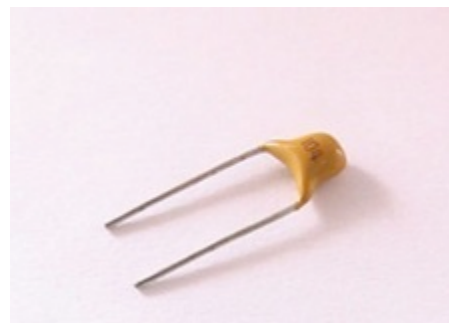


## Rob G, 10W LED Ren48LSD compatible LED Driver:

### Parts List:



1 x 10W RGB LED Driver PCB



1 x .1uf capacitor(C2)

3 x 0.33 resistors (R1, R2, R3)

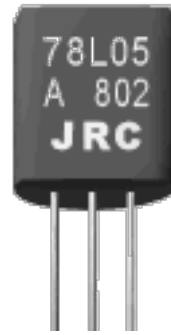
3 x 4k7 resistors (R4, R5, R6)



3 x 1N5819 Diode (Diode must be installed as shown on the PCB) (D1, D2, D3)



1 x 78L05 IC (IC4)



3 x 2N3904 transistors (T1,T2, T3)



3 x IC1-IC3 PT4115 (SMD) (IC1, IC2, IC3)

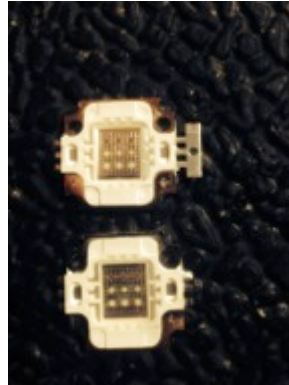
1 x 100uf 25v Capacitor **(+ is longer leg)** (C1)



3 x inductors, 100uH, 6x8mm, 0.5A (L1, L2, L3)



1 10W LED (Not included)



Suggested installation steps.

**These suggestions take into account that the reader has a quality solder station, quality solder and has soldered before, this is not a step by step tutorial on how to solder or how to assemble a board, these are just suggested steps and visual locations for those that are experienced in soldering and just want a quick guide on what goes where.**

Due to the fact this board has SMD components a good flux is mandatory.

Assembly Start:

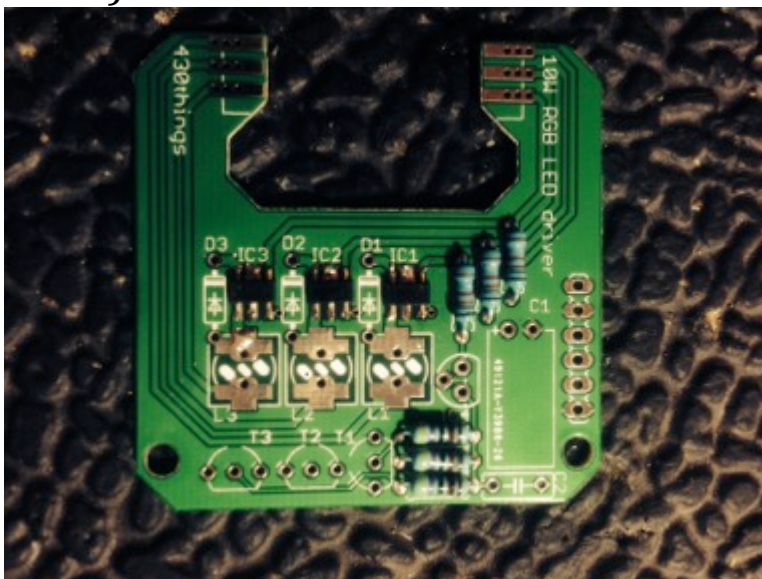
Start with the “PT4115 (SMD) (IC1, IC2, IC3)”



Install the Resistors; 3 x 0.33 resistors (R1, R2, R3)

