

Letter from the Editor

Well this ends another year for me in editing HUFF - if there's one thing this job brings with it, it helps me keep in touch with what's going on with HPV's. There will be time allocated at the December Challenge at Werribee for an AGM. Have a think about whether you may be able to serve on the Executive. I will also leave the job of editing the OzHPV Web site and the newsletter HUFF open to anyone willing to give it a try. I don't pretend to know all there is to know about this and it would be great to see new blood with different ideas.

Timothy Smith
tstrike@ihpva.org

AGM

The OzHPV AGM will be held at some time during the challenge. This year it will likely be on Saturday afternoon, as opposed to Saturday evening meeting.

Proposed Agenda

- Presidents Report
- Treasurers Report
- Secretary Report (correspondence, etc)
- Election of Executive. Nominations are welcome (President, Secretary, Treasurer, Membership Officer, IHPVA representative, State representatives, HUFF ans Web page editor). Nominations can be emailed to me.
- Other business

Jeremy Lawrence - jeremyl@cfcl.com.au

Fiddling with Foam Fairing Construction

by Wayne Kotzur

When Daniel Humphries ordered his Decimach Competition racer from me he had some fibre glassing friends in mind to do the fairing. Unfortunately for Daniel they both followed jobs to the other end of the continent. As I had made fairings before and custom moulds for bike parts, I took on the job. What follows is a short description of constructing a plug mould sufficiently good to have a professional take an impression from it.



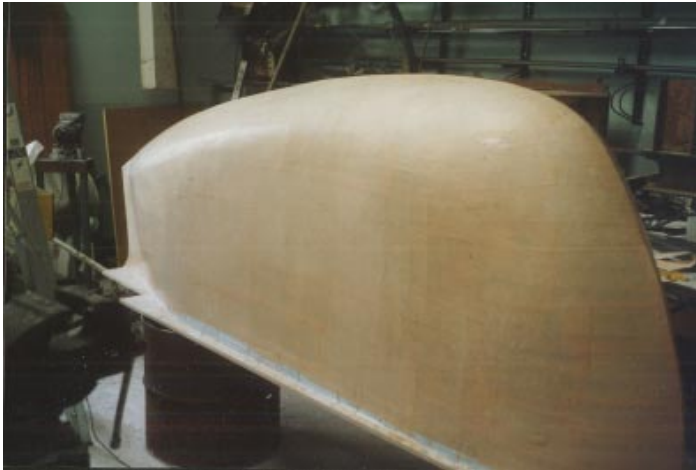
Completed kevlar copy sits behind bike, unpainted and windowless.

As the fairing must travel overseas it was made from two layers of kevlar which is very impact resistant and can take lots of mistreatment. It was not considered necessary to make a female mould as the expense could not be justified for a single copy. A thin fibreglass top coat that could be sanded if needed was applied over the top to enable the outside surface to be feathered. It is impossible to sand kevlar as it fluffs badly.

Once Daniel's prone dimensions and layout was fixed (lots of frantic Interstate calls) I

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Plug covered with newsprint and PVA.

calculated the sweep of his knees and shoes and steering action. This was transferred onto an overlay on the full scale bike plan. Slicing the plan up into 100mm sections, I indicated the crucial widths and drew freehand curve just outside these. Once this set of rough curves was set I decided on what overall shape was needed.

The main considerations are:-

- * To avoid sudden transitions of shape.
 - * Try to keep the overall frontal area down.
 - * Provide good attachment points especially if the fairing is flexible.
 - * Provide enough curved area to lend stiffness.
 - * Access, splitting for transport and portability.
 - * Keep the window regions as simple as possible for use of non-blown poly- carbonate clear plastic ("handiglaze")
 - * Satisfy the client's minds view of what it should look like
- Daniel's rough shape was honed down in frontal area by over 200% and length by 15%. This was done principally by reducing the height of the prone rider with a smaller front wheel, making a custom low profile headset and bringing the head as close to the steering end as possible, and narrowing the width to a maximum at the shoulder.

