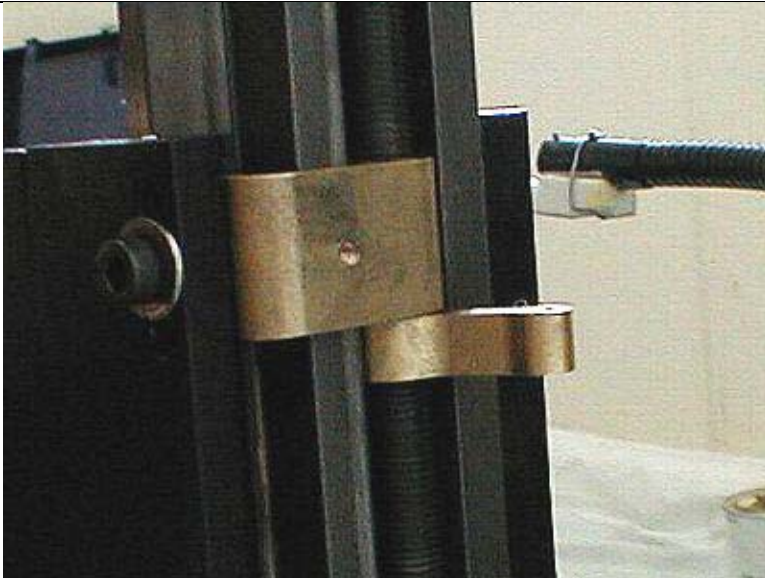


TIP 26 — Z-Axis Backlash Adjuster/Tauseef Tahir

Tauseef converted his Sherline mill to CNC. He found the lack of an adjustable backlash nut a problem on the Z-axis and set about to find a way to control it. He found that by reorienting the Z-axis locking lever in relation to the saddle nut and controlling the distance between the two, he could effectively adjust the amount of backlash. Here is how he did it (Four steps):



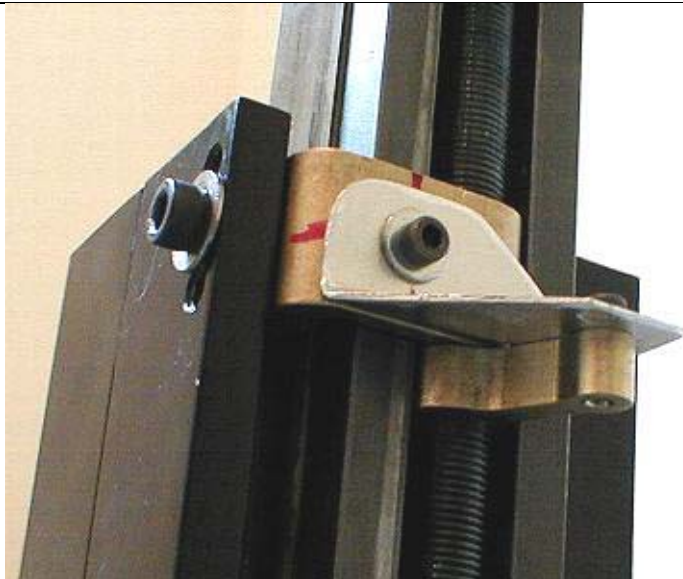
1

Tauseef says: I finally figured out a simple way to control backlash. First, drill and tap two holes, one in the saddle and one in the nut (length wise). The nut has to go on upside down for this setup. The indentation for the “ball” that fits in to lock the manual mill faces up. I also put the nut on the bottom of the saddle so it doesn't unscrew when the Z axis is at the top.



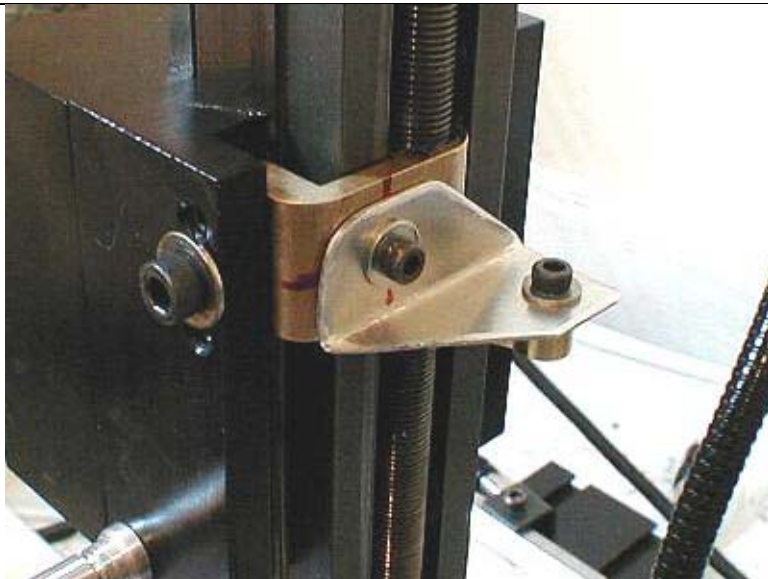
2

Bend a piece of aluminum or steel to make a bracket. Drill two holes that are LARGER than the bolt you plan to use for full adjustability. I drilled/tapped for a 3 mm bolt. Here is the setup so far.



3

Here is an underside view of the entire assembly. Move the nut to compensate for backlash and then tighten it down. That's it!



4

Top view of adjustable Z-axis backlash. Please note, this same setup works on the lathe except you have to grind the nut lever just a little.

NOTE: Since this tip was first published, Sherline has introduced its own Z-axis backlash control system. See www.sherline.com/4017z.