

# Replacing the X/Y Motor CAMS 1V2P

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## Tools Needed:

- 1) Phillips Screw Driver
- 2) 2.5mm Allen Wrench
- 3) 3mm Allen Wrench
- 4) Small Adjustable Wrench



#2 Phillips Screw Driver



Small sized Adjustable Wrench



2.5 & 3.0 mm Allen Wrench

## Remove the Shell of the machine

*\*\*Refer to the video of removing the shell of the machine\*\**

## Disconnect the X or Y Belt



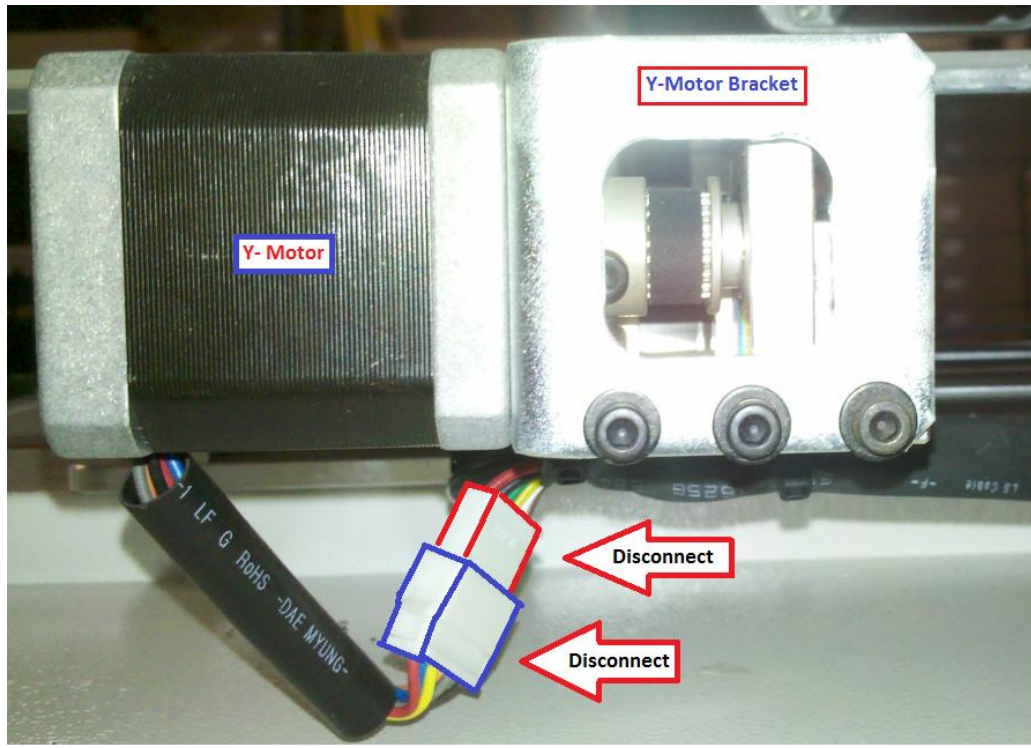
**Remove the 3.0mm Allen Screw to release the belt**

*(Keep the screw with the Belt Pulley together after removal to guard against loss)*

