



Auto-Rewind Spool Holder for RepRack



[VIEW IN BROWSER](#)

updated 16. 1. 2024 | published 16. 1. 2024

Summary

Auto-rewind allows you to feed filament directly from your RepRack - Now with Clutch!



8.64 hrs



2 pcs



0.20 mm



0.40 mm



PET



97 g



Prusa
MK3/S/S+

[3D Printers](#) > [Other Printer Parts & Upgrades](#)

Tags: [spool](#) [multimaterial](#) [wall](#) [mmu](#) [mk3](#) [holder](#) [rewinder](#) [filament](#) [multi](#) [buffer](#) [storage](#) [mmu2s](#) [mmu2](#) [hold](#) [wind](#) [tension](#) [auto](#) [reverse](#) [winder](#) [repkord](#) [feed](#) [autorewinder](#) [down](#) [above](#) [reprack](#) [muticolor](#)

UPDATES:

11/25/2023 **MORE RECOIL!**

- **Clutch system added!** I've been designing and testing for improved performance based on user feedback and I'm happy to finally release a clutch system that replaces the final gear. This means if you already have a printed Auto-Rewinder you only need to replace one part to upgrade.
- **No more slipping!** the original design was based around slipping on the rollers once the tension was built up, but with the new clutch system this is not required. But how to reduce slipping? [Spray on rubber coating!](#) and if you already have the Auto-Rewinder printed you just need to spray this on your existing rollers.
- **Lubricated Bearings** - I overlooked the improvement from cleaning and relubricating bearings when I originally started this project. This is super easy and I'll include this into the instructions below.

Auto-Rewind Spool Holder for RepRack (Or table top)

I was looking for a quick and very easy way to swap filament on my RepRack, ultimately one thing led to another and I just ended up designing one. The Auto-Rewind Spool Holder for [Repkord's RepRack](#) provides slight tension on your filament when feeding into your printer, reducing slack when retracting, especially in the case with multi-material print mechanisms such as the Prusa MMU.

Featured on [The Next Layer Youtube channel](#), Jonathan explains his take on the auto-rewinder as he builds it out in scale for his [Enraged Rabbit](#) multi material project (similar to the MMU3).

You can also follow Jonathan's Printables account [HERE](#)

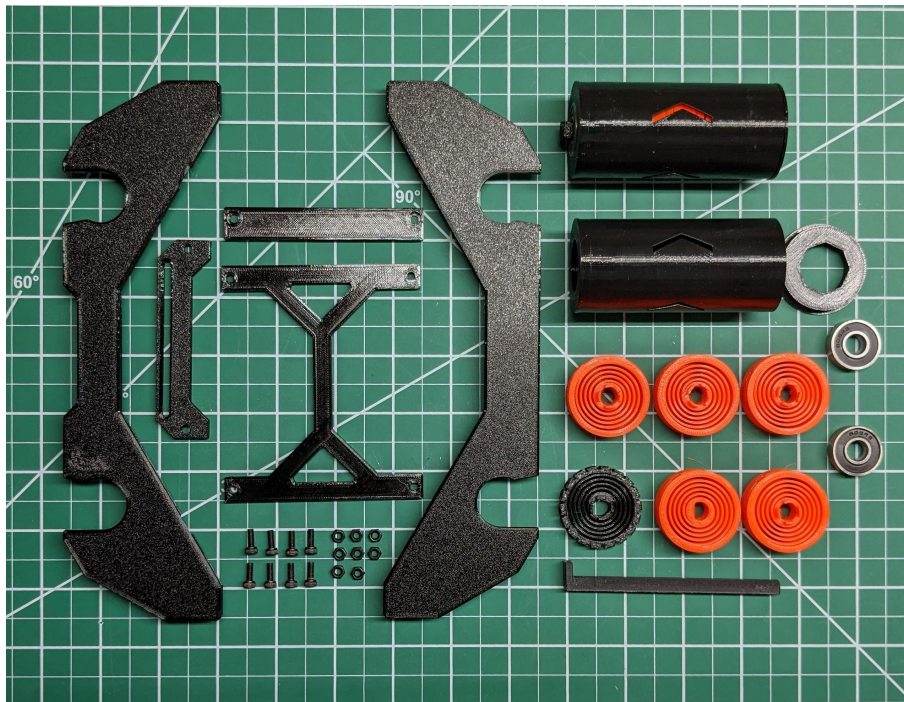
HARDWARE

- 8 - M3x8 screws
- 8 - M3 Nuts
- 4 - [608 Bearings](#)
- [Rubber Coating Spray](#) (NEW)
- (Optional) [Bearing Lubricant](#) (or something with high viscosity)

