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Flashforge Adventurer 5M (AD5M) IMPROVED Spool Holder, Inlet, Runout Sensor Mount + SIDE MOUNT Spool Holder! v1.1

Doug Joseph (design8studio)

VIEW IN BROWSER

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Summary

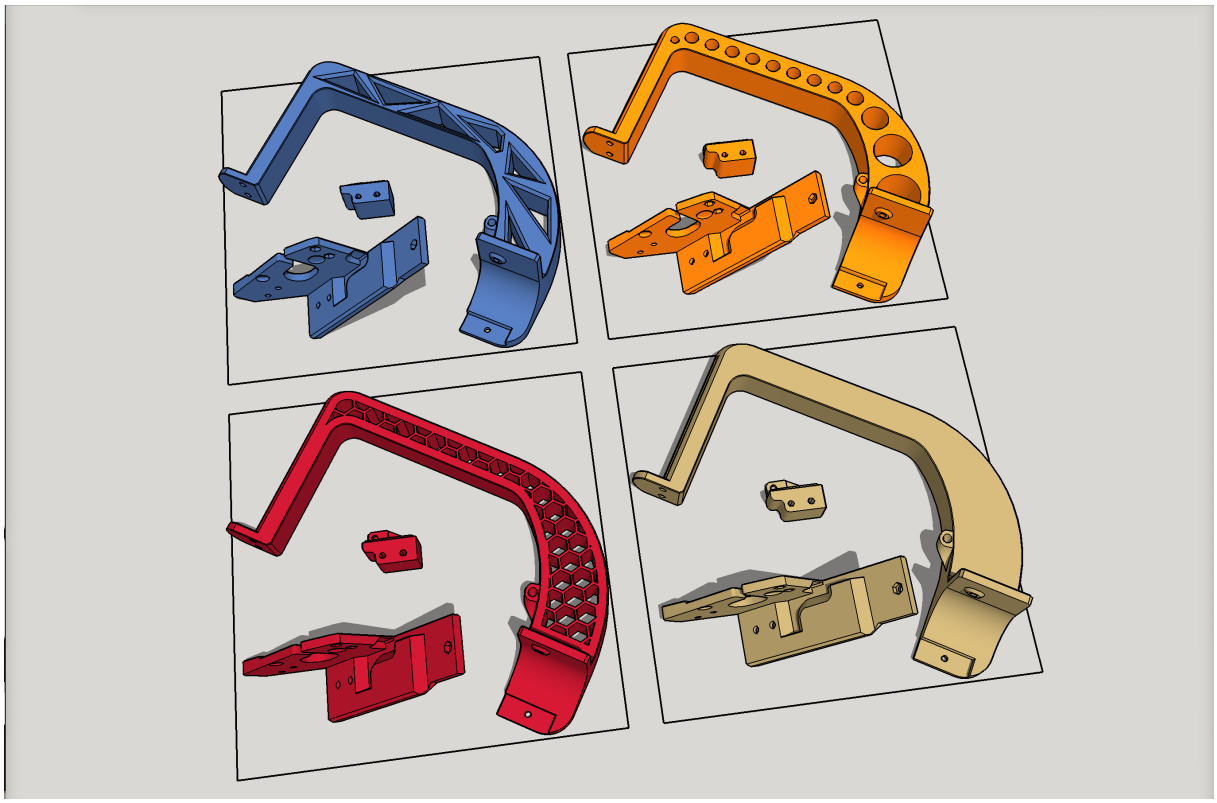
Flashforge Adventurer 5M (AD5M) IMPROVED Spool Holder, Filament Inlet, Runout Sensor Mount +SIDE MOUNT Spool Holder v2.0

3D Printers > Accessories

This was made for use with the DIY enclosure available here.

HEADS UP - 1 of 3 - new better version of this!

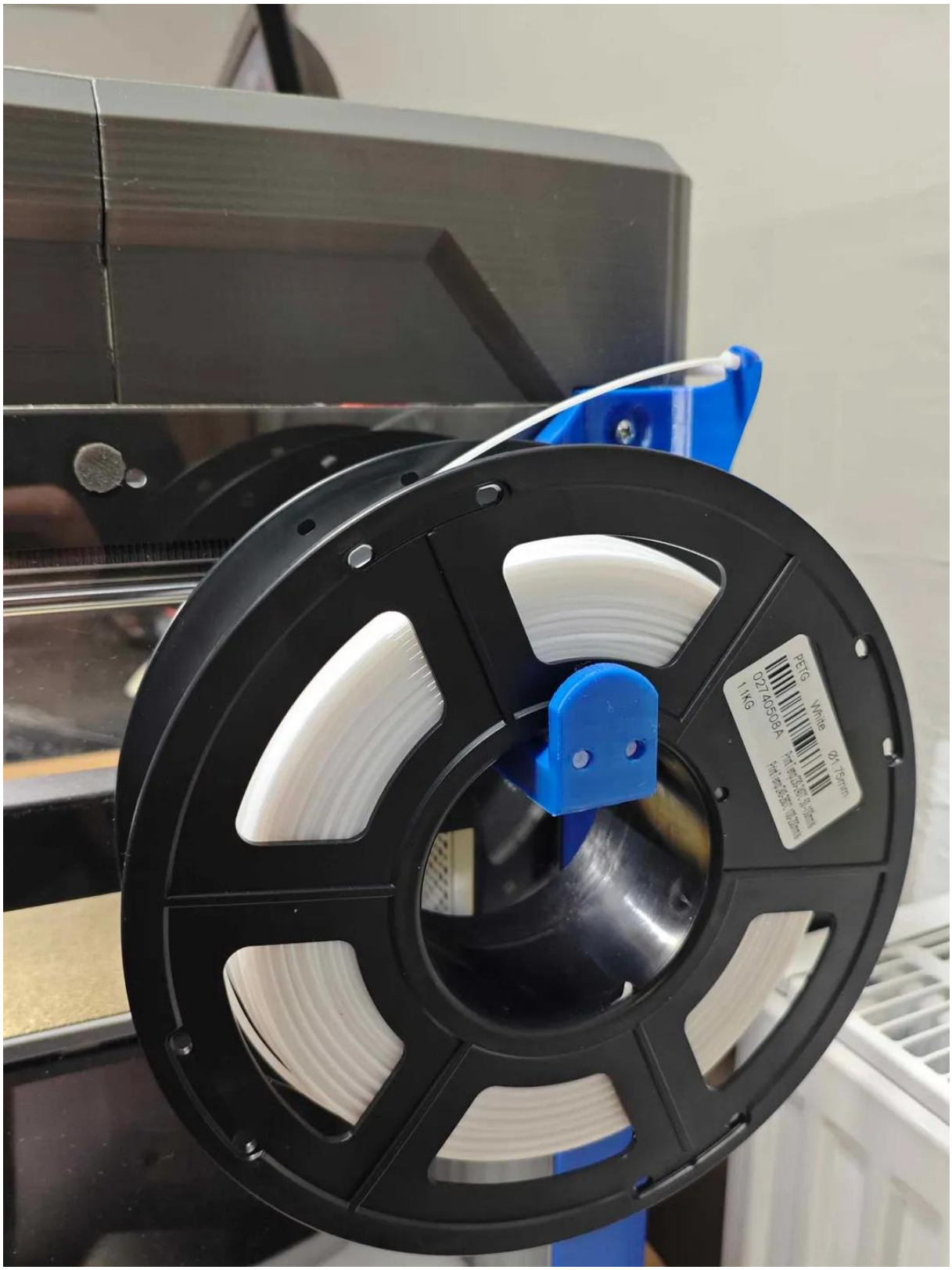
I've published a new, improved remix of my popular side-mounted spool holder — PLEASE NOTE: it's not just about the four cosmetic variations to choose from... It's a better, stronger holder that attaches with two screws instead of one. Click here for the printable files.



