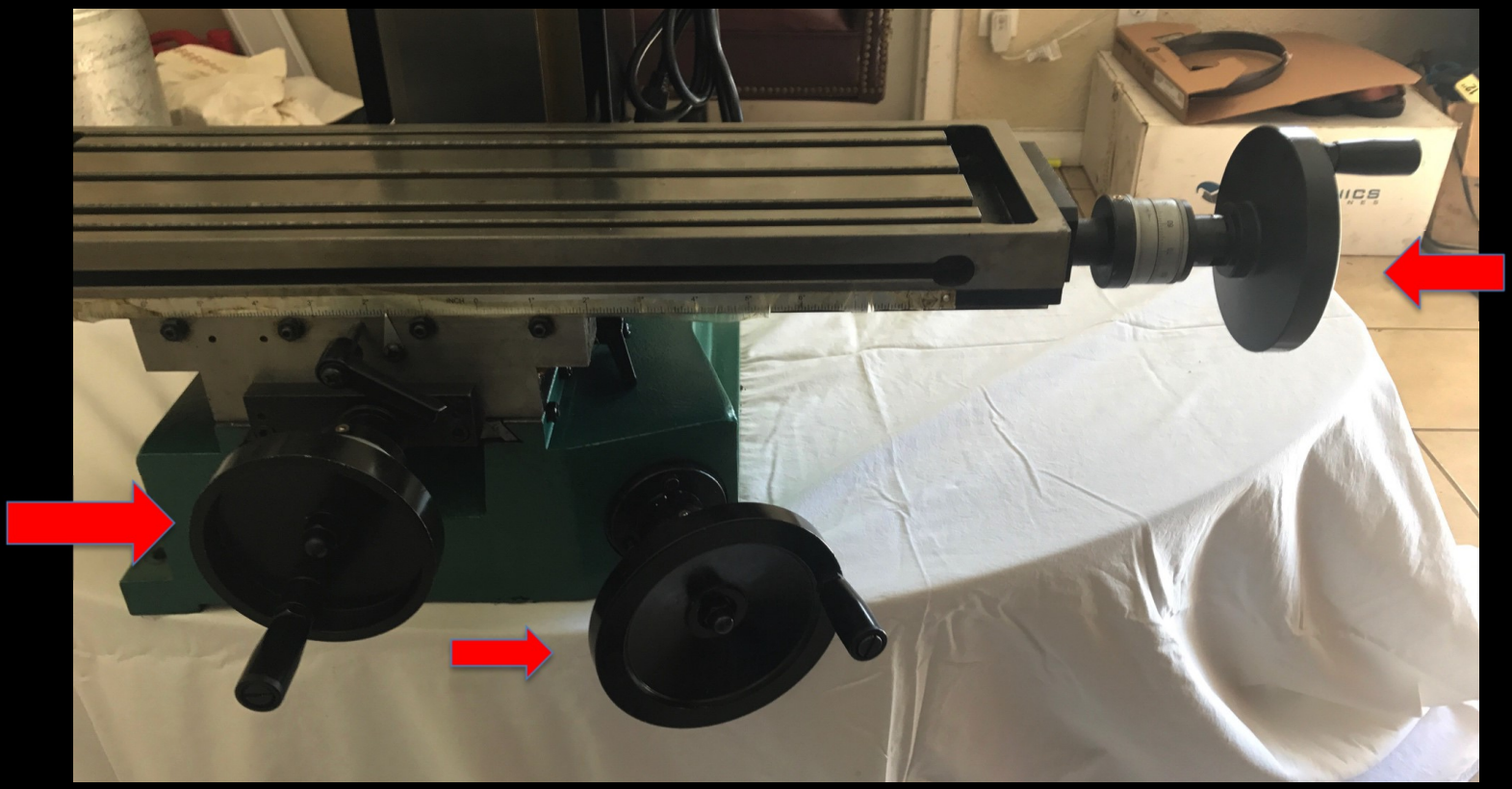
X3 Kit Installation

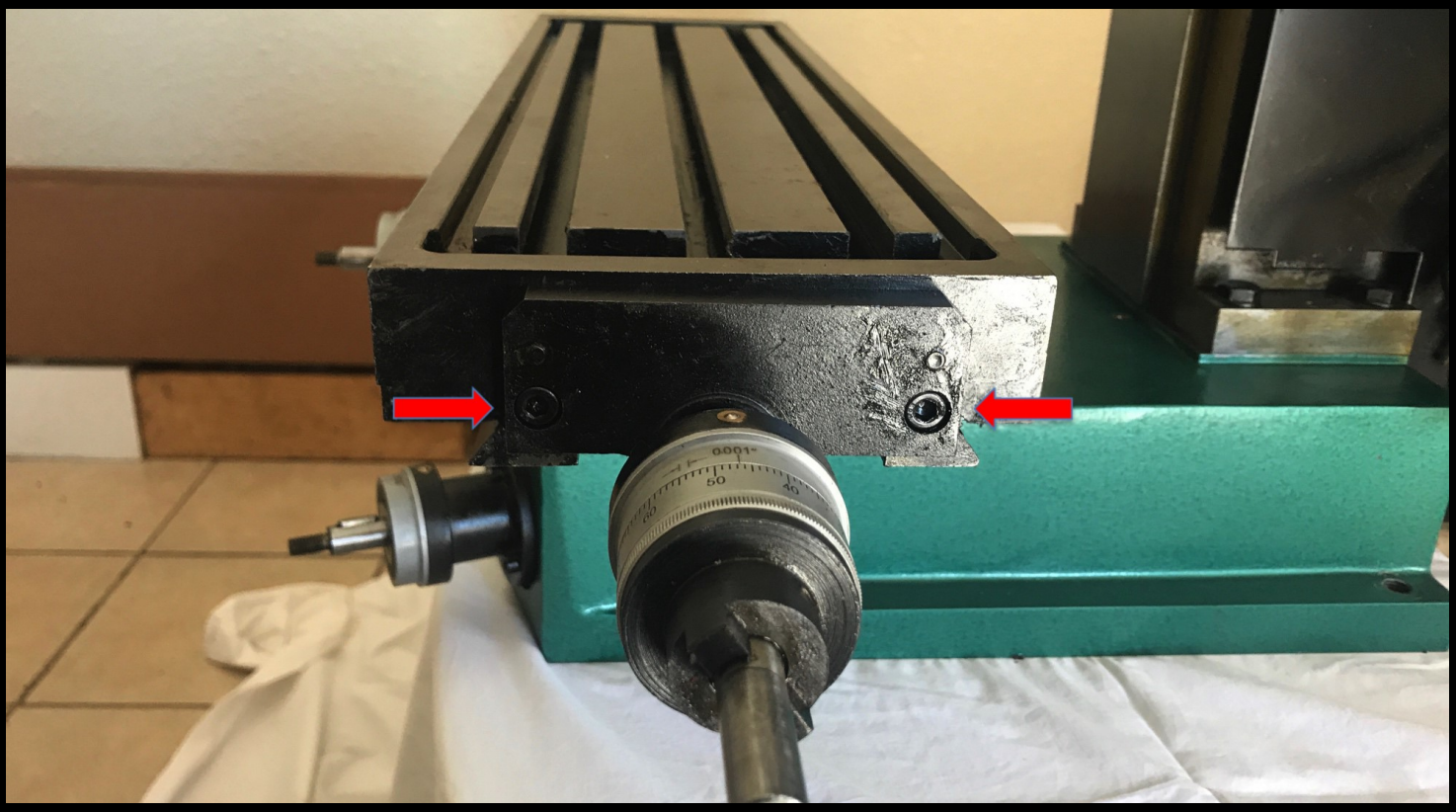
Start by raising mill spindle up to the top

