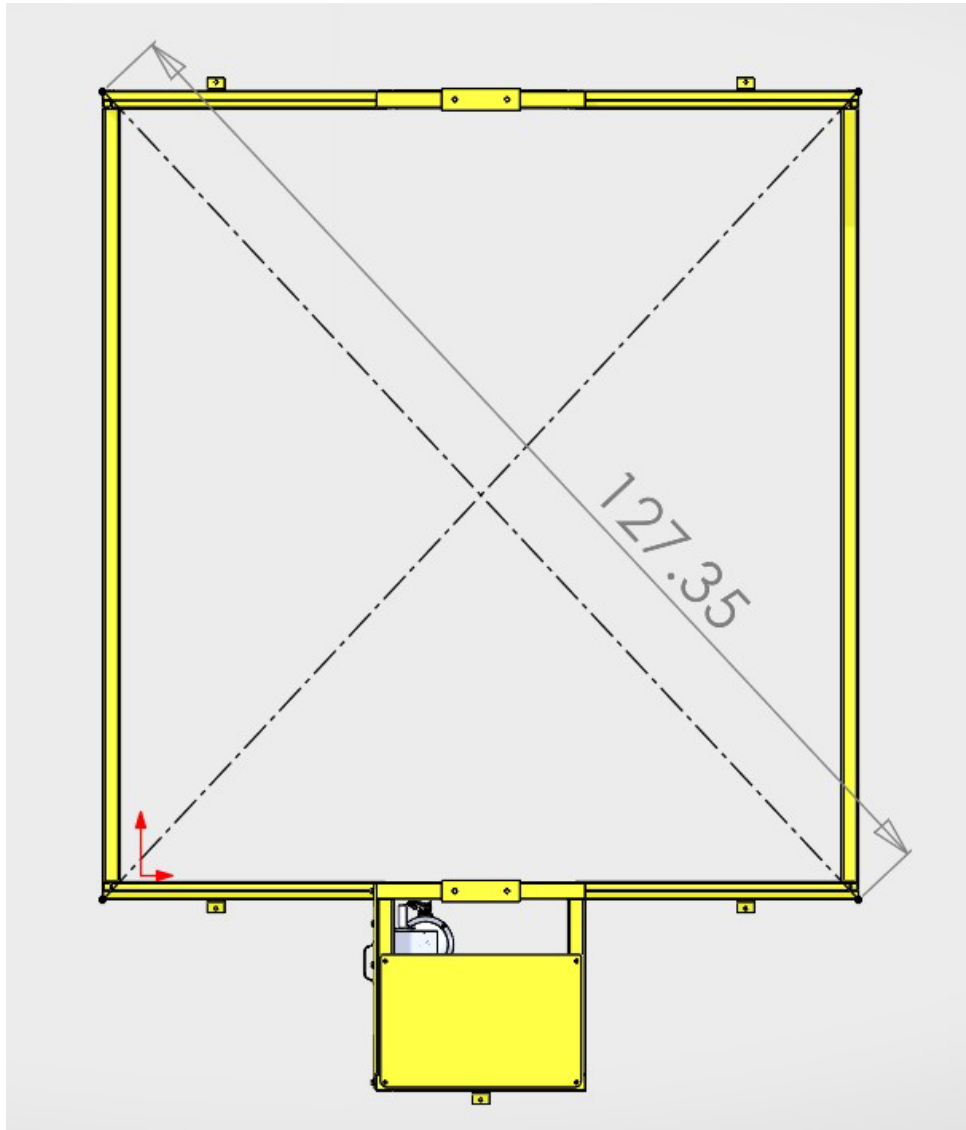


2.4 Remove the idle side upright and place on the floor.



2.5 Insert the 3/8-16 x 3/4 Hex Head Bolts and washers into the cross bars on both ends of the idle side and loosely tighten.

2.6 Square the machine. Measure from outside corner to opposite outside corner until both measurements are equal and close to the dimension shown. (Dimensions are in inches)



2.7 Once the machine is square, fully tighten bolts on each end of both cross bars.

3) Attaching Gimbals to Uprights

3.1 Remove the gimbals (the square inner and outer rotating frames) from the pallet using lift straps and a forklift. Hover them over the machine but DO NOT lower them to rest on the pillow block pads until after you have fully completed steps 3.2 and 3.3 below.

