

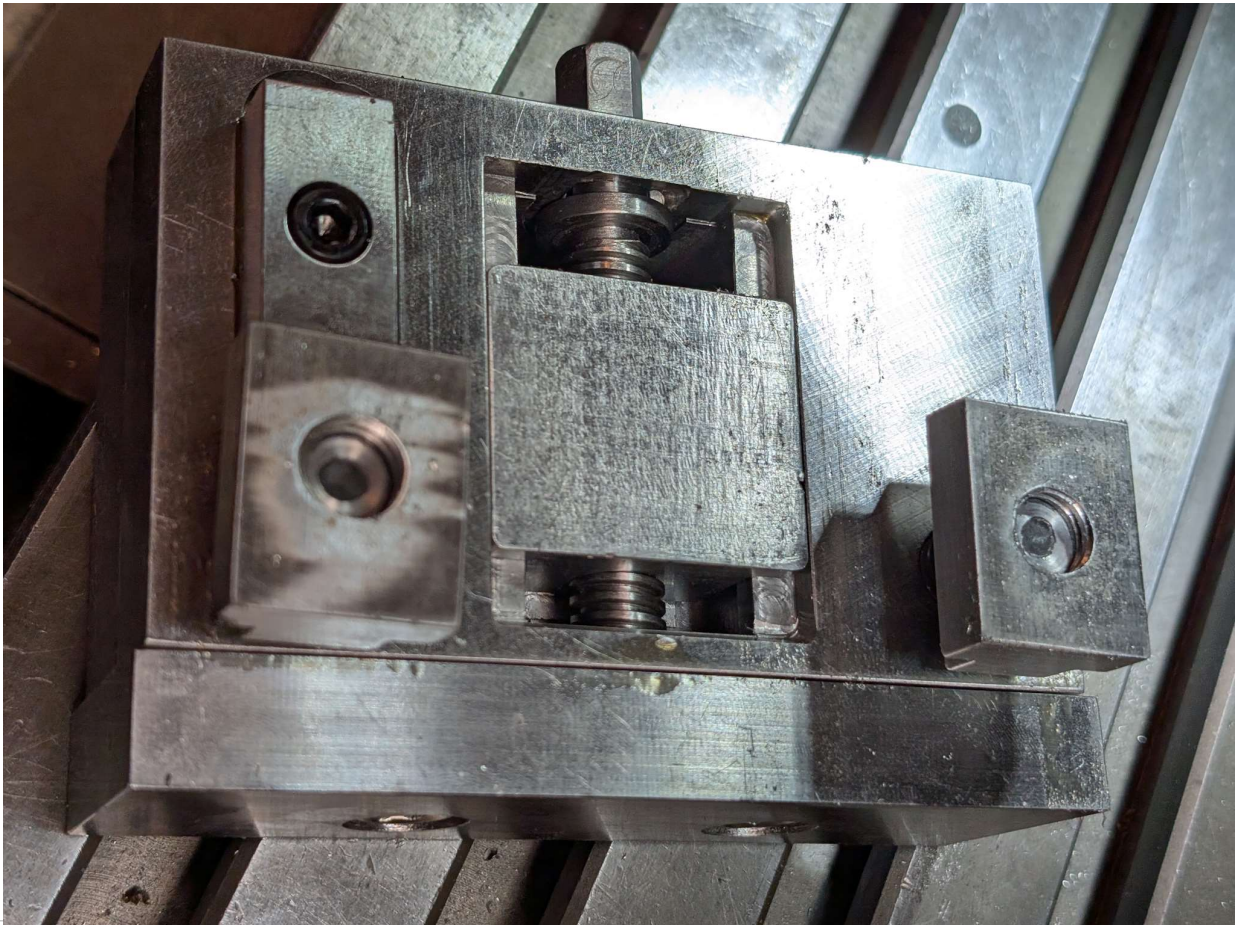
Two Piece Vise

M Kennedy
December 2024

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SIZE	FILE NAME	REV.
A	Two Piece Vise	A
SCALE 1:1	Cover	SHEET 1 OF 10



