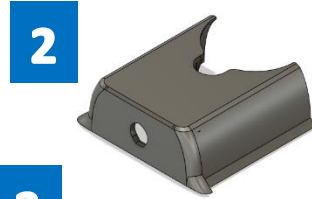


Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

Required Components



BOM

1. Spinning Wand Toy
2. 3D Printed Base
3. Mono Jack Cover
4. 3.5 mm Mono jack
5. 2X 30 cm 26AWG multi-core wire or stranded wire (24-26 AWG)
6. 2x #4 1/2" screws
7. 4x non-slip circles.

Required Tools

- #0 Phillips Screwdriver
- #0 Robertson Screwdriver (depending on what #4 screws you purchased)
- Soldering Iron and Solder
- Hot Glue Gun and Glue Sticks

Required Personal Protective Equipment (PPE)

- Safety Glasses

Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

Assembly Instructions

Step 1

Loosen the screw and remove the battery cover and batteries.

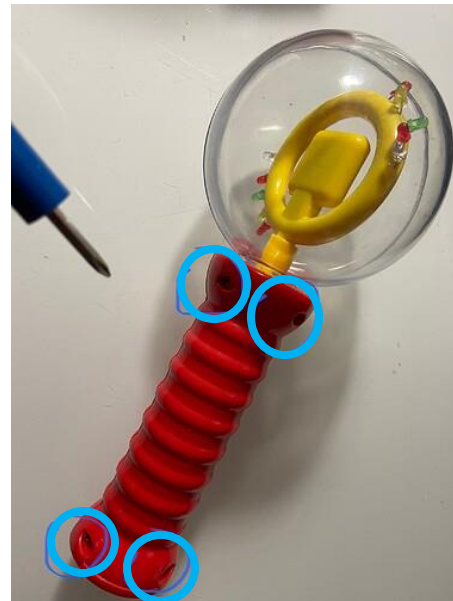
CAUTION! The springs on the battery contacts may cause the batteries to be ejected forcibly.



Step 2

Unscrew the four (4) screws on the back of the Spinning Light Wand. Store the screws for later reassembly.

CAUTION! Don't lose the screws.



Spinning Light Wand Toy Adaptation

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Step 3

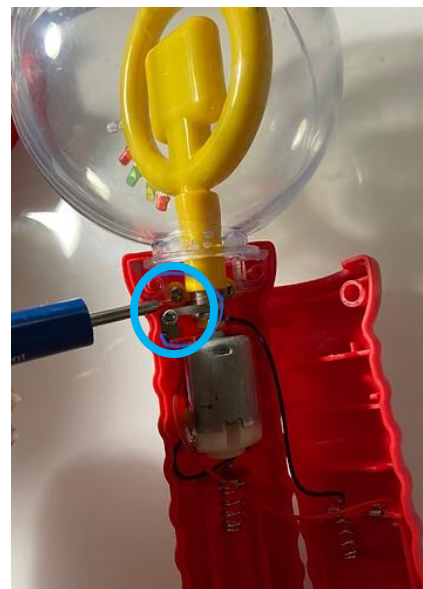
Gently pry apart the two halves of the handle along the seam using a flat head screwdriver.



Step 4

Remove the screw holding the motor down, as shown in the photo, and remove the piece of metal contact. Keep the screw for later reassembly.

CAUTION! Don't lose the screw or the metal contact.

