

Making Tool Handles



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Santa Cruz Woodturners

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Photos by Wells Shoemaker

Behind these Doors...



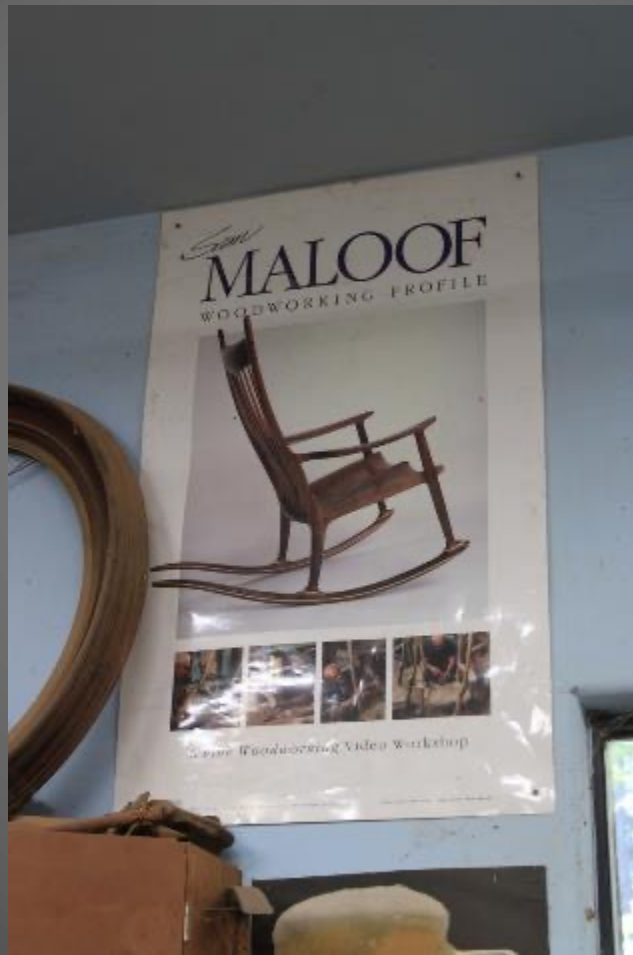
Big things happen



And small things, too



Humility Lives Here, Too



Use Tools to Make Tools: Lathe, of course!



Saw, naturally



Grinder

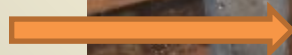


It wasn't running
when John
checked the angle!

