



LED Light Bar Prusa MK4



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Summary

Light bar for the Prusa MK4



8.08 hrs



2 pcs



0.20 mm



0.40 mm



PLA
PET



91 g



Prusa MK4

[3D Printers](#) > [Accessories](#)

Tags: [light](#) [led](#) [lightbar](#) [accessory](#) [accessories](#) [mk4](#)

Light bar for the Prusa MK4 available in single and dual light versions. Mounts are designed to fit 9x17mm aluminum u-channel and have a hollow interior that is used to route the wires down the back of the printer frame for a clean look. Mounts also include an opening to insert a power switch. The LED strips can be powered by the printer power supply. Uses standard 24V LED strips.

Thanks to all who helped me test fitment! If you have any suggestions for improvement, please let me know.

See below for assembly instructions.

This is the MK4 version. Click below for other light bar versions.

[MK2/MK3 Dual Light](#)

[MK2/MK3 Dual MMU2 Light](#)

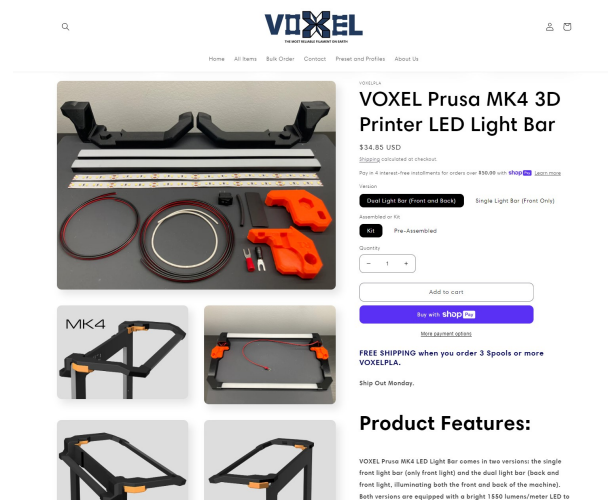
[MK2/MK3 Single Light](#)

[MK2/MK3 Bear Upgrade](#)

[MK3 Side Light Bar](#)

[MINI Light Bar](#)

I have partnered with VOXELPLA to offer the MK4 Light Bar as kits and pre-assembled light bars. Visit the [VOXELPLA Store](#) for more info.



Files:

MK4 Hex Z-Axis Top: Since there is no mounting point on the stock MK4 z-axis tops, I modified them to add a hexagonal hole that the light bar can mount to. These will replace the stock z-axis tops on your printer. No supports required.

MK4 Dual Mount: Standard dual light version that attaches to the hexagonal holes in the modified z-axis tops. Supports required for rear overhang and protruding hexagonal peg.

MK4 Single Mount: Standard single light version that attaches to the hexagonal holes in the modified z-axis tops. Supports required for protruding hexagonal peg.

MK4 Dual Mount - Z-Axis Top: Dual light version that integrates the Prusa z-axis top pieces into the light bar for a more sturdy mount. Remove the stock z-axis tops and replace with this light bar mount. No supports required.

MK4 Single Mount - Z-Axis Top: Single light version that integrates the Prusa z-axis top pieces into the light bar for a more sturdy mount. Remove the stock z-axis tops and replace with this light bar mount. No supports required.

Print instructions

Recommended Print Settings:

Print Settings: 0.20mm QUALITY

Layer Height: 0.20mm

Infill: 15% Gyroid

Supports: Build plate only

Open 3MF files in PrusaSlicer for preconfigured settings

Required hardware:

Aluminum u-channel (9x17mm)

24V LED strip

Wire

Power switch (KCD11 10x15mm)

Heat shrink tubing

Fork terminals

Replacement zip tie

Hardware Kit

Purchase a hardware kit from VOXELPLA.com at the link above.

Tools:

Wire stripper

Soldering tools

Hacksaw

2mm Hex key

Wire crimper

Metal file (optional)

Assembly Instructions

Pictures shown are for the dual light version. The single light version instructions are basically the same, just without the additional LED strip.

If you purchased a pre-assembled kit, scroll to the bottom for instructions on how to install and connect to power.

Cut Material to Length

If you purchased a hardware kit you can skip these steps as all material comes cut to the correct length.

1. Cut the u-channel to 31cm and check that it slides into the mount ends. Use a metal file to round off any sharp edges to make it slide in easier.
2. Cut the LED strip at the designated cutting areas to fit the u-channel.

