Makertech

Stage 01: Hardware

Written By: Makertech

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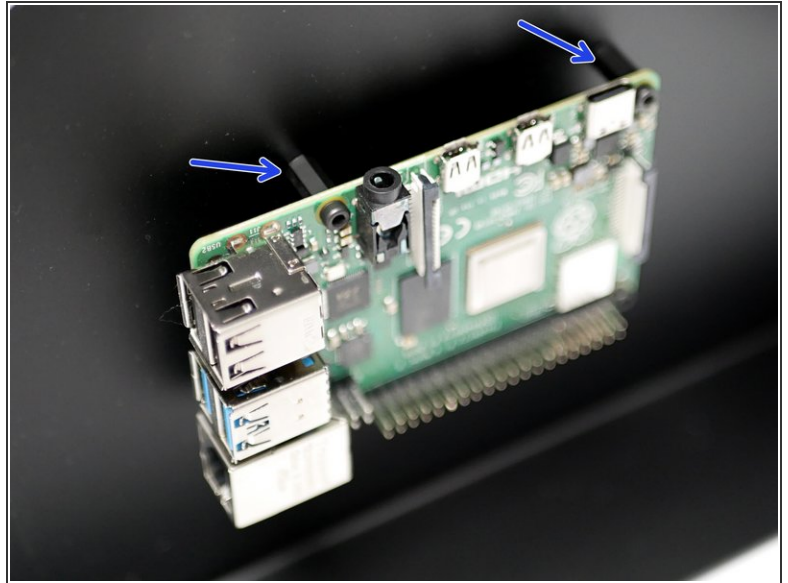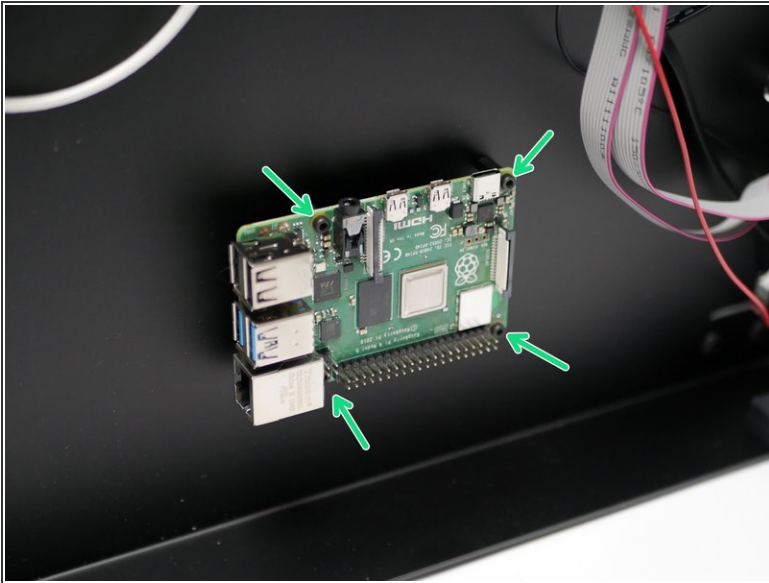
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