HEADS UP - 2 of 3 - new better version and now in a “low slung” edition:

NEW as of Feb 15, 2025, there's a new “low slung edition” of side-mounted spool holder for AD5M:

https://www.printables.com/model/1193462-flashforge-adventurer-5m-ad5m-improved-side-mount



This popular remix includes a side mounted spool holder. The place where the spool holder attaches, takes into account a vertical guard plate from the DIY enclosure, and is made to work without modifying the existing DIY enclosure parts.

HEADS UP - 3 of 3 - NEW MINIMAL ENCLOSURE!

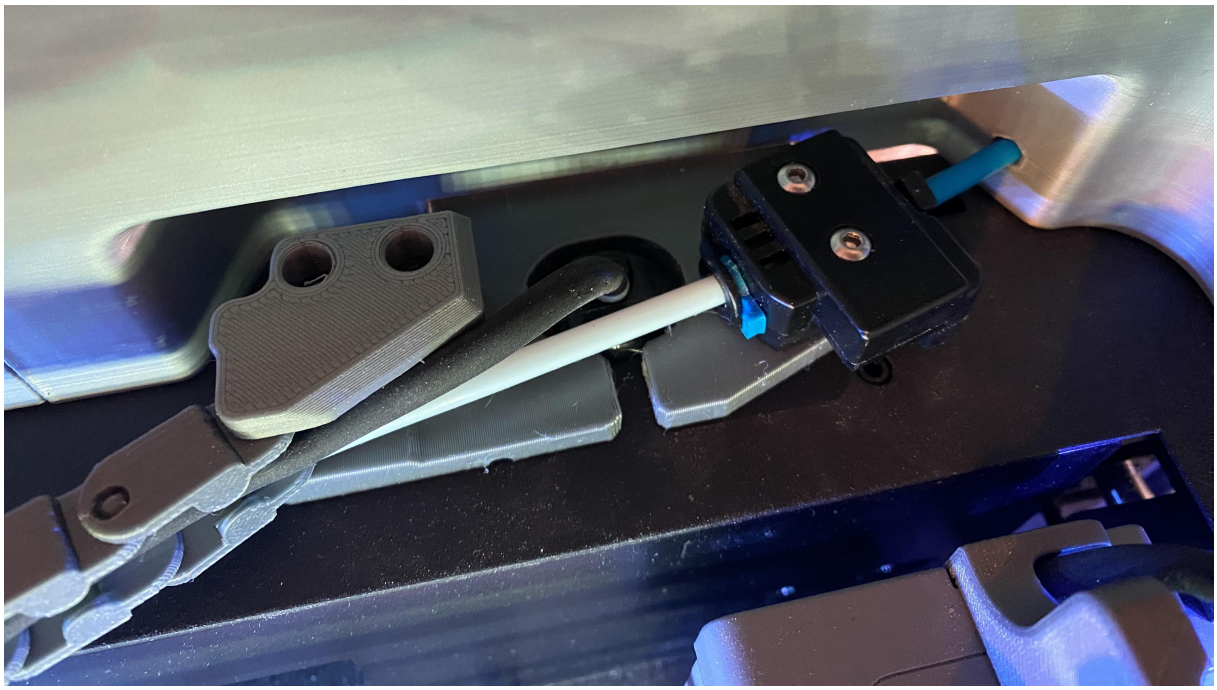
I remixed a new minimal version of the DIY enclosure, that prints in less time, uses less plastic, and in my opinion is better in substantial ways. I now have three of the AD5M printers, and two have the original DIY enclosure, whereas the third has my new remix of the minimal enclosure, and it's just nice. It makes any maintenance work easier because the top is so much easier to remove (no wiring ribbon cable threaded through a slit to a relocated touchscreen, and no camera cable threaded through a hole to a relocated touchscreen). It's better because if you have/get the AD5M camera (which is for the Pro version but can be bought and installed on the non-pro version - and its video feed can be displayed remotely in either of the web-based UI choices available if you do the unofficial Klipper mod) it does not need to have a modified mount to get its wire cable to be long enough to reach a higher position of a relocated touchscreen, and better because the touch screen does not have to be moved – it gets to stay in the stock position, which is nicer in all ways. My new remix of the minimal enclosure made several improvements on the great work from the person whose work I based mine on, and it will have the new side mounted spool holder with it. **Click here to get it: https://www.printables.com/model/1130485-flashforge-adventurer-5m-ad5m-minimal-diy-enclosur**

Note regarding the newly revised runout sensor mount:

- **NEW as of September 16, 2024** - The runout sensor is now rotated 180° for better filament insertion — major kudos to @super_liminal_836867 for their excellent work remixing for this new version of the mount! **Backstory:** The original, official Flashforge files

