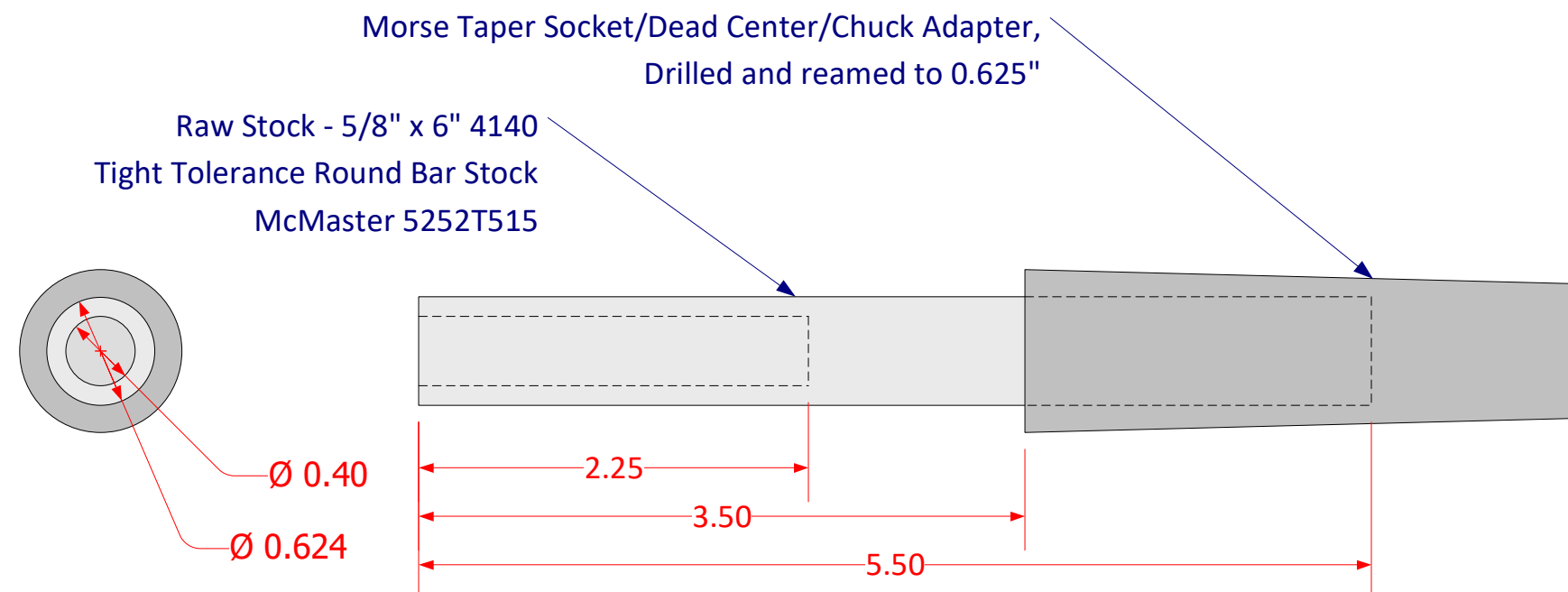


Tap & Die Adapter Sleeve

Suggested Sequence of Operations

- Chuck material, face-off exposed end and spot drill for tailstock live center
- Re-chuck between spindle chuck and tailstock live center
- Bring OD to required diameter based on TPI of the knurling tool. My knurl was 20 TPI, thus the OD was turned to 1.432"
- Knurl a 5" long section of the OD
- Turn down the OD of both ends of knurled area to 1.375 as shown on the drawing
- Part-off at the chuck end, stopping part way through to chamfer
- Flip end-for-end and re-chuck over the knurled section in the center of part using copper shims to protect the knurl.
- Part-off to finished length.
- Face-off the end, chamfer, and spot drill
- Drill successively larger holes to 19/32"
- Ream to 5/8"
- Move to mill and drill, chamfer, and tap for M6 set screw
- Mill ½" diameter flat on the opposite side of set screw location, then drill and tap for M10 threaded Tommy bar (next page)
- Deburr ID of 5/8" hole at tapped hole locations