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SIZE FILE NAME
A Two Piece Vise

REV.
A

SCALE 1:1

Parts

SHEET 2 OF 10



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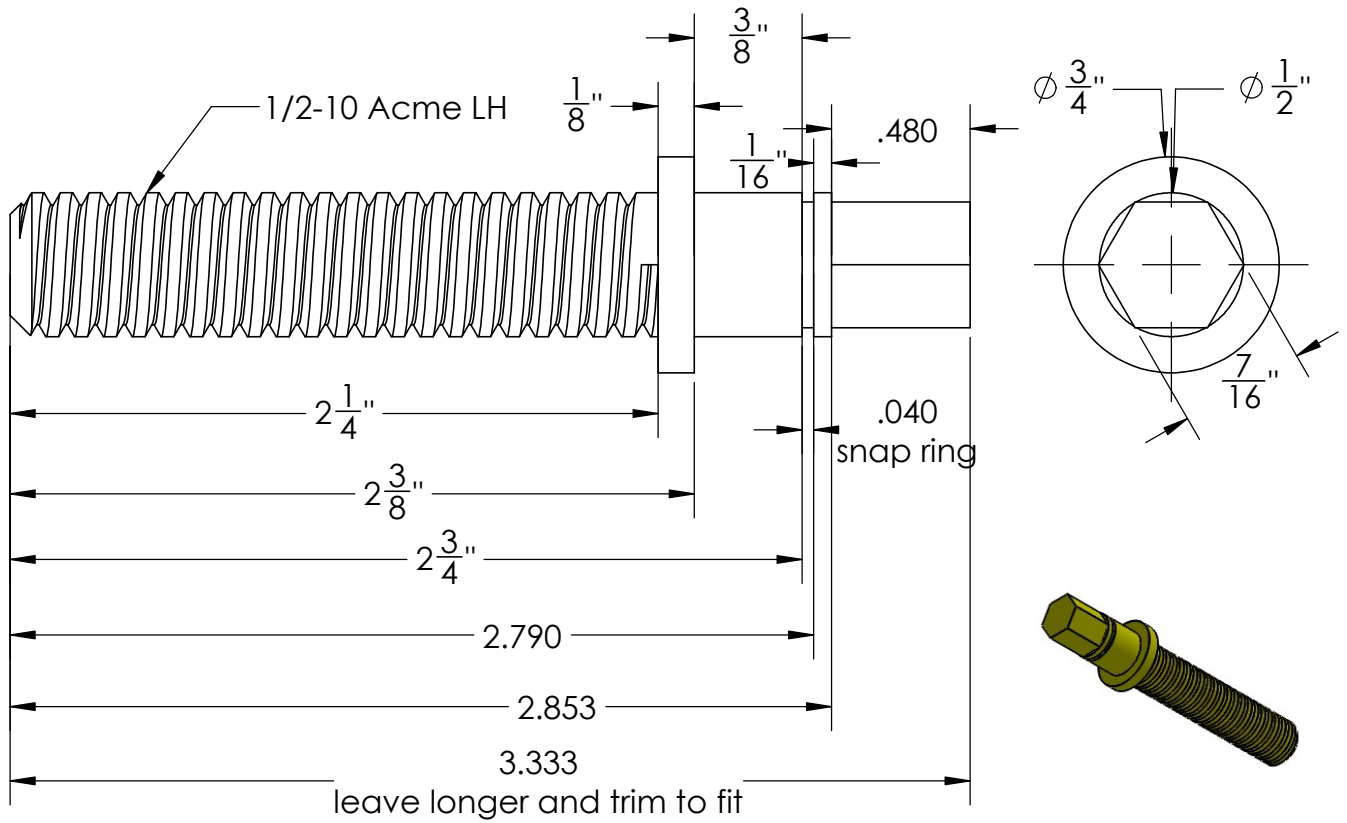
SIZE FILE NAME
A Two Piece Vise

