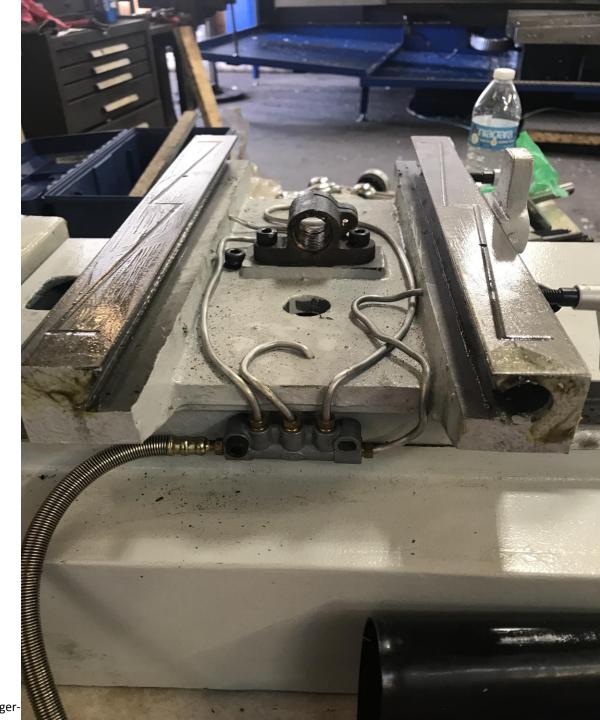
- You may have some clearance issues with the table. Some grinding or machining may need to be done. There may also be clearance issues with the ball nut block for Y. The slot in the base can be widened out remove any interference.
- This is a big, heavy machine. You will need some type of hoist for the Z axis motor and spindle. We don't recommend trying to do this without at least two people.

First things first. We will strip the machine completely down. You are going to take this apart until there is nothing left but the base.

