



Bambu Lab Filament Spool Winder - Upgraded All Gears and Axes



STORM DESIGN

[VIEW IN BROWSER](#)

updated 29. 1. 2025 | published 29. 1. 2025

Summary

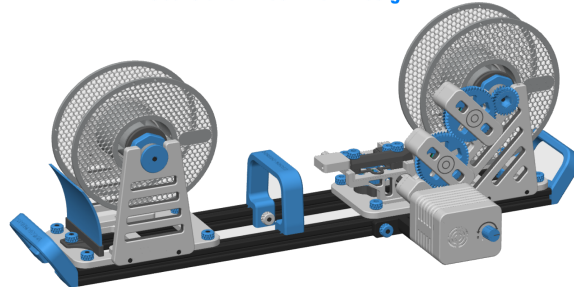
Bambu Lab Filament Spool Winder - Upgraded All Gears and Axes

[3D Printers](#) > [Bambu Lab Parts & Upgrades](#)



AVAILABLE NOW

Winder Spool Frame 2 - Modular Design
Donor Spool Frame 2 - Modular Design
Winder Spool Holder with Bearings - Modular Design
Donor Spool Holder with Bearings - Modular Design
Motor Drive 2 - Modular Design for Stand
Gears and Axes - New Design



Filament Spool Switcher & Winder 2 - Modular Design
Motor Drive 2 - Modular Design for Stand
Auto Stop Function
Filament Spool Switcher & Winder 2 - Modular Design
Motor Drive 2 - Modular Design for Stand
Powered by Magnetic Power Bank
Auto Stop Function

BEFORE STARTING THE IMPLEMENTATION OF THE PROJECT, READ CAREFULLY THE ENTIRE DESCRIPTION AND VIEW THE PHOTO GALLERY !!!

This is a Remix “All Gears and Axes” for an amazing project "Filament Spool Switcher & Winder" Design by @MiklosKiszely_486882

TO FULLY COMPLETE THE PROJECT, DOWNLOAD THE REMAINING ITEMS FROM THE LINK BELOW

<https://www.printables.com/pl/@Damian27/collections/1304611>

Hello Everyone

I decided to improve a few things in this fantastic project that are a constant problem for many people. I am sharing one of them here. Below are links to further improvements that I also recommend to get rid of all problems.

When you complete the project, please share a photo and a comment. Thank you and have a nice day.

UPDATE 02.03.2024 :

- I added separate catalogs for Original Winder Spool Frame by Miklos Kiszely & Remix and For Winder Spool Frame 2 - Modular Design and Update from Winder Spool Frame 1 to Winder Spool Frame 2. Now you can download the selected version for a given project faster and easier - **The entire process of assembling the axle and gear spacer for the "Winder Spool Frame 2 - Modular Design" version is included in the project.**

UPDATE 08.03.2024 :

- I designed gears from scratch because the previous ones generated errors in some slicers such as Bambu Lab Studio and Orca Slicer. By the way, I changed the appearance referring to the new project "Winder Spool Frame 2 - Modular Design"

IMPORTANT - READ :

Please note that each printer is calibrated differently, has individual user settings, and each uses a different type and manufacturer of filaments. I conducted tests on PLA, PLA Plus, ASA. For example, I mixed ASA gears with ASA, PLA or PLA Plus axes. In each case, they fit perfectly in size. Three of my friends have already used my design and the first time without modification everything fit. To avoid problems, I recommend printing all the gears first, and then the Axis 20mm.stl test file to check the correct size of the axis. If they are too small or too large, reduce or increase them proportionally in the slicer on the Y and Z axes. The X axis should be left unchanged. I designed it in such a way that the axles enter the bearings very tightly and the gears are perfectly matched.