Tailstock Component

Suggested Sequence of Operations

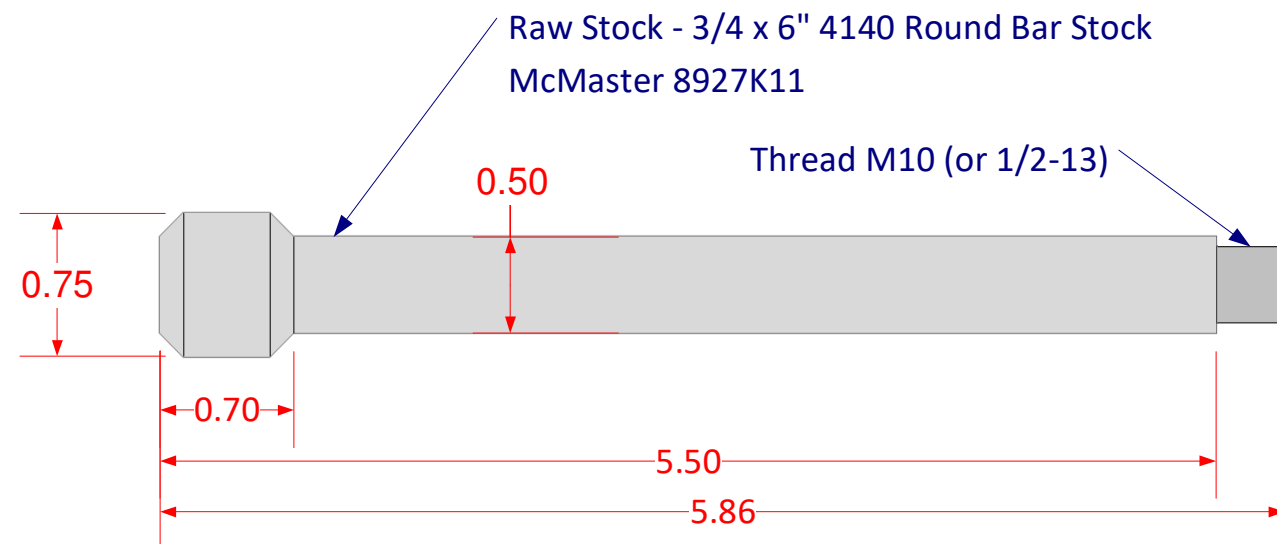
- If starting with a dead center or drill chuck adapter for the Morse taper end, cut off the end with angle grinder - or make your own Morse taper from raw stock
- Mount Morse taper sleeve in lathe headstock
- Hard-mill face, spot drill, and successively drill out to 19/32"
- Finish Morse taper sleeve hole with 5/8" end mill in tailstock chuck to final depth as shown
- Press fit the 5/8" round bar stock into the modified Morse taper sleeve (or use Red Loctite it as required)
- Bring the OD of the 5/8" round stock to a slip fit with the knurled die/tap sleeve above.
- Face off, spot drill, and drill out the 5/8" shaft to depth as shown.
- Chamfer as required