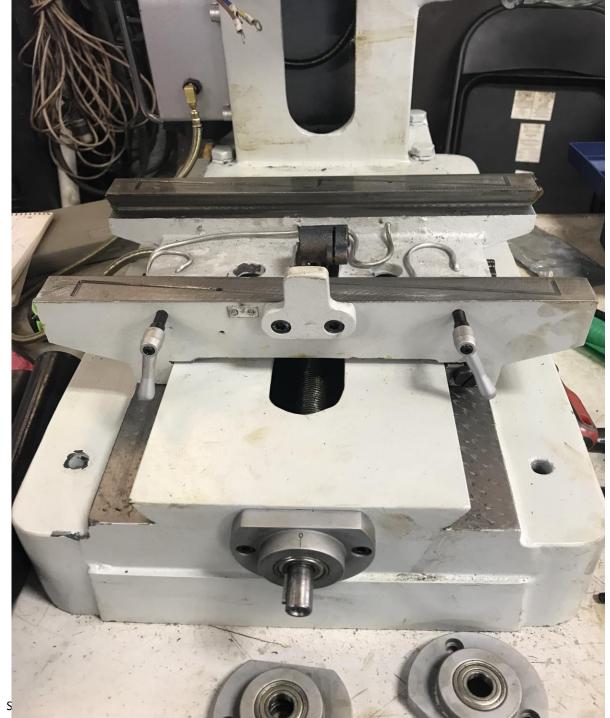


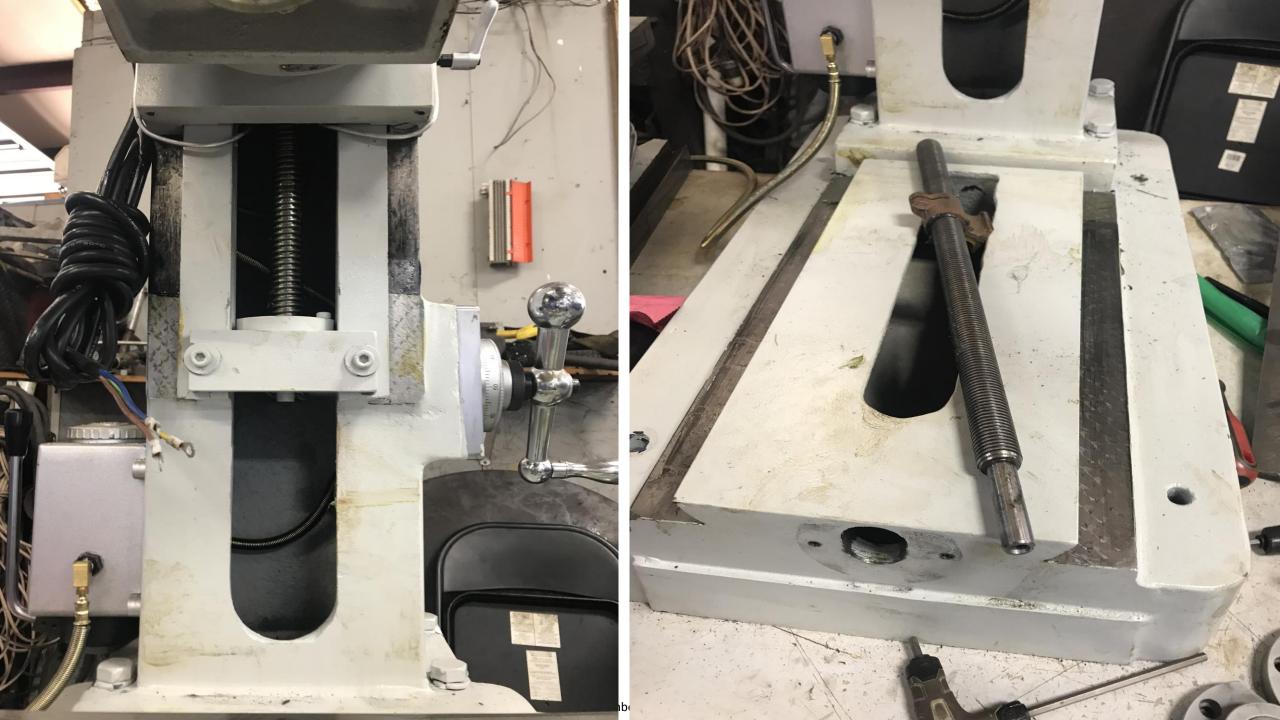
Schlumberger-Private













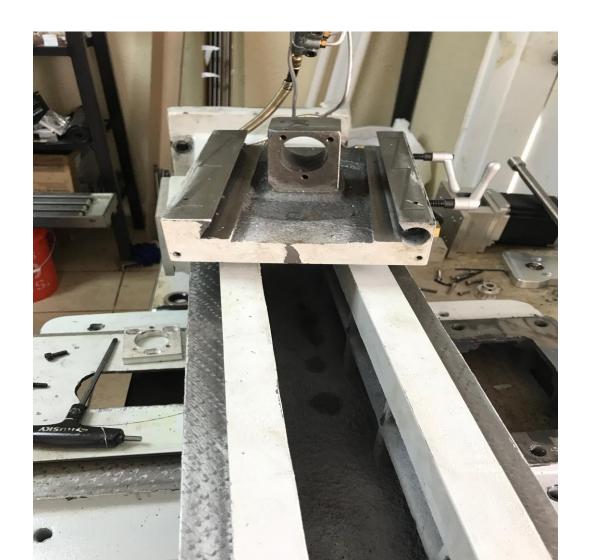






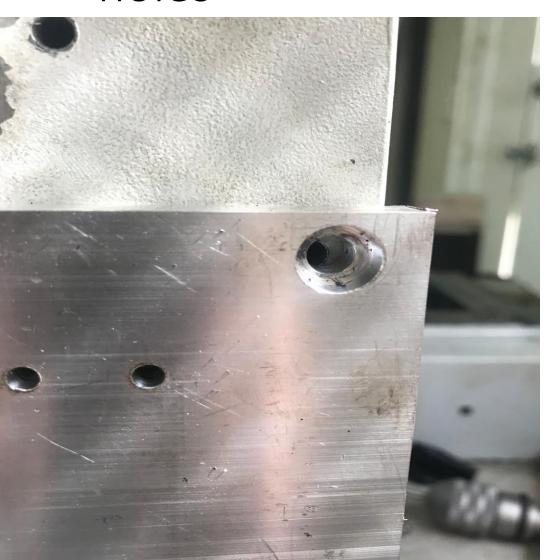


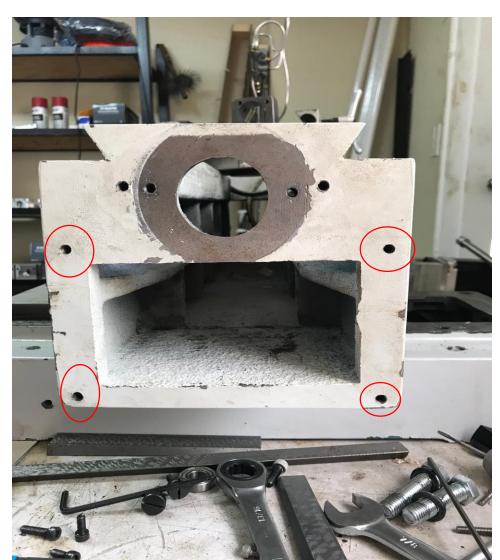
This is looking at the Z saddle. As you can see, we have taken the column off as well.



There is no trick to taking this apart. It must be completely taken apart. Including taking off the column. It has to be taken off to install the Z axis ball screw and ball nut.