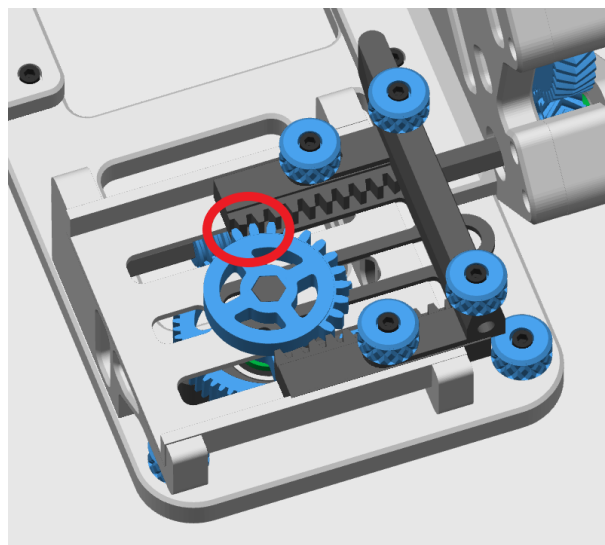
When assembling the Heat Threaded Insert M3, a high temperature soldering iron of 260C should be used. The process must go quickly. If a lower temperature is used, the axis can be enlarged in place of the Heat Threaded Insert M3.

In short, what have I changed compared to the original design?

1. I modified all gears by changing their mounting to Hexagonal shape. The original design had a round mount and it was hard to mount the axles perfectly vertical due to the printing error of the round axes.
2. I modified each Axis and, as above, gave them a hexagonal shape. The hexagonal axis is easy to print compared to the round axis, which was not circular when printed horizontally.

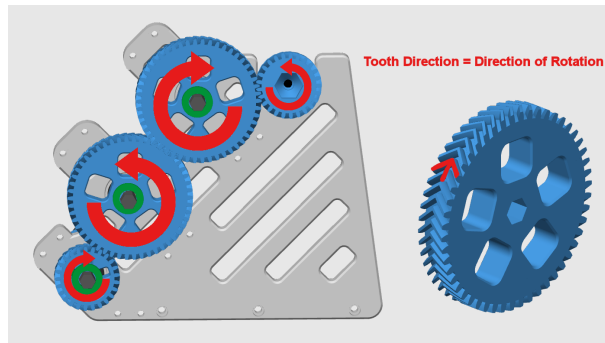
3. I added locks for the 32mm axle. This prevents the bearings from slipping out of the winder frame.
4. I modified the longest axis 128mm, which in the original design consisted of two parts, which caused the toothed worm to wobble. Now it is in one piece and works perfectly centric in its axis.
5. In the 128mm axis, I added a limiter that determines the correct working position of the toothed worm. In the toothed worm there is an appropriate cutout for the limiter located on the axis. Visible in the photo gallery.
6. Through to the use of one long 128mm axis, the Gear Worm moves freely on it. In the original version, where the Gear Worm is permanently locked in one position and when the gears are turned in the wrong direction, the Gear Worm and the Gear 60 Filament Guide are destroyed. Especially when you use a cordless screwdriver and set the direction of rotation in the wrong direction. In my mod, during such a bug, the Gear Worm will automatically move towards the vertical gears and nothing will be destroyed. Therefore, the Gear Worm cannot be folded tightly. Pay attention to this when sizing and printing. |

Starting position for "Gear Linear For Filament Carriage and Filament Guide Sled" - **By clicking on the photo you can enlarge it**



The mechanism in this design can only rotate in one direction !!!

The direction of the teeth on gears indicates their correct direction of movement. If you are rewinding the filament by hand or with a cordless screwdriver, use counterclockwise rotation. If you use the "Motor Drive 2 - Modular Design for Stand" design, the motor rotation should be to the right. If your motor rotates in the wrong direction, swap the poles from positive to negative and from negative to positive - **By clicking on the photo you can enlarge it**



If you will be using a 32mm Axle with Heat Threaded Insert M3 you will need to buy - Only for Original Winder Spool Frame by Miklos Kiszely & Remix

1. Screw M3 6mm - Round Head - 4pcs - https://a.aliexpress.com/_Ezs8Mtj
2. Heat Threaded Insert M3 4mm OD 4.5mm - 4pcs - https://a.aliexpress.com/_EwSyU8l
3. **You will need an extra two bearings compared to the original design. In total, it will be 9 pcs of 608 type bearings when you use my remix "Filament Spool Winder" - https://a.aliexpress.com/_Ey8KJzj**

