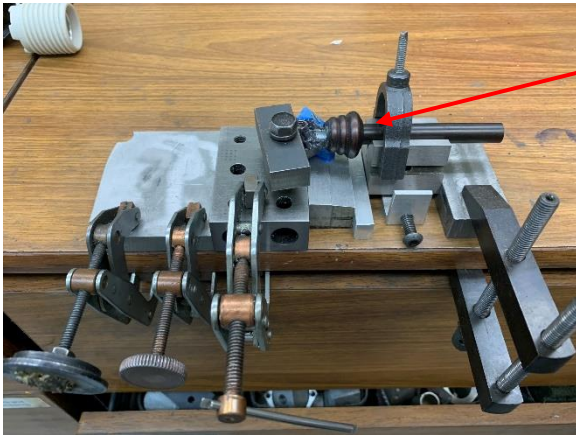# A Variable Height V Block, Version 1.1

By R. G. Sparber

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At the heart of this fixture is a piece of broken desk lamp.

The shaft broke off from the pivot cup.

After making a screw-in support, I needed to align the bits before floating in JB Weld. It was easy to clamp the pivot cup to a 1-2-3 block because it has a flat on it. No risk of getting epoxy on the block.

It was also easy to secure the shaft to a V block using the clamp that came with it.

The hard part was setting the V block to exactly the right altitude. Trying to find the correct combination of shims would be a quick visit to insanity. I needed a continuous variable adjustment.
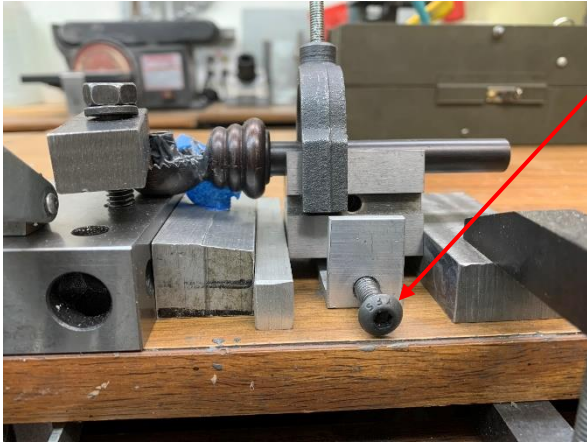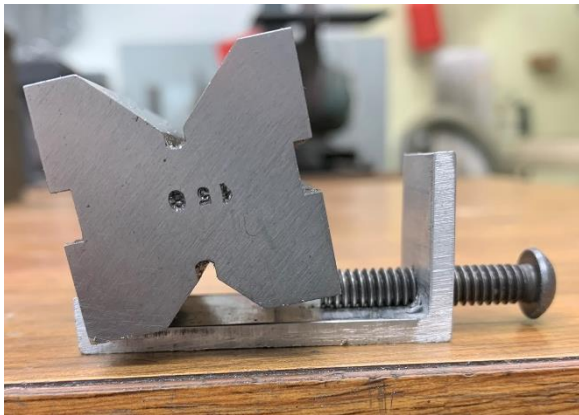
The solution can partially be seen here. Turning the button head screw pivots the V block which changes the altitude of the shaft.

It doesn't matter that the block is not horizontal. I just rotated the shaft to maintain orientation.

I get about 0.1 inch of height adjustment.

Nothing fancy about the attachment. It is just a scrap of aluminum channel cut down on one side and drilled/tapped on the other.

I drilled the tap hole by first laying down a piece of aluminum that was the same thickness at the channel. Then I rested the drill on top of this scrap and drilled into the vertical part of the channel. After applying the ¼-20 tap, I ran the screw in and it rested on the inside surface of the channel.
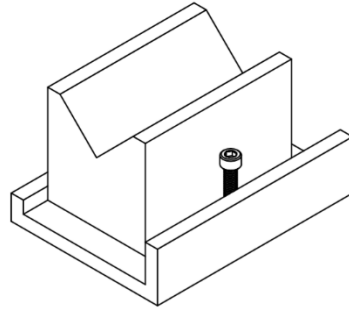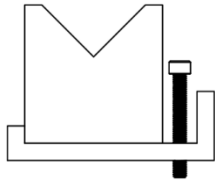
Karl Harnish suggested this improvement. Using the same materials and effort, his design provides a much greater range of heights. As the screw is advanced, the channel pivots which raises the V block. Well done, Karl!
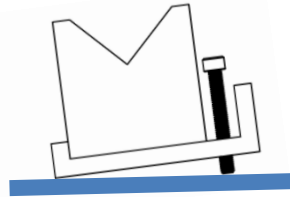
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Rick Sparber
Rgsparber.ha@gmail.com
Rick.Sparber.org