

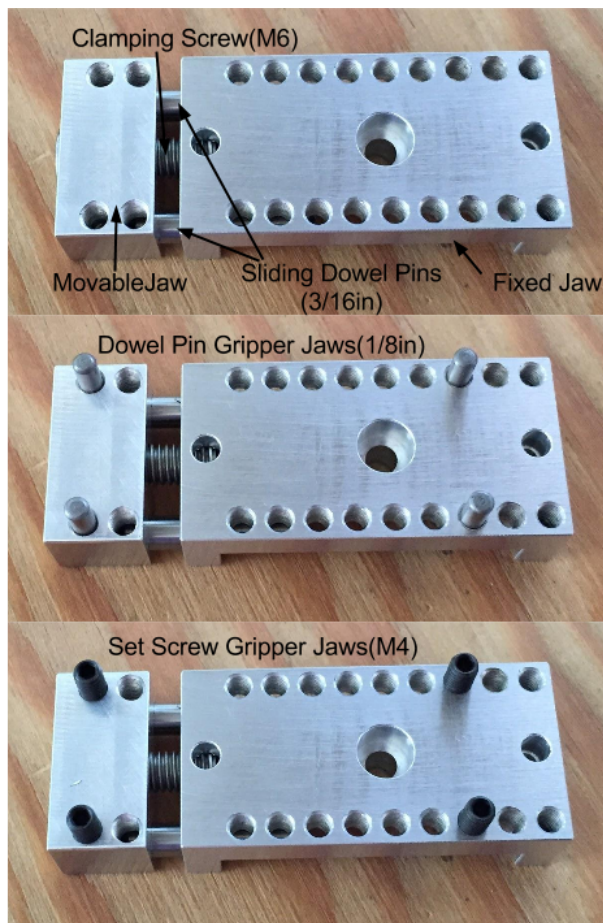
# Pocket NC Vise

Tutorial

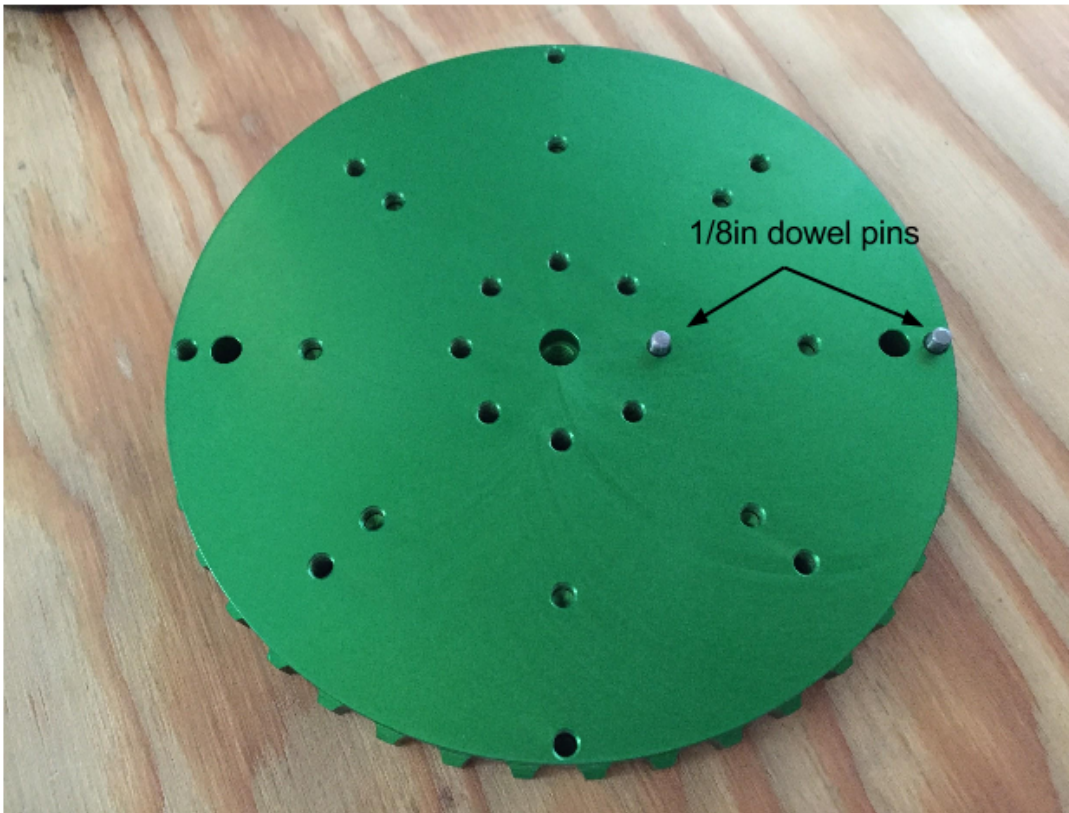


## HOW TO USE THE POCKET NC VISE

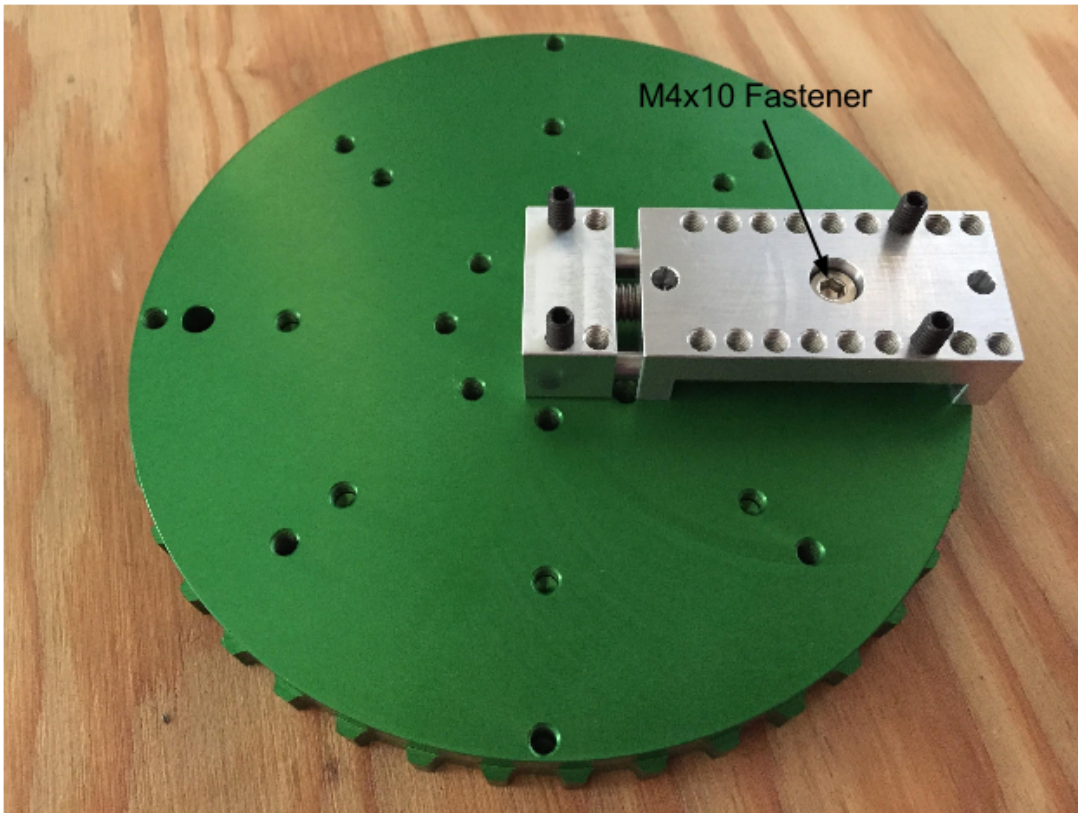
The Pocket NC vise was designed to be super adjustable and have excellent grip. While it does not look like a traditional vise the function is the same. Dowel pins and/or set screws are used in place of jaws and are completely interchangeable. M4 set screws work like gripper jaws for roughing material and will work for a hardness of aluminum and anything softer. Dowel pins can be used for light finishing work. The pins can be adjusted in increments of 5 mm. The movable jaw has a travel of 6mm with 6+ mm of thread engagement.