3. Cut the red and black wire to 90cm (36").
4. For the dual light version, cut an additional 45cm (18") wire.



Single Light Kit



Single Light Wiring Diagram



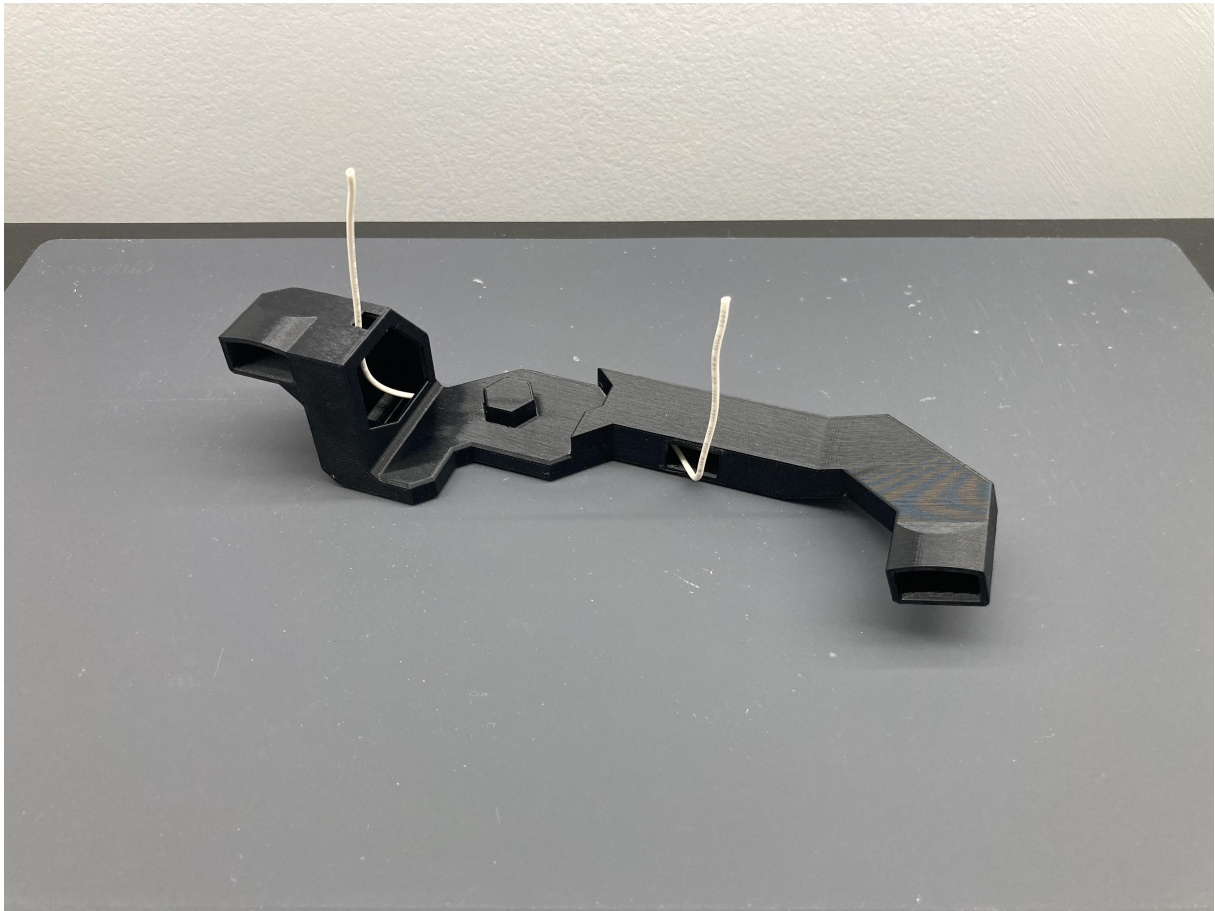
Dual Light Kit



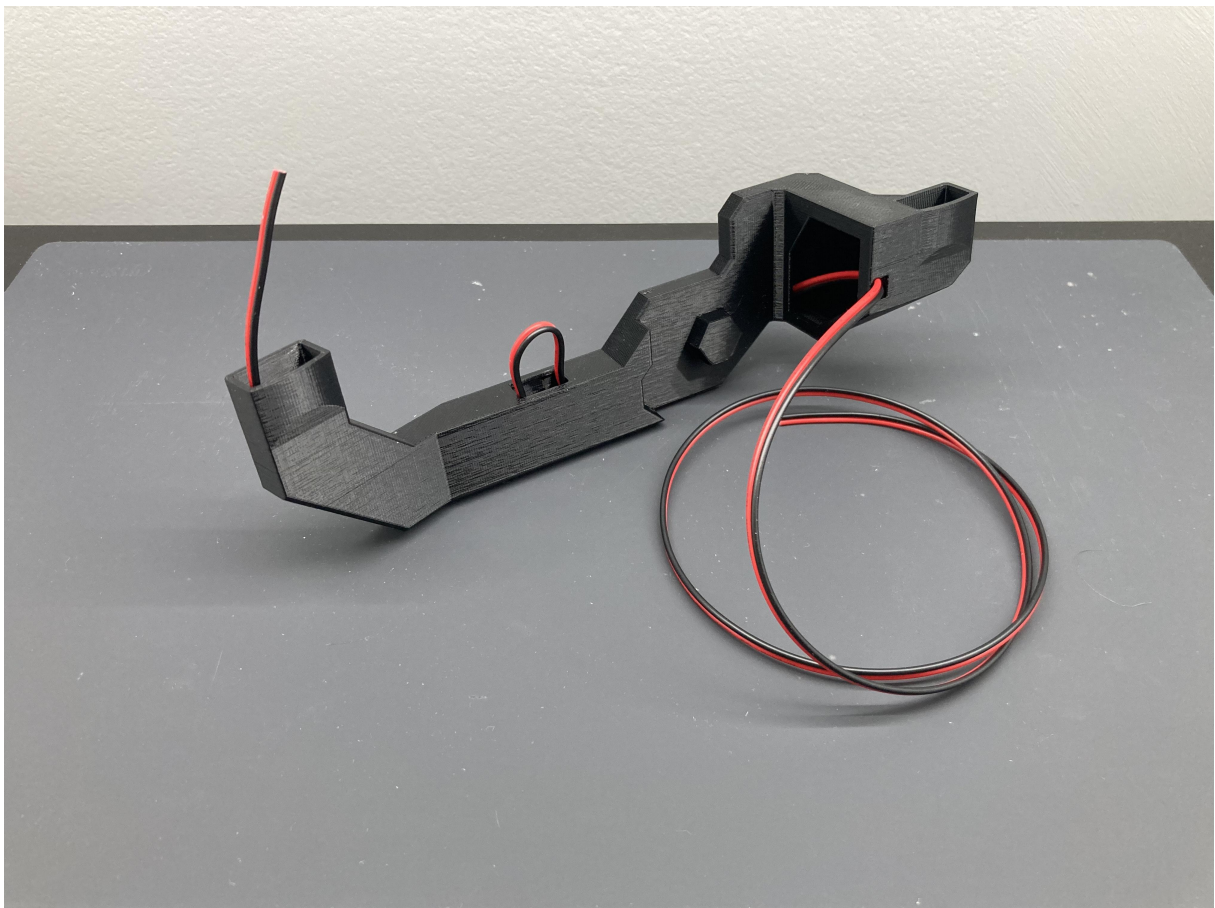
Dual Light Wiring Diagram

Inserting Wire

1. Insert the longer red and black wire into the left side mount through the small opening on the rear side and feed it up to and out of the switch hole. If you have trouble getting the wire through, feed through the white pull wire, strip the end and solder it to the red and black wire. Use that to pull the red and black wire through, then cut off the pull wire.
2. Loop the red and black wire back into the switch hole and out the front exit hole. Leave a small loop of wire sticking out the switch hole.
