

Name: \_\_\_\_\_

## PROCEDURE SHEET

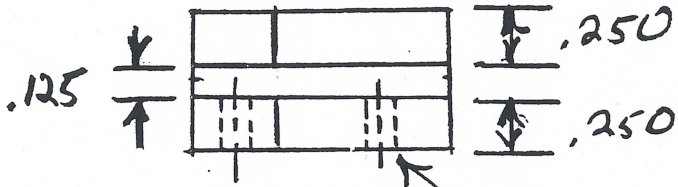
### Square Head

1. Obtain  $\frac{3}{4}$ " x  $1\frac{1}{4}$ " stock from instructor and cut to  $4\frac{1}{4}$ " long on band saw.
  2. Deburr and clean off oxides with abrasive paper.
  3. File one end square with all four adjacent sides.
  4. Apply layout dye to the squared end, scribe a reference line, and stamp your initials and year centered on the line.
  5. Mill the rough end to finished length on the vertical mill.
  6. Mill one of the .750" sides flat, square, and deburr. (aprox. .050")
  7. Mill opposite .750" side to finished width and deburr.
  8. Mill one 1.125" side flat, square, and deburr. (aprox. .050")
  9. Mill opposite 1.125" side to finished thickness and deburr.
- \*If you choose to surface grind your square head, leave .010" oversize \*
10. Apply layout dye to end opposite your initials.
  11. Lay out the 45-degree line and the reference line for the drill holes.
  12. Center punch the drill holes. (Holes will be drilled later)
  13. Lay out the .125" slot on the end opposite your initials. Cut the slot on the Horizontal mill to a depth of 1.000".
  14. Rough cut the 45-degree angle using the band saw. (leave material to mill true)
  15. Swivel vise to 45 degrees and mill to layout line.
  16. Drill, countersink, and tap for setscrews. (One side of slot only)
  17. Deburr all edges and put in your locker until final assembly.

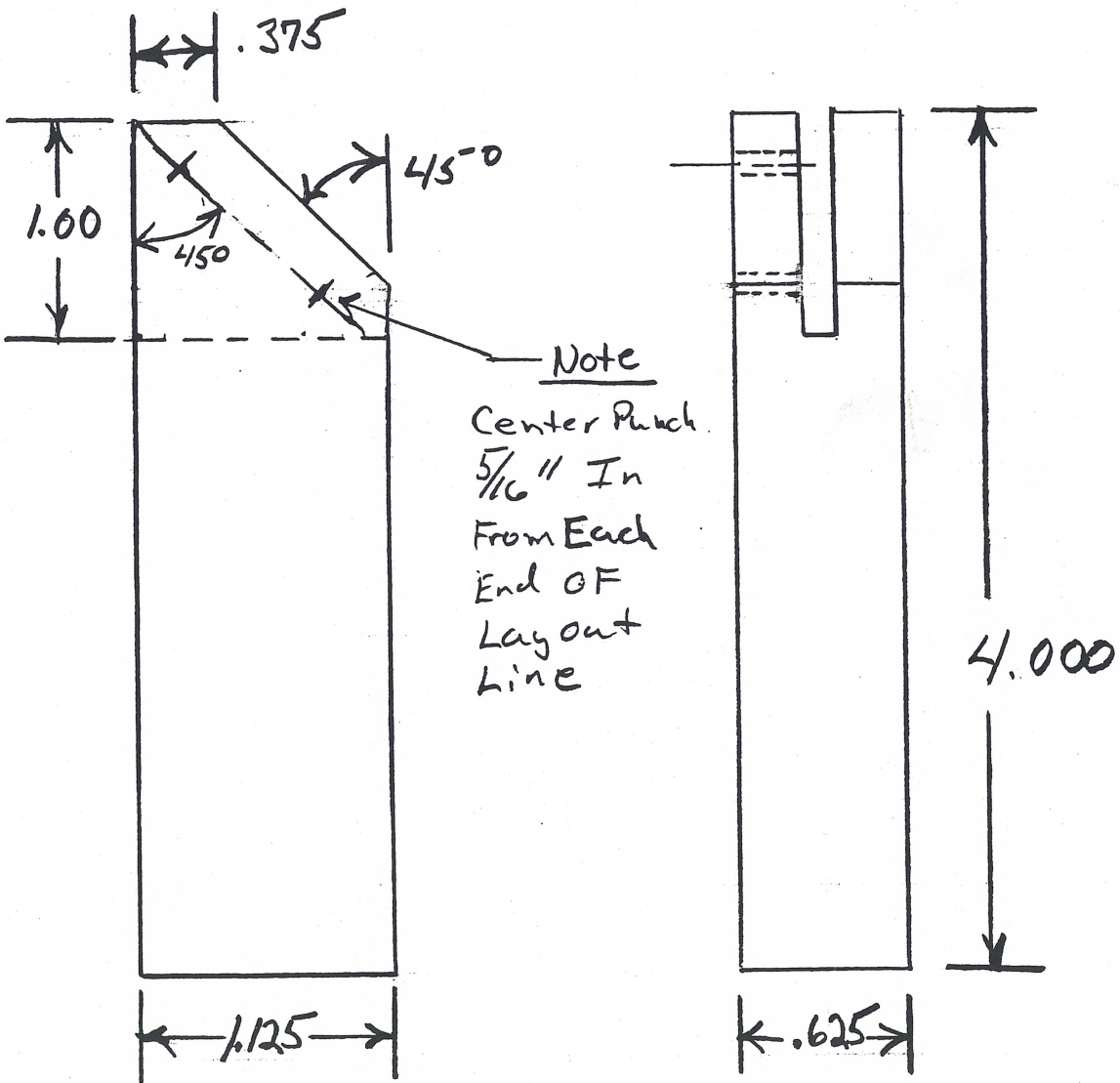
Name: \_\_\_\_\_

Square Head

(Rev. 2003)