Drill and tap 4 holes M6 X 1mm, On the top of the column. Use the base plate as a template for the holes





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## Drill and tap a M6 X 1mm hole on the Z ballnut block that is attached to the saddle.

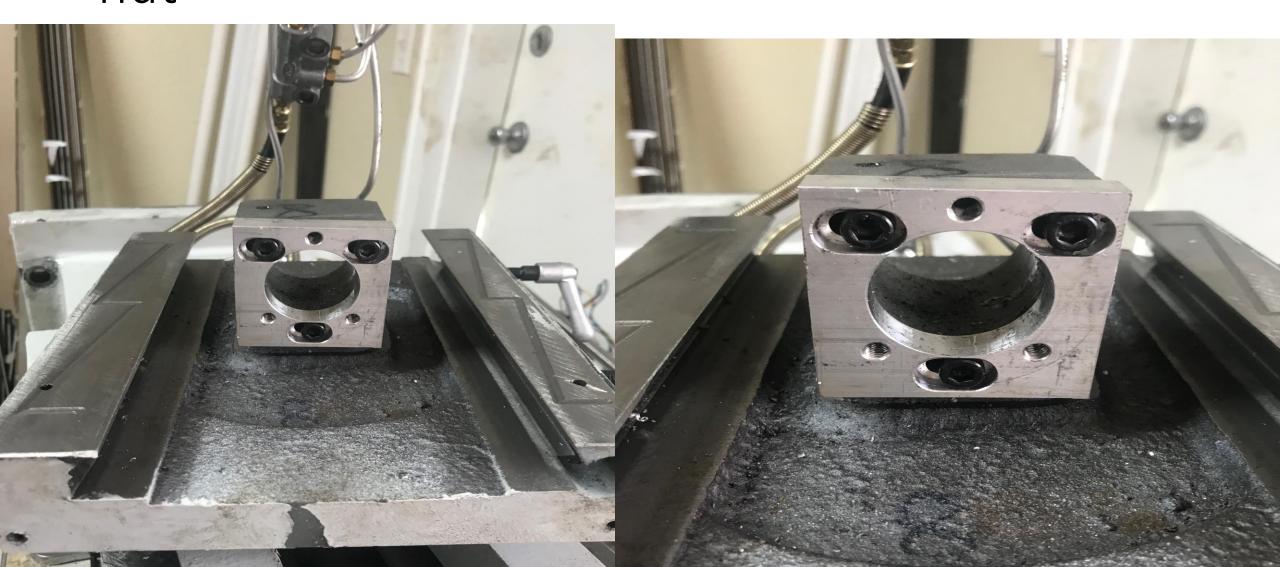




#### This is to bolt down the oil lines



## Attach the flange for bolting down the ball nut



Attach the oil lines to the block using the tapped hole you just created.



