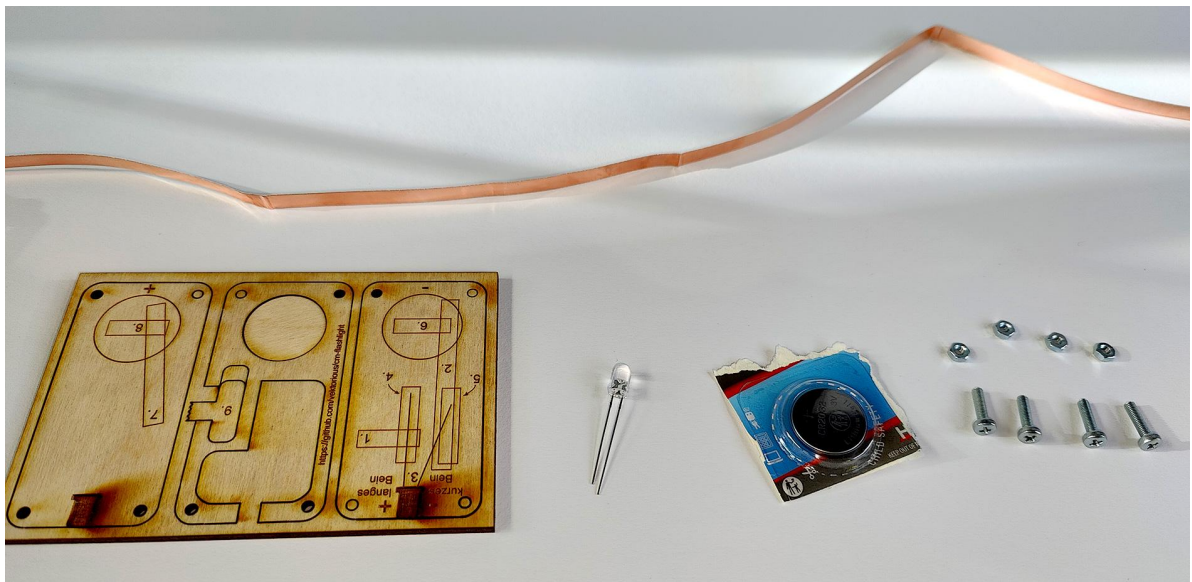# Building instruction for the laser cut flashlight

Kit content:

- 1 cover: 3 mm, birch plywood
- 1 LED: 5 mm, wired, warm white, 23000 mcd, 15° beam angle
- 1 button cell: 3V, CR2032
- 1 piece of copper tape: 5mm wide, conductive adhesive, approx. 50cm
- 4 Schrauben: M3 12 mm, Linsenkopf Kreuzschlitz
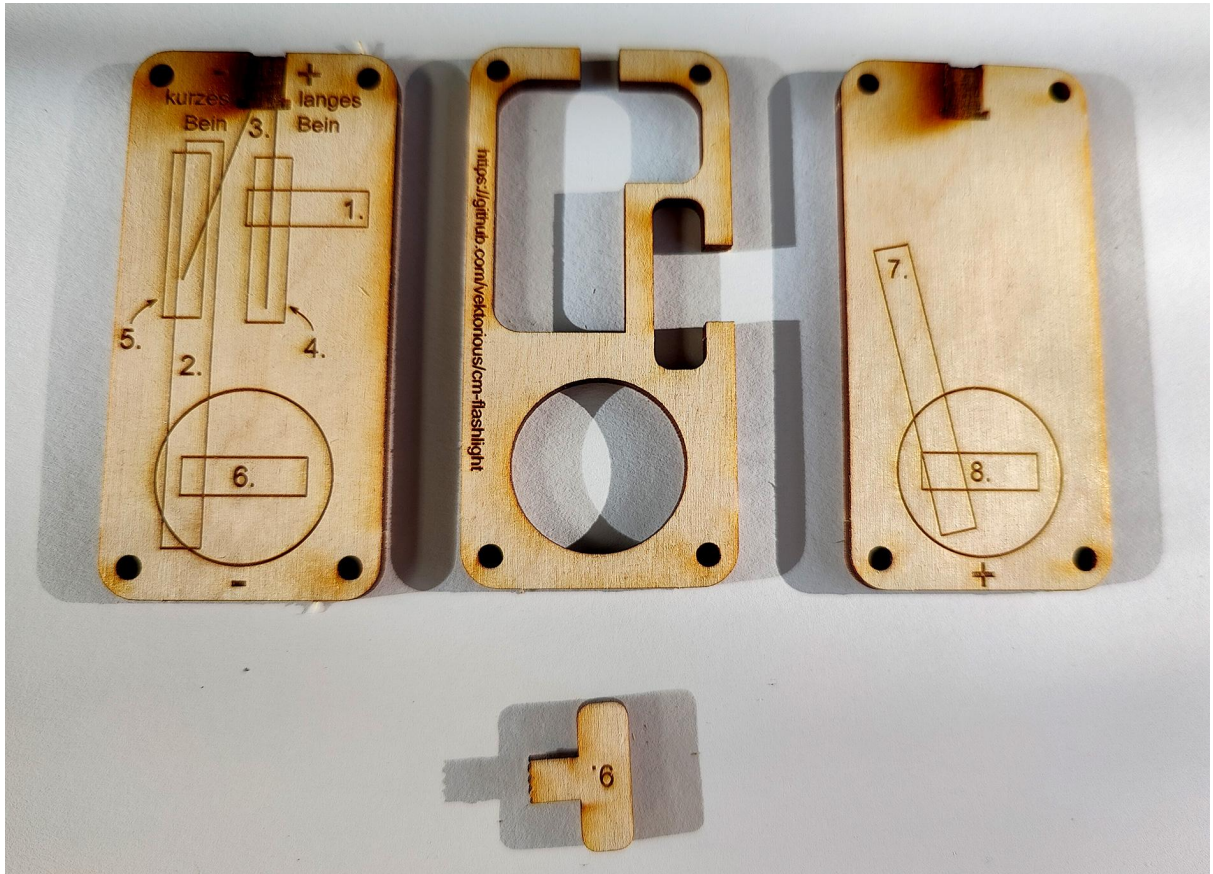- 4 nuts: M3, hexagon flat

