

# RCN

REGUMBENT CYCLIST NEWS

Issue # 58  
July/August  
2000

## *The Crank-It! Mountain Quad*



Photo courtesy of Jody Larrow


## In This Issue

- |    |                                                                      |    |                                                |
|----|----------------------------------------------------------------------|----|------------------------------------------------|
| 13 | <b>The \$500 EZ1 Super Cruiser</b>                                   | 30 | <b>Design: The Mountain Quad</b>               |
| 14 | <b>Road Test:<br/>The Radius C4 MWB</b><br>A Very Cool Euro Commuter | 33 | <b>Night Train</b>                             |
| 18 | <b>Road Test: The Rans V-Rex</b><br>King of Velocity                 | 34 | <b>20/20 Vision Without Glasses</b>            |
| 20 | <b>Road Test: The Angletech</b><br>RANS V-Rex RBT14 Rohloff          | 38 | <b>View From The Big Chair – Cheap Bikes</b>   |
| 22 | <b>Reader Test: Turner's T-Lite</b>                                  | 39 | <b>How To Ship or Travel with your R'bent</b>  |
| 26 | <b>Touring With a Speed Ross</b>                                     | 42 | <b>Pedal Induced Suspension Deflection</b>     |
|    |                                                                      | 44 | <b>Numb Feet Recumbents &amp; Homo Erectus</b> |
|    |                                                                      | 45 | <b>2001 RCN Reader Survey Questionnaire</b>    |





**get  Motion**



We call it FAT [Full Air Technology]. You'll call it FUN.  
BikeE's dual-suspended, revolutionary FX re-invents  
All-Terrain riding. BikeE. A Better Way to Ride.

[www.bikee.com](http://www.bikee.com) 1.800.231.3136

**bike**  
**E**<sup>®</sup>





RECUMBENT CYCLIST NEWS

PO Box 2048, Port Townsend, WA 98368

RCN#58 July/August 2000

*The Recumbent Enthusiast's  
Publication, since 1990*

Recumbent Cyclist News is published six times per year. US subscription rates are:  
\$40 1-Year 6-Issues or  
\$70 2-Year 12 Issues.

Contact us at:  
PO Box 2048  
Port Townsend, WA 98368  
Tel. 360-344-4079  
Fax: 360-344-4080 (working in July)  
www.recumbentcyclistnews.com

RCN is edited and published by  
Bob & Marilyn Bryant in  
Port Townsend, Washington.

**Special Thanks** to our devoted  
volunteers and subcontractors:  
Associate Copy Editor—Paul Arends  
Int'l Distribution—Ron Schmid  
Art Director—Mark Colliton

**Fine Print:** RCN is copyright © 2000 by  
Recumbent Cyclist Int'l. Contents may not  
be reproduced in whole or part unless  
expressly authorized in writing by the  
editorial office. Although we make every  
effort to provide useful and accurate  
information, we do not claim to have  
definitive answers particularly with regard  
to safety, technique and equipment.

International service can be had through:  
Cambie Cycles in Canada  
Tel. 604-874-3616,  
www.cambiecycles.com

Future Cycles in the UK at  
Tel. 011 +44 1342 822 847  
or sales@futurcycles.prestel.co.uk

Greenspeed in Australia at  
www.greenspeed.com.au.

#### ■ In Our Next Issue...

RCN road tests the Angletech Altitude/  
Boulder Galaxy; We visit the world of  
Human Powered Boats—recumbent  
kayaks, catamarans and cruisers—all  
commercially built. Recumbent Anthology  
returns with Kelvin Clark's interview with  
Easy Racers' Gardner Martin. Watch for  
Burley Limbo, and Rans V2 reviews  
upcoming.

#### ■ On the Cover...

The Crank-It! Mountain Cycle Quad. The  
article photos were taken at Interbike.  
The newest prototype is pictured on the  
cover. Check out their website for even  
more updates and information.

#### ■ In Our Last Issue...

RCN#57 was mailed in late April and  
included road tests of the WizWheelz  
Terra Trike, a tribute to Dan Duchaine,  
Zach's wheel & tire article and Bob's  
MicroBikeMag article.

## Editorial License and Bob Rants

### Bias of the Month

by Bob Bryant

If you read the Internet recumbent newsgroups, you may have noticed that I am supposed to be the most biased guy in the recumbent world. Their latest claim is that I only like ten recumbents. If you read them for a couple months, you'll also notice that my biases seem magically to change like clockwork as each new RCN is mailed. I stand accused of disliking Visions, USS bikes, trikes, high BB bikes, and I am supposed to only like Rans and Easy Racers or SWB OSS and LWB OSS, but not in that order, nor in the same month or issue of RCN. I can't even keep track of it all.

BIAS is a very strong word. Contrary to the newsgroups' claims, we actually strive to make RCN an unbiased publication devoted to the opinions of recumbent riders and writers from all walks of life. We are committed to serving as the facilitators of this information. The opinions written within these pages are those of the writers, not of yours truly. Just because we print a writer's article, doesn't mean we agree with it.

In my reviews and columns for RCN, I clearly state that my writing is MY opinion. I am not trying to win any popularity contests, nor do I feel the need to be purely objective or politically correct in my own writing. While I'm offering my constructive and critical opinion about recumbent bikes, I strive to be as careful and proactive as I can. I certainly do not expect everyone to agree with me. It is my hope that you will filter what you read through your personal experiences, beliefs and theories and then make up your own mind on what is right for YOU.

The fact is, you can forget about the newsgroups' claims about what I am supposed to like or not like (this month). contrary to their claims, I have given good reviews to Visions, Rotators, SWB, USS, high BB bikes and trikes over the years. I have sought out reviews of bikes that we could not obtain for testing (i.e. Windcheetah, Leitra and Lightnings) or those that I thought better tested by somebody else. I did not write the recent pro above-seat-steering article for RCN, but I was active in seeking a response from an under-seat-steering enthusiast.

If you are among those who think all the articles and reviews in RCN have been contorted to represent MY opinions—you have given me way too much credit. I don't have the time or the ego required to alter our freelance writers' work, nor do I have the luxury of choosing only articles that represent my own opinions. We strive for a per issue balance that represents a diversity in opinion. Anyone who has read our letters column would agree with this. We pride ourselves on the fact that we publish a diverse array of opinions, especially those that constructively contradict our own. We offer each and every manufacturer whose bike has ever been criticized in RCN the opportunity

to respond in the pages of RCN.

I am not so self-absorbed that I would want to be the only source of recumbent editorial and opinion, but as long as I publish RCN, you'll continue to hear from me. I wish I could be everything every reader and manufacturer wanted me to be, but that just isn't possible. The best I can do is repeat the RCN offer to all of you: If you disagree, or have had a different experience than we have, please write us about it. We will be pleased to publish articles representing differing viewpoints and experiences. After all, as we've told you repeatedly in the past, RCN is devoted 100% to our readers and is written by and for the enthusiast. We wish to show our respect for and give "equal time" to all of our readers' opinions and experiences. The most important opinions to us are those of the readers.

As you might expect, we have received a lot of mail about various recumbents that writers felt surely belonged in our recent "Top Ten" rating. What so many folks apparently failed to realize is that this "Top Ten" list is 100% my opinion based on my 10+ years of experience dealing with all kinds of recumbent bikes and the companies that manufacture and distribute them. It is quite true that some really cool bikes were left off. This does not mean that all are unworthy bikes, or that there are only ten good recumbent bikes on the market today, or that I only like ten bikes. I'm sure that if I had made it the "Top Fifteen" list, I would still have disappointed some folks and probably would have received mail accusing me of dispensing too many awards. (Believe it or not, this has happened before.)

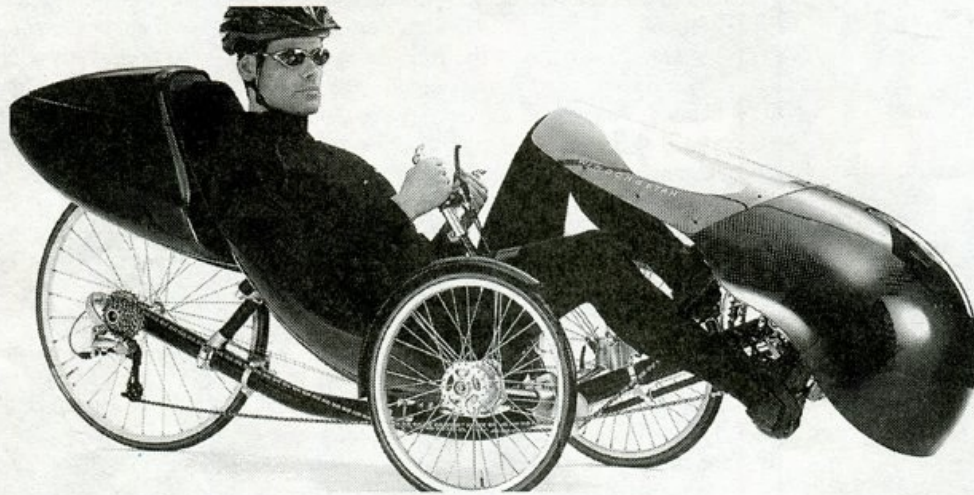
A few reasons that a bike or manufacturer would not be on the Top Ten list or receive honorable mention may include: reader complaints, unacceptable manufacturer responses to our design or construction quality criticisms, or even no response at all. The rule is relatively simple: If people complain to us about a product, or if we find a problem with it and the manufacturer doesn't address those complaints adequately and promptly, it won't be found on Bob's "Top Ten" or "Honorable Mention" lists. While we reject the "bias of the month" charges from the Internet newsgroups, we can admit guilt in one area. We have sometimes not taken enough space in RCN to explain our comments in more detail. This is something we will work on.

If you've read the editorials in our last few issues (please read the RCN#57 Bob Rants column, ed.), you probably know more about the inner workings of RCN than you may need or even want to know. With this current editorial, you should now have a clear picture of a very small editorial department that tries to keep its emphasis on honesty and writing real





# Happenings on the Recumbent Planet



## HPRA/HPVA North American Championships 2000

Tired of going to races where there's nothing going on in the evenings after the race? Tired of going to races in the middle of nowhere? Have we got a deal for you!!!

Walt Disney World, Orlando, Florida USA  
December 1-3, 2000

Dec. 1 — Walt Disney Speedway — 1.1 mile  
Indy Car oval track  
Dec 2 — Road race course — set up in one of the  
large parking lots  
Dec 3 — 200 meter sprints/.deciMach

For more information, contact see the website  
link at [www.recumbents.com](http://www.recumbents.com) or email  
[garriehill@nextek.com](mailto:garriehill@nextek.com)

### Editorial License continued....

world opinions aimed at the average recumbent rider (if there is such a thing). These editorials are telling it like it is. We are defining a new RCN mission statement, while explaining where we have come from and where we are going. Admittedly, they may be a bit tedious, but we think they are necessary. I do not plan to continue with this direction, but these two editorials needed to be written. We'll try to keep our rants to different topics for the rest of the year.

The final step in our new mission-defining process is for you to let us know how you feel about RCN. Our 2001 Reader's Survey can be found on page 45 of this issue. Please take the time to read it careful, fill it out and send it in.

Viva Recumbency!  
Bob Bryant, Publisher

## The Windcheetah

Hand built to order, the outrageously stylish Windcheetah has the versatility to make it perform superbly in a wide variety of roles. It's the ultimate tourer, it's a great commuter and, of course, it's an incredibly fast sports machine.

The Windcheetah's reputation for quality stems from its outstanding design and meticulous construction. Unlike any other vehicle in its class, the Windcheetah's cruciform frame is bonded together using advanced production processes. The unique joystick steering system is key to the Windcheetah's renowned cornering abilities providing pinpoint steering and superb response to rider input. In addition, lightweight titanium, aluminium and Kevlar components are used extensively in its construction. This combination of high performance materials, precision engineering and wind cheating aerodynamics delivers a sensational riding experience.

For more information, check out the Advanced Vehicle Design, Ltd. website at <http://www.windcheetah.co.uk/> Source: Windcheetah

## Market Report Updates

**BikeE**—The new E2 Tandem is now shipping.  
**Burley**—The new 'Limbo' LWB is now shipping. We received our test bike in late May.  
**Easy Racers**—The new rear-suspension Gold Rush is not in production yet, though orders are being taken.  
**ICE**—They have a new tandem trike at their website!  
**J & B SuperCruiser**—The EZ1 is selling briskly and it looks like they might actually run out of stock before the end of the season.  
**Vision**—We hear that the Saber is now shipping, though have yet to hear from anyone who has ridden it, or even a selling it.

## Recumbent Jewelry

We received a note from a company in the UK, Retro Bicycles Bicycle Jewelry. They offer a fine handcrafted gold and silver bicycle jewelry. Of interest to RCN readers is a silver Recumbent Brooch. It is a silver oval with a Euro style SWB USS cut into the silver. It looks really sharp. The cost is £31 + shipping. They also sell a hand-made 18" silver bicycle chain necklace as well as a bold 'spoke' bracelet. Web: [www.retrobicycles.co.uk](http://www.retrobicycles.co.uk) or (44) 1684-560922. Source: brochure.

## S & B Compact Cruiser

Jack Baker called to say that his company is no longer supplying 'Blackbent' frames to Recumbent Barn. They have been working on a folding recumbent and a new Compact ASS 20/20, 8-speed recumbent cruiser that sells for \$650 soon to be available. Give Jack a call to find out more information. Source: S & B.

## RCN Corrections

**Kneesavers**—We reprinted the phone number from an brochure that, as it turns out, was outdated. That number had been disconnected. For more info on the SCOR Kneesavers see [www.bikescor.com](http://www.bikescor.com) or call (800) 548-4447 (Randy Ice, P.T., C.C.S. eves & message) 562-690-9693 (days & orders).  
**Barcroft**—We inadvertently deleted Barcroft from our recumbent manufacturer list on page 39. Barcroft Cycles, Falls Church, VA <http://www.barcroftcycles.co>, Tel. 703-750-1945.  
**BikeE**—The correct address is 5125 SW Hout St., Corvallis, OR 97333, Tel. 800-231-3136. Tel. 703-750-1945 [barcroft.cycles@att.net](mailto:barcroft.cycles@att.net)  
**RANS**—The phone number is wrong in the 2000 Season Preview. Page 39 under the 2000 Recumbent Manufacturer Listings. The correct phone number is 785-625-6346.



# Happenings 2000

July 8-9, 2000

## 3rd Annual Recumbent Roundup

Ogden, IA—Contact: 1-800-645-2981 or  
www.Thebikebarn.com.

July 8-9, 2000 RARE 2K Recumbent Rallye

Rochester, New York—Contact:  
rarelist@rbcbbbs.win.net or call Michael Brisson  
at 716-461-5084 or Hank Walck at 716-217-  
9450.

July 28-31 2000

## Spokesfest 2000 HPV festival Leicester, UK

Contact: Roger Lovel +44 (0)116 278 1360.  
Email: roger@spokesfest.free serve.co.uk or  
write c/o Leicester Spokes, PO Box 30, Leicester  
LE1 9DG.

August 19 & 20

## HPVSO TrikeFest 2000

(two wheeler & upright riders welcome)  
Port Hope, Ontario, Canada (50 mi. E. of  
Toronto) Contact: John Murray at  
johnmurray@bigfoot.com, or visit the HPVSO  
website at <http://www.hpv.on.ca/>

September 9th Saturday

## Michigan Recumbent Rally — West

Grand Rapids area, 9am-3pm. [www.lmb.org/](http://www.lmb.org/)  
wolbents, BobMich@compuserve.com or 734/  
487-9058.

September 16th Saturday

## Fall Recumbent Rendezvous

Stony Creek Metropark Eastwood Beach shelter  
(north Detroit suburbs). 9am-3pm.  
[www.lmb.org/wolbents](http://www.lmb.org/wolbents),  
BobMich@compuserve.com or 734/487-9058.

October 6, 7 & 8, 2000

## World Recumbent Bike Expo

Ervin J. Nutter Center Dayton, OH  
Event Director Mike Sutton email:  
mmsutton@sprynet.com Tel. 937-427-8747

## LATE LISTINGS

### California HPV Race Series

June 4 Hellyer Park Velodrome, San Jose, CA

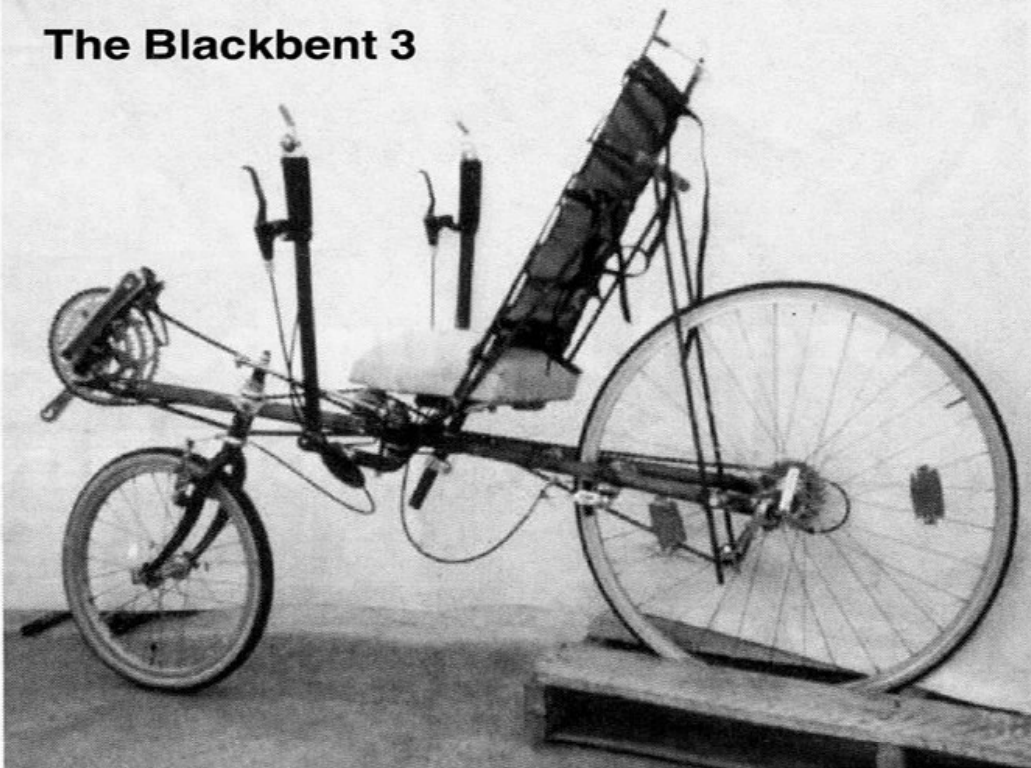
July 2 Olympic Velodrome, Carson, CA

Possible additional dates in August in San Diego  
and September near Bakersfield. Warm-ups start  
at 12; racing at 12:30. Time on the track will be  
made available at each event to non-racers for a  
small fee that covers mandatory insurance, etc.  
Contact Carole Leone at (805) 466-4111  
traslo@fix.net

## SEND CALENDAR LISTINGS TO

RCN, PO Box 2048, Port Townsend, WA 98368  
or [info@recumbencyclistnews.com](mailto:info@recumbencyclistnews.com)

## The Blackbent 3



### 2000 Blackbent 3

The Blackbent has been redesigned for 2000.  
The Blackbent 3 was built by S & B  
Recumbents for Recumbent Barn. The  
Blackbent 3 is built in house, in the USA. It is  
available in either above- or below-seat steering.  
It has 24 speeds, plenty of gears for whatever  
riding you are doing and V Brakes for great  
stopping power. The new sport model weighs 27  
pounds, although you can order the pro series of  
upgrades which will reduce the weight to less  
than 25 pounds. The Blackbent 3 is a real  
bargain, priced at around half of what compa-  
rable bents go for. It sells for \$700. The major  
upgrades are a Competition Wheel Upgrade —  
\$60 Extra; Pro Wheel Upgrade — \$95 Extra;  
and Front Suspension — \$60 Extra. For more  
information, check out the website at:  
[www.recumbentbarn.com](http://www.recumbentbarn.com)

Source: Recumbent Barn

## Do You Have Stuff For Recumbent Planet?

*A Product Review? Product News?*

*An Event? Club News?*

*Have you bought a really cool & rare  
new bike?*

*Have you built a really cool new bike?*

*Do you have news from your  
recumbent shop?*

*Do you have news from your  
recumbent factory?*

*If so, please send info to:*

*RCN, POB 2048*

*Port Townsend, WA 98368*

*Text only can be emailed to:*

*[bob@recumbencyclistnews.com](mailto:bob@recumbencyclistnews.com)*

### Component Notes

**EASTON PEDALS**—If you are a retrogrouch  
or just dislike having your feet anchored to  
pedals (clipless), Easton Bike Components has  
new CNC machined, heat-treated big platforms  
for your in city cruising. The Easton 'fat boys'  
have lots of traction with little aluminum pins  
(8 per side) that stick up from the platform. A  
special O-ring keeps the pedal from spinning  
when your feet are not on them. Check these out  
at [www.eastonsports.com](http://www.eastonsports.com) or call Veltec at 800-  
991-0070. To go along with your BMX style  
retro platform pedals, AXO has introduced the  
Descent DH 'boot' cycling shoe. This is  
essentially a high-top riding shoe. Check them  
out at [www.axocycling.com](http://www.axocycling.com). This stuff really  
tickled my fancy as my favorite togs are ReeBo  
leather high tops and BMX platforms. **SRAM**  
has a new 'Woody' rear derailleur. This limited  
edition 9.0 SL derailleur will help fund the Int'l  
MTB Assoc. The cost is about 100 bucks. The  
finish is 'woody', but no real wood. SRAM has  
an All-American gruppo in the new 9.0 SL.  
There are hubs, front and rear derailleurs and  
shifters. **3x8 & 3x9 FOR 2001 SRAM** will  
introduce a stylish new handlebar/stem/shifter/  
rear-view mirror package for use on 2001 model  
Comfort bikes. The "Dual Drive" drivetrain  
consists of a servo mechanism internally geared  
hub (like a 3x7) and a rear derailleur. The system  
will be a 3x8 or 3x9, be ESP compatible and will  
include I-Brake drum brakes. SRAM will also  
introduce new Trigger shifters, a new 9.0 SL  
derailleur, Half Pipe twist shifters and an electri-  
power-assist 5-speed internally geared hub  
system. **MOUNTAIN BIKE ACTION** offered  
a gratuitous and fun review of the BikeE FX in  
their May 2000 issue.. Who'd of ever thought  
that we couldn't get Bicycling's attention, but  
mountain bike mags are having a good time wit  
mountain 'bents.



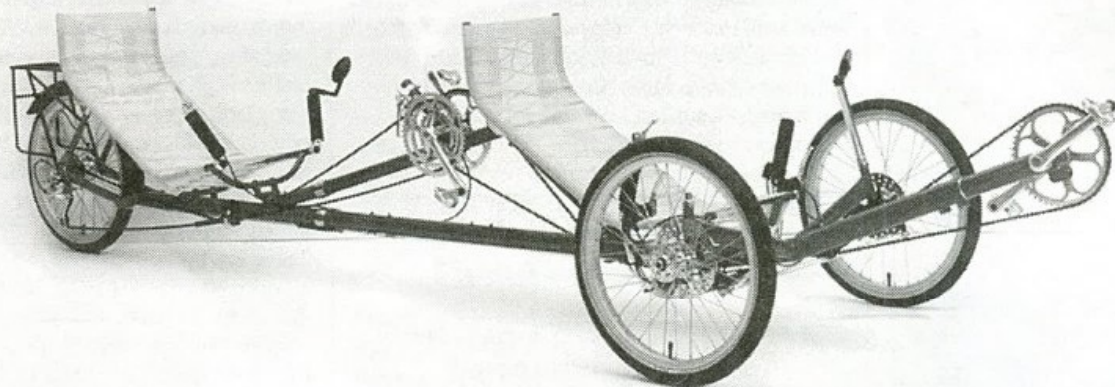
# Great recumbent apparel, now on-line.

Our unparalleled collection of chamois-less shorts and front pocket jerseys are now on-line at [www.calhouncycle.com](http://www.calhouncycle.com). Oogle at the new colors and enhanced features, or dig for deals on the clearance rack. Classic catalog available by request.

**Calhoun Cycle | Recumbent Specialists**

3342 Hennepin Ave. S. Minneapolis, MN 55408 (612) 827-8000 [www.calhouncycle.com](http://www.calhouncycle.com)

## How about TWICE the fun?



The Greenspeed GTT Tandem Trike

**GREENSPEED RECUMBENTS**

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

Phone + 61 3 9758 5541 Fax +61 3 9752 4115

Email [info@greenspeed.com.au](mailto:info@greenspeed.com.au) Web site [www.greenspeed.com.au](http://www.greenspeed.com.au)





# Recumbent Mail

If you have something to say, a differing viewpoint or experience—we want to hear from you! **Please limit letters to 300 words.** No charity ride sponsorship request letters. RCN reserves the right to edit submissions for clarity, content and space limitations. bob@recumbencyclistnews.com or RCN, PO Box 2048, Port Townsend, WA 98368

## Bad rap on Primo Comet tires?

What is it with you and Primo Tires? In your last issue (#55) there was another mentioning that the Primo Comets aren't good tires and attract flats.

I started riding a Rans Stratus at the end of October of last year, for which I ordered both 20-inch and 26-inch Comets in the USA. I had read some mixed reviews in RCN about them, but on the other hand I do not believe if they were half as bad as some people claim they are, Rans would put them on almost all of their bikes!

Thus far I've ridden about 1,250 miles with my Stratus (I only ride it when the weather is dry) without any flat or any other kind of problem. Now you know I live in Belgium which has the WORST road conditions of any country I know, but I still did not have any problem (yet). The front tire still looks brand new, the rear one shows a slight wear in the center (which is rather normal, I think, due to traction and braking).

What I mean to say is this: I'm quite happy with the Comets and when they wear out, I'll probably order another set of Comets to go with my Stratus! Lots of recumbency!

Tihamér Tasnády, Belgium

**Editor Comments:** *In our opinion, the Comets are wimpy little road tires for near-perfect road surfaces. We have had more flats with these tires than any other (though more bikes come with Comets than any other tire. The quality of the tire is fine and it is a great skinny recumbent performance tire. It is just not a durable commuter/tourist, bullet-proof tire for those who hate changing flats (me) and who ride on varied terrain. Friend of RCN Jim Giles rode across the country with one on the front of his Gold Rush. Another good reason to use them is that they are affordable and come in matching sets of 305, 349, 406, 451 and 559mm. If it works for you, more power to you. Primo is an excellent company that supports the recumbent movement and we appreciate that. There are plenty of customers who like the Comets, too.*

## Bicycle safety & jail time

In your Jan/Feb issue (#55), you published a letter about a recumbent bicyclist who was struck by a car. I've recently been told of several similar instances. I'd like to propose some legislation to be promoted at the state and national level by cyclists, pedestrians, and anyone interested in safer streets.

Let's have a law to the following effect. When a motorist kills or seriously injures someone with a car, that motorist loses the right to a driver's license, forever. If no laws have been broken, there is no jail time and no stigma, but the motorist may no longer drive a car. The car involved is impounded and destroyed, out of respect for it's victim.

Such a law would get the most dangerous drivers off the road, while freeing up jail space for people who kill or maim on purpose. It would also increase public support for vastly improved public transportation.

Yours Truly  
Amy Babich, Austin, TX

## Rans seat woes

I thought you went way too easy on Rans regarding the sliding seat problem in RCN 56. I have one of the new and improved seats (which Rans graciously provided) and it still slips. Also, the new seat squeaks and in my judgement is not as comfortable. I find it truly amazing that the fix for a sliding seat is simply a new hole closer to the frame! Not what I would expect from one of the top recumbent manufacturers. Also please



Amy Babich sent us a picture of her uniquely decorated BikeE

consider: I cannot purchase new fenders for my V-Rex 24/20 because Rans no longer stocks them.

I guess Rans doesn't care about us old customers. I don't see where Rans as a bike manufacturer is making progress. When I get ready to purchase a new bike, I will be looking long and hard at others. In the meantime, I just keep moving my seat back up and getting a face full of road grime on rainy days.

Terry Howell, TLMMHowell@aol.com

**Editors Comments:** *It has been a while since I have had the slipping problem on a Rans bike. Our V2 arrived a few weeks ago, and it hasn't happened yet. We have heard of a few isolated incidences with large or strong rider.*

## Camelback protection tip

I just took delivery of a new Tour Easy SS with the Kool seat last week. I put the bike together and on the weekend joined the Boca Raton Bicycle Club for our 7am Saturday ride at Loggers Run. I bought the Kool seat because I put my Camelback over the back of the seat inside the cross members of the seat back. Little did I know that the Camelback was rubbing against the rear wheel. On Sunday we went on a ride through an area called Parkland for about 25-30 miles. On my return home I discovered that the rear wheel had been in contact with the Camelback and the water leaked out of the bladder. Needless to say I now need to replace the Camelback 70oz. bladder. If I had been aware of this problem I would have used the solution I will tell you about now. I cut a piece of Coroplast 5" wide and 21" long. I placed this piece of Coroplast inside the back cross members of the seat from the top to the base of the seat, centered it and used zip-ties to hold it in place. Now my Camelback is protected and I have a rear fender to keep the wet road spray off of my seat back. I hope you fellow EZ riders will find this useful.

Gene Luttenberg, gene.luttenberg@mciworld.com



## You don't need clipless with a low-BB

HPVing through land, water and mud was certainly interesting. I hope that I eventually run into a counterpoint to the clipless pedal article. Point is you don't need cleats or clips as long as your hpv has a low enough BB (like my Gold Rush for example.)

I'm beginning to feel glad now that I biked from here to Santa Cruz. Regardless of a person's fitness or experience, it still takes guts to bike across America. Even for someone like Kent Peterson or Zach Kaplan.

