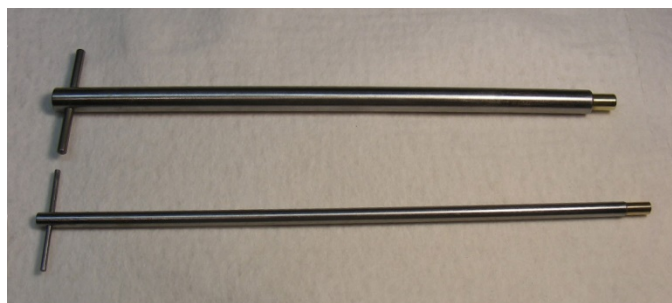


## TIP 60 — Clock Key Tap Holders/Jerry Kieffer

Keeping taps perfectly aligned with a drilled hole assures that you will cut straight threads and also that you won't break small taps. Jerry Kieffer of DeForest, WI came up with two ways to use the spindle on his Sherline mill to guide a tap handle. Square shanks on taps can be sized to the square holes in various clock keys available from clock repair suppliers. Most taps you use will come in size ranges that use the same size square shank, so only a few handles can cover a broad range of tap sizes.



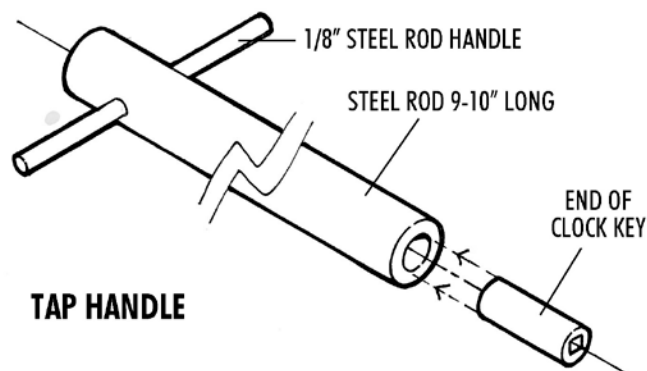
Two different size tap handles are shown. The top one is 13/32" in diameter and fits inside the Sherline spindle itself, while the smaller one at 1/4" diameter is for use with a WW collet holder. Fitted into the end of each shaft is a cut-off clock key providing the square hole for the end of the tap. (The apparent curve in the shaft is caused by the wide angle lens.)

Materials used: 9-10" length of 13/32" steel rod (1/4" rod for smaller holder), 2-4" length of 1/8" steel rod, old clock key with square hole in end to fit your tap

### Making the tap holder

1. Find or purchase a clock key with a square hole for the size tap you wish to use. Cut off a portion of the key shaft and turn the outside down to a size smaller than the shaft.
2. Drill a hole in the end of the 13/32" or 1/4" shaft and bore to accurately fit the end of the clock key you turned down.
3. Press the key shaft into the hole. If not a tight fit, use some Loctite® to hold it.

4. Cross-drill a 1/8" hole through the other end of the 13/32" or 1/4" shaft.
5. Slip the short length of 1/8" diameter stock through the hole to act as a handle to turn the tap.



### Using the 13/32" tap holder

1. Slide the tap holder through the Sherline mill spindle.
2. With the tap centered over the drilled hole you wish to tap, use the handle to twist the tap tool to cut threads.

### Using the 1/4" tap handle with a WW collet drawbar

1. Place a Sherline WW collet drawbar in the spindle.
2. The 1/4" diameter tap handle is slipped through the hole in the drawbar which acts as a guide for tapping.

### Notes from Jerry Kieffer

If you don't have any clock keys lying around, [Timesavers.com](http://Timesavers.com) offers a large selection on their site (enter "clock key" into the search field). Jerry notes, "When using WW collets, projects tend to be smaller. The square ends on taps are various sizes depending on the tap size and manufacturer; however, the ends of taps 6-32 and smaller tend to be generally all the same size from any one manufacturer. For example, 0.110" square is

*Continued on Page 2*

common. These are the sizes generally used for small projects where one may use WW collets and the collet drawbar. On the other hand, 8-32 and larger taps tend to have a larger square end depending on the tap size, but again can be the same size up to 12-24. Sizes 0.125" and 0.150" square are common for these taps.”