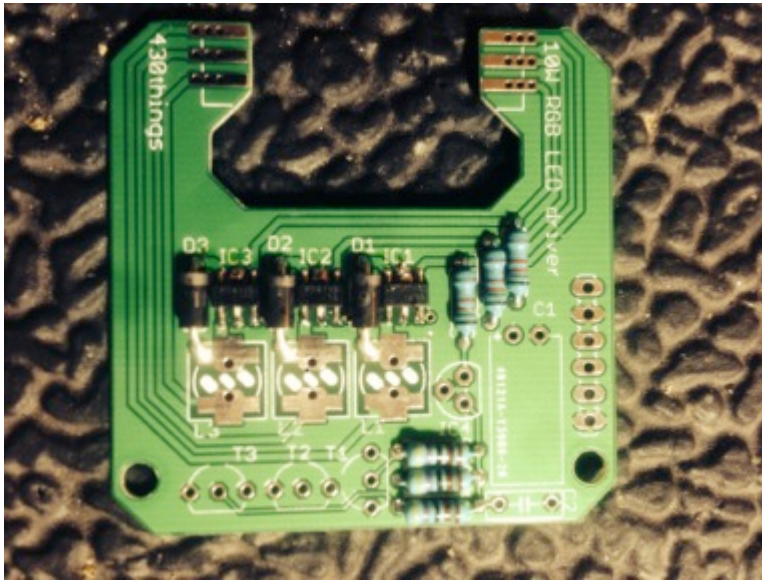


Install the Resistors 3 x 4k7 resistors (R4, R5, R6) (yellow band)

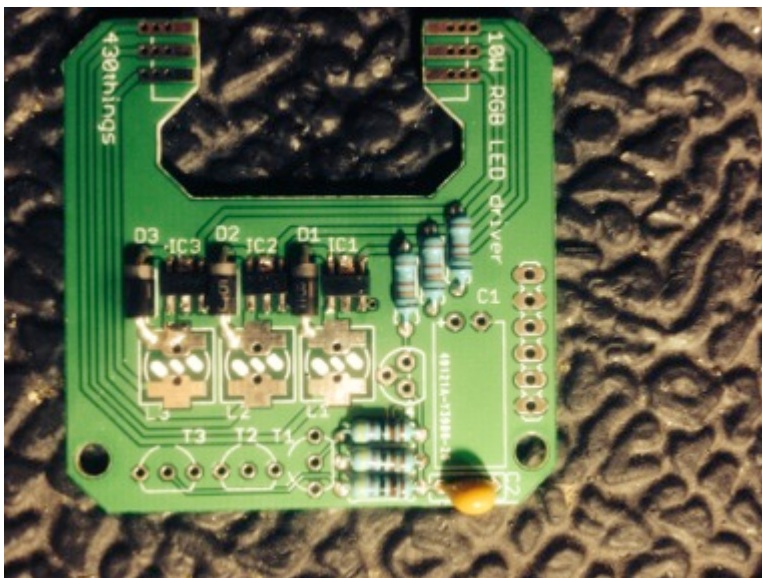




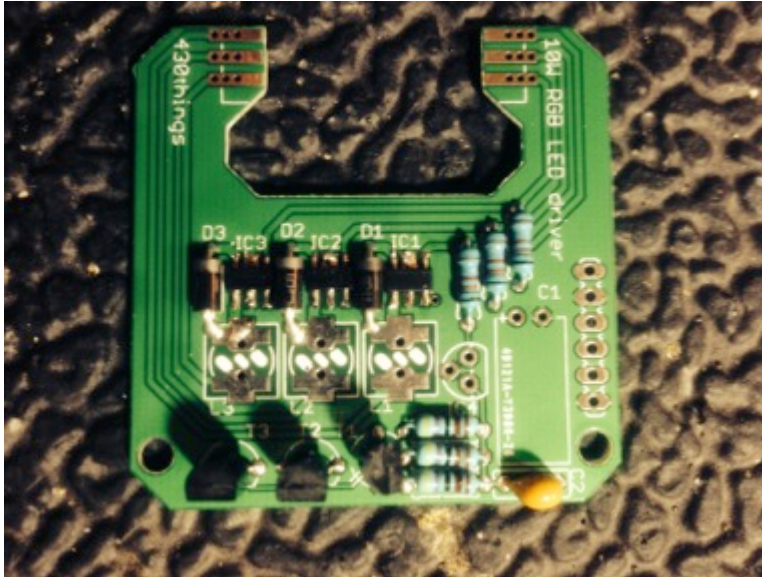
Install the 1N5819 Diode (Diode must be installed as shown on the PCB) (D1,D2, D3) Stripe towards LED



