Scales on my RF30 Mill/Drill

By R. G. Sparber

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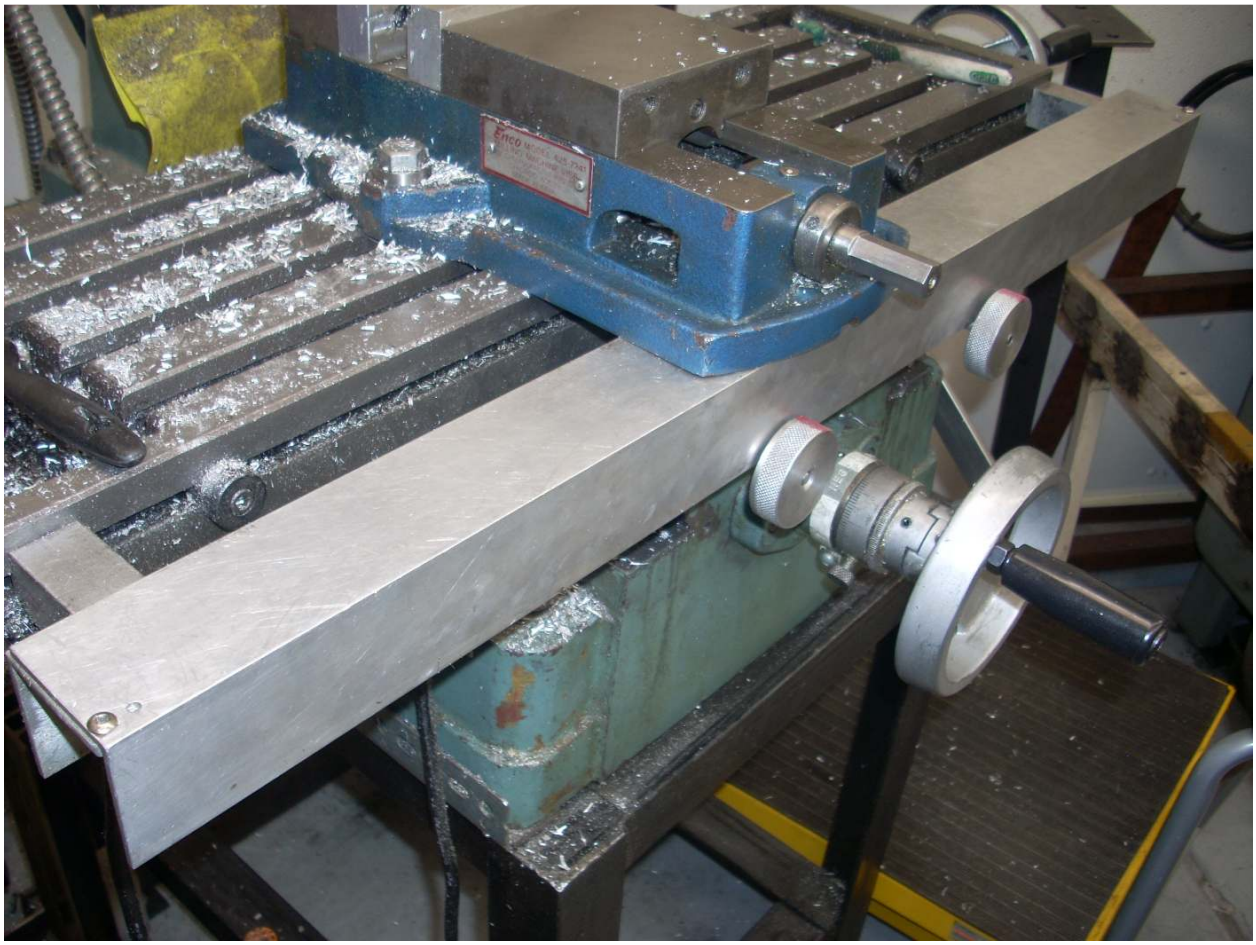

The X axis scale cover is formed from two lengths of thin extruded aluminum angle pieces. Note that only 2 screws are used at the ends to hold the top cover in place. The gib locking screws were extended out beyond this cover and knurled knobs added.

