

Tutorial 9: Mill your first model: Wax Calibration

The VERY FIRST model you should mill lives in the “Calibration” dropdown menu under “Wax Calibration”.



The VERY FIRST model you should run on your mill, after fully reading and understanding the set-up tutorials in this chapter and before ANY other models are milled, is the Wax Calibration model found in the “Calibration” dropdown menu onscreen. Set up the mill as prompted to by the Instructions and Actions section of the interface, using the 0.032” flat cutters in BOTH

the Vertical and Horizontal spindles; the 45X39X20 mm Base Clamp wax; and the Base Clamp (Fixture 1). Once the part is produced, it will fall away from the supporting wax. Retrieve it and CAREFULLY take the measurements indicated onscreen, taking care that each is entered in the correct box. Click “Calculate Offset” and “Apply Offset” before closing the dialog box. Run again & double-check corrections if desired.

Materials Needed

Hardware: (Included with Mill)

Base Clamp (Fixture 1)

Base Clamp Wax (45X39X20mm)

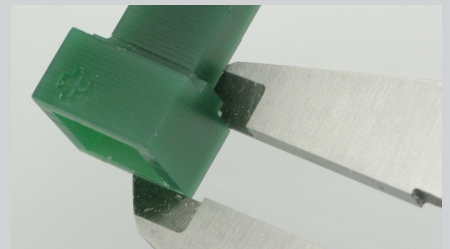
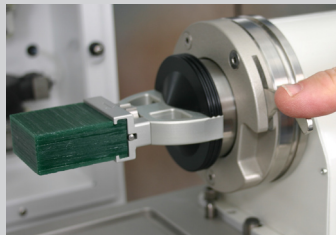
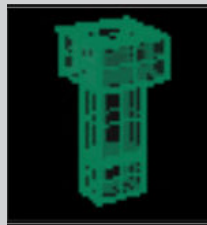
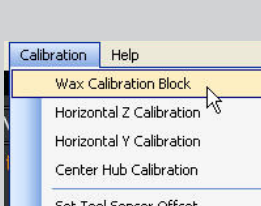
Two (2) 0.032” straight cutters (V & H)

Digital Calipers

RPM Software:

Calibration > Wax Calibration Block

Wax Calibration Block

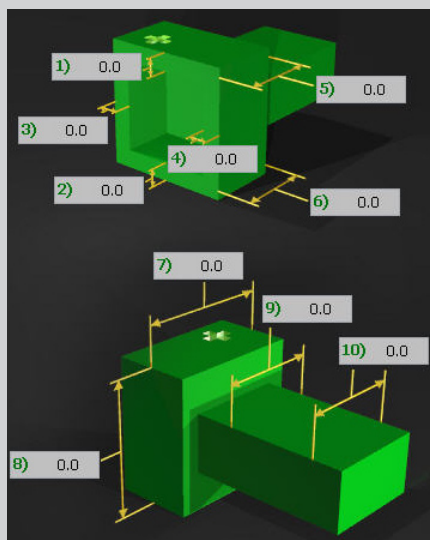


1 Click “Wax Calibration Block” From the “Calibration” drop-down menu at the top of the screen, select the “Wax Calibration Block”. This will cause the model to automatically load, and the “Revo Cal” graphic will appear onscreen.

2 Install the cutter, wax, & fixture The “Instructions” onscreen

will walk you through removing the current cutter; installing the 0.032” straight cutter in the Vertical spindle, and measuring the cutter with the tool sensor in the Vertical measuring location. Also install the correct wax blank in the Base Clamp Fixture and install the fixture on the A axis. “Confirm” you’ve done so in the software, and check the coolant levels to complete set-up. Install the splash guard and “Start” the job.

3 Remove Wax Block, Enter Measurements Instructions will appear onscreen. Remove the block from the wax and measure it in the ten locations indicated onscreen using your digital calipers: Measure the thickness of the box on all four sides; the height of the box on the top (marked with symbol) and bottom; the width of the box on the top and the side; and the width of the box’s support at two locations, each to one side of center.



Note: Best Use of Calipers

To best use the calipers for measuring this Calibration Block, keep these tips in mind:

- use the same set of calipers every time you take a measurement from your mill;
- caliper jaws should be clean and free of debris;
- when shut, the calipers should read “0”. If needed, click “Zero” to zero them out when shut;
- the face of the part being measured should be parallel with the jaws of the calipers;
- apply the same amount of pressure at each location you measure;
- if possible, use the same part of the jaws (flat edges vs. tips, e.g.) to measure each location;
- if necessary, take several readings in the same location and average them to get measurement.

4 “Calculate Offset” & “Apply Offset” Click “Calculate Offset” and you will see the Offset values on the far right-hand side of this screen change to reflect your measurements. If you determine you’ve made an error during measurement, click “Reset” to return all fields to 0. ONLY use “Reset” BEFORE Apply Offset. After re-entering values, click “Calculate Offset” again. When you are CERTAIN you are ready to do so, click “Apply Offset” to complete calibration. Close the window when done. If desired, re-run calibration (steps 1-4) to check corrections.

Calculate Offset

Apply Offset