

OzHPV can be found at www.ozhpv.org.au, or contacted by mail at OzHPV Inc, c/o 17 Marama Street, Box Hill North VIC 3129

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From El 'ed – Pete Heal

This is a lightweight “carbon” version of HUFF. A bit shorter than usual, but I thought it would be good to get what I have out to members as the next edition should be packed with reports on the OzHPV Challenge and the Lang Lang Speed Trails which both take place in April.

It's fitting this is a Carbon version of HUFF as I've been spending way too much “riding time” in the shed recently perfecting my carbon fibre moulding processes. Needless to say there was a lot of learning to do and that will be the subject of a future HUFF article I think.

So, in this issue we have some news on upcoming events, some words about previous events and a technical article on a self built “hi-racer”.

Hope you enjoy it and are motivated to contribute something for the next newsletter due in May.



The 2009 OzHPV Challenge

In less than three weeks we will be racing at the Wodonga Kart track in the 2009 OzHPV Challenge. To be held Saturday 4th April and Sunday 5th April.

Full details are in the attached entry forms – a PDF and a word document.

Please help the organisers by pre-entering and getting the form back to us.

Even if you are not so serious about “racing”, this is a great event to catch up with other HPV enthusiasts and share your experiences.

The Saturday night BBQ and following tech talks are always popular.

The course is like most go-kart tracks, tight and twisty. There are no hills and everyone who raced there last year enjoyed the circuit. Good fun will be had.

Thank you to all our sponsors who continue to support the Challenge and OzHPV.



2009 Speed Trials at Lang Lang – 10th to 13th April 2009

As mentioned in the last HUFF, OzHPV have managed to obtain access to the Lang Lang vehicle test track in Victoria for the Easter break – that 10th April to 13th April.
Participation will be for members of OzHPV only and places are limited. You must pre-enter.
Access for spectators will be somewhat restricted also due to security arrangements and if you are coming along for a look you will need to book your time slot with the event co-coordinator Tim Marquardt. themarqs@netspace.net.au or mobile 0408531031
This really is shaping up to be a history making event for OzHPV.



Portland Paul's Quest for Speed - revisited

In the last issue we read about Paul's experience with an aero helmet.
No one noticed that Paul has gone to the extreme weight and frontal area saving of chopping off his right leg and right arm as his photo depicted.
Now that's dedication for you.



Token 12 Hour Race – Sydney

(IT'S A FINE LINE BETWEEN PLEASURE AND PAIN?? –THE DIVINYLS)

Ray Lelkes

To borrow the above line from the song made popular by the Divinyls pop group best sums up my experience as a participant in the Token 12 hour ride which was held on the 10th January at the Penrith International Regatta Centre.

Having replied to a post by Glenn Druery on the Oz HPV website I thought it would be good idea to see how I fared in riding around a 5.5km circuit for 12 hours ?? (crazy), little did I know what lay ahead for me. Sounds a simple idea, but try keeping up with well drilled upright riders then having Glenn whizzing past you every 3rd hour or so and ones plans are quickly thrown out of the window.

I suffer from an enlarged thyroid gland and combined with the low seating angle of the Velokraft has an impact on my breathing so my plan was to take it easy and pace myself so that I could do a creditable amount of laps.



(Ray's Velokraft VK2 before the Token 12 hour)

I drove from my house to Sydney on the Friday night and thought it a wise move to suss out the venue and pre register. With the aid of my reliable GPS I managed to locate the site(just follow the big signs that say Penrith Regatta!!!! Centre) The registration kicked off at about 5pm so there were a few riders doing the same as myself. The course was the scene for the 2000 Olympics and is used for triathlon and other events.

After a good nights sleep I awoke at an ungodly time of 4am so that I could have a hearty breakfast and head off early so that I could secure a position for my equipment as registration was scheduled for 6am.

In the week leading up to the event the weather had been extremely hot in Sydney and even hotter at Penrith, so it was good to find out that the temperature was going to reach about 30c. Still hot, however not as bad as the 40c + that had been experienced during the preceding week.

After getting a great car park it was off to finalise the registration and get the timing device attached to the bent, they scratched there heads as for the best position and eventually I was finished, so know it was just a matter of watching other people arrive and see how the support staff assemble there tents etc. During this time I met Glenn and introduced myself and wished the best of luck for the day as soon it was getting closer to the start.

