

Makertech

Stage 01: Hardware

Written By: Makertech

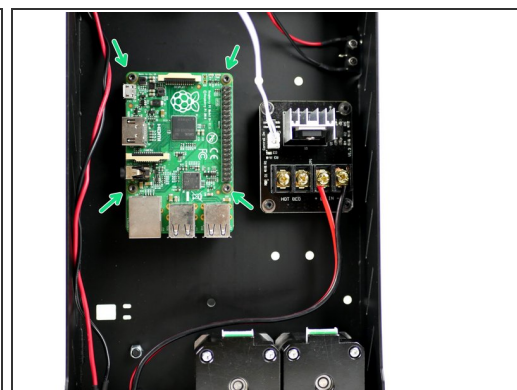
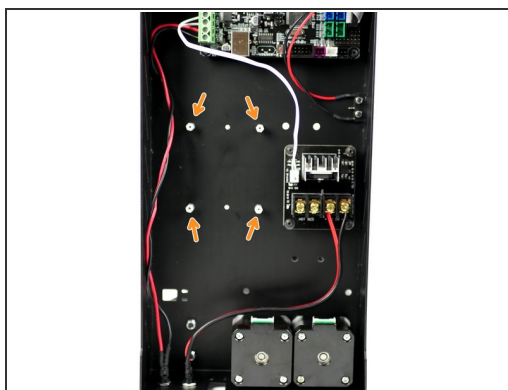


Step 1 — Raspberry Pi



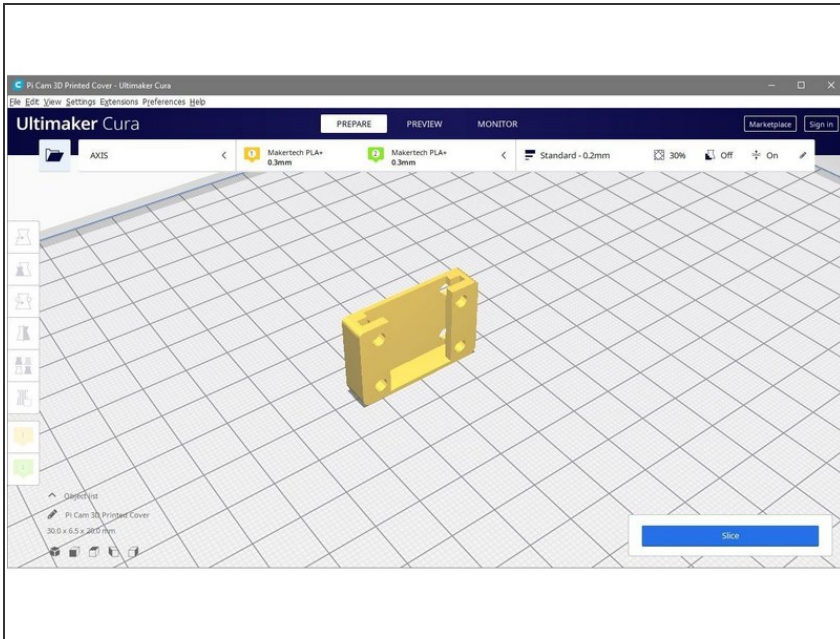
- ❗ Before installing this upgrade you will need a Raspberry Pi board. If you don't already own one from a previous project you can purchase one relatively easily locally.
- ❗ We also sell the Raspberry Pi (recommended) [here](#) on our webstore.

Step 2 — Mounting the Board



- ❗ From Stage 1 of the main build you should have already mounted the standoffs and the Pi board.
 - M2.5 x 6mm bolt
 - M2.5 x 10mm stand-off

