

HUFF



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Letter from the Editor

Welcome to the New Year! If your 1997 was anything like mine I'm still trying to work out where the time went. As I write this on the long weekend in late January it seems as this if this year is going to be as busy as the last.

There seems to be plenty of activity in the HPV field. I've assembled a range of articles locally and internationally that should be of interest, these include Ian Sims report on the Anaheim bike show late last year, three construction articles and a tour report.

There's also some activity in the commercial area with a review of the Wavey which is now available in Australia, and some thoughts on selling recumbents in Australia from Ben Havey of Canberra Cycles.

Remember that if you have anything of general interest to the HPV community to let me know. I currently don't have much to go into the next issue so chances are very good that we will publish it.

Enough from me, over to the contributors.

Regards, Karl

InterBike and Recumbents

by Ian Sims, Greenspeed

InterBike, Anaheim, CA, USA is billed as the largest bike show in the world. It is only open to the trade and ran from Thursday 4th to Sunday 7th September in 1997.

It all started with a simple e-mail message from Steve Smilanick of S&S Bicycle Torque Couplings. Did I know about S&S BTCs and would I like to use them on my trikes? Many e-mails later and some soul searching on my part, I found myself at Tullamarine Airport, struggling to get two fully assembled trikes, a trike frame and two suitcases to the check in counter - what had I let myself in for? I had never even flown out of the country before! I was pleased to be only charged \$100 extra for the trikes.

After 15 hours on the 747, it descends into LA airport. Looking down the first thing I noticed was the freeways. THIS is a freeway!!! Counted them, yup, TWELVE lanes wide!! Looks like what they say is true - the USA DOES have the best bike paths - only trouble there is too many

cars on them!

I made the mistake of declaring trikes to customs, and the fact they were worth over \$1,200 US. I needed a formal entry visa, and had to find a customs broker to do it. Fortunately I had a customer meet me, and we managed to find a broker - took about 3 hours all up! The customs were not even interested about the trike in the suitcase (with the S&S couplings).



How to get a bike through US customs and not attract any duty.

A Greenspeed with S&S couplings packed into a suitcase.

I'd managed to arrange a shared room at a motel right next door to the convention centre, with Zach Kaplan and his business partner, Conrad. My customer deposited me there and drove off delighted with his new trike. I then assembled the S&S suit case trike in the motel room for display at the S&S stand at the show.

Like the freeway, the show was BIG! It had 1,000 exhibitors and occupied FIVE halls. Zach and Conrad said that the four days were not really enough to cover it properly, and had an elaborate plan worked out to get the most



Ian Sims during one of the quieter moments of the InterBike show.

Head Up Feet First is the newsletter of OzHPV Incorporated. OzHPV can be contacted via Paul Segal at pauls@atrax.net.au, or via the editor at karl@dart.anu.edu.au. The ever developing OzHPV web page can be found at <http://sunsite.anu.edu.au/community/ozhqv>. You can contact OzHPV by mail at OzHPV Inc, 25 Wilkins Street, Mawson, ACT 2607 or phone (02) 6286-4092 (evenings).

out of the time available. One of the most interesting aspects was the indoor test track. The deal was if an exhibitor had a customer who wanted a test ride then he was to take the customer and the machine down there (it was in the one hall on the lower level) and once the customer had signed a release, then he was let free on the test track, which was a rectangle marked out with witches hats. This is what I had bought the demo trike over for.

I had a lot of requests for demos, and thus spent quite a bit of time at the demo track. What really blew me away was that according to my estimate, and according to others who observed the test track during the show, 80% OF THE TIME THE TRACK WAS USED BY RECUMBENT TRIKES!!

Besides the Greenspeed, the Windcheatah, Comfort Cycle (LWB with 1f, 2r), Sidewinder (RWS 2f, 1r) and an electric trike were used quite frequently on the track. There was also a Rebike trike at the show, and maybe a couple of others. I was rather flattered when a number of people indicated I had no competition.

Besides the trikes which only had small stands (10' x 10'), recumbents were well represented. Rans had quite a large stand, (D island #3723 - 20' x 20'), as did bike E, Re-bike, and Vision (both 10' x 30'). Pashley showed their PDQ SWB. Linear had a small stand (10' x 10') and Lightning was not there.