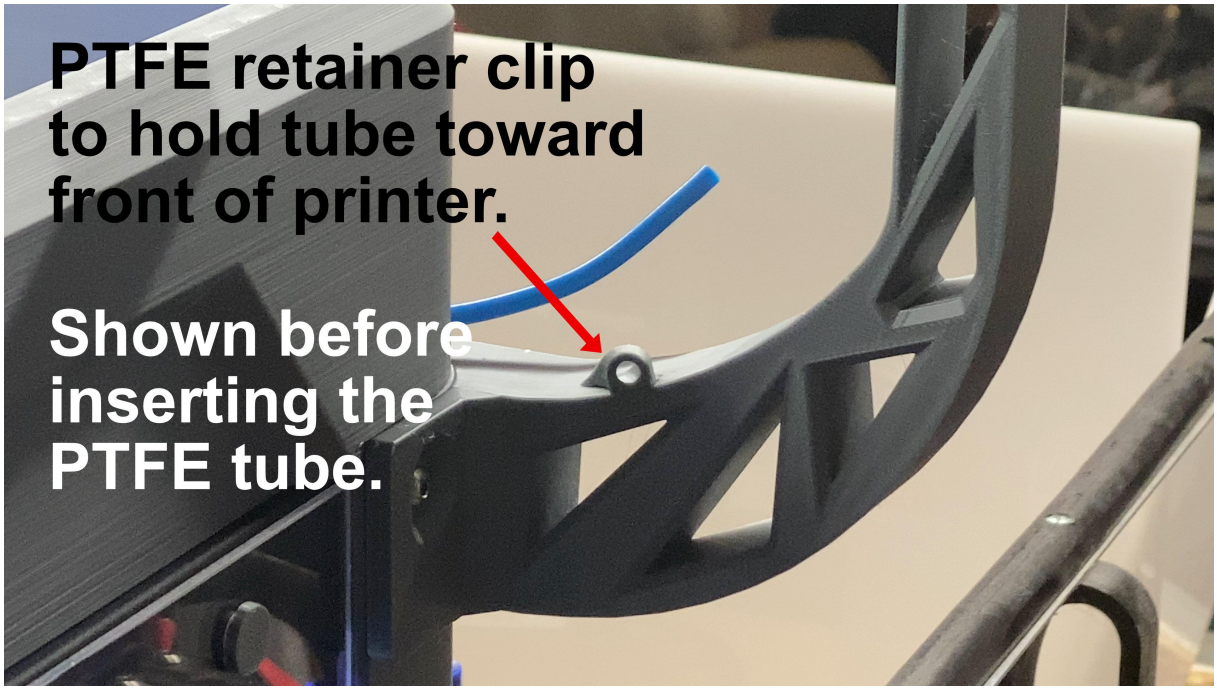
for the DIY enclosure had the runout sensor turned in a direction that apparently contributed to problems loading filament. Flashforge eventually switched the orientation of the runout sensor to aid with this problem. So now this listing has the new orientation as well. **This new feature affects only two files (listed below), which get the v2.0 numbering. All other parts are unchanged from v1.0 and v1.1.**

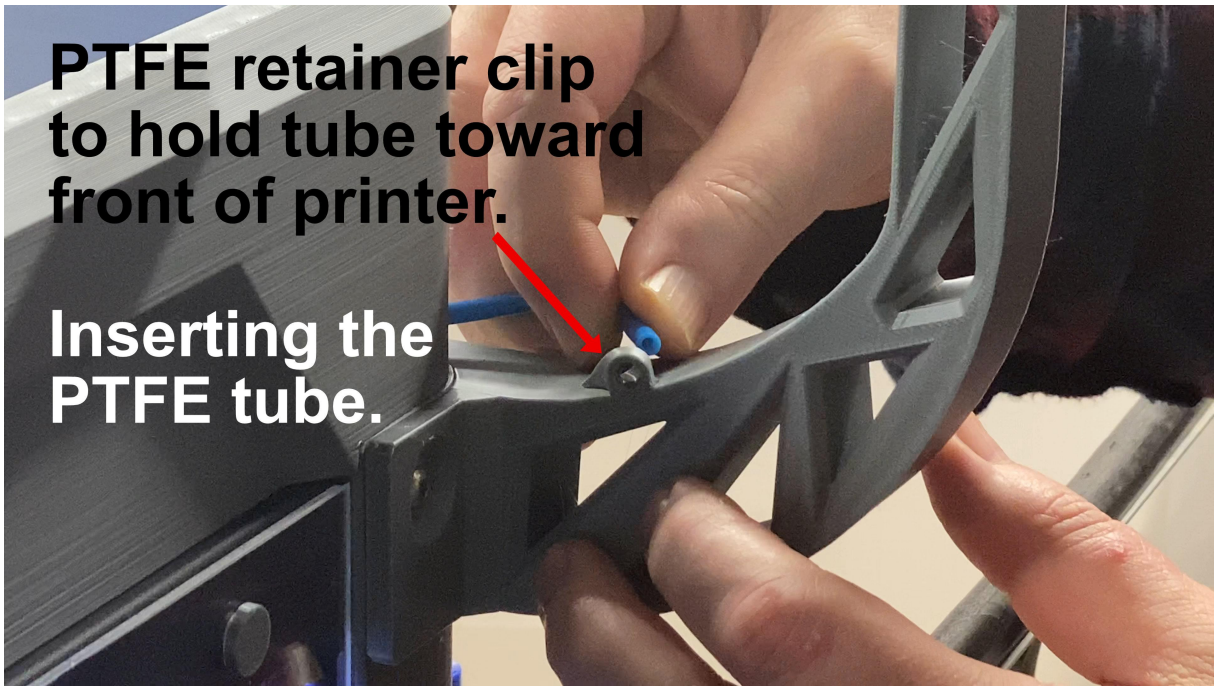
- **New:** Spool Holder - improved to fix multiple issues v2.0.stl
- **New:** Filament Sensor Mount + Drag Chain Mount LOWER v2.0.stl