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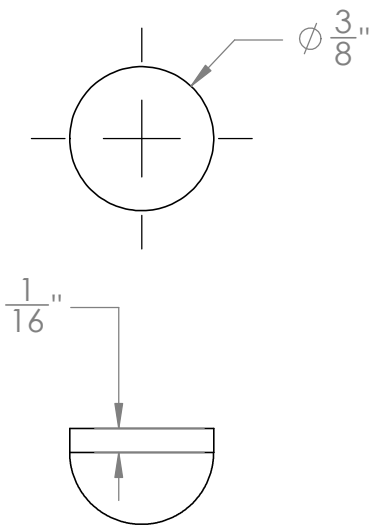
SCALE 1:1

All Parts

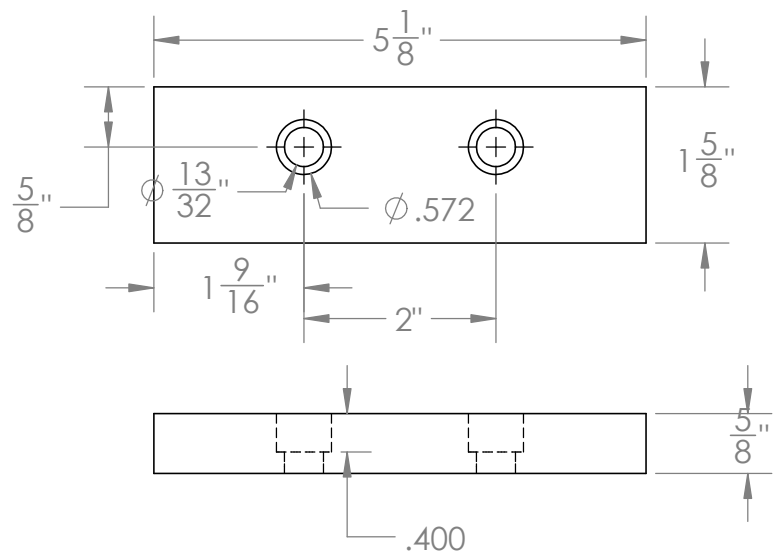
SHEET 3 OF 10



Clamping Screw
Scale 3:2



Bearing Half Ball
Scale 2:1



Jaw
(2 req'd)