Persuader

Talk softly
but carry
a big stick

Note PPE
at the ready

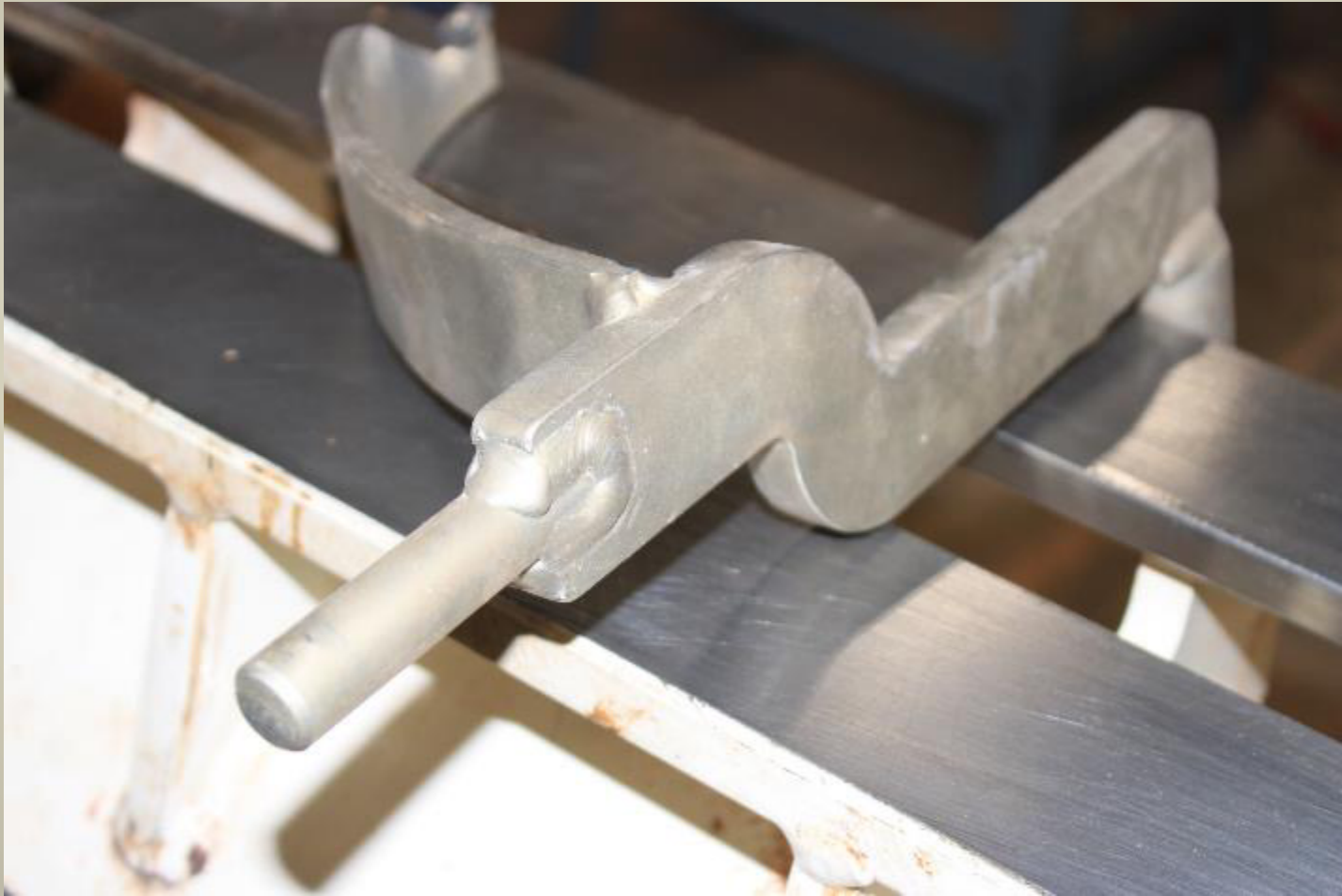


We'll Make Handles for Three Tools

- Cylindrical shaft tool—Oneway coring cutter
- Flat tapered tang—Rasp file
- Tapered socket for a large “slick” chisel



Wooden Handle for Coring Cutter



Mark Center



Punch for head and tailstock



Red Oak

Ready for some RPM's



Start the rough-out Spindle Roughing Gouge, 2000+ RPM



Progress!



One end done, move toolrest



Finish the whole cylinder



That's done!



Need 5/8" hole—verify!



