Eheim Auto Feeder Mod

So the mod that I did with this feeder is much more simple than I expected. However, this is my second go-round at this mod. What I have done is connected one set of leads to the battery terminals, this gives the feeder 3.2 volts of power. The other set of leads is connected to two terminals on the feeder button. From there, both leads go to a box with a 5-3.2V converter, and a relay connected to a 12.0V power supply.

You have two options when building this. Either build your own power converter or purchase a 3 volt power supply at radioshack. I chose to build my own because the only one they had at radio shack was over $40 and that didn't include the necessary tip. So I found a spare 5V power supply from my drawer of goods and converted the power to 3.2V. The power supply for the relay is 12V's, I took that from an old DSL modem.

If you don't know how to solder or read basic schematics this may not be a good option.

Supply List for building 5-3.2V Converter.
1-330 Ohm Resistor
1-470 Ohm Resistor
1-4.875"x2.5"x1.5" Project Box
1-Dual Mini Board (213 Hole)
1-LM317T Adj. Voltage Regulator
4-DC Power Plug (Size-N)
4-Coaxial Power Jack (Size-N)
1-5v Power supply from around the house

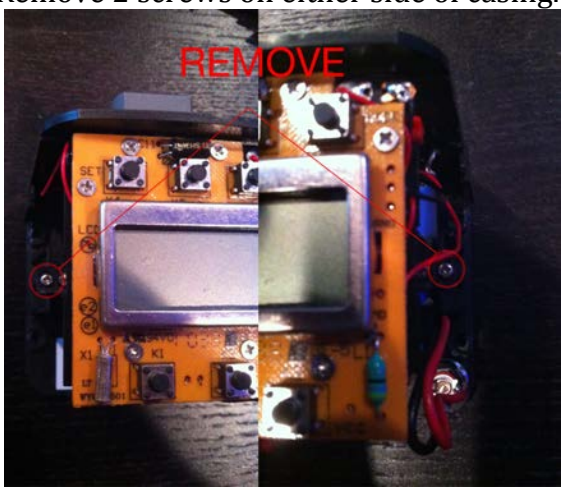
Necessary Parts, Tools and Supplies.
Spare wire, 18-22 Gauge Stranded (I also used ethernet cable)
Soldering Iron
Solder
Drill or dremel (For drilling holes for jacks)
Digital Multi-Meter
Relay (Radio Shack 275-001)
12V Power Supply

Online Supplier Options
http://www.jameco.com
http://www.mouser.com
Radio Shack
http://www.mpja.com
http://www.allelectronics.com

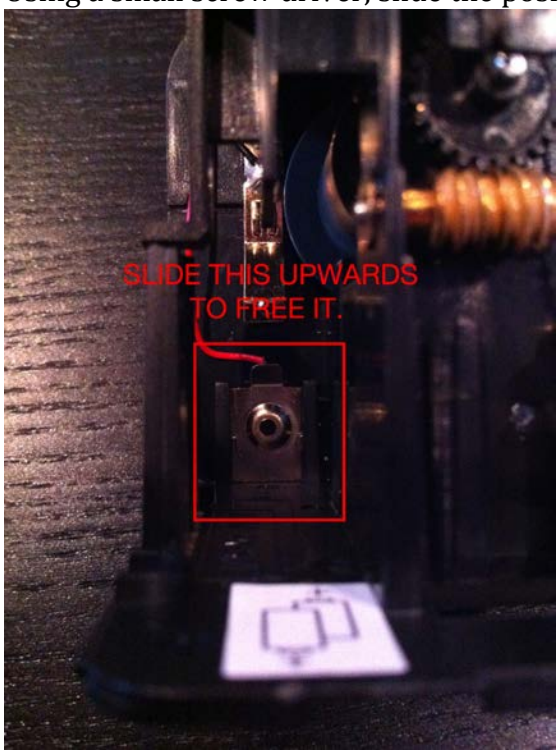
Steps for modifing the feeder:

1. Remove four screws on bottom of feeder (assuming you've already removed batteries)

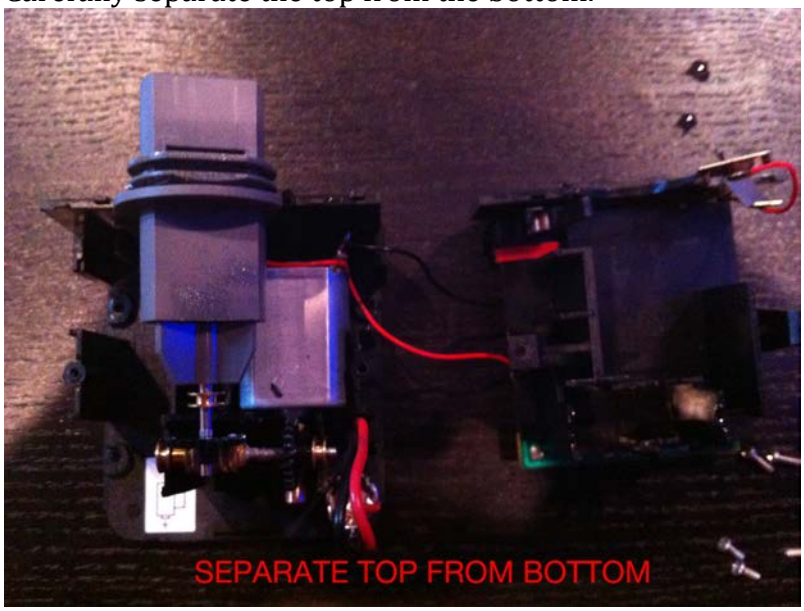
2. Remove 2 screws on either side of casing.



