Eheim Auto Feeder Mod

So the mod that I did with this feeder is quite simple. Basically I wired a direct set of leads to the DC motor of the feeder. Those leads plug into the Apex energy bar, the programmed socket sends power just long enough to open the switch inside the eheim and from their the batteries and internal programming of the eheim takes over so the unit makes one full rotation.

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.

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
1-3x2x1 Project Box
1-Dual Mini Board (213 Hole)
1-LM317T Adj. Voltage Regulator
2-DC Power Plug (Size-N)
2-Coaxial Power Jack (Size-N)
1-5v Power supply from around the house

Necessary Parts, Tools and Supplies.
Spare wire, 18-22 Gauge (I also used a length of ethernet cable)
Soldering Iron
Solder
Drill or dremel (For drilling holes for jacks)
Digital Multi-Meter

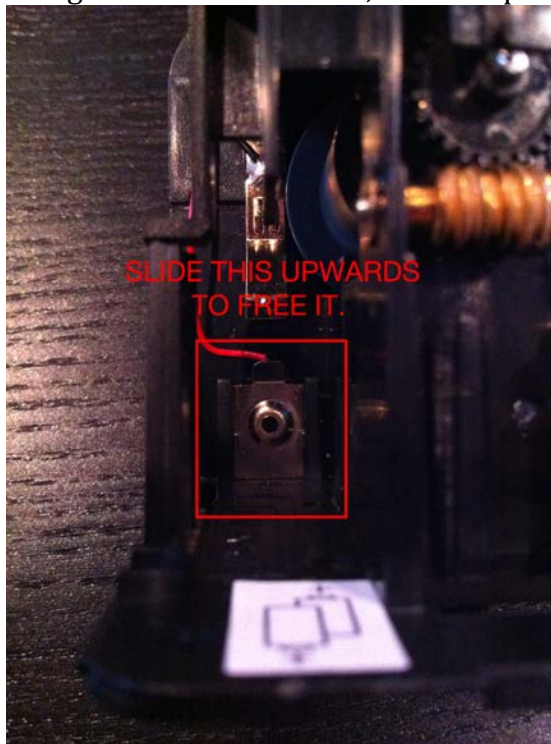*Steps for modifing the feeder:*
1. Remove four screws on bottom of feeder (assuming you've already removed batteries)
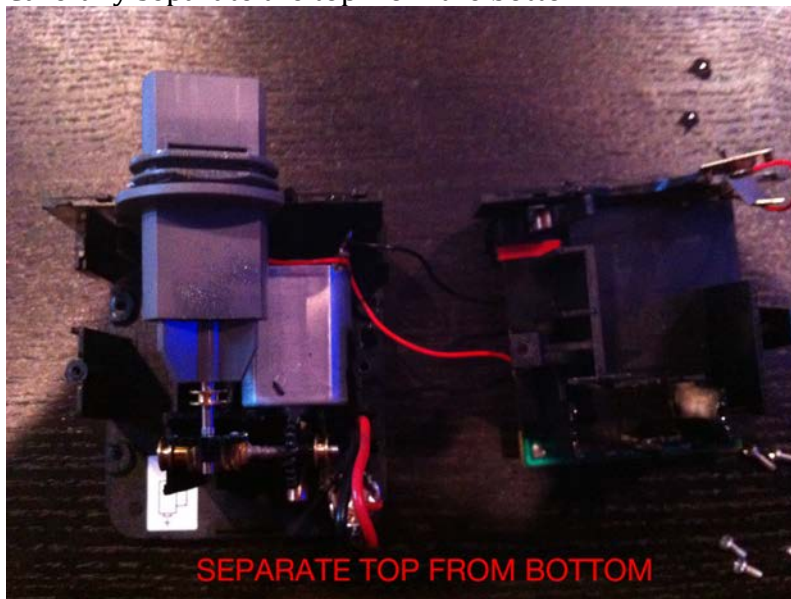
2. Remove 2 screws on either side of casing.