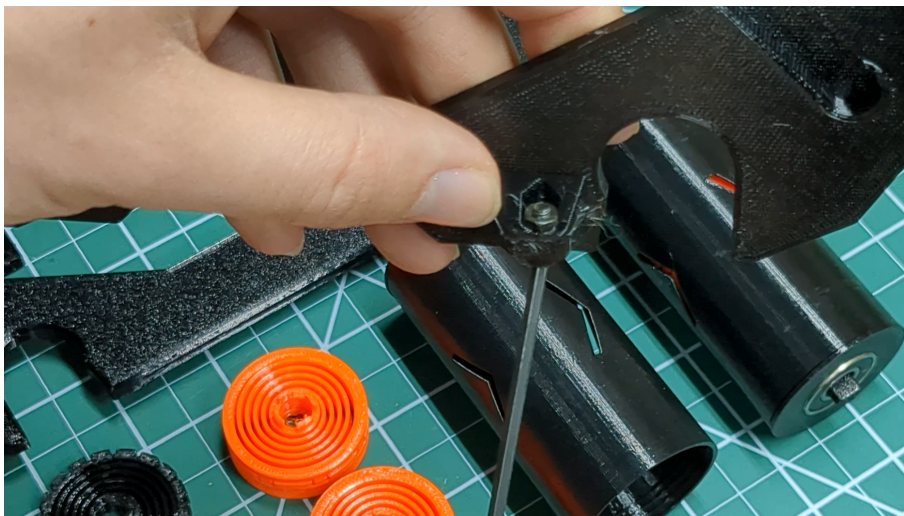
VIDEO INSTRUCTIONS

Read the instructions below the video for the latest updates including the updated clutch

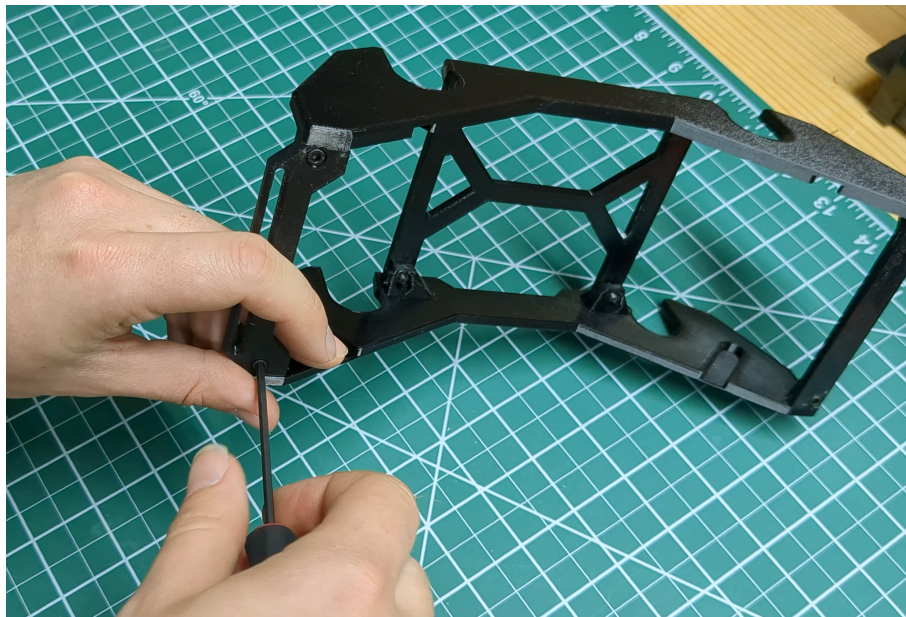
INSTRUCTIONS (Updated 11/25/2023)



- The Auto-Rewinder consists of 3 main parts, a frame and two auto-rewinding cylinders.