Note: All dimensions are inches unless otherwise noted

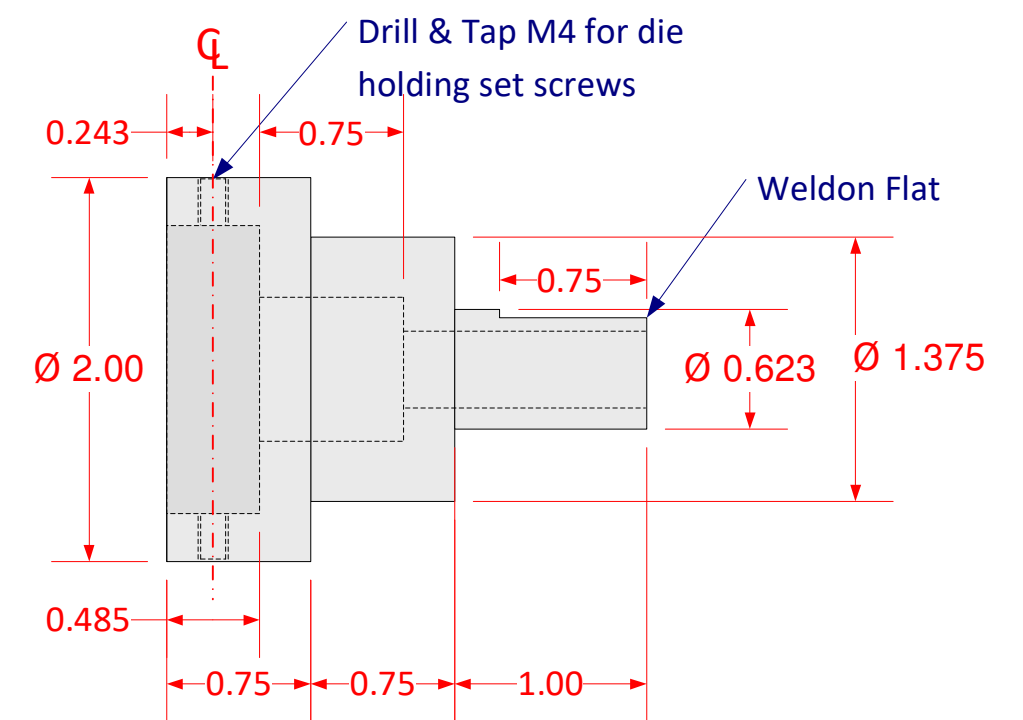
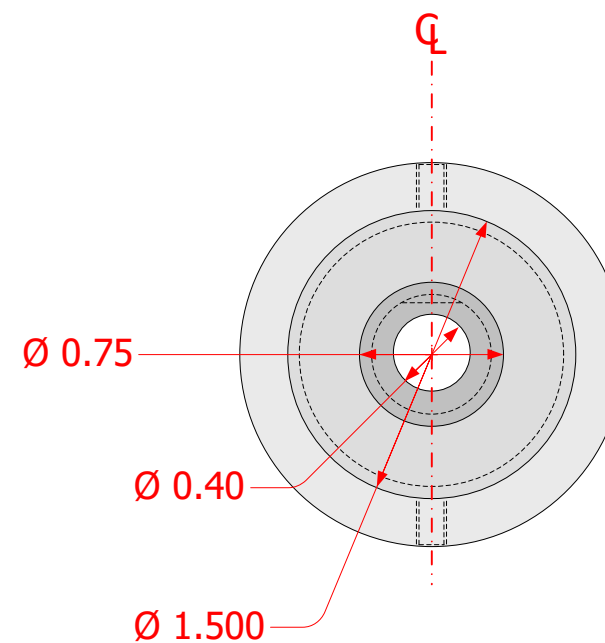
Metal Lathe Tailstock Tap & Die Holder

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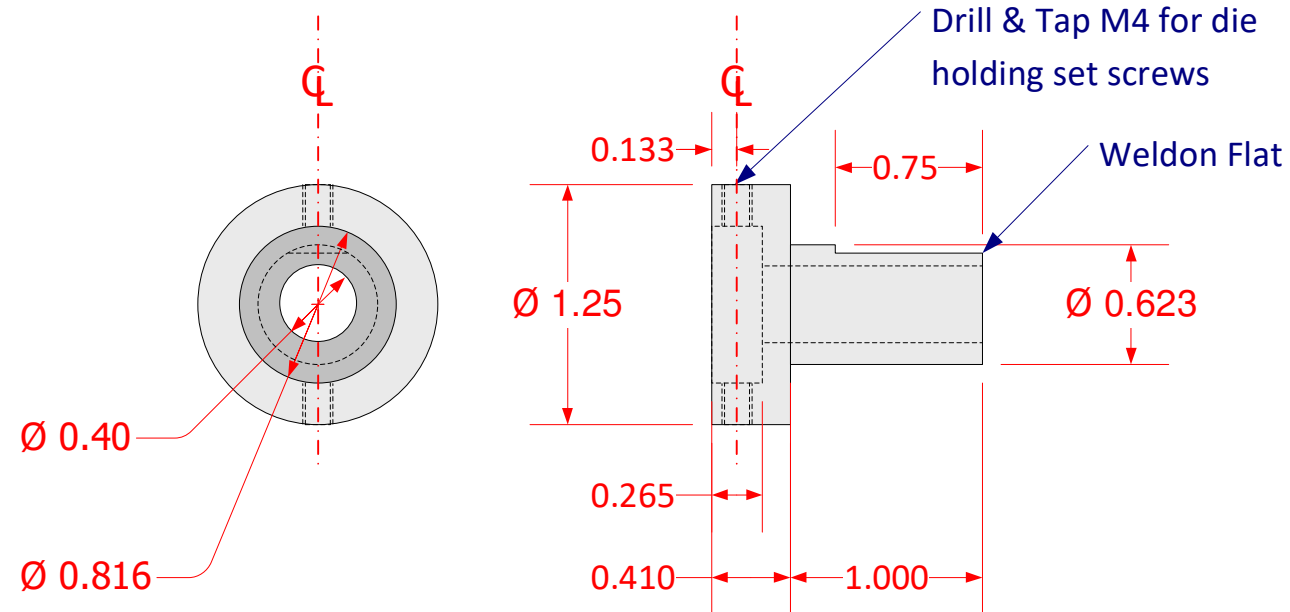
April 2019