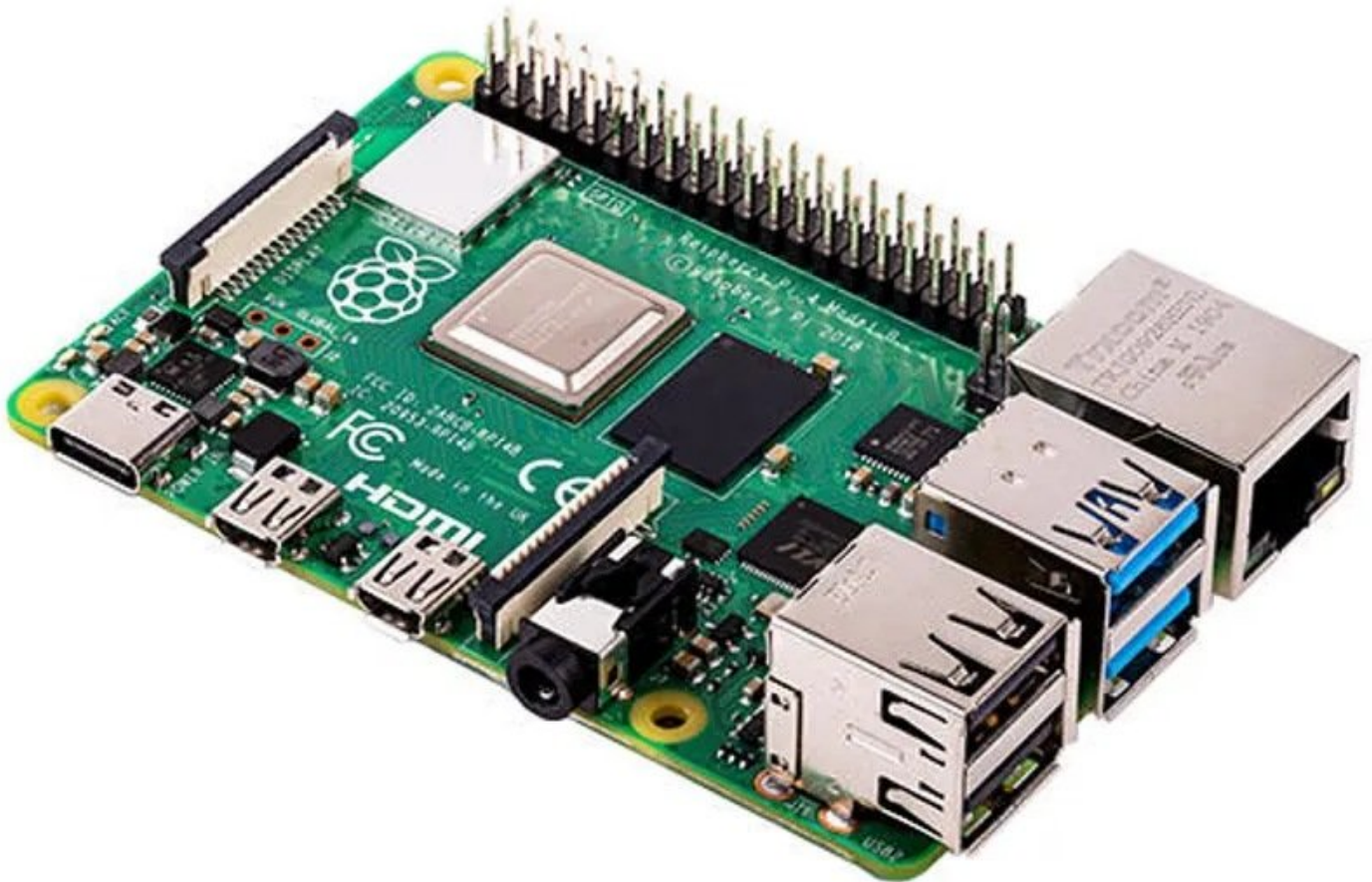
Step 1 — Raspberry Pi Board
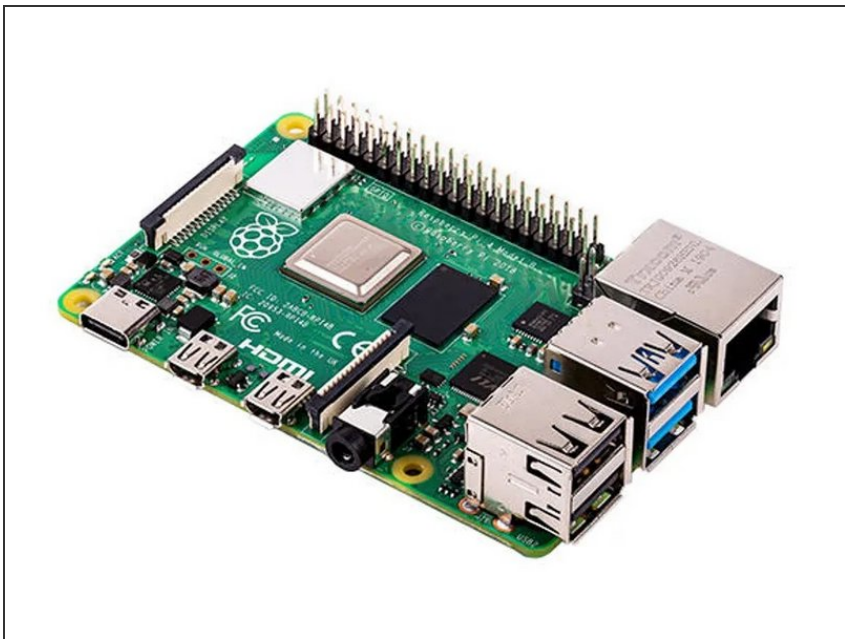
- For this upgrade you will need a Raspberry Pi board. We recommend the Raspberry Pi 4 2GB for this.