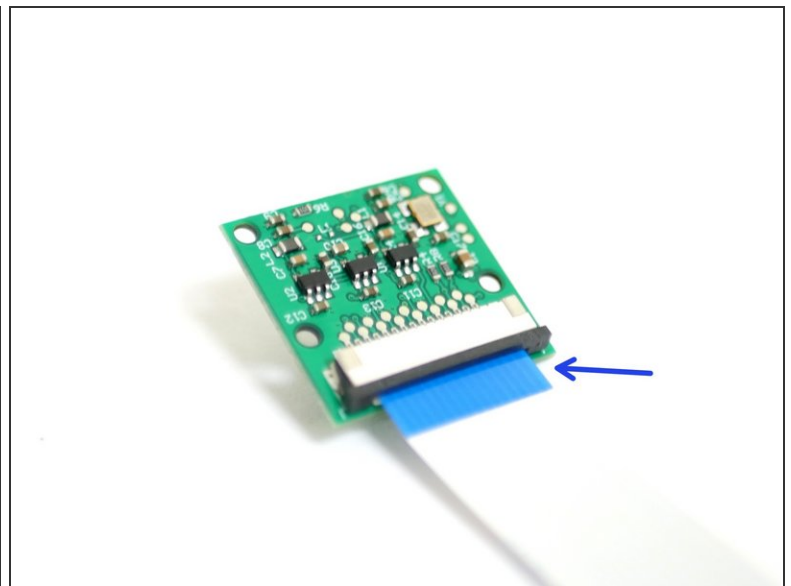
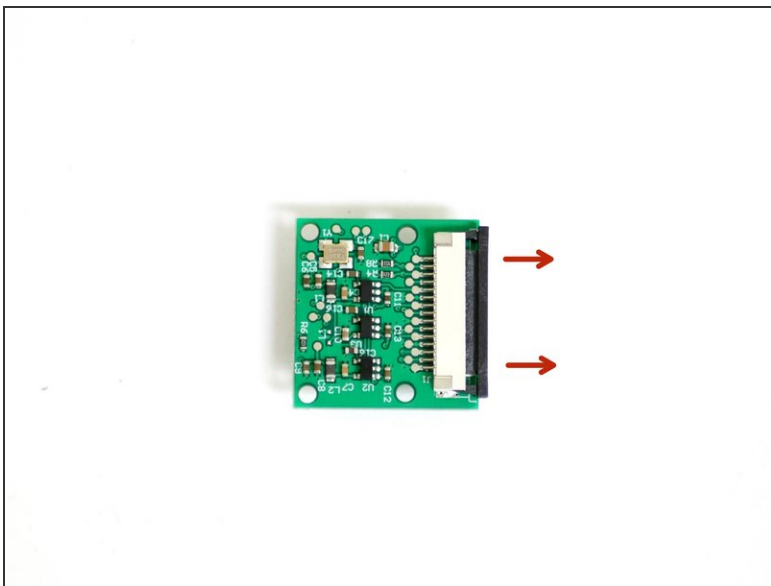
Step 3 — 3D Printed Pi Cam Cover



① Download the [Pi Cam Cover](#).

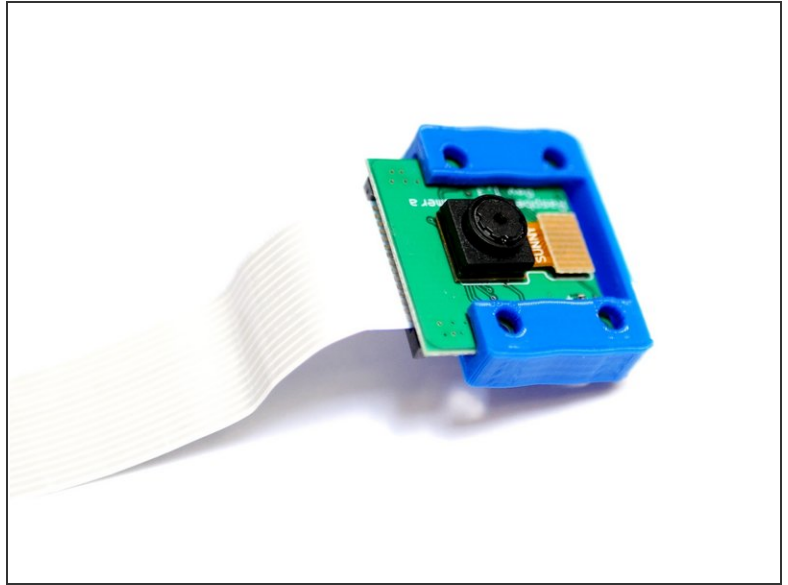
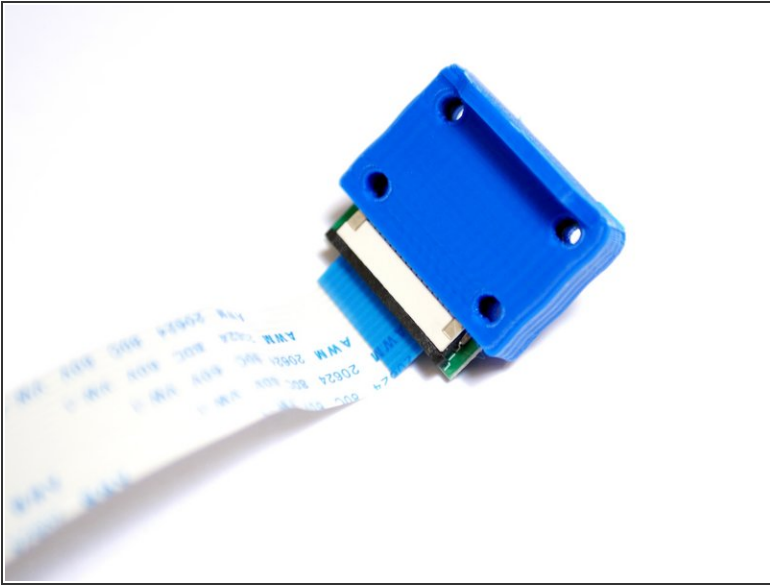
① 3D print the cover.