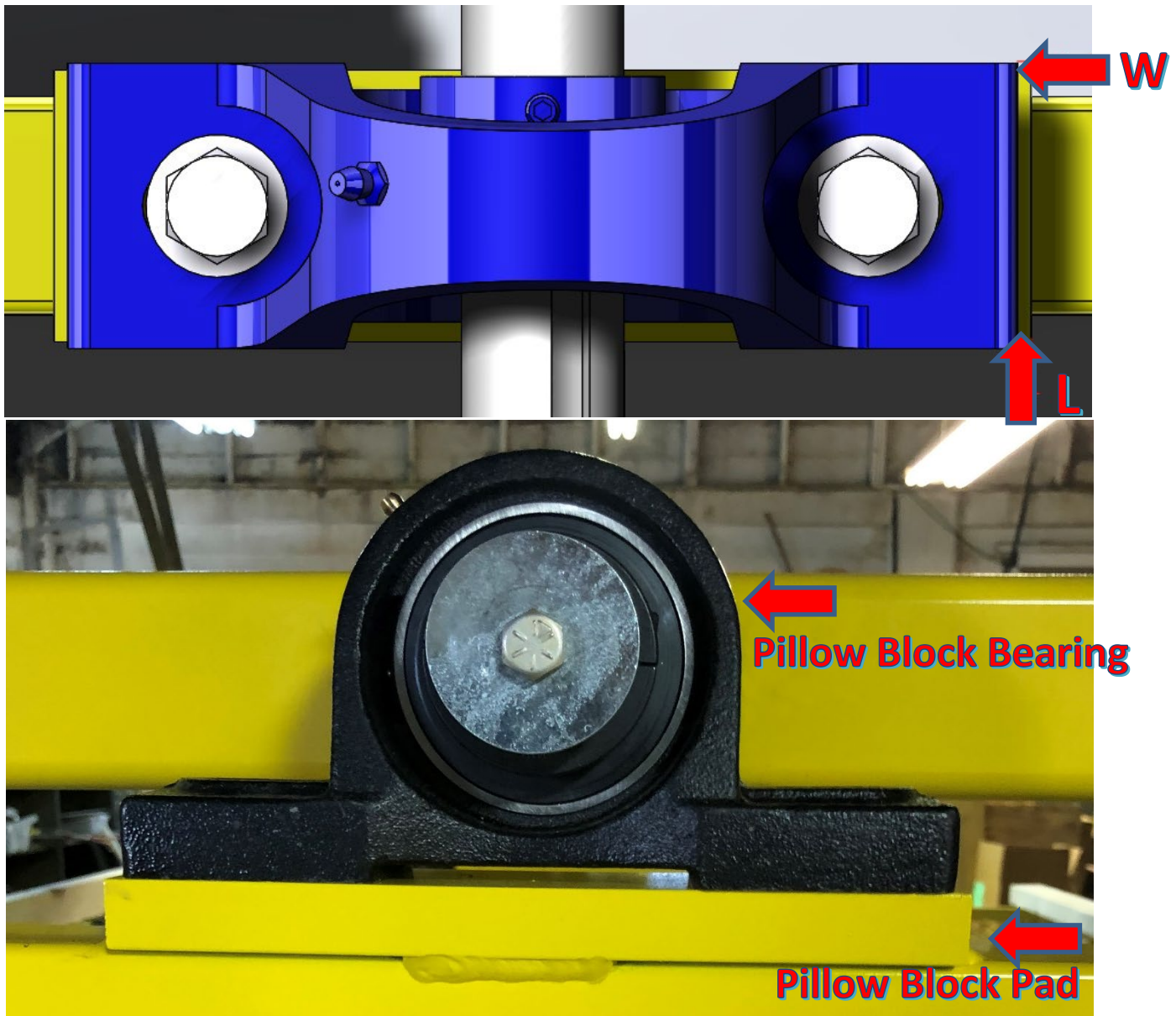


3.2 Position the gimbals so the side with the keyed, wired drive shaft (shown in the picture below) is on the drive side of the machine.

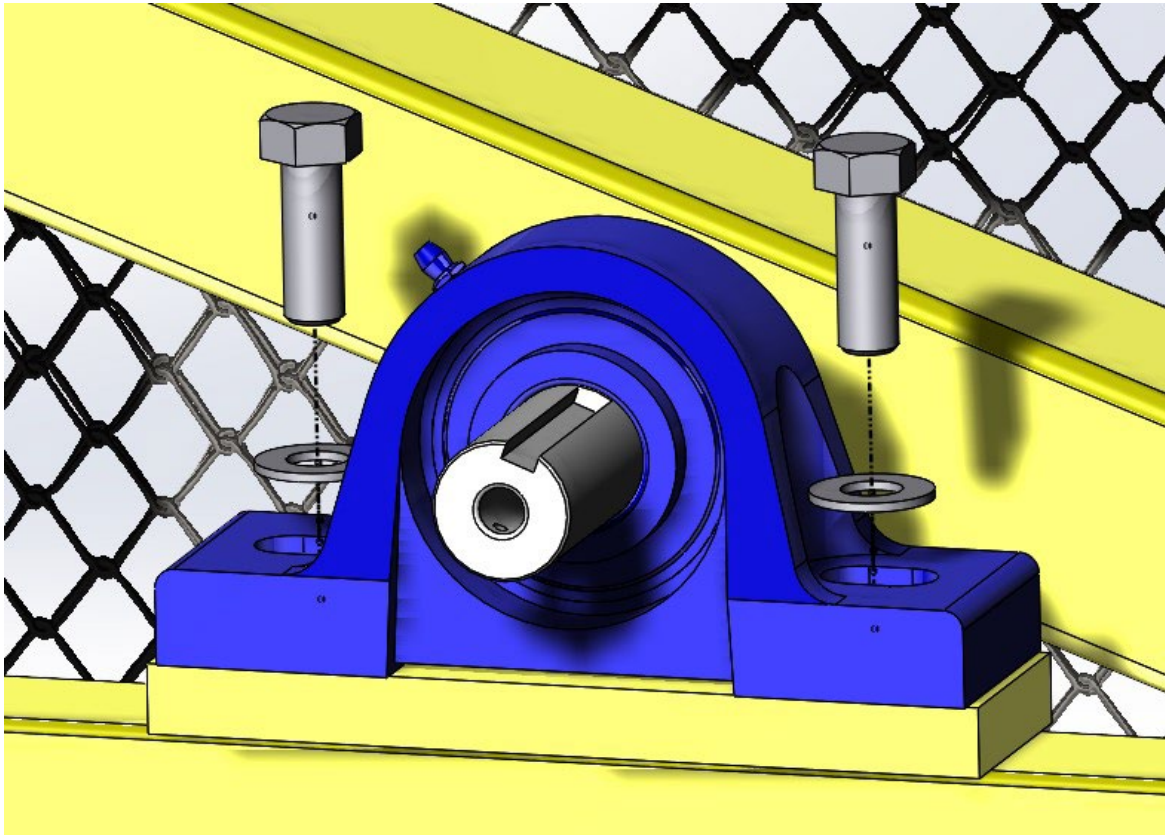


3.3 Once the orientation of the gimbals is correct, center the pillow block bearings over the pillow block pad. If the gimbals are off center too much it will affect the function of the belt.

