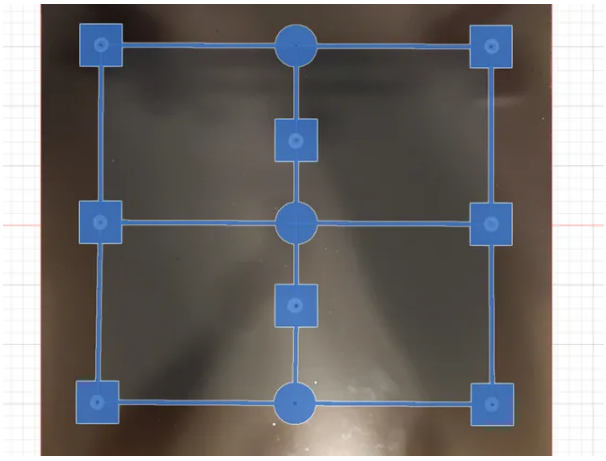
Printables by JOSEF PRUSA



Anycubic Kobra 2 Max Bed Level First Layer Calibration Squares Aligned with Bed Screws and Brim Test

FreshPrints

VIEW IN BROWSER

updated 16. 5. 2025 | published 16. 5. 2025

Summary

This model is perfectly aligned with your bed screws. To help you get that perfect first layer.

0.05 hrs	1 pcs	0.20 mm	0.40 mm	PLA	1 g	Anycubic Kobra 2 Max

3D Printers > Anycubic Parts & Upgrades

Tags: calibration anycubic kobra kobra2

This is to help you get that perfect first layer and determine where you need to make adjustments on your 430x430 bed. This will work with any 3D Printer. Just scale to size of your printer. The pattern was modeled after bed screws on Kobra 2 Max

Squares are bed screws.

Circles are added points for extra reference.

1. Run Brim test first to dial in your Z offset. This will save filament and time.

   - Open as project for .3mf
   - If you have a different version printer and want to run this just select your printer in slicer and filament you want to test it on. And when prompted transfer settings. At the end discard settings.

1. Second Pick the model of bed squares your bed is set to in slicer.

   - Run this and check for low and high spots in bed. Try to find a happy medium between all square.

1. Chasing perfection or extreme case if your bed is too far out and you can't find a happy medium for your first layer you can manually shim the bed.

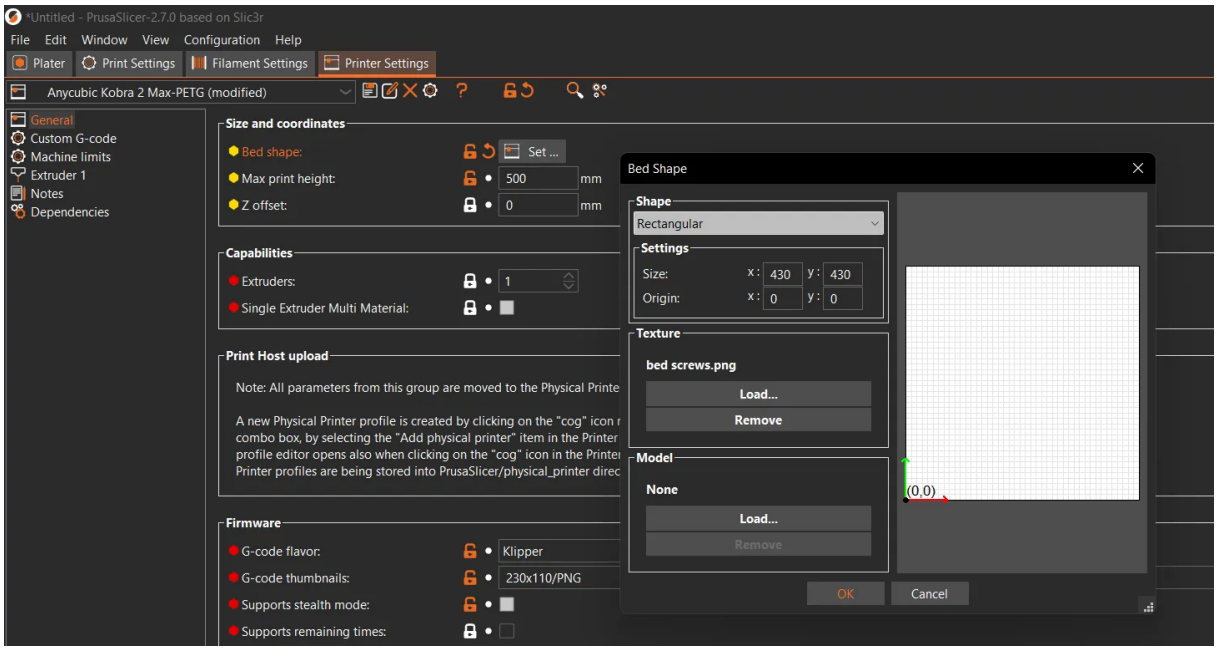
   - The two most popular methods are silicon mod and nylon mod will leave a link at the bottom in reference material to example video.