Step 4 — Pi Camera



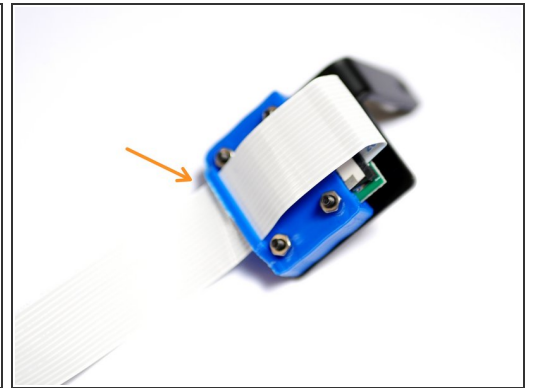
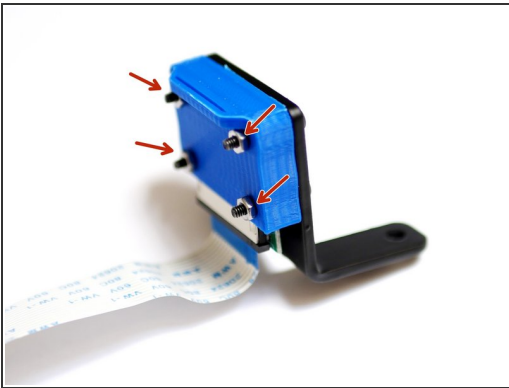
- Carefully pull back the black bar on the connector on the back of the Pi camera.
- Connect the 60cm ribbon cable to the Pi Cam **with the blue tab facing towards you**.





Step 5 — Pi Camera Case



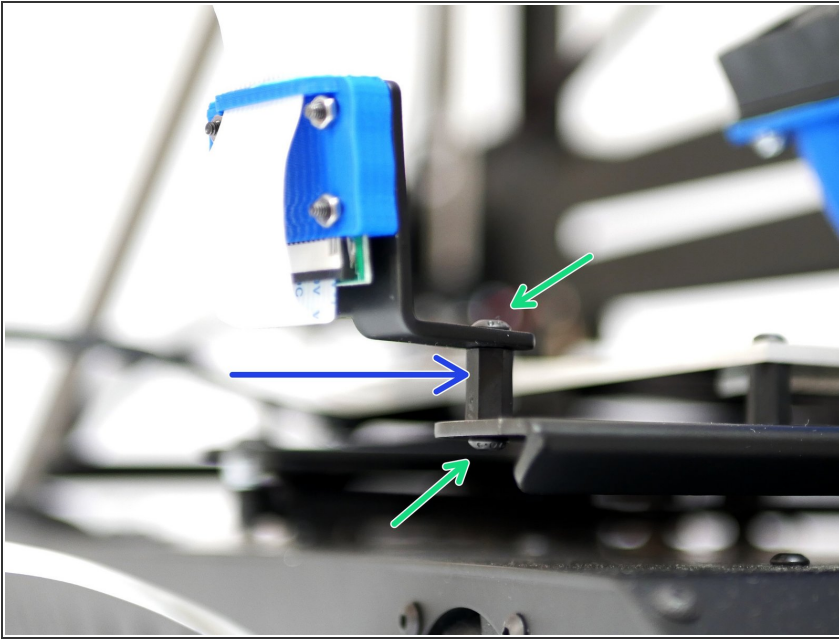
-  Slide the camera into the 3d printed cover like shown.

