



PENTA
MACHINE CO.

▶ *QUICK*
START
GUIDE

V2-10

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Revision History

10/04/22

Congratulations on your new Pocket NC!

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

<http://www.youtube.com/c/PocketNC>

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

Thank you!

▶ **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 in Figure 1. 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.

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.

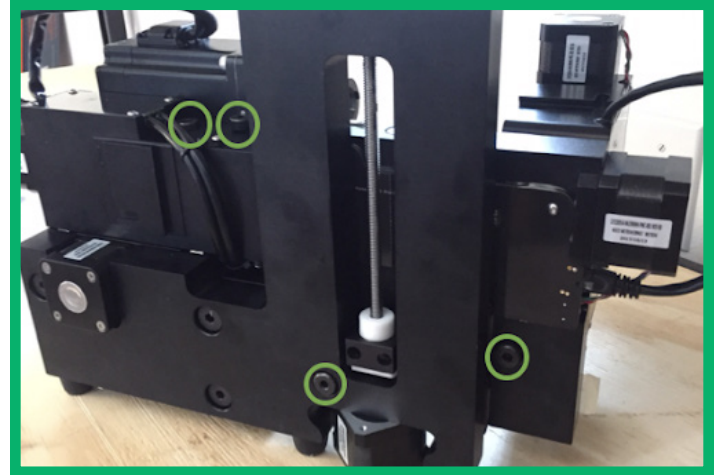


Figure 1: Pocket NC V2 Series all shipping bolt locations shown in green circles.

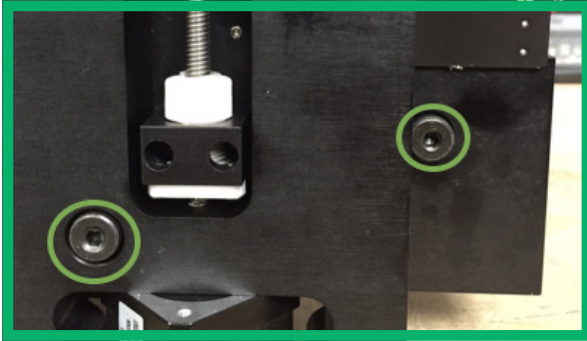


Figure 2: Close up of shipping bolts in green circles behind Y-axis

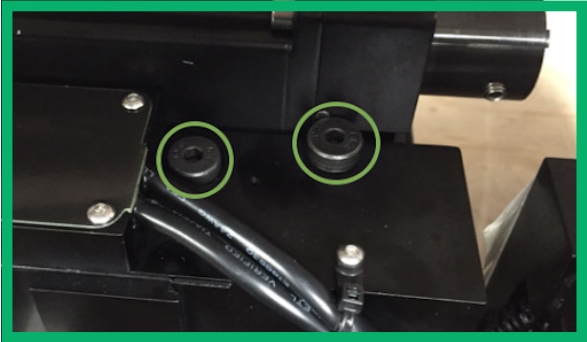


Figure 3: Close up of shipping bolts in green on X-carriage

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.

The other two shipping bolts are located on the X-carriage, behind the spindle. They are both accessed from the top of the machine as shown in Figure 3. The right bolt locks the spindle mount to the X-carriage. The left bolt locks the X-carriage to the main block.

▶ **POCKET NC BASICS**

USER INTERFACE

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

- With the machine's power switch in the off (o) position, plug the power cord into a wall outlet and then the machine.
- Plug the usb cord into a computer.
- Plug the usb cord into the machine and flip the power switch to the on (-) position. Wait for the machine to boot up fully.
- 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.
- When the user interface shows up, confirm that it says "Connected" in the bottom left corner.

If you are experiencing connection issues, please visit our resources page by going to **support.pentamachine.com >> Troubleshooting >> User Interface Connection Issues**. If the issue persists, please reach out to us at service@pentamachine.com.

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 single flute end mill* that comes with the machine can be used to cut aluminum, wood, plastic, copper, brass and bronze. *Datron Tool 0068630E, shank diameter 1/8", flute diameter 3.0mm, flute length 9.0mm, tool length 38.0mm

If additional tooling is needed for cutting metals or other materials, visit **pentamachine.com>> Shop >> Tooling** to see the selection of tools we offer.

INSTALLING AND REMOVING THE TOOL HOLDER (V2-10 ONLY)

- With the spindle off, loosen the 3 spindle set screws using the 3mm driver.
- Check that the tool holder and spindle collar are clean.
- Install the tool holder. Make sure to align the notches on the holder with the tabs on the collar.
- Incrementally tighten the set screws by moving from one screw to the next until all three are evenly tightened.
- To remove the holder, perform steps 1–4 in reverse. The holder may require a light strike (3MM Driver handle) to get it to release from the collar.

INSTALLING OR CHANGING THE TOOL (V2-10)

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

MEASURING TOOL OFFSET *(telling the machine where the end of the tool is)*

- Home machine.
- Navigate to the “Setup/Tool Offsets” page of the user interface
(www.support.pentamachine.com >> **Getting Started** >> **Manuals** >> **Kinetic Control Software Overview**)
- 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.pentamachine.com >> **User Resources** >> **Legacy Resources** >> **V2 Legacy Resources** >> **V2 Series Tool Length Offset**

▶ **WORK HOLDING**

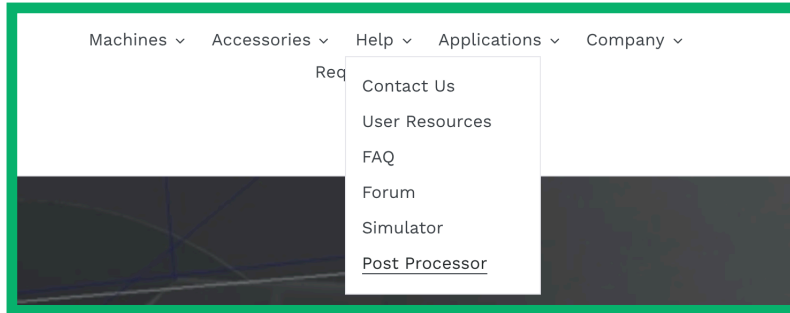
For information and instructions on how to set up the various work holding options Penta Machine Company offers, visit www.support.pentamachine.com >> **User Resources** >> **V2 Series Workholding**

▶ CAM SOFTWARE OPTIONS

The Pocket NC machines take G-Code, which can be written by hand or by a CAM software.

Penta Machine Company has a list of post-processors for an array of CAM packages at [pentamachine.com](https://www.pentamachine.com)>> **Help Center >> 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 one of the best options for affordable, powerful CAD/CAM software and is what most of our tutorials are based on. A standard Fusion 360 commercial license which can be purchased through Autodesk. This includes multi-axis tool paths. Please see more information on their licenses here: <https://www.autodesk.com/products/fusion-360/pricing>.

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

▶ **IMPORTANT VALUES**

MEASURED "B-TABLE OFFSET": _____ IN

(DISTANCE FROM B-TABLE TO THE CENTER OF A AXIS ROTATION)

SHIPPING POSITION – X 1.26 Y 2.51 Z -3.333 A 90.00 B 0.00

V2-10 COLLET TYPE – ER11

MACHINE SERIAL 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.pentamachine.com. From there, go check out our tutorials section found here: www.support.pentamachine.com >> [Help](#) >> [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.

ENJOY.