

Kiwi e-bike tour of S. America Jace Hobbs

A team of e-bike tourers is gearing up to travel much of South America on tandem eZee custom electric bikes. They have looked at the distances on a typical day in the countries they want to traverse, and have decided the eZee custom tandems will make the grades and exertions enjoyable. The plan is to ship the tandems directly from our factory to their start point, take delivery of them there and set up at one of our affiliate centres in the region. We will be following them on social media and keeping track of their overall tour. It's a new kind of low-emission travel plan, and we think it bodes well for the future of travel in general. Here is what Peter Rens writes about their e-bike tour plans.

“Every now and then a concept or product comes along which really gives us humans more freedom. The emergence of the E-bike is just such a concept. Until now cycling around a country has really been for the young and super fit. But not anymore. Our family ranges in age from grandkids to grandparents, and now we are free to cycle the World. What a great idea.

“We have set our sights on South America which we will cover over the next few years. For starters we have chosen Uruguay. Why? Because I know Uruguay; it is hilly but not mountainous and the safest place in South America. The climate is similar to the north of North Island but warmer in winter. It has a thriving economy and the people are just wonderful.”

“The bikes are equipped with car quality head and tail lights so night riding is not an issue. Wonderful things; electric bikes.”

The Rens have chosen to have eZee tandems drop shipped to their setting our town in Uruguay and they will spread the entire continental ride over several years of bike touring. Their style is making many stops, smell the

roses at any one place, and not have a tight itinerary. Just like the eZee tour riders in other countries, they don't have the daily car rental costs to make them feel that they must speed along. The operational costs, once equipped, are very small, which is that way to make a fun bike trip.

They have described a family touring style that is not exhaustive, in part because the weaker riders will be on electric assist tandems, so that kids and their grandparents can all enjoy the communal touring experience. This mirrors the reasons that many of our couples adopt an electric bike for one of their riders; compatible speeds. Couples and groups can regain the pleasure of ideal touring speeds with the several levels of

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Did you know?

The electric Cargo bike race in Portland Oregon was run this July with 30 entrants. All the major brands had their e-bikes exhibited there. The race included carrying large loads, stream crossings, and off-road riding. The two winners were a NZ\$15,000 e-cargo bike, followed closely by an unmodified eZee Expedir, which sells for about one quarter the cost of the overall winner.

Did you know?

The Annual Pikes Peak Climb race in the USA has just run with the unlimited (no restrictions) class being won handily by an electric motorcycle. The fastest motorsports vehicles in the world compete in this event, many specially built for the arduous climb. If any have doubts about electric superiority, doubt no longer.



Lithium e-bike Battery tech makes a leap forward

In the progression of lithium battery technology, there will be small improvements and there will be large steps forward in capacity. The newest Sony cells and the latest Battery Management System (BMS) system from eZee are a large step in the pursuit of the ultimate e-bike battery construction. These newest cells have many advantages over the previous battery construction. Their hi-capacity means we are noticing remarkable improvement in voltage holding ability. What this means is a somewhat greater range, but it also means more torque on hill climbs. We also expect longer battery life, but it will take some years of service to get that virtue verified. We expect better reliability of the cells, therefore a safer battery as well. Basically this is a better battery, perhaps the best value for e-bike battery in the world, a strong assertion that I think will be borne out in service. To help our avid customers, Electric Bike Hub will take your 10amp or 14 amp hour battery on trade-in, and heavily discount these new Sony cell upgrades. This will be a cheap way for our customers to get better stability, better voltage duration, optimum climbing ability and perhaps better safety in charge/discharge. You may also upgrade your battery capacity to an increased amp hour unit at an attractive rate. Check with us for specifics.

The other eZee battery news is eZee beginning production of a 28 amp hour battery for our bikes.

This will please some in the touring and industrial categories of electric bike usage. This battery incorporates the new Sony cells. With 28 ah at your disposal, all day touring becomes a reality, and with a heavy load on board. Previously, major hill crossings were

outside the reach of e-bikes. The grade and distance was just a bit too far in many cases. I think it is fair to say that there are really not many mountain climbs that are not assailable with the new 28ah battery. Touring with full gear on cargo electric bikes anyone?

But at the same time, we are now at a crossroads where riders will not have to monitor the charge of their battery closely anymore. The bikes will go further than anyone bikes in a daily commute and they will do this for essentially no fuel charge. Our riders can relax into having a large reserve of motive power that they may or may not need, but it will be there when they need it most. It's a new age and eZee leads the way.



