

# Recumbent Cyclist News

RCN 087 A Publication by and for Recumbent Enthusiasts Since 1990 March/April 2005



The elegant Volae Club Highracer  
See page 16



Now I Know Jack (Knife)  
Tom Beuligmann's front-wheel  
drive recumbent  
See page 25



Kate Oom on the WizWheelz Edge trike

## The WizWheelz Edge: A Carbon Fiber Trike

By Bob Bryant

[bob@recumbentcyclistnews.com](mailto:bob@recumbentcyclistnews.com)

*"Yes, This IS Rocket Science: The Edge has been in development for well over a year. The Edge has a full carbon fiber frame with machined aluminum intersections and is truly a work of art that was co-designed by Advanced Composites (Wound Up), the carbon fiber experts. We have an exclusive agreement with them and their input has been invaluable. They make consumer products such as bicycle forks but they also make torpedo tubes, missile launching tubes, and rocket launching systems for the defense department so yes, you can certainly tell your friends your trike IS rocket science."*

The WizWheelz Edge is just about the most high-tech trike we've ever had here at RCN. Compared to other trike makers, WizWheelz seemed happy to build trikes for average folks. Well, this has changed. For the past year WizWheelz has been quietly developing the high-tech carbon-fiber Edge tadpole trike. Rather than do it completely on their own, WizWheelz sought out the expert help of the folks at Wound Up/Advance Composites. The result

is an incredibly light, fast and beautiful enthusiast trike. It's not only the smoothest trike I've ridden. It's also an exceptionally good buy.

### SYSTEMS

*"The Edge has a perfectly straight and true frame because there is not one weld on the entire main frame and there is no need for heat treating after the fact. No applied*

*Continued on page 8*

## What's Inside

- Road Test: WizWheelz Edge .....Cover and 8
- Editorial License: Reality Check....02
- Recumbent News..... 03
- Letters..... 06
- Road Test: Sun Easy Rider..... 11
- Road Test: Volae Club..... 16
- Recumbent Bicycle Safety.....20
- Road Test: Cycle Genius RDX.....22
- Now I Know Jack (Knife) (FWD)...25
- Calendar.....29
- Classified ads.....30

Check out our updated website at:  
[www.recumbentcyclistnews.com](http://www.recumbentcyclistnews.com)

# Recumbent Cyclist News

"A newsletter by and for recumbent bicycle enthusiasts, since 1990."

## Subscription Information

Recumbent Cyclist News is published six times per year, every other month. See below for subscription rates.

## Contact

RCN, PO Box 2048, Port Townsend, WA 98368  
Tel. 360-379-5607  
E-mail: bob@recumbencyclistnews.com  
Web: www.recumbencyclistnews.com

## Mailing Info

Mailing Label: "EXPIRES 086" means that RCN 086 is the last issue of your current subscription. Address Changes: Please allow 6-8 weeks notice for address changes. Standard mail: RCN is mailed USPS 3rd class — which is NOT forwardable. If you move often, have multiple addresses or file address forwarding requests with the USPS, please use our first class mail subscription option.

## Fine Print

© 2004 by Planet PT, Inc. in Port Townsend, WA. Contents may not be reproduced in whole or part unless expressly authorized in writing. ♦

## Subscribe To Recumbent Cyclist News Today!

- Read all about it!
- Road Tests
- News & Rumors
- Critical Analysis
- Adventure Stories
- Technical articles

RCN is published SIX times per year, every other month

- \$40 One Year USA First Class Mail in env.
- \$30 One Year USA/6-issue 3rd class mail
- \$56 Two Year USA/12-issue 3rd class mail
- \$42 Canadian Airmail (USA Funds only)
- \$60 Worldwide Airmail in envelope
- \$16 Three back issues (USA)
- \$6 One back issue or 2004 Buyers' Guide (See web or classifieds for issue list) (USA)

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State/Zip: \_\_\_\_\_

Email/Tel: \_\_\_\_\_

Mail To:

RCN, PO Box 2048  
Port Townsend, WA 98368

For faster service, visit our website and order via PayPal:  
www.recumbencyclistnews.com

## Editorial License: Reality Check

by Bob Bryant, Publisher  
bob@recumbencyclistnews.com

The recumbent world's new obsession with speed, performance and light weight may not be a healthy one. When racing permeates a segment of bicycling, the change is not always for the better. The focus can shift to the most expensive and elitist aspect of our sport. This elitism often breeds intolerance and condescending attitudes.

Performance talk in the recumbent world is all over the Internet. I've had several newbies make comments about performance driving our industry. I truly hate to think that this has become the case. Actually, I don't think it is true. I can see how newbies might get this impression, as the performance riders seem to be more vocal on the web than commuters, tourists or recreational riders.