Remove the handles

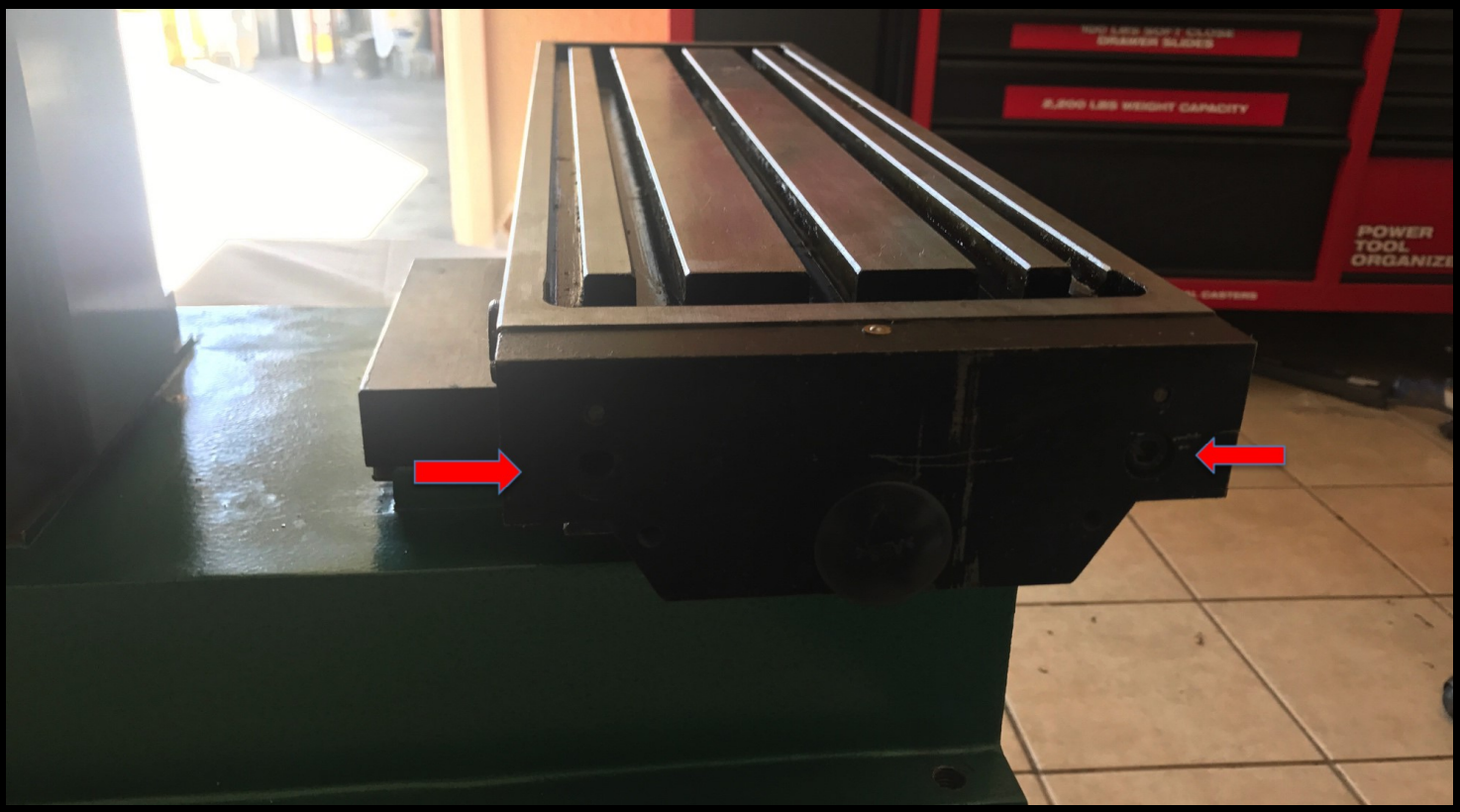


Handles removed

Next remove the two cap screws on X axis Right side of table



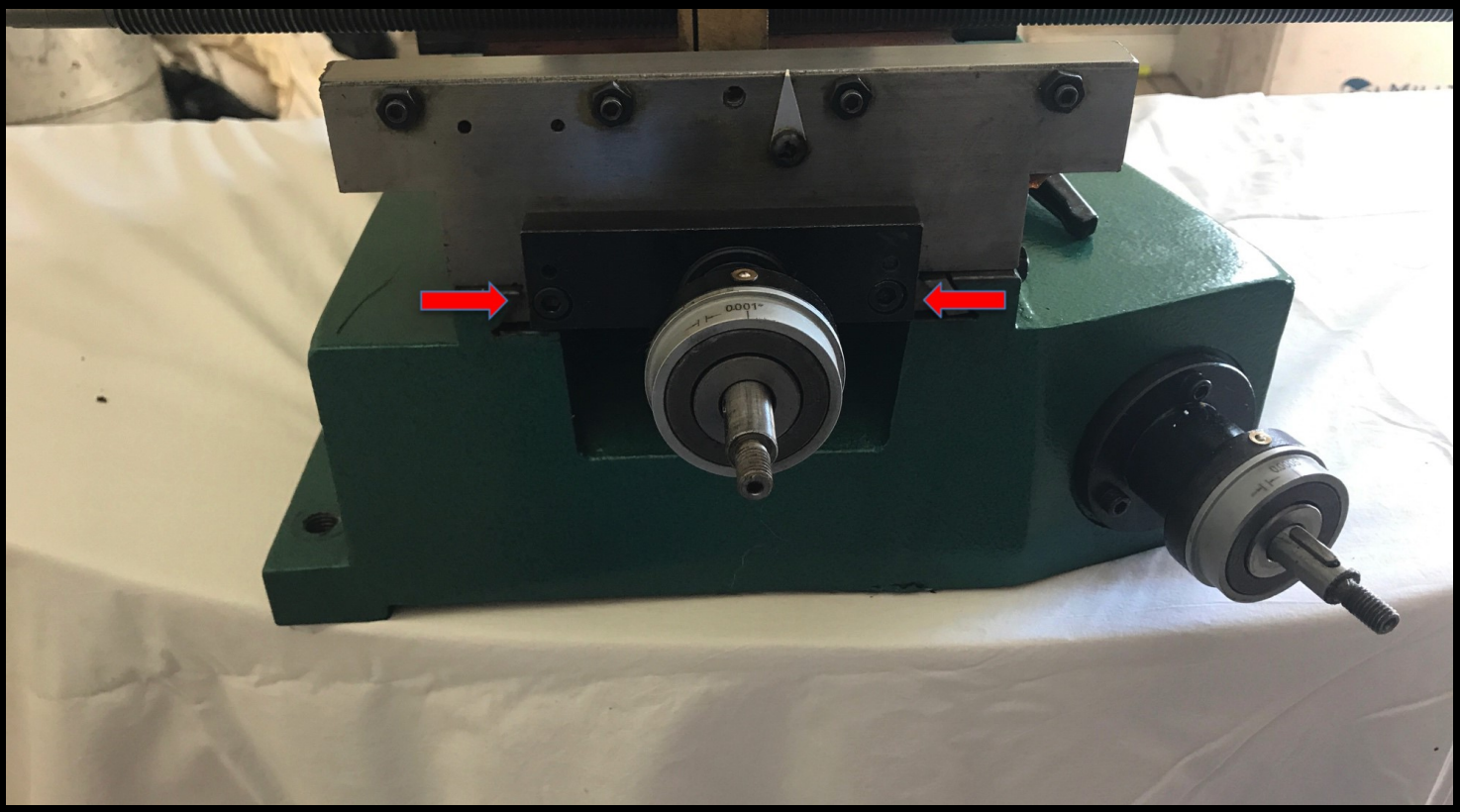
Remove the two cap screws on X axis left side of table



Then you can start to slide the table off of the Y axis saddle.
You may need to give it some help with a dead blow hammer