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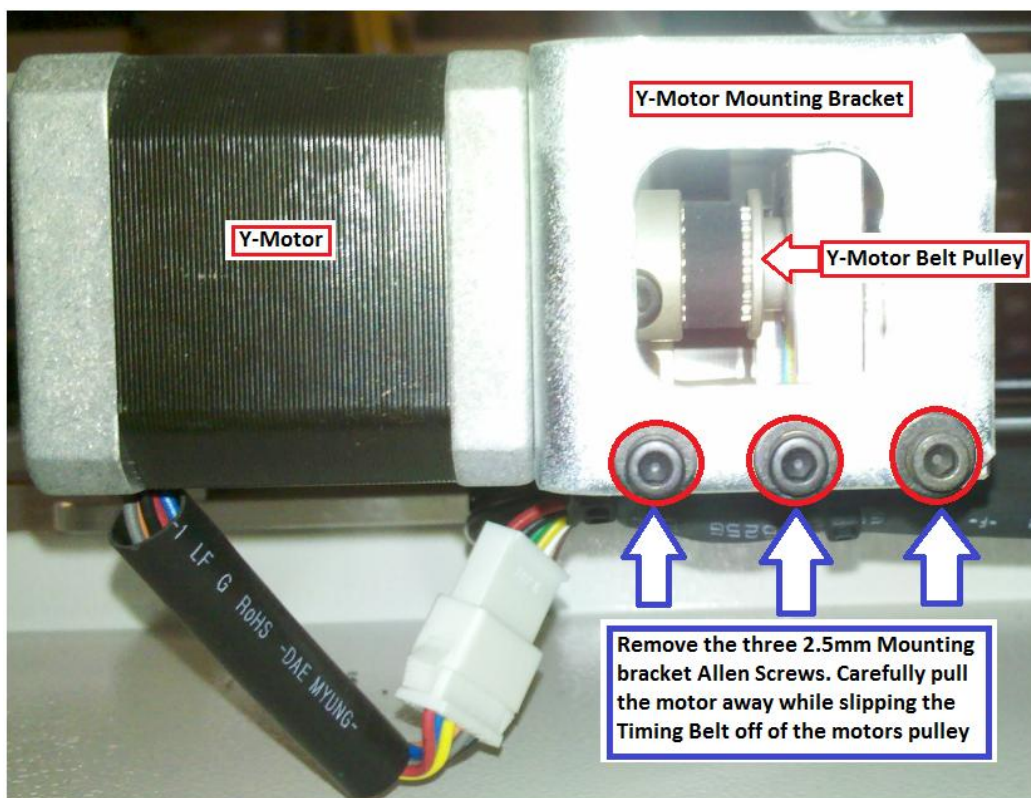
## Disconnect X or Y Motor Electrical Connection

If you are replacing the X Motor, the motor will be located on the left side of the machine, For Y Motor replacement, The connection can be seen under the motor and is accessible from the rear of the machine.



## Remove the X or Y Motor Mounting Bracket

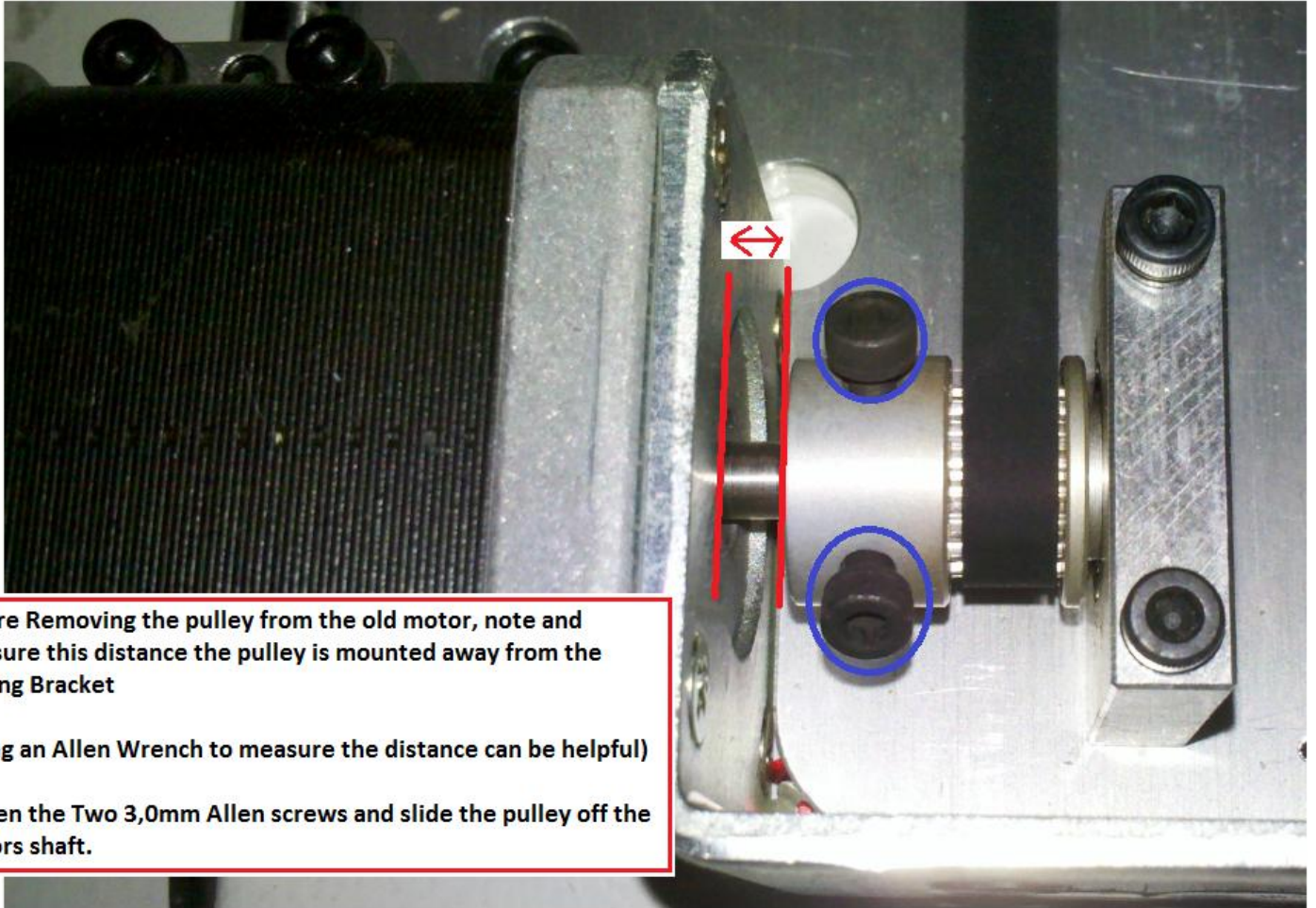
Each Motor is mounted to an "L" Shaped Mounting bracket and is secured by three 2.5mm Allen screws. Remove these screws and carefully remove the belt from the motors shaft belt pulley.