Additionally you need:

- 1 pair of scissors
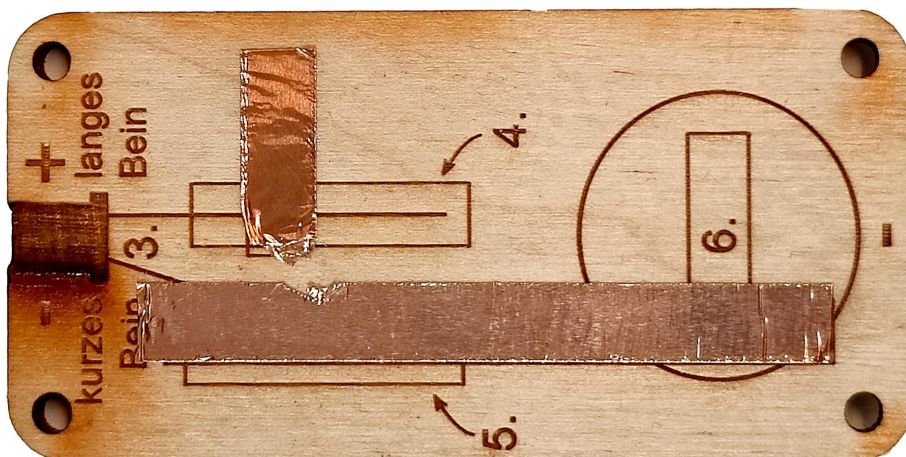- 1 screwdriver Phillips PH1 or similar

Step 1: Prepare wooden parts

Carefully break out the wooden parts from the board on the cut lines - four parts remain: Bottom, middle part, lid and switch.
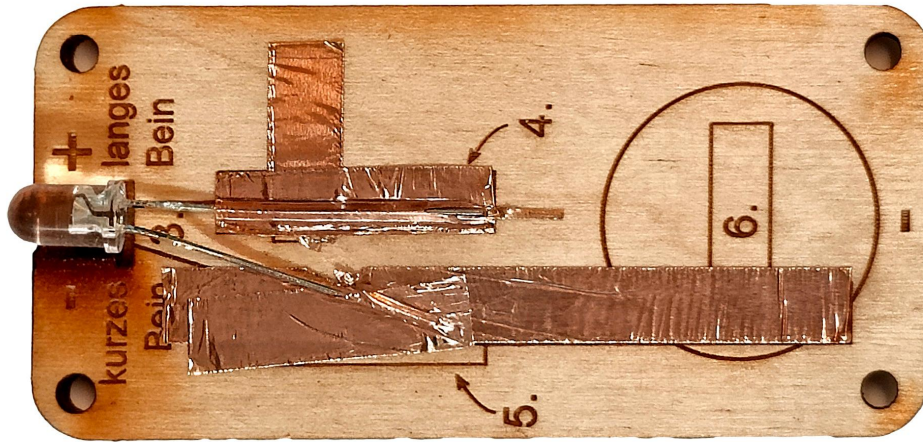