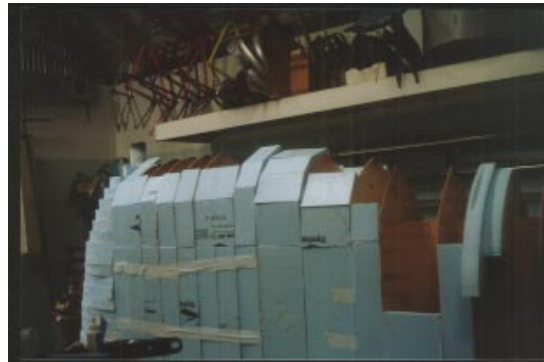


Ribs loaded onto spine and spaced.

With this in mind the freehand curves were refined to give smooth flowing lines and the fairing attachment points noted for reinforcement. We now had a very messy drawing with over twenty curved sections.

The next step is to decide on the plug material and this is determined by cost and ease of working. Such a large prone bike required a lot of material and I opted for high density polystyrene (50mm blue insulation foam sheet) which is about one third the cost of the urethane foam. Because polystyrene is affected by resins this must be covered once the basic shape is achieved.

To transfer the shapes I constructed a series of profile boards from thin 3 ply with a central slot which sat over a central spine made from custom wood. This was fixed onto a floor marked with the final outline. The profile boards were about 3mm undersized so that the hardness of the ribs didn't affect the shaping on the foam.



Gaps filled in with 50mm foam sheet - paper tape helps compress layers.

The foam was curved roughly with a handsaw then glued to the ribs with a thin smear of PVA glue. It is possible to use builder's type mastic/adhesive in crucial strength zones. In areas where it is complicated to place a ply rib, foam, glued together with PVA and long 100mm nails pushed below the surface made a more accurate fit. After overnight drying it was then shaved down with a sharp long knife (the most fun part) with a carving action. I then used a hand-held belt sander with a 120 grit belt to even it out quickly. I progressed to a sanding board with about 80 grit. Any depressions or areas needing better definition were then filled with outdoor putty and sanded next day.

To seal the surface the plug was then painted with pure PVA glue and left overnight. A single layer of wet paper (newsprint or similar) was then laid over a brushed dilute (1:3) PVA glue coat and pushed into place with a brush with a similar mix. The wet paper will shrink slightly on drying to give a smoother surface. On flatter regions the paper could be in quite large pieces 200 x 500mm while 200x200 mm suited more voluptuous shapes. A final wipe over with a thin plaster filled any gaps. It was then sanded with fine abrasive paper. A final coat of PVA was painted over these sections and it was now ready to be copied. It took about ten days from starting the drawing to presenting the plug to the fibre glasser. The fairing plug total materials cost was about \$400.

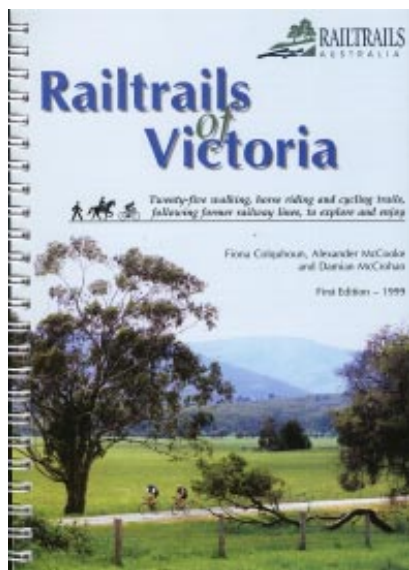
Wayne Kotzur (wkotzur@dynamite.com.au) is an Ex OzHPV president and a full time frame-builder specialising in recumbent bikes and trikes. He is noted for his light weight recumbent Reynolds bikes and the tilt handcranker trikes developed for the Paralympics.

Books

I've had the chance recently to have a look at a few excellent cycle related books available through Greenspeed so thought I'd write a short report for your interest.

Railtrails of Victoria

When I first cited this book I expected for some reason to see information on rail cycles and how they could be used on the disused rail lines in Victoria. Well this isn't quite the case, there is a picture of a railbike in action and it mentions a few places where railbiking can be done but special permission is required for this and not in the scope of this book.



Apparently Victoria has an abundance of closed railway lines that have their rails and sleepers removed and have been turned into recreation trails known as railtrails. What a great source of safe riding paths!!