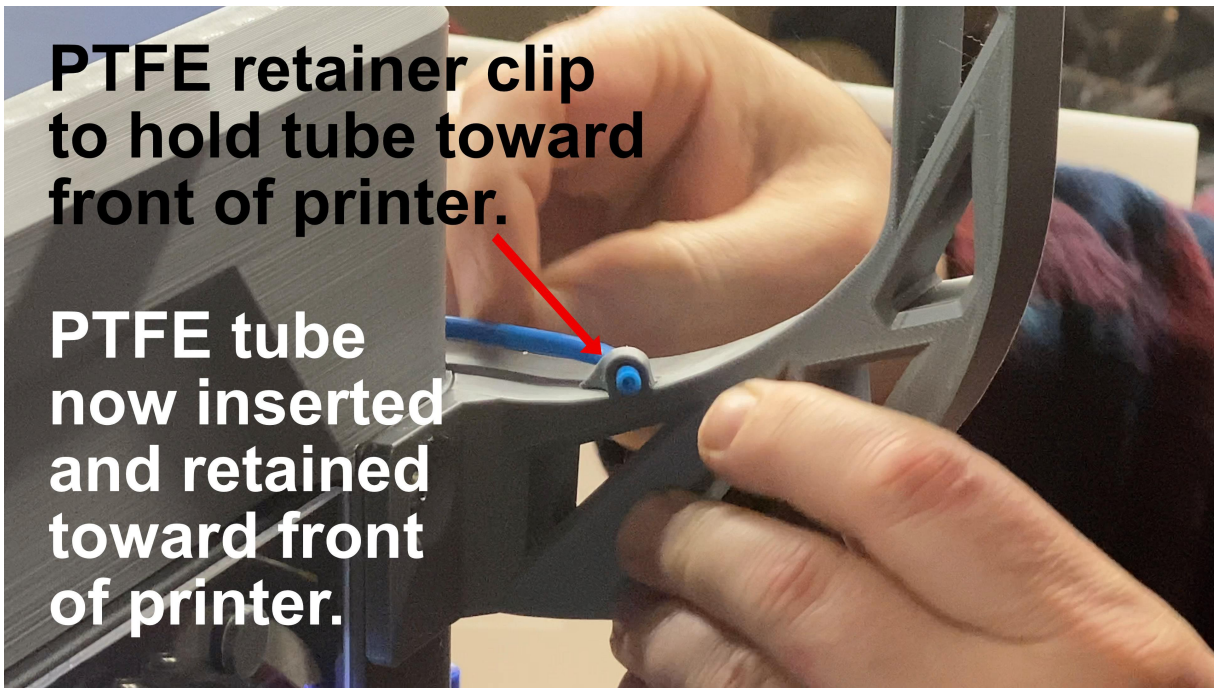


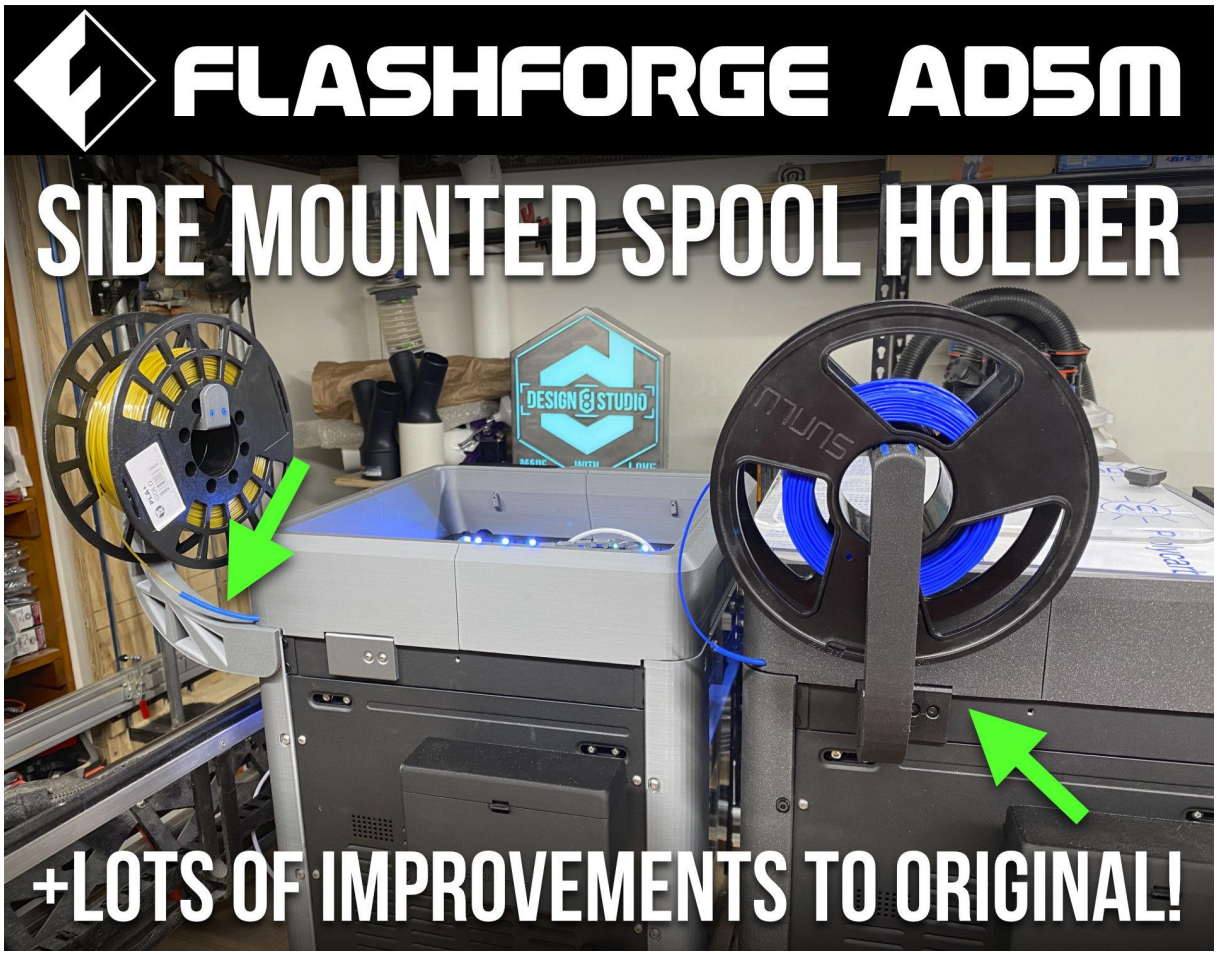
Note regarding the new side-mounted spool holder:

- **April 6, 2024, PM** - added new version of the side-mounted spool holder model with a built-in retainer clip on top to position the PTFE inlet tube toward front of printer for ease of reach when loading filament. Install your filament spools with the feed direction at the top pointed toward front of printer. Images below show the initial installation of the PTFE tube in the retainer clip.
- **July 22, 2024, 11:00 PM** - added revised v1.1 of the side-mounted spool holder. See below for explanation of minor tweaks intended to better support PTFE tube with slightly larger diameter, and in response to two makers who had issues with the point of attachment to the enclosure's guard piece. (The issues might perhaps be related to over extrusion, which would simultaneously reduce the size of the indentation when they printed their guard piece, and yet also increase the size of the oblong bump on the side-mounted spool holder. Thus a double whammy from over extrusion can make parts not fit that were explicitly designed for each other.)




