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Fantastic Fan variable speed control

Started by photohc , Jul 14 2015 07:32 AM

Fan, Fantastic Fan, Modification, Speed adjustment,

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photohc

Posted 14 July 2015 - 07:32 AM

I thought I would post this modification I did recently on my Fantastic Fan for anyone that might be interested. I've been frustrated with the speed of this fan as the three settings seem to make the fan run 1.fast, 2.faster, and 3.fastest. Too much air movement and noise for night time usage (as well as the amperage used).

I unscrewed the unit from the inside to discover that the three position speed switch was simply selecting different resistance to control the voltage sent to the motor, thus controlling the speed. This is a wasteful use of energy as the reduction in voltage is accomplished by the resistance introduced and energy is dissipated in heat.

The solution is to use a PWM DC motor speed regulator controller. You can find these on eBay at dirt cheap prices. I paid \$2.76 shipped from China. Who knows how they make money on these at that price. A 4 amp unit will do as the fan will draw a maximum of 3 amps. This controller controls the speed of the motor by varying the pulse width sent to the motor instead of reducing the voltage.

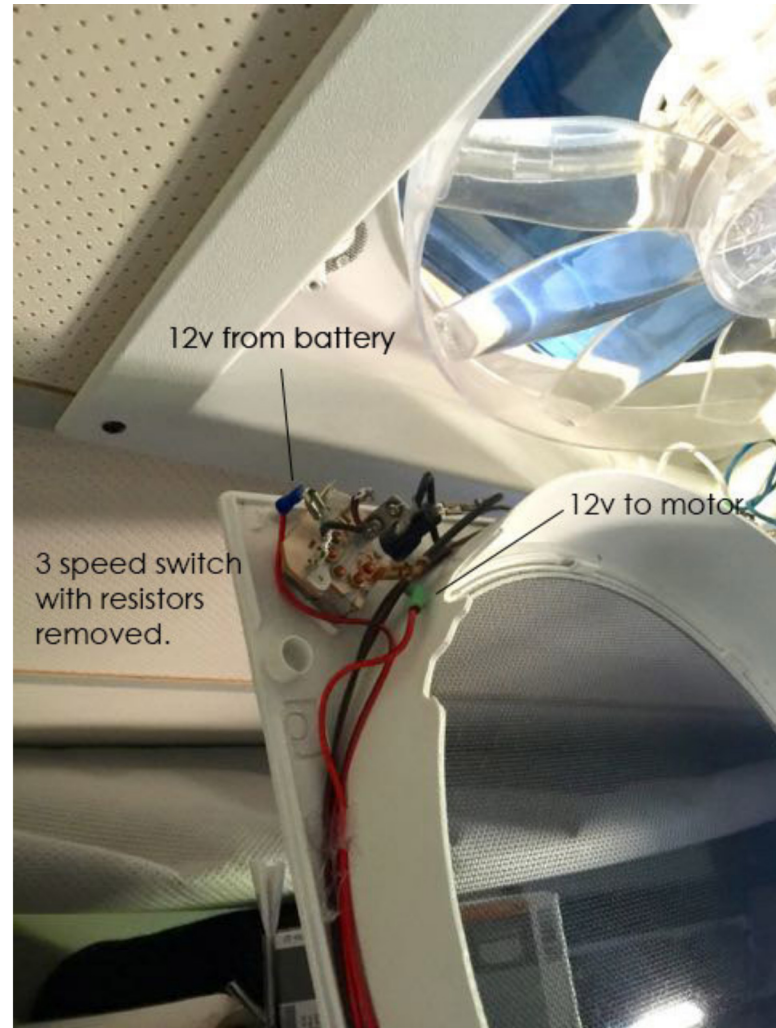
Basically you have 2 wires for 12v in and 2 wires out to the fan motor. You just need to figure out which wires are the 12v source and which one's go the fan motor. I snipped off the resistors on the 3 way switch but I later discovered I didn't need to do that as a unused terminal on the switch bypassed those resistors.