Remnants of past railway life remain, the bridges are usually original albeit repaired and redecked, handrails

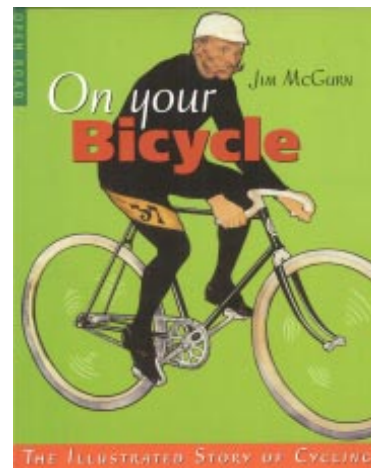
are added and some railtrails follow routes of tramways built to harvest forest timbers. There are railtrails through rainforest, open grassland, inner city suburbs bushland and farmland.

This spiral-wound book is mainly a area by area guide to the trails outlining it's location, Melway reference, trail description and history. Each trail has a map along with a gradient graph. (because these are ex rail routes the grades aren't as steep as some normal trails) The book is full of color pictures and includes detailed rail-specific contact information for those wanting to go the next step in railtrailing.

In every region there are many attractions and enjoying the country and what it has to offer is very much a part of the railtrail experience. So pack you bags for a day trip or weekend and start exploring Victoria's fabulous railtrails. Price \$20.

On your Bicycle - The Illustrated story of cycling.

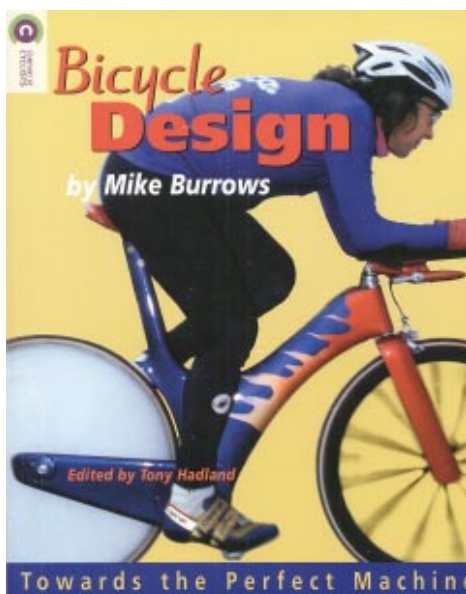
This is yet another book produced by Open Road giving a rich and interesting plot as to where we have come in cycles. I find it hard to believe how narrow minded the community was at the inception of cycling and the restrictions placed on riders, especially females.



It's apparent quite a lot of research has gone into the production of the book which is written in an easy to read and friendly way. There are many pictures and drawings, both color and B&W and anyone interested in going further with cycle history will appreciate the extensive source notes at the end of this 207 page book. Price \$40.

Bicycle Design by Mike Burrows

You may have discovered Mike Burrows in discussion about the Windcheetah trike as this is his design but he has also been involved in several other high profile cycle designs as well. Mike pulls no punches in his examination of the cycle industry and as you read this book you can't help getting the feeling Mike is not impressed with at least part of the present cycle equipment available. Being an engineer it's possible for the text to be technical and dry but I assure you this isn't the case. Mike goes to great lengths to explain detail in simple, easy to relate to examples that almost anyone can understand.



This is not a recumbent book - All cycle designs are covered and it great to see a critical view on the more exotic materials popping up. If you want to know the finer points of composite design, monoblade wheels, Aerodynamics (for upright cycles) or suspension etc then this is the book for you.

My guess is there would be very few disappointed with the purchase of this 160 page book which includes many illustrations and it makes a great source of reference. Price \$50.

Greenspeed - 69 Mountain Gate Drive, Ferntree Gully, VIC 3156, Australia, Phone 03 9758 5541 Fax 03 9752 4115

'Bents at Bicycling Australia 2001

7am on a Sunday morning! And I can't even blame anyone else...Thankfully there is little traffic at this hour so despite leaving my brain quietly snoozing back at home I made it to Rosehill Racecourse, the site for the 2001 Bicycling Australia show, on my trusty SWB unscathed. Once through the gate the first people I bumped into were William and Glenn. This was a very good thing since I had absolutely no idea what I was doing: thankfully they were much better informed, and we rapidly got ourselves decked out with exhibitors passes and instructions on what to do and where to go.

We rapidly got our booth set up with a computer running the HPV CD-ROM and the challenge video going, the banner more or less straight, and mags, info and OzHPV membership forms artfully arranged. Of course we managed to erect this extravaganza in the wrong place. Only by deploying all our charm, and lending the rightful owners a long extension lead so they could plug their stuff in over where we should have been, did we manage to defuse the situation and avoid moving everything.