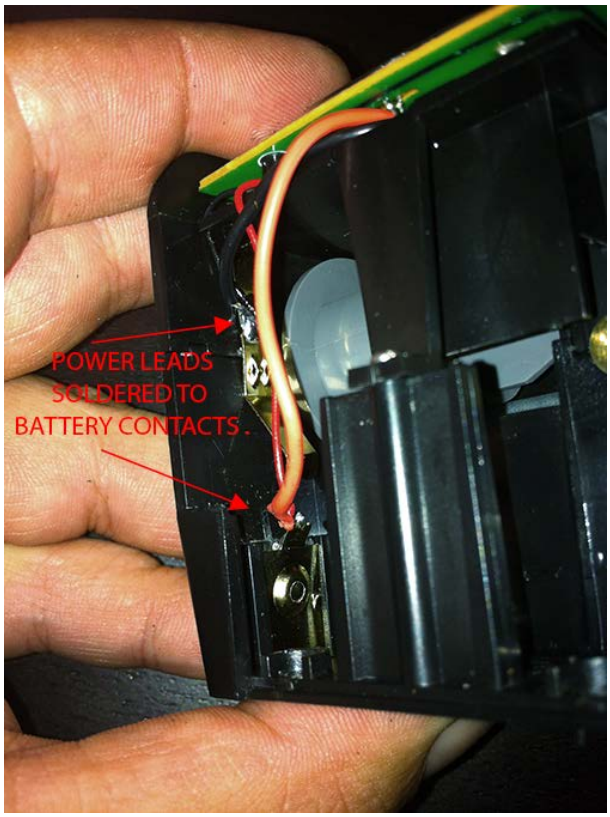
2. Using a small screw driver, slide the positive battery terminal up to free it.



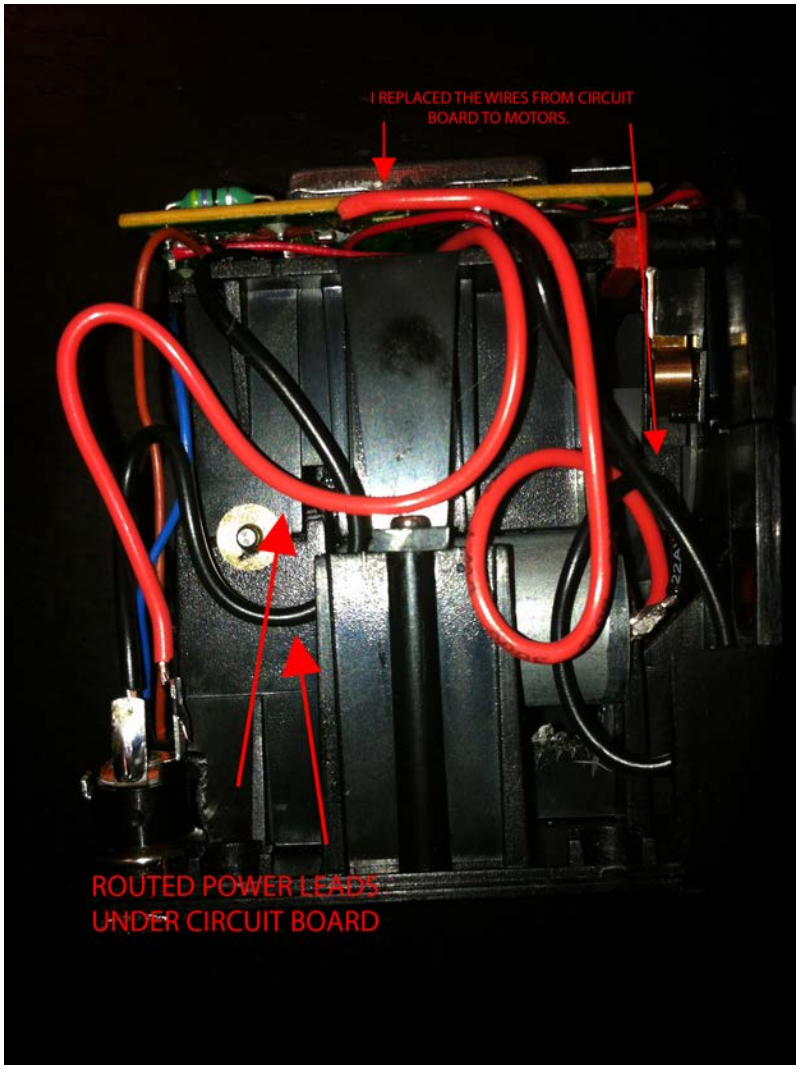
3. Carefully separate the top from the bottom.