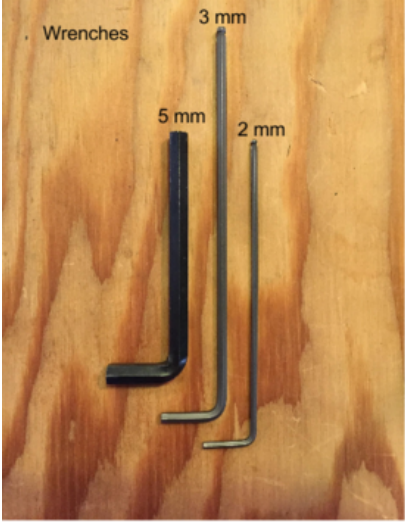
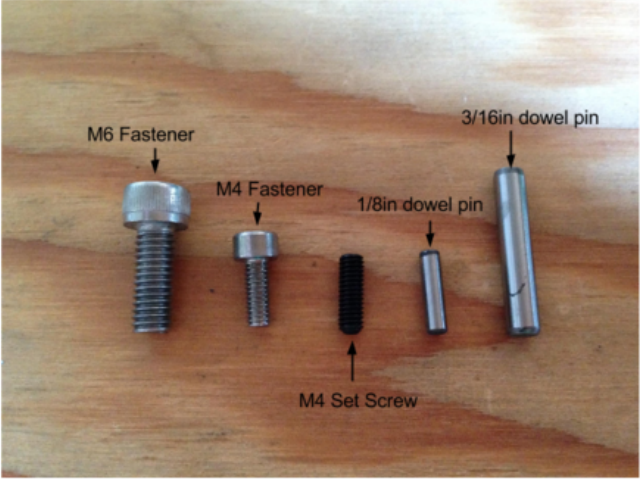
Mounting the vise to the PocketNC mill is simple and precise. In combination with two 1/8" dowel pins, the vise is mounted with a M4x10 fastener. The user can choose 1 of 4 positions in 90 degree increments.



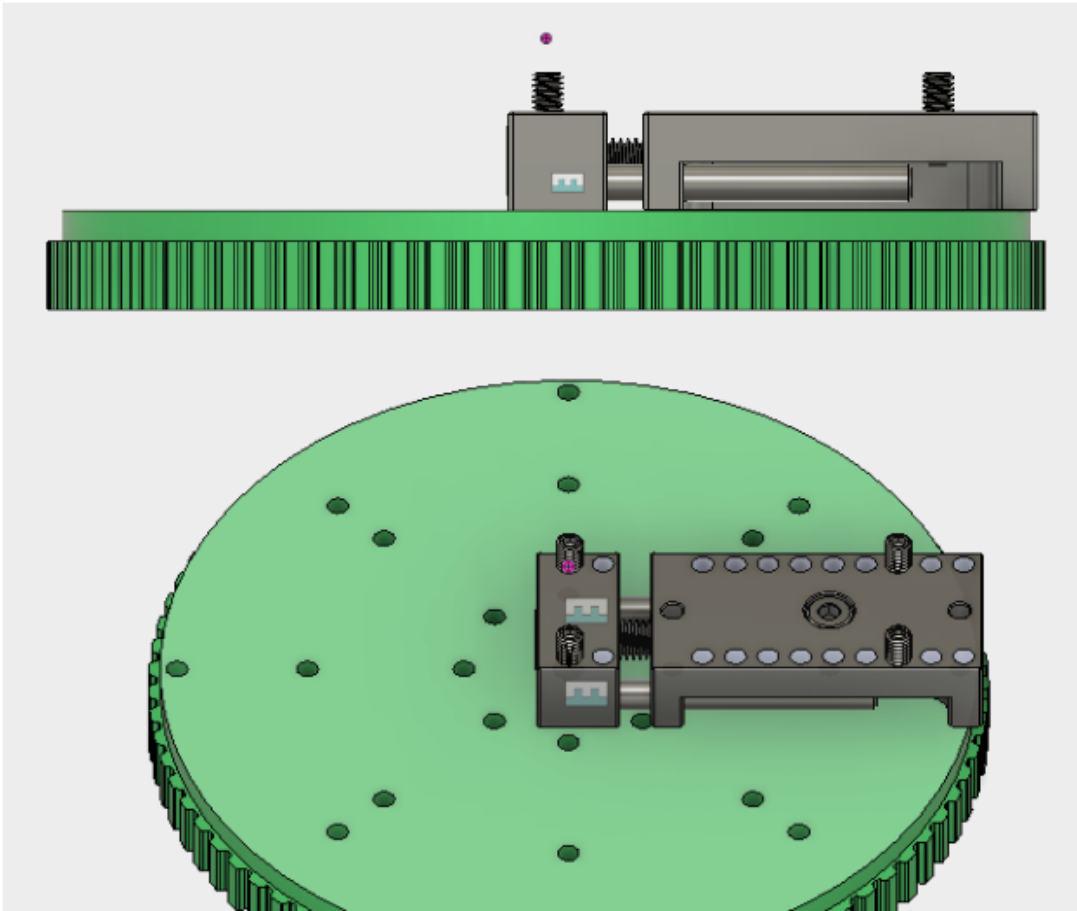
The vise sits on the table with the moving jaw towards the center. Before placing the vise be sure both the table and vise are clean and clear of chips. Tighten the M4x10 fastener using a 3mm hex wrench only to the point that the wrench starts to flex. Tightening past this point will destroy the threads machined in the table.