Look! An OzHPV booth.

By this stage most of the other volunteers have arrived, and, after staking our claim on the test track with a tempting array of two Ian Humphries home built SWB bikes, a Greenspeed GTT tandem + trailer, two Greenspeed GTRs and a GTO, a Trisled CoolCruza and a Windcheater, all generously loaned for this purpose, we had a few moments to lounge around before the hordes arrived. Enough time to discover that reversing Glenn's tandem trailer trike is a non trivial exercise - I don't think I did any permanent damage...

10am and the gates open. The rush of humanity was daunting - you certainly don't see this many people actually riding bikes in Sydney - and after about 30 seconds of shyness there was scarcely a moment when all the demo vehicles weren't on the track. The GTT was definitely the star of the test track, although it did take second place in the weirdness stakes to Moz's tall bike, which is basically the same dimensions as a penny-farthing except it's a penny-penny - 2x20" wheels with a conventional drivetrain and the seat about 5' in the air (don't ask why ;-).

It was a very different story at the booth which was tucked away inside and upstairs with the other bicycle user groups, well away from busy areas with the commercial booths, the exhibition riding and the seminars. Few of the people that did make it up there actually bothered to stop (although putting the Windcheater on display which helped a bit) and find out what we are about. The video and the CD-ROM were largely

ignored, and the people who did stop are nearly all already part of the HPV fold in one way or another.

All told the day went off well. All the demo 'bents miraculously survived more or less unscathed, and none of the test riders injured themselves. Well over a hundred people get a taste of 'bent riding. The failure of the stall was disappointing though - we only got one person to sign up to OzHPV, and sold one CD-ROM and a couple of magazines. While this is probably partly the familiar story of people being happy to do free stuff, but baulking at spending money, the stall would have had more impact with a couple of big, eye-catching posters, doing away with the video and computer which took up lots of space without really drawing people in (they were my idea I hasten add). We could also have done better at directing the test riders to the stall for more information. The biggest difference would

have been position - I think we should contemplate paying the \$200 for a stall in the main area (Ben reported very good business at the Trisled booth), maybe by getting sponsorship from manufacturers who would otherwise be unrepresented. This would have the added benefit of being there on the trade only days to promote 'bents to the bike shops.

Many thanks to the volunteers, Glenn and Susan Forrest, Malcolm Butler, Kevin Mason,

Robyn Croslin and Adrienne Walker who made it all possible with their generous donation of time, expertise and vehicles. Special thanks to William Reid who did more work towards this than anyone, helping with the planning and organisation, and providing, transporting and setting up all the electronic gear. He also ran a stall and provided demo rides at the Wagga Bike Expo on September the 23rd with the help of Lloyd Charter, Ron Hammond and Kevin Mason. Also thanks to Ian Sims for lending us one of his trikes.

Tony Jack - Tony_Jack@wsahs.nsw.gov.au



Greenspeeds GTV Tandem

This is a new tandem, convertible to a solo, which disassembles for travel. It is designed for full adjustability in both positions from 5'4" (my sweetie's height) to 6'2" (my height), which was quite important. The rear cranks are also removable to form a passenger tandem, although I have yet to add some way of supporting the passenger's feet and possibly adding a small platform to hold a couple of small suitcases.

I had originally asked for the expedition option to provide space for 2 sets of panniers, but after some design work Ian deleted that feature out of concern for the integrity of the vehicle. The main frame members are 2" tubing for strength.



Tandem - Copyright Richard Guy Briggs

The track is 900mm. I had ordered a partial fairing too, but Greenspeed was unsatisfied with their supplier and have arranged with someone else to produce something that will fit, which I will order directly. Since it is a convertible, rather than the chain going from front to rear and then from rear to hub, it instead goes from rear to front and then from front to hub which makes it possible to convert it to a passenger tandem and to convert it to a solo, but makes for one very long chain!

I had installed the Rohloff 14 speed hub in the back and the Schlumpf Mountain Drive II in the front with a simple chain tensioner in the back. This gives 28 speeds with some overlap and a range roughly from 15 to 135 gear inches. A front derailleur tube was added just in case a conversion to a triple crank in front should be necessary along with a dynamo lighting set and speedometer. I also had an overhead rack added, inspired by the photos on Greenspeed's web site of the "workhorse" *and* a friend at a party joking with me about a canoe trailer.

