



## Creality Ender 3 Z-screw adjustable support (thin backplate) with shim & T-nuts



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### Summary

Another Z-Screw support for the Creality Ender 3, but this has adjustable distance from the frame ;-)

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There's a lot of debate about the use of a Z-screw (or "rod") support on a Creality Ender3.

My opinion is that it depends a lot on how things are done, as for everything in this world.

So where are the benefits, and where are the problems for an addition like this?

Let me digress a bit. Due to the work I do for living, I deal with bearings of various kind all day, every day. Most bearings would benefit from an additional support, and in this case to add a mass (the rod) that cantilevers on the main bearing (here, the threaded nut that moves the Z-axis) is not perfect and if you can stop that mass from wobbling, it's all gravy.

BUT any support has to be perfectly inline with the bearing, unless you want the bearing, or its supports, to malfunction and possibly fail.

And this is where most designs fall short: they are not adjustable.

Now, we assume that your Z-screw is very straight and starts aligned with the stepped motor, plus it keeps running inline with the Z-axis gantry. You want to see less than 1/2mm deflection at the top of the Z-screw when it spins.

If you get this, it means your Z-rod is straight, then you can use an additional support like this one I'm presenting here.

My design is made with a thin backplate, and a 1mm shim is provided, so that you can adjust the distance between the support and the gantry, to have a perfect fit with your machine: just print more shims or resize them in your slicer. i.e. you will print them flat, so resize the Z height only to suit your needs (if you need 2.5mm then set the Z to this value and leave the other two dimensions untouched).

If you need to shim for less than 1mm, I'd suggest to use thin M5 washers that will be more consistent than a very thin 3d printed single layer.

The bearing to be used is 608 (8x22x7), you better use a "608-ZZ" or not shielded type (avoid the "608-2RS") to minimize friction. If all you have is a 608-2RS I'd suggest to remove the rubber seals.

Two T-nuts are provided, you can use them with suitable self-tapping screws, print them with >50% infill and do not overtighten.

## **Print Settings**

### **Printer Brand:**

Creality

### **Printer:**

Ender 3

### **Rafts:**

Doesn't Matter

### **Supports:**

Doesn't Matter

### **Infill:**

50% or higher

Category: 3D Printer Parts

## Model files



zscrew\_adjustablesupport\_shim\_tnuts.stl



zscrew\_adjustablesupport\_mk15\_1.stl

[Find source .stl files on Thingiverse.com](#)

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