



Southwestern Industries, Inc.

White Paper

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Drill Centering on TRL Lathes

This paper identifies another process for centering a drill on the workpiece to the method outlined in the manual.

What is documented in the manual now?

The manual directly reflects the software. In order to center a drill, the operator touches the drill to the positive x-axis side of the workpiece and enters into the software the diameters of the workpiece (the “x” dimension) and the drill.

This method works fine to center the drill in the x-axis direction, but in the “up and down” direction the drill may be slightly off, possibly harming the workpiece or destroying the drill. Many operators eye-ball the up and down, and in most cases this works well enough; however, there is another method to precisely center the drill quickly and efficiently.

Think “trammig the tool post”

Place a tapered shank or drill chuck with a pin in the tool post or indexer. Place a dial indicator on the lathe chuck and sweep around the tapered shank or pin much like trammig the head on a mill. When the dial indicator reads 0.0000” all the way around, enter “0” for both the “x” dimension (the diameter of the part) and the diameter of the drill.

More important advice

In either scenario, it is always important to make sure that the tool post or indexer is also parallel and perpendicular to the work piece. This can be done two ways:

1. Run an indicator back and forth along the tool holding device in the z-axis, and tram it in.
2. Move the carriage down towards the tailstock, extend the tailstock barrel, and slowly move the cross slide toward the barrel until it and the tool post touch.