- ⓘ Compatable boards:
  - Pi 3B+ (USB WiFi adapter required)
  - Pi Zero 2 W

- ⚠ There is a current shortage for these boards. Supply is returning, but we're struggling to secure any in bulk. You should be able to find local distributors selling them on a one per customer policy.
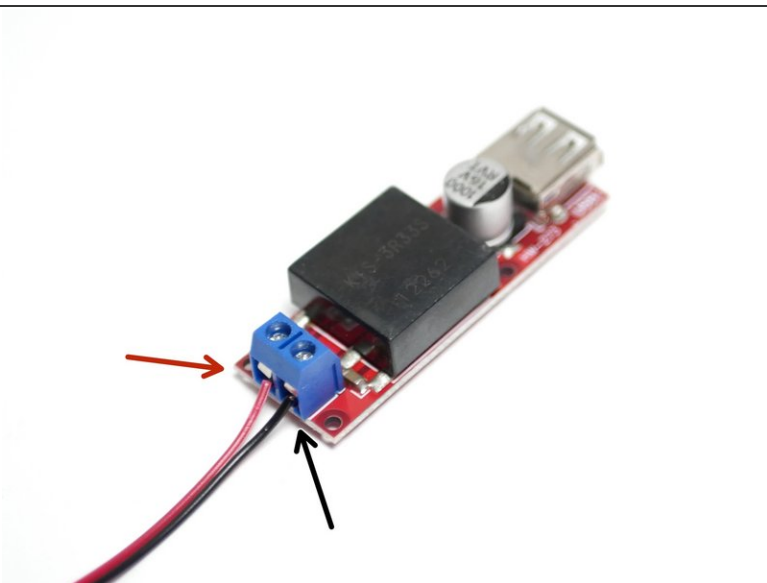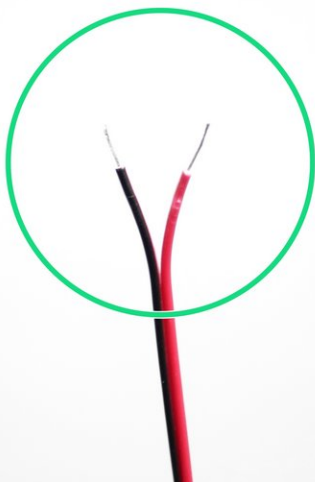
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Step 2 — Mounting the Board

ⓘ Fix the four Raspberry Pi standoffs to the Base with four M2.5 x 6mm bolts.

- ● M2.5 x 6mm bolt

- ● M2.5 x 10mm standoff

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Step 3 — USB Power Adapter

- Strip both ends of the black and red power cable.