Drill 2 Holes #7  
Tap 1/4 x 20



\*Drawing Not To Scale\*

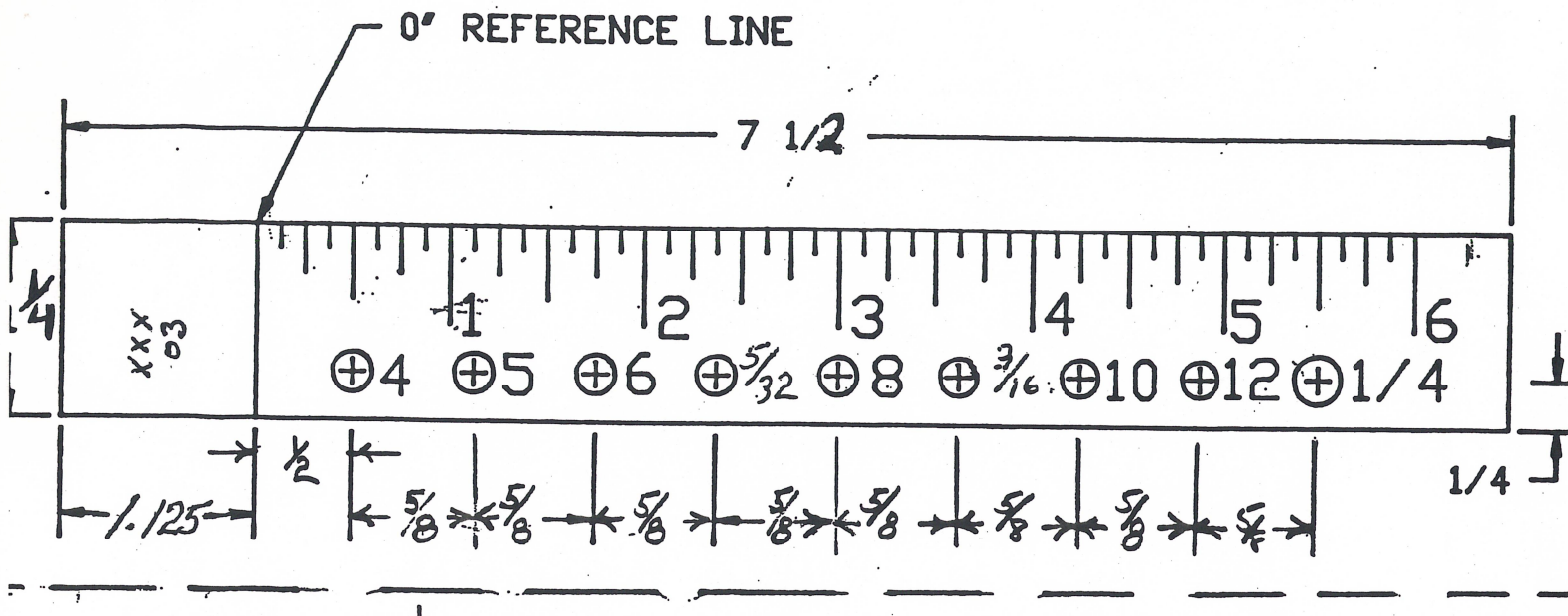
Stock Size: 3/4 x 1/4 CRS 4 1/4 Long

## Square Blade Procedures

1. Rough cut 1 ½" x 1/8" CRS to a length of 7.750" and deburr.
2. Mill first end square.
3. Mill second end square and to finished length of 7.500".
4. Mill one edge square, flat, and carefully deburr.
5. Mill second edge square, flat, and to the finished width of 1.250".
6. Deburr all edges.
7. Surface grind both sides .002". Your final size should be .123" thick.
8. Cover one side with Layout Dye.
9. Layout "0" Reference line. Stamp in your initials and the school year within the 1.125" space.
10. Layout and center punch for bolt/screw gauge.
11. Drill the 9 holes using the appropriate twist drills.
12. Countersink all holes on both sides just enough to remove any burr.
13. Using the CNC mill, machine the 6" rule on one side.
14. Using 1/8" number stamps, carefully stamp in the bolt/screw sizes.
15. Deburr all surfaces and clean off layout dye with Lacquer thinner.
16. Assemble blade and head, and then adjust using the master square.
17. Fill out the evaluation sheet, tape your square to the sheet, and turn into the instructor for grading.



Name: \_\_\_\_\_



BOLT/SCREW HOLE GAUGE SIZES

<u>Bolt/Screw size</u>	<u>Decimal Equivalent</u>	<u>Drill Size</u>
#4	.112	#34
#5	.125	1/8
#6	.138	#29
5/32	.156	5/32
#8	.164	#19
3/16	.187	3/16
#10	.190	#11
#12	.216	7/32
1/4	.250	1/4

Revised  
2004

Name: \_\_\_\_\_

Hour: \_\_\_\_\_

Square/Screw Gauge Evaluation

<u>Item</u>	<u>Points Possible</u>	<u>Student</u>	<u>Instructor</u>
1) Blade Size	15		
2) Head Size	15		
3) One End Filed Square	15		
4) Head Sides Square	15		
5) Surface Grind Blade	15		
6) Set Screw Location	15		
7) Slot Spacing	15		
8) Screw Size Location	15		
9) Countersink All Holes	15		
10) Letter & Number Stamping	15		
11) Head To Blade Square	15		
12) Initials	10		
13) Craftsmanship- Deburr Clean-up, Quality	25		
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Total	200		
		Student Total	Instructor Total