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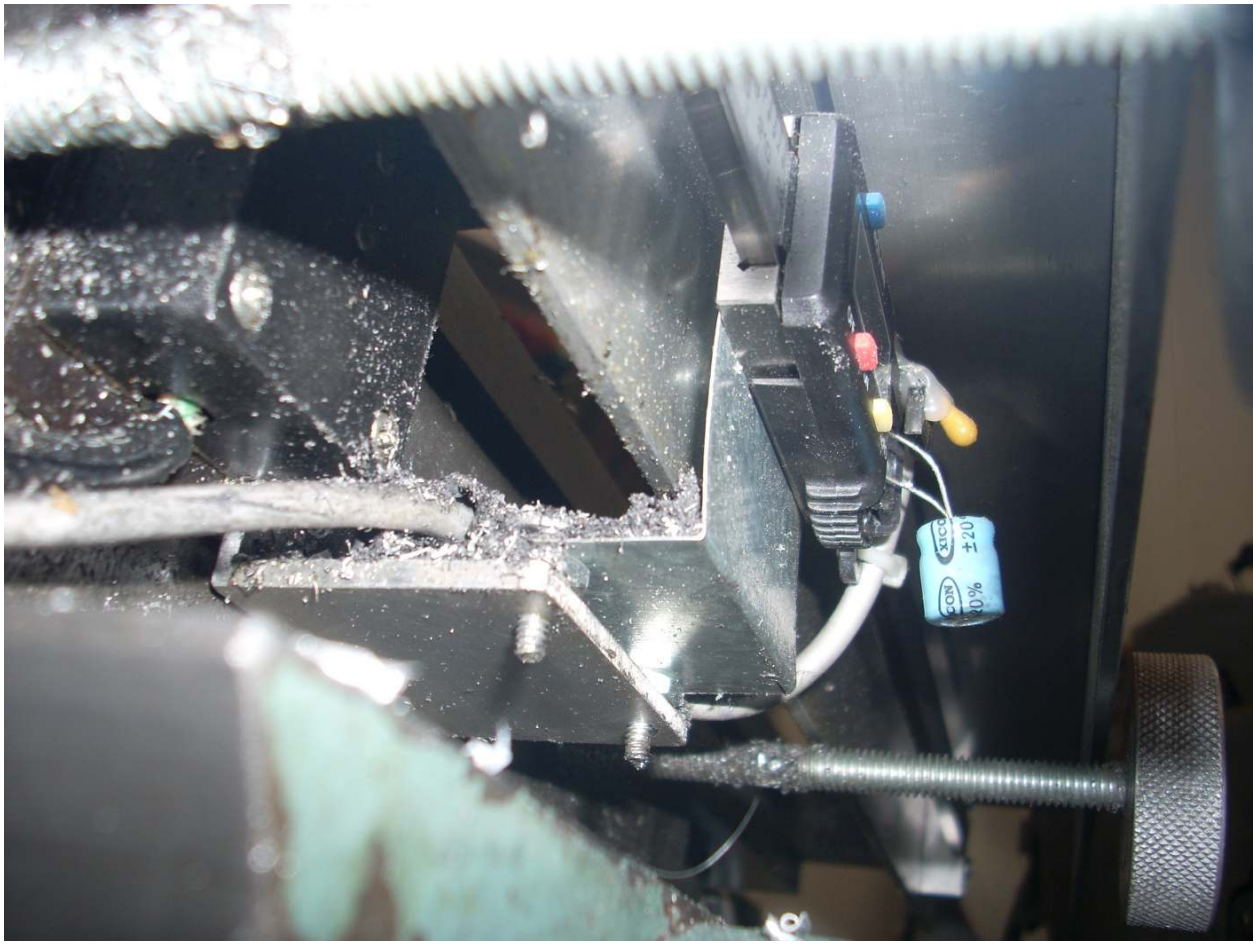
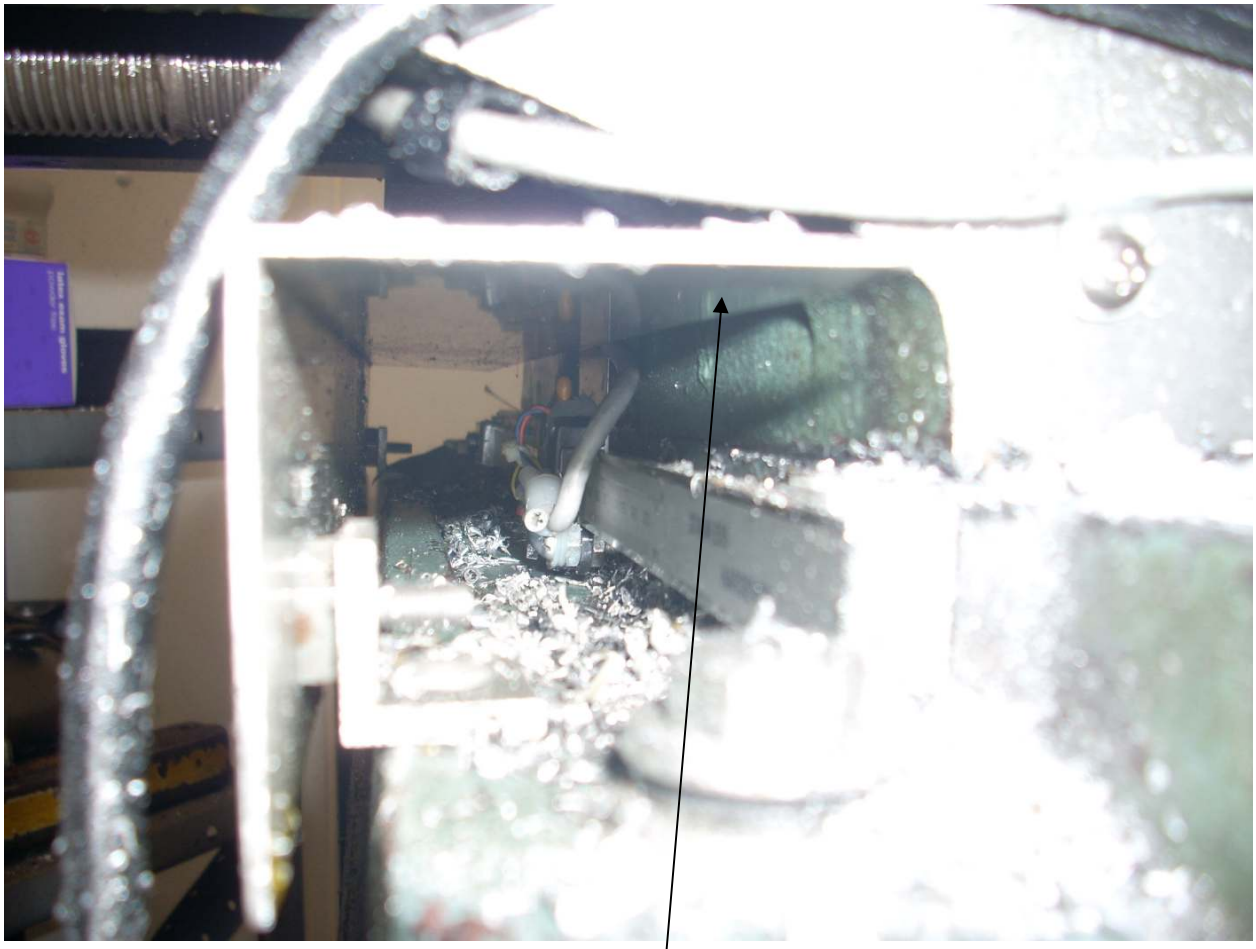
This is a picture of the inside of the X axis cover. That blue square is a filter cap just hanging out from the slider. No swarf gets up in there so it has not been a problem.



