

DIY Homemade Dump Load

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calibre 1.26.0

DIY Homemade Dump Load



This is a simple dump load for a small wind turbine. Depending on how you wire it up it can be either 125 watts, 250 watts, or 500 watts all for about 14 volts. Or you can run all in series at 28 volts and get 500 watts.

For instance, if the top left connector is labeled "A" and bottom left is called "B" and the right one is "C", then we can say the following:

at 14 volts:

A to C = 250 watts

B to C = 250 watts

A to B = 125 watts

A and B to C = 500 watts

at 28 volts:

A to C = 1,000 watts (wire will melt)

B to C = 1,000 watts (wire will melt)

A to B = 500 watts

A and B to C = 2,000 watts (house will burn down)

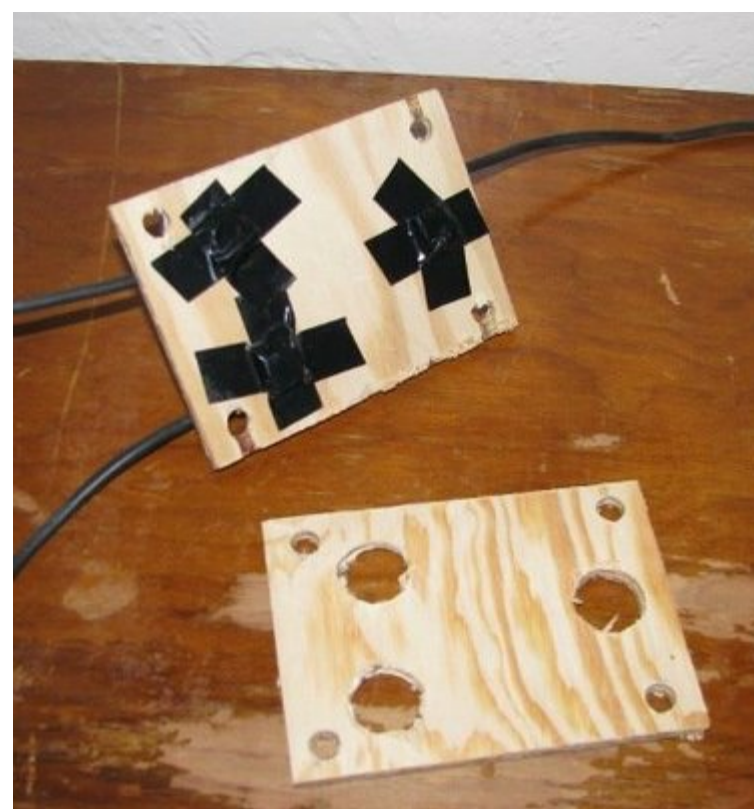
I just used some nichrome heating element out of a \$2 electric heater I picked up at a thrift store. I hooked a 12 volt battery to it. I knew that close to 20 amps was my safe limit for that thickness wire. And I wanted dumping to happen at just over 14 volts and knowing that as soon as dumping started the battery would drop to 14 volts or less. And 14×20 is 280 watts. I decided on 250 watts per section for safety and to make it last longer. 250 watts divided by 14 volts is about 18 amps. And 14 volts divided by 18 amps is 0.778 ohms.

[I had my stainless steel bolt hooked up so I could read amps like in this blog entry.](#)

The battery was at 12.7 volts and dropped to 12.3 volts when I connected the heater element across it. And 12.3 divided by 0.778 ohms is 15.8 amps. So, I moved a jumper down the heating element until I

read 15.8 amps on my meter *(15.8 milivolts actually, but that equated to amps due to my shunt resistance)*. I then cut two lengths of that heater element. *(just a note, battery voltage wasn't 12.3 until I had a short enough length to draw 15.8 amps. When I first hooked up the battery to the whole coil, it only drew about half an amp or about 6 watts. So the battery was still at 12.7 volts. When I moved the jumper amps and battery voltage changed accordingly.)*

I then just used two thin pieces of plywood, stainless bolts and washers and put it all together like in the pictures. The electrical tape was just in case it was placed on something metal, I didn't want anything to short out. The plywood on the bottom was thick enough, so I didn't really need to worry about it though.



There was enough nichrome wire left to make lots of these.

This stuff is so cool. I really love my job!