

RCN #36  
OCT/NOV  
1996

# RCN

RECUMBENT CYCLIST NEWS



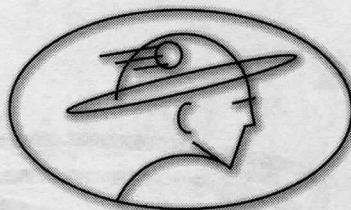
**New From ATP  
the 1997  
"METRO"**

*ATP*  
**VR•30**

# Editorial License

By Robert J. Bryant

Email: DrRecumbnt@aol.com Voice mail: Ph#206-630-7200



## THE METRO BIKE: A RECUMBENT FOR THE NEXT CENTURY AND BOB RANTS

The recumbent design formerly known as CLWB (Compact Long Wheel Base) has the potential to become the biggest selling recumbent style of all time. It could become what cyclists think of when they hear the word RECUMBENT. Here are the reasons why this may happen: They are easy to use, easy to own, simple, requires little education to ride and is about the same size of a standard bike (the wheelbase is longer, however, with the smaller diameter wheels, the overall length is about the same). Even the most technoweenie P-38 or Easy Racer owners will enjoy one of these bikes for short hops, family rides or for trips where a compact package is necessary (like the Interbike Trade show). The addition of the Nexus 7 drivetrain is so timely as it offers minimized maintenance, no derailleurs and no index adjustments. Every recumbent manufacturer should have a Nexus equipped bike if only for the sole purpose of getting into the 1997 Shimano Nexus display (at Interbike). Heck, the optional Nexus front hub brake even does away with those pain in the hiney cantilever brakes.

The design formerly known as CLWB uses the best of the user-friendly LWB, along with a smaller diameter wheelset borrowed from SWB recumbent models. The key to the "compact" design seems to be the use of the 16" front wheel so the mainframe angles up and back making the seat raise for taller riders while offering step-through user-friendliness. Imagine the simplicity of a standard type of recumbent with a similar size to a wedgie (upright). SWB/MWB recumbents or "Short" bikes will be know as the sporty upgrade and LWB recumbents or "Long" bikes will be the world tourists.

So, who's design is this? I'm sure that we can find design aspects dating back to the turn of the century. The historical Velocar had two 20" wheels and has a lot of similarities to many of today's models. The CLWB is a cumulation of recumbent bicycle technology dating back many years. We'll start with modern recumbent history. In the late 1970's, Randy Schlitter designed the Rans Stratus, the first recumbent that we know of where the seat adjusts at a downward angle for shorter riders. This is a unique innovation that is found on several recumbents of today, including the BikeE and the new Vision VR30. Randy Schlitter also designed the Rans Nimbus which raised the seat to shorten the wheelbase and make the bike more user-friendly.

The modern history of the recumbent design formerly known as CLWB dates back to the early 1980's when a southern California shop teacher, Ed Roeters, started tinkering with reconfigured BMX bikes outfitted with dual 20" inch wheels and a higher seat. These CLWB mod-

els that were sold as kits, plans and complete bikes under the Alternative Bikestyles moniker. The next innovation came with the introduction of the ReBike which had added a 16" front wheel to the design. Next came the BikeE which dialed-in the concept even further, while offering a high quality bicycle. Gardner Martin unveiled the EZ-1 shortly after. This was a design concept that he had been working on for years. The most recent chapter in the CLWB saga is the Vision VR30. This model has a round steel tube, suspension, a taller Vision seat, and a Nexus drivetrain (or 21 spd. 3x7 equipped), thus dialing the concept even further. Just as we're ready go to press, Rans says that they are tweaking the Tailwind design with new handlebars (reducing the tiller effect) a new lower price, though retaining dual 20" wheels.

All involved in this design quest are right on target. The mainstream bike industry and Shimano with its Nexus line are going after the comfort-bicycle market as dictated by the bicycle buying public. The industry has yet to recognize the recumbent as being part of this new classification, but we can squeeze in the door and eventually even lead the way. They haven't experienced comfort until they've tried one of our bikes.

This mainstream classification started out with the beach cruisers, and has become a lot more in the past year. At the show we saw terms such as "Metro Bikes" (a classification name coined by Breezer for the Ignaz X Nexus 7 equipped cruiser and ATP Vision simultaneously), SUBS (Sport Utility Bikes, Gary Fisher coined the term for his hybrid bikes), Sport or Super Cruisers (by Steve Ready of Interbike) and "Compact," which is a simpler and less confusing version of CLWB.

We need to carefully consider these new classifications where recumbents are concerned and plan our future accordingly. When I became involved with recumbents back in 1987, there were SWB (short wheelbase) and LWB (long wheelbase) recumbents. One manufacturers also used the MWB (medium wheelbase) term to describe a longer version of the SWB. Several years ago, in a spur of the moment decision and after working the night shift, I invented the term Compact Long Wheel Base (CLWB). The idea was that the ReBike and BikeE were not LWB bikes, because they are NOT long, which is still my argument today. Many folks on the internet HPV list agreed that we should do away with the CLWB term. I wholeheartedly agree. But are they LWB recumbents? I think we have one more chance to reclassify recumbents definitions before we're on the fast track. Aligning with mainstream cycling terms would be optimum.

In closing, the popularity of this new type of recumbent bicycle can only lead to improved recumbent sales overall. Imagine Nexus Metro

bikes in the varied styles of your favorite recumbent marque. Riders may be satisfied to stay with the Metro style bike, or move on to a livelier short recumbent for sport riding or to a long bike for that cross country tour. We'll have them hooked. I'm excited!

### RCN 1997 BUYERS GUIDE

Be sure to contact us ASAP if you are interested in having your bike/shop/products featured in the upcoming RCN 1997 Buyers' Guide, RCN#38, Feb/Mar 1997. Info packs will go out to RCN advertisers in early November.

### 1997 RCN MINI SURVEY

We plan to use the compilation of this information in our 1997 RCN Buyers Guide. Please return your choices to RCN by January 1, 1997. They should be based upon commercially available models that are available in North America (85% of RCN readers are in the USA).

1. Readers Choice for BEST SWB/MWB 'Bent':
2. Readers Choice for BEST CLWB Recumbent (BikeE, EZ-1, etc.):
3. Readers Choice for BEST Recumbent Trike:
4. Readers Choice for BEST Above Seat Steering:
5. Readers Choice for BEST Under Seat Steering:
6. Readers Choice Recumbent To Watch in 1997:
7. Readers Choice Best Recumbent Manufacturer:
8. Readers Choice Best Recumbent Craftsmanship:
9. Readers Choice Best Recumbent Design:
10. Readers Choice Best Recumbent Personality:
11. Should we do away with the "MWB" term (medium wheelbase)? Yes or No.
12. Should we do away with the "CLWB" term (compact long wheelbase)? Yes or No.
13. Should we classify the CLWB models (BikeE, EZ-1, etc.) as LWB? Yes or No.
14. Please select your choice of Printing/paper styles for RCN in 1997:

A. Six issues with a glossy black and white cover on every issue with electrobright paper (RCN#25) inside (36-44 pages).

B. Six issues with book white (RCN#34/35) with electrobright pages (RCN#24/25) (40-48 pages)

C. Six issues with glossy cover on buyers guide, white paper/pages in regular issues (40 page issues-our current format).

15. Have you had trouble with RCN 4th class bulk mailings?

Please send your response via email to DrRecumbnt@aol.com in a letter form or you can call them into our voice mail at ph#206-630-7200, press # to skip the long lead in. Read question number and your answer.

Viva Recumbency!

Robert J. Bryant



Above Photo: RCN Good-Will Ambassador, Ron Schmid, took this photo at CycleFest in Lancaster, England this summer. This is a real bicycle race track!

## What's Inside!

Letters to the Editor.....	4
Reader Review Lightning P-38 by Nick Fessler.....	5
Interbike Trade Show Report.....	9
Low Down and Laid Back by Gern Fairing.....	17
Homebuilders Corner: BenTech Plans Reviewed.....	19
Recumbent Tech: Linear Suspension by B. Patterson..	20
Upgrades for Your 'Bent Richard Drdul.....	21
World HPV Championships: by William Volk.....	23
Recumbent News and Rumors.....	26
RCN Calendar/Rider Group Listings.....	31
ReCycle Classifieds.....	33

## What's Coming Up!

Look for the long awaited and again postponed Rotator Pursuit review (technical glitch), a Rans Rocket review and a sneak peak of the new Tailwind. There is also a really cool homebuilder suspended SWB and Colorado touring stories. Look for RCN#37 to be mailed in early January for distribution through early Feb. RCN is printed on a bimonthly schedule—6 issues per year. See pages, 18, 30 and 39 for details.

Manufacturers/dealers be sure to call for your 1997 RCN Buyers' Guide Packet if you are not a current advertiser. Need info? Call 206/630-7200.

### RCN PUBLICATION INFORMATION

Recumbent Cyclist International is a sole-proprietorship in the state of Washington. Recumbent Cyclist News is 100% dedicated to promoting recumbent bicycles and providing and encouraging communications between HPV enthusiasts, home-builders, dealers and commercial recumbent manufacturers. We are the only recumbent-specific publication in the world today.

**SUBSCRIPTION INFO:** RCN is published six times per year. USA subscriptions are \$30 standard-3rd class/\$42 deluxe (first class/envelope)/\$60 Foreign—Airmail

**ADVERTISING:** Call 206-630-7200/Fax#206-631-5728

**RCN SUBMISSIONS:** Send a SASE/Email for writer submission sheet.

**RCN Voice Mail:** #206-630-7200

**OFFICE/FAX:** Ph#206-631-5728

**Email:** DrRecumbnt@aol.com

**RCN Main address:** Recumbent Cyclist News  
PO BOX 58755, Renton, WA 98058-1755

**For UPS, FEDEX:** Please call.

#### Editor & Publisher

Robert J. Bryant—Email: DrRecumbnt@aol.com

#### Circulation Manager

Marilyn Jayne Bryant

#### Associate Copy Editor

Paul Arends—Vienna, VA.

#### RCN Columnists

Zach Kaplan—Email: zakaplan@earthlink.net

BJ Strass—Email: BJSTRASS@aol.com

James Vernon—Email: AlloyMouse@aol.com

#### Correspondents

Ron Schmid, Portland, OR—West Coast

Mark Colliton—Kensington, MD—East Coast

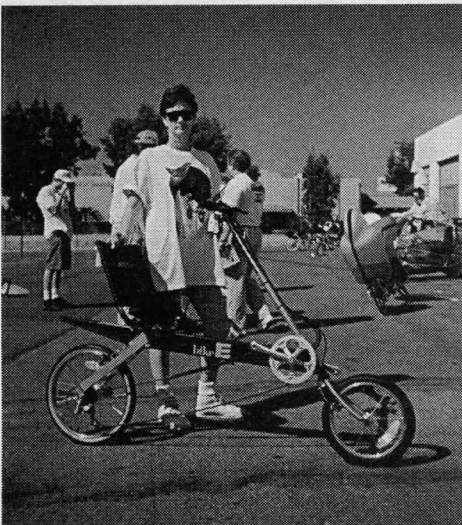
**RCN#36 Cover:** The new 1997 ATP Vision VR-30 "Metro." Photos courtesy of ATP Vision. Cover design by Mark Colliton, Kensington Heights Design.

**Disclaimer:** RCN/Robert J. Bryant writings are editorial based on the experiences and opinions of Robert J. Bryant and are for entertainment purposes only.

The opinions stated in RCN are those of the authors and not necessarily RCN. RCN is reader-supported, send an SASE for reader/writer guidelines.

**COPYRIGHT 1996**© All rights reserved. Material in this publication must not be reproduced in any form without written permission. All materials submitted for publication become the property of RCN unless previously negotiated.

# Recumbent Mail



People Movers BikeE winner Cathy Watkins

## PEOPLE MOVERS BENT BASH SUCCESS

We would like to thank everyone who attended our Bent Bash '96 at People Movers. Putting this together was a lot of work, but definitely worth it. We had around 75 recumbent riders...what a beautiful sight!

There was every kind of recumbent imaginable. It was great meeting some people for the first time and seeing some old friends.

We had a blast with a local radio talk show host named Mr. KFI. He drew the tickets for the raffle and the grand prize, a 21 speed BikeE. The BikeE was won by, Cathy Watkins, whose husband, Roger, purchased a BikeE from us about six months ago. She had ridden to the beach earlier in the day on her hybrid.

Perhaps the most fun part for us was the auction. We sold a custom Topline crankset for \$90 and a Topline tandem crankset for \$75. The people at Topline were really great for donating those cranks. There were some real "steals" at the auction. A Horizon went for \$925, a BikeE for \$550 and the Rotator cruiser went for \$400. A Zzipper fairing went for \$225. The Rans Rocket sold for \$625 (donated by Rans).

Thanks to all the manufacturers and recumbent people who attended and supported our event and attended the Bent Bash. Rans, Zzipper Fairings (Karl Abbe is really a great guy. He donated the fairing for this event), ATP, BikeE, Easy

## RECUMBENT MAIL

Directions for use: Send your cards, letters, RANTS, gum wrappers, feedback, response, pictures, articles, newsletters, newspaper clippings and whatever you like to:

RCN, PO Box 58755  
Renton, WA 98058-1755  
Email:DrRecumbnt@aol.com

RCN reserves the right to edit submissions for clarity, content and space limitations.

If you write to RCN and DO NOT want your letter published, please make this request in the letter.

Racers, Haluzak (Don, Robin and Orin), and AutoBike (a two seater that has a car type fiberglass body), Bob Bryant, Kelvin Clark, Ron Schmid and Mark Colliton were there and helping make things happen. Randy Schlitter and the Rans crew flew in on the corporate twin-engine plane with John, Kyle, Mark and Kim. It was nice to finally see the faces behind the name.

So many people helped run things that it would be impossible to name them all. All of our efforts have been a success because it looks like we're going to be able to donate over \$1000 to the Center for Advancement in Breast Care at St. Josephs Hospital.

Thank you everyone for your support and goodwill for making this a very successful and rewarding event. You have made our day.

Jim and Linda Wronski

## BATAVUS IN THE UK

This weekend I saw my first production recumbent from a major mainstream cycle manufacturer! Dawes (a large UK manufacturer) will be selling rebadged Batavus Relaxx bicycles for approximately £700 sometime later this year. Apparently the same parent company owns both Dawes and Batavus! They are aiming it at the commuter market - the price may put many people off but hopefully they will sell some. It's not really my sort of machine (I like racing machines) but it looks well made.

Regards  
Mark Marsh

## ZAP THAT BENT

In the article "ZAP Assisted Commuter" (RCN #35), Dainuri Rott writes, "The headlight will definitely cut down the overall range of the vehicle when in use." This machine is definitely tuned for my flat 9.4 mile commute. Two precautionary notes: I do not think the performance is particularly good going up hills because of the additional weight on the bike. And tire wear is definitely accelerated...

Cornel "uncertainly" Ormsby  
Origami TB@aol.com

## WHO IS GERN FAIRING

Just finished devouring RCN #35, and it's excellent! One of the best issues yet. Who is "Gern Fairing"? And it sounds like "Fred" is Joe the "Road Warrior" Kochanowski?

Keep up the good work!  
Richard Drdul

## WHO IS GERN FAIRING II

Who is Gern Fairing? Where is Skookum, WA? I tried to call Vern Bob and couldn't get through. BT Launcher? Earth Jet? Will these be in the '97 buyers guide? Is this a for real or some kind of a cruel Joke?

Elroy James  
Humptulips, WA

## WHEN WILL THEY LEARN?

Our immature recumbent manufacturing industry needs to think about whether we really do

want to "...get it into their heads—we need comfortable bikes for adults!" Because once the major manufacturers DO see the light, they will be able, with their massive resources, to bury all the small builders who have done the homework and proved the market.

As the designer of the patented Advanta SR-1 and the co-owner of Ride-Rite Bicycles, Inc., I personally hope the large manufacturers continue to keep their heads in the sand until all of us "backyard garage builders" have become big enough to carry some clout to the negotiating table when it comes to buy-out time—which is inevitably will as the cycling public comes to understand that pain and damage are not the natural result of recreational cycling.

We builders should all remember what happened with mountain bikes; the guys who did all of the early work were largely given a kick in the butt and shown the door when the big guys decided they wanted in. I can only remind anyone who is serious about this game to immediately and actively pursue all possible patents, copyrights, and trademarks, as such protection greatly increases the value of their investment.

Clive Buckler  
Veradale, WA

## SIT-DOWN BIKES

I give up! When someone asks me what kind of bike I am riding, I am no longer going to tell them it's a RECUMBENT! People usually approach me smiling, excited and interested. When I say the word, "RECUMBENT," the smile turns to a frown and their enthusiasm disappears, and they give me a hollow, "oh." I get the impression that they think the name sounds so foreign and abstract that the bike must be that way too.

On the other hand, I've had people approach me with the same enthusiasm and interest and say, "Hey, you have one of those Sit-Down Bikes!" I say, "Yeah!" We then have a positive and fun conversation about Sit-Down Bikes and they tell me how they would like to have one. It seems that a friendly name such as this makes the bike more approachable and less mysterious, something that could be available to everyone.

I am not going to use the "R-word" any more, I ride a Sit-Down Bike.

Randy Phillips  
Sioux City, IA

*Randy, You have a great user-friendly philosophy for sharing the R-word gospel. One of our bretheren in Florida, Ken Evans, uses the term "Recline Bikes" and also avoids the R-word. The name-game has been a continuing debate throughout the history of RCN. The problem is with long time enthusiasts, mainstream bike media, dealers, and trade show attendees is that they know our bikes as RECUMBENT. You can't hide it. Though unofficially and in dealing with the buying public, we can use these new friendly, fun, positive terms in a sales-pitch sort of way, like "Recliner" or "Sit Down Bikes" or "Bike Potato" as per the new People Movers T-shirt—Robert.*

Continued on page 28

# Reader Review—The Lightning P-38

Story and photos by Nick Fessler

I vividly remember the first century I rode on my Lightning. I had ridden only 600 miles in training, so I was more concerned about finishing than going fast. But I still did pretty well while riding much of the time by myself. At the SAG stop about the 70-mile point, I talked to some guys who were interested in recumbents, though they didn't ride them themselves. They learned that I had switched to recumbent riding because of prostate problems associated with bicycle saddles and that I had been a respectable upright rider with 19 centuries under my belt.

Unbeknownst to me, their intention became to catch me (I had left the SAG first) and then to see how fast I could go. Catch me they did at the top of a short hill about the 90 mile mark, and I joined the back of their three bike paceline. They were glad I did because they then cranked up the speed and we rolled at over 20 mph (with a friendly tailwind) all the way home. I was ecstatic! With relatively little training I really impressed these fellows from Cincinnati who had never before seen a recumbent do more than 20 mph.

Before going any further, let me be perfectly honest. A Lightning is really the only recumbent I have ever ridden. I will make no comparisons to other bikes because I can't; what I can comment upon is the experience I have had in riding my Lightning P-38 about 4,800 miles in the last sixteen months.

## Why I Purchased A Lightning

I ordered and received my Lightning during the summer of 1994. I am fairly young, still feeling my oats, and wanted a bike that would allow me to go fast. Speed was my primary consideration when making my purchase decision. The only two bikes I considered were Lightning and Easy Racer products. I preferred the lower weight and smaller size of the medium wheelbase P-38; ultimately I was seduced by the speed of the F-40/F-86 (fully faired versions of the P-38 and the carbon fiber R-84, respectively).

Another reason why I chose the P-38 is its climbing ability. The P-38 has the reputation of being one of the better climbing recumbents in the industry due to its shorter wheelbase and higher bottom bracket. I was concerned about climbing ability because I live in south-central Indiana where the two local rides are called the Hoosier Hills Tour and the Hilly Hundred; finding flat land can be a challenge in this part of the country. None of the hills are very long, but they can sure be steep! After agonizing over the purchase decision, I made my choice and was still wondering what life would have been like if I had made the other choice when I rode that century. I am now convinced that if you are looking for a speedy recumbent, the Lightning is one of bikes you need to consider.

## The Bike

The P-38 is a beautifully crafted machine with a custom-designed front fork, handlebars, and seat. The Lightning P-38 design utilizes what is



known as a space frame; think of it as a three-dimensional structure providing stiffness in all the right places not possible with more conventional designs. The other manufacturer of space frames I am familiar with is the Moulton bicycle that is the source of the 17" front wheel which can be used on a Lightning. The space frame makes the Lightning a very efficient machine front to rear, meaning that all energy put into the pedals is transmitted to the rear wheel. There is almost no lost energy through frame flex. The P-38 is less stiff from side to side; you will notice this as you turn the handlebars very quickly from side to side and make the front end "flop" a little bit. I don't notice this phenomenon except when I try to make it happen, but it is the reason why Lightning doesn't suggest loading more than 50 pounds on a rear rack.

The seat is among the most comfortable of recumbent seats. It is adjustable and has a foam pad on an otherwise all-mesh seat that connected to the aluminum frame by wound string. The mesh provides breathability. There are two strings that connect the seat to the aluminum seat frame: the first goes from the top of the chair back to the middle of the seat bottom while the second one continues to the very front of the seat. I have the second string—the one to the front edge of the seat under my thighs—very tight. The string under the seat back is relatively loose but the seat-back is tight. This gives me a firm platform to push against with my back and provides a bit of a "hole" to sit in that conforms perfectly to my hip bones. Aaah! An adjustable recline seat is now available from Lightning for those of you who are not fond of the very upright position. The seat stays telescope to allow a more reclined pedaling position.

The Lightning is considered a medium wheelbase recumbent: the front wheel is located

behind and almost under the bottom bracket. The MWB on the P-38 provides very good weight distribution between the wheels (55% rear, 45% front) and good high speed stability. However, this performance is at the expense of some low speed maneuverability and heel interference. Even so, the bike is very maneuverable and can be turned around on a narrow two-lane road, but the first few times I suggest doing this with the inside foot unclipped. It is possible to hit your heel on the front wheel. After a little practice this ceases to be a bother, but I have on occasion hit the front tire with my heel, once with enough force to take the steering out of alignment. The fairly steep angle of the head tube and fork cause the Lightning to have criterium-quick steering. But with practice you become quite comfortable with the quick steering and your control of the bike becomes second nature.

The handlebar is adjusted by raising and lowering it so that it just clears your knees, though I have mine about two inches higher than the tops of my knees so I make sure that I don't hit my knees. Available from Lightning is a small Zzipper fairing that mounts to the handlebars. Available directly from Zzipper is a much larger fairing that mounts to the bottom bracket. This bigger fairing improves performance on the flats though it weighs more than four pounds more than the small handlebar-mounted fairing and costs more; you will have to decide if the additional cost and weight are worth the performance bonus. I am saving my money for an F-40 body which can be added to the P-38. The distance from the seat to the pedals is adjusted by loosening two allen bolts on the boom at the front of the bike and moving the crank in and out. This method allows micro-adjustments for a perfect bike fit, but may sometimes also require that chain links be added or removed. This is a problem if more than one person will be riding the bike.



### Riding A Lightning

Lightning bikes put the rider in what is described as an "extreme" position. The rider is more upright (less reclined) than on many other recumbents and must reach pedals that are above the rider's hips; position is more "closed" than most other recumbent designs. I think this is a very powerful pedaling position, though many readers would debate this statement. The Lightning puts the rider in a position roughly equivalent to an upright rider with hands on the drops, with the added benefit of having a seat back to push against when pedaling. The position gives me the ability to use all the muscles in my legs, as opposed to just some of them (e.g., the quads). I guarantee that Lightning newbies will discover muscles that they have never used before; Lightnings are probably the source of the condition fondly referred to as "recumbent butt." My gluteus muscles (I very unsophisticatedly think of them as my butt muscles) are still the first muscles that get sore on rides, and having cramps in those muscles is a very memorable experience (I've done it three times). The first time both cheeks practically froze up and I could hardly walk, much less ride. Thankfully I had just arrived home when it happened. Even worse, when those butt muscles get sore you are sitting on them, which aggravates the problem. With training these muscle problems definitely improve, and I expect them to go away someday.

The extreme position does take some time before it becomes comfortable; your feet are pretty high off the ground when you are clipped in and pedaling. On more than one occasion I have unclipped one foot and tipped over the other way. Ooops! Bike fit on recumbents is very important because you are stuck in one position for all of your riding; recumbent riders cannot stand and stretch their legs. I eventually asked a local bike shop to help me set the pedals at the correct distance. I also had a doctor measure the difference

in the length of my legs and I now use a 170 mm crankarm on the left and a 175 mm crankarm on the right to compensate for leg length differences. Using different crankarm lengths has made a world of difference, though it took getting used to.

The steering of the P-38 is very quick. I discovered this when riding down a residential street and I needed to quickly dodge a hole along the right side of the road; my maneuver, which would have moved me but a foot or so on my upright bike, put me in the other lane on my Lightning. Thankfully there wasn't a car coming! Just relax and use your back against the seat to stabilize the bike. Because you are relatively low to the ground, you must be very careful about seeing and missing holes and rough spots in the road ahead of you. I find this still to be a problem; I am looking so far down the road that I too often miss the obstacles that are right in front of me. This can be hard on wheels, though I am fortunate that it hasn't caused a wreck.

I have found that a fast cadence is the way to go, both going uphill and going fast. I constantly monitor my cadence and always try to pedal faster than 100 rpm; less than that is actually beginning to feel slow though I still don't get my cadence above 130 rpm. The best way I have found to sprint and/or rapidly accelerate is to wind up your cadence and then shift through the gears. On uphills a fast cadence will help save your knees as the Lightning position enables you to put a lot of torque into your pedal stroke when you want. Stay on top of your cadence; if you lose it you will go much slower. Using a combination of fast cadence and a powerful pedal stroke makes the bike really jump; on shallow downhills you can impress your upright friends.

### Fun With My P-38

The Lightning combines a low seat, upright seating position, high bottom bracket, and above

seat steering to form a fast package. I'm faster on my Lightning than I was on my upright bike over just about any territory and have set three of my four fastest century average speeds (out of 26 centuries—7 on Lightning and 19 on upright) this year on my Lightning. I have hung out in 25 mph pacelines (guiltlessly staying at the back because it is no fun for upright riders to draft a low bike like me) and have at times actually *waited* for upright riders at the top of hills. Memorable moments include dropping a 25 mph paceline during RAIN (Ride Across Indiana) because I didn't like experiencing the slinky effect at the back of the 10 or so riders in the paceline (I think I accomplished this feat on a slight downhill—I don't think I can go that fast otherwise). With a downhill run at a hill the P-38 will climb surprisingly well. On the local Hilly Hundred ride I took advantage of downhill speed to blow by a couple guys who looked like racers; I was doing 27 mph while they were going about 18 mph and couldn't believe I could ride so fast.

The Lightning P-38 can go fast and can climb respectably. The bike certainly contributes to performance but there is no substitute for training. If you want to climb well on a recumbent you must practice climbing hills. Because you cannot stand and pedal, recumbents force you to be a disciplined rider because you can't be lazy and use your weight to get you up hills. I've found that I can ride with seated riders of similar ability, but there is not much a recumbent rider can do to keep up with an upright rider who is standing and pedaling hard except pedal fast and hope a downhill comes pretty soon so you might be able to catch up again.