Dick Ryan, like me, had one of his coupled machines on S&S Machine's stand (10' x 20') and spent some time working for both S&S and himself.

While the recumbent stands were not as big as the larger bike manufactures, (for example, Giant's stand was 50' x 70'), they were on a par with many of the smaller component/accessory manufactures (Spinergy, Odyssey, Speedplay, Kryptonite, Profile, Finish Line, Nightsun, DT Swiss all had 20' x 20' stands).

There was quite a lot of interest in suspension for recumbents with both Rans and Vision exhibiting full suspension bikes. They were using a rear swing arm with Cane Creek air/air units and Ballistic forks with steel spring/MCU elastomers. Bike-E also had a rear suspension model with a swing arm and an elastomer wedged under the frame.

The show went Thursday, Friday, Saturday, and Sunday. On the Saturday, People Movers, who claim to be the largest recumbent shop in the USA, had their annual "Bent Bash" -an open day with test rides etc.. Some people were annoyed that this was held during the Show as if one visited People Movers it would mean less time at the show. However the show was only open to the trade, and it made sense to me to hold it at the same time, when the recumbent manufacturers were in town for the show.

I left the show about 1.30 and rode over to People Movers on the demo trike to check out the scene. There were a number of manufactures there and a lot of test bikes and trikes to try. I was surprised to see quite a number of trikes in Jim Wronski's shop - about six different machines, including Greenspeed, Windcheatah, Trice, Comfort Cycle, S&B, Sidewinder, etc.. There were also a fair number of home built machines there for the day, from the immaculate engineering of Frank Colver's off road power assisted trike, to the rather crude engineering of a lean-steer trike with a plywood seat which I could not get off fast enough! I tried out the new suspended bikes, but found they could

not even handle the concrete seams in the car park (possibly due to the narrow Primo tyres) without dumping me. However most people were impressed, including the publisher of the Recumbent Cycle News (RCN), Bob Bryant, who took one on the morning ride to the beach and back. He claimed the road holding was improved at speed on rough surfaces.

I must say I thoroughly enjoyed myself at the show and at People Movers. It was really great to meet so many of the people I have corresponded with on the net. The traffic through the stands was much better than in shows here, and it was hard to find enough time to be on the stand, at the test track, and visiting the 1,000 exhibitors! I made many useful contacts, and could have sold my demo trike (actually Paul's ex touring/race trike) many times over!

For a full report of the show with more photos and details of the recumbents on display, may I suggest RCN #42, available from Greenspeed, at \$8.00 plus \$1.50 postage.

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Fully enclosed plastic wheel covers by Keith Philipson

At the OzHPV challenge in November Keith Philipson had equipped his Greenspeed Trike with a set of slick looking plastic wheel covers. In this article Keith tells you how he did it - Ed.

The plastic needs to be a heat-shrink type, for example from a hobby shop, as used to wrap beer or soft drink cans. Emergency windscreen kits or even school book covering plastic may work.

Each wheel may take about 40 minutes. You need to start with the wheel off the bike/trike and the tube and tire off the wheel.

Tape two identically sized plastic sheets together on three sides. If the wheel hub has an axle hole need to be cut big enough for this and/or the sides of the hub. Using this hole as a centre, trace a pattern on the plastic with a Texta about 20 mm bigger than the wheel. Remove the wheel.

Following the Texta line with a soldering iron (on a scrap piece of wood) it is possible to cut and join the two plastic sheets. Only go halfway around, then insert the wheel and locate the axle and temporarily tape it in the holes. Continue cutting and joining.

When the wheel is enclosed fit the tyre and tube as normal after cutting a hole in the plastic for the tube stem (where it enters the rim) and a single radial slit in line

with the tube stem to connect the pump.

After pumping the tyre up to the correct pressure use a hairdryer or paint stripping gun on the plastic until it shrinks. Go around the outside first shielding the tyre with a board. The slit for the tube stem will open to about 30 mm, which can be covered with a piece of suitable tape. Trim around the axle or hub with a craft knife.

