

# HUFF

Head Up and Feet First



OzHPV can be found at [www.ozhpv.org.au](http://www.ozhpv.org.au), or contacted by mail at OzHPV Inc, c/o 3 Prendergast Street, Curtin ACT 2605

## June 2016 Volume 19 Issue 2 - Number 86

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### President's Waffle (Peter Heal)

G'day and welcome to another edition of HUFF. Lots of things going on including the Sydney and Brisbane groups getting more active which is great. The Murray Tour, organised by Simon shows there is support for group events if someone takes the initiative to organise them.

When I took on the President's role again at the AGM last November, I made it a proviso that those at the AGM (sitting on their hands) would each try and organise at least one OzHPV ride or event which was accepted mostly by those present. Some have taken me up on this challenge and I thank them. For the others, you only have a few months before the 12 months is up guys. Other club members are encouraged to organise something. It only takes a post on either the Facebook page or our yahoo groups page to get something going. I'm looking forward to a busy second half of the year...

### Editor's Ramblings (Steve Nurse)

Hi, welcome to Huff #86! I am probably sounding like a broken record here but this Huff comes from waaay too few contributors, 3 to be precise! Please send the editor your latest facts, thoughts and dreams about HPV's and make this newsletter represent us all. It is probably only a few mouse clicks to convert your Facebooks into Huffs so please make the effort to email [huff@ozhpv.org.au](mailto:huff@ozhpv.org.au).

My contributions this time come via Alan Bishop, a veteran of the Australian HPV scene if ever there was one. Alan has attended HPV events and collected HPV magazines starting the early 1980's and finished at about the same time as I began (late 1990's). He still has some amazing HPVs as shown in this issue. Alan has 3 early sets of magazines relating to HPV's in Australia from and these are

Manpower, 1982, 1 Edition  
HPV Times, from 1991, 4 Editions  
Laid Back, from 1994, 2 Editions

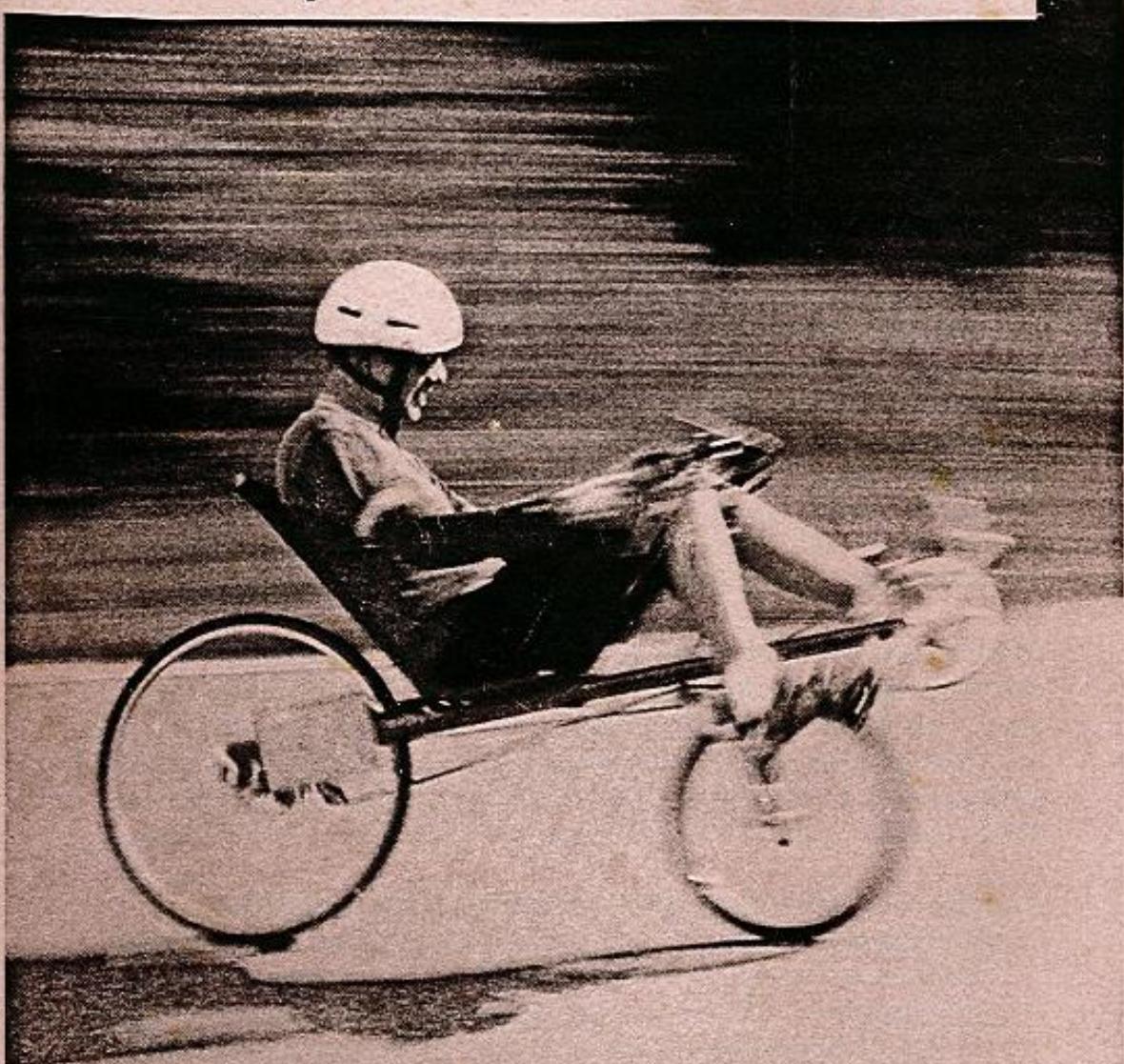
It is hoped that all editions of these magazines will be available on the ozhpv website before too long, meanwhile to whet your appetite I have included the cover of HPV Times 3 from 1992 on the following page. Wayne Kotzur cheerily gave us access to HPV Times: "Feel free to use them - they were fun to write & research". Wayne still builds cycles professionally and can be contacted through his website at <http://www.kotzurcycledesign.com.au/>



