



Mod your Green Lantern movie ring and make it glow!

by [Honus](#) on August 7, 2011

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Intro: Mod your Green Lantern movie ring and make it glow!

When the Green Lantern movie came out earlier this year Toys R Us started selling a decent looking replica ring for only \$10- here's how to make the ring look a bit more heroic by installing a LED and making it more accurate to the movie ring. It's a fair bit of work but for GL fans it's worth the effort!



Image Notes

1. This is what the stock Toys R Us ring looks like. There should be a silver ring around the center gem and the pattern on the sides of the ring is very overdone compared to the movie ring.

Step 1: Tools and materials

This instructable is a further development of my previous Green Lantern ring tutorial seen here- <http://www.instructables.com/id/How-to-make-a-Green-Lantern-ring--including-a-glow/>

The wax carving and resin casting are the same process so I won't repeat them here. There is some very basic soldering involved and some Dremel work but it's pretty straight forward. Be sure to click on the "i" symbol to see the high res images.

So here's what you need to modify your ring:

Dremel tool with various burrs

Soldering iron

Jeweler's wax- <http://www.ottofrei.com/store/product.php?productid=1077&cat=1868&page=1>

Silicone RTV molding compound- <http://www.alumilite.com/ProdDetail.cfm?Category=Silicone%20Rubber&Name=High%20Strength%203>

Casting resin- <http://www.alumilite.com/ProdDetail.cfm?Category=Casting%20Resins&Name=Alumilite%20Regular>

Sharpie pen

Kapton tape (but just about any thin insulating tape will work)- <http://www.sparkfun.com/products/10687>

Red Scotchbrite pad

Lily Pad green LED- <http://www.sparkfun.com/products/10046>

CR1220 watch battery- available at jewelry stores or online

K&S 3/8" OD x .016" wall aluminum tube- <http://www.hobbylinc.com/htm/k+s/k+s9409.htm>

Transparent green #2092 Acrylic sheet 1/8" thick-

http://www.delviesplastics.com/mm5/merchant.mvc?Screen=CTGY&Store_Code=DPI&Category_Code=Transparent_Cast_Acrylic_Sheet

5 minute epoxy

Hot glue gun

Needle nose pliers

Small flat bladed screwdriver

Small piece of solid wire (can be copper or lead clipped off a resistor or other similar electrical component)

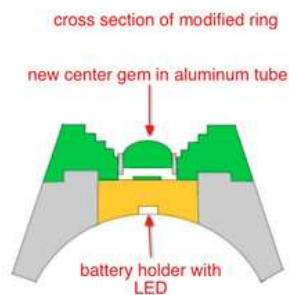
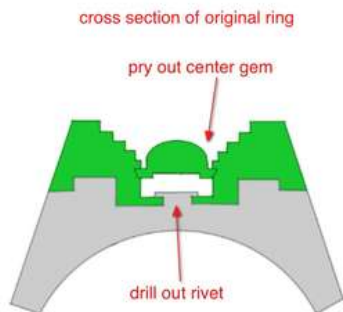
Step 2: Take apart the ring and start modding

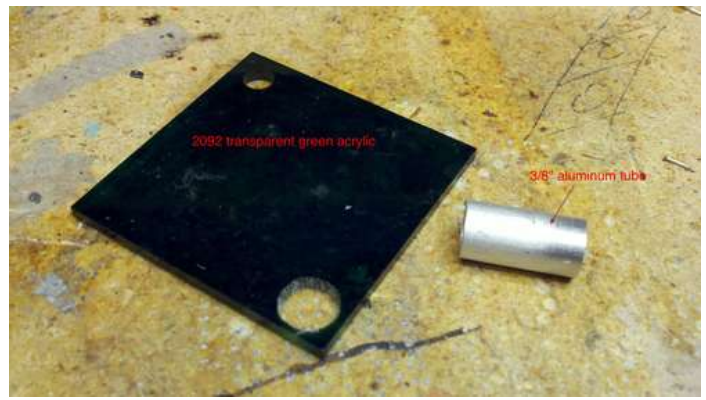
The first thing that needs to be done is to take apart the Toys R Us ring. This is done by taking a small flat bladed screwdriver and gently prying out the center gem- see the diagram. There are two small tabs that hold it in place. Once that is removed you will see a rivet that holds the top of the ring in place. The rivet can be drilled out or removed using a Dremel tool. Now the top green plastic piece will come right off.

Now you will notice a recessed area in the lower ring piece that is approximately 14mm in diameter. This will need to be bored out all the way through to the bottom of the ring. Be careful to not remove too much material- you only want to increase the depth of the hole, not increase its diameter.