4. Using a soldering iron, solder a lead to the positive and negative battery terminals.

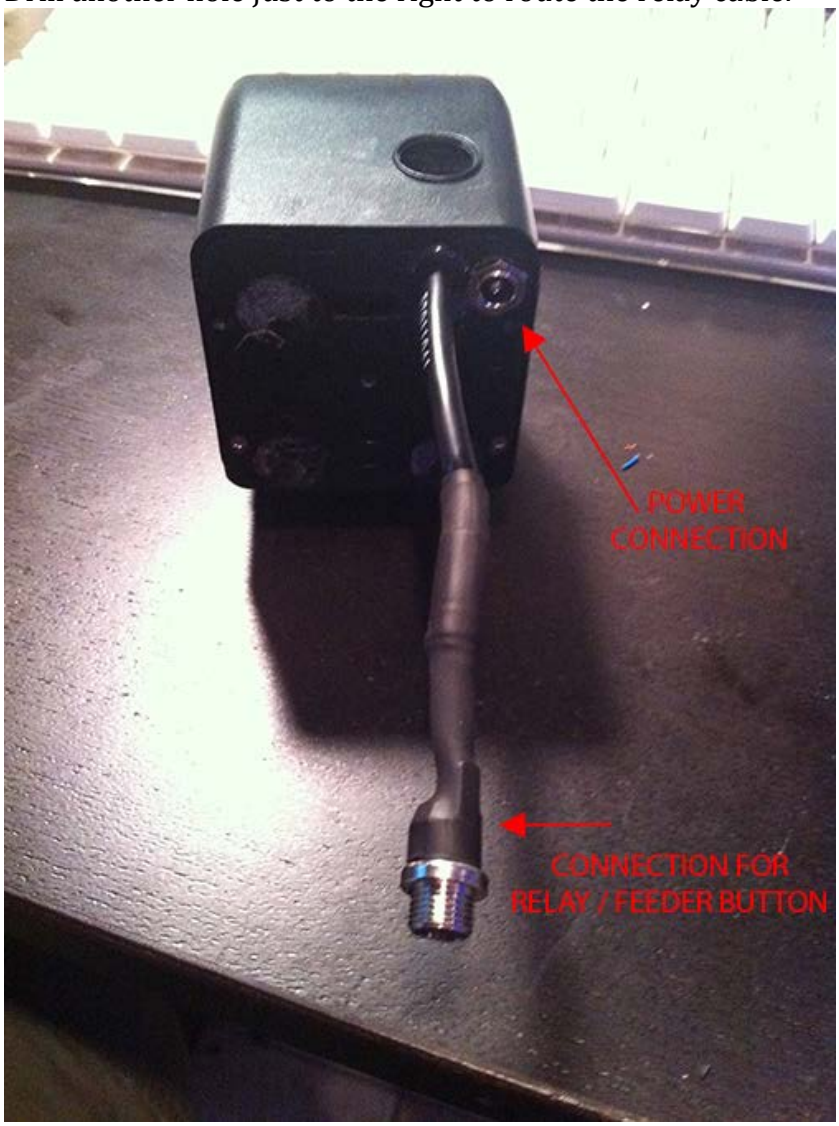


5. Route the wires underneath the circuit board.

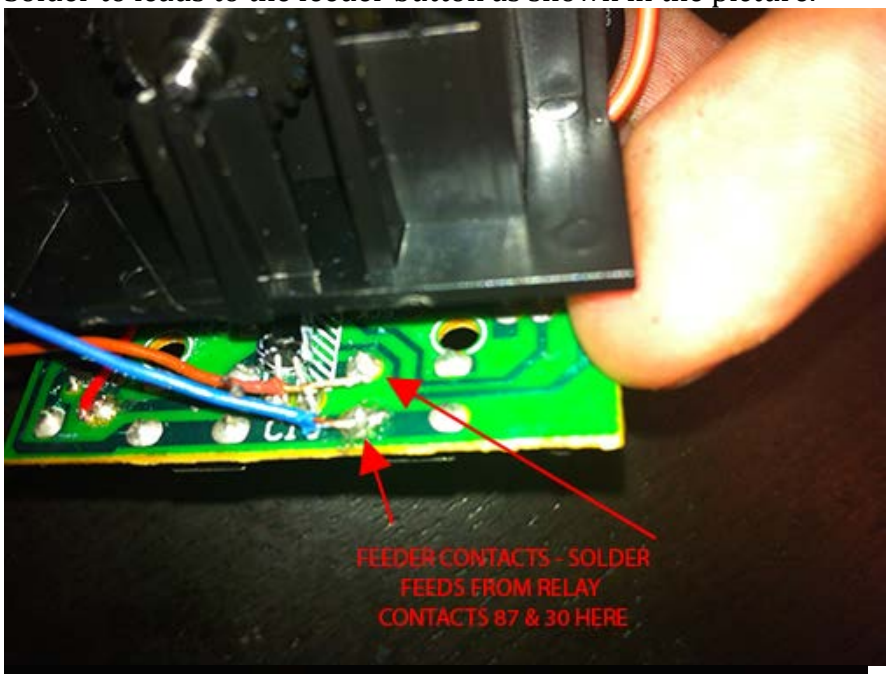


