

JOB NAME Tap Wrench

BLUE PRINT NUMBER: C1-A-8

ITEM: Handles.

INFORMATION: The tap wrench is a tool designed to exert equal pressure on a tap, while tapping, in order to prevent the breakage of a tap.

PRIMARY SKILL LEARNED:

1. Cut right hand thread with tool bit.
2. Cut left hand thread with tool bit.

PRECAUTIONS:

1. Note that one handle has a right hand thread and other handle has left hand thread.
2. Make block first so that you may fit threads to block.

STOCK: 5/8" Diameter Cold Rolled Steel.

OPERATIONS:

1. Cut stock to 5 3/8" length.
2. Face off and center drill.
3. Turn on centers to 1/2" diameter x 4" long.
4. Medium knurl.
5. Undercut knurl.
6. Reverse piece, (use copper to protect knurl).
7. Turn to .370 diameter x 1 7/8".
8. Cut threads.

JOB NAME Tap Wrench

BLUE PRINT NUMBER: 01-A-8

ITEM: Block

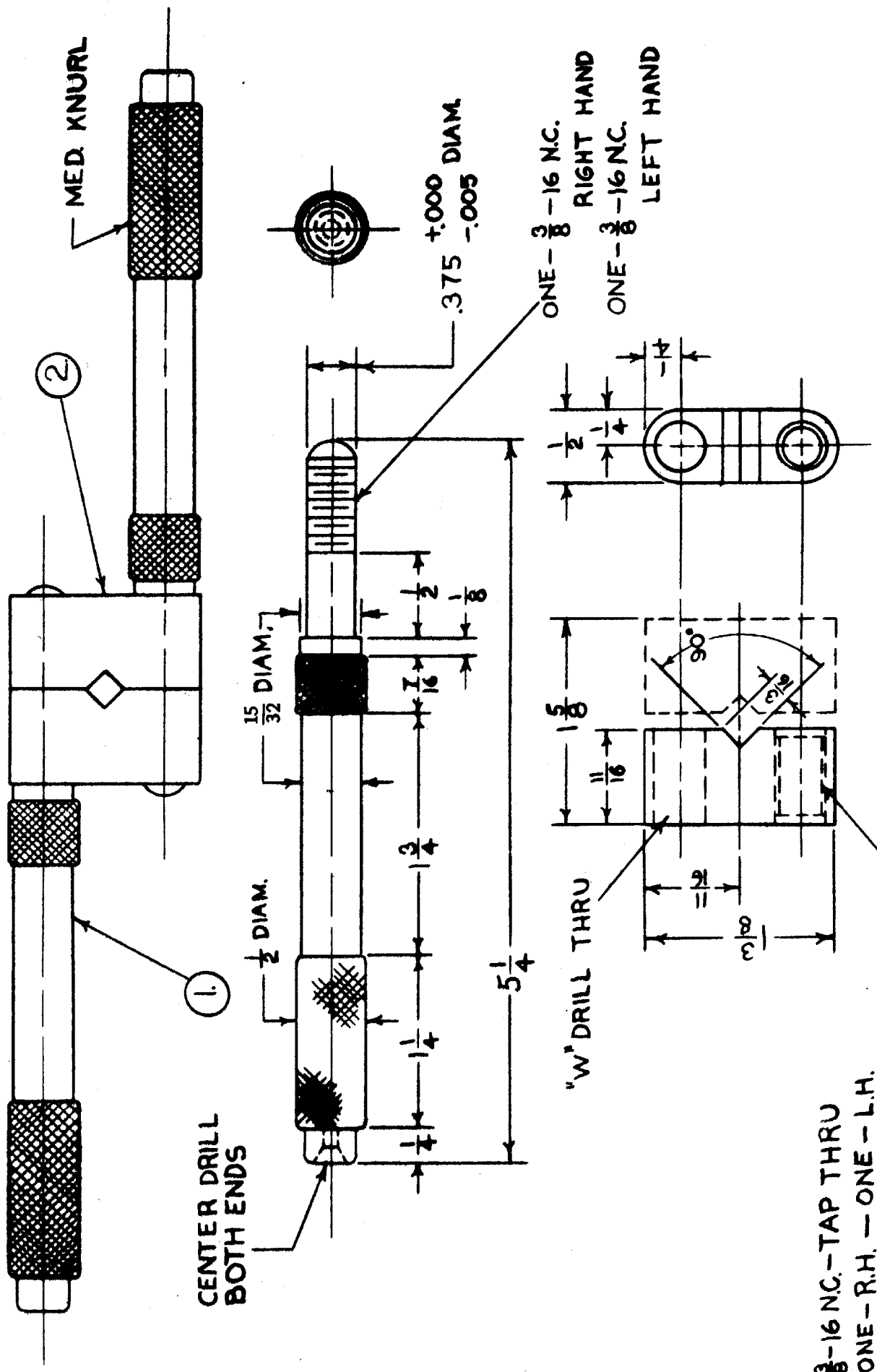
INFORMATION: The proper size tap wrench must always be used when tapping, too large a tap wrench will exert too much pressure and break the tap.