If you will use my modification "Filament Spool Winder" you need to print :

<https://www.printables.com/pl/model/478890-bambu-lab-filament-spool-winder-upgraded>

For Winder Spool Frame Upgraded :

- Gear 50 Upper - 1pc
- Gear 50 Lower - 1pc
- Gear 25 - 1pc
- Gear 60 Filament Guide - 1pc
- Gear Linear For Filament Carriage - 1pc
- Gear Worm - 1pc
- Axis 32mm Standard - 2pcs or Axis 32mm - with holes for Heat Threaded Insert M3 - 2 pcs **-I recommend using the 32mm Axle with Heat Threaded Insert M3**
- Axis 47mm Standard - 1pc
- Axis 128mm - 1pc
- Axis Lock 32mm - 4pcs - Only if use Axis 32 - With Holes For Heat Threaded Insert M3
- Washer 2mm - 1pc
- Washer 3mm - 5pcs
- Washer 4.1mm - 1pc
- Washer 7.6mm - 1pc

- Bearing Cap Standard - 2pcs or Bearing Cap for axles with holes for Heat Threaded Insert M3 - 2pcs

(All bearings are perfectly hidden in the frame. It is therefore impossible to design a perfect bearing cap. The holder of the bearing cap cannot be enlarged. This would expand the bearing seats. Therefore, in case of their falling out, glue them with one drop of glue. So that they can be easily dismantled if necessary. You can also use a small piece of double sided tape at the top of the bearing where the handle goes in)

If you will be using the original “Filament Spool Winder” you will need to print :

For Original Winder Spool Frame by Miklos Kiszely :

- Gear 50 Upper - 1pc
- Gear 50 Lower - 1pc
- Gear 25 - 1pc
- Gear 60 Teeth Filament Guide - 1pc
- Gear Linear For Filament Carriage - 1pc
- Gear Worm - 1pc
- Axis 20mm - 1pc
- Axis 32mm Standard - 1pc or Axis 32mm - with holes for Heat Threaded Insert M3 - 1 pc - **I recommend using the 32mm Axle with Heat Threaded Insert M3**
- Axis 47mm Standard - 1pc
- Axis 128mm - 1pc
- Axis Lock 32mm - 2pcs - Only if use Axis 32 - With Holes For Heat Threaded Insert M3
- Washer 2mm - 1pc
- Washer 3mm - 4pcs
- Washer 4.1mm - 1pc
- Washer 7.6mm - 1pc
- Bearing Cap Standard - 1pcs or Bearing Cap for axles with holes for Heat Threaded Insert M3 - 1pcs

(All bearings are perfectly hidden in the frame. It is therefore impossible to design a perfect bearing cap. The holder of the bearing cap cannot be enlarged. This would expand the bearing seats. Therefore, in case of their falling out, glue them with one drop of glue. So that they can be easily dismantled if necessary. You can also use a small piece of double sided tape at the top of the bearing where the handle goes in)

For Winder Spool Frame 2 - Modular Design :

- Gear 50 Upper - 1pc
- Gear 50 Lower - 1pc
- Gear 25 - 1pc
- Gear 60 Teeths Filament Guide - 1pc
- Gear Linear For Filament Carriage - 1pc
- Gear Worm - 1pc
- Axis 28mm - 2pcs
- Axis 42mm - 1pc
- Axis 137.4mm - 1pc
- Axis 133.40mm for Motor Drive - 1pc
- Washer 2mm - 1pc
- Washer 2.5mm - 5-6pcs **(5 pieces for Motor Drive project)**
- Washer 8.8mm - 1pc

Update from Winder Spool Frame 1 to Winder Spool Frame 2 :

- Axis 28mm - 2pcs
- Axis 42mm - 1pc
- Axis 137.4mm - 1pc
- Axis 133.40mm for Motor Drive - 1pc
- Washer 2mm - 1pc
- Washer 2.5mm - 5-6pcs **(5 pieces for Motor Drive project)**
- Washer 8.8mm - 1pc

