



Topeak Prepstand Elite/Pro bike repair stand replacement parts for rotating arm



osayou

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Summary

Replacement interlocking teeth of the rotating arm of the Topeak Prepstand Elite or Pro bicycle repair stand.

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Topeak Prepstand Elite/Pro bike repair stand replacement parts for rotating arm

Background

My Topeak bike repair stand has been of great use for me for over a decade now. Consequently, the interlocking teeth of the rotating mechanism are pretty worn by now, which resulted in the locking knob not properly grabbing the thread on the inner rod and destroying the thread in the process. Since you can only buy the complete arm as a spare part,

which costs a fortune, I printed my own replacement parts and made a new axle for my destroyed one. In order for other owners of this bike repair stand to change the interlocking plastic parts early enough to prevent destruction of the thread on the rod, I am providing the respective parts.

Print parameters

Filament: PLA / PETG

Layer height: 0.1-0.2 mm

Infill: 30-100%

Supports: yes

Parts

1. Topeak_Prepstand_concave_part.stl

This is the smaller part towards the main pivot point between the arm and the main vertical tube of the stand. Print with teeth facing upwards and supports underneath. I printed with 100% infill to get the piece as strong as possible, but going down to 50% in the thicker regions of the part could probably also work. I used 0.1 mm layer height to get the Hirth joint (teeth and conus) as detailed as possible. With these settings I needed 46 g of filament, which I prefer spending rather than replacing this part every year.

2. Topeak_Prepstand_convex_part.stl

This is the larger part towards the side of the arm with the bike clamp. Also, print with teeth facing upwards and supports underneath. Again, I used 100% infill and 0.1 mm layer height, but you could here as well get away with a less detailed and rigid print, just depends on how long you want this part to survive. Ended up using 86 g of filament with my settings, so that's not an issue at all.

3. Topeak_Prepstand_knob.stl

This is the knob tightening the rotating mechanism of the arm. You could also use the old knob, but I preferred printing a version with a M10 nut trapped inside, which removes the need to use the small fixing bolt. Used 0.2 mm layer height, 5 perimeters and 30% infill. No supports needed on this part, but you have to pause the print before 12.8 mm height to insert the nut.

Replacement of old parts

The disassembly of the arm is quite straightforward. Underneath the Topeak sticker on the tightening knob is a small locking bolt that has to be removed. The hardest part is getting the old plastic parts out of the T-shaped metal piece, which connects the arm with the base tube, though a flat screwdriver or something similar works wonders with prying the pieces apart. After removal of the old parts just insert your newly printed ones and put everything back together. If you have problems, just shoot me a comment and I will see if I can help with the procedure.

Miscellaneous

I increased the size of the teeth slightly in order to get a bit larger contact surface. This should work with the original rod inside the rotation mechanism, though I cannot tell for certain, since I had to replace mine and added also 2 mm there. I also lengthened the cylinder around the rod to stiffen the design and prevent early wear of the teeth.

I printed these parts in PLA, since I wanted to first test the design, but it already turned out really well, so I kept the parts. Though, I would have preferred the prints in PETG for better heat resistance, in case the bike stand is sitting outside in the sun.

Model files



topeak_prepstand_concave_part.stl

☐ smaller part towards main pivot point



topeak_prepstand_convex_part.stl

☐ larger part towards bike clamp



topeak_prepstand_knob.stl

☐ knob to tighten rotating arm

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