While I like the ride and feel of a 20+/- pound bike as much as the next rider, I'm not Lance Armstrong, I don't have several back up bikes, spare wheelsets or a team mechanic. It's just me and my bike out on a ride. Ultimate lightness can be a contradiction. I need a bike and parts that will be good for my real world riding. Speed and light weight are not everything.

## Basic Equipment

To have a useable all around bike you need to be able to carry some basic equipment:

- Tools
- A good lock
- A few spares (a tube, etc.)
- Rain gear
- Water and a snack

To carry this stuff, you'll need a seat bag or rack/pannier. If you ever plan to get off your bike, especially your \$4,000 high zoot model, you'll also need a damn good (and heavy) lock. Most real world recumbents need fenders and they aren't light. While you're at it, why not throw on a kickstand, a rear view mirror and a bell/horn. Even if you're not a zealot like me, but a Weekend Warrior on club rides, you still need much of this basic equipment. Adding this equipment to your bicycle will absolutely make it heavier.

## Ride for Utility, Fitness, Fun & Transportation

I use my bikes as my transportation. My daily rides might involve the following:

- Running errands
- Light shopping
- Delivering the mail to the post office
- Picking up the mail from the post office

- Fitness rides (combined with errands)

On any given day I might ride over the following terrain:

- Multi-use unpaved trails
- Unpaved short cuts
- Rail trails (gravel)
- Bike trails (paved)
- Rough country roads
- Smooth city roads

## What Works for Me

My preference for design and equipment may be toward the utilitarian extreme, but I will share it with you. What works best for this is a very versatile bike. I also like my feet a moderate height for urban, off-road, gravel or any less-than-perfect terrain. I find negotiating through traffic is easier on this sort of bike as well. I also prefer the *begging hamster* bars to *tweaners* for tight maneuvering in urban settings (though I prefer *tweaners* for the open road).

## Pedals & Tires

When I'm riding in town or on mixed terrain gravel trails, in traffic, hauling cargo or on rainy days, I prefer to be in street shoes. Unfortunately, finding decent street shoes for cycling is difficult. This season I've gone back to basic Shimano bicycling shoes. I don't use clipless pedals, straps or toe clips very often. I use MTB bear-trap or pinned BMX pedals. These keep my feet on the pedals. If I rode high crank recumbents a lot or was planning a big ride or tour, I'd go back to clipless (probably SPDs). I don't have any problem with clipless, I just prefer being able to move my feet around on the pedals.

I've found that fatter tires run at lower pressure and give me more comfort and fewer flats. I can still ride around town at 12-20 mph — and I'm often faster than cars around town. I prefer 1.25" tires at 100 psi for my performance bikes, and will go up to 1.75" on urban bikes run at as low as 65 psi. 1.5" is a good compromise size. If you are over 200 pounds, forget about tires narrower than 1.25".

## Clothes

I have a mix of bike clothes including lycra bike shorts, tights and MTB shorts. I generally wear a cycling jersey and my Pearl Izumi cycling jacket or Burley rain coat (mainly for visibility). Sometimes I even wear Levis, as I don't like looking like a lycra-headed clown all the time.

Continued on page 7



# Recumbent News

## TerraCycle reinvents the chain idler from the ground up.

These lightweight, Super Efficient chain tensioners with ABEC 7 bearings, super-tough urethane, and zero flex do the job right

Recumbent bikes use long chains and require chain idlers to keep everything in line and running smooth. Idlers are a key component, and they affect performance just like the quality of your bottom bracket bearings or your rear derailleur. There are all kinds of high performance bottom brackets and derailleurs, but no one has taken the time to make a high quality chain idler. What is available is generally based on a soft rubber wheel with a groove in it, and some ordinary bearings. Idlers like this are simple enough to design and manufacture, but they add a lot of drag and they tend to wear unevenly. One of the biggest power train losses is chainline friction. Just like with a high quality derailleur or bottom bracket, you can feel the difference