3. If making the dual light version, feed the shorter red and black wire through the right side mount.



Optional pull wire



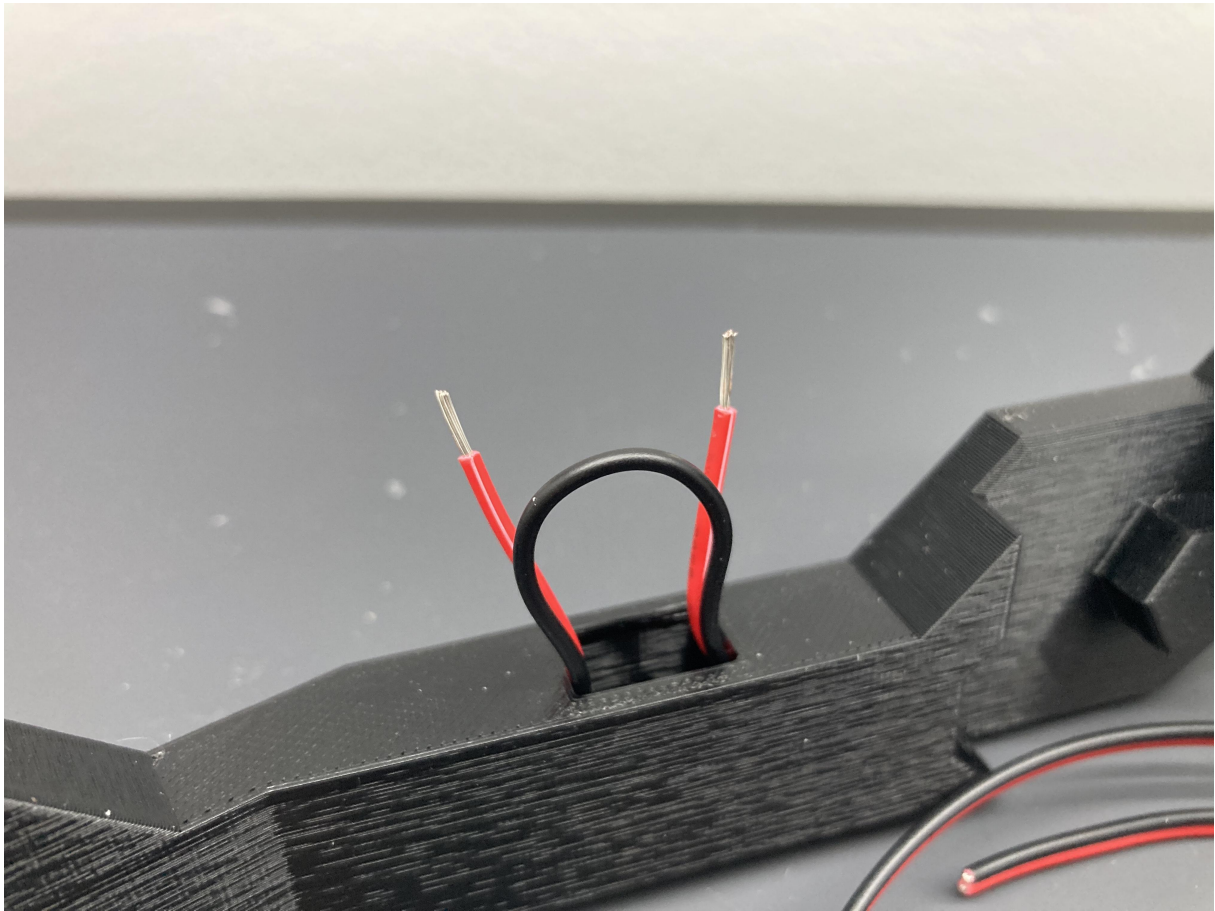
Left mount wire



Right mount wire

Power Switch Wiring

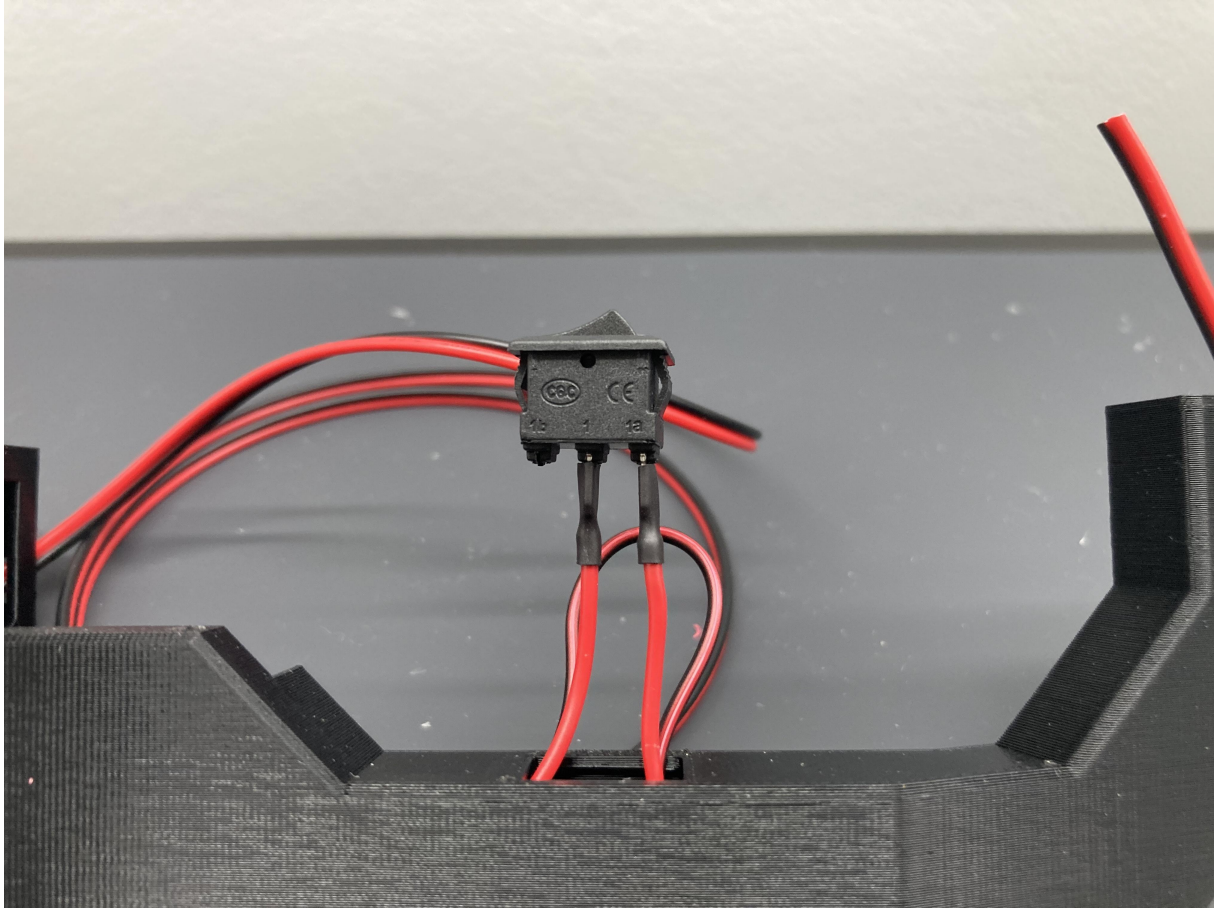
1. Cut the red wire for the power switch. Be careful when cutting not to also cut through the black wire insulation. Pull back the red wire and strip off the ends.
2. Place heat shrink over the wires and solder the power switch to the red wires. For best soldering results, tin the wires and switch terminals with solder first, then join together. Put the heat shrink in place and apply heat.
3. Insert the power switch into the opening. Pull the wire on either end to remove any slack. The power switch needs to be 10x15mm to fit in the provided opening.