This is a close up of how the X axis slider connects to the base. The body of the scale with its cover is bolted to the table. That bent piece of sheet metal prevents binding of the scale by permitting Y axis movement without any X axis movement. Sure there is a lot of swarf on the sheet metal but the slider is clean.



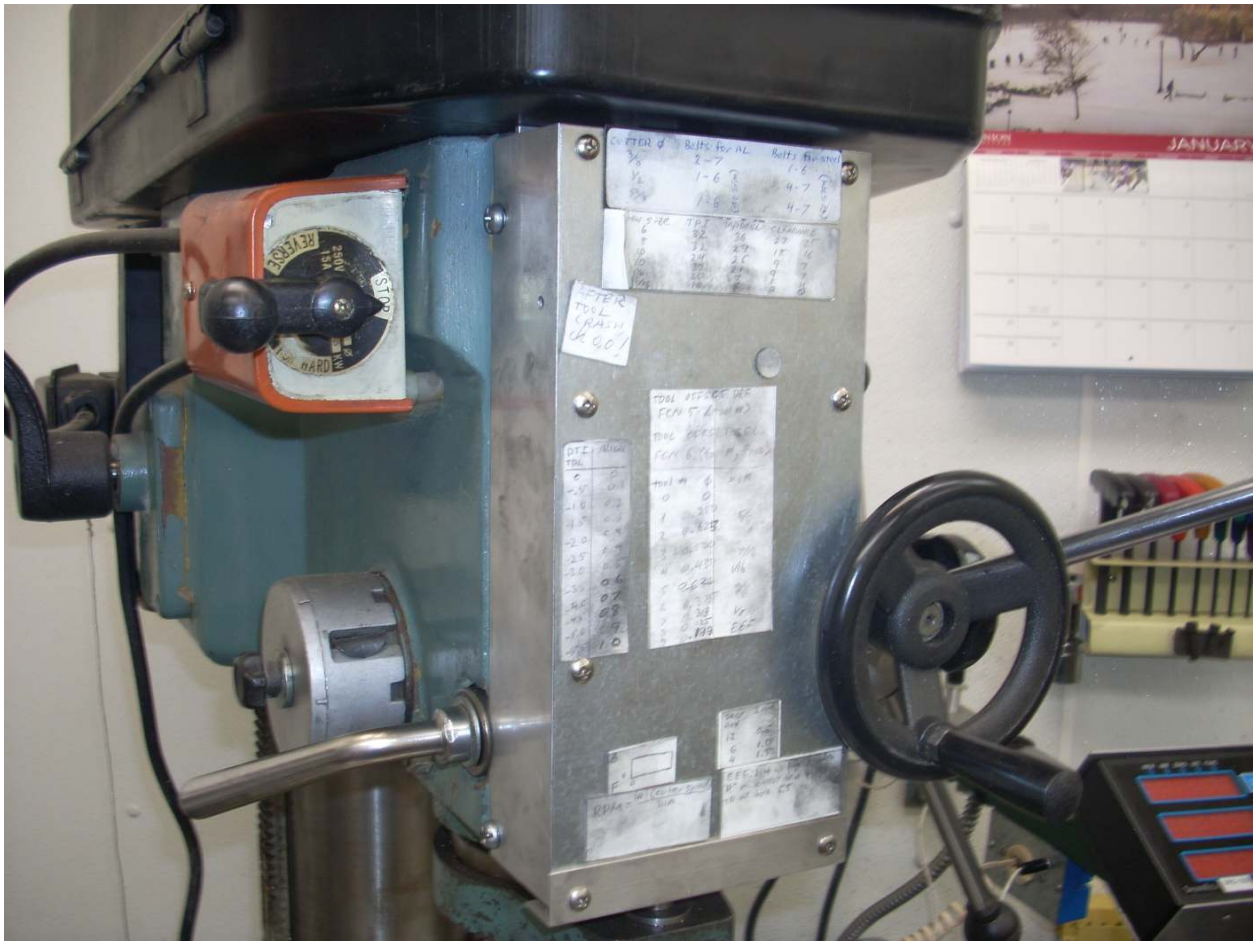
This is the Y axis.

The body of the scale is bolted to the base.

