

Vacuum Port Upgrade for Othermill & Othermill Pro

This tutorial will show you how to properly install the Vacuum Port Upgrade for your Othermill or Othermill Pro. While this is not a long process, the steps are precise, and you will need to proceed with care.

The Vacuum Port Upgrade is useful on its own. It will allow you to leave the vacuum attached through the wall of your machine and you can sweep all the chips into it when you're done with a job.

The Vacuum Port Upgrade will allow you to utilize the Fine Dust Collection System, which greatly facilitates milling PCBs in a cleaner and timely fashion. Once completed, you will be able to run a vacuum through the wall of your machine to easily remove chips during and after milling complex parts or PCBs.

Tools, Materials, and Files

Materials

- (1) Othermill or Othermill Pro
- (1) Vacuum Port Upgrade from the Bantam Tools Online Store

Tools (Not Included)

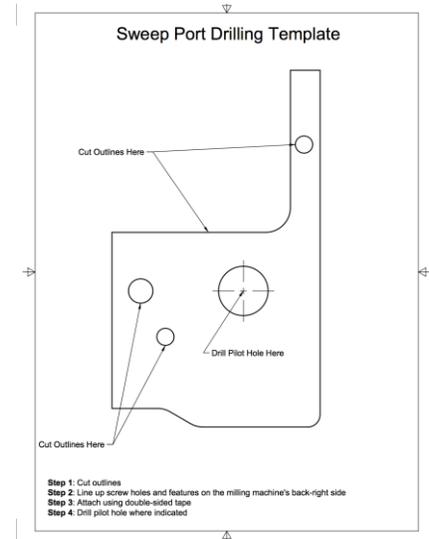
- (1) Fine Dust Collection System from the Bantam Tools Online Store
- (1) Small drill bit for pilot hole
- (1) 1" hole saw
- (1) Electric drill
- (1) X-ACTO Knife or Scissors
- Double sided tape



Files

Download a high-resolution version of this template.

Make sure to print it at 100% size.



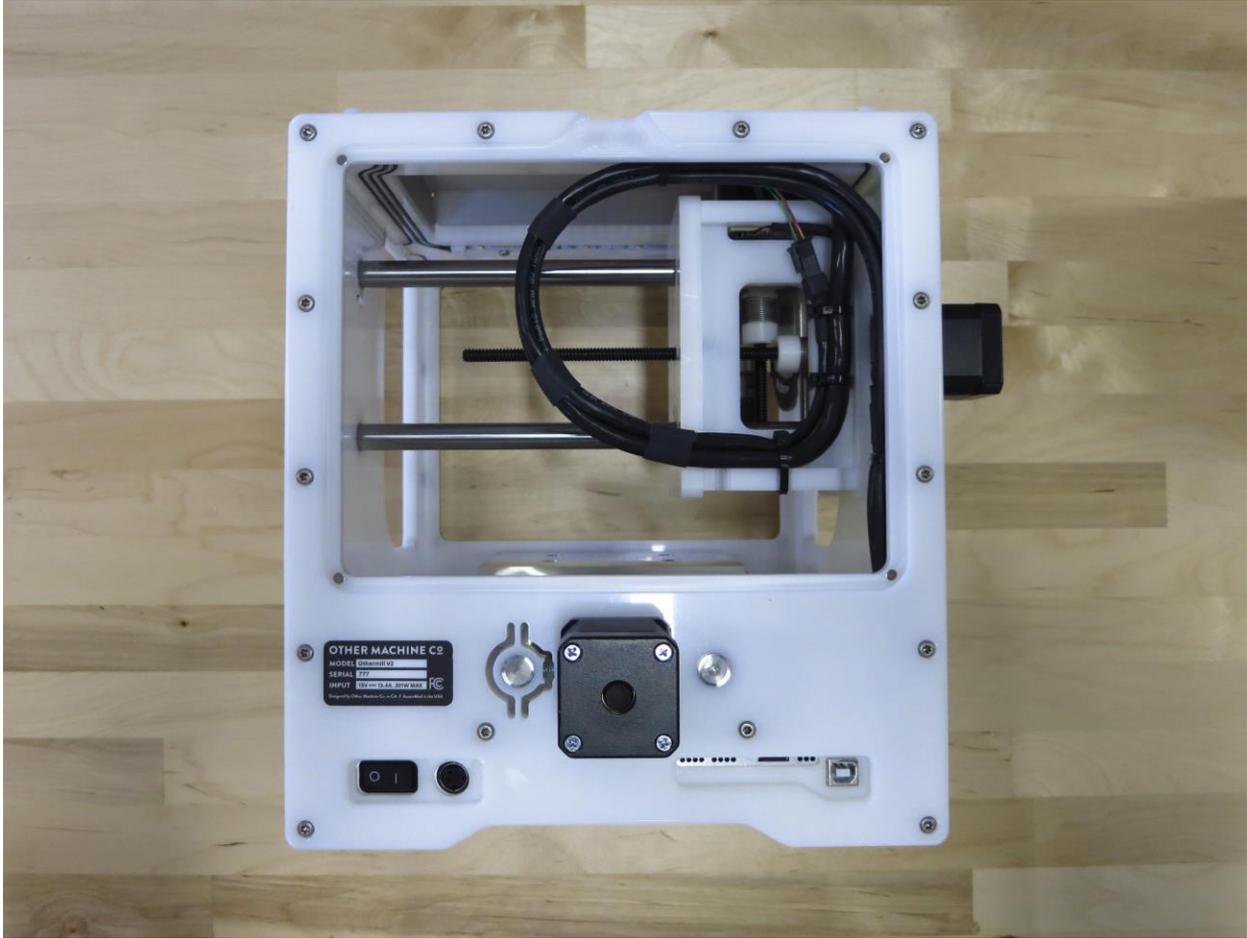
Parts Included in Vacuum Port Upgrade:

- (1) Vacuum Port Plug
- (1) Vacuum Port Fitting
- (1) Vacuum Adapter
- (1) Paper Template



Step 1: Prepare Your Mill

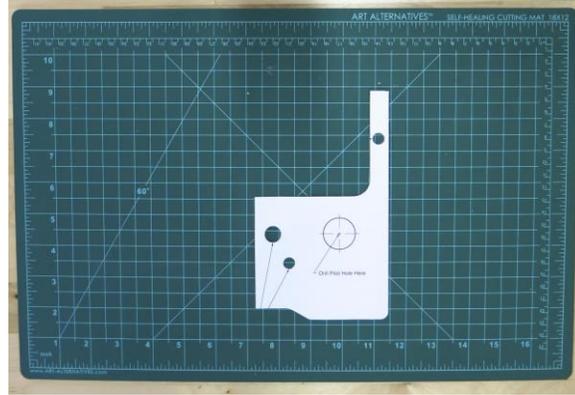
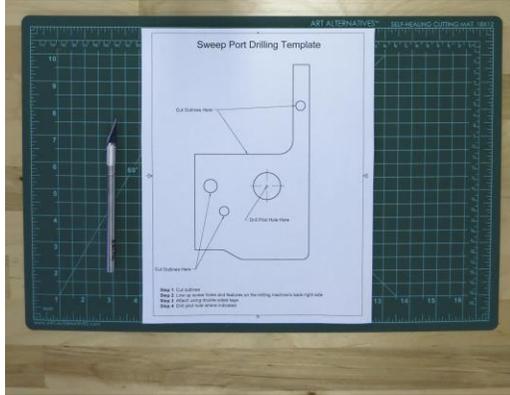
Start by moving your T-Slot Bed (Y-Carriage) to the loading position. To do this, open the Bantam Tools Software and click on the loading button; your Y-Carriage should move to the front of the machine. Once the mill is in position, unplug all cords and remove all windows from your milling machine for safety.



Place the mill face down on a sturdy table or the floor, you will need to drill into the back panel of the milling machine, so make sure you can get good leverage over the mill without trouble.

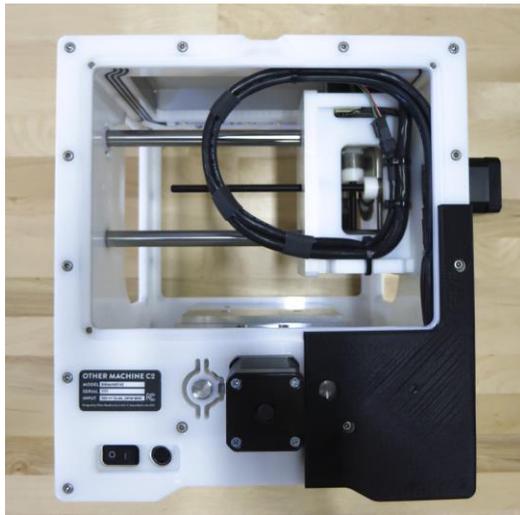
Step 2: Prepare Your Drilling Template

Start by cutting out the 'Vacuum Port Drilling Template' (remember to not cut out the pilot hole, as you'll need to be as precise as possible). This can be done using scissors or an X-ACTO knife. You don't need to be exact, but be careful as your drilling template will determine how well your hole is placed.



Alternatively, we offer a 3D printable drilling template if you prefer a more exact method. The file is available in the same location as the Vacuum Port Drilling Template PDF.

Once you have confidently created your template, place it using double-sided tape to the back-right side of your milling machine. Be sure all the cut-out features and edges line up perfectly with your template.



