Arcade Button Enclosure

3D print an Arcade Button Enclosure to make it compatible with Maker Tape.

Written By: Pete Prodoehl

INTRODUCTION

3D print an Arcade Button Enclosure so you can make a large arcade button compatible with Maker Tape.

Use the button in any paper circuits project where you need a button, or integrate it with Crazy Circuits projects by connecting it with Maker Tape.

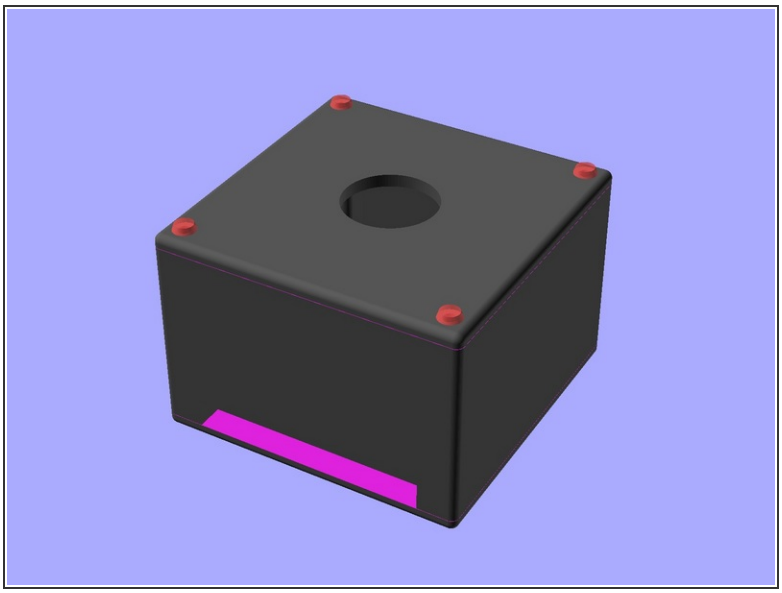
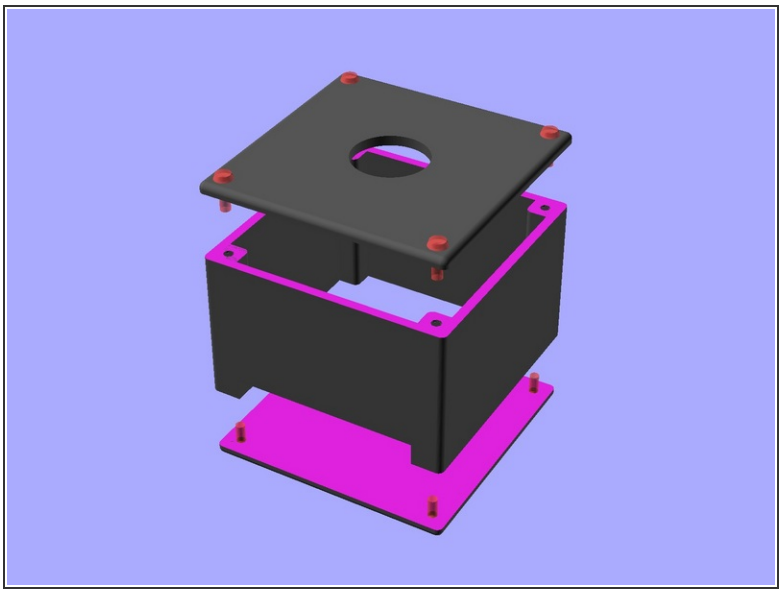
TOOLS:

- 3D Printer (1)

PARTS:

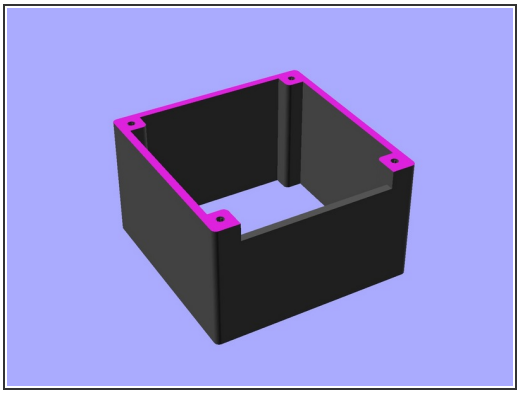
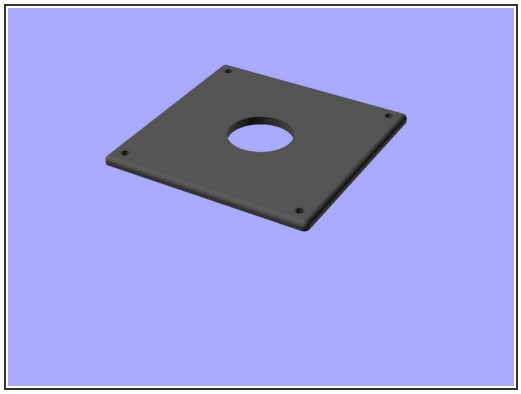
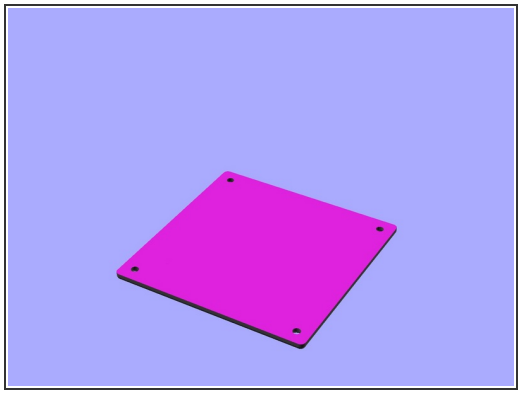
- Arcade Button (1)

Step 1 — Download Files

- The Arcade Button Enclosure is printed in three parts, then assembled with hardware into a single unit.
- Find the files in our GitHub repository: https://github.com/BrownDogGadgets/3D-Pr...
- Or on Printables.com: https://www.printables.com/model/649397-...

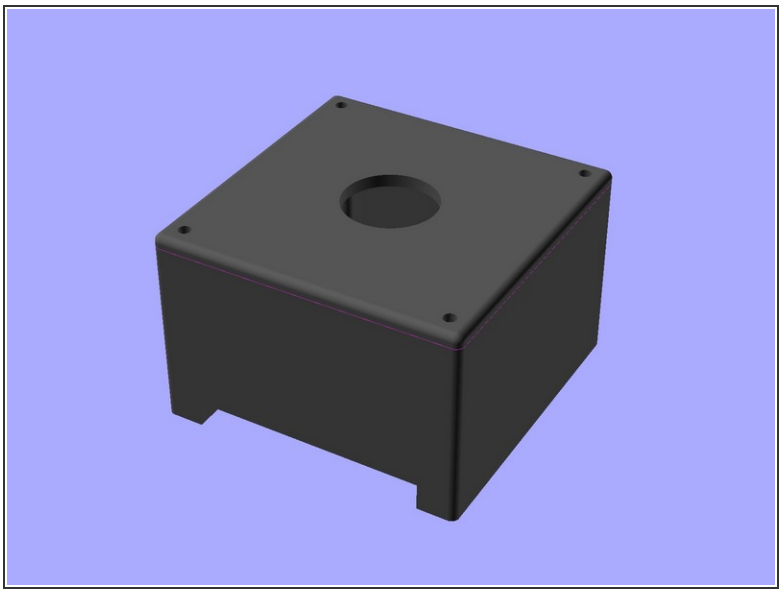
Step 2 — Print Files

- It's best to print the body upside down so you don't need to add supports for the cutout slot.
- The top and bottom covers can be printed in either orientation.

ⓘ Print them outward face down if your printer creates nice smooth surfaces on the bottom of prints.