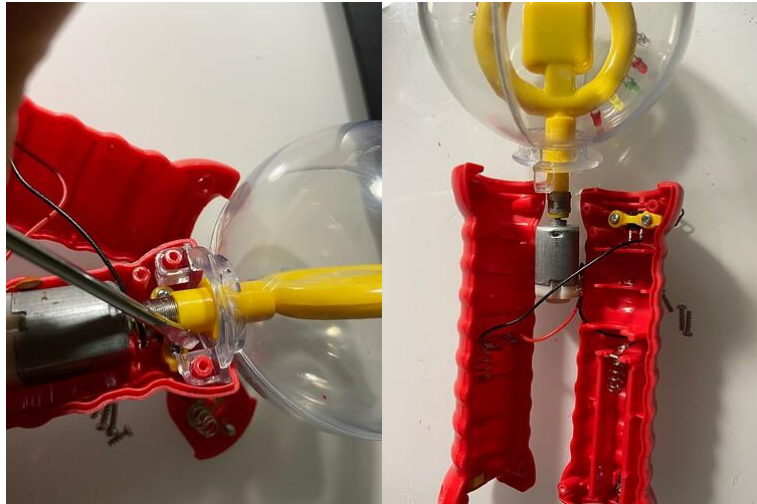


Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

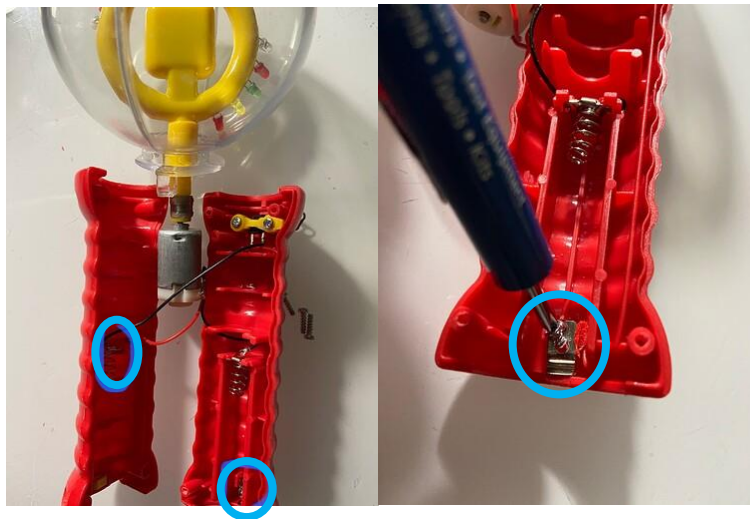
Step 5

Gently pry the clear globe free from the button half of the handle. The motor and the clear globe is part of the same assembly, carefully lay all the parts out, and try and avoid putting strain on any of the solder joints.



Step 6

De-solder the black wire from the top of the battery holder and the red wire on the other half from the bottom of the battery holder. For the red wire, it may be easier to loosen the screw to remove the wire from under the metal clip.



Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

Step 7

Unscrew the screws attached to the yellow piece shown. Remove and discard the entire button assembly. They are no longer needed.



Step 8

Cut 2 pieces of wire 30cm long. Strip approximately 1cm of the insulation from one end of each of the wires.



Step 9

Solder one of the wires to the bottom metal clip and route the wire as shown below. This is the same place where the original red wire was soldered.

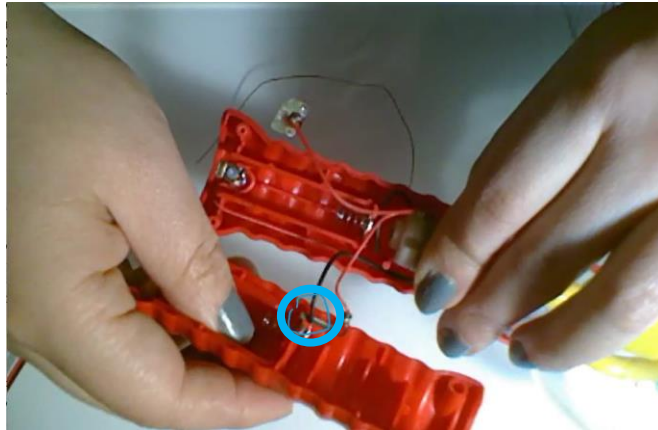


Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

Step 10

Solder the second wire to the battery clip. This is the same place that the original black wire was desoldered from.



Step 11

Thread the wires through the hole that the button occupied. Avoid leaving too much slack on the wires inside as it might interfere with the moving bits.



Step 12

Route the wires through the inside of the handle as shown.



Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

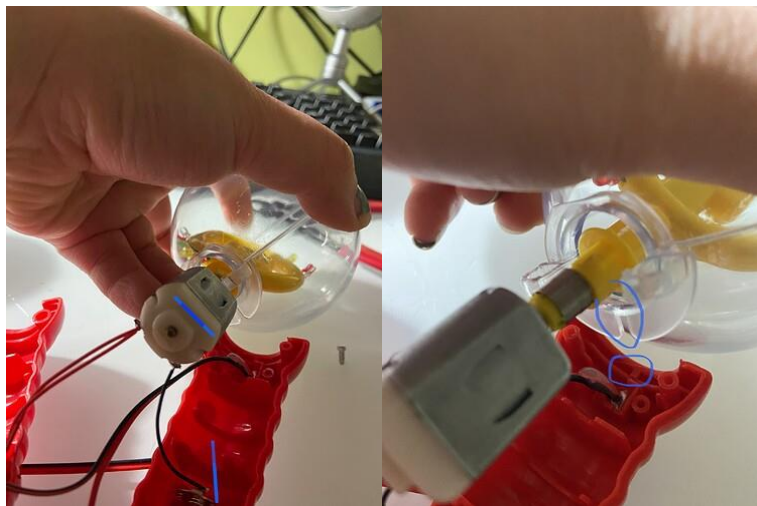
Step 13

Apply hot glue to fill up space between the wire and the hole, to add strain relief to the wire.