Choose the 5/8" Forstner



Mount Jacobs Chuck in Tailstock



Chucked and ready



Mount blank in pin jaws and center for drilling



Detail Pin Jaws Grip



Business end of the Forstner Bit



Use tape as depth indicator



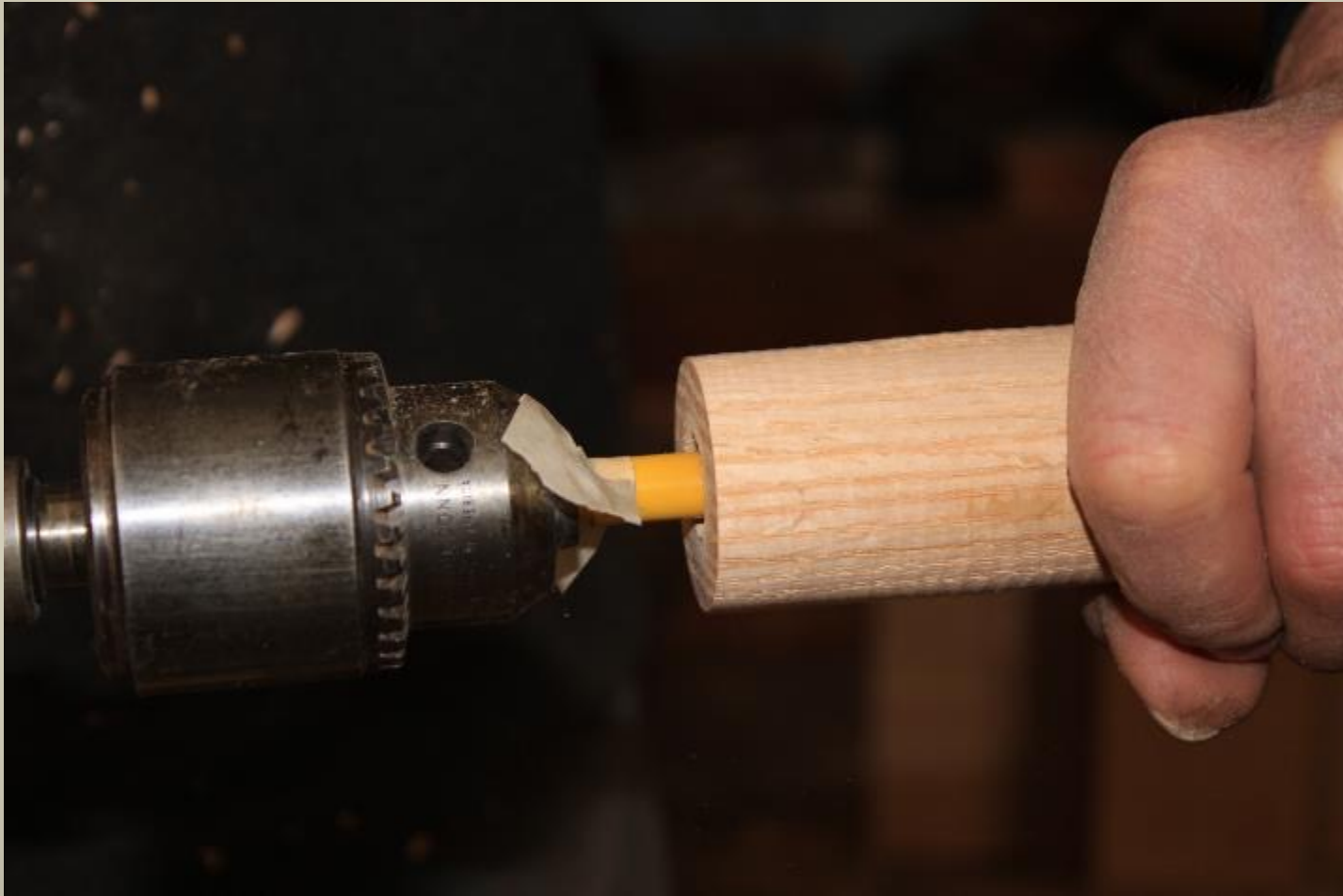
Action



Advance bit with tailstock quill



Almost to depth



Oh, Yeah...Forstners can pack up shavings and generate some friction and heat



Our hole is here



Test fit the handle—snug, not forced



Refine the shape of the handle



Start making rounded end w skew



Taking shape



Refine shape of shaft for ergonomic grip



Skew leaves finished surface



Finish the knob and part off



Pare off the nub with a knife



This should work



It fits



Finished!



Mahoney's
Walnut Oil



Handsome
and
practical

Next Up—Flat tapered tang



Measure tang at widest point



...and narrowest end



Cut blank to length



Find centers again!



Short tool rest for this one



2-Blade drive center



Ready to become a cylinder at 2800 RPM



Roughing gouge workout



Roughing gouge can make a refined cut
...almost skew-like orientation



Mount cylindrical blank in pin jaws



Hole for tang will have graduated diameter bore



Note brad pointed bits to keep true center, not skate

First penetration largest diameter
Subsequent bores will follow center point



Second hole goes deeper



Verify depth of deepest penetration and mark with tape



Check fit



Use persuader to verify friction fit
And then remove



True up copper pipe ferrule perpendicular to axis



File off rough edges



Remove internal burrs



Cut ferrule to length
Hard to grab a short one!



Use a manly tool...Scarring on the waste portion, not the ferrule!



Back to the lathe 2 blade driver



Live center tailstock with a center pin



Threads $\frac{3}{4}$ " x 10 TPI

Shopmade maple scrap center Tapped threads fit tailstock



Snugs into hole and keeps center
Then mark ferrule depth



Measure internal diameter of ferrule



Start cutting down to ferrule diameter



Pare handle to precise diameter



That's close



Verify fit

John
has
apparently
done
this
before...



Clean up shoulder with skew



Just a dab of CA glue to hold ferrule in place while finishing handle



Trim any protrusion beyond
end of ferrule with skew



OK—a little polishing and that part is done. Next: the shaft



Shape the handle



Looking proper



Determine length and mark end



Make a nice round knob at the end



Take down diameter
but don't part off yet



Clean up shank with skew



A little sanding



Make the knob smooth before parting off



Clean up nub with sharp carving knife



This will work



Just for reference:
One of John's gouges
Looks familiar!