Richard Guy Briggs - rgb@conscoop.ottawa.on.ca

http://tricolour.net:11080/photos_unsort2/new/greenspeed-gtv.html

Using Indexed outers for Brake Cables - Don't do it!!

The normal derailleur outer cables made for indexed shifting with the wires running along the cable are not as strong as the spirally wound outer brake cables, as they are only pulling the gear shift, not the brakes. In fact the ones I have seen only rely on the plastic sheath to hold them together.

They may work fine for a while, but just wait until the plastic degrades, and wham, the inner cable splits through the plastic, and hey presto! No brakes when you need them most!

I've found the Gore-Tex "Ride-On" cables give a 50% improvement in performance over Teflon lined cables, and as for ordinary unlined steel cables - don't bother.

If you want good brakes, I would recommend the hydraulic discs, which I find have about twice the performance of the drums. However I find the Sachs drums more than adequate, but I'm only 150lbs.....

Ian Sims, Greenspeed - ian@greenspeed.com.au

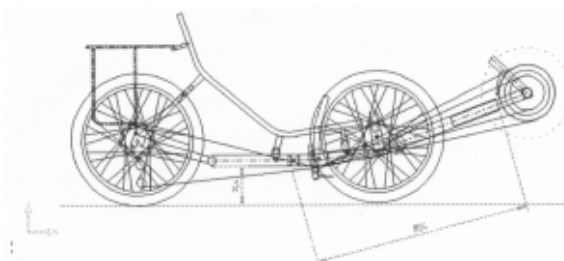
2002 World Championships

Next years Championships will be in Brantford, Ontario, Canada. Dates to be confirmed. See <http://www.city.brantford.on.ca/>

Also, the Euro HPV champs next year will be held in Holland, probably at Lelystad to incorporate the annual Cycle Vision event. Dates to be confirmed, but if it follows the usual Cyclevision dates it'll probably be relatively early (early Juneish...)

Peter Eland - Velo Vision - <http://www.velovision.co.uk/>

GTV - S6 Convertable Tandem Trike - Solo Mode



Challenge Update

Greenspeed is our major sponsor and MR Components has come on board as a sponsor of the 2001 Challenge! After their success at the recent world champs, it is should be great watching the: MR Components Shopping Race, and the MR Components Criterium (races same as last year, to be confirmed) Please join me in thanking MR Components for their great support!

Jeremy Lawrence - OzHPV President - jeremyl@cfcl.com.au

Points scoring / Classes / race schedule.

Challenge Planning is well underway and a well attended meeting held on October 18 at Jeremies sorted a lot of things out.

For each race, 1st place gets 1 point, second place 2 points, 3rd place 3 points etc. If you don't enter a particular race you get 1 more point than the last place getter. Lowest overall score wins. Classes are Male/Female/Junior (Under 15) and Senior (Over 50) All entrants are scored under the same system and will get an overall place as well as a place within their Class.

Paul Sims is the Race Marshall for the event and is currently organising a race schedule to include a Shopping Race, Enduro, Road Race, Go to Whoa (Race from a standing start to a dead stop over a certain distance.), Time Trial, Criterium, Twin drags and Slalom.

Catering and Tents / First Aid

Peter Knox is acting as liason with the local Scout groups who will supply sponsors tents and lunches for the event. Adrian Gotts has arranged for a First Aid Officer to be present.

Publicity

So far publicity has included contacting major Melbourne Newspapers, (The Age, Herald-Sun), local Werribbee papers and Community radio stations 3CR, 3PBS and 3RRR.

At a more grass roots level, Jeremy and Steve Nurse did the whole of "Round the Bay in a Day" with a large Challenge poster stuck to the back of Jeremy's Greenspeed Tandem Trike, and handed out Challenge brochures on the way.

On November 1 Struan Little is talking to the Melbourne Bicycle Touring Club about the Challenge, and we are planning a presence at Bike Vic's ride to work day on November 14.

All we need now is for you to come along and participate! An entry form is included with this issue of Huff.

Steve Nurse - cesnur@eisa.net.au

Ed. Apologies for the misspelt Web address to download the entry form for the coming Challenge at Werribbee. It should have read

<http://sunsite.anu.edu.au/community/ozhvp/entryform.rtf>.

Greenspeed changes on axles.

