

# Don't Be a Total Waster of Plastic: Calibrate Your Desktop 3D Printer Like a Boss

3D printing technology has revolutionized various industries, allowing individuals to turn their digital designs into tangible objects. Desktop 3D printers have become increasingly popular among hobbyists and professionals alike, thanks to their ease of use and affordable price tags. However, to achieve accurate and high-quality 3D prints, proper calibration is crucial.

## Why is Calibration Important?

Calibrating your desktop 3D printer ensures that the printed object matches the dimensions, shapes, and details specified in your design. Without proper calibration, you may encounter issues like inaccurate measurements, warped objects, layer misalignment, and poor adhesion. These problems not only waste plastic but also hamper the overall quality of your prints.

## Step 1: Leveling the Bed

The first step in calibrating your printer is to properly level the bed. This ensures that the nozzle is at the appropriate distance from the print surface, allowing for consistent layer adhesion. Different printers have different bed leveling procedures, so refer to your printer's manual for specific instructions. Generally, it involves adjusting the leveling screws or knobs until a thin sheet of paper can move underneath the nozzle with slight resistance.

## Don't Be a Total Waster (of plastic) Calibrate Your Desktop 3D Printer Like A Boss Book 2

by Duncan Weir (Kindle Edition)

★★★★☆ 4.6 out of 5

Language : English



File size	: 1929 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Word Wise	: Enabled
Print length	: 175 pages
Lending	: Enabled



## Step 2: Extruder Calibration

Next, you need to calibrate your extruder to ensure that it is supplying the correct amount of filament. Over-extrusion or under-extrusion can result in inconsistent layering, poor surface finish, and wasted plastic. To calibrate the extruder, you will need a digital caliper and access to your printer's firmware settings. Follow a specific calibration procedure, usually involving the extrusion of a specific length of filament, measuring it, and adjusting the extruder steps accordingly.

## Step 3: Temperature Calibration

Temperature plays a crucial role in the quality of your 3D prints. Calibrating the temperature settings for your filament ensures optimal extrusion and adhesion. Different brands and types of filament may require different temperatures, so it is essential to experiment and find the ideal temperature for your specific needs. Make small adjustments, print test objects, and evaluate the results to fine-tune your settings.

## Step 4: Retraction Settings

Retraction settings control how the filament is pulled back during non-printing movements, preventing stringing and oozing. Adjusting these settings improves

the overall surface finish of your prints and reduces the amount of wasted plastic from excess stringing. Experiment with different retraction distances and speeds to find the optimal values for your 3D printer and filament.

## Step 5: Test Printing and Further Adjustments

After calibrating the main settings, it is crucial to test print objects that represent the type of models you usually work with. Evaluate the print quality, check for any remaining issues like warping or inconsistent layering, and make further adjustments as necessary. Calibration is an ongoing process, and continuous fine-tuning will ultimately help you achieve better results and minimize plastic wastage.

Calibrating your desktop 3D printer is a necessary step for achieving accurate, high-quality prints while minimizing plastic wastage. By following a systematic calibration procedure, leveling the bed, adjusting the extruder, fine-tuning temperatures and retraction settings, and conducting test prints, you can ensure optimal performance from your 3D printer. Don't be a total waster of plastic - calibrate your desktop 3D printer like a boss!



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Owning a 3D printer can be very rewarding and can even open the door to learning a new skill. Whether that be designing something that you need in a 3D CAD application or making something to sell to others. There is certainly no shortage of opportunities when you own a 3D printer.

All you must do now is set-up your 3D printer to print those objects to an acceptable standard. Calibrating your desktop 3D printer can be difficult and time-consuming task. But not anymore. Because I will show you how to; very easily, and without any prior knowledge.

Calibrating your desktop printer has never been so easy.

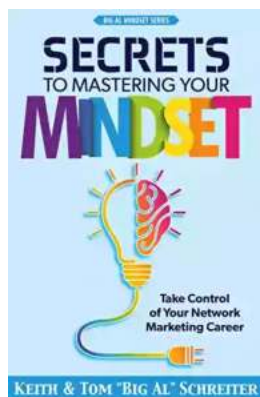
I will explain how to calibrate your 3D printer so that it gives you fantastic results every time. Calibrating a 3D printer is not only about getting the bed level. It is about making sure the other parts are set up too.

I will show how to easily set up:

- X, Y and Z axis and the extruder.
- Calibrate the correct steps per millimetre settings for all axis and the extruder.
- Install required software that makes setting up your 3D printer a breeze
- Bed levelling without the use of a Z probe.
- How to set up an Auto bed levelling probe the right way.
- How to use the Arduino IDE to safely flash your firmware.

I have used three different types of printers during the writing of these books. All the information I have used has been thoroughly tested to make sure it's precise and works first time. I have tried to put the information that you need in a easy to

follow format. But, with an emphasis on enough information to get you printing really well in as short a time as possible.



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