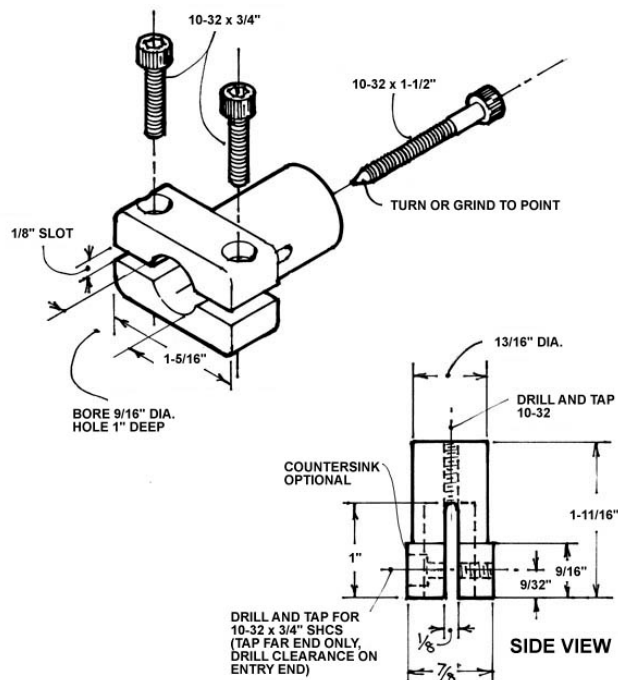


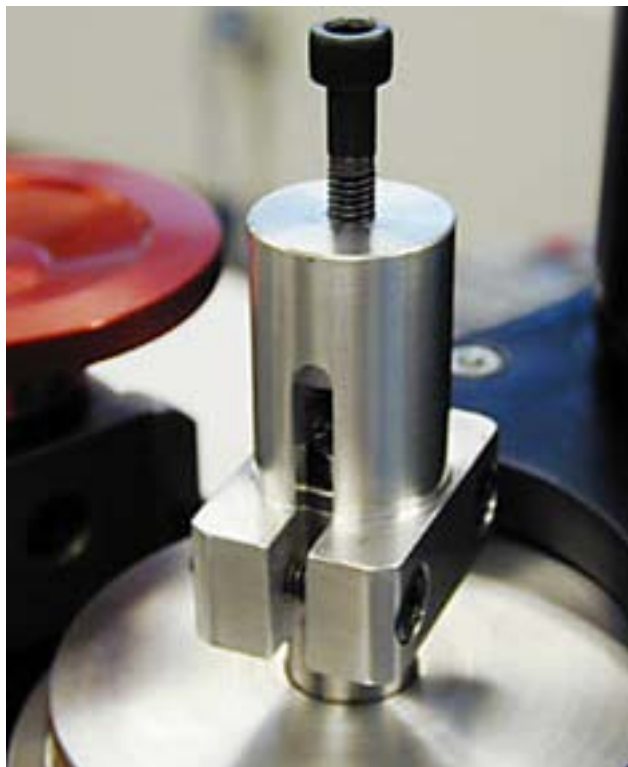
TIP 15 — Another Two Ways to Remove Tapers from the Spindle/ Norman Gajewski, Guiseppe Sturiale and Milton Mills

This handy little device makes it easy to gently remove tapers from your lathe or mill spindle without tapping on the drawbolt and possibly knocking the headstock out of alignment. The drawbolt is backed off slightly, and then this fixture is clamped onto the end of the spindle. Tightening the 10-32 center bolt pushes down on the drawbolt, which pushes the taper out of the spindle. It also works on collets where the threaded remover in the previous tip won't have a surface to push against.

The drawing below gives you all the dimensions you need, but most of them are non-critical. The only one that needs to be pretty accurate is the 9/16" bore that fits the spindle shaft itself so that tightening the two screws causes it to grip the spindle shaft tightly. The countersunk holes for the heads of the tightening screws are a nice touch, but it would work just as well without countersinking the bolt heads.



ONE FINAL NOTE: If you are going to use this with the stock hex head drawbolts, the 1/4" bolts will work fine, but the 5/16" bolts used for mill collets will require that the points of the hex head be filed or ground off slightly so that they don't stick out past the spindle shaft so that this fixture can fit over the bolt head. What Norman did was to substitute a socket head bolt for the 5/16" hex bolt, which solved the problem, but if you don't have a socket head bolt of the proper size, just take a little off the points and you can use the stock bolt. Also, you might want to harden the point of your center screw, or it will become flattened when pushing on the hard bolts.



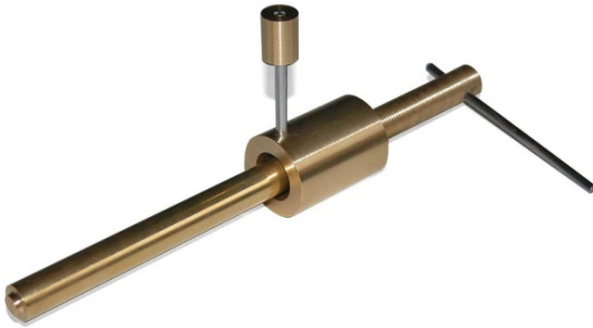
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**...And yet another way to remove tapered tools
from the spindle/Guisepe Sturiale**

Below is a photo of the collet remover I've just machined using solid round brass and 3 mm piano wire. The thread pitch is 1 mm. The pushing crank (rod) is 10 mm diameter and the capsule to be put around the spindle is 25 mm diameter, 40 mm long and internally threaded for 10 mm.

The short steel key (engagement pin) has been machined in order to perfectly fit the hole available in the spindle. (The one used to fit the first gear of the threading attachment.) The handle is 3 mm piano wire.

Guisepe Sturiale
Rome, Italy



Guisepe's nicely finished brass taper remover offers yet another way to push #1 Morse tapered tools out of the Sherline spindle. This one requires no screws to lock it to the spindle and could be installed, used and removed very quickly. It also gives you a chance to try out your thread cutting skills.

Stuck collet? Try this method/Milton Mills

Recently I had a stuck collet that refused to come loose. I was afraid I was going to damage the mill trying to remove the collet with the knockout bar. Since I am an electrical engineer, I used a can of "Insta-Freeze" to spray only the collet, which substantially dropped the collet temperature, thereby shrinking it in size. The collet came loose very easily with no damage to the spindle. Insta Freeze is used to spray circuit boards to find intermittent circuit problems by shrinking solder connections. This product or a similar one can be found at almost any electronic supply store.