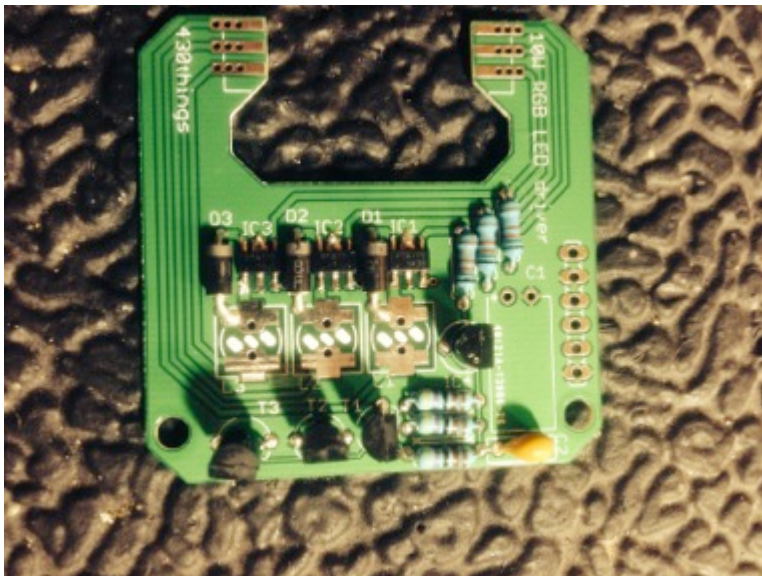
Install the .1uf capacitor (C2)



Install the 2N3904 transistors (T1,T2,T3) (flat side towards the edge of the board (match silk screen)).

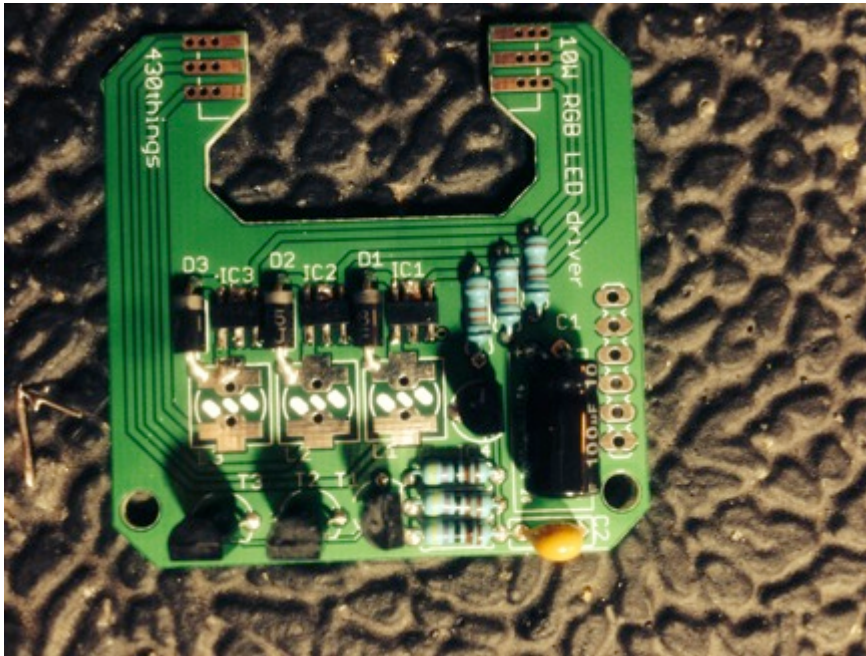


Install the 78L05 IC (IC4) (Flat side facing the edge of the board (match silk screen))