1. Download The **Anycubic Dial Indicator Mount** and buy a dial caliper to help fix warped bed.

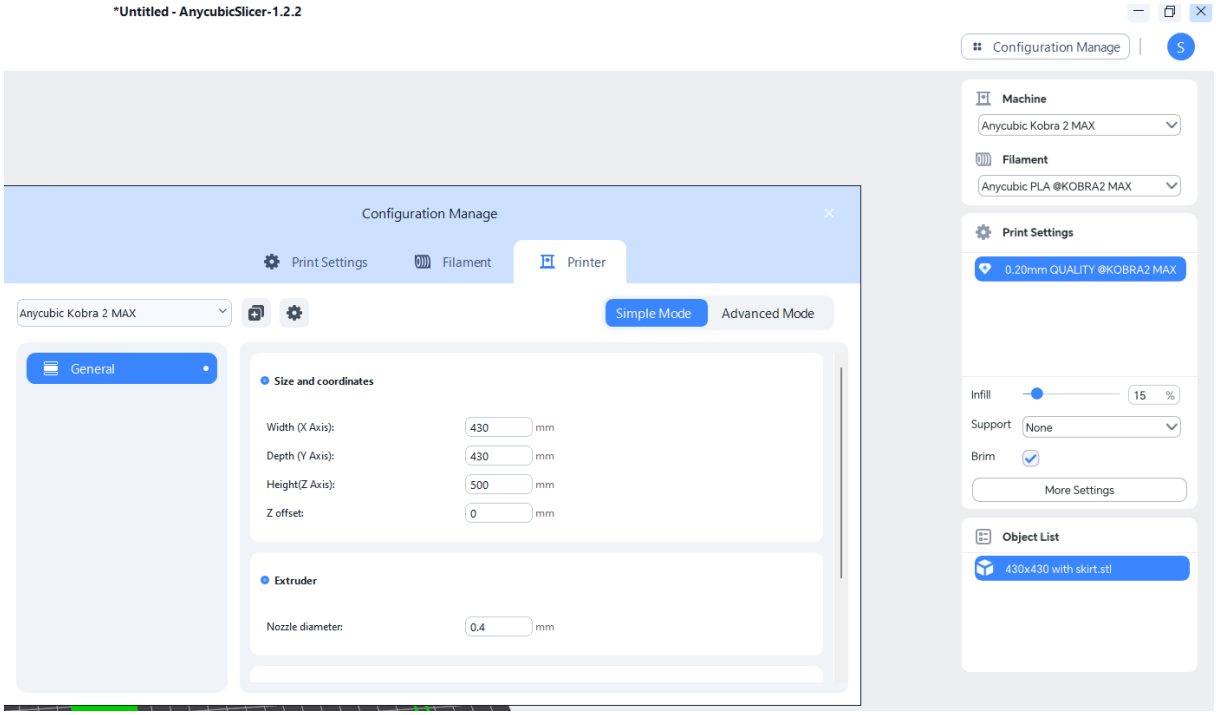
   - Without Magnetic Base. https://a.co/d/7TKtYdp
   - With Magnetic Base. https://a.co/d/bUdZkjH

Pick the model of bed squares your bed is set to in Slicer. Here is how to find.