### Customer Service and Product Quality

Not long after my first century ride on the P-38 I made a small adjustment to my boom length and one of the rear binding braze-ons broke off. To say that I was disappointed is an understatement. I disassembled my bike and sent the frame to Lightning, along with about a two page letter expressing my satisfaction with the performance of the design but disappointment with the failure of a braze-on on a \$2,000 bicycle. Imagine my surprise when Tim Brummer himself, called to apologize for the problem and to explain that the individual who brazed my bike was collecting unemployment because of the poor work this individual was doing. I thought the folks at Lightning did a good job of appeasing my unhappiness. While the bike was in Lompoc they also stripped all paint off the frame and checked the other brazes on the bike to ensure they were OK; this is not something they had to do but ensured that no other braze was poised to break. The bike was repainted and returned to me, and I've had no further problems in over 4,000 miles of riding.

My impression is that quality control at Lightning is improving. This conclusion is based on the observation that I had problems with loosening spokes on the first wheel I purchased from Lightning but not with the second wheel purchased about a year later. And poor employees aren't allowed to hang around very long.

### When Ordering A Lightning

My only other frustration with my P-38 is that I made quite a few mistakes during the pur-

chase process, and could have gotten my bike set up as it is now much cheaper if I had just purchased the P-38 frameset and set the bike up myself. For those of you who are particular about what components are on your bike, buying the frameset is an option you should consider. Another option is to buy a stock bike and upgrade at your leisure.

My first recommendation to anyone purchasing a new recumbent is to know what you want and then to take the steps you need to get it. For instance, I had triple chainrings and wide gearing on my upright touring bike; when my recumbent arrived it didn't have as low a gear as did my old upright bike so I swapped out the entire rear portion of my P-38's drivetrain (shifter, derailleur, wheel, and cogs) to get what I wanted. If I had known the gearing on the bike before it arrived at my doorstep I would have been able to make more intelligent decisions. Of course, much of the blame can be placed on my shoulders for being ignorant. When purchasing a Lightning, clearly specify which front wheel you want. Customers have many options and can choose 16", 17" and 20" wheels with various spoke counts available. I have used both a 16" wheel (with 36 spokes) and a 17" Moulton wheel (with 32 spokes) and like the Moulton much better, though the tires and tubes are more expensive. But using the Moulton tire raised my highest-ever bicycle speed from 50.5 mph to 51.9 mph down the same hill.

If you think you might ever want to add the F-40 body to your P-38, even if the probability is remote, I suggest that you order the boom with a braze-on for that purpose. Also, for a few extra dollars you can have a third set of water bottle braze-ons placed on the tube into which the boom slides. If you want the stopping power of hydraulic brakes, order them with your original purchase. It is difficult to switch over to hydraulic brakes later because different braze-ons are required. Some P-38 riders recommend that purchasers always order the P-38 with hydraulic brakes because the hydraulic brakes have a lower profile and won't be rubbed by the chain (think of it as perpetual chain slap onto your brakes) like some cantilever brakes. I have not had a problem with my XC-Pro cantilevers rubbing, but it is something to be aware of.

For heavier riders and/or people interested in performance the suspended front fork should be considered. Lightning recommends the purchase of the suspended front when using the Moulton wheel and the rider weighs over 150 pounds. At 180 pounds, I'm definitely in this range; I've ridden a normal fork for about 4,800 miles (1,000+ miles on a Moulton wheel) without incident, but see how a suspended fork can im-



prove performance. For 1996 I'm having a suspended fork installed on my bike. Keep in mind that it would have been less expensive to get it when I originally ordered the bike.

When you first get your Lightning be sure to tighten the strings that hold the mesh to the seat frame because it is possible for the seat back to rub on the rear tire and develop a hole. I did this and had to patch my seat before I switched out seat covers at the end of this year. Using fenders (available from Lightning) will prevent rubbing, and has the added benefit of keeping water off the back of your head when you hit a puddle. Also, check the strings periodically as it is possible for them to rub through and break. Luckily, I was almost home when this happened to me. I try to regularly clean the dried salt off my seat because it can't be good for the material.

**In Summary**

Overall, I have been very satisfied with my P-38 and look forward to the day when I can purchase a Lightning F-86. Anyone interested in going fast on a bicycle should consider Lightning products as a possible option. Of course, the primary drawback of purchasing a Lightning is its cost. Everyone must decide for himself/ herself whether the bike is worth the price. I think it is.

**More Component Suggestions**

Blackburn rear racks are available from

Lightning, but I purchased a Cannondale aluminum rack (lighter than many others) from a local bike shop; mounting is very easy. Once you become comfortable with your Lightning, I highly recommend clipless pedals because your feet are high relative to your hips and clipless pedals ensure that your feet remain connected to the pedals. I started using my clipless pedals after two or three short jaunts around the parking lot, but I was familiar with my pedals from my upright-riding days. I prefer two-sided clipless pedals.

I added an Aerospoke rear wheel with an 8-speed cogset and long cage derailleur to give me a 20" low gear and 24 speeds. I changed to a stronger spring the rear derailleur which improved shifting, particularly when using the small chainring.

**Nick's Lightning Update**

Just a few comments after having ridden my P-38 another 3,200 miles since the article was written. This year the bike has continued to be my faithful steed, carrying me on century rides (or further!) in Indiana, Ohio and Oregon.

The suspended front fork is great! It definitely improves the controllability of the bike, particularly at speed. I only wish I had gotten it much sooner. But I have also installed a headset locking nut above my headset because when the fork was first installed my headset loosened dramatically in about 200 miles. It might have been the two sets of railroad tracks I ride over each

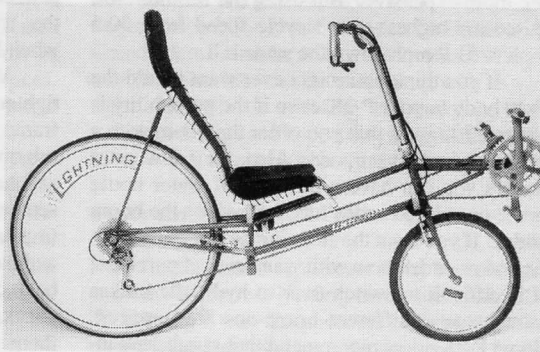
<b>Lightning P-38</b>			
Model	P-38	Shifters	Grip Shift CX DT 21 spd.
Designer	Tim Brummer—1984	Crankset	Suntour XC LTD 26/46/50
Design/ Steering Type	MWB ASS	Freewheel/ cassette	Shimano 11-28 7 spd.
Wheelbase	44"	Gear Inch Range	25-123
Seat height/recline angle	21" 30-40° Adjustable	Brake (fr./rr.)	Dia Compe GX 500 sidepull
Weight (mfr. supplied)	#25	Rear Wheel/hub/rim/ spokes	700c STX/Sun
Weight distribution (bk./ft.)	55/45	Front Wheel/hub/rim/ spokes	16" x 1-3/8", 17(AM) or 20" x 1.5"
Frame/ Fork/ construction	4130 CroMo brazed	Bottom Bracket/Headset	Deore LX/Stronglight
Seat frame/material	Aluminum/Nylon mesh	Paint/ colors	Red or Blue
Derailleurs (ft./rr.)	Shimano Deore LX	Suggested Retail Price	\$1995



ABOVE: Who says you can't tour with a P-38? This "kit" belongs to Mats Nilsson of Sweden. The trip was his tour to the UK for the HPV races a few years back. Photo courtesy of Mats Nilsson

LEFT: Dave Yust (left), Jim Fentress (center) and Dennis Kathrens (right) on their Lightning P-38's at the Swetsville, Colorado Zoo. Dave says, "Ride out of the dinosaur age...on a Lightning. THE bicycle of the 21st century!" Photo courtesy of Dave Yust.

BELOW: Lightning P-38. Photo courtesy of Lightning Cycle Dynamics



way when I leave my apartment, but with the headset locking nut everything has been fine for another 3,000 miles.

I think Speedplay clipless road pedals are great. They allow entry from both sides and are relatively easy to walk in for road cleats. The float is good for your knees. Though upright riders describe the feeling as "pedaling on ice," you don't notice it on recumbents nearly as much because of how your feet hang down.

It may take the better part of 5,000 miles to really get fully comfortable with handling the bike, but it does happen. My feet reach the pedals from the ground with no great thought, I can trackstand, and ride in a pretty straight line (this last one took the longest to master as I had been called "squirrelly" early in my Lightning riding career).

I have a new boom with F-40 braze-on installed and eagerly await the delivery of my F-40 fairing this fall/winter.

For more information contact Lightning, 312 Ninth St., Lompoc, CA. Ph#805/736-0700. Tell them you saw Nick's article in RCN#36. □

**Editors Note:** For more articles on the Lightning, see RCN#7 (\$6); Tim Brummer's design article in RCN#15 (\$6); Zach's F-40 review in RCN#24 (\$5); and the Stealth review in RCN#34 (\$5).

### Lightning P-38 Rider Comments

"A Lightning P-38 owner does not have to rely on writing Email to the HPV internet pleading for advice on finding a better seat or any possible locations for mounting a computer, water bottle(s), a kickstand, a pump, a rearview mirror, or lights. The P-38 is performance-wise, ergonomically, mechanically, and aesthetically at the zenith. The P-38 is readily adaptable and capable for touring and racing. No other recumbent is as easy for integrating/interfaces necessary components and accessories, as convenient for wide-range gearing choices (without resorting to the heavier and more expensive Sachs 3x7 rear hub), or as outrightly comfortable and fast as the Lightning" — Dave Yust.

"The bike I received about 8 months ago is top quality. I've had no mechanical problems with it outside of minor tweaking. The P-38 is a very fast machine. I have belonged to a bike club here in Houston for the past 5 years and have attempted to ride with the "Hammer Heads" on a Trek 520, Ryan Vanguard and now the P-38. I kept up on the Trek, was blown away on the Ryan. And on the P-38 I am, literally ripping most of the club and consider myself in the top 5% speed wise over a 50 mile course" — Tom Standley.

The P-38 is stable, predictable, yet quick handling. It encourages you to go faster on long twisting downhills. A wonderful combination of comfort, speed & great handling" — Bruce Boysen.

"Some are built for comfort, some are built for speed. This one's built for both" — Dennis Kathrens.

"I bought a used P-38, not knowing a thing about recumbents. Over the years I continue to say Boy did I luck out. It's all the things Zach, Dave Yust, Bruce Boysen, Greg Duvall and others say it is. It's one the few designs that can be upgraded to a fully faired vehicle. (Why is that?) When you upgrade to a fairing, the bike underneath has to be able to handle the increase demands - the P-38 base does just that. I use the bike (mostly the F-40) for all my shopping and running errands, and long distance touring. I have been on tour (Seattle to Sacramento) and did some racing (Eureka 94 - placed second on a slalom) then continued my tour. What a bike!" — John Tetz. □

RCN#38 is the  
RCN 1997 Buyers' Guide.  
Manufacturers need to contact RCN  
for listing info ASAP.



# 1996 Interbike Trade Show Report

by Robert J. Bryant

Whew! I just got back from my marathon trip to LA. Seven days of fun that included three long days at the trade-show, a day test riding at People Movers, and the Big Bent Bash charity event, auction and ride at People Movers on September 21st. This was the highlight of the trip.

Interbike is the largest bike show in North America. This year it was larger than ever before, filling nearly five halls. Many RCN Crew members were concerned about seeing everything, so we banded together with a plan. We'd meet once during the day to trade scoops, rumors and take notes about where we needed to go and within three days our mission was accomplished.

Every Interbike show has several trends and... attempts at trends... and attempts by the corporate guys to influence trends. This year was no different. There was lots of swag and style with the grunge-like-party animal booths of the likes of Bontrager. There was loud music, beer, old furniture, chain-link fence and an old Chevy Biscayne wagon with bike racks. The karma was detected the moment you set foot in the large hall. The mountain bike crowd seems to be even more fixated on motorcycles at this year's show. The downhill bikes are starting to look like motocross racers. There were Nexus equipped Harley bikes, wannabes, low-riders and cruisers were prevalent, again. Though it now seems that Shimano is heavily promoting and subsidizing the Nexus comfort cruiser thing. Along with this whole scenario came the "babes on bikes." Everything from streaked and dyed red hair at the Schwinn booth (working overtime to lose the good guy image), to a belly dancer, to the skin-tight-shrink-wrapped plastic miniskirts, Lycra bodysuits to bikinis with stiletto heels. There were many notable show personalities in attendance. There was the glamorous lady racer Olympic Cyclist Paula Pezzo. According to *Bicycling Magazine*, at least one person asked to touch her Olympic gold medal. Another was the king of swag himself, Gary Fisher, decked out with triangular glasses with orange lenses, a goatee and a suit made from what looked to be somebody's missing velour couch. All kidding aside, Fisher bikes were some of my favorite wedgies from the midwest corporate kings. Cruising the halls of Interbike was none other than Fast Freddy Markham and Gardner Martin who were busy promoting their upcoming Easy Racer Gold Rush 1997 speed records attempt campaign.

## RECUMBENTS

In his annual trade show talk, "Trends in the bike Industry," Jay Townley said that with the aging of the baby boomers the time for recumbents has come. ATP and Rans reported an increased awareness and more booth activity than in years past. With the trend toward comfort from Gary Fishers SUB's (Sport Utility Bikes) to the Shimano Nexus/cruiser thing, the decade of the comfortable bicycle has arrived. Whether or not recumbents are included remains to be seen.

ATP VISION had a stylish double booth with new graphics, a Double Vision, R-42 LWB



*The Vision VR-30 "Metro" recumbent. The above bike is a prototype. The handlebars and stem have changed for the production version—courtesy of ATP Vision*

USS with an ATP Primo 16" front wheel, R-45 SWB USS with custom paint and Zzipper fairing and a BIG surprise in the brand-new ATP VR30 Metro compact bike. The Metro has a 20" (406mm) rear wheel and a 16" x 1-3/8" front that will use the ATP/Primo tire. The frame has the same steel main tube as the R-40/42, a custom telescoping ASS handlebar/stem combo and it comes in red or metallic blue. The VR-30 has a sliding seat that is similar to the standard Vision seat, but has a higher back and a fixed recline angle. The "Metro" comes as a 7-speed with the popular Shimano Nexus-7 (est. \$800 retail) and an upgrade version with a Sachs 3x7 equipped 21 speed (est. \$850 retail). The coolest thing about the Metro is its rear suspension and its capability to fold back under the bike. This compact machine is the newest entry into this popular recumbent category that seems to be taking the bicycle industry by storm. This could be the recumbent folder that we've all been waiting for. The folded dimensions are 58" x 24" x 10" as the suspension folds, the stem/bar removes and seat quick releases just like the other Vision models. The VR-30 Metro was most definitely the BEST new recumbent of the show.

Visions will be getting some spec-changes for next year that include updated Shimano drivetrains as well as new paint colors. All Visions will be available in red or metallic blue. The R-44 is available in green too. The R-45 and R-85 are custom painted to order. The R-40 will also retain its \$995 price point. Look for cosmetic refinements on the frame that include improved cable routing and wedge cuts on the head tube side-brace plates.

The 21 pound dual 650C wheeled Vision Sabre was not at the show, though it is listed in

### Vision VR-30 Metro Spec

Featuring a suspension frame, this nimble about town machine is easy and fun to ride. The VR30 is available with 7 speed Shimano Nexus internal gearing (like a 13-32 cassette) or a 21 speed Sachs 3x7 derailleur system (12-28 7spd.cassette). An ideal "spur-of-the-moment" bike, the VR30 folds for easy storage in your car, closet, or just about anywhere.

- 2" TIG welded steel mainframe
- MMC Suspension System (Various elastomers available)
- Collapsible for transport or storage
- Alloy 170mm crank w/52-tooth ring
- Shimano Sealed Cartridge Bottom Bracket
- KMC UG50 Chain
- Alloy front brake
- 1-1/8" threadless head set
- Alloy front hub, quick release
- Alloy rear rim 20" (406)
- Alloy front rim, 16" (349)
- 29.5 pounds
- Available in Red or Metallic Blue
- \$800 (Nexus 7)
- \$850 (21 spd.)

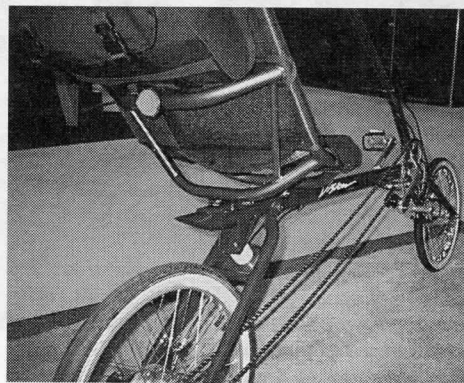
ATP Vision  
952 Republican St.  
Seattle, WA 98109  
Ph#206/467-0231  
Email: ATPVISION@aol.com  
Web: <http://cyclery.com/vision>



The VR-30 caused quite a stir in the Vision booth (Note: updated stem and bars)



The V-Rex24 was displayed at Interbike.  
Photo courtesy of Rans



The VR-30 from the rear

## METRO TEST RIDE

by Robert J. Bryant

The ATP Vision guys were nice enough to come to our local Low Down and Laid Back Recumbent cruise in early October to give us a "Metro" preview. The test bike was the Interbike show model and is equipped with a Shimano Nexus seven speed hub matched with a 52-tooth single front chainring, a rear Nexus roller brake and a side-pull front brake. The gear inch range is about 32-80, which seemed like an optimum gearing selection for urban riding and bike trail cruising. The Nexus shifts as well as the best index systems, clicks quickly and quietly into each new gear and there are NO indexing adjustments or derailleurs to contend with. This drivetrain offers seven different gear ranges that cover all but the most extreme granny low hill climbing gears and those who like to pedal at much above 20 mph. The Nexus is very easy to use. Enthusiasts may opt for the more complete range of the 21 speed Sachs 3x7 equipped model, though the Nexus seemed like it was designed specifically for the VR-30.

About twenty riders and families arrived on a chilly overcast fall morning, many came just to get a first glimpse of the Metro. In the thirty minutes prior to my blasting of the Air Zound horn (signaling the five minute mark to the beginning of the ride) a dozen or so people were able to try the Metro. It has a fairly simple elastomer-sprung swing-arm suspension. The swing-arm also folds back under the bike for storage. This particular version was equipped with the very springiest elastomer (there are three different elastomers for riders of different weights) used to demonstrate the form and function of the suspension for the trade-show goers. The velvety-smooth feel of the suspension is incredible. One ride is all it will take to spoil you for good. ATP's Greg Bower pleaded with RCN circulation manager, Marilyn Bryant, to ride it off a really big curb in the parking lot. Marilyn just may be the toughest recumbent critic here at RCN, though she really liked the Metro, "The Metro is very user-friendly. It tracks and steers easily, has a great seat and suspension. The round main tube really adds to the Metro's good looks."

Look for Vision VR-30 Metro to come off the line in early January. You can order one right now and insure your place in line as this is going to be one popular ride. This new bike will undoubtedly be a revelation for lovers of the compact recumbent style.

### FEATURES AT A GLANCE

- User friendly Nexus 7 speed (or 3x7 21 spd.)
- Very smooth suspended rear end
- 16" X 1-3/8" 90 psi Vision front tire.
- 20" X 1.5 406mm (BMX size) rear tire
- Vision seat with higher back
- Telescoping stem/riser (stem clamp allows use of custom handlebars)
- Lower priced than the BikeE, EZ-1 or Tailwind
- Round tube steel frame
- Watch for an AngleTech VR-30 with Sachs Elan 12 spd. hub.

their dealer catalog, "coming in 1998...or sooner." Rumor has it that a limited run of very pricey Sabres may be available sooner than 1998.

The **BikeE** Crew had a new island display with several variations to the popular BikeE theme. New for '97 are a Performance package that includes a 16" x 1-3/8" ATP/Primo front tire on an aero-rim with (count 'em) twelve spokes on the front matched with a 20" x 1-3/8" Primo rear on a 36 hole aero-rim for the rear. The kit also includes road caliper brakes. The show bike was fitted with Sachs side-pull brakes. The performance option will retail for about \$100. A "Heavy Duty" option will also be available next year. This includes the stock front wheel and tire matched with a HD 20" rim, 36 spokes and a 20" x 1.95 V-Monster tire. Seven foot-tall BikeE sales guy Doug Oxsen will be emphasizing the XL BikeE model this year. This includes a longer frame and wider handlebars. Six foot plus riders should definitely consider the BikeE XL.

The **Rans** Crew had a small but stylish booth with the "Speed Comes Pain Goes" pitch on the backdrop. Inside the booth was a gorgeous Shark Skin (grey with pearl over the top) V-Rex24 and

a Marshmallow-Pearl White Screamer and the very cool Rans Zero-G suspended cruiser up on a wind trainer. Rans dealers and candidates were invited to have their pictures taken on the Screamer. Speaking of the Screamer, it survived the midnight unofficial Interbike tour of Anaheim with the MTB crowd. For all of you bent-heads who feel the need for a wedgie now and again, the Zero-G has a wide base seat that takes a lot of the pressure off. The seat is mounted farther back on the bike almost giving it a semi-recumbent status (but not quite). The Zero-G has a swing-arm suspension and an Offroad suspension stem. Rumor has it that AngleTech has built a few 21 speed Zero-G's using a Sachs 3x7. For 1997, all Rans recumbents come equipped with the new 3" foam base, rider's choice of high/low back seat and a Ritchey Q.R. skewer (better cam action) and Rans nut-plate under the seat that locks the seat in place. Rans also has new seat bags for 1997. The Rans bikes have the best in-house paint of any recumbent at the show.

Rans didn't have any new models at the show, but we do expect some refinements to be



The crash-bar on the Quetzal—John Riley.

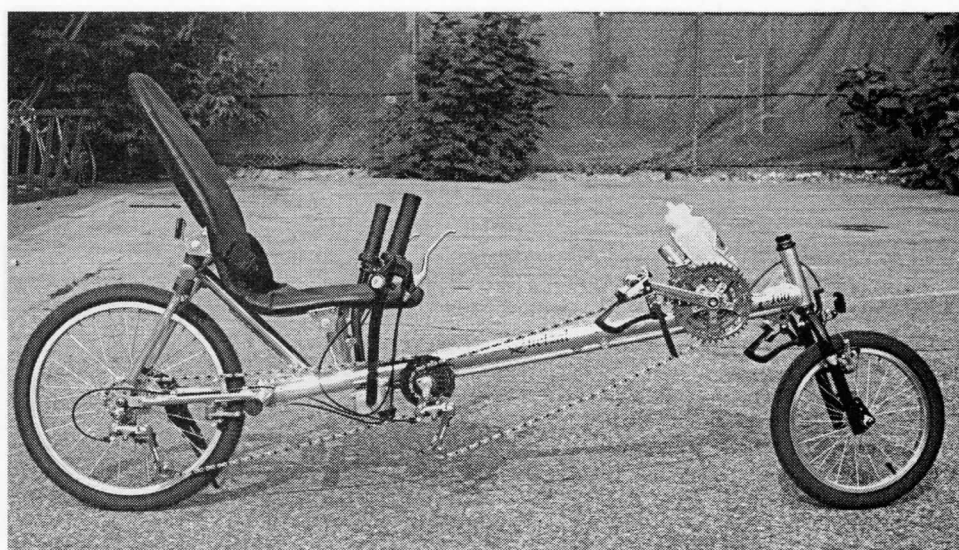
announced in the upcoming '97 Buyers Guide (rumored round tube Rockets and updated Tailwinds). Rans will continue to offer custom paint (up to 3 colors) and optional custom brazons for the 3x7, hydraulic brake guides and low-rider racks.

**Lightning** was in attendance and the big draw at the booth was a new ultra-light composite crankset that will be available for 1997. There was a P-38, Stealth (with the new higher bottom bracket), arm-powered trike and M-5 Low Racer. The carbon R-84 did not make it to the show this year. Another very cool find at the Lightning booth was a Taiwanese dual pivot knock-off front brake that has the pull on the correct side for SWB bikes (like a Shimano 105SC). We were able to track down the manufacturer, though, your best bet is to order the brake from a Lightning dealer.

The Sad-Tale-Of-Woe for the show was at the **Linear** booth. Their new model was lost by UPS and never arrived. The new bike is a compact LWB with a 1.5" square steel frame, Linear seat, Linear USS, twin 20" x 1.5" wheels and a Shimano Nexus 7 (internal seven speed) with roller brake. The front brake is a Big Dog. And the best part is the price, \$699! Linear will also be updating specs for 1997. We had the opportunity to ride Bill Patterson's suspension Linear at People Movers and suggested to Linear that this would be the coolest update for the venerable Linear LWB design. Also in the booth were SWB and tandem Linear models.

#### Peugeot Unveils Recumbents At Interbike!

For the first time in over 82 years, a major has introduced a recumbent bike....well, kind of. Date-line April 1996: do you recall that obscure little press release about a new Canadian recumbent called the **Quetzal**? We unsuccessfully tried to get a brochure out of these folks for six months. All the while, Quetzal sold a reported 200 recumbents in Canada through Procycle dealers. Only one recumbent dealer carried the line in the USA and that is Sheldon at Recumbent Sea. He has had one on the floor for several months. Just when we were about to give up hope, an email rumor about a new Peugeot recumbent line came across the RCN computer. With a little detective work, we put two and two together to figure out that Procycle is what is left of Peugeot in North America (Peugeot pulled out of the US market several years ago). When we got to the show, one of our first stops was the Procycle booth. We approached the US Rep and were quickly directed out of the booth to where the Quetzal reps were in the hallway. Quetzal is the company that designed and did the R & D for the bike over the last five years. When asked if they were aware of *other* recumbent designs, they



The Peugeot/Quetzal T-105 Aluminum. Photo courtesy of John Riley, Toronto, Canada.



The Windcheetah booth at Interbike

said, "no, we designed it."

This is a unique bike to say the least. It looks like a Rotator meets a Haluzak Storm. All bikes have monobeam frames, a crash bar in front of the rear wheel (to protect the intermediate drive?) and a seat belt. Yes, a seat belt. We were told that this is due to the possibility of sliding forward in the seat in a panic stop! The seat is large and has an inflatable air cushion. The high-end model has rubber doughnuts between the seat and frame. The seat heights are all very low (approx. 18") and all have intermediate drives.

There are four models: The Quetzal T-105 has a 6061-T6 1.9" round telescoping aluminum frame, side-stick USS, Shimano STX/Alivio derailleurs, 20" x 1.75 rear wheel and a 16" x 1.75" front wheel. The frame is a one-size-fits-all and is finished in natural polish. The bike has 105 speeds with a seven speed rear, five speed intermediate (shifted by a rear derailleur similar to the Rotator) and a triple crank up front. The frame telescopes for adjustment, however, the most bizarre feature is that there is no steering rod ad-

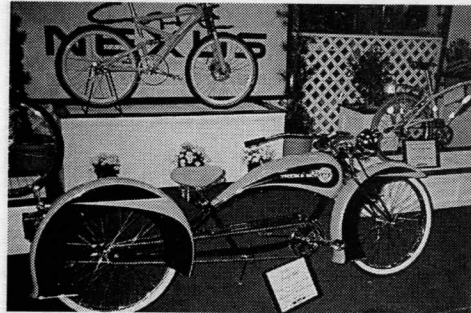
justment mechanism. This means the steering rod must be cut and can only be adjusted one time. The T-105 sells for \$2000.

