

Make a Protractor for your lathe spindle

Erich Moraine Wild Rose Glass

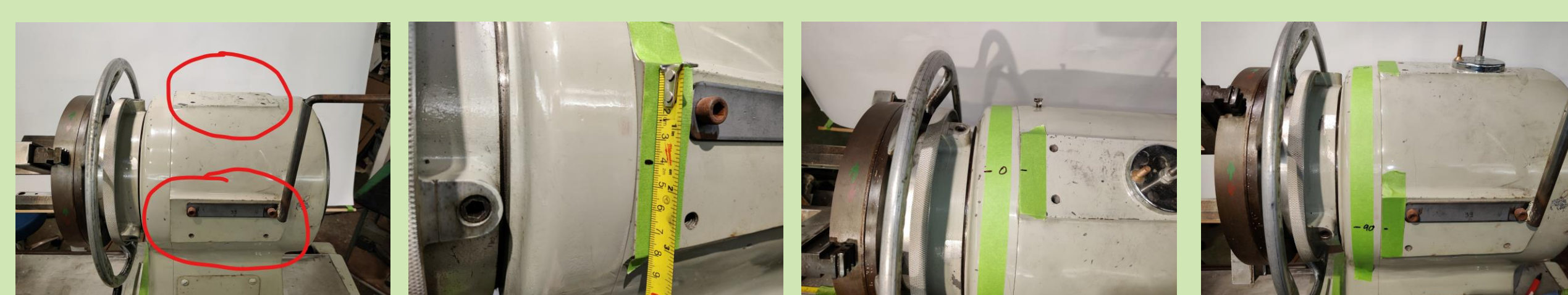
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Much of scientific glass work made on a lathe requires an angular rotational relationship between attached parts, such as...
Hose connectors on opposite ends and opposite sides of a condenser. Side arms on an extractor which are rotated 90 degrees relative to each other
Take off ports on distillation equipment which need to be at 45 or 60 degrees relative to each other.

The following modification allows the glassblower to very quickly and easily find these angles with reasonable accuracy without the need for a hand held digital protractor. Materials needed: thin tape measure (flexible is important), masking tape (or equivalent) Sharpie marker, and 3 colors of paint marker (or colored tape)

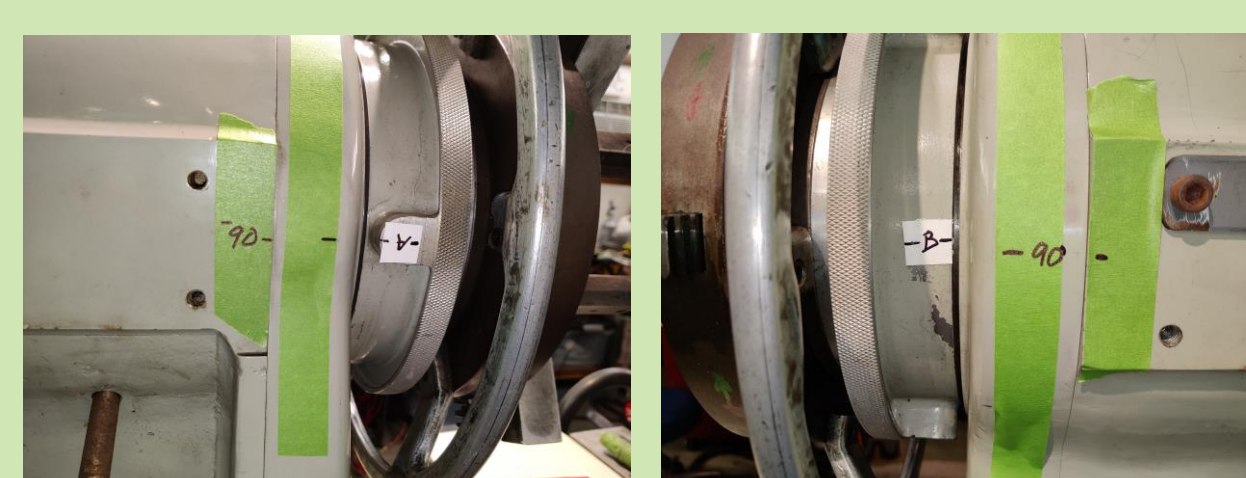
Step 1 Use a flexible tape measure to mark 0 & 90 on center of the spindle flats, front, back and top.