The wheel will amplify wheel and road noise (like a drum). This is not annoying unless you are in quiet country lanes. Strong winds can move my Greenspeed trike sideways a little so caution is needed with covers on large diameter wheels in gusty situations.

Advantages:

- Looks and sounds different
- Looks high tech.
- Aerodynamic advantage...?
- Coloured plastic increased visibility
- Cheap

Disadvantages:

- Slows down tube repairs
- Probably not reusable after a puncture
- Cannot check or adjust spokes
- Not usable on bikes with rim brakes

Note: After Keith had submitted this article he did get the opportunity to check whether the cover was reusable after a puncture and apparently it is. - Ed

Trike transporter

by Keith Philipson



Keith Philipson's Greenspeed trike on the transporter, complete with wheel

If you think trikes are hard to get through doorways and take up a lot of space to store then try this idea.

The modified hand trolley (see photo) moves and stores my Greenspeed Sports Tourer with ease, even with full panniers. Its easy on my back and leaves no chain marks on my clothes.

25 mm RHS steel form a rack for the back wheel is bolted into a support for the rear wheel, which is bolted to the base of the trolley. The trike's handle bar is strapped to the padded trolley handle with two toe straps.

With this set-up my trike takes up about the same floor area as my cobweb covered mountain bike.

For further information Keith can be contacted at 02-6332-4867

How to make blown HPV fairings

by Warren Beauchamp, WISIL

During one of my lunchtime roams around the Internet I came across the WISIL homepage and an article on how the WISIL group were producing home made plastic fairings.

Warren Beauchamp was kind enough to let me reproduce the article in full. The original article can be seen at <http://homepage.interaccess.com/~wbeauchamp/index.htm> under WISIL HPV Projects. There's a lot of interesting material on this site apart from the information on fairings.

I've left the text of the article as I found it, so you will have to do your own conversions to metric units -Ed

At the WISIL skunkworks (Bill Murphy's basement) we have been creating blown canopies, nose-cones, and fairings for use on HPVs successfully for over a year. These plastic bubbles are aerodynamic, durable, and inexpensive to make. One may ask (OK, more than one asked), how exactly do you make those blown fairings and nosecones? Well, here goes...

Bubbles can be created out of almost any kind of plastic that is available in sheet form. The lower the melting temperature, the easier it is to make them. The types we have typically been using are:

- ABS (cheap, low forming temp [200°F], not too strong)
- Vivak (low forming temp[250°F], strong, cheap, slightly photo degradable)
- Lexan (High forming temp[350°F], expensive, extremely strong and stable)

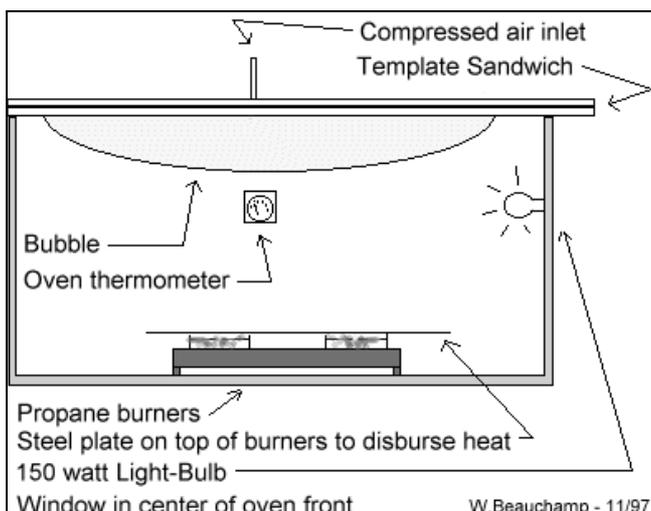
The WISIL Missile, and Sean Costin's "boy in the bubble" fairings were made with .030 inch Lexan, and were a real pain. The main reason we used Lexan was because Sean found a source of a 200' x 4' roll, whereas we can only get Vivak in 4'x8' sheets. The main causes of the pain were the high forming temperatures (long oven heat up times), and the .030 inch thickness (too thin). We have since determined that between .06 inch and 0.09 inch is the optimal range of thickness to prevent buckling and warpage while riding at high speeds. Thinner than 0.06 inch and you need ribs for support. You can go thicker, but of course it is heavier. The bubbles seen on the "Practical HPV Fairing" page are made of 0.09 Vivak, which is much easier to work with.