Step 2: glue conductive substrate for the LED

Cut 2 strips of copper tape in the lengths of markings 1 and 2 on the bottom of the lamp envelope and stick them there firmly.
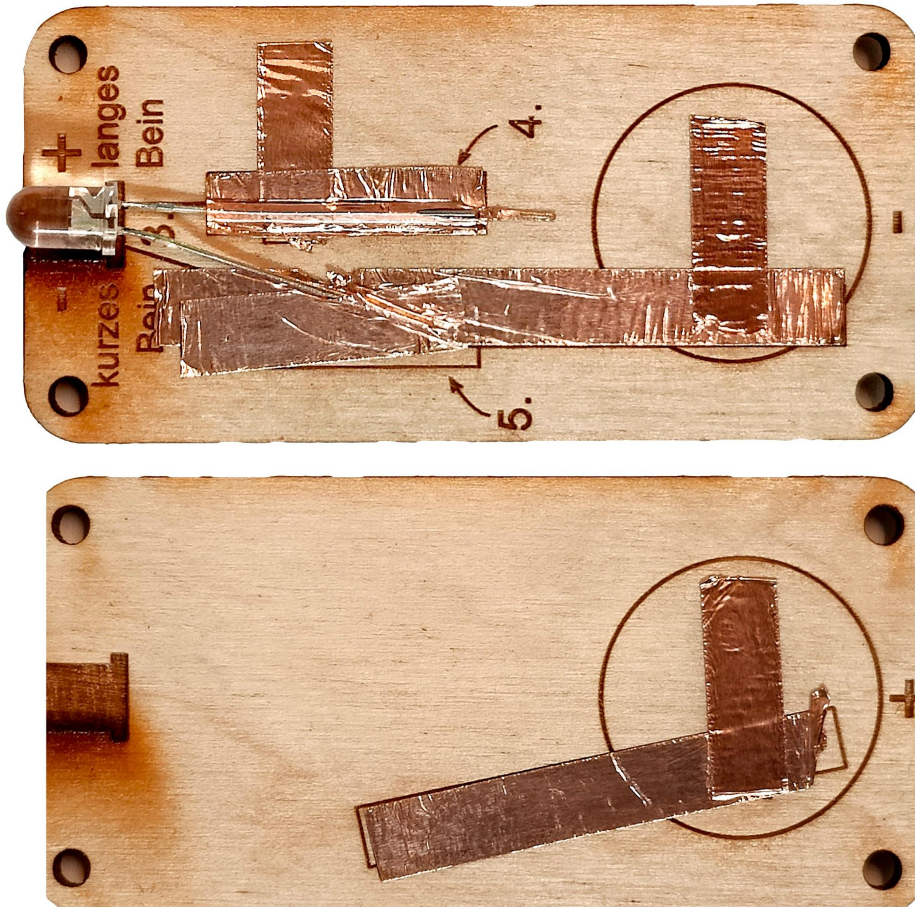
Step 3: Fix LED conductively

Place the LED at the marked position (3). The long leg must be at the plus and the short leg at the minus! Cut two more copper strips in the lengths of the markings 4 and 5 and glue the LED legs with them.
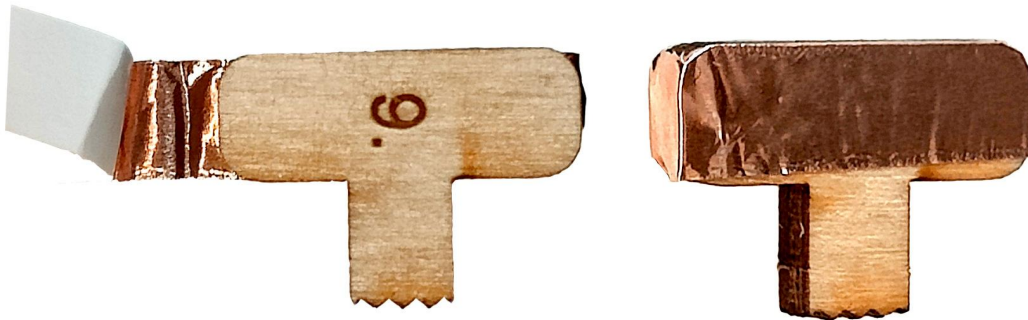