The Peugeot C35X3 is similar in design to the Quetzal T-105, though the frame is made of 1.75" CroMo and the bottom bracket slides for adjustment. This model has the same type of drivetrain with a triple crank, minus the front derailleur, so it is convertible to a 105 speed. The bike has a Shimano Altus drivetrain and Ferrari red paint. The C35X3 sells for \$1125 and appears to be the best value and model.

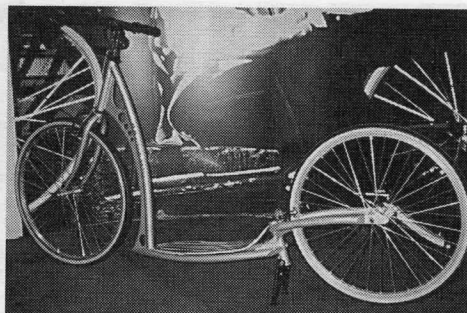
The Peugeot C35 is similar to the above, but has no front derailleur or derailleur post. This model comes in Rustic Frosted Green and sells for \$1000.

The Peugeot C24 is a 24 speed model using the steel frame with Shimano TY22 derailleurs with six rear speeds and a four speed intermediate. This model is offered in Blue Dry paint and sells for \$795.

So, the lower end steel and rental models are labeled Peugeots and the high-end aluminum



The Trouble cruiser



The Rollerbyke



The Rans Zero-G—Rans

model is the Quetzal. The bikes will be marketed through Procycle/Peugeot dealers in North America. The most interesting aspect of this is that the French Peugeot was the first major manufacturer to offer recumbents back in 1914.

Quetzal and Peugeot models come with a one year warranty. Procycle reports that they are the first North American bicycle manufacturer with ISO 9001 certification, which is an international quality standard for conception, distribution and manufacturing. All models are built in Canada. Procycle's Canadian headquarters is at 418/228-8934, be sure to tell them you read about their bikes in **RECUMBENT CYCLIST NEWS** and don't forget to add that's where you get all your recumbent news and information.

Seat of the Pants Company came all the way from the UK to show the 1997 Windcheetah Recumbent Trikes. These legendary machines use 17" front wheel, joystick steering/controls and one-side mount rear wheels. The frames are aluminum tubes bonded to custom castings making for what is thought to be the most sexy recumbent tricycle on the face of the earth. RCN Crew "trike guy" Ron didn't know they were coming and you could hear the scream throughout the hall when he saw the **WINDCHEETAH** banner across the booth backdrop. The frame bonding problems have all been fixed and production is running full steam ahead. There is a new touring model that comes with an off-center rack, custom panniers and other goodies. The new kevlar front fenders and British Racing Green paint look hot. Expect to pay about \$5200 for a new Windcheetah. Heck, we're told that the oversized color brochure/posters are \$10. Zach called it the "Rolls Royce of brochures" and he's right. RCN is currently making arrangements for a test trike for late '97.

### RECUMBENT RUMORS

The rumor mill was in overdrive during the days prior to the show. We received an email about a new **Cannondale** recumbent line, that turned out to be a total hoax. And just when we regained our composure, a NW recumbent dealer swore to us that he saw a recumbent in the Cannondale booth on Thursday. When we went back on Sunday, the Cannondale Rep said, "absolutely not... recumbents are not us.... we're not heading that way..."

Two RCN Crew members shared a lunch table with some Trek and Specialized "shirts" who, when asked about the possibility of recumbents, quickly said that it was not going to happen anytime soon.

Another interesting situation has to do with **ReBike**. This company always prided itself on a

big Interbike presence and was nowhere to be found at the show, however, Kathie Skewis (Ms. ReBike) was spotted in the Cannondale booth... We've heard rumors of long ReTrike deliveries. Does anyone know the scoop here?

### WEDGIE STUFF

GT Bicycles is offering a limited-edition **Harley Davidson Cruiser**. The bike is made in the USA and has traditional Harley paint, a gas tank, wide painted fenders and lots of chrome. The cost for the official Harley bicycle is \$2,299. Included is a certificate of authenticity. In the Shimano Nexus Cafe, a stretch Harley-like cruiser from **Trouble Bicycles** was featured. This bike is available in and around southern California for about \$2,000. The dealer is Orange Harley Davidson. This bike was featured on the recent cover of the *Orange County Cyclist*.

For sure the coolest upright in the show was from our friends at **Rans**. The **Zero-G** is original and in a sea of very similar cruisers (many using the same knock-off frames from Taiwan), the Zero-G is the most original. The show was again full of Cruisers, thanks to Shimano's pitch for the Nexus (see this month's *Bicycling*). One of the coolest was the "**Body Glove Wave**" with a natural polished aluminum frame, Nexus 7, V-brake, King headset and the wildest rubber at the show—Ritchey Moby Bite 26" x 2.1" ridged gray slicks. Somebody said they were for slick-rock? The best looking retro-cruisers were from Electra, KHS and Breezer who have the high-tech retro thing down. Schwinn has a cruiser with a belt drive, though we don't have specifics.

We were able to meet **Mike Burrows** (Windcheetah designer) who now works for **GIANT**. They unveiled their new line of Burrows designed Compact Road Bikes with smaller frames, composite seat posts, composite spokes. The MCR1™ has a carbon fiber monocoque frame and looks hot...for a wedgie. A similar steel framed version, the TCR2™. Mike did say that he is developing a version of the "Ratcatcher," a recumbent LWB USS bike he built a few years back. We got the impression that we wouldn't be seeing a Giant recumbent any time soon, though they were recumbent-friendly.

We've always been fans of the Alex Moulton bicycles. Dekker Service had a great display of Pashleys and Moultons including the new **Land Rover Moulton APB** with a Sachs 3x7. These come in British Racing Green and Golden Yellow. Dekker, ph#206/641-9639.

**Specialized** annual concept bikes by designer Robert Egger were the hiis of the booth. The "Cobra" is styled after the Shelby race car and

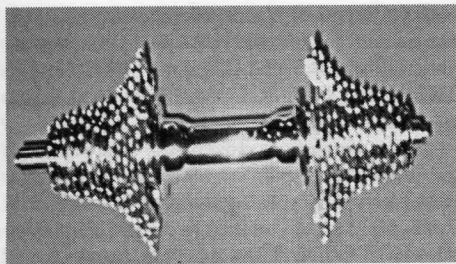
parked along side a real Cobra racer in the booth. This thing looked like a Big Daddy Ed Roth "Rat Fink" Stingray equipped with 7-speed stick shift, a steering wheel and front and rear suspension (does anybody remember "Odd Rod" collector cards from the mid-sixties?). Another Egger creation, the "Speed Queen," is a stretch monocoque cruiser that had recumbly undertones. We also found a cool SPD compatible "loafer" shoe for those wishing to make a fashion statement. This would be perfect for us recumbent geeks. I forgot to ask if they had a matching pocket protector.

**Charger:** This is a new electric-assist mountain bike with a Nexus 7 or 21 speed drivetrain and front suspension fork. Each year there are a few new hybrid pedal/power bikes at the show. Earlier this year, the EV Warrior received a lot of press and is being sold by auto dealers in select markets. The Charger is noticeably different and much more high-tech than its competition. It was designed by AeroVironment (Dr. Paul MacCready), one of the foremost electric vehicle technology development companies in the world. **AeroVironment** has developed products for a diverse customer base including the U.S. government and General Motors (Sunracer and Impact EV). Together with GT Bicycles, AeroVironment have engineered the most completely integrated, high performance electric bicycle available. There is an integral electric motor built into the crank/chainguard area and a detachable wedge-shaped battery/recharge case that slips in the triangle. The Charger has a 375 watt electric motor that is capable of tripling your power. The DOT has ruled that this design is a bicycle and not a motor vehicle. For a complete Charger bicycle, expect prices to be in the \$1500 range. The Charger will be distributed to bicycle retailers by Riteway Products, ph#1-800-869-9866.

### FOLDERS

I'm starting to think that all recumbent riders should become folding bike enthusiasts...or somebody should build a folding recumbent... hopefully before the next Interbike. I want a recumbent that fits into a carry-on bag. Well, I guess I'd settle for a hard-shell case like a Bike Friday. When I see Bromptons and Dahons, I have visions of hacksaws and front wheel drive attachment that quick release on and off.

Many of the RCN readers are also fans of folding bicycles. Many are into Moulton technology for use in recumbents or else they just like all kinds of weird and wonderful bikes. People Movers always has some unique folders at the shop. We saw a pair of Bridgestone Picnics, a Bickerton and an old Moulton. NE Recumbent guy, Johannes



*Phil Wood's 25 speed hub*

Groessbrink showed us his cool new Brompton. There was other folder action at the show as well. The neat fully suspended futuristic German "Birdy" arrived in a Taiwanese version (we heard an internet rumor that the German version has a belt drive option). I spoke to the rep who said that Jeep (Ross Bicycles) had purchased a bunch of these and they are available from Ross/Jeep dealers (for a lot less than the German Birdy I might add), Dahon had a full line including one with an electric hub motor. Another company, ETC, has a 16" wheeled folder than has a very unique electric snap-on motor/battery pack that could be adapted for recumbent use. ETC can be reached at 805/969-1767. The C.M. Wasson company was in attendance representing the Brompton line of folders that range in price from \$650-\$900. You can reach them at 1-800-783-3447.

## SCOOTERS

Two German companies displayed "Rollerbikes" at the show. These are ultra-light CroMo large-wheel high-tech scooters that have what looks to be an aluminum skateboard deck for standing, coasting and kicking. They are outfitted with MTB-style bars and brakes, though there are no seats or pedals. These unique vehicles were one of the hits of the show. We tried to buy one at the end of the show, but they were all spoken for. For more information: Rollerbyke in Long Beach, CA at ph#310/987-5094.

## RECUMBENT TIRES

Continental, known for high quality road bike tires, unveiled the Grand Prix 406mm 120psi 20 x 1-1/8". This semi-slick looks to be the nicest high performance tire we've ever seen and has matching rear rubber in 26" and 700c sizes. Riders can expect to pay a premium for this tire.

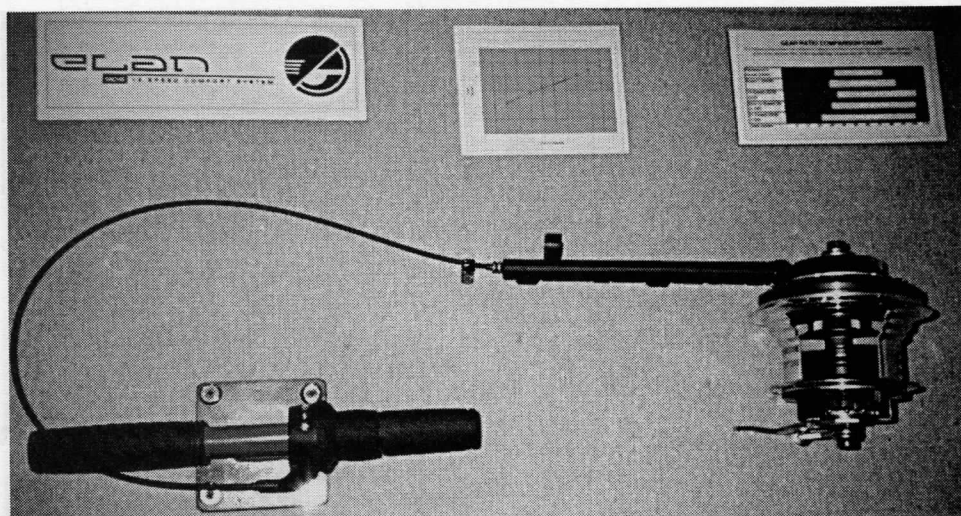
Continental also unveiled the new Top Touring 2000 20 x 1.5 406mm 70 psi sidewall rating. This tire has a pretty good tread and looks to be a beefy touring tire with matching rear tires in taller sizes. Many recumbent dealers will have these by the time you read this.

J & B Imports (wholesale only) has imported the Schwalbe City Marathon tire 20 x 1.25" (406 format) 115 psi sidewall rating and they are available now. Have your recumbent dealer contact J & B.

The standard BMX size 406mm recumbent high-performance tire has definitely become a trend as we head toward 1997.

## RECUMBENT COMPONENTS

The word for 1997 is nine-speed road drivetrains. Shimano Dura-Ace, Campagnolo Record/Chorus groups and Ritchey all showed 9-speed technology. Eight speeds will be coming down the



*The Sachs Elan 12 speed hub gear system*

ranks as seven speeds become more rare and six speeds head toward extinction. Most recumbent drivetrains will remain at seven or eight speeds on the rear, though we'd recommend against going with any six speed 'bents as the parts are disappearing fast.

The best news for recumbent components is that the supply of outdated Suntour stuff is nearly depleted. We should see more Shimano and Sachs drivetrains spec'ed for next season.

**Shimano** is big into the Nexus thing (4 and 7 speed internal hub gears) and had the "Nexus Cafe" display with, again, no recumbents (even though the Vision VR30 and new Linear both have Nexus drivetrains). They have new aluminum thumb/button shifters that are very cool. There are also matching front roller brakes for Nexus users. There is even a Nexus Inter-L high powered hub dynamo for power output for night riding, a Nexus crankset and headset. Shimano has new four arm cranksets in compact-size drive that are symmetrical in design, lighter and more rigid while completely outdating previous models and bolt patterns. You will find "V-Brakes" as well as eight-speed cassettes down at the "STX RC" level (Zack Kaplan tells us this derailleur has the strongest cage and spring as well). Besides V-Brakes, the coolest thing from Shimano is the new PD-M636 BMX SPD pedal in red. It's a pop-up system where the cage can rotate separate from the double-sided pedal which makes for a large platform and ultra-easy recumbent entry. There is also a BMX V-Brake and 1.5 finger lever, both are available in red. A very cool SH-MX70 BMX shoe and SH-SD50 SPD sandal also look very trendy. Our favorite Ultegra and Dura Ace bar-end shifters will be available for '97 (whew!). If you're tired of grinding plastic, get some of these while you can. We should also see Shimano RSX road triple components in many '97 recumbent lines as the old stock Suntour is disappearing.

Not to be outdone by all of the new 9-speed rear hub/cassettes at the show, **Phil Wood** and company unveiled a 25 speed rear hub. There are freewheels on both sides of the hub with 12 cogs on one side, and 13 on the other. The spacing is a foot or so (does it really matter?). We were told that it was up to the user to provide the reverse format derailleur. There was also a micro-hub for really small bikes that has spacing of 2.5" or there

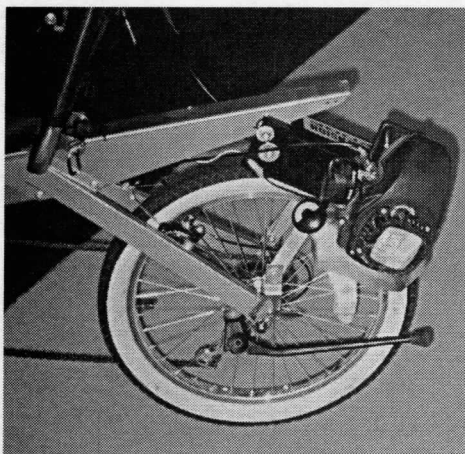
abouts, it would make a great key-chain too. Give this hub to some recumbent guys and you'll have a 75 speed bike, add an Sachs 3x7 for 225 gears! Phil Wood and Company had a great sense of humor at this year's show and they still build the some of the best hubs and bottom brackets money can buy.

**Campagnolo** has dropped MTB components, though they still have several road triple cranksets and bar-end shifters that are now optional equipment on Windcheetah trikes.

**Cook Brothers** still build the among the coolest CNC'ed cranksets with the ability to use a compact or road spider with a 110mm or 130mm outer chainring for your choice of gearing. There is a fatter, heavier version of the E called the RSB for Beefy. This is made for mashers. There are many cool anodized colors available. We also like the mini-crankarm Q.R. skewers and seat clamps for many recumbent applications. They also have cool sterling silver crank-arm earrings and other jewelry for that special cyclist.

The folks at **Boone Technologies** had a cool twist-arm CNC crankset that was seen on the new Easy Racer Black Gold (Gold Rush Replica) Limited Edition. Easy Racer and Gold Rush photos were all over the display. Boone also has some very cool Ti chainring earrings (sold in pairs).

Some of last years much balleyhoo'ed CNC American derailleurs were noticeably absent. "Joes" and "Rhino Racing" are gone and others had booths that were nearly empty. The Paul is still popular, but the Coolest Derailleur of the Show Award goes to **White Industries** for their LMDS rear derailleur. This is not just some new XTR CNC knock-off, this is a really cool and original continuous looped cable wonder. It works on a linear motion with the pulley wheel moving via two linear bearings travelling on stainless steel rods. The looped continuous cable provides low resistance shifting and a self centering drivetrain. The cables are custom made by White and will be available in custom (recumbent) lengths). There is also a matching rotary aluminum shifter. This is the smoothest and lowest friction shifting we've tried. White Industries also makes a forged aluminum (arms) crankset that is CNC surface machined and polished. This was our favorite crankset of the show, a unique mix of CNC whiz-bang meets retrogrouch.



The Dimension Edge motorkit on a BikeE

Chris King had the best headsets in the show, again. There is the nothreadset™ or Dreadset for threadless systems, the gripnut™ Ti headset for use with threaded steerer tubes and the twonut™ a traditional headset for use with treaded steerer tubes. The long awaited King hubs are now available as well. King headsets sell for between \$100 and \$220 (Ti/nothreadset).

If you haven't seen one already, check out the Avid **Rollamajig**. This roller takes some of the curvy loop off of your rear derailleur cable housing and replaces it with a roller for much smoother, quieter, more precise shifts—all for around \$20.

Sachs unveiled their new **Elan 12-speed internal hub** at the show. The system is shifted by a single twist-grip shifter and offers 343% gear ratio with no overlapping gears. The finely spaced gears provide cyclists with any gear ratio ranging from extreme climbing to fast cruising (35-100 gear inches with a 26" drive wheel). It is shiftable in all riding situations, whether stopped at a traffic light, or climbing a hill. The coaster brake model provides excellent brake response in every gear. It is weather resistant and requires little or no maintenance! For those who prefer caliper brakes, the Elan is available as a freewheel hub. Also available are a matching front hub and chain guard. Expect the Elan to add a few pounds to your bike and it will be expensive too.

The **Browning** electronic shifting crankset that was introduced in the late 1980s is back as the "Redshift" 12-speed fully automatic shifting system. At least one recumbent manufacturer crew was caught hanging out in the booth and is hot to put a Redshift on a recumbent. The front crank consists of a three chainring crankset with swinging sectors that are operated by an onboard 8-bit micro-controller computer. The rear has four cogs shifted electronically with a chain tensioner (derailleur?). The system is impressive though not yet available.

We didn't see any new 20" suspension forks. AMP said they'd build them with a minimum 25-100 order, depending on which AMP/Mercedes Benz rep you spoke to. They weren't exactly fired up about building recumbent suspension forks. The Ballistic 20" fork is available from J & B (wholesale) or your favorite recumbent dealer. We did notice that AngleTech has them on their list.

Zach Kaplan reports that the very cool Sweet

Parts cranksets have a waiting list until Spring '97 and that the titanium version will cost \$750! The Magura disk brake was also disappointing, had drag, pistons on only one side, and not tandem rated. The Hope hydraulic disk brake still looks like the best. I heard rumor of a titanium, half-weight version of the Shimano Nexus 7 speed for mountain bike racing, but the Shimano people said there are no plans to produce it in the immediate future.

#### COOL 'BENT STUFF

**Movie-makers:** Have you ever wanted to make your own film about a recumbent ride? BroCar Products will rent you a goggle-cam or helmet-cam for a weekend (\$159) or a week which includes round trip FEDEX, ph#513/569-4100.

Garmin introduced a personal navigator **Global Positioning System** that is handlebar mounted. You can also buy an optional dash mount to mount it in your car. This must have unit for any technomad or gadget guru sells for about \$300. Call 1-800-800-1020.

GE and Alert Industries have introduced **Cycle Ears™** which is a voice-activated hands-free bicycle communication system operating at FM 49 Mhz. The suggested retail price is \$64.95 each, but you'll need two. Alert Industries, ph#1-800-356-7913.

**Lighting Systems:** we saw two new systems that should be perfect for recumbent riders wanting the cutting edge in onboard electronics. The **NiteRider Xcl-Pro** (formerly NiteHawk) is an 8-bit microprocessor controlled Halogen System. There are five levels of light in two power ranges from 6-32 watts. There is a fuel gauge with low battery warning and up to 15 minutes reserve. The system is powered by "plug and forget" NiCad batteries in a waterbottle mount. An automatic system shutdown prevents system damage. Also included in the system is a daytime running light, emergency flasher, SOS beacon and optional ultra-bright, daylight-visible taillight system. The mount should connect to anything resembling a handlebar.

**G-Wiz** introduced the Death Ray, Ultra Death Ray and Melon Ray (helmet mount) lighting systems. The **Ultra Death Ray** is a 47 watt dual beam system with slick CNC aluminum styling. For more information on the G-Wiz lights, ph#408/559-9000.

The coolest computer we found was the **Avocet 55 Cyclometer**. It has a sophisticated computer chip that allows a user friendly interface matched with an aircraft precision altimeter and a wireless mounting kit. This is the only computer that has a cadence function and is wireless. The 55 measures vertical performance, altitude with 5-foot precision and includes 16 first-level functions (26 total). Other features include temperature, time, lifetime totals and maximums.

**Framebuilders:** Arctos Machine builds a very nice frame jig that is adjustable, and has an optional stand which allows a full 3D motion. These jigs are made from a custom 6000 series aluminum extrusion and can be ordered in recumbent lengths. The cost is \$3250 for the basic model, though allow another \$1500 for necessary options. Arctos can be reached at ph#707/874-1166.

We found an ad for **BMX bolt-on canti**

**mounts** from a company called Lowey in a BMX magazine freebie at the show. The place that advertises these is Trend Bikes at 512/473-2888 or TRENDBMX@AOL.COM. Let us know if you track them down.

You know how citizen Bob is always raging about working on your own bike. Our friends from **Barnett Bicycle Institute** (Mark Purdy from Rans is a graduate, as well as AngleTech's chief wheel builder, Derek Lenahan, who teaches there) offer courses in Fundamental Bicycle Mechanics, Comprehensive Bicycle Mechanics and Elite Technicians Program. You can also buy their manual for \$150. Barnett is in Colorado Springs, CO and you can call them at 719/632-5173.

**Bags:** We were quite taken by the German Ortlieb waterproof panniers that are most suitable for the rainy Northwest. As it turns out, the distributor, Newport, is our neighbor here in Renton. They also import the **Ultra Lite Bike Mirror** from Germany. This is a fully adjustable dual ball socket/arm with a unique clamp and a parabolic shaped mirror. It retails for about \$20. Newport, ph#1-800-649-1763.

**Auxiliary Engines:** Rob Felt of Dimension Edge had a BikeE with his ten pound engine assist kit and was seen riding in and around the Anaheim area. The engine mounts to a custom rack that goes above the rear wheel. A Power Grip (handle) is mounted to the seat. When you engage, the tire roller drops over the tire and starts the engine. Rob also can preach the gospel of gas vs. electric on command. Certainly this unit is the lightest horsepower for the money. Rob can fix you up with a kit for just about any bike, ph#406/245-5380.

**Tools:** With the demise of the Ti Cool Tool, the coolest compact bike tools come from Topeak, a division of Todson, Inc. To get their catalog, ph#516/586-5300 (see page 22 of this issue).

**Trailers:** B.O.B. Trailers unveiled their new kid (and pet) towables utilizing their patented Q.R. mount hitch. See Recumbent News.

**Racks:** There are some neat new tandem carriers to haul your new recumbent tandem or LWB. We plan a full report in an upcoming RCN, but if you are in a hurry, check out the Draftmaster at ph#503/693-1962, and the Tandem Topper at 1-800-ATOC-021.

#### ANAHEIM, CALIFORNIA

I have this love/hate thing going-on with Southern California. After each visit, I want to pack up and move down. The local recumbent riders are the FANTASTIC! The year round riding weather is near perfect (although I had this interesting post-ride road film on the exposed parts of my body). I imagine that this was true paradise in the first half of this century.

When somebody online called it AnaSlime, he just may be right. This place is Auto Pollution Central, although we did see roller-bladers, cruisers without helmets, a Go-Ped (motorized skateboard) and even a gas auxiliary powered BikeE running around the very congested streets. The only thing really good about Anaheim is Disneyland (if you have kids) and the Convention Center (it's huge and well run). The restaurants are geared for tourists and you can pay up to \$100 for a cracker-box room with a parking lot view.

A few short blocks away is the beautiful town of Orange. The people are friendly, the restaurants are great and it's the home of People Movers. Jim and Linda directed us to two fantastic restaurants while in town. If you to Orange, check them out. Both are within 15 minutes of Anaheim, and five minutes of People Movers. For great Mexican, JuanaMaria on Katella is fantastic (5 minutes east of Main St. on the right side). They often offer free appetizers and dessert with dinner. The food is spectacular and the menu is overwhelming. The other place is a family restaurant/coffee shop called the Katella Family Grill or something to that effect. It's on the corner of Katella and Main (two blocks from People Movers). Both places are great and very consistent. The prices are more reasonable than anything in Renton and the food is better. You can expect to pay 20-50% less by driving to Orange in comparison to dining in Anaheim. We also found Espresso and decent coffee easier to find this year (Katella Family Grill).

As for motels, the cheap ones are bad. We've yet to find a great deal. We've stayed at the Econo Lodge the last few years, but the staff kept messing up our request for a ground-floor room which almost left without a room. The best low-end motel seems to be the CandyCane Inn that offers a great continental breakfast and adequate, though small-ish rooms. Families should check out AAA rated suite motels close by. For short-stay trips (or high rollers) the Hilton, Marriott or Disneyland Hotels are the best.

#### GETTING TO LA

Last year we drove the RCN van to LA with a load of bikes. It took 21 hours down and 18 going back. We drove 3,000 miles in one week. Since I don't commute any more, it was a great road trip. Shortly after, the van died. This year, we flew Alaska Airlines, which is the unofficial Airline of RCN. Flying down took less than two hours and since I dislike cattle-car flying, that was great. Coming home only took slightly more than two hours flying time and the folks at Alaska Airlines are great. Flying into LAX is cheaper, though allow a minimum of two hours of airport, rental car and freeway frustration. Rental car service alone seems to take three times as long. It's much less stressful and easier to fly into John Wayne, Orange County Airport. You can quickly rent a car, catch a shuttle or ride your bike, providing you have a good map.