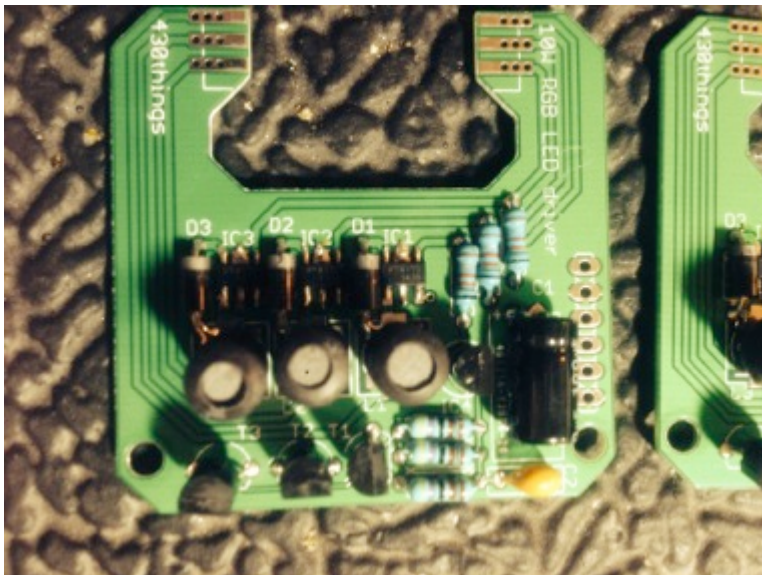




Install the 100uf 25v Capacitor (**+ is longer leg**) (C1) Pay attention to the + on the PCB. Install and push the Cap flat, "Then solder"



Install the inductors, 100uH, 6x8mm, 0.5A (L1, L2, L3)

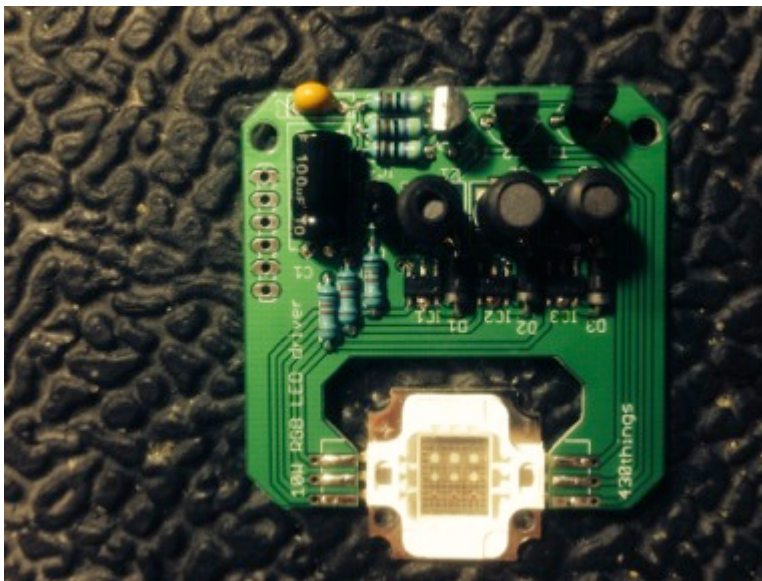




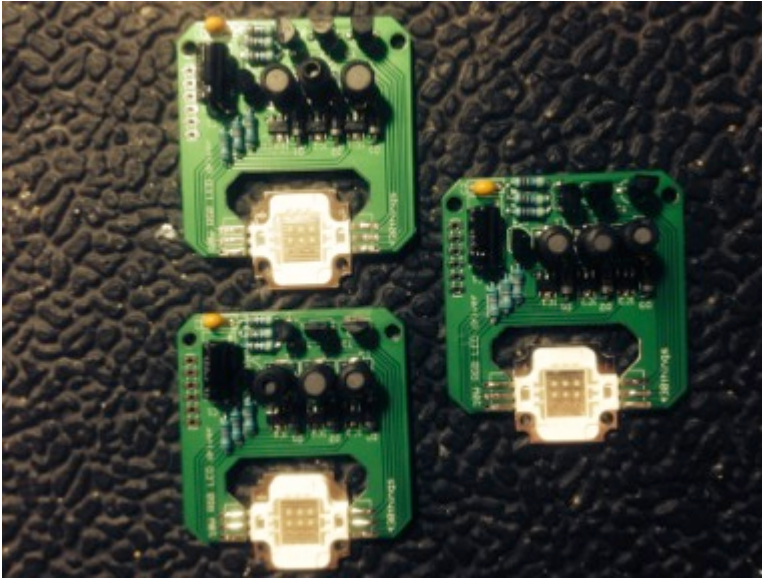
Completed Board prior to LED install. Install the LED from the Rear ~~with the Red facing away from the board~~ and the + on the side that reads “10w RGB LED driver”

Installing from the rear (underneath), gives a bit more clearance from the solder connections and the enclosure. (Please clean the board, and make sure you place something between the board and the enclosure, also use heat sink compound under the LED)

**Note: I crossed out the Red facing away, because LED's are different I've noticed that from 2 different suppliers my LED's are different so ignore where the Red is and just make sure that the + is up towards the “10w RGB LED driver on the PCB)**



Completed Trio.



