



This photo shows Bob on his red Catrike “Road”, with Larisa’s yellow one facing you on the left. The Road has a 45-degree seat angle with a padded headrest. We added rear mudguards and racks on both, along with rear-view mirrors and “Power Grip” toe straps. The tires were swapped for wider models to suit our gravel roads.



And these are other views of Larisa’s trike with the electric motor conversion. The nearly 2 horsepower hub motor is made by Crystalyte, and imported from China by ElectricRider.com in Lawrence, Kansas. The 4 DeWalt Lithium Iron-Nanophosphate batteries are mated to homemade wooden holders, and these, along with the motor controller, are mounted in some wire baskets from a local hardware store.





These photos show the freewheel side of a rear wheel and the electric power system without its rain cover. The hub motor comes pre-laced to an aluminum BMX wheel, and it includes a cheap Shimano freewheel.

I replaced the standard 14-28T model with some new 11-34T models to get higher speeds and some lower

“granny gears”, in case the batteries ran out on a hill.

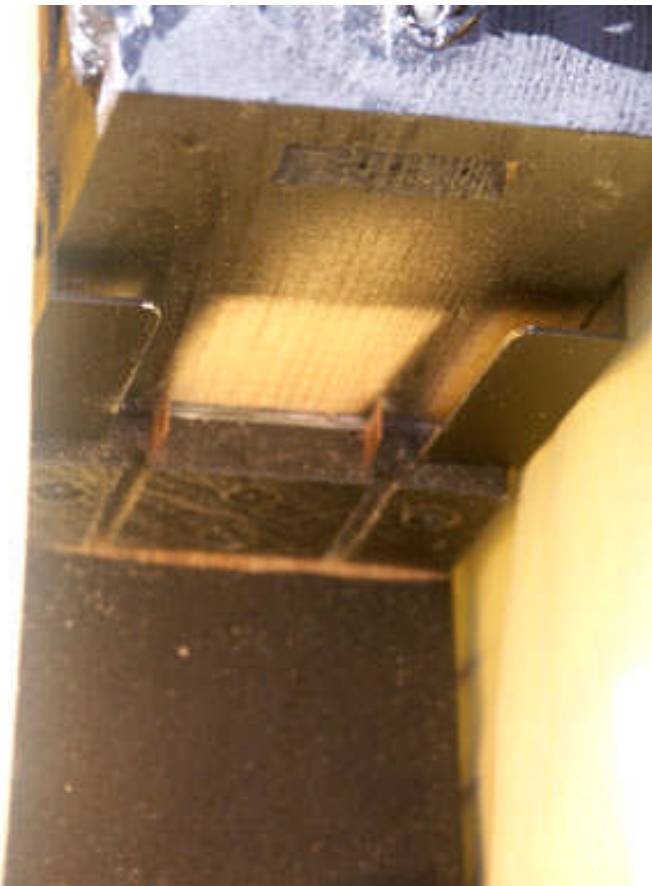
The conversion to electric nearly doubled the weight of the trikes, but by adding the power of 3 Lance Armstrongs, the added weight is of no consequence.

To operate it you just turn on the keyswitch, push the red button on the controller, and you’re ready to blast off!





On the left you can see the torque bracket from ElectricRider, modified from its normal front-wheel use with an added piece of galv. steel, bolted to one of the seat tubes. This keeps you from twisting the aluminum drop-outs open. The bottom left shows the copper battery contacts and homemade mount for one battery. Bottom right is a twist grip throttle mounted over the left twist shifter for the front derailleur. The further you push your thumb, the faster it goes, up to about 24 mph, without added pedaling!





These photos show the details of the first conversion done on the Catrikes. We added a six-foot length of rubber foam tubing, $\frac{1}{2}$ " thick with $\frac{5}{8}$ " interior, slit and cut to length for the seat tubes. This required unlacing the seat webbing, taping the foam to the tubes in a few spots, then relacing the seat webbing. This REALLY smoothes out gravel roads, along with 20" x 1.75" tires in front and a 20" x 2.25" tire in the rear. These tires are 70 – 110 psi models that can be deflated a bit for gravel and cranked back up for hard surfaces. In summary, the trikes cost \$2250 each and the electric conversion was about \$1200 each. This sounds like a lot, but being able to commute to town, 12 miles away over some major hills, feels cheap to us. On hills we just pedal until the grade gets too steep, then add in whatever we need to maintain speed with the throttle.