Step 4: Glue connections to the power supply

Cut three more copper strips to the lengths of markings 6 (bottom) and markings 7 and 8 (top). Glue them on tightly.
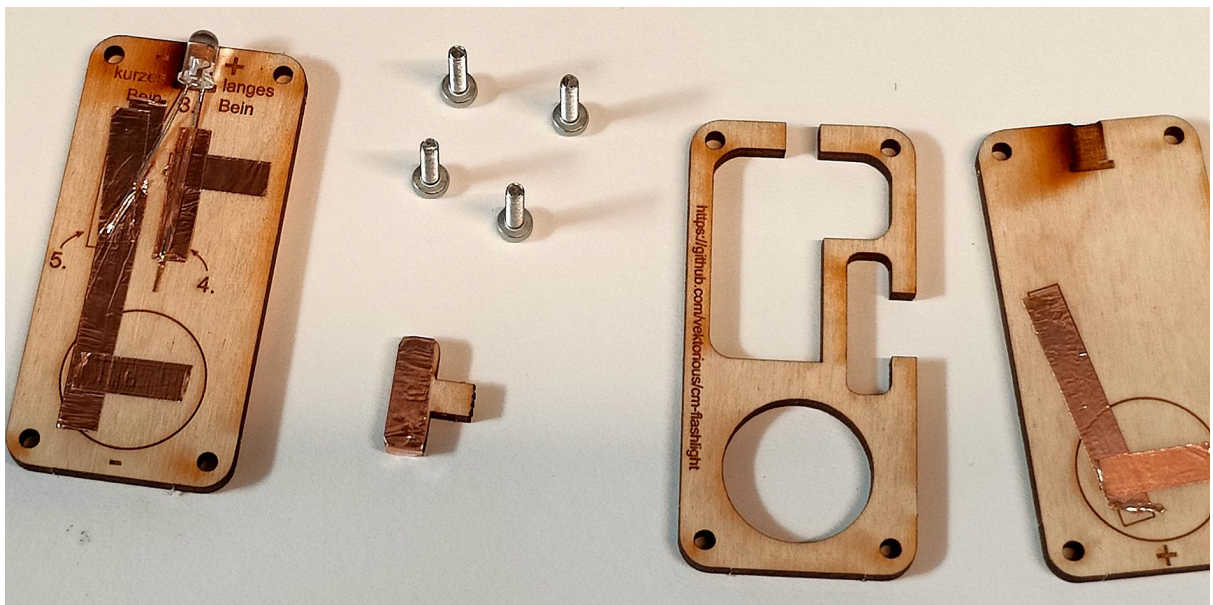
Step 5: Conductively glue around switch

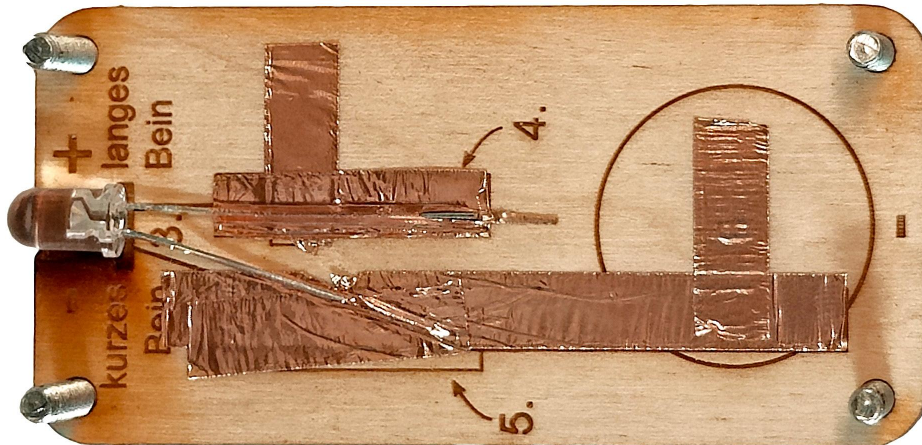Tape exactly one layer around the entire switch with copper tape.

Intermediate status: all parts are ready prepared

Check again: Is everything in the right place? Is the copper strip firmly glued?
You can rub the copper strips again with the back of your fingernail.

Step 6: Assembling the bottom and middle part

Insert the four screws into the bottom part from below. Now you can put the middle part on it so that the engraved link points upwards. Now you can put the switch and the battery into their compartment. The plus side of the battery must be visible at the top!

https://github.com/vektorious/cm-flashlight

https://github.com/vektorious/cm-flashlight

Step 7: Put the lid on, test it, screw it shut …

Now you put the lid with the copper band to the inside on the middle part.

TEST: If you now hold the lamp with one hand and the switch is set to ON (upwards to the LED), the lamp should already light up!

Does not work? Don't panic! Open the housing again and check: Is the LED the right way around? Is the battery the right way around? Is the tape tight and only touching in the intended places?

Is it working? Great! Turn the nuts onto the ends of the screws. Hold the nuts with one hand and lightly tighten the screws with a screwdriver.

… done! :)