So at 7.45am the marshals signalled for all the riders to hear the instructions and basically we were going to be lead off by a tandem for about 2 laps so that we could get rid of the adrenaline which is built up before any race. I thought that I was fairly fit , but I was surprised at the speed that the main group were already doing which to my estimate was approx 35-45kph.there was no way that I could maintain such a pace. About an hour into the day I heard the voice of Glenn as he must have started his turn for his team, man can this guy ride and he quickly passed a lot of riders.

I had been riding for a few hours when it was time to have a rest as the cloud cover had broken and the warm rays of the sun was beating down on me. I had arranged my stuff in the transition area, however my water container was no longer cold and the taste of drinking warm water was unpalatable to say the least.

So this is the part of the ride when things went belly up (literally speaking!!)The thyroid problem gives me reflux and I started to consequently bring up the days takings and then my ability or lack there of to take in any liquids or solids resulted in me having a lot of technicolour yawns in various spots around the Centre. The combination of the day warming up and my ability not to have enough replenishment forced me to have really long breaks off the bike.

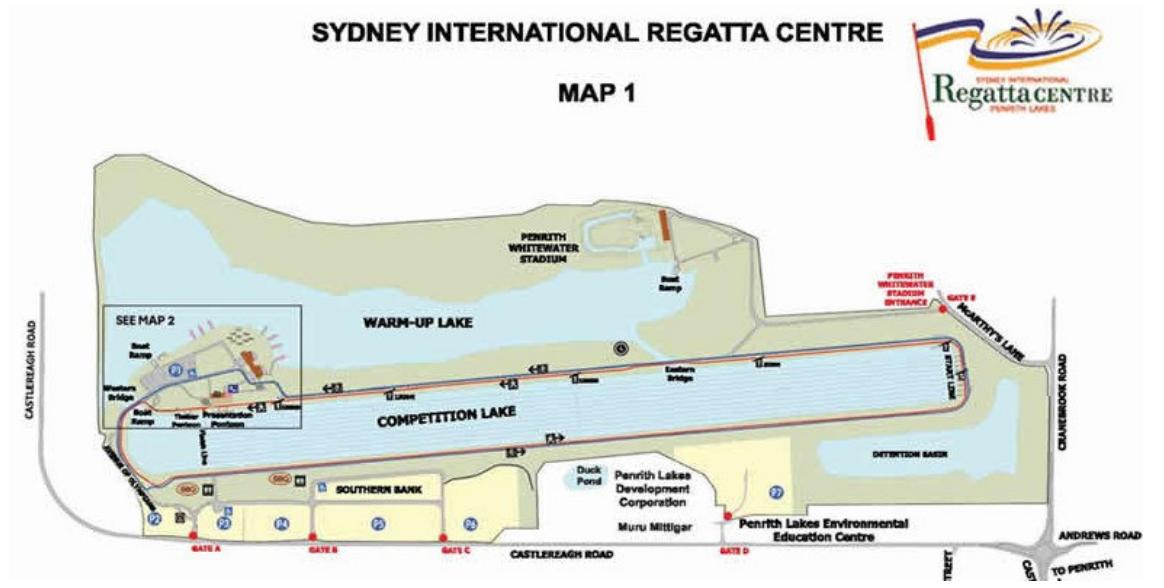
I was resigned to the fact that my riding day was finished as although I did do a few more laps that led me to being sick as a dog. The funny thing that at the end of the day I actually did 3 more laps than 2 other riders, so from that aspect I did not finish last.

So what I did for the rest of the day was to watch in amazement the rest of the riders circulate and marvel again at the speed of Glenn on his NoCom recumbent. Glenn told me that he was here to educate the upright riders as to how fast a recumbent can be !!

In summary I would do the event again and would prefer to ride in a team of four so that the effort required would only be every 3 hours and so during one's time on the track you could go just as flat out, so long as you have trained to go at a fast pace for between 60 to 90 minutes .I think an ideal team of recumbents would be Glenn Druery, Peter Heal, Ian Humphries and Jamie Friday .Now that would be team who are fast and also have the endurance behind them as well. Also for this type of event the support crew are an integral part as they ensure that each rider is catered for the correct fluids and food intake. The team riders were well organized, even to the extent of having wind-trainers available so that their team members could stay fresh!!

Well it wasn't a bad weekend after all. I managed to create a record of vomit stains around the track, so that if you ever visit the Penrith International Regatta Centre you may see the faded, fossilized remains of my efforts!!

