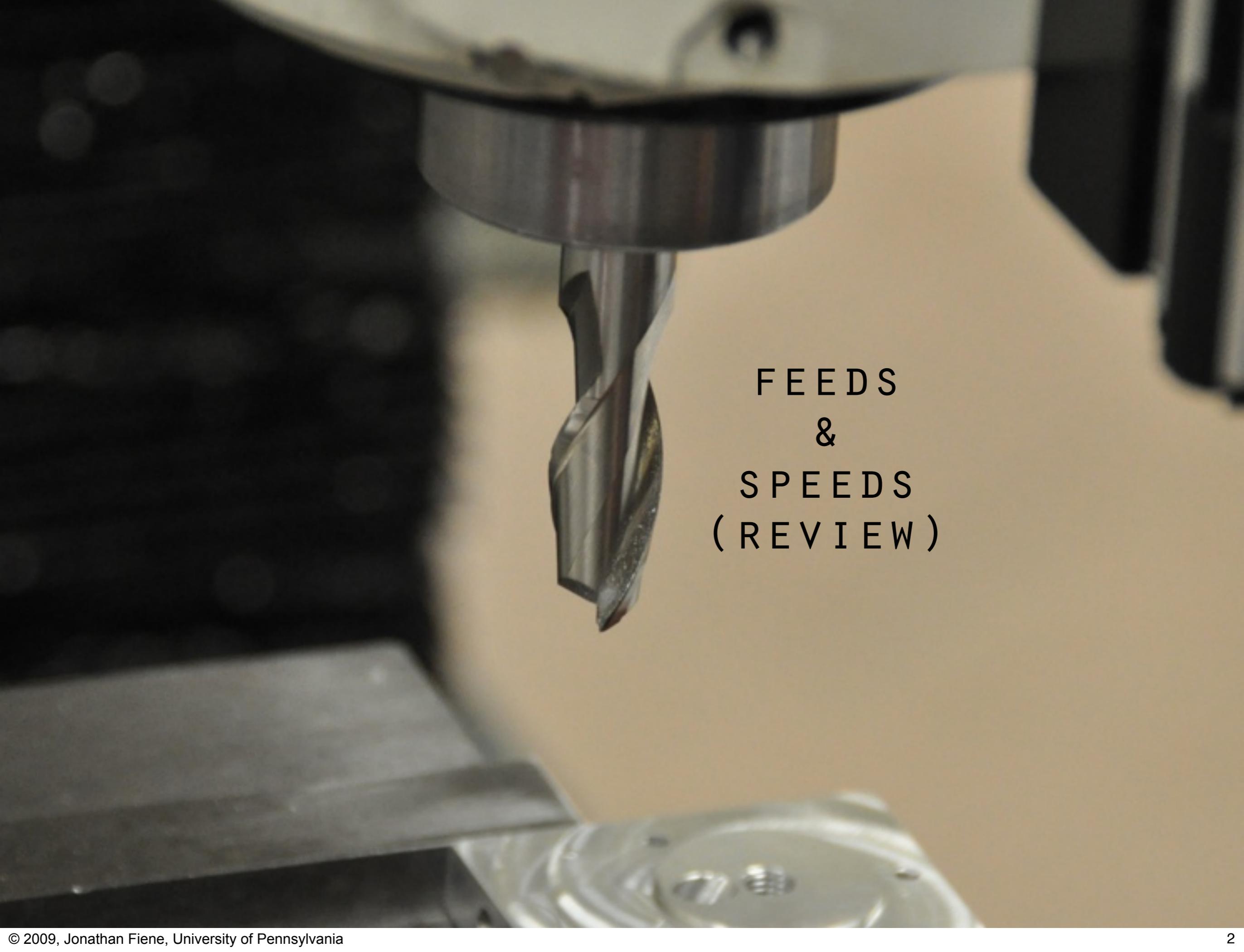


# MEAM 150

FUNDAMENTALS OF MECHANICAL PROTOTYPING

SQUARING STOCK



F E E D S  
&  
S P E E D S  
( R E V I E W )

# CUTTING SPEED GUIDELINES

	HIGH-SPEED STEEL	CARBIDE
PLASTICS	500	800
ALUMINUM	300	600
BRASS	200	400
MILD STEEL	75	250
STAINLESS	50	100

SPEEDS IN SURFACE FEET PER MINUTE (SFPM)