- Connect one side to the USB power adapter as shown. **Red on the left side, black on the right.**

Step 4 — Mounting the Adapter

⚠ Due to an unfortunate oversight, you may have an M3 x 20mm bolt instead of an M4 x 20mm bolt and the 3D printed KIS3R33S bracket will have a 3mm hole instead of a 4mm hole. If this is the case see the next step.

- Take the KIS3R33S bracket and use it to mount the USB adapter to the side of the PSU with an M4 x 20mm bolt.

- Connect the wires to the +/- terminals as shown. Red to positive and black to negative.

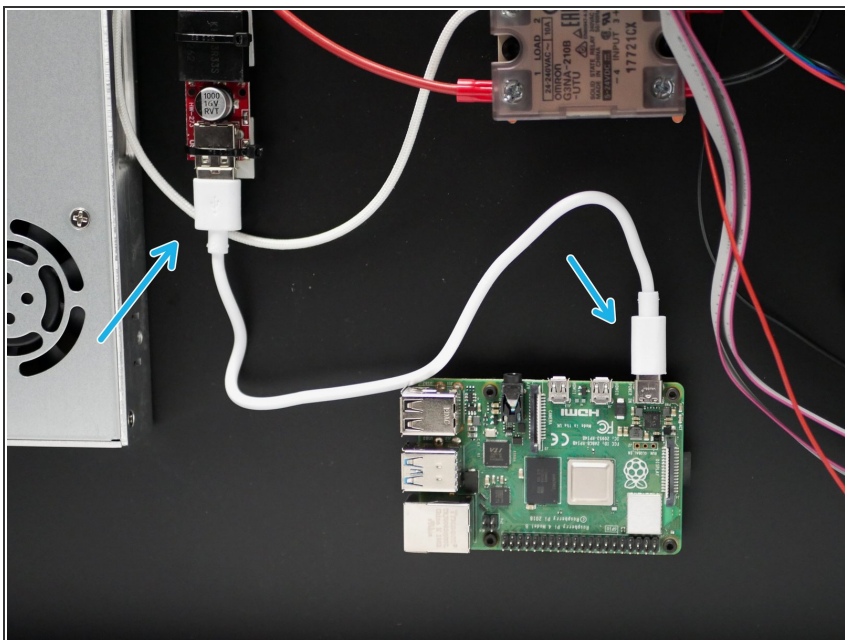This document was generated on 2022-04-11 03:27:20 AM (MST).
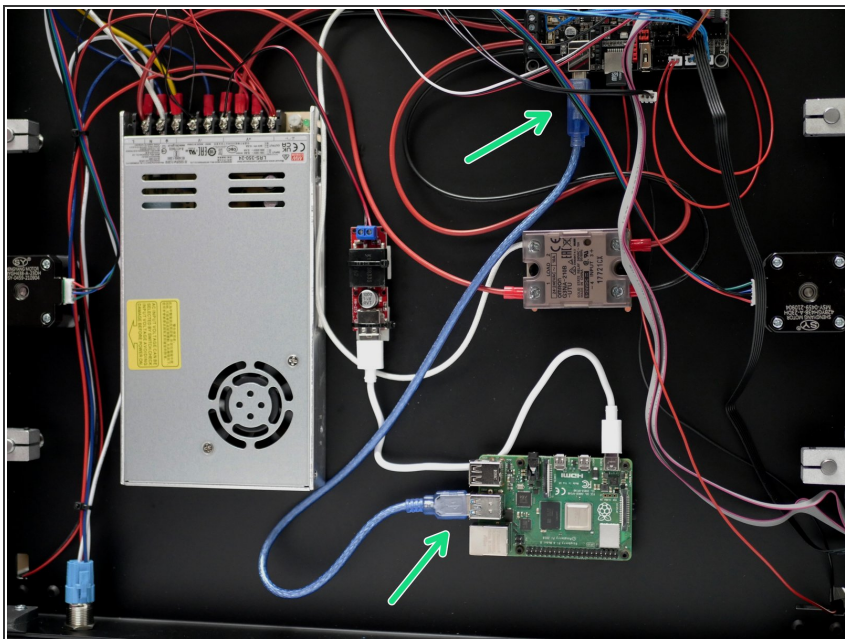
Step 5 — Alternative Mounting
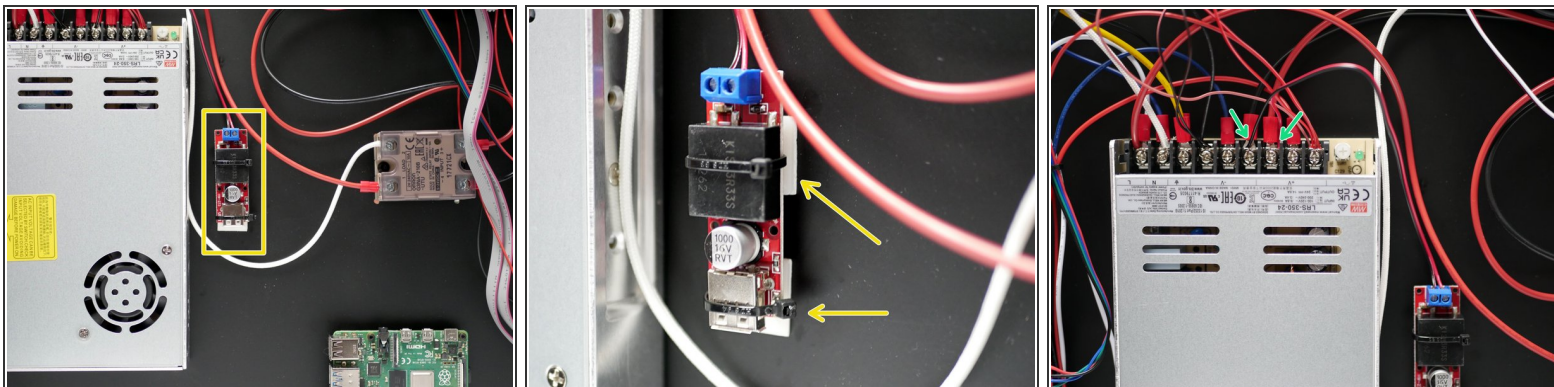
- Use two cable tie mounts to secure the KIS3R33S USB adapter to the base.