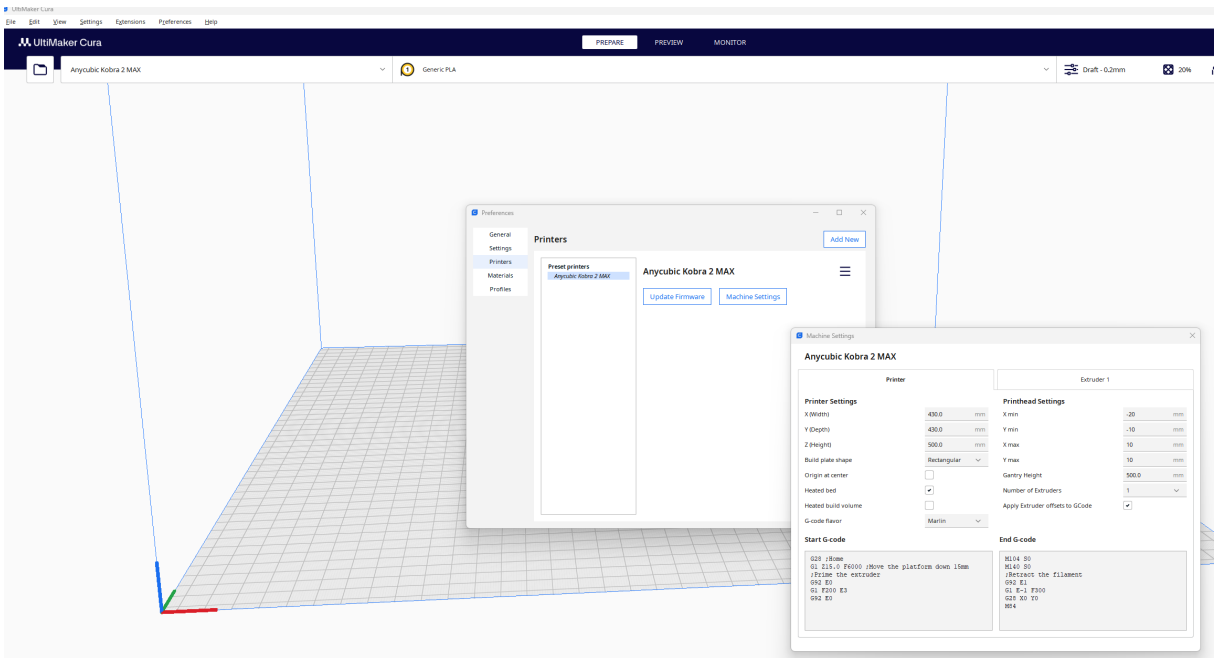
Prusa Slicer:



Anycubic Slicer:



Cura:



**** 1. I recommend setting your bed to 430x430 to get the max build volume of your machine and it will also center all parts you slice in the future by default they are shifted in real life compared to the slicer software showing they are centered.**

2. Another way to remedy this is to uncheck origan at center if your slicer if the slicer has this option available to you.

Reference Material:

Brim Test Explanation Video

How to Fine-Tune Z-Offset on a 3D Printer | ANYCUBIC 3D Printing – ANYCUBIC-US

BED LEVELING

BY BILLIE RUBEN

Bed leveling is, quite literally, the foundation of any successful print, and one of the biggest hurdles newbies must overcome in order to avoid the dreaded plastic spaghetti.

But never fear! I've put together this handy guide to help you! ♥

INCORRECT BED LEVELING CAN CAUSE:

POOR ADHESION
Making first layers hard to lay down

FAILED PRINTS
Resulting in plastic spaghetti

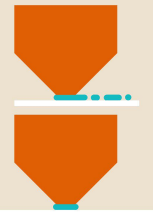
UGLY FIRST LAYERS
That have gaps or weird patterns

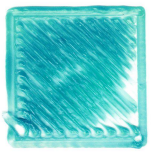
WARPING
Ruining the accuracy of your prints

It occurs when the nozzle is not aligned properly to the bed. This is more accurately called 'tramming' (as nothing is being leveled to the ground), but 'leveling' is the common verbiage.
As beds are usually leveled at 3 or 4 points, you may see any combination of the below in your first layer.