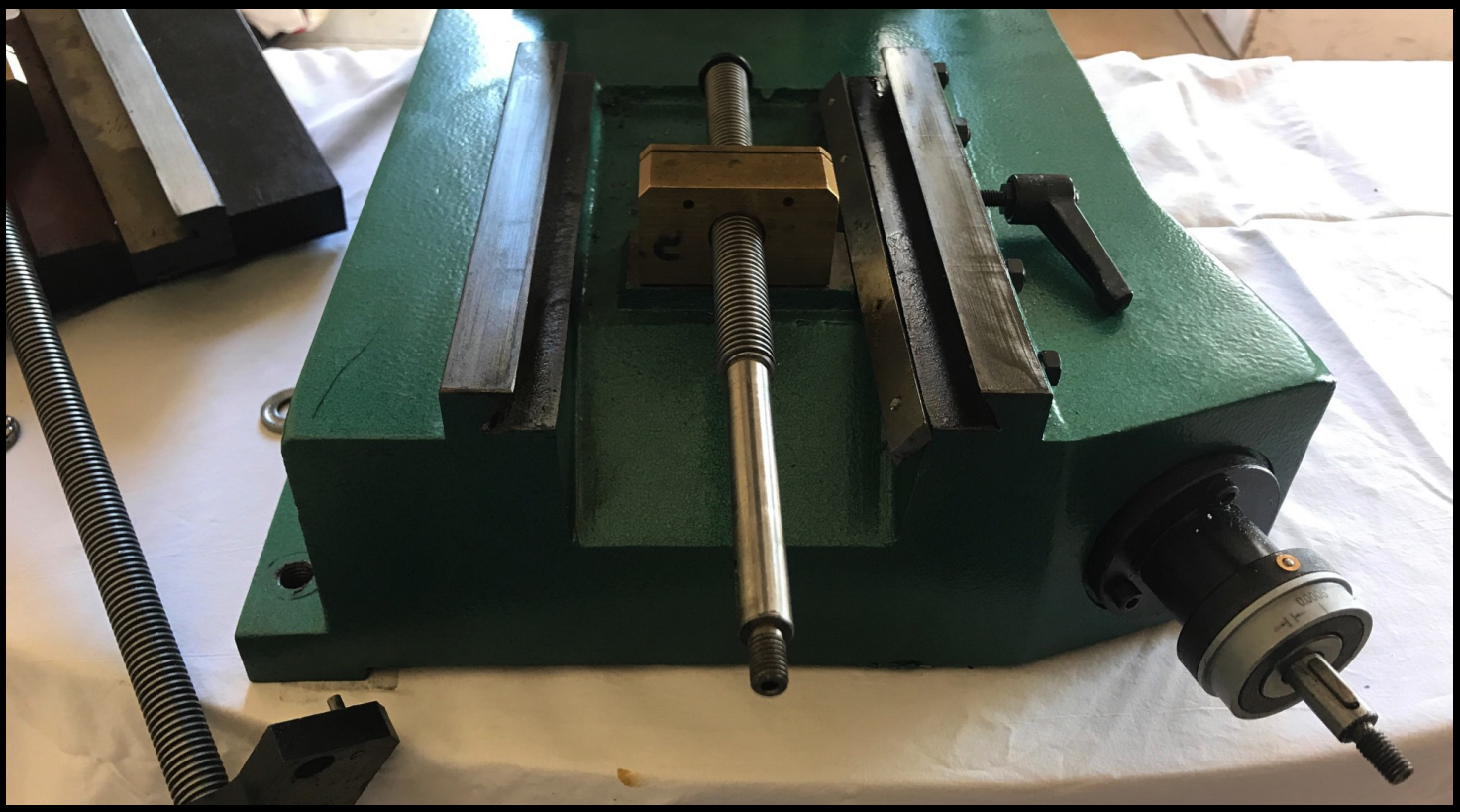
Table removed

Remove two cap screws on either side of Y axis dial

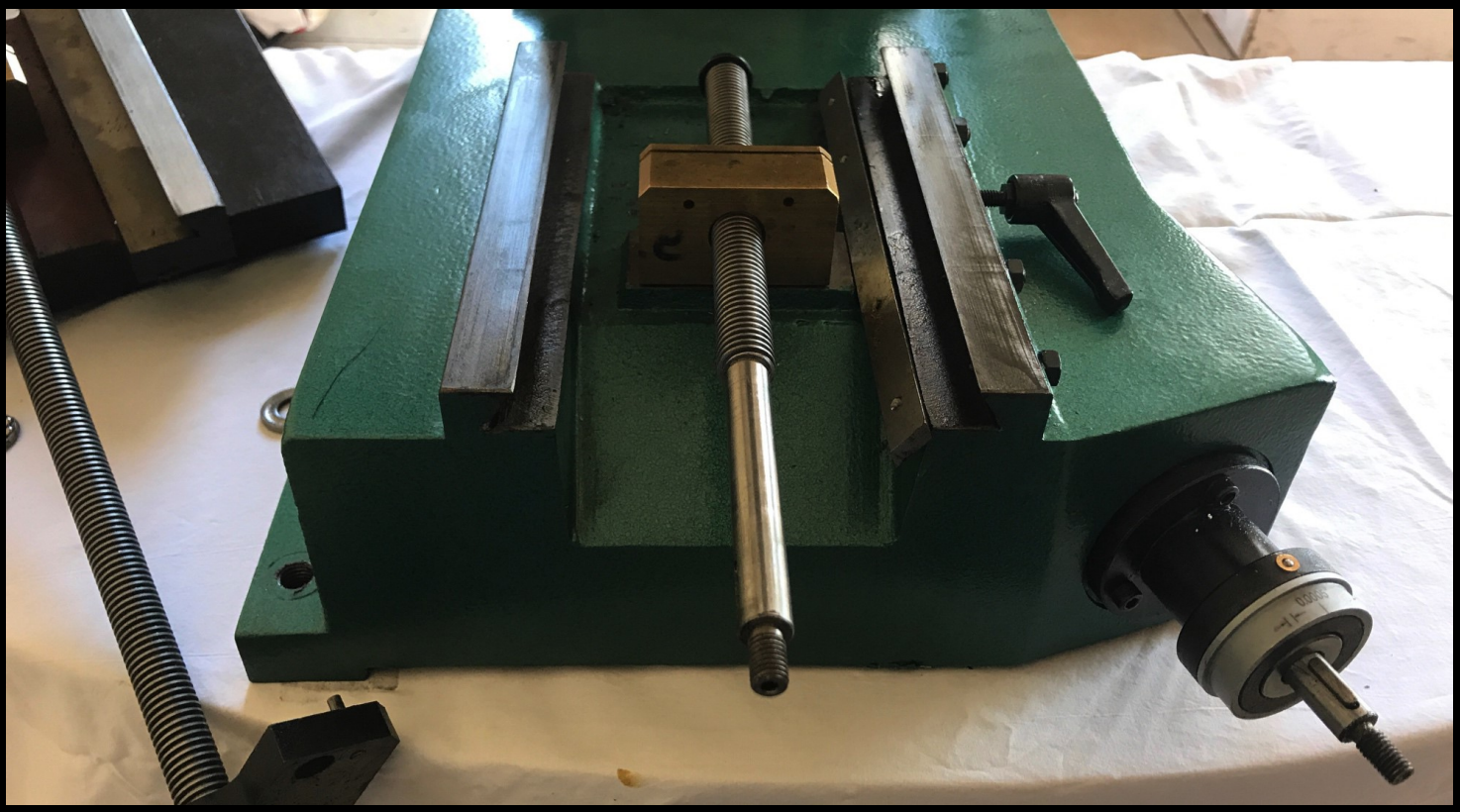


Remove these two cap screws that are underneath the base of the machine

Then you can remove the saddle for the Y axis



Now you can remove the brass lead screw block



- Now that you have the X and Y removed, prop up the milling head.
- WARNING.
- The ball screw and ball nut move very, very freely. If the milling head is not supported even after you install the new ball screw and ball nut, the milling head will not stay up on its own. Keep it supported until you install the motor.