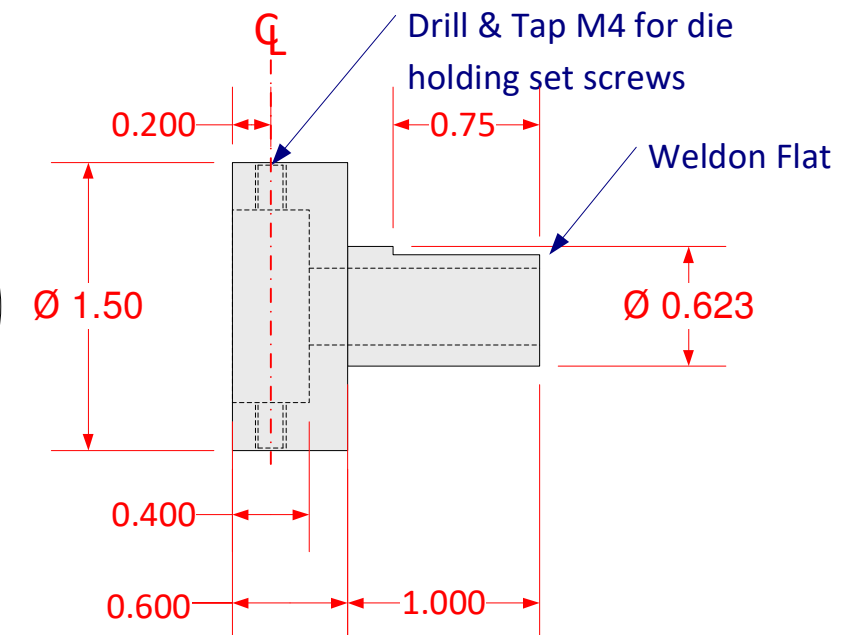
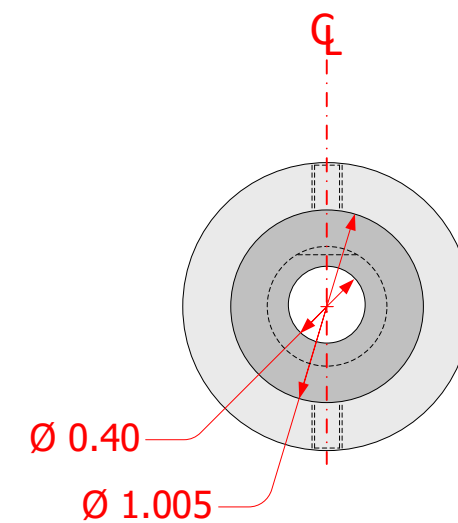
Tommy Bar