Move the ball nut down to this position for the Z ball screw. This is the bottom of the screw



# Bolt down the ball nut to the aluminum flange. It bolts down with 3 cap screws





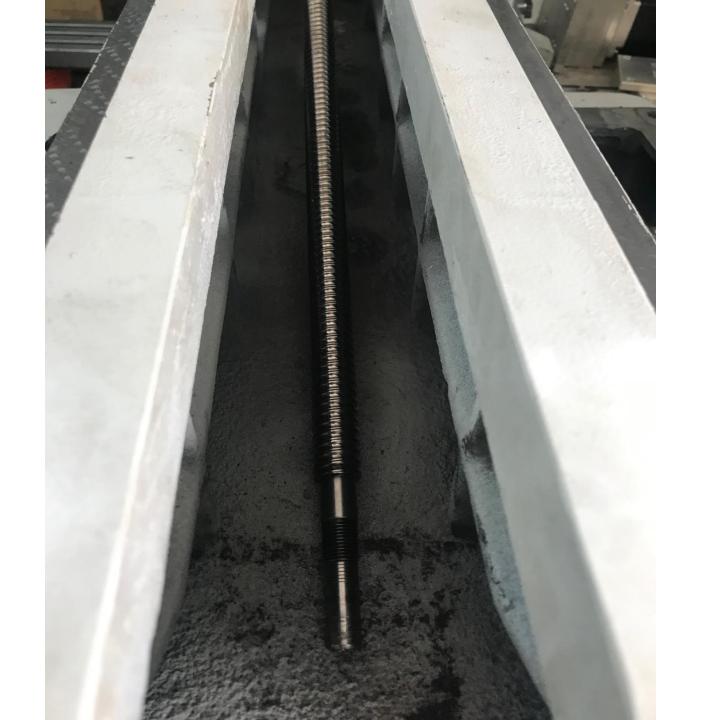
The one free oil line will go into the tapped hole on the ball nut. Be sure to position the ball nut accordingly



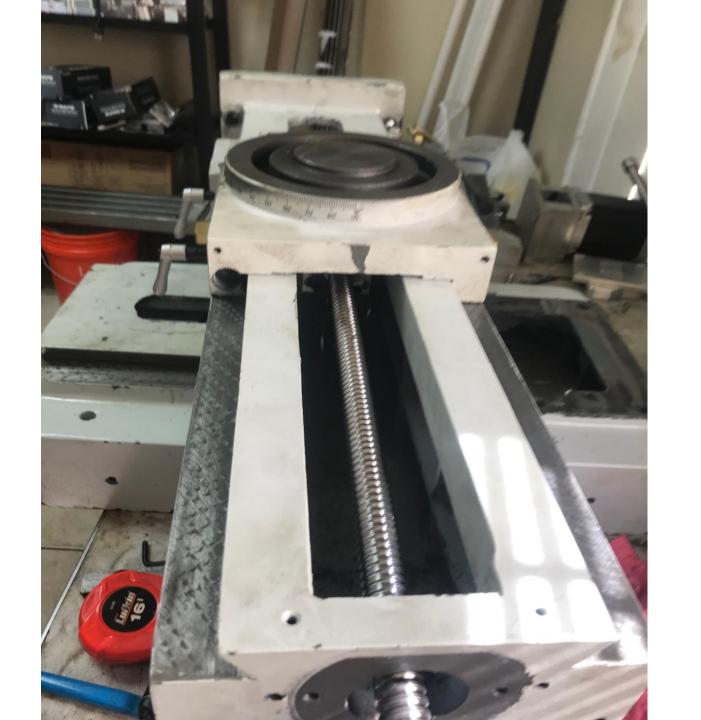
Now you slide the Z saddle onto the ways. It just barely fits. You could also grind away the corners at the bottom of the ways just a bit if it doesn't quite fit.