Step 2 Mark chuck set screws with color and "A" Repeat with all 3 colors



Step 3 Set an A at the front 90 location. Mark the back side location with the same color and "B" Repeat with all 3 colors



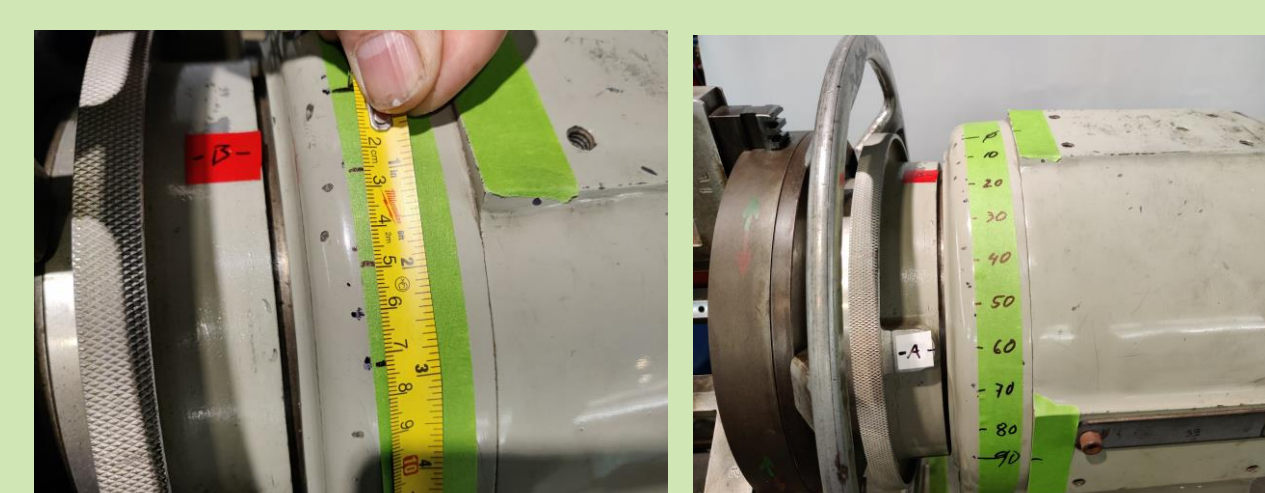
Step 4 Use tape measure to measure the distance between 0 and 90



Step 5 Divide the 0-90 length by 9 and make a chart of each 1/9th increment

Overall length = 220mm	
220 divided by 9 = 24.4	
10	24.4
20	48.8
30	73.2
40	97.6
50	122
60	146.4
70	170.8
80	195.2

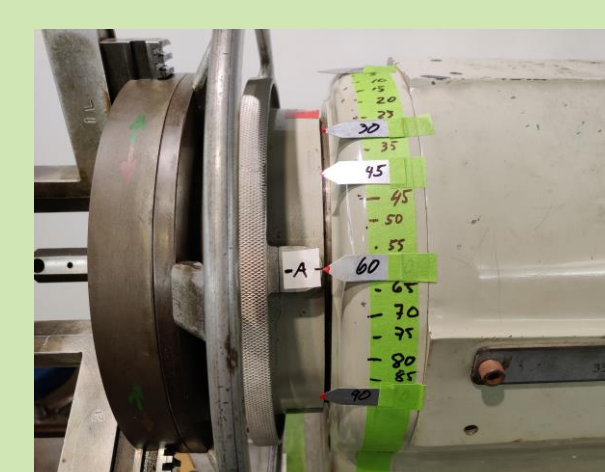
Step 6 Using the tape measure and table results lay out 10 degree marks 0-90



Step 7 Add in 5 degree marks centered between the 10 degree marks



Step 8 Optional: Add sheet metal pointers to important angles for easier viewing



Step 9 This protractor can also be made using the absolute zero feature on a digital protractor held to the side of a chuck jaw and one of the set screw locations. Avoid buying a digital version that costs less than ~\$150. They can be unstable and inaccurate.