**COOLEST DRIVETRAIN of SHOW:** Sachs Elan 12 speed internal hub. Pound counters need not apply.

**COOLEST TRUCK of SHOW:** Cook Bros. had a huge Ford F600 Crew truck with an old Studebaker welded on the roof.

**COOLEST COMPONENT of SHOW:** White Industries rear derailleur and shifter

**COOLEST NEW RECUMBENT MODEL of SHOW:** The new Vision VR30 Metro Compact.

**COOLEST RECUMBENT of SHOW:** The new Windcheetah touring package with custom off-center rack, bags carbon fiber "over-the-top" one-side-mount fenders that keep the tires from taking a bite out of your body.

**COOLEST RECUMBENT PAINT of SHOW:** Rans Shark Skin and Marshmallow Pearl.



People Movers Bent Bash attendees had their chance to drag race Fast Freddy to the beach, though catching him on his '97 Limited Edition "Black Gold" Gold Rush Replica with custom black finish, component upgrades and the new Kevlar Super Zipper would have been tough. Steve Delaire, on his Rotator Interceptor with Kevlar fairings, did give Freddy a run for his money, though neither would say who actually made it to the beach first.

**COOLEST SURPRISE OF SHOW:** Seat of the Pants/Windcheetah's re-entry into the US market.

**COOLEST NEW TERM:** "Metro" from ATP Vision and Breezer along with SUB-Sports Utility Bike, Fisher's new term for cross/hybrid.

**COOLEST RECUMBENT PERSONALITY of SHOW:** Randy Schlitter of Rans whose *Bicycling* pitch and tall tale to an internet sales rep (all Rans computers were taken out in the parking lot and burned...) were priceless. The Rans pitch is great, "Speed Comes, Pain Goes."

**COOLEST RECUMBENT EVENT:** Jim and Linda Wronski's Bent Bash, charity ride, auction and party. People Movers outdid themselves again. It's too bad that more bent industry folks couldn't break away from the show to attend. This event is one you don't want to miss. See you next year!

**BEST RCN INTERBIKE MYSTERY:** Was there really a Cannondale recumbent in the booth? Where was ReBike? And why was Kathie Skewis in the Cannondale booth?

**BEST RCN CREW STORY:** A 2/3 page recumbent article in the Bicycle Retailer Show Daily (Bicycle Retailer and Industry News). They took many direct quotes on my cruiser, BMX and comfortable bikes for adults theme. It was self-serving, gratifying and a different message than is usually portrayed by the industry. This one made the trip worthwhile. Interestingly enough, the only two recumbents shown in the article photos were a Lightning R-84 and a ReBike 2600, neither was present at the show.

**DUMB SALES PITCH:** KMC CHAIN: "Trust us....." and Bob Rants! □

*Editors Note: I'd like to offer a special THANK YOU to all of the RCN Interbike Crew (you know who you are). This report would not have been possible without YOUR help.*

#### MARKET SHARE UPDATE

Has the time for recumbent come? An industry trade publication states the following for IBD (independent bicycle dealers) sales:

3,400,000 Total IBD

Broken down, this includes:

2,542,000 Mountain Bikes  
600,000 Juvenile/BMX bikes  
200,000 Cross/Hybrid bikes  
52,000 Road Bikes  
6,000 Recumbent Bikes (our numbers)

Which means that at this point in time, we have less than 1/4% of the bike industry sales<sup>1</sup>. Granted, recumbent riders are enthusiastic, religious and most are fantastic representatives for their chosen steed. This either means that there is not an adequate market for recumbents, or that the sky is the limit and the only direction we can go is up. Whatever the answer is, we need to develop a market that is more than 1/4% of IBD sales.

<sup>1</sup>Total bike sales are estimated at over 11 million, though the difference between the 3.4 million and 11 million include those bikes sold through discount, toy and catalog retailers.

If you liked this report just wait until you see the **1997 RCN Buyers' Guide**. Manufacturers and dealers contact us today!

# Want Comfort, Safety, and Performance?

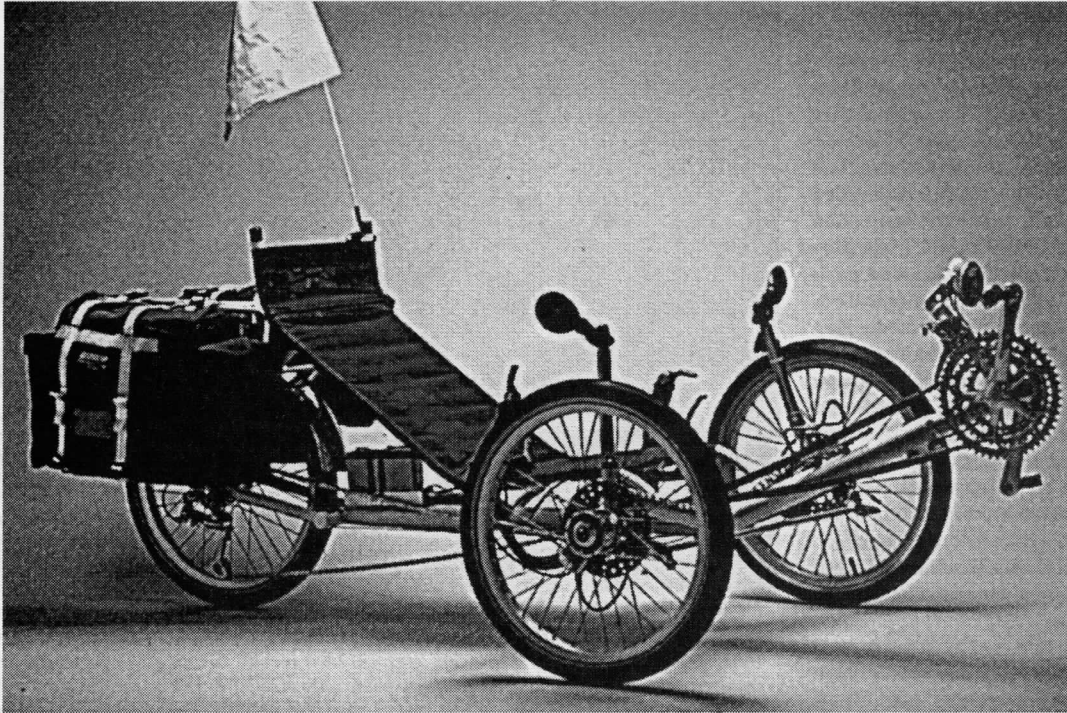


Photo courtesy of Harrison Evans

## COMFORT ☺

Reynolds 531 seat frame; laid back with open weave mesh, and shock cord lacing.

*"The most comfortable "chair" in my house."* - Orlando Weibe, Winnipeg, Canada.

*"Finished the "Great Eastern 1,000 event with no sore rear end or pain anywhere." "The Greenspeed is definitely the machine to ride on long distance events."* - Pete Gifford, North Clifton, England.

*"It is fun to ride, incredibly comfortable and motorists give me more room than I used to get on my old bicycle."* - Michael Payze, West Footscray, Australia.

## SAFETY ☺

*"For me the greatest benefit was the stability and the ease of handling."* - Diane Eager, Canberra, Australia.

*"The brakes are hooked up independently, but you can brake 100% on one side with no problem. It is certainly the most well-balanced trike I have tried. It seems to be impossible to lift up the rear wheel, and the turning radius is super tiny."* Robert Bryant, USA

*"The Greenspeed is great. You ride like on rails even when it's very icy."* - Andreas Falschluger, Schwoich, Austria.

## PERFORMANCE ☺

Low center of gravity, low frontal area, centre point steering.

*"The sudden acceleration, light and positive steering, fast cornering and powerful braking are an experience not to be missed."* - Jim McGurn, "Encyclopedia" 1993/4, U.K.

*"The trike is beautiful. The design of your trike is the best I've seen. Boy is this thing low! And a blast to ride! I have never experienced a trike with this good handling and super positive and light*

*steering. The steering/front end geometry is fantastic, the best I've tried."* - Robert Bryant, USA

*"Universally there was great acclamation both for the performance and the construction."* - Joe Blake, Perth, Australia.

## ENGINEERING ☺

Cro Mo 4130 main frame, 90 ton steel axles, and sealed wheel bearings.

*"As for the craftsmanship, the frame tubes are excellent, some are hand ovalized on only one end. The boom is exquisite. The frame with integral triangulated seat (as part of the frame) is a great design. It's stiff, but very light at the same time. The stiffness and strength of the seat, handle bars and all systems together seem to offer the durability (and gorgeous simplicity) that is missing from the other trikes."* - Robert Bryant, USA

*"What a marvellous life it was! Fourteen months, 206 riding days, 15,035kms. That was our ride around Australia. The Greenspeeds did not let us down once."* - Val Wright & Eric Butcher, Ocean Grove, Australia.

## FUN ☺

*"The Greenspeed is an electrifying ride, making my sluggish body feel like a powerful engine."* - Jim McGurn, "Encyclopedia" 1993/94, U.K.

*"I will check the alignment but I think it (tyre wear) has been due to my inability to control myself on those corners! It is the best toy I have acquired."* - Dr. Lincoln Brett, Perth, Western Australia.

*"The feeling of freedom and enjoyment I get when I am riding is amazing."* -Philomena Macdonald, Box Hill, Australia.

# GREENSPEED RECUMBENTS

69 Mountain Gate Drive, Ferntree Gully, VIC 3156, Australia.

Phone +61 3 9758 5541, Fax +61 3 9752 4115 E-mail [greenshp@ozemail.com.au](mailto:greenshp@ozemail.com.au)

WEB SITE <http://www.ihpva.org/com/Greenspeed/index.html>



## LOW DOWN and LAID BACK *by Gern Fairing*



### CHAPTER III

Felicity and I are feeling right at home by now in little Skookum. You'll recall that my wife and I fled the suburbs in order to avoid the narrow shoulders, the traffic, and, frankly the abuse we had to endure as recumbent riders in non-recumbent world. Out in the country, we thought our 'bents would be mere curiosities. Skookum, up and surprised us, however, because we had moved in to a rural hotbed of recumbent activity. Factory and homebuilts were as common as farm tractors in this peculiar, little town. A club had even formed and met weekly in the basement of the church. The group called itself THE LOW-DOWN AND LAID BACK CYCLING CLUB OF GREATER SKOOKUM, and it had a diverse membership. Club members were as at home on a Massey-Ferguson as a LWB,USS, and it was a common sight to see a homebuilt recumbent leaning against a fence or down in front of Sven's Stop 'n' Shop ready to carry a gallon of milk and a few videos home. The club even sponsored recumbent riding events. For Felicity and I, the Hunzicker Hill Gravity Drop of 1996 was the first of these events we participated in and one we won't soon forget.

Perhaps a little history of the Gravity Drop would be in order. The event has evolved over many years. It began as a casual challenge between two recumbent homebuilders that followed a heated discussion about the drag coefficient of their two recumbents. Vern Bob, now proprietor of Skookum's Vern Bob's Recumbent Barn, and a man known as Phil "The Slingshot" Pilsner were arguing as they downed a couple of beers one night at Skookum's only watering hole, the infamous Crooked Furrow Tavern. Their drinks pushed them to extremes and they ended up at the top of Hunzicker Hill to settle the speed issue. They pedaled up into position at the crest of the hill and began a side-by-side gravity drop. The sloping road was illuminated by a full moon, and it was agreed that the first to pass the cemetery entrance at the bottom would indeed be the fastest. Vern Bob won by the narrowest of margins although "The Slingshot" claimed that he was spooked by a skunk running across the road halfway through his descent. Recumbent riders began to frequent Hunzicker Hill, and it soon became a loosely organized late summer recumbent gathering. Finally it became a sanctioned event and a part of Skookum's Founders Days and Pickle Festival.

This year's Gravity Drop was affected by our notoriously capricious weather conditions. The morning of the event looked promising, but the notorious Puget Sound convergence zone established itself in the atmosphere directly over Skookum. Torrential downpours threatened to drastically change the nature of the event. Rules stated that you had to climb the hill and then descend. People in the club felt that a rider needed to earn the thrill of the downslope run. Your time was measured from your start at the bottom to your finish on the other side of the hill. Officer Oscar Breedlove used his radar gun to clock a participant's downhill speed and prizes were awarded for fastest and slowest. The champion was determined by winning both the elapsed time and fastest speed.

Felicity and I arrived early and made our conservative runs on the course. Hay bales lining the shoulders were used to protect the droppers from serious harm. We were warmed by the shouts of encouragement from the spectators lining the course. We finished early with very modest speeds and times and a little less rubber on our brake pads. We then joined the throngs on the shoulders to see the real drama unfold.

Ol' Fred, the reigning champion and hands down favorite, always showed up at the very end of the day. His full fairings made out of refrigerator boxes were bizarre, but his speeds over the years proved the sound aerodynamics of his cardboard missiles. Sure enough, Ol' Fred showed up late with a new "Frigidaire" fairing glued, wired, and stapled to the frame of his ninety pound homebuilt. The fairing was painted with white latex exterior paint. As a crowning touch, he'd spray painted a whirling high visibility-orange spiral on the fairing nose. Ol' Fred seemed unusually anxious to get on the hill, and we soon realized why. A heavy squall line was moving in from the southwest, and he glanced at it apprehensively as he crawled into his paper fiber cocoon. Fred rolled up to the line and was given the green flag by the official starter, the Reverend Bob Supine. The minister radioed the people on the hill and started the clocks. Fred began a frenzied ascent, but he had a surprise for us all. All the other 'bent riders used leverage against their mesh seat backs to handle the climb. Twenty-five feet into his climb, Ol' Fred popped out of the top of his fairing like a jack-in-the-box.

"Holy Moly," I whispered to Felicity, "he's standing up on his cranks!"

Fred was a man possessed. Felicity and I now knew why this guy was the past, present, and probably future champion. As he crested the hill, he slunk back down and became one with his cardboard. At that moment, the threatening squall line decided to hammer Hunzicker Hill. Fred had begun his torrid descent in the worse conditions possible. Along the shoulders, onlookers crawled under blue tarps barely able to see Fred's downhill run. One quarter of the way down, Ol' Fred's now sodden fairing began to disintegrate. The nose began to peel like a ragged banana. Loose pieces started to catch under his wheels, and the bike careened wildly as the pieces ripped away. One large hunk momentarily stuck against his helmet and face, but he deftly yanked it off. Amidst this cardboard chaos, Fred was doing impromptu surgery. He'd taken out a Swiss Army knife, and, while hurtling down Hunzicker, he cut away the tattered remnants of his water-logged fairing with cool precision. Fred was taking full spray from the front tire, and a ten-foot rooster tail was spinning off his rear wheel.

Miraculously, he crossed the finish line after grazing several hay bales in the last several yards. The crowds burst into thunderous cheers as the skeleton of Fred's Frigidaire-mobile rolled to a stop. He stepped off the bike with water cascading from the pockets of his trademark camo jacket. Road grime clung to his beard, and small bits of cardboard were stuck to his helmet.

Madge Dinkler, the official timer, hollered out, "Three minutes and fifty seven seconds! Thirty seconds faster than the best today."

"Speed....44.8 MPH," announced Officer Breedlove. "That'd get you a moving violation on any other day, Fred. Remember that."

Fred never smiled much and never gloated, but the twinkle in his eye told a tale of recumbent pride. It looked for a little while that he would reign as champ for yet another year. Just then, Madge's two-way radio cracked and wheezed.

"There's another rider on the hill. This guy's not from these parts. I'm not sure, but I think he's Canadian.. Rev. Bob reported.

The rain had subsided and we all ran to the crest of the hill and looked back down. It was one of those polished aluminum "Replica" things sporting a bullet-proof fairing. Stretched back from

that was a blue nylon fabric envelope covering the body of the recumbent. His black-helmeted head with mirrored visor jutted stealthily from a slit in the top of the blue cloth. This guy was climbing like a demon. He crested the hill and flowed into his descent.

A little girl in the crowd exclaimed, "Mommy, it's a bicycle in 'jammies!'"

The blue blur tracked straight and true down

the hill past us. Felicity said she was sure he was singing "Oh, Canada" as he flew past. At the finish line the mysterious interloper stopped and waited to hear his speed and time. He left his helmet on and didn't even raise his visor.

Madge Dinkler announced the time to the hushed crowd, "Three minutes and sixty seconds!"

Officer Breedlove followed with the speed, "43.0 MPH. Ol' Fred's done it again!"

The mystery rider rolled his bike to his car without a word. He removed his fairing and placed it in a protective velvet bag. He then methodically attached his bike to his car rack, slid into the front seat and drove north out of town.

Ol' Fred, the present and future king of Hunzicker Hill, was lost in thought. He knew he had to perfect a quick release fairing jettison system to handle these unpredictable Puget Sound monsoons. Maybe velcro.... □

## THE RCN 1997 SCHEDULE

RCN is printed bimonthly on a six issue per year schedule. For 1997, we are adding one issue to our line-up by making the 1997 Buyers' Guide a single issue instead of a double. Here is the 1997 schedule:

- RCN#37—Jan/Feb '97
- RCN#38—Mar/Apr '97
- RCN#39—May/June '97
- RCN#40—July/Aug '97
- RCN#41—Sept/Oct '97
- RCN#42—Nov/Dec '97

RCN has been printed and mailed pretty much on time since our inception in the summer of 1990. This is an ambitious schedule for us. Your cooperation and continued support is very much appreciated.

We continue to have problems with RCN our standard subscription (bulk mail). A few just turn up "missing" each issue and there is nothing we can do about it other than push the deluxe subscription. In some cases this will get you your issue five weeks earlier.

If you have comments about this, please drop us an email at: [DrRecumbnt@aol.com](mailto:DrRecumbnt@aol.com) or leave us a voice mail at ph#206-630-7200.

## RCN RENEWALS AND RENEWAL MAILINGS

RCN Renewals are mailed 4-5 times per year via bulk/4th class mail. They are prepared a month in advance and can take five weeks to get to you. They can be dated by ten weeks by the time you receive them. Often reader payments will pass in the mail. We generally make you of aware of your pending renewal two issues prior to the end of your subscription. You can tell when your last issue is by comparing the issue number that you are reading to that on the top line of your mailing label.

RCN#36 is your last issue

Gern Fairing

549 Main St.

Skookum, WA 98000

If you have any questions about your renewal or if you think we've made a mistake, drop us a note, email to [DrRecumbnt@aol.com](mailto:DrRecumbnt@aol.com) or voice mail at ph#206-630-7200. We'll send a copy of your current label and an explanation. Your business and support of this publication is very much appreciated.

Viva Recumbency

Robert J. Bryant

*This is an unpaid non-advertisement*

## VERN BOB'S RECUMBENT BARN •NEW & USED•

•SWB•MWB•LWB•CLWB•ASS•USS•HOMEBUILTS•  
•SEE our new mini-gas-turbine power-assist "kit"•

- Super Scorcher • CC Ryder
- ZYT Area-51 • BT Launcher
- Earth Jet • Cush Cycle

Come say hey to our friendly sales people at our 10,000 sq. ft. show-barn just south of the pickle factory in Greater Skookum

**CALL VERN BOB TODAY**  
**TEL.#BR-549**

# Cruise in Comfort on a Linear Bicycle



The Linear is now offered with full a  
**LIFETIME frame warranty**

# LINEAR

## ALUMINUM RECUMBENT BICYCLE

### Linear Bicycles

32744 Kestrel Ave.

Guttenberg, IA 52052

For your nearest dealer call

**Call: 319-252-1637**

**Fax: 319-252-3305**

**North America's only  
FOLDING recumbent!**

**LINEAR FOR 1997: Watch for our new compact Nexus equipped recumbent!**

## Homebuilders Corner



### BenTech Plans Reviewed

by Robert J. Bryant  
Photos courtesy of BenTech

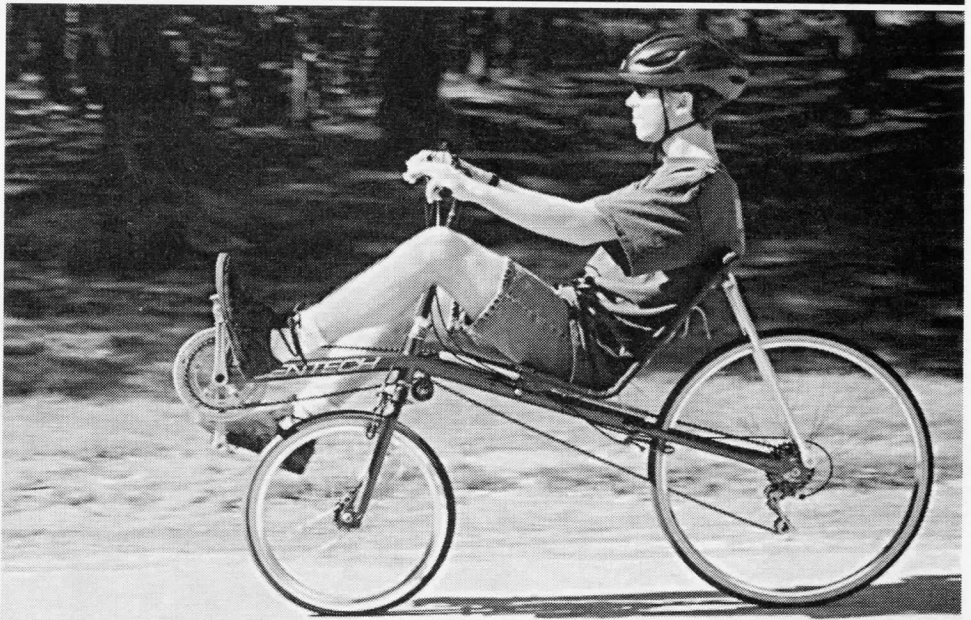
The new BENTECH building plans are a welcome addition to the dwindling range of recumbent building plans marketed in North America.

The BENTECH design is a kinda Rans, kinda Vision and looks great from the pictures. It is a medium wheel base (40"), monobeam design with a 20" front wheel, sling/mesh seat and above-seat steering (ASS) This homebuilt looks so good that it could be a commercially built bike. With this in mind, the best use for the plans could be to demonstrate to would-be builders and recumbent manufacturers the building process from the jig to complete bike.

The plans-set includes a 22 page fully illustrated construction manual that guides the first time builder step by step through the process of building a MWB recumbent bicycle. Also included are three CAD blueprint type drawings (22" x 33") as well as 8.5" x 11" plans for front derailleur tube, rear dropout and seat bracket cutting templates. The seat and frame building jig information is especially good, and the plans are complete enough so that a diligent soul could actually build a bike from them.

What is lacking is discussion or narrative of any length that outlines the design merits of this bike or any owner/ rider tips, adaptable commercially built seats/ASS units or component selection advice. We'd also like to see a better source guide in the back that included pertinent articles, publications and parts suppliers.

Selecting a SWB/MWB can be confusing due to the wheelbase issue. Consider the extremes of the SWB 36", and the MWB 45" compared to the 40" BENTECH. Also the designer states that the BENTECH has a 20" front wheel, primarily because of 16" wheel availability. ATP Vision's



new 16" x 1-3/8" tire is responsible for the come-back of the 16" size. It's a very high quality tire and viable option. It appears that the BenTech could be built with a 24/16 combination with a slight alteration in the plans.

We suggest that readers seriously considering building a recumbent bicycle get all of the available plan-sets: the EconBent (homebrew lower Lightning), Traylor FWD (low-racer style) and track down a set of Easy Racer (best selling recumbent plans ever) plans if you can. These plan-sets are an invaluable resources that could save a builder many hours, heartaches and cash. They are all worth the cost, and will be worthwhile if just one idea or inspiration comes from them. In this respect, you can't go wrong with the BENTECH plans.

Riding a recumbent that you design and build with your own two hands can be ultimate achievement for some. You can ride commercially available recumbents for thousands of miles and my guess is that you'll then be ready to design the "perfect bike for you." Many recumbent enthusiasts feel this way and the "next design" is what keeps them going. For this reason, becoming a student of recumbent design, through RCN, a local recumbent rider group, as well as reviewing plans like the ones from BENTECH will bring you closer to "your ultimate recumbent bike" whether you build a BENTECH, Econ-Bent or Easy Racer. We recommend the BENTECH plans

based on the information provided, though keep in mind that a test bike was not available to judge the merits of the "ride."

The BENTECH plans really take you through the "proper" way to build a recumbent bicycle, though if you are expecting quick and dirty or hack-sawing up old bike frames, you'd better think again, as this is not what BENTECH is offering. Those who found the Easy Racer or EconBent plans complex, will find the BENTECH even more so. As most all of the parts are fabricated by the builder. I really hope somebody is inspired to come up with some more BMX or 10-speed conversion ideas because as recumbents continue to gain acceptance, there will be more and more upright road and mountain bikes wasting away in garages around the country. You don't want to put me in the same room with a hacksaw and a wedge (arguably the best use for any upright bicycle).

The BENTECH plans are \$29.95 + \$3.00 shipping and handling. For more information Email: [domerie@aol.com](mailto:domerie@aol.com) or write at: P.O. Box 198, McKean, PA 16426. WWW: <http://members.aol.com/domerie/BENTECH.htm/>

*Editors Note: If you have any El-Cheapo recumbent building tips, sketches, plans, hand-outs, parts or any way to get on the road in "cheap" style, please send us your info. □*

## CHARGE YOUR RCN SUBSCRIPTION

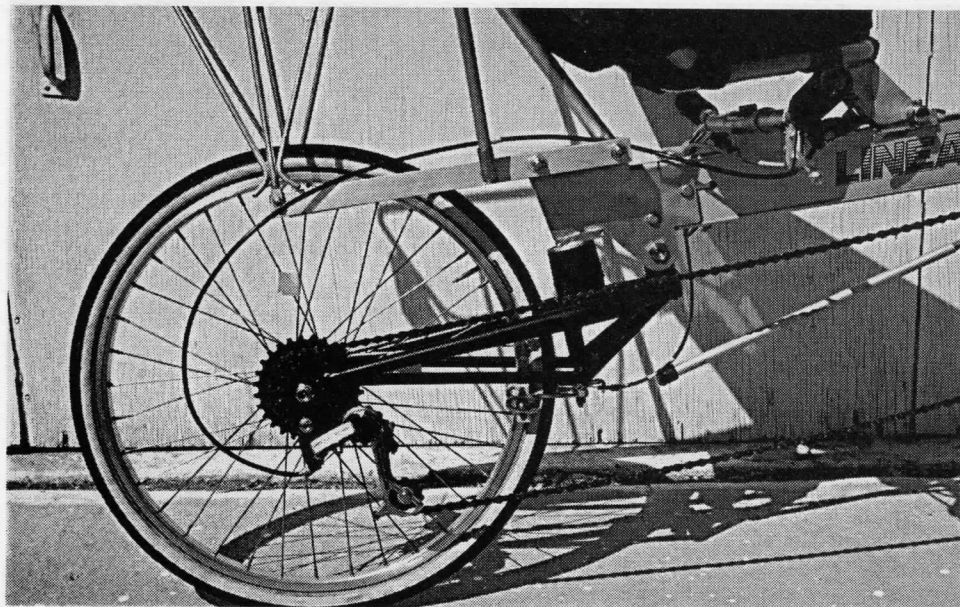
People Movers now offers credit-card order service on Recumbent Cyclist News subscriptions, renewals, Buyers Guides and back issues.  
**NO SERVICE CHARGE on USA/Canadian orders! Give us a call!**

•VISA•MASTERCARD•DISCOVER•

**PEOPLE MOVERS Call 714-633-3663**



# Recumbent Tech: Linear Suspension



Story and photos by Bill Patterson,  
Associate Professor  
bpat@stn14.me.calpoly.edu

## Suspension

This modification was designed and constructed by Matthias Lester a recent graduate of CALPOLY at San Luis Obispo, California, USA. I am writing this article because it is my bike and I've done most of the test riding.