PTFE retainer clip
to hold tube toward
front of printer.
Inserting the
PTFE tube.


PTFE retainer clip
to hold tube toward
front of printer.
PTFE tube
now inserted
and retained
toward front
of printer.



So many improvements made here... Besides getting a nice option for a side-mounted spool holder, as opposed to the rear mounted one, here's a list of changes / improvements to the original, and all things related to it:

Improvements made to original spool holder model that also provides mount for filament runout detection sensor:

1. Adjusted orientation angle of the filament runout sensor to make loading filament easier. The original design required a bend to the PTFE inlet tube that caused a kink/crook at the point where where the tube gets attached to the sensor. While the sensor was mounted "normal" to the hole for the PTFE inlet tube, it's offset from that hole to the right. This fix addresses that. I'm getting easier filament loading than before. **Also, cutting the tip of the new filament at a sharp angle helps with insertion. Before the kink was fixed, even the sharp angle cut did not help. Now with the sharp angle cut, I get easy insertions.**
2. Made the PTFE tube insert holes (for the spool to glide on PTFE tubes) to be round holes at correct size, instead of pentagonal holes that were too small for normal PTFE tubes. It was practically impossible to force the PTFE tubes in, without either using a heat gun to distort the printed part, which made it look bad, or by using a drill to widen the

holes, which destroyed the retainer lips on the top edges of the slots. Presumably the holes were designed as pentagonal to reduce need of supports, but the long "knife edge" overhang requires supports any way, so why not make the holes properly sized?
3. Widened the relief pocket and access hole for the wiring that connects to the filament runout sensor. I also bevelled several faces related to this relief pocket to reduce need of printed supports.
4. Made some existing filets to be broader to get the whole spool holder part to fit easier on the AD5M print bed. This also slightly shortened the PTFE tube slots (for the spool to slide on) to exactly 82 mm. A key benefit of this design aspect was this goal it accomplished: Since the model print needs supports, and tree supports would be desirable and better for it, yet the larger original model was so near to the edges of the print bed that OrcaSlicer insisted on creating tree support bases located outside the print bed, and the job would not print (AD5M with Klipper mod would simply say "move out of range" and stop), by rotating my slightly smaller remix clockwise a bit, OrcaSlicer's tree supports now fit on the print bed easily, including with a skirt set to print.
5. Widened the gap through which the hotend control cable must pass, as it was tighter than necessary.
6. Created a second remix in which the sensor mount/cable chain mount are separate from the spool holder, and the separated spool holder is made to be a “SIDE MOUNT” instead of a “REAR MOUNT.” This makes it easier to reach and load filament even if your printer is positioned such that you cannot rotate it (or you simply don't want to rotate it).
7. The official Flashforge files for the DIY enclosure had the runout sensor turned in a direction that apparently contributed to problems loading filament. Flashforge eventually switched the orientation of the runout sensor to aid with this problem. So... **NEW as of September 16, 2024** - This listing's runout sensor is now rotated 180° for better filament insertion — major kudos to @super_liminal_836867 for their excellent work remixing for this new version of the mount! **INSTALLATION TIP:** the new mount has the wire cable for the runout sensor taking a different path, out the side, and around the side, to the front. **This new feature affects only two files (listed below), which get the v2.0 numbering. All other parts are unchanged from v1.0 and v1.1.**
    - **New:** Spool Holder - improved to fix multiple issues v2.0.stl
    - **New:** Filament Sensor Mount + Drag Chain Mount LOWER v2.0.stl

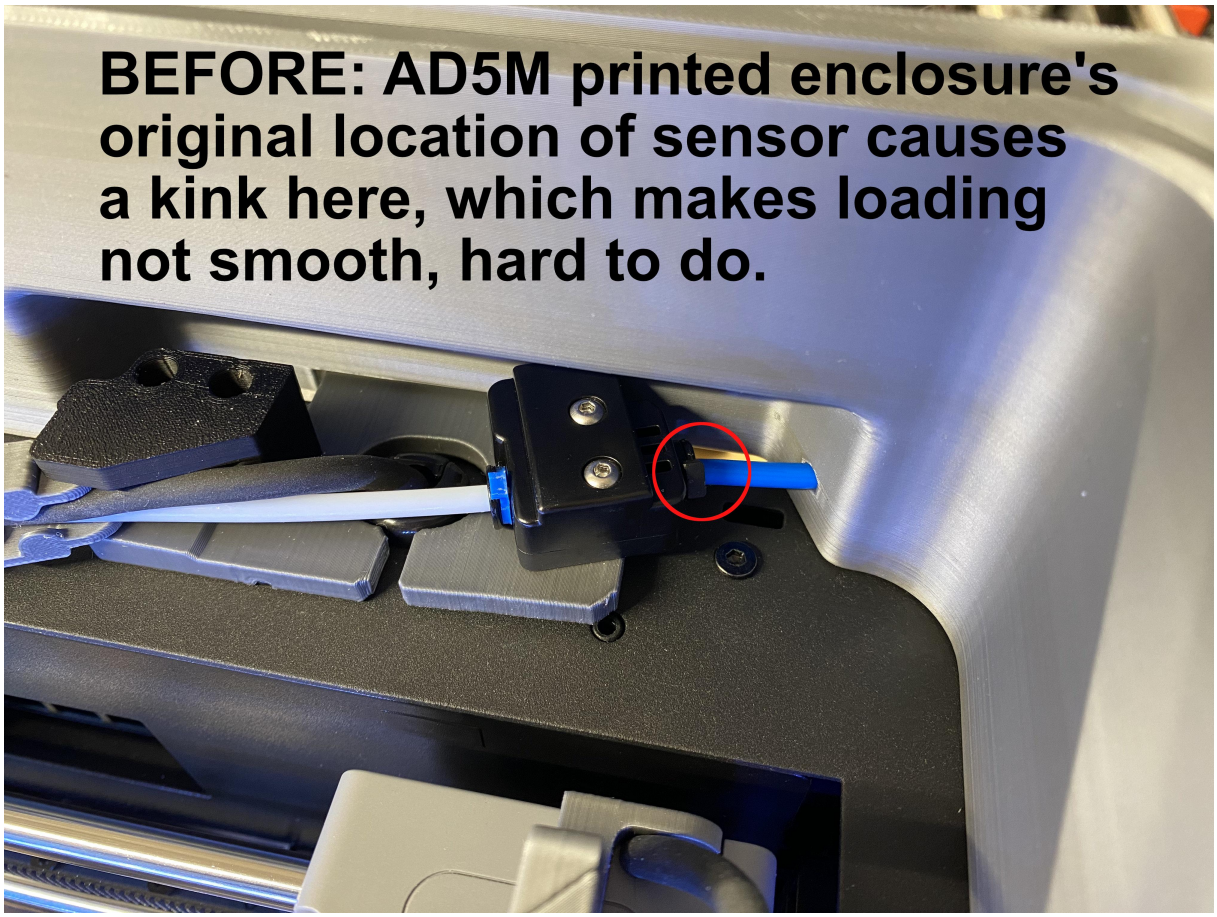
Printing tips:

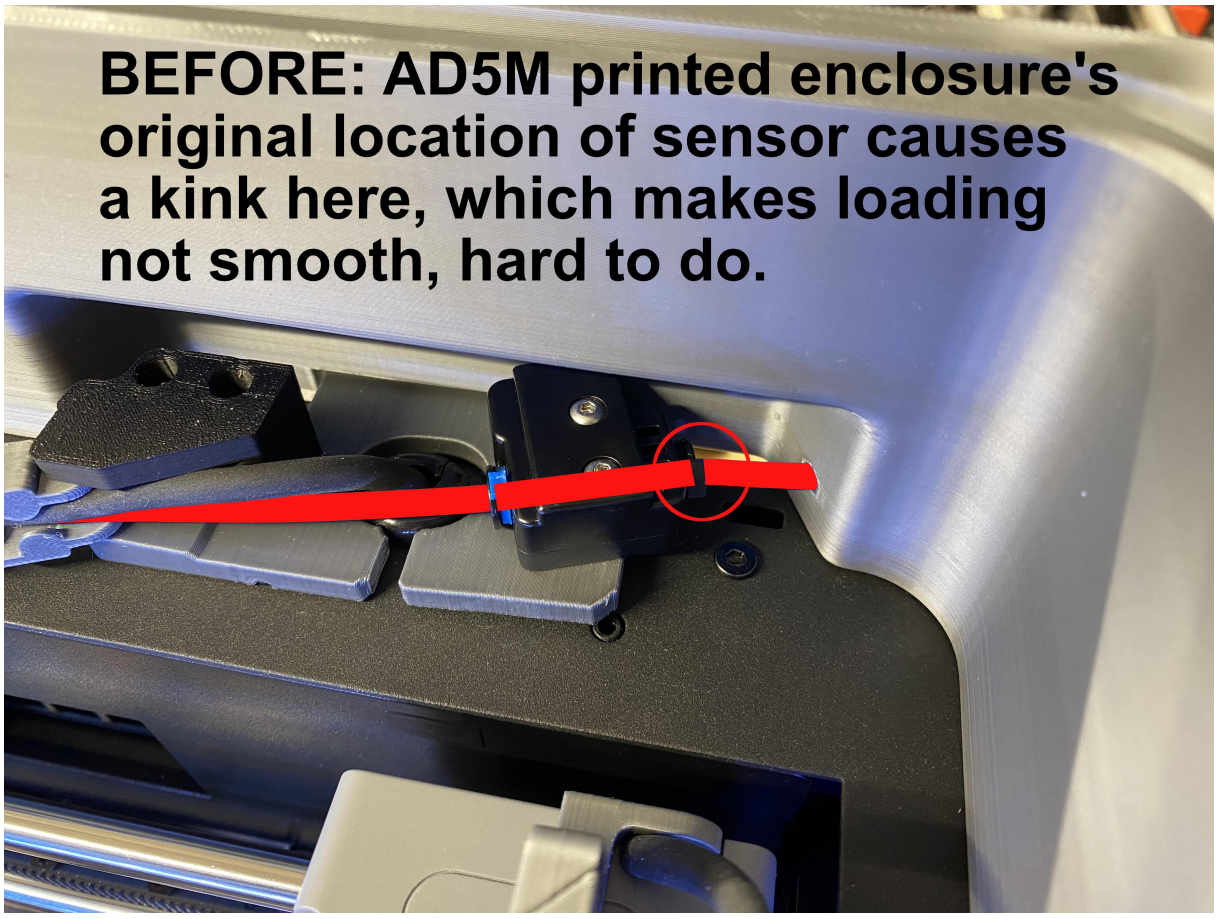
- Print as oriented.
- Tree supports are good for either of the spool holders.

- Selective support blocking can save some print time on the spool holders.
- I also like to do tree supports on the "Drag Chain Mount UPPER" for the transition from big hole to little hole.
- The new “Filament Sensor Mount + Drag Chain Mount LOWER” prints without need of supports.

Installation tips:

- When installing the new side-mounted spool holder, with the DIY printed enclosure:
    - Remove the screw from the printed guard (rear, right).
    - Position the new side-mounted spool holder on the upper side of the guard.
    - Replace the screw with a longer M4 screw (probably M4 x 10mm or M4 x 12 mm).
    - IMPORTANT: the screw needs to be really tight.
    - Insert the PTFE inlet tube through the built-in retainer clip on top to position the tube toward front of printer, for ease of reach when loading filament.
    - Install your filament spools with the feed direction (at the top) pointed toward front of printer.