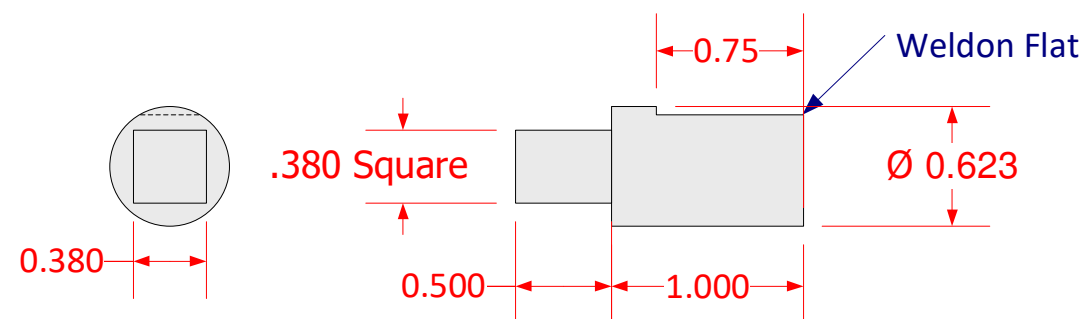
1½" Die Holder



13/16" Die Holder



1" Die Holder



Tap Chuck Adapters

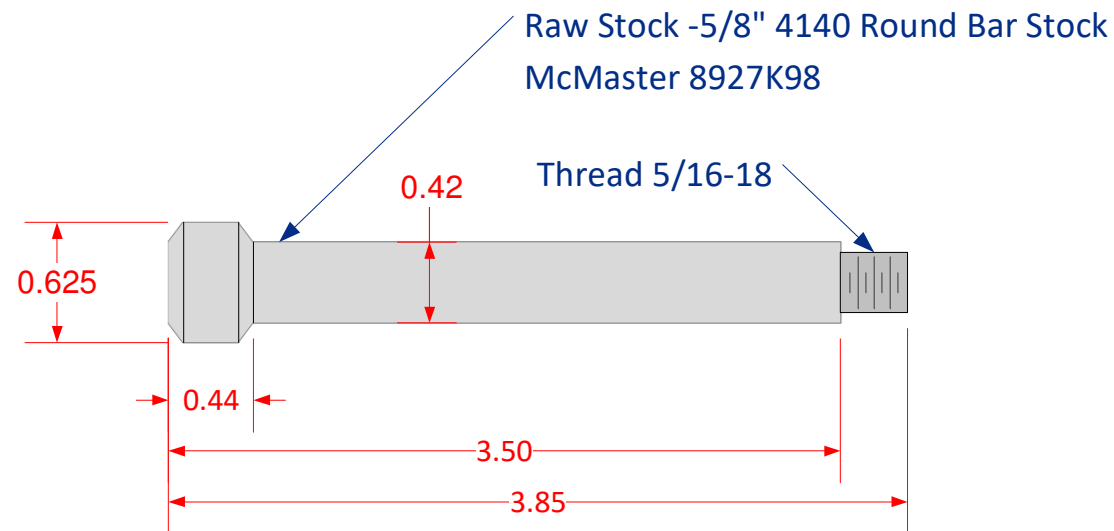
Note: Tap Chucks are press fit to the square end of the adapter. Tap chucks are sold under the Irwin brand as "Hanson 3095001 2-Piece Adjustable Tap Socket"