2 X 4 support for the milling head.

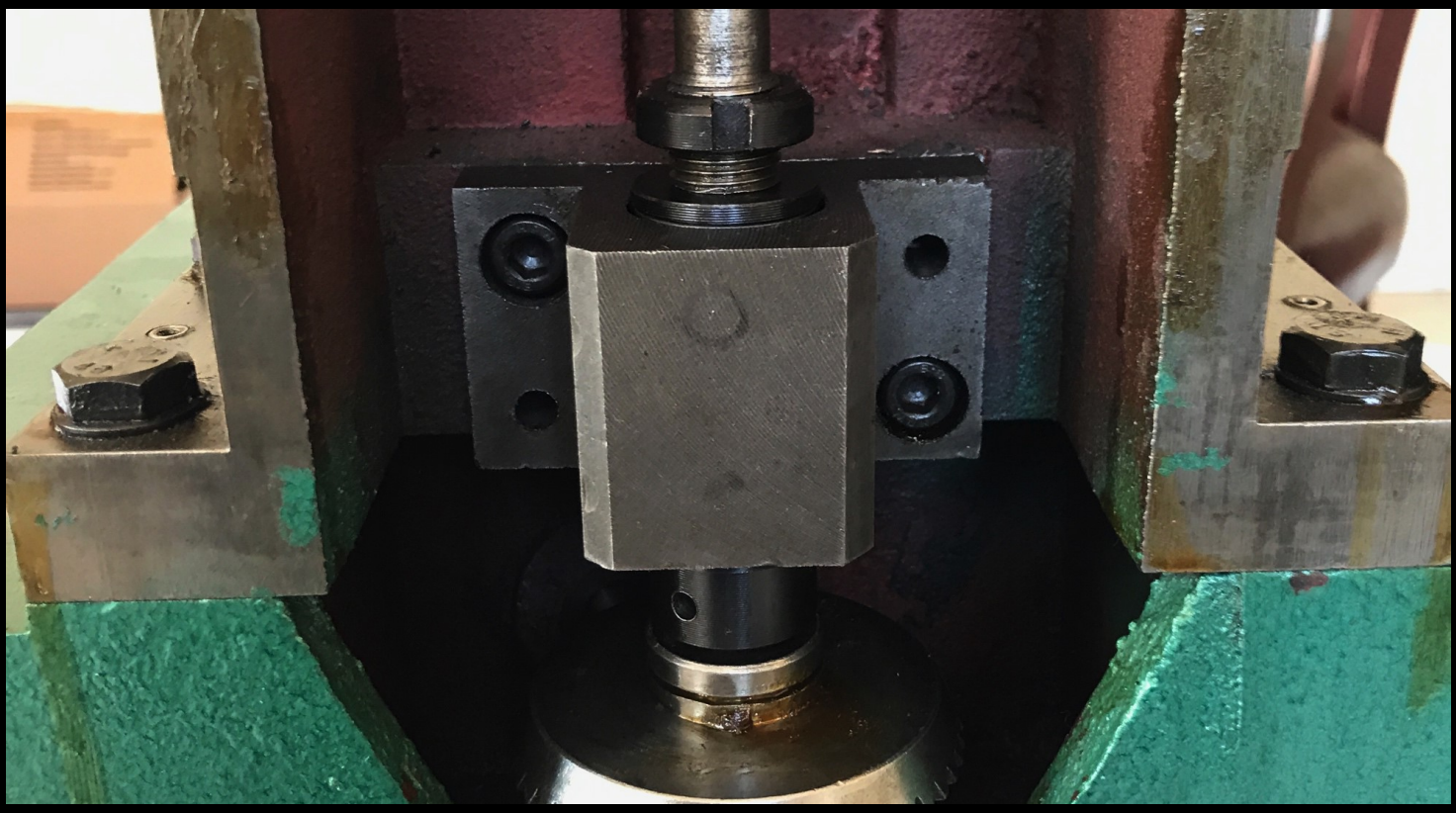
Move the two screws on top of the back cover.

Remove the two screws on the bottom of the back cover

Now you can remove the back cover to expose the Z axis lead screw

There are 2 pins in the bottom block.
Use a 4mm screw to get them out

Now remove the 2 cap screws on the bottom block



Remove the 4 screws underneath holding the lead nut

Now you can turn the lead screw and unscrew the nut from the block

You can now pull the lead screw out of the top block. If the bearing comes with it. Put it back in the block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Remove the gear from the bottom of the lead screw. Also remove the key