The hardest part is creating an oven that is big enough to hold a fairing, and to keep the temperature controlled properly. In the WISIL skunkworks facility, Bill, along with a host of other members of the WISIL builders contingent, built a 8' by 4' by 4' oven out of aluminum sheeting and aluminum "L" stock, and insulated it with high temperature fiberglass insulation. The oven is heated by placing 6 (surplus) electric base board heater elements on the bottom of the oven, along with two "cal-rods" (they look like big straight oven heating elements). The whole front of the oven opens (a 4'x8' door). The door had a glass windows in it, but it cracked, so now we just have a small peep hole to look in. The oven has a light bulb inside so we can view our progress. The fairing template hangs upside down from the top of the oven, so that when it is blown, gravity helps pull the bubble down.

Don Barry, of Infinity Recumbents, made his oven a little differently, and, as his method is easier to build, I will illustrate it. He used Celotex tuff-R (an insulating board with aluminum backing on both sides) to construct his 4'x8'x4' oven. It has good high temperature characteristics, and is rigid enough to create a stand alone oven with. Aluminum tape and long drywall screws will hold it together. He used a large propane camping stove as the heat source (propane tank outside the oven), with a metal hose to feed the propane into the oven. A large sheet of metal over the burners disbursed the heat to warm the plastic sheet evenly. The sides and bottom of the oven are constructed of Celotex insulation, and the template rests on the top of the oven, with a gravity seal.

An oven thermometer is used to measure the temperature. More than one thermometer is recommended to detect hot spots in the oven. Hot spots are the most common cause of deformed bubbles

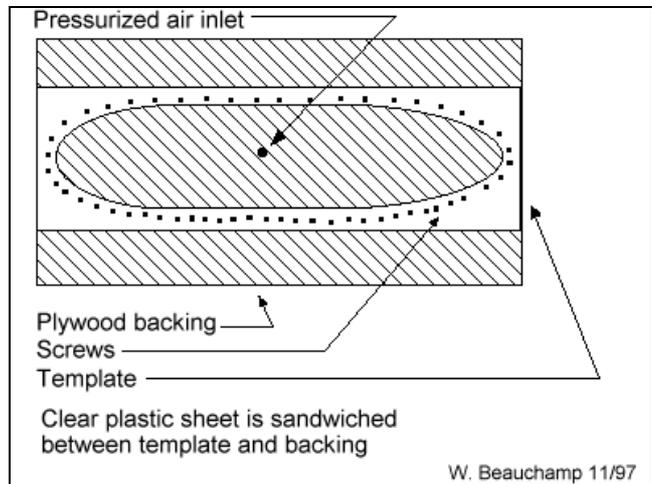
Bubbles are blown from a flat template which is made from plywood (3/8 inch or thicker). The flat sheet of plastic is sandwiched between the template, and a thicker (1/2 inch or thicker) sheet of plywood. The sandwich is all fas-



tened together with drywall screws. A felt (or other high temperate material) gasket is placed under the screws to provide a good seal between the plastic and the backing plywood. The seal is very important. Things may expand when heated, so be careful here.

After the oven is constructed and the template is made,

the fun begins. Heat the oven slowly to the proscribed temperature (some experimentation will be needed). Keep a close eye on your plastic sheet. When it starts to buckle you are getting close. When it starts to sag slightly, you are ready to blow. A standard 10 gallon compressor with a hand operated valve is all that is needed to provide pressure. A wire with graduations marks on it, or markings on



the back of the oven may be used to measure how deep the bubble is. Blow the bubble carefully, watching for any potential blow outs. If you make the bubble deeper than the template is wide, it will balloon sideways, over the sides of the template, and will be hard to remove from the template, as well as less aero. If hot spots are caught early, unhook the air hose. The bubble will deflate partially. The hot spot can be fixed, and the bubble can be re-blown (a few times). Be careful not to get the bubble too close to your heat source, as a runaway bubble can happen quickly. Once the bubble has reached a good shape (Don't try for perfect the first time), turn off the heat, and open the oven door, releasing the heat, while using small bursts of air to maintain the bubble's shape. Once the bubble has cooled, you can remove it from the template, and trim the "tabs".

