



Spool Holder & Buffer for Core One MMU3 Community Version



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[VIEW IN BROWSER](#)

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Summary

Adapts a simple and robust set of buffers and spoolholders to a panel assembly, reliably integrating MMU3 to CORE One.

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Tags: [upgrade](#) [prusa](#) [spool](#) [multimaterial](#) [mmu](#) [multicolor](#) [mod](#) [spoolholder](#) [buffer](#) [modification](#) [core](#) [mmu3](#) [coreonemod](#)

CHANGELOG

Main Instructions follow.

30/10/25 - Added spoolholder_spindle_mk4, spoolholder_roller_mk4 and buffer_mk4 by request. To keep things simple, these versions cut away some material to get them to fit on a MK4 bed.

Reported to function as expected by community members, so no longer marked as experimental (**11/01/2026**)

09/09/25 - EXPERIMENTAL - Added spoolholder_spindle_2kg, by request. I have not tested the spindle design with a 2kg spool, I have added reinforcement to try to counteract it, but you print this at your own risk.

07/09/25 - Updated to spoolholder_roller_v2, this **adds 5mm of width** to the roller variant to ensure **wider spool compatibility**. As a result, the spool units will overhang slightly more on each side, but with a spool weighing them down, **I don't anticipate any stability issues**. However, if you have any ideas on improving this (or anything else) - DM me and let know! I'm keen to improve the design wherever possible.

30/08/25 - Added spoolholder_roller_2kg, as requested by a community member.

29/08/25 - Added spoolholder_roller and rollercarriage. Requested by a few people, this removes the central spindles in favour of a **bearing-based rolling design**. As this project is deadset on reliability, I based my design on the tried-and-true system from the Original Prusa MINI. The build instructions have been updated with a section specifically for this option, some additional hardware will be required.

If you wish to **convert** existing spool units, you will only need to print the new parts; **the buffer, rails and rest of the base are unchanged** to accomodate this option.

Thank you for your continued support and feedback :)

15/08/25 - Added spoolholder_ptfe_cutouts, a variant with the option to insert PTFE tubes to decrease rolling resistance of the spool about the central hub. The channels are 75mm deep, so I'd recommend cutting a tube to a little less than this, sliding it in and then cutting off any excess to ensure all sits flush. Directly inspired by [Vincent's design](#). Adds approximately **750mm** of additional PTFE tubing to the BOM.

OVERVIEW

Reliability was the primary focus of this build, as I have tried various solutions to cleanly manage the Core One, MMU3 and the five spools and buffers. From unreliable auto-rewinders to the maddening entanglements of the Community version solution, it was vital to me that the system was **robust**.

I have now tested 2000+ filament changes without intervention and counting since I installed this modification, my system is using a mixture of spindles and rollers.

The system is fully compatible with 1kg spools, including cardboard up to **approx. 72mm wide**. The basis of the build is mounting a custom plate to the community version base plate, allowing up to five modified spoolunits to sit atop it and feed the MMU with as little resistance as possible.

There are also various remixes which expand or add to the system, feel free to take a look through them before deciding how to build your personal system, many of them are excellent :)

BILL OF MATERIALS

You can re-use the MMU itself, cassettes, their fasteners, and collets, as well as the PTFE tubing from the base MMU3 system. Therefore, in addition to an MMU3 kit, you will require all of the specified printed parts and the following hardware (minimum):

- 22x M3x10 screws
- 31x M3x6 screws (**2 of which must have a head no taller than 2mm**)
- 2x M3nS nuts
- Approximately 2.5kg of filament, in total.
- Longer "community version" MMU3 cable.

If you wish to use the **roller** variant of the spool units, you will require an **additional**:

- 20x M3x12 screws
- 20x 608 bearings
- 20x M3n nuts*
- 250g of filament

*optional.

BUILD INSTRUCTIONS

I tested, and recommend printing all parts using **3 perimeters, 10% cubic infill at 0.2mm layer height**. All parts are oriented correctly, and **no parts should require any support material**. You may wish to brim some sections using your temperature resistant material if you find warping to be a concern.

Begin by printing and constructing the top panel, MMU3 mounting assembly and connectors from the **MMU3 Community Version for CORE One**, if you have not built it already. The files for these can be found on

this page or at the original model. You will need to print the following from **PETG, ASA, PC** or a similar **temperature resistant material**:

- 1x platform_a
- 1x platform_b
- 1x platform_c
- 1x platform_d
- 1x platform_e*
- 1x platform_vent



- 2x connector_a
- 2x connector_b
- 2x connector_c
- 1x connector_d1
- 1x connector_d2
- 1x connector_d3
- 2x connector_e*
- 2x connector_ridge
- 2x connector_mmu*

*does not strictly need to be a temperature resistant material.