When looking from above (as in the first image below), the pillow block bearings should overhang the pillow block pads by roughly $\frac{1}{16}$ " on both long sides (W) and should sit roughly $\frac{1}{8}$ " short of the edge along the short ends (L) of the pads.



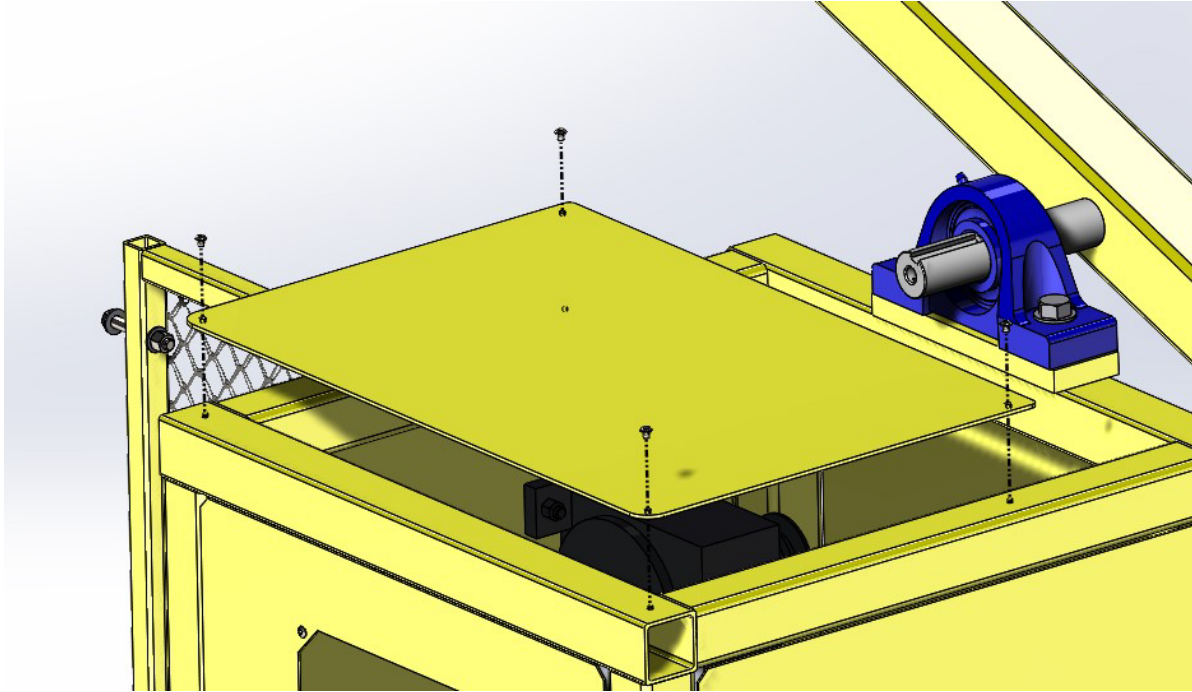
3.4 Once 3.2 and 3.3 are complete, lower the gimbals fully to the pillow block pad and fasten the gimbals to the pillow blocks using the 5/8-18 x 1.75 Hex Head Bolts and washers. Do this on both the drive and idle sides.



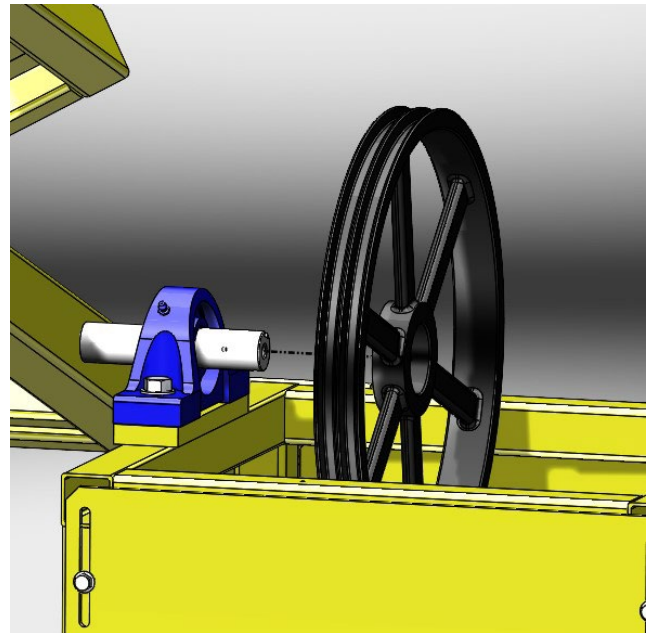
3.5 At this point double check that the machine is square on the floor, and that the cross bars are fully tightened as per points 2.6 and 2.7 above.