- Start by assembling the frame. There are a total of eight locations for pressing in M3 nuts. The easiest way to install them is by passing a screw through the opposite side of the hole and threading it into the M3 nut, pulling it into place, and then unthreading the screw. Repeat this eight times for each hole.



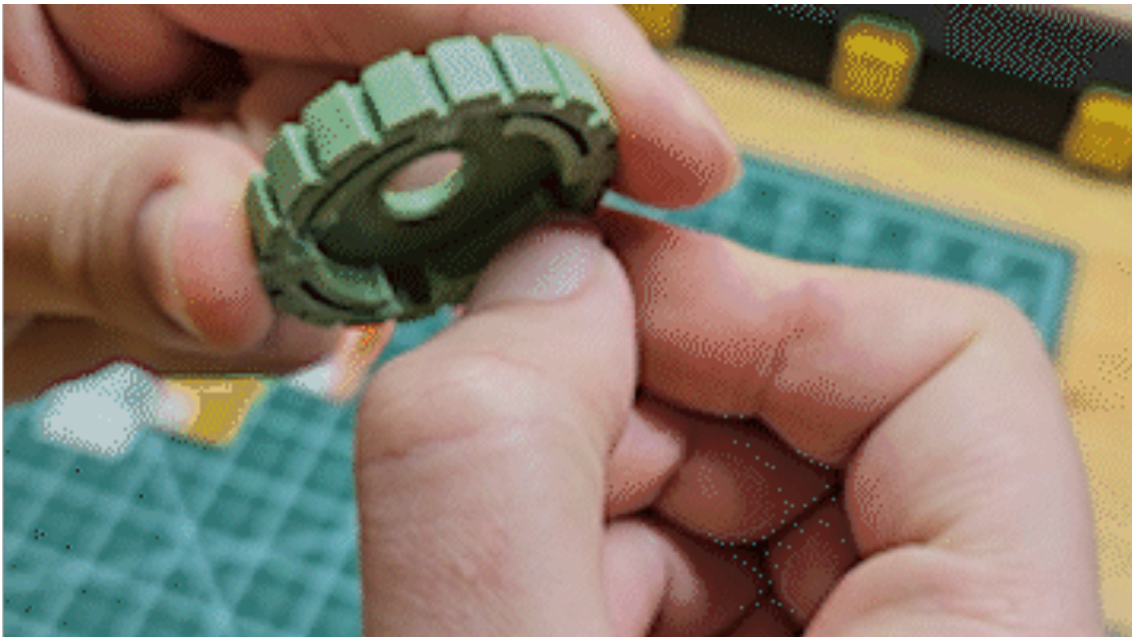
- Screw the frame together using M3 x 8 screw, start with the larger beam for the bottom half and the two smaller beams for each end. Don't worry about orientation as the frame is symmetrical, but for whichever end is the front you will want to have the beam with the filament slot facing outward.
- (UPDATE 11/25/2023) Apply **rubberized coating** to the cylinders. Prep them by masking them with masking tape, taping both ends as well as placing pieces inside behind the arrows. Spray the cylinders with 3 to 4 light coats evenly (Allow drying between coats)



- (UPDATE 11/25/2023) The geared coil (shown in **black** below) is now replaced by the clutch.



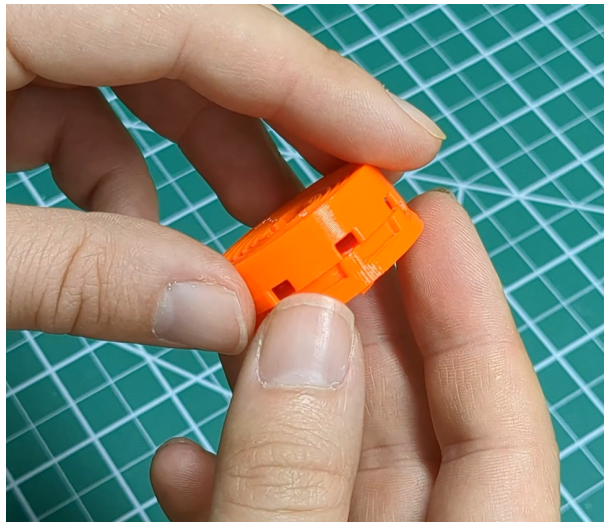
- For the clutch we want to break the arms free, to do this just apply pressure to the arms outward until you feel them break loose.