Oh, I've been meaning to tell you. Yes, I agree with you now that the Gold Rush begs for the upright position and that's almost where I have my Cobra seat positioned now. Zach Kaplan manages to do well with his Gold Rush Cobra seat laid back almost four inches past the rod clamp, but the closed position seems so much better for me—at least for just buzzing around Sarasota.

Andy Parker, andycp2000@netzero.net

## Treks & lowracers

Just received my second issue of RCN. I see that I am one of the "select few" outside of the USA who subscribe! As a the owner of a R200 I was very interested in this latest offering. I am very happy with the R200 as my first 'bent. It has got me riding to work most days and I am in better shape now than I have been in a decade. My MTB with studs is now reserved for commuting to work in icy conditions (until I get 20" studded tires anyway — know a good source?) My road bike is collecting dust although my son says he now wants to use it.

My commute involves riding through a provincial park, mainly on bike paths (90% paved). I saw 33 deer today! MY R200 has been upgraded. XTR rear and Dura Ace front derailleurs and Dura Ace chains. Plasma 9.0 shifters. Avid supreme breaks and ultimate levers. Sachs Quartz crank. ACS edge 1.75 inch tires. I experience virtually none of the often quoted complaints. The 'bent is very stable on the paths. I bought it after trying out several other SWBs. (The Vivo was a close second.)

Anyway, my point of writing is to offer a suggested article idea. I am one of 5 Canucks about to make a group order of M5 lowracer frames from Holland. I am the "newbie" in the group. I wanted a recumbent "road bike" to compliment my R200. Alan's lowracer in RCN#54 got me interested in lowracers.

Dr. Rick Zabrodski

*Editor Comments: The other day we received a frantic phone call from a seasoned recumbent dealer/mechanic who has been unable to sell many Trek R200's and has not been able to make it shift right.*

## Airborn Zipper

I used to be one of those people who left his Zipper fairing on the bike while transporting it on the back of my car. Simply made sure it was turned facing the wind. Never had any problem with this until this Saturday when a crosswind on the I-205 bridge going into Portland, OR caught the fairing and tore it clean off the bike. Nothing left but a couple

of 2-inch diameter pieces of Lexan still attached to the fairing mounts. I guess I will now be one of those people who takes the fairing off and puts it inside the car. At least I will do that once I get a new fairing.

Craig Bray

## Kinetic mistakes

I just received RCN #55 from you. Thanks! It appears that there are some minor errors in the Kinetic Sculpture awards, however. The "Phantom Menace Pod Racer" should really be called "Bantam Menace Pot Racer", as it is intended to be a play on the Star Wars movie name with a Kinetic Chicken theme. (A chicken in every pot, etc.)

The "Bantam" comes from a particular kind of chicken, and the sculpture had a Kentucky Fried Chicken bucket on the front with Darth Sanders on the front and Darth Chicken poking up from the top with a dual light saber in its beak.

Also, the award it received was the Least Time award. Lampoon did not in this, as far as I know. The Menace was ahead of all competitors at most all times, with the exception of the water course, where Bad Clams took the lead.

Michael Lampi

*Editor Comments: Michael, thanks for the corrections. The story came right out of the Port Townsend Leader.*

## Trek comments

I received my first issue of RCN (#55) and read the Trek R200 reviews with particular interest. I purchased an R200 last September, my first recumbent and the only one I've ever ridden. At the time, I wasn't aware that there were so many different manufacturers and designs to choose from.

I agreed with the assessments of the R200 and share many of the experiences as the four owners, both pro and con. I've got the noisy, finicky drivetrain, the chain that bounces off, and the excessive heel overlap. Particularly annoying is the inability to pedal backwards without the chain sagging to the ground. This is a problem when I need to get the pedal to a good starting position after stopping at a traffic light or "stop" sign. For this reason I am reluctant to ride in areas where I must stop in traffic.

Otherwise, I greatly enjoy the comfort the R200 provides versus my wedgie, a titanium Sampson Kalispell. I am 37 years old and have lower back pain, so I've been considering converting to recumbent only. However, I am having trouble adjusting to not being as fast on the R200 as my wedgie. I love riding hard and fast, but I don't feel capable of ever averaging 20+ MPH on the R200. I try to convince myself that speed doesn't matter, but it always does. But the comfort is nice.

Now I wonder if I am riding the wrong bike if speed is a priority. I see the photos of fast, faired bikes, but is there hope for being able to ride consistently fast with a plain, unfaired 'bent? Unfortunately I've got to travel 500 miles to get a test ride of anything else.

I am looking for answers by subscribing to RCN, and I am impressed

YO!  
IF YOU  
CAN'T BE  
RECUMBENTING  
AROUND  
THEN...

Check Web Page  
For Weekly Specials

www.foolscrow.com EMAIL: edde@tfn.net

FOOLS  
CROW  
CYCLES  
1046 Commercial Dr.  
Tallahassee Fl. 32310

850 224-4767



with my first issue. If RCN does its job, I may be a total convert yet.  
Elvin Brownlee, ebrownlee@keyenergy.com

### Equal opportunity opinions

I just purchased my first recumbent bicycle—a Rans Stratus. In part because of your magazine. I love the letters to the editor—they are a breath of fresh air allowing such dissimilar points of view re. uss vs. ass. This was exciting to me. It made me feel like I was in America or something. Also because of this issue. I will be purchasing a USS Haluzak assuming she performs as well as described. I experienced great service at Angle Lake Cyclery in Sea Tac—a good place to get bent. Keep up the great work with what in my opinion are unbiased articles.

Ed Jones, Whidbey Island, Washington

*Editor Comments: My likes and dislikes are very refined, and I feel that I would not be doing my 'job' if I didn't give readers a dose of it in each and every issue. However, I respect others' opinions and print them on nearly every occasion I can. I do not proclaim to have the last word on any recumbent subject. More opinions are better.*

*We do like to judge how the bikes arrive here, how they go together, adjust, stay in adjustment and the overall quality of the product. Unfortunately, this is where MANY suffer. To us, this is a crucial judgement.*

### Kinetics in PT

Just a short note to tell you what I thought of the new addition to the RCN reporting. I do enjoy articles like the one on the wacky kinetics in Port Townsend, as long as they don't displace articles that are more directly related to developing the recumbent community. You do a wonderful job reporting on this exciting time in this part of bicycling. I have been riding a Vision R-40 for almost 6 years now, and finally gave away my old mountain bike to my niece as I haven't ridden it since getting a recumbent. I am very excited by the growth of this industry in the last few years. I notice that the front cover of the last Rails to Trails magazine featured recumbents, then this month's Adventure cycling, where they review touring bikes, has a picture of a Rans and a listing of several of the best recumbent manufacturers in the stats. Perhaps one day soon they will be common enough to not be so bad-mouthed in the "mainstream" bicycling press. Thanks again for all your good work and your independence from manufacturer bias.

David J. Cunningham, directascent@earthlink.net

### Is Sat R Day one of the best!?

This was going to be a letter of complaint: How could you leave Bike Friday's Sat R Day off your list of "RCN's Most Wanted—The BEST Recumbent Bicycles"? Sure, it may not be the best in the categories you designated, but shouldn't it at least appear under "New Bikes", or in its own category of "Best New SWB Folding"? And then I realized that you are basing your opinions on bikes you have actually tested (what a concept!), and you mention elsewhere in the issue that you haven't gotten a test SRD yet. So, you're off the hook.

Larry Varney, Cold Spring, KY

*Editor Comments: My experience with the bike is riding a prototype around the parking lot a few years ago. Maybe sometime they'll send a test bike up here. A test bike has been planned since the fall of 1998.*

### High Cost of RCN

Enclosed is my renewal for two years. At \$70—you really need to work on getting you subscription price lowered. I think \$25 per year would be about right. At present, each issue is costing me \$5.83! I've been with you from the beginning, but I can't guarantee you that I'll stay with you forever at these prices. Don't even THINK about increasing your price.

Sincerely, Ed.

*Editor Comments: The first class mail and polybags, as well as publishing to such a small niche audience has its price. Over the years, we have made cutback after cutback. RCN is NOT paid for by advertising. About 20% of our revenue comes from ads, and our ad base is declining. The \$35 that you pay for each year (by paying for two years) is just a tad higher than what we charged in 1997. Back then, the service you get now (first class mail), cost \$42-\$45 per year. We haven't charged \$25 per year for years*



## Subscribe to RCN Today!

### The Recumbent Enthusiast's Publication, since 1990

#### Celebrating our 10th Year

Subscribe Today. Get six info-packed issues of 100% recumbent articles written by and for recumbent enthusiasts: news, reviews, road tests, events, history, tour articles, new product information, insider news & rumors, riding tips and how-to's.

The first and foremost recumbent publication in the world—Since 1990.

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

ADDRESS: \_\_\_\_\_

ADDRESS 2: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_

Zip+4 \_\_\_\_\_ + \_\_\_\_\_

EMAIL/TEL \_\_\_\_\_

This is a renewal  
(See top line of label RCN # "\_\_\_\_ LAST ISSUE")

#### Subscription rates:

- \$40 One-year subscription
- \$70 Two-year subscription
- \$100 Three-year subscription
- \$100 Supporter-5 (5 copies of each issue)
- \$150 Supporter-10 (10 copies of each issue)

Need more info? See our website at  
<http://www.recumbentcyclistnews.com>

Please enclose payment and mail to:

RCN  
PO Box 2048  
Port Townsend, WA 98368





RECUMBENT CYCLIST NEWS

## Order RCN Back Issues

### Order Back Issues and Road Tests

Back Issues \$8 for the first one, \$6 each additional. Are you an active subscriber? If so, deduct \$1 each issue. Order must be prepaid. USA ONLY.

- RCN#40 Linear Compact, Turner T-Lite & HPM Tritan
- RCN#41 Angletech Altitude, Haluzak Hybrid Race
- RCN#42 Slumgullian Colorado Tour
- RCN#43 '98 Compact Buyers' Guide
- RCN#44 '98 SWB Buyers' Guide: Rans SWB Trio
- RCN#45 '98 LWB Buyers' Guide: Tour Easy Test
- RCN#46 '98 Trike Buyers' Guide: Chase 3, Windcheeta and Earthcycle Dragonflyer Reviews
- RCN#48 Easy Racer Gold Rush Replica
- RCN#49 '99 Season Preview, Vision R40 Review
- RCN#51 Trice & Greenspeed Trikes
- RCN#52 Vision R32, Lightning R84, Velocar part 1
- RCN#53 Rans Stratus, Barcroft Virginia, Haluzak Horizon Vision's Grant Bower Interview and Velocar part 2
- RCN#54 Easy Racer TiRush, Terra-Za SWB, Lightning T'Bolt, Rans Randy Schlitter Interview and KMC test
- RCN#55 Kinetic Racing, Trek R200, Rans Wave & Tailwind
- RCN#56 2000 Season Preview/Buyers' Guide BikeE FX
- RCN#57 WizWheelz trike, Dan Duchaine, Dick Ryan

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

ADDRESS: \_\_\_\_\_

ADDRESS 2: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_

Zip+4 \_\_\_\_\_ + \_\_\_\_\_

EMAIL/TEL \_\_\_\_\_

Here is an additional \$35, please renew my RCN subscription for another year (SAVE \$5 with any back issue order of two or more copies).

Need more info? See our website at <http://www.recumbentcyclistnews.com>

Please enclose payment and mail to:

RCN  
PO Box 2048  
Port Townsend, WA 98368

(1994). We are aware the something needs to change, otherwise RCN may go the way of so many small publications. Thanks for supporting us over the years.

### Gear-Inch Complaint

I don't understand how anyone can shop or get interested in a bike if the advertiser doesn't disclose the gear-inch range. It would be like looking at the window sticker on a car that doesn't disclose the type transmission or number of cylinders. This is the most important thing I shop for. It's also one of the things that I use your magazine for. To check and compare. But I still think you've got a great magazine.

Joe Anderson, laidback@discover-net.net

**Editor Comments:** Be sure to keep in mind that we actually figure gear inches in road tests, and in the buyers' guide they are taken from manufacturers. A 406mm 20" wheel can have a diameter of 18.5" and up depending on what tire you select.

### Rans Seat Woes

I thought you went way too easy on Rans regarding the sliding seat problem in RCN 56. I have one of the new and improved seats (which Rans graciously provided) and it still slips. Also, the new seat squeaks and in my judgement is not as comfortable. I find it truly amazing that the fix for a sliding seat is simply a new hole closer to the frame!!! Not what I would expect from one of the top recumbent manufacturers. Also please consider:

I cannot purchase new fenders for my V-rex 24/20 because Rans no longer stocks them. I guess Rans doesn't care about us old customers. I don't see where Rans as a bike manufacturer is making progress. When I get ready to purchase a new bike, I will be looking long and hard at others. In the meantime, I just keep moving my seat back up and getting a face full of road grime on rainy days.

Terry Howell, TLMMHowell@aol.com

### Kudos I

RCN#54 was better than ever! I especially like the diversity that comes from articles written by the various different authors. My own cycling experience is dynamic and my style evolves and changes. Good luck!

Bonnie Gunn

### Kudos II

I enjoy the magazine & admire you for being able to do this. The amount of work you're doing has to be exceptional & because you're honest with your opinions, I'd guess that you don't get as much support as you deserve. I also enjoy the views of other rider/testers (such as Jim Langley) who have their own biases.

Maxwell Golden Moon

**Editor Comments:** Choosing to be a critic has cost us advertisers. Some manufacturers have chosen NOT to have anything to do with RCN. In most cases, you can figure that if they don't have an ad in RCN—they are not reading it either. These are the manufacturers who won't even take the time to write a response—or even talk to us about our findings before an article is printed. This is unfortunate.

### Valley Bike Kudos

After spending several months shopping around I purchased a new RANS Rocket from BJ Strass at Atlantic Bicycles in Florida. It replaces a Rocket that was stolen last fall. The Rocket is the perfect recumbent in my opinion. The only complaint I had was the Primo Comets. I ruined three of them in the same number of weeks. While in Indiana one Saturday, I called Valley Bikes in Crawfordsville and told them my problem. They had the solution in the form of ASC True tires. They are a fat 100 psi tire that works for riding on all kinds of surfaces. The people at Valley Bike are the best in the business. When I called I was over 3 hours away. I got there at 5 minutes till closing yet they took the time to show me the tires and mount them for me. They are very recumbent friendly bike shop and I recommend that anyone in the area stop by. Keep up the great work.

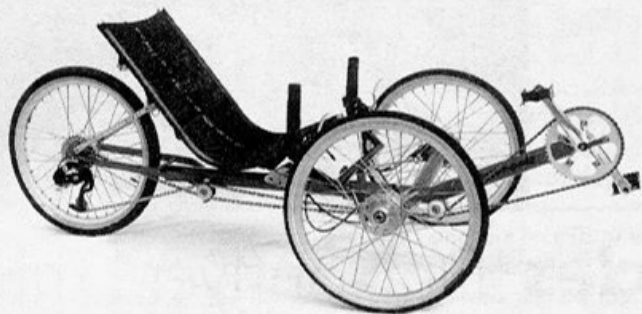
Viva la recumbency  
Byron Craig Duysen

### No Drivel In RCN

Keep up the great work on RCN. Every issue is an informative enjoyable read. Your honest assessments of the strengths and weaknesses, different



# **WizWheelz**



*Compare and you'll see why the TerraTrike  
is the best value in recumbent trikes*

**[www.wizwheelz.com](http://www.wizwheelz.com)**

**616-940-1909**

designs and components is always a refreshing welcome from the advertising drive so often seen in mainstream bicycling publications. I will gladly continue my contributions on recumbent related stories and components that I have opportunities to try.

Paul K. Nolan, MD  
AKA: The Bike Doc

### **Wiz Words**

WOW! Issue #57 is GREAT!! We love it. You wrote a comprehensive and objective review and put the TerraTrike in a very good light. We are glad you had a much better experience with the test trike this time around.

Wayne Oom  
WizWheelz  
[wayne@wizwheelz.com](mailto:wayne@wizwheelz.com) ☐

# TRICE



**Inspired Cycle Engineering, Ltd.**

**[www.ice.hpv.co.uk](http://www.ice.hpv.co.uk)**

Unit 9B Spencer Carter Works, Tregoniggle Ind. Est.,  
Falmouth, Cornwall, England TR11 4SN

Tel (011 44) 1326 378848

Email: [sales@ice.hpv.co.uk](mailto:sales@ice.hpv.co.uk)



## **RECUMBENT CATALOG**

48 Page, Full Color  
Free to residents of the  
U.S., Canada & Mexico

**HOSTEL SHOPPE**

**(800) 233-4340**

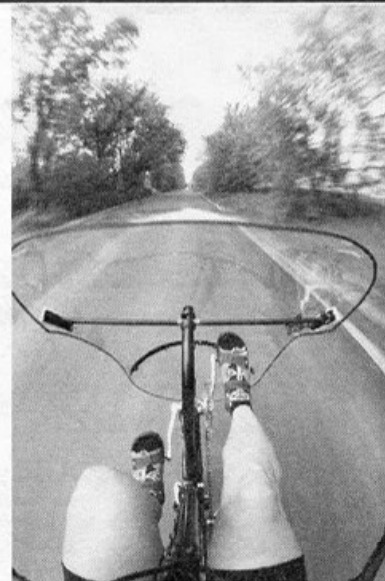
**[www.hostelshoppe.com](http://www.hostelshoppe.com)**

**929 Main St., Stevens Point, WI**

**Celebrating our 24th Year  
in Business**



Fairings and mounts for  
most recumbent makes  
and models, uprights and  
experimenter kits



*Helmet-cam mounted on Keith  
Philpott's '98 V-Rex (P-38 mount)*

# **ZIPPER**® **ROAD FAIRINGS**

**PO Box 14**

**Davenport CA 95017**

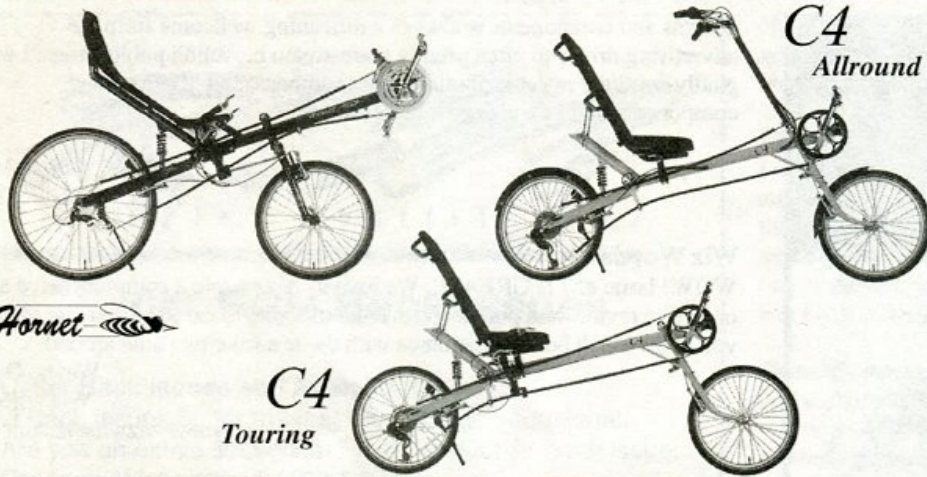
**Tel. (831) 425-8650**

**[www.zipper.com](http://www.zipper.com) Email: [zipdesign@aol.com](mailto:zipdesign@aol.com)**

**Fax: 831/425-1167**

**Hotline • 1-888-WINSCRN (946-7276)**





**Radius**  
recumbents  
USA  
www.radius-recumbents.com

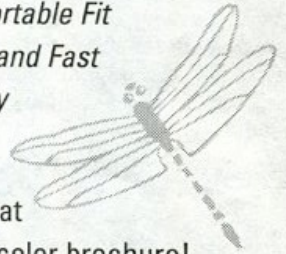
buchanan bikeworks llc  
170 charles street, garfield, NJ 07026  
Tel.: 973 - 340 - 9006  
Fax: 973 - 478 - 8175  
email: RadiusUSA@aol.com

A German legend...Now available in the US

## Earth Cycles™ Dragonfly™ Trike

- "The most comfortable trike I've ridden—  
a smooth, predictable ride."  
— Bob Bryant, RCN
- Distinctive Features
  - Comfortable Fit
  - Safe, Stable and Fast
  - Quality Componentry

The Earth Cycles Dragonfly trike delivers state-of-the-art features at an affordable price. To see what we mean, visit our web site or contact us for a free color brochure!



612-788-2124 • info@earth-cycles.com • www.earth-cycles.com

# Valley Bikes

**Recumbents that go lickety-split!\***

*\*(what a cornball !!!)*

127 n. washington street \* crawfordsville, indiana 47933  
www.valleybikes.com \* ddoty@valleybikes.com

**1-800-730-9021**

- \* Easy Racers \*
- \* ATP Vision \*
- \* Longbikes \*
- \* Penninger \*
- \* Lightning \*
- \* Haluzak \*
- \* Rotator \*
- \* RANS \*
- \* BikeE \*
- \* Trek \*

### Dave's Story Corner (some of this stuff may be mildly fictionalized)

Once upon a time there were three bentists (bentist *n.* - one having refined their recumbent skills to an art) named Doc, Sneezy and Gandalf (honest). Doc and Sneezy were really lousy mechanics, but Gandolph was a wizard with a spoke wrench (if anyone gets that, please send me email - my wife doesn't understand me). Gandalf spent all day fixing Doc's wheel. Finally, he was all done and he told his friends, "I'm all done." Sneezy, being quite cynical, asked, "Is that true?" (To all those who think puns are the lowest form of humor...I say, "Oh, huh!") - Dave (PS: You can still join the Flyin' Joes - absolutely free!!)



# The \$500 J & B EZ-1 Super Cruiser

by Tom Beuligmann  
bikeman@wworld.com

Hello comfort seekers! The 2000 cycling season is about to reach full stride, and the new models are starting to flow into our shop. I just took delivery of my first two Easy Racers EZ-1 Super Cruisers. To tell the truth, I didn't expect to be too impressed with this bike because, well, its predecessor the old EZ didn't exactly sweep the market when it was introduced, and who even raises an eyebrow these days when another compact hits the market? What could anyone expect for a measly \$499 retail anyway? I would expect flexy brakes, bolt-on wheels, sloppy shifting, and worst of all, a too small, poorly designed seat.

This time I was caught off guard. The EZ-1 delivers NONE of those shortcomings! This little scooter felt like home at first sit. Designer Gardner Martin has done his homework on seat foam, and the mesh seat back adjusts for recline and even folds completely forward by pulling the pins from the seat supports! Just by folding the seat and bars down, you can stuff this bike under your pickup camper shell, or keep the seat from catching bugs while on top of the car. If you find that most recumbent seats are built for anorectic butts, the EZ-1 will please you. This seat is full-size. The seat-to-BB height is nearly the same as on the EZ and BikeE CT. The EZ-1 gives the impression of a more open hip position. This could be due to the deeper seat, allowing me to rest in my normal "slouch," which is my natural body position. The BikeE seat feels hard and skimpy by comparison, possibly forcing me to rotate my hips back to get my "bones" on the seat pad.

I had to drop everything else and take one for a test ride. I was impressed. As soon as the wheels were turning, I could tell the bike was under my control. The nice wide grip on the bars and the vertical seating position give confidence.... First timers, have no fear, the Super Cruiser lives up to its name. This 'bent has got to be in a class with BikeE for user-friendliness. Don't worry about cranking up some steam either, 'cause the brakes are stout. The levers and calipers are decent aluminum stuff, and brand name or not, they just flat work. The shifting is Shimano grip-shift and it works just fine. The real sweet spot for me though, was the handling. The EZ-1 carries over some of the traits of the Tour Easy, which is legendary for stability. Of course, due to its size, the One is even more nimble, and straight-line control requires very little attention.

Another category to consider, or course, is looks. Appearance comes in a distant second to function for me, but the Super Cruiser really looks good, despite using square 1" tubing top and bottom. It's painted a nice candy red, and the frame has a certain appeal, again carrying over from its big brother, the Tour Easy.

How much does it weigh? Who cares at this price point? But if you must know, it's around 39 pounds. Don't let that number put you off. You won't even think about the weight once you're aboard, 'cause the bike is just too much fun!

Construction quality is not in the category of BikeE or Rans, but neither is the price. The welds are adequate, and the seat hardware functions well.

Who needs this bike? How about your non-cyclist significant other, your parent, your child or you, for a short tripper. I would put a grandmother on this one with confidence. It's that easy to ride. This bike is what the Rans Tailwind could be in the handling department, had it used a lower crank height. Not that the Tailwind handles badly, but it undeniably takes a more skilled hand to hold a line. If you define performance in terms of speed only, and can't speak about your bikes without brand name dropping, look

elsewhere. If you ride for FUN, look no further than the \$499 Easy Racers designed EZ-1 SC.

## ■ SUMMARY

### PROS

- ▲ Good Seat
- ▲ Great Easy Racers Handling
- ▲ Components that work
- ▲ Ground breaking price
- ▲ More efficient (derailleur) drivetrain

### CONS

- ▼ Accessories availability — no fender, rack or mounts (yet).
- ▼ Heavy (about 39 pounds)
- ▼ Can't keep the kids off!
- ▼ Works best riders <6' tall
- ▼ Square hiten steel frame

## ■ A NEW BIKE!?

We first reviewed the Easy Racer EZ1 back in RCN#31. Back then, frames were welded in the old Chicken Coop shop by Fast Freddy himself and the bike had a 451/349 wheel combo. The licensing to J & B Imports, and move to Taiwan production has made the bike more affordable, more comfortable (new seat) and more user friendly (406/305 wheel combo).

## ■ HOW TO BUY ONE

These bikes will be getting more rare as the season wears on. Your best bet is to contact an RCN advertising dealer. J & B is a bike parts wholesaler who serves just about every bike shop in North America. Prices will vary between \$499-\$549. ☐

---

Tom Beuligmann runs a small bike shop in Mt. Carmel, Illinios called Tom's Bike Annex. Tom is a recumbent specialist and can be contacted at 618-262-4088 or through his website [www.BikeRoute.com/BikeAnnex](http://www.BikeRoute.com/BikeAnnex). Tom has experience adapting USPro-Drive Electric kits to recumbents.



Gardner Martin and the EZ1



# The Radius C4 MWB

## A Very Cool Euro-Commuter/City Recumbent

by Robert J. Bryant

Imagine a suspended SWB-style recumbent with a long wheelbase and no heel interference or overlap whatsoever. Add racks, lights, fenders, rear suspension and a choice of USS or ASS and what do you have—a 2000 Radius C4. This is a very unique recumbent that is designed in Germany and built overseas to European bicycle standards. The bikes are imported into the USA by new distributor/importer Radius USA/Buchanan BikeWorks which is run owned by Gregor Buchanan.

### I. SYSTEMS

**FRAME**—The frame is TIG welded CroMo. The fork is a unicrown 20" style with a very long head tube. Our test bike was dark blue. The powdercoat is okay, though not exceptional. It has a 'flat' look to it. We have seen better, though the coverage was good and the paint was not coming off.

The smooth rear suspension comes from a CroMo swing arm mated with a coil/oil shock. Unlike the Cane Creek airshocks that require that you check the pressure, know how much air to put in and take quite a big bump to get them to move (generally), the smooth Radius coil/oil sets it apart from the competition. In fact we would even call this an active-suspension connoisseur's suspension—very, very smooth. The front end has no suspension, but with its LWB-like weight distribution, the hits come with much less JOLT than with a SWB so there is less of a need for a front suspension fork.

The C4 weighs in at 36-41 pounds depending on equipment and frame size. Our 'large' model weighed in at 39-41 depending on equipment. The C4 is a heavy bike, however, it is rather well equipped with full commuter/tourist gear. The bike is stout, rugged and should hold up very well to just about any condition you can dish out.

**DRIVETRAIN**—The C4 has your basic user-friendly SRAM 3x7/21-speed with SRAM 3x7 Grip Shifts. They are dead feeling, plastic grinding, passionless shifters that work particularly well and don't miss a shift. Hey, I'm not kidding. This set up does nothing special for me, but it does seem to be highly dependable. The 3x7 hub shifted expertly and never missed a click. Even given our rear dropout problem, the shifting was a no-brainer and stayed in adjustment perfectly throughout our winter all weather test. I guess it's just the retrogrouch in me that wants to savor the 7/21 speed drivetrains while they are still available.

**CHAIN MANAGEMENT**—We loved the C4 dual chain tubes. They will keep your thighs and jeans free from grease. We wish that more manufacturers would consider the dual chain tube method of chain management. Radius' chain tube mount system was exceptional. The tubes were suspended on rubber (thick bands) that allow the chain to move dependent on what gear the bike was in. Unfortunately, we did have two experiences where the tubes slipped in their clamps which required some roadside maintenance. This could be solved completely with a rubber spacer and wrench. Smooth is the key word with the C4—smooth and quiet. The MWB chain line is easy and free flowing.

**WHEELS**—The wheels are not world class but that's nothing to get too excited about, as they work just fine for this bike. The SRAM 3x7 rear hub/wheel is better than the front no-name hub, though both wheels were durable, dependable and trouble free.

**BRAKING**—With adequate weight distribution and Tektro V-style brakes, the C4 stops very well. The refined ride and safe, stable handling has the bike braking confidently in most conditions.

**TIRES**—The C4 came with Vredstein Monte Carlo 1.4" puncture-resistant tires. The tires have a great all-around tread design very much like the Continental Top Touring. The unique aspect of the tire is a reflective stripe around the casing. Unfortunately, the stripe on our sidewalls were painted on crooked, which really looks goofy.

### II. COMFORT

**RIDING POSITION**—The C4 has a fairly user-friendly 'extreme' riding position. The seat is of average height, and very reclineable, yet the bottom bracket is higher than the seat. It looks to be higher than it really is. In actuality, the seat is 23" high, and the BB is 24". If the position is too extreme, just recline the seat a bit more. There are several inches of seat recline.

