Quick Start Guide

Congratulations on your new Pocket NC!

Get started with this basic guide and the "Getting Started" playlist on our Youtube channel.

For additional information visit: www.support.pocketnc.com For support, service or any other inquiries, contact us at: info@pocketnc.com

Thank you!

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Revision History:
V1.0 October 2017 (JD)
V1.1 May 2018 (KN): Updated bolt removal photos
V2.0 May 2019 (QR): Large revision
V2.1 Sep. 2019 (QR): Added user interface section
V2.2 Oct. 2019 (QR): Fixed URLs
V2.3 Feb. 2020 (QR): Removed V2-50 info and renamed

V2 Shipping Bolt Removal

There are four shipping bolts installed in the Pocket NC in order to lock the axes in position and prevent damage to the machine during shipment. The bolts are shown in green circles below. They must be removed before the machine may be used.

Do NOT remove any other bolts from the Pocket NC as this could cause damage to the machine.

The shipping bolts are M6 shoulder bolts of three different lengths. The 4 mm hex key needed to remove the bolts is included in the toolkit shipped with the machine. The bolts are installed only hand-tight.

Figure 1: Pocket NC V2 Series all shipping bolt locations shown in green circles.

Do not discard the bolts. They should be retained with the rest of the machine packaging in case the user needs to ship the machine in the future.

Two of the shipping bolts are located behind the Y-axis, they are shown in green circles in Figure 2. When the user is looking at the back of the machine they are located in the lower-right quadrant of the machine. One of them locks the trunnion housing to the L-bracket and the other locks the A-table to the A-housing.
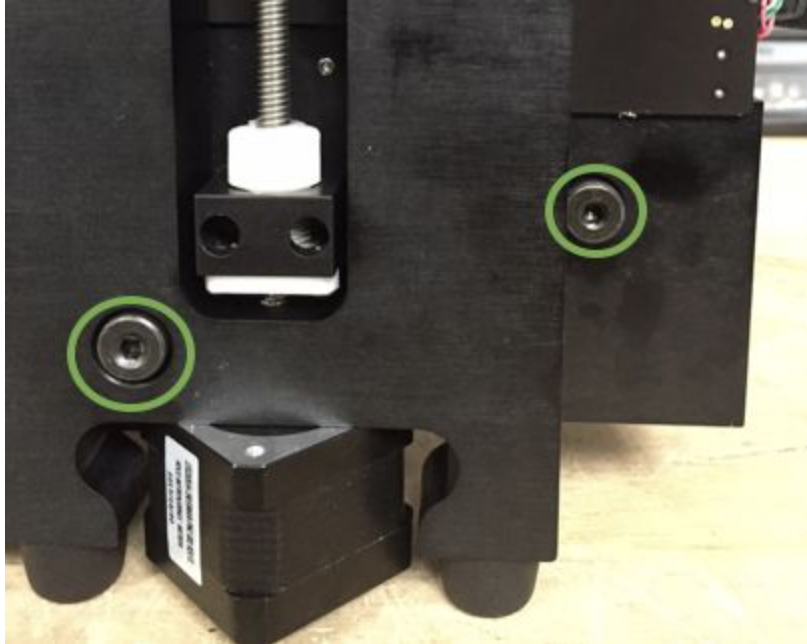
Figure 2: Close up of shipping bolts in green circles behind Y-axis

The other two shipping bolts are located on the X-carriage, behind the spindle. They are both accessed from the top of the machine. The right bolt locks the spindle mount to the X-carriage. The left bolt locks the X-carriage to the main block.

Figure 3: Close up of shipping bolts in green on X-carriage

CAM Software Options

The Pocket NC machines take G-Code, which can be written by hand or by a CAM software. Pocket NC has a list of post-processors for an array of CAM packages under Help > Post Processor. These include Mastercam, Autodesk products (Fusion 360, HSM Works, Feature CAM), RhinoCAM, NX, BobCAD/CAM, SolidCAM, and EspritCAM.
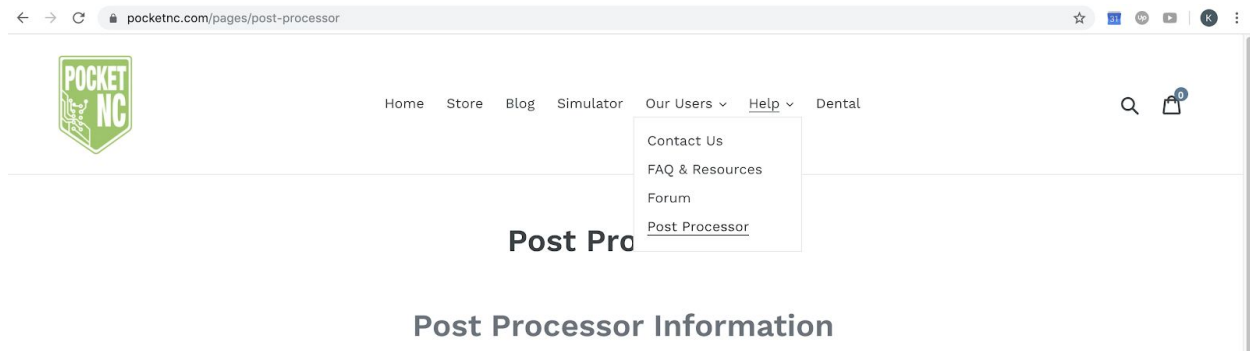
Fusion 360 continues to be free for educators, please register at autodesk.com/education/home. Fusion 360 is also free for personal users although there are some restrictions. Start-ups can apply for a free commercial license if they meet certain criteria. Please see more information on these new licenses here:
https://www.autodesk.com/products/fusion-360/blog/subscription-types/.
A standard Fusion 360 commercial license is $495 per year which can be purchased through Autodesk.