Testing: Previous to testing, make sure that the board is clean and that you have no solder bridges. Look with a magnifying glass, or your young eyes, between the pins on the IC's (IC 1,2,3), look at the bottom, and make sure you don't have anything bridged. And really it's not harmful to go over each solder joint on the bottom one last time to make sure there is full penetration and no cold solder joints..

You will want to power up the board with +12v and a GND (there are 2 GND's on the board, but only 1 is required), obviously if you are powering from an alternate source than using the GND next to the 12v makes sense. If you are powering the board with say a Ren48LSD and using the GND from channel 4, then use the GND on the PWM side.

So Test 12v and GND then touch a GND to each of the B, R, G for a split second (Remember there is no heat sink, there is no heat sync compound, do not admire how bright they are

yet!!). If you get full brightness on each you're done, now on to mounting. If you get a color that is not as bright, you need to go over your connections again. If you don't get a color, you need to check the soldering on IC 1, 2, 3, add some more heat, add a bit more solder, but this is where I have found due to it being SMD (and my lack of skill in that area) where the issues occur.

I may continue this document with some instructions on how I dismantle and install into the EBay Flood enclosures.  
(Which means I probably will 😊)

This document is written with no rights what so ever. In fact I take no responsibility with its use at all. Merry Holidays 😊

Installing into 10watt Flood enclosure.

Can be seen/purchased here

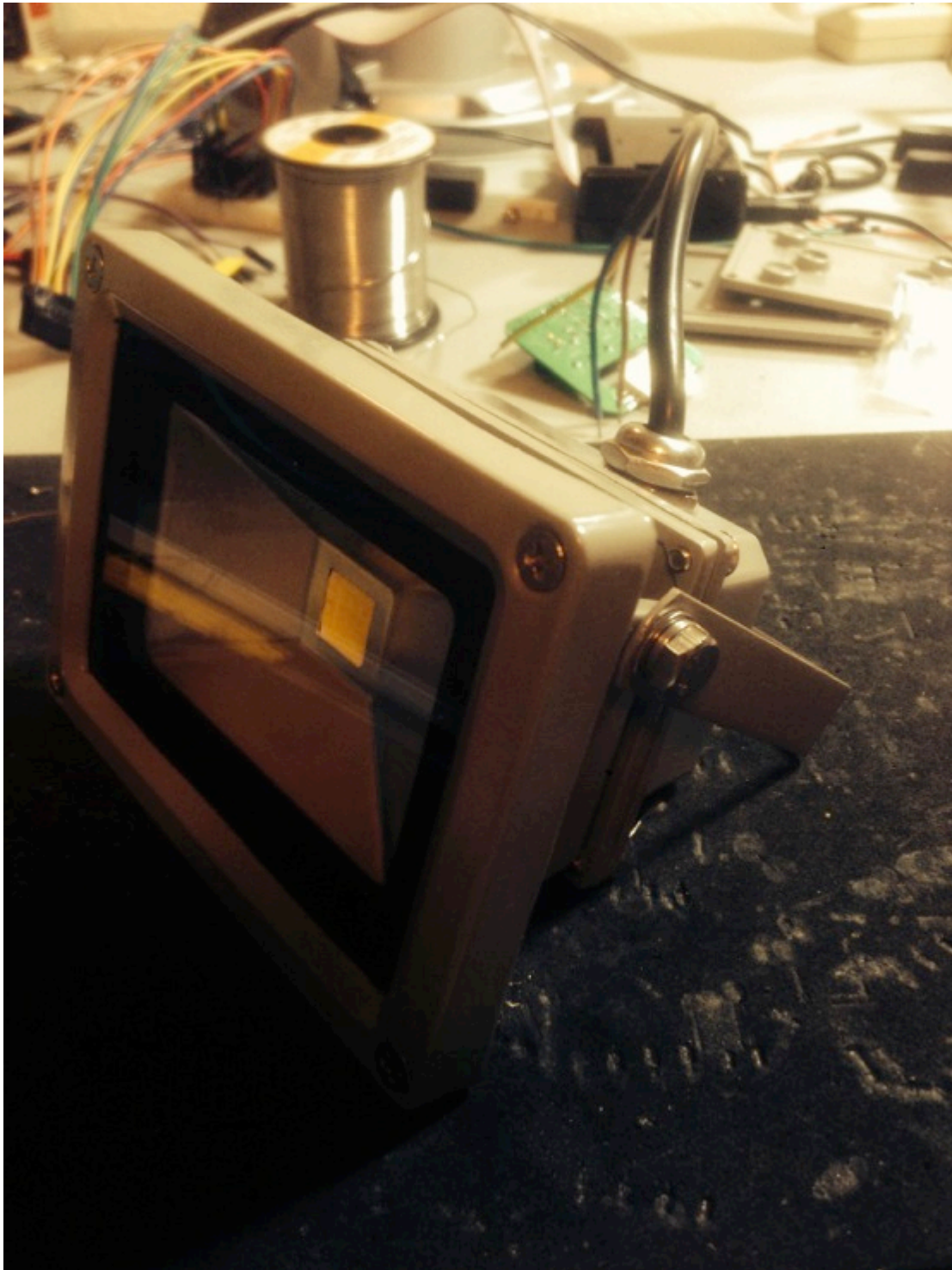
[http://www.ebay.com/itm/10W-20W-50W-100W-200W-400W-LED-Floodlight-Security-Flood-Light-/171069046009?pt=LH\\_DefaultDomain\\_0&var=&hash=item27d4827cf9](http://www.ebay.com/itm/10W-20W-50W-100W-200W-400W-LED-Floodlight-Security-Flood-Light-/171069046009?pt=LH_DefaultDomain_0&var=&hash=item27d4827cf9)