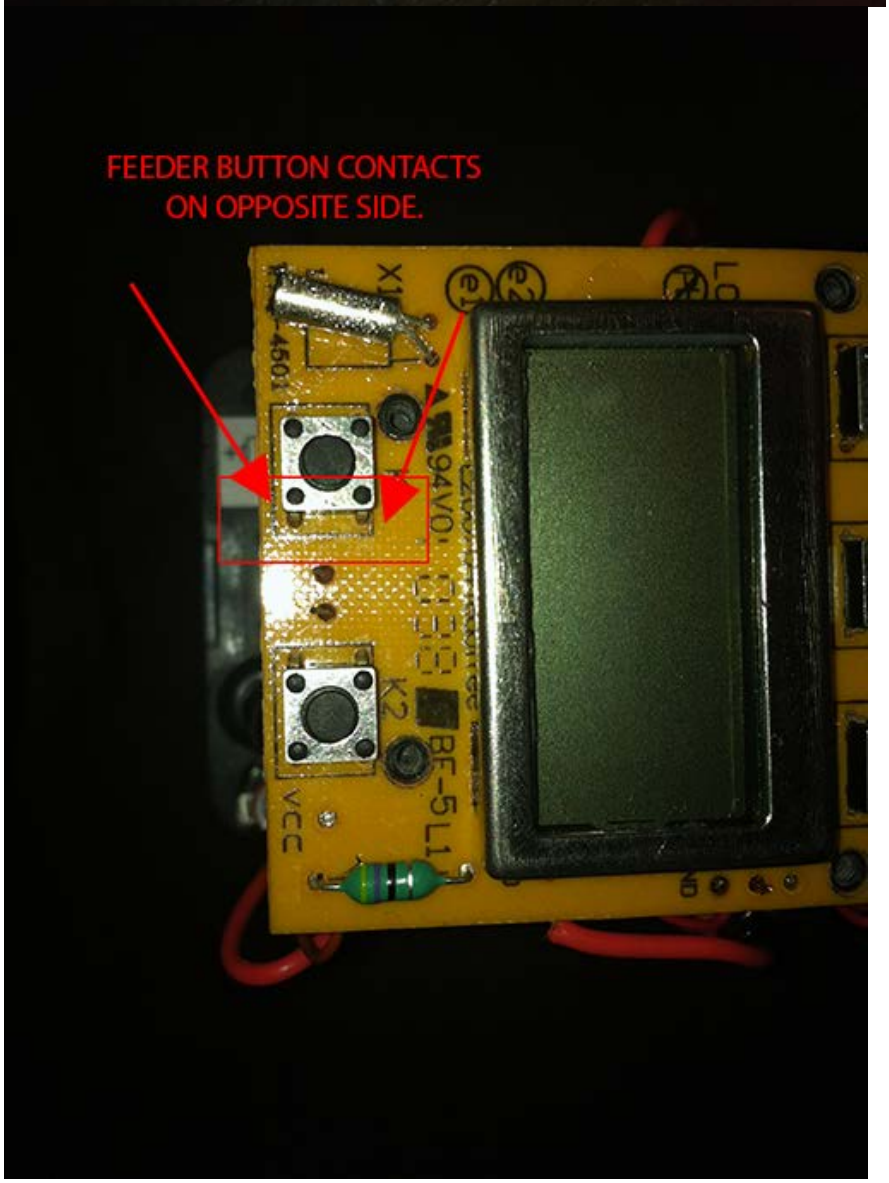
6. Using either a dremel or a drill, drill a hole as shown in the picture for mounting the power jack. Solder the leads from the battery contacts to the power jack.