BEFORE: AD5M printed enclosure's original location of sensor causes a kink here, which makes loading not smooth, hard to do.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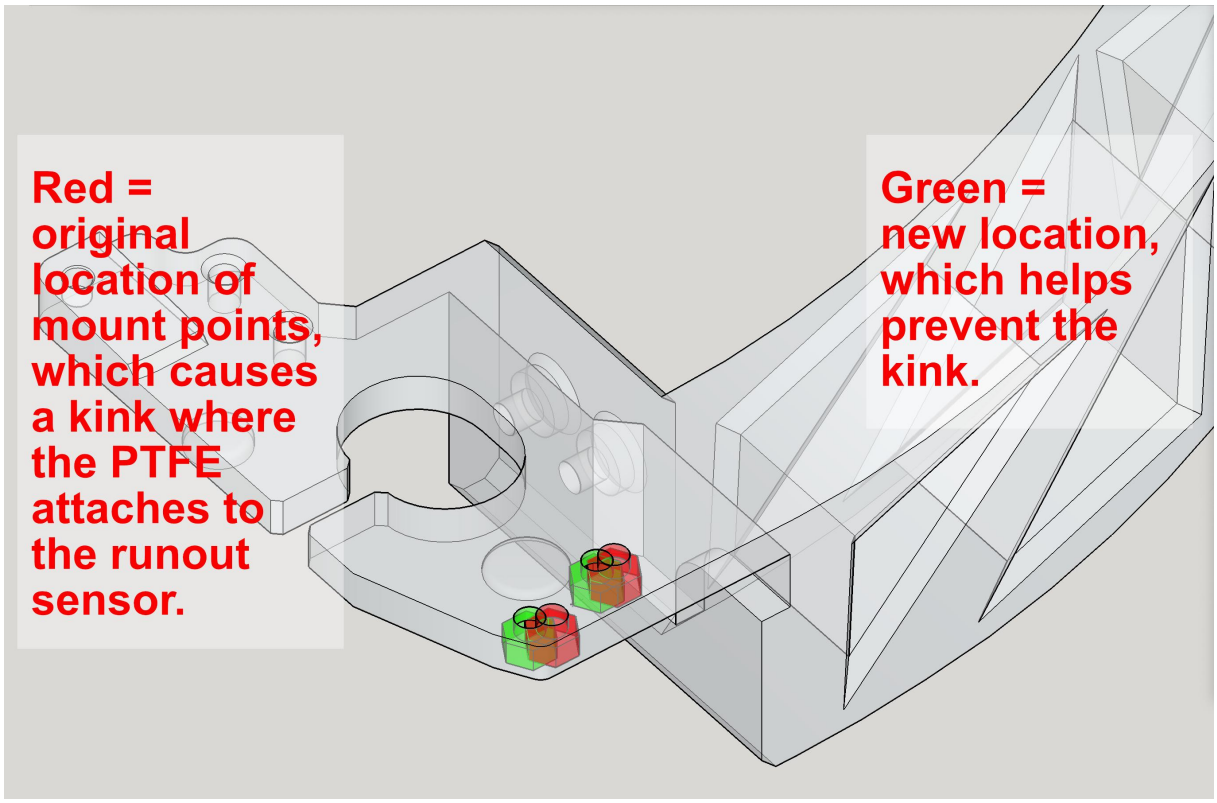
Red =
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Green =
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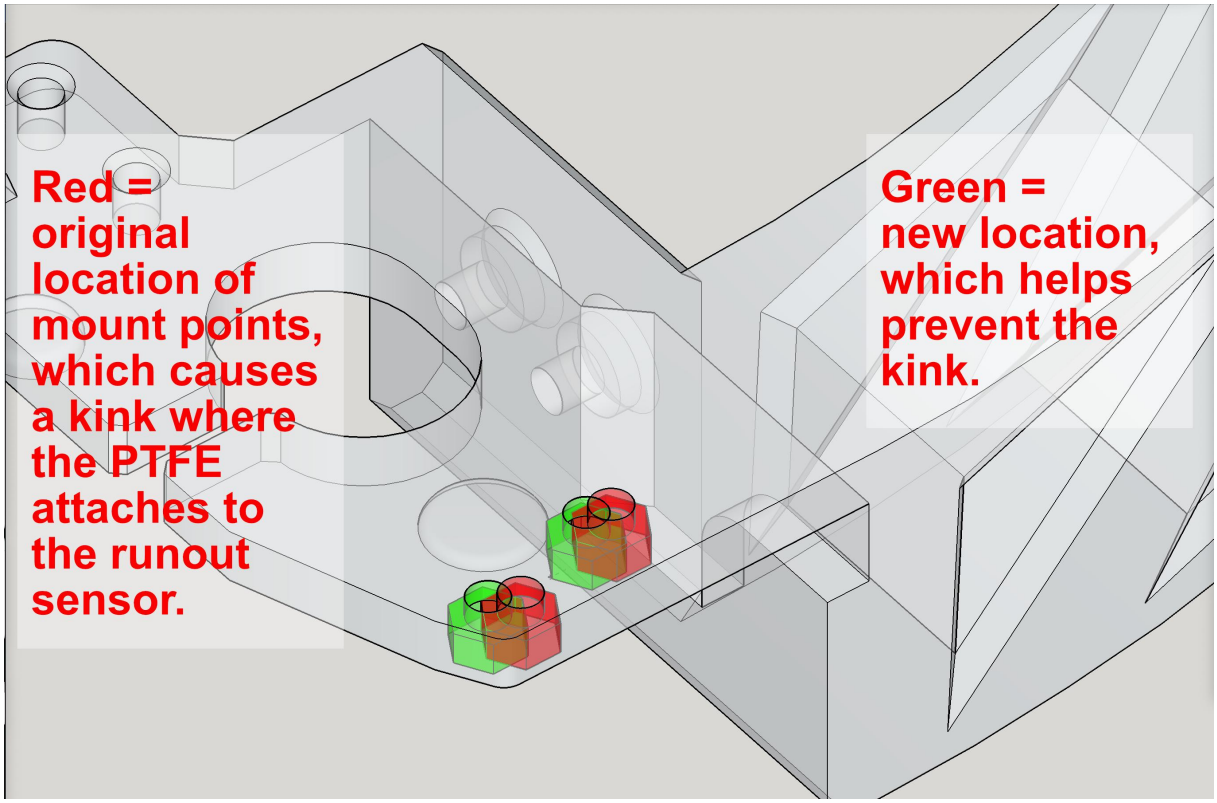
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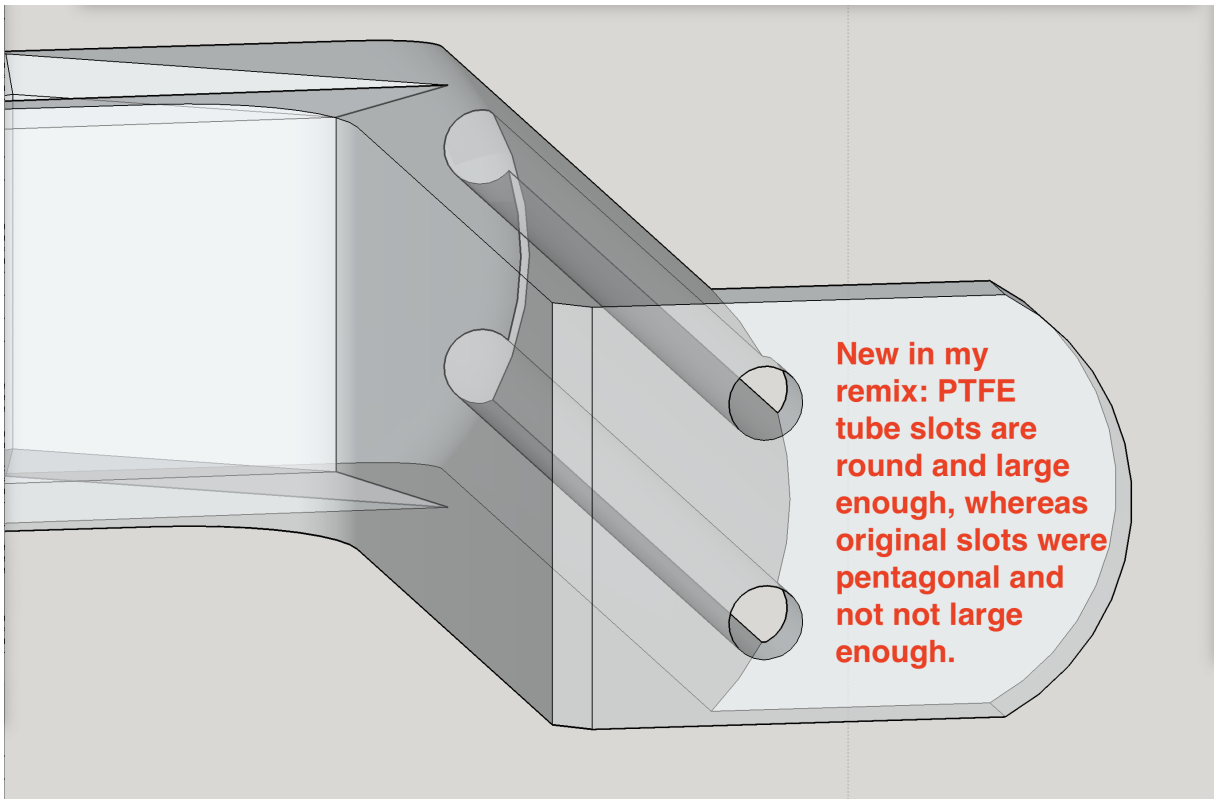
New in my remix: PTFE tube slots are round and large enough, whereas original slots were pentagonal and not not large enough.