Step 3 — Add the Top Cover

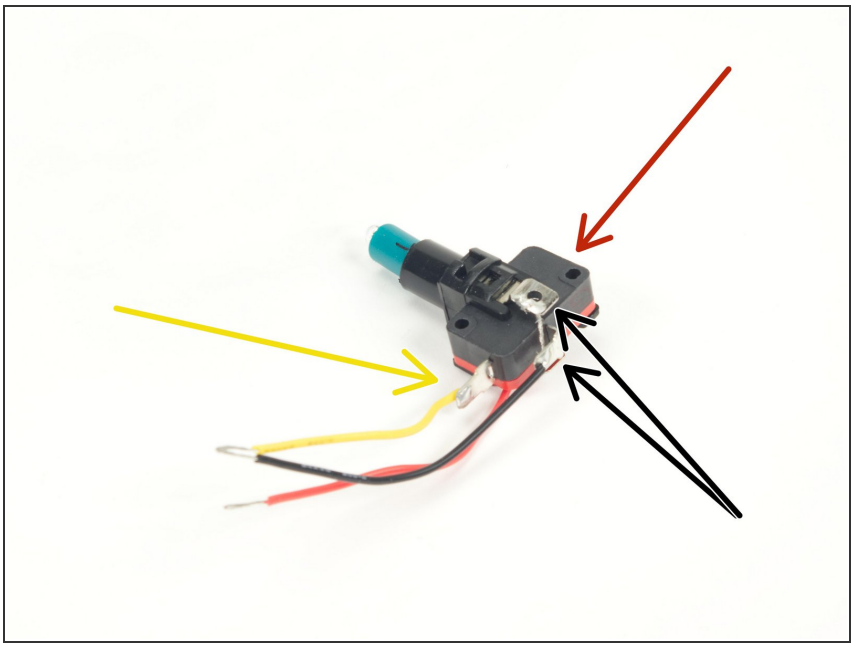


- Add the top cover to the body using 3mm screws.
- 3mm x 10mm screws work well, but you can use screws that are from 8mm to 12mm and they should also work.

Step 4 — Add the Button

- We've now got the top cover in place so we can add the arcade button.
- We'll walk through those steps as we go.