As far as I know no one has yet succeeded in bending a Greenspeed axle.

We do not use bolts for axles! Up until recently we used what are known as shouldered cap screws. These are 90 ton steel, and have an accurate ground surface finish so that the hub bearings are a nice sliding fit on them, unlike bolts which are designed as fasteners, and are neither on size or round.

My favourite story about our axles is the school who bought a set of wheels and axles from us to use on a Pedal Prix vehicle. They did not tell use they were going to use them for a TWO seater, or that it was going to have a motor AND a body on it. It ended up weighing 100kg (220lbs) *empty* on the front two wheels, and they were most peeved when the front wheels collapsed under the strain, yet the axles were fine!

As part of our policy of continuous improvement and upgrading, as we grow larger and become more efficient, our axles have been redesigned in co-operation with a CNC machine shop who do a lot of the component work for us. We have a policy that any subcontracting that is done for us must be better than we can do, and at a lower price, as one might expect from an expert, or there is simply no point to it.

The new axles are now all in one piece, so that instead of being a shouldered cap screw, with a bush and a spacer, whereby the axle is pressed into the bush, and the bush is welded to the kingpin, and then bearing spacer is added, we now have a special axle with a shaped head which is welded to the kingpin, and a shoulder for the bearing location, which increases the strength of the axle.

The axle is also relieved slightly between the bearings, to make the wheel easier to slide on and to remove. Furthermore the end of the axle is drilled and tapped to accept a short Allen screw which allows removal of the wheel with just a 6mm key, instead of an 17mm socket wrench. And to retain the self locking feature of the M10 Nyloc nuts previously used, the Allen screws have a small Nylon plug in them, which prevents them from coming loose.

The axles are made from the same 90 ton steel as the shouldered cap screws, so I believe we now have a neater, lighter, stronger, and more practical axle.

Ian Sims, Greenspeed

Email ian@greenspeed.com.au

Web pages <http://www.greenspeed.com.au>

Windcheetah News

This is just a quick plug to announce the long overdue launch of our Windcheetah owners club. It has its own website www.clubwindcheetah.com which incorporates its own message board, the website is obviously new and we're still debugging it at the moment so please bear with us. The messageboard is only accessible to members I'm afraid, we may revisit that policy in the near future, but at the moment we're in a suck it and see situation.

Other news that may interest the public is that next month we will be introducing two new Windcheetah products, the first is simply a frameset only option, which we have never officially done before, it will offer the option of purchasing a Windcheetah sans transmission, rims, chainset etc. This will obviously reduce the price by a significant amount.

The other product is a bit more radical, and harks back to the very early days of the Windcheetah. We will shortly be offering the Clubsport S/A [self assembly] which is a 93 piece Windcheetah self assembly frameset kit. This is a complete bond-it-yourself set of components with everything required to build a Windcheetah frameset, including a set of machined castings, tubeset etc. along with all the machined parts such as axles, pulleys etc. It is aimed at enthusiasts who have good mechanical skills and a degree of common sense. All the components are unpainted and will enable the owner to build a truly custom Windcheetah. We have always shied



Windcheetah ClubSport

away from this in the past [Mike's original kits consisted of fourteen castings and a ream of engineering drawings!] and we always struggled to get an adequate supply of machined castings for our own use, however our newly acquired CNC machine tools have helped to increase the throughput of castings. The kit will require bonding together, and obviously a full set of instructions will be provided, including templates to build a rudimentary wooden bonding jig. What a fine way to spend those long winter evenings!

I can't confirm the price at the moment, but it should be in the region of \$1800 [£1250], an attractive option for someone willing to roll their sleeves up, and a lot of challenging fun. The kit and frameset announcements will be on our website in the next few weeks, remember you heard it here first.....

Bob Dixon - bob@windcheetah.co.uk

Laser – Cutting for Bikemakers

Laser-cutting is a machining process in which a beam passes over the material being cut (usually steel). The beam vaporises the material and the path of the beam determines the shape that is cut.

Another similar process is water – jet cutting where water containing a grit is squirted at very high pressure onto the material – in this case the material is worn away. Different materials are better suited to the various cutting methods, but both processes are NC (numerically controlled) and can be programmed with the aid of CAD drawings. You can draw something on your computer CAD system, email the resulting file to a laser – cutting business and pick up an exact steel replica of what has been drawn a few days later.