Assembly is fairly straightforward, the printed connectors slide over various raised parts when the four platform panels are pushed together. Additionally, you will require some fasteners for this section:

- 2x M3x6 (for the vent at the front)
- 8x M3x10 (to attach the MMU mount)
- 4x M3x10 (to attach the 2x connector_mmu to the back of your MMU3)

Finally, we will print the locating rails that our spoolholders will sit in, this part, and all parts **from here on** should be suitable for printing in **PLA** rather than your temperature resistant material if preferred. You will need to print:

- 1x toprail_a
- 1x toprail_b

They will be attached to the front two sections of your top panel assembly (the parts with the vents), for this you will need:

- 2x M3x6 (The head must be **no taller than 2mm or they may stop the spoolholders from sitting flush**)
- 2x M3nS (Square nuts, inserted into the bottom of the panel assembly).

You should now have a fully assembled top panel section, which looks something like this one I made earlier! We're halfway there, now onto the spoolholder and buffers.



From here on, I will refer to the spoolholder and buffer together as a **Spool Unit**. There are **two** variants to consider: spindles or rollers.

Spindles use a central arm which the spool sits on. This is the most reliable, has fewer parts and uses less hardware, however it makes changing spools a bit cumbersome as the whole unit must be lifted to change spools.

Rollers sit the spools on a set of four bearings for it to rotate on. This allows for quick and easy spool changing, but uses more hardware and a little more assembly is needed.

I have had excellent reliability with both variants, so choose whichever you feel is best for your setup.

SPINDLES ASSEMBLY (scroll for rollers)

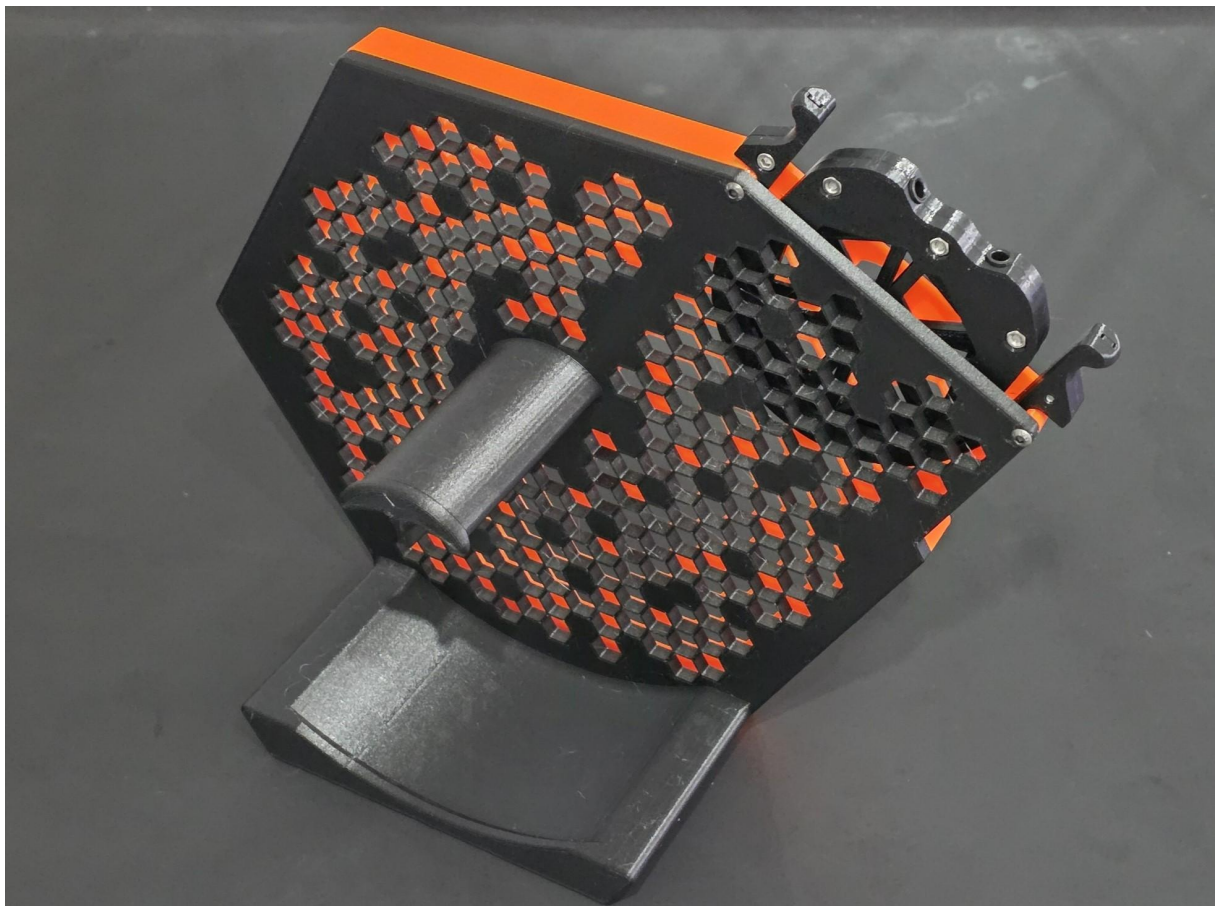
Begin once more with the printed parts, in all we will need five spool units, so print the following - again this could be printed using PLA if you wish.

