



Modular tripod handle



FredrikHamrebjorkDesigns

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Summary

A modular tripod/handle system, suited for small cameras and other smaller accessories.

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READ BEFORE PRINTING!

This is a non-commercial print, this means you are not allowed to sell files or prints of this model.

What is this?

A modular tripod/handle system, suited for small cameras and other smaller accessories.

The system consist of the tripod/handle body as well as various modules that can be combined in various ways.

Current modules that are available or currently in work are:

- Ball joint module (**done**)
- Quick release module (**done**)
- 90 degree angle module (planned)
- Arca Swiss module (planned)
- Action camera module (**done**)
- Tripod thread (1/4-20 UNC) module (**done**)
- Cellphone module (planned)
- Longer legs (planned)
- Telescopic legs (in early concept phase)

The project is currently ongoing, so if you want a module that isn't currently available, let me know and I'll make one if I have the dimensions.

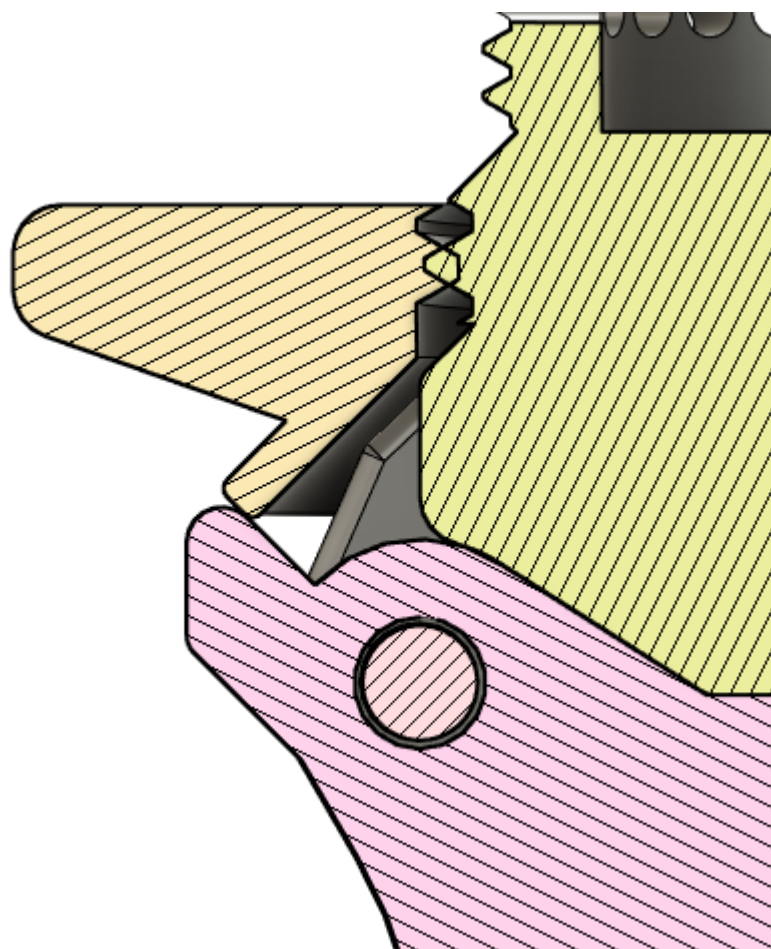
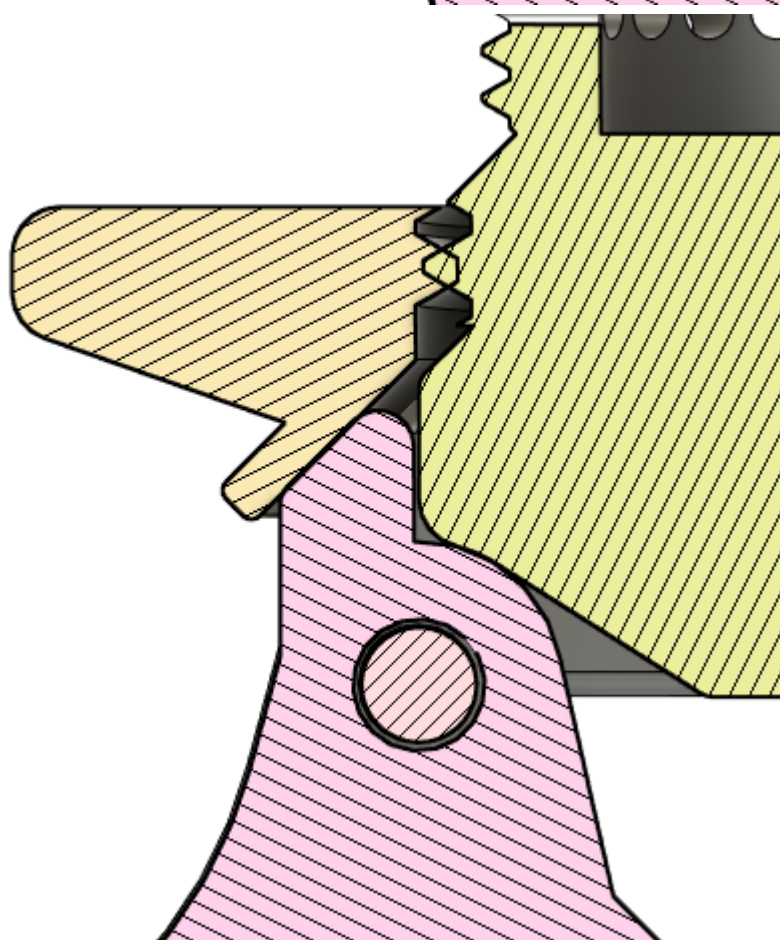
I have also added the male and female module interfaces as STEP-files, if you want to make your own.