4) Pulleys, Belts and Electrical Components

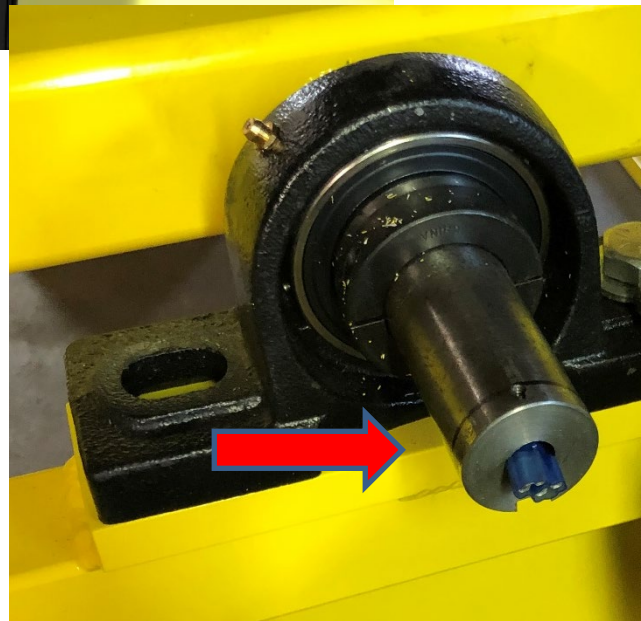
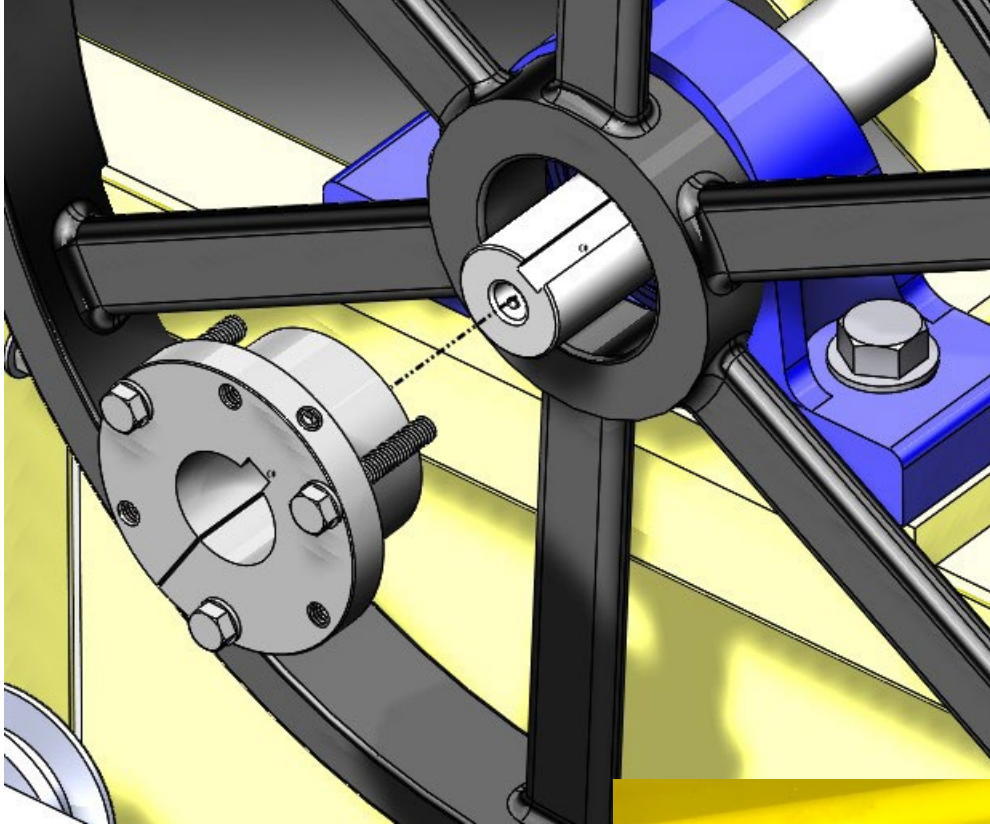
4.1 If already on, remove the top cover on the drive side upright for easier access.



4.2 Place the big pulley wheel onto the drive shaft.



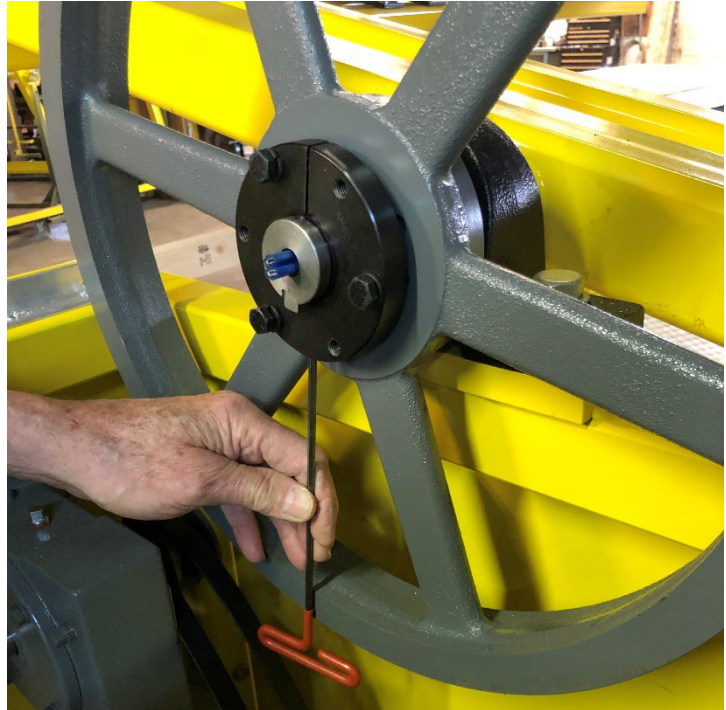
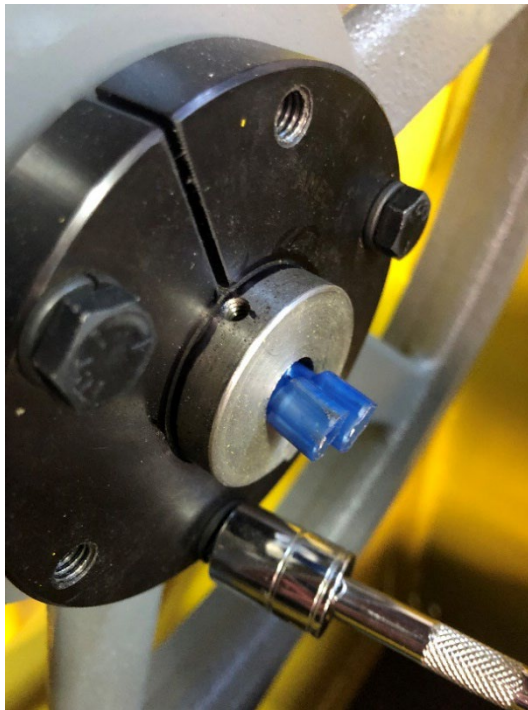
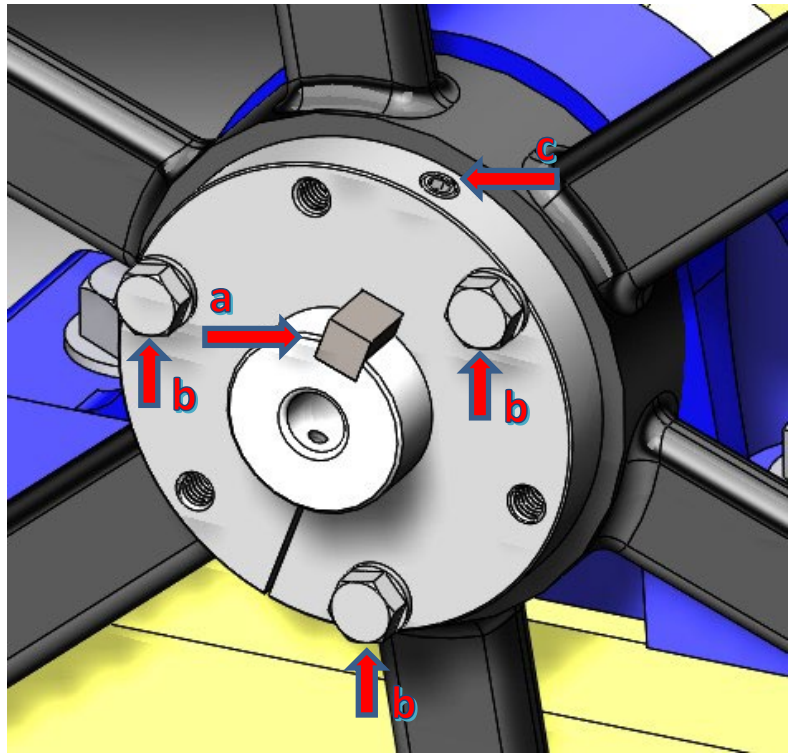
4.3 Place the tapered bushing on the shaft in front of the pulley. There is a black mark on the drive shaft, the edge of the pulley should be just past this mark.