**DESIGN**—The C4's modern MWB design has the headtube at the bottom bracket (BB). This positioning produces a very refined and smooth ride further contributing to its user friendly description. The C4 is a one-size fits all frame, and will fit most riders well. Medium to tall riders in the low 6' range will probably work and fit best. The bike fit my 6' XL-sized body perfectly, though it won't fit some taller riders.

The ergonomics adjustments are very good. Our ASS test version had a multi-position stem and the riding position dialed in quickly and very well. The available USS system for the C4 is also of high quality. We were able to see it and check it out, though we didn't ride with it. I would imagine that USS fans will absolutely love the smooth comfort of the C4.

**SEAT**—The seat is not world class, and with its laid-back position doesn't need to be. The mesh back and frame are excellent. The slide-adjustable base mount and very reclineable back, and semi-extreme ergonomics make the very mediocre seat base less of an issue. The seat base appears to be Naugahyde covered stiff foam on plywood. The semi-triangular base is Velcroed onto the seat frame. This did not appear to us to be adequate, though it never created a problem for us during our test.

### III. RIDE/HANDLING

**STABILITY**—The C4 offers refined, safe and stable handling in most all conditions. We rode the bike through our Port Townsend test loop over every imaginable terrain. The high BB made emergency response (putting your feet down in a hurry) a bit slower than normal, and it detracts from the C4's off-road abilities, though is an exceptional example of the MWB design style (the best we've tested). It is nearly possible to ride with no hands as the C4 has excellent balance. The C4 tracks as straight as you can hold it and we experienced no pedal steer as is so common on SWB recumbents. The C4 is longer than most SWB machines, though nearly as maneuverable. The maneuverability is more user-friendly, as there is no possibility of heel overlap/strike with the front wheel. This makes more confidence-inspiring urban performance.

The C4 is no speedster, though no slouch either. It will be on par with an average SWB, possibly a bit slower over hilly terrain, primarily due to the weight. Our experience with the C4 was enjoyable. The bike has a 'cruiser' aura about it. It is different, fun to ride and very, very smooth—"kick back and ride" is how I will describe it.

### IV. OWNING/PURCHASING

**VERSATILITY**—The C4 is a VERY versatile recumbent. It is capable of riding over any type of terrain. It is probably best at urban commuting, touring or recreational riding over diverse terrain.

**SHIPPING/ASSEMBLY**—We were unable to see how the bike ships from the factory. Our test bike did arrive with a slightly bent rear dropout that was quickly fixed and did not affect the shifting or rideability one bit. We have been told that new shipping boxes and material are now being used.

**TRANSPORTABILITY/STORAGE**—The C4 is a fairly large bike. It is tall, fairly long and heavy. It will be more difficult to haul around and store than similar models. The Vision R32 has a foldable rear stays, which makes it one up on the C4.

**QUALITY/DURABILITY**—The C4 is built in Taiwan. It does have some mediocre components, though as a complete bike it works fine.





We have seen Radius products at Interbike over the last several years. The 2000 line offered the best craftsmanship of any Radius bikes so far. The build is not as refined as an imported BikeE or Rans, though very close. There was really nothing about the build or quality that would lead one to notice that it was an imported recumbent. In fact, with all of the special optional equipment, one might guess that it was imported from Germany.

**OPTIONS & ACCESSORIES**—The very Euro accessories sets the C4 apart from the R32 and many other North American recumbents for that matter. Also unique is the fact that they come standard on the bike. We were very impressed to find a custom rear rack, generator lighting, custom fit fenders (with cool mud flaps) internal cable routing and rear tail light all part of the standard set up. Bikes must include this equipment in Europe where bikes are for transportation as well as sport, unlike in the USA, where they often come with no usable options and are marketed like toys.

#### V. RCN GROUP ANALYSIS

**VALUE/DEPRECIATION**—The C4 is a good value. As it is a fairly new product, resale and depreciation are unknown at this time. Since the bike is pretty nice, we would expect that it will hold its value average or just below average until Radius becomes more well known in the USA. At \$1395, the C4 has some tough competition in the Vision R32, new Burley Limbo and even the BikeE AT. All of these models differ slightly. As a city/sport commuter, the C4 really shines. The optional equipment sets it apart from some of the competition. Only BikeE offers as many trick options for their bike, though the Radius C4 will be more comfortable (reclined seat) and perform a bit better due to the 20" front wheel.

**VERDICT**—The C4 was a pleasant surprise and a worthy competition for LWB, Compacts and even SWB. The C4 seems to fit the description of a 'does everything' bike better than most of its type. It would be nice to see some of the components upgraded, though they all work fine. Our biggest rant was the seat base. This could easily be improved. Only by the grace of the riding position ergonomics is it less of an issue than it otherwise would be. I could build a more comfy base in an afternoon. Radius needs to be a

bit more aggressive marketing this bike in North America. There are a lot of potential customers for the C4 who don't even know it exists.

**BOB RATING:** Excellent

#### ACCESS

Radius Recumbents USA  
Buchanan Bikeworks LLC  
Tel. 973-340-9006  
Email: RadiusUSA@aol.com  
<http://www.radius-recumbents.com>

#### ABOUT THE BIKE

The C4 All Around (ASS) sells for \$1499 fully equipped. The optional USS kit adds \$310.

The C4 Tour (USS) sells for \$1699 fully equipped. The optional ASS kit adds \$150.

The Hornet (SWB) sells for \$2020-\$2150.

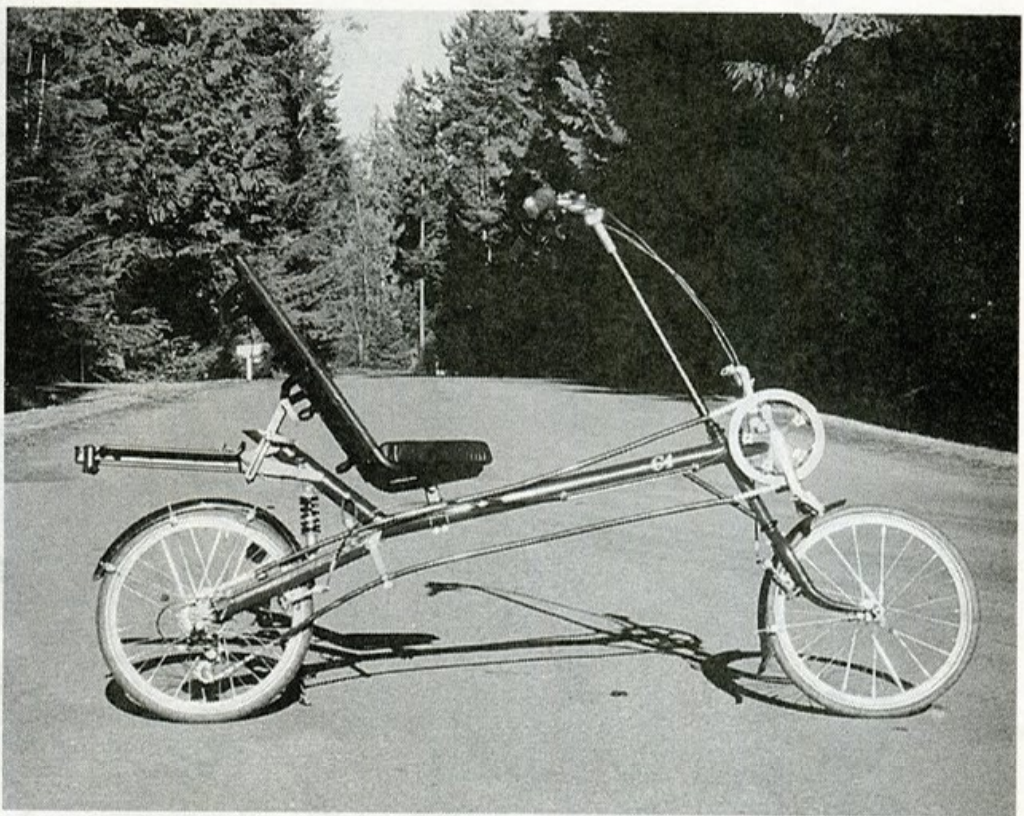
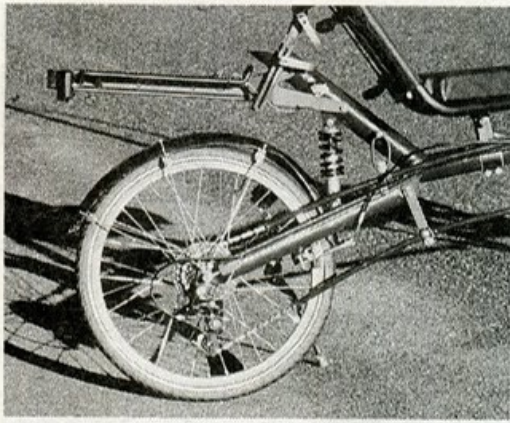
**MODEL**—RADIUS C4 TYPE—MWB; **STEER**—USS/ASS (w/hybrid adjustable stem); **WB**=43.75"; **SH**=24"; **BB**=25"; **WT**=#36-41; **FM**—TIG CroMo.; **FK**—CroMo; **SUSP/RR**—Coil/Oil shock; **SUSP/FT**—None

#### COMPONENTS

**CRANK**—Dotek Pro 170mm; **BB**—NA; **HS**—FSA; **DER**—SRAM 3x7=21-spd; **GEARS**—7-spd.; **CHAIN**—Shimano IG; **GEAR INCH RANGE**—NA; **PEDALS**—Wellgo **WHEELS**—406mm 20" X 1.4"; **RIMS**—Alex AL DM18; **TIRES**—Vredstein Monte Carlo Puncture Resistant; **HUBS**—Sachs; **WHL BLD**—NA; **BRAKES**—Alhonga V-type & levers; **WARR**—Limited lifetime frame + fork/orig. owner; **COLORS**—Blue, red, black, yellow.

**KEY:** WB=wheelbase; SH=seat height; WT=weight; FM=frame; FK=fork; SUSP/RR=rear suspension; SHIFT=shifters/speeds; BB=bottom bracket or BB height; WT=weight; BB=bottom bracket; HS=headset; DER=derailleur; WARR=warranty





UPPER LEFT: Our C4 test bike. Note idler-free drivetrain, chain tubes, and attachment; coil/oil shock and swing arm and adjustable recline seat. We thought the seat base could use some work. It Velcros to the seat frame.

LOWER LEFT: The Radius SWB

UPPER RIGHT: Our C4 test bike

LOWER RIGHT: Radius C4 supplied photo of USS touring model.

#### ■ RATING

- ✓ Comfort — B
- ✓ Design/Style — B
- ✓ Drivetrain — B-
- ✓ Chain Management (Idlers/Noise/Vibr.) — B
- ✓ Brakes/Braking — B
- ✓ Finish Quality (welds/paint/preassembl.) — B
- ✓ Rider Ergonomics—Adjustable recline seat, pedals/BB above seat height, though ergonomics are fine.
- ✓ Best Use—All around recreational/commuter recumbent. Would also work well for touring. Performance is limited by weight. (Rider needs to be acclimated to high pedal/BB bikes.)
- ✓ Best Rider Type/Size—Fits average size riders to about or a bit over 6'.
- ✓ Comparison to Market Competition—What competition? This is a much more refined bike than the Vision R32. It has a distinct character and is a useful bicycle.
- ✓ Weak Points—
- ✓ RCN Performance Potential — B
- ✓ RCN Value Rating — B+
- ✓ RCN "Bob" Rating — B

#### PROS

- ▲ Excellent handling and ride
- ▲ Very adjustable USS & ASS options
- ▲ Excellent ergonomics (high BB/pedals)
- ▲ Euro bike features & options.
- ▲ Improved quality since last year
- ▲ Stable confidence-inspiring SWB-like handling (with no heel/foot overlap)
- ▲ Silky smooth rear coil/oil. suspension
- ▲ Lots of cool accessories
- ▲ The best true MWB to date

#### CONS

- ▼ Mediocre seat base and attachment
- ▼ High BB/pedals (extreme, though user-friendly riding position)
- ▼ Bulky package, difficult to haul, store, and transport
- ▼ Generator lights are kind of a pain and have weak output
- ▼ Chain tubes are cool, but slipped in mount
- ▼ Rear dropouts were bent on our test bike (easily fixed)
- ▼ Some low end no-name components.
- ▼ Design may be too Euro for the USA
- ▼ A HEAVY bike



In the Greater **Toronto** Area, Get 'Bent with:

**Rans ♦ BikeE ♦ Easy Racers ♦ Lightning  
Vision ♦ Trek ♦ Haluzak ♦ Greenspeed**

## *The Bicycle Spokesman*

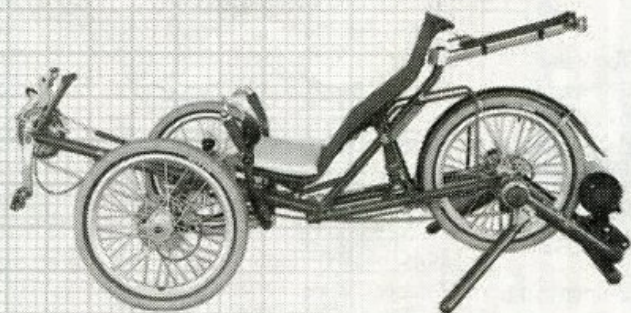
10212-A Yonge St., Richmond Hill, Ont.  
(905) 737-4343 Toll Free: (877) 426-2368  
email: [spokes@idirect.com](mailto:spokes@idirect.com)  
[www.bikeroute.com/BicycleSpokesman](http://www.bikeroute.com/BicycleSpokesman)



### NorthEast Recumbents

*BikeE / Vision / Lightning / Easy Racers /  
Windcheetah....& more for test rides & showroom*  
**CALL Tel. & Fax: 973-239-8968**  
**9 Wayland Drive, Verona, NJ 07044**

## **INDOOR TRAINING HAS NEVER BEEN EASIER ... OR HARDER**



The Kinetic Trainer makes it easier to train anytime, anywhere, regardless of the weather. And with resistance levels of up to 2500 watts, you'll never train harder. Made in the USA, the Kinetic fits wheels from 16" to 29" O.D.

Now available at Easy Racers, Calhoun Cycle or factory direct.  
Call **800-328-4014**, or visit [www.kurtkinetic.com](http://www.kurtkinetic.com) for more information.



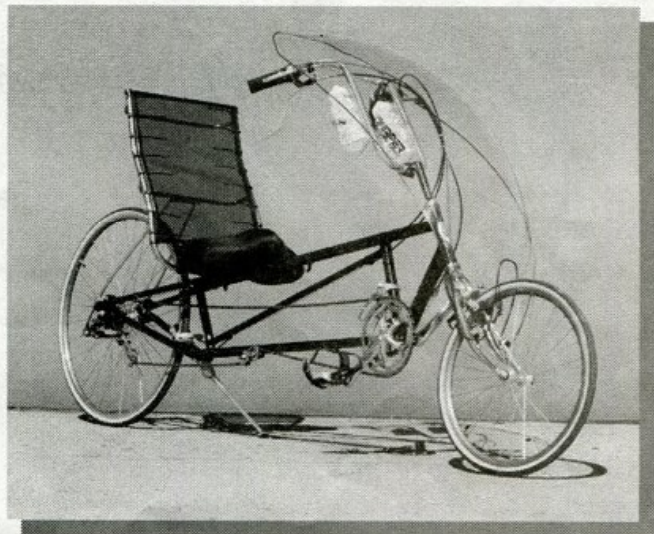
*An indoor ride so realistic you may want to wear your helmet.*

\*Small wheel adapter required for wheels less than 22" O.D.



# The True Wheel

*A Cool Bike Shop In Hailey, Idaho*



*The Easy Racer Gold Rush*

*Recumbents from:*

**Easy Racers  
Rans  
Haluzak  
BikeE**

**We deliver anywhere**

PO Box 1658, 400 North Main Street  
Hailey, Idaho 83333  
Fax • 208-788-6426

**Tel. 208-788-5433 • 1-800-607-7915**  
**We have your dream bike in stock!**



# V-Rex: The King of Velocity!

By William "Wild Bill" Volk



Bill Volks V-Rex test bike

*"It's good to be the king," Mel Brooks, The History of the World, Part One"*

Growing up outside of New York City, back in 1972, most of the neighborhood kids in high school had 3-speed "English Racer" bikes. A few lucky ones had Schwinn Varsity or even an occasional clincher Peugeot or Raleigh 10 speed. I was lucky enough to have a Peugeot PX10e. A sew-up tire, 22 lbs, beauty of a machine. But that didn't compare to my friend Bob's bike. Bobs (he used to spook people by claiming he was called Bobs because his twin brother had died) had something special. A beautiful 20 lbs blue full Campagnolo Nuovo Record (Campy) equipped bike from some small builder in Holland.

Back then the best bikes were all Campy. Shimano and Suntour were just starting to make quality components, but they didn't compare to Campy. Combined with a handmade Reynolds 531 Double Butted frame, light sew-up wheels, and a Brooks Professional Saddle.... these bikes screamed "quality." Compared to the average

10 speeds of the time they rode like the wind. Back then "high performance clincher" was an oxymoron. Just squeezing the Campy brake levers felt special compared to the questionable Weinmann or Mavic center-pulls of the era. The mere whiff of Tubasi sewup tire cement brings it all back. These bikes just looked and felt RIGHT.

Well, I've had the very pleasant company of a 2000 Rans V-Rex for a few months. While the smell (and mess) of rim cement is absent, the bike does bring back some of these memories. Has Bill gone crazy? How can a recumbent remind me of these "All Campy" machines of my youth. Well the V-Rex just looks and feels RIGHT. Everything looks like it belongs together. Everything works great together.

Is the V-Rex perfect? No. Is the V-Rex the fastest recumbent. No. What Rans has accomplished with the V-Rex is to create a bike that is a darn good balance of speed, comfort, usability... a bike that looks like it was put together right. Components match and work well. Even items such as the 26" rear rim and

20" front wheel match. Not just the Primo Comet tires and Shimano hubs, but even the aero rims themselves look like they came out of the same mold.

The components are very good quality, not the best money can buy... but at the point where spending more would yield diminishing returns. Cranks are the same Shimano 105 triple you might find on a decent road bike. Derailleurs are SRAM 5.0, which is one of the lightest feeling grip shifting setup I've used. Hubs are Shimano LX. Brakes are SRAM Liner Pulls, which I found to be superior to the Shimano LX I have on my other bikes.

The V-Rex frame would make Bucky Fuller proud. It's fully triangulated, light, and responsive. Welded in Taiwan, the joints look as professional as the best of the Mountain Bike set. Before this reviewer gets too carried away with the bike, I can see two areas for improvement. First, it's not easy to add a rear rack. Some provision (braze-ons?) should be made for a standard rear rack. On 20" rear wheel bikes with the Rans seat, a backpack works great. On 26" wheels you'll need a seat bag, since a backpack will rub on the larger 26" rear tire. Rans' seat bag is a pretty decent affair, though you might need something larger for a bike commuter's change of clothes.

Offering a model with a larger diameter main tube might be a good thing for the heavier riding set. The V-Rex is plenty strong for even a 200+ pounder, but I would love to have a bit stiffer boom. Rans does offer a longer frame, and this is an excellent idea if you find your seat adjustment puts the seat close to the rear wheel. I'm 6' 3" and I didn't have any problems fitting on the bike, but with that CG (center of gravity) that far back, the handling was pretty darn quick. A longer frame would 'slow' down the steering a bit.

I tested the V-Rex with and without the Ballistic front suspension fork. Like any SWB (short wheel base) recumbent, a front suspension is a very good thing. If you want to save yourself \$200, don't test ride a bike with one. However, since the V-Rex has more of the weight on the rear wheel than many other SWB 'bents (the boom is pretty short), it doesn't 'need' the suspension as much as other SWB bikes do.

While the Primo Comet tires are a nice setup for "sports riding," the V-Rex does allow you to switch to stouter stuff, widely available in the wheel sizes (BMX 20" ETRTO 406 and MTB 26" ETRTO 559) used. I'm a big fan of wide tires, and it's nice to see this wheel size choice. This also passes the Wal Mart test. If you are stuck in the middle of nowhere, you should be able to find "make-do" tires in these sizes.

This is my first exposure to the latest Rans seat. I've got over 30,000 miles of seat time on



my 1994 Rans mesh-back seat, on three different recumbents. It is a great seat, but change is inevitable. Gone is the fiberglass base, replaced with the same sort of molded plastic used on conventional bike saddles. This provides a bit more give. The seat base is enormous, the padding is generous, which speaks volumes about the shape of the average American. It's a great seat. The only additional feature I'd like to see is some ability to tilt back the seat base. An owner of an older V-Rex also shared this observation.

The sliding seat mount works just fine. You just have to really torque down the quick release adjustment to prevent it from sliding (something common to all Rans models). One solution is to use a bit of non-skid tape (like the kind used on stair steps) to prevent sliding. Still, when you build a recumbent seat that was the choice of mainstream bicycle manufacturer Trek's first recumbent offering, there's not a lot you can improve.

The V-Rex is a quick-handling bike, in the tradition of the Lightning P38. CG is biased toward the rear tire and that provides a quick and light steering reaction. There are some heel strike issues (as with the Lightning) but it only comes into play at low speeds. The seat base is at a good height for touring and commuting. It's easy to get your feet down at a traffic light.

I found the V-Rex to be deceptively fast. It's not as aero as a European style (high bottom bracket) bike, but it's close. With some informal roll down testing, it was in the same league as my homebuilt... which has a much higher BB in relation to seat height. The V-Rex is light and climbs well. You can maneuver it at slow speeds, the sort of speeds this reviewer encounters on the double-digit grades he deals with every day. It's equally comfortable in the mid-40 mph stuff you get when you go down those hills. This is where a suspension fork really does make a difference.

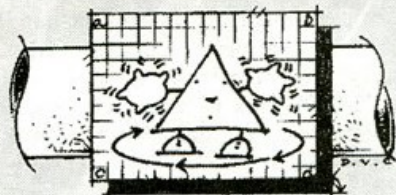


This is a stock 2000 Rans V-Rex with factory optional Ballistic front suspension fork—Bill Volk

We'll miss the V-Rex. Particularly my 13 year old son, who sort of adopted it and used it almost every day. There's a really nasty short and steep climb to his friend's house, and he just sailed up that hill... which is pretty cool since some of his friends walk it. The thing that stays with me is the fit and finish of the entire package. I can almost smell the Tubasi.... □

## "BIKE TECHNOLOGY FROM A DIFFERENT ANGLE"

STOCK and CUSTOM SPEC'D RECUMBENT BIKES, TRIKES\* and TANDEMS!



### "ANGLETECH"

318 NORTH HIGHWAY 67  
WOODLAND PARK, CO. 80863

**EXCLUSIVES!**

ALTITUDE / MC<sup>2</sup>  
TRISPEEDER\*  
QUADRAPED\*

**OTHER BRANDS!**

RANS / BikeE / VISION  
TREK / LIGHTNING  
EASY RACERS

**BUILD YOUR  
DREAM BIKE!**

CALL 800-793-3038  
- or visit our web site -  
ANGLETECHCYCLES.COM





# The V-Rex RBT14

## We Test An Angletech Rohloff

by Bob Bryant

In early February, Kelvin Clark sent the new Angletech/Rans V-Rex RBT14 on its way to the Chicago show. The RBT14 is one of a handful of recumbent models to come outfitted with the new Rohloff SPEEDHUB/14. We were able to spend a few weeks with this very cool new bike/drivetrain. I must admit to being totally smitten with this 14-speed internally geared hub and Angletech's exceptional build on the RBT 14.

Like all Angletech bikes, the set-up was beyond perfection. The bike was dialed and rideable within 30 minutes. Kelvin's AngleFit measurement system nearly guarantees a better fit than any stock configuration. I don't know how he does it, but I can tell you that it works. I was asked to take some obscure measurements, and the bike showed up dialed in and perfect ergonomically. For my picky self, it saved me roughly an hour of adjusting and I can never adjust a stock bike this well. The Rans seat comfort is exceptional, and again accentuated by the AngleFit ergonomic dial-in.

The RBT14 starts life as a stock V-Rex frame. What differentiates it from other V-Rexi is that this was one that was actually built in Hayes, Kansas. Ooh, aah, a US-built 'Rex frame. Well, before you go too crazy on me, understand that the welds on a US-built 'Rex aren't quite as nice as on the Taiwan bikes.

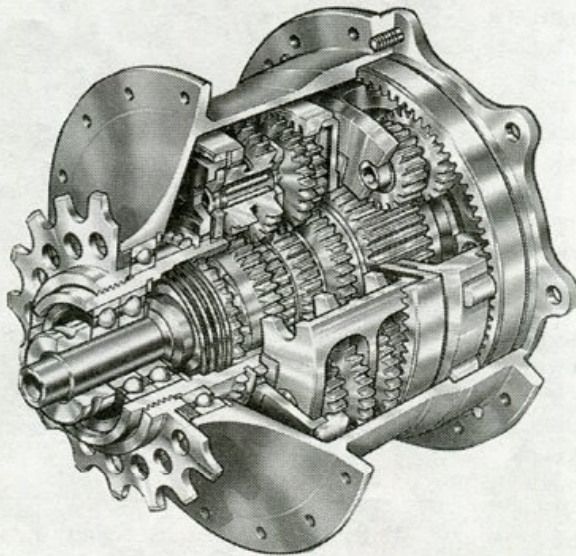
It's been a while since I've ridden a 'Rex and it was an extremely enjoyable experience. The 'Rex is a well behaved, excellent handling, stable and reasonably fast SWB.

It is rather tall, though it is a proven and 'classic' design known for its excellent quality, value and durability. The 'Rex and Rocket are SWB industry 'default' models. They are at the the unique place where quality, handling, performance and value all intersect. The Angletech V-Rex is guaranteed to be better than a stock V-Rex, if just by the careful set-up, dial-in and adjustments that go into each bike order.

### ■ ABOUT THE SPEC

Kelvin's RBT14 costs about a grand more than an equivalent Angletech derailleur model. For that grand, you also get a Chris King headset. The crankset is a beautiful Ritchey Logic with a single chainring. Angletech makes a custom plastic chainguard for the crank (single chainrings are more vulnerable to throwing the chain off the crank).

It has also been a few years since I had ridden a Magura hydraulic brake-equipped recumbent. The smooth, powerful and masterful modulating Magura is the finest bicycle rim brake made. Okay, so we've criticized it a bit over the years,



but not for performance or reliability (the Magura requires some new skills and a maintenance kit or Magura-friendly dealer). As far as dependable stopping power on recumbents toes, this brake IS IT. I much prefer the Magura to disc brakes.

### ■ ABOUT THE HUB

The Rohloff SPEEDHUB 500/14 offers 14-speeds which, from gear to gear, increase or decrease in closer increments than a conventional 27-speed drivetrains while maintaining the same gear range and eliminating gear overlap. Removing the rear wheel is as easy as ever. The SPEEDHUB 500/14 is the first internal gear hub with a hollow axle and quick release (a nutted axle is also available).

### PROS

- ▲ Less maintenance than a derailleur system (drain and refill hub oil once a year)
- ▲ Simplified drivetrain
- ▲ Sealed gears (basking in an oil bath)
- ▲ More usable gears (in appropriate order)
- ▲ Shifts under load or at a stop (except in 7th or 8th gear)
- ▲ Quick sweep shifting across gear range is possible

### CONS

- ▼ Cost...this hub is EXPENSIVE (hub & shifter are \$800-\$1000, depending on source. SPEEDHUB/14 models may cost this much more than other bikes)
- ▼ We experienced noise in two gears (different two gears, see below)
- ▼ Mystery mechanism (100 internal parts)
- ▼ We experienced one accidental 'false neutral' shift

As far as the accidental neutral, I was shifting it wrong. The SPEEDHUB/14 has a safety mechanism built in between 7th and 8th gear to prevent an accidental 'false neutral.' When you make this particular shift (7th & 8th gear), you need to back off slightly on your pedaling pressure. A soft freewheeling noise (see con above re: the noise we experienced) warns you that the shift is going to occur.

### ■ HUB SPECS

- 14 Speeds at 13.6% increments
- Axle width 135mm
- Number of spokes 32
- Efficiency 96-98%
- Range 526% (distance traveled per crank revolution)
- (a 26/36/46 11/28 MTB range is 523%)

With a 26/26/46 11-28 MTB gearing (26" drive wheel) 27-spd drivetrain, here is how the gears equate to the SPEEDHUB (SH):

- ✓ SH GEARS 1-4 are equal to gears 1-4 (of 9) on the small chainring (26).
- ✓ SH GEARS 5-11 are equal to gears 2-9 (of 9) on the middle chainring (36)
- ✓ SH GEARS 12-14 are equal to gears 7-9 (of 9) on the large chainring (48)

The SPEEDHUB/14 takes the 14 most evenly spaced gears from a 27-speed mountain or touring bike drivetrain and spaces them as equally as possible at 13.5% intervals. The standard set-up is a 26" rear wheel with a 44-tooth chainring and a 16-tooth sprocket, though it can be adjusted either way to suit your gearing needs.

The SPEEDHUB/14 is an amazing piece of machinery. An 'enthusiast' who's at his wits' end with 9/27 speeds and beyond (derailleur gears) will absolutely love it.

I did not detect any 'added friction drag' while riding with the SPEEDHUB/14 (such as what some feel with a SRAM 3x7 hub) though there probably is some. Rohloff claims 96-98% efficiency, which is probably about what most new and clean SWB derailleur drivetrains are running. Though the Rohloff is much smoother and quieter.

If this hub was more affordable, it could replace 95% of bicycle drivetrains. It is phenomenally better in almost every way. If you can justify the additional \$1000, it is the coolest recumbent drivetrain ever.

