# TIP 64—A Lathe Table Lock/Vince Pugleise

Vince was looking for a way to mount a locking screw so he could keep the lathe table from moving during cuts when using the compound slide or doing milling on the lathe. He looked at where he could drill holes in the saddle for mounting. As soon as he saw Sherline's follower rest P/N 1090 it was obvious what the easiest way to mount it was. Sherline's method required no holes be drilled in the lathe—just a special piece that clamps onto the saddle. Once that was revealed, the rest was pretty easy. He started with a block of aluminum 1-3/4" x 1" x 3/4". After squaring all sides following the procedure in Joe Martin's book ***Tabletop Machining***, he drilled and tapped the holes next. This gave him more flat material to clamp to, and the ends of the threaded holes were cleaned up later with a slight chamfer.

Here's how Vince made the clamp.
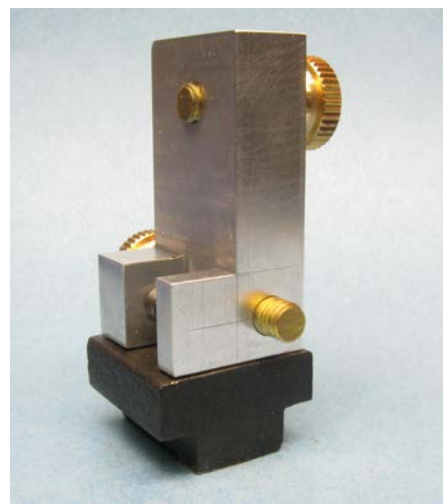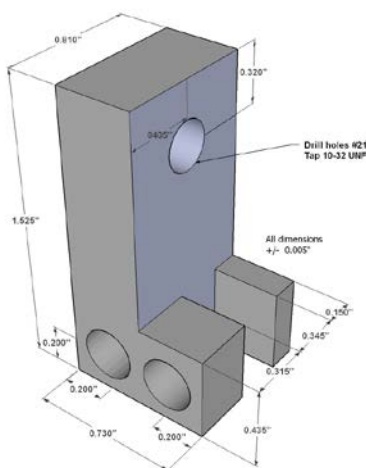
The first drawing shows the dimensions, while the other two show the finished parts. The knurled brass knobs on the attachment screws are a professional touch. They are bonded to the threaded brass rod using Locktite permanent liquid adhesive. The knobs are available for use on electrical contact posts if you don't want to make your own. Brass is used to keep from damaging the surfaces of the bed and table.
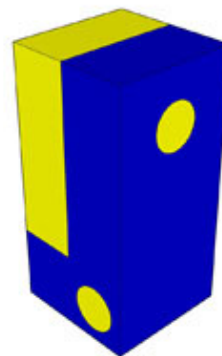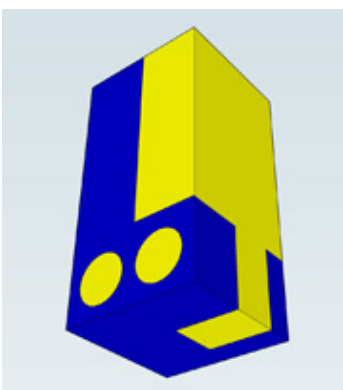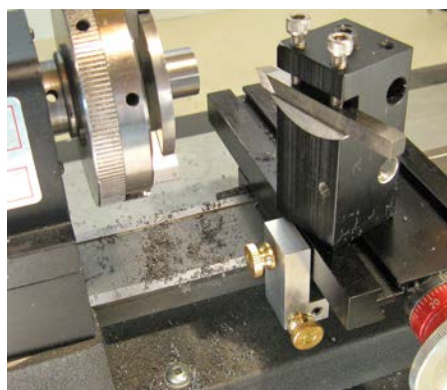
The finished lock is clamped to the front flange on the Sherline lathe saddle using a set screw The lower brass nut locks the saddle against the bed to secure the Z axis. The upper brass nut locks against the side of the table to lock the X axis. The lock can be left in place, as it does not interfere with other operations when not needed. To make it easier to visualize the part, Vince did these CAD drawings. Blue represents the part while yellow shows the metal to be removed.

A "No Tools" Method of Locking the Lathe Z-Axis/Bill Chan

Plus related tips regarding cutoff operations

The importance of immobilizing any play (backlash) of the lathe carriage is evident when performing cutoff operations. Locking the X-axis is easily achieved by calling on the help of the tailstock. Once the tool is at proper location along the lathe ways, push the tailstock up against the lathe carriage. Use a finger to push the lathe carriage towards the tailstock as added measure to ensure that the tailstock did not nudge the carriage to move due to backlash. Then lock the tailstock to the lathe bed. Now turn the X-axis dial to take up the backlash. The result is a locked carriage for proper cutoff operation.

A parting tip: The cutoff tool should never be setup by eyeballing. Use a 90° square to square the cutoff tool holder to the cross slide. Binding on the sides of the cutoff blade can cause it to snap.

—Bill