Long Wheelbase recumbents have one great advantage when suspension is proposed. The front wheel is far from the rider and transmits a minimum of road shock, so a comfortable ride is possible using only a rear suspension system.

## Mounting plate

The Linear is built out of modular parts and lends itself to modification experiments without doing damage to the original machine. An Aluminum mounting plate was constructed to match the Quick release portion of the standard Linear chain stay. We used stronger plate so the current model

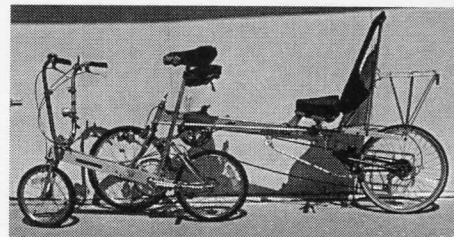
is no longer quick release due to the cost of the new quick release skewers needed to fit.

## Suspension Unit

Several Lord Corporation machine mounts were used for testing. The mounts are inexpensive polyurethane shock absorbers. A builder should purchase different rate mounts and make his/her own decision as which one to use. An aluminum round plate was TIG welded to the mounting plates so the shock absorber could be attached. A matching plate was welded to the rear stays.

## Rear Stays

A standard bicycle front fork was chosen to form the rear stays. Analysis of its strength determined that it was inadequate, so a truss was added. The truss system was very labor intensive and should be avoided, making the construction much simpler. A stouter front fork may prove to be suitable without the truss and should be used. Several



recumbent manufacturers use monostays. Tandem forks are available from various sources.

## Observations

The modification makes the Linear a much better bike. The steel rear stays are more rigid and promote "hammering" once again. The increased smoothness allows me to ride any rough road with impunity and generally makes any trip on the bike much more pleasant. The suspension bounces on large bumps and might need a bit more damping, however no biopacing has been noticed, so I'm not going to change anything that works this well.

The seat support system was lost when the original rear stays were discarded. One inch aluminum box sections were added to mount the seat strut "nipples" and rack bottom supports. The seat is now too vertical and the rear rack is eight inches higher than before. I will solve these problems after I finish grading the spring quarter final exams. I always have several HPV projects in the works and occasionally a good one comes along. This is a good one.

You will notice a photo of the Linear named "Smoothy" and a Bickerton folder named "Larva." Both bikes use an aluminum box section as their main structure. I believe that Linears don't come from Guttenberg, Iowa at all. They emerge from the pupae of old Bickertons.

Any of the information in this report is made at the users own risk which may include catastrophic failure of the device or infringement of patent or copyright laws. California State University at San Luis Obispo and its staff cannot be held liable for any use or misuse of the project. □

# S & B

## The Most Affordable Recumbent!

*Providing Bicyclists with attractiveness, comfort and speed.*

*Our recumbent trike is the most affordable in the world today!*

- Sachs 3x7 equipped
- Tandem recumbents
- Trike recumbents
- Single 7/14/21 spd. models
- Aircraft CroMo construction
- Custom colors available

## S & B Recumbent

PO Box 3061  
Compton, CA. 90222  
Ph #310-608-0008  
Ph/ FAX #310-762-2243



# Recumbent Tech: Upgrades For Your 'Bent

Story and photos by Richard Drdul  
Email: drdul@mindlink.net

Christmas is fast approaching, and it's time to start dropping hints to family, friends, co-workers and sometimes even total strangers — anyone who might buy you a new goodie for your recumbent. As a public service, in this issue Recumbent Tech presents a list of the best upgrades for your bike, with handy dollar signs to identify the inexpensive ones (stocking stuffers) and the expensive ones (yeah!).

These are performance and safety-oriented upgrades. The emphasis is on function and reliability, not necessarily weight savings. Swapping titanium for steel parts to save a few grams doesn't mean much if you're catching lots of air with your chest, or if the ultra-light part breaks miles from home.

## BRAKING

I like the security of good brakes — ones which work well in both dry and wet conditions. Consider these upgrades to improve your braking:

**\$ Brake pads** (\$7 to \$20 per pair). My favorite brake pads — in order from least to most expensive — are Kool Stop Eagle Claws, Ritchey Logic pads (red for wet conditions) and Scott-Mathauer finned pads. Clean the gunk off your rims with 600-grit wet-or-dry sandpaper before using your new pads.

**\$ A straddle cable hanger** (\$5 to \$10) for cantilever brakes. On Shimano cantilever brakes, the brake cable runs through a dime-sized connector, and attaches to one cantilever. A short piece of cable joins the connector to the other cantilever. This awkward arrangement often results in misaligned brakes, and limits the adjustments you can make to the mechanical advantage on your brakes. Replace it with a plain and simple straddle hanger like the ones on old center-pull brakes, or go for a more expensive and fancy one like the Ringle Mojo (a peace sign) or the Avid Tri-Dangle. You'll need a new straddle cable as well.

**\$ A brake booster for cantilever brakes** (\$15 to \$30). Essentially, this is a horseshoe-shaped brace to prevent the brake posts from flexing outwards under hard braking. It's most effective on the front brake where the majority of stopping power is. Da Vinci Designs (vertical9@aol.com) makes a very stiff low-profile brake booster (\$30) which would work on a SWB recumbent, where there might not be enough clearance beneath the boom for a standard MTB Booster.

**\$\$\$ Magura hydraulic brakes** (\$200). I've got these on my 'bent, and I love them! Awesome stopping power and excellent modulation. Adjusting the brakes is easy, replacing brake pads takes 15 seconds, and maintenance is simple once you've figured out the translated-from-German instructions. Make sure to get the right type of



Speedplay "Frog" clipless pedals

pad (grey or black) for your rims. The brakes mount on cantilever posts, and require very little clearance above the tire, so they work well on the front fork on SWB's where there wouldn't be room for cantilever brakes. Shimano V-Brakes, on the other hand, require a lot more clearance — at least 4.5" (11 cm) from the cantilever posts.

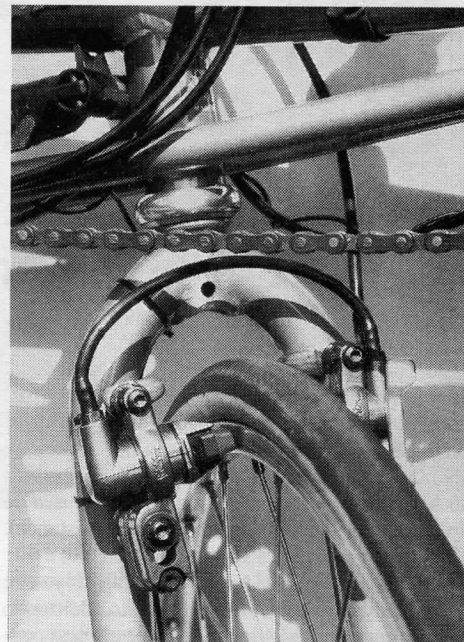
## SHIFTING

I like my bikes to shift flawlessly. On a recumbent, that's sometimes difficult to achieve with long cable runs and lengths of housing. Three products can put the snap back in your shifts:

**\$ Avid Rollamajig** (\$20). One of those nifty little gizmos that works so well and is so simple that you wonder why no one else thought of it. It replaces the long and high-friction loop of housing at your rear derailleur with a low-friction pulley and an almost straight section of housing. Lower friction means better shifting. The Rollamajig comes in all sorts of nifty colors.

**\$ Gripshift Bassworm** (\$10). All Shimano derailleurs from 1995 onwards have weaker springs, intended to make them less effective when used with Gripshift shifters. The Bassworm is one means of adding some spring tension, and as a bonus, it keeps gunk out of that last bit of cable housing. The alternative is to replace the weak spring with a stiffer spring, for just a bit more money, but everyone I've talked to who's done this has told me that it's a major hassle to fit the spring in there. The Bassworm is *much* easier to install.

**\$\$ Gore Ride-On cable system** (\$45 to \$55). I'm not convinced this would be money well-spent, but lots of people rave about Ride-On cables and housing, so I've included it on the list. The cable is coated with a teflon-like product, and slides



Magura brakes on an AngleTech V-Rex

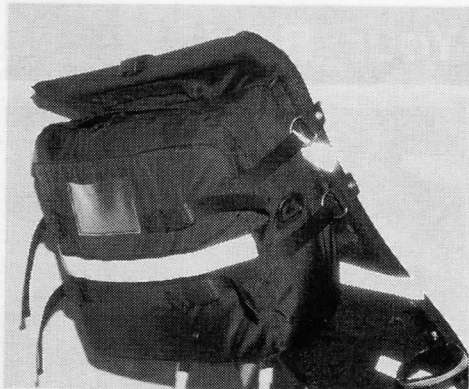
inside a continuous liner, which in turn fits inside the housing. The result is lower friction and smoother shifting. The continuous liner prevents water, dirt and other nasty stuff from getting into the system and grunging things up. My concern is long-term effectiveness — I've heard a couple of reports of the liner disintegrating over time, and shifting friction slowly becoming *worse* than with ordinary cables and housing. It's your call. Be aware that if your 'bent is long, you may need the tandem-length Ride-On cable system, which costs about \$10 more.

## OTHER GOODIES

**\$ Craig Super Link** (\$5). If you like to remove your chain to clean it, you should know that breaking and re-joining a link weakens the link, and makes it more likely to fail (and always at a bad time). Use a Craig Super Link instead — it's a special link that can be repeatedly broken apart, by hand no less! The "extra narrow" model (with the pink instructions) fits current Sachs chains.

**\$\$ Sachs chains** (cost varies depending on model and how much chain you need). These are the best chains on the planet. I recently replaced a 10 year old Sedis chain (what they were called before Sachs bought them) that still measured okay for stretch, and shifted well. The SC-40 version is the best value. Go for the more expensive SCM-55 version with the silver outer links if you like to shift under full power (us old retro grouchers always ease up on the pedals when we shift).

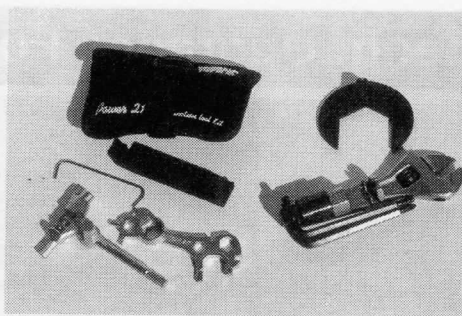
**\$\$ Kevlar-belted tires** (\$25 and up). The kevlar belt (the same stuff that's used in bullet-proof vests) underneath the tire tread helps prevent punctures. I've pulled hunks of glass and sharp pieces of metal out of kevlar-belted tires, without any of them having caused a flat. There are lots of kevlar-



AngleTech Rans seat bag

belted tires available in 26" and 700C sizes. I just found out that Panaracer makes a 24" x 1" (520 mm) kevlar-belted tire, and have heard reports of a 20" kevlar-belted tire from Schwalbe. Make sure that the tire you buy is kevlar-belted, as opposed to having a kevlar bead (which means it can be folded, but means nothing for puncture resistance).

\$\$\$ **Clipless pedals** (\$65 to over \$200). If you're not already clipless, you should be. In addition to improving your pedalling efficiency, clipless pedals prevent your feet accidentally sliding off the pedals onto the ground, where you would run over them and do all sorts of damage to yourself. Look for pedals with free float (not sprung float) and a cleat that's recessed into the shoe so that you can



Topeak Tool Kit

walk on it. My favorite pedals are Speedplay Frogs (\$130).

\$\$\$ **A Chris King headset** (\$100 to \$120). Most recumbents come with cheap headsets. Because recumbent cyclists can't lift their weight over bumps as on upright bikes, headsets on recumbents take a real beating. Eventually, your headset will begin to bind as the fork is turned — a condition humorously described as "indexed steering" because of the clicks as you turn. Replace that lousy headset with a Chris King one — it will probably last longer than the bike. Sealed bearings mean virtually no maintenance, and it's easy to adjust.

\$\$\$ **A Phil Wood bottom bracket** (\$125). Phil Wood is to bottom brackets what Chris King is to headsets. I recently sent my 20 year old Phil Wood BB in for refurbishing (even though it still turned

smoothly), and because it was too old a model, they gave me a brand new one for only \$30! You have to like that. Be sure to specify if you want a symmetrical BB — they ship offset ones by default.

\$\$ **A seat bag** (\$50 and up). ATP makes one for Visions, and AngleTech (Anglezoom@aol.com) and Treklite (joseph@treklite.com) sell bags to fit various recumbent seats. Carry tools, spare tubes, food, cameras, laptop computers and the latest issue of RCN around with you. Most seat bags include a quick release feature so that they can be removed from the seat easily. We just heard about a new one made by Rans that will fit all of their models.

\$\$\$ **A Zipper fairing** (\$400 and up with mounts). A fairing can increase your speed about 10%, especially at higher speeds. It also keeps you warmer on cold days and drier on wet days. There are several shapes of Zipper fairings and mount systems to choose from — look for a full discussion of the Zipper fairing in an upcoming Recumbent Tech.

\$\$ **A mini-tool** (\$20 to \$35). Okay, it's not a bike part, but it's just as important. You should never go anywhere on your 'bent without a mini-tool to deal with unexpected mechanical problems. My favorites are the Topeak Power 21 (\$35) and the Cool Tool (\$20, you'll need a couple of plastic tire levers if you don't already have some). □



The 1997 Haluzak Horizon

We accept VISA & Mastercard

## Bicycles by Haluzak

2166 Burbank Ave.  
Santa Rosa, CA 95407  
Tel. 707-544-6243

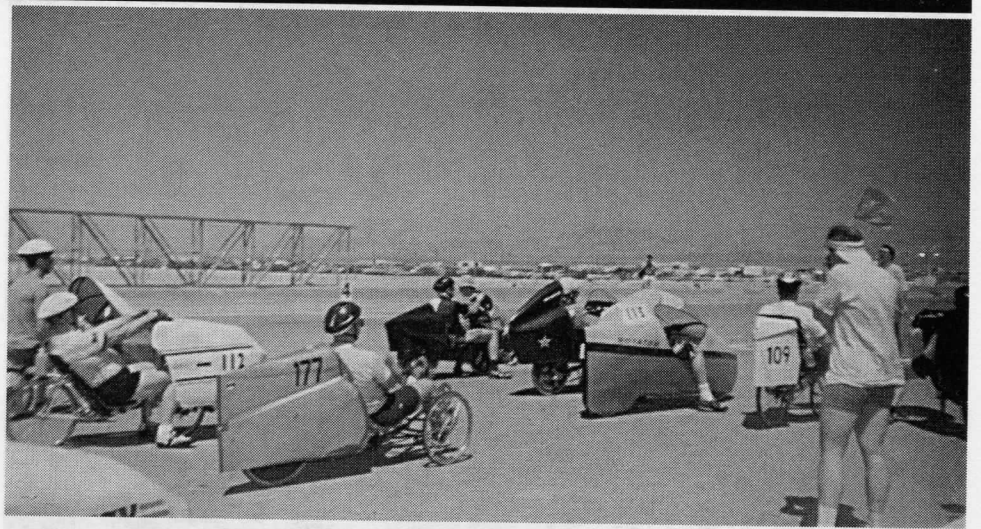
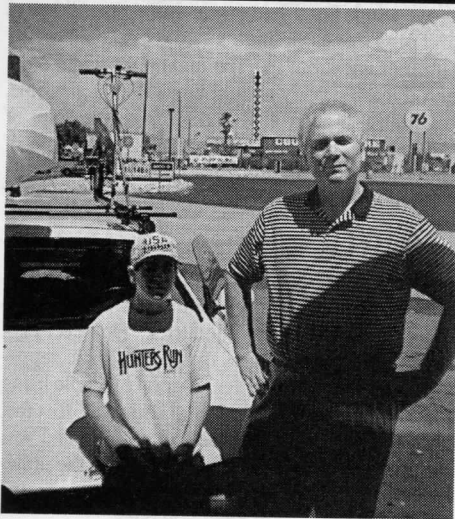
# BICYCLES BY HALUZAK



One ride is all it will take you to feel the difference. We use only the finest materials and components to build your personalized Haluzak recumbent. See our all new "Storm" LWB.

Email: Recumbent2@aol.com  
<http://www.BikeRoute.com/Haluzak.html>

# World HPV Championships Report



## *Partially Faired and Laid Back in Las Vegas Story and photos William Volk*

This is a completely biased report on the '96 World Human Powered Vehicle Championships (WHPVC) held on August 16-20 in Las Vegas. There is no attempt at the appearance of factual accuracy, at least the parts I participated in, watched, or heard about.

A vacation? That word has for the last few years been a description of something other people do. It's true, I really haven't had a formal vacation in many many years. The price of moderate success in the high tech world I suppose.

Of course I would visit the in-laws during Christmas and occasionally take a day off to sit by a pool for a weekend. But no real road trips and no stories to tell.

Yes, I do live in a resort area with day upon day of perfect weather and beautiful ocean views that can become as repetitive as living in a coal mining town. ALL RIGHT, maybe not, but so what, I needed a break.

So the thought of a HPV race within a day's drive was too much to pass up. I mean how hot can it really be in Vegas? And it's a DRY HEAT, right?

### **Clueless in San Diego**

The first step was convincing the wife that my driving to Vegas in mid August to spend four days racing weird bikes was a good idea. After all, what good is riding 150 mile weeks and building strange aerodynamic devices if you can't race.

My first idea was let's all take a vacation at one of those great hotels like the Excaliber or Mirage. Well, our 3 month old baby has a strange characteristic of HATING AUTOMOBILE TRAVEL.

The next idea was maybe it will be cheaper if I go by myself anyway. Yeah, right .... and leave wife with the three kids, I don't think so.

Finally I convinced a powerful lobbyist (my 10 year old son Brendan) that this could be great fun with his BikeE, to get to see some neat bikes, and spend some serious change at the various Casino arcades. The warm thoughts of father-son

bonding won the day with the spouse.

The second step was to get the bikes there. My custom S & B SWB and fairings won't fit inside the car. Renting a Van would several hundred dollars. It turns out that's almost exactly the price of a Thule rack for my Nissan. Too bad that doesn't include the body work needed to repair the roof of the car...more on that later.

I was amazed that the fairing survived just fine, even at speeds averaging 70+ mph for over 5 hours. It makes you wonder just how fast you could go before the velocity-squared aerodynamic forces would have their way with assorted Lexan, PVC pipe, Coroplast and glue. But hey, that would be IRRESPONSIBLE and a VIOLATION of the posted 70 mph speed limit.

### **Which reminds me....I Hate to Drive**

There is nothing more boring and tiring than a LONG AUTOMOBILE DRIVE. I don't care how neat the automobile is. It's not the 10 year old, who was quite content to play the Gameboy and Gamegear almost the entire trip there. It's just the leg cramping and mindless nature of this sort of driving. Ride a bike for 5 hours and you'll feel great. Drive a car for 5 hours and I feel like I've been in a torture chamber.

Having great AC, excellent music on CD, good seats, and a fast automobile still didn't help. I just can't stand being cooped up that long. The only real entertainment was watching the front fairing dance around at 70+ mph, and in particular when we passed or were passed by large trucks. (Bet you're just dying to know how fast I could drive before it went bye bye, right?). It got truly exciting about 80 miles from Vegas when we hit rainstorms and crosswinds.

At this time I would like to present the first award to the Thule Rack Company. Folks, you build one heck of a rack. First off, the "fit kit" worked on the Nissan's minimal sized roof. Second, the rack held the bikes totally secure. It was worth every last cent.

### **Is It Hot Enough For Ya?**

Our first rest stop in the desert was in the town of Baker. It was as we drove through the

town that I saw a Lighting P-38 nested on an Alfa Romeo Spider. It turned out to be Greg Duvall from the Los Angeles Recumbent Riders. That's the group that got me started with these recumbents over two years and 80 pounds ago.

Step out of the car and into a good imitation of Dante's Inferno. Baker has the world's Largest Thermometer. Thanks to Greg, I have picture proof that we stood there in 117 degree heat.

The next award goes to Nissan Motors. Tokyo can be a hot and humid place with massive traffic jams. I've been there, and no matter how hot it gets, you still have to wear a suit and tie. So given the cost of owning an auto, the well paid executive who manages to prove possession of a parking space (yes, it's required) must demand air conditioning worthy of his status. That AC was amazing. In addition the Nissan never overheated, even on the climbs.

### **Are You One of Them There HPV'ers?**

The Barcelona Hotel was not the typical place your average video game company puts up it's people in Vegas. The beds were better than some I've had in Vegas digs, but it wasn't bad. Mary, my wife, would have hated it, no room service, no cable, and no ice, but it was fine for our purposes. After all, the Mirage wouldn't be too happy about guests lubing chains in the parking lot, or wheeling strange contraptions into the lobby.

We missed the water events, but I'm told that these folks truly got to experience the wonderfulness of high humidity and heat. There were two water craft, Tom Traylor's Back-to-Back Cat and Bob Stuart's (Cycle-Car and Coroplast fame) beautiful wood pedal powered boat. I understand that Bob won all of the events except for the bollard pull. Which brings up the most important phrases in racing, so repeat after me: 1. AT LEAST I FINISHED; 2. AT LEAST I DIDN'T COME IN LAST; 3. RACING ISN'T FAIR; 4. I NEED BETTER EQUIPMENT.

The all terrain vehicles had their water events as well, and we also missed that. In fact we spent most of Friday evening looking at bikes, talking about bikes, and waiting for the staff to return from the water events so we could get registered.

## Mistakes I in my Fairing Design

It's a great piece of construction, but my fairing design stinks. Sure, it survived 80 mph in a cross wind, but I had made some crucial errors and omissions. So here's "what I learned on my summer vacation." 1. The maximum width of an aerodynamic body should be as thin as possible, optimally located 40% (back) from the front of the vehicle, not 10% dummy; 2. The bottom of the bike also needs coverage; 3. Two mil Coroplast™ is even lighter than the four mil stuff I was using.

Still, I did figure out the Econokote™, hard point, quick release, and 3M Contact Cement construction tricks. A sub 2 pound fairing that stays together at 80 mph is a good trick. However I got to see far simpler shapes than my "plastic zeppelin" that worked far better. A good example being the "Coroplast Wing" and a fully-faired V-Rex that used fewer Coroplast panels than mine and was far more aerodynamic. So, it's back to the drawing boards. There is nothing like 70 square feet of assorted Coroplast to keep you busy.

## Your Fairing My Friend, is Blowing In the Wind

The Sunday Road Race, here we go. A special category for women, juniors, and tandems ran first. By then it was over 100 degrees with some decent wind. A women entrant from the Netherlands was a very strong rider on low racer of some sort. I'm sure she wasn't familiar with this sort of heat either.

And now we present: The Three Top Training Techniques for the '96 WHPVC: 1. Front Fairing Mounted Hibachi; 2. Stationary Recumbent Trainer in a Steel Mill; 3. Four layers of Rubber Suits on the Atlanta Olympic Road Course.

My son quit riding after lap one, due to his rational mind set. One of my promises was not to force him to ride or finish any of the events. Anyway, the heat was getting to me as well. I guess besides being "Clueless" we were really "Spoiled in San Diego."

Unfaired racing was next. It was now over 100 degrees with some strong wind gusts. The riders really looked like they were suffering as did the spectators. The only escape was Brendan's portable mist machine, which unfortunately did not have a long enough tube to be mounted on the bike.

So by 11:00 the organizers wisely decided to combine the partial and fully-faired vehicles into a single 21 mile race on a basically flat course. That sounded good, especially to someone who lives on the top of a 10% or better grade that takes 15 minutes to climb home after any ride. Remember IT'S A DRY HEAT.

Now we're talking wind, strong gusty wind, 30 mph and then some wind. The kind of wind you take the fairings off for, which almost no one did. And the heat, it was epic. Your cold water bottles would get sterilized within minutes. Ride as hard as you want and your clothes would be instantly dried.

The wind was the worst part for the fully faired and many of the partially faired people. Bikes were tossed off the course like dry leaves. Thanks to Matt Weaver's "self steering" fairing concept I actually didn't have any handling problems. My fairing was positively warped by the



That cool Rotator front-wheel-drive—Bill Volk

NEVER START ON TIME. It's not anyone's fault, that's JUST THE WAY IT IS. Anyway since I come from the software industry, I know about being late. The partially-faired class is partially defined as a "vehicle design may incorporate any amount of body in it's design, but NO part of the body may be moved to enter, exit, start, or stop the vehicle."

The key concept is ANY AMOUNT OF BODY. This made my situation simple. I was simply going to have my butt kicked by some incredible machines. That's because most of the partially-faired bikes were designed to have as much body as possible, and still meet the rules definition. In racing circles, this is known as a "rules vehicle." In racing of all sorts this is quite common and smart to boot.

The truly important lesson here is that "racing makes stuff better." Many of the bikes were veterans of the Midwest HPV and other racing series. These were low, mainly FWD, almost 100% enclosed bikes. The best of the production commercially available models was the Rotator with front and rear fairings.

Technically speaking, the power required to ride a bike at a given speed is a function of the power supplied, the rolling resistance, and the wind resistance. The wind resistance (force) is a function of the velocity squared, as we learned at the technical program on Sunday, which implies that the power to overcome the wind resistance is a function of the wind resistance cubed. Aerodynamics is almost everything on a flat road or downhill. Improved aerodynamics can give a hpv an enormous advantage.

And the award for best rules bike goes to the custom Rotator with everything enclosed but the entry holes in the sides. This bike had a flex-chain fixed boom FWD and a unique monocoque composite body/frame. In fact it was as fast or faster than many of the fully-faired vehicles. The FWD Rotator is ridden on a daily basis on the street, which shows that cool HPV technology can be useful. The rider was really strong as well. Honorable mention goes to the two FWD Infinities.

And the award for the best looking bikes and best prepared team goes to Georgiev's Team Varna. These bikes are beauties, and they are fast.

The Varna team had an amazing flex-chain drive style front wheel drive (FWD), ultra-low fully faired bikes. The Varna riders were strong and did quite well in the speed events.

And now a word for our sponsor. Thank you Len and the rest of the IHPVA staff. Given the difficulty of pulling this event off and the last minute location changes, they worked a miracle.

## I Really Really Hate to Drive

I learned that Saturday's speed event was 65 miles away in Mercury, Nevada (you think I'd get a clue from these cute town names by now). Since the day's events were for the fully-faired vehicles only, I was grateful for the chance to use the day to recover from the drive and spend some quality time at the arcades with son Brendan. Do try the Stratosphere's buffet. They have good stuff, including egg white dishes for the nutritionally obsessed. Lots of awesome 10 year old food as well (waffles, sausages, pastries, etc...).