Brisbane Ride, June 12, 2016

# **HPV TIMES**

**human power in motion**



**SPECIAL TRIKE ISSUE.**

Greenspeed p2 Crystal's Trice p7 Trike Steering Basics p10

Grayson's Ho Chi Minh p15 1991 Energy Challenge p17

Danish Leitra p22 Fine Print p25

Photo: Malcolm Heywood

KING CYCLE  
**vol. 3**

*From our illustrious predecessor, HPV times 3, 1991*



*Streamliner Trikes at Ford proving grounds: trisled a lil Overzealous, trisled all Overzealous, trisled completely Overzealous, and Min TT*

### OzHPV Speed Records by Peter Heal

The OzHPV Technical/Records Sub Committee has recently approved three new speed records set over Easter 25th & 26th March 2016 at the Ford Proving Ground track.

Ford Australia graciously made available their test track to a group of up to 11 riders in high performance faired vehicles. Several attempts at 24 hour and 1 hour records were abandoned or cut short due to technical difficulties.

Records established over the weekend are as follows:

Tim Corbett: 326.562 km travelled in 6hours from standing start. (Australian men's 6hr record)  
 Tim Corbett: 628.721 km travelled in 12 hours from a standing start. (Australian men's 12hr record)  
 James Goodall: 69.597 km travelled in 1 hour from standing start. (Australian junior men 1hr record)  
 Kyle Lierich: 77.301 km travelled in 1 hour from standing start. (Australian men's 1hr record).

Congratulations to those involved, a short video snippet of the weekend's record attempts is at  
<https://www.youtube.com/watch?v=R-2MrU18sag>

Ford of Australia Proving Ground  
 Human Powered Vehicle  
 Australian & World Record Attempts

1hr  
 6hr  
 12hr  
 24hr

Easter, 2016

James Goodall  
 Tim Corbett  
 Jeff Nielsen  
 Gareth Hanks  
 Rachel Swain  
 Kyle Lierich



1:19 / 1:30



*Murray Tourists*

## **Murray Tour 2016**

The OzHPV Murray Crossings Tour took place in April 2016, it was an extensive tour from Murray Bridge in South Australia to Wodonga in Victoria.

There were many updates and photos posted on the OzHPV Facebook page during the tour, but it seems difficult to get anyone to write up a report for HUFF. The riders seemed to have a great time with sunny days and short daily legs followed by good pub meals and drink.