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

3. Carefully separate the top from the bottom.

4. I didn't get pictures of this part. Remove the main drive shaft that turns the feed hopper, and the small worm gear that attaches to the drive shaft of the DC motor. Then carefully pull the motor out. While the motor is out you'll also need to remove the red "fan" piece from the DC motor drive shaft. I used a pliers and it came off quite easily. After you've removed the fan, solder a piece of 18-22gauge wire to both the positive and negative terminals of the DC motor.
   *-Note: The more flexible the wire, the easier the next few steps will be.*
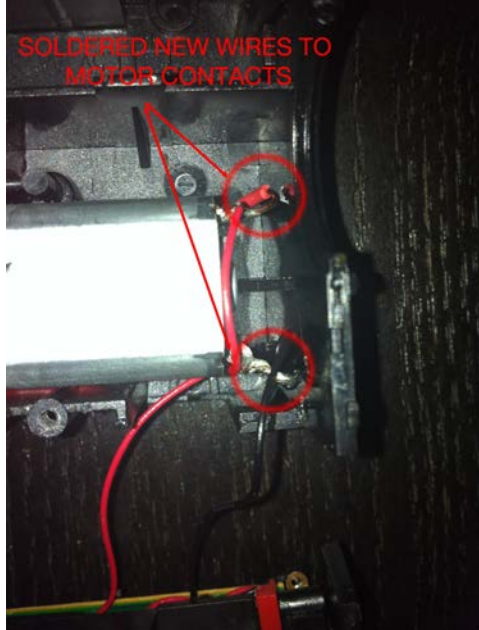
5. At this point you can put the motor back into place. You'll want to route the wires underneath the motor and you may need to cut a bit of plastic out to get the motor to re-seat properly. The wire should be routed towards the back of the feeder.

6. Using either a dremel or a drill, drill a hole as shown in the picture for mounting the power jack.
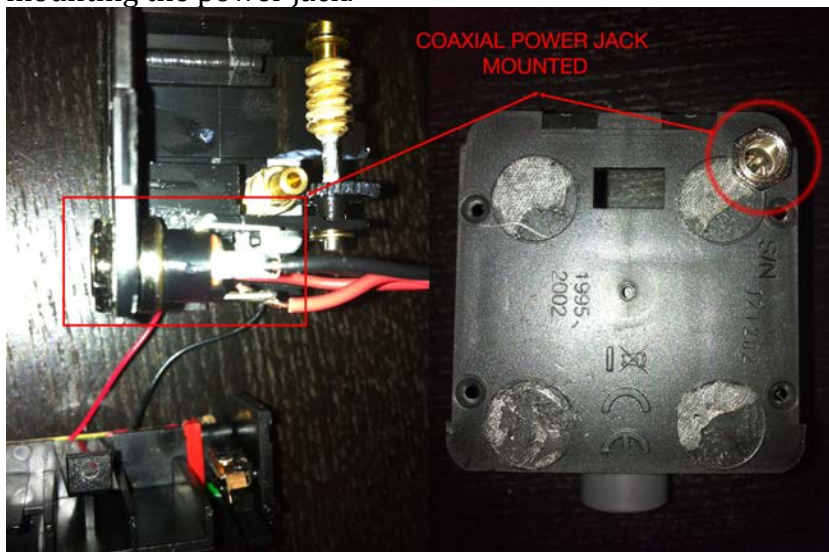