The Angletech V-Rex RB14 is an exceptional bike with an equally great drivetrain. Kudos to those involved (Rans, Angletech and Rohloff). We haven't been this jazzed about a bike in some time. You can bet I'll be saving my pennies to equip my next bike with a SPEEDHUB/14. ☐





The Rans/Angletech V-Rex RBT-14 Rohloff in downtown Port Townsend, WA—RCN



The Rans V-Rex—Rans Company



The Rohloff hub—RCN

UPPER: Our Angletech RBT14 test bike on Port Townsend Bay

LOWER LEFT: Rans V-Rex factory photo

LOWER RIGHT: Rohloff hub on V-Rex

A special thank you to those who made this test possible:

Randy Schlitter of Rans

John Schlitter, formerly of Rans

Kelvin Clark of Angletech

Bill Volk

### Kelvin's Rohloff Comments

The appeal among our customers for the Rohloff Speedhub is its simplicity. Being able to cover the range of a 27 speed bike over 14 evenly spaced gears is the cool part. You get the tight feel of corn cob spaced gears, no chain line issues, a twistgrip shifter that has a nice "soft" feel to the detents, and the capability to shift pedaling or not. This V-Rex is now part of our 2000 demo fleet, and the comments have been universally "I like the Rohloff hub!"

Kelvin Clark, Angletech



# Milton Turner's T-Lite SWB

by Robert C. Miller

Milt Turner builds bikes. Short Wheel Based bikes. Fast bikes. Good looking bikes. Milton Turner is one half of the team of Hypercycle fame. Julian Smith the "S" in S & B was the other half. Milt and Mr. Smith built many different versions of the Hypercycle, refining it until Smitty decided to go his own way, and Milt went his. Smitty built S&B bikes and Milt began to build the Laidback, Laidback Jr, and the Laidback 2000, a very upscale bike with top-end components, a graphite seat, and other differences. For those of you who have wondered why the S&B and the Laid Backs, T-Lites, and now RecumbentBarn Blackbents look so much alike, you now know the reason.

For the last few years, Milt has built the T-Lite series of bicycles. A couple of years ago a fully faired Turner came in second by only a couple of hundredths of a second to Steve Delaire's fully faired Rotator interceptor in an HPV series. A faired Turner Laidback (with square frame) called the Aerolope set a record in Tucson for the El Tour de Tucson 100-mile bicycle ride.

The basic Turner bicycle package is: 24", 26" or 700c-rear wheel, and either a 16" or a 20" front wheel, hard-shell seat, and a Shimano 21-speed gear train. The 20" 406 front wheel is an option on the medium and larger frames.

The Turner T-Lite frames are sub six pounds, 4130 CroMo steel, and very rigid. The rear stays are triangulated and the seat post is double triangulated. The welds are TIG-welded. This makes the frame finish excellent, and the frames are stronger due to lessened heat build up during the welding. All frames are powder coated in your choice of colors. This stiffness does have one disadvantage; on rough roads much of the shock is transmitted to the rider. Milt has attempted to lessen this somewhat by using elastomer plugs between the seat and the seat support. This does soak up some of the shock though not all. I have had a few uncomfortable transits of bumpy roads, but have gotten quite used to the ride—softer elastomer plugs would probably help. A front shock absorber is not very practical due to the angle of the headset. I saw a prototype of a fully suspended bike at Milt's, but it was many moons from making it out the door.

As I stated above, the seat is a hard-shell seat, either fiberglass or graphite. The basic seats are made of triple ply fiberglass. They must be laid up separately. The seat base is covered with a thick foam pad with a movable closed cell pad, which acts as a lumbar support. The covering is a very durable mesh. The seats are comfortable if properly adjusted, and a little time spent adjusting the seat and choosing the proper frame size goes a long way towards future comfort. The seats themselves adjust front to back three to four inches so there is a small range of adjustment. The rear of the seats adjust for recline angle. The two adjustments together allow the seats to be reclined at different angles, from an almost vertical seating position to a very laidback one. Both seats take the same covering, and use the same padding. I have two bikes, and so I have two seats, one of each model. The fiberglass seat I have owned for almost six years is still in good shape. No structural cracks. There are some surface gel cracks, and those only at the attachment points. The carbon graphite model is a more rigid seat as well as allowing a fair weight savings. It is also more expensive. I must say that except for the rigidity of the seat I do not see a lot of difference in everyday riding. The rear seat supports are powder coated, allow more adjustments to the recline angle, and the fasteners that attach them to the seat are much more cosmetically appealing than the previous setup. The bottom seat fastening arrangement is one ordinary 1/4 X 20 bolt with nylon lock nut, an elastomer plug, and two oversized washers per side. The seats themselves sit on an overbuilt set of triangles which maintain the stiffness of the bike in this point. The old Hypercycles were prone to frame breakage, and Milt is ensuring that this does not happen with this bike. There also is a new seat made of a composite material. These are very light, very stiff, and have to be ordered special.

There have been some concerns in the past about the adjustability of the

bikes. The boom to the bottom bracket is solid (no adjustments), so in order to get a proper fit, you must choose the proper frame size. There are five different frame sizes. [X-small for riders less than 5'; Small for riders 5' to 5' 5" Medium for riders 5' 5" to 5' 10"; Large for riders 5' 11" to 6' 3"; X-Large for riders above 6' 3"].

There are no weight restrictions on the frames. There is a gentleman in Florida who weighs in excess of 350 lbs. and is 6'5" tall who rides a T-Lite regularly with no problems.

When I questioned Milt about the ordinary hardware used to attach the seat he answered that he wanted the seat to be removed using tools one could carry on a bike, like a couple of crescent wrenches, and to be able to replace them at the local hardware store. Using specialized parts would have defeated that aim.

The choice of brakes depends on whether the bike is to be delivered in fat tire or skinny tire configuration. The skinny tire version uses Dia-Comp or Shimano side-pulls; the fat tire version uses BMX left side, side-pulls. Both versions stop very well. An A-Brake by Odyssey can be ordered for the front wheel, if the more expensive fork with cantilever braze-ons is ordered.

T-Lites are under seat-steered (USS), and use mountain bike stems, and handlebars. The stem and handlebars are a much-needed improvement over the old one-piece stem and bars. They also look much better. The stem has a long horizontal reach and this places the bar under the seat.

The old bars on the bike used to be quite a reach for short riders. Bar ends made a very welcome addition to the handlebars. The new handlebars are better, but still could benefit from the use of bar ends, much like the Haluzak handlebars. Bar ends raise the steering up to seat level or above, and allow the rider to vary hand position. I have bar ends and these give me three places to grip the bar, and allow me to have a bar-end mirror. I have seen others ride their bikes without the bar ends and they seem quite happy with the arrangement.

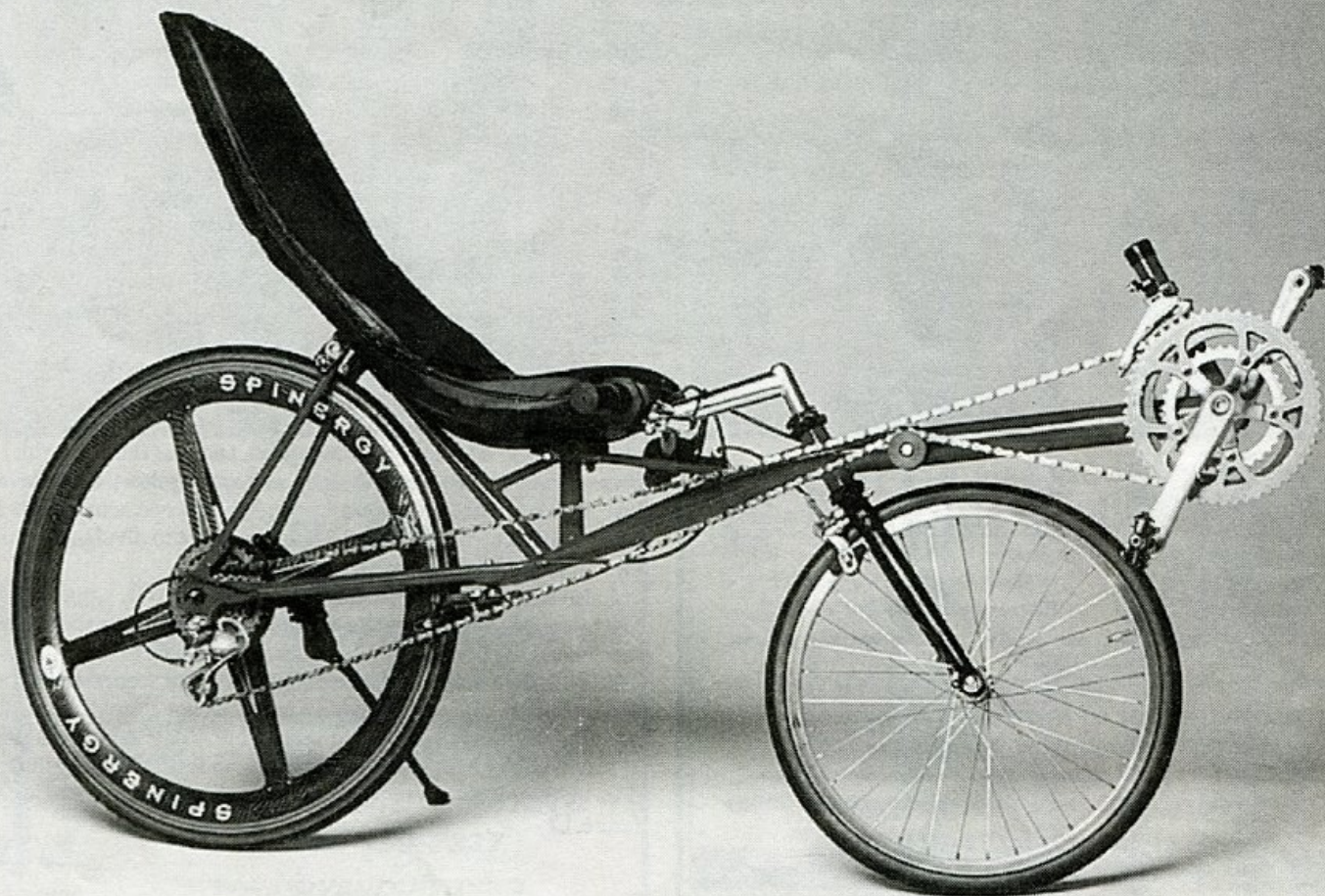
The head tube has been moved forward from previous models, and the angle modified so that the bike has a more neutral ride. The weight differential is 60% rear, 40% front. The bike has a 43" wheelbase with 700x32c and 20x1 1/8" wheels. This is a large increase over the Laid Back Jr, which had a 37" wheelbase or the Hypercycle's sub 3-foot wheelbase. The fork is a quality CroMo fork with quick release dropouts. The basic T-Lite comes with an idler made of delrin with two large O-rings, which is supposed to route the chain over the front fork. It performs its job, but since it doesn't have bearings, it makes noise as it rotates under the load of the take up side of the chain. To be fair, since I have ridden the bike for a couple of months, it is no longer noisy, so the delrin does wear in after awhile. The O-rings do wear out about every two to three months. Milt gave me replacements, and I stopped by my local ACE hardware and picked up enough to keep me in o-rings for a long time for fewer than five dollars. There is a chain keeper which is basically a T-shaped object which fits over the idler and keeps the chain from bouncing off.

The bottom bracket is slightly below seat level, and is fairly easy to ride for new riders, though some inexperienced riders may note some pedal steer.

My T-Lite has a large frame, and has a 700x32c rear wheel, and a 20x1 1/8" for a front tire. Seat height is 21" with this setup. The bike handles well, with a very stable feel even at speed. This makes for a ride which requires very little attention. There is some heel strike with the 20" wheel, but surprisingly little, and only at low speeds.

How does this bike perform? This is a very fast bike. I also own a LWB Stratus-clone with a fairsing. I feel that it is fast, but my T-Lite will consistently outperform it, so far on any route I have taken. Climbing hills has gotten fun again, as the bike climbs very aggressively. I will admit that long hills take the starch out, but short rollers and medium height hills only slightly bring my speed down. Sometimes I ride with a BOB trailer, and I can climb the three-mile hill to work, (4371' to 5280') faster with the





The Turner T-Lite—Photo courtesy of Milton Turner

trailer and the T-Lite than with my LWB. The area in which I live seems to have a hill in your way both coming and going. This bike disproves the adage that a 'bent can't climb hills. Ask the traditional bike riders in my area.

Just recently my son got tired of having to ask his mom to use her BikeE, and asked me to either buy or build him a SWB like mine. I managed to obtain a short T-Lite frame and seat and built him a canary yellow with 24"/16" SWB speedster. Maybe too fast, as I have to pedal harder to keep up. He doesn't ride his BMX bike very much lately.

As for speed, a T-Lite rider in Florida received a speeding ticket for going over 50 mph on his bike. Milt has a copy of the ticket proudly sent to him by the gentleman. I find I can maintain a speed of 30+ mph over flat terrain in the absence of a head wind.

Milt says that he will build what the customer wants, as far as components, and wheel/tire combinations. He also experimenting with

**Editor Comments:** The author, Robert Miller, owns a Turner T-Lite built from a 'frame-kit.' Robert's son also rides a Turner T-Lite. Milton Turner may still upset with RCN about our last T-Lite road test a few years ago. If you call Turner Enterprises for information, please say hello to Milt for us, and tell him that you read about his bikes in Recumbent Cyclist News.

carbon fiber frames, aluminum frames, fairings (front and rear), a LWB, and a suspended version of the SWB meant for off-road use.

#### PROS

- ▲ Reasonably low seating (for a SWB)
- ▲ Stiff triangulated CroMo frame
- ▲ Wheel choices: 24, 26 or 700c rear; 16 or 20 front wheel
- ▲ 3 seat choices: fiberglass, graphite or composite. All offer great pushing power which aids on hill climbing power.
- ▲ Comfortable shell seat with lumbar support
- ▲ Low pedal/BB riding position (w/16" front wheel)
- ▲ Unique and original look...looks great!

#### CONS

- ▼ The chain idler does not use a bearing. These wear out over the course of a month or so of moderate riding. The chain routing over the idler is very noisy
- ▼ Some riders have a problem with reach to the bars; This has been answered by the new handlebar & stem set
- ▼ Shell Seat. Some riders find a shell seat uncomfortable
- ▼ Frame may be too stiff
- ▼ One choice of steering (USS)
- ▼ No rear V-brake

#### ACCESS

Turner Recumbents  
Tel. 520-290-5646  
<http://www.turnerrecumbents.com>

#### SPECS

PRICE—\$1250-\$2200  
FRAMESET—\$700  
MODEL—T-Lite—SWB; STEER—USS; WB=NA; SH=22"; BB=NA; WT=#28; FM—TIG CroMo.; FK—CroMo;

KEY: WB=wheelbase; SH=seat height; WT=weight; FM=frame; FK=fork; SUSP/RR=rear suspension; SHIFT=shifters/speeds; BB=bottom bracket or BB height; WT=weight; BB=bottom bracket; HS=headset; DER=derailleur; WARR=warranty

#### COMPONENTS

GROUP—SRAM/Shimano; GEARS—7/21-spd.; CHAIN—NA; GEAR INCH RANGE—NA; PEDALS—NA; FRONT WHEEL—349mm 16" or 406mm 20"; REAR WHEEL—24", 26" or 700c; HUBS—NA; WHL BLD—NA; FRONT BRAKE—Odyssey A (V-style); REAR BRAKE—sidepull; WARR—NA; COLORS—NA.

**bikepartsUSA.com**  
bike parts, bikes,  
accessories  
& great prices



## ■ TURNER UPDATE

Since I wrote the review of the Turner T-Lite, I have visited and talked to Milt and have seen some of the ideas and projects he is currently working on. The projects I am about to talk about are in the works. Some are hard prototypes, the others ideas at work. A couple of them are ready to be marketed. If I seem a bit vague on details, this is because Milt wants to keep some of this stuff close to the vest.

Milt constructed a carbon fiber frame based on his T-Lite Short Wheel Based bicycle awhile back. It was very stiff, very light and amazingly fast. He built it to see whether there was any future in this material for his line of bicycles. The bike was a success. The folks who have seen it thought it very cool. (Milt rode it on one of our club rides.) Milt is also perfecting a design on a new way to construct frames, of composite and metal, and it is pretty cool stuff.

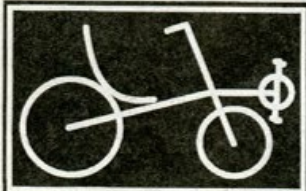
Milt also has been working on designing and building front and rear fairings for his and other makes of bikes. He experimented with the Zipper designs but if you have ever ridden a bike, especially a recumbent,

in Arizona, you would soon find that a clear fairing, at least on a Turner is not a particularly good idea in the summer. Can you say roast leg of recumbent? So Milt began a fairing project. His first efforts were heavy and sort of dangerous. The latter was due to the properties of carbon fiber when it breaks. He worked until he came up with a very light carbon fiber front fairing which has an extension that is adjustable, and collapses in case of an accident taking the sharp carbon fiber away from the rider. It looks good, is very light and very effective. While he was working on the fairings, Milt says he did a lot of research. He found out that the front fairing alone, on a short wheel based bike does not add much in the way of aerodynamic advantage. It is when the front is coupled with a rear fairing that the real advantage becomes very apparent. To some of you who have followed a thread on the HPV list (subscribe at <http://www.ihpva.org>), this is not news. An unexpected side benefit of the fairing shows up in the wind. When the wind is blowing most riders all over the place, Milt's fairings seem to stabilize his bike. I can't really explain it, but it works.

While I was at Milt's shop, I saw a prototype of a carbon fiber/aluminum SWB that is fully suspended, and was fitted up with knobby tires. He says it is a blast climbing and coming down the hills fast. The bike does not feel as if it were suspended until one actually hits a bump. Then it soaks up the jolts well. I promised not to divulge too much about the setup, but it is innovative to say the least.

I also saw the newest prototype, which is a LWB, suspended and very low to the ground. I want one of these, as I have a soft spot in the head, I mean heart for Long Bikes. I did not get a chance to ride one, as the one he had in his shop was partially assembled, but the suspension as on his other suspended prototype is innovative and does not allow pogo while pedaling. Milt says he wants to see if there is any market for a LWB.

I have one of Milt's new rear fairings, unfinished, and will report how it does on my bike. I am not going to use a front fairing for at least the near future. □



## 21st Century Bikes

*"New England's Premier Recumbents-Only Dealer"*

**We offer most U.S. brands as well as a growing list of imported models, Trikes, Trailers and Tandems too!**

690 Main Street (Rt 123), Norwell, Massachusetts 02061

phone 781-659-2991 fax 781-659-2998

[www.21stcenturybikes.com](http://www.21stcenturybikes.com)

# A Revelation. Have One at Your RANS Dealer.

Our Classic Series. Highly evolved designs with worldwide followings. Quick, agile and smooth. Honed for speed. Artfully rendered in aircraft-grade chromoly for lifelong performance. And equipped with premium components. See your RANS dealer. And discover how good cycling can be.

QUALITY RIDE TIME **RANS**

### RANS INC.

4600 Highway 183 Alternate  
Hays, KS 67601 U.S.A.  
(785) 625-6346 ■ FAX: (785) 625-2795  
[www.rans.com](http://www.rans.com) ■ [rans@media-net.net](mailto:rans@media-net.net)

**.25 C**  
CLICK ME







**FREE VIDEO!**  
For a free video and product specifications on the Excelerator XLT or the Excelerator XLT 2000, call: 1-800-532-8677.

## Arms of steel!

Invacare® Top End® Excelerator XLT™. The performance handcycle for the ultimate upper-body workout for everyone. A must-have for the physically-challenged. Get crankin' today!



Yes, you can.

For more information or the name of the participating provider nearest you, call 727.522.8677 or fax 727.522.1007. © 2000 Invacare Corporation. Invacare, Excelerator and Top End and Yes, you can, are trademarks of Invacare Corporation. Visit our website at: [www.invacare.com](http://www.invacare.com).

**HPV  
SUPPLY**

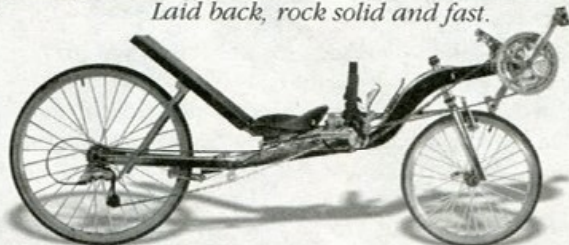
**for the  
owner-built &  
production recumbent!**

**PRAIRIE DESIGNS/HPV SUPPLY  
21806 S BROADACRES ROAD  
PRETTY PRAIRIE, KS 67570  
TEL. 316-459-6237  
[www.hpvsupply.com](http://www.hpvsupply.com)**



## Reynolds Weld Lab Frames

*Laid back, rock solid and fast.*



- Rigid, rectangular alloy steel tube frame set
- Stable at low and high speeds
- Dual 20" or 26" rear, 20" front wheel
- Frame sets start as low as \$1,250
- Full line of accessories available

**Call Now (603) 432-7327**

**BURLEY®**

# The Limbo



**...has arrived!**

- Full-sized 26-inch rear wheel
- Fully adjustable folding steering mast
- Easily convertible to short wheelbase recumbent
- Superior linkage steering and RockShox™ coil-over rear suspension
- Seat custom-designed by motorcycle guru Mike Corbin
- Low 21-inch step-over height

### TEST RIDE THE LIMBO AT THESE BICYCLE SHOWS!

- February 18-20 – Seattle International Bicycle Expo  
Seattle Center Exhibition Hall, WA
- March 5-7 – Midwest Consumer Bicycle Show  
Rosemont Convention Center, Rosemont, IL
- March 18-19 – Portland Bike Show  
Rose Quarter Exhibition Hall, Portland, OR
- April 28-30 – So. California Bicycle Expo 2000

Burley Design Cooperative • 4020 Stewart Rd. • Eugene, OR 97402 USA • (800) 311-5294 • (541) 687-1644 • [www.burley.com](http://www.burley.com)



# Touring on Speed Ross

## The Transformation of an upright bike tourist

By Wayne Estes

Wayne\_Estes-W10191@email.mot.com

Having done 17,000 miles of self-contained upright bike touring I thought I had the perfect equipment setup. But one morning on a tour in 1997 I rolled out of my sleeping bag with a sore neck. Riding my upright bike aggravated the sore neck such that it wouldn't go away. I had been considering buying a recumbent for a while, so I took the plunge and bought my first recumbent, a 1997 BikeE. My neck got better after a few days, and the BikeE turned out to be a good beginner's recumbent. It was good for commuting but I decided it wasn't satisfactory for self-contained touring because of the uncomfortable seat, small front wheel, poor weight distribution, slow speed, and insufficient gear range. I studied the 1997 RCN buyers' guide and selected what I thought would be a versatile machine for fast recreational rides AND fully loaded touring—a SWB ASS Speed Ross from Peter Ross in England.

Two things attracted me to the Speed Ross. First was the high bottom bracket and reclined seat that put the body in a very aerodynamic position. I was certain I would like this for fast recreational rides at home and gambled that I would like it on long tours. Second was the "wraparound" ASS handlebar that puts the hands beside the knees. This is more comfortable than the "above the knees" hand position common on American ASS bikes. I didn't receive the Speed Ross until February 1998, two months before my next bike tour. That didn't give me much time to get the bike dialed in and my body adapted to the bike. When I started riding the bike I found that unlike the BikeE I could ride it for a long time without getting "recumbent butt." And this bike is fast! Even before getting my muscles adapted to the more horizontal position I was 1-2 mph faster. Starting and stopping was a new challenge with a 45 degree reclined seat and bottom bracket 5 inches higher than the seat. It took a while to become reasonably adept at starting in such a horizontal position. After a month I concluded that I could handle the Speed Ross on a 500-mile self-contained tour in Southern California.

Equipping the Speed Ross for self-contained touring was easy. I used the standard rear rack that Peter Ross supplied with the bike. Unlike most recumbents the Speed Ross doesn't have adjustable seat stays that interfere with pannier mounting. My panniers were very worn after 17,000 miles of tours, so I bought a new set of very large rear panniers—Madden Buzzards. When fully loaded, the top of these panniers extends about 8 inches above the top of the rack. The result is that about 2/3 of the frontal area of the panniers is in the slipstream behind my torso. Attaching panniers to the bike for the first time it was obvious that I should reverse the right and left panniers to put the "rear" zippered pockets towards the front where I could reach them while riding. I put my tent and sleeping bag lengthwise on top of the rack. My total storage capacity was a bit less than the four maller panniers of my upright touring setup, so I carried fewer changes of clothes than I did on my upright tours. I had hoped to use a handlebar bag but I found that to be impossible on the Speed Ross. With the horizontal body position, a handlebar bag had to be mounted so high to clear my knees that it blocked my view of the road.

I decided to carry water on the front of the bike because there was already too much weight on the rear wheel. Fortunately I found good places for four bottle cages on the front of the bike. I added two back-to-back bottle cages to the steering riser tube. Between the legs is a great place to carry water if your knees don't angle inward while you pedal. It works for me but it wouldn't work for everybody. These are the bottle cages that I use while riding because they are so easy to reach. The third bottle cage attaches to the factory-supplied mounts between the headset and the bottom bracket. It's nearly impossible to reach that bottle while riding, but it is a great place to carry a spare bottle. I mounted a fourth bottle cage on the front of the front derailleur mounting tube. This looks funny but turns out to be relatively easy to reach while riding. My total

water carrying capacity is 108 ounces with three 28-ounce bottles and one 24-ounce bottle.

The stock Shimano gearing on my Speed Ross wasn't wide enough for me so I changed the chainrings from 22-32-42 to 20-32-46. With an 11-30T 8-speed cassette I had a gear range of 17-107 inches. The low gear allows me to spin 85 rpm at 3.5 mph which is as slow as I can go and still stay on the road. This is definitely a knee-saving low gear, but over time I decided the low gear was unnecessarily low. I also didn't like the 11-13T jump on the cassette and wanted higher non-granny gears. So I switched to an 11-28T cassette and 20-36-48T chainrings which give me a gear range of 18-111 inches. This is a very wide range, but my Nexave derailleur allows me to use every gear combination.

I chose Avocet "Fasgrip" high-pressure slick tires that are fatter than the tires I had used on upright tours. The "20x1.75" 47-406 front tire measures 39mm wide on a Velocity rim (much narrower than advertised). The "26x1.5" 38-559 rear tire measures 37mm wide on a Velocity rim. These tires turned out to be adequate for loaded touring on pavement. They are durable and immune to pinch flats as long as the heavily loaded rear tire is pumped up hard. Near the end of my first tour I got a rear pinch flat when I crossed a wide concrete crack at about 25 mph with the rear tire at only about 70 psi. On my second tour I kept the rear tire at 85-90 psi and got no pinch flats.

My first tour was a loop in Southern California with four upright cyclists. It included challenging rural mountain roads and congested urban roads. As expected with a new bike, I had a few mechanical problems during the trip. Several times during the first few days the lower seat clamps came loose. I hadn't tightened them enough at the airport and it was very difficult to get the Phillips screws tight enough. So I stopped at a hardware store and bought 4mm hex head clamp screws that were easier to tighten. I never had a seat clamp come loose again. On the second day of the tour we had to take an unplanned detour because of snow on the Angeles Crest Highway. The detour took us on an unpaved road that was mostly loose sand. I crashed 5 times. My seat clamps came loose several times and my handlebar got bent. I was beginning to wonder if my Speed Ross would survive the tour, and was wondering if a recumbent is really suitable for loaded touring. At one point it took me 2 hours to go 7-miles-all downhill! Fortunately I never encountered deep sand again on that tour or on subsequent tours. My headset became loose even though the lockrings were tight. Apparently one of the headset cups hadn't been pressed completely into the frame when the bike was manufactured. I tightened the headset at a bike shop in Idylwild and never had any headset problem on subsequent tours.

Despite the mechanical problems, my first recumbent tour was a success. In 10 days I rode 577 miles through the mountains of Southern California with 36,000 feet of climbing. I climbed faster than 3 of the 4 upright riders and left them far behind on the descents.

My first recumbent tour had some extremely challenging grades between Crestline and Lake Arrowhead. One grade was so steep that I had to stop to catch my breath, despite the 17-inch low gear. Then I couldn't get started on such a steep grade (12% maybe?). The high bottom bracket combined with the wraparound handlebar make the Speed Ross a difficult recumbent to get started on. I had to walk the bike to a place where the grade eased enough for me to get started. On my third recumbent tour I couldn't get started on a steep gravel road. It was almost impossible to start on a paved grade steeper than 8% or a gravel grade steeper than 6%. I wouldn't consider this to be a major problem because it only happened to me twice in 1500 miles of extremely mountainous tours. Even on my upright bike I remember gravel sections that were so steep and slippery that I couldn't get started after stopping.





*On the rim of Crater Lake at 7500 feet elevation on the third tour with the Speed Ross, September 21, 1999. Note the suspension fork and more upright seat. If you compare this to the California coast photo you can tell that the cargo is positioned more forward. The fatter tires are hard to notice, and it's hard to tell that the boom sticks out an extra 1.5 inches.*

The best part of my first recumbent tour was the comfort. No sore butt or hands. My neck didn't get sore, but I thought that a slightly more upright seat would be more comfortable for my neck. I didn't get sore feet (the high BB doesn't bother me), but I did get a slightly sore Achilles tendon near the end of the trip. That went away about two days after the tour. I also got a slightly sore Achilles tendon in the middle of my third tour after riding really aggressively one day. I backed off on the intensity and the soreness went away before the end of the tour.

The most annoying part of my first recumbent tour was the way all my gear was packed. I was accustomed to keeping valuables and snack food in a handlebar bag that was easily accessible while riding and easily detachable to carry when away from the bike. I really missed the handlebar bag. To compound things, the new duffel-style panniers were more difficult to get into than my old zippered panniers. I partially solved this problem on my third tour by strapping a large fanny pack on top of my sleeping bag. I couldn't get into it while riding but it was very easy to get into when stopped, and it was easy to take with me while off the bike.

A lesser problem on my first tour was the handling of the bike. More than half of my cargo weight was behind the rear axle which is not conducive to good handling. The gear had a tendency to swing the opposite direction of where I wanted to go. It wasn't terrifying, even at 50 mph, but the high speed handling was not as stable as my upright bike. Walking the bike was difficult when the water bottles were empty because the bike was on the verge of popping a wheelie.