The best available “report” is a Facebook post by Dome from Sydney.

All over red rover, 1200km, 12 riders, 15 days. We were blessed with fine weather, great food & company. Support vehicle piloted by Don & Russ gave great support when needed, be it cold drinks, snacks & gear haulage to those that required it en route. We stayed in caravan parks every night ranging in price between \$5 - \$17p/p. Most of us had dinner at a local pub, while a few cooked meals to save dosh. We travelled mostly on back roads, although we came across plenty of Bogan infested ones as well. An excellent tour organised by Simon Watt of OzHPV. Looking forward to the next one!



*Dome Deli's Touring Rig*



*Mikael's Toxy short wheelbase bike, before and after the Australian leg of his tour.*

### **Mikael's Travels by Pete Heal**

Mikael from Denmark visited Australia at the end of 2014 as part of his around the world recumbent tour. Mikael came along to the OzHPV gathering at Lake Hume and then visited several OzHPV members' homes along the way at various places.

Mikael returned to Denmark earlier this year after over 35,000kms of travelling.

What makes this tour special apart from being done on a loaded recumbent is that no airplane travel was utilised. Mikael doesn't do planes, so he booked sea passage in cabins on container ships for the legs from Hong Kong to Australia, Australia to New Zealand, New Zealand to USA and USA to Great Britain. Mikael adds "And I did of course cheat massively at times due to mechanical failure, stomach failure or just plain "I'm too old for this sh#t". (The Murtaugh Doctrine)"

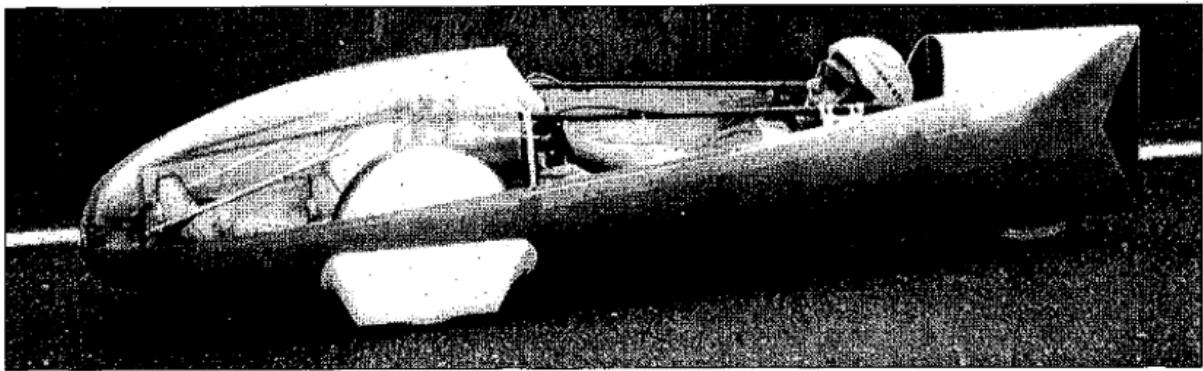
A quick timeline of his trip.

Left Denmark 14/4-2014 and bummed down through Germany, Czech Rep., Austria, Slovenia, Croatia, Italy, Greece including Crete, Santorini and Rhodes,  
Turkey 26/5-22/6,  
Georgia 22/6-2/7,  
Azerbaijan 2/7-11/7,  
Kazakhstan 11/7-31/7,  
Kyrgyzstan 31/7-7/8,  
Kazakhstan again, China 12/8-8/9,  
Hong Kong 8/9-17/9,  
China from HK to Hainan and back 17/9-13/10,  
Australia 26/10-18/1-2015,  
NZ 23/1-15/4,  
USA 25/4-late September with a small jaunt through Canada,  
Spain 10/10-late March,  
UK, France, Belgium, Netherlands, Germany and home again the 13/4-2016.

### **Alan Bishop's HPVs by Steve Nurse**



*Alan (standing with folding bike) with Graham S., John and Glenn, The bike folded up.*



*Linear drive trike "Fly-By-Wire" piloted by Alan Bishop with full aluminium fairing.*

## Sprint

The second day of the Championships, again with fine weather, saw Alan Bishop's trike achieve 59.65km/h in the 200m sprint. Named "Fly by Wire" the trike uses cables (linear drive) to convey the pedal strokes to the drive wheel, as well as steering, to achieve a very low profile. It is so well made it could happily sit in an art gallery or museum.