4.4 Insert key (a) into keyway as far as it will go.

4.5 Tighten the 3 bolts (b) on the tapered bushing to 20 ft. lbs. torque. (Do this by first inserting and finger tightening each bolt, then cycle around repeatedly and tighten up gradually to 10 ft. lbs., then again up to 20ft. lbs. torque.

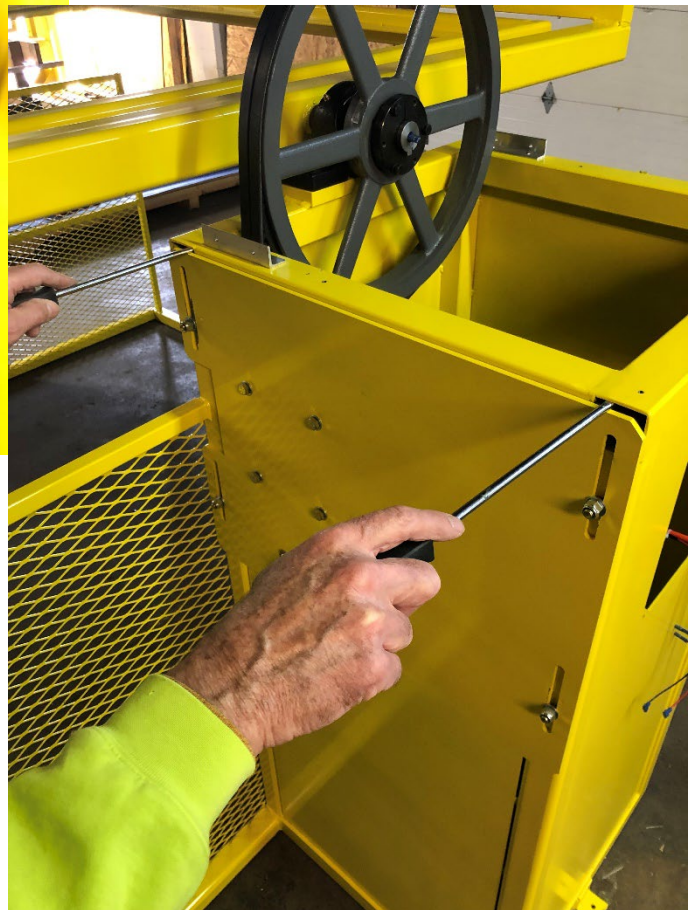
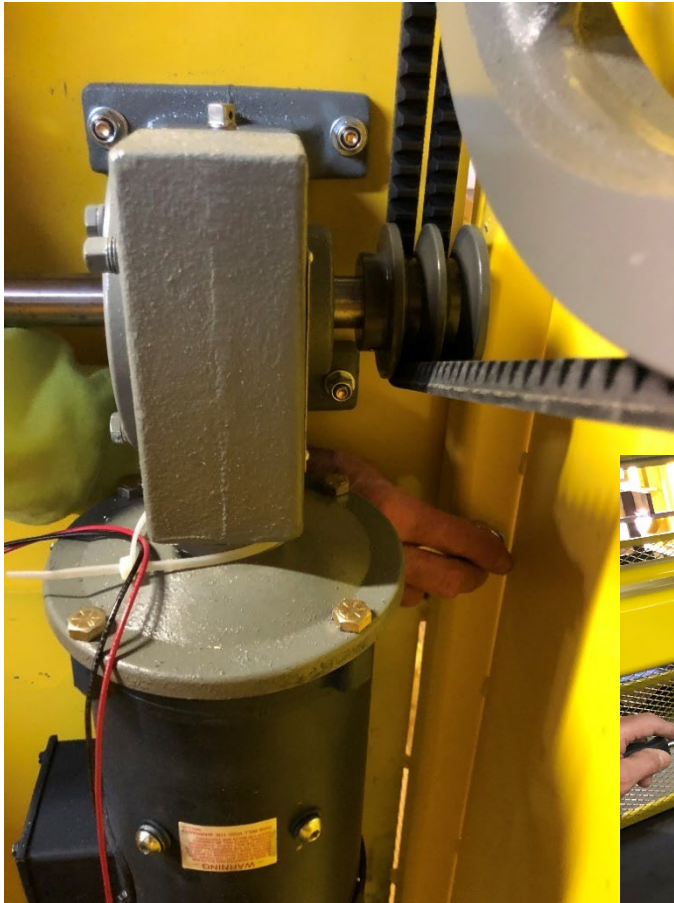
4.6 Tighten the set screw (c) that fastens the bushing to the shaft.