The hole in the top green plastic section of the ring needs to be enlarged so a 3/8" tube can be epoxied in. The underside of this piece also needs to be shortened by a small amount to allow room for the LED insert.

I made a new center gem by cutting a piece of transparent green acrylic scrap and then shaped it and polished it with a Dremel and then epoxied it into a small section of 3/8" diameter aluminum tubing that was cut using the Dremel with a cut off wheel. I carved the back side of the acrylic gem with a small ball burr to give it a more crystal like effect. The aluminum tube/gem were then epoxied into the top part of the ring.





Step 3: Make the LED insert

The first thing to do is solder a wire to the positive side of the Lily Pad LED board and bend it over the side so it will make contact with the side of the watch battery. You want to leave this a bit long so it will extend just beyond the bottom of the battery so you can adjust it later. Fill in the hole on the negative side of the LED board. You want a small dome to appear on the underside of the board- this will make sure it comes in contact with the top of the battery.

Now you need to make a holder for the LED and watch battery. You could carve it from plastic sheet or rod but since I wanted to make more than one I elected to carve a wax pattern and then cast duplicates in a rubber mold. The process for this is identical to how I cast my other resin Green Lantern rings so definitely read through that instructable. One tip I will make is that thin castings take longer to cure and can be more difficult to cast than thick castings. To get good quality castings I first heat the mold in a microwave for one minute on high and then I mix the resin for thirty seconds before pouring it into the mold. Once you have poured the resin let it sit in the mold for ten minutes before removing the casting from the mold. Using this method I get near perfect castings every time.

I started by cutting a round disc approximately 14mm in diameter and checked the fit of that with the large hole in my ring. Then I carved an opening for the Lily Pad LED board, allowing a bit of room for the contact wire. The holder is designed so the watch battery will snap into place so it takes a bit of trial and error to get a good fit- I made a small ledge on opposite sides of the holder that help hold the battery in place. You really want to make the battery holder as thin as possible- there is very little room to work with in this ring so keeping the height down is important.

There are two notches in the side of the casting- the larger one is so you can slide a small flat bladed screwdriver in the holder to remove the battery and the other small notch is so you can make adjustments to the wire that runs along the side of the battery. If you bend the wire inward it will put a bit of tension on the battery to help hold it in place and make sure you're getting a good contact.

The LED board is held in place in the holder using a small piece of Kapton tape. This also covers the positive contact on the underside of the board so you don't short out the battery. You can use any kind of thin tape you like- thin mylar packing tape would also probably work just fine.

For those of you not wanting to go to all the trouble of making the LED insert they are now available from my friend on his Facebook page here- <http://www.facebook.com/batjeepster.rings?sk=wall&filter=2#/photo.php?fbid=10150256885538462&set=a.495535658461.270748.289792643461&type=1&theater>





Step 4: Now mod the lower part of the ring

The pattern on the lower half of the Toys R Us ring is a bit over done. To make it look more like the movie ring I first removed the black paint on the sides of the ring by soaking the ring in acetone. Next I filed down the sides of the ring and reshaped it using a Dremel tool. I smoothed out the pattern a bit and re cut some of the gouges in the side of the ring.

When I was happy with the texture I used a Sharpie pen to blacken the dented areas and then rubbed the surface of the ring with a red scotchbrite pad to dull it down a bit. Modding the lower half of the ring like this is totally optional and it's a fair bit of work but I think it looks better.



Step 5: Final assembly

Press in the LED holder assembly into the lower half of the ring. The best way I've found to do this is to set it LED side down on a flat surface, position the lower ring section over it and then gently press down. You want it to be flush with the inside bottom of the ring. Now the top of the ring can be glued into place with a couple of tiny dabs of hot glue using a glue gun. You don't want to use a lot as you want to be able to remove the top of the ring should you ever have to replace the LED.

Note that there isn't a switch (and there really isn't room for one- I tried) - if the battery is in then the ring is on. By bending the contact wire I have been able to get the ring to turn on when I'm wearing it but it's a lot of trial and error and not terribly reliable. As for run time I have run one of these for 36 hours straight- at that point there was noticeable dimming of the LED. In a dark room this thing is very bright.

That's it- you're done! Now put your ring on, take your Green Lantern oath and join the Corps!



Related Instructables



How to Make a Green Lantern Power Battery (Hal Jordan's) by uniqueutopia



How to Make a Green Lantern Power Battery (2011) by uniqueutopia



How to make a Green Lantern ring- including a glowing version! by Honus



Green Lantern Ring - Made of Wood!! by aintMichael



Halloween Solar Powered jack-o-lantern by pcapelo



Wooden rings (Photos) by aintMichael