How to print ? :

- Material : **GEARS:** ABS, ASA, PETG and **AXES:** PLA
- Layer Height : 0.2mm
- Speed : All Max 60 - In this case, the precision of printing matters
- Infill : 100%
- Wall Loops : 4
- Bottom Layers : 4
- Top Layers : 4
- Support : No
- Brim : No

I receive a lot of messages asking what to print for a complete project. It is complicated for many people. I had a problem with that myself. So I decided to prepare a short instruction.

If you take advantage of all my improvements :

All Projects :

<https://www.printables.com/pl/@Damian27/collections/1304611>

1. Bambu Lab - Winder Spool Frame 2 - Modular Design
<https://www.printables.com/pl/model/769319-bambu-lab-winder-spool-frame-2-modular-design>
2. Bambu Lab - Donor Spool Frame 2 - Modular Design
<https://www.printables.com/pl/model/766774-bambu-lab-donor-spool-frame-2-modular-design-for-s>
3. Bambu Lab - Upgraded All Gears and Axes
<https://www.printables.com/pl/model/478967-bambu-lab-filament-spool-winder-upgraded-all-gears>
4. Bambu Lab - Upgraded Filament Guide, Filament Guide Sled, Filament Guide Carriage and Knob
<https://www.printables.com/pl/model/478923-bambu-lab-filament-spool-winder-upgraded-filament->
5. Bambu Lab - Winder Spool Holder with Bearings - Modular Design
<https://www.printables.com/pl/model/740644-winder-spool-holder-with-bearings-for-bambu-lab-fi>
6. Bambu Lab - Donor Spool Holder with Bearings - Modular Design
<https://www.printables.com/pl/model/750033-donor-spool-holder-with-bearings-for-bambu-lab-fil>
7. Universal Spool Centering Cone for Bambu Lab Filament Spool Switcher & Winder
<https://www.printables.com/pl/model/752030-universal-spool-centering-cone-for-bambu-lab-filam>
8. Spool Brake for Bambu Lab Filament Spool Switcher & Winder
<https://www.printables.com/pl/model/748642-spool-brake-for-bambu-lab-filament-spool-switcher->
9. Handle for Manual Rewind and Adapter for Electric Screwdriver
<https://www.printables.com/pl/model/805532-handle-for-manual-rewind-and-hexagonal-adapter-for>
10. Stand for Bambu Lab Filament Spool Switcher & Winder
<https://www.printables.com/pl/model/479022-stand-for-bambu-lab-filament-spool-switcher-winder>
11. Motor Drive 2 - Modular Design for Stand - Auto-Stop Function for Bambu Lab Filament Spool Switcher & Winder
<https://www.printables.com/pl/model/485389-motor-drive-for-stand-auto-stop-function-for-bambu>

This remix is based on



Bambu Lab - Winder Spool Frame 2 - Modular Design

by STORM DESIGN



Stand for Bambu Lab Filament Spool Switcher & Winder

by STORM DESIGN



Bambu Lab Filament Spool Winder - Upgraded

by STORM DESIGN



Bambu Lab P1 / X1 / X1C / X1CC Filament Spool Switcher & Winder if you use AMS

by Miklos Kiszely



Bambu Lab Filament Spool Winder - Filament Guide, Filament Guide Sled, Filament Guide Carriage and Knob M3 Heat Threaded Insert

by STORM DESIGN



Motor Drive 2 - Modular Design for Stand - Auto-Stop Function for Bambu Lab Filament Spool Switcher & Winder

by STORM DESIGN



Winder Spool Holder with Bearings - Modular Design for Bambu Lab Filament Spool Switcher & Winder

by STORM DESIGN



Spool Brake for Bambu Lab Filament Spool Switcher & Donor Spool Frame 2 - Modular Design

by STORM DESIGN



Donor Spool Holder with Bearings - Modular Design for Bambu Lab Filament Spool Switcher & Winder

