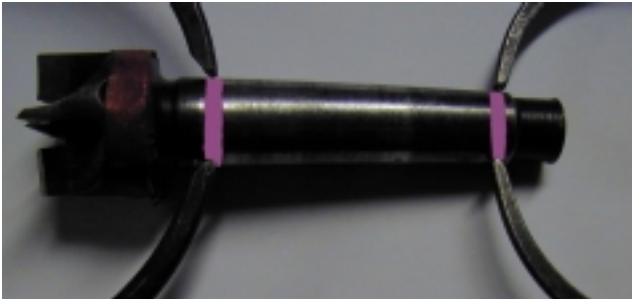


Turning a Morse Taper

Al Hockenbery - Intermediate Woodturning

A Morse taper of wood is a simple to make and is quite versatile for holding work on the lathe. One can be turned from a bit of seasoned hardwood (Maple works well) in minutes using a skew or small spindle gouge.



1. Use a Morse taper for a pattern. Mark two rings on the taper. Set a caliper to each diameter.

2. Turn a cylinder and transfer the two rings to the cylinder with a pencil line.

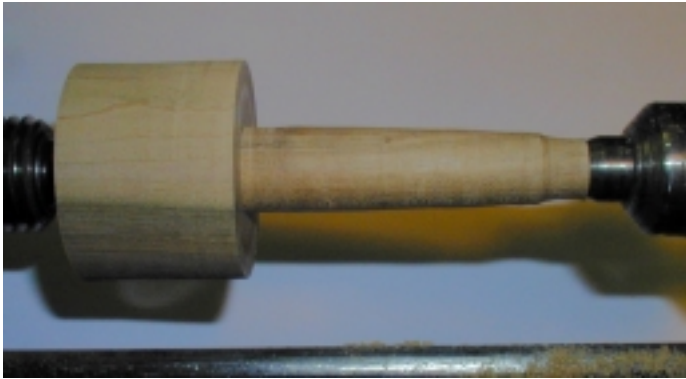
Note: there is ample wood on the left. This will be used to form the part extending out of the lathe's spindle



3. Part in to the two respective diameters. Make the relief cut to the smaller diameter side.

4. Form the taper by cutting a straight line from the larger diameter to the smaller diameter line. Sneak up on it by leaving it an 1/8 inch proud on each end and check with a straight edge.

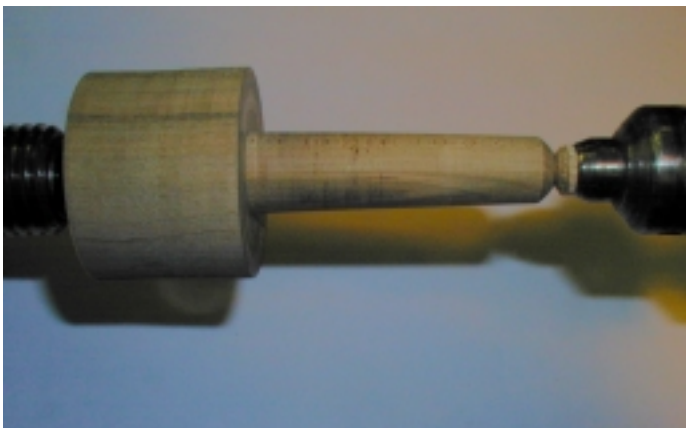




5. Refine the taper. Check it with a straight edge. Remove only the high spots. Favor too large over too small. Avoid a concave!

6. Test fit and turn the taper in the lathe spindle. This will mark the high spots with dark rings unless your spindle is quite clean in which case the high spots will be shiny burnished rings.

Turn away the high spots and repeat this process until there are no distinct high spots.



7. Round the end of the taper. This is especially important since it will prevent the Morse taper from splitting and mushrooming when you remove it with a knockout bar.

Never put a wooden Morse taper into a self-ejecting tailstock. You may have great difficulty removing it.

Wooden Morse tapers have been in use for hundreds of years. Mark St Leger's describes making and using a Wooden Morse taper in an AAW journal article: "turning a whistle", 15.2:18-21. They are especially useful for pin chucks or turning small pieces attached with CA glue. Wooden tapers are a lot cheaper than faceplates or chucks and hold extremely well in the headstock of most lathes.