

PROCESS SHEETS FOR MILL DRILL PROJECT – CAM 1109 LAB#1

- 1) Number holes 1 thru 5 on your print
- 2) Place part in vise with painted edge to your left on 1/5/8 parallels
- 3) Install ½” collet & edge finder
- 4) Zero left edge of part with edge finder & zero X axis on DRO & move .250 which will put you on center of left edge of part. Zero DRO again & move .750 & this is center of hole #1 on X axis.
- 5) Now move to front of part on Y axis & repeat the same process to establish center of hole on Y axis
- 6) You are now on hole #1 center in both X & Y axes & spot drill hole #1 or complete all operations to complete 1 hole at a time
- 7) Remove ½ inch collet & edge finder & install Drill Chuck

PROCESS TO DRILL HOLES

- 1) Spot drill & then drill thru with smallest drill then Counterbore to allow head of screw to be below the surface of the part.
 - 2) Spot drill & drill thru with small drill & Countersink for flat head screw to allow the head of the screw to be below the surface of the part.
 - 3) Spot drill & drill thru with next largest drill
 - 4) Spot drill, drill thru with same drill as #3, then large drill thru & ream thru
 - 5) Same as #4
- Now go to drill press & Countersink (break the edge) on all holes, and on both sides of the part.

VERTICAL MILLING ON DRILL MILL PROJECT

- 1) Place part on 1 5/8 parallels making sure parallels are tight to avoid movement while machining. Place a ½” collet in headstock to hold your ½” end mill. Set spindle speed to 580-600rpm, clockwise rotation & machine length to 3.250 plus or minus .005 Saw out slot leaving 1/16” material on sides & bottom with part standing up on 7/8” parallels & then finish mill to print dimensions.

URL Video Links:

Project Layout - Lab 1 Part 1 (1.1) -INSERT VIDEO URL LINK HERE-

Edge Finder – Lab 1 Part 2 (1.2) -INSERT VIDEO URL LINK HERE-

Hole #1 – Lab 1 Part 3 (1.3) -INSERT VIDEO URL LINK HERE-

Holes 2-5 - Lab 1 Part 4 (1.4) -INSERT VIDEO URL LINK HERE-

Edge Milling – Lab 1 Part 5 (1.5) -INSERT VIDEO URL LINK HERE-

Inside Milling – Lab 1 Part 6 (1.6) -INSERT VIDEO URL LINK HERE-

Video Resources:

Project Layout (1.1)



Edge Finder (1.2)



Hole#1 (1.3)



Holes 2-5 (1.4)

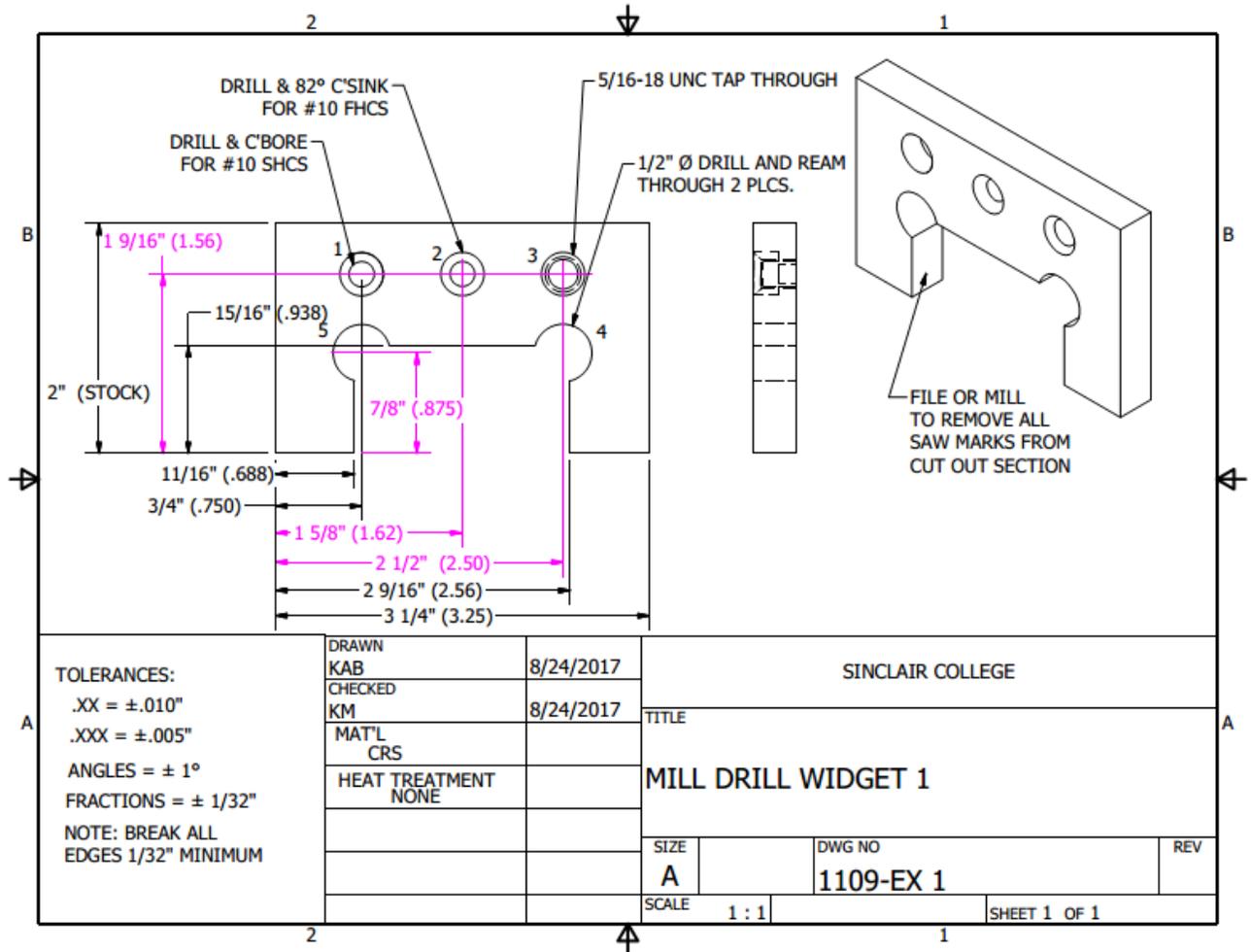


Edge Milling (1.5)



Inside Milling (1.6)





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