7. Drill another hole just to the right to route the relay cable.

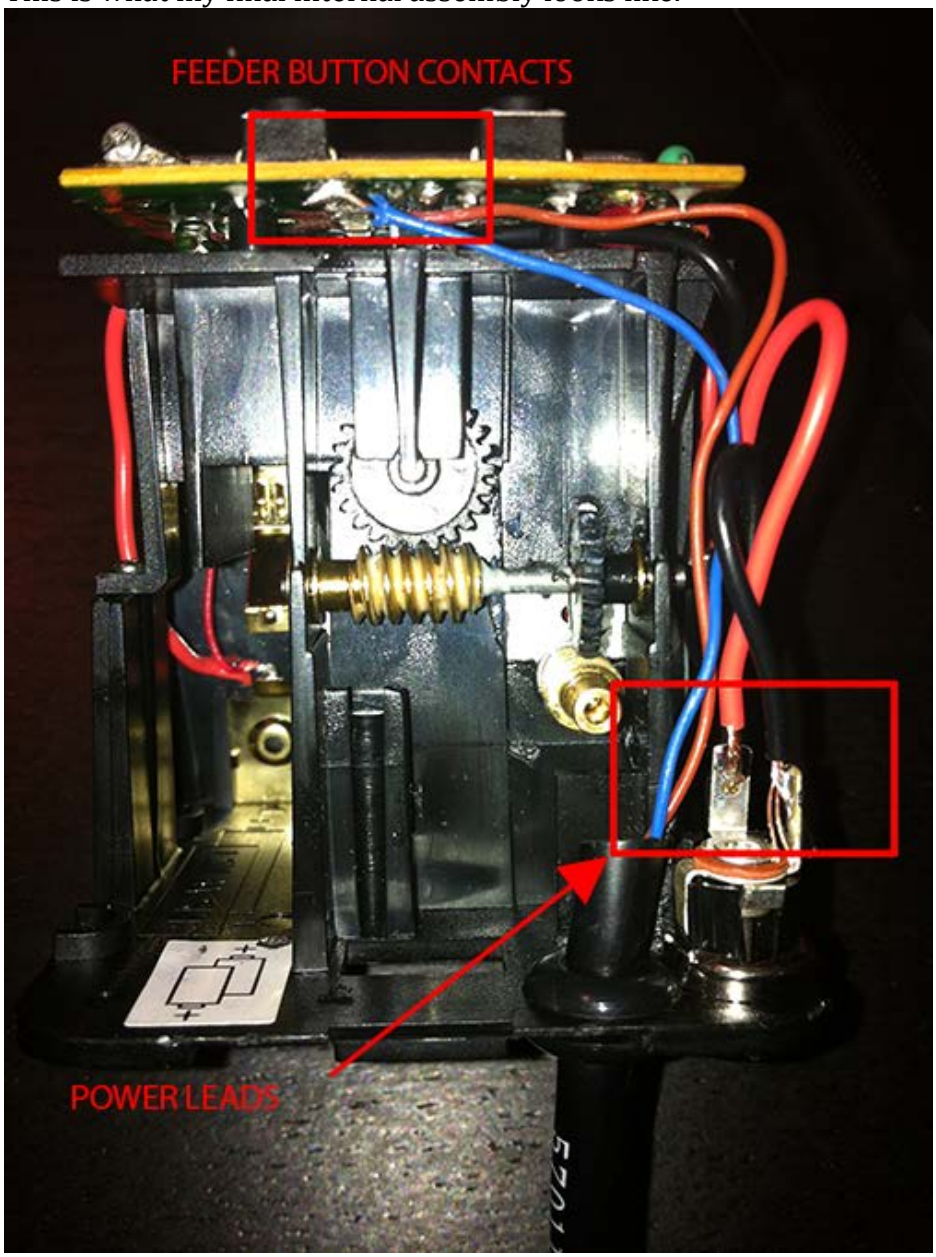


8. Solder to leads to the feeder button as shown in the picture.



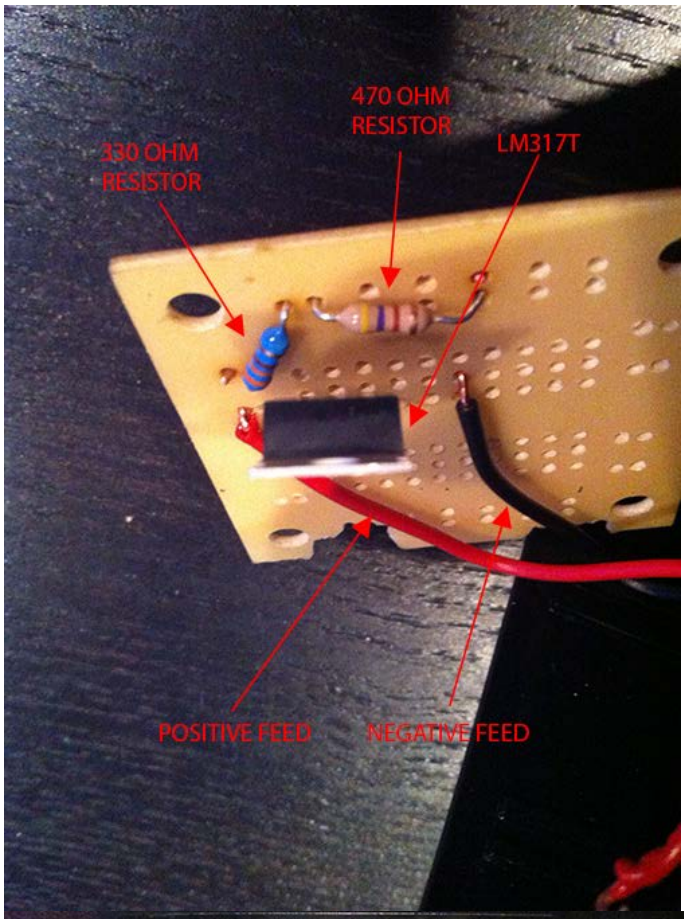


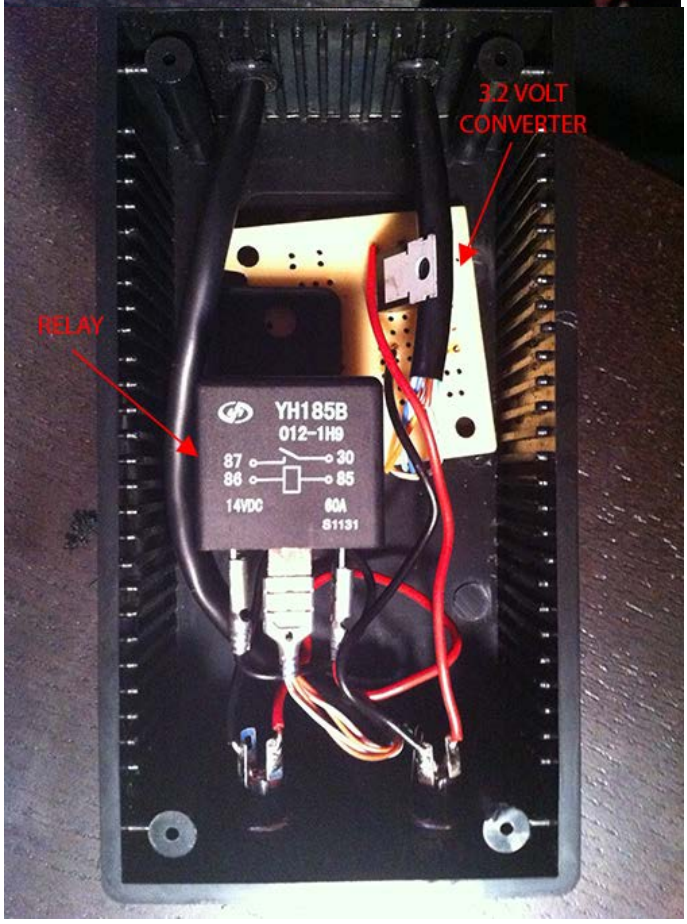
This is what my final internal assembly looks like.