PRIMARY SKILL LEARNED: 1. Drilling to simple layout.
2. Tap left hand thread.

PRECAUTIONS: 1. Allow .015 on a side for grinding.
2. Make sure the letter "W" drilled holes are drilled in opposite holes
3. When milling radius keep same side of block against stationary jaw of vise.
4. When tapping left hand hole turn tap in counter clockwise direction.

STOCK: 5/8" X 1½" Machine steel

OPERATIONS: 1. Shape block to size.
2. Grind to finish dimension.
3. Mill radius.
4. Drill two 5/16" holes.
5. Drill "W" size holes 7/8" deep in opposite holes in opposite directions.
6. Tap holes.
7. Cut piece in half.
8. Surface grind ends.
9. Mill 90 degree angle



MED. KNURL

CENTER DRILL BOTH ENDS

$\pm .000$ DIAM.
 $-.005$

ONE - $\frac{3}{8}$ - 16 N.C. RIGHT HAND
ONE - $\frac{3}{8}$ - 16 N.C. LEFT HAND

"W" DRILL THRU

$\frac{3}{8}$ -16 N.C.-TAP THRU
ONE - R.H. - ONE - L.H.

BREAK ALL UNNECESSARY CORNERS

DO NOT SCALE THIS DRAWING

ELI WHITNEY REGIONAL VOCATIONAL TECHNICAL SCHOOL DIMENSIONAL TOLERANCES UNLESS OTHERWISE SPECIFIED:- Fractional $\pm 1/64$ Angular $\pm 1^\circ$ Decimal $\pm .002$ Concentricity $\pm .001$	Material Cold Rolled Steel Heat Treat	PART NAME	TAP WRENCH
		Date:-	D.W.G. No. 01-A-0

TAP WRENCH

2 Handles



Fig. 1

Select two pieces of Cold Roll Steel, 5/8" diameter 5 3/8" long. Face and center drill in a three jaw chuck. (two pieces of Fig.1

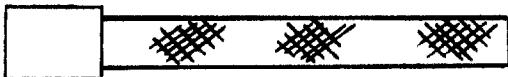


Fig. 2

Turn the outside diameter of both pieces to 1/2" diameter 4 1/4" long. Medium knurl, 3 3/4" long. Fig. 2



Fig. 3

Turn undercut to remove knurl. See Fig. 3. Use Form Tool to turn radius at end.

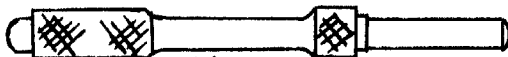


Fig. 4

Reverse piece on centers. Turn to .370 diameter 1 3/8" long. Turn chamfer on this end. Fig. 4

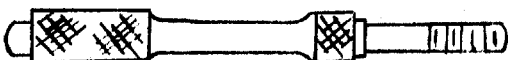


Fig. 5

Cut thread one 3/8" X 16 right hand, 7/8" long, cut 3/8" X 16 left hand on other piece 7/8" long. Fig. 5

BLOCK

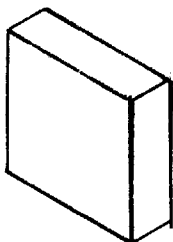


Fig. 1

Shape block to 1/2" X 1 1/2" X 1 5/8". Allow .015 on all sizes for grinding. Fig. 1

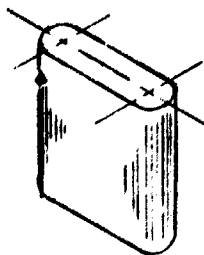


Fig. 2

Mill, 1/2" convex radius with a 1/2" Concave Cutter, both sides, Layout from print. Fig. 2

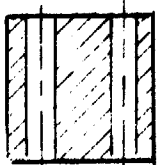


Fig. 3

Center drill at intersections. Drill 5/16" hole thru block at both locations. Fig. 3

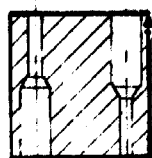


Fig. 4

Drill 7/8" deep on opposite sides (use "W" drill). Fig. 4

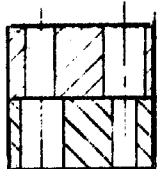


Fig. 5

Use "W" drill and drill 7/8" deep on opposite sides. Fig. 4

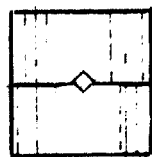


Fig. 6

Saw block in half across the holes then grind parallel to outside edge. Fig. 5

Use 90° angle mill to mill "V" 3/32" deep in both parts. Fig. 6