The bubbles need to be mounted to some type of light framework, as then are not rigid enough to be load bearing. Aluminum strap makes a good lightweight framework material. The bubbles may be mounted with self sticking Velcro, or pop rivets. (I like pop rivets).

While the initial oven and template construction may seem daunting, and the initial few blows will be frustrating, after a little experience you will be having bubbles popping out of your oven like gumballs from a candy machine. The costs and time of making fairings this way is significantly less than traditional methods, which consist of creating a "plug" (a "positive" mold of the fairing), creating the female mold from that, and the making left and right hand fairing halves from the female molds. It's not as stinky either. The shapes made this way are naturally aerodynamic, utterly smooth, and clear. The Vivak bubbles do scratch easily, and they can be painted. Painting the inside of the bubble makes the outside look very shiny. A completely clear fairing, or large clear canopy gets VERY hot in the summer sun. A veritable solar cooker.

Good, Fast Cheap - Pick all Three

by Giles Pucket

This bike was built in a few afternoons after riding a Bike-E and deciding I liked it. It has been very pleasant to commute on and is a very easy introduction for non-bent (straight?) folks. It's also easy to adjust the seat for kids.

It is basically the same as a Bike-E but with a 20" front wheel. Start with a BMX rear triangle cut from an old frame. The lower tube runs essentially parallel to the chain stays up to the steering head (also from the BMX frame). The upper tube completes the frame. Its length is chosen so the legs can comfortably reach the pedals at their full forward extent of travel. I chose a low BMX frame (short seat tube) so my seat height would be fairly low.



The Bike-E clone as constructed by Giles Pucket.

The two long tubes are 38mm x 1.2 mm wall mild steel from a backyard swing set. The bottom bracket is from an old frame, with the lugs ground off and brazed inside a close fitting bit of exhaust pipe to keep things neat. Put some old cups in it to protect against distortion while heating it up. The length of the short bit of tube between BB and steering head is chosen so the pedals clear the front wheel when turning. None of the lengths are critical. The steering head angle is 60 degrees, which requires a little extra offset bent into the forks to stop excessive fork flop. BMX forks are no good as they don't have enough offset to start with, and are hard to bend. I found a 20" lugged pair and warmed up and bent them to a total of about 90mm offset. It could take a little more; the Tour Easys have a similar angle and they use 120mm. The steerer tube clamps



Seat detail of the Bike-E clone.

onto a cut down steering head inserted into the fork. It just takes another steering head at the top, and a nice pair of alloy MTB bars completes the picture (one of the few bought bits). The angle is just right and the handlebars fall nicely to hand. I'm not happy with the rigidity of this arrangement, and would also like some more telescoping adjustment or a fold-down steerer like the RANS bikes use. But it's my bike, and I'm allowed to gripe about it. The seat (see photo below) is a very wide conventional sprung bicycle seat. The clamps etc are removed and thrown away; two lugs are brazed onto the front of the rails that remain and these take a quick release that goes through the upper tube. Several bits of tube are brazed in at 50mm intervals to protect the upper tube from squashing and provide easy adjustment. The upper tube rests on top of the old seat tube of the rear triangle and projects back a little from there to take the rear-most position of the seat. Beware of making the seat too far back, however; it is easy to lift a wheel when starting uphill. The back of the seat has an inverted semicircle of large tube, lined with rubber, that bears on the top of the upper tube. A frame goes back behind the seat and has a square of mesh fabric laced in with bungy cord to form the back of the seat. The seat can be removed quickly for transport. Ordinary side-pull brakes were frighteningly inadequate! I found an old frame with cantilever bosses and cut them out with patches that were then brazed onto the frame and forks. The length of all the cables was such that there was

a lot of friction. I put braze-ons everywhere (the photo shows 3 sets going down the long steerer tube) and eliminated most of the outer sheath in both brake and gear cable runs. This improved things greatly. While I was going mad with braze-ons I also put some bottle carrier bosses into the steerer tube and the frame. The gears are just a 7 speed wide range cluster (12-32) with a 48 tooth front ring. I'll try a Sachs Orbit or 3x7 (when I have some spare cash) to get a higher gear range.