How do I use it?

The tripod itself has two modes, a “handle” mode and a “tripod” mode.

To convert it from a handle to a tripod (and back):

1. Twist off the “lock cap”.
2. Turn the “leg lock” anti-clockwise.
3. Extend the “legs” and re-tighten the “leg lock” by turning it clockwise.
4. Do the process in reverse to turn it back to a handle.



How does the modules work?

It's actually up to you! They are designed to be combined in multiple ways, but the idea is to add a “middle module” such as the ball joint or quick release in combination with an “end module” such as the tripod thread or action camera module... Or just skip the middle module altogether and add the end module directly on the tripod!

Print Instructions

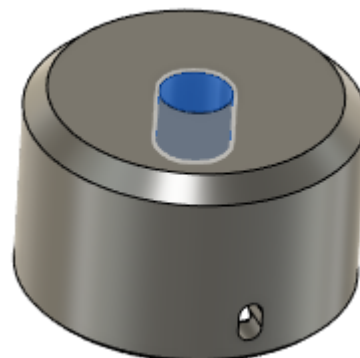
- Print all components in the **default orientation** to minimize support and maximize part strength.
 - **Don't use raft**, Rafts tend to give the bottom surface a rough surface finish. It can mess up the tolerances, which will/can make the tripod not work as intended.
If I have problems with bed adhesion, I always use a brim! Just make sure the brim is entirely removed.
 - **No support materials are needed**, I wouldn't recommend using support materials on any parts if they're printed in the default orientation. It shouldn't be necessary as all parts are designed with either "bridges" or a 45 degree overhang.
 - **Clean all printed parts** from brims, support material, uneven surfaces etc! The tolerances in this project are quite lenient, but major flaws might still affect the tolerances negatively
-

Videos and assembly instructions:

Instructions are currently in work, but I have added complete step files of all assemblies that you can inspect.