## 73 MPH! Really?

Yes, Saturday's speed event was held on a Department of Energy's airstrip that had an approximate 2% downgrade. Team Varna's top pilot exceeded 73mph over the 200 meter course. So it's not an OFFICIAL RECORD folks. I hated missing that but two more hours of driving would have driven me over the edge.

The award for best new video game goes to the Human Powered Aircraft game by Namco. You ride a pedal powered aircraft that you control by pedaling! The goal is to run into as many balloons as possible. Fortunately the simulated 3D world's gravity has been somewhat reduced, or this craft has some power amplification so you don't have to pedal that hard.

## I Need A Bigger Tailbox

Sunday was the road race. We won't forget this one too soon. As with all racing, THINGS



wind, but I was able to hold the line. And AT LEAST I FINISHED and I DIDN'T COME IN LAST.

The heat made the ride feel like I was returning from a 100 mile ride in the Alps: no energy and no power. I was drinking as much water and Gatorade as my bladder would allow, but it didn't help. I hereby admit that I am a heat wimp, at least with this heat. After one bad hand off, Brendan got very good at water bottle exchange, which I did on almost every lap. I got lapped by the faster riders (over and over) but managed to lap at least some people (bless you).

I believe that many of the fully faired bikes were blown off the course or quit. So technically I beat some of the best riders around. Isn't racing fun? Amazingly, my favorite, the FWD partially-faired Rotator, finished without mishap and came in first ahead of all the partially and fully faired bikes. I'm really happy to have finished this event without incident.

### Son, Racing Isn't Fair

After the road race we managed to hit the arcades at the Luxor, which I believe is a larger pyramid than the one in Egypt. Which is why I don't gamble in Vegas. Someone is paying for all this excess and it isn't the folks who are winning.

That night it was time for the drag races. On a real drag strip. As we were recovering from the various amusement rides and eats of the Faux Egyptian resort, we didn't show up till late. But not late in terms of the event because as with all things racing, it was also late.

And the award for best speed improvement on a conventional upright bicycle goes to the enterprising rider who removed the seat and seat post from the Bianchi upright for the drag events. He was young and quick. A sub 17 second 1/8 mile.

I managed to make it past the first elimination round with a 24 something. I got beat by the stock Rotator on the second round. AT LEAST I FINISHED and I DIDN'T FINISH LAST.

Brendan suffered the pain of learning that RACING ISN'T FAIR. After winning the first round, he managed to get a better elapsed time than his second round opponent, but since he had a late start, he was eliminated. The only way I could explain this was to repeat that phrase. Thanks to everyone who supported him. He was the youngest competitor and he had a great time.

And the award for best underdog victory goes

to the "mature" couple on the pink recumbent tandem who managed to take advantage of the high tech space framed, back to back, with strong young riders, tandem that had drive train problems at the start. The pink team pedaled like mad and managed to stay away from the rapidly approaching high tech tandem, big cheers from the crowd.

### 95 Degrees, That's Nice

We got back to the hotel room, after stopping for dinner at the 7-11, around midnight. Of course my son told his mom all about the great stuff he got to eat (like cold pizza). That's what 10 year old's love to do.

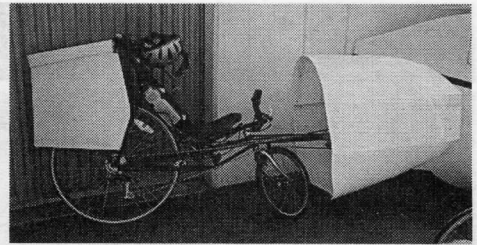
So given the late night out we decided to sleep late, and show up for the Monday morning hour-record event whenever. We were race-hardened veterans by then, because when we showed up at around 9:00 for the 7:00 start, we arrived just as the first event (fully faired) was getting started. 95 degrees never felt so cool.

We camped out at one of the corners and got to see some amazing speed. It may have been due to the physical condition (or heat induced fatigue) of the other riders, but one of the Varnas simply ran away with the event, lapping the other riders again and again. Cool.

And the award for the scariest ride performance goes to the "Reno" fully-faired upright bike. This guy came up the banks scraping fairing on every turn. It seemed that he came closer and closer to the wall each time. By the fifth or so lap, our group of spectators started scrambling to safety every time he approached. Brendan swears that he had a big grin on his face. I think he did crash, but still managed to finish.

I rode the next race, which was the partially-faired hour event. AT LEAST I FINISHED and I DIDN'T FINISH LAST. There was a good deal of wind, but not as bad as Sunday's race in hell. Brendan did one lap of the unfaired event for points, being the sprint specialist he is.

After an afternoon break at the MGM Grand's arcade (so I spent over \$60 at these machines, but at least I knew the odds), we returned for the partially faired and unfaired 200 meter speed events, which we ran. I entered the WHPVC as a partially-faired vehicle. I had had good success with a program of conditioning and fairing improvements. I was able to ride with upright cyclists in the San Diego area who are more fit than I am. And AT LEAST I FINISHED and I DIDN'T FINISH LAST.



Bill Volk's custom S & B with Coroplast home-built fairing

### Bike Crashes Through Roof

Of course I managed to let go of my bike when it wasn't securely fastened to the rack on the roof (it was windy), and thus managed to put a good sized dent into the roof. So much for the cost savings of a rack.

We wanted to get back to a cooler climate before too late, so we opted out of the evening's "last man out" race and awards. Oh, on the return trip we bought the speed up to 90 mph, just for scientific purposes you understand. That didn't cause any immediate fairing failure, but 50 miles later the lexan windscreen separated and the Bernoulli effect lifted the fairing out of one of its mounts (fiberglass separated from PVC pipe). So I now know to add rivets to the Lexan mounts. Still the rest of the fairing survived intact as we did.

The next morning I opted for a short 12 mile ride to Del Mar without fairings and enjoying the cool morning fog. I have to say that I really enjoyed the '96 WHPVC and wish there were more racing events to attend. It was the best fun I've had in years; heat, wind, and dents included. □

*Editors Note: Why Didn't You Hear About This Event? Due to glitches in the IHPVA's newsletter mailings, many members did not hear about the event or get the entry forms until the event was over. Past speed events the RCN Crew has attended such as Portland 1990 and Yreka 1992 have been absolutely and positively the most recumbent fun known to human (powered) kind. We sincerely hope that the IHPVA works out their current woes and comes back in style for 1997 with some promotion and advance notice for this speed event. The WISIL HPV'er reports that the North American speed-event will be held on June 28th and 29th 1997 in Kenosha, WI.*



## Rotator Bicycles

"WINNER" Production class 1996  
World Solar Bicycle Rallye in Japan

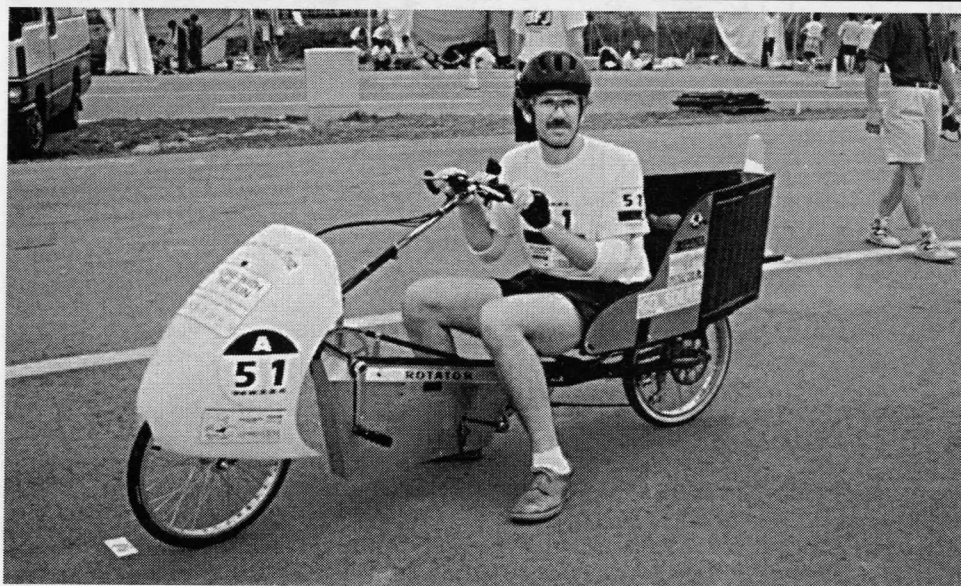
- Pursuit
- Coaster
- Interceptor
- Tiger



For a Free Brochure Ph#707-539-4203  
915 Middle Rincon Road, Santa Rosa, CA, 94509

Powered by the Human Race

# RECUMBENT NEWS & RUMORS



The Rotator Electric Racer in Japan—photo courtesy of Steve Delaire

## BUILDER BRINGS HOME THE TROPHIES

Santa Rosa, CA—Stephen Delaire, 41 year old owner/builder of Rotator Bicycles, arrived home in Santa Rosa with two first place trophies resulting from international racing competition in Akita, Japan. On July 20 and 21, Delaire competed against 135 other competitors in two solar races. Delaire raced a standard production Pursuit, a 35 speed recumbent bicycle which was fitted with solar panels, Interstate batteries, NuSun motor controller and a Revcor motor.

Delaire outpaced everyone in the 100 kilometer endurance race, coming in first with a two hour 45 minute time. Delaire's speed was 61.1 kilometers per hour.

This third annual World Solar Car Rally in Akita, Japan, attracted international competitors from the USA, Switzerland and Germany. The purpose of the event is to encourage alternative, clean solar energy in transportation. Vehicles compete in one of three categories, depending on their design. All are equipped with motor and solar panels. Delaire competed in the production class this year. Sponsors of the Rotator Team included: International Solar Federation, Akita Travel Agency, NuSun Controllers, Dowling Magnets, Interstate Batteries, Zzip Design Fairings, and Jim Simpson.

## TEAM EASY RACERS SET TO MAKE CYCLING HISTORY....AGAIN

Freedom, CA—Gardner Martin and Fast Freddy Markham have been at the forefront of Human Powered Vehicle racing since the late 1970's. These two men have set over 15 world records. Their HPV, the Gold Rush, is on permanent display at the Smithsonian Institution in Washington D.C. Fast Freddy is perhaps one of the most versatile elite cyclists riding today, equally at home on a velodrome track bike, a criterium road bike or on a fully-faired recumbent setting world-speed records. The Gold Rush is perhaps the world's most widely recognized HPV appearing on TV from documentaries to ESPN,

from textbooks to the Guinness Book of World Records, and a myriad magazine and newspapers. Team Easy Racers is once again on the path to making cycling history. Project '97 is an ambitious program to once again push the envelope and set three top speed records:

- Top Speed for a Tandem - 70 mph+
- Top Speed for a Single - 70 mph
- Distance covered in one hour - 50+ miles

Team Easy Racers is actively seeking sponsors wanting to be part of cycling history in the 90's and beyond. These records will no doubt fall someday. Easy Racers Project '97 is challenging them today!

## ANGLETECH METRO ELAN INTRODUCED

Woodland Park, CO—Kelvin Clark of AngleTech has announced a custom-spec version of the new ATP Vision VR-30 "Metro." The Elan is named for its revolutionary new Sachs internal 12 speed drivetrain (28-95 gear inches). This custom Metro will be equipped with a coaster brake rear (in hub) and a drum front brake, Phil Wood bottom bracket and Sugino Team XP cold-forged crank. The AngleTech Metro Elan will have a custom "deep powder" finish. Custom options include a "Ski Bike" package (front and rear skis that replace the wheels), Alpina lightweight stereo system and a custom semi-hard case for the Metro's folding capability (58" x 24" x 10"). The Elan is slated for March '97 delivery, though stock Metro's will be available in January. AngleTech ph#719/687-7475, Email: Anglezoom@aol.com.

## CREEKERS: US BIKE TEAM WINS

Colorado City, AZ—On July 16, 1996, the Creekers Bike Team from Colorado City High School traveled to Akita Japan, where they raced in the 3rd Annual World Solar Bike Race. In the acceleration test held July 20, the pole positions of the race were set by the fastest bikes. We placed

9th with a speed of 60km or 39.6 mph.

We had originally intended to race in the Junior A Class (A-1) but due to lack of information on solar cells and too aerodynamic battery cover, they moved us up to Junior B Class (B-1), which was a more difficult class! B class could have complete fairings, bigger batteries, and solar cells. We raced B class with A class equipment. We placed 1st in the B-1 Class and 5th in the overall race, coming in behind our B-2 fully faired bikes. The winning chassis was a Turner T-Lite SWB.

## NEW ZZIP FAIRINGS

Renton, WA—Karl Abbe of Zzip Design dropped us a line to show a picture of the new Rans Rocket Zzipper. There is also a Screamer mount in the works that has the ability to hinge forward with Rans "Flip It" steering column.

RCN reader Pat Tankersley had this to say about his new Rocket Zzipper, "So far the ride has been excellent. I keep close records of all my rides, average speed, etc. and have realized a two mph increase in average speed. That is fantastic when you remember that we are talking about a bicycle. I have experienced very little side-force from cross winds, the cutouts on top of the fairing seem to be doing the job." For more information, contact: Zzip Designs, ph#408/425-8650 or fax#408/425-1167.

## 20" TIRE RENAISSANCE

Woodland Park, CO—Now available from Angletech: Continental Grand Prix 406 x 28c (20 x 1 1/8) high performance tire with famous polyimide casing, and high latex rubber compound. Continental Top Touring 406 x 37c (20" x 1.5") commuting/touring tire with polyimide casing and high latex rubber compound. Schwalbe City Marathon 406 x 32c (20" x 1.25") 115psi sidewall rating performance/touring tire. Primo HP 451 x 35c (20" x 1-3/8") performance/touring tire. Corresponding presta valve tubes also available.

## RECUMBENT RIDER CLOTHING LINE

Redondo Beach, CA—Recumbent riders have special needs when it comes to clothing. Traditional bicycle clothing just isn't as comfortable. Hal's Recumbent Cycles offers a complete line of recumbent rider-specific clothing including: Short-sleeve jerseys with three front pockets that provide plenty of room for maps, glasses or power bars. These are available in sizes small-XXL and in Coolmax. Also available are Six-Panel Lycra Shorts in sizes small-XL, Long-Sleeve Jersey's in sizes small-XL. For more information, contact: Hal's Recumbent Bicycles, ph#310/376-5882. Email: hals1hvp@aol.com

## BOB INTRODUCES CHILD TRAILERS

San Luis Obispo, CA—BOB Trailers, Inc. introduced their new line of Child Trailers at the Interbike trade show. They've taken the conventional two wheel trailer design and created a new centerline attachment system using their patented B.O.B. Quick Release system. no more single arm that clamps to the chain stays!

The new trailer will track better than

chainstay mounted trailers, offers equal left and right turning radii and offers maximum heel and leg clearance when pedaling or dismounting. The new trailer is a rear-entry/kids face away from the bike wheel. This offers improved visibility for the kids. The new trailers are designed to reduce tip-over factor. B.O.B., Ph#805/541-2554. Web: <http://www.callamer.com/bobine>.

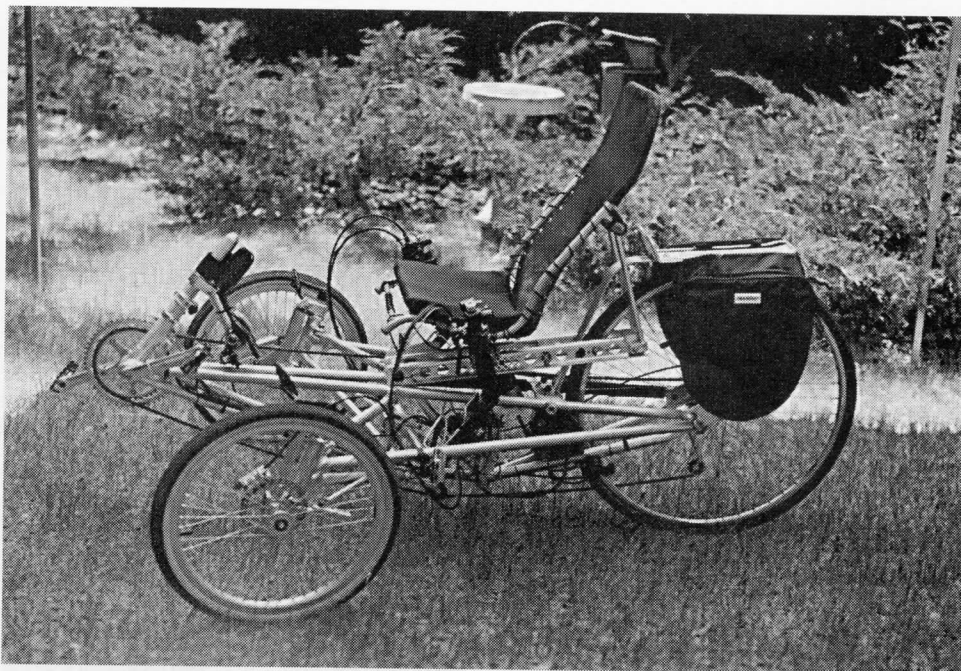
### PERSONAL TRANSPORTATION TRIKE NOW AVAILABLE

*Wautoma, WI*—From the North Country, the land of endless winter, a new recumbent design—Personal Transportation aka Bob Turner, a welder and machinist by night, with fifteen years of experience building, designing, and riding recumbents.

This all aluminum vehicle features a folding frame, quick release front wheels, and a quick release seat mount to facilitate storage and transport. The tricycle is designed for those individuals that want the comfort of a recumbent but prefer the stability of three wheels. The trike utility format makes it ideal for around town errands and getting exercise instead of taking a car.

Basic Specifications: overall 48" wide, 72" long, 41" high, 46" track width, 38" wheelbase, bare chassis 42 pounds, loaded with all the options of a motor, batteries, body, bags, tool kit, and full instruments, including CD player and power speakers 104 pounds, the case is 12 pounds.

Because of the custom nature of the trike, almost anything is possible, but some standard options that are available include; a fabric body for extending the riding season, a fabric carrying



Robert Turner's new trike—photo courtesy of Personal Transportation

case, a CD player and powered speakers, long range batteries, a solar recharging system, an electric motor for assisted pedaling, and higher speeds or longer range.

#### Features and Benefits:

- All aluminum folding frame design
- Fully adjustable air suspended seat.
- Controls located on fully adjustable hand grips.
- Quality American components used when avail.

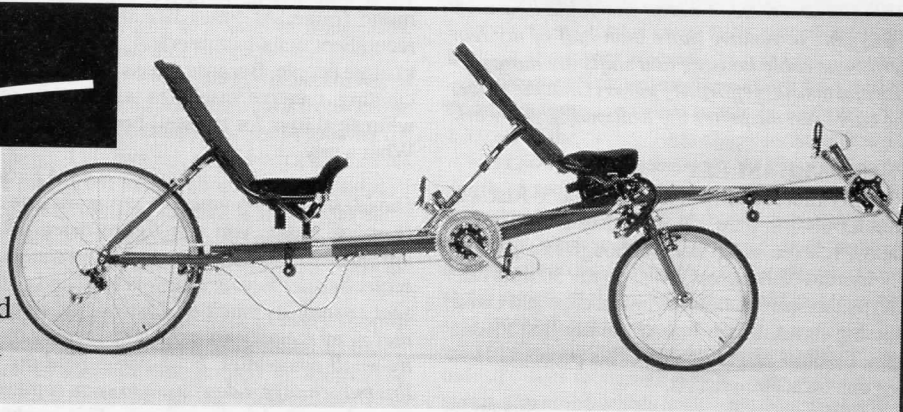
- Stainless fasteners for long life and durability.
- Custom options to suit individual taste.

The Tricycle single model with components from Campagnolo, Paul, Phil Wood, Cook Bors and Magura sells for \$6600. The Phantom Tandem version sells for \$6600. For more information, contact: Robert C. Turner, Personal Transportation, Rt. 4, Box A42, Wautoma, WI. Ph# 414/787-3560. Fax#414/787-5180. □



## En Vision the performance and price leader!

Vision recumbents have quickly become the country's recumbent performance and price leader. The Vision offers **advanced performance and comfort** at a **price half that of most recumbents**. Whether you need a long wheelbase, short wheelbase, or tandem bicycle, ATP has the right bike for you. Come ride fast without a sore neck, back or wallet.



## Double Vision, ATP's newest innovation!

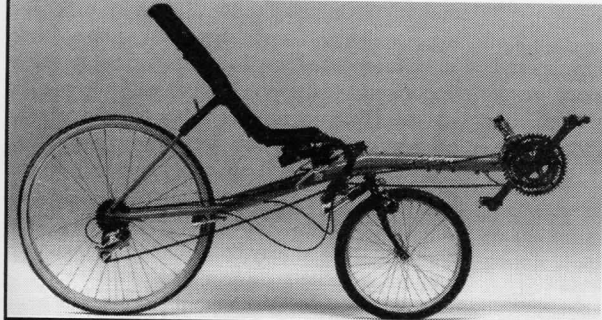
- \* Comfortable, fun, fast and easy to ride
- \* Independent Pedalling System (I.P.S.) available
- \* 20" front wheel, below seat steering
- \* Frame telescopes to accommodate stoker's size
- \* Adjustable and removable mesh seats
- \* Fits on standard roof top tandem rack

Built in Seattle, U.S.A. **Prices start at \$3400**

**Advanced Transportation Products, Inc.**

952 Republican Street, Seattle, WA, USA 98109

Tel. 206/467-0231, Fax 206/467-0175



## VISION SHIFTING

What upgrades might improve shifting on a Vision R-40?

Marshall

Marshall, current Vision models have mostly Shimano drivetrains matched with GripShifts and a SunTour front derailleur. Suntour makes fine derailleurs, however the derailleur springs are much stiffer than the Shimano model GripShift was intended to be used with. Also, our experience is that the more upline GripShift model, the easier the shifting effort. An easy resolve to this is to replace your Suntour front derailleur with an appropriate Shimano model or get rid of your GripShifts. If you are having chain-skip or missed shift problems, you may want to consider replacing the stock KMC chain. Replace it with Sachs Sedisport. As a dedicated Tri-Flow junky, I use the finest lined brake housing and compressioned index housing and lube spray Tri-Flo into the housing during installation. I then lube about once a month into the open cable ends of the brake and derailleur housings and at the brake levers and shifters (I use bar-cons). This makes for a "poor mans hydraulic system" kind of feel. Some riders have installed the Bass-Worm a trick deal that aids springing the rear derailleur cable back from a shift. This product was designed to aid in the use of GripShifts with weak sprung Shimano rear derailleurs. Bass-Worm users have not been overly enthusiastic about shift improvement, though we haven't had any complaints either. The Rollamajig is an aluminum gizmo that fits into cable adjust barrel of the rear derailleur. There is a roller which takes the severe bend out of the cable housings. I was able to remove more than half of my rear derailleur cable housing and shifts are more precise and take less effort. My guess is that the longer the cable run the better the Rollamajig will work.



Photo courtesy of ATP Vision

these needs.

Unlike most of your readers, my basic need is transportation. I have no car. I rely upon my bicycle for commuting and running errands (sounds very 3rd world doesn't it).

I'm impressed and depressed reading the buying and selling sprees by the likes of Alloy Mouse and Rich Belcastro (I'm Looking for a Title). They are fortunate to have the means to fully enjoy their hobby. Meanwhile, I am riding a \$350 hybrid and attempting to scrape together enough money to afford just one very inexpensive recumbent. I suspect it's a fool's errand, as I don't believe there's a model out there that seriously addresses transportation needs at a reasonable price.

LWB models are best suited for touring. SWB/MWB bents are weekend scooters. The CLWB seems to be the ideal size, but at nearly \$1000!

For the time being, I'll stick with my diamond frame. At times like these, I wonder if recumbent manufacturers truly want to reach out to more people. Because unless they do, these fascinating, creative machines will forever remain whimsical toys for the well-heeled. What a loss. What a pity.

David B. Seaver

David, it's true recumbents are more expensive. In many cases, you can figure twice what an upright will cost. The reason: the economies of scale. Besides having a custom built and designed seat costing as much as 25 times as much, and that most recumbents are built virtually by hand by small companies. If we can spread the word, this may change. I don't want to seem condescending, because I feel your pain. This is why RCN covers homebuilder technology. I suggest you start collecting old 10 speeds and BMX bikes, make a jig from discarded plywood and let the guys at the muffler shop weld it up for you. Get some good flat-black paint at the hardware store and you're set. Keep the faith!

## COUNTERPOINT FIXES

I have had my Triad for nearly two years and completed 9000 miles on it. I have done many things to improve rear shifting with my GripShift, Sachs freewheel and Shimano LX shifter system

- Shortened cable routing
- Cleaned up cable housing ends
- Installed to thinner cables
- Installed SRAM Bassworm
- Added Bullet Bros. Chain Tensioner (reduced chain slap)

- Increased spring tension in the Deore LX rear derailleur

All helped, but the real solution was to replace the Deore LX rear derailleur jockey pulleys, thus eliminating the lateral float inherent in the Shimano system. Now, it shifts like great!

Don Cockeram  
Richland, WA

Don, Zach Kaplan sells a custom Shimano STX RE rear derailleur with third pulley that will take up even more chain slack. The STX is reported to have the strongest spring of any Shimano MTB rear derailleur. Thanks for the tips.

## SPACE AGE FOAM

I replaced the ordinary poly foam on our Lighting T-38 seats (rare Lightning back to back tandem) with Sunmate foam material. Sunmate is expensive at more than \$15 for a 18x20" slab. I was getting "bleacher butt" and the foam took care of that. With that success behind me, I replaced the foam on my Gold Rush Replica seat, as I suffered during extended rides. I used a piece of high density closed cell foam from the local foam shop with Sunmate on top of it. It is gradually breaking in. If I were to do it over again, I'd use two pieces of Sunmate. The stuff is one inch thick and is available in three densities. I have been using medium and it does well. I've also added a piece to our Rans Screamer as the hard seat base got to me rather quickly. The Sunmate offered a major improvement. Both Sunmate and Temperfoam are temperature sensitive and are much firmer when cold; Sunmate less so. It's rarely cold here, but I have noticed I sink less at first. Once the seat warms up to your bottom side, it is no longer noticeable. Temperfoam-Sunmate, 1310 Idylwild Dr., Lincoln, NE 680503, 402/470-2346.

Fred Ungewitter  
fredu@america.com

## SLANT-SIX STYLE: FRUGAL BENT TIPS

I have a few ideas to pass on that may be of use to RCN readers. I purchased a P-38 Lightning off the rack this past summer. It was literally hanging on the wall of the Lightning shop where it looked down on its newly minted siblings. It's of 1987 vintage with a fixed seat and passe running gear. I got it for a fair price and since it was my first recumbent, preferred a "daily driver" as opposed to a high priced mint condition bike that I would dread marring. In its "slant six" humbleness, I have felt free to tinker with it and offer the following lessons.

Like most recumbents, it accepts a rear pannier rack. And unlike conventional bikes there is no heel clearance problems with the panniers. Therefore, I took the opportunity to mount soft motorcycle luggage to the Blackburn rack. The luggage is an off-brand that I picked up at a sale and has lots of external pockets and volute. Most importantly, and common to all such luggage, it's square. There are no pinched or tapered sides to accommodate the pedal arch of a conventional bike. This means you can easily haul bulky items that would not fit into conventional bicycle panniers or even less. Look for guys selling their motorcycles who may be willing to part with the luggage separately.