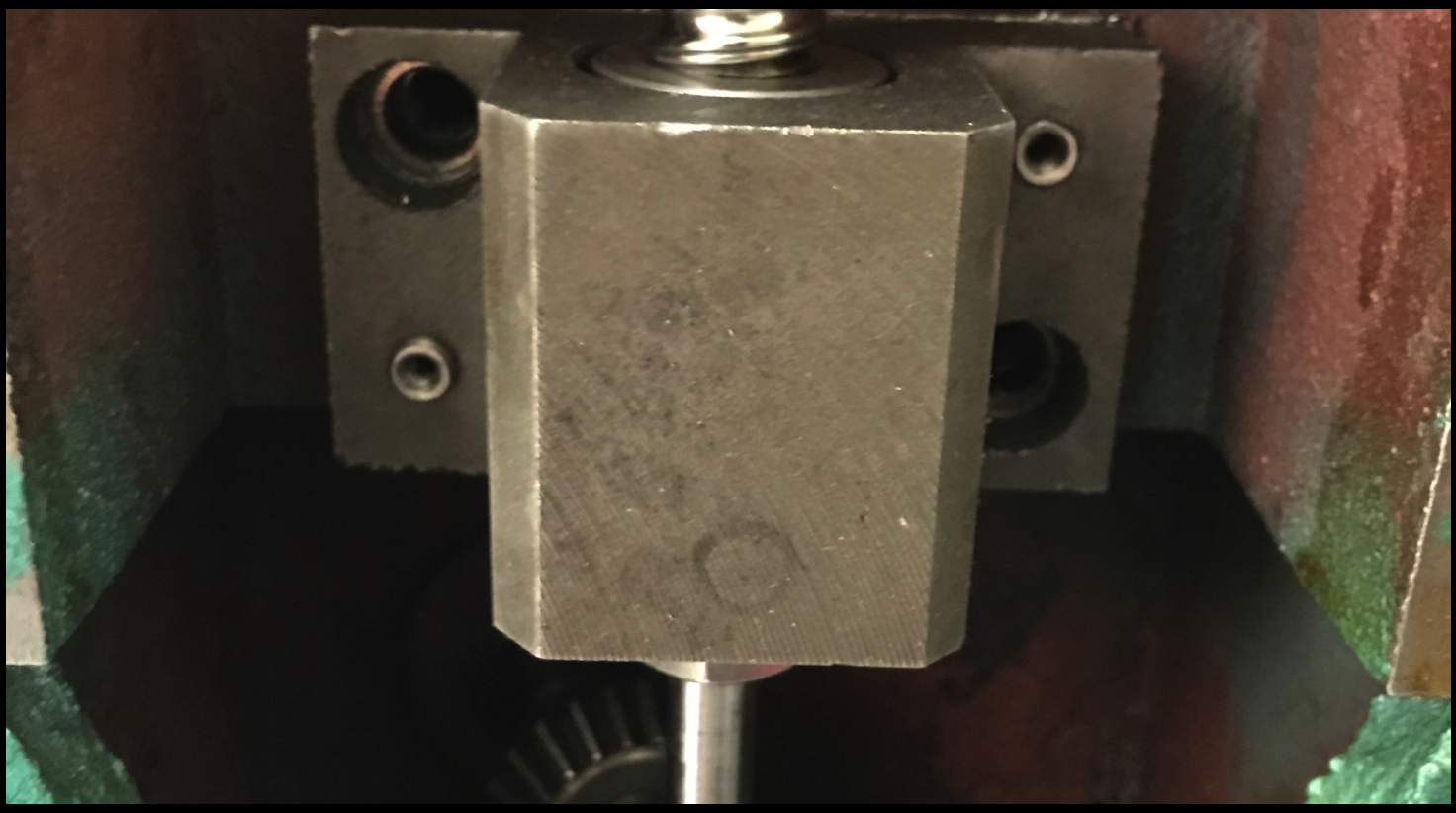
Knock out the pin holding the retaining ring in. Now you can remove the bottom block

- Now you can start installation

Use the existing thrust bearings that were in the block. Slide the block back on the threaded end of the ball screw. Use the two nuts supplied and double