On Sunday I had recovered enough to enjoy a few beers with my cousins and then travelled home safely back to Melbourne and have started to get back into training for the Oz HPV at Wodonga..



Bent But Not Broken - Lake Wendouree 2.5 hour Challenge 2009



A group of seven recumbent riders went to Ballarat for the Lake Wendouree 2.5 hour Challenge 2009. A couple of posts on various discussion forums by John Reynoldson turned up a crew of keen riders from OzHPV and the wider community.

John says

"No, we didn't win, but we did well - we were second in the "sporting groups" section, the winners being the Sebastopol cycling club with 12 young riders, meaning each of their riders only had to ride one lap in three with a 2 lap rest. We were riding 2 to 4 lap stints with mostly one lap rests. Thanks to everyone who turned up and it was great to meet you all. A fantastic effort everyone!"

John R.

Stats: Number of riders: 7, 52 rider-laps (each lap 6.2km), Average overall speed for all riders: 32.24 km/hr. Total km ridden: 322



After the race, from left to right: Steve N (homemade, "Carmen Miranda"), William & son (Bachetta), John R (selfmade lowracer), Robert L / Freddy Flatfoot (Selfmade SWB), Ken H (Selfmade lowracer) Adrienne (Greenspeedtrike), Greg (Challenge Fujin lowracer).



Joe's Creation – The High Racer

Joe Fitipaldi

Far out in the uncharted back waters of the unfashionable end of the western spiral arm of the Milky Way, lies a small unregarded yellow sun. Orbiting this, at a distance of 145 million kilometres, is an utterly insignificant blue-green planet who's ape descendant life form are so primitive that they think diamond frame bicycles are a pretty neat idea.

Here is the story of one such ape descendant that thought diamond frame bicycles were a pretty neat idea. He has owned a number of such bicycles over the years until one day he saw the light and became a convert. He decided to build himself a recumbent bike.

It all started with an invitation to a billycart race. Now, not the traditional billycart type where you have two bits of timber nailed together and 4 wheels scrounged from shopping trollies or el-cheapo wheels from hardware stores. No, no, no. These were steel framed, with racing seat, a steering wheel, bicycle wheels and aerodynamic body.

So where to begin to get design ideas. It had to be different, it had to be fast. It was to have 3 wheels, two in front and one at back. So I Googled "Trike" and I was overwhelmed by the number of hits it returned. So I started from the top and begun to view these web-pages. The first one showed a recumbent trike, the second showed a recumbent trike, the third page also showed a recumbent trike and so on, so I started downloading these pages to my computer so I could study these designs at a later stage.

Now, I never ended up building, or racing the billycart, I started building a recumbent trike instead (we will not talk about that, it's still unfinished), I then begun building a lowracer (we will not talk about that either, it's also unfinished), so what's left to build but a highracer. We will talk about that as it the only one that it's at a stage where it can be safely ridden (I used the word "safely" as it now has brakes).

An article that appeared in HUFF talked about a recumbent specific newsletter that is distributed amongst the subscribers every two months, the article also mentioned that a number of these

newsletters were available for download by the general population. The first newsletter I downloaded and read was a special edition issue on "Recumbent Homebuilder". Here they had a collection of articles written by recumbent homebuilders on "why, "when", "how" they began to roll their own. Amongst these there was one article on a 20/20 highracer and a BMX conversion that set my brain going.

The next newsletter was mainly based on the Bacchetta range of bikes and the company manufacturing such bikes. This sealed my interest in building a highracer using large size wheels with a DF bike being used as a donor for parts.

AIM: was to build a recumbent highracer using a 27" DF as the donor for wheels, brakes, brake levers, pedals, cranks, forks and anything else that could be used, this was to keep the project cost relatively low. Yeh right.

IMPLEMENTATION STRATEGY & PRE-REQUISITE: researched the subject of converting a 27" DF racer into a recumbent to see what was available in the way of designs and types. Collate all material and decide on design and which parts to use from donor bike.

RISK: due to design selected the metal tubing for the main boom cannot be taken from donor bike, this will need to be purchased off the shelf. This will not necessarily increase the cost but may increase the weight.

STATS (planned): wheelbase 1050mm, wheel size 27" front & rear, total length 1850mm, total height 1100mm, total width 600mm, ground clearance 480mm, head tube inclination 72 degrees, frame steel, steering ASS, V brakes, 52/39 chainrings, 6 speed freewheel and mesh seat (not all these figures were achieved).

