

April 2010 Volume 13 Issue 2 - Number 66

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This one definitely deserves to go first!



24 World Hour HPV Record Smashed !

Early on Saturday the 3rd of April 2010, Jeff Nielsen (an OzHPV member) completed 2013 laps of the Edithvale/Chelsea velodrome to take the record for the longest distance ever travelled by human power in 24 hours. The distance achieved was **1109kms**. The previous best distance was 1069kms. Jeff achieved this remarkable feat in a specially built narrow faired trike/HPV called

"a lil Overzealous" built by Ben Goodall (another OzHPV member) and his team at Trisled.



Ben – Dreadlocks.

Jeff – Fishbowl.

Photo - Trisled

The Edithvale velodrome became the new site for the attempt after the preferred Lang Lang GMH super dome became unaffordable at \$5,000 use fee per day. Edithvale is a longer flatter outdoor velodrome of about 500 metres with moderate banking on the corners which suits a high speed trike.

The conditions throughout the 24 hours of the attempt were almost ideal. Jeff started early on Good Friday and rode for almost 12 hours without exiting the vehicle. Another Trisled team member in an Aquilla faired vehicle performed high speed handoffs of food and bottles as required with no apparent effect on Jeff's speed. Amazing!

A large crowd of followers urged Jeff on during the dead hours and towards the 24

hour countdown. This helped to lift Jeff when his lap times were slowing slightly.

OzHPV will be submitting details of the record ride to the World HPV Association for ratification and also to the Guinness Book of Records organisation.

Congratulations to Jeff, Ben and the Trisled support team on a brilliantly executed ride.

Special mention should be made of the many OzHPV members who assisted and officiated with organising and running the attempt to comply with World Human Power Vehicle Association rules, including: Tim Marquardt, Eric Ball, Mick Donovan, Ken Houghton, John Reynoldson, Rick Willoughby, Luke Sutton, Alan Ball, Pete Heal and others.

A full photo pictorial is available at the Trisled website <http://www.trisled.com.au/records.html>
Here, are a couple of photos by the Editor.



Jeff was "Flying" during the night. Wheels retracted and Mag-Lev system engaged. 19 hours done.



Supporters cheer Jeff home after 24 hours around and around and around.....

Footnote:

Edithvale is a fast track.

Peter Heal completed an hour time trial after the 24 hour was over on his unfaired Velokraft NoCom and completed 89 laps or 45.2km - a personal best.



From The Editor – Pete Heal

Hello Recumbenteers.

It's been a busy couple of months for some of us in OzHPV culminating with a successful world record attempt by Jeff Nielsen and Team Trisled for the 24 Hour HPV Distance record. A report of Jeff's effort follows in HUFF, but Aussies are certainly in the world HPV spotlight at the moment.

Other content in HUFF this issue includes some articles and book reviews by faithful OzHPV contributors and some news of upcoming trips of a mega status.

Recently there was some chatter on OzHPV lists and negative comments about OzHPV mainly by non-financial members which is disappointing. It seems that recumbent riders around Australia "expect" OzHPV to provide all these services and information just for them even though they can't put together the \$\$ equivalent to a couple of Cappuccinos and support OzHPV. OzHPV is only a voluntary organisation. No one is paid to do anything and the few that do the various tasks do it because they want to see the pastime and sport of recumbents and HPVs grow in Australia. The support of you the members is truly appreciated. The committee would like to encourage you to get more involved in OzHPV by helping out with some of the tasks that need to be done. How about organising a ride or tour in your area or a race at a local velodrome or track. The committee will do everything it can to assist you in the organising and red tape issues and promote any event .

One aspect the Committee would really like to see addressed is a revamp of the OzHPV website to become more of a portal for current information on OzHPV activities. Again this sort of thing takes up time of volunteers and if you would like to assist please contact a committee member.

Feedback and contributions always appreciated.



New Members

Welcome to the following new members to OzHPV.

Craig Head – Ultimo NSW
Karl Nissen – Kaleen ACT (Welcome back)
Peter Weiss – East St Kilda VIC
Kelly Hamilton – Wonthaggi VIC

Current membership for OzHPV sits at 50 including a few Family Memberships.



Roll Down Testing

Pete Heal

Following on from Paul Worden's article about his standardised roll down measurement for determining what actually does work in the way of Aerodynamics on recumbents.

Everyone has an opinion of what works and what's fast, but until you can come up with a standardised test procedure it really relies on ones opinion.

A wind tunnel would be good.

A big hill, a GPS and an afternoon of riding can do the trick as well.