Four months after my first recumbent tour I went on a 6-day solo tour in southwestern Colorado. The only major change I made to the bike was to add an Answer Pro suspension fork. I noticed a slight improvement in comfort and handling, and I liked the steering better with less trail. I had

no flat tires, mechanical trouble, crashes, or soreness. In 6 days I rode 280 miles with a total of 17,400 feet of climbing, including my highest ever altitude of 11,008 feet at Red Mountain Pass between Ouray and Silverton. The bike performed very well, but the route was all paved and there were no grades steeper than 7%.

The route for my third recumbent tour included a mountainous 25-mile gravel section. I needed fatter tires to avoid repeating the miserable off-pavement experience of my first tour. On my front wheel I used an ACS True-100 54-406 tire which measures 49mm wide on my Velocity rim. On my rear wheel I used a Continental Top Touring 2000 47-559 tire which measures 45 mm wide on my Velocity rim. These tires have a tread which should improve traction on gravel. Most importantly, the higher profile allows me to safely run low tire pressure on gravel to maximize traction and floatation. Another change I made was to add a seat spacer (supplied by Peter Ross) that makes the seat somewhat more upright. I had to extend the boom 1.5 inches after tilting the seat up, so my body weight was obviously shifted forward. After tilting the seat more upright I realized that I could tilt the front of the rack forward about 3 inches using a modified mounting method. This shifts the center of gravity of my cargo forward so that more than half the cargo weight is in front of the rear axle. On a fully loaded test ride at home I found that this setup significantly improves the handling of the bike by shifting the center of gravity forward, away from the heavily loaded rear wheel. In addition, the more upright seat position is more comfortable for my neck. I finally felt like I was close to an "optimum" recumbent touring setup.

The third tour went very well. My upright partner and I rode 607 miles in 11 days through the Oregon Cascades with 34,000 feet of climbing. I had no crashes, flat tires, or mechanical problems, and the bike felt very





*Climbing from Banning to Idylwild on my first recumbent tour, April 29, 1998. The snow-capped mountains are the San Bernardino Mountains which I had come out of the day before. It was a 6400 foot descent from 8600 foot Onyx summit to the town of Banning which is visible in the valley. This picture was taken about 1/3 up the 4000 foot climb to Idylwild. This picture doesn't show me or the bike very well, but it really captures the spirit of mountain climbing on a recumbent.*



*On the Pacific Coast in northern San Diego County near the end of my first recumbent tour, May 3, 1998. Note that the cargo is mostly behind the rear axle. On this tour I had a VHF ham radio mounted to the front of the stem, a speaker/microphone clipped to a brake cable, and a 39-inch whip antenna on the back of the bike. The radio is not mentioned in the article.*

stable at 51 mph while descending from Bachelor Crest to Bend with a crosswind. The 25-mile gravel section was surprisingly easy after I lowered the tire pressure to about 30 psi. I learned that gravel is not a problem on a recumbent with fat low-pressure tires and a relaxed riding style that steers gently and doesn't fight the occasional small slide. The more upright seat position was more comfort-

able to my neck, especially when climbing steep grades. It was convenient to take the fanny pack with me in stores, restaurants, and while hiking. The fanny pack, seat spacer, and fatter tires added about three pounds but that was more than offset by improved versatility and performance. The unloaded bike weighed 34 pounds and I typically had about 45 pounds of cargo, not including water. I had a great time

riding my 80+ pound bike up and down the mountains. I got a slightly sore Achilles heel after one day of very aggressive riding, but the soreness went away after I backed off the intensity for the remainder of the trip. I was finally satisfied with the loaded touring setup on my Speed Ross.

In the summer of 2000 I plan to ride through the Sierra Nevadas from Lake Tahoe to Fresno. I definitely plan to use the seat spacer and tilt the rack forward. I still plan to carry my fanny pack on top of the sleeping bag, but I want to devise a better method to attach the fanny pack to the bike. I doubt I would use the super-fat treaded tires again unless the route has a lot of gravel. I will probably go back to slick tires, but use a fatter 26x1.9 Avocet rear tire. The slick tires give me low rolling resistance on pavement, but the fatter rear tire will allow me to safely lower the pressure to improve traction on gravel.

My three recumbent tours taught me valuable lessons about loaded touring that should apply to all recumbents. First, don't tour on a new bike if you can help it. Second, tighten everything carefully after reassembling the bike. Third, don't recline the seat too much if all the cargo is on the rear wheel. Fourth, minimize cargo weight behind the rear axle by mounting the cargo as far forward as possible. I found that my mountain climbing ability on a high-BB SWB is almost the same as on an upright bike. The Speed Ross works well for me on mountainous tours, and it would be even better on flatter tours where I could really take advantage of the superior aerodynamics.

**Wraparound handlebar:** My handlebar is shaped like a wide inverted "U." My hands are positioned to the side of my lower thighs. At the top of the pedal stroke my knee is several inches above my hands. The hand position is 6 or 8 inches below the hand position of most ASS bikes. This configuration is very well-suited for bar-end shifters. I feel like the blood circulation is better to my hands, and my hands don't obstruct my view of the road.

The main disadvantage of the wraparound handlebar is that I can't turn very sharply without the bar pressing into my leg. So I have to keep the "inside" leg straight when making a sharp turn. This is similar to the technique for avoiding heel interference. In a sharp turn on the Speed Ross, the bars hit my thighs before the wheel hits my heel. Most of the time it's not a problem to coast through a sharp turn. But if I'm going uphill it can be really difficult to make a U-turn.

Another disadvantage of the wraparound handlebars is that they are not well-suited to a full fairing because they are so wide. My wraparound bars aren't quite as wide as most USS handlebars, though.

Yesterday I saw Ed Gin's Rotator Tiger for the first time. The Tiger handlebar setup is very similar to the Speed Ross. The Tiger is the only American-made recumbent that I know of with this type of handlebar. The higher the bottom bracket, the more attractive the wraparound bar becomes. Otherwise you can end up like the M5



low-racer where the rider peers UNDER the handlebar to see the road.

**Trailers:** I have never toured with a trailer. I have read with great fascination all the articles and praise that many people give to trailers. I'm still skeptical, but I would like to experiment with a trailer. A Bob Yak trailer weighs 11 pounds, more than double the weight of my panniers. The third wheel adds rolling resistance, and forces you to carry still another spare tube. I also like having lots of small compartments to easily find certain things. A trailer has just one giant compartment.

I think it would be more difficult to travel by airplane with a trailer. When traveling by air, I put my Speed Ross (without seat), tent, and sleeping bag in an airline "bike box." Then I put my panniers and seat in a "Carry-All" box. A BoB trailer wouldn't fit in the box I get at the airport. Most of my tours are "point A to point B," so reusable packaging is not an option.

I also read about how trailers can degrade high-speed handling. I can descend 50 mph with panniers and still feel like I'm in control. I think a trailer flopping around would be really scary at that speed. Adventure Cycling did a big feature on trailers a few months ago, and their conclusion was that trailers are best for off-pavement touring where you don't have high-speed descents. For now I will continue using panniers which give me a lighter weight, more compact, and simpler setup that is easier to transport on airlines.

**My Next Touring Recumbent:** I haven't ridden enough recumbents to have an idea about this. The only recumbent I have ever ridden while fully loaded is my Speed Ross. I think most people would prefer to tour on a recumbent that has a lower bottom bracket than the Speed Ross. One of the things that attracted me to the Speed Ross was the standard rack mounting setup. A lot of recumbents don't look like they can easily accommodate a "heavy touring" rack. A rack zip-tied to the seat stay is not suitable for carrying a heavy load. suitable for carrying a heavy load. not suitable for carrying a heavy load. □

**BICYCLE**  
**ONE**

◆ 40% OFF ◆  
Any 1 Accessory  
with bike purchase  
(with this ad)

**Minimum of 20 recumbents  
in stock every day**

**All ready to test ride**

**BikeE · Easy Racers · Lightning · Longbike · Rans · Trek**

**We ship anywhere in the U.S.!**

82 Mill Street (Rt. 62) ◆ Columbus, Ohio 43230  
Toll Free (877) 282-7663 ◆ [www.bicycleone.com](http://www.bicycleone.com)

## ZACH KAPLAN CYCLES

**Maximum 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: 510-522-BENT (2368)**  
1518 Buena Vista Ave., Alameda, CA 94501 USA  
Serving the SF Bay Area and mail order  
**E-mail: [zakaplan@earthlink.net](mailto:zakaplan@earthlink.net)**  
**Web: [www.bikeroute.com/zach](http://www.bikeroute.com/zach)**



# Atlantic Bicycle



Why buy your recumbent from Atlantic Bicycle?

We know recumbents! Each bike is carefully assembled by a very specific set of standards. Our technicians give top quality service and advise. We constantly strive to offer a wide range of tires, tubes, parts and accessories for recumbents. Our selection is one of the broadest, and Atlantic Bicycle has been in business over 20 years.

Atlantic Bicycle is one of the east's largest recumbent dealers offering recumbents by BikeE, Haluzak, Lightning, LongBikes, Easy Racers, Radius, Rans, Vision, and many others.

6350 West Atlantic Blvd, Margate FL. 33063 (Near Ft. Lauderdale)

[www.atlanticbicycle.com](http://www.atlanticbicycle.com)

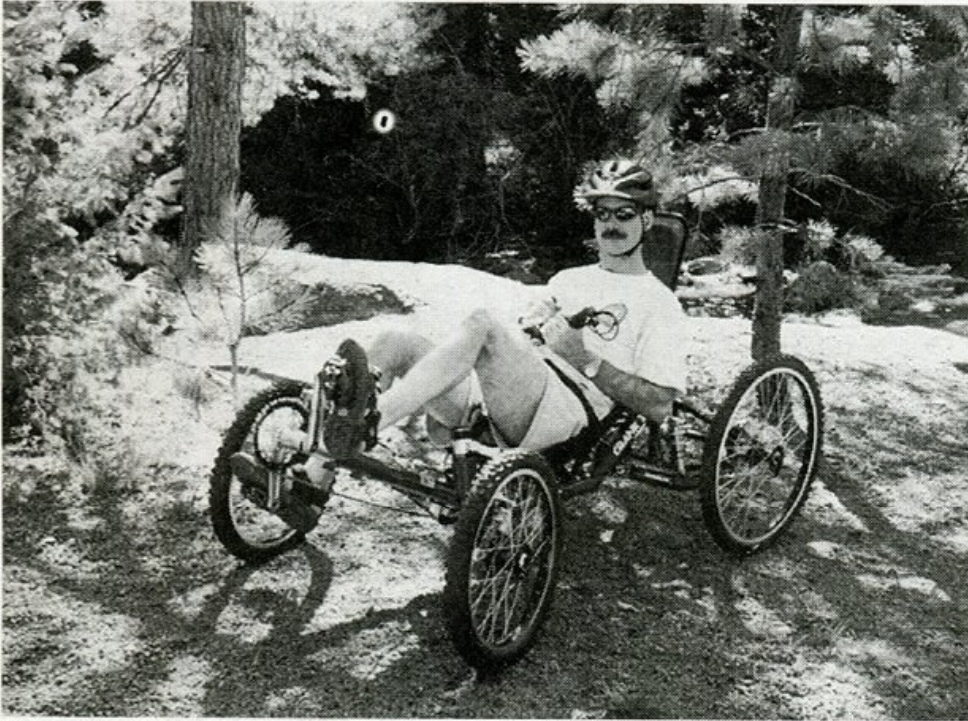
Ph: 888 / 41 - BENTS (412-3687) OR 954 / 971 - 9590





# DESIGN: The Mountain Quad™

by Jon Nichols, Ed Nalodka and Robert Kay  
www.crank-it.com



have since switched to the Action-Tec Pro Shock. The pro Shock works very well in our application and we have much more opportunities to custom tune it for travel, spring rate and damping. Plus, it is lighter! You can view their system at <http://www.action-tec.com/>.

With the front suspension system defined, the next step was to work out the geometry of the front wheels. Steering, braking, and bump control were all-important considerations. Full Ackermann steering geometry eliminates tire scrubbing while turning, which is very important in a human powered vehicle. The next essential feature was torque-aligning steering for the situation where a single front wheel is braking on gravel while the other front wheel is braking on pavement. This generally can cause the vehicle to 'pull' towards the side that has greater traction. We designed the geometry to maintain straight-ahead control without the need for corrective steering on the part of the rider. Bump control is also important so that the steering system doesn't send a sudden jolt to the riders' hands. This can cause loss of control if the rider isn't firmly gripping the steering control. The Mountain Quad geometry maintains just the right level of steering feedback to the rider for proper 'feel' of the terrain.

The rear suspension took on a completely new challenge. The goal was to get maximum traction and stability without giving up maneuverability. A solid rear axle was chosen for simplicity, which required a differential for connecting the rear wheels to the chain drive. Since this cycle is more like a car than a bicycle, the design for the kinematics of the rear suspension relies on experiences gained in racing technology. Jon Nichols has designed numerous suspension systems for various race cars and trucks in the automotive industry. With this understanding of vehicle behavior, he set out to define a rear suspension that exhibited all of the necessary characteristics for the Mountain Quad. Thus the rear suspension has been named Nichols Link.

Some of the important aspects of the rear suspension are not readily apparent to the rider (the mark of good suspension design). For instance, while braking hard the rear suspension will actually maintain its positions the rider won't pitch forward in the seat (anti-lift). At the same time it remains supple for absorbing bumps. Another aspect of the rear suspension is how it steers the vehicle in a corner. Most people think the front wheels are the only part of the vehicle that steer. In reality all 4 wheels are responsible for safely negotiating a corner. The higher the speed, the more critical the rear suspension geometry becomes. On the Mountain Quad, the rear suspension is designed to give understeer while cornering. This creates a stable and comfortable feeling for the rider, especially at high speed. The rear suspension is also designed to counteract the force of acceleration while pedaling (anti-squat). This keeps the Mountain Quad level without the pogo stick feeling each time the pedals are pushed hard.

## ■ Features of the Mountain Quad

For easy transporting and storage, all 4 wheels and the seat are quickly removable without the need of any tools. One of the early goals for designing the Mountain Quad was to fit into the trunk of a mid-sized car. Success was achieved as it easily slipped into a Ford Contour with fold down rear seats.

The seat on the latest prototype is fixed to the frame. The padding in the seat is removable for washing, and with an available lumbar insert can be customized for additional riding comfort. A seat belt, incorporated into the seat mount, ensures the rider maintains position in the seat over rough

## ■ Mountain Bike Meets Recumbent

At last, a comfortable mountain bike or is it a recumbent with a go anywhere do anything attitude? Either way, the Mountain Quad by Crank-It! is the first Sport Utility Cycle.™ For the first time the challenge of mountain biking and enjoyment of recumbent cycling are available in one machine. The creative minds at Crank-It have applied automotive design principles to produce a state-of-the-art Sport Utility Cycle that meets the expectations of the most demanding riders — "It's a Blast!!!"

## ■ History

The idea for a 4-wheel recumbent came from Robert Kay about 10 years ago (we know, you thought of it too) when he wanted something more comfortable to ride over rough terrain. The original idea was to make a fully suspended human powered machine that was lightweight, easy to transport, and able to go off-road. Around 3 years ago Robert got together with Jon Nichols and discussed the possibilities around creating such a bike.

In the early stages of designing the Mountain Quad it almost became a trike. It was originally thought that a 4-wheel full suspension recumbent would be too complex. After months of design work on the 3-wheel version, it was decided that the stability would not be suitable for an aggressive off-road cycle while single wheel traction uphill would be marginal. There was also concern that the riders feet would be too far out in front and might end up hitting the ground should they encounter a ditch or steep up hill. The decision to abandon the trike came late in the fall of 1998.

## ■ Design of the Mountain Quad

The redirection to a 4-wheel recumbent led to new problems with the front suspension. Since the rider could now be moved rearward for better weight distribution, the original front suspension design was in the way of the riders' legs and feet while pedaling. The only way around this was to move the suspension out to the wheels. The first prototypes had the Cannondale HeadShok suspension fork from their mountain bikes. We



terrain without any distractions.

Mountain bike clipless pedals are used. The cranks are mounted on a telescoping boom with 6" of micro adjustment. With this feature and the adjustable seat, the Mountain Quad can accommodate riders from 5' to 6' 6" tall.

Earlier Mountain Quad prototypes used a (Wincheetah-like) joystick for steering. The latest version has a new, more conventional handlebar arrangement. This system gives the rider much more control and it is more intuitive to use. The real challenge was to retain the ability to transport the machine. We accomplish this by a quick-release folding mechanism. Our website has all of the updates and details (<http://www.crank-it.com>).

The braking system is 4-wheel hydraulic disc with twin piston calipers. Two separate brake levers allow the rider to optimize braking based on the riding conditions.

The mid-mounted transmission is a 14-speed Rohloff Speed Hub. This means the rider only has to deal with a single twist shifter. The operating range of the Rohloff is enough to achieve a 17 gear-inch low up to a 91 gear-inch high. With the optional Schlumpf Mountain Drive II crank the range is increased to 17-141. The final drive system on the Mountain Quad allows the rider to bias the range for either lower off-road gearing or higher street gearing.

The suspension travel is 3" at all 4 wheels. The front is fully independent, and the rear is a solid axle type with freedom to articulate over single wheel bumps. The springs are air adjustable to allow for different sized riders and riding conditions. Shocks are oil damped with adjustable rebound. Optional coil spring shocks are also available.

The Mountain Quad should be available by September 1, 2000. The MSRP will be \$7450. In addition to the Mountain Quad, we are working on other superior engineered human powered vehicles to be released in the future. So stay tuned! ☐

#### ■ Genius behind the Mountain Quad

**Jon Nichols**—Has ridden and raced off-road motorcycles, three wheelers and four wheelers of every kind. Built and raced off-road buggies (won 5 out of 8 races entered). A regular mountain biker who currently rides with his own design custom front suspension fork. Designs and builds mountain bike frames and suspensions. In his day job, Jon has designed NASCAR suspension systems as well as many production car and truck suspension systems. Owns a small machine shop where the Mountain Quad prototype fabrication and all of the welding was done. BS in Mechanical Engineering, MS in Mechanical Engineering underway.

**Robert Kay**—Has ridden and raced BMX, mountain bikes and every kind of two, three and four wheeler. Currently competes in SCCA TSD Road Rallies. Built and raced Pro Rally cars. Designed full suspension mountain bike frames. Survivor of extreme sports: rock climbing, peak bagging, white water kayaking, and jet skiing. In his day job, Robert has worked on vehicle ride, handling, and brake development. BS in Mechanical Engineering, BA in Physics.

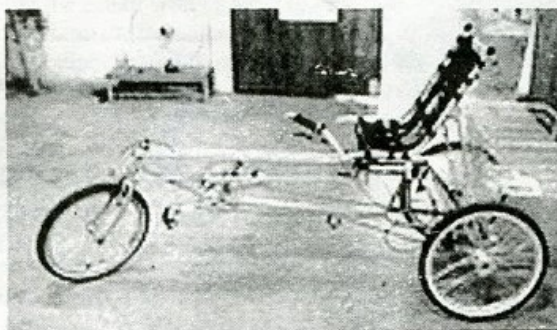
#### ■ Mountain Quad Specs

Length: 73"; Width: 37"; Height: 40"; Wheelbase: 43"  
Track (Front/Rear): 32.5"; Seat Height: 13"  
Bottom Bracket Height: 20" ; Ground Clearance: 65"  
Turning Radius: 72"; Weight: 50 lbs (prototype)  
Weight Distribution (Front/Rear %): 49/ 51  
Rider Height Adjustment: 6"-8" sliding boom  
Frame: TIG Welded 6061-T6 Heat Treated Aluminum  
Seat: Carbon Fiber/Kevlar (bucket style)  
Suspension: Independent Travel Action-Tec Pro Shock  
Brakes: Four Wheel Fully Hydraulic Hope Disc Brakes  
Transmission: Rohloff Speedhub 500/14 speed with Positive Traction Rear Differential Front Wheels: Hope Big 'Un Hubs / 13/16" Axle with Quick Release / 20" Sun Rhino Lite Rims ; Rear Wheels: Hope Big 'Un Hubs / 7/8" Axle with Quick Release / 24" Sun Rhino Lite Rims  
Front Tires: 20" x 2.1" Ritchey SpeedMax Alpha BMX  
Rear Tires: 24" x 1.95" Ritchey SpeedMax BMX

**Note:** Specifications subject to change without notice. Product names are trademarks of various manufacturers. Article photos are of first prototype; cover of latest version.



## THE TRITAN



A very dignified trike

Practical and affordable machines, fabricated with the help of youth apprentices.

## THE ROADSTER



Twin 26-inch wheels

Human Powered Machines is an educational program of the Center for Appropriate Transport.  
455 West First St. Eugene, OR 97401 (800) 343-5568 [cat@efn.org](mailto:cat@efn.org) [www.efn.org/~cat/html](http://www.efn.org/~cat/html)



"Fast, Friendly, Family Service"

## Florida's West Coast Recumbent Headquarters

Sales · Service · Rentals  
Test Rides Available

BikeE · Rans · Haluzak  
Vision™ · LINEAR  
Now selling Easy Racer

Top End Handcycles  
Earth Cycle™  
Used 'Bents

11244 Park Blvd. • Seminole, FL 33772

**727-319-2453 (BIKE)**  
Clearwater/St. Petersburg

Conveniently located one block  
from Pinellas Trail

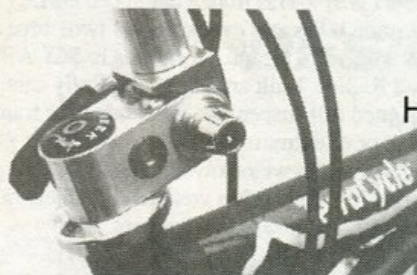
All major credit cards accepted  
Financing available

**Contact us about our upcoming recumbent rally!**



# TerraCycle

High Tech Hand Crafted Recumbents



Looking for a fine quality recumbent that's got it all?  
Check out the acclaimed new **Terra-Za!**  
**Handling • Comfort • Craftsmanship • Style**



1-800-371-5871  
(503) 231-9798

www.terracycle.com  
Portland • Oregon

## Coventry Cycle Works

Oregon's Recumbent Headquarters

- Easy Racers
- Vision
- BikeE
- Haluzak
- Lightning
- RANS

2025 SE Hawthorne  
Portland, Oregon  
97214

Tel. 503/230-7723  
www.coventrycycle.com



## JOIN THE RIDE

# WWW.BIKEROUTE.COM

ALSO HOME OF THE WORLD'S  
LARGEST RECUMBENT SITE

## BIKE FRIDAY® Goes Bent!

The Sat R Day™



- Starts at \$1795
- Fits in a Suitcase
- Rear Suspension
- 1999 Bicycling Magazine Editor's Choice Award

Call for free brochure & info  
800-777-0258  
www.bikefriday.com  
Dealer Inquiries Welcome!

## JAY'S

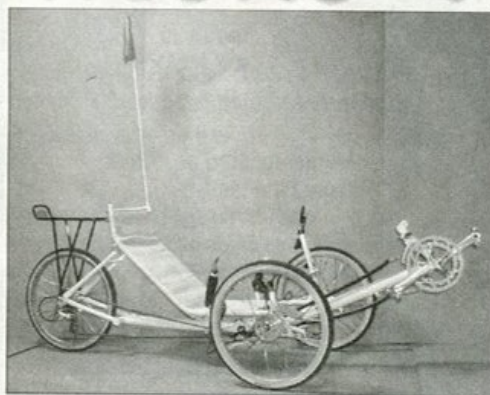
PEDAL POWER BIKES

512 E. GIRARD AVE, PHILA., PA  
Tel. 215-425-5111 • Fax. 215-426-2653

We offer products from **Vision, Linear, BikeE, Rans, Haluzak, Easy Racers, Santana** and many more.  
We ship worldwide. Many models in stock now.

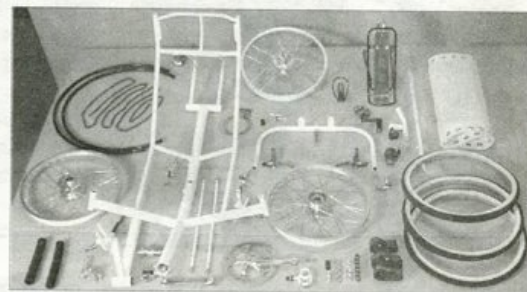
**FREE** catalog by request.  
www.jayspedalpower.com

# WICKS AIRCRAFT SUPPLY



Supplier of aircraft kits for 30 years is NOW offering  
**TRIMUTER TRIKE KITS**  
Raw materials \$950  
Ready to assemble \$2200  
Custom fabrication parts available.

Wicks Aircraft Supply  
Highland, Illinois  
Fax: 888-440-5727  
e-mail: aircraft@wicks.com



**800-221-9425**  
www.wicksaircraft.com



# NIGHT TRAIN

Article & photo by Lynn Miller

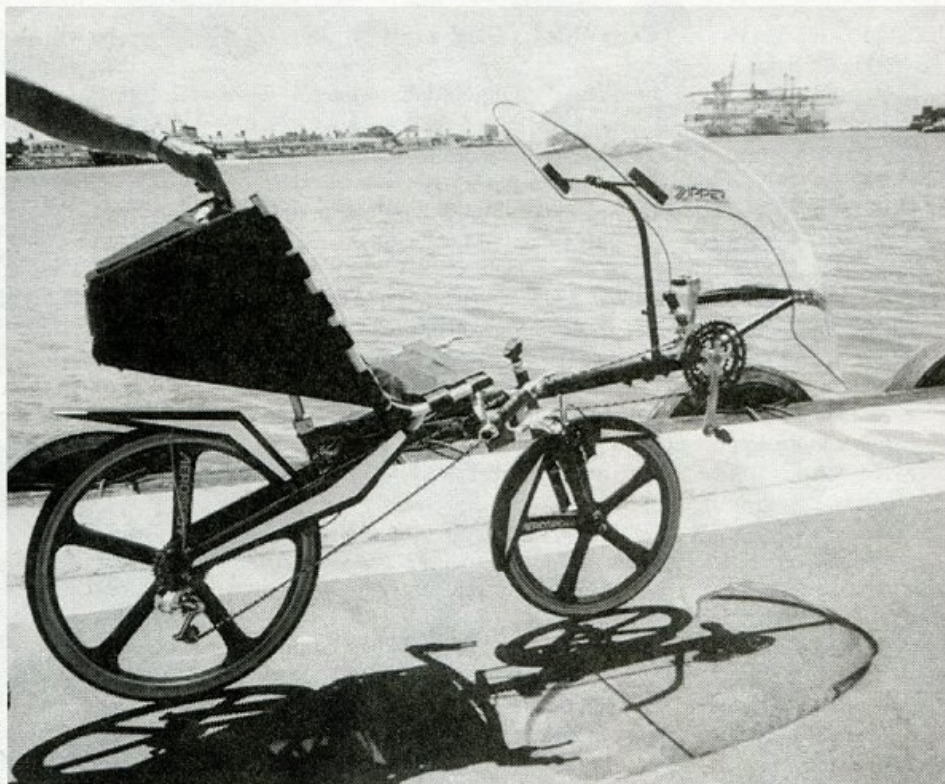
It started out life as an ugly duckling. Like all ugly ducklings it was ignored or made fun of. The first time I saw it I thought, "What an ugly bike!" Why in the world did I buy this thing? What am I going to do with it now? Allow me to start at the beginning.

On two previous occasions my teenage son and I had made bike trips across Alaska and the Canadian Yukon Territory. They were chronicled in "Alaska or Bust" in RCN #31. After the second trip my fifteen year old said "No more." During the following winter I broached the idea a few more times and even tried to bribe him with visions of a new bike. On the previous trip he had experienced a lot of problems with my first recumbent while I had no problems with my Haluzak Horizon. I told him I would build him a Haluzak Traverse similar to my standard Horizon: fairing, Aerospoke wheels, and all.

I was surprised that he agreed to go gain. So I proceeded with construction. At the time BBH didn't have any suspension forks available so I built it without one. The moment I got the frame set out of the box I could see that this was one ugly bike. The big heavy looking angular swing arm was a dull black anodized aluminum—I forged ahead anyway. I wracked my brain for some way to disguise that big honking swing arm. I ended up painting it a shiny black to match the bike and painting the center with chrome from a spray can. If you have ever tried this stuff you know it is a joke. Chrome, Right, more like silver gray. I figured the paint scheme would break up the lines and make it look like two tubes from a distance. Then I thought, instead of trying to hide it, why not emphasize it? So I had my friend Dan Sinclair mold an angular fender to match, out of fiberglass. It came out pretty good but on the trip, the aluminum brace I made for it vibrated in two. In addition I had to drill two holes in the fiberglass for the fender struts and that ruined the looks. So with no way to effect a repair on the road, we ended up tossing the fender out the ferry terminal in Seward, Alaska. The rest of the trip was interesting to say the least, but that is a story for another time. When we got back to Hawaii my son said "never again" and he really meant it his time.

The Traverse languished on the back porch for over a year, collecting dust and enduring the shame of being cannibalized for parts. The entire time I was thinking in the back of my mind of some way to resurrect this ugly beast and make it fit to ride. I had invested too much time and cash to just let it lay there looking mournful.

BBH finally got a new source for suspension forks and I ordered one. That helped a lot, but there was still something missing. I loved the way that angular back fender looked, but for the life of me I couldn't think of any way to make a matching front fender that was usable. I had my buddy Dan make another rear fender while I pondered my dilemma. Then I hit upon the idea of adding angular skirts to a regular fender. I cut the skirts out of flat plastic sheeting and attached them to the fender with fiberglass reinforced epoxy. It worked like a charm. I didn't want to drill holes in these beauties so I improvised. I took nylon sleeves that were threaded on the inside and used epoxy re-enforced with fiberglass again, to hold them in place. I then took regular stainless steel fender struts and threaded them on the outer ends so they would screw into the sleeves. Eureka! To add a final touch to the rear fender, I made two, approximately twenty-degree offset bends in the struts so they would reduce down from the swing arm width to the fender width. That way they went straight into the sleeves without causing the fender to bow out. The threads also allowed height and tilt adjustments. Slots were cut in the front fender skirts to allow adjust-



ment of the Magura brakes and then they were painted with a spray can. For want of something better, I was about to use more of that lousy chrome paint when another friend suggested I use some material that radio control airplane modelers use to decorate their planes. It is called monocoat trim. I found some at a local hobby shop that was perfect. It is just like chrome. It applies like a decal with soapy water. I put the fenders on the bike and "The Night Train" was born. All of a sudden the ugly duckling had been transformed into a beautiful black swan.