Step 6 — Pi Camera Case Cont.



-  Fix the metal casing to the camera and printed case.
-  M2 x 12mm bolt
 -  M2 Nut
 -  Finally feed the ribbon cable through the slot on the casing.

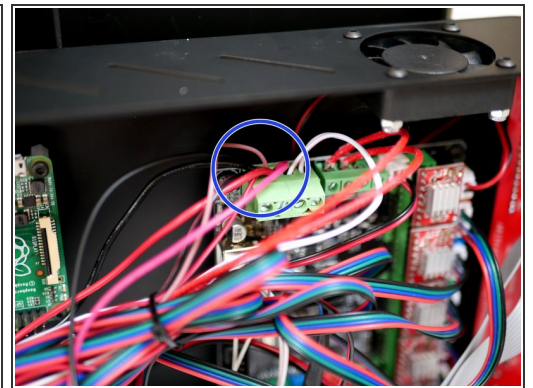
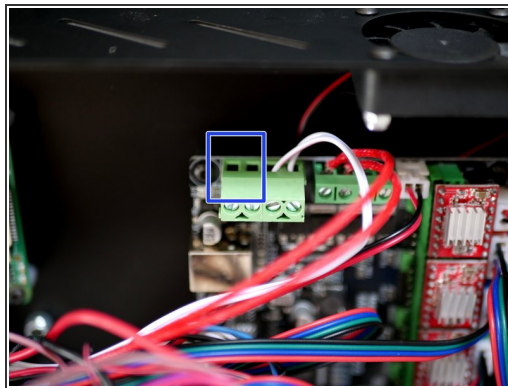
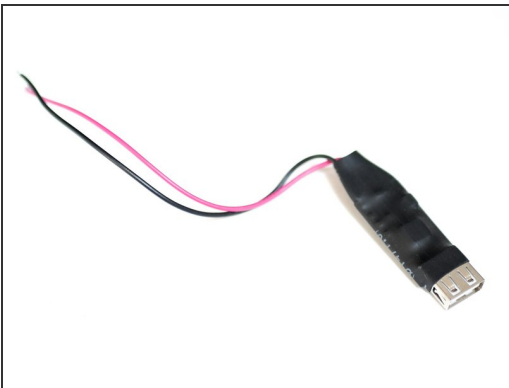
Step 7 — Mounting the Pi Camera



① Mount the Pi Cam assembly to the bottom left of the platform.

- M3 x 6mm bolt
- M3x10mm stand-off

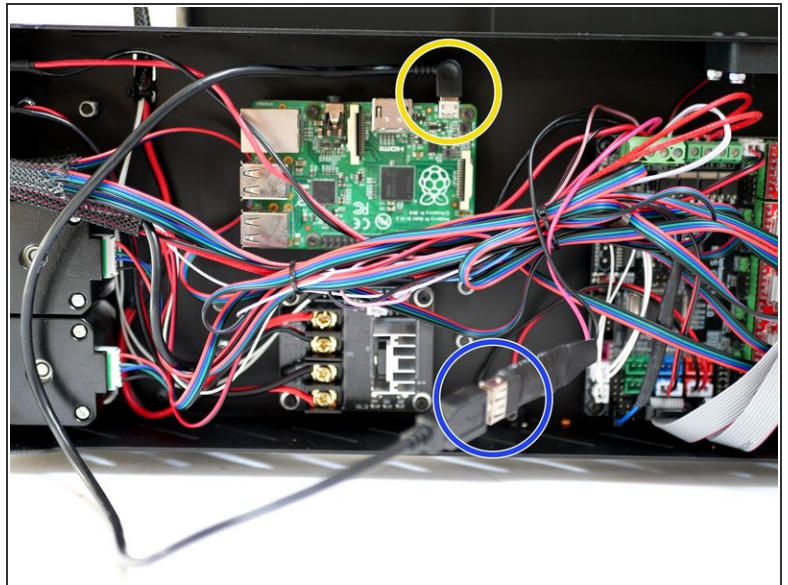
Step 8 — USB Power Convertor



- Connect the USB convertor in line with the power supply cables at the control board.