A front view of the bike.

There is no front derailleur post, and I don't want to put one on as it spoils the clean lines (and would require yet another paint job on the frame!) The chain needs no idlers but does have PVC tubes to protect the rider's legs from grease and to keep the chain from falling off at the front.

Giles can be contacted at giles@research.canon.com.au if you need further information on this

Brisbane to Sydney by Recumbent by Gary Higgins

Over the two weeks between 07-September and 21-September 1997 Gary rode his long wheel base (LWB) recumbent bike between Brisbane and Sydney. Here's his summary of the tour. -Ed

I have been cycling on various mountain bikes for the last 10 years, have completed a number of the Great Bike Rides but had been looking for a LWB recumbent for touring for some years.

(I am 52 years old and my back is becoming more of a problem, even on short weekend rides.)

I recently purchased a LWB Ryan copy, built in Adelaide (see My Bike in the April Australian Cyclist). I was wrapped in the bike from day one and have not ridden any of my other bikes since. What's more I have had no back problems because of the full support seat.

I recently rode from Brisbane to Sydney via mostly back roads, some gravel, and it was great. I never walked up any hills, dirt or tar, and just topped 70 km/h coming into Coffs Harbour (I am now looking for a bigger hill!). The bike attracted plenty of attention everywhere we went, making it into the press twice, mostly by chance encounters with reporters on the road, and it performed perfectly. It was suprisingly stable on the dirt roads, and climbed the loose dirt hills easily because of the weight over the back wheel.

After two weeks on the bike riding daily my back was



Gary and his LWB recumbent somewhere on the backroads between Brisbane and Sydney.

perfect, and I am planning many more trips.

The only downer was on arriving at Central Station at the start of the ride to catch the XPT to Brisbane on which the bikes had been booked, only to be told they couldn't take my bike because of its length. I had to strip it to the frame, put the frame diagonally into a conventional bike box (from which the forks still protruded), and only then they reluctantly agreed to take it. It took over an hour in Brisbane to re-assemble the bike.

The tour itinerary was as follows

<i>Beenleigh</i>	<i>Tweed Heads</i>	<i>76km</i>
<i>Tweed Heads</i>	<i>Byron Bay</i>	<i>84 km</i>
<i>Byron Bay</i>	<i>Casino</i>	<i>79 km</i>
<i>Casino</i>	<i>Grafton</i>	<i>100 km</i>
<i>Grafton</i>	<i>Coffs Harbour</i>	<i>83 km</i>
<i>Rest Day</i>	—————	—————
<i>Coffs Harbour</i>	<i>Nambucca Heads</i>	<i>94 km</i>

<i>Nambucca Heads</i>	<i>Crescent Head</i>	<i>98 km</i>
<i>Crescent Head</i>	<i>Laurieton</i>	<i>93 km</i>
<i>Laurieton</i>	<i>Forster</i>	<i>85 km</i>
<i>Rest Day</i>	—————	—————
<i>Forster</i>	<i>Hawks Nest</i>	<i>116 km</i>
<i>Hawks Nest</i>	<i>Swansea</i>	<i>105 km</i>
<i>Swansea</i>	<i>Patonga</i>	<i>105 km</i>

Recumbents and Canberra Cycles by Karl Nissen with Ben Harvey

While there is a fair amount of recumbent related activity in Australia, most of the machinery that is currently ridden has either been custom built, imported by the owner, or home-built. Of these options the first and the second tend to be expensive, and the third requires a significant input of time (and sometimes money) to achieve the necessary skill to be able to build a recumbent bike or trike.

Until recently there has been no commercially available off the shelf recumbent available in Australia (this may be an incorrect statement, please let me know if this is so...) at a price that would attract first time recumbent owners.

Ben Harvey of Canberra Cycles in Fyshwick in the ACT (one of the principal sponsors of the OzHPV Challenge in November) has spent some time looking into the process required to produce an off the shelf recumbent and was kind enough to share his thoughts with me.