Note: All dimensions are inches unless otherwise noted

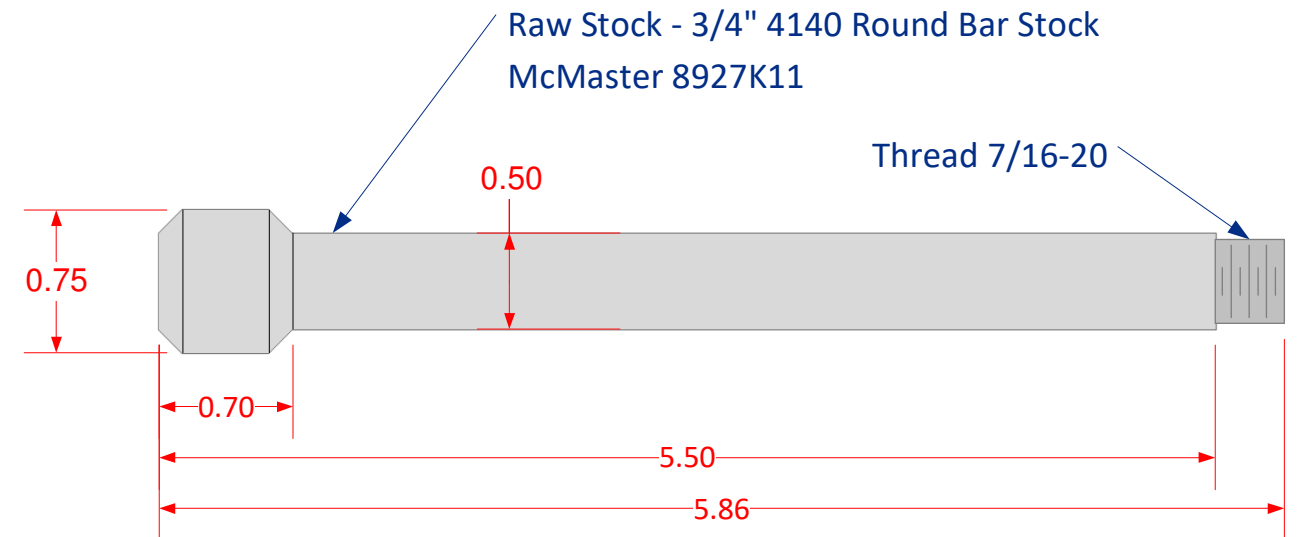
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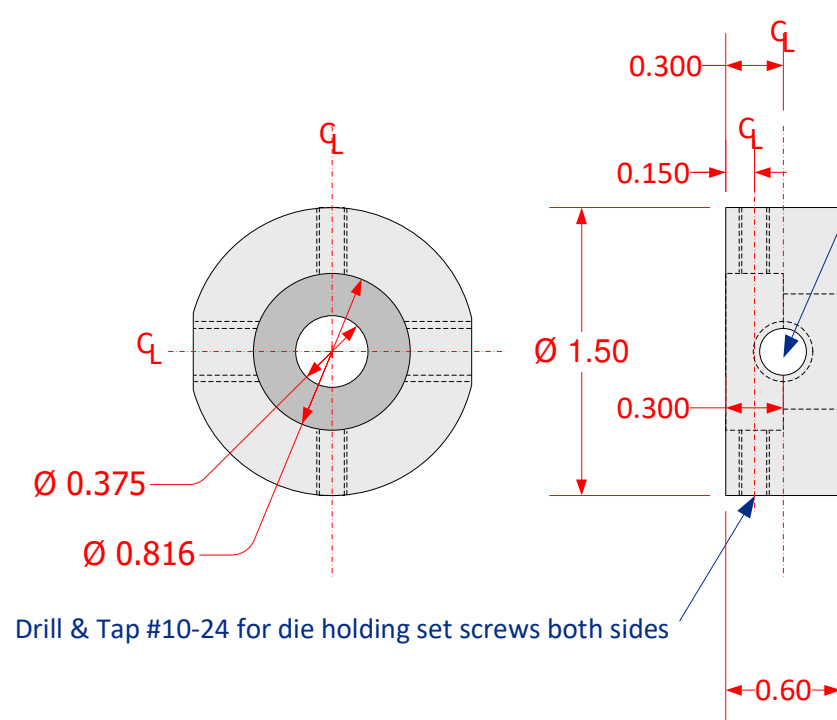
April 2019



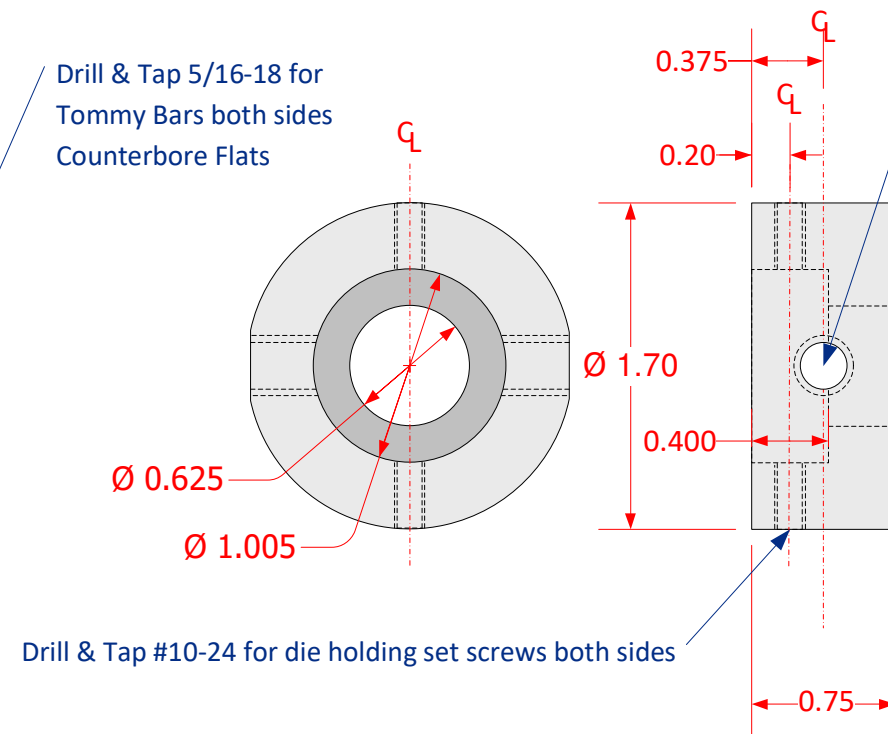
Tommy Bars for 13/16" & 1" Die Holders – 4 Each