Step 14

Start reassembling the wand by putting the globe and motor assembly back into the half of the handle with the button hole. Note the alignment of the motor and the clear globe. See photos.



Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

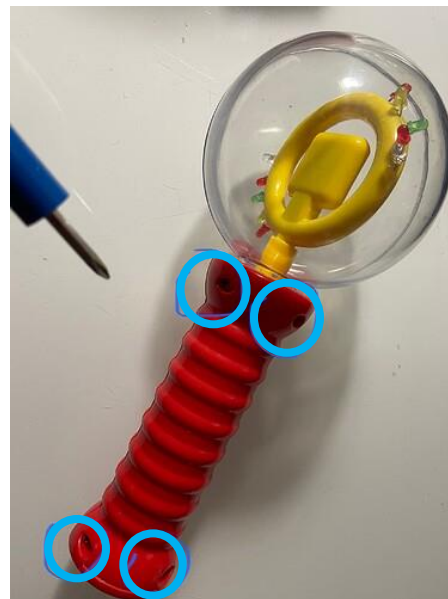
Step 15

Reattach the L-shaped metal contact. Replace the screw.



Step 16

Snap the handle closed, being careful not to pinch any wires inside. Replace all four screws. Re-insert the batteries and tighten the battery cover screw.



Step 17

Test the switch adaptation.

Strip the other end of the wire and touch them together. If all goes well, the motor should spin and the light would come on. If not, re-open the handle and check:

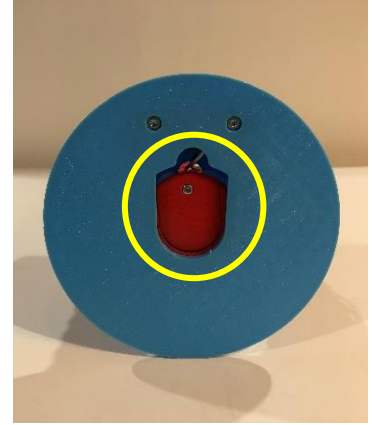
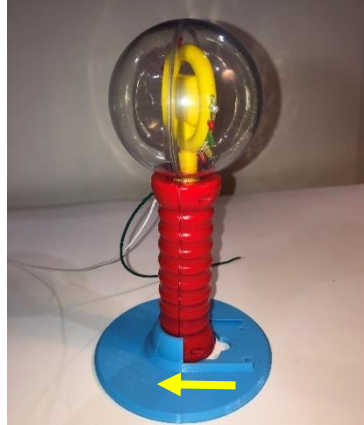
Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

- wiring: no cold solder joints or frayed/pinched wires
- mechanical interference: now wires are rubbing on the axle
- the L-shaped metal piece is making good contact against the spring on the motor axle.

Step 18

Slide the wand into the stand. Make sure the battery cover is lined up with the hole in the base.



Step 19

Slide the second pieces of the base together. While doing so, thread the wire through the opening of the stand. If the wires stick out the hole more than 1-2cm, they can be cut and striped about 1cm.



Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

Step 20

Remove the wand from the base. Solder the two wires to the two legs of the mono jack closest to the nut.



Step 21

Remove the nut from the mono jack and push the mono jack through the hole. Reinstall the nut and tighten it to secure. Next, carefully bend the wires as shown.



Step 22

Slide the wand into the base again, as well as slide in the part of the base with the mono jack.

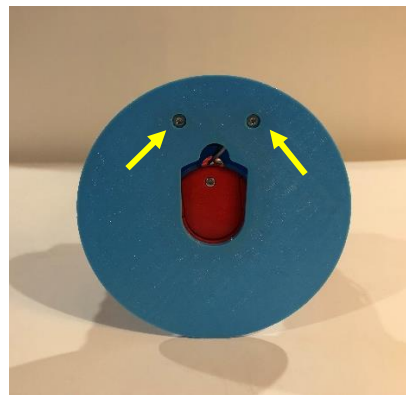


Spinning Light Wand Toy Adaptation

ASSEMBLY GUIDE

Step 23

Set the wand on its side. Make sure the holes in the 2 3D printed parts align. Insert the two screws into the holes shown.



Step 24

Attach 4 non-slip pads to the bottom of the base.