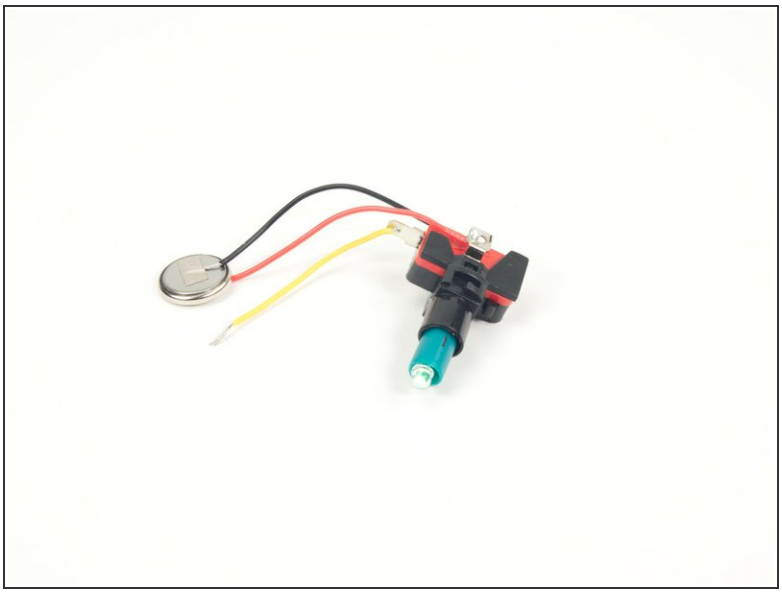
Step 5 — Add Wires

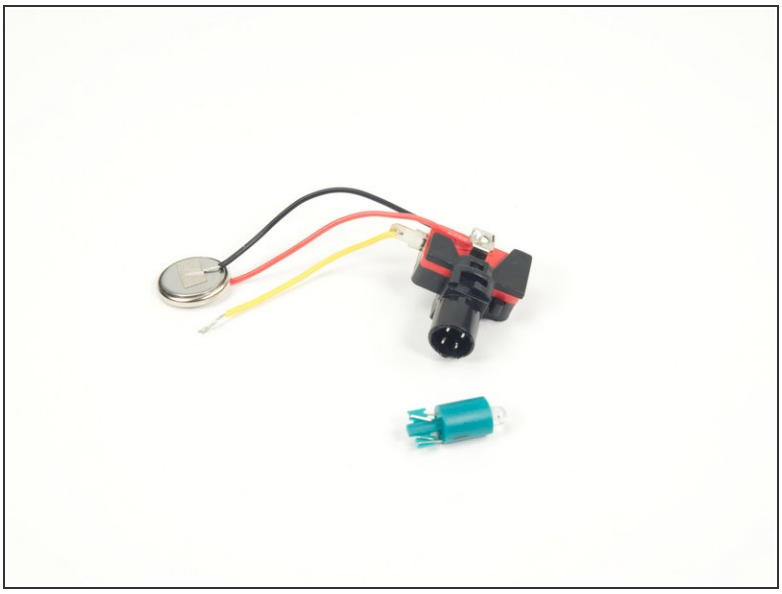


- You will need to add 3 (or 4) wires to the switch and LED housing.
- The **Black** wires goes to **GND** on the switch and to **GND** for the LED.
  - Note we have just 3 wires because we connected the black wire to GND for both the LED and switch together.
- The **Yellow** wire goes to the **NO** contact on the switch. (Some switch will have a NO and NC contact, but the NO is typically closer to the bottom.)
- The **Red** wire goes on the **positive** (other side) of the LED housing, opposite the black wire.

ⓘ We recommend soldering the wires for the best connection but if you are unable to solder you can try to wrap them with Maker Tape around the terminals.

Step 6 — Check Polarity

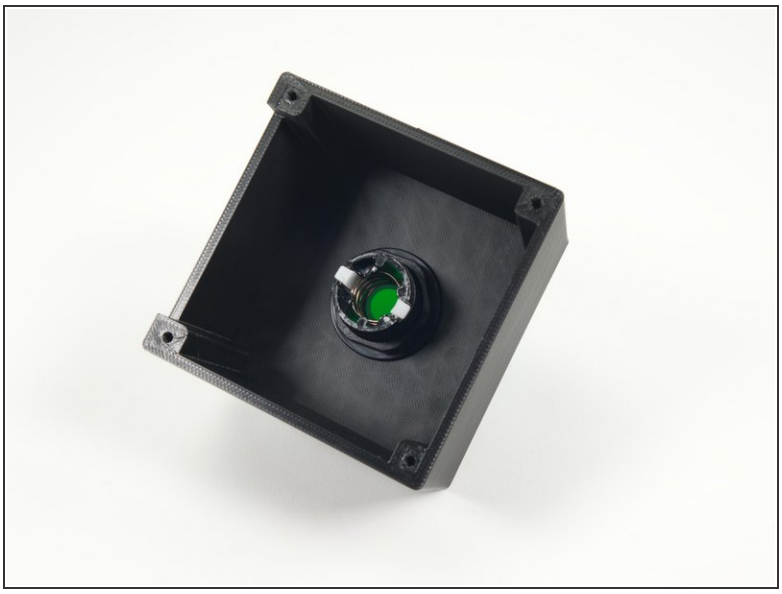




- Use a CR2032 Battery to check if the LED lights up.
- If it does not, pull it out, rotate it 180 degrees, and then reinsert it to see if that fixes it.