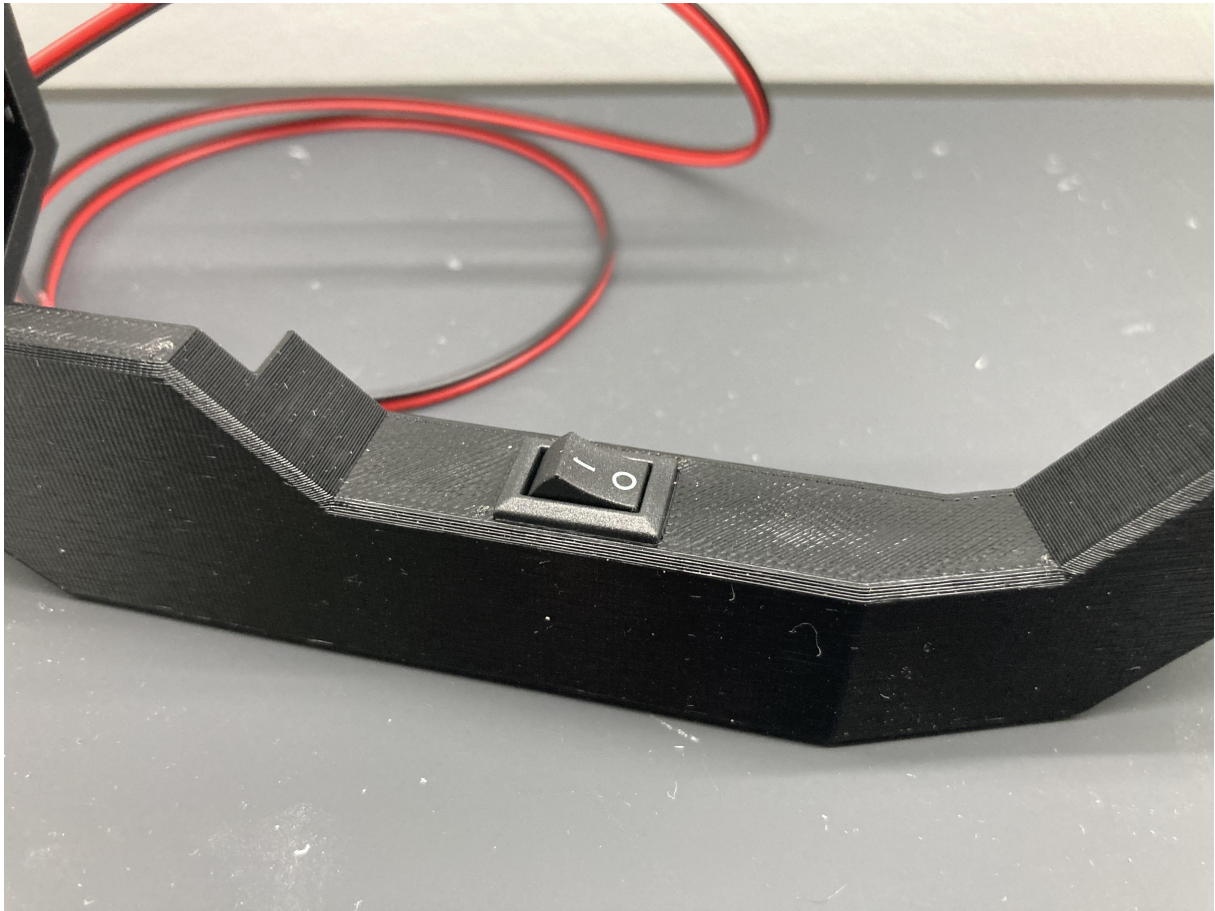
Cut wire for switch



Solder switch



Heat shrink

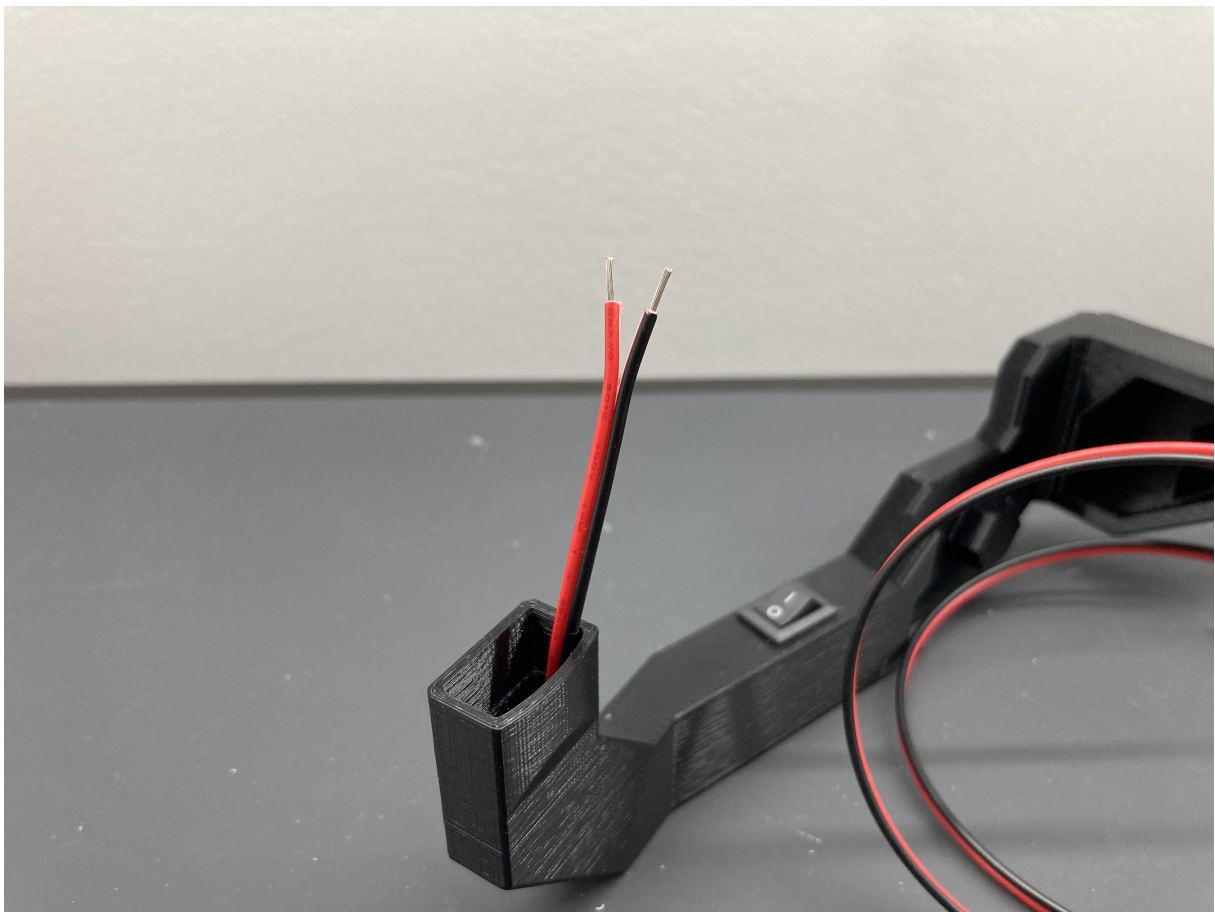


Insert switch

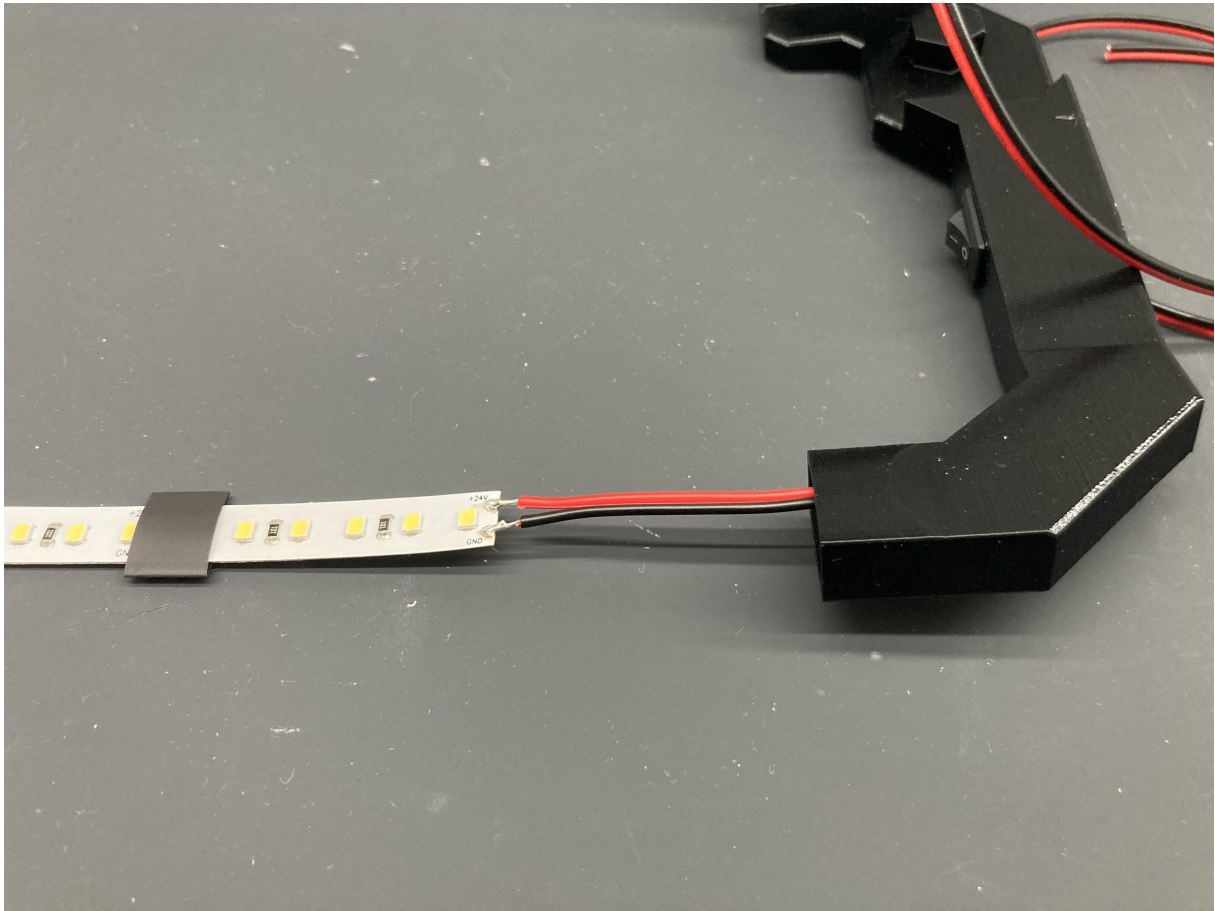
LED Strip Wiring

1. Cut the wire so that there is about 5cm (2") sticking out the mount opening and strip about 5mm (1/4") off the ends of the wires.
2. Solder the wires to the LED strip, red to + and black to -. For best soldering results, tin the LED pads and wires with solder first and then join them together. Put the heat shrink in place and apply heat.
3. **IMPORTANT:** Make sure that the solder/wires are NOT touching the solder joints on the individual LED chip closest to the end and are only touching the designated solder pads on the strip. If the wire is touching the solder joints on the LED chip, once power is applied this could blow that single LED chip causing the segment on the end of the strip to stop working.
4. If making the single light version, skip to step 9.