4.7 Place the 2 belts onto each groove of the big pulley wheel then onto smaller pulley.



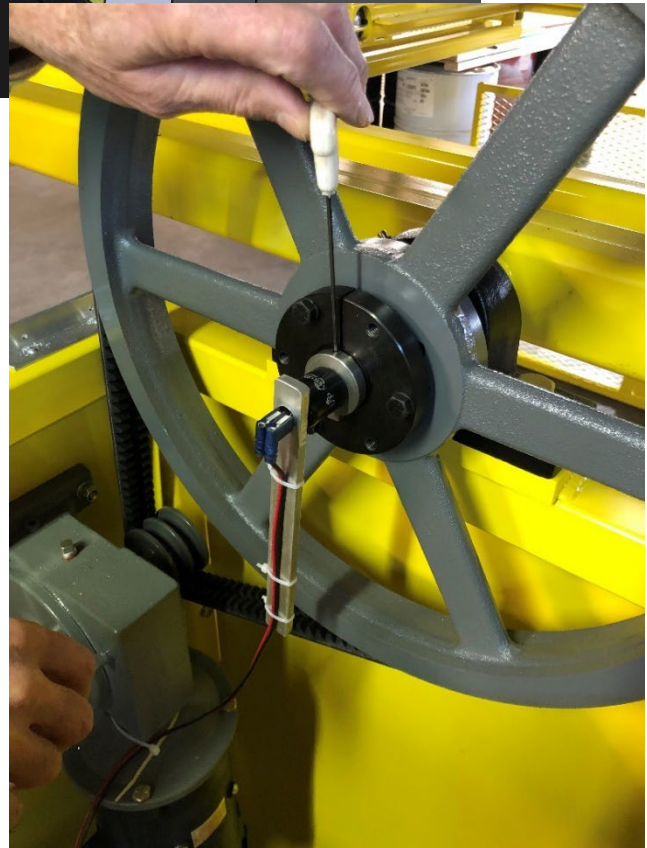
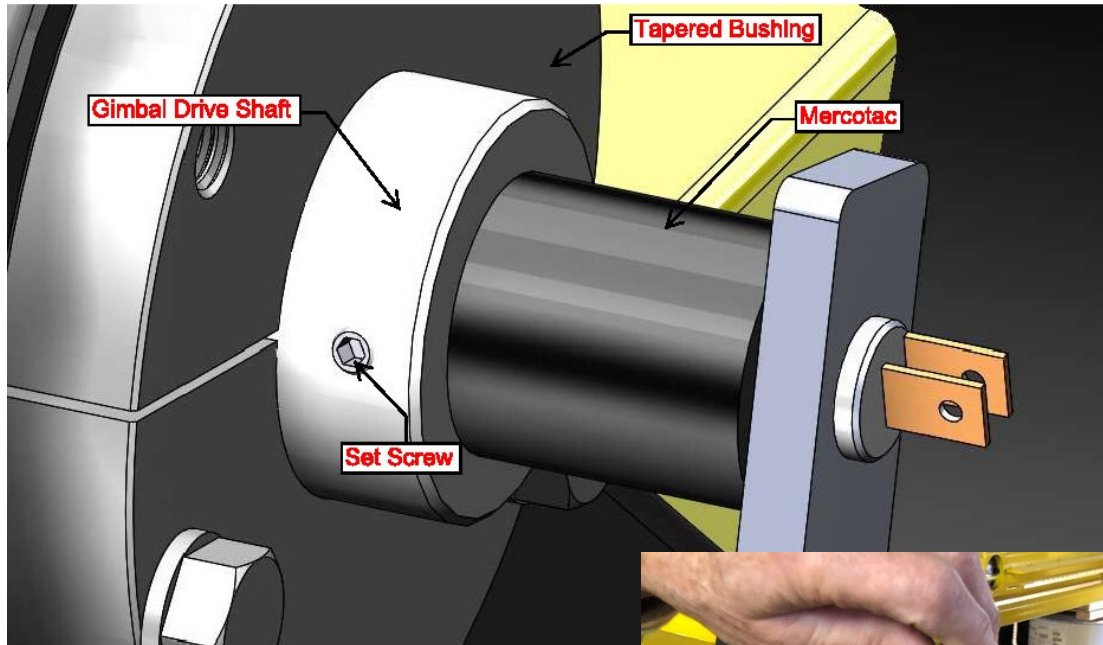
4.8 To acquire the proper tension on the belts, loosen the bolts on the side plate to drop the motor down inside the drive side upright. You can use two screwdrivers (as shown in the second picture below) to assist in getting the correct tension.



