

Making an e-bike out of a bicycle with conversion kit

August 13 2014, by Nancy Owano



Some people like the idea of a plain bicycle, the way it requires the body to pedal naturally, with its return on investment being good health and fitness. But wait a minute. Electric bike riders prefer their e-bikes to cars, say they have more fun, and like the practical benefits of picking up speed and the machine's extra support. Micah Toll, who graduated

from the University of Pittsburgh's Swanson School of Engineering with a degree in mechanical engineering, has come up with a kit that can transform an ordinary bicycle into an e-bike. He notes that the kit makes it possible to own a more affordable e-bike. He has designed the "Barak Electric Bicycle Kit." The conversion process, he said, is not complicated. What's in the kit: a battery, controller, hub motor wheel, which replaces one of your current ones, and throttle. The parts, said Toll, are easily bolted on to any bicycle. Toll said the whole process could be done in less than 15 minutes using only a few simple hand tools.

In his video he shows the changeover procedure. First, you replace the front wheel with a motor wheel from the kit. Then you slide the throttle over the handlebars. Plug the motor and throttle wires into the controller. Place the controller inside the battery holder. Place the battery holder on the seatpost, and then slide on the battery.

The kit is available with two customization sets. One set has to do with wheels and the other set has to do with power levels. In sum, one can choose from a 20-inch or a 26-inch wheel, and one can choose between 350 watts and 500 watts of power.

As for the two different power levels, he said the low power version is the 350-watt kit, and the more powerful version is the 500-watt kit. He said, "These kits both get approximately the same range and same top speed (18-20 mph and 20-30 mile range)." The difference, he added, is the power and acceleration you feel. As for wheels, Toll designed the kit to come with either of two wheel sizes, 20 and 26 inches as these are the most popular sizes found on standard bicycles. He said that 20-inch wheels are more common on folding bicycles while most mountain bikes, beach cruisers, and road bicycles have 26-inch wheels.

Toll has turned to Kickstarter for a crowdfunding campaign. Pledge

amounts range from \$585 for the 350-watt 20-inch version to \$590 for the 350-watt 26-incher to \$640 for the 500-watt 20 inch kit to \$655 for the 500-watt 26-inch kit. The estimated delivery date is December.

More information: [www.kickstarter.com/projects/1 ... ion-kit-electrify-yo](http://www.kickstarter.com/projects/1...ion-kit-electrify-yo)

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