## Remove the Motor Pulley from the Motors Shaft

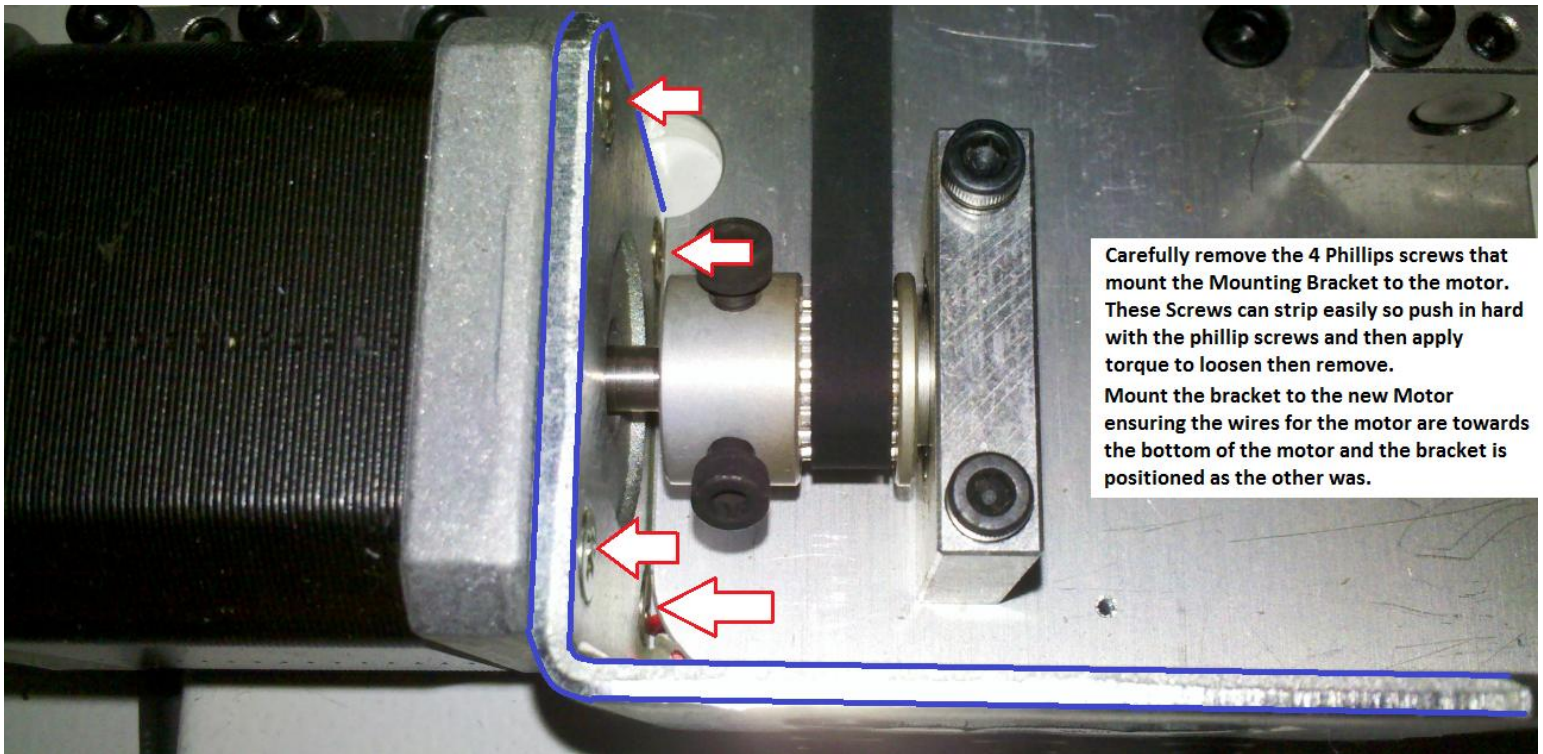
It is important to know the distance the Motors Pulley is set away from the Mounting Bracket to ensure when the pulley is mounted to the new Motors shaft, the black timing belt remains straight and the belt does not walk side to side when the machine operates.