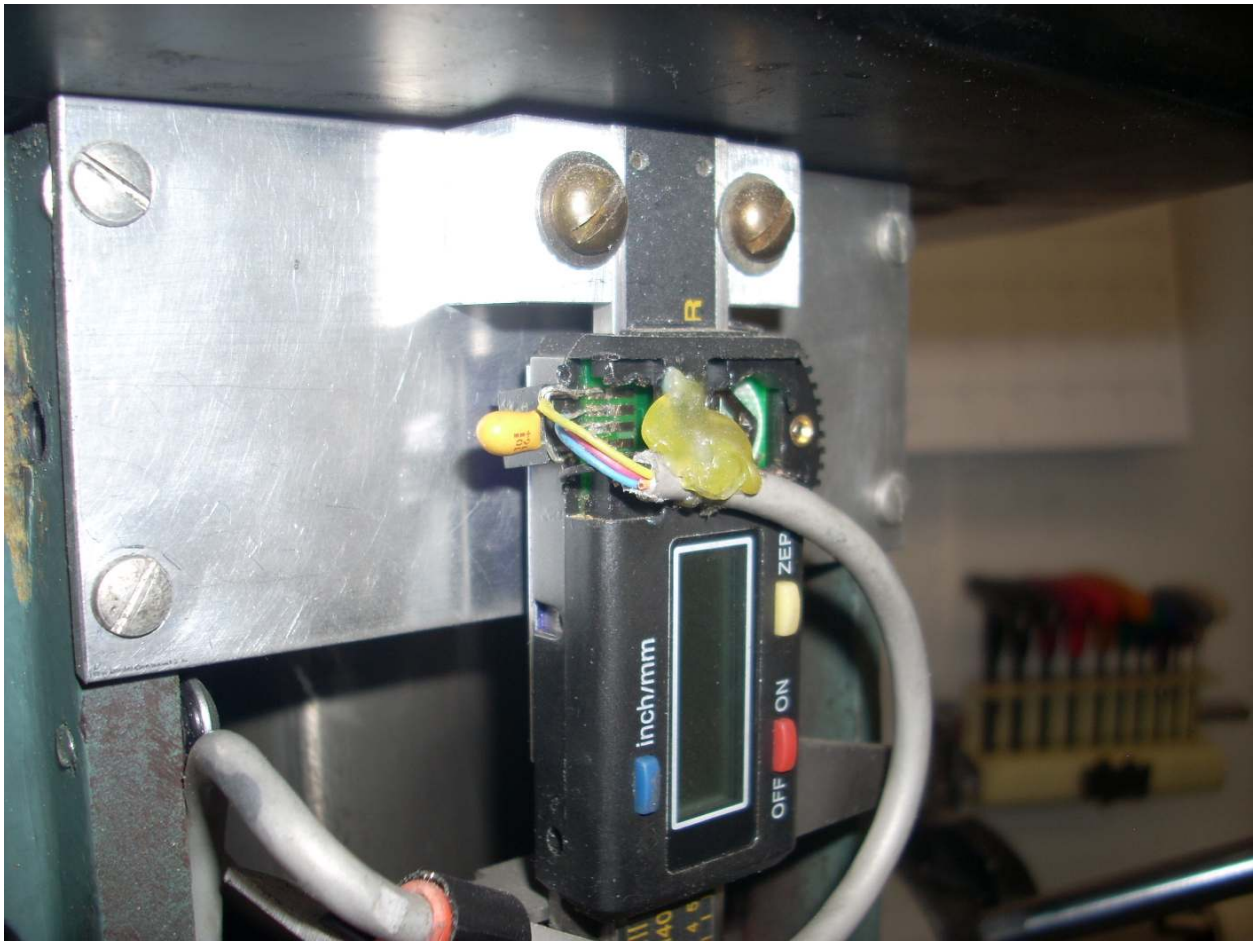
The wire from the slider exits out the top.

You can see the wire exiting better here. Lots of swaf has gotten in there over the last 4 years yet none of it on the slider.