nut the block. Install the pulley as well. This all needs to be done on the work bench.

Slide the ball screw up through where the old lead screw nut was. The end of the ball screw will go into the existing bearing of the top block

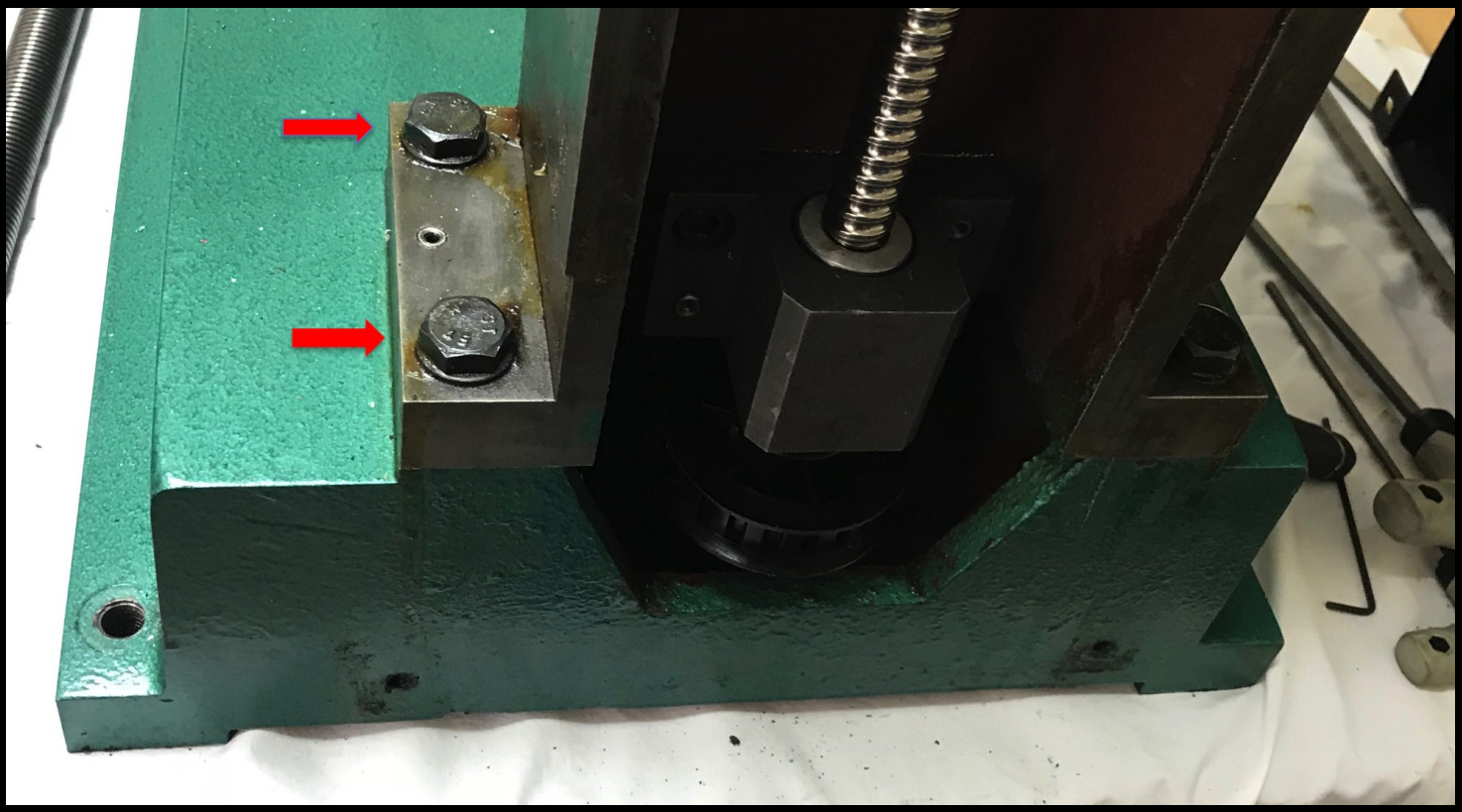
Slide the pins back into the bottom block