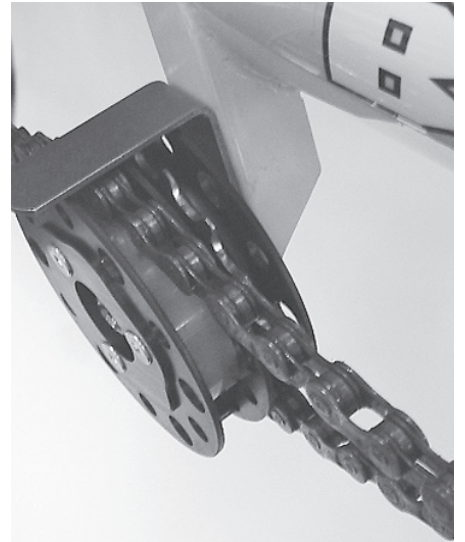
TerraCycle specializes in recumbent components, and it wasn't long before we started developing a performance quality idler. We researched what was needed, and have been making prototypes, putting them on bikes, and

refining our designs for eight years. Designed from the ground up to guide the chain with the least rolling resistance, they are quieter, more responsive, and noticeably more efficient. And because we run a toothed cog on super smooth ABEC 7 bearings, they pretty much don't wear out. To date, after several thousand logged miles of heavy touring, no one has had to replace a single one of our idlers.

The power side if the chain is supported by a 15 tooth solid metal cog, the same sort of metal cog shape that chains are designed for. The only contact between the chain and the idler is through the pivot bushings, so the load is carried the way the chain was designed to have loads carried- through the bushings. This means there is no rubbing and grinding of the side plates into the idler. The entry and exit if the chain is very smooth, with no bumping of the side plates. This makes the idlers significantly quieter.

The metal cog also eliminates the *mush* or compression found in rubber idlers. No mush means crisp sprints and higher running efficiencies. Your power goes into making the bike move forward, not into compressing plastic. Metal is also much more durable — to the point where the titanium cog versions are basically lifetime parts.

Efficiency is also improved by the larger size of the idlers. Larger diameters mean less chain



bend and lower peak forces. Both of these effects contribute to lower drag and less noise. "I can definitely feel the difference on sprints" is something we hear all the time.

All idlers are precision machined and use ABEC 7 bearings for the ultimate in smoothness and long life. We also designed the idlers to be completely rebuildable, even on the road, using widely available 7x22mm bearings and a standard Shimano pattern on the cog carrier to ensure there will always be a wide variety of replacement options.

Look for them at your favorite retailer or contact us at TerraCycle.com. ♦

A large advertisement for Catrike. At the top, the word "CATRIKE" is written in a bold, italicized, sans-serif font. Above the letters "A", "T", and "R" is a stylized silhouette of a panther or leopard in a pouncing position. Below the logo is a black and white photograph of two people riding recumbent trikes on a paved path. The trikes are sleek and aerodynamic. In the bottom right corner of the advertisement, the text "Human Powered Vehicles" is written in a small font above the word "BIGCAT" in a large, bold, italicized font. Below this, the address "720 Business Park Blvd, Unit D Winter Garden, FL 34787", phone number "(407) 293-1626", and website "www.catrike.com" are listed.

## TerraCycle develops a full line of custom under-seat pannier racks

Safer, more accessible, low center of gravity racks now available for all major models of recumbents.

Recumbent riders know that underseat racks are safer and more stable. They eliminate the handling problems many people experience on steep climbs and fast descents. People have been using rear racks on recumbents just because they are readily available.

Underseat racks are difficult to make, because they require custom mounting brackets specific to each bike. TerraCycle has solved this problem with a unique modular system.

Ever since we started making our custom Easy Reacher pannier racks, people have been calling for us to expand the line. People liked the having the weight down low under the seat and having things within easy reach while riding. The lower center of gravity increased stability both uphill and down.

With more and more people calling to get this kind of performance for their bikes, we decided this year to expand the rack line and invest in designing and machining the specialized parts necessary to fit every bike Burley, RANS, Bacchetta, Volae, Barcroft, and Easy Racers makes. And we've even managed to lower the price.

The racks are lightweight, super-tough, and the mounting brackets are precision fit to the exact profile of each bikes' tubing, whether it's round, square, aero, you name it. All components are machined out of 6061 Aluminum and anodized for durability. All lock in place using a standard 4mm allen wrench. Installation is fast and easy — less than 5 minutes.

Contact: terracycle.com

### Eco-Friendly Seatback Bags

Cyclogical Recumbent Bicycles is proud to announce their new EconBag Recumbent Seat/



Terracycle's RANS Rad-Loc mount



TerraCycle's Burley mount



NorthEast Recumbents

Easy Racers · Vision · Lightning  
Greenspeed · HP Velo · RANS & more

For test rides & showroom  
CALL Tel. & Fax: 973-239-8968  
9 Wayland Drive, Verona, NJ 07044

Messenger Bag which fits EasyRacers EZ-Series and CycleGenius seats. EconBag messenger bags are made from a patented sheet rubber incorporating recycled automobile tires. Their unique bags are Earth-friendly and made in the U.S.A. exclusively for cyclogical recumbent bicycles by Vulcana Inc. (vulcanabags.com). Vulcana uses recycled rubber to make attractive, eco-friendly products. Developed as a leather alternative, their recycled rubber products are made from the tires that have been piling up in our landfills at an alarming rate.