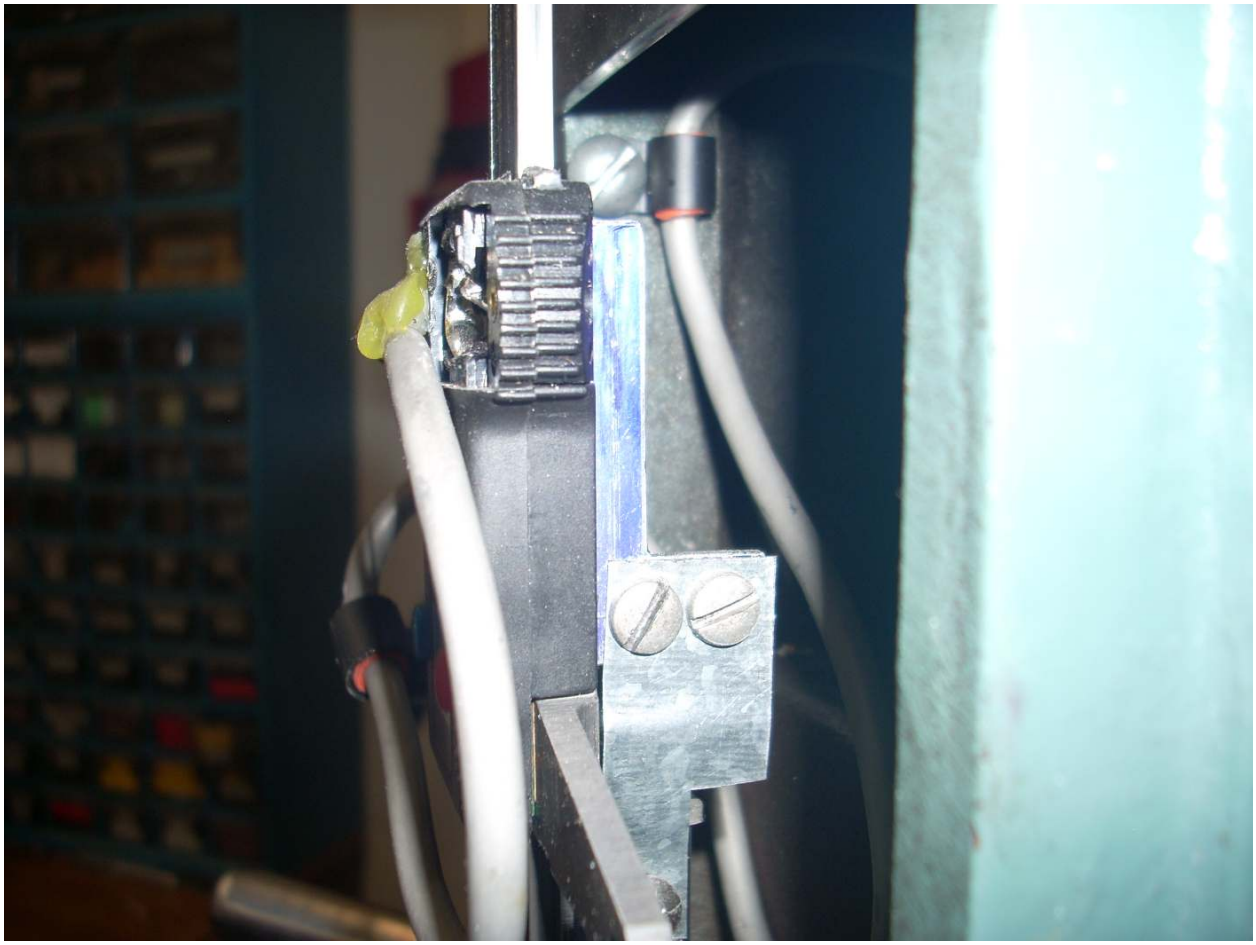
The aluminum angle is held onto the base with those blocks on the left. It is a little hard to remove because I have so little room on the side of the mill.