# MILL/DRILL SPINDLE SPEED

$$\text{SPINDLE SPEED} = \frac{4 \times \text{CUTTING SPEED}}{\text{TOOL DIAMETER}}$$

GIVES SPINDLE SPEED IN RPM

FOR

CUTTING SPEED IN FEET PER MINUTE (FPM)

AND

TOOL DIAMETER IN INCHES

FOR NOW, DIVIDE BY ~2

# FEED RATE

FEED RATE = CHIP LOAD X TEETH X SPINDLE SPEED

GIVES FEED RATE IN INCHES PER MINUTE

FOR

CHIP LOAD IN INCHES PER TOOTH

AND

SPINDLE SPEED IN RPM

TYPICAL CHIP LOADS:

ROUGHING 0.005"

FINISHING 0.001-0.002"



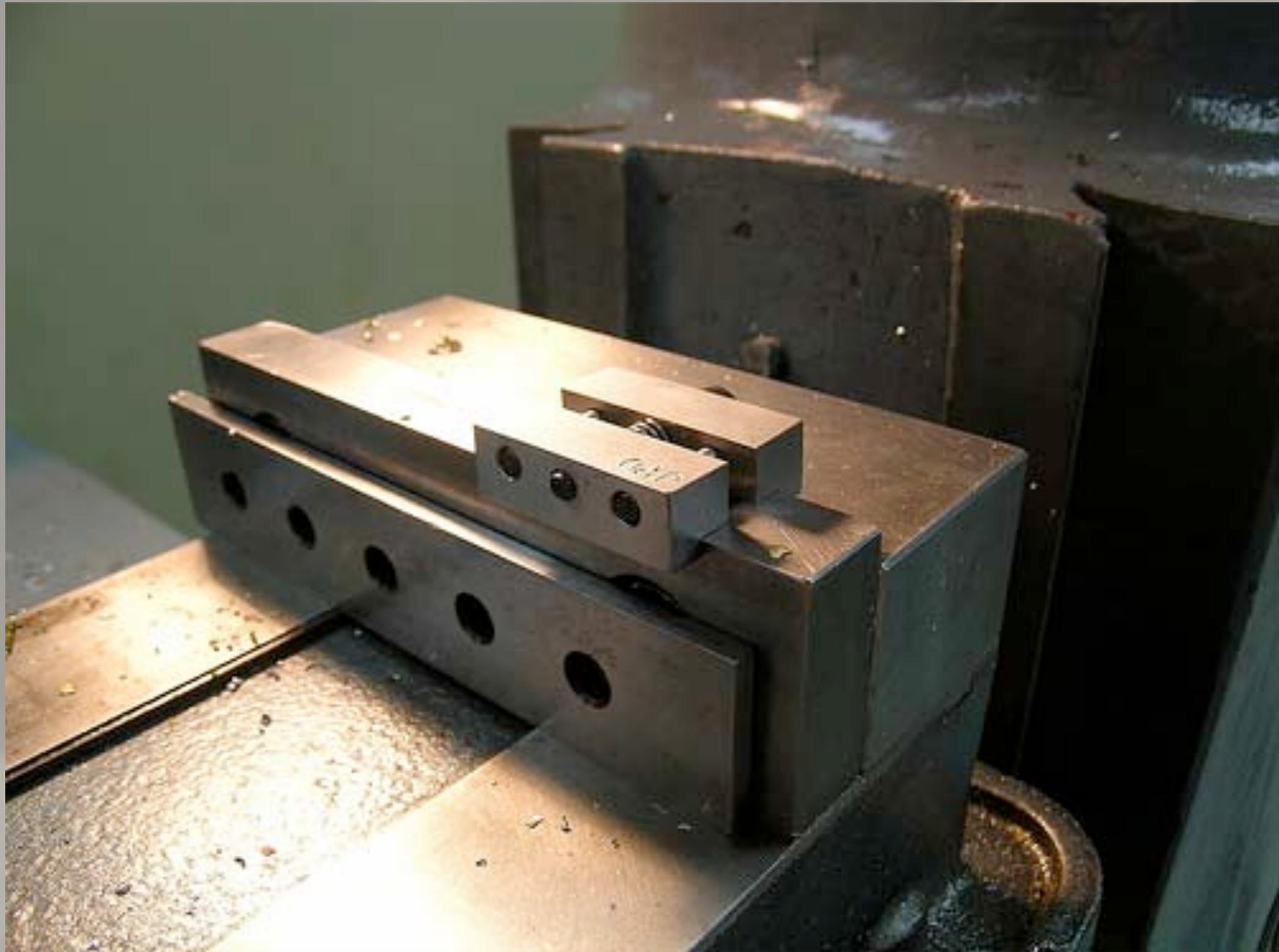
U S I N G  
A  
V I S E



[HTTP://WARDSCORNER.NET/IMAGES/IH\\_MILL/VISE01.JPG](http://wardscorner.net/images/ih_mill/vise01.jpg)