Next up: A foot long, very heavy,
very old cast steel slick—we think
post and beam barn making tool



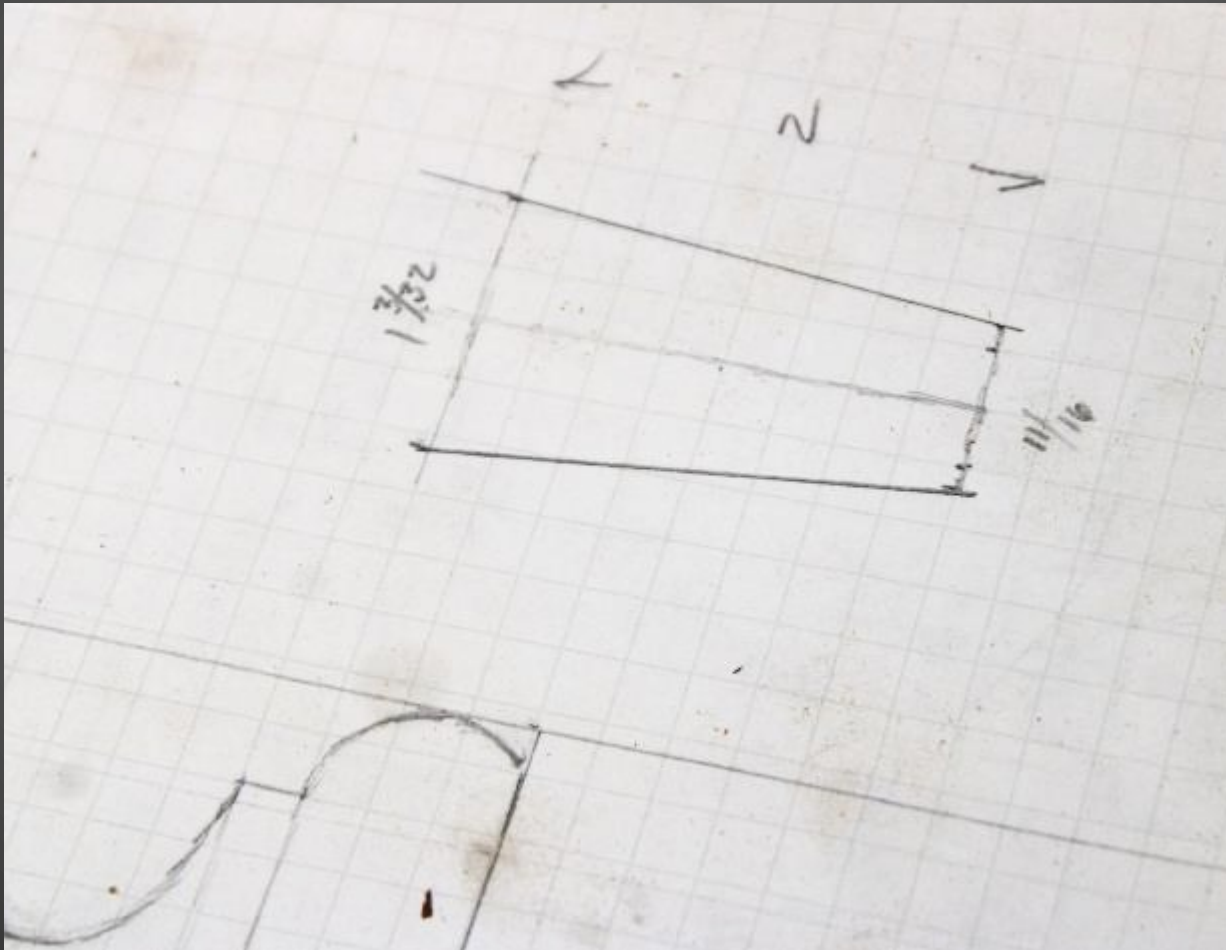
Not a trivial hunk of steel!
Needs a non-trivial, impact tolerant handle!



Measure depth at which ruler binds to determine taper ratio



Make a scaled diagram
This has to fit snugly!



Square up a white oak blank



Mount between centers and rough to cylinder



This is a non-trivial
2" spindle roughing gouge



Mark length of tapered end



Pare down until close to
max diameter of socket



Getting close...
use calipers for precision



Now do the same at narrow end

Diamond
Parting
Tool



This needs to be accurate!