The Pocket NC vise uses 3 different types of off the shelf components, socket head cap screw, set screws and dowel pins. You will notice that the fasteners and setscrews are metric and the dowel pins are english. We have two reasons for the mix and match. The most common part that will get lost is the 1/8" dowel pins, they tend to roll off desks and slip out of hands but because they are english units, a replacement or even longer versions can be purchased at a local ACE Hardware. The second reason for this mix, M4 fasteners have a minor diameter that is so close to 1/8" that a M4 internal thread can be machined to also accommodate a 1/8" dowel pin. This helps the user easily switch between roughing parts and finishing parts.

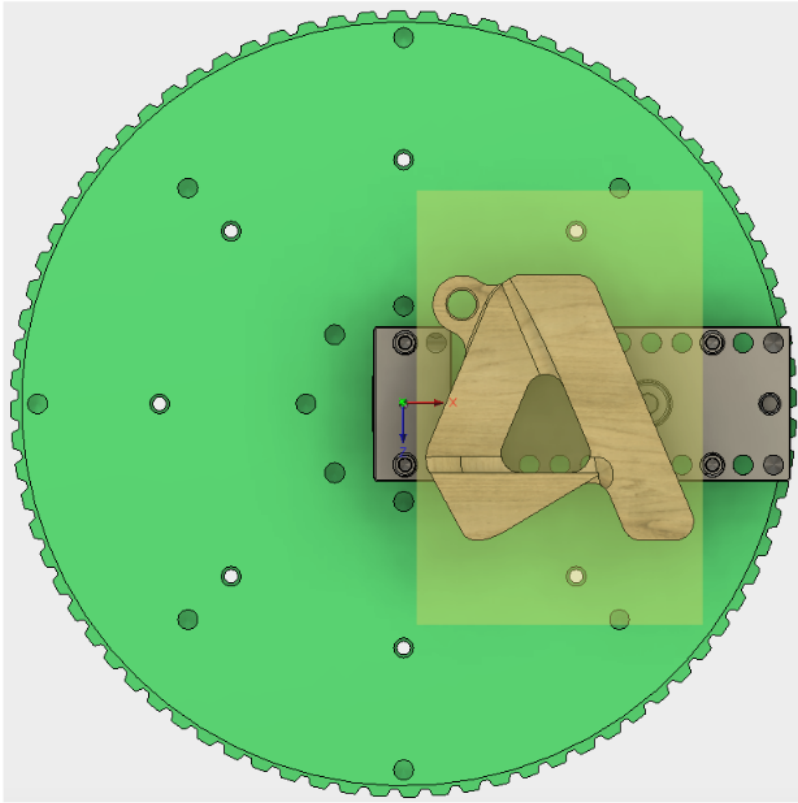


Here you can see the PocketNC vise mounted on the B axis table within Fusion 360.



The origin of the machine (G54 Xo Yo Zo Ao) is represented as a pink dot centered on the table .885" above the surface. Material can be placed within Fusion 360 using the this table and vise setup to accurately represent the setup on the machine. You can find the Fusion file for the vise and table [here](#).

Here is a representation of the Autodesk A logo being set up for machining. A lighter area represents the stock material that will need to be removed. The part should be adjusted in XY and Z to represent the desired end result. In the photo, centerline of the B axis is parallel with the centerline of the spindle, this is A 90 degrees. The movement of the rotational axis may be different than the user may imagine, users should take the time needed to understand how the axes move in relation to each other.



In the picture below, the A was machined from a scrap piece of Delrin. The material was placed in the vice according to the picture in Fusion 360.