## Rolldown

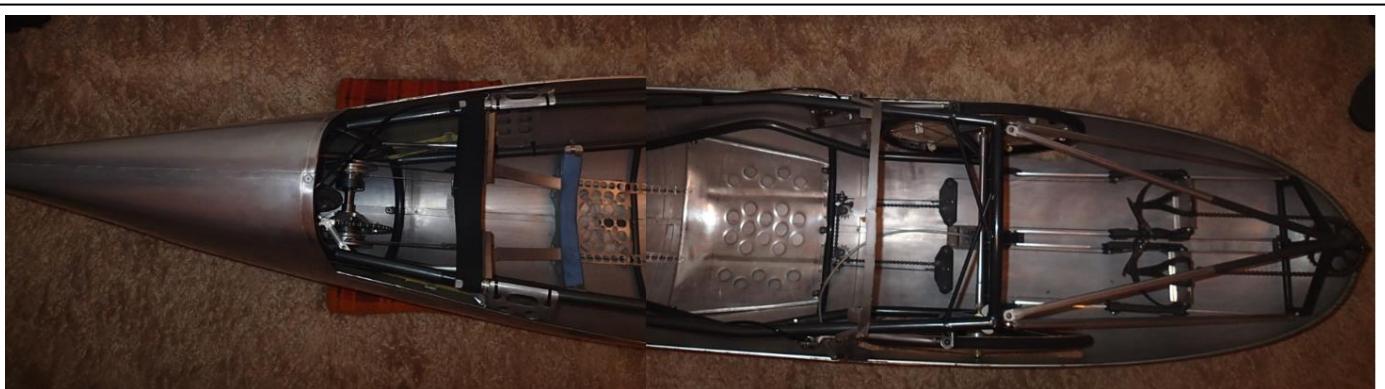
We then dashed up an overpass for a pedal-free descent as a test of aerodynamic drag. Alan Bishop's knee-height aluminium fully-faired trike disappeared into the distance, followed by all the faired vehicles. Recumbent bikes then followed with open trikes and traditional bikes behind.

### *Fly By Wire at 1994 Aust. HPV Championships (By Wayne Kotzur from Laid Back 1)*

Alan Bishop is a friend who comes to some of Robert Waryszak's Be-Spon rides and I see him every month or two. Usually he is riding an intricate folding bike which folds to a very small size. Virtually every part of this bike is customised in some way, even the chainring which splits to improve the fold! Anyway, over the course of several chats, Alan mentioned that he had a linear drive streamliner trike at home. This trike was almost legendary to me, as it raced at Sandown Racetrack in Melbourne in 1994 as I was just starting to build HPV's. I didn't attend Sandown or see the trike racing but it's been talked about ever since.

Anyway, I arranged to visit Alan and see his trike a few weeks ago. It certainly lives up to the hype! The trike has a handmade monocoque aluminium shell and a plastic fairing which is now brown-tinted and showing signs of age. It is propelled by horizontal-sliding pedals driving pulleys in the back of the trike via cables. The cables run under the rider, sandwiched between layers of aluminium plate. The ride position is so flat that shoulder rests are the only thing stopping the rider from being pushed by the pedalling back into the drive mechanism.

The linear drive helps the trike to have a very small frontal area: it eliminates most of the up and down foot movement meaning it can be very low and there is no bottom bracket between the rider's feet meaning it can be very narrow. I didn't get any actual measurements but tried to take a good set of photos – judge for yourself! The trike won most of the speed events it was entered in. Even though it was mothballed several years ago it still looks like it would work today, the now-quite fragile canopy possibly the weakest link. I would never even dream of making something like Alan's trike but it's very inspiring. I agree with Wayne Kotzur's comments from back in the day, it could happily sit in an art gallery or museum.



*Composite of 2 top view shots of "Fly By Wire"*



*Alan with Fly by Wire with the shell on, front and side views.*

### **Pete Builds a Bike by Peter Heal**



*Aluminium Lowracer laid out*

Nothing new about that I guess, but this one turned out to be the longest build ever using every tool, process and skill Pete has as well as a few new ones developed along the way.