Select 10w and warm white for the cheapest options. \$7.95 each .

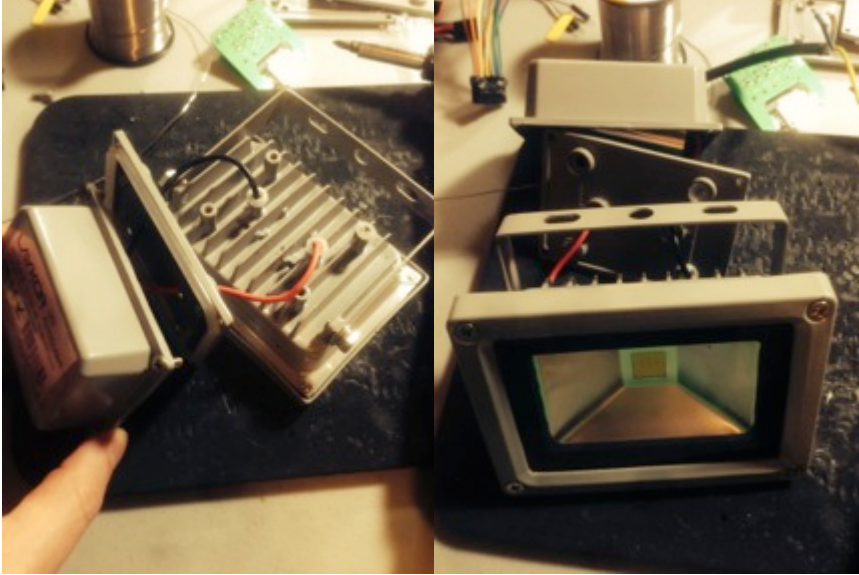
Or [http://www.ebay.com/itm/10W-20W-30W-50W-100W-LED-Flood-Light-Outdoor-Landscape-Lamp-Waterproof-IP65/191269377990?\\_trksid=p5411.c100167.m2940&\\_trkp arms=aid%3D222007%26algo%3DSIC.MBE%26ao%3D1%26asc%3D20140131123730%26meid%3D708230557aca4e9a8e69551f529510a8%26pid%3D100167%26prg%3D20140131123730%26rk%3D2%26rkt%3D15%26sd%3D171069046009](http://www.ebay.com/itm/10W-20W-30W-50W-100W-LED-Flood-Light-Outdoor-Landscape-Lamp-Waterproof-IP65/191269377990?_trksid=p5411.c100167.m2940&_trkp arms=aid%3D222007%26algo%3DSIC.MBE%26ao%3D1%26asc%3D20140131123730%26meid%3D708230557aca4e9a8e69551f529510a8%26pid%3D100167%26prg%3D20140131123730%26rk%3D2%26rkt%3D15%26sd%3D171069046009) to get the same thing but cool white for \$7.00 even with free shipping..