Luckily I have all three recently and decided to test out some tailbox options on my three recumbents.

Recumbents tested were:

- 1/ Orange Lizard cro mo frame with dual 406 wheels
- 2/ Orange Lizard with a large carbon fibre tailbox on back of seat

- 3/ Velokraft VK2 with a set of nylon spoke covers
- 4/ Velokraft VK2 with a Velokraft carbon fibre tailbox
- 5/ Velokraft VK2 with a M5 carbon fibre tail fairing
- 6/ Velokraft NoCom with carbon fibre wheel covers

All bikes are about the same weight at between 10 and 11kg.
 The rider's weight didn't noticeably change during the testing process.

So up and down I went during the course of the afternoon.
 I aimed to do about 5 runs for each variable.
 I'm sure the residents on that street thought I was quite mad.
 Weather held for most of the test with no wind and sunny conditions.
 The hill section used is about 800 metres long and elevation drop around 120 metres.
 Starting from stationary at the top and reaching maximum speed at about 50 metres from where I would brake and turn around. Up the hill again. .I rode about 35km that afternoon.

Anyway the results were interesting and confirmed what you would think was the fastest set up.

	Run 1	Run 2	Run 3	Run 4	Run 5	Avg	% diff
Orange Bare	61.7	62.2	62.2	58.4	65.0	61.9	0.0
Orange TB	59.5	67.1	63.0	62.7	61.5	62.8	1.4
VK2 Bare	62.8	63.9	64.9	64.5	63.4	63.9	3.2
VK2 VKTB	67.9	65.4	65.5	65.1	64.5	65.7	6.1
VK2 M5TF	68.8	67.6	68.8			68.4	10.5
NoCom	69.3	70.8				70.1	13.2

Interesting details from above is the percentage difference in max speed between the baseline Orange bike increasing gradually to a whopping 13% for the NoCom.
 The VK2 with the full tail fairing performed better than expected at 10% greater than baseline.
 There are some obvious outlier figures in the max speeds but it all averages out nicely.





Just a Ride Around Australia

Pete Heal, the OzHPV Secretary can't get enough of the open road and is planning to circumnavigate the continent during May and June this year on his trusty Velokraft VK2.



Yep, that's right. AROUND Australia this time...

This will be a somewhat ride, eat, sleep, repeat ride with little time for sightseeing.

The current solo and unsupported around Australia record was set by Danish rider, Erik Straarup in 2009 at 51 days and 47 minutes for a total distance of 14,611km on an upright touring bike.

Pete plans to ride approximately 15,000kms taking in a more appropriate route through Cairns.

How fast you ask? Well, he will be attempting to "beat" the record by "a bit".

Pete will be once again carrying a SPOT tracking device so followers will be able to see how he is going. The VK2 will be in similar format as for his across Australia jaunt in 2009 except for having a more efficient tail box and a Schmidt dynamo light system.

Members can follow Pete's progress real time by going to this website at Track Leaders.

www.trackleaders.com/aroundoz

A Yahoo discussion group has been set up to provide up to date information and discussion and to make contact with Pete during the ride – OzHPV members welcome to participate.

<http://sports.groups.yahoo.com/group/PoitAroundOz>

The departure will be from Observatory Hill near the Rocks in Sydney at Midnight on Saturday 1st May 2010. All going well Pete will return to that spot sometime between Wednesday 16th June (46 days) and Monday 20th June (50 days).



Book Review - Bingo

[George Durbridge](#)

Bingo Sun Noon *How Much Does it Weigh? Design and Build Your Next Bike* Fiji, Robobike Press, 2006, 226 pages, \$US19.95 from <http://www.powells.com> Excerpts at <http://www.robobike.com/excerpts.htm>

This is an interesting book by an experienced builder of unusual bicycles based in Portland Oregon, with some chapters contributed by his colleagues. The author is more concerned with tandems and load-carriers than with recumbents. Despite the title, the book is less about home building than about a small, specialized and well equipped bike shop. It is, however, a pleasure to read: well written and illustrated, easy to follow and rewards a second reading.

Bingo develops general principles about bike building by discussing a dozen or so bikes which he and his colleagues at Robobike have designed and built, some of which he describes in sufficient detail for you to build them: some easy bikes and some much more difficult ones, for which you would need a lathe and other machine tools, and relevant skills. He works through the processes of designing several bikes, having regard to the stiffness and strength of the frame; the location of the centre of gravity, with and without stokers, loads etc; and steering geometry. He also provides a lot of information and ideas about choice and properties of materials; the proper uses of welding, brazing and silver soldering; the use of lugs and other joint reinforcements; the design and use of jigs; and how to design to allow for fatigue.