I started with building a wooden jig to hold the frame parts ready for mig welding, donor frame was cut up and the required parts mounted on the jig, the steel tubing for the main boom was sourced from a child swing set that someone had dismantled and throwing out, as luck would have it, it was the right diameter and wall thickness.



I can now say that the bike is at a stage where it can be ridden, and currently is being ridden, not a lot, but as I get a chance I take it out on the streets around home and get used to the different leg muscles required to propel such device.

Trials and tribulations were the norm here as this was the first highracer I ever built, a few design changes were required as the design, although to scale, didn't match reality.

Due to family and work commitments the build has taken a few years to complete, at times there were months of inactivity, then I could have a weekend all to myself and spend some time figuring out how to progress the project.

Concluding, would I ever build another recumbent bike/trike knowing what I went through to complete this. You betcha, as you may remember from the intro there is still a trike and lowracer to

complete, pictures of them can be seen on the VicHPV website under Members then "Joe's Creations".

Until then, happy cycling to all.



OzHPV Canberra - 2009 Stromlo Races

Following the success of the 2008 series the following dates have been booked at the Stromlo Forest Park criterium circuit for Saturday afternoon races.

21st March

18th April

16th May

20th June

18th July

Races start 1:00pm. Entry fees \$5 members. \$10 non-members (2 race maximum for non members)

Contact: actracing@ozhpv.org.au for more details



Coming Events

21st March 2009 – Start of OzHPV Canberra Mob Saturday Race Series

4th & 5th April 2009 - OzHPV Challenge – Albury/Wodonga

10th -13th April 2009 – OzHPV Speed Trials on Test Track Lang Lang Victoria,

4th July 2009 – IHPVA World Championship, in Europe.

17th – 19th July 2009 – HPVA Speed Trials on Ford Test Track Arizona USA

14th – 19th September 2009 - WHPSC Battle Mountain



OzHPV Committee Contacts

President - Eric Ball,

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Secretary – Tim Marquardt,

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Newsletter Contributions

Always welcome. Please send to huff@ozhpv.org.au

Next deadline for material end of February 2009.



Steve's HPV Book

Steve Nurse unpublished literary masterpiece continues with instalment 2 on Load Carrying Bikes.

CARRY THAT LOAD

All cycles need to carry a rider and a basic load which can vary all the way from a pump, spare tube, water bottle and banana for a race (1 or 2 kg) all the way up to a full touring (60kg) or work related load (up to 100kg). Somewhere in between is the load carrying needed for commuting and shopping (20kg). As well as load carrying on trailers, bicycles and recumbents this chapter goes through the various special purpose load carrying cycles.

The first priority of load carrying is stability. You have to be able to load up, unload and carry the cargo easily. Once you're going, you shouldn't have to pay attention to the cargo, which should arrive in good condition, not squished or wet or damaged. You should only think about how fast you can go with the load once stability is established. On a bike, a good stand is important, and on a trike there should be a good park brake. The load should be as low as possible as this aids stability.

In western countries, bike loads are usually fairly small and carried by a range of accessories including backpacks, cycle shirts with pockets, front and rear racks, panniers, child carriers and handlebar baskets and pouches. Racks should be solid and rigid on the bike: the repeated swaying of a loaded cycle will be annoying and quickly fatigue and break a wobbly rack. Panniers are usually carried at the side of a rack whilst (less bike-like) boxes and back packs can fit on top of racks. The smaller the wheel, the lower the centre of gravity of the load to be carried on top of it, and the more stable the load. (Figure 9.1)

If you want to carry large or awkward goods, if don't want to carry racks or panniers, or you want load capacity that is a quick add-on to a bike, a **trailer** is often the best way to carry stuff.

9.2: Carry That Load

The classic **one wheel trailer** is the Bob Yak. (Figure 9.2) The trailer can swivel up and down or from side to side but it can't flop from side to side. Approximately half the combined weight of the trailer and its load will be transferred to the back wheel but the trailer can't tip no matter how rough the ground. The "most natural" support for the trailer wheel is having bearings on both sides, just like a bike wheel. If you were to start making one, the start point could be "mostly bike or scooter parts"

Two wheel trailers (Figure 9.3) are supported from a single full-swivel point on a bike and rely on two wheels for stability. The load on the trailer can be arranged to balance about the trailer wheels, so the bike back wheel doesn't have to "feel" much extra weight. If one wheel hits a bump, the trailer can tip, especially if its lightly loaded and the hitching point is high. The "most natural" wheels for this trailer are cantilever wheels, so a good start point for making this type of trailer are old prams, golf buggies or new pneumatic wheels with ball bearings fitted.