Use the existing bolts, and bolt the block back on the machine

Rotate the ball screw until the ball nut block snugs up against the upper plate where the old lead nut was.

Remove the bolts at the base of the column to install the brackets for the Z motor mount



Use cap screwed supplied with the kit for the brackets. The old bolts are not long enough.

- The pulley in the last picture installs onto the motor shaft. Make sure you have good alignment of the two pulleys to keep the belt level. The motor plate is slotted and adjusts in and out to put tension on the belt.

- Our friends at Grizzly have changed the back cover of the machine. Where there was a space for motor and mounts inside the cover, now there is not.
- If you still have a machine that has the space, you can skip past this next part.

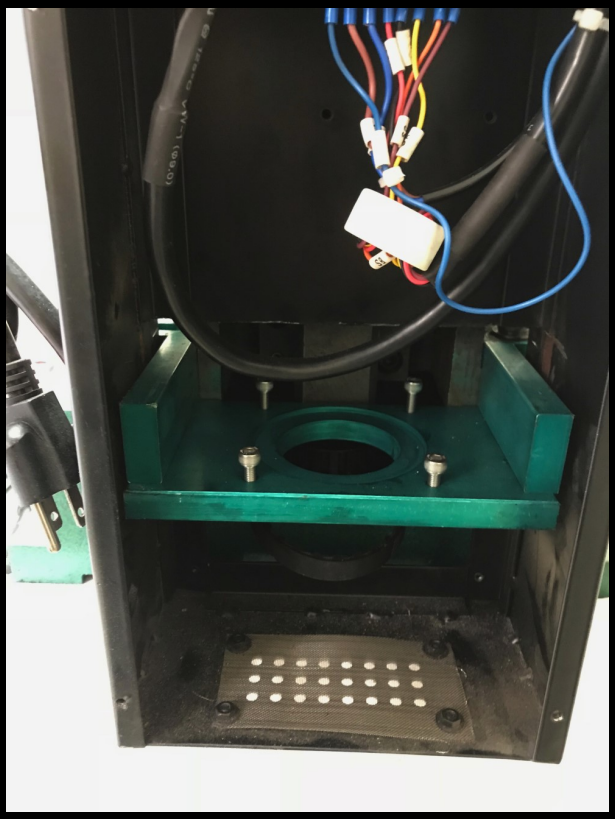
There are 6 screws on the inside piece of sheet metal. You can remove these and slide the sheet metal out far enough to remove some of it.

I am taking 5 ½” off the bottom. You can remove up to 9”. There are two tapped holes with nothing in them. Use that as I guide for how much you can safely remove.

- Be sure to securely cover and protect the electronics from the grinding dust.
- I chose to just cut this off to what I need for the motor.
- You can also cut off the 5 ½” and then put a 90 degree bend in the sheet metal right at the point of the two screw holes. Bend the sheet metal towards the back of the machine. My skills made me decide not to try that.
- I felt I would have to remove the sheet metal completely which would involve removing all of the electronics from the sheet metal. I also felt I couldn’t get a clean bend without a press brake.

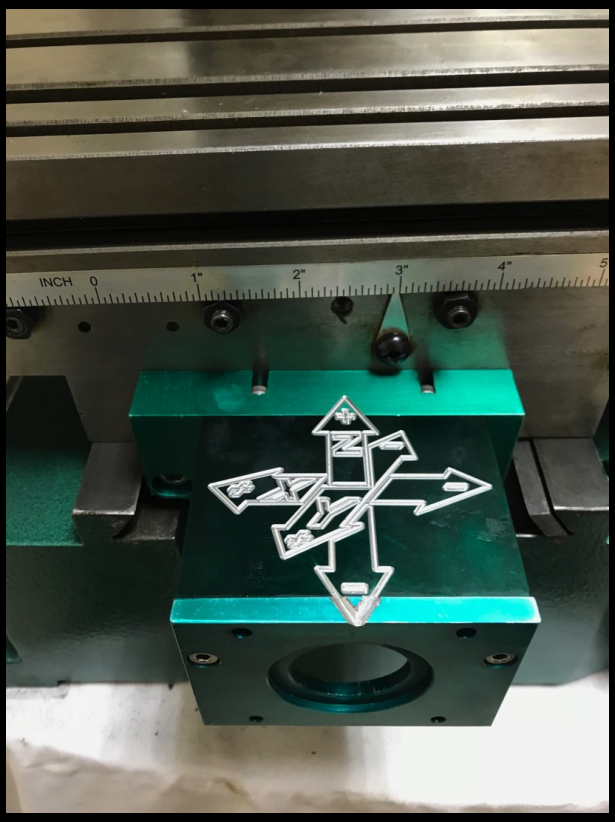
You will also need to cut out a piece of the L bracket that holds the sheet metal. 21/2” will let the motor mount fit through to the back.