Flat bed laser cutting is your basic laser cutting. A sheet of material is laid on a bed and the beam moves above it on a single plane and cuts. Bike parts that can be made with this process include fork dropouts, reinforcing gussets and bottom bracket holders. As an engineer for the Cmg group I designed laser-cut bases for electric motors. Lasercutters usually stock flat mild steel in various thicknesses so you don't have to supply material to get parts made.

The thickness of the laser cut is very small (about 0.3mm) and for really accurate cuts you can compensate for the cut thickness in your drawing.

* Thin material (up to about 4mm) is cut really smoothly by the laser because it doesn't heat up and distort much but thicker parts cut a bit rough.

* Accurate Cad drawings of the cut profiles reduce the programming costs.

* The more you get cut, the less the price per component and the greater the value you get for the programming/setup cost.

* The more professional your letters/drawings the more prompt the response from your laser-cutting house. You may well be a very small customer!

These basic rules apply for all types of laser cutting.

3D laser cutting - lasers mounted on a robot arm can be made to point in any direction and cut. This process is often used to trim moulded plastic or pressed metal components.

Rotary Axis laser cutting – Round tubes mounted in a chuck (as in a lathe) are cut by a laser passing up and down its length. This isn't a complicated machine (as lasercutters go!) but getting

the cut profiles right is hard because lasercutters need a developed (flattened) profile of the tube being cut to program their machines.

* The laser always cuts with its beam at 90 degrees to the surface of the material. This means that cut profiles must take the thickness of the tube being cut into account.

* In bikemaking, you often want to cut round tubes to accept other round tubes with a close fit.

Fortunately we live in the age of computers, the internet and spreadsheets, so drawing profiles for rotary laser-cutting is all doable!

Giles Puckett's program (from the net at <http://www.ihpva.org/tools/index.html>) allows you to print profiles for tube mitreing from your computer.

I have developed an Excel spreadsheet file that calculates profiles for rotary axis laser cutting and allows the results to be put into AutoCad. A "light" version of this program is available free from my website at <http://www.eisa.net.au/~cesnur/> and I am charging a small fee for a more advanced version of the file.

All this is fairly dry stuff but it gets worthwhile when all your lasercut bits arrive back from the cutters and after less swearing, cussing, filing, profanity, hammering, hacksawing than is usually associated with bikemaking you have a finished bike and your son can ride it and heads for the hugest puddle the minute he gets on.

Steve Nurse - cesnur@eisa.net.au



Ewan Nurse - Test ride for laser-cut Bike Chameleon

Transporting a Trike on a rack

This is my DIY welded angle rack designed to plug into the Hayman Reese hitch. (towbar)

The rack is welded from right angle steel approx. 2 inch wide on each flange. It's basically a cross, welded on its balance point to a square tube that plugs into the car towbar. (hitch.)

To make positions for the wheels, I cut short lengths of angle and welded them to form a trough; then welded a loop of 1/4 inch rod (13mm) to attach straps.

The main support is 3 inch square gal steel verandah post (I happened to have a spare bit...(as one does...) I got the local exhaust shop to weld a standard Hayman Reese tongue into the end.

The MTB sits inside one trike wheel, straddling the trike cross member. The position was determined by making the trike cross first, then placing the MTB in position and marking the ground underneath. I measured and welded the MTB support. It's probably fortuitous that the MTB doesn't touch the trike metal to metal. I've padded the trike frame where the MTB frame is likely to chafe it.

Regulations in Australia require a 'number plate' with lights if the cars lights are obscured. These lights are wired to match the trailer plug on the car.

We own an RV (17 foot caravan). I have fitted a Hayman Reese socket to its rear so that we can take the bikes with the van. Park the van, then change the bikes to the car and roam farther afield.

Fuel consumption is increased by approximately 2 litres per hundred kilometres with the bikes on the rack. There is a lot of pressure generated on the trike and MTB pannier bags, so it's best to remove them. We roll up any safety flags and tape them during travel.

Paul Worden - paulworden@winnet.com.au



My wifes MTB added



The bare rack



With the MR Swift Trike

HOLY Shaving cream, Whittingham goes 80 mph!!

The seemingly impossible happened on Saturday October 6th 2001. A human being has now travelled in excess of 80 mph using muscle power alone.