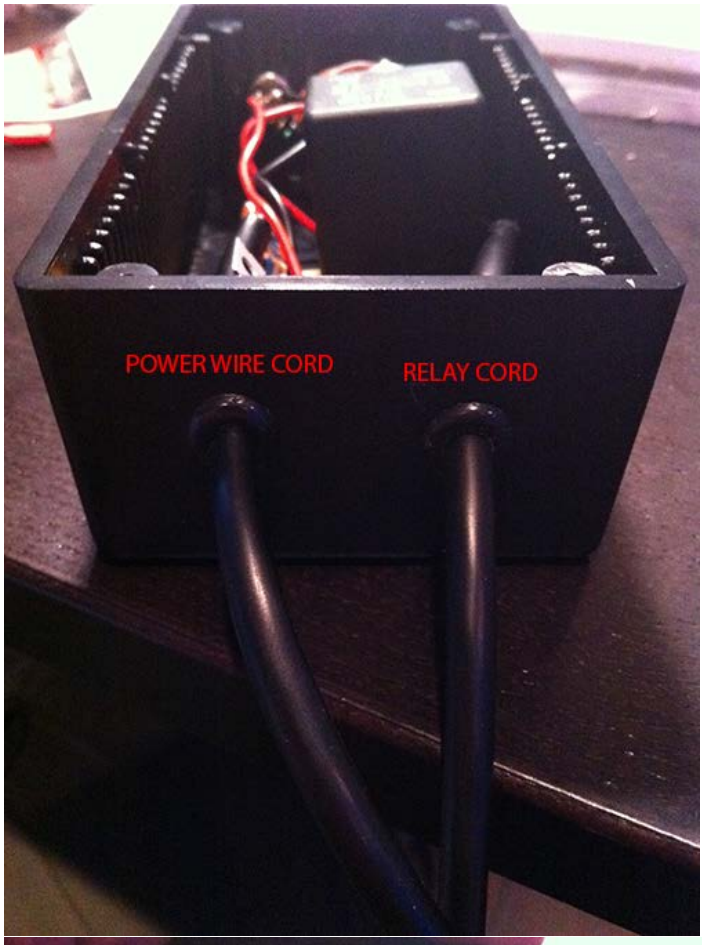


7. Put the feeder back together and the feeder mod is complete. Notice the power jack on the end of the relay tail as well.
   -NOTE: AN ALTERNATE TO THIS OPTION WOULD BE TO USE ONE PIECE OF ETHERNET CORD RATHER THAN TWO PLUGS. BECAUSE ETHERNET CORD HAS 8 PAIRS OF WIRE, YOU COULD USE TWO FOR POSITIVE, TWO FOR NEGATIVE AND THE LAST FOUR SPLIT FOR THE TWO RELAY LEADS. ON THE OTHER END, THE SAME EIGHT WOULD BE ATTACHED ACCORDINGLY TO THE POWER CONVERTER AND RELAY. I CHOSE NOT TO DO THIS BECAUSE I WANTED SEPARATE LEADS.

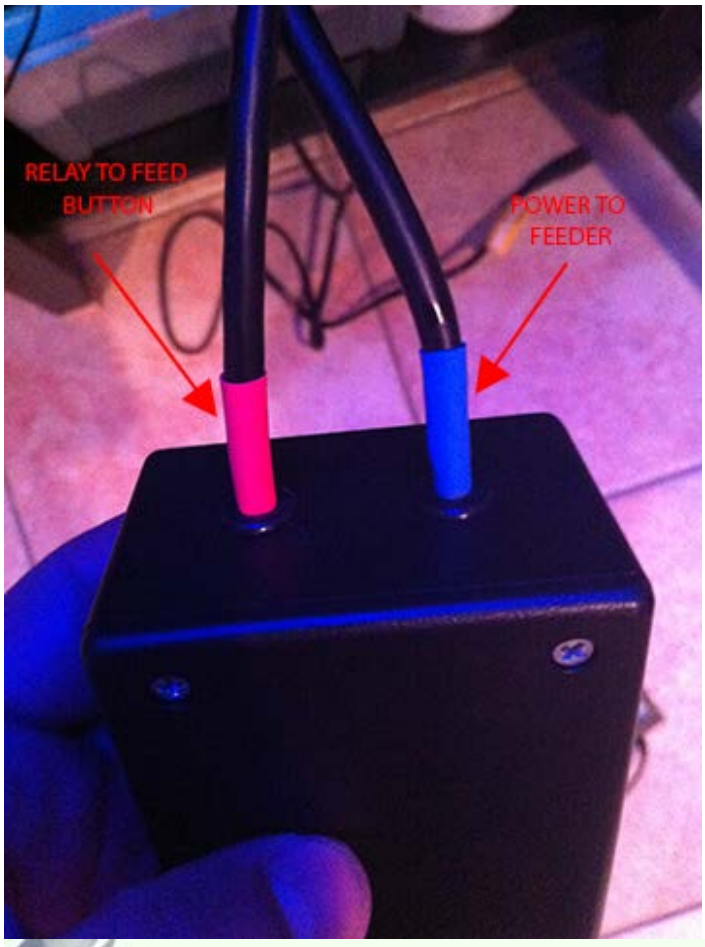
ADDITIONAL PHOTOS. I have not included instructions for complete assembly as each of you may want to do things differently, but I have included photos of my assembly.