7. Put the feeder back together and the feeder mod is complete.

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.
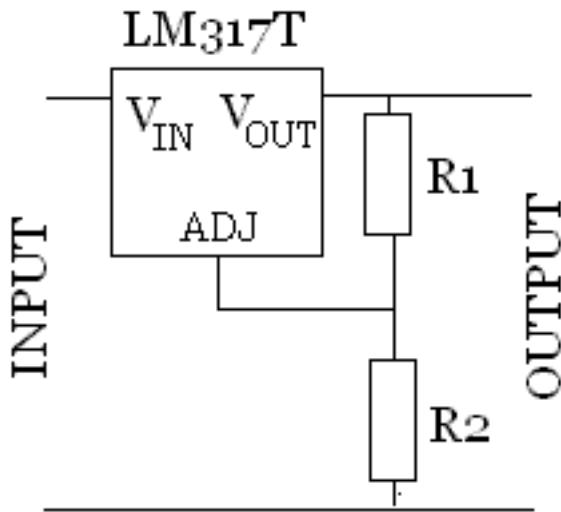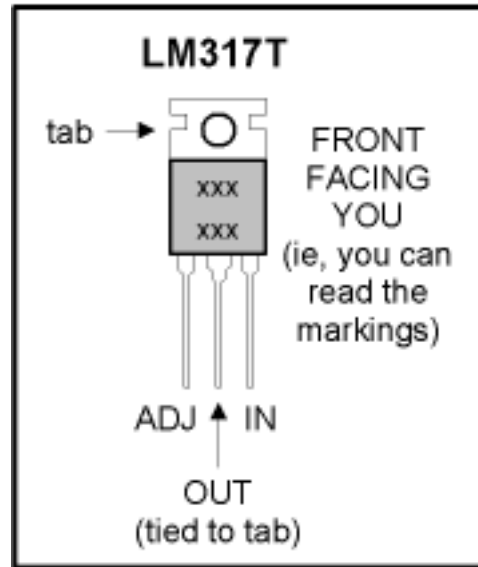
5.0V POWER SUPPLY WITH NEW SIZE-N TIP