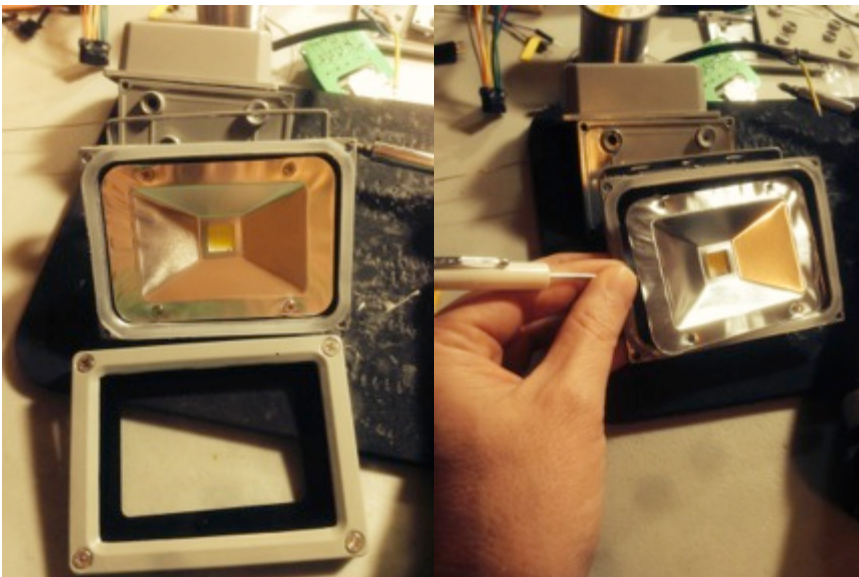
Here is what the flood enclosure looks like and how it's dismantled:



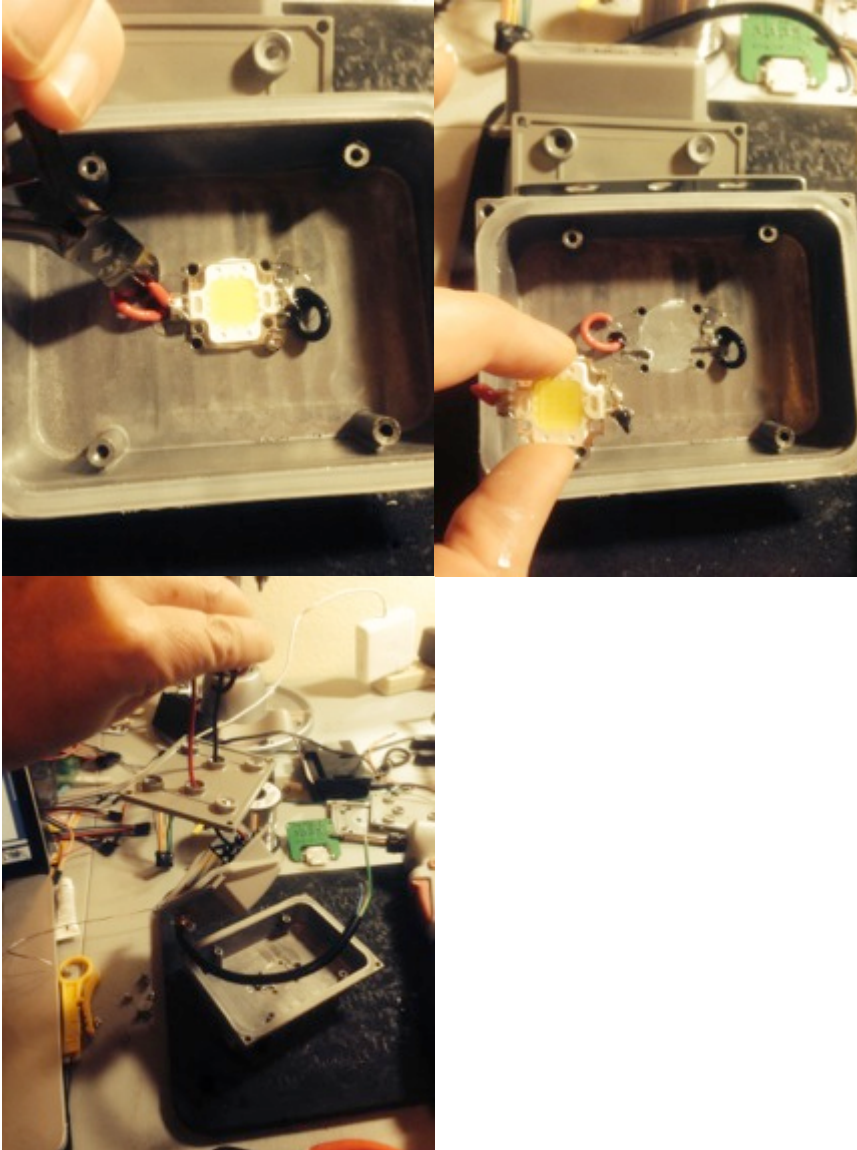
Stock housing, you will start by disassembling the rear, 4 screws to get to another 4 screws and everything is dangling, here is the LED Driver