POWER WIRE CORD
RELAY CORD

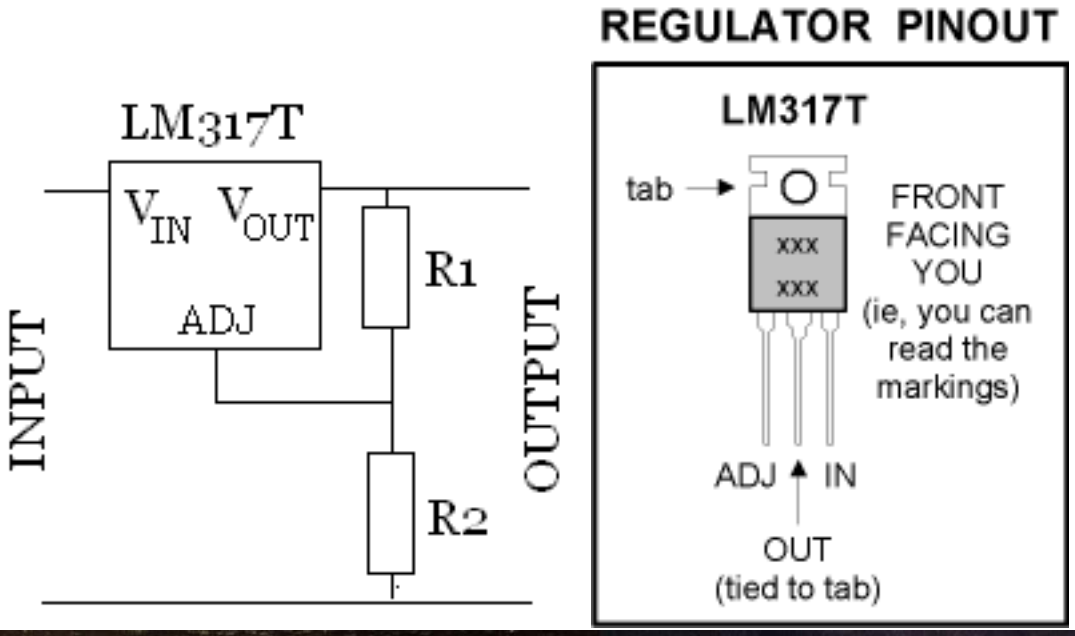
RELAY / FEEDER BUTTON
POWER

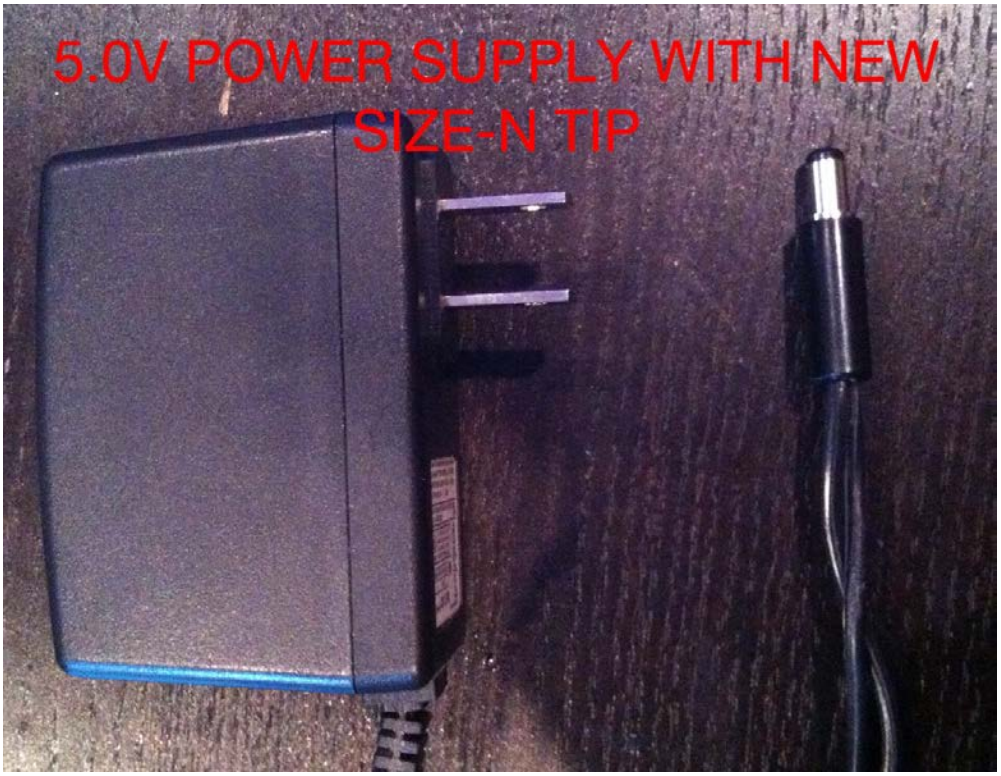

RELAY TO FEED
BUTTON
POWER TO
FEEDER

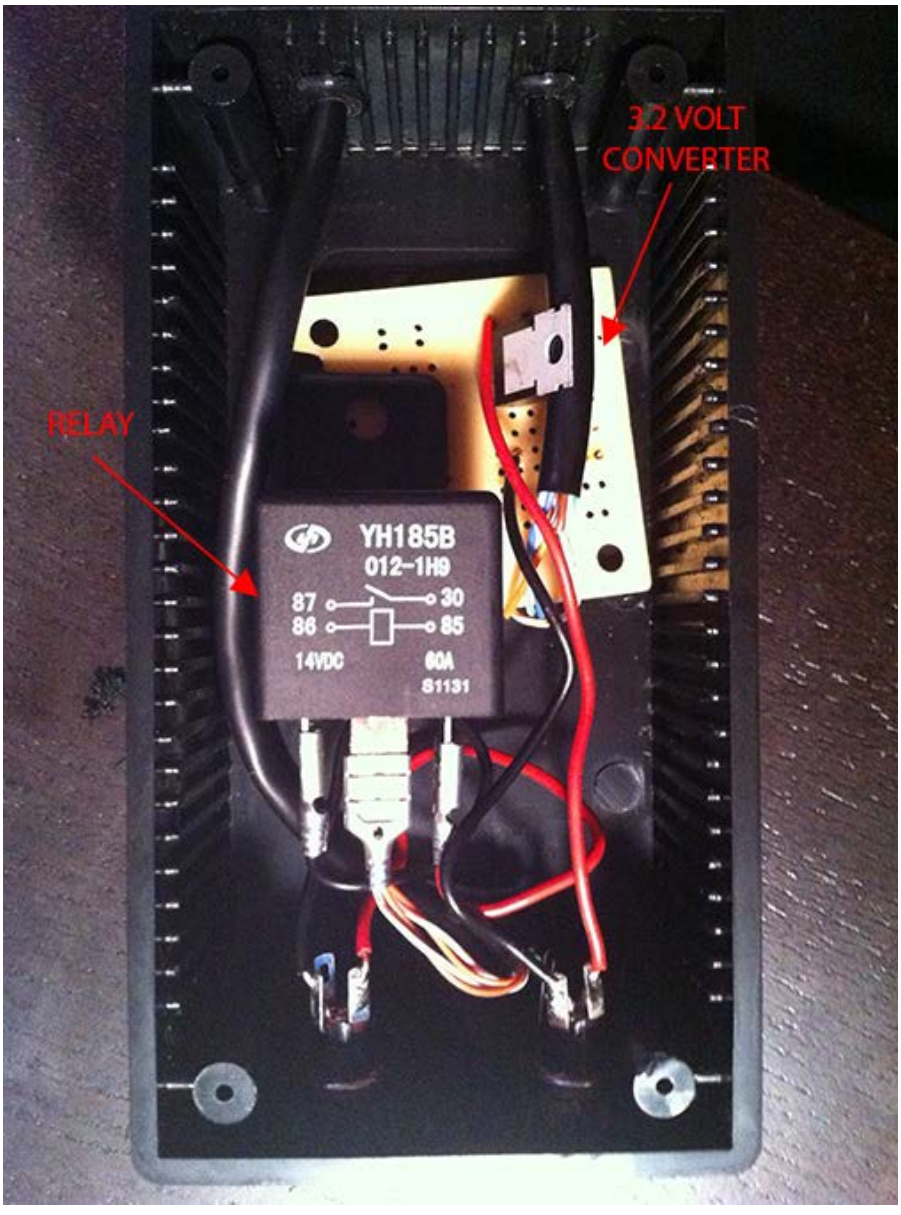
FAN REMOVED

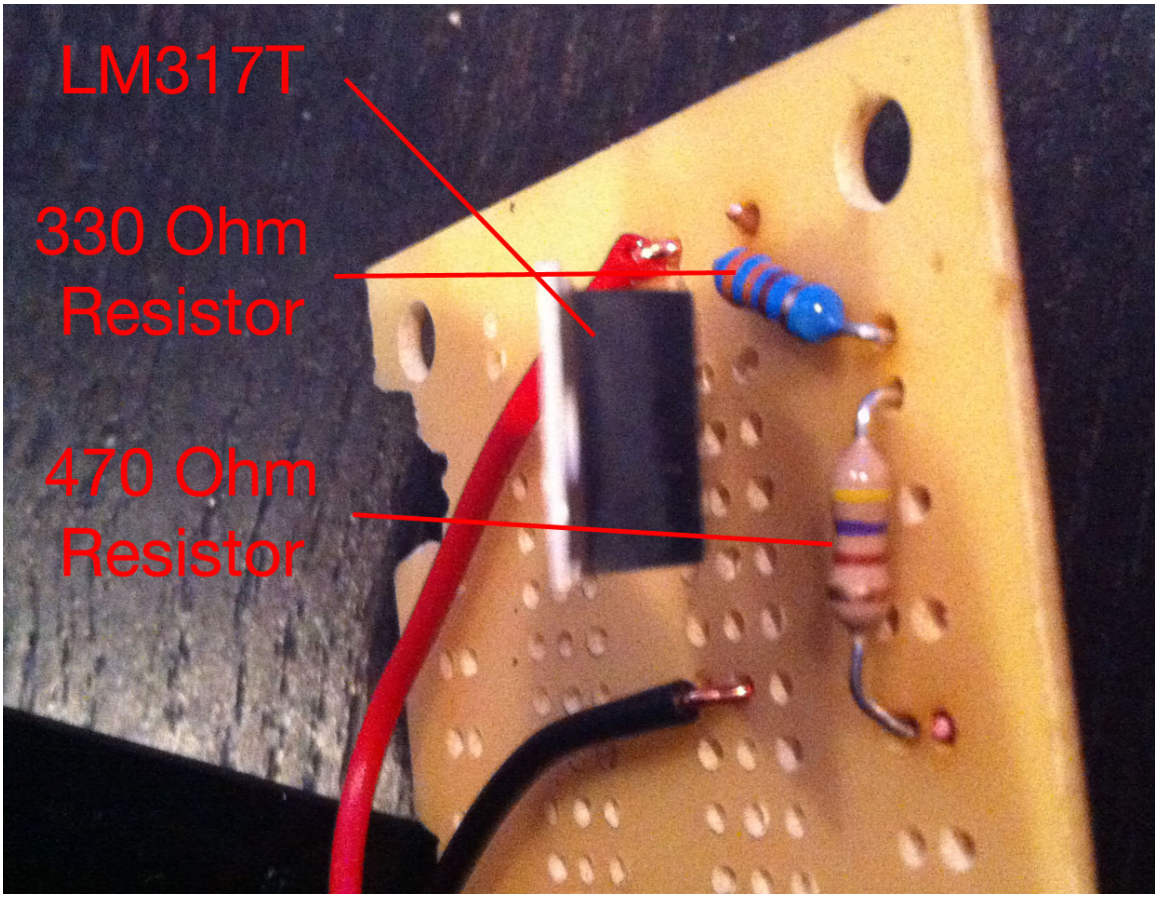
Building the power converter.

Please note that I am not an electrical engineer but I did get help from a forum on building this power converter. If you have a basic understanding of circuits and how to read schematics this should be pretty straight forward for you. I am not going to go into all the details of building this converter. Below I have provided pictures of my build and a list of the parts I used. If you have questions, please ask.




5.0V POWER SUPPLY WITH NEW SIZE-N TIP


3.2 VOLT CONVERTER
RELAY
YH185B
012-1H9
87
86
30
85
14VDC
60A
S1131



Once you have the converter and the Eheim-Mod finished connect both leads. Plug the feeder power (5-3.2V) into a power outlet, and the feeder relay (12V) into an outlet on your energy bar. You can set the time if you like, but there is no need to. Make sure you double check the voltage coming out of your converter so you don't fry your feeder or motor.

Setup an advanced program for that outlet and use the following program.

Fallback OFF
Set OFF
OSC 000:00/000:05/059:55 Then ON
If Time 10:05 to 09:55 Then OFF

This program turns my feeder on at 10am every day and makes the feeder turn one rotation.

If you have any programming questions, please ask elsewhere or ask Neptune direct. They helped me with this program as I'm a bit new to their programming language.

If you have any ideas on how to make this better, feel free to post, I will not be offended. Also keep in mind that I just completed this mod therefore the longevity of its use has not been tested.

If you have questions, please feel free to message me on manhattanreefs.com (djbetterly).