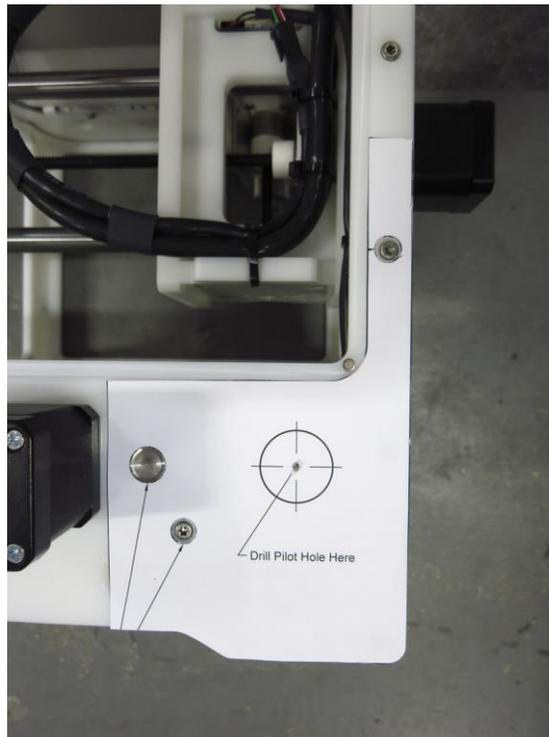
Remember, your mill should still be in a location where you can get good leverage and aim accurately with a drill

WARNING: If you drill in the incorrect location you will be unable to use your Vacuum port, and/or could possibly damage your milling machine. Be precise when placing your template and creating a pilot hole, and double check these steps thoroughly. If the template does not line up with the edges of the milling

machine, it might mean that the template did not print at 100% size and needs to be re-printed.

Step 3: Drill Your Vacuum Port

You are now ready to drill your vacuum port, so double check everything is placed correctly. Using the small drill bit, drill a pilot hole exactly in the center of the crosshairs where the Vacuum Port Drilling Template says, 'Drill Pilot Hole Here.' To double check your hole location, look from the front of the machine. Your pilot hole should be exactly centered between the cables and the T-slot bed.

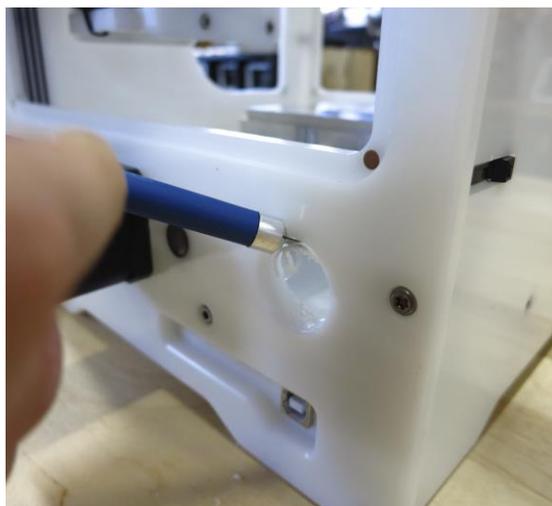


If you're confident with the location, go back to the pilot hole and switch to the 1.0" hole saw. Using the pilot hole, slowly drill through the rear panel of your milling machine. Take breaks to remove chips and ensure the hole saw does not overheat and melt the frame. Finally, be careful to not over drill once through the rear panel, there are delicate cables that could be damaged by the hole saw.



Step 4: Cleaning Up

First, ensure there is no damage to any cables. If the hole was properly located this should not be an issue. Using an X-ACTO knife or deburring tool, deburr the inside and outside edge of the Vacuum Port hole. This will help with proper seating for your Vacuum Port components. Lastly, thoroughly vacuum the chips from your mill. Once your mill is back in its usual resting spot, get ready to install the Vacuum Port components.



Step 5: Using Your Vacuum Port

How to use your Vacuum port depends on whether you are using it by itself, or with the Fine Dust Collection System.

Using Your Vacuum Port

To start, place the *Vacuum Port Fitting* on the inside of the machine, threads facing out through the Vacuum Port hole. From the back of the milling machine, attach to your Vacuum Port Fitting either the Threaded Plug (if you want to close the Vacuum port) or the Universal Vacuum Adapter (if you want to connect a vacuum to your milling machine). Both parts should easily screw together. Once tightened, you should be able to use your milling machine as normal.

Using Your Vacuum Port with the Fine Dust Collection System

Place the *Double Elbow* on the inside of the machine, threads facing out through the Vacuum Port hole. From the back of the milling machine, attach to your Double Elbow either the Threaded Plug (if you want to close the Vacuum port) or the Universal Vacuum Adapter (if you want to connect a vacuum to your milling machine). Both parts should easily screw together. Once tightened, you should be able to use your milling machine as normal.



IMPORTANT: The vertical lines of the Vacuum Port Fitting or Double Elbow should be perpendicular to the ground when the system is in place. If it is rotated, your T-Slot Bed will collide and be unable to successfully run. If your hole is centered and the Vacuum Port Fitting is arranged correctly you should not have clearance issues.



Notes on Functionality:

1. Always check your Vacuum Port Fitting alignment after switching components and before running a new milling job
2. You can attach a vacuum to the Universal Vacuum Adapter while a part is milling to collect dust and debris, even if you don't use the Fine Dust Collection System
3. Don't try to adjust components in the Vacuum Port while the beds are in motion