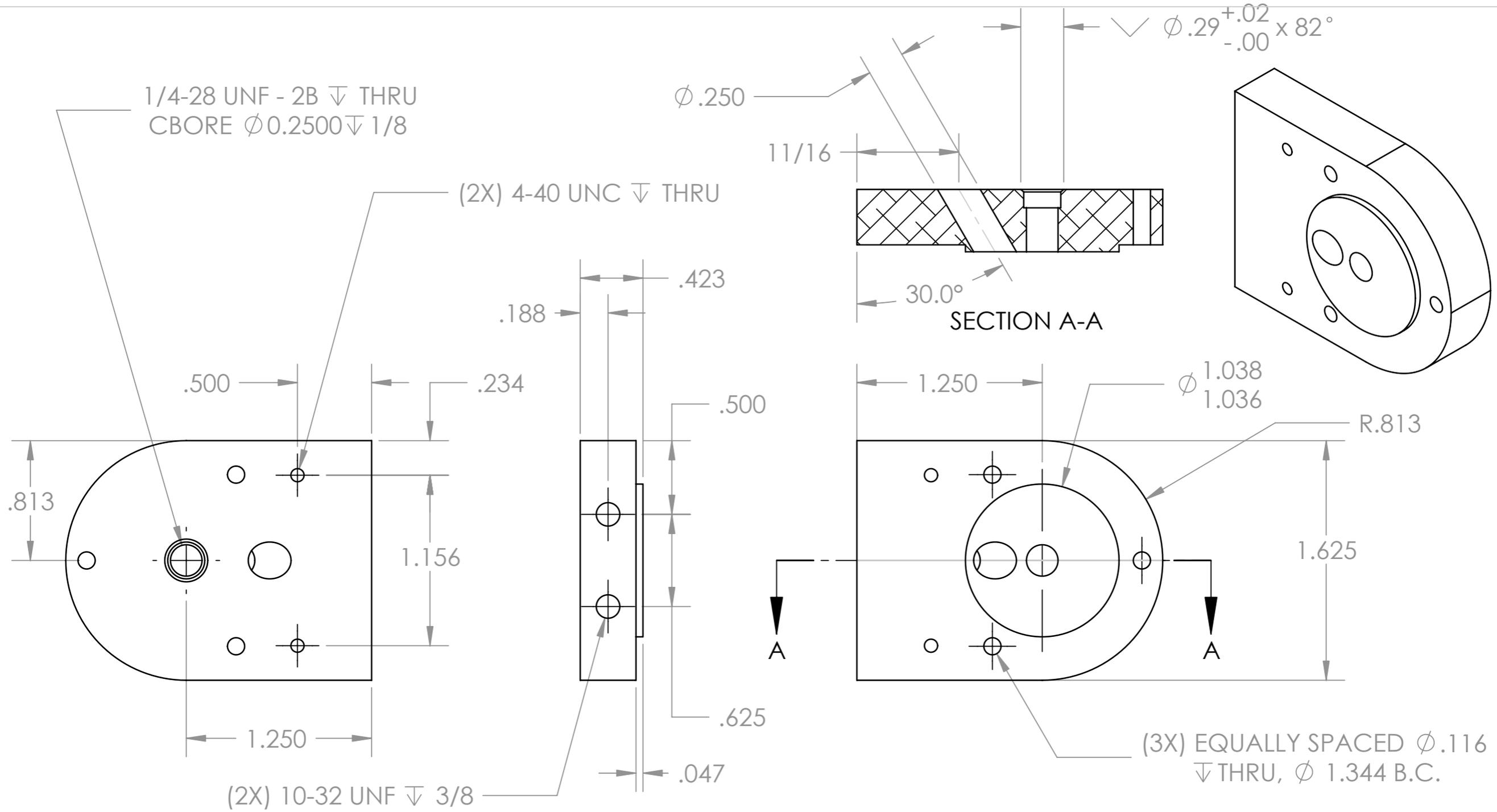








SQUARING  
UP  
YOUR  
STOCK



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DRAWING IS THE SOLE PROPERTY OF  
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REPRODUCTION IN PART OR AS A WHOLE  
WITHOUT THE WRITTEN PERMISSION OF  
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PROHIBITED.