FP flat pack type battery

E-bike research award and presentations

Jace's speaking engagements are progressing well. His new presentation 'Your Future is Electric' has been just been hosted at Victoria University as part of **350.org** "100% Possible" week. The eZee line was on display there during that event and the student organization that promoted and ran this event are to be congratulated. Please look for similar 350.org events in your area.

Jace also had a two articles about electric bike fleets published in Local Government Magazine this autumn and now has expanded that article into a research paper. This original research has won a speakers spot in the Transforming Business Conference research paper submission. Jace will be presenting at this Te Papa event and the work will be published.

Forza gets Alfine hydraulic brakes This bike, while too powerful for on-road usage, is ideal for forest and trail riding. Recently a Forza was ridden 4400 kilometers around Aussie off-roads without incident or support. We anticipate usage in forest surveying, science projects, and rural commerce as well. The Forza shares the remarkable wheel and component strength of our other bikes, with the addition of a long travel hi-end front suspension, a 7000 series alloy frame and gearing suited for grunting up serious rooty inclines. eZee has also added the 1000 lumen three function blaster light, Alfine Hydraulic disc brakes and puncture resistant off-road knobby tyres.

The Forza has earned accolades from the new owners here and will no doubt be popular with hunters, older trail riders, and forestry contractors. Look for updates.



Mega capacity battery produced by eZee

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The eZee in NZ page

eZee Customer Manual additions for NZ

After a lot of consideration and editing effort, Electric Bike Hub has produced a new NZ manual for the eZee bikes to augment the manual supplied with the bikes. We have subtle differences with the bikes here, and this is reflected in this new manual. A fresh copy is attached here at this link. It has a better explanation of aspects of the eZee experience and also adds to the safety

information about the eZee equipment. Please take a stroll through the document, as there are bound to be things you are glad you knew.

EZOOMERS NZ
NEWS AND VIEWS
ON ELECTRIC BIKES

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Please pass this newsletter on to anyone
who would like to get it.

Your next bike could be an e-bike

We encourage submissions about E-bikes and issues surrounding Ebikes for publication in subsequent issues of EZoomers. Simply drop an email to Jace at the return address and your ideas or article may well find its way to the NZ e-bike community.



Speed vs Grunt – Designing the ultimate e-bike motor

Many people equate the speed potential of an e-bike directly with power. However, it is a bit more complex than that. Electric bikes that go fast, often will not climb hills very well and may not be so good for distance commuting. Conversely, Ebikes that are geared for hill climbing may not be the fastest, but may still be ideal for commuting. There is perhaps, a happy median for the different requirements of an electric bike. There is also the matter of cost. Some manufacturers make their motor to a price point that means they may skimp on the best components or the best performance. In this world of price conscious consumers, often the bike that sells for a couple hundred dollars less, will be purchased even if a marginal performer.

One performance difference is in the motor type itself. There are three main types of motors on the market; geared hub motors, crank drive motors, and direct drive motors. Direct drive hub motors can go fast but they don't have significant hill climbing ability. They turn once for every revolution of the wheel so must be big and are about twice the weight of geared types. These geared type hub motors have internal planetary gears that keep the electric motor spinning an optimum speed and reduces the rpm for the wheel. This motor design is used by NZ Post, almost all cargo e-bike companies, most off-road e-bike models and eZee (which manufactures motors for other hi-end brands). Different manufacturers use different ratios in the planetary gears which determines the performance of the motor on the hills vs the flat. eZee uses 4.7/1 ratio, which we feel is the ideal planetary geared reduction to arrive at speed and hill climbing in a small package. Mid-drive motors have not won a large following because of complex assembly (very hard to repair), and greater weight. It is important to look to the cargo e-bike companies to see what they use in their products. Most use planetary geared hub motors and many use eZee equipment.

There are other motor design factors that will profoundly affect the performance of an e-bike motor; the windings, the amount of permanent magnets, the quality of the magnets, and the care of assembly. All are important and the best cost more to produce. These are reasons to spend more for your e-bike however. It is wise to look for real value when considering a purchase such as an e-bike.

These combined details are why I chose to be the New Zealand importer for eZee. eZee produces Justin Limere-designed motors under a quality control system that is second to none. They use large rare-earth magnets and generous windings to get a very strong motor in a small package. The quality of the planetary gears, seals and bearings keeps our riders going year after year and that equates to performance as well. It's not just the short run performance that's important but being able to maintain that performance for years. eZee leads in that value result.

E-bike design is really more complex than most understand it to be. Generic components added to a product may look similar to products costing much more, but they often won't be a reliable purchase. The total specs of the motor, controller, and battery must be integrated for real reliable performance. This symphony of design is beautiful when achieved, and no accident. The leaders in this demanding field got there by delivering quality, and striving to improve at every turn. This drives innovation that you will want to drive.