Contact: www.cyclogicalrecumbents.com.



WizWheelz' Mike Kessenich

### WizWheelz Introduces New Product Manager

WizWheelz is pleased to announce the addition of Mike Kessenich to the WizWheelz team. Mike is the product manager for WizWheelz for current production as well as being used as the director of supplier development for new products.

Jack Wiswell, one of the founders of WizWheelz said, "We really like what Mike brings to the table. He is a good fit and an asset to our team." Mike has a background in engineering management, customer service, quality control, purchasing and sales. He has spent the previous ten years of his career as vice president of sales and marketing for Velocity wheels.

WizWheelz, Inc. is located in the Hastings, MI. The company was founded in 1996 by three friends who began by welding the first TerraTrike frame in a garage. Today,

# BACCHETTA



Rider: John Schlitter  
Age: 47  
Bike: Bacchetta Aero  
Event: 2004 Bike Across Florida  
Distance: 167 miles  
Finish: First, 6:34:10 (course record)



**MAXIMIZE YOUR PERFORMANCE • BACCHETTABIKES.COM**



WizWheelz has customers in 48 states and 12 countries.

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

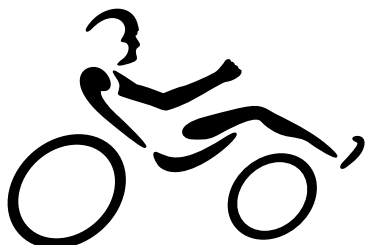
### Think Pink!

It has finally happened . . . the Pink Stelvios are back in stock! If you are wondering why you have not had these tires in your shop yet, it is because they are a special product commissioned specifically by Schwalbe North America and are not in the catalogue. Pink Stelvios are not available in Europe.

Also available is the Mango coloured 20" Stelvio Light (20" x 1.125). For recumbent riders who want more excitement than basic black. This tire was developed for Dahon folding bikes.

Both the Pink and Mango Stelvios have the same dual compound as our other Stelvio Next Generation tires

Contact: [www.schwalbetires.com](http://www.schwalbetires.com) or 888-700-5860.

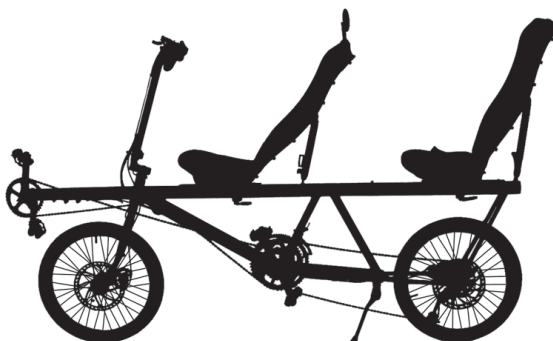


© Atoc, Inc.

### Recumbent Decals

Show your recumbent pride! Weatherproof vinyl recumbent decals, 2 for \$5. Quantity discounts for dealers, from Atoc, Inc., 6615 180th St SW, Lynnwood, WA 98037 or [www.atoc.com](http://www.atoc.com) ♦

## BARCROFT COLUMBIA



- Fast & nimble
- Easily transported
- Compact 81" length
- Front suspension
- Disk brakes
- Comfortable

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

703.750.1945

## BICYCLE



20 Recumbents In Stock Every Day

All ready to test ride

- |               |             |                 |
|---------------|-------------|-----------------|
| • Bacchetta   | • RANS      | • Vision        |
| • Easy Racers | • ICE       | • ATOC products |
| • Burley      | • Hediger   | • Trikes        |
| • Lightning   | • Longbikes | • Tandems       |

We ship anywhere in the USA!

82 Mill Street (Rt.62) · Columbus, Ohio 43230

Tel. 877-282-7663 · [www.bicycleone.com](http://www.bicycleone.com)

## We Sell Dual Fun!



Sociable™ Dual



**Just Two Bikes®**

Recumbent Specialists

Dual · Trike

Call 800-499-1548

Visit Us At: [www.justtwobikes.com](http://www.justtwobikes.com)



Volae Club with XP Fairing & Mount.

## We sit behind our product Windwrap® Fairings Weather protection & aerodynamics

"Keep your toes warm and go a little faster this winter. Introducing the Windwrap foot fairing for Bacchetta and Volae highracers. Less than 2 pounds **fairing and mount** in the .040" thick version. Still quiet running as always. 1 year warranty (for normal use on MHP mounts) and great service!"