Delete the waste between wide and narrow ends



Getting there



Close now and looking familiar



Check for fit—
deliberately a little proud



Now pare down
a few thousandths at a time



Closer...still too tight



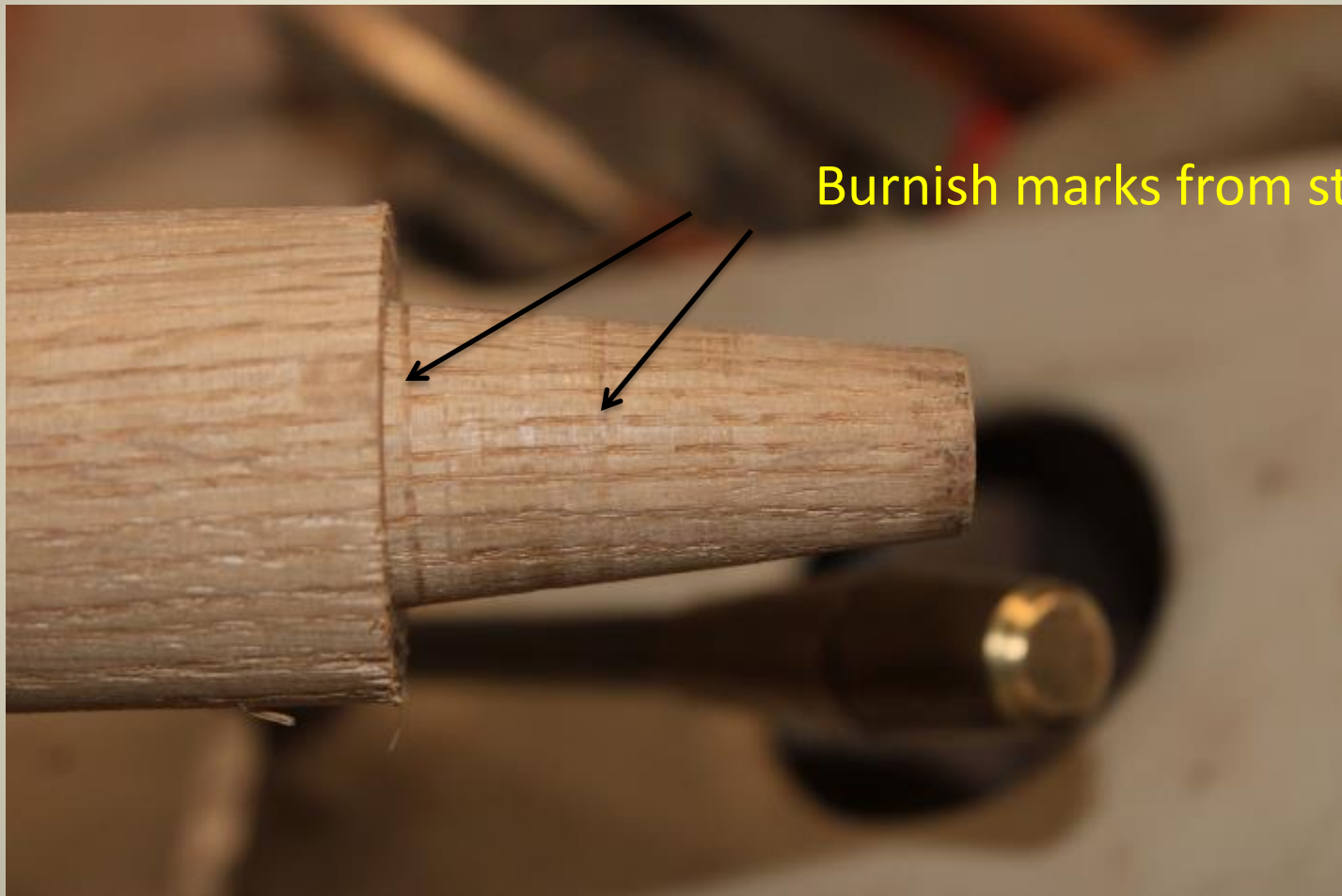
Once taper perfect, use narrow parting tool to cut taper to correct length



Yes, this fits.