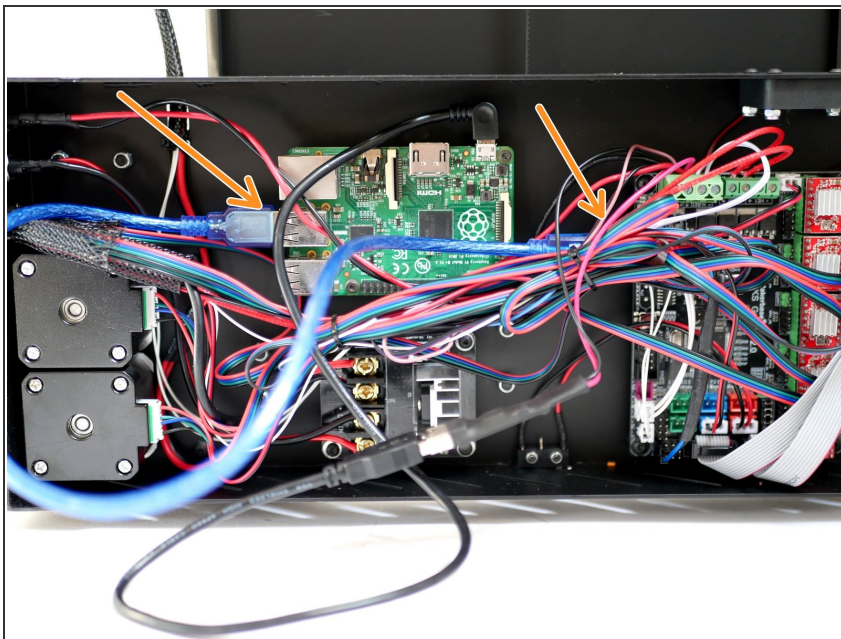
⚠ Make sure to connect the red cable to the positive terminal and the black cable to the negative terminal.

Step 9 — Pi Power Cable



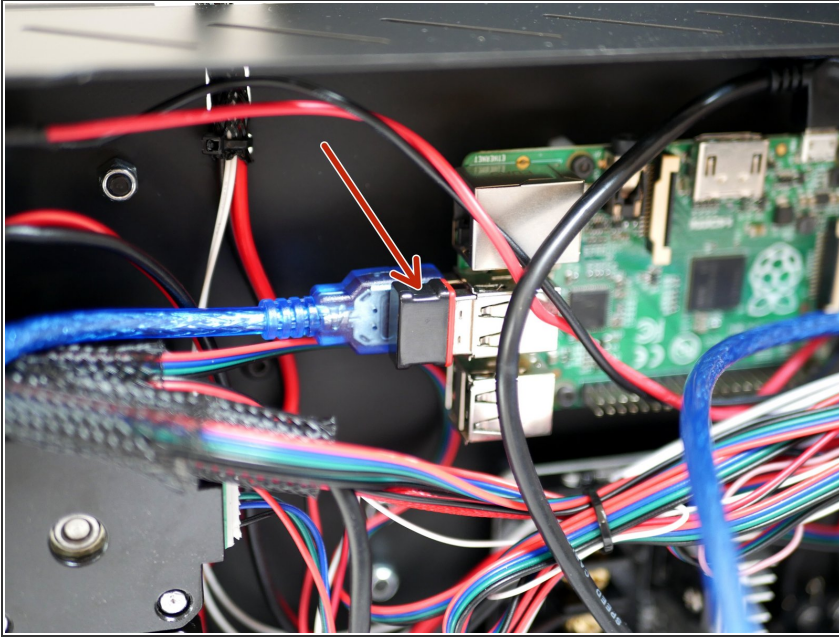
- Plug one side of the micro USB cable into the Raspberry Pi.
- Plug the other end into the convertor.