5. For the dual light version, put another piece of heat shrink around the front LED strip. Strip the ends of the shorter wire and solder to the other end of the front LED strip, red to + and black to -. Put the heat shrink in place and apply heat.

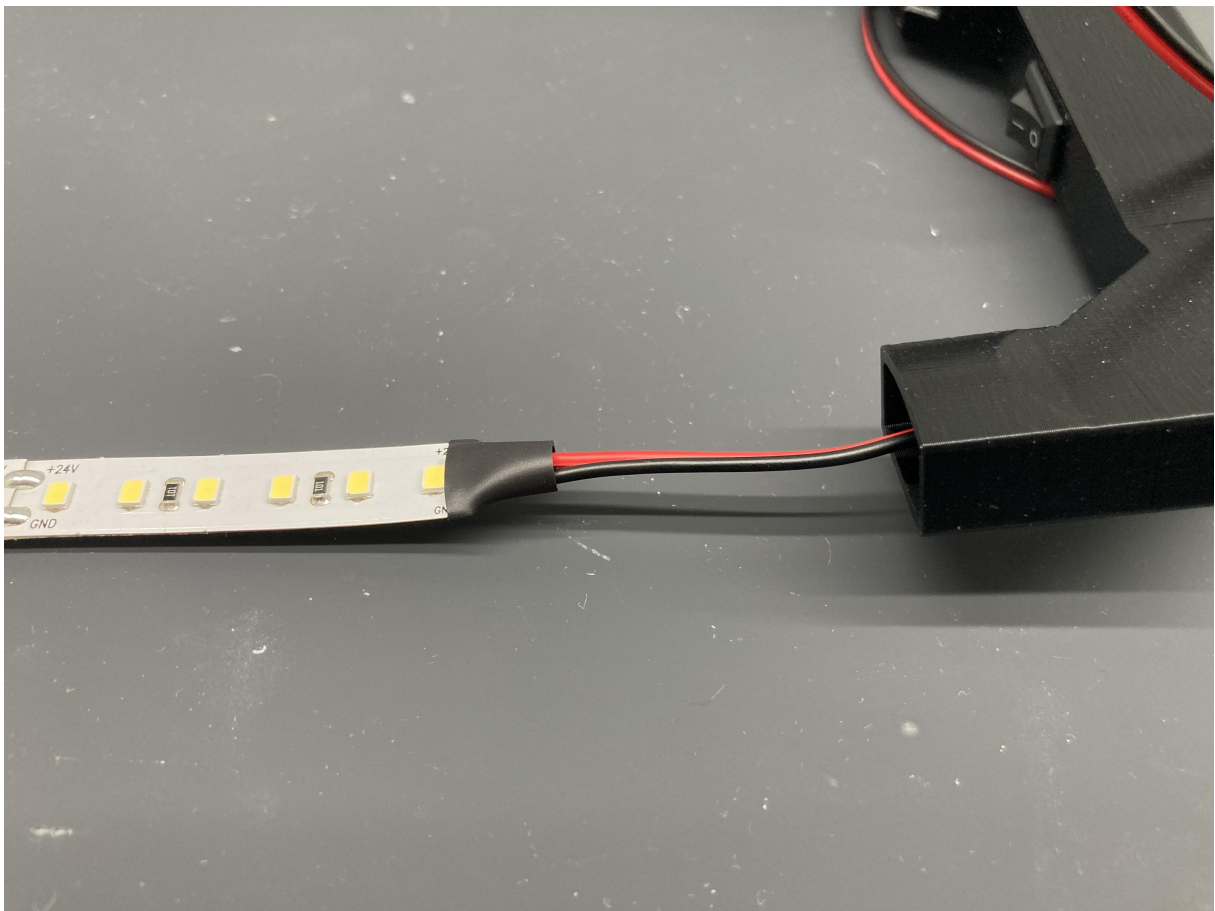
6. Feed the shorter red and black wire through the right side mount if not done already. Make sure the right side mount is in the correct orientation.
7. Trim the shorter wire so there is 2-5cm (1-2") sticking out both ends of the right side mount.
8. Strip 5mm (1/4") off the other end of the wires and solder to the rear LED strip, red to + and black to -. Put the heat shrink in place and apply heat.
9. Remove the adhesive backing from the front and rear LED strips and stick them to the inside of the u-channel.
10. Attach the frosted cover to the u-channel and insert into the mounts. Fold the wire for easier insertion. Use the cavity near the rear opening to bundle the wire slack on the right side mount.



