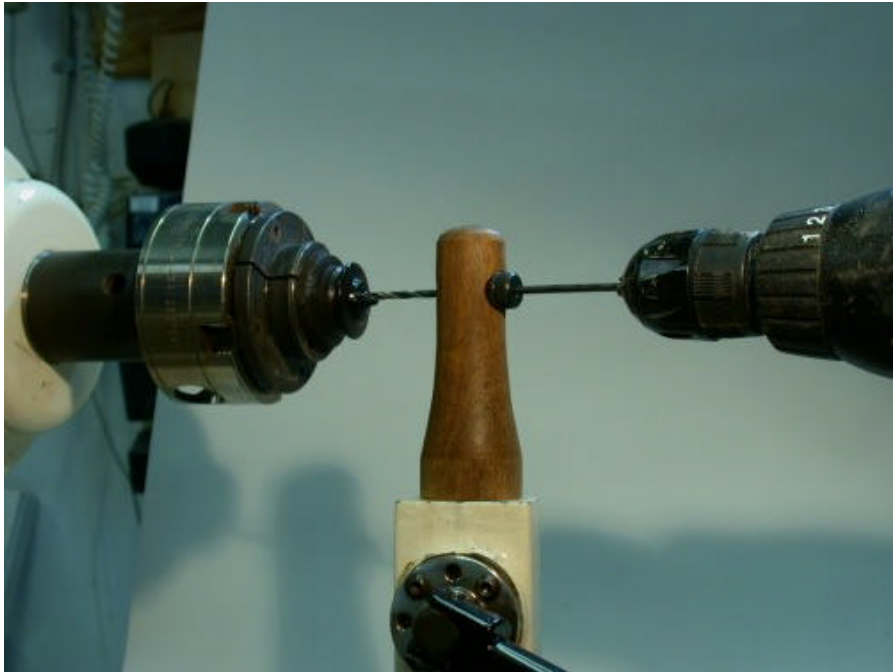


Drill Guide for use with Indexing on Lathe



The need for this jig arose when I decided to embellish an icicle ornament with Swarovski Crystal rhinestones. Commercial jigs are available, but when I saw the Bushings available from Lee Valley, decided to try my hand at making one. The picture above shows it in use drilling a dimple for gluing crystals with Cyanoacrylate glue in the top finial of the ornament as seen below.



This is a simple jig to make that involves two critical dimensions, the height from the top of the banjo to the center of the bushing and the diameter for mounting in the banjo. I used the Lee Valley Drill Bushing (P/N 25K62.02 - .06) and Insert (P/N 25K62.20) mounted in what is essentially a hardwood dowel turned from some 1 1/2" square stock. First determine the height from the top of the banjo post to the centerline of the lathe. I measured by adjusting a tool rest mounted exactly to center height then using a plastic caliper, resting the end of the caliper on the tool rest and pushing the steel center wire of the caliper down to the top of the banjo. The Lee Valley Bushing Insert requires a 5/8" diameter hole to mount it.

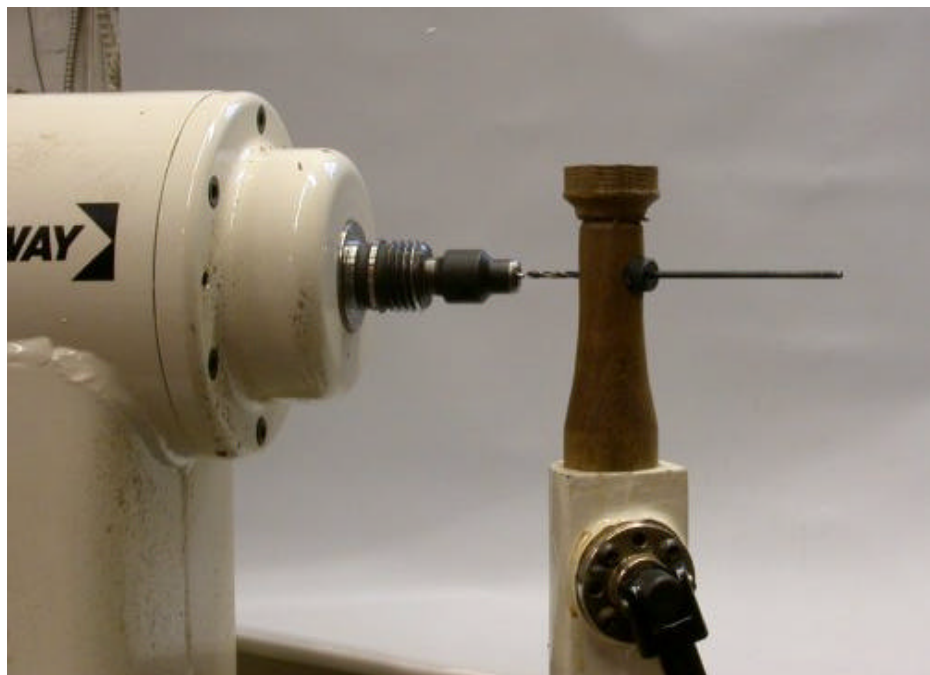


Shown reverse mounted in chuck for last finishing stage



Lee Valley Insert Mounted Insert (P/N 25K62.20)

I drilled the 5/8" hole in the square stock before mounting on the lathe, so that I could center it precisely. Turn the dowel so that you have the diameter of the tool post correct, in this case 1" and the height of the bushing slightly higher than the finished height. This will allow a more precise adjustment sneaking up on the final height. I have a long 1/8" brad point bit so I mounted the 1/8" bushing and determined how much more I had to remove from the shoulder to allow the mount to be exactly centered.



Determining Center Height

These bushings are available in diameters of 1/8", 3/16", 1/4", 5/16" and 3/8". To accommodate something like Forstner bits, a hardwood block without the bushing and drilled to the shaft diameter would suffice since there is no twist drill portion to wear the

surface. An angular scale plate could easily be placed on the base of the stem for use in drilling mortises for chair legs and spreaders etc. Compensation in the height would have to be made for the thickness of that guide. Alternatively an angular scale could be attached to the banjo post and a mark centered on the post to indicate the amount of rotation.

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