Finished taper

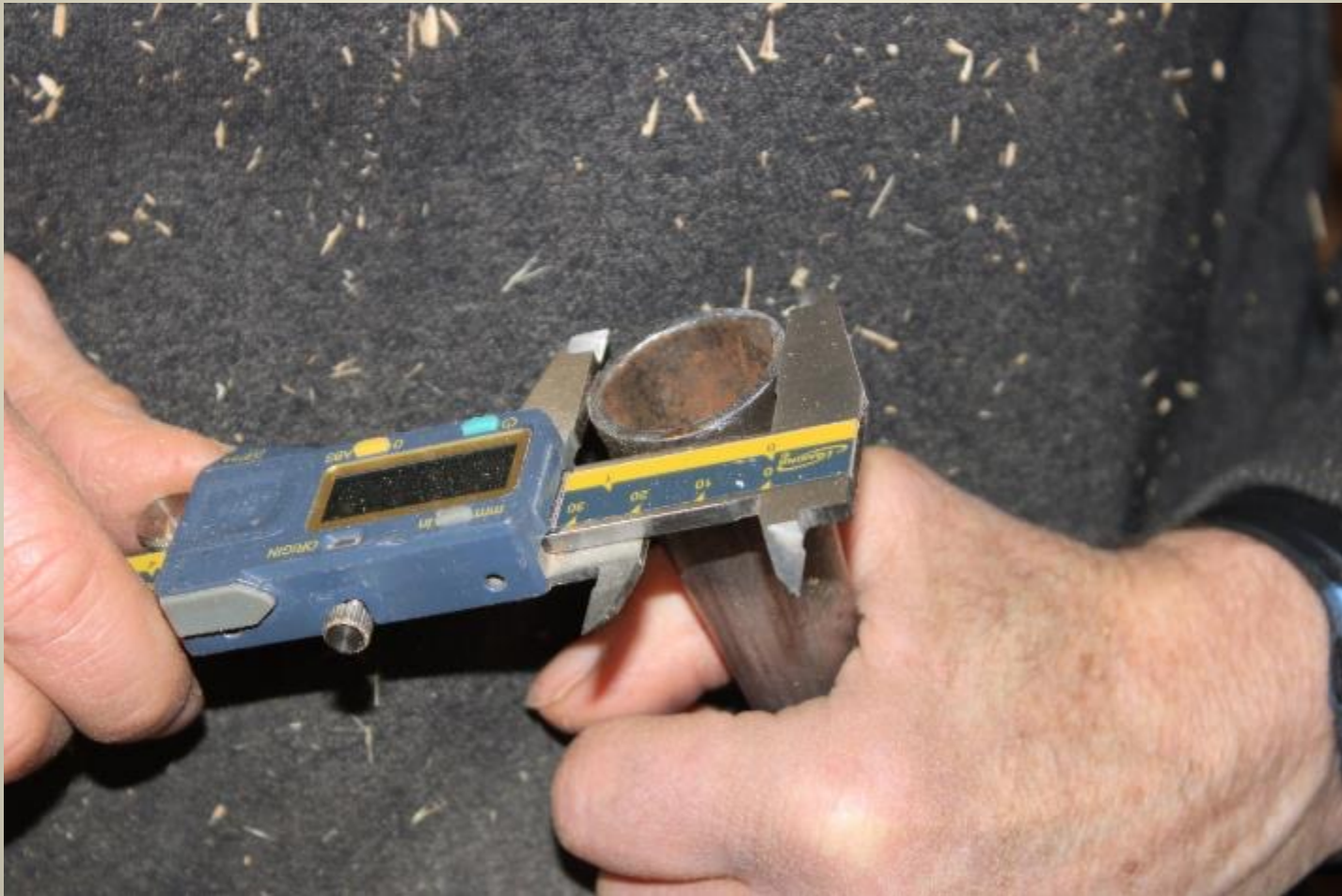


Back onto lathe to shape handle

Note taper fits conveniently in tailstock adapter



Verify OD of bugle at max diameter



Trim handle so bugle meets shoulder
with no “ledge”



Verify precise fit



Small adjustments for finish fit



Cut an ergonomic grip mid shaft



Clean up shaft with skew



Sand just a little bit



Mark out spacing for ferrule on impact receiving end of shaft



Copper union too short for tubing cutter...back to Civil War technology



Pare down shaft to accept ferrule



Slow down when you get close



Make it a uniform cylinder



Test fit



Clean up shoulder & sand



Make the ferrule shine



Hand sand with the grain

Eliminate unsightly circular scratches



Refine impact receiving end with sharp knife



Seat the taper



No dull edges leave John's shop



Razor edge, in fact



Man does not live by Lathe alone



Wells S' note



- It's hard to make one perfect spindle
- Making 50 identical ones by hand takes skill at another order of magnitude

Questions?