5.0V TO 3.2V CONVERTER
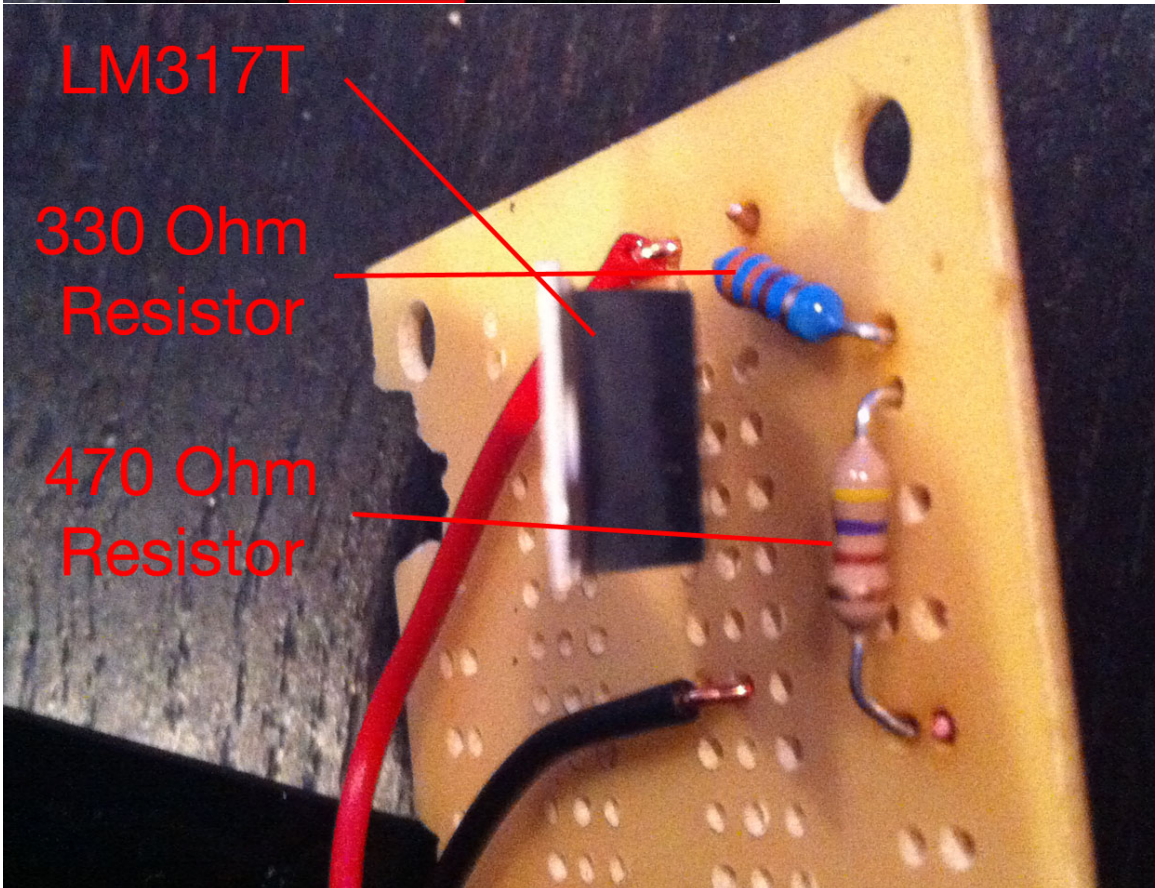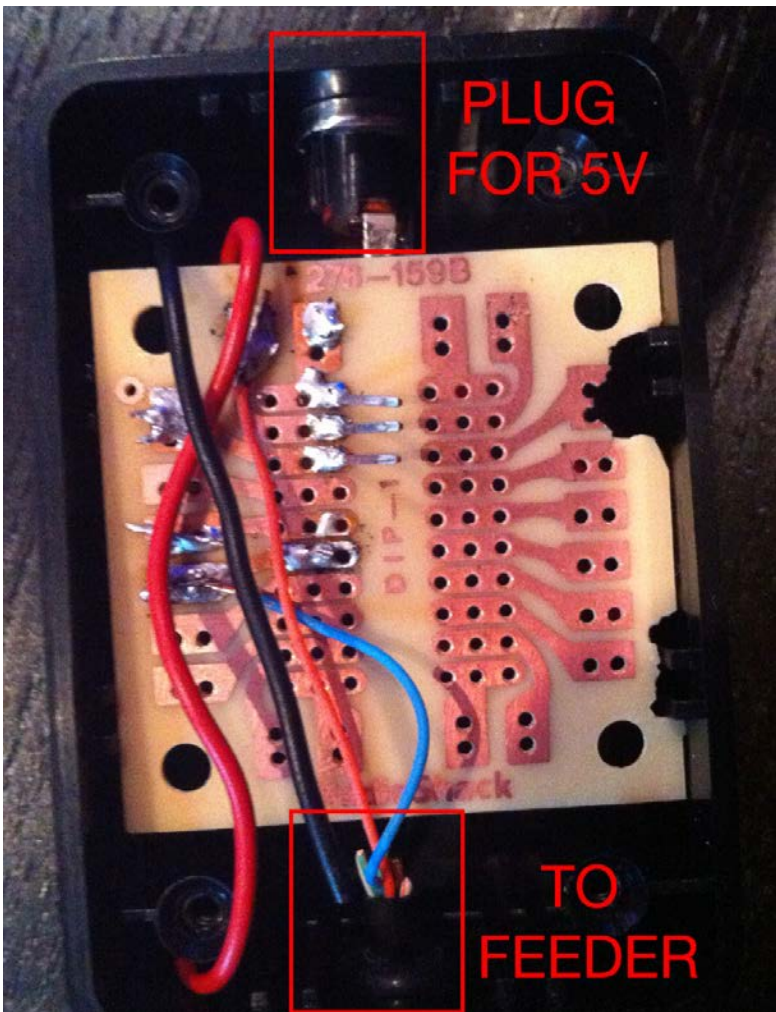
JACK FOR 5.0V POWER
SUPPLY TO PLUG INTO

CABLE COMING OUT OF
CONVERTER
GOING TO FEEDER

PLUG
FOR 5V

TO
FEEDER

LM317T

330 Ohm
Resistor

470 Ohm
Resistor

Once you have the converter and the Eheim-Mod finished, put your batteries back in the feeder. 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.

Plug in the converter to the feeder and you'll notice that the hopper shaft will continuously turn. If you unplug the power, the unit should continue to turn until it has reset itself. This is normal and the way it should be working.

Set the feeder up on your tank as you please and plug the new power supply into an outlet on your energy bar.

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 wanted the feeder to make two rotations, I would set the OSC time to around 12 seconds. Since it takes about 8-9 seconds to make one full rotation you want to make sure that the unit has power all the way through and just into the second rotation. Once the power has been turned off by the controller, the batteries will take over and reset the position of the feeder.

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 there 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.

I am open to answering questions or helping in anyway possible.

Enjoy and goodluck!