✗ MUCH TOO CLOSE

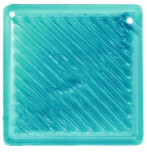
Filament extrudes thin or not at all in some places, often bulging out in others. Extruder motor might slip/click





✗ A LITTLE TOO CLOSE

Filament bulges out of the sides of the nozzle which squishes into other lines, sometimes causing a pattern

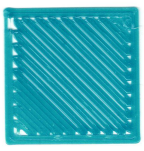


✓ PERFECT

Filament is flattened, adheres well to nearby lines, no gaps or peaks between lines

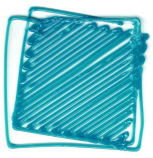
✗ A LITTLE TOO FAR

Filament appears rounded, connection between lines is loose, gaps may appear



✗ MUCH TOO FAR

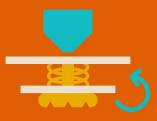
Filament is totally rounded, little to no connection between lines, doesn't stick to bed



HOW TO FIX IT: LIVE LEVELING

1 ROUGH LEVEL, VISUALLY

Move nozzle to lower left corner of bed, adjust leveling knobs until nozzle & bed touch, then turn it back just a bit little until a gap barely appears. Repeat for each knob on your bed

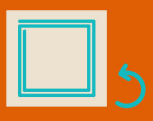


2 SLICE A LEVELING HELPER

In your slicer, resize a rectangular prism so the base is almost as large as your print bed. Give it a nice wide brim, and set the bottom layer pattern to concentric. First layer should look like a square spiral

3 LIVE LEVEL

Print it. As it's laying down the first layer adjust the leveling knobs so that the lines it's extruding look like the perfect example above, then cancel the print



4 MAINTAIN IT

Your bed is now level. To maintain the level, print all future models with a skirt (or brim) and watch it lay the brim down, adjusting leveling as required as it prints the skirt

FURTHER HELP:

If the above instructions aren't working for you, it could be one of these issues;

- Your bed surface may need to be cleaned, or you may need to add some glue to the surface (esp. if cold)
- Your temperature may be wrong (bed usually should be around 60°C and nozzle 200 °C for PLA)
- The axis your nozzle travels on may not be level, seek instructions specific to your machine
- If you have leveled the edges but the middle is too high or low, your bed is warped, seek a replacement
- Your z (up/down) axis end stop may be too high or low, try to move it, or print an adapter
- Your speed may be too high. Seek a slicer settings profile from a trusted source (or use the slicer defaults)

To solve these issues you might need some further help from other printer folk.
I help mod the largest 3D printing communities on **Discord (discord.gg/B4tp8MH)** and **reddit (reddit.com/r/3Dprinting).** We'd be happy to help you there!

If you'd like more of these guides, I'll be posting them to my Twitter **@BillieRubenMake** (in addition to reddit and Discord). Happy Printing! ♥ **Billie**

Silicon Mod Video:

Hack your Prusa - Revisit - Prusa Bed Leveling - Chris's Basement - 2022

Nylock Mod Video:

Hack Your Prusa! - Prusa Bed Leveling - Chris's Basement

Model files

brim-test-max.3mf

Run this Test First before Bed Squares Test Dail in your Z

430x430-without-skirt-v15.stl

Use this if your slicer is set to 430x430 So Bed Screws are center of squares

421x421-without-skirt-v1.stl

Use this if your slicer is set to 421x421 So Bed Screws are center of squares

430x430-with-skirt-v15.stl

set your bed size to 430x430 in slicer will center model. Can use without this setep will work

Print files

brim-test-max-02-3m.gcode

PLA 0.40 mm 0.20 mm 0.05 hrs 1 g

Run this Test First before Bed Squares Test Dail in your Z

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