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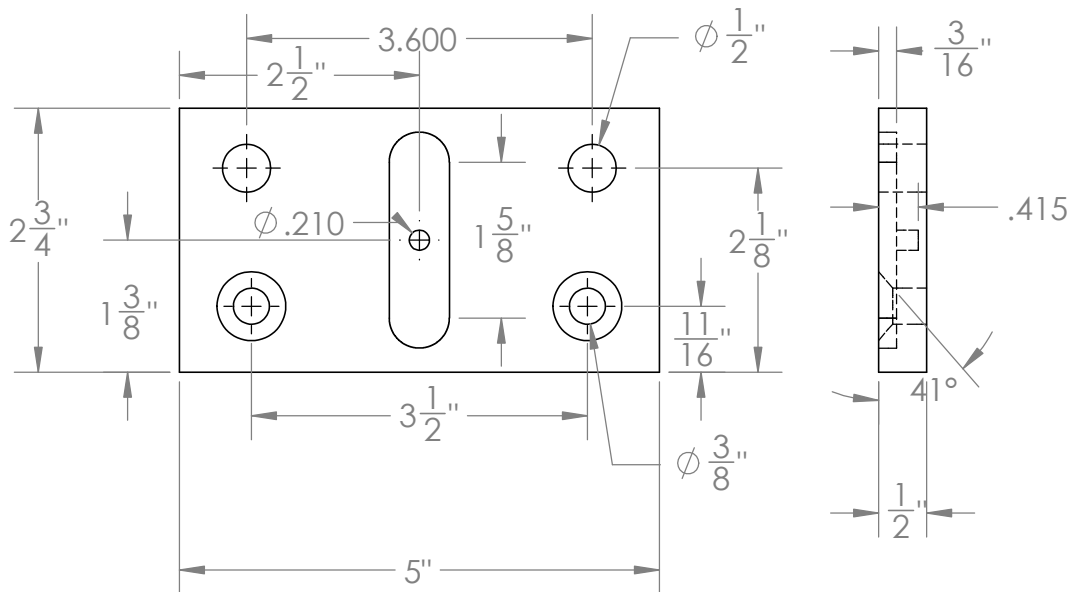
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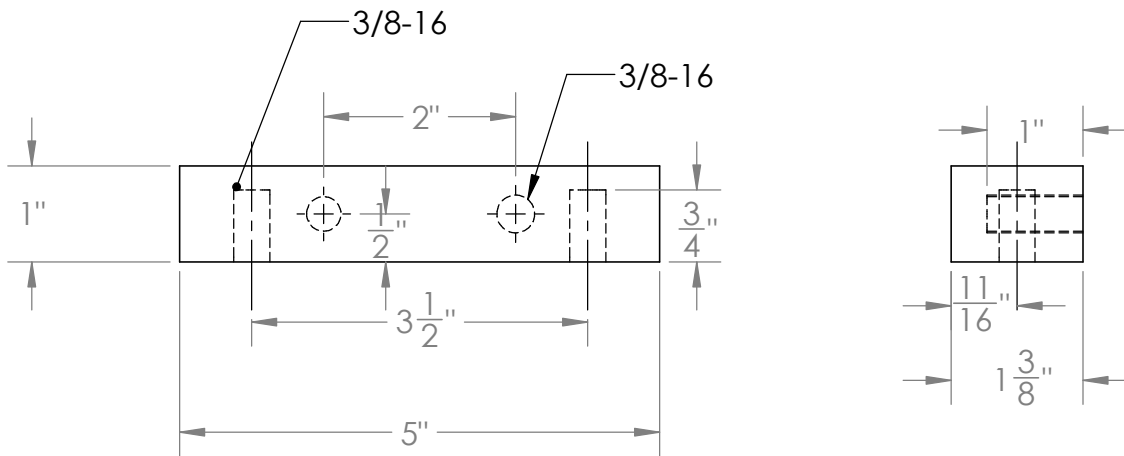
SCALE 1:2

Screw

SHEET 6 OF 10



Fixed Base Bottom



Fixed Base Top

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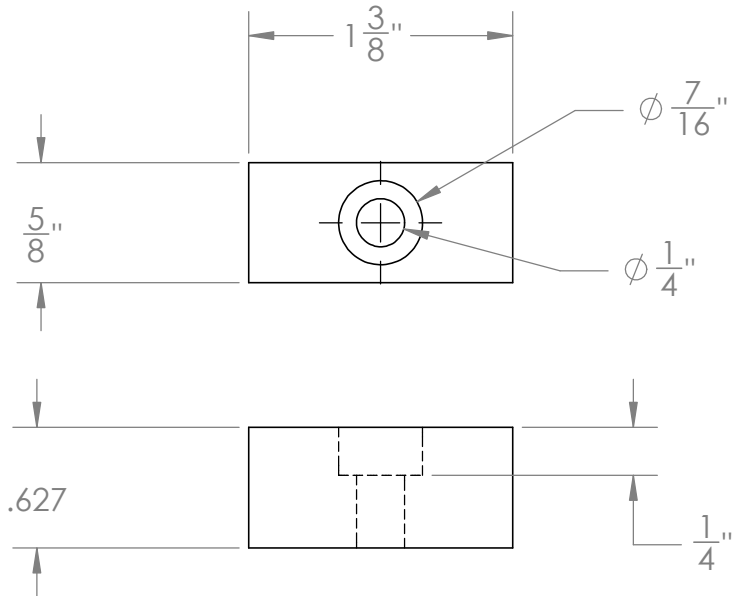
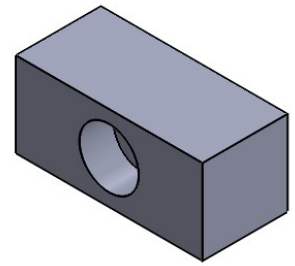
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A Two Piece Vise