The aim of Canberra Cycles is to provide a commercially available recumbent to the general cycling public. This means that it is necessary to have bikes available at a reasonable price, and available for sale directly off the showroom floor. Until now the people who have ridden recumbents have tended to be enthusiasts who were prepared to pay a premium price for a recumbent and persevere with the often long delivery times. If the general public are to be able to buy recumbents both the pricing and availability issues need to be overcome.

Canberra Cycles is aiming to provide a standard recumbent bike (with various componentry levels and costs) in three forms. These will be a sports machine with above seat steering, a touring machine with under seat steering and a racing recumbent with above seat steering.

Frames would be available in either mild steel (on the cheaper models) and in Cro-Mo. The present plan is to have these constructed by Wayne Kotzur in a 20/26 inch front/rear wheel combination as a SWB frame with a wheelbase of about 1100 mm. Canberra Cycles would assemble the frame and componentry. Indicative pricing for a mild steel frame with Shimano Acera components would be about \$1450, Cro-Mo with Shimano STX componentry would be about \$1995. *(Please confirm general availability and pricing with Canberra Cycles - Ed)*

We are also investigating other local sources of frames, however there does not seem to be a framebuilder in either Canberra or Sydney that is able to do a production run of recumbent frames in sufficient quantity.

In addition to cost and availability there are other criteria

in a suitable entry level recumbent, the most important being that the bike must be easy to ride. Learning to ride a recumbent can take time, but for someone who comes of the street to try a recumbent for the first time the bike does need to be easy to ride. Bikes that are difficult to start, or provide twitchy handling or make the rider generally uneasy will not sell, at least to those in the general public.

We had the opportunity to ride a Bike-E recently that one of our customers had imported for himself and we were very impressed with the machine. The above seat steering and the relaxed bottom bracket height make this a very easy and comfortable bike to ride. The design of the bike, with the extruded main beam make it an easy and economical bike to manufacture, with all the components (steering, rear forks and seat) either bolted or welded to the main beam. The manufacturing costs for what is usually the most expensive part of any recumbent should be significantly lower for the Bike-E.

We are currently investigating sourcing either the Bike-E bike or the frame (with local assembly of parts) from the manufacturer in the United States as one of our options for

putting recumbents on our show room floor.

During the process of looking to either locally manufacture or assemble recumbents we are significantly more knowledgeable about the processes of buying components, especially recumbent specific components. In this respect we are interested to know what recumbent owners may be looking for in regard to special parts. You may be aware that we have brought a quantity of Continental 20 inch (406 ERT0 or BMX size) tyres (120 psi, 1.125 inch width) and tubes which are currently the highest pressure 20 inch tyres available.

We also will continue to be involved in the general recumbent scene, including supporting the OzHPV Challenge. Events like these are a good source of information on who the recumbent riders are and what they are up to.

Hopefully there will be more to report on Canberra Cycles recumbent plans in the next issue of HUFF. For further details Canberra Cycles can be contacted at (02) 6280 4984 or visit their showroom at 70 Newcastle Street in Fyshwick

**ACT Bike Warehouse imports the
Wavey Recumbent
by Karl Nissen**

The ACT Bike Warehouse in Mitchell in the ACT has recently imported limited number of the Wavey recumbents. The Wavey is a German design by Velotechnik in Germany but manufactured in Taiwan.

While the bike is available in different levels of equipment in Germany the machine that the ACT Bike Warehouse has imported is the lower priced seven speed model (a 21 speed option using the Sachs 3x7 rear hub is built for the German market). Readers of HUFF that have a copy of the 97-98 Encyclopedia handy will find the Wavey recumbent reviewed there as well.

The frame is based on a single 50 mm Cro-Mo tube that seemed to be more than stiff enough for my 100 kg of weight. Rear triangle and front fork are both Cro-Mo.

The equipment level is a mixture of some Alivio in the rear hub and derailleur and Alexi rims. Other equipment

such as the cranks and the front hub are basic alloy components of Taiwanese origin.

The seat is an interesting composite of a mesh back and a padded solid seat base. Adjustment for rider size is via a quick release under the seat and a quick release at the back of the seat takes care of seat rake. The range of seat adjustment with this design would seem to offer a wide range of rider sizes.



