



Articulating Raspberry Pi Camera Mount for Prusa MK3 and MK2



Sneaks

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Summary

I am someone that continually is moving my camera depending on what I am printing.

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IMPORTANT NOTE: 3D-printed plastic screws will break. Because of the way a 3d printer works, and the way the screws are typically oriented during printing, they are very weak. Things like printing in PETG, adding more perimeters, and adding more infill, will all make the screws stronger. If you print screws under normal slicing parameters at 15%, your screws will break.

I am someone that continually is moving my camera depending on what I am printing. I wanted a camera bracket that was maneuverable when needed, yet stayed locked when not. This articulating design has 24 indexes on each link connection point and a knurled nut so you can easily lock it.

LINKS: There are 3 different link styles that can be put together however it suits your needs. Links are held together with knurled bolts. One side of

the link has a hex recess where the nut goes, the bolt goes in the opposite side.

X-BRACKET: The bracket that mounts the links to the X-stepper only fits on one way. It requires an M3x18mm Cap Screw to mount it. If built your MK3 and still have your bag of extra parts, there is one in there. There are two different styles of this bracket depending on the way you want your links to adapt to it.

CAMERA HOUSING: Pretty straight forward. Put the camera in as shown in the Thingiverse pictures and snap the cover on. Make sure to connect your ribbon cable first.

BALL: Mounting the ball to the links is simple. The ball fits into the hex recess on a link, and a knurled bolt holds it in place from the other side. The camera housing should pop right onto the ball with minimal effort.

CABLE TIE SLOTS: Each link has slots on it where a small cable tie can slide through. This allows for easily routing wires along the links.

1/4-20 MOUNT: With a 1/4-20x3/4in Cap Screw You can use this mount with any Webcam with a 1/4-20 thread on it (See Picture)

GBLOCK: This is a small cosmetic piece to fill the gap in the Link behind your camera.

PLA works great for all parts including the camera cover and bolts. I used the following materials:

3D Hero Black: <http://a.co/d/brsle6H>

AIO Robotics Orange: <http://a.co/d/apSm903>

**This project has since evolved into something much bigger. I have a workbench with boxes full of various 3d printed parts for adapting this design to aluminum extrusion, 1/4-20 camera bases, mounting on a desktop, and more. I am really having a blast with it. As I fine tune other adapters for this articulating bracket, I will post them as Remixes.

Update 09/24/2018: Added adapter for other webcams with 1/4-20 thread on bottom. [Available Here](#).

Update 09/27/2018: Make sure you use at least 3 perimeters on the bolts. (Thanks 8bitbuddha)

Update 09/27/2018: The Indexes require a.2mm layer thickness or less (Thanks Ainuke)

Update 09/29/2018: Uploaded MK2 "xAxisBracket_MK2.STL" Bracket (Confirmed working by phamwich)

Update 09/30/2018: Uploaded 'Female' MK2 "xAxisBracket_F_MK2.STL"
Bracket (Confirmed working by phamwich)

Update 10/08/2018: Looks like the camera lense kit I originally purchased
(TODI 9 in 1) is no longer available through Amazon. This one looks
identical: <http://a.co/d/gEYFICH>

Update 11/04/2018: Uploaded 2020 Extrusion Mount

Update 12/02/2018: Uploaded STEP Files for Camera Covers, Camera Back,
M-F Link, and X Stepper Brackets.

Update 12/05/2018: Uploaded "mmLink.stl" which is a male to male link.

Update 02/07/2019: added 202 Extrusion mount with slot for ribbon cable
to go through it. Filename: 2020_std_ribbonSlot.STL

Print instructions

Links are the only parts that need supports. No supports are needed if you
use the link STL files that have the supports designed into them. If you use
the STL without the supports, you will probably need to add some supports

Model files



gblock_v2.stl



ballnut.stl



2020_standard.stl



2020_std_ribbonslot.stl



mflink.step



fflink_90.stl



fflink_90_support.stl



mflink_90_support.stl



mflink_support.stl



raspicamback.stl



raspicamcover_lense.step



raspicamcover_nolense.step



raspicamback.step



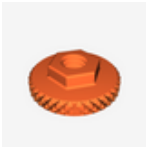
mmlink.stl



raspicamcover_nolense.stl



thumb_bolt.stl



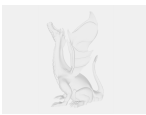
thumb_nut.stl



mflink_90.stl



xaxisbracket_f.stl



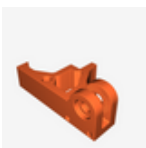
xaxisbracket_f_mk2_v2.step



xaxisbracket_mk2.stl



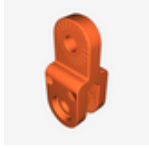
raspicamcover_lense.stl



xaxisbracket_f_mk2.stl



xaxisbracket.stl



mflink.stl

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