Some time in late 2015 I was given a number of broken aluminium E-bike frames. The frames were warranty replaced by the Chinese manufacturer as their welds had all failed due to a poor design and mono tube main frame. I stashed these behind my shed thinking I would be able to practice my aluminium TIG welding at some stage. Then I got to thinking about all these nice mandrel bent 60mm aluminium tubes. Bad move – thinking that is. I laid several of the frames out and started at them with my hacksaw. It didn't look too bad, so then I drew the frame up full size using 650c wheels I had "laying around". A 650c carbon aluminium fork was surprisingly cheap from an Australian online store. I made a new carbon seat (sounds easy doesn't it) and the image of a new bike was forming.

The front crank boom tube and rear stay section were going to be moulded carbon fibre so there was a lot of work making first plugs of what I wanted out of MDF, polystyrene foam and cardboard tube. A similar amount of time making fibreglass moulds of the painted and polished plugs and then way too much time trying to get the bladder moulding process happening. I ended up with a reasonable front and rear section in carbon and few new moulds to store in the "mould shed". Welding the aluminium tubes together was the easy bit by far and version 1 with carbon ends came together OK a couple of months later.

The first ride exhibited some unsatisfactory "flex" in the big swoops of aluminium. Why didn't I realise that would happen? Anyway, the flex proved to be bad when pedalling under load so thoughts turned to improvements. The Facebook peanut gallery following my progress suggested all sorts of ways to improve the aluminium frame, but I knew it needed a complete rethink.



*The Aluminium – Carbon version completed*

Using the same full size drawing I started making a foam plug for the main frame which would ultimately be wrapped in layers of carbon fibre.

Receptor tubes for the front and rear ends were moulded over the plug used for the rear end giving me two carbon tubes with a smooth inside surface into which the “ends” would go. I also made an internal mould for a carbon headtube to utilise recessed integrated bearings.

The three carbon tubes were bonded together to a central 25mm foam spine and then two layers of foam either side of the spine were bonded/glued in place and shaped to form the ultimate shape of the frame.



*Making the male plug for the Carbon frame.*

The foam could be melted out afterwards to remove a small amount of weight, but I have left it in place for now.

Laying the carbon and Kevlar materials over the foam plug really was no fun at all and required much sanding and cursing afterwards. Don’t try and sand Kevlar after it is wetted out! After about three or four moulding days, where the headtube and receptor tubes were incorporated into one unified lump of carbon, I declared the frame finished. I painted it to stop myself doing any more sanding.

There were a couple of special mouldings made for seat mounts and an idler support tube. There are no external clamps for the attachment of the two ends. I chose to use aluminium bolts through the tubes with steel insert nuts bonded on the inside of the tubes. I also used this method to attach the seat and brake.

The project stalled for a month or so while I was in Japan and finally got it on the road recently. It rides very nicely and the increased stiffness of the carbon foam frame is a bonus when climbing hills. The seat height is a good balance for a road going recumbent. As a tribute to the Master of Flex Fighting and Efficiency I named the new bike “Wordy” in Paul Worden’s honour (RIP).



*Finished at last, and named as a tribute to an old mate.*

### **Vegemite 'squ-easy' – the next thing in sports refuelling? by Richard Ferris**

These photos, recently smuggled out of Vegemite's 'skunk works' at great peril to our inside source (let's call him 'Wazza'), show a pre-test prototype of the new Vegemite 'squ-easy' tube. The photos show what looks like a toothpaste flip-top lid attached directly to the vegemite squeeze tube without any modification. Amazing! Looks like Vegemite are full steam ahead with their plans to convert their squeeze tube from a cumbersome screw-top lid to a handy flip-top lid in a bid to corner a share of the lucrative sports gel / salt fix market.



*Vegemite in cyclist friendly packaging.*

### **Coming Events:**

Sign up to the OzHPV email list or facebook group to get up to date details of events or to start organising an event yourself. Details at <http://ozhpv.org.au/contact.html>

Sydney Recumbent Riders: Contact [domedeli@hotmail.com](mailto:domedeli@hotmail.com) or search for "Sydney recumbent riders" on Facebook.