- Insert the slip coil (Yellow) into the geared clutch body (Green)



- Next we'll begin assembling the internals for one of the auto-rewind cylinder.



You will notice that most of them fit together like puzzle pieces, press these together first. Once assembled you will want to have the **geared clutch** end on one side, the other side will have a coiled piece with a half circle slot in the inside that is different than the others.

Note: it's ok if these parts don't stay snapped together, once assembled in the cylinder they will be held together.

- (Optional) Most bearings come packed with bearing grease, you can greatly improve their freedom to rotate by cleaning and relubricating them. first pop one side of the bearing open with something flat. Soak them in alcohol for about an hour. Remove and let fully dry. Relubricate, I used **Super Lube oil** which worked well for me.



- Prep the cylinder shell by pressing bearings into place on each end. With the auto-rewind internals stacked vertically with the gear piece on top, slide the large cylinder shell over the internals. Carefully flip the cylinder so the open end is upright. To fully seat the internals you might have to shake and tap on the parts until the geared piece falls into place.



- Thread the cap to the cylinder shell on the open end of the cylinder.



- Now take one of the bars and slide it into the bearing holes of the cylinder. You might have to rotate it until it passes through the one internal piece with the half circle slot.
- Now assemble the second auto-rewind cylinder exactly the same way.



- Slide the auto-rewind cylinders into place on each end of the frame, you will want the tab on the bay to face upward and the arrows on the cylinder to point towards the backside of the frame (the side that will face the wall).



- That's it! Now set the Auto-Rewinder on the RepRack. Set a spool on the rewriter and thread the filament through the beam with the slotted opening to feed downward toward your printer.

TROUBLESHOOTING

- Auto rewriter not rewinding: Spin the rewriter by hand, it should spin freely other than the coils inside tightening. If you feel resistance check the coils on the cylinders internals for print flaws, stringing, or even shifted layers.

Note: On a freshly assembled cylinder you might feel slight resistance but this should improve over time as resistant parts wear from use.

RECOMMENDED PRINT SETTINGS

Filament: PETG

Nozzle Size: 0.4mm (or 0.6mm for the frame)

Print Height: 0.2-0.35mm

Infill: 10-20%

Special thanks to [Vincent Groenhuis](#) for sharing with us the auto-rewind spool design. I was hoping to link to his design originally but had to design my own version from the ground up in a more compact form to work with this design.

Model files



Main Parts

2 files



frame.3mf



cylinder-shell.3mf

☐ Holds the coils, Print X2



Coils (Medium Recoil)

2 files



coils-v11-medium-recoil.3mf

☐ Coils for rewinding - Medium winding recoil, Print X2



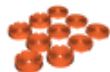
clutch-v10-medium-recoil.3mf

☐ Clutch allows cylinders to slip once fully wound, Print x2



Coils (Strong Recoil) Causes error with Prusa MK4

2 files



coils-11-strong.3mf

☐ Coils for rewinding - Strong winding recoil, Print X2



new-auto-rewinder-clutch-v10-strong.3mf

☐ Clutch allows cylinders to slip once fully wound, Print x2



LEGACY

1 file



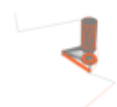
inner-coils.3mf

Print files



frame_02mm_petg_mk3s_5h57m.gcode

PET 0.40 mm 0.20 mm 5.95 hrs 74 g Prusa MK3/S/S+



cylinder-shell_02mm_petg_mk3s_2h41m.gcode

PET 0.40 mm 0.20 mm 2.69 hrs 23 g Prusa MK3/S/S+

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