Project #114

Hammer Handle Shank Threading

(8/8/13 wrr)

Project Description:

The hammer handle shank is the third of three machined parts needed to complete the hammer assembly. This project needs be turned between centers for the best results. Note: the 5/8", +/- 1/16", length of the 1/2"-20 UNC –2A thread. This thread is described as a "dead thread" because it has no relief groove. You are required to back out the threading tool bit on the last revolution of the thread at the end of each pass.

Project Objectives:

After you have completed this project, you should be able to:

1. Turn precision threads between centers.
2. Cut a dead thread.

References/ Study Material:

Precision Machining Technology (PMT) textbook: None

Machine Tool Study Guide: None

Video Tapes: None

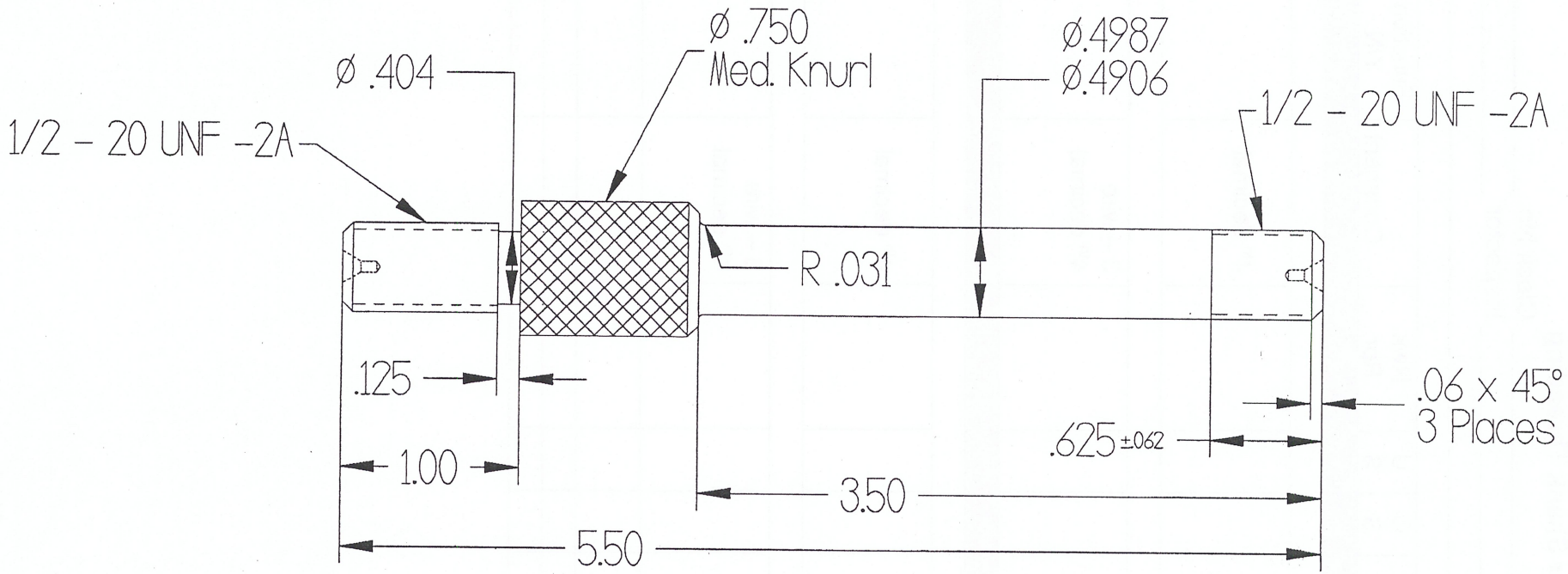
Materials Needed: Completed Project #108

Additional Tooling: none

Process Sheet #114

Hammer Handle Shank

Operation No.	Machine	Description	Tools	Speeds/ Feeds
10	Bench	Completed Project #108		
Note: Ask about grinding a clearance notch in the threading bit for the 1/2-20 thread.				
20	Bench	Locate thread specifications in the MHB and write specifications in the space provided on the blue print.	Pencil	
30	Lathe	Mount part between centers left end at tail stock	Lathe Centers	
40	Lathe	Cut 1/2 - 20 UNF – 2A thread on left end of part	Lathe Centers	You Determine
45	Contact instructor for processing information, for a dead thread. Initials and Date: _____			
50	Lathe	Flip part end for end; place a regular hex nut and a split nut over the threads you just cut. Place lathe dog over split nut. Cut 1/2 - 20 UNF – 2A thread on right end of part	Lathe Centers	You Determine
60	Lathe	Deburr part	File	
70	Bench	Inspect part. Record measurements on inspection sheet **Note: tolerances that are +/- .005 or less need to be recorded to the 4th decimal place**	0-1" micrometer Universal indicator	
80	Bench	Engrave your name/initials and number on your part	Electric engrave	



1/2 - 20 UNF - 2A

Major Dia. MAX_____

MIN_____

Pitch Dia. MAX_____

MIN_____

Minor Dia. MAX_____

Pitch Dia. over wires MAX_____

MIN_____

NOTES: Unless otherwise specified

TOLERANCES: Fractional: +/- 1/64
Decimal: .XX +/- .015
Angular +/-30'
Decimal: .XXX +/- .010
FAO 125
Decimal: .XXXX +/- .005

Title: Hammer Handle Shank	CVTC
MAT'L Steel	SCALE: FULL
DWG. NO:	REV: 1/28/10

Hammer Shank Threading

Operator _____ Clock No. _____
Date handed in:_____ Inspector _____
Grade _____

Dimension	Checks	O K	O S	U S	Rwk Rpr	Comment	Function Y/N
----Major Dia.---- 1/2 – 20 UNF-2A (left end)							
Max. .4987 Min. .4906						4th decimal	
----Pitch Dia.---- 1/2 – 20 UNF-2A (left end)							
Max. .4662 Min. .4619						3 – wire 4th decimal	
----Major Dia.---- 1/2 – 20 UNF-2A (right end)							
Max. .4987 Min. .4906						4th decimal	
----Pitch Dia.---- 1/2 – 20 UNF-2A (right end)							
Max. .4662 Min. .4619						3 – wire 4th decimal	
.625 +/-.062							
FAO 125							
Deburr							