I added quite a number of small touches to finish her off. One item was Rolla-majigs for the front and rear shifter cables. We all know the purpose for the rear cable, smoother shifting, but the added benefit of the front one is there is no loop of cable hanging down below the boom. I like a smooth appearance. That is one reason I like the Magura brakes. Two ninety-degree brake line fittings were ordered from Magura so that the lines would lay smoothly along the handlebar. You can heat the brake line carefully and bend it to about any shape you want. The cables and brake lines are wrapped along the bar with black handlebar tape. I added a smoke tinted Zipper fairing and a homemade tail box that can be installed if I really feel like making it stand out. The tail box is Coroplast covered with nylon backpack material. It is mounted on a Headlands strut-less rack.

Since construction, the bike has proven to be very rugged as well as beautiful. I can ride off a curb with hardly a jolt. I can't say enough good things about the Aerospoke wheels. We took them over some of the roughest roads on the planet with a full touring load, without any problems, no broken spokes, no wheels knocked out of true, no problems of any kind. After all the work I was actually sorry to hear that BBH has discontinued the Traverse. I hear they are making a completely new design. I guess that makes this one a collector's item. One good thing however is they will soon have something else for me to tinker with. I can't seem to leave anything alone. If you are into customizing your bike I would like to hear from you. □



# 20/20 Vision Without Glasses

## And Other Stuff

by Mark Ariens  
ariens@execpc.com

### TOP TEN REASONS TO CONVERT YOUR VISION R40 TO DUAL 20" WHEELS

- ✓ **Reason #10** You are bored out of your gourd this winter.
- ✓ **Reason #9** You want a project in which you don't have to mess with the frame and paint (cut, weld, etc.).
- ✓ **Reason #8** You want the convenience of same size wheels.
- ✓ **Reason #7** You know how to use hacksaw, hammer, file & drill and possess the special vocabulary (lexicon) for the times when you whack your finger.
- ✓ **Reason #6** You want a lower seat (feet flat, not like tippy-toed bike rider on page 29 of RCN#55/stock Vision R40).
- ✓ **Reason #5** You want a higher bottom bracket (low seat, plus raised bottom bracket = less frontal area with less air resistance).
- ✓ **Reason #4** You want a project that's simple (important) and fun (even more important).
- ✓ **Reason #3** You want to do a little "Saber Rattling" (and the extra bucks in your wallet).
- ✓ **Reason #2** You want to increase your configuration options in this already versatile recumbent (26/20, 26/16, 20/20, 20/16). All in long or short wheelbase or above and under-seat steering.

And....

- ✓ **Reason #1** for doing this conversion.... To avoid the 'honey do' list!

If any of these appeal to you then this little project might just be the ticket. If you're the proud owner of a Rans Stratus, there's something here for you also.

I got me a short wife. How short is she you ask? She's so short you can see her shoes in her driver's license photo. Pam (Car Back) loves bombing around on her 20/16 modified V-Rex (Honey I Shrunk the Bike from RCN#47). I wanted to get her an alloy USS bent also (an excuse for another project).

Harry (if you can't pedal it or eat it, I ain't interested) Wozniak of Wheel & Sprocket had a used 26/16 USS Vision (Aqua colored job) on the floor. We pulled the 26" rear wheel out, stuck in a 20", took it outside and with the rear brake disconnected (danger....danger....) test rode it and looked at it and test rode it and looked at it again...it looked neat and rode neater. I bought it, and hauled it home to figure out a brake system for its hinder.

**NOTE:** Vision's have offset rear dropouts (good idea/stronger wheel), so you or your favorite bike shop should set up the wheel accordingly: no dish; re-dish the dish; un-dish; dishless; or whatever.

Break bridge-brake bridge (yeah, that's the ticket!). I'll use the frame's brake posts and braze-on eyelet at the top rear of the main tube to create a three-point bridge to mount a decent side-pull brake. [1/4" aluminum plate from a good hardware store and 3/4" solid round from a better hardware store is what I used.]

Let's make it! With the 20" rear wheel mounted you can stand the Vision on its tail (back of seat and rear wheel) and layout your bridge (pencil, compass, ruler, scissors and stiff paper).

There's more than one way to skin this cat (you probably have some better ideas than these), but this has worked for me: Trace the template to the 1/4" plate, take your hacksaw and start hacking (remember these words). Clean it up with a file, mark and drill the mounting holes so it fits snugly over the brake studs. With spacers in place, mount your bridge to studs using original brake bolts (this should all pull down snug and form a bridge platform). Using your brake of choice, locate and drill the mounting hole (keep in mind tire size, brake pad reach, fender option, etc.). Check how your brake fits. You can elongate the hole (round file) if you missed a bit. If things are looking okay, measure how far the brake bolt sticks through the bridge, cut and drill a spacer from 3/4" round stock (thick wall

tube will also work) allowing enough brake bolt to stick out to accommodate a 1/4" brace and nut. Now measure the distance from the exposed brake bolt to the frame eyelet and add two inches (you can always shorten it easier than you can lengthen it). Saw a 3/4" wide strip of 1/4" plate to your measured length or buy 3/4" x 1/4" flat stock (that's what I did). Drill one end of this piece to fit over the brake bolt. Using a vise and hammer, beat the snot out of this doo-dad until it lines up with the brake bolt and the frame eyelet (this is an on and off until it fits process). Once you get the angles and length right, drill a hole so it can be fastened to the eyelet. Put the whole shebang together and cut a piece of cable housing to run from the brake to the last cable guide on the frame allowing enough play for brake movement. Cap off each end of this cable housing and slip the cable through (you should be able to use the existing brake cable). Connect the brake and adjust until everything works to your liking. Once you are satisfied, take the contraption apart, file, sand and paint the critters then put it all back together. **DONE!** It's Miller Time!

The description is vague on purpose. First, I don't want to take all of the fun out of it. "It's gotta be exactly this way" just doesn't cut it in the bike world. If it did, we'd all still be riding wedgies (or high wheel ordinaries for that matter). Second, "I just ain't so pretty good at 'splan in' dis stuff."

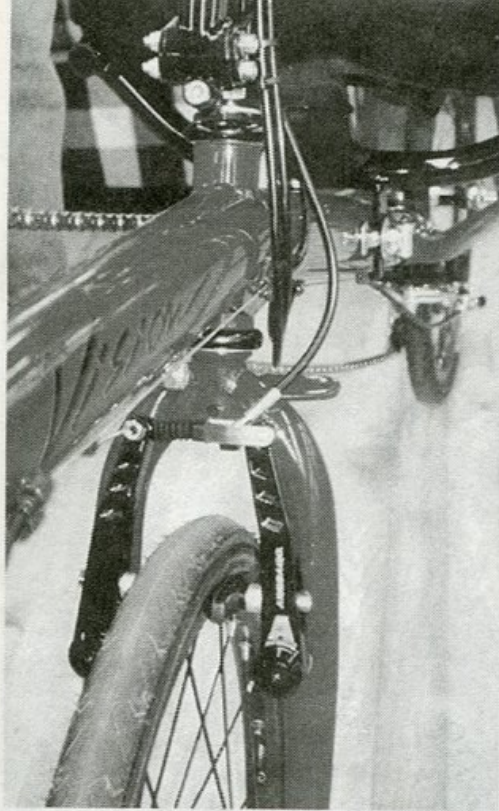
After several hundred fun miles on this neat set up I sold it to a guy who's wife has wider shoulders than Pam's. I promptly bought (from Harry) a used '99 Vision R40 USS 26/20 and started the process all over again. This time, I would gear it like a Rans Rocket and try King Cycle/Speed Ross/Rotator Tiger style above seat bars. I've seen this on a lot of Euro low racers and wanted to give it a shot. I used the same brake-bridge set-up for the rear. I took 3.5" off the Vision ASS steering post/riser (tube cutter and hacksaw). A giant EXT PRO adjustable 120mm stem was mounted up top and fitted with beach cruiser style bars (recycled). Up front, I used Odyssey A brake (V-style) which allows you to cable from the left side, away from all of the busy stuff going on next door on the right side (moving chains and spinning idlers). I'm surprised that more manufacturers don't use this brake. For that matter, I cabled everything to the left (very neat and clean). I removed one of the two stock bottom chain idlers and doubled up the bearing on the remaining idler (pressed right in) and made a new mounting system to allow the idler to free float laterally to handle chain line changes without side-loading the idler—which is a common problem on recumbents (less noise and drag).

A top chain idler was added using one of the two seat mounting holes in the frame. It's made in such a way as to allow the idler and seat positions to be swapped easily to accommodate different size riders. This idler is also set up with lateral float to eliminate side load (even in the big-big and little-little never never situations). The top (drive side) idler allowed me to use large rings up front without chain and seat tube interference. Another plus was the ability to lower the seat another half inch. If you do this, drill a hole in the seat bracket, don't extend the slots (you might want to revert to the stock set-up).

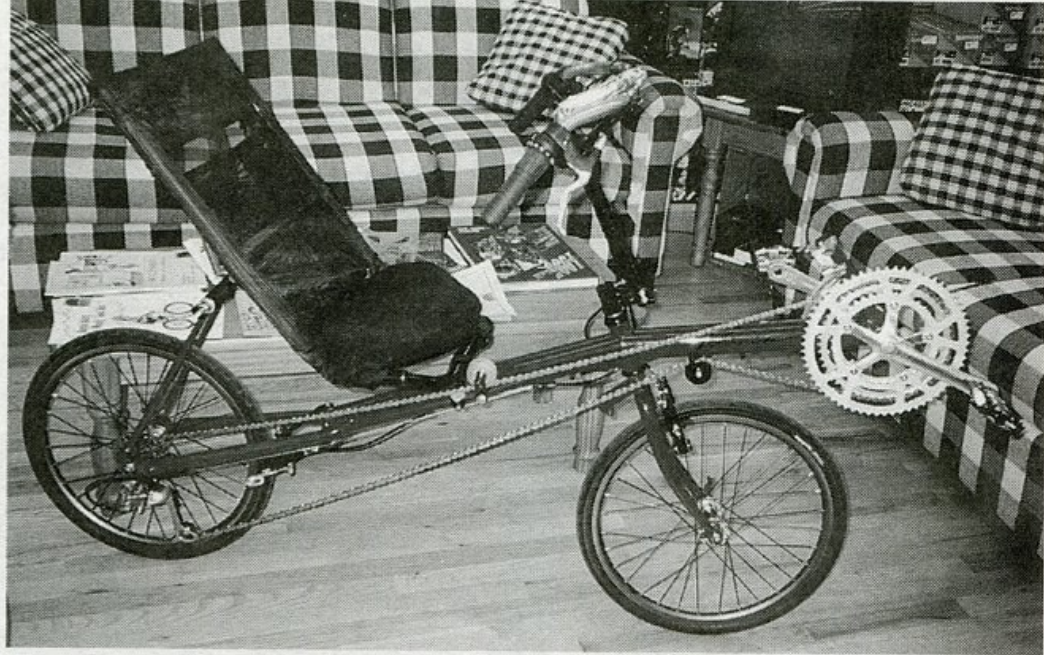
The top idler was taken from a Trek R200 recumbent (boy, I'll bet the owner is pissed!). Trek angles out the sides of their idlers so it looks like a v-belt pulley (they actually listened to us). This keeps the sides of the idler away from the chain plates & pins and creates a quieter and smoother operation. If you own a recumbent with idlers, you can do this to yours with a drill press and file.

Conversion done and 20/20 Vision loaded in the van (my most expensive and outrageous bike accessory)—I head for Wheel & Sprocket's indoor test facility (expansive showroom floor) to have Harry (in this weather, are you nuts?) Wozniak pick it apart. It was windy and -4

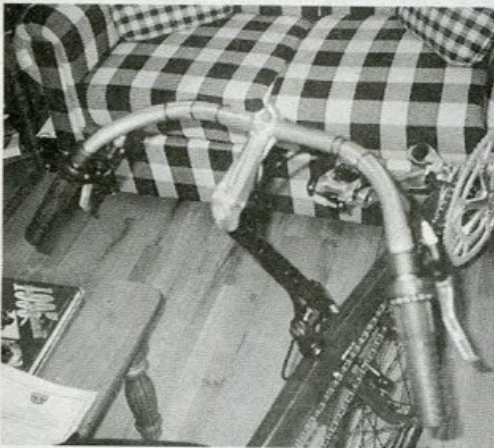




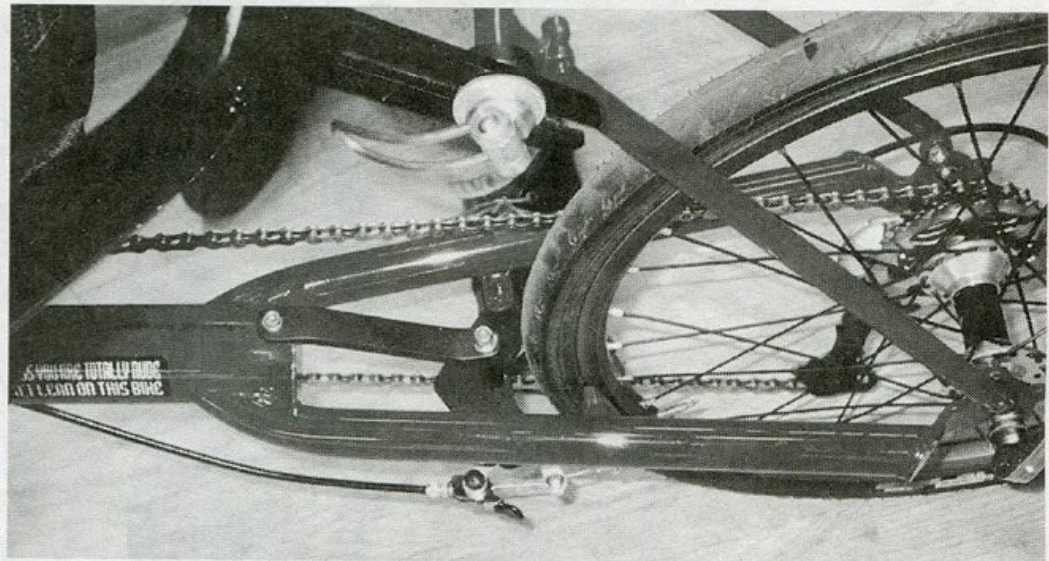
The Odyssey "A" brake



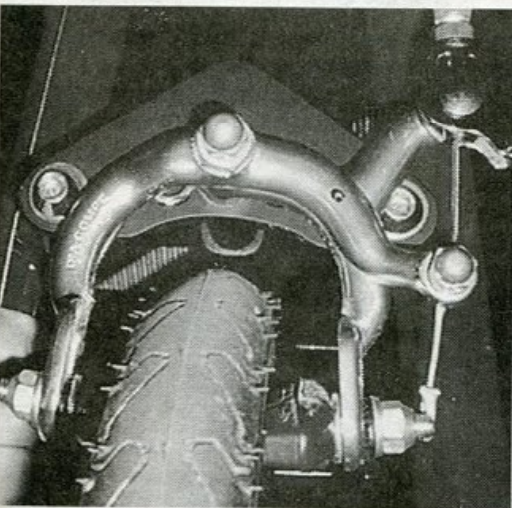
The 20/20 Vision complete



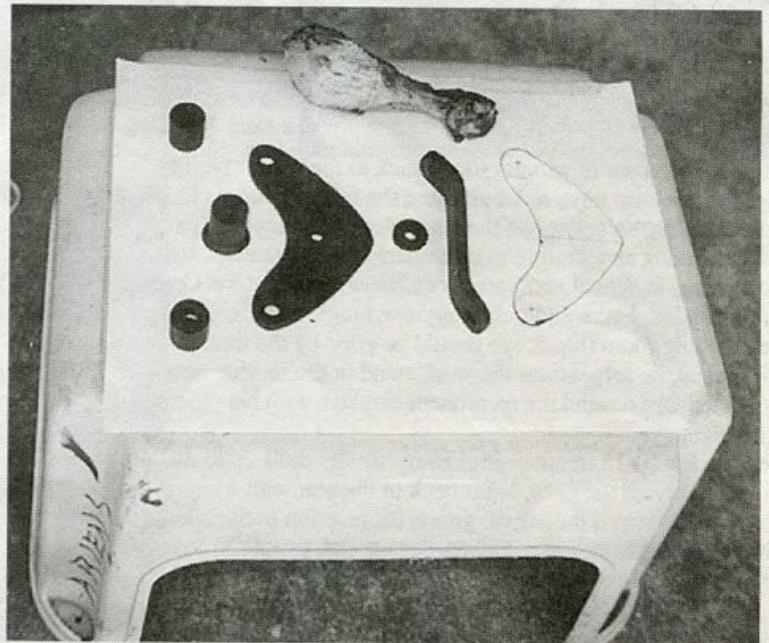
Cruiser bars gone Euro. Some riders love these, others hate them.



See brake plate in use. Brake plate is bolted to former cantilever studs.



Okay, you can't win them all...a side-pull. Though you should be able to find a dual pivot or BMX brake that is stronger.

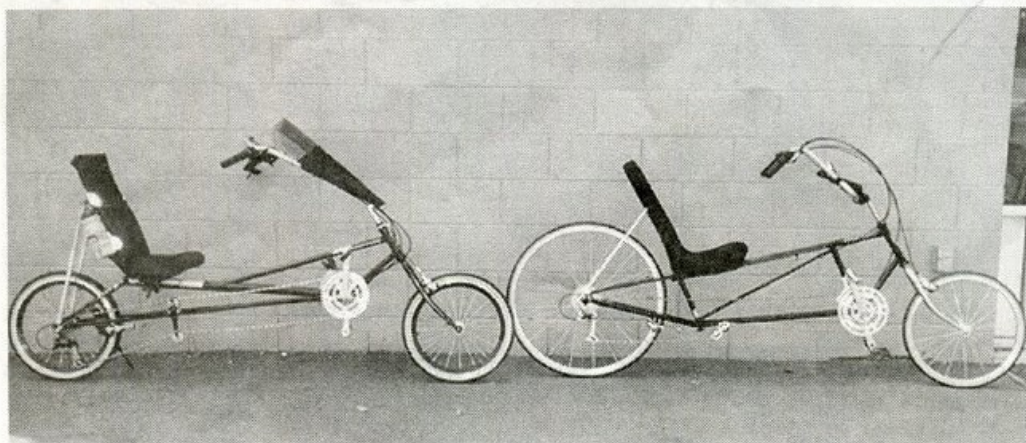


The Mark Ariens brake plate adapter makes all of these trick conversions possible.

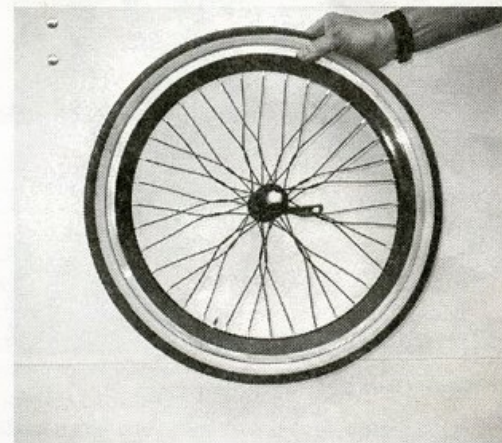




Mark Ariens' very trick Rans Stratus. Mark got a rare 24/20 model, changed the rear wheel out to a 20" and added a 700c fork.



The Ariens Stratus compared to a stock Tour Easy



A twisted wheel from Wheel & Sprocket

degrees that day (and we're wimps) so we stick to the indoor facility (preliminary shakedown anyway). I adjusted the bike to Harry's liking and off he went, pedaling up and down the narrow rows of bicycles, past the forest of skis, waving and smiling to customers who are amused by this so normal occurrence at Wheel and Sprocket's Hales Corner store. Once through the Spandex, Lycra and polypropylene jungle right into and out of the women's fitting room (black eye should be gone by the time you read this). A bit shaken, he serpentine the work stand in the service area and does one-handed laps around the recumbent displays with his other hand covering his right eye.

This goes on for 10-15 minutes until Harry finally pulls up to me, puts his feet comfortably on the floor, leans back in the seat with a big ol' grin on his mug. I asked him if the big ol' grin is his reaction to the bike or his side trip through the fitting room. He assures me that the 20/20 Vision is the reason for his giddy expression. "This will really, really work." Harry says he's going to call Bob Bryant right now and heads off (I think he went for food and an ice pack for his eye, though Bob did say Harry called him).

I've tried a lot of different stuff with my 'bents. Some of it is caca, some

of it is sorta okay and some of it works. This 20/20 really, really works.

Oh man, I almost forgot! Earlier I mentioned something about a modified Stratus. This is my all time favorite LWB recumbent (very biased opinion). It started out as a 24/20 Stratus (one of two built by Rans) and has evolved into a 20/20 63-speed (3x7 equipped) 700c forked (braze in a brake bridge) sweet handling ride. This conversion can be done with a 26/20 Stratus using the brake bridge type set up as on the Vision 20/20. The 20" rear drops the seat several inches and the 700c fork brings the bottom bracket up 3" (look at the side-by-side photo with Tour Easy). The internal shifter is mounted under and just inside the right edge of the seat. It's very easy to reach and protected from tip over. This location cleans up the bars and cuts down on cable routing (yes, the seat can still be moved through its full range and removed easily). This bike might be the XL Tailwind that Bob Bryant is always talking about.

In 1998, Joel (The Spin Doctor) Peregrine raced this Stratus to a first place finish in the stock class road race at the North American HPV Competition. Joel out paced specific lowracers (3) a Speed Ross, Tour Easy's (2), P-38's (2) stock Stratus and others I can't recall. Just a thought,



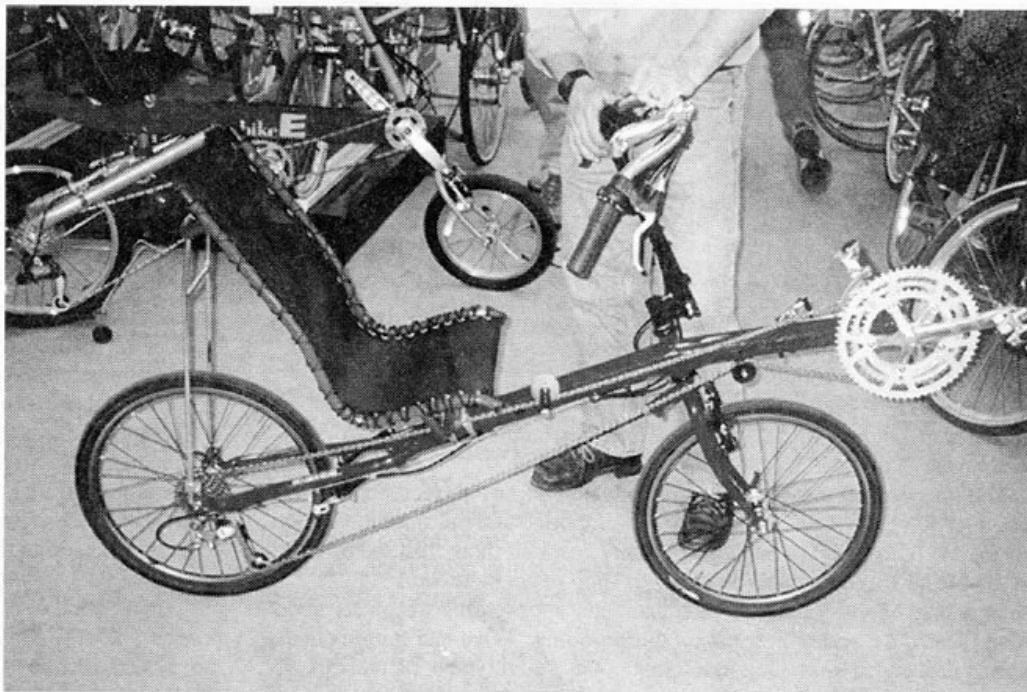
Joel crossed the finish line first and he was the only racer using a 3x7 internal hub!

Trick Wheel Alert! The Stratus now sports a super cool front wheel (the double take). The Sprocket's incomparable wheel builder Shea (I'll never do that again) Steidl, laced this work of art. Give Shea a buzz (I'll bet he'll do it again).

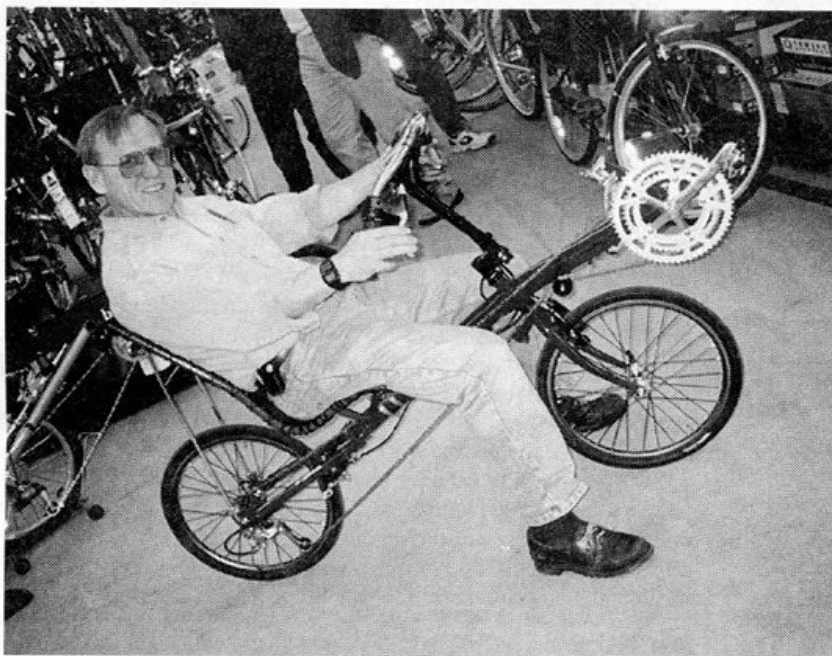
So that's it! 20/20 Vision and 20/20 Stratus conversions; both easy to do and the frames stay original. Maybe the manufacturers of these two fine recumbents could offer dual brake bosses with screw-in studs so the owner could have a wheel size choice. Heck, you could use the extra bosses to mount all kinds of neat stuff like kickstands, trailer hitch, tailbox, fairing mount, etc.

Oh, oh, I gotta go now. Pam is coming and she has that dreaded 'Honey Do' list! □

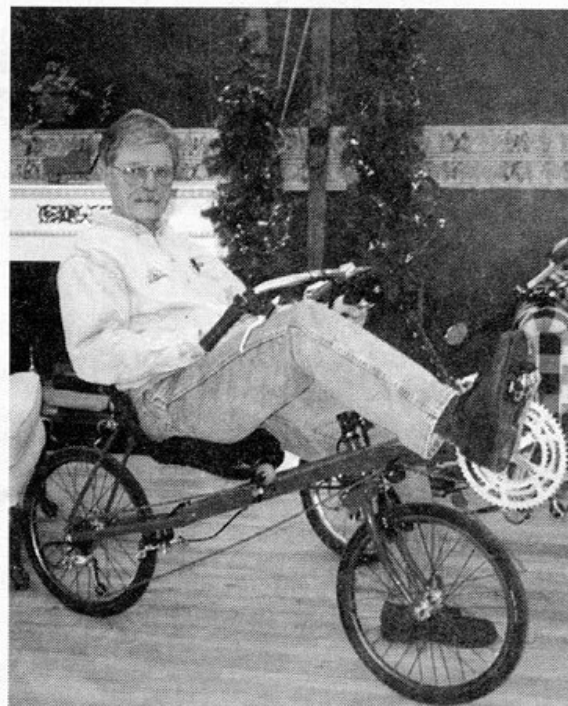
**IMPORTANT FOOTNOTE:** In respect to Wheel & Sprocket's first class operation and keeping Harry out of the dog house with Diane, let it be known that the changing room incident was 100% fiction (but fun).



*The Ariens dual 20" wheel Vision Wheel & Sprocket Euro special complete with Rotator seat. This is the coolest Vision ever. You can build it easily by yourself with any used Vision.*



*The Mid-West master of customizing recumbents Mark Ariens*



*Midwest recumbent evangelist, Wheel & Sprocket's chief recumbent man and all around good-guy Harry Wozniak*



*This must be the prime motivator for these kinds of projects. It's too bad we can't arrange having a tank like this placed near some of the recumbent factories around the country. I can think of one in particular that could use it for inspiration.*



# View From The Big Chair Cheap Bikes

by Brother BJ Strass, Atlantic Bicycles

"I learned a very expensive lesson from this" my customer said to me with a dejected tone. "I just wanted a good, cheap recumbent." He continued, "A Good Deal." "I know," I said.

"I have to tell people this too often, there is a reason you can't buy a good cheap recumbent. No one can afford to produce a good, cheap recumbent," I replied.

You see my well-meaning customer had purchased two recumbents from a builder at a great price. The bikes were imported and the shipping/import tax on one of these bikes had unexpectedly cost him more than the bike itself. He had brought these bikes to our shop to get them working. Neither bike I considered safe. The geometry and welding were very poor. Also I feared the seat may break off during riding. What had started out as a great deal ended up costing much more than a quality new recumbent, with a real warranty, from a reputable manufacturer/shop. Another customer brought in a new bent he had ordered through the Internet. The bike handled badly and wouldn't shift into all the gears. Nothing could be done. When I asked why he had ordered this bike instead of buying one of ours he stated, "You didn't have a short wheelbase with front suspension for \$700. I thought I was getting a great deal." Again there was that "Great Deal?". The front suspension on this domestically built bent was off a kids' department store bike and couldn't work. The geometry and finish were poor as well. He finally bought a good bike, with working suspension from our shop, but had also learned a hard lesson.