- 5x spoolholder
- 5x buffer

Now fasten each buffer to a spoolholder using the following screws:

- 5x M3x6
- 2x M3x10 (These go in from the spoolholder side)

Next, if you have not already done so, it is time to assemble the **cassettes** you received with your MMU3, following [section 8A](#) of the assembly manual. Once ready, simply place them into the buffers. A finished spool unit should look something like this:



Now, repeat this process four more times to complete all five spool units. Remember to share your make when you finish :)

ROLLERS ASSEMBLY

Begin once more with the printed parts, in all we will need five spool units, so print the following - again this could be printed using PLA if you wish.

- 5x spoolholder_roller
- 5x buffer

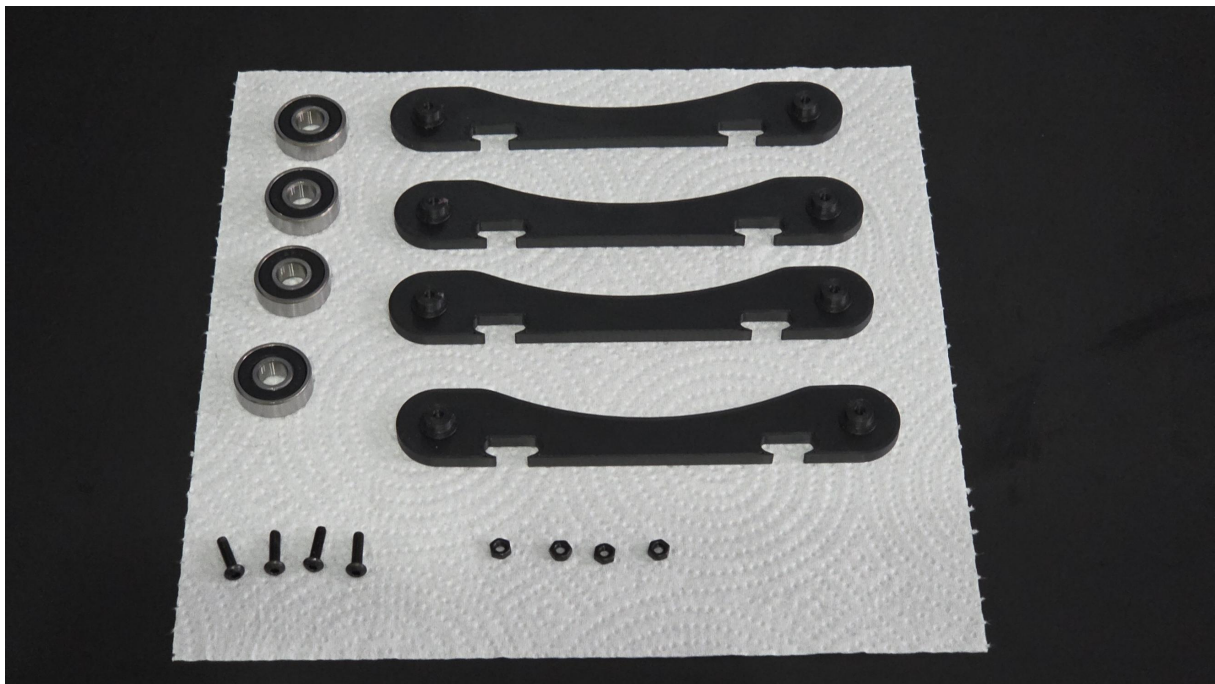
Now fasten each buffer to a spoolholder using the following screws:

- 5x M3x6
- 2x M3x10 (These go in from the spoolholder side)

Next, we need to assemble the carriages, each pair requires the following parts:

- 4x roller carriage
- 4x 608 bearing
- 4x M3x12
- 4x M3n (standard nut)*

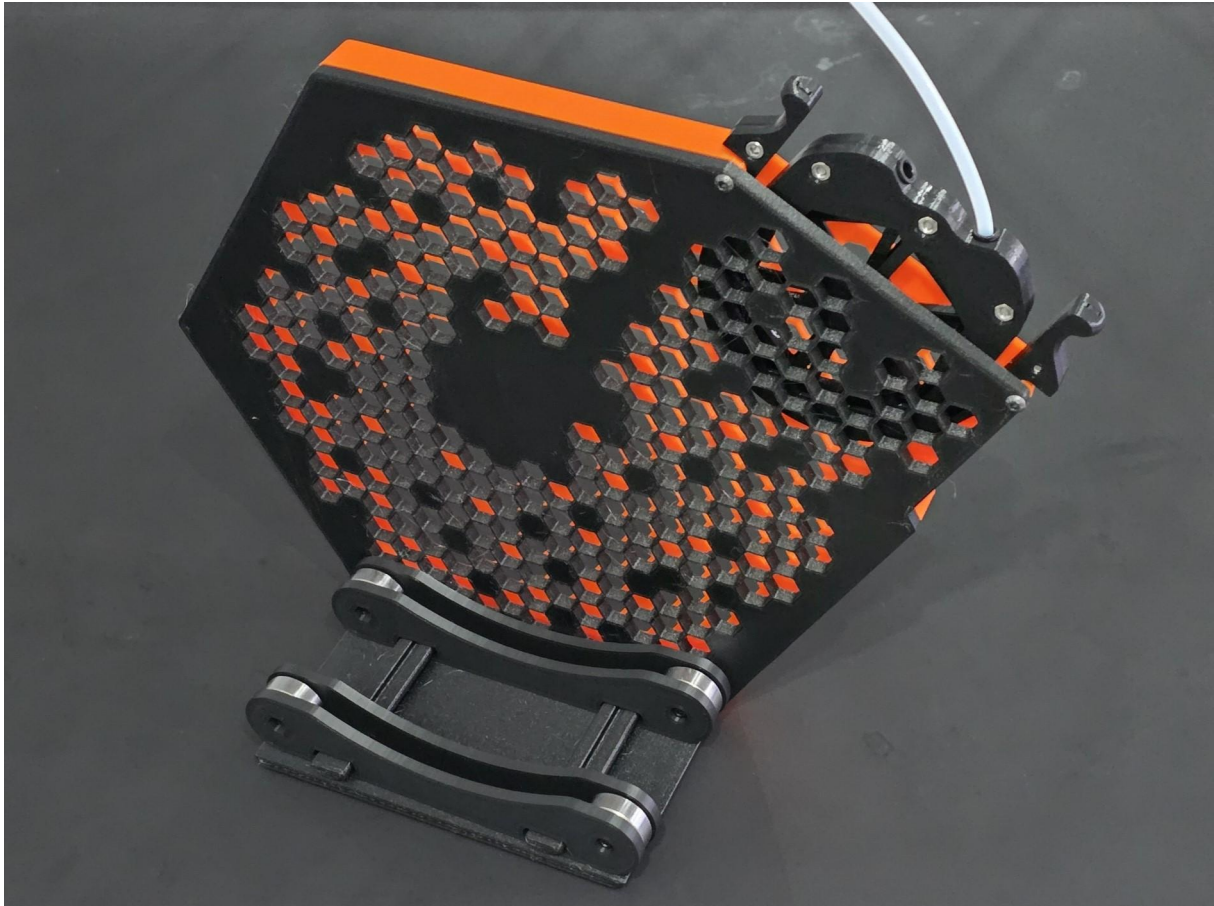
*optional.



First, push the bearings onto the two raised hubs on one of the printed parts. Then press a second part together, and secure them together using

the fasteners. Repeat for the second set of parts. Now slide the completed carriages onto the rails of the spoolholder_roller.

Next, if you have not already done so, it is time to assemble the **cassettes** you received with your MMU3, following [section 8A](#) of the assembly manual. Once ready, simply place them into the buffers. A finished spool unit should look something like this:



Now, repeat this process four more times to complete all five spool units. Remember to share your make when you finish :)

FINAL ASSEMBLY

You can now place your spool units atop the printer. The units should sit nicely inside the two top rails, if some of them are not, check the two screws which secure the rail and ensure they do not protrude.