- Connect the wires to the +/- terminals as shown. Red to positive and black to negative.
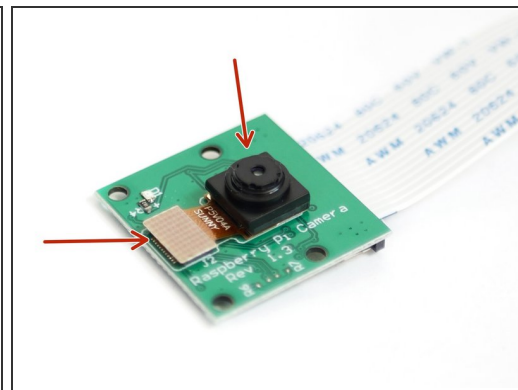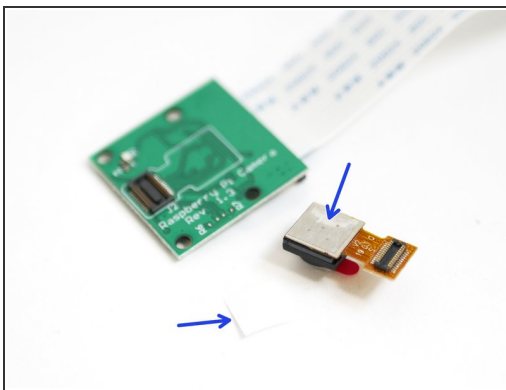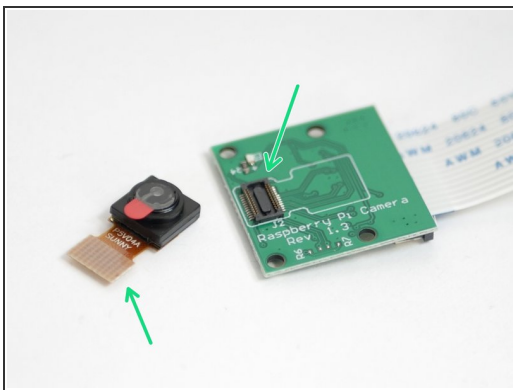
Step 6 — USB Power Cable

- Connect the USB power cable from the adapter to the Raspberry Pi board.

