

How to correct an out of square arm assembly Fusion.

## Re-squaring the arm assembly in your fusion machine

### Brief Overview of Process

These instructions we help you correct any problems caused by the arm assembly (gantry) in your machine not being parallel with the back of your machine like if the machine is not able to find home during the boot up sequence causing a config failed message during the boot up.

This will require removing the back exhaust panel, loosening the y-axis drive shaft, placing the arm in the squared position and retightening the y-axis drive shaft.

### Tools Needed for this procedure

For this procedure the only tool you will need a 5/32 inch Allen wrench.

**NOTE:** This procedure at one point does require a second person.

### Things to know before getting started:

This procedure does require access to the back of the machine but depending on the where the machine is it should not require you to disconnect the individual exhaust tubes as we will be removing the panel they are attached too.

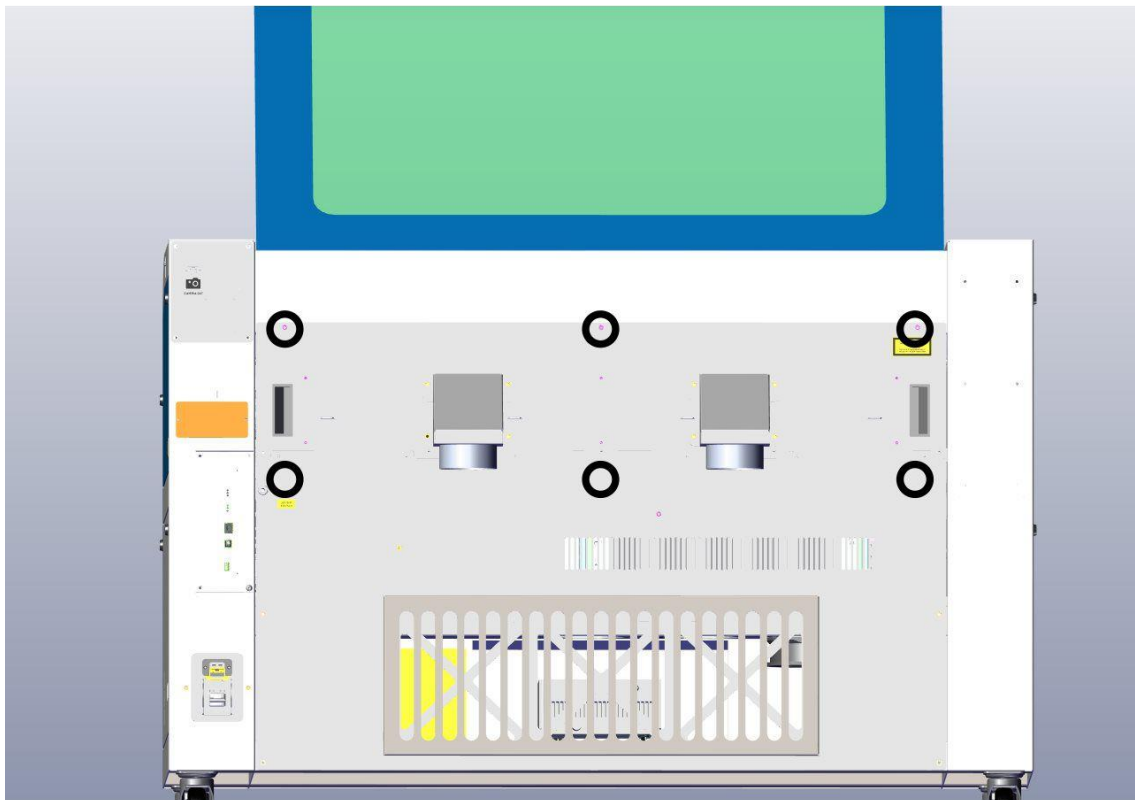
When it comes time to have someone hold the arm to back of the machine it is important that they push from the left and right side of the arm assembly and not from the center. Although it is somewhat hard to do it is possible to apply enough force to bend the arm assembly if pushed from the center of the arm. Pushing from the left and right sides will keep that from happening.

Lastly if the laser alignment was done on this machine recently while the arm was out of square then after doing this procedure you will need to re-align mirror 3, if the alignment has not been done then after this procedure is done it should put the machines laser alignment back to where it should be but may be worth checking it afterwards to make sure it is ok.