Recumbent cycles have their own special load carrying areas including tailboxes. If a bike has a small back wheel and a high seat, it becomes relatively easy to make a tailbox which does not interfere with the back wheel and carries a large volume. Tailboxes on bikes with larger back wheels and low seats are bisected by the back wheel and are less useful as storage areas. Recumbent panniers such as those sold by Radical and Flying Furniture are designed to snuggle in behind the rider and complement or even improve the cycle's aerodynamics. Dependant on the location of the chain, a large load can be carried down low and between the wheels of a recumbent. (Figure 9.4) This style of loading is very good for front-wheel drive recumbents where there is no chain to interfere with the load and the load position increases the traction from the drive-wheel. Its not so aerodynamic though!

Load carrying cycles have platforms or boxes for carrying large and bulky objects, which would be considered by most people "not able to be carried by bike." Chris Moseley (Moz) reckons that a cycle isn't a load carrier till it can carry a washing machine! The load can be carried next to, before or behind the rider.

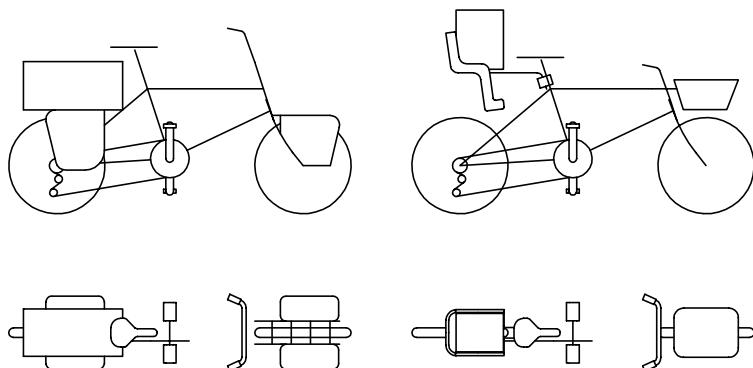
Having the load at the back means there's no need for a steering link on the cycle but the rider needs to be confident the load is very well secured as it can't be seen by the rider. There are some kits available (Like Extracycle) which elongate the chainstay of a standard bike to help it carry more load. Other bikes with long chainstays built in (Kona Ute) are available and Velovision has used the word "Longtail" as a generic word for these bikes. Good cycles of this style are solidly built, can carry passengers on the back and have rails near the chainstays to support loads.

There are trike and bike, taxi (people carrying), recumbent and upright versions of load carrying cycles. (Figure 9.5)

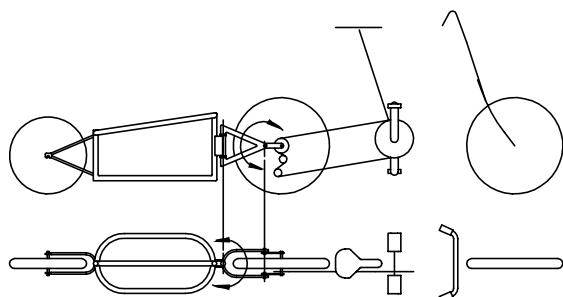
Upright tadpole trike load cycles (Cyclos) can be used as vendor's carts and were prevalent in the early 20th century. These trikes often have "billy cart" steering which is liable to bump steer, however large front wheels, low speeds and the inertia of the load combine to make this tolerable. On modern versions, steering damping is often added to further improve handling.

Load carrying bikes include "low gravity" butcher's and bakers bikes which can be handsomely presented with advertising. (Figure 9.6)