Step 7 — USB Cable

- Connect the blue USB cable from the BTT control board to the Raspberry Pi board.
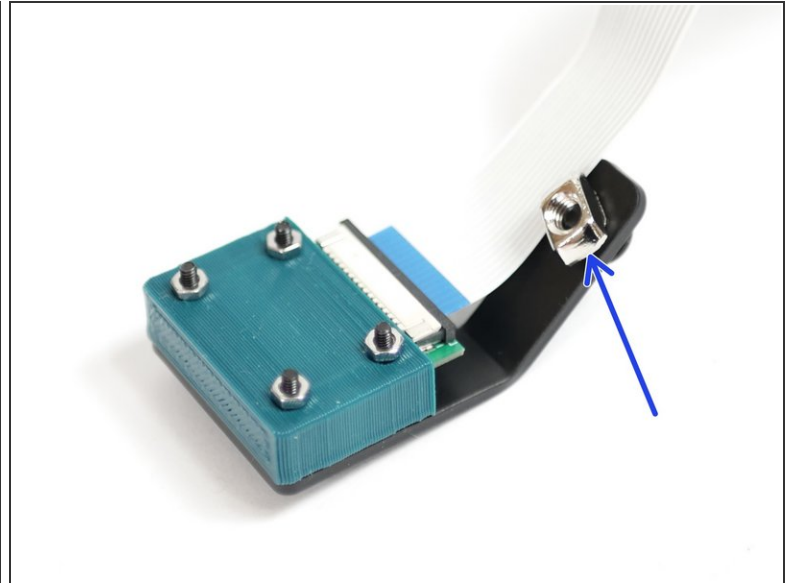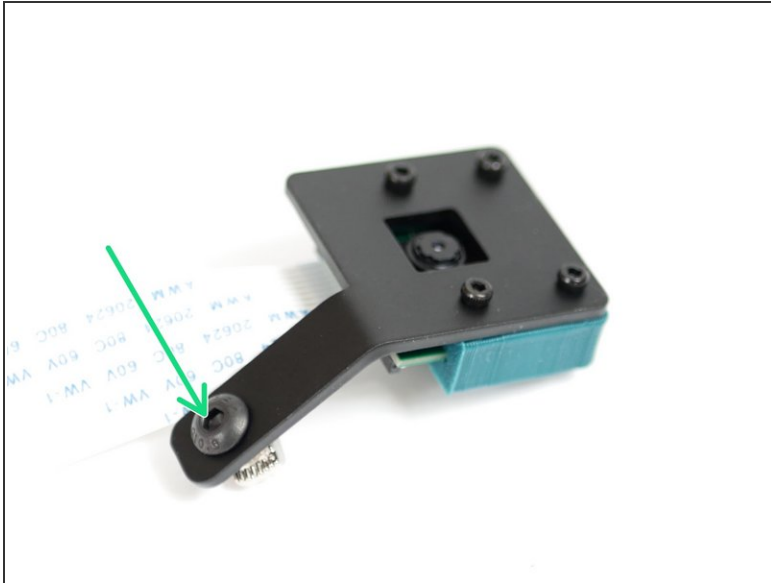
Step 8 — Pi Cam Prep.

- Unclip the camera from the Pi Cam board.

- Peel away the protective layer from the sticky pad underneath the camera module.

- Secure the camera module back onto the baord.

  📌 Secure the connector first, then press the camera down.