The discussion of fatigue may be the best thing in the book. It goes far beyond anything I have ever seen in a book on bicycle engineering, with worked examples and graphs, largely supporting Bingo's view that utility bikes should generally be designed to be stiff and to withstand fatigue, rather than static or impact loads. Incidentally, this discussion also bears out his view (amply explained) that steel is usually preferable to aluminium or titanium. The book is also strong on steering geometry, making a good case for designing in a moderate degree of oversteer, but only rules of thumb on how to achieve that aim. On the other hand, his discussions of using CAD in bicycle design and of electric bikes show that they are important, but don't really help with the use of either.

The book is weak on recumbents. Bingo explains in detail the design and construction of a short wheelbase recumbent bike, and makes brief mention of another. The discussion of the constraints on the design of the SWB is clear and numerate, but he disappointed me greatly by writing off that bike (and recumbents generally) as a failure, because the seat, which was a plastic chair from a school dumpster, was extremely uncomfortable. I expect it was uncomfortable, but that only shows he should have fitted a better seat. He also makes tantalising references to the Robotrike (which is not a recumbent, but a unicycle with a trailer) and to a front-wheel drive recumbent. The FWD was discarded as a failure, seemingly because the frame wasn't stiff enough, but perhaps really because it was as difficult to learn to ride as Pythons generally are.

The most interesting piece of design in the book is a coaxial wheel which is used in several designs, including a tandem and Robotrike. I assume it was also used for the FWD recumbent. It consists of a wheel with a hollow axle through which passes the axle of the cranks. The drive is taken by one chain from the chainwheel to a cluster on a parallel shaft and returned by another chain from a sprocket on the cluster shaft to a sprocket secured to the wheel. The effect is very like the coaxial wheel which Robert Waryszak built for his Python, but completely different in construction and a great deal heavier. I suspect it is over-engineered, and in fact Bingo describes a number of very brawny components ("hogouts") machined from large chunks of aluminium or steel.

This is a far more sophisticated and informative book than Brad Graham's books *Atomic Zombie's Bicycle Builder's Bonanza* and *Bike, Scooter and Chopper Projects for the Evil Genius*. Although it does not provide as much information about as many particular designs, and the designs it does describe are nowhere near as cool as Graham's, it provides a much better understanding of the traps. It is also very conservative and sensible, and doesn't tell you to weld a bike up out of conduit with an arc welder and then grind the joints until they look good. It doesn't contain as much basic science as David Wilson's *Bicycling Science* or Archibald Sharp's *Bicycles and Tricycles*, but what it does provide is very focussed and relates to modern materials and processes.



Brad's Trike and Barter System

Steve Nurse

Brad Jarvis works with me at CMG. I'm full time and he is part time. Anyway, we get to discuss our hobbies and interests.

Brad lives on a farm which is cut off from the electricity grid He runs solar panels to generate the family's electricity. His family make sour dough bread starting with wheat and he's talking about growing his own wheat!

Anyway, Brad offered to help me with my website and when it was almost finished I started asking how much I owed him. Eventually, he said he didn't want any money, could I just help him build a trike. Too easy!



Links:
Giles' Trike
<http://www.ozhvp.org.au/huff/docs/huff23.pdf>

At the start I sent him some links to trike plans and theory which are on the web. We have some esteemed home builders of trikes here in Australia, Alan Ball, Tim Smith and Giles Puckett to name a few.

Next I rescued from my shed some Cro moly and mild steel tube in the sizes Brad wanted and loaned him my pipe cutter. Brad went and bought a couple of hack 24" mountain bikes from a tip shop and here he takes up the story:

*"Hi Steve,
I got some welding done at my brothers yesterday and have now got the basic frame made up. Still all the little bits and pieces to go (like seat, chain guide, cable brackets, etc.). I priced steering joints today at \$25 each so, still have to hunt around a bit more to see if I can get a better price"*

Of course Brad didn't pay his brother to weld the trike. Instead he needs to help him build a garden shed!

<http://www.ozhpv.org.au/huff/docs/huff24.pdf>

Alan's Trike

<http://members.optusnet.com.au/ednaball/V2Trike.htm>

Tim's Projects

<http://www.ihpva.org/Projects/tstrike/home.htm>

Peter Elands page on trike steering

<http://www.eland.org.uk/steering.html>



Popular Science Article Archive

There is a lot of good reading material in these online archives discovered recently.