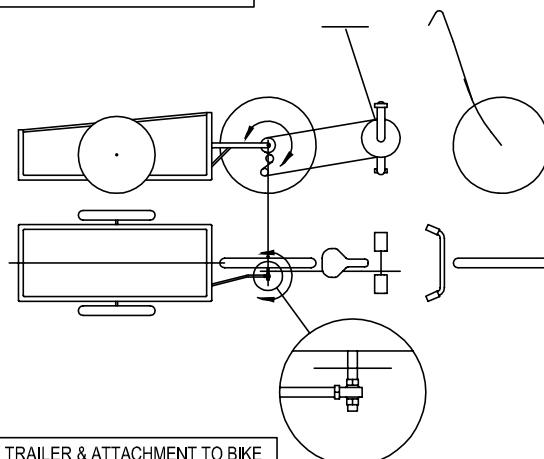
9.4: Carry That Load



9.1: BIKES WITH STANDARD LOAD CARRYING ACCESSORIES INCLUDING
FRONT & REAR RACKS, PANNIERS, CHILD SEAT, HANDLEBAR BASKET

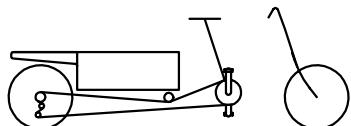


9.2: ONE-WHEEL TRAILER & ATTACHMENT TO BIKE

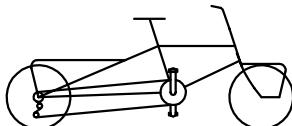


9.3 TWO-WHEEL TRAILER & ATTACHMENT TO BIKE
SHOWING SWIVEL DETAIL

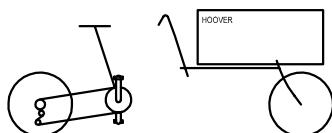
Carry That Load: 9.5



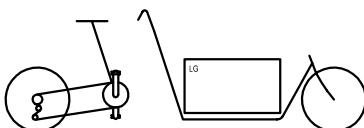
FREIGHT 8 STYLE BIKE



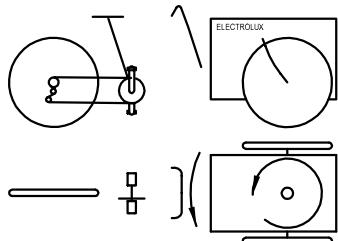
EXTRACYCLE KIT EXTENSION



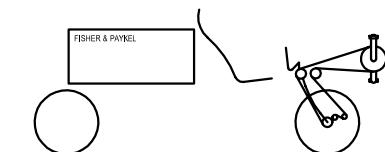
FRONT LOADER WITH STEERING LINK



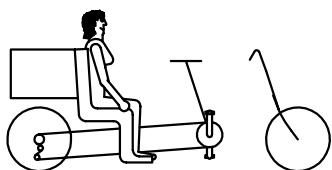
LOW GRAVITY FRONT LOADER WITH STEERING LINK



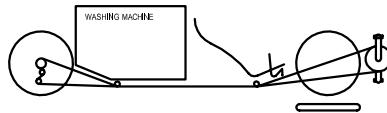
"CYCLO" STYLE STREET VENDOR'S TRIKE
WITH BILLYCART STEERING



FRONT WHEEL DRIVE RECLINER BIKE



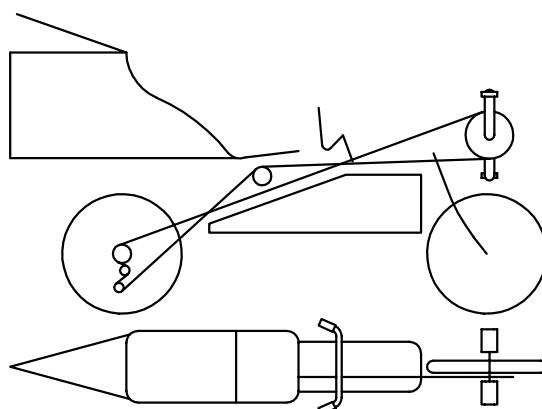
TAXI TRIKE



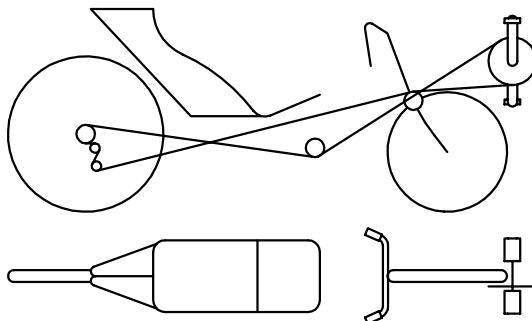
GREENSPEED TRIKE UTE

9.5 VARIOUS SPECIAL PURPOSE LOAD CARRIERS

9.6: Carry That Load



9.4: RECUMBENT SPECIFIC LOAD CARRYING INCLUDING TAILBOX,
UNDER-SEAT STORAGE AND SPECIALLY-MADE SOFT PANNIERS



9.6: BAKER'S BIKE