		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: ANGULAR: MACH $\pm 1$ BEND $\pm$ TWO PLACE DECIMAL $\pm .01$ THREE PLACE DECIMAL $\pm .005$ FOUR PLACE DECIMAL $\pm .0005$ FRACTIONAL $\pm 1/64$		NAME	DATE
		INTERPRET GEOMETRIC TOLERANCING PER:		DRAWN	JH 9/1
206		MATERIAL AL - 6061 T6		CHECKED	CX 2/8
NEXT ASSY	USED ON	FINISH NONE		ENG APPR.	
				MFG APPR.	
				Q.A.	
				COMMENTS: BREAK ALL EDGES AND SHARP CORNERS.	
	APPLICATION	DO NOT SCALE DRAWING			

TITLE: <h1>Mounting Block</h1>		
SIZE <b>A</b>	DWG. NO. <b>1</b>	REV <b>C</b>
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1

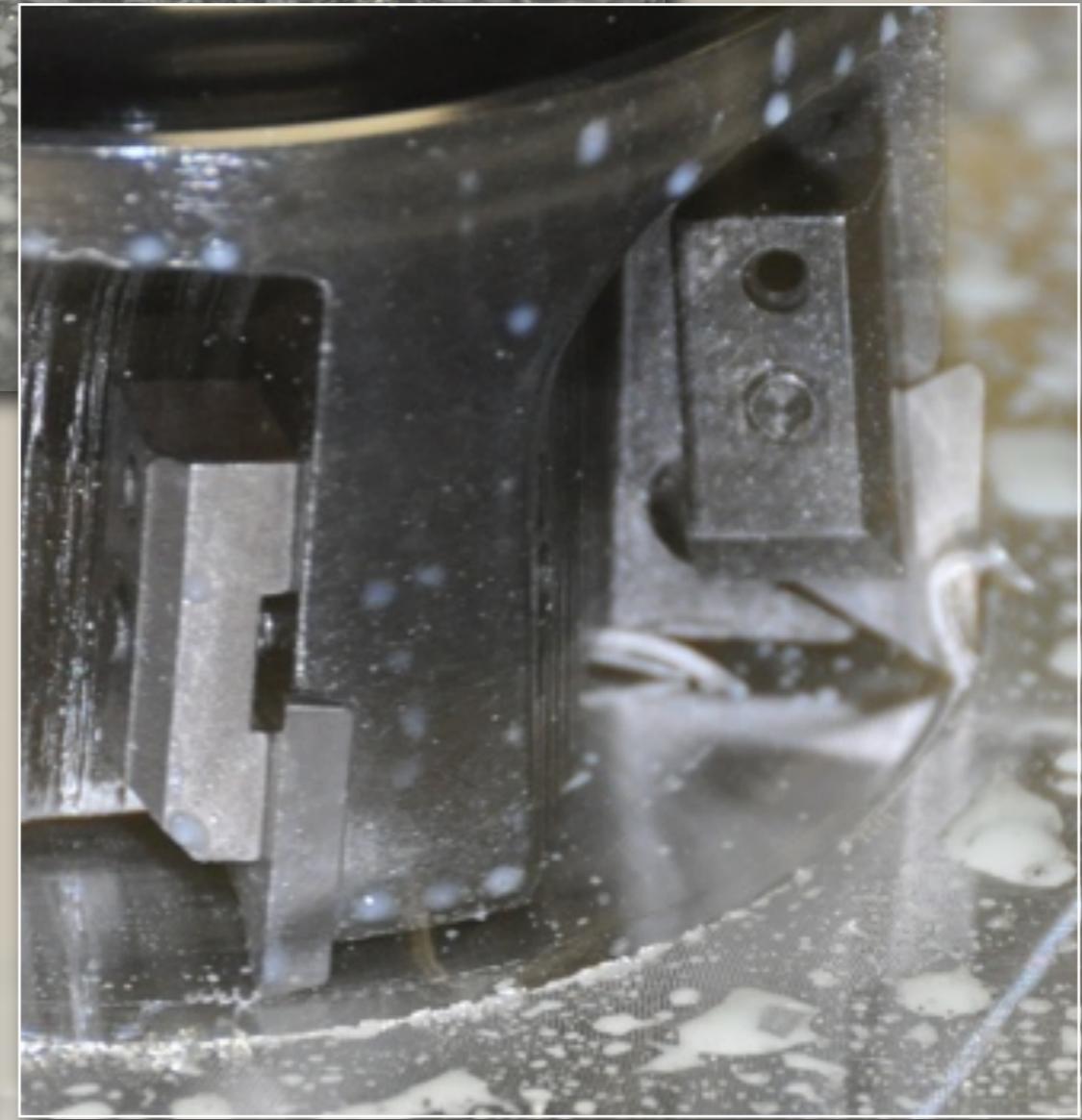
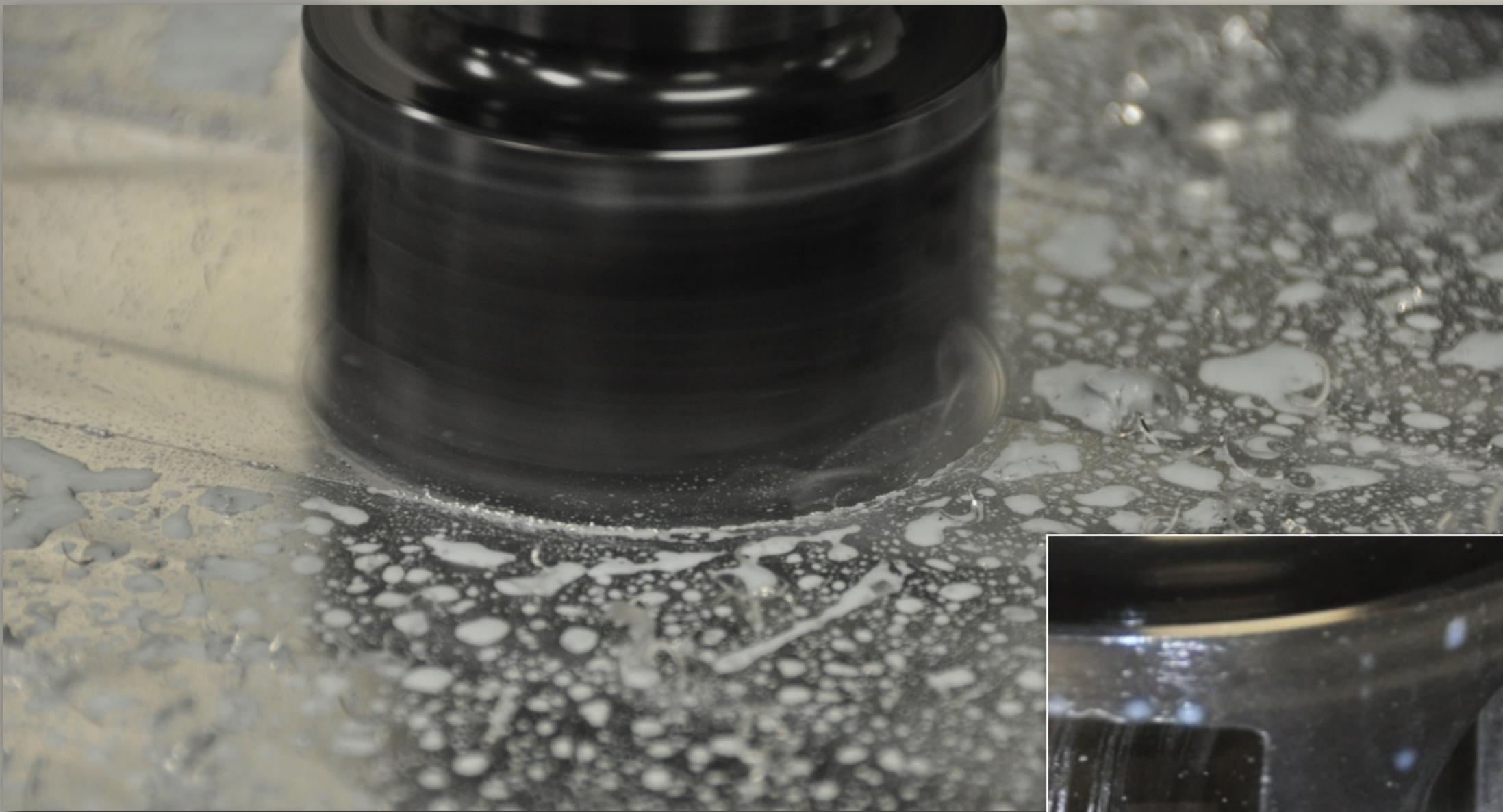