A general side profile showing the general construction of the bike.

The seven speed gearing is somewhat limited for speed racers and mountaineering types with limited range at both the top and bottom ends. A rough calculation gives the range as about 35 to 86 gear inches, good for cruising and commuting, but maybe a little lacking if you wanted to tackle the Alpine Challenge.

A couple of nice features of the frame were the fittings for guards and a rack at the rear. There is also fittings for a rear wheel dynamo and headlight, with a wire already inserted into the main tube in the frame.

The use of 20 inch BMX tyres front and rear (406 ERT0) means that there are a wide range of tyres available, from high pressure slicks to knobby BMX offerings. The use of 20 inch tyres means that the overall bike is fairly short overall, which should make storage and transport reasonably easy. The fat main tube frame may however be a problem in transporting the bike on a standard rear bike rack. An additional advantage with front and rear tyres of equal sizes is that there is only one spare tube required if you tend to carry that level of sparring on your rides.



Front and rear photographs of the Wavey recumbent showing the composite seat and general detail.

The chain path on both the drive and return side are enclosed in tubes, which would allow the rider to keep clear of the dreaded black chain marks on the legs or clothing.

The bike rides well although I personally found the handle bars to be at an odd angle. During the time I was riding the bike I didn't take the time to check out whether this was adjustable, however the fittings used are standard, so this may not be a problem.

I don't think this is a bike for the recumbent rider looking for their second or third recumbent, but should be an ideal machine for the person looking for a more comfortable ride than the hard narrow seat of their current mountain or road bike.

Depending on the public response to the standard model the ACT Bike Warehouse has plans to import a model with a higher level of equipment, and a frame only option may be possible. The fully Cro-Mo frame would certainly work well with a higher level of componentry being stiff and reasonably light.

The ACT Bike Warehouse has a number of machines in stock, in one colour of yellow (there should be colour photographs of the machine on the ACT Bike Warehouse WWW page at <http://www/bikewarehouse.com.au> soon) at a retail price of \$1499.

For further details contact the ACT Bike Warehouse staff at (02) 6241-7987 or visit the showroom at 20-24 Essington Street in Mitchell.

HEEELLLLLPPP !!!

I'm drastically short of articles for the next issue of HUFF, so unless you want to receive just an editorial from me in March/April get writing...

If you can give me your text in electronic form (either on disk or via electronic mail) it saves me a little time. If you have pictures in electronic format (either on disk or via e-mail again) this will save me a lot of time. I can however work with standard text on paper and photographs.

Contact me at karl@dart.anu.edu.au or phone (02)-6241-4354 if you need further information. Send any contributions to 203 Atherton Street, Downer, ACT 2602.

For Sale

FOR SALE: Full fairing suit Greenspeed, fibreglass, \$150. As seen at 1997 HPV Challenge and at <http://recumbents.com/giles>. Male mold for above, \$800. Several sheets 3mm Divinycell sandwich foam, price negotiable. Selling due to lack of research time. Giles Puckett, (02) 9817 3605 (home) or giles@research.canon.com.au.

FOR SALE: One Mavic 559 mm (MTB) rim. Double wall eyeleted rim. Used, but in good condition (no dents or bends) \$30

Also a set of 20/26 inch wheels (406/559 ERT0) for sale (available in March). Dura-ace hubs (36 hole) with Sun Chinook rim (front), Mavic rim (rear). Both rims are box section, about 3 years old. Stainless spokes. Will take a standard XT - XTR 8 speed cassette. \$320 or make an offer.

Contact Karl Nissen (02) 6241 4354 (home) or karl@dart.anu.edu.au

Upcoming Events

Nothing new since last time and I'm out of space for this issue, so you'll need to refer to Issue 3 for the moment.

OzHPV Elections

At the end of January we had a total of zero nominations for the elected positions of President, Secretary and Treasurer. This means that Wayne Kotzur, Leanne MacKay and Duncan Clealand will fill the respective positions for the next year.

If this newsletter cannot be delivered please return to :

*25 Wilkins Street,
Mawson, ACT 2607*