Now you want to remove the 4 screws from the front glass, move the glass, and cover away (if the seal comes with it, fine move that, but many times the seal stays put. Then remove another 4 screws to remove the reflector. Mine were semi hot glued to the LED, so a small screw driver just to get under it was enough to pop it up (don't destroy it you want to re use it!!



Now clip the wires to both sides of the LED. Mine are covered in hot glue so no use in trying to unsolder in here, just snip, remove the screws and pull out the LED and pull the wires out from behind and dump into a box of spare parts. (hey the driver and the LED are still good!!)

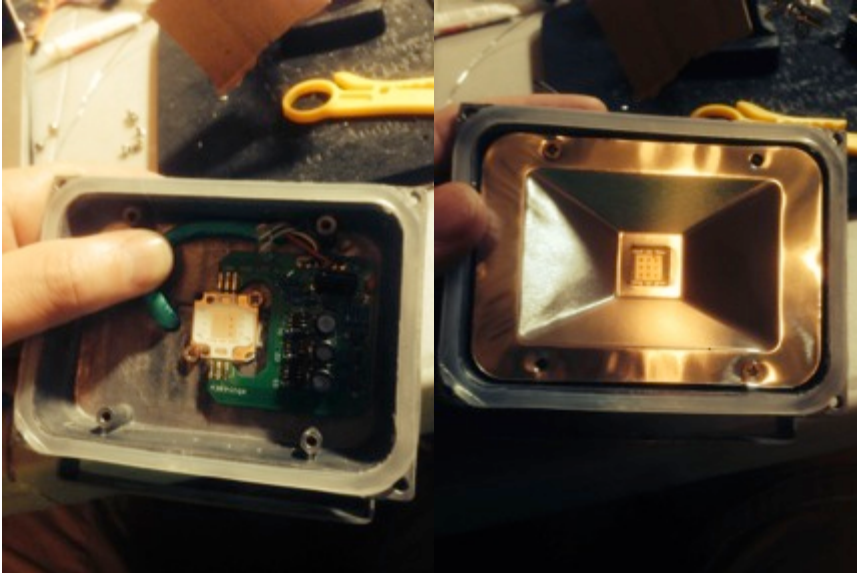




I run Cat5 through one of the holes where the original wires came through, I clean it out since there is a bit of hot glue.. Clean out the hole and maybe drill it out, I managed to get my Cat5 through (very tight, it's all about the pull twist!). I solder the Cat5 to the PCB and hot glue those connections as well as the entire base of the board, remember you are setting this against metal and we really don't want something to short out. You will also notice there is heat sync compound on the LED and the flood enclosure. Wiring is going to depend on your LED and what you are powering, controlling it with.



I install the RGB LED with 2 screws (can use 4 just feel that 2 is enough, as long as the LED is in contact with the compound and thus the enclosure (it's really the heat sink).. Then install the reflector. Make sure it's clean as well as the LED , since you were in their pushing and moving things around to get the screws to line up and tightened down..





Reinstall the glass and here I add a dab of hot glue on the unused hole in the back of the enclosure as well as put a bead around my Cat5 and the enclosure (although I doubt anything can make it through (Cat5 is a really tight fit)). This would not be necessary if you were putting the rear covers back on, since the rear cover goes over these rear holes.



Completed 10W RGB LED Flood, weighs in at 9.2 ounces. Can be mounted or aimed with the mounting bar, or use it to drive a small j bolt down to secure it to the ground. Before and after, its really a neat little enclosure! I don't reuse any of the back panels, but if you were going to wire tie/wire nut or have connections you wanted water proof, you could totally reassemble the back to have a water tight connection