I use the thickness of a certain Allen Wrench to help determine the gap between the Mounting Bracket and the base of the Pulley. Then use the same Allen Wrench to set the pulley onto the new motor.



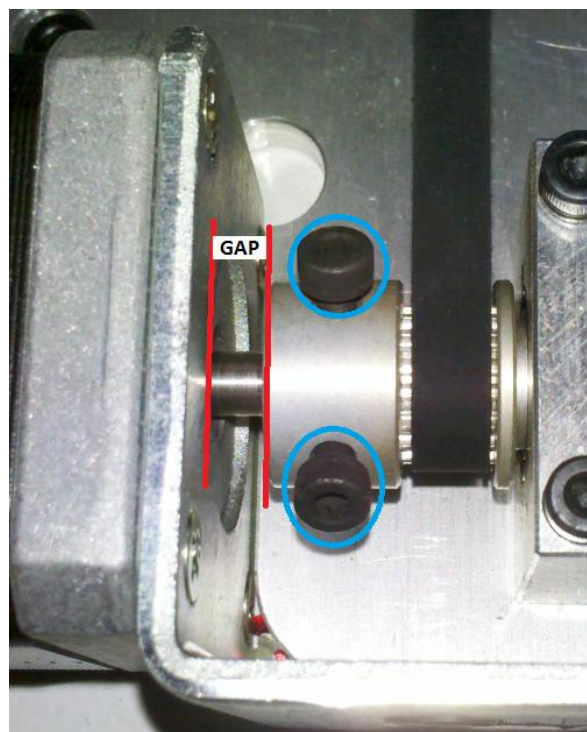
## Remove the Mounting Bracket from the Old motor

Locate the 4 Phillip screws that mount the Mounting bracket to the motor and remove, be careful not to strip the heads of the screws, set your Phillip screw securely and push into the screw and remove them. Then Mount the Bracket to the new Motor ensuring that the wires for the motor are facing down, and the bracket is facing the correct way as it was on the old motor.