CUT ALL SIX SIDES

FRONT/BACK - CARBIDE-INSERT FACE MILL

TOP/BOTTOM - FACE CUT W/ END MILL

SIDES - SIDE CUT W/ END MILL

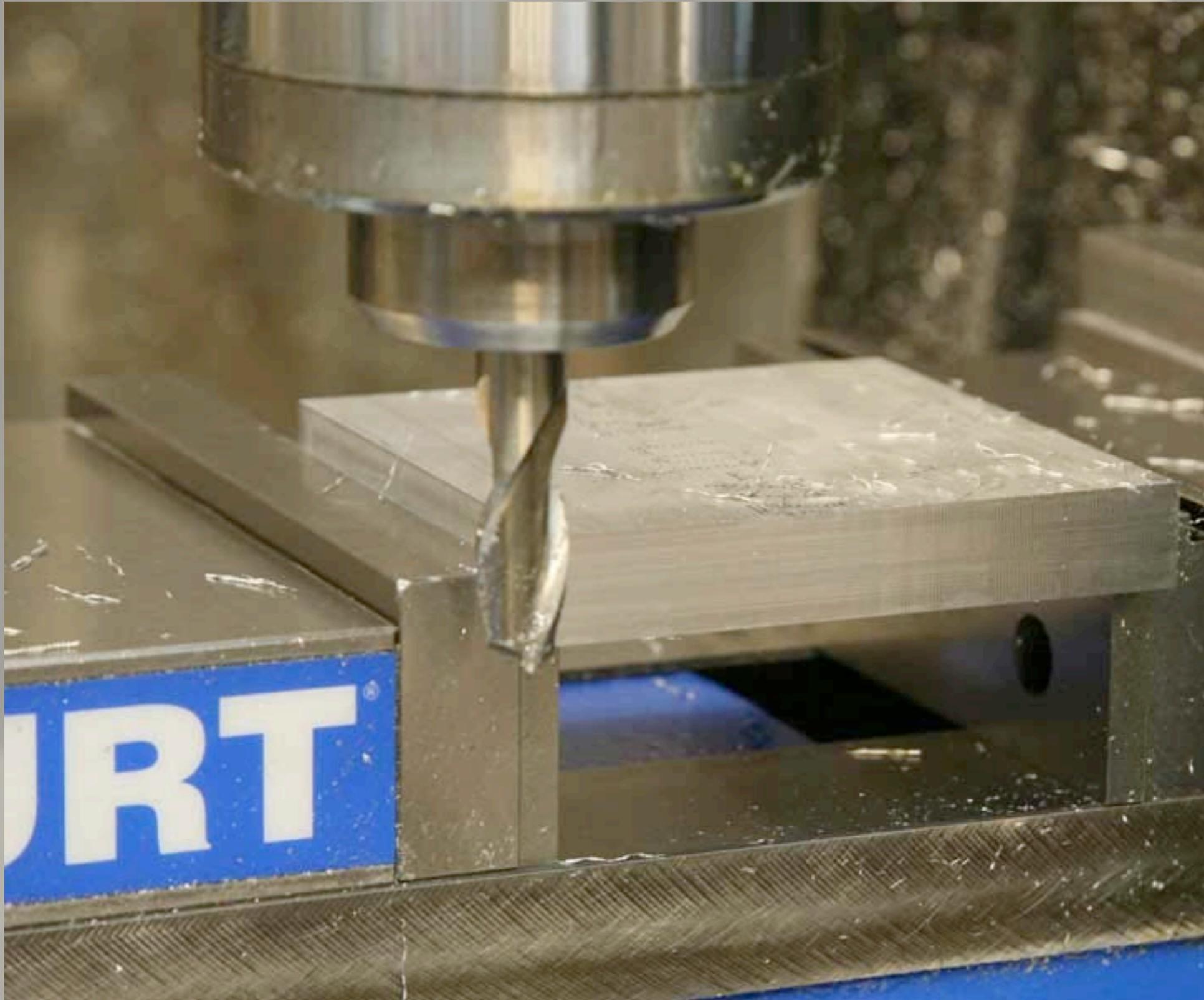


INSERT FACE MILL  
-  
FACE CUT

# END MILL - FACE CUT



# END MILL - SIDE CUT



# END MILL - FACE CUT