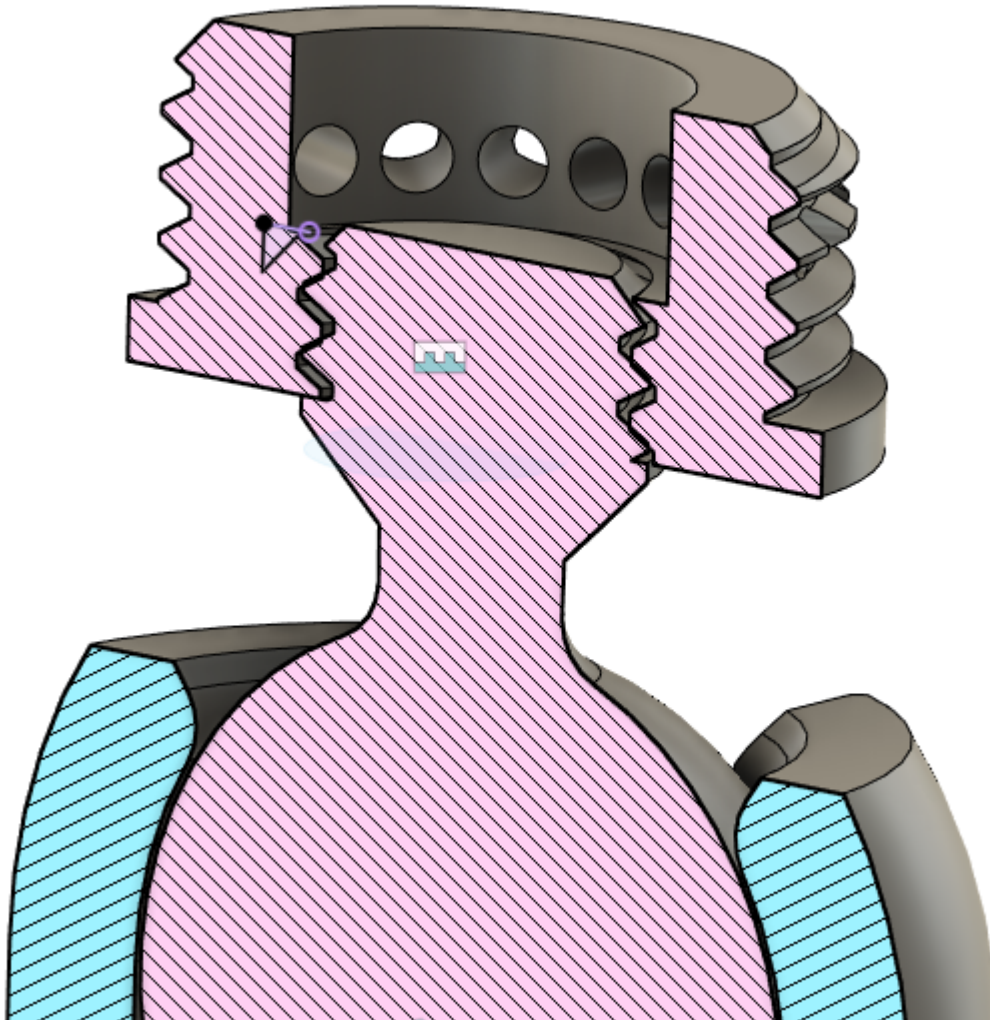
The assembly is fairly straight forward, but there're some things to take into consideration below:

- Some modules require **non-printed components**, notably an m5 nut for the “Action camera module” as well as a tripod socket screw