If you have any questions about CAM software choices and options please email info@pocketnc.com.

Pocket NC Basics

User Interface

To connect to your Pocket NC, follow the steps below for accessing the user interface

1) With the machine's power switch in the off (o) position, plug the power cord into a wall outlet and then the machine.
2) Plug the usb cord into a computer.
3) Plug the usb cord into the machine and flip the power switch to the on (-) position. Wait for the machine to boot up fully.
4) Once the E-stop button is blinking red, open a new window in a supported browser (Google Chrome, Firefox, Safari) and type 192.168.7.2 into the address bar and press enter.
5) When the user interface shows up, confirm that it says "Connected" in the bottom left corner.

If you are experiencing connection issues, please make sure you have the most recent Beaglebone driver for your operating system installed on your computer.

To help avoid connection issues in the future, please be sure to regularly clear log and g-code files from the machine using the user interface's "Conf." tab. The options to do so will be found under "Status".

It is also recommended that users completely shutdown the Pocket NC when it will be idle for more than a couple of hours. This includes turning the power switch off and unplugging the USB cable.

Tooling

The ⅛" single flute end mill that came with your machine should not be used for cutting metals or plunging in any material. (Part Number 52508 - Carbide, Plastic Cutting End Mill - Square Upcut Single Flute)

If additional tooling is needed for cutting metals or other materials, visit pocketnc.com to see the selection of Harvey and Datron tools we offer.

Installing and Removing the Tool Holder (V2-10)
1) With the spindle off, loosen the 3 spindle set screws using the 3mm driver
2) Check that the tool holder and spindle collar are clean

3) Install the tool holder. Make sure to align the notches on the holder with the tabs on the collar
4) Incrementally tighten the set screws by moving from one screw to the next until all three are evenly tightened
5) To remove the holder, perform steps 1-4 in reverse. The holder may require a light strike to get it to release from the collar

Installing or Changing the Tool (V2-10)

1) With the spindle off and a tool holder installed, completely remove the collet nut from the end of the tool holder
2) Snap the appropriately sized ER11 collet into the collet nut by pressing them together
3) Lightly thread collet nut with collet back onto the tool holder
4) Insert the tool into the collet with the desired amount of tool left sticking out
5) Insert the provided 3mm driver into one of the spindle set screws
6) Using the provided Pocket NC spindle wrench, tighten the collet nut while holding the spindle in place using the 3mm driver
7) Perform steps 1-6 in reverse to remove or change the tool
8) Remember to measure the tool offset using the directions below.

Measuring Tool Offset (telling the machine where the end of the tool is)

1) Home machine
2) Navigate to the "Tooling" page of the user interface (www.support.pocketnc.com >> User Resources >> Software Overview)
3) With the desired tool loaded, click the "Measure Tool XX" button that matches the *tool used in your program.*

Alternatively, the tool length offset can be measured by hand by following the directions here: www.support.pocketnc.com >> User Resources >> Tool Length Offset

Work Holding

For information and instructions on how to set up the various work holding options Pocket NC offers, visit www.support.pocketnc.com >> User Resources >> V2 Series Workholding

Important Values

Measured "B-table offset": _____ in
(Distance from B-Table to the Center of A axis rotation)

Shipping position - X1.26 Y2.51 Z-3.333 A90.00 B0.00

V2-10 Collet Type - ER11

Machine Number: _____

What's Next?

If you are new to machining, we have a few resources that will help you become acquainted with your new machine. For the basics start here: www.support.pocketnc.com. From there, go check out our tutorials section found here: www.support.pocketnc.com >> user resources >> Tutorials. Also, be sure to go through the Fusion 360 Ultimate tutorials found on Autodesk's website to become familiar with CAD/CAM and how it works with CNC machines.