Ender Extender (Non-Pro) Y-Axis Belt Tensioner

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VIEW IN BROWSER

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Summary

Ender 3 conversion with the 2040 Y-axis extrusion (non-pro): here is your belt tensioner. Will also work on a CR-10.

3D Printers > 3D Printers - Upgrades

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Based on the excellent Y-axis belt tensioner by donnyb99 on Thingiverse, for the CR-10 originally.

However there are some changes:

- Added holes for a T-nut on each side, since the original design is wobbly.
- I didn't have any M5 hex bolts, but I had a lot of M6. So the main tension bolt is M6x25 (M6x20 or longer should be fine as well).
- The M8 bolt included with the Ender Extender kit, which goes through the bearings, is re-used. The clevis has been widened to accept this larger diameter hardware.
- The design is shorter overall, and the slots are deeper to better suit the adjustment range required for the Ender Extender conversion.

- Stiffener added to stop the bracket wobbling as much.
- Sleeves on each end of the M8 through-bolt which interface with the slots / guides.

The hardware you should have:

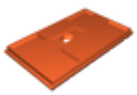
- M6x25 hex bolt and a corresponding hex nut (not a lock nut). 20mm length and higher will probably work fine but 25mm is a good target.
- 2x M4 screw with T-nut, optional but recommended. These are for the oval holes in the bracket.

Print one of everything, except for the “M8 Sleeve” files. You will see there are ‘tight’ and ‘loose’ versions. Start with the loose version: print 2 of these. Depending on your printing tolerances and slicing, they may be too loose and the bolt threads will not bite. You don't need it to be super tight, just enough where it isn't spinning with no effort at all. If indeed it's too loose, print 1 copy of the ‘tight’ version to go on the end of the bolt (only 1 of them needs to be snug on the threads).

If the sleeves are too tight to install by hand, there are flats on the end which are sized for a 12mm wrench. One sleeve goes on each end of the M8 bolt, the side with the lip faces outward on each side. The one on the end of the bolt (not the one under the head) is the one which should have a good bite on the threads, so you can remove slop and center the clevis.

You can probably look at the pictures to see how it goes together. You may need to unclip the belt from the Y-axis carriage to have enough slack, I almost had to.

Model files



endcap.stl

knob_m6.stl

clevis_m8.stl

bracket.stl

m8-sleeve_loose.stl

m8-sleeve_tight.stl

m8-sleeve_loose.sldprt

knob_m6.sldprt

clevis_m8.sldprt

m8-sleeve_tight.sldprt

bracket.sldprt

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