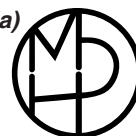
Toll Free Phone (US & Canada)

877-267-1645

Phone/Fax: 707-442-8133

[mhp02@windwrap.com](mailto:mhp02@windwrap.com)

<http://www.windwrap.com>

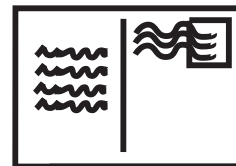


**Mueller**  
Human-Power  
made in the USA

# Letters To RCN

We want to hear what you have to say!

letters@recumbencyclistnews.com



Marty Goodman and his Aero

## New Aero

I recently took delivery of my brand new, custom-configured, titanium Bacchetta Aero. I've been riding LWB recumbents, primarily an Easy Racer Gold Rush, for many years, and I like my Gold Rush a great deal. But the Aero is far lighter, almost as aerodynamic as the Gold Rush, but without need of heavy front Lexan fairing and body stocking and mounts for same. It handles marvelously. And hopefully will be better (as recumbents go) at climbing.

Preliminary testing on the hill near my house indicates I can climb in 3rd from lowest gear on my new Aero a hill that required lowest gear on my Gold Rush.

The big question will be whether I can tolerate a SWB highracer: as about one in 10% or so folks who get one find their feet get numb, to the point of making it impossible for them for a long period of time. Years ago I rode a Lightning P-38 for 30 miles, and had no problems. But that was years ago, and that was a different variant of SWB bike. We'll see.

This bike is elaborately configured, with a titanium Rotor Crank crankset, that articulates for better power when mashing the cranks climbing hills, chain with hollow pins, etc. optimized for weight and speed. Zach Kaplan helped me decide on componentry, and sold me the bike. Master bike mechanic Conrad Oho assembled it.

Marty Goodman

## RCN Back Issues

In nearly every issue of RCN one or more subscriber, in a letter to the editor, mentions reading their recently arrived copy of RCN cover to cover and then express sorrow in having to wait two months for the next. Well, why not give yourself a great lift this spring and buy a dozen or so back issues you don't already

own? These might get you through three or four *between issue* bad patches, or maybe even until you could request another dozen as a birthday present, and then as a Christmas gift, etc., etc. This not only gives you year round RCN reading, but extremely detailed knowledge of the history and development of recumbency over the last fifteen years. And it helps our RCN. So start collecting RCNs. You're not only getting some great reading for those miserable, 35 degree, rainy spring days when you can't ride and it's six weeks until the next RCN comes out. You're helping the cause.

John Alden

## Lance & Recumbents

Dr. Kim Henry's premise (RCN 084 letter) that Lance and the racing boys drive the market is a bit off the mark. If you don't think price is what is holding back the recumbent market, just walk into any Wal-Mart, K-mart, or local bike shop that sells *regular* bikes.

You'll see that most bikes that the general public buys are well below the price of even the cheapest recumbents. I don't know where you ride, but every place I've ridden, I've had two reactions from most folks that see my bike. First they think it's cool and ask if it's as comfortable as it looks. After that they ask *how much it costs*. Without exception, when I mention the cost, I see them shut down. I see the look in their eyes that says "I'll never afford one of those."

Now take a look at the recumbent market. You'll see that just like any advancing market there are the "latest and greatest" junkies that buy the stuff on top. But you'll also see that every time they come up with a lower priced model, the sales jump.

Just look at Easy Racers and Sun. I've been riding my EZ-1 for 3 years, I picked it for two reasons:

1. It's was the cheapest one I saw.
2. I could get on it and ride.

The average person wants a bike they can pull out of the garage and go. They don't want to "get the hang of riding it." And they don't want to spent a months pay on it.

KRASH

*Editor Comments: The only thing I might add is that you need to buy cheap recumbents from a good dealer to help with failures, possibly warranty issues or other problems. I have had three bikes (under \$1000) have wheel problems this season. All were black spokes on*

wheels that had machine-built in Taiwan wheels. A good hand built wheel is about \$150, so the cheap aspect can go out the window really quick if there are problems. Often recumbent riders ride more than upright riders so there is more wear. Luckily, cheap parts seem to hold up better on recumbents.

## Crank It!

The crew at Crank-It wishes to thank you for your Mountain Quad road test article in RCN 085. We truly consider it an honor to be on your top-ten favorite recumbent list! We honestly believe the Mountain Quad is the ultimate off road HPV machine. As you found, the 24" wheel option can expand the off road fun to a new level. We have been busy adding new