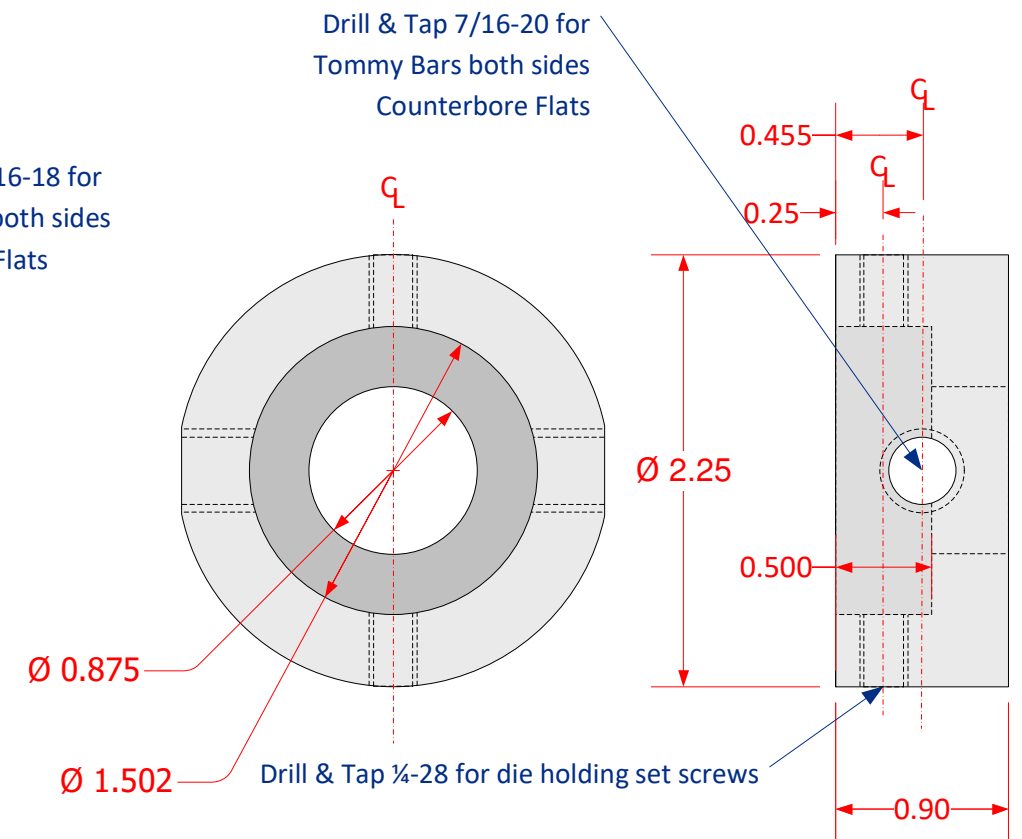
Tommy Bars for 1 1/2" Die Holder – 2 Each



13/16" Die Holder



1" Die Holder



1 1/2" Die Holder

Die Holder Raw Stock 2 1/4" 4140 Steel Rod – McMaster #8927K54 – Heat Treated to R50 After Machining

Note: All dimensions are inches unless otherwise noted

Metal Lathe Tailstock Tap & Die Holder

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April 2019