#### Put the gib back on and tighten it up.



Bolt on the bearing block and tighten the jam nuts Now is a good time to check alignment, and get everything sliding back and fourth smoothly. It's easier to do while the column is laying down on

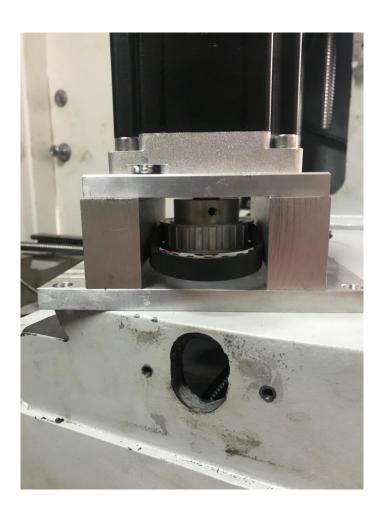
the bench.



### Pick up the column and bolt it back on



#### The Z assembly for the top of the column





The motor plate is slotted for tightening the belt. We had to use a timing belt due to the location of the ball screw. It is so far forward it would cause interference to try and make it direct drive.









## Now move on to the Y axis. Slide the ball screw underneath the base







## Slide the saddle on to the ways



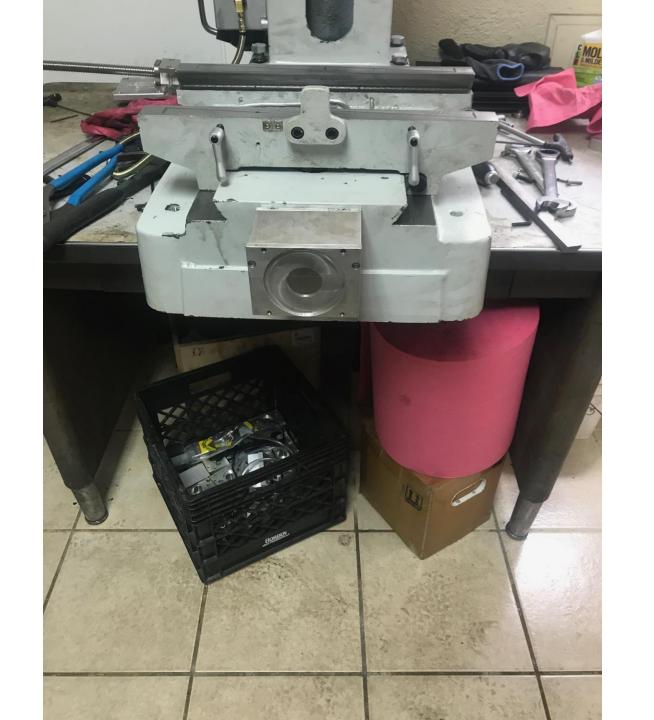
Bolt down the block with this cap screw. We had the front of the base off the bench to get a hand underneath to line it up.



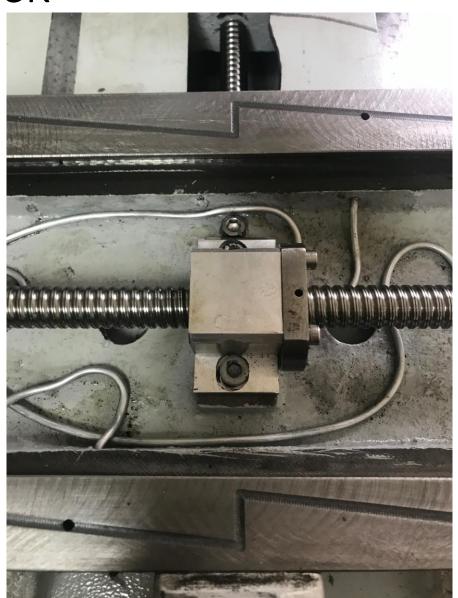








## X ball nut block



## The motor mount will install to the right