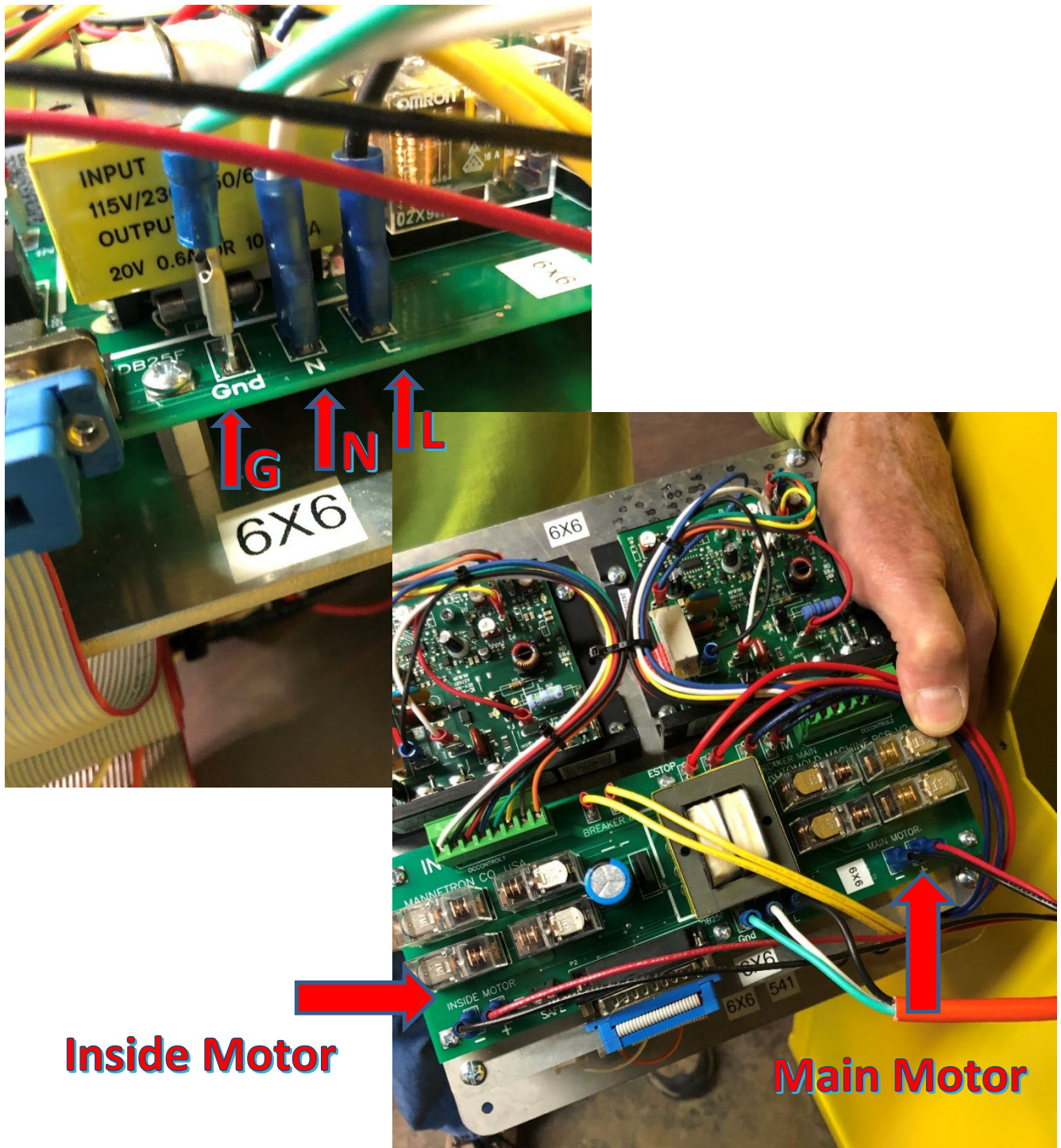
4.9 Plug the wires from shaft into the mercotac (rotating connector), and then insert the mercotac into the shaft as far as it will go.



4.10 Tighten the set screw that is in the drive shaft to secure the mercotac to the shaft. DO NOT over tighten set screw as it may break the plastic on the mercotac. Tighten to 10 ft. lbs. torque.



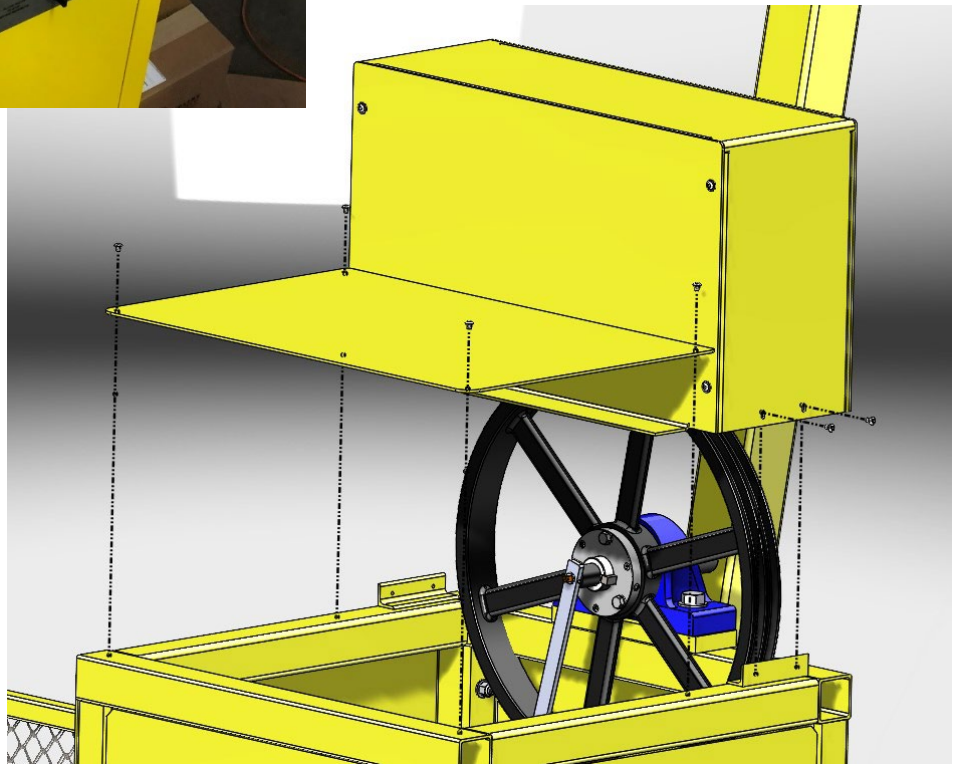
4.11 Unpack the box with the control panel. Plug the labeled cables inside the drive side upright into the marked spots on the control panel. On the inside and main motor cables, red goes to positive (+), and black to negative (-).