With an elevated bottom bracket, one must

## FEET FALL ASLEEP

My first recumbent ride, a rental V-Rex was wonderful—no pain, all gain! My rides left me happy, relaxed ache free. Although not painful, my feet did "fall asleep" often on my 30 mile ride. The pedals were standard with out clips and I wore running shoes. When I purchase my first recumbent, I would like to not have this problem. How can this be accomplished.

Sincerely,  
Paul Karanevich

Dear Paul, because most recumbents require energy to hold your feet out on the pedals, toe-clips, straps or preferably clipless pedals are necessary to alleviate the symptoms. If you don't want to spend the bucks, look for a CLWB or low bottom bracket design. At the very least, you need cycling shoes. If the problem still persists, it could be your body not acclimating to the particular riding position, ill-fitting shoes, or an adjustment. You may want to experiment with leg extensions and clipless cleat positioning. Generally, clipless cleats need to be more rearward on the shoe.

## RECUMBENT BUYING SPREES

Recent issues of RCN have given me pause to access my needs for a bicycle and re-access whether a recumbent or diamond frame meets

exert energy keeping one's feet on the pedals. A costly solution is to use clipless pedals. I found this unacceptable for the kind of riding I do, such as touring where a second pair of shoes would be necessary. Lightning sells pedals with a rubber sheathed cable extending from them to support the heel of a shoe, but their clever engineering would clash with the rest of my bike. After several months of thought and hours of cruising the isles at hardware stores, I decided to use Zip-Ties typically designed for use to secure electrical wiring. The ones I used were surplus after the LA riots where they were used to bind the hands and feet of case-hardened criminals. They are about 24" x 1/4" and were easily woven through the slots in my ancient Lyotard pedals. The ties are adjustable so I can properly position my foot on the pedal. Their 1/4" width provides excellent support to the heel of the running shoes I usually wear. Given the close pedal to wheel clearance common to P-38's, they easily yield when they encounter the front wheel. Best of all, the ties were 50 cents each.

A previous issue of RCN discusses the merits of plastic tubing shrouds around the chain. I had seen this arrangement on some recumbents, but not many. For \$1.00, I decided to experiment. A heat gun was used to straighten the drip irrigation hose after being stored in tight coils for months. Chain management on the P-38 is actually very good, so I focussed on the 24" that return to the chain-rings and which are most apt to catch a pant leg or calf. The next problem was attaching the tubing.

I slit it open lengthwise with a utility knife and slid it over the chain at the intended location. I then shifted the front derailleur back and forth to access the lateral and vertical movement that any mounting system had to accommodate. It also had to contend with the rise and fall of the chain from Bio Pace chain rings. I considered brackets bolted to the first chain idler pulley; pinning the tubing to the derailleur guide channel overhead. After listening to an ad for one of Garrison Keillor's Prairie Home Companion radio show advertiser, "The American Duct Tape Council," I had my answer.

In true "slant-six" style, the tube is suspended by a short length of duct tape. It works perfectly. There is ample compliance in all directions and the chain will fall off before the duct tape will. If I want to adjust things, out come the scissors and duct tape. So far, I am pleased with the results. I've saved legs and pants from ugly grease stains with the trade-off being some noise. I suspect that the up and down motion of the Bio Pace chain rings is the biggest culprit, since the noise diminishes significantly when I'm in the large and roundest chainring. In the interest of aesthetics, I will use Lynn Miller's suggestion and try covering the tape with blue heat-shrink tubing (RCN#31).

A last suggestion involves varied applications of tough plastic sheeting (Corex/Coroplast = plasticized card-board used in trade-show booths and....recumbent fairings). I found that I had chain slap on a section of the frame that was not easily shielded. I also needed to keep my panniers from shifting into the rear wheel. I found that the black plastic mud guards that can be purchased from any auto parts store is tough stuff and yet can be easily cut, drilled and shaped with a heat gun. Try

to find one without the chrome-plated naked female profile. I'm testing a front fender for rain protection, but may resort to a spray skirt attached under the frame, so I'm subject to a muddy rooster tail from the front wheel.

Todd Collart

### BIKE RETAILERS FROM HELL

A bike shop employee once told me to be a real cyclist you have to be willing to endure pain and suffering!

A friend went to a bike shop in Essex, CT to buy a bike for his girlfriend. There was one person in the shop working on a bike, my friend waited a couple of minutes hoping to be recognized as a customer. Finally, the person working on the bike looked at him and said, "I'm Busy!" Needless to say, my friend bought his girlfriend some jewelry instead. Two years later the girl friend requested a new bike. Their perfect bike for this person was the Specialized Globe (city bike). I called four Specialized dealers. They first said they weren't going to carry it, that if someone wanted a bike like that they would put fenders on a mountain bike. The fourth dealer had one.

A friend of mine builds high end mountain bikes. A friend of his wife wanted to buy one. She went to one of his dealers in Saugus, MA. The owner told her she didn't need a bike like that and tried to sell her an inexpensive bike. She went to another dealer and bought the bike she wanted.

I went into a shop in Lawrence, MA, asked the owner if he carried recumbents, he said, "no I don't" turned his back on me and walked out of the room. The salesman at the next shop up the street in Salem, NH had never heard of recumbents. According to a shop in Baden, PA, recumbents are a fad that has come and gone.

Over the last seven years, I have answered nearly 7,000 thousand telephone calls from people who have gone to or called bike shops looking for recumbents. I always ask people what kind of response they got from the shop. Although I didn't keep records, I would say that at least 9 out of 10 people got no information or misinformation. Many people mentioned that they had been insulted or ridiculed.

Most of these people went to every shop in their areas. A person in New York called 25 shops, a person in San Francisco called 17 shops. The usual response people get is, "Sorry, can't help you. Don't know anything about them. Don't know where you can get them. Why would you want to buy one of those things."

A customer had a flat tire in front of a bike shop, went in and asked to have the flat fixed. The person in the shop said, "Sorry, we don't work on recumbents."

After five years of effort, we had about 20 shops that were selling our bikes. Four of the shops sold 90% of the bikes.

Some of the experiences we had with these shops was amazing. One large shop in Chicago had a bike on the floor, but if the recumbent guy wasn't there, the other shop employee would tell the customer that they couldn't help them, that they would have to come back some other time. These people would call us and ask what the hell kind of dealers we had selling our bikes.

Two prospective customers went into one of

our dealers in Tennessee. They called to tell me that they almost had to threaten the salesman to get a test ride. They bought two bikes, but not from that dealer!

Do businessmen open an appliance store because they love refrigerators and stoves? Of course not, but probably 95% of the bike shops in the country were started by people who love bicycles.

Unfortunately it seems that none of them are businessmen. Hobbyists, dilettantes and enthusiasts, yes, but businessmen, no. As bad as the owners may be, the people who actually control the bike industry are the shop employees. Virtually every shop employee is a twenty year old jock who can talk endlessly about the latest suspension bikes or the newest purple anodized quick release skewer. They love bikes and they are willing to work for six bucks an hour and the opportunity to buy bike parts at wholesale. They have never had any retail training (and don't believe they need any). They are the reason why practical city bikes or windscreens or recumbent bicycles are not mainstream products. Ours has become a one product industry.

Nearly every advertising dollar is aimed at the 16-25 year old age group. This industry, for all practical purposes, has no products for the 75 million people over the age of thirty and couldn't sell them even if they had them.

At least we don't have to worry about competition from the major manufacturers, they couldn't get shops to sell recumbents even if they produced them. They are well aware of the problems with the independent bicycle dealers. And they don't have any answers to the problems either. Specialized can't get the dealers to carry their Globe city bike, so there is little reason for them to think about recumbents.

Obviously there are some shops who understand that these are viable products. Perhaps 150-200 out of the nearly 7000 shops in the country.

I know of a shop that has sold about \$170,000 worth of recumbents this year. They mentioned that a local competitor said that he was really glad that they were selling recumbents because now they wouldn't have to talk to the people who came in asking about them, that they could just refer the customers to them!

Eventually someone from outside the bicycle industry will recognize that a huge opportunity exists for comfortable safe bicycles. Perhaps a Nike or Reebok type of company. But I don't expect the independent bicycle dealers to do anything, they aren't businessmen.

Name and address withheld on request

*Dear withheld, luckily there are a hand-full of progressive shops that do carry a wide selection of recumbents. Unfortunately, it's the disconnected shops that concern us the most. You know, the ones where one, maybe two brands are sold, and there are no connections to enthusiast groups, rides (or RCN). If you mention SWB, LWB, ASS, USS or want to know the difference between a 16" and 20" front wheel or which design offers the best performance, the odds are that they will wonder what language you are speaking—or worse yet, you will get an incorrect answer. After the Interbike trade-show we have high hopes for the future. □*

# RCN Holiday Back Issue Sale

- GIFT SUBSCRIPTIONS: This includes RCN#36 mailed First class mail \$30 Now \$25. (Dlx. sub. \$38 Gift sub sale)
- GIFT PACK-A: Any 6 Issues (see pg. 39) Reg. \$33 Now \$27
- GIFT PACK-B: Any 12 Issues (see pg. 39) Reg. \$55 Now \$48
- GIFT PACK-C: 3-Buyers' Guide Special Special RCN#19/20, 26/27, 32/33 and RCN#36 Reg. \$34.50 Now \$23
- GIFT PACK-D: Oldies RCN#6, RCN#7, RCN#12, RCN#17 and RCN#36 Reg. \$31 Now \$22
- GIFT PACK-E: RCN Issue Set: RCN#2-RCN#35 (no #14) Reg. \$170+ value Now \$130

Package Deals include Priority Mail Shipping within the USA. Prices valid on orders mailed to RCN ONLY. Deadline for sale is Jan. 1, 1997. Order by December 15th for XMas Delivery

# RCN BUYERS GUIDE 1997

Recumbent Cyclist News #38 Feb/March 1997 will be the **1997 Buyers Guide**.

If you are a new dealer or manufacturer that does not advertise in RCN, please send \$5 postage/handling for our '97 Buyers Guide Info Pack/Listing kit. We will need your information ASAP! Write to: RCN, PO Box 58755, Renton, WA 98058.

**WE WANT YOUR LISTING IN THE '97 BG!**

## BLOW OUT SALE GOING OUT OF BUSINESS

After 5 years we are calling it quits. Recumbents, Components, Wheels, Brakes, Tools, more all at huge discounts.

(example: We have a new '96 BikeE \$650.00).

BikeE's, Custom Revielle w/ or w/o gas conversion (\$486/\$685), Adult trikes (upright), Meridians, Brike kids recumbent.

Send SASE for list or request by Email, Call for interest in specifics.

### The Bicycle Republic/Introspect Cycle

PO Box 418364

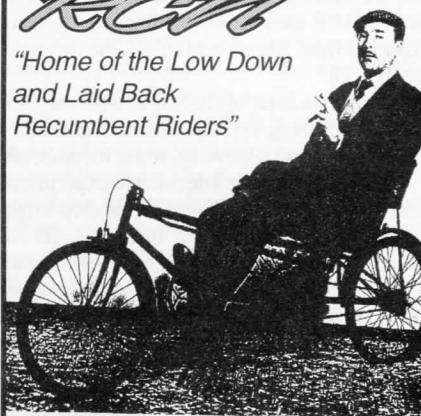
Sacramento, CA 95841

Ph#916/331-6550 Email: BJSTRASS@AOL.COM

Web: <http://www.bikeroute.com/BicycleRepublic.htm>

*RCN*

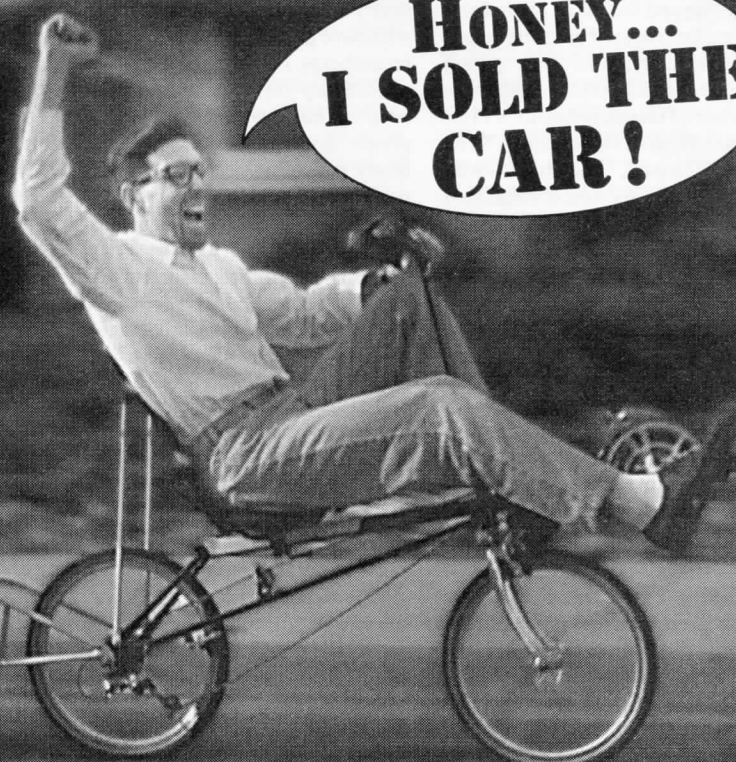
"Home of the Low Down and Laid Back Recumbent Riders"



CH - MTB Cycletech + 41 31 972 5572 • D - Sport Import + 49 44 059 2800 • FIN - MTB Keskus + 35 80 682 2397 • NZ - Cycle Works + 64 3 338 68 03 • NORWAY - DBS Racing + 47 51 60 45 75 SWEDEN - Monark Crescent AB + 46 340 880 00 • U.K. - Neatwork + 44 1 89 88 3456 • USA - GT /Riteway Products 800 869 9666

# B·O·B

## TRAILERS



**HONEY...  
I SOLD THE  
CAR!**

patents pending

AUSTRALIA - + 61 3 534 3074 • DENMARK - Winther + 45 86 84 7288 • CANADA - Cycletech 800 661 1682

B·O·B Universal HD0 - 3641 Sacramento Dr. # 3 - SLO CA 93401 • TEL: 805 541 2554 • FAX: 805 543 8464 • E-mail: bobinc@callamer.com • web site: <http://www.callamer.com/bobinc>

# RCN Rider Calendar/Rider Group Listings

## LOW DOWN AND LAID BACK RIDE

Nov. 2, Dec 7, Jan 4 ('97), Feb 1 ('97) Rain or snow cancels Pedal 20 miles RT from Lake Meridian in Kent, WA to the Black Diamond Bakery.  
Kent, WA (Lake Meridian Park 9:30 am)  
Contact: SASE to PO Box 58755, Renton, WA 98058.

## 1996 VOLUSIA-FLAGLER COUNTY LASERR RALLY!

December 7th and 8th, 1996  
The Loose Assemblage of SouthEast Recumbent Riders is pleased to announce its third recumbent rally. Join your fellow riders in a scenic tour of the greater Daytona Beach area. Rides of 25-65 miles. All bicycle types welcomed and encouraged to attend. The Saturday ride starts at Ormond Beach City Hall / Library at 8:00 am The Sunday ride starts at Daytona Beach Public Library at 8:00 am No cost for the ride, get together after the Saturday ride for a Larrys Giant Subs snack and some good fellowship. For additional information, contact Fred Ungewitter at 904-767-5768, Email to fredu@america.com or SASE to 1964 Forest Avenue, Daytona Beach, FL 32119-1591

## SEATTLE BIKE EXPO

February 15-16  
Seattle Center Exhibition Hall

## INTERBIKE ANAHEIM INTERNATIONAL BIKE EXPO

September 4-7, 1997  
Anaheim, CA  
Contact: Interbike @ 714-376-6161

**EVENT PLANNERS:** Let's get those events planned and into the RCN#38 Recumbent Master '97 Calendar ASAP!

**RIDER GROUPS:** Would like your event or rider group listed, please send it to RCN, POB 58755, Renton, WA 98058. Readers, please send an SASE with any correspondence.

• **CHICAGO AREA RECUMBENT RIDERS:** Meet 9:00am Sunday mornings (weather permitting) at the parking lot at the South end of the Caldwell Woods bike path. Contact: Joe Dickman at , Ph#312-725-0331.

• **COLORADO RIDERS:** Recumbent rider group forming for touring, racing, fun rides, exchanging information, etc. Rides could be arranged anywhere in the state. If interested, Steve, ph#719-546-1287, Email to: scarmel@smtgate.ssmc.n.oaa.gov

• **EASY RACERS:** Quarterly rides, ph#408-722-9797.

• **LASERR:** Loose Assemblage of SouthEast Recumbent Riders: Covering FL, GA, & AL. Sample newsletter, send SASE to LASERR, 1964 Forest Avenue, Daytona Beach, FL 32119-1591 Subscription \$5.00, payable to Fred Ungewitter. Info: 904-767-5768, fredu@america.com

• **LOS ANGELES RECUMBENT RIDERS:** Meet monthly, third Sunday, 10 am at Burton W. Chace Park, Mindanao Way, Marina Del Rey, CA. Contact: Chris Broom Email: pwtccb@is.arcom.com

• **MICHIGAN HPV ASSOC:** Linda Jayne, 45223 Cass Ave. Utica, MI 48317.

• **OREGON HUMAN POWERED VEHICLES:** Meetings rides and a bimonthly newsletter. Newsletter available. Dues \$10. OHPV, PO Box 614, Beaverton, OR 97075

• **LOW-DOWN and LAID BACK Cycling Club of Greater Skookum Seattle/King County area** Recumbent Riders & friends meet the first Saturday of the month at Lake Meridian Park in Kent, WA We are interested in forming an official recumbent club. If you'd like to be on the mailing list, please send an SASE to: PO Box 58755, Renton, WA 98058.

• **PEOPLE MOVERS/ ORANGE CO:** Monthly rides, Ph#714-633-3663.

• **SAN DIEGO RECUMBENT RIDERS:** William Volk, 2348 Lagoon View Drive, Cardiff CA 92007. PH#619-930-2323, Email: bill\_volk@lightspan.com, Ride on last Sat. of the month, Mission Bay Visitors Center off of I-5.

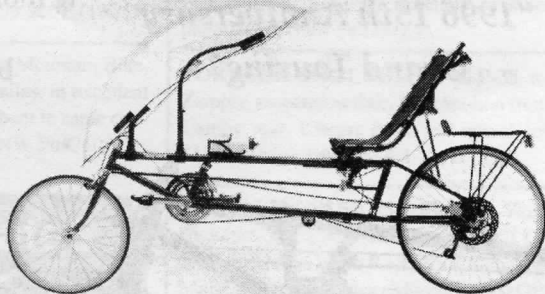
• **WASHINGTON DC AREA: W.H.I.R.L.** (Washington's Happily Independent Recumbent Lovers) The folks meet at the Viers Mill Recreation Center. MD, north end of Beach Drive, Saturday morning, weather permitting, at 8am (9am after the clocks go back in the fall.) For more info contact: Vic Sussman at 301-897-5959 or vic@clark.net. To subscribe to the WHIRL mailing list, send email to majordomo@cyclring.org. In the body of your message type SUBSCRIBE WHIRL

• **WESTERN WHEELERS:** Monthly Recumbent & HPV rides, every 3rd Sat. AM (April-Nov.) at Gunn HS in Palo Alto CA. Call Alvin Chin ph#415- 571-5147 or Email: AlvinTChin@aol.com

• **WISIL HPVers (WI/IL):** Meets the last Sat. of each month. Contact: Len Brunkala, 260 S. Channing, Apt.#1, Elgin, IL, 60120-6619.

**RCN#38 will be the 1997 RCN Buyers' Guide. See Pg 30 of this issue for more information**

# The Most Comfortable Bike You'll Ever Ride.



Recumbent Cyclist News Awards:

•1993, 1994, 1995 and 1996 —Editor's Choice for Best Underseat Steering Recumbent

•1994—Best Craftsmanship on a Recumbent

"The Vanguard's handling is in a class by itself....." —RCN 1995

**Ryan**  
**Recumbent Cycles**

PO Box 588

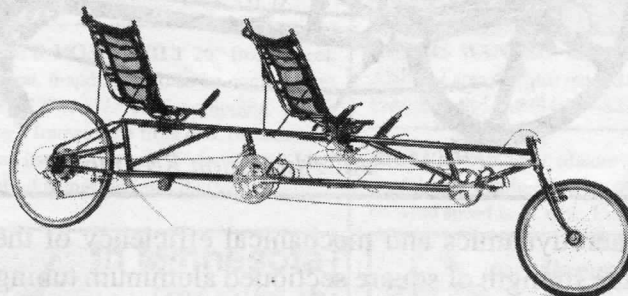
Hampstead NH 03841-0588

Phone/ Fax: 603-329-8336

1-800-632-2869

Email: ryanbike@ryancycles.com

See our new WEB site: WWW.RyanCycles.com



"Could be the safest and most comfortable bike in the world"  
—Bicycling Magazine, August 1994.

We ship bikes anywhere in the world!



The next step in the  
evolutionary cycle.  
Call, 1 800.231-3136

bike  
E

## ARE YOU MOVING?

Be sure to send us your new address (along with your mailing label or old address) to RCN.

The USPS **DOES NOT** forward 3rd class mail—and we would not want you to miss a single issue of RCN!

## Zzip Designs

Home of the Zzipper® Fairing

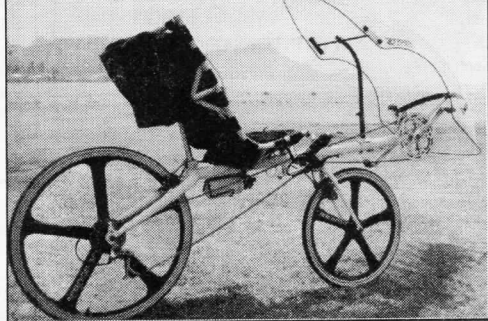
Streamline your dreams  
with a Zzipper® Fairing

Zzip Designs  
P.O. Box 14  
Davenport, CA 95017



Send \$2 for color brochure

The Haluzak Zipper—photo by Lynn Miller



Tel. (408) 425-8650 Fax: (408) 425-1167  
1-888-WINSCRN (946-7276)

# INFINITY®

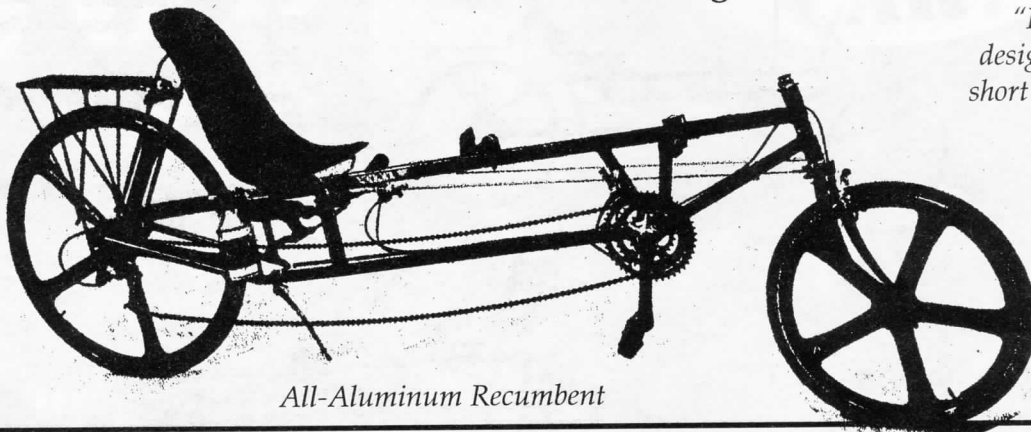
Introducing the New  
"1996 15th Anniversary  
Grand Touring"

Lighter, Stronger, Faster  
& more Agile. Complete  
recumbents  
bikes . . . from \$849

"Infinity.....the  
design is nothing  
short of brilliant."

—RCN#22

Summer '94



All-Aluminum Recumbent

Discover the aerodynamics and mechanical efficiency of the Infinity design, the stability of under-seat steering, and the strength of square sectioned aluminum tubing. Above all, discover the shock-free comfort of Infinity's fully supported seat, a comfort you must ride to believe!

For catalog, send \$1.00 to: **Ace Tool & Engineering** P.O. Box 326 Mooresville, IN 46158

Call Today For Information (317) 831-8798



# RCN ReCycle Classified

## RECUMBENT DEALERS

**PEOPLE MOVERS--North America's LARGEST Recumbent Bicycle Shop!** Featuring: ATP, BikeE, Haluzak, Rans, Easy Racers and more! We are a FULL-SERVICE recumbent MAIL ORDER specialist as well as an "official" RCN agent. Charge your subscriptions and renewals! Give us a call, Ph#714-633-3663 or Email: PepleMovrs@aol.com

**AVATAR, HYPER-CYCLE, INFINITY, EASY RACERS, LIGHTNING, ROULDANDT, SLING-SHOT, DeFelice, VANGUARD, THC, LINEAR, VISION, REBIKE, S&B, TURNER, BIKE-E, RANS & OTHERS.** We are not the largest, just the oldest! DR. BIKE Visit our new home at 8433 E. McDonald Dr. in sunny Scottsdale, AZ 85250. Open 8 days a week. We accept all major credit cards and ship world-wide. Call 1-602-991-2839 OR 1-800-DRBIKE1. Ask about our new SWB the Pocket Rocket.

## NEW/ DEMO RECUMBENTS

**HAWAII RAINBOW RIDERS** Proudly offering the fine line of **Bicycles by Haluzak** Our custom Hybrid Race was featured on the cover of RCN#31. Your custom bent is waiting for you. Free tours of Hawaii. Take home a souvenir that won't gather dust. Tel. 808-456-5707

## RECUMBENTS WANTED

**WANTED TO TRADE:** New or used Easy Racer Gold Rush Replica, (small or med.) to trade with 63 VW Beetle. Beetle not fast enough! Tony ph#206/625-6992 (W)

**WANTED TO BUY:** INFINITY LWB with 63" wheelbase short frame. Call Phil, Ph#817/799-9007. (TX/35)

**WANT TO TRADE:** Yokota Tandem Mountain Bike, 20/18, 21 speed with less than 100 miles, in excellent condition. for LWB, or MWB recumbent in same condition. Will consider delivery in the PNW. Ph#360/891-1947 (WA/36).

## Classified Rates

**SUBSCRIBER/NON-COMMERCIAL RATES:** \$12 one insertion/\$18 for two to 35 words. Non-Subscriber rates: \$24 one insertion/\$36 for two for up to 35 words. Commercial classifieds are \$1. ea. word (35 word minimum). Name, address & phone counts as 10 words. Classified ad orders must be paid in advance and are taken by mail or Email only. Call Ph#206-630-7200 or Email: DrRecumbnt@aol.com for a display ad rate sheet.

**FREE CLASSIFIED ADS:** Free ads run for ONE issue and are for subscribers only. "Parts Wanted," "Parts For Sale," "Bikes for sale under \$499" and "Personal ads" and "Tour Partner Wanted/ ride announcements" are all FREE to RCN subscribers. Ads taken by mail or Email only.