## Place the Motors Pulley and secure to the Motors Shaft

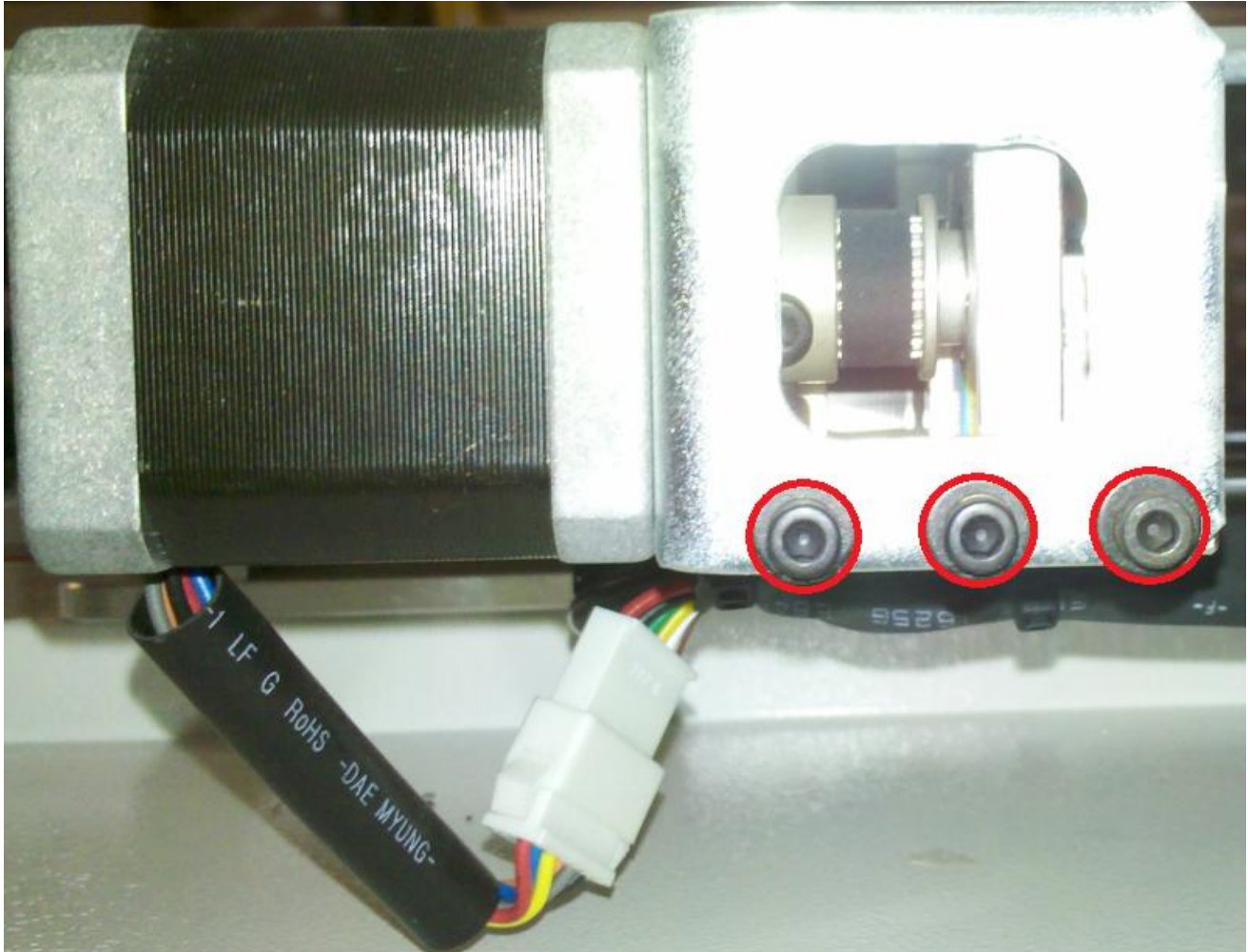
Remount the Motors Pulley to the new Motors shaft and gap the pulley off the bracket based off your measurement you made prior to removing it from the old motor , then tighten the two 3.0mm Allen screws.



## Mounting the motor to the machine

Position the motor and slip the belt onto the Motors Pulley and set the Head of the pulley into the Bearing on the right. Ensure the motor is level then secure the three 2.5 mm Allen Screws. With your hand slide the table back to ensure the table does not make contact with the motor body, if it does loosen the three 2.5mm Allen screws and lower it while keeping it level and test by sliding the table towards the back over the motor to ensure it is not making contact.

If it still makes contact, then remove the mounting screws, then loosen the 4 Phillip screws that mount to the motor and lower it and secure, remount the motor and test again to ensure proper table clearance over the motor as the table moves back over it.