4.12 Fasten the control panel to the drive side upright using the #10-32 x 3/8 Button Head Screws.



4.13 Replace the drive side top cover and fasten. Place the pulley cover over the pulley and fasten using the #10-32 x 3/8 Button Head Screws with washers.



4.14 Plug the power cord into outlet and slowly rotate the machine to ensure everything is connected correctly and the machine is truly square. Make any corrections that need to be done. Once you've ensured the squareness and connections are good, rotate the gimbals until they are positioned vertically.



5) Safety and Extension Gates

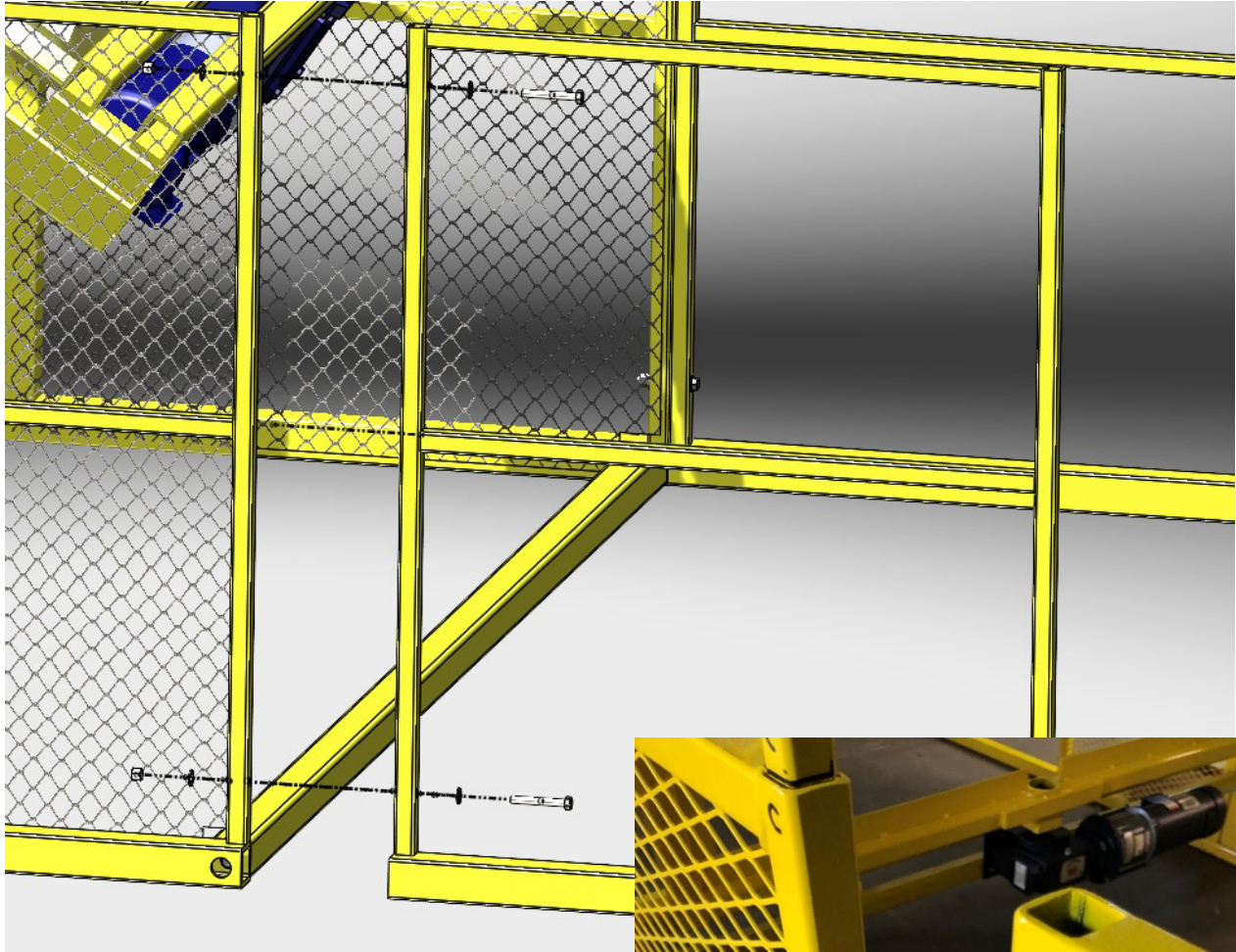
5.1 Place top safety screens. This step requires two people to avoid the tubes going on at an angle, which can cause them to bind. Each corner that receives a screen post will have a letter marked, and each screen post will have a corresponding letter. Be sure to mate the letter with each other. There will also be a line mark on each screen post to guide you on how far into the tube to place them.



5.2 Fasten the top portion of the safety screens using the 1/4-20 x 1/2 Button Head Cap Screws with the 1/4 fender washers. (10 each side)



5.3 Place and fasten the safety gate extensions using the 3/8-16 x 2.75 Hex Head Screws with 3/8-16 Hex Nuts.



5.4 Your machine is now complete and ready to use!



Feel free to contact us with any questions:

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