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Step 9 — Camera Mount
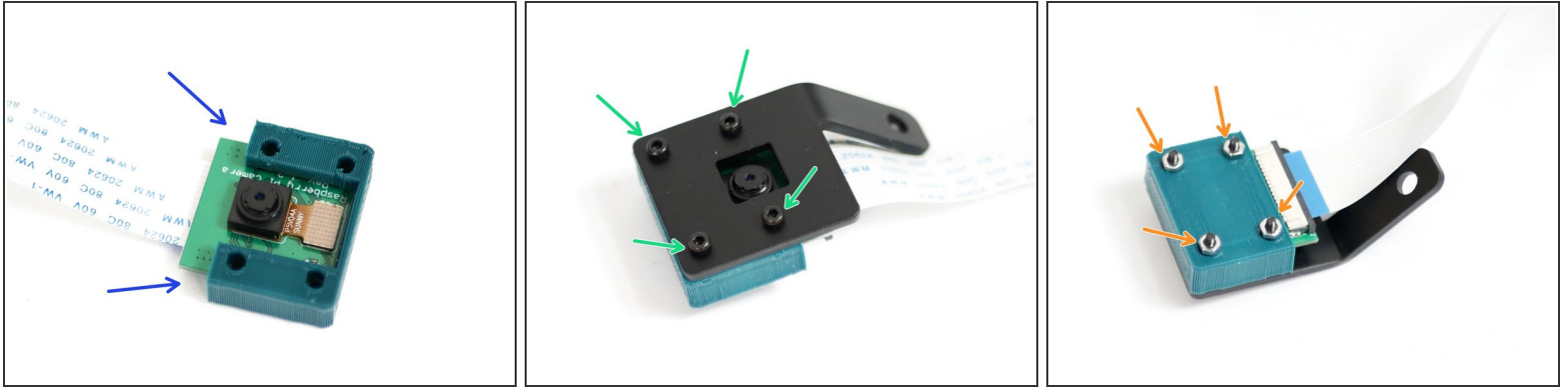
- Slide the Camera into the 3D printed casing.

  - 📌 You may need to use a craft knife to cut away any excess plastic from the 3D printed part.

- ⓘ Secure the camera and the casing to the metal mounting bracket.

  - M2 x 14mm Bolt

  - M2 Nut

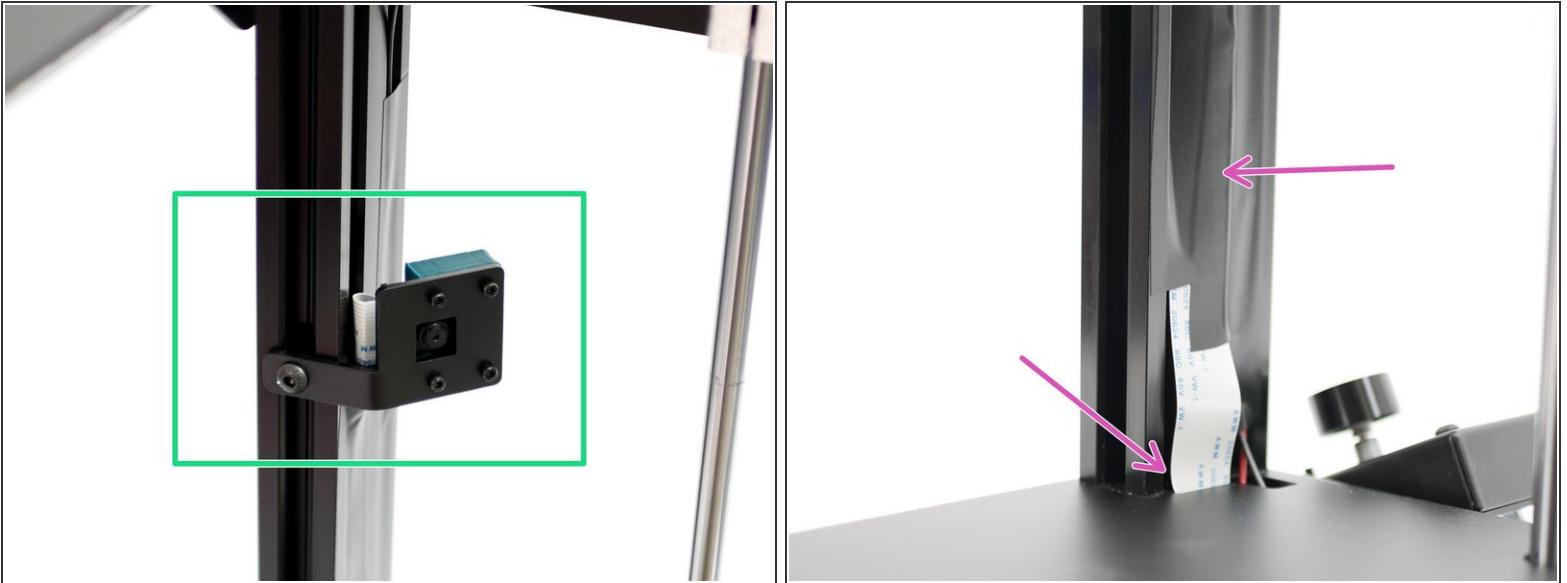This document was generated on 2022-04-11 03:27:20 AM (MST).