I felt very bad for my customer, but you can only give people the information, you can't make their decisions for them. Besides I know I have had my share of "Great Deals" in life and have had to live with the bad consequences.

I've been into recumbents, nearly a decade, much of that professionally. The variety of recumbents has blossomed over recent years and the market is really starting to boom. The higher sales have allowed builders to become manufacturers and some have moved production to Asia, thus allowing big price drops. Bents that cost \$1000 five years ago may go for as little as \$700 now. The BikeE CT and the Rans Wave are excellent examples of quality bikes for about \$700.

"Why are recumbents so expensive?" I hear very often. Well, are recumbents really expensive? Let's break it down a bit. Compare a good recumbent to a good road or mountain bike. The recumbent takes more to build. Let's look at the seat. How much do you think is the cost of raw

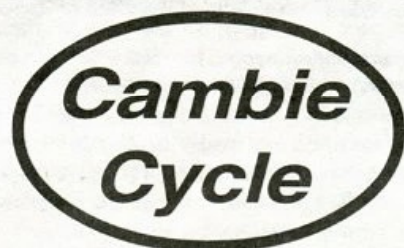
materials, design and labor involved in the upright bike seat? Not much. Look at the recumbent seat. These seats are difficult to design and build. Each manufacturer makes their own seat so you have a lot of choices and they are not a universal fit as with upright bike seats.

Consider the seat frame, the mesh back, the molded and padded bottom and the hardware involved in the seat adjustments. These seats, as well as the recumbent frame, take specially designed jigs to hold them while welding, and these jigs are not pre-existing either. They have to be created. The design and geometry are not akin to an upright bike and take more time in designing and solving. Routing the longer chain, correct foot placement, wide fit ranges, trying to keep weight down, all involve a lot of time and money. Want more examples? How about getting the manufacture of high pressure tires in recumbent sizes, dealing with component suppliers, which until recently didn't take recumbents seriously, and marketing recumbents to a skeptical public. This is all more difficult, time and money consuming for a recumbent manufacturer.

How about the bike shop? In order to help keep costs down dealer mark-up often isn't as good as on upright bikes. A recumbent customer takes a lot more time. The dealer has to teach a customer to ride, help find the right bike, and then make sure the new bike gets quality compatible accessories. Trust me, I know of no one in the recumbent industry getting rich. Most of us are getting by just to be involved with the bikes we love and believe in.

So in looking at recumbents in this way, are they really more expensive? How about are they a "Good Value" instead? I think so. In a day when we can run down to the local department store and walk out with a nice looking (but poor quality) full suspension mountain bike for under \$200, I can understand "how" or "why" some may consider a recumbent expensive. I guess you have the option to wait until the local department store has a \$200 full suspension recumbent (if it ever happens) but is a stamped out, low quality, bike really what you want? As for me, I consider the many people wheeling around in oversize, fuel guzzling, \$35,000 sport utility vehicles without a thought. Some of these same people think a \$700 recumbent is expensive. I guess it is all a matter of priorities. If you can afford an oversize, fuel guzzling, \$35,000 sport-utility vehicle, I have no problem with that. But think of how many \$700 recumbents you could afford if you drove a \$1,200 car.

Relax and Ride  
BJ



Recumboni LWB  
Recumbini SWB  
BikeE · ATP Vision  
Quetzal · ReBike  
Custom Fabrication



The Cambie Recumbini SWB

Canada's Premiere  
Custom Recumbent  
Builder & Dealer

SALES/SERVICE/RENTALS

Call Toll Free 1-877-414-8999

Fax. 604-874-3696

Info@cambiecycles.com

www.cambiecycles.com

Visit our updated website

We ship anywhere



We are the exclusive Canadian Recumbent Cyclist News Distributor



# HOW TO SHIP OR TRAVEL WITH YOUR RECUMBENT BICYCLE

by Bob Bryant

In this article we will discuss the various aspects of packing, shipping and travelling with your recumbent bicycle. This is one *more* aspect of recumbent bicycle ownership that requires creativity, education and definitely more effort than is required with an upright bike.

## ■ SHIPPING OVERVIEW

If all you need to do is ship your recumbent to a different city, you have a few options.

If you are going on a tour, you may want to arrange shipping your bike to the tour operator or a 'long distance cycle tour-friendly' or 'recumbent-friendly dealer' on the other end. This will almost guarantee friendly support at your destination, as well as box storage and repack services.

If you are going on a solo tour by airplane, check with your airline. Most have 'bike boxes.' I'll never forget what I saw at the Colorado Springs airport. A young lady attempting to force her 'Huffy' into an airline box with no tools (and no empathy from the airline employees). Airlines will all have different standards about how large a bike box can be, and there will be an extra charge (if they know it's a bike). However, this can be far cheaper than shipping an oversize box by FedEx and possibly UPS—especially if you are leaving the continental USA (if you are, use your airline). I've heard readers tell me that in some cases, taking a bike (or trike) with you to or from Europe or Australia can be cheaper than the air freight of the bike/trike by itself.

We order and recycle shipping boxes from several manufacturers. If you can keep your box under UPS size limits, you can ship it for \$40-\$100 from coast to coast. We recently shipped a Tour Easy (3 boxes) to the midwest via UPS ground service for \$97. I might have been able to pack it tighter and get it into two boxes for \$75. A BikeE FX in one box to Florida cost just under \$40 (low back seat/high back seat required a second box for \$12). We shipped a WizWheelz trike UPS 3rd Day Select to Wisconsin for \$87 (or <\$40 ground).

Finding the correct size UPSable boxes is the real trick. UPS Oversize #2 is a combined length + girth (size measured by encircling) of less than 130 inches (length + side + top + side + bottom).

## ■ AVAILABLE BOXES

First you must choose the correct box. Your options usually include a bike box, commercially available travel box, or modified factory box. We like to use stock bike boxes if we can (for non-tour applications). We know that these boxes are the largest they can possibly be and still be within UPS size guidelines.

Your first inclination may be to splice two wedgie boxes together—if you do this, the odds are that you'll have to ship by freight company, which can be 2-3 times as much as UPS. Use standard wedgie boxes only if your SWB or compact recumbent will fit into a stock box.

Our favorite factory recumbent box set is the Easy Racers LWB frame and seat/wheel box combo. Most recumbents will fit into these boxes. The cost is about \$40 (shipped flat in the continental USA).

Some Vision, WizWheelz, Rans and BikeE boxes work for reshipping bikes, however, we can almost NEVER get bikes back into their factory boxes they way they came to us.

**Note:** all of the above mentioned factory boxes should ship UPS.

A former recumbent builder Gene Lemle used to ship LWB bikes (UPS) in a custom plywood shipping box. He used basic plywood and framing lumber woodscrewed and glued together. This made shipping his bikes very easy. Pat Franz of Terracycles offers customers a custom coroplast shipping box as an option (or you return it to him). Builder Peter Ross once vacationed in the USA with wood shipping boxes that doubled as towable trailers. This brings up a whole new set of complications if you are not returning to where you started from (on a tour). Destination box storage

can also be a problem. Do your homework and have a plan.

## ■ COMMERCIAL TRAVEL CASES

The only bicycle box builder that we found who was somewhat recumbent friendly is Crateworks. They build a full line of cases including a *recumbent specific* model. Some recumbents may require two cases (large and small) if you have a large seat and/or want to place your touring supplies in the box.

Interestingly enough, they have never sent us product information before, nor did we know they made a recumbent-size case. Be aware that their case description called a BikeE a 'SWB.' Your best bet is to do a bike disassemble test measurement or call Bob at 21st Century.

### Pro XL-RC Recumbent Transport System

\$149.00 + optional wheel caddy \$39.95

This box measures 8.0" x 26.75" x 60" (outer) and is designed to fit all standard BikeE models and Vision/Rans SWB models w/o seat.

Crateworks has teamed with BikeE, Cycle America and several recumbent dealers to create an optimum Corr-X (recycled) plastic shipping case at an affordable price. Features include: double H-design; anti-drift outer strap system with 4 quick release buckles; rigid Inner frame plate; with 8 hoop and loop tie-downs; 2 wheel and seat tie-downs with quick-release buckles; reinforced hand-holds, foam buffers for all critical parts; large nylon Bag with cordlock for pedals, tools, shoes, etc.; helmet tie-down; space for BikeE Bag; UPSable/Airline compatible.

Other models include: Pro-XL with riveted and glued joints, an all CORR-X outer shell with a CORR-X frame plate. Shipped complete and designed to last for years of use. 11.25" x 30.25" x 45.5" (outer dim.). There is also a model that folds flat when not in use.

## ■ COMMENTS ON CRATEWORKS PRODUCTS

### 21st Century Bikes

"It was fascinating to observe the development process in action, and to see the care that went into what I feel is an almost optimum design for safely and economically transporting the BikeE. As a recumbents-only dealer, it's great to see our small, but rapidly growing segment of the market given the attention it deserves. Rest assured that the new Bike E Transport System from Crateworks will be a featured offering at our shop." Bob Froom, owner

### Bicycling Magazine

"Crateworks are easy to use bike cases you can ship again and again.... these cases are cheaper, lighter alternatives to full-on hard cases, and offer far more protection than standard cardboard boxes."

### Wandering Wheels Tours

"30 members of our NZ Tour Group used Crateworks Pro XL-C Travel Boxes on our recent trip. I'm happy to say that not one bike was damaged and the boxes all came through with flying colors. A few of the group used cardboard boxes and had real problems." Bob Davenport

## ■ PACKING

The simple rule is that you wrap everything and leave no bare metal parts in contact with other bare metal parts (this includes frame tubes, seats, frames, wheels and even quick releases) and leave the bike as assembled as you can. Decent manufacturers use bubble wrap these days. Some have this neat sticky back bubble tape. I have had good luck with newspaper and masking tape. It looks hideous (as anyone who has bought a bike from me will know), but seems to work fine. I can pack most any bike (as long as it fits in the box) in 20-30 minutes, and you can too. Here are some simple



steps.

**Note A:** When I say 'wrap' I mean with newspaper and masking tape or bubble-wrap. I also mean wrap both surfaces. You want no direct part-to-part contact. When you are 'prepping' the box, remove loose staples and other metal objects from the open end or you WILL get cut.

**Note B:** If this looks too difficult, read #25 & #26 first.

1. Shift bike into small-to-small gear combo.
2. Disconnect brake cables (if need be).
3. Remove front and rear wheels.
4. Remove wheel quick releases.
5. Tape complete quick releases to spokes.
6. Remove seat.
7. Remove rear derailleur (don't mess with the chain).
8. Wrap rear derailleur carefully and tape in between chainstays/seatstays.
9. Remove pedals (requires pedal wrench—buy a good one).
- 10A. Remove chain (I hate doing this).

~or~

**10B.** Wrap all chain and any place it contacts bike—VERY CAREFULLY.

11. Remove handlebars from frame or stem.
  12. Wrap handlebar/stem/riser combo completely.
  13. Carefully wrap bike frame. If your bike has custom paint or you are very picky, use bubble wrap or some other tubular foam from the hardware store (pipe insulation?).
  14. Turn fork around backwards (compacts or LWB may require this, some may even need the fork removed. If yours does, be sure to bring the tools to reassemble).
  15. Brace and wrap the fork blades. Dick Ryan used to use a piece of wood in between fork blades screwed on with smaller wood caps (maybe 5 minutes to make this) or get a plastic fork blade shipping protector from the bike shop. If you would like to skip this step, placing the bike frame upside down in the box will better protect your fork).
  16. Place wrapped handlebars on the side of the wrapped frame (one bar end under frame and one over or similar (all bikes are different). Check to see that you can do this and not be too wide for the box. Now, tape bars to frame.
  17. Place mummified recumbent bicycle into box (upside down is our first choice). If you have extra room inside the box, strengthen the corners with small boxes, old paperback books, magazines or even small pieces of wood.
  18. Fill excess airspace with spares, bags or crumpled newspaper.
  19. Seal box.
  20. Strengthen box with lots of strapping tape.
  21. Cover up any previous manufacturer, address or shipping labels, or UPS/FedEx tracking information.
  22. Mark box with at least two labels.
  23. Insure contents of each box for the replacement value.
  24. Federal Express is a lot more expensive, and is the best. UPS is affordable and pretty good, though with the lower cost comes a bigger possibility for problems. However, don't lose too much sleep over this. Most manufacturers use UPS.
  25. If you just toss your bike frame and parts into an empty cardboard box, expect damage.
  26. Really good bike shops or private postal depots will do this for you, though it will cost you. You will pay for the box, packing material, labor and a commission for the UPS/FedEx shipping. Sometimes, these places can be lifesavers as they can help you fit a difficult tandem or trike into the smallest box that ships at the cheapest rate (a tough act).
- Note:** Any small parts should be carefully taped in place, or stored in zip locked or other bags. It will be these missing parts that will create the reassembly problems.

## ■ TRAVEL BIKES

Check out these manufacturers for travel bikes, bags and packages.

- ✓ **Angletech:** Altitude does fold somewhat and has a soft case. I'm not sure I'd trust my \$4000 bike in just a soft case.
- ✓ **Easy Racers Suspended Gold Rush:** This new model has a fold-under rear swing arm and fits into a regular bicycle box. Rumor has it that Gardner Martin may even build a Ti version if prompted.

✓ **Brompton:** The coolest folding upright bicycle in the world. It folds in less than a minute into a tiny package. A recumbent kit is available, though decreases ability to fold quickly.

✓ **Greengear/Bike Friday:** Sat R Day fits into its own hard case. This is probably the best choice for a traveling recumbent rider. We haven't tried the production model (yet!). Greengear's case packing process is not 'quick' and takes patience, though the bike does have a quick-fold mode.

✓ **Greenspeed:** The S & S coupled GTR trike is the only way to go for a traveling tricycle rider.

✓ **Linear:** The last we heard, Linear still offers folding LWB or SWB models. Soft cases are sold through Mt. Airy Recumbents, though we have never seen how this works.

✓ **Lightning:** Rumor is that an S & S coupled P-38 is available. We don't know about the case.

✓ **Tandems:** Rans, Greenspeed (trike) and Longbikes do S & S coupled tandems.

✓ **Wedgies:** If you just want some wheels to get around with while on vacation, consider an ultra compact folding upright. We really like the models from Dahon (VERY affordable), Burley (Birdy) and Brompton (the best). Enthusiasts love the Bike Friday's. They do not fold as quickly as other 'folding' bikes, but they are considered a more serious bicycle. All of these upright bicycles make excellent and diverse additions to a recumbent rider's fleet. Add a cushy saddle, and some bar-ends, and you'll survive rides of 10 miles at a time.

One last thing to consider is replacement parts. I highly suggest dealing with a recumbent dealer/builder who will be there for you when you are in a pinch and need a spare part, tire, tube or damaged part overnight expressed to some tropical location. Builders who have long delays or are very small are not always able to handle this. Some companies specialize in this service. The one builder that comes to mind is Greengear. They have the ability to manufacture you a new/replacement part on a holiday. Lastly, have a great tool kit, learn how your bike works and watch lots of McGuyver reruns.

## ■ OTHER TRAVEL BIKE IDEAS

Here are some other ideas if you like to travel with your bike.

- ✓ Buy a bike just for the tour. If you don't mind a wedgie, you can buy a great bike these days for \$329. My kids have super-tough Schwinn Mesa and Specialized Hardrocks. Hey, I'm not trying to talk you out of bringing your recumbent, this is just an idea.
- ✓ Arrange a rental at your destination.
- ✓ Arrange a purchase at your destination. Recumbent dealers, especially the smaller ones (where you deal with the owners) can be a creative lot. It is within the realm of possibility to arrange the purchase of a new or used recumbent and then a prearranged price to sell it after the tour. Better yet, buy your new bike at the start of your tour, and arrange to have it shipped home after the tour. For training purposes, we DO NOT recommend that you buy a new recumbent and hop-on for a tour the next day.

## ■ CLOSING

As recumbent riders, we need to be creative in all aspects of recumbency. You will need a good education, and a good plan. RCN can connect you with decent shops and service providers who can help you out along the way. Expect to pay for these services, and be sure to offer a special thank you when things work out. If you have good experiences with companies, dealers or a new technique or idea, please let us know.

## ■ ACCESS

### Crateworks

1-800-934-5214 or [www.crateworks.com](http://www.crateworks.com)

"A real hoot"  
Bob Bryant, RCN



**THE AGE OF THE BICYCLE**  
ISBN#0-9647171-2-3  
\$12.95+\$3.00 shipping payable to:  
Easy Street Recumbents  
4507 Red River, St., Austin, TX 78751  
[streetrecumbents.com](http://streetrecumbents.com),  
512-453-0438

A novel by  
Amy Babich



## Why RCN is Important

RCN is unique in the publishing world. It covers a micro niche that would be considered too small by corporate glossy mags that are supported by big corporate advertisers. Many of the small builders and recumbent businessmen cannot afford the BigGlossy's \$15,000-\$25,000 per ad page rates.

Advertising is about 20-25% of our revenue here at RCN. We prefer *NOT* to derive all of our revenues from advertising which helps keep us honest. If RCN is to remain sustainable (an ongoing struggle), we require your subscription support and that you let *OUR* advertisers know where you heard about them. These advertisers think that *YOU*, the North American recumbent bicycle *ENTHUSIAST* are important—as do we.

Thank you for 10 wonderful years. Lets hope this is just the beginning.



## COLLAPSIBLE RECUMBENT BIKE BOXES

FACTORY DIRECT COMPLETE for only \$149.

- All Parts Replaceable
- Optional Wheel Caddy Kit - \$39.95
- Designed to Last For Years
- Meets UPS and Airline Specs
- CORR-X® Plastic. Fits Bike E Models FX, AT, CT and NX5.0. Can accept VISION/RANS short wheelbase without seat. Out. dim.: 8"x26.75"x60"

### WHAT THEY'RE SAYING...

"An optimum design for safely transporting BIKE E" - Bob Froom, 21st Century Bikes

HIGHLY IMPACT RESISTANT

Reinforced Handholds

H-DESIGN Strap System



800-934-5214 • [www.crateworks.com](http://www.crateworks.com)

## Recumbents.com

The Recumbent Bicycle and Human Powered Vehicle Info Center

A Virtual Bent Community Research, Chat, Buy & Sell

Now with Live Real Time Chat!

## ABSOLUTELY RECUMBENT

Sheik Flaps  
made of Sun  
Protective Fabric  
\$11.99

"Lawn Chair  
ON YOUR LEFT"  
T-Shirts  
\$12.99



2104 Charlevoix St. NW  
Albuquerque  
New Mexico 87104  
Tel. 877-243-5105  
[absolutelyrecumbent.com](http://absolutelyrecumbent.com)

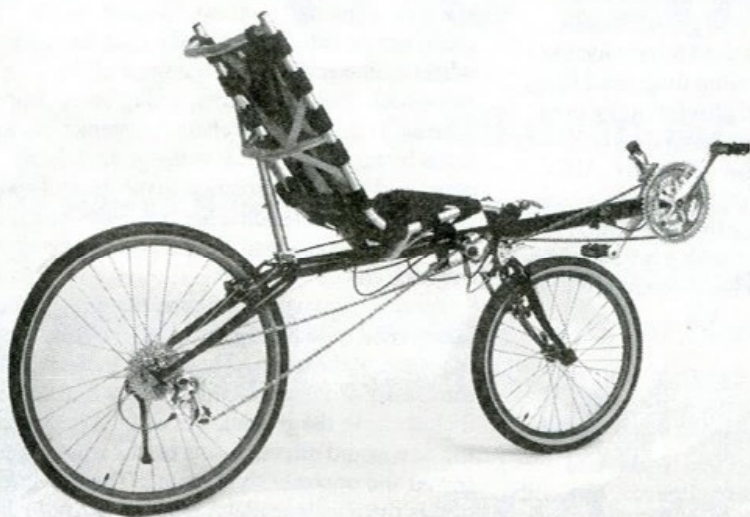
# The Horizon...

Is the ultimate Short-Wheelbase touring Recumbent

### Here's Why:

- Smooth, stable handling
- Non-twitchy linkage steering
- Shock absorbing rear stays
- Breathable full sling/mesh seat
- 26" (rear)/20" (front) wheels
- All models hand crafted in the USA
- Ergonomically correct under-seat steering with bar-end controls
- We can fit riders from 5' to 6'8" and to 380 pounds!

Bicycles by Haluzak are custom crafted for the individual rider as well as competitively priced. Let us build the perfect recumbent for you! Call today.



BH

## Bicycles by Haluzak

70 West Barham Ave.  
Santa Rosa, CA 95407  
Tel. 707-544-6243

On the web: [www.haluzak.com](http://www.haluzak.com)



# Pedaling Induced Rear Suspension Deflection

By Hank Anderson, hander0731@aol.com

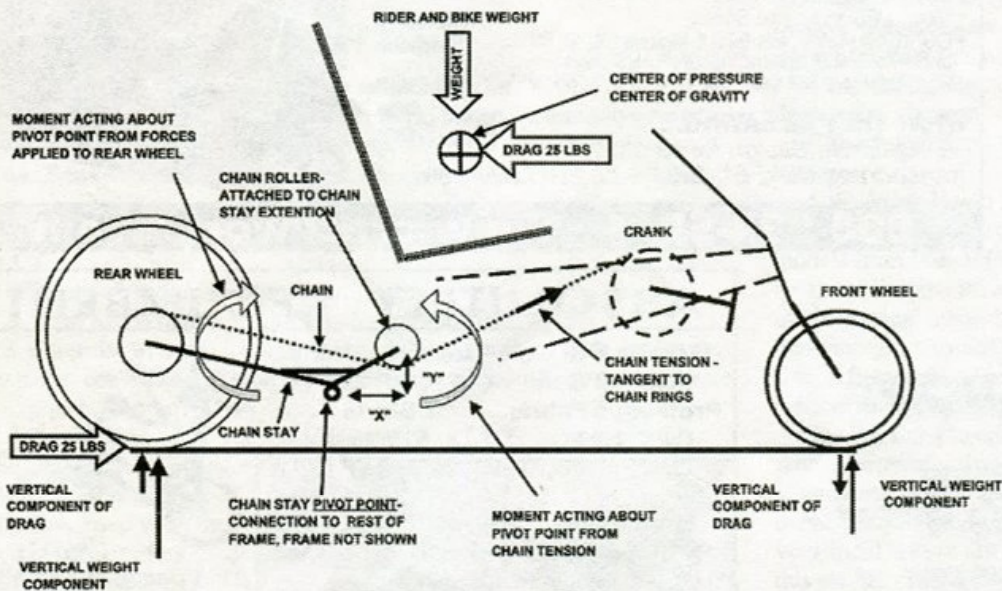


FIGURE 1. - DIAGRAM OF RECUMBENT SHOWING DEVELOPMENT OF FORCES AND MOMENTS

There are quite a few rear suspension recumbents currently available "off the shelf" with more being built by a small army of home builders (of which I count myself as one). One of the aspects of a rear suspension recumbent I was keenly interested in was: how do you build one without having the rear shock compress when you're stepping on the cranks? This has been called "pedal-induced suspension deflection," or "chain tension induced suspension deflection" or "pogo-ing" — at any rate bouncing up and down as you pedal (of course a function of the stiffness of the shock and how hard you're pedaling). Of overriding concern was that this unintended compression of the shock would uselessly suck up (my) energy that should otherwise be used for going down the road. How else was I to catch up to those fast chicks on the wedgies?

Yeah, mountain wedgies have rear shocks, too, I've ridden a few, and they mostly "pogo" along. I thought one of the guys I saw could be mixing margaritas on his rear rack! The wedgies try to overcome the pogo effect by the geometry of the rear links (to achieve near vertical motion), or by cleverly positioning the pivot point for the rear triangle in the least offensive location (I don't think this works too well).

Recumbents have a unique geometry for designing a means of overcoming the pogo effect or pedaling-induced rear suspension deflection that is not found on "wedgies." That is the chain roller (idler). We use rollers (idlers) to route the nasty, greasy but important

old chain around such things as the seat, rear stays, brakes, front wheel, etc. (chain management-ed.). What would a recumbent be without a couple of rollers (idlers)? We love 'em and need 'em, and most "wedgies" don't use 'em; and suspension recumbents need more of them than hardtails; and SWB more than LWB. The gist of this concept is to use the loads applied on the roller (by the chain tension) to counterbalance the compression of the rear shock (also caused by chain tension). Yah got it? Chain tension at the rear wheel is used to provide the motive force to overcome wind drag, road drag, any other kind of drag, and also for going up a hill (if gravity is the queen of drag does that make breaking wind the king of drag?). All these loads on the rear wheel cause the shock to compress. We're gonna use the roller loads to counterbalance all this. It's such a brilliant idea I'm surprised that it hasn't been invented before—ah ha.

## Overview of the Paper

This isn't going to be a mechanical engineer's doctor's thesis discussion type of paper, but a general overview of how all this works, and what one needs to be concerned about. Nor will a bunch of boring equations be listed, but if one wants these, contact me.

Launch into the theoretical stuff. Now closely focus your attention to the carefully drawn picture of a recumbent. What's shown are the wheels, the chain stay, a chain, part of a crank set, and most importantly a roller and a pivot. The roller is attached to the rear triangle (or

whatever). The pivot is located between the roller and the rear wheel, but closer to the roller (idler). In practice the roller (idler) would be cantilevered off the pivot — in the best construction practice of the builder. The rear triangle and the roller (idler) "pivot" around the pivot point.

Also shown is what's known as the Center of Gravity. This is the single point at which the gravity effects on all parts of system (bike and man) can be represented. i.e. the bike and man would be perfectly balanced about this point. The Center of Pressure has a similar definition as the Center of Gravity i.e., single point at which the drag on all parts of bike (arms, legs, body and bike) can be represented as a single point. In this case, it is assumed that it has the same location as the Center of Gravity. These points are superimposed for this discussion, but for practical matters, they are really pretty close together. Drag from wind loads would act at the Center of Pressure, and drag from pedaling up a hill would act at the Center of Gravity. At any rate, and assuming they're relatively coincident, one can get pretty close approximation of the location of these centers by assuming they are located at the rider's bellybutton, or roughly 24 inches off the ground and 24 inches in front of the rear wheel axle.

Now let's assume a normal recumbent weight of 30#, and an old fat rider like me at 220# pedaling up a 10% grade. That would equate to a 25# drag force acting at the Center of Gravity (located at my bellybutton). Tension on the chain can be determined by the drag force, the wheel diameter and pitch diameter of the freewheel. Pedaling forces, acting on the rear wheel by tension in the chain counteract the drag force by applying a load on the ground, in an equal and opposite direction to the drag. These two forces cancel each other in the horizontal direction (according to Newton — equal and opposite forces blah, blah).

As also shown on the figure, there is a vertical component of that drag acting on the rear wheel in a vertical direction. This is due to the fact that the Center of Pressure/Gravity is located 24 inches above the ground. An equal force but in the downward direction acts on the front wheel (equal and opposite stuff again). The magnitude of this force is dependent upon the location of the Center of Gravity and the wheel base. What I didn't show is the rider's weight distributed on both wheels for clarity and also since I need to go on a diet.

Well anyway, now that we can calculate the loads on the rear wheel due to drag (and bike/rider geometry considerations), and we know



# BOULDER B I K E S

WORLD'S FINEST

FULL SUSPENSION RECUMBENTS

ALUMINUM / FOLDABLE

GALAXY - SINGLE  
SIRIUS - TANDEM



GALAXY

Come see us on the web at:  
[www.boulderbikes.com](http://www.boulderbikes.com)

303-823-5021  
P.O. BOX 1400  
LYONS, CO 80540

## Barcroft Cycles LOW • FAST • COMFORTABLE • ELEGANT



BARCROFT  
DAKOTA



BARCROFT  
VIRGINIA  
GT

Falls Church • Virginia

[www.barcroftcycles.com](http://www.barcroftcycles.com)

703.750.1945

what the chain tension is, we can consider the rear triangle separately. What I mean is, one can balance the rear wheel (with the forces acting on it described above) against the chain tension applied to the roller. All of this balancing takes place about the pivot, so you better put some good bearings here. The only other thing you need to know is what direction the chain tension is aimed—so you can calculate angles and stuff like that. Well, the chain tension is aimed at the tangent point between the chain and the chain ring (or tangent to some other fixed roller). So the front end of the bike is also critical. No surprise, huh? So finally, if you fix everything except the roller location, then the roller can be positioned such that the rear triangle will be perfectly balanced.

#### Discuss Practicabilities Notes

Chain loads on roller. Design for about 400 lbs. roller (idler) friction. Design details of bike = 26-inch rear wheel, 17-inch stays, 9-inch pivot height, then roller (idler) is about 3 inches above and 2 inches forward of pivot. Balances exactly, with +/- 3% impact on shock compression for other freewheel (for a given drag load) and chain ring positions. □

## The Midwest's Leading Recumbent Shop

# The Bike Rack

### Lots of bikes in stock and ready to ride

Rans • BikeE • Linear • Vision • Trice • Easy Racers • Penninger • Longbikes

Home of Creative Mobility

Mobility Solution Specialists: Hand Powered Bikes • Wheel Chairs

Trikes • Custom Fitting is our Specialty • Full Service Shop

We Ship World Wide

## 800.711.BIKE

Campton Hill Rd. & Rt. 64 St. Charles, Illinois 60175

See us on the web at: <http://www.thebikerack.com>



# Numb Feet, Recumbents, & Homo Erectus

by Patrick Quillin, PhD, RD, CNS  
7patrick@concentric.net

Upright "wedgie" bikes have numerous unhealthy side effects that are reported in the medical literature: carpal tunnel syndrome (tingling numbness in the hands), cervical (neck) problems, lumbar back problems, and even the dreaded penile numbness due to nerve and artery compression while riding on tiny seats. Recumbents, though far more healthy and comfortable than wedgies, have some pitfalls that the potential buyer needs to be aware of. Like my grandpa used to say: "Chose your rut wisely, 'cause you'll be in it for quite a while." Chose your recumbent bike wisely, because you will be riding it for hundreds or even thousands of miles.