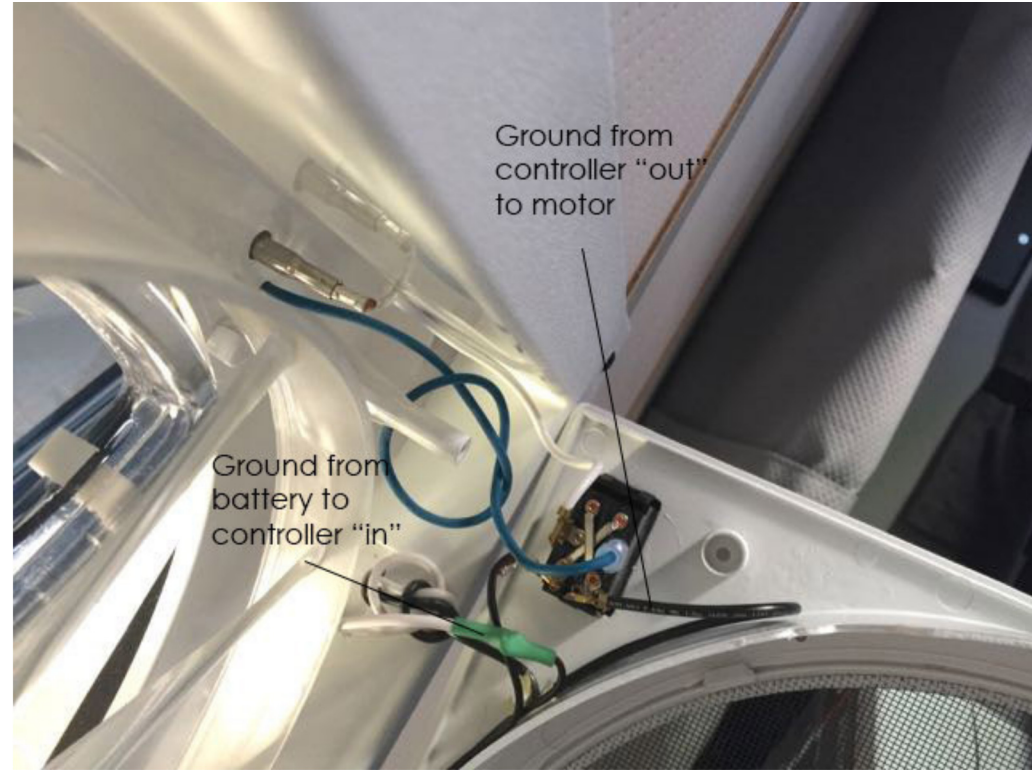
I hot glued the controller to the plastic wall of the fan and drilled a hole for the speed control variable resistor.

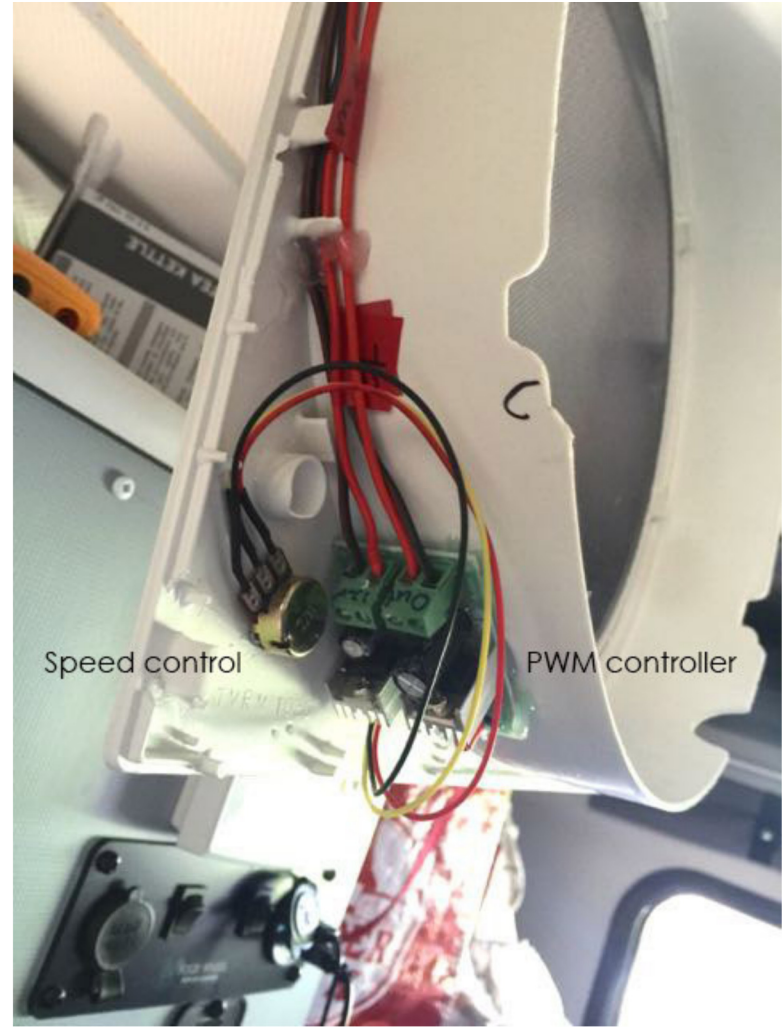
The fan now can be reduced in speed to a much slower and quiet speed. I can vary the amperage from a low of .5 to a max of 3.0. Prior to this install, the fan drew 1.5 amps at its slowest speed and 3 amps at it's fastest.

Here are some photos during my installation:









Done!



Happyjax

Posted 14 July 2015 - 11:22 AM

Nice job. Thanks for the share:)

bfl4n

Posted 14 July 2015 - 01:40 PM

Nice job photohc and nice write-up.

One of my fans has the Fantasic speed controller with a remote, which gives about 14 speeds. It is kind of klunky to