Strip LED wire



Solder LED strip



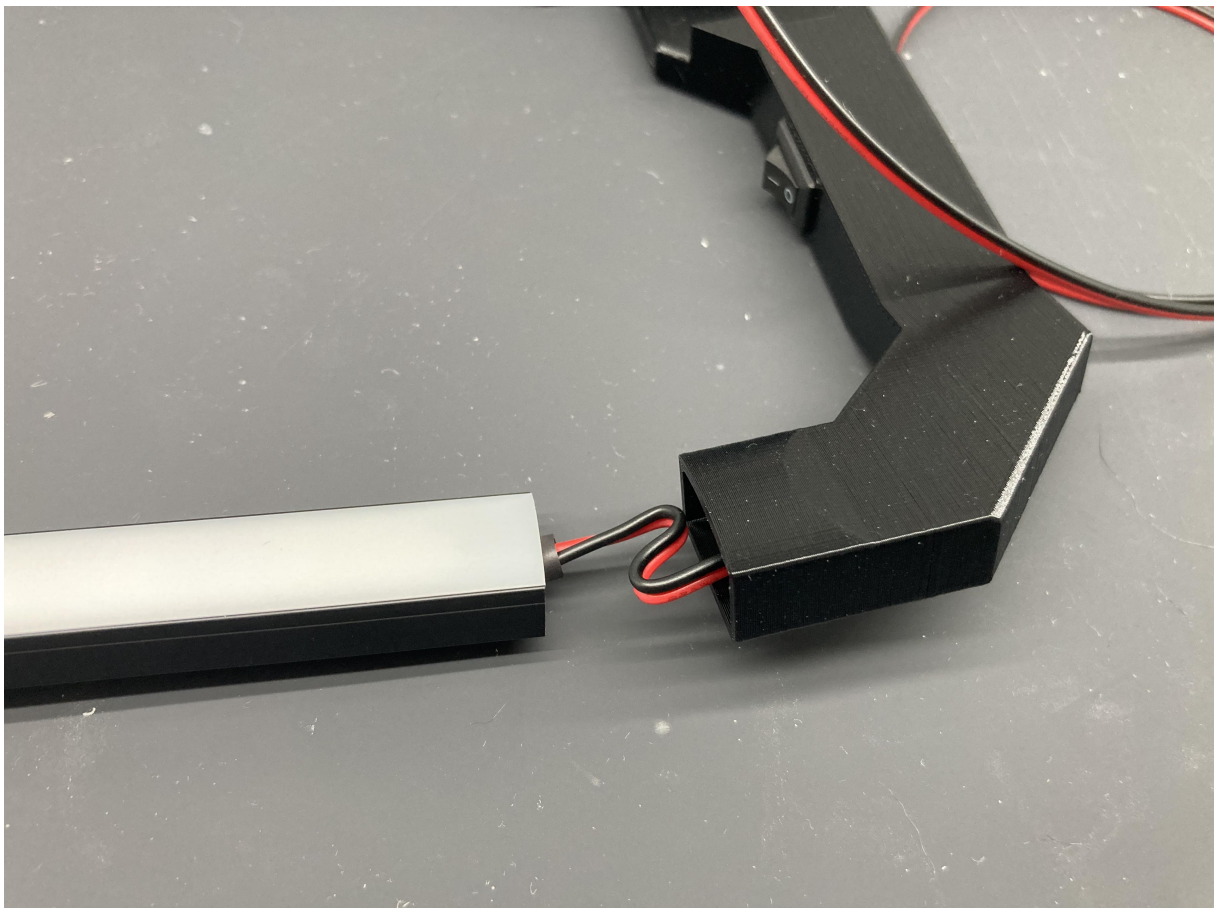
Installed LED strip



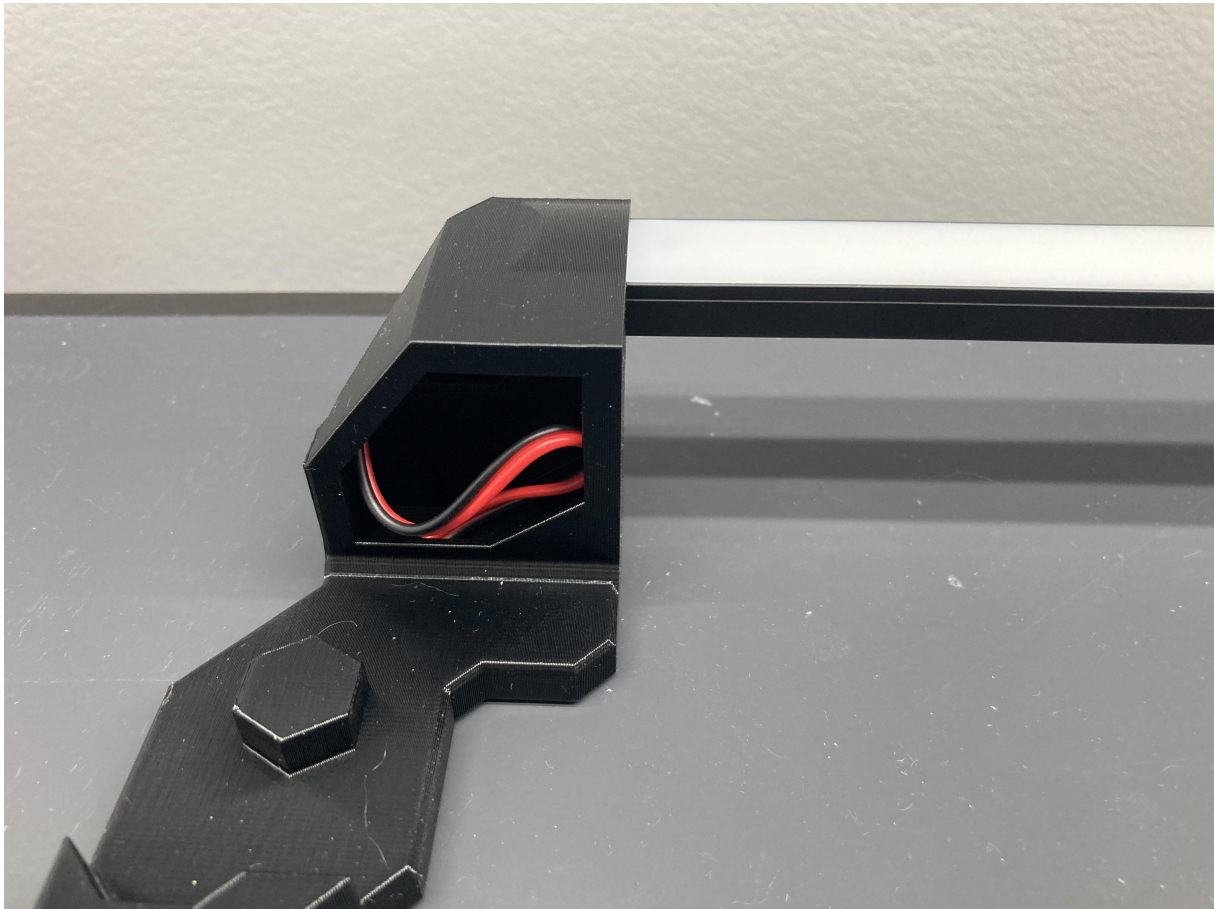
Completed soldering



Installed u-channels



Fold wire and insert u-channel



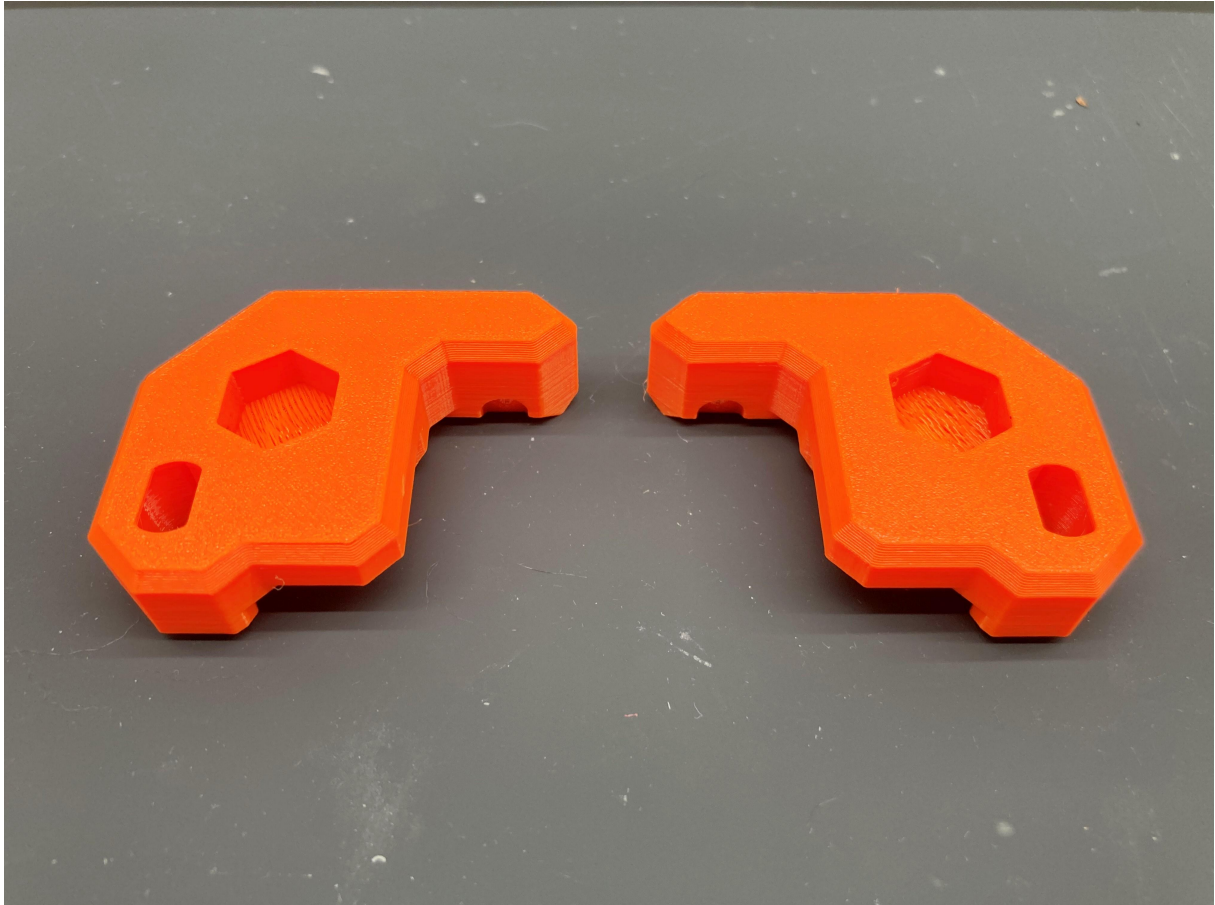
Bundle wire slack

Final Assembly

1. Remove the stock z-axis top pieces from the printer.
2. Install the modified z-axis top pieces with the hexagonal hole.
3. Locate the extruder cable bundle holder on top of the electronics box. On the side closest to the printer frame you will see some angled notches in the printed piece. These pieces are meant to be broken away to open a passageway for wires into the electronics box.
4. Undo the zip tie and screws holding the piece facing outward. Using a flat blade screwdriver or pliers, break off the triangular corner piece.
5. Install the light bar onto the printer and route the wire down the back of the frame and into the electronics box through the opening now available. Make a note of where to cut the red and black wire to connect to the power terminal screws on the control board. It should be around 16" from where the wire exits the light bar mount.

6. Cut the red and black wire to the length noted in the previous step and strip off the ends. Using a crimping tool, attach the fork terminals to the wires.

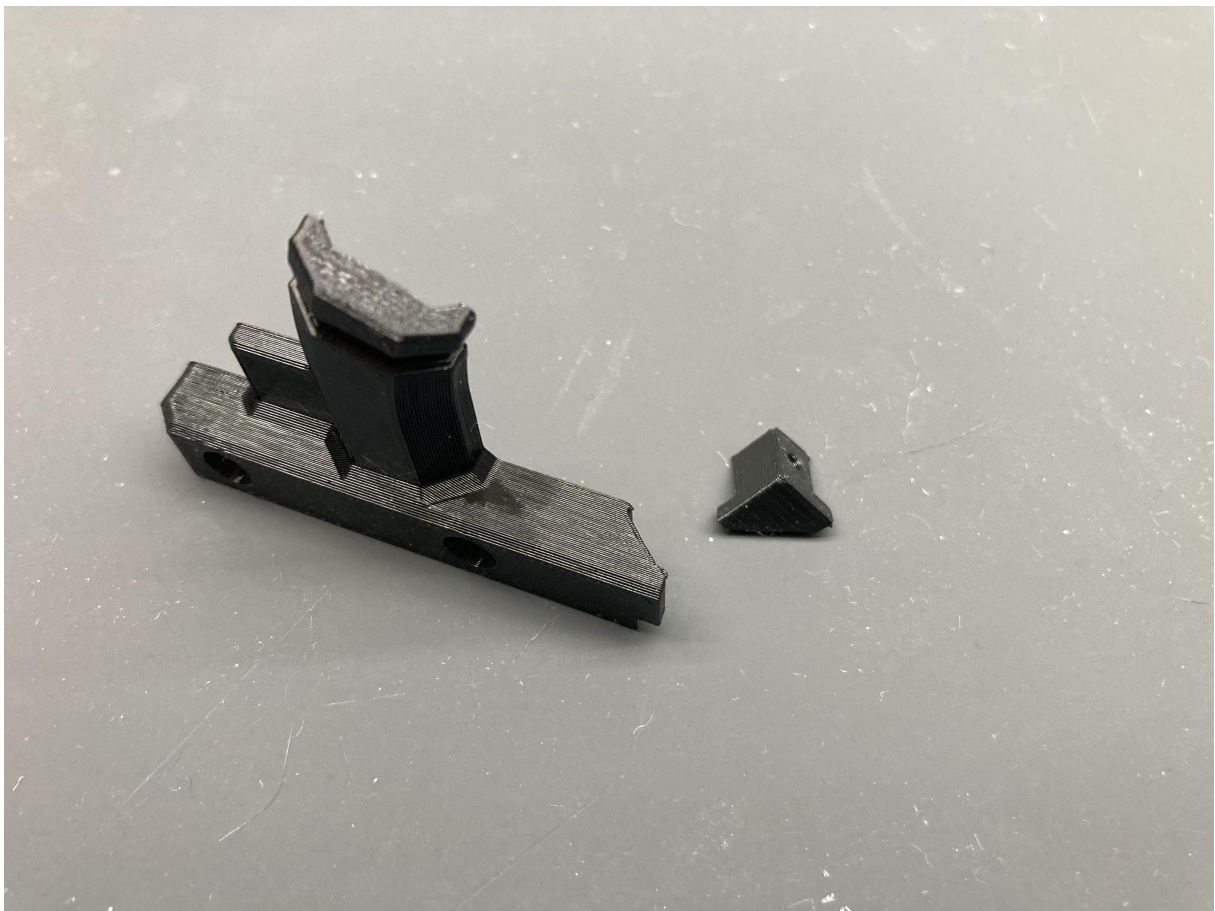
7. If you pulled the wire out of the opening to attach the fork terminals, reinsert it through the opening. Reinstall the screws and a new zip tie for the piece holding the extruder cable bundle. Make sure to not pinch any wires.