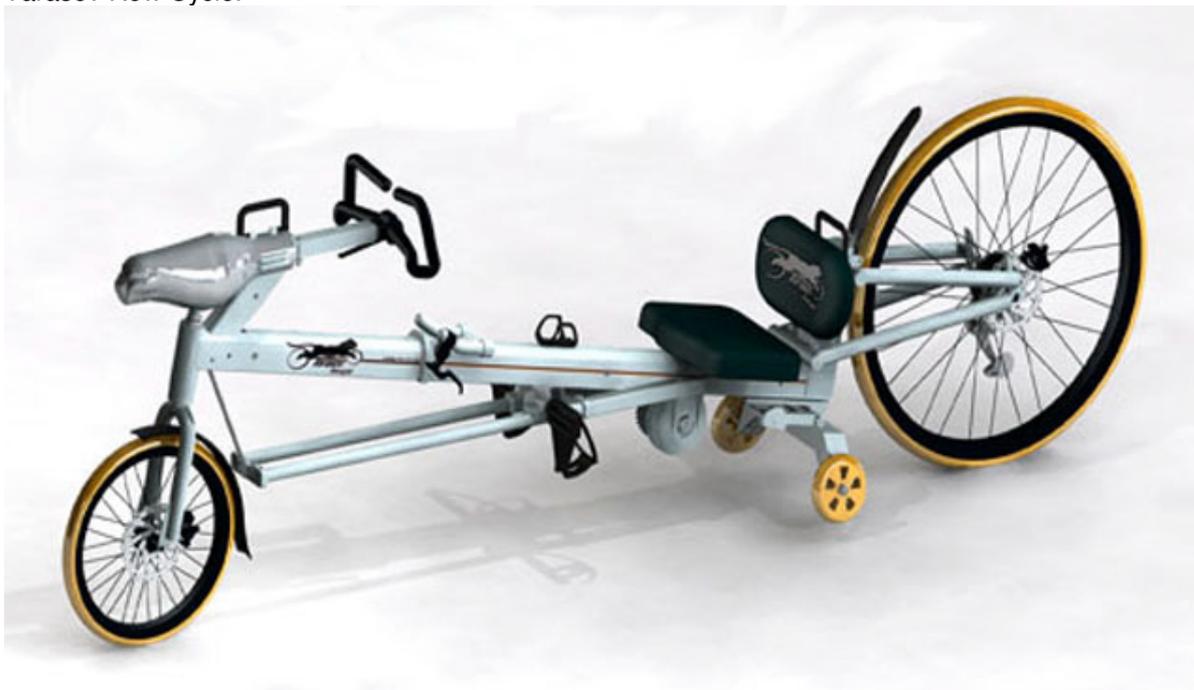
Popular Science Archive <http://www.popsci.com.au/archives>

Try a search on Human Power or Recumbents and put your feet up for a while.



Tara Row Cycle

Just when you wanted to simplify your life and lighten up your bike, watch out! Here comes the Tarasov Row Cycle.



Link to more information <http://www.tarasovrowcycle.com/>

Another niche in a niche market? Sub-niche perhaps?

I recall being pestered by the Design Engineer, Boris some years back to the point I blocked his number in my mobile phone.

Oh well, someone looks to have taken his concept on board.

Good luck Boris & Co.!

Quotes for webpage

“rowcycles that push the performance envelope of human propulsion”

“We have ambitious goals at Tarasov -- to compete in human propulsion speed trials and set human propulsion records within three years of our first production run.”



Members on the Move

Atholl and Mary from the Canberra Mob have decided to hit the road. Not in a human powered vehicle alas. They and Bob the Dog are by now somewhere far south of Canberra in the "Good Ship Squidley Piper" motorhome following the coast to unknown destinations and hoping to eventually make it to Tassie.

Track their sloth like progress on this map. <http://maps.google.com.au/maps?hl=en&tab=wl>

OzHPV Secretary, Tim Marquardt no longer resides in Box Hill.

Please not new mailing address for OzHPV correspondence in newsletter header.

OzHPV Treasurer, Pete Heal will be "Out of the Office" during May and June 2010.



Coming Events

A list of tentative events for 2010 follows.

Whilst these all have a racing "flavour" the committee would be pleased to hear from any member wanting to organise social or tour type rides or events.

If you have any ideas for events or rides please let the Committee know.

May

Saturday 2nd May

Pete Heal sets off at Midnight from Observatory Hill Sydney on his Around Australia Record attempt.

June July August September

Third Saturday of the Month winter racing at Stromlo Forest Park with the Canberra Mob.