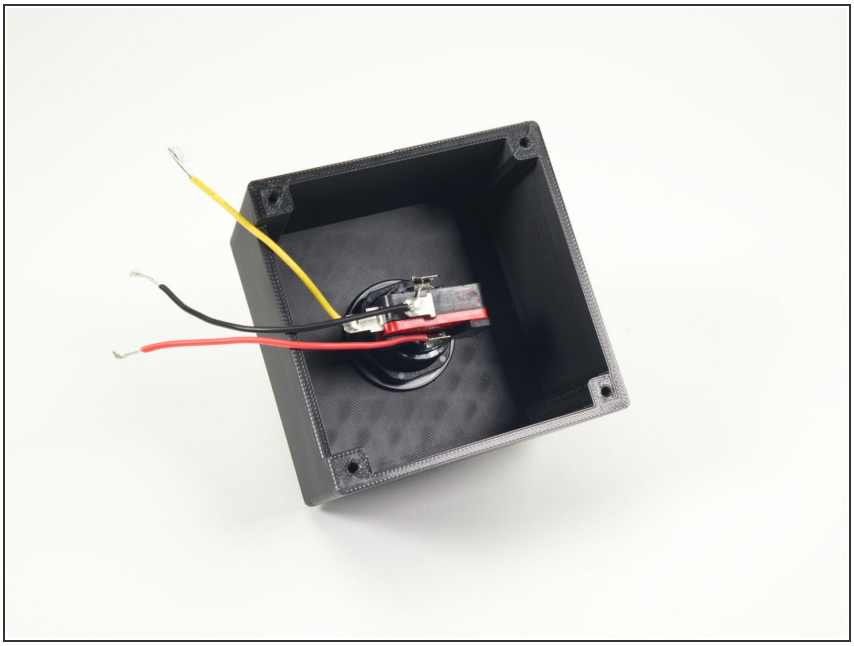
ⓘ Unfortunately the LED may not be very bright since it will only be powered by 3 volts, but it can still be a nice indicator and does show up well in a darkened room.

Step 7 — Screw Button in Place



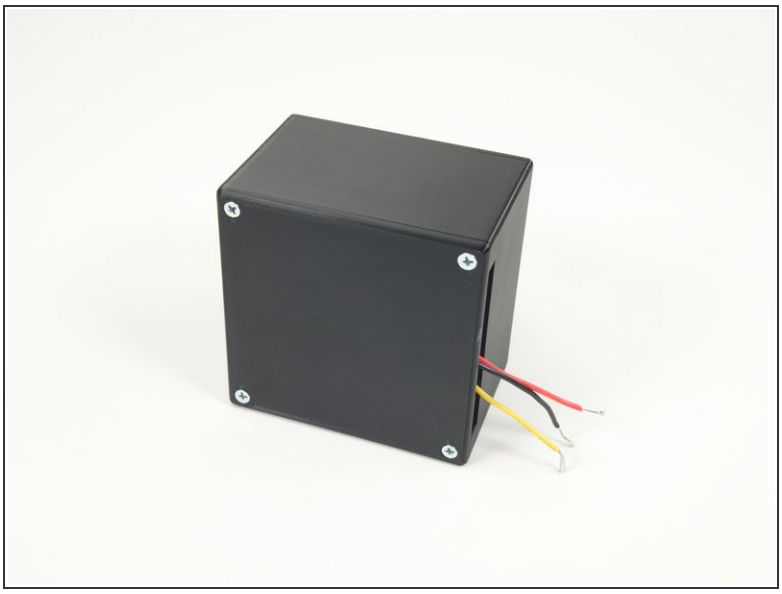
- Insert the button through the hole on the top, and then screw the large plastic nut in place to secure the button.
- We've aligned the white tabs so that one is closest to the side with the slot in the button enclosure.