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Step 10 — Mounting the Camera

ⓘ Prepare the Camera assembly for mounting.

- ● M4 x 6mm Bolt

- ● M4 T-nut

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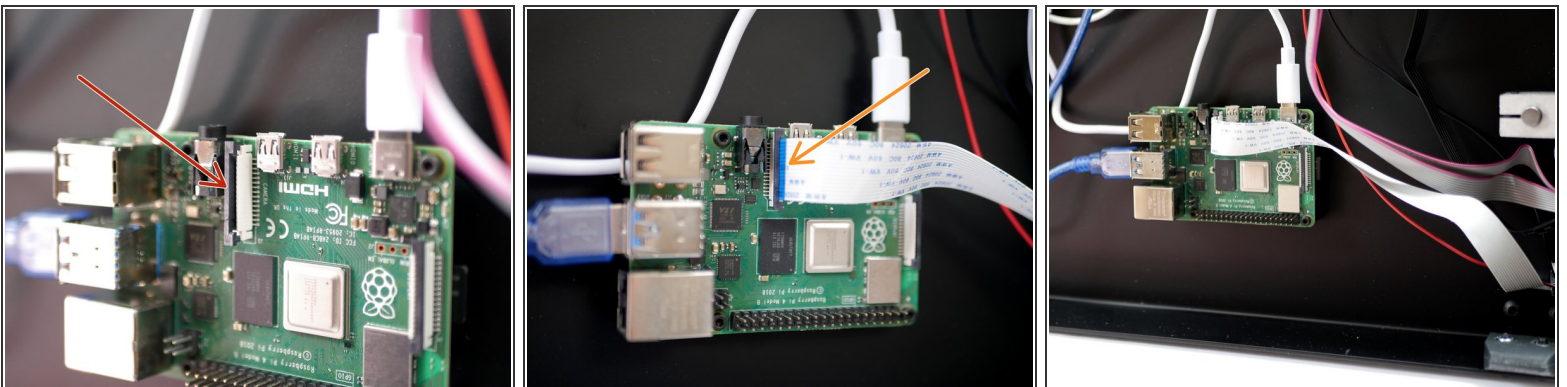makertech-3d.dozuki.com/

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Step 11 — Mounting the Camera Cont.

- Mount the camera assembly to the frame as shown.

- Route the cable down into the base.

  - 📌 Use electrical tape to secure the cable to the extrusion.

Step 12 — Camera to Pi Board

- Pull up on the tab on the Pi board.

- Slide the camera cable in as shown.

  - 📌 Push the tab back down to secure in place.

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