Modified z-axis tops



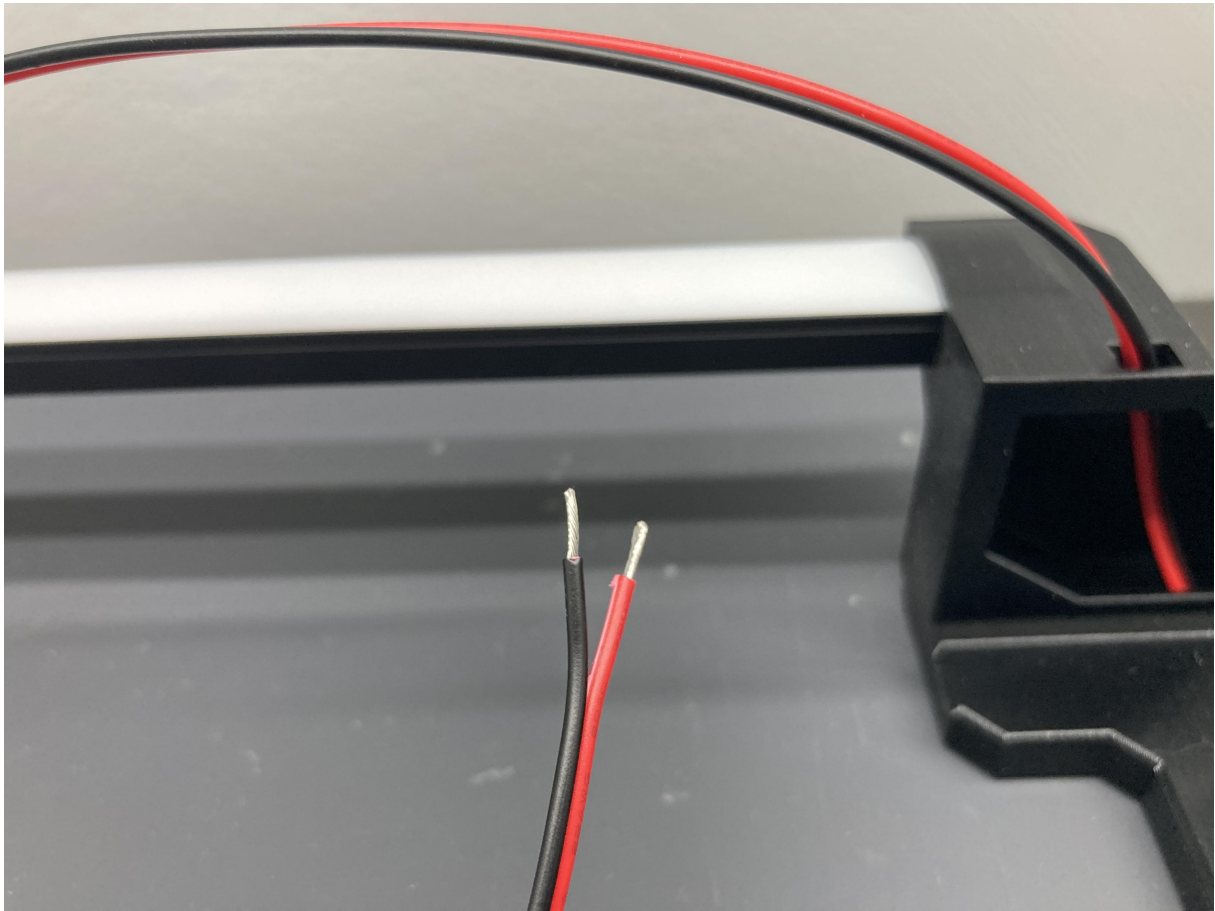
Cable bundle holder



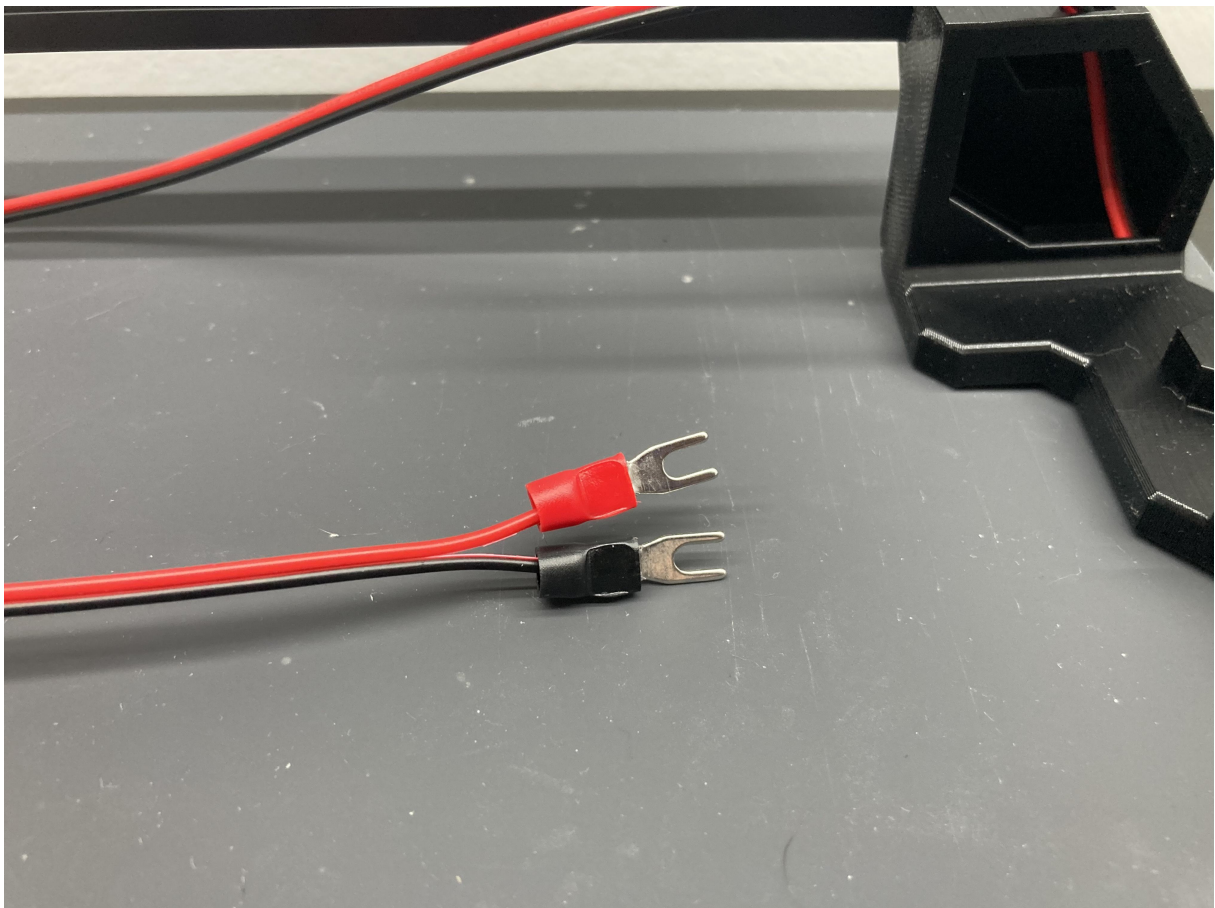
Break off corner



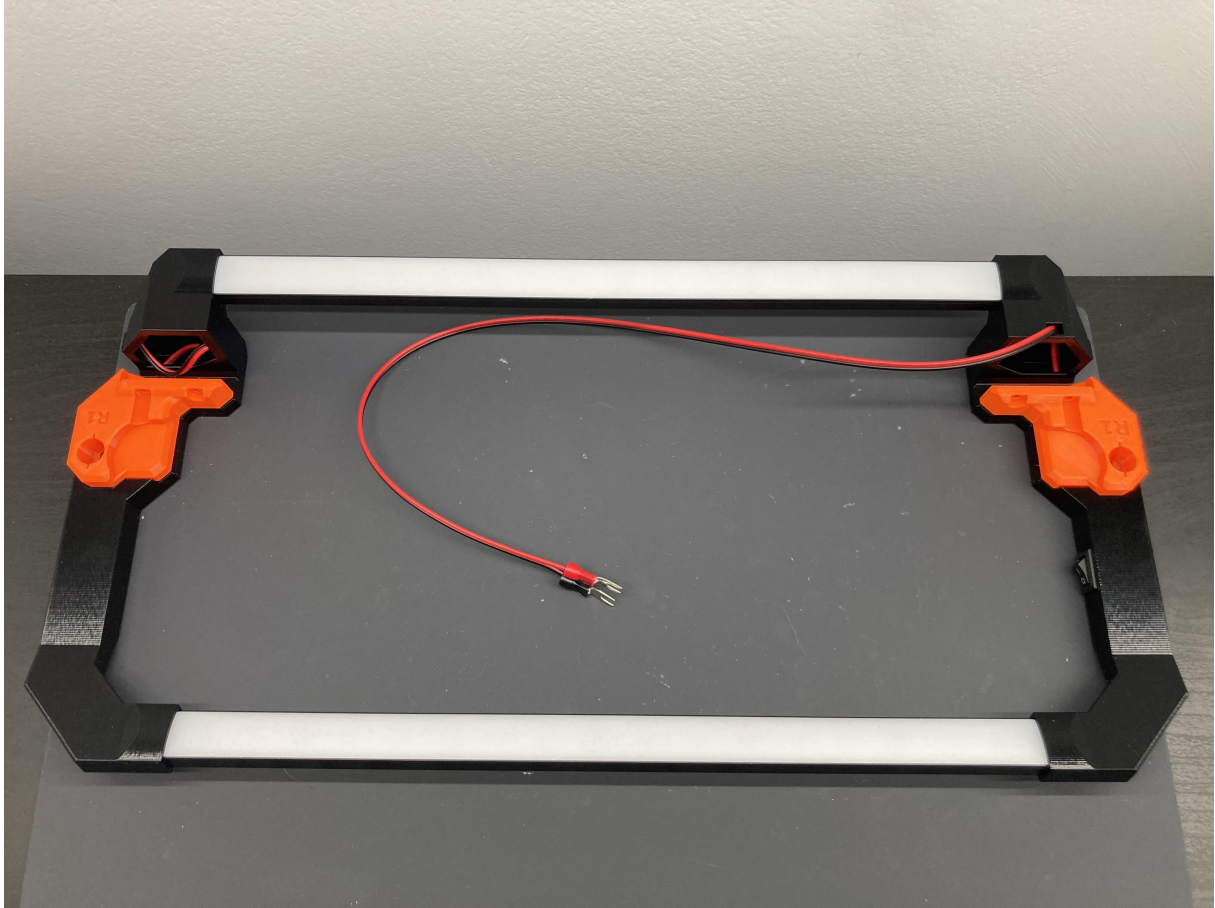
Wire run opening



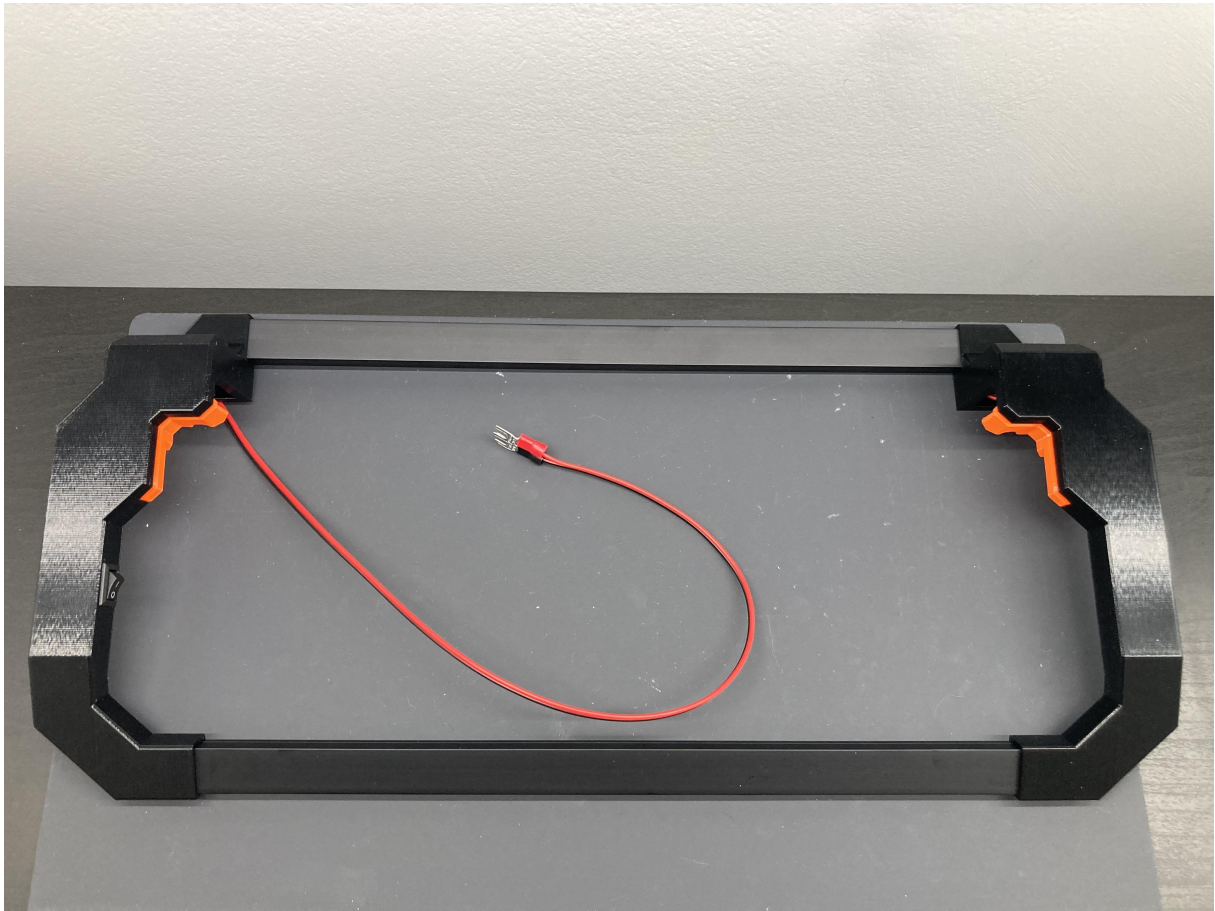
Strip power wires



Fork terminals



Completed assembly

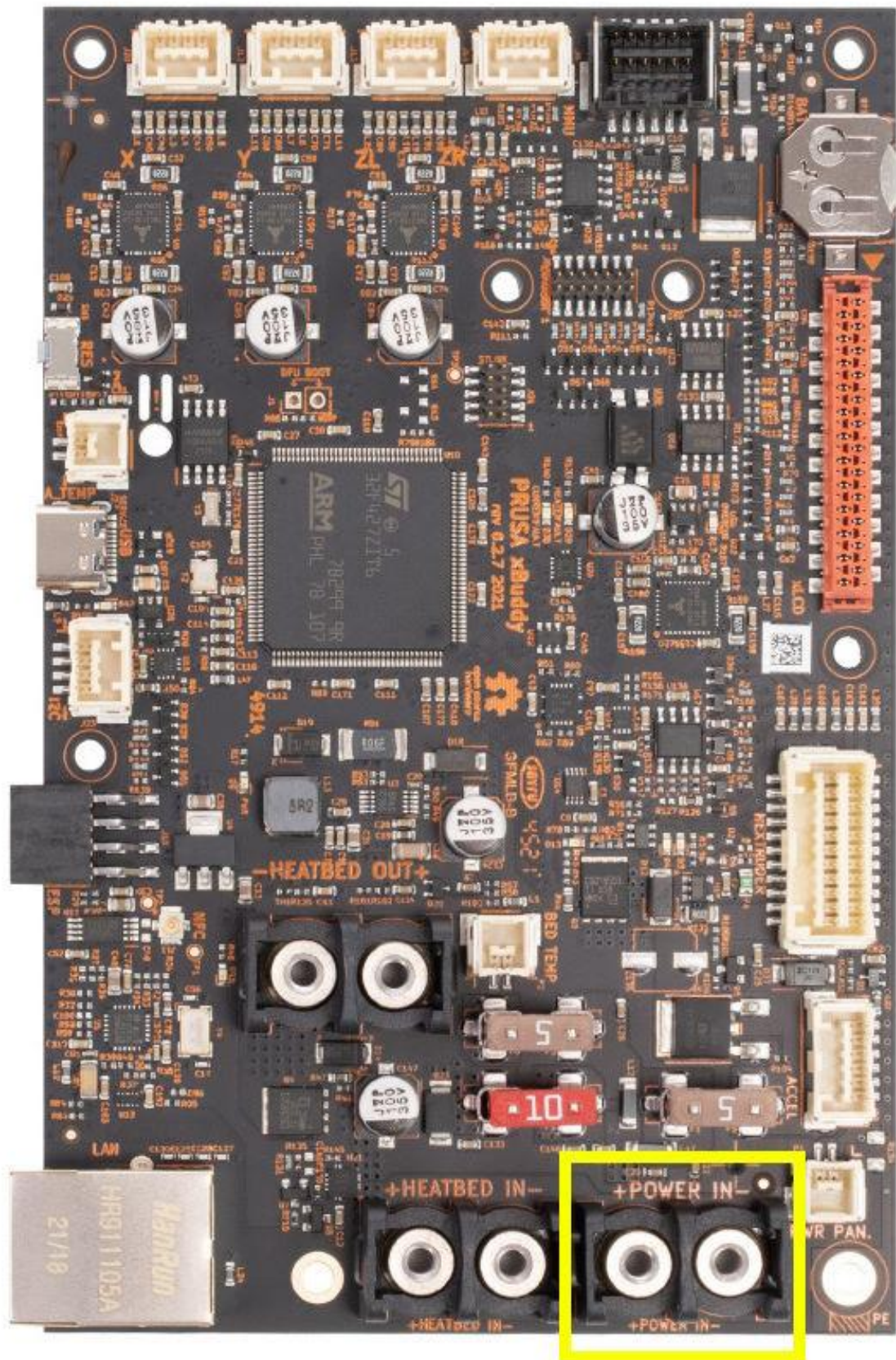


Completed assembly

Power Connection

To power the light bar with the MK4 printer power supply, connect the red and black wires to the screw terminals on the xBuddy board labeled POWER IN + and - . Red to + and black to - . Undo the screw terminals enough to insert the power and ground fork terminals and stack them with the wires coming from the printer power supply. Once in place, tighten the screw terminals. Tug gently on the wires to ensure that they are secure. The LED strips only consume 5W (single) and 10W (dual), so it won't put much excess load on the power supply.

Double check that the fork terminals and ring terminals are seated tightly and that the screw is tight. If needed, bend the fork terminals slightly so the plastic parts don't interfere with the connectors on the power supply wires.



Power connection (+ Left, - Right) Photo Credit: Prusa Research

Model files



MK4 Dual Mount

2 files



mk4_dual_mount.3mf