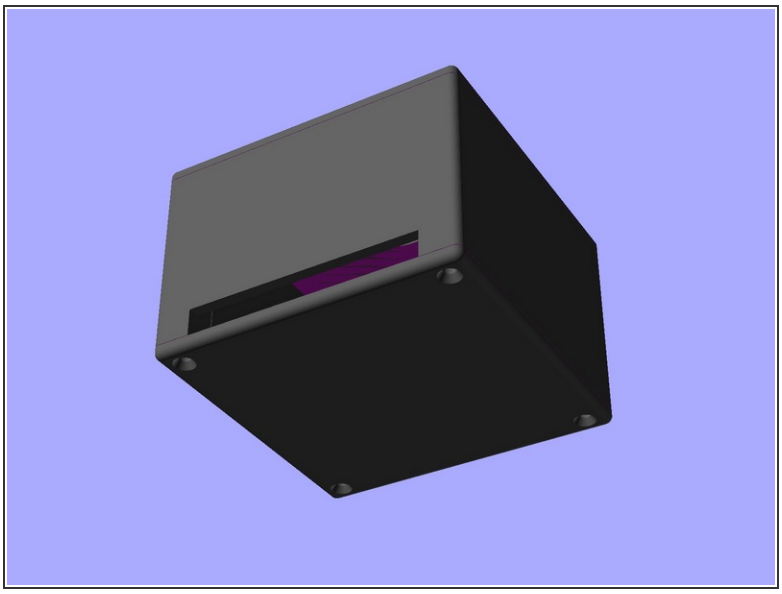
Step 8 — Insert LED/Switch Housing



- We can now add the LED/Switch to the arcade button by pushing it into place and rotating it to lock in.
- We've positioned it so the wires can go out the slot of the printed enclosure.

Step 9 — Add the Bottom Cover





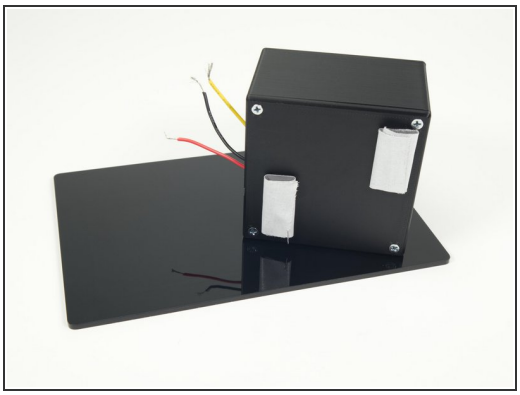
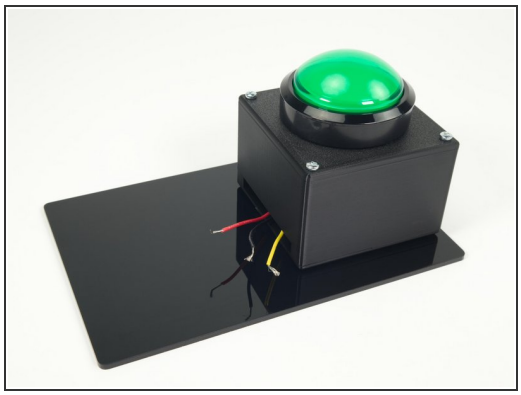
- To secure the bottom cover we used #4 screws.
- These flat head #4 x 3/8" screws should fit perfectly.

Step 10 — Ready for Use!

- Okay! Our Arcade Button and 3D printed enclosure should be all assembled, we should have three (or four) wires sticking out of it, and it should be ready to go.
- In the following steps we'll show you how prepare it for connecting to your circuit using Maker Tape.

Remember, the **Black** wire is **GND**, the **Red** wire is for the **LED** inside the button, and the **Yellow** wire is for the **switch**.

Step 11 — Add Maker Tape


- We added two large loops of tape to the button enclosure to stick it down to a plate.
  - We used gaff tape, but you can use masking tape, painter's tape, or whatever tape you have available.
  - For our plate we used a piece of acrylic but you can use cardboard, wood, or whatever (non-conductive material) you have available.
- Once the button enclosure is stuck down to the plate just tape down the wires using Maker Tape and you're all set!
- At this point our arcade button is very similar to our Cardboard Push Buttons except we've got an extra wire for the LED.

Step 12 — Use Your Button!

- Ready for gently pressing or excitedly slamming!
- We do love our Cardboard Push Buttons but with our weekly quiz game things were getting a bit heated and the cardboard buttons were starting to wear out, so these will make a great replacement.
- And you can use these buttons for any paper circuits or Crazy Circuits project that uses Maker Tape to connect things.