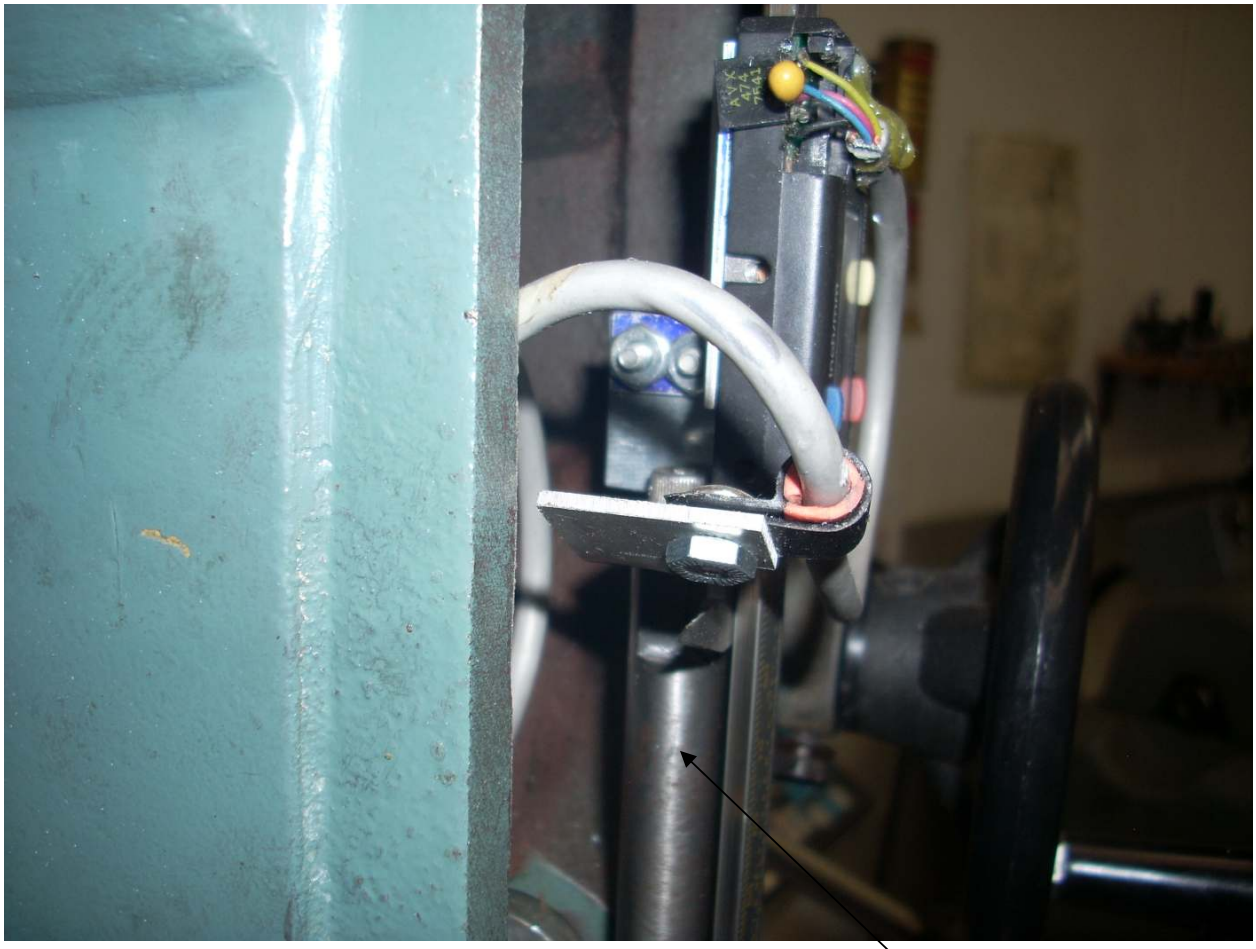
The Z axis scale is behind this cover. I stick notes on the face with stickers attached to bits of that soft magnetic material.



With the cover removed, you can see the scale attached at the top. It hangs down and there is no support at the bottom.



This side view shows the strip of sheet metal that connects the slider to a vertical rod which is shown next.



This is looking at the slider from the other side. The rod is here.

The rod is bolted to the spindle bearing support, extends through a hole in the head casting, and up to the slider. You can also see the bottom of the scale hanging unsupported. I didn't bother to cut off the jaws of the scale (well, it is really a caliper). It is all hidden by the cover.

I hope this little tour is helpful even if it shows you what ***not*** to do.

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