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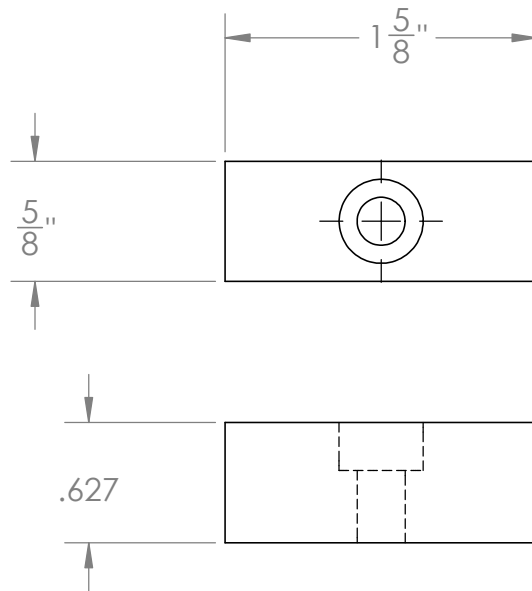
SCALE 1:2

Fixed Base

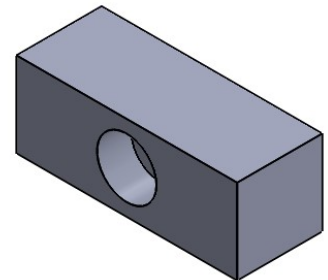
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Moving Base Key



Fixed Base Key



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SIZE FILE NAME
A Two Piece Vise

REV.
A

SCALE 1:1

Key

SHEET 9 OF 10

Notes

1) This vise employs a design that uses a bearing half ball to allow some small rotational movement of the moving jaw. Additionally, the nut and moving jaw contact at a 45 degree angle so that the jaw will be clamped down to the mill table when tightened.

2) Machining this vise is a challenging project, as all parts must fit together closely to produce a tight vise. Additionally, cutting the 45 degree surface inside of the moving jaw requires special attention.

3) Dimensions of mill table slots vary by manufacturer. This vise is for a table with slots on 1.80" spacing. Carefully measure your slots. You may need to move the slots or even re-scale the vise to fit your table.

4) Different T-nut and bolt dimensions may be required.

5) The design includes some keys on the bottoms of the fixed and moving jaw vise assemblies. These are optional. They are used to quickly align the jaws when installing. A machinist's square can be used instead.

6) The adjustment screw is an Acme thread left handed screw. These are typically used for vises. However, a conventional right handed screw will work and does not require special taps and cutters.

7) The dimensions of the adjustment screw and the hole in the base plate were selected to allow the screw and nut assembly to be inserted and removed from the base. If you change dimensions around these areas, check to be sure the parts can be put together!

8) The jaws intentionally are larger than the vise body to allow the vise be flipped around and used in reverse for longer parts. Note that the force against the moving jaw is completely taken by the snap ring in this orientation, and the vise will not be very strong.

9) The vise mounting screws are 1/2" socket head cap screws. There are special cutouts in the moving jaw to provide clearance for the head of the screws.

10) There is a hole for a long set screw above the adjustment screw in the moving jaw. This screw is installed loosely, and prevents the moving jaw from falling off when the vise is not in use.

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SCALE 1:1	Notes	SHEET 10 OF 10