This performance tends to confirm Sam Whittingham predictions that the Diablo exhibits a remarkable CdA 0.02 m², (the Vector from the 80's had CdA 0.05 m²), and that how the bicycle is operated has as much to do with performance as does the vehicle's design and athletic ability. This past week highlights the very best ideals of the Human Power community: humans and machines working in harmony to achieve and inspire.

The ultra exciting aspect of this past week's demonstrations, by all of the **World Human Powered Speed Challenge** competitors is the potential of technology innovation trickle down to average fit cyclists of average means. Wow, seems too little! I extend my personal thanks to every single one of the people involved in the WHPSC 2001. You given us all a wonderful gift, showing conclusively that worthy dreams can come true!

It is so cool, someone winning both the Decimach and the Dempsey-McCready prizes has now become a simply matter of "time".

John Snyder - JCSnyder.studio@worldnet.att.net

<http://www.wisil.recumbents.com/wisil/whpsc2001/ResultsSaturday.htm>

<http://www.now.com/sport/feature.now?javascript=dhtml&fid=1199433&cid=457257>

The Speed Challenge Course, Highway 305 outside of Battle Mountain.



OzHPV T Shirt Competition

OzHPV needs a design for our own Tshirts to be printed. Send in your artwork and it might just be the one chosen. The designer of the winning entry will receive a free printed Tshirt which is expected to be on sale at the Challenge and subsequent local and national events.

Guidelines: KISS - simple and strong images are the way to go for t-shirts, maximum of three colours (but less is better), specify a background colour, feel free to incorporate the website logo into your design but do not use copyrighted images. Entries must be received by **16th November**, so get those creative juices flowing!

Winner decided by the OzHPV executive.

Send entries in JPEG or GIF format by e-mail to: **OzHPV TShirt Competition - forrestg@telpacific.com.au** or post to P.O. Box 785 Woy Woy NSW 2256.

Bits and Pieces

* Martin Arnold from Logo Recumbent trikes has been working on a Honda power assist unit. I wonder if he intends to make it available on his trikes? <http://logotrikes.netfirms.com/>

* At the recent *Great Brisbane Bike ride* Darryl Shelswell had a chat with a new trike rider from Hervey Bay, planning on manufacturing and selling his own designed recumbent trikes. Watch out for OzTuff trikes in the future.

* Reflex Fairings has new pricing on their fairings, some as low as \$900. Check out more at <http://www.dhenterprises.com.au> info@dhenterprises.com.au

Latest Tri-Sled Fairing

Bursting with pride, I feel the need show of the fruits of what has (so far) been an 18-month heart wrenching, pocket emptying, patience testing project.

The picture shows the first fairing out of the moulds recently raced at the Australian International Pedal Prix. Completing it in time saw my good friend Will Kirkham and I working through the night in a freezing sea side factory for the final two weeks of preparation. We only had the shape out of the moulds the Saturday before and the frame built and mounted on the Wednesday.

Comments, suggestions welcome.

Ben Goodall - trisled@start.com.au
<http://www.trisled.com.au/>

The New Tri-Sled shape - Ain't it stylish!



Coming Events

Melbourne Recumbent Riders

Sunday 11th November: Corflute clinic & trial of OzHPV timing gear at Hawthorn Bike track. I will bring along some corflute (corrugated plastic) sheets and do my best to explain how to attach it to your HPV to make it go faster. Contact: Steve Nurse, Mobile 0409 836271 cesnur@eisa.net.au
<http://home.vicnet.net.au/~vichpv/>

RACV Maryborough Energy Breakthrough

Friday 16th - Sunday 18th November.
 Held in Victoria. <http://avoca.vicnet.net.au/~energybr/>

Greenspeed OzHPV Challenge

1st - 2nd December: Hopper Crossing track at the Victoria University of Technology SN Werribee.
<http://sunsite.anu.edu.au/community/ozhpv/2001challenge.htm>

Recumbent Riders of Adelaide

Get your 'bents out of moth balls & meet at Victoria Square Fountain Saturday 15th December. 10.00 am Route : Linear Park > West Beach > Glenelg. Lunch break at Moseley Square. 2hr break & public display. Return to City via Westside bicycle route. Further Inquiries: Paul Keen 8322 6086 after 7pm. Email pekay@bigpond.com

If this Newsletter cannot be delivered please return to:
 OzHPV Inc
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 Clifton Hill, Victoria 3068