You can now attach the PTFE tubing, we will use the following:

- 5x 650mm lengths (cassette → mmu)
- 5x 170mm approx. lengths (spool → cassette)
- 1x 390mm length (mmu → extruder)*
- 2x ptfe_comb (print to organise and align the long tube runs)

*make you sure you configure the PTFE length onboard your printer!

Ensure that the longer ptfe tube is connected to the the cassette in the collet closest to the MMU unit. Once all is completed, it should look like the following (spindle variants shown).



Time to test it out, to load a filament on **spindles**, lift the spool unit out of the rails towards the front of the printer, slide the spool on and then place the unit back into place. I would recommend using the ptfe_combs in similar locations as I have, this allows enough freedom for the spool units to be moved in this way.

If you've used **rollers**, simply place your spools onto the carriages, adjusting them if necessary to fit the exact width. Once seated, proceed to thread the filament through the cassette.

Finally, if your MMU is anything like mine it can be a little... temperamental when loading. I have thus found it infinitely easier to push the filament through the buffer to the MMU, and then reach over the spool units and release the PTFE tube at the MMU end to push the filament directly. Once the MMU takes hold of the filament, slide the PTFE tube back down and secure it into the collet.

Happy printing!

ACKNOWLEDGEMENTS

Thank you to [DiscoJon](#) for both creating the original spool holder design which I have modified, and for making it and the source files freely available.

Thank you to [Prusaguy](#) for inspiring this project, and creating the panel assembly and MMU mounting solution upon which this project is built.

This remix is based on



Integrated Spool Holder + Buffer for Core ONE & MMU3 (INDX Compatible!)

by [DiscoJon](#)



Prusa CORE One MMU3 Community version

by [Prusa Guy](#)

Model files



Top Panel Assembly

8 files



platform_a.stl

☐ Use heat resistant material.



platform_b.stl

☐ Use heat resistant material.



platform_c.stl

☐ Use heat resistant material.



platform_d.stl

☐ Use heat resistant material.



platform_e.stl



toprail_a.3mf



toprail_b.3mf



platform_vent.stl

☐ Use heat resistant material.



Top Panel Connectors

9 files



connector_a.stl

☐ Use heat resistant material.



connector_b.stl

☐ Use heat resistant material.



connector_c.stl

☐ Use heat resistant material.



connector_d1.stl

☐ Use heat resistant material.



connector_d2.stl

☐ Use heat resistant material.



connector_d3.stl

☐ Use heat resistant material.



connector_e.stl

☐ Use heat resistant material. These go inside slots between the platform panels.



connector_ridge.stl

☐ Use heat resistant material.



connector_mmu.stl



Spool Unit Assembly - Spindles

5 files



spoolholder_spindle.3mf



spoolholder_ptfe_cutouts.3mf

☐ OPTIONAL. To be used with 2x 75mm PTFE tubes to reduce rolling resistance.



buffer.3mf

☐ Identical across both spool unit variants.



ptfe_comb.3mf

☐ Identical across both spool unit variants.



spoolholder_spindle_2kg.3mf

☐ EXPERIMENTAL. Allows for spools up to 130mm wide. Untested.



Spool Unit Assembly - Rollers

6 files



spoolholder_roller_v2.3mf

☐ 80mm wide to accomdate more spools. Overhangs a little more.



rollercarriage.3mf



buffer.3mf

☐ Identical across both spool unit variants.



ptfe_comb.3mf

☐ Identical across both spool unit variants.



spoolholder_roller_2kg.3mf

☐ Wider version for use with larger spools. Accomodates ~140mm wide spools.



oldspoolholder_roller_v1.3mf

☐ Original version, 75mm wide. Superseded.



Source Files

6 files



top-rails-v2.step



spool-unit-spindle-v11.step



roller-carriage-v5.step



spindle-2kg-v1.step



spool-unit-rollers-v12.step

☐ 80mm width version.



mk4-roller.step

☐ Request by Karl.



MK4 Spindles

3 files



spoolholder_spindle_mk4.3mf

☐ Cut spindle to fit on the MK4 bed. Includes PTFE cutouts.



spoolholder_roller_mk4.3mf

☐ Cut roller to fit on the MK4 bed. Untested.



buffer_mk4_v2.3mf

☐ Cut buffer to fit on the MK4 bed.

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