October

20th anniversary Australian HPV Challenge to be conducted by OzHPV at Canberra.

Changed format with focus shifting from "practical vehicles" to "speed".

Racing in classes by age and vehicle type.



OzHPV Jersey Competition

Well, the results for the Design an OzHPV Jersey Competition were as John Reynoldson put it "underwhelming".

There really was little interest shown from OzHPV members and John has shelved the project for now.

You can still contact John via email at raptordesigns@optusnet.com.au if you have an interest in a professionally manufactured OzHPV jersey.



WHPVA Jersey Competition

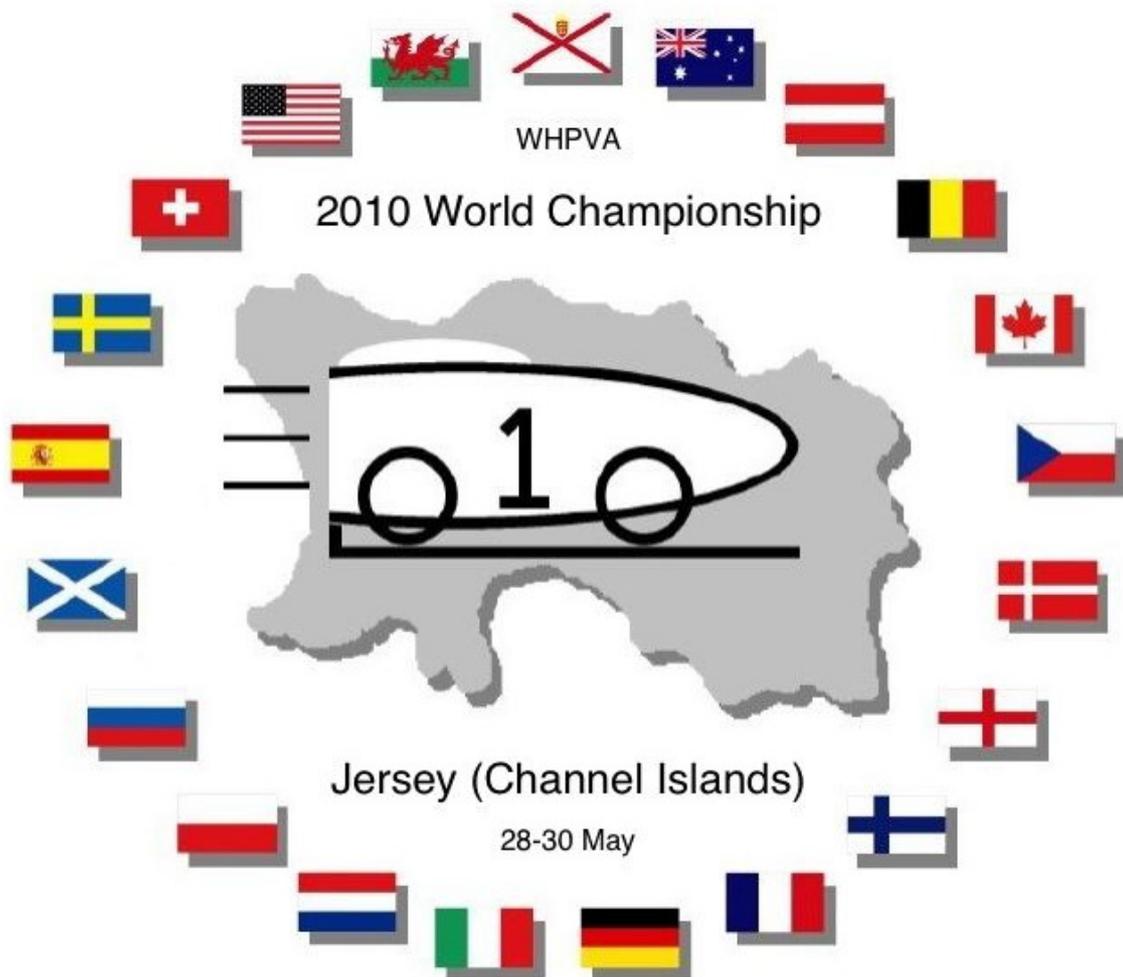
Another Jersey competition? No. Dates for the World HPV Association 2010 World Championships on Jersey in the Channel Islands 28 – 30 May 2010.

Lots of European and British riders will take part.

A long trip from Oz though?

More information at this website

<http://www.recumbent.org.je/WorldChampionship2010/Home.html>



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Next Newsletter

The next HUFF will be produced July 2010.
 Please send your contributions to huff@ozhvp.org.au