Long before Beavis & Butthead, humans have been walking upright. This "homo erectus" vertical architectural design differs from our animal friends who walk, hop, crawl, swim, fly, and slither in a more horizontal position. When your heart is pumping blood to extremities at the same gravitational level, the blood circulation equation is very simple. When the heart is forced to pump blood up to the head and down to the feet with the essential return of blood based upon suction and muscle movement, a huge shift occurs in the complexities of life. Our need for a good chiropractic physician is only part of our problem in standing upright. When we sit on a recumbent bike with our feet above the hip level for more than a few minutes, the feet may become deprived of blood and numb feet can be the result.

The challenge of human feet is not getting enough blood, because they downward force of gravity. The challenge of human feet is getting rid of the blood. Ask any clerk who stands on his or her feet all day about the consequences of pooling blood in the feet. Varicose veins, edema, swelling and other problems are at epidemic proportions in people who spend most of their time on their feet. Therefore, the human foot has adapted to become an amazing blood pump against gravity. With minimal muscular movement, blood is pumped out of the foot to fight the inevitable effects of blood pooling from the forces of gravity. When you sit on a recumbent bike with your feet perched higher than your hips, this natural pumping action becomes a problem manifested in some people as numb feet. I know, because I suffered from this problem for two years while riding my recumbent bike.

At first, I thought the problem was due to compression of my sciatic nerve in the buttocks region. So I bought every possible foam padding, gel seat, human fat synthetic feel-alike that the marketplace had to offer. None of it worked. Still had numb feet after about an hour of riding my recumbent. Then I test rode a recumbent with the feet level slightly lower than the hips. Voila!! No more numb feet!! Pop the cork on some champagne and let's celebrate!!

Not everyone is affected by this syndrome. There are 6 billion people on the planet earth, with almost an equal number of different shapes, sizes, and "weak links in our chain" of anatomy and metabolism. Why do half of all smokers die of something other than a smoking related disorder? Several years ago, when inversion boots became the rage, thousands of people bought these boots, hung from poles like a bat sleeping upside down and they felt better for the relief from gravity. But some people using these boots had brain strokes, as the blood was pumped into the brain too fast and burst tiny capillaries that were vulnerable.

The bottom line of this article is simple: The human body works in wondrous and predictable ways. Try a recumbent bike for an hour before you sink a grand or two into something that could bring you years of pleasurable and healthy exercise... or could drive you nuts with numb feet or some such strange reaction. Long live the recumbent movement!

*Patrick Quillin, PhD, RD, CNS is an RCN reader, avid recumbent rider, author and Director of Nutrition, Cancer Treatment Centers of America. He originally purchased a Rans V-Rex. When he found the bottom bracket pedals to be too high, he replaced it with a Rans Tailwind. Check out his website at: [www.4nutrition.com](http://www.4nutrition.com) □*

## RECUMBENT RIDER GROUPS

- ▲AL Hokes Bluff: First Sat/Mo 9am, City Hall, Dave ☎ 205-492-3454
- ▲AZ Tucson Area: Bruce Tucker ☎ 520-299-7146 BentOne@aol.com.
- ▲AZ SW AZ R'bent Riders Montage (SWARRM) Meets in Sonoita, AZ, once/mo. Robert Miller: n4nrk@theriver.com William Sykes: wdbsykes@juno.com
- ▲CA Fresno R'bent Society: Bill Bruce, 923 W Santa Ana, Fresno, Ca 93705 ☎ 559-225-3551, bilbyke@psnw.com
- ▲CA LA Area: 3rd Sun/Mo 10 am@Burton Chace Park, Mindanao Wy, Marina Del Rey. Chris Broome ☎ 310-823-2464, cbroome@usa.net
- ▲CA San Dimas: Larry Scheetz: Ischeetz@access1.net and Ed O'Donnell: eodonnell@earthlink.net
- ▲CA San Luis Obispo: Carole Leone ☎ 805-466-4111, translo@fix.net
- ▲CA San Diego: Last Sat/Mo Mission Bay Visitors Center Bill Volk, bvolk@inetworld.net
- ▲CA Sacramento: Rides along the American River. 1st Sat/Mo. Dave ☎ 916-483-4435 or SacBent@aol.com
- ▲CO Boulder: Front Range Recumbent Riders, 3rd Sun/mo. Greg Poole, gpoole@att.net, ☎ 303-402-1248.
- ▲CT Yankee Pedalers: 2nd Sun/Mo @ 9am. Dave Tipping ☎ 203-484-2937 or nz1j@juno.com
- ▲GA Atlanta: R'bent Cyclist First Sat./Mo 10am. Ben ☎ 770-578-9380 or bpwaters21@aol.com
- ▲HI Hawaii: The Hawaii Rainbow Riders meet every Sunday for a ride on the island of Oahu. Extra bents available for visitors. Contact Lynn Miller miller.L004@hawaii.rr.com 808-456-5707 98-1382 Hoonouua St. Pearl City, HI 96782
- ▲IA Des Moines: Team Romp (R'bents out Mega Pedaling) meets sat. 9am Apr.-Oct. Botanical Center, 909 East River Dr., Lori Leporte ☎ 515-287-5556 or bothjnl@ix.netcom.com
- ▲IL Chicagoland R'bent Riders, www.mcs.net/~gkpsol. Schedule & locations www.mcs.net/~gkpsol/ridingschedule.html, Ed Gin ☎ 773-237-6624 rides year round.
- ▲IL Champaign/Bloomington: Tom Smith ☎ 217-351-7305 or tsmith4@students.uiuc.edu or www.mtco.com/~webstwl/circ1.htm
- ▲IN Ft Wayne: Wendell Brane ☎ 219-749-5610 or WBrane@Ctlnet.com (51)
- ▲KS Lawrence: John Drilling, Box 1342, 66044-8342, ☎ 785-832-9757 (53)
- ▲KY Louisville: Last Sat/Mo @ 8am Central Park (6th & Magnolia). Rain cancels. Mike Reilly ☎ 502/491-0328 or mreilly@bellsouth.net
- ▲MA North Shore + SE NH: 2nd Sat. Recumbent Riders Bob Hicks ☎ 978-774-0906
- ▲MA Boston: 2nd Sat/Mo 10am at Herter Park public theater, 1175 Soldiers Field Rd., George Reynolds ☎ 603-432-7327.
- ▲MD WASH. DC AREA: W.H.I.R.L. 8am Sat (9am-winter) @Viers Mill Rec Center. www.recumbents.com/whirl
- ▲MI MHPVA: Wally Kiehler 1027 Hawthorne, Grosse Pt. Woods, MI 48236 or Kiehler@Juno.com, www.lmb.org/mhpva
- ▲MI SE: Wolverbents 2nd Sat @ 9am—Willow Metropark Pool shelter, @ 9am (Mar-Nov). Bob Krzewinski ☎ 734/487-9058, BobMich@compuserve.com
- ▲MN Minneapolis: MnHPV Minnesota HPV Assoc. 2nd Wed @ 7pm Lk. Nokomis Com. Ctr. Ride 6pm - Mar.-Oct. Mark Stonich ☎ 612-824-2372.
- ▲MO St. Louis: SLABS St. Louis Area R'bent Society, John Werner ☎ 618-931-0557 or bentrus@usa.net
- ▲NJ NY/NJ Metro Area: 3rd Sun/Mo—Geo. WA. bridge (NJ side) John Tetz ☎ 973-584-6481 or jgtez@aol.com
- ▲NY Hudson Valley: looking to start a rider group. Contact Justin Horowitz ☎ 914-658-3401 or dandjhorowitz@cs.com
- ▲NY New York City: Metro Area Recumbent Society's <http://www.recumbents.com/mars>
- ▲NY Long Island: Looking to start rider group. Contact Artie Johnson ☎ 516-325-3516.
- ▲NY Rochester: R.A.R.E. Weekly rides. Hank Walck ☎ 716-217-9450/Michael Berisson ☎ 716/461-5084/Dave Larson ☎ 716-235-4116/Brian Meagan ☎ 716-872-1751.
- ▲NY Western: www.blumoon.net/~padelbra/the\_recumbenteers.htm or Paul Bigelow ☎ 716-896-1626; Ed Weiss ☎ 716-634-9660.
- ▲OR Portland/Vancouver (WA): Oregon Human Powered Vehicles, ☎ 503-617-1759 Rides: Jeff Wills ☎ 360-254-3736 or jwills@pacifier.com
- ▲PA Philadelphia Area: Contact: ☎ 1-888-998-7010.
- ▲TX North: 4th Sat/Mo www.rbent.org
- ▲TX Houston: 2nd Sun. @ Katy HS. Pat ☎ 281-347-3627 (D)
- ▲TX Refugio (South): R-BEST R'bent Bicycle Enthusiasts of South Texas. Bob Dillard ☎ 361-526-2977, wildlife@writeame.com, <http://pages.prodigy.net/bobexotic>
- ▲WA Seattle: Looking for new leader. Contact Neal Duncan at neal.duncan@zoo.org, ndpd@gte.net or 360-794-7781 or contact Kent Peterson at KentP@bsquare.com
- ▲WA Snoho Co. AARC: (All R'bent Riders Club) 3rd Sat/Mo Harvey Field in Snoho Cty. ☎ 206/632-6955 or bradrick@serv.net ☎ 206-632-6955.
- ▲WA SE: WRTW<sup>2</sup> Two Wheeled, Recumbent Riding Trombone Teachers of Walla Walla. Bill Gilbert VonBruno@bmi.net
- ▲WI Milwaukee: SE Wisconsin Recumbenteers www.recumbenteers.com Tony Hunter ☎ 414-475-9081 Rides generally start in the suburban Milwaukee area.
- ▲USA Human Powered Vehicle Association: Contact: www.ihpva.org mail to: president@ihpva.org ☎ 877-333-1029 (toll free)
- ▲CAN CANADA—Calgary R'Bent Rider Group: Sol Candel ☎ 403-250-7588 or mail@moviepostershop.com
- ▲CAN CANADA—Toronto: HPVs of So. Ontario (HPVSO) www.hpv.on.ca, Bruce Buttimore, bruceb@inforamp.net ☎ 416-449-6731 Ext. 289 6pm to 8am EST.

### ▲Recumbent Shop Rider Groups

The following shops host recumbent rides: **Absolutely Recumbent** in Albuquerque, NM; **Fools Crow** in Tallahassee, FL; **The True Wheel** in Hailey, ID; **Cycle Scene** in Ventura, CA; **Zach Kaplan Cycles** in San Francisco, CA; **Valley Bikes** in Crawfordsville, IN; **Easy Rider Cycles** in Spokane, WA; **Wheel & Sprocket** (Hales Corner), WI.

### ▲Rider Group Listings

Do you have a rider group or are you scheduling a recumbent event? Non-commercial listings are free of charge—please send to: bob@recumbentcyclistnews.com.

If you find mistakes or incorrect info, or a group is no longer active, please let us know.



## RCN 2001 Reader Survey

Every few years we prepare a reader survey to ask you how you are feeling about a variety of recumbent oriented topics. Your responding to this survey is the most important thing you can do to support this publication (besides subscribing).

An honestly and sincerely completed survey is good for \$5 off of a subscription renewal (through 9-15-00). If you have recently renewed (in 2000) we'll credit your account an issue.

### About RCN

Please rate how much you like each type of article found in RCN. (5=Best; 1=Worst).

1. Editorial License and Bob Rants 5 4 3 2 1
2. Road Tests (Bob Bryant) 5 4 3 2 1
3. Road Tests (other writers) 5 4 3 2 1
4. Reader Road Tests 5 4 3 2 1
5. Anthology (interviews) 5 4 3 2 1
6. Letters to RCN 5 4 3 2 1
7. Touring Narratives 5 4 3 2 1
8. Technical (Zach tires) 5 4 3 2 1
9. Design History (like Crank-It!) 5 4 3 2 1
10. Recumbent History (Mochet) 5 4 3 2 1

Please rate these future article ideas:

11. Modification/do-it-yourself 5 4 3 2 1
12. Bike Homebuilder Articles 5 4 3 2 1
13. Industry/politics editorials 5 4 3 2 1
14. Riding technique/fitness 5 4 3 2 1
15. HPV Racing Coverage 5 4 3 2 1
16. Bike Comparisons 5 4 3 2 1
17. About RCN Readers 5 4 3 2 1
18. About Favorite Rides 5 4 3 2 1
19. Cartoons/comics 5 4 3 2 1

20. Are RCN articles too long? Y N

What else you'd like to see in RCN

21. \_\_\_\_\_
22. \_\_\_\_\_

### RCN Service (Y=Yes; N=No)

23. Is RCN too expensive? Y N
24. Are the first class mail & polybags worth \$10 + per year in the subscription cost? Y N
25. Would you prefer a \$30 per year (3rd class/no polybag) option if it were available? Y N
26. Would you stay with first class mail if it were a more expensive option? Y N
27. How many RCN issues per year would you like to see per year: 4; 6 (current); 9; 12

### eRCN Internet

28. Do you have internet access? Y N
29. Do you have email access? Y N
30. Would you be interested in a \$12 +/- per year electronic downloadable monthly eRCN? Y N
31. Would an eRCN need to be free? Y N
32. Would you accept a less critical free eRCN? Y N
33. I would prefer \_\_\_ eRCN; or \_\_\_ mailed paper RCN.
34. My idea for an eRCN is as follows: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Rate the Recumbent (5=Best; 3=Median (good); 1=Worst)

- |                             |                       |
|-----------------------------|-----------------------|
| Angletech/Boulder 5 4 3 2 1 | Linear 5 4 3 2 1      |
| Barcroft 5 4 3 2 1          | Longbikes 5 4 3 2 1   |
| BikeE 5 4 3 2 1             | Radius 5 4 3 2 1      |
| Bike Friday 5 4 3 2 1       | Rans 5 4 3 2 1        |
| Burley 5 4 3 2 1            | Reynolds 5 4 3 2 1    |
| Cambie 5 4 3 2 1            | Rotator 5 4 3 2 1     |
| Easy Racer 5 4 3 2 1        | S & B 5 4 3 2 1       |
| EZ1 Supercruiser 5 4 3 2 1  | Terracycle 5 4 3 2 1  |
| Earthcycles 5 4 3 2 1       | Trek 5 4 3 2 1        |
| Greenspeed 5 4 3 2 1        | Turner 5 4 3 2 1      |
| Haluzak 5 4 3 2 1           | Vision 5 4 3 2 1      |
| HPM 5 4 3 2 1               | WizWheelz 5 4 3 2 1   |
| ICE (Trice) 5 4 3 2 1       | Windcheetah 5 4 3 2 1 |
| Lightning 5 4 3 2 1         | _____ 5 4 3 2 1       |

### How much does this design style interest you?

- Low SWB (Barcroft & lowracers) 5 4 3 2 1
- High SWB (Trek; Vision Saber; dual big wheel) 5 4 3 2 1
- Low LWB (Rans V2 & Rotator) 5 4 3 2 1
- High LWB (Burley) 5 4 3 2 1
- Entry level/Inexpensive models 5 4 3 2 1
- Full fairing/streamliners 5 4 3 2 1

### About You

35. My Favorite is: \_\_\_ SWB; \_\_\_ Compact; \_\_\_ LWB; \_\_\_ Trike.
36. My Favorite is: \_\_\_ USS; \_\_\_ ASS (OSS); \_\_\_ Other \_\_\_\_\_.
37. I own \_\_\_ recumbent, \_\_\_ upright and \_\_\_\_\_ bikes.
38. I plan to buy a new recumbent within the next \_\_\_ 3 months; \_\_\_ Year; \_\_\_ Not any time soon.
39. How many miles do you ride per year: \_\_\_\_\_.
40. (Optional) Age \_\_\_\_; Sex \_\_\_\_; Income: high mid low
41. I ride my recumbent \_\_\_\_\_ miles per year.

### Future Stuff

42. Did we forget anything? Please send us a note if we did.

Thank you for participating in this survey.



# RCN Classified Ads

## Recumbents For Sale

**FOR SALE: Klein Mantra Comp Full Susp. MTB, 24-speed, Shimano STX/Rapid Fire /Sugino drivetrain, rack, yellow, matching yellow clipless pedals + yellow Bontrager rise bars + taller stem. \$800 + shipping days 360-379-6373 or drrecumbnt@aol.com (WA)**

**FOR SALE: VISION VR-42, USS, LWB, 20" front, teal. Includes SWB and 16" conversion kits, Vision bag, rack, thermorest pad, low miles, \$800 OBO + shipping Tel. (253) 912-5902 or email Devil8Dog@aol.com (Seattle area) (59/WA)**

**FOR SALE: 1998 ANGLETECH ALTITUDE SWB, less than 1000 miles. Have stopped biking, but it is a great bike. Original cost \$4000, will sell for \$3000. Call John Morris at (515) 581-5756 (IA/58)**

**FOR SALE: 1996 RANS V-REX 24/20. Lg. frame. 63-spds Avid 4.0 V type brakes, Fat tire format. Many extras. \$650.00 shipping included. Maui, Hawaii John 808-572-1327 email: chiranjib@aol.com (HI/58)**

**FUTURE CYCLES UK** The RCN European Connection. Tel. 011 44 1342 822847 Friends Yard, Forest Row, East Sussex RH18 5EE England <http://www.futurecycles.co.uk>

**bikepartsUSA.com**  
bike parts, bikes,  
accessories &  
great prices

## Classified Ad Order Info

**Subscriber/Non-Commercial Rate:** \$10 for two insertions to 35 words. Non-Sub.: \$30. Must be prepaid in advance. Mail copy and payment to: RCN Classifieds, PO Box 2048, Port Townsend, WA 98368 USA

**Commercial Rate:** Call 253-630-7200 for a commercial ad rate sheet.

**Free Classified Ads:** (subscribers only) Parts Wanted. Parts For Sale, Bikes for sale-under \$699, Personal ads and Tour Partner Wanted/ ride announcements. Ads taken by mail/email.

Ad Deadline for RCN#59 is July 1, 2000

## Recumbents For Sale

**FOR SALE: 1999 RANS V-REX, blue, < 500 miles, (didn't like OSS), 22/32/44 crankset (18-104 gear inches), large seat bag, kickstand, suspension fork, computer, fenders, spare tubes. \$1500. Tel. 501-982-4150 [rpicard@aristotle.net](mailto:rpicard@aristotle.net) Arkansas (AR/59)**

**FOR SALE: 1998 VISION R45 FULL SUSPENSION, Ultegra 27-speed, USS, <300 miles. Conti GP Tires, excellent cond., seat bag, shock pump. \$1799 Tel. 509-837-7803 (eves) [rduran@bentonrea.com](mailto:rduran@bentonrea.com) (WA/59)**

**FOR SALE: 2000 VISION VR40, blue, USS, 20" front wheel, Shimano 27 spd, day bag, \$600.00. SOLD**

## LaBent by LaDue



Recumbent plans & kits  
For prices & info send SASE to:  
1607 S. 84<sup>th</sup>, Lincoln, NE 68506  
or see [www.radiks.net/~ladue/](http://www.radiks.net/~ladue/)

Comfortable in southern Illinois  
**TOM'S BIKE ANNEX**

Tel. 618-262-4088

All Brands & Models

More Recumbents - More Experience

[BikeRoute.com/BikeAnnex](http://BikeRoute.com/BikeAnnex) [bikeman@wworld.com](mailto:bikeman@wworld.com)

624 Market St. Mt. Carmel, IL 62863

"We actually ride em" 57

## 2 SEAT BIKE

Drives Like a Car!

Easy to Pedal

Multi-Speed

Street Legal

1, 2 & 4 Seater

Free Literature

**RHOADES/ CAR**



1-615-822-2737 Ext. 16186

[www.4wc.com/?16186](http://www.4wc.com/?16186)

## Hampton's Edge Trailside Bikes

Sale · Service · Rentals

Easy Racers · Rans · BikeE · Lightning · Vision

9550 East Atkinson Court in Istachatta, Florida

On the Withlacoochee Trail in north Central Florida

60 miles north of Tampa close to Interstate 75

Tel. 352-799-4979

Credit cards accepted

## Dealers - Recumbent

**The Bicycle Man** Largest recumbent & bent tandem selection in NY & PA: Easy Racers, Lightning, Haluzak, Linear, Rotator, RANS, Vision, BikeE, TREK R200, RANS Screamer BikeE E2 & Longbikes tandems! [www.bicycleman.com](http://www.bicycleman.com) Alfred Station NY 607-587-8835

## Wedgies For Sale

**FOR SALE: Klein Mantra Comp Full Susp. MTB, 24-speed, Shimano STX/Rapid Fire /Sugino drivetrain, rack, yellow, matching yellow clipless pedals + yellow Bontrager rise bars + taller stem. \$799 + shipping days 360-344-4079 or drrecumbnt@aol.com (WA)**

## Tour Partner Wanted

Tour partner(s) wanted for Australian saga. Contact [charlesdewulf@hotmail.com](mailto:charlesdewulf@hotmail.com) or 520-684-1087

## Accessories

Stainless steel Lowrider Racks for RANS bags for Rans and BikeE.  
[www.McElburg.de](http://www.McElburg.de)  
[info@McElburg.de](mailto:info@McElburg.de)

58

## Power On Cycling

Quality Recumbent  
Components & Accessories  
[www.poweroncycling.com](http://www.poweroncycling.com)  
Tel. 813-661-6762

# New Orleans

## Ride 'em & Blues Tours

3-day bike & music tour.

Lay back on a recumbent trike and let the unique

sights, sounds and tastes of a great city wash over you.

[www.laidbacktours.com](http://www.laidbacktours.com)  
or 1-800-786-1274

## Advertise your business here

From \$50 or \$240 per year  
[RCNBobBryant@aol.com](mailto:RCNBobBryant@aol.com)

## A Bike Shop Like No Other

Vision - Easy Racers - Haluzak - Rans  
Lightning - BikeE - Tandems - Linear  
Trikes - Kids - Accessories - Frame Repair &  
Refinishing - Custom Wheels - Obscure Parts  
Rental - Mail Order - Trade Ins - Consignments  
Long Test Rides in Rural Maryland  
Mt Airy Bicycle - [www.bike123.com](http://www.bike123.com)  
Tel. 301-831-5151  
1-888-RECUMBENT-orders only

**TANDEM TOPPER**



One Person Loading!

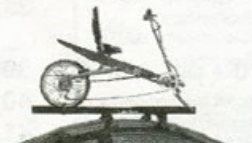
**TOPPER LOK**

Fits any 9mm fork mount



Give your rack a security upgrade

**BIKE TOPPER**



Models to fit any size 'bent

ATOC

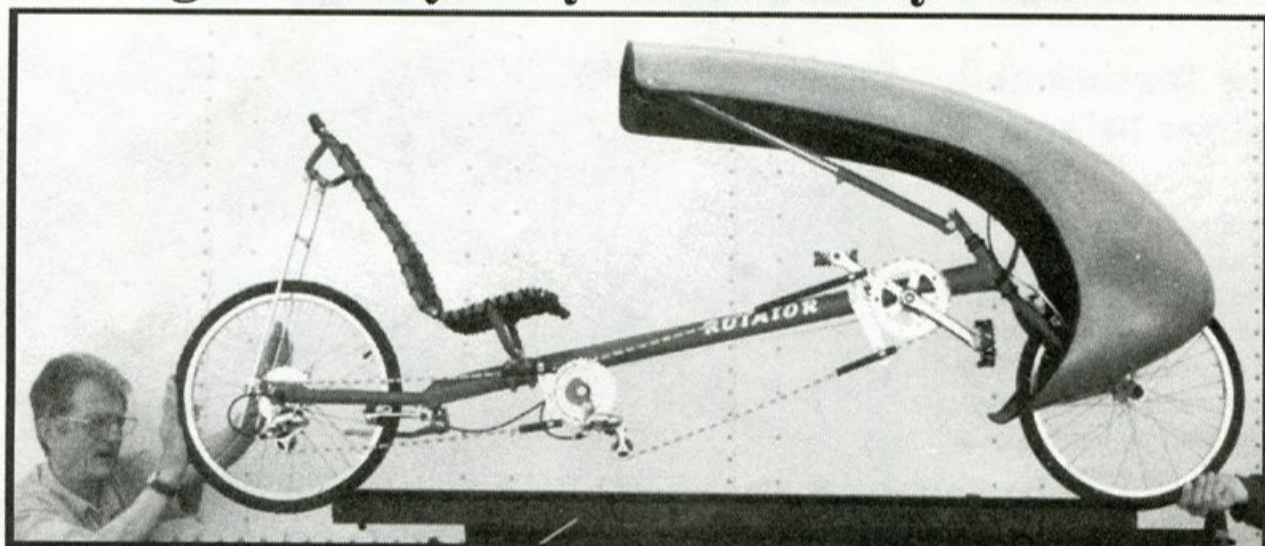
ROOF RACKS  
TO FIT ANY TWO WHEELER

(800) ATOC-021 <http://www.Atoc.com>

**TOPPER**  
Rack Products



# Origins of mystery craft finally revealed!



*Photo courtesy of JPK wireservices*

In response to what some are calling the "Hales Corners incident" unnamed government sources have finally revealed that the mysterious sightings of strange and unusual craft observed in various locations around the Hales Corners region are not a hoax. Amid speculation of a possible high-level government cover-up and rumors that officials have been turning a blind eye on these sightings for years, the facts have now been laid bare! In a recent press conference called by noted SETI researcher and astrophysicist Dr. Harold Wozniak, he dispelled any notions that these bizarre vehicles were extra-terrestrial in origin and produced dramatic evidence (see photo) to support his position. "Although these things may be extra-terrestrial in terms of comfort," says Wozniak, "you can find them at down-to-earth prices at Wheel & Sprocket, at least that's where I got this one." So while the search for higher intelligence continues, demonstrate some of your own ... Stop in for a test ride today; just bring photo identification (terrestrial or otherwise).

Call or stop in...

## Recumbent Headquarters

- Yes - we're open seven days a week!
- Yes - we take recumbent trade-ins!
- Yes - we upgrade and customize!
- Yes - we can ship world-wide!
- Yes - we want your business!



**Store Hours: Mon thru Fri 10am to 8pm  
Saturday 10a to 5p, Sunday 12 to 4p**  
Let our 10 years of expertise in the recumbent business help you to find the bike that best suits you!

E-mail: [wheelweb@execpc.com](mailto:wheelweb@execpc.com)

**Wheel & Sprocket**

[www: wheelsprocket.com](http://www.wheelsprocket.com)

- No.1 Rans Dealer in the nation
- No.1 Easy Racer dealer in the nation
- Nationally acclaimed recumbent sales and service experts
- Huge selection of bents in-stock
- Stop in and road test

**5 Wisconsin Locations  
Recumbent Headquarters**

**\*Hales Corners Store  
5722 South 108th Sreet  
Hales Corners WI 53130**

**All of the top brands:**

Barcroft • Bike-E • Burley\* • Easy Racer  
Haluzak • Lightning • Linear • Longbikes  
Rans • Rotator • Trek R200 series  
\*New 'bent brand and model for 2000!

**Most Fun! Best Deals!**

**Toll Free 800-362-4537**

**Satisfaction Guaranteed!**

**Bikes on-hand:**

Bike-E CT  
Bike-E AT  
Bike-E NX  
Easy Racer Tour Easy  
Easy Racer Gold Rush  
Haluzak Horizon  
Haluzak Hybrid Race

Lightning Stealth  
Lightning P-38  
Linear Std Folding  
Linear Std Welded  
Linear Mach III  
Longbikes Vanguard  
Rans Gliss  
Rans Screamer

Rans Wave  
Rans Tailwind  
Rans Rocket  
Rans V-Rex  
Rans Vivo  
Rans Stratus  
Trek R-200  
Trek R-200 R

**NEW!!**

Burley Limbo  
Longbikes Nitro  
Longbikes Eliminator  
Longbikes Slipstream  
Rotator Ti Pursuit  
Rotator Pursuit  
Rotator Tiger



# Easy Racers: Our Customers Speak

## Another Testimonial, Another Friend

Dear Gardner,

Over the years I have purchased many items, as most of us have. In that process some companies, products, and persons do better than others in reference to the way they treat their customers and the way they follow up with their product and services. One of the greatest assets, gifts, or talents I believe is making your customer feel as though they are part of the family.

You as a person and your company as an extension of that person excel.

How would I rate:

- |                      |           |
|----------------------|-----------|
| 1. Customer service  | Excellent |
| 2. Product quality   | Excellent |
| 3. Follow up         | Excellent |
| 4. Product knowledge | Excellent |

When it comes to all of the above you are probably the biggest company on customer satisfaction I have had the pleasure of dealing with.

Thank you for making me part of the Easy Racer family.

John Pezza



*Laurie Smith on her Tour Easy. Laurie was not an avid cyclist until she bought a Tour Easy in June of 1999. By September, 1999, she had blown the doors off the long standing Vancouver (Washington) Bike Club Women's Recumbent 10 Mile Time Trial Record. Previous record 30:57.*

## EASY RACERS INC

Easy Racers, Inc.  
PO Box 255  
Freedom, CA 95019

Laid Back and Loving it!  
Urgent. Call Today!  
Tel. 831-722-9797 Fax 831-768-9623

Guaranteed  
opportunity to save your  
health.

Tooeasy1@aol.com • www.easyracers.com



**RCM**

PO Box 2048  
Port Townsend, WA 98368 USA

Address Service Requested

\*\*\*\*\*3-DIGIT 604  
62 LAST ISSUE 1803 30  
STEVE BAKER  
933 SHIRLEY PKWY  
NEW LENOX IL 60451-2046

Presorted  
First Class Mail  
U.S. Postage  
PAID  
Tacoma, WA  
Permit # 899