## **Connect the motors electrical connection**

The wires on the new motor are longer than they were on the old motor, some people cut the Down about 12" from the connector and cut the excess wire away leaving about 1 foot of wire from the motor to the connector, then splice the wires together by stripping back some of the sheathing from the wire from the Connector wire and the motors wire and making a loop and twisting the copper wires together and then wrap the twist with electrical tape. You would join the wires by color; Yellow gets splice to yellow wire from motor and sew on.

If not wrap the wires tightly in a 4" Fold and zip tie to the motor body so it does not drag on the bottom of the machine and then cut the zip tie tail



## **Remount the Belt Tension pulley on the far end.**

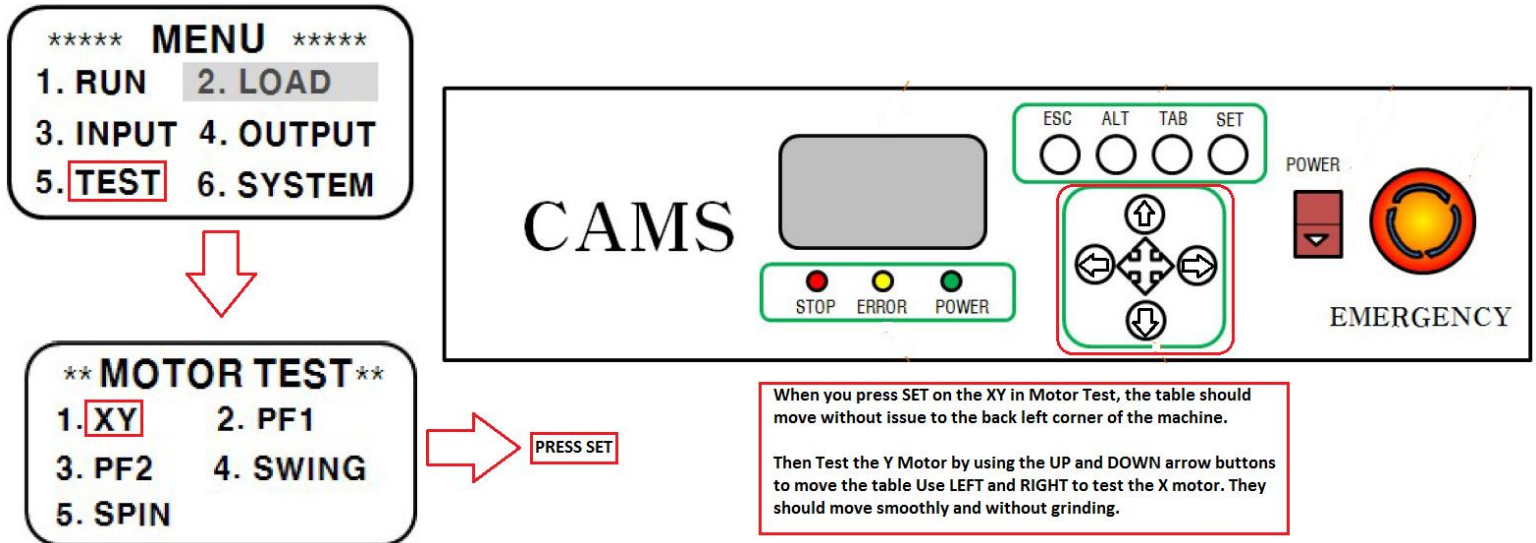
Slip the belt onto the black timing belt and set the pulley part to the bracket and set the 3.0 Allen screw and before tightening the Allen Screw, pull back gently to match the tension on the belt to the other black timing belt onto the machine, Make sure the pulley is straight and tighten the Allen screw.

*The timing belt does not need to have allot of tension as the table does not weigh allot, so match the tension of the belt to the other black timing belt on the machine*



## Test the Motor

Power on the machine, and go to TEST and select X/Y. Press SET, the table should move to the back left corner of the machine. Then use the DOWN Arrow Button to move the table towards the front of the machine, and push the UP arrow to move the table towards the back of the machine, Then LEFT and RIGHT Arrow buttons to test the X motor. There should be no grinding noises heard from the motor you just replaced. If it sounds good and the table moves when you press the Arrow buttons then remount the shell.



If the Motor tests good then Remount the shell in reverse order as shown on the video and you are done