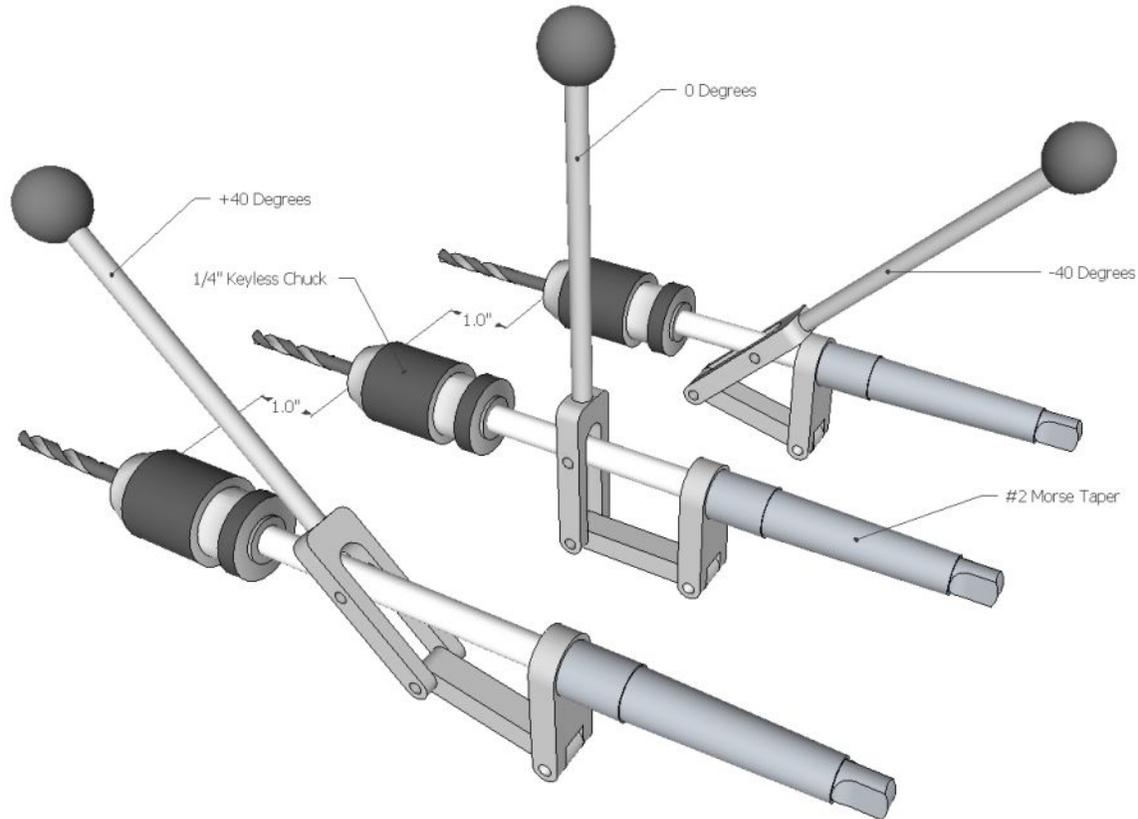


## Quick In&Out Drilling Actuator

By Dick Kostelnicek

Drill down more than five times the diameter with a helical bit and you encounter problems associated with deep holes. Cuttings are reluctant to spiral up the flutes and often get impacted just above the cutting edges. Over heating at the tip can destroy the bit's cutting ability. Finally, maintaining lubrication becomes a chore. We deal with such problem by *pecking*. That's where you drill a short distance, withdraw entirely from the hole, brush cuttings from the flutes, cool the tip, and re-lube the bit. Then, it's down for another bite.



*Pecking* can be a long arduous process. Recently, I drilled a 4-inch deep D-size (0.246-inch) hole from my lathe's tailstock ram. Eventually, each peck advanced just 1/10 inch. As my lathe's ram travel is short of 4 inches, I eventually had to unlock the tailstock's hold down and slide it back to clear the chips after each peck. Once again I promised to build a Quick In&Out Drilling Actuator for my lathe. This time, however, I turned promise into product.

I've had the plans, really a photo and a sketchy drawing, for many years. I've forgotten who put me on to it. So, if you recognize this tool and know its designer, give me a shout so I can give him / her full credit. I designed it to have a 2-inch throw and fitted it with a 1/4-inch keyless chuck. It works better than I could have imagined. If you're familiar with this *pecking* problem, you'll immediately see the merits of this tool.

The Tapered Base fits my lathe's Morse tapered tailstock socket and is made from a reworked #2MT - to - #3JT drill chuck arbor. Don't forget to drill a trapped air relief hole in the tang of the arbor. Short #5-40 set screws secure the three Pivot Dowels. Use Locktite adhesive to fasten the Back Support to the Tapered Base. I made the Fulcrum, Link, Back Support, and Ball atop the Handle Rod from aluminum. The rest is steel.