by STORM DESIGN



Universal Spool Centering Cone for Bambu Lab Filament Spool Switcher & Winder

by STORM DESIGN



Bambu Lab - Donor Spool Frame 2 - Modular Design - For Spools from 0.5kg to 3kg

by STORM DESIGN



Handle for Manual Rewind and Hexagonal Adapter for Electric Screwdriver for Winder Spool Frame 2 - Modular Design and Winder Spool Holder with Bearings - Modular Design

by STORM DESIGN

Model files



For Original Winder Spool Frame by Miklos Kiszely & Remix 19 files



gear-and-axes-for-original-winder-spool-frame-by-mi... .3mf



gear-50-upper.stl

☐ Print 1pc



gear-50-lower.stl

☐ Print 1pc



gear-25.stl

☐ Print 1pc



gear-60-filament-guide.stl

☐ Print 1pc



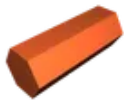
gear-linear-for-filament-carriage.stl

☐ Print 1pc



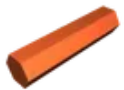
gear-worm.stl

☐ Print 1pc



axis-20mm.stl

☐ Print 1pc - Only if you use the original Filament Spool Winder



axis-32mm-standard.stl

☐ Print 1pc or 2pcs - Depending on which version of what you are using Filament Spool Winder



axis-32mm-with-holes-for-heat-threaded-insert-m3.stl

☐ Print 1pc or 2pcs - Depending on which version of what you are using Filament Spool Winder



axis-47mm-standard.stl

☐ Print 1pc



axis-128mm.stl

☐ Print 1pc



washer-2mm.stl

☐ Print 1pc - Only if you use the original Filament Spool Winder



washer-3mm.stl

☐ Print 4pcs or 5pcs - Depending on the version Filament Spool Winder



washer-41mm.stl

☐ Print 1pc



washer-76mm.stl

☐ Print 1pc



axis-lock-32mm.stl

☐ Print 2pcs or 4pcs - Only if use Axis 32 - With Holes For Heat Threaded Insert M3



bearing-cap-standard.stl

☐ Print 1pc or 2pc - Only if use Axis 32mm Standard - Depending on the version Filament Spool Win



bearing-cap-for-axes-with-holes-for-heat-threaded-... .stl

☐ Print 1pc or 2pcs - Only if use Axis 32mm - With Holes For Heat Threaded Insert M3



For Winder Spool Frame 2 - Modular Design

14 files



gear-and-axes-for-winder-spool-frame-2-modular-desi... .3mf



gear-50-upper.stl

☐ Print 1pc



gear-50-lower.stl

☐ Print 1pc



gear-25.stl

☐ Print 1pc



gear-60-filament-guide.stl

☐ Print 1pc



gear-linear-for-filament-carriage.stl

☐ Print 1pc



gear-worm.stl

☐ Print 1pc



axis-28mm.stl

☐ Print 2pcs



axis-42mm.stl

☐ Print 1pc



axis-1374mm.stl

☐ Print 1pc



axis-13340mm-for-motor-drive.stl

☐ Print 1pc



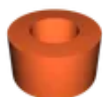
washer-2mm.stl

☐ Print 1pc



washer-25mm.stl

☐ Print 5 - 6pcs (5 pieces for Motor Drive project)

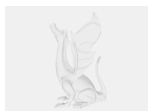


washer-88mm.stl

☐ Print 1pc



Update from Winder Spool Frame 1 to Winder Spool Frame 2 8 files



update-from-winder-spool-frame-1-to-winder-spool-fr... .3mf



axis-28mm.stl

☐ Print 2pcs



axis-42mm.stl

☐ Print 1pc



axis-1374mm.stl

☐ Print 1pc



axis-13340mm-for-motor-drive.stl

☐ Print 1pc



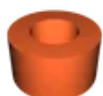
washer-2mm.stl

☐ Print 1pc



washer-25mm.stl

☐ Print 5 - 6pcs (5 pieces for Motor Drive project)



washer-88mm.stl

☐ Print 1pc

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