## Re-squaring the Arm Assembly on the Fusion/M2

1. The first step would be to remove the back panel that the exhaust tubes hook up too by removing the 5/32 inch screws that surround that panel.

NOTE: If your machine has a 32 inch table then there will be 6 screws total, if your machine has a 40 inch table there will be 8 screws total.

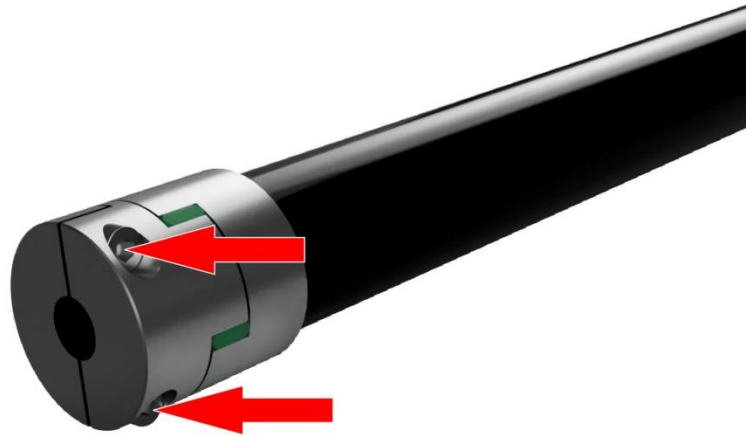


2. The next thing to do is to locate the y-axis drive shaft (picture below) it is a large cylinder bar that goes from the left to the right side of that opening exposed by removing that panel. If you move the arm assembly forward and backwards it will spin this bar.



**NOTE:** bar may be more silver in color or have black covering depending on when machine was made.

3. If you look at the right and left side of this drive shaft and spin it you will see that each side has two 5/32 inch Allen screws that hold the clamps that hold that drive shaft to the left and right y-axis drive assembly. Just make sure that you can locate both of these clamps



4. For the next step it is important that you do this one side at a time so pick either the left or right side to start with and do the following. Take the one of the Allen screws completely out then put it back in exactly 4 full turns. Then take the other screw out and put it in exactly 4 full turns.
5. Do the same thing as step 4 for the other side of the drive shaft.  
NOTE: It is very important that the clamps go on and or are tighten down evenly, by doing step 4 and 5 it sets the clamps up in a way that in step 7 that we can ensure they tighten down evenly.
6. Now that we have the drive shaft clamps loosened the left and right side drive assemblies can be move independently of each other. So to help make sure the arm is square to the back you will want one person to hold the arm all the way to the back, make sure that they are pushing it back from the left and right side of the arm and not from the middle of the arm.
7. Now that the drive shaft is unlock and we have someone holding the arm all the way to the back we can retighten the brackets, to do this pick one side to start with and turn on of the screws one full turn and then screw the other screw one full turn , then repeat this alternating between the two screws for that one side turning each one full turn then going to the other screw until the screws have been tightened. It is very important that this alternating of screws is followed otherwise the clamp will not go on evenly and can allow the arm to go out of square again pretty quickly.
8. Do the same thing for the clamp on the other side as you did in step 7. Make sure that the other person stays holding the arm all the way back until both sides have tightened fully.
9. The second person can let go of the arm at this point, if both sides have been tightened down the arm should be reset. Next it is a good idea to leave the door open on the machine, move the arm half way forward, and then turn the machine and make sure the machine can boot up fully with the door open.

NOTE: If in Europe or other parts of the EU then you will have to put the panel back on and try this with the door shut as part of the EU regulation the machine is not allowed to move with the door open.

10. If the machine boots fully with no issues then we can put the panel on the back of the machine back on, slide it into place and reinstall all of the 5/32 inch Allen screws and move the machine back into place if needed. This is the end of this procedure.

If you have any questions or concerns about this procedure then contact Epilog Technical Support by either emailing [tech@epiloglaser.com](mailto:tech@epiloglaser.com) or calling 303.215.9171. You will need the serial number of your machine so please have this handy when calling, if contacting by email please include the serial number in the email .