Step 10 — USB Serial Cable



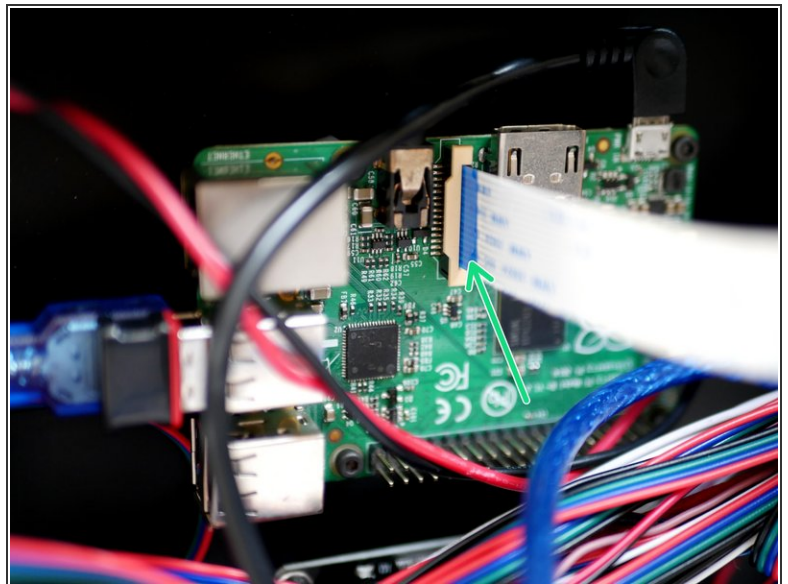
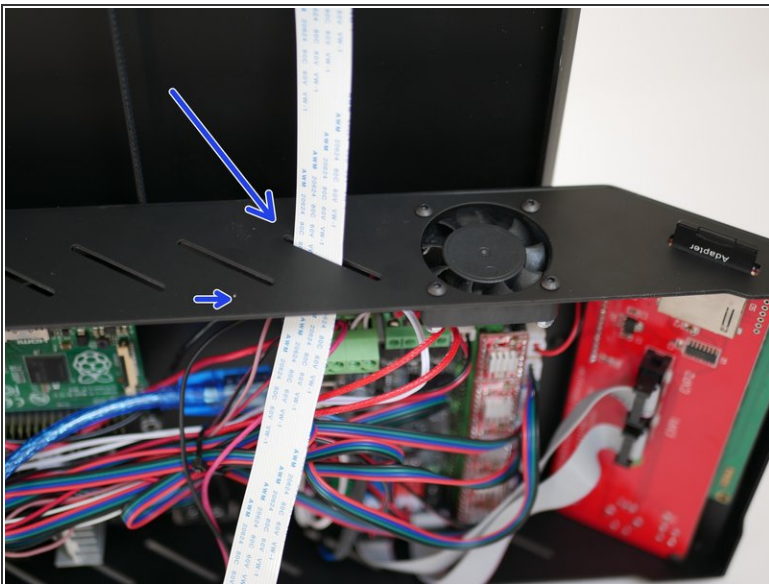
- Connect the blue USB cable from the control board to a USB port on the Raspberry Pi.

Step 11 — USB Wi-Fi Adapter



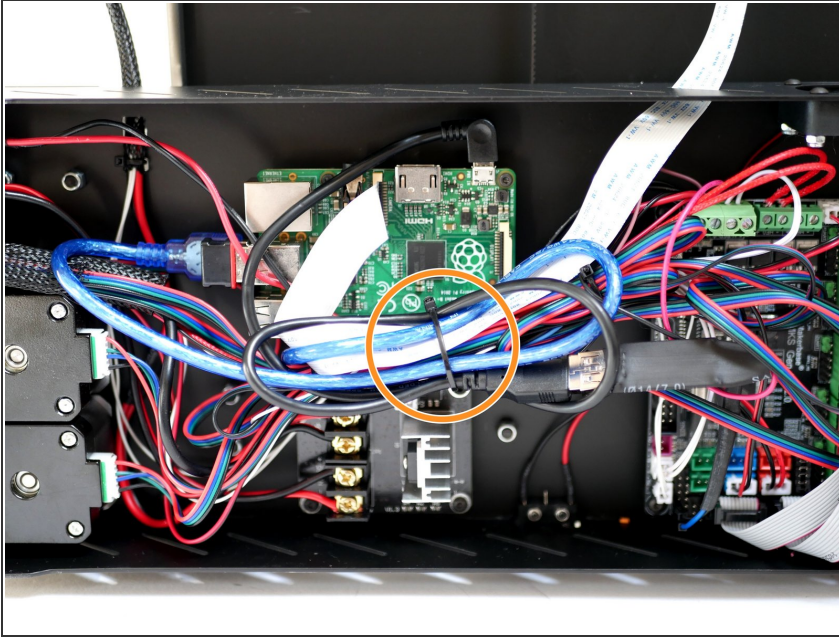
- Plug the USB Wi-Fi adapter into one of the USB ports on the Raspberry Pi.

Step 12 — Pi Cam Ribbon Cable



- Feed the Pi Cam ribbon cable into the base through one of the slits.
- Plug the Pi Cam ribbon cable into the Raspberry Pi like shown.

Step 13 — Cable Tying



- Use a cable tie to bundle together all of the cables.