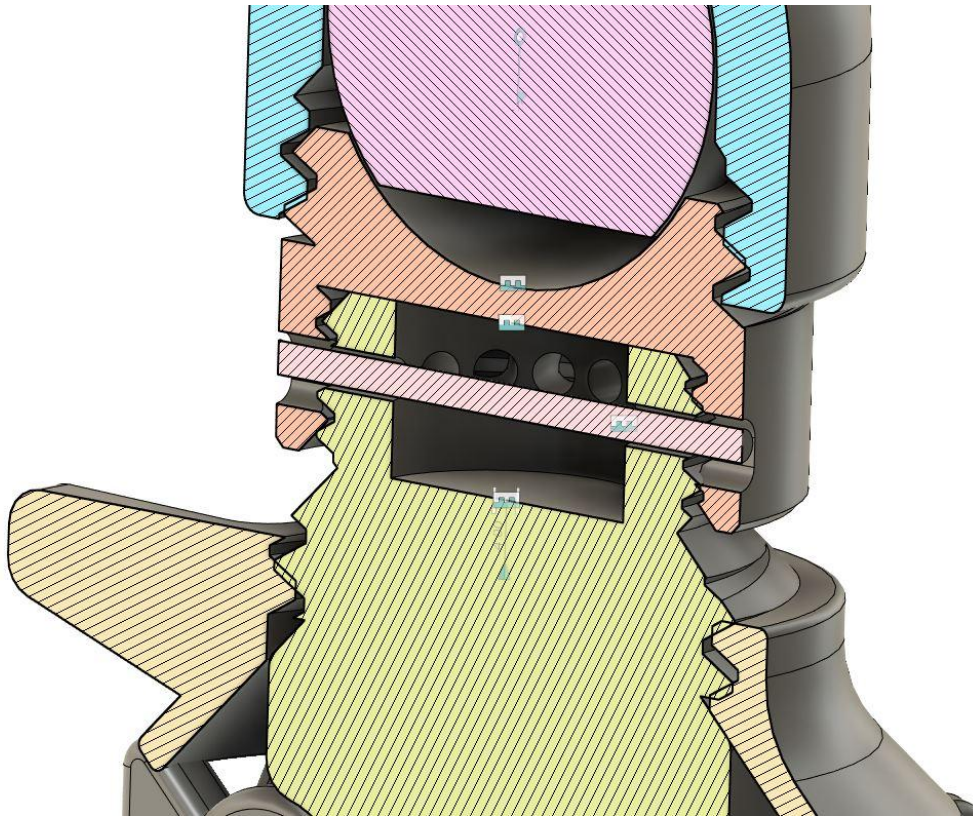


for the “Tripod thread module”

- No glue is needed except for the thread between the ball joint ball and the male interface on the ball joint. (make sure you assemble everything **before** you glue anything, as the “ball” needs to be placed in the “lock” before gluing the ball together!) (see picture)



The interface has a series of holes that are meant to lock the interface in place with a 30mm piece of 1.75mm filament, this is optional but recommended.(see picture)



- Be careful not to over-tighten the interface if you intend to swap the module in the future.
- If the leg pins are too loose or tight enough to crack the hinge, scale the pin a couple of % in the x and y direction until you can insert them without excessive force.

Assembly instructions:

"In work"

How to use the Tripod:

PART LIST (BOM)

Below are the parts needed for the tripod as well as the multiple part modules (not including single part modules as e.g. the action camera module):

Tripod:

- **1x** Tripod leg hinge
- **1x** Tripod leg lock
- **3x** Tripod leg
- **3x** Tripod pin
- **1x** Tripod lock cap

Quick release module:

- **1x** Quick release lock house
- **1x** Quick release lock arm
- **1x** Quick release lock pin
- **1x** Quick release lock pad (print as many of this as you have modules you want to use with the quick release)

Ball joint module:

- **1x** Ball joint ball interface
- **1x** Ball joint ball
- **1x** Ball joint bottom
- **1x** Ball joint lock

Troubleshooting:

Heres a list of problems and some possible solutions. If your problem isn't in the list please let me know what the problem is so I (depending on the problem) can add it.

- **Problem:** The leg hinge crack when I insert the leg pins.
 1. **Solution:** Scale the pins **down** in the x and y direction in the slicer a couple of % until you have a snug fit and can insert them without excessive force.
- **Problem:** The leg pins fall out.
 1. **Solution:** Scale the pins **up** in the x and y direction in the slicer a couple of % until you have a snug fit.

Change list:

- 2022-07-28: Revision 1 released.
- 2022-08-01: Improvements on the leg-lock, ball valve and quick release.

Model files



top-assembly-rev1-just-for-reference.3mf



quick-release-module-assembly-rev1just-for-refere.3mf



ball-joint-module-assembly-rev1-just-for-referenc.3mf



action-camera-module-rev1.3mf



tripod-thread-module-rev1.3mf



tripod-pin-rev1.3mf



tripod-leg-rev1.3mf



tripod-lock-cap-rev1.3mf



quick-release-lock-arm-rev1.3mf



quick-release-pad-rev1.3mf



ball-joint-ball-rev1.3mf



ball-joint-lock-rev1.3mf



ball-joint-ball-interface-rev1.3mf



module-interfaces.step



quick-release-lock-pin-rev2-v2.3mf



tripod-leg-lock-rev2.3mf



quick-release-lock-house-rev2-v2.3mf



ball-joint-bottom-rev2-v2.3mf



tripod-leg-hinge-rev2.3mf

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