☐ Use with Hex Z-Axis Top



mk4_dual_mount.stl

☐ Use with Hex Z-Axis Top



MK4 Single Mount

2 files



mk4_single_mount.3mf

☐ Use with Hex Z-Axis Top



mk4_single_mount.stl

☐ Use with Hex Z-Axis Top



MK4 Hex Z-Axis Top

2 files



mk4_hex_z-axis_top.3mf

☐ Updated to use R3 revision Z-Axis Top



mk4_hex_z-axis_top.stl

☐ Updated to use R3 revision Z-Axis Top



MK4 Dual Mount - Z-Axis Top

2 files



mk4_dual_mount_z-axis_top.3mf

☐ Updated to use R3 revision Z-Axis Top



mk4_dual_mount_z-axis_top.stl

☐ Updated to use R3 revision Z-Axis Top



MK4 Single Mount - Z-Axis Top

2 files



mk4_single_mount_z-axis_top.3mf

☐ Updated to use R3 revision Z-Axis Top



mk4_single_mount_z-axis_top.stl

☐ Updated to use R3 revision Z-Axis Top



MK4 Bear Frame Mount

4 files



mk4_bear_mount_left.3mf



mk4_bear_mount_right.3mf



mk4_bear_mount_left.stl



mk4_bear_mount_right.stl



MK4 MMU Mount

4 files



mk4_mmu_mount_left.3mf



mk4_mmu_mount_right.3mf



mk4_mmu_mount_left.stl



mk4_mmu_mount_right.stl

Print files



mk4_dual_mount_02mm_pla_mk4_6h30m.gcode

🌀 PLA 📏 0.40 mm ≡ 0.20 mm ⌚ 6.50 hrs ⚖️ 72 g 🖨️ Prusa MK4



mk4_hex_z-axis_top_02mm_petg_mk4_1h35m.gcode

PET 0.40 mm 0.20 mm 1.58 hrs 19 g Prusa MK4

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