**AD DEADLINE FOR RCN#37:** Dec 15, 1996.

## HOMEBUILT RECUMBENTS

**BUILD YOUR OWN RECUMBENT:** Introducing a new 20" MWB design that can be built for under \$100. CADD designed with fully illustrated building guide. BENTECH, P.O. Box 198, McKean, PA 16426 (<http://members.aol.com/domerie/bentech.htm>)

## USED RECUMBENTS

**FOR SALE: 1996 LIGHTNING F-40**, only 300 miles, large, suspension fork, 17" Moulton, covers, rack, hydraulic brakes, GripShift, Quad front, 8 speed Shimano rear and MUCH MORE. Medical forces sale. \$3000 invested/ \$2550. Ph#510-463-8021 (CA/36).

**FOR SALE: INFINITY LWB**, 21 spd., Rapidfire, new seat, paint, USS or steering bars, fairing \$550. Ph#509-967-2639 (WA/36)

**FOR SALE: ROTATOR PURSUIT.** 35 speed intermediate drive, Rotator front fairing. Good shape. \$1100. I'll pay shipping. Ph#603/643-6501. (36)

**FOR SALE: VISION R-42AU recumbent.** Teal. Excellent condition with 1800 miles. Short wheelbase configuration, underseat handlebar, 16" front wheel. Includes Vision seat bag, Lexan chain guard & upgrades. \$1000+ship. Email for details to [jschwa2000@aol.com](mailto:jschwa2000@aol.com) or phone Jim at work ph#212/826-2723. (36)

**FOR SALE: BikeE Recumbent**, blue 21 speeds, hardly used, excellent condition. Originally \$950 Sell for \$400 Call 212/996-4754. Email [emahe@lmase.com](mailto:emahe@lmase.com)

**FOR SALE: VISION R-40, SWB**, 16" front wheel with Phil hub, 21 speed, excellent condition, \$750.00, ph#802/775-5968 (VT/37).

**FOR SALE: 1996 LIGHTNING P-38**, medium, red, Zipper, suspension fork, 17" Moulton front, 700c rear, Campy rear, Ultegra hubs and wheel covers. Mint. \$1895. Chuck Tel. 505/268-3211. (35)

**FOR SALE: 1995 RANS V-REX XT**, Violet, 24 Speed, Mounts for 3x7, AEROSPOKES(2), XT Components, Ride-On Cables, Rear Rack, Kick Stand, As New, Low Miles, Must sell—price reduced, \$1800 OBO Tel: 403/270-0488 Email: [rolands@quatttro.com](mailto:rolands@quatttro.com) (35)

**FOR SALE: FWD HOMEBUILT 26"** front wheel, 20" rear, EZ-1 seat, 6-spd., USS (can be converted to ASS), Fits riders 5'2" to 5'7." \$325 + shipping. I have 1-1/2 "prototype" frames (one front end, two rear) for a FWD if you can list them for say \$50 for all. Tel. 804/296-1826, Email: [dok2p@virginia.edu](mailto:dok2p@virginia.edu) (VA/36)



## In Minnesota

Come and test ride  
Rans Stratus,  
Nimbus, V-Rex,  
Rocket and BikeE!

## DICKS RECUMBENT CYCLE

7685 Heritage Rd., Eden Prairie, MN 55346  
Ph#612-949-3781

Personalized service!

## USED RECUMBENTS

**FOR SALE: EASY RACER TOUR EASY #750** for sale never ridden, about 10 years old full Zipper, mirror, Blackburn rack, kickstand pump, all original parts appropriate to the time. Black medium frame. \$1200 plus shipping [sheldonhe@aol.com](mailto:sheldonhe@aol.com) or 616/877-2050 (MI)

**FOR SALE FULL STREAMLINER: 1990 Rotator Super-7**, 1/3 Gold Rush Body, completely streetable, extensive race history, many wins, ridden to victory by world champions: Dean Pederson, Brad Dunns, Stephen Delaire and Mr. Myhee. You can win too! \$5,000 FIRM. Call Steve at ph#707/539-4203. (CA/36)

## RECUMBENT MISC.

**LAS VEGAS HPV VIDEO:** Participants in the '96 WHPVC Las Vegas meeting may want a VHS cpy of "My Weekend In Las Vegas," 190 minutes of the road race, drag race, 1 HR. TT & last man out events—two tapes, \$30 postpaid—Gregory Duvall, 2930 Colorado Ave. #D-12, Santa Monica, CA 90404-3647.

## PARTS FOR SALE

**FOR SALE: Presto Nosecone and bodystocking** system for sale. Cost \$400 new-asking \$250/best. Email: [Regisd4385@aol.com](mailto:Regisd4385@aol.com) or Ph#330/633-5512 (36).

## NEW AGE RUBBER!

- Continental Grand Prix 406 x 28.....120 psi
- Continental Top Touring 20 x 1.5 .....70 psi
- Schwalbe City Marathon 20 x 1.25.....115 psi

Call ANGLETECH Today! Tel.719/687-7475.Email: [Anglezoom@aol.com](mailto:Anglezoom@aol.com)

**PEOPLE MOVERS** is your source for recumbent wheels, tires, parts and you can even charge your RCN renewal. Call Today! Ph#714-633-3663.

**FOR SALE: Time clipless pedal system**, used twice. Purchased at \$120, asking \$80. Call Scott Groff at 768-3902 (w) or 838-8107 (H) (WA/36)

**FOR SALE: Rans seat cushions** with covers in very good condition—\$15 per set or \$35 for three sets—plus shipping. Bob ph#516/698-5939.

## RIDERS WANTED

**RIDERS WANTED:** for riding in the South Eastern Alabama area. We just moved to Dothan, AL. I ride a Presto, Craig, Ph#334/794-8217 (AL/35)

**RIDERS WANTED:** Mature (old) EZ-1 rider seeks riders for area within 60 miles of Toledo. My level-road, no wind speed is 12 mph. Doug. Ph#419/534-2431



## Recumbent Specialist "The South's Largest Dealer"

Many Brand Names in Stock • MC/ VISA accepted  
Mail Orders • Demo Rides by Appointment  
**Morgan's Cycle & Fitness**  
2509 Sunset Ave. • Rocky Mount, NC 27804  
Free Catalog 919-443-4480

# RCN RECUMBENT LISTINGS

**HPV  
SUPPLY**

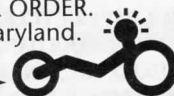
*A complete selection of  
components and supplies for the  
owner-built recumbent!*

**PRAIRIE DESIGNS / HPV SUPPLY**  
21806 S. BROADACRES RD  
PRETTY PRAIRIE, KS 67570  
316-459-6237

"A BIKE SHOP LIKE NO OTHER"

**Mt. Airy**  
B I C Y C L E

*College Park*  
B I C Y C L E S

- Recumbent bicycles tailored to your needs from one of the premier U.S. shops listed in *Encyclopedia*.
- Expert repairs and frame modifications, same day custom wheels, obscure and hard-to-find parts, USED bikes, as well as prompt worldwide MAIL ORDER.
- Extended test rides in beautiful rural Maryland.
- The largest selection on the East coast!
- We BUY, SELL, TRADE or RENT → 

Call 1-888-RECUMBENT

Email [abikie@aol.com](mailto:abikie@aol.com)



## The True Wheel Cycling & Fitness Shop

Schwinn • Trek

Recumbents

Rans • Easy Racer • Vision  
Haluzak • Bike E

**Bob Cummins** - Owner

**Reggie Solomon** - Head Wench

(208) 788-5433 • 800-607-7915

P.O. Box 1658 • 400 North Main Street • Hailey, Idaho 83333



*Canada's Premiere Recumbent Retailer*

Over 10 years experience! Featuring ATP Vision,  
S & B, homebuilts and others.

3317 Cambie St.

Vancouver, B.C. Canada V5Z 2W6

Tel. 604-874-3616 Email: [r-bent@portal.ca](mailto:r-bent@portal.ca)

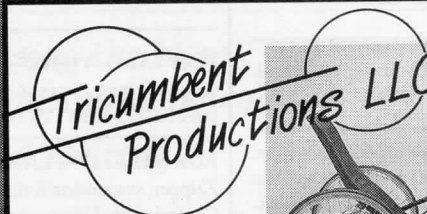


## NorthEast Recumbents

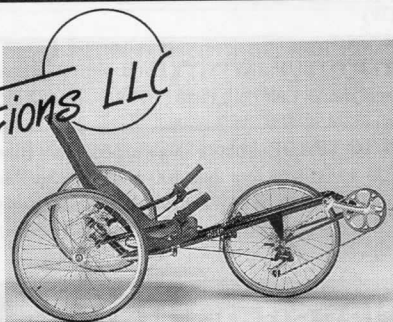
*BikeE / Vision / Lightning / Easy Racers....&  
more for test rides & showroom CALL*

Tel. & Fax: 201-239-8968

9 Wayland Drive, Verona, NJ 07044



Paul Ballweg  
111 South Main St.  
Deerfield, WI 53531  
Tel. 815/877-6173



*The Raven*

## ZACH KAPLAN CYCLES

Specializing in High Performance Recumbents for Transportation  
Meticulous Service Unequaled Custom Modifications

FAIRINGS SUSPENSION LIGHTING SYSTEMS  
WIDE-RANGE GEARING AND LUBE-INJECTION CONVERSIONS  
MANY BRANDS AVAILABLE INCLUDING IMPORTS

Telephone: 415-381-5723, E-mail: [zakaplan@earthlink.net](mailto:zakaplan@earthlink.net)  
235 Pacific Way, Box 214 Muir Beach, CA 94965 USA  
Serving the SF Bay Area and mail order

## Recumbent Sea

Recumbent Sea is your source for Recumbent Bikes and trikes in the Great Lakes area of the USA. Located in beautiful downtown Moline, Michigan. Test rides available on Saturdays. Call ahead and let us know you are coming.

1225 ROSEWOOD  
PO BOX 285

Call: 616/877-2050

MOLINE, MICHIGAN 49335 [SHELDONHE@AOL.COM](mailto:SHELDONHE@AOL.COM)

# CELEBRATE!



## FOOLS GROW CYCLES

904-224-4767

**Bicycle Sales & Service**

1046  
Commercial Dr.  
Tallahassee Fl  
32310  
— EMAIL —  
edde@freenet.tlh.fl.us

	<p><i>bike culture quarterly</i></p> <p>In every issue: new HPV developments, products, bicycle art, history, essays &amp; news from here and the European scene. The thinking person's bike magazine.</p>	
<p>E '96 (incl. video): \$22 • E/BCQ ANNUAL SUB: \$45 Checks or credit card orders contact: OPEN ROAD USA POB 291010, L.A., CA 90029 • Tel: 213-468-1080 dylan@BikeCulture.com • WWW: BikeCulture.com/home/</p>		
	<p>Full-color guidebook to unusual products made by the world's most imaginative HPV innovators.</p>	

*encyclopedia*

Get the t-shirt that everyone's been asking for. These make great gifts. L, XL, XXL. Just \$15+\$3 s+h. Call 714-633-3663.

I'm a  
**BIKE PATATO**



Visa, MC, Discover.

*Alternative Pedal Sports*

**Featuring the World's Best Values in Recumbent Cycles**

- Singles, Trikes, and Tandems
- Zipper Fairings & Accessories
- On-site Custom Fabrication Services
- Demo Rides, Sales, and Repairs
- Visa & MasterCard Accepted

Located in Southern California's Inland Empire - Two miles from the Ontario International Airport, and 35 miles from Los Angeles.

CALL: 800/331-8556 Fax: 909/466-0013  
9722 Sixth Street, Rancho Cucamonga, CA 91730

See us on the Web at: <http://diskspace.com/aps>

**Find out about Recumbents. Find out about the National Bicycle Greenway.**  
<http://www.BikeRoute.com>

**16" x 1 3/8" 20 x 1 3/8" PRIMO TIRES IN STOCK**

# Recumbent Rental

Next time you're in Minneapolis, you'll want to rent a 'bent and ride the 40-mile paved bikeway of the Chain of Lakes. Vision, Rans, Bike-E, or convert a friend on the Rans Screamer.

**calhoun cycle** (612) 827-8231 Ccycle96@aol.com

A SCREAMER  
B ROCKET  
C V-REX<sup>24</sup>  
D ZERO-G



SPEED COMES  
WITH  
PAIN

RANS

**RANS**

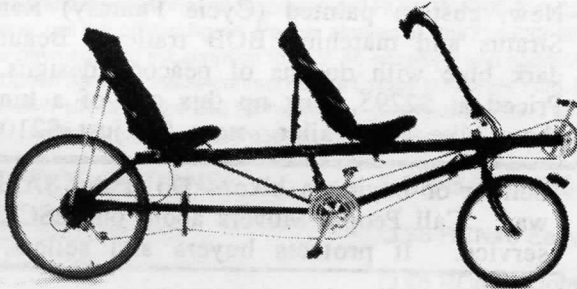
4600 Highway 183 Alternate  
Hays, Kansas 67601  
Phone: (913) 625-6346  
Fax: (913) 625-2795

# introducing the **VISION** vr30

INTRODUCING THE ANGLETECH VERSION OF THE NEW  
VISION SUSPENDED MEDIUM WHEELBASE RECUMBENT.  
WRITE OR CALL FOR OUR SPECIFICATIONS OF ANGLETECH'S  
MANY VARIATIONS INCLUDING THE SACHS ELAN EQUIPPED  
INTERNAL 12-SPEED MODEL.



## THE rans SCREAMER TANDEM!



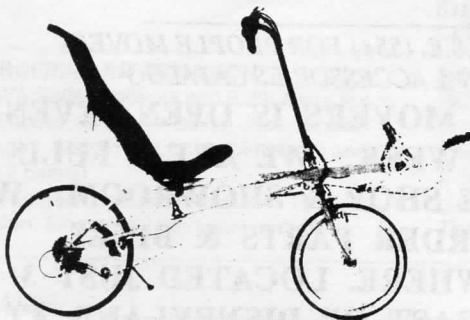
The four SCREAMER models from ANGLETECH feature such gearhead pleasing options such as up to 84 speeds, a custom NOBELETTE tandem-spec front fork for precise handling, a suspended front fork as well as the unique option of independent coasting!

# RUBBER!!! and other stuff.

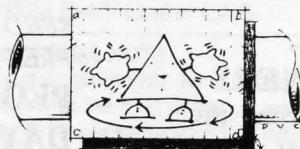
LOOKING FOR QUALITY PARTS GROUPS OR AN OBSCURE PART WITH WHICH TO FINISH YOUR MASTERPIECE...WHY NOT GIVE US A CALL! WE'VE GOT THE TIRES ( 16", 20", 24", 26", OR 700C ) FROM CONTINENTAL, HARO, PRIMO, NATIONAL, AVOCET TO NAME JUST A FEW. FORKS, WHEELS, LUBE, YOU NAME IT, WE'VE GOT THE HPV PARTS YOU NEED WAITING ON OUR RACKS, READY TO GO!

**"ANGLETECH SPEC", THE REAL THING, no caffeine:**  
Ultimate value is not necessarily in the cheapest price for a bike with an LX derailleur!  
Quality components throughout your bike, right down to the invisible things like cables, brake shoes, chain, and wheel build.

**ANGLETECH SPEC models deliver the real value.**



**ANGLETECH  
rans ROCKET**



**ANGLETECH**

318 N. Highway 67  
P.O. Box 1893  
Woodland Park, CO.  
80866-1893  
719.687.7475  
orderline  
800.793.3038

Email  
ANGLEZOOM@aol.com



Catalog: \$ 2.00



**rans V-REX**

Custom returbishing &  
modification including  
painting, powdercoating,  
brazing and much more!

**"BIKE TECHNOLOGY FROM A DIFFERENT ANGLE."**

# PEOPLE MOVERS NEWS

PepleMovrs@aol.com

## People Movers raises \$1500.00 to help fight breast cancer.

September 21st, 1996. The weather was perfect. Dozens of riders gathered in the early morning for a brisk, 12 mile ride to the beach. After the ride there was a barbecue, contests, an auction and prizes. Manufacturer reps from Rans, Easy Racer, Zipper Fairings, ATP, AutoBike, BikeE and Haluzak were on hand to answer questions. Grand prize (a BikeE) was won by Cathy Watkins. \$1500 profit for the event went to the Foundation for Advancement in Breast Care. Thanks to everyone who attended and especially Pat and Bryain Eingenberger, Katie Ganzer, Colleen Wilburn, Gary Anderson, Ed Wronski, Bill Christian, Jeff Eltiste, Angie Diamont, Pro Sound, Mark Germaine and all the others who helped make things go smoothly.

## 6 STOLEN BIKES STILL MISSING

A blue Lightning P-38 #733, blue BikeE #196272, red BikeE #19680, purple BikeE #19646, black BikeE #19601 and a red EZ1 #189 were the six bikes stolen from People Movers.

## THIS ISSUES CONTEST-

Solve the following riddle and get a chance to win a Vetta C15 cycle computer.

2 runner-ups will each win a People Movers "Sit and Get Fit" t-shirt.

PUZZLE-

What occurs one time in a minute, twice in a moment and never in a thousand years?

MAIL entries to People Movers, 980 N. Main St., Orange, Ca 92867

## 6 LUCKY T-SHIRT WINNERS

Six lucky winners were chosen from the dozens of successful entries to last months puzzle. They were: Jonathon Ruiten, Reni Karanevich, James Auferheide, Robin Algeri, Jody Wiley and Mrs. Kelley Jr.

The correct answer to last issues puzzle is:

**SIX**

**BIKE POTATO SHIRTS JUST \$15.  
CALL AND ORDER YOURS TODAY.**

## ATP ANNOUNCES NEW R30

ATP's great new suspended bike, the R30, is about to hit the streets. 21 and 7 speed models are available at People Movers. Order early for Christmas.

## PEOPLE MOVERS ACCEPTS VISA, DISCOVER & MASTERCARD

## CUSTOM BIKE & TRAILER

New, custom painted (Cycle Fantasy) Rans Stratus and matching BOB trailer. Beautiful dark blue with dozens of peacock designs. Priced at \$2295, pick up this one of a kind show bike and trailer now for just \$2100.

Selling or buying a bike? Do it the SAFE way. Call People Movers about our ESCROW service. It protects buyers and sellers.

## SHOW TANDEM

SHARP new RANS Screamer tandem. This model has Shimano XT hubs and derailleurs, Specialized cranks, Ritchie brakes and levers, Grip shifters and 24 speeds. It's beautiful, white, "Marshmallow" paint glistens in the sun. Comes with mirrors and cycle computer. Ride into 1997 with your new "wheels". Save hundreds...now just \$3295 plus shipping.

## AND MORE WINNERS.....

Successful entrants for the monthly contest featured in the '96 Buyers Guide are: John Waring and Peter Mogk (third time). Keep the entries coming...we have a new winner every month.

SEND A S.A.S.E. (55¢) FOR PEOPLE MOVERS  
FREE PARTS & ACCESSORIES CATALOG

**PEOPLE MOVERS IS OPEN SEVEN  
DAYS A WEEK. WE ARE A FULL  
SERVICE SHOP & SHOWROOM. WE  
MAIL ORDER PARTS & BIKES  
EVERYWHERE. LOCATED JUST 3  
MILES EAST OF DISNEYLAND AT  
980 N. MAIN ST ORANGE, CA.  
92867**

**CALL: 714-633-3663**

# RECUMBENT CYCLIST NEWS

## READ ALL ABOUT—RCN!

**SEE PAGE 30 FOR RCN HOLIDAY SALE PRICES!**

Read all about it! The latest and most up-to-date information on the International recumbent scene—RCN offers: road tests, home-builder stories, reader-shared experiences, new bicycle technologies, ads and the latest news & rumors. We are positive that you will find our issues and information the most fun every written on the subject of recumbent bicycles. RCN is the #1 source for recumbent bicycle information in the world today!

## SUBSCRIPTION OPTIONS

RCN has been printed six times per year—since 1990. Each issue is 40+ pages. We offers standard (3rd class mail) subscription as well as deluxe first class mail service and even multiple copy subscriptions. Please allow 4-6 weeks for your first issue. You can earn a **FREE RCN** issue for each person who subscribes from your referral.

## HERE'S HOW TO SUBSCRIBE TO RECUMBENT CYCLIST NEWS

1. Fill out the subscription form on the bottom of the page. Be sure to print clearly.
2. A one-year six issue standard subscription to Recumbent Cyclist News costs \$30. We accept personal checks, money orders and even cash. For Canadian and International rates, please call RCN (Ph#206-630-7200) for current brochure. For Credit Card Service and non-Canada/Euro subscriptions, call our official Agent, People Movers at Ph#714-633-3663 PST.
3. Put your payment and subscription form in an envelope and address it to: RCN, PO Box 58755, Renton, WA 98058.
4. For European Service, please contact Future Cycles at Friends Yard, London Road, Forest Row, East Sussex, England, RH18 5EE. Telephone 01342 822 847. UK rates are £25.95/Australian customers contact Greenspeed Recumbents, Phone +61 3 9758 5541, Fax +61 3 9752 4115 Email greenshp@ozemail.com.au. Prices from RCN distributors may not be the same as in this flyer.

### SUBSCRIPTION OPTIONS

- \$30 USA Subscription  
(3rd class mail/ allow 4-6 weeks)
- \$40 Deluxe First Class  
(First class mail in flat envelope)
- \$42 Canadian Deluxe  
(Airmail in flat envelope)
- \$115 Supporter -X  
(10 copies/ mailed Priority/XX now available)
- \$77 USA Deluxe 2-yr. (1st Class)
- \$55 USA 2-yr. (3rd class)
- \$60 World Air Mail (US Funds)
- £25.95UK/Future Cycles  
(To Future Cycles at the above address).

### RCN BACK ISSUES

- \$6 RCN#6 Easy Racer Test
- \$5 RCN#7 Lightning Test
- \$6 RCN#9 ATP R-20
- \$6 RCN#10 Turner E/Thebis
- \$6 RCN#11 Counterpoint Presto/ BMX
- \$6 RCN#12 Rans Stratus
- \$6 RCN#15 ReBike/Lightning History
- \$6 RCN#17 The BikeE/ Draising
- \$5 RCN#18 Presto vs Tour Easy
- \$7 RCN#19/20 94 Buyers Guide
- \$5 RCN#21 Gold Rush/ Vision
- \$5 RCN#22 Infinity/ Haluzak
- \$5 RCN#23 V-Rex/ Lemle LWB
- \$5 RCN#24 F-40/ Linear LWB

- \$5 RCN#25 ATP R-45/ V-Rex
- \$7 RCN#26/27 95 Buyers Guide
- \$5 RCN#28 Easy Racer EZ1
- \$5 RCN#29 Ryan Vanguard
- \$5 RCN#30 Greenspeed trike (our largest regular issue ever!)
- \$5 RCN#31 Haluzak Alaska Tour/ Rans Tailwind review
- \$12.50 RCN#32/33 The 1996 RCN Buyers' Guide Double Issue (\$14 4th class/\$15.50 Priority US/\$19.50 World Airmail/US funds)
- \$5 RCN#34 Screamer and Double Vision tandem shootout! Lightning Stealth review, homebuilder tandem and Low Down and Laid Back #1.
- \$5 RCN#35 BikeE vs. EZ-1. Vision R-44 test. CAT homebuilt and Low Down and Laid Back #2.
- \$5 RCN#36 Interbike '97 Season Preview, Lightning P-38 test, BenTech homebuilt, Speed Champs. coverage, and Low Down and Laid Back #3.

\$30+\$3 Post ANY 6 Back Issue (\$36 World Airmail/US funds)

\$50+\$5 Post ANY 12 Back Issues (\$74 World airmail/ US funds)

### ORDERING INFORMATION

- WA State residents add 8.2% sales tax
- Back issue prices do not include post age. Add \$1 per issue S/H (see 6 and 12 packs)
- Canadian orders: US funds or 145% in Can. funds/ + \$2 per issue airmail.

### NEW SUBSCRIBER NOTE

RCN is published bimonthly. New subscriptions will start with the next available issue. Please allow 6-12 weeks for your first issue. If you want the current issue or a buyers guide, please purchase it as a back issue. Thanks!

NAME: \_\_\_\_\_

STREET ADDRESS/ PO Box: \_\_\_\_\_

CITY, STATE and ZIP CODE: \_\_\_\_\_

This is a gift subscription.  This is a renewal.

Please start my subscription with RCN# \_\_\_\_\_ if possible.

### MAIL TO:

RCN  
PO Box 58755  
Renton, WA 98058

## We're Serious...

...and so are you...serious about comfort, serious about quality and performance. Easy Racers has been producing the best-performing, most user-friendly recumbents since 1979. Ask an owner about the legendary performance and reliability.

### The Gold Rush Replica....

...our aluminum Gold Rush Replica is a thoroughbred. A sleek, fast and refined machine. It's lightweight and stylish. You won't find any performance claims double-talk around here, the Gold Rush Replica is the real thing. The race version now rests in the Smithsonian Institution for winning the Dupont Price and breaking 65 mph. How many other manufacturers can say that?

### The Tour Easy....

...our CroMo steel Tour Easy has been the mainstay of the Easy Racers line for years. It's a proven bike. No flash-in-the-pan whiz-bang technology here. This is a proven winner. You won't be prototyping the bike for us. We did that years ago and this is a refined bicycle. It's at home on a long tour, daily commute or riding the bike trail with your kids.

### Dynamite Video...

...\$5 gets you a rich info pack...four-color brochure, glossy spec sheets, order form and a twelve-minute professionally-made color video. Serious stuff.

Give us a call today.

### The EZ Cruiser for the 90's...

Comfortable and user-friendly, the EZ-1 continues the heritage as the latest member of the Easy Racers family of laid-back bicycles. The EZ-1 is shorter



Above: Gold Rush Replica with optional Aerospoke wheels.  
Below: EZ-1

and more compact, and slides into the trunk or back-seat of your car for a mid-day ride. Put a pair on the back of your van or RV and enjoy breeze-in-your-hair cycling on a moment's notice. Packs up tight for that New Zealand or Bahamas flight. Even the price has been run through the compactor. The Easy Racer EZ-1 start at just \$795!

The EZ-1 was voted "Best Compact Long Wheelbase Recumbent" by the Readers of RCN in 1996.

The EZ-1 is Editor's Choice for Best CLWB 1996 as well!

The critically acclaimed EZ-1 is the answer for entry level recumbent cyclists and those seeking a more compact and user-friendly design.

The EZ-1 is where comfort meets quality and style!



### The Bottom Line....

...the serious money skips the learning curve and rides a real recumbent.



## EASY RACERS, INC.

Box 255-H, Freedom, CA  
95019

Call Today  
408-722-9797

Email: [Tooeasy1@aol.com](mailto:Tooeasy1@aol.com)  
See our new home Page:  
<http://www.easyracers.com>

# RCN

P.O. Box 58755  
Renton, WA 98058-1755 USA

Forwarding & Address  
Correction Requested

If the top line of your label says RCN#36, 37 or #38 it is RENEWAL TIME!