

Work Bench Leg Vise

by Harold Choate

After the April club meeting where I saw how useful a leg vise on a work bench is, I decided to build one for my work bench. My best source of ideas and information is YouTube so I logged on and found a number of different designs.



The type I chose uses the screw and baseplate from a scaffold jack for the mechanism to generate pressure against the table top. The scaffold lift acme thread screw was 24" long. I cut the plate off to use as the vise chop keeper plate. I cut the screw down to 19" overall. About 6" of the length is used in the hub, thru the vice chop and the work bench leg. This leaves 13" of usable opening for the vise. Both the existing vises on the table have an opening of about 7". One of vises is on the opposite end and side, the other is on the end of the work table but is on the opposite corner from the leg vise.



The left picture shows the vise screw and the guide rod. The guide rod is made of 1/2" galvanized pipe. It is a necessary part of the assembly. It keeps the vise chop from rotating as the handle is turned and helps keep the chop parallel with the stationary side of the vise. I'm not delighted with the way it the guide works. I had to add the eye bolt on the side of the leg to make the vise stay parallel when it is tightened. There is a piece of cherry wood that the eye bolt pushes into the pipe to make it stay in any given position. This allows the acme screw to tighten the vise onto the work piece evenly.

Finally, the rod guide bearing shown is made of oak that sandwiches 2 plastic bearings inside it. I had hoped the thickness of the work bench leg would be sufficient to guide the vise chop but that didn't work out. Without the length of the guide the vise has a very choppy motion particularly when being opened. The cross grained sections of the guide are bored out over size so they don't contact the rod. The face grain and the plastic bearings plus a generous application of grease make it operate smoothly.



I'm looking forward to using the vise. Its location and opening capacity will come in very handy I'm sure.