

TIP 89 — A Non-CNC'ed Drawbolt Pusher Tool/Russ Cupan

Machining a Spindle Drawbar Remover Tool on a Manual Mill

This tool is inspired by an idea submitted by Colin Dyckes as shown in [Tip #33](#) (click the Tip link to see Colin's original submission). For those who don't have CNC equipment, but like the idea of Colin's tip, here is a way to manually machine a tool that operates the same way. This part offers another take on the best way to remove a collet or chuck from the spindle without hammering on the drawbolt.

These two plates are held together with three 8-32 X 2" cap screws that pass through the top plate, through spacers 1/4" O.D. X 1" long that are drilled through with a #17 drill, and finally threaded into the bottom plate. A 1/4-20 X 1-1/4" long SHCS is used to complete the tool. A 9/16" I.D. split collar is fastened to the spindle, just as Colin came up with. I found one at a local hardware store. I have been using this tool for a while to test it's performance and have had no problems with it at all. I made mine from aluminum and it has proven to be strong enough for the job.

Thanks for your time,
Russ Cupan

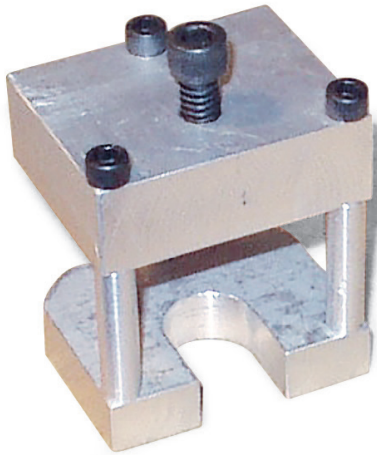


FIGURE 1—Finished pusher tool

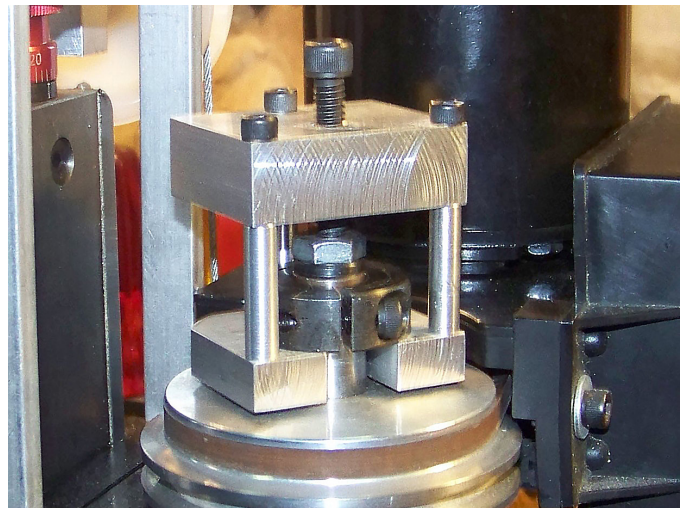
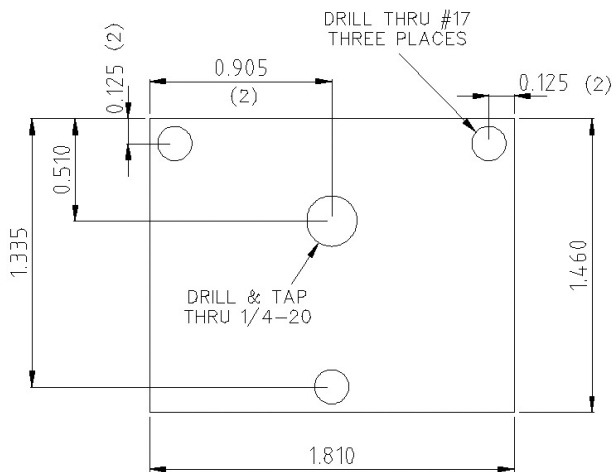
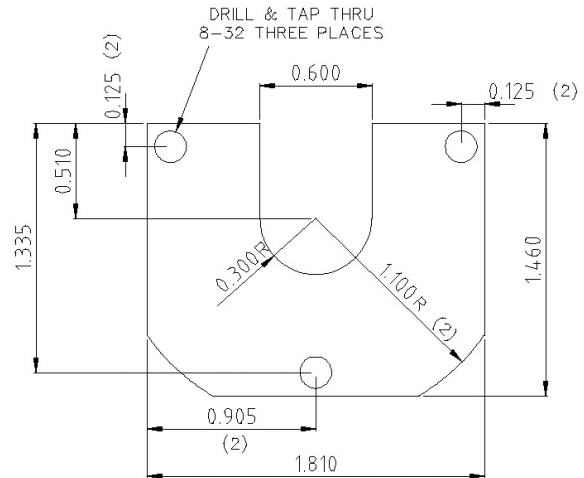


FIGURE 2—Pusher tool in place with the split collar fastened to the spindle



TOP PLATE 5/8" THICK

FIGURE 3—Top plate diagram



BOTTOM PLATE 3/8" THICK

FIGURE 4—Bottom plate diagram