Lantern Body For Broken Garden Light

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VIEW IN BROWSER

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Summary

Broken garden light becomes Christmas decoration!

Household > Home Decor

Tags: light lamp lantern flicker coachlamp arezzo

There is now a wall mounting platform to enhance the antique effect of this lamp. It can be seen here: https://www.printables.com/model/695280-antique-style-bracket-for-my-decorative-lantern-de

Over three years ago I watched a BigClive video (see my PS below) where he tears down an “Arezzo Flaming Torch” flame-effect solar garden light. I really liked the lamp's design, and the flame-effect was still something of a novelty at the time. So I found an online seller, and bought one.

After years of perfect 24/7 service, the lamp got knocked over and trodden on. The case was ruined, and the solar cell was dead. The circuit board was still OK though; so, with Christmas on the way, I decided to upcycle it into an indoor decoration by making a new case.

I based the design on an antique coach lantern I used to own. The basic shape was easy enough. But I wanted to echo of all the decorative features of the original. This meant a fake chimney and dome, with an

ostentatious finial at the very top. Oh, and some fancy corner trims and buttons in a complementary colour. Gotta have those!

I started with a basic mounting plate for the circuit board. I then adapted and incorporated my existing battery holder design (https://www.printables.com/model/594538-two-aa-battery-pack-with-two-direction-cover) to supply the power.

The original lamp only used one AA battery. But, since my battery holder already had room for two (and I couldn't be bothered to mess around), I figured it would make for longer periods between battery changes (I've been able to get 4 days plus using a couple of rechargeable AA cells). Do remember to wire them in parallel - and NOT series - though.

I now had the top mount's minimum size to work with, so I could design the rest of the lamp around it. My first test print showed that the pcb needed to be diagonally mounted because the LED viewing angles cause dark areas at the left and right board edges. These become “shadows” on the transparent lamp panels and ruin the effect. Diagonal mounting conceals them in the lantern's frame corners where they can't be seen.

I then had the idea of printing the top mount in white. I thought it would reflect light downwards, but it didn't actually make much difference. However, by a lucky coincidence, it DID mean that the fake vent holes in the “chimney” now faintly echoed the flickering below. Oooh look, it's just like a real lantern, Mum!
So, as a further experiment, I reprinted the top mount again. But this time I added slicer mods to remove parts of the top and bottom skins, and let light through. This was a better idea, and I was very pleased with the results. I've attached a 3mf file for this if you wish to try it yourself.

After making a perfect PLA draft, I planned to print the main parts of the lantern in PETG. This worked fine for the frame, but I just couldn't get the roof to print nicely in it - one attempt created a roof that turned out to be just separate strings of loose, saggy, filament stretched across from the corners. Oops!

I tried again with a thicker shell and supports. The roof was solid this time, but it looked rough, lumpy, and had horrible zits everywhere. So I re-printed it yet again in good old PLA+ with some manual supports. This time it worked perfectly. See the 3mf file for deets.

At first I had all the decorative bits and bobs incorporated in the top as a single STL file, intending to use my printer's multi-colour ability to make them a different colour. But the print times started to get truly ridiculous in the slicer. So I separated them out, leaving only the chimney to be a different colour (as this only added 30 mins to the print time).

It does mean the embellishments have to be printed separately and glued-on now. But they're all quick to print, and only take a few minutes to glue, and it looks just the same as as if I'd done it the other way.

The dome is also glued into place on the fake chimney. I tried other methods (including a flat mounting plate, and another with locking clips) but, in the end, this was the simplest and most practical solution to avoid tricky support structures.

The finial is fixed to the dome using a captive M4 (I think - I just grabbed them from my oddments tin) nut and bolt, and the cap is just a friction fit into the top of that. Job done!

I'm sure the lantern could be adapted for use with other light sources, too. I've included a small well in the bottom that may be useful for LED candle effect lights. I've also created two optional white plates that will drop into the bottom of the lamp. The idea is that they reflect better than the black base would, making the light appear brighter inside.

Finally, I've attached the Sketchup files for those who like to tinker.

So, if you're in the dark, and seeking a guiding light, print out this luvverly lantern and it'll glow like the stars in the filament... sorry... firmament! Happy printing!

PS: The original BigClive video with the teardown of the original lamp can be found here:

Model files

candle-lantern-3b-frame.stl

candle-lantern-3b-transparent-panel-4-needed.stl

candle-lantern-3b-diagonal-top-mount.stl

candle-lantern-3b-top.stl

candle-lantern-3b-corner-trim-4-needed.stl

candle-lantern-3b-button-4-needed.stl

candle-lantern-3b-four-buttons.stl

candle-lantern-3b-squatter-dome.stl

candle-lantern-3b-fancy-finial.stl

candle-lantern-3b-finial-cap.stl

candle-lantern-3b-optional-base-reflector-plate.stl

candle-lantern-top-3b.3mf

candle-lantern-3b-diagonal-open-top-mount.3mf

candle-lantern-3b-corner-trim.3mf

candle-lantern-3b-squatter-dome.3mf

candle-lantern-3b-fancy-finial.3mf

candle-lantern-3b.skp

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