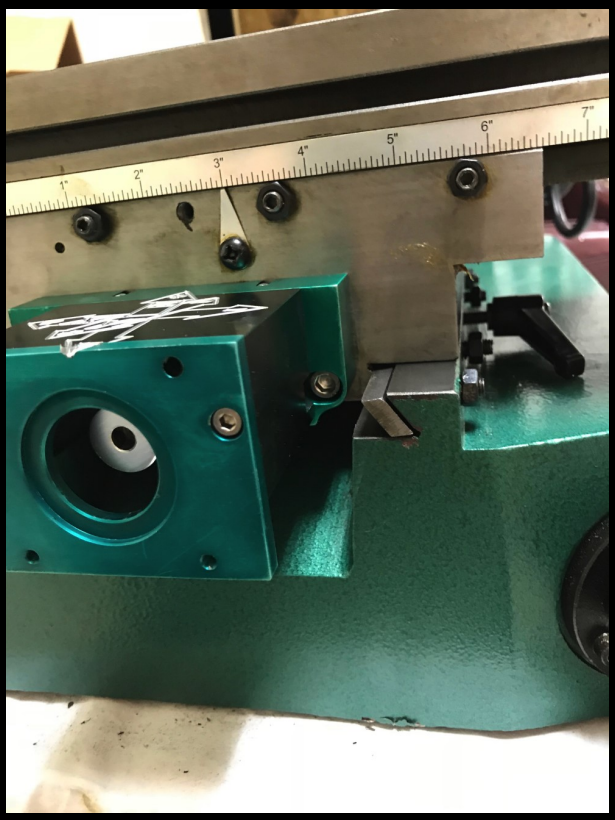
Now you can install the back cover and slide the motor mount through.
Do this before installing the motor.



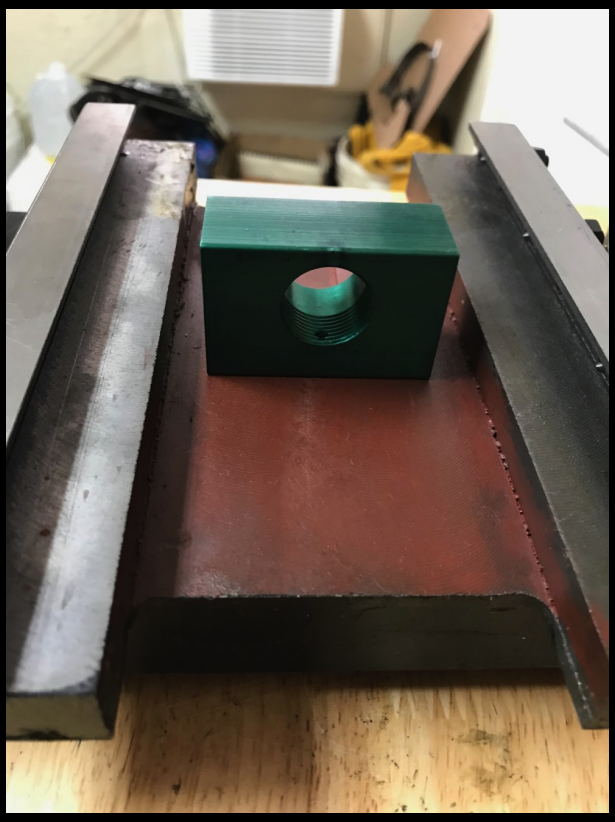
Now we can move on to the Y axis. Bolt the ball nut block from underneath the machine.

Slide the saddle back on and bolt the Y motor mount to the front.




1"
2"
3"
4"
5"
6"
7"

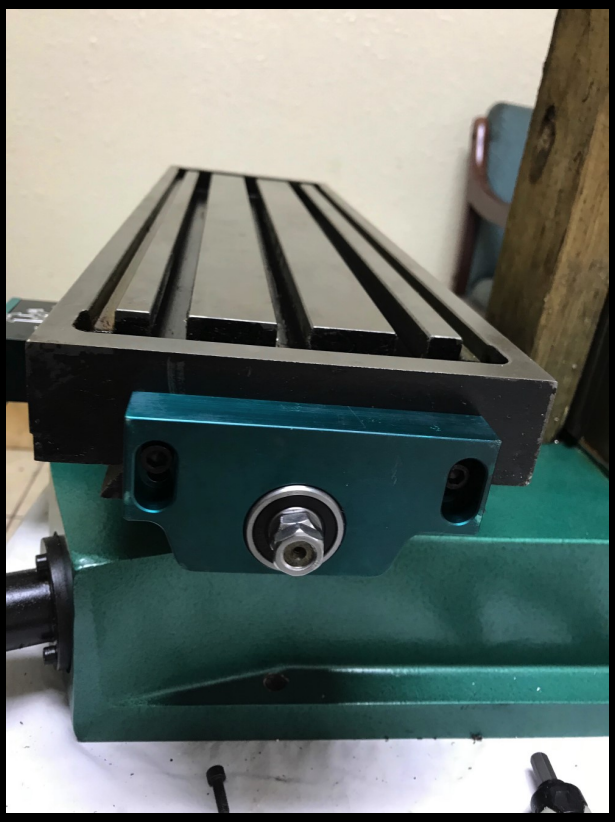
Bolt the X ball nut block the saddle before sliding it onto the Y saddle



Make sure the ball nut, and the threaded end of the ball screw are on the right hand side of the machine.

X motor mount

Bearing mount for right hand side of table.



- You are now ready for the electronics!