



## Compact Tripod 45cm (Update - TPU feet caps)



rumstone

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updated 23. 8. 2024 | published 23. 8. 2024

## Summary

Small tripod 16-45cm with a generic tripod mount

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This is a tripod. Compact when folded - diameter is 4cm (38mm) and length is 17.5cm, extends to 45cm, manages to hold a smartphone (around 250g) + 1.5kg weight while fully extended (and 3kg+ when not fully extended), though I wouldn't recommend it for anything so heavy

At the moment I haven't came up with good attachments so you would have to find your own like in example you see in the pictures, but you can use "Modeling attachment" STL file to create your custom mounts in Blender or somewhere else if you have ideas

I will surely come up at least with a phone holder attachment, though I may post it as a separate model

Updates:

- 12.08.2024 - improved attachment legs and clip for better reliability, added new **attachment for 1/4 inch screw** (11 x 5 mm base of the screw) see on pictures
- 24.08.2024 - added (optional) **TPU feet caps**. Fit like a glove

## Print

On the pictures you see parts printed with **black Bambu Lab PLA** (though almost any PLA will do), 0.4mm nozzle, 0.2mm layer height, **with ironing on top surfaces (which is required for best fit)** with all parts taking about 110-120 grams. The latches should be long enough to endure long without snapping, so PETG is optional. M3 Screws are also optional but recommended (see **Assembly** down below)

All parts are pre-oriented and printed without supports (the only potentially challenging part may be the slider lock due to angle of some of the thinner wall parts)

If you decide to use supports however - avoid using supports on all leg parts as removing them from inside while retaining clearance may be nearly impossible

Walls of all rods and tubes don't actually need 100% infill as walls printed in horizontal orientation add maximum strength

I have printed it on Bambu Lab A1 on default/stock 0.2mm settings so I'm not sure about tolerances and precision of other printers

You will need to print the following parts:

1. **Generic attachment** 1 pcs.
2. **Attachment clip** 1 pcs.
3. **Center rod** 1 pcs.
4. **Center rod slider lock** 1 pcs.
5. **Base** 1 pcs.
6. (Optional\*) **Hinge pin** 1 pcs. (or 20mm M3 bolts + nuts)
7. **Leg connector** 3 pcs.
8. **Leg main** 3 pcs.
9. **Leg extension middle** 3 pcs.
10. **Leg extension end** 3 pcs.
11. (Optional) **TPU foot cap** 3 pcs.

If you can manage without it

## Assembly

Start with legs:

1. Angled end of **end extension** goes inside **middle extension** from the side without the latch. When it fully comes out from other end you can **pull the latch up and push the end extension in to retract it**, though that's optional during assembly
2. **Middle extension** goes into **main leg** tube, from the side with a bigger latch and slides down towards and through the smaller latch
3. **Leg connector** goes into **main leg** and gets secured with the big latch.
4. **TPU foot cap** prints go onto **end extension**. Leg is assembled

Base:

1. Insert **center rod slider lock** into the top slot of the **base** and align with triangular hole - make sure you can see triangle in the hole because if you can't - you have to insert the **slider** from other end instead. For best useability you want the **slider** to face bedplate side **up**
2. Making sure central hole is unobstructed - insert **triangular rod** from the bottom of the **base** - move the **slider** forwards and backwards if you need to. Then you can slide the **slider lock** in to lock the **rod** at desired height
3. **Attachment clip** goes on top of the rod, printed side of it should be touching top of the base
4. **Generic attachment** would go on the top of **central rod** - align inner bump/latch of **attachment** with holes on the **rod**, then slide **attachment clip** up to secure it in place, though **warning - it will be difficult to remove** (though utility knife you see in the pictures managed to make it much easier) later as the hole is tapered for maximum friction
5. Attach **side legs** to the **base** - latches and bedplate pattern should face inside the base, while top of the print outside. Secure with M3 20mm bolts and nuts (recommended), or use hinge pins instead

It may be stiff at first so move parts around and it should work just fine after a few movements

## Model files



Attachments

5 files



### **one-fourth-inch-screw-attachment-1-x.stl**

☐ (print 1x) print together with "One fourth inch screw block"



### **one-fourth-inch-screw-block.stl**

☐ (print 1x) slides into "One fourth screw attachment" to block the screw



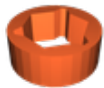
### **generic-attachment-v2-1-x.stl**

☐ (print 1x) Attachment you see in example picture but improved



### **modeling-attachment-v2.stl**

☐ Serves as a model to build your attachment on top of



### **attachment-clip-v2-1-x.stl**

☐ (print 1x) Secure your attachment on the rod



## **Tripod**

9 files



### **center-rod-1-x.stl**

☐ (print 1x) This rod goes in the middle



### **center-rod-slider-lock-1-x.stl**

☐ (print 1x) Attached to the base before rod insertion



### **base-1-x.stl**

☐ (print 1x) Holds everything together. Legs will spread 20 degrees from centre



### **hinge-pin-3-x.stl**

☐ (print 3x) Optional pin to connect legs to the base with instead of screws/bolts/nuts

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### **leg-connector-3-x.stl**

☐ (print 3x) Connects side legs to the base part

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### **leg-main-3-x.stl**

☐ (print 3x) Attach all leg extensions and leg connector to it

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### **leg-extension-middle-3-x.stl**

☐ (print 3x) Goes inside main leg part, holds end extension part inside

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### **leg-extension-end-3-x.stl**

☐ (print 3x) Goes into middle extension part

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### **tpu-foot-cap-3-x.stl**

☐ (print 3x) Goes onto Leg extension end



## **(don't print) Legacy and outdated parts**

3 files



### **generic-attachment-1-x.stl**

☐ (print 1x) Attachment you see in example picture

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### **modeling-attachment.stl**

☐ Serves as a model to build your attachment on top of

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## attachment-clip-1-x.stl

☐ (print 1x) Secure your attachment on the rod

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