Change log

- September 16, 2024 - The runout sensor is now rotated 180° for better filament insertion — major kudos to @super_liminal_836867 for their excellent work remixing for this new version of the mount! **Backstory:** The original, official Flashforge files for the DIY enclosure had the runout sensor turned in a direction that apparently contributed to problems loading filament. Flashforge eventually switched the orientation of the runout sensor to aid with this problem. So now this listing has the new orientation as well. **This new feature affects only two files (listed below), which get the v2.0 numbering. All other parts are unchanged from v1.0 and v1.1.**
  - **New:** Spool Holder - improved to fix multiple issues v2.0.stl
  - **New:** Filament Sensor Mount + Drag Chain Mount LOWER v2.0.stl
- April 6, 2024, AM - initial upload of the remix work.
- April 6, 2024, PM - added new version of the side-mounted spool holder model with a built-in retainer clip on top to position the PTFE inlet tube toward front of printer for ease of reach when loading filament. Install your filament spools with the feed direction at the top pointed toward front of printer. Images below show the initial installation of the PTFE tube in the retainer clip.

- **July 22, 2024, 11:00 PM** - added revised v1.1 of the side-mounted spool holder. Here are explanations of minor tweaks:
    - On the side-mounted spool holder, the retainer clip hole is slightly larger, to better support PTFE tubing that has a slightly larger diameter. Reason: Not all PTFE tube is exactly the same diameter.
    - On the side-mounted spool holder, there is an oblong bump around the mount screw hole. That oblong bump had its height reduced by 0.2mm, and the size of the base of the bump was reduced by 2%. Reason: Two makers reported issues with the point of attachment to the enclosure's guard piece. The issues might be related to over extrusion, which would simultaneously reduce the size of the indentation (from when they printed their guard piece), and yet also increase the size of the oblong bump on the side-mounted spool holder. Thus, there can be a double whammy from over extrusion that can make parts not fit that were explicitly designed for each other.

Other cool options for the AD5M

You may also like my other AD5M related design work:

- https://www.printables.com/model/785667-flashforge-adventurer-5m-ad5m-simpler-easier-faste
- https://www.printables.com/model/813334-flashforge-adventurer-5m-ad5m-printed-camera-mount
- https://www.printables.com/model/814546-flashforge-adventurer-5m-ad5m-nozzle-storage-box-t
- https://www.printables.com/model/827706-flashforge-adventurer-5-ad5m-led-mod-accessory-buc
- https://www.printables.com/model/828632-flashforge-adventurer-5-ad5m-led-light-bars-mod-ac
- https://www.printables.com/model/834011-flashforge-adventurer-5m-ad5m-side-cutter-mount-v1
- https://www.printables.com/model/834097-flashforge-adventurer-5m-ad5m-improved-spool-holde
- https://www.printables.com/model/886714-flashforge-adventurer-5m-ad5m-filament-cutter-comp
- https://www.printables.com/model/1119699-flashforge-ad5m-enclosure-hinge-remixed-to-be-easi
- https://www.printables.com/model/1119872-flashforge-ad5m-door-handle-remixed-to-print-witho
- https://www.printables.com/model/1129412-safety-cover-for-side-cutter-tips
- https://www.printables.com/model/1130485-flashforge-adventurer-5m-ad5m-minimal-diy-enclosur

Use Klipper stuff on AD5M stock hardware...

- ...such as Mainsail, Fluidd, and Klipperscreen, etc, with the stock Klipper install on the AD5M's main board.
- Get it here: https://github.com/xblax/flashforge_adm5_klipper_mod

Check out other cool AD5M related options here:

- https://github.com/g992/flashforge-ad5m-5mpro-research

My PayPal tip jar: https://paypal.me/design8studio

This remix is based on

Drag chain kit for Flashforge Adventurer 5m
by INQUE

Model files

v1.1 side-mounted spool holder 2 files

spool-holder-side-mounted-with-base-and-ptfe-retain... .stl
See change log

spool-holder-side-mounted-with-base-v11.stl
See change log

v1.0 side-mounted spool holder 2 files

spool-holder-side-mounted-with-base-and-ptfe-retain... .stl

See change log

spool-holder-side-mounted-with-base-v10.stl

See change log

drag-chain-mount-upper.stl

filament-sensor-mount-drag-chain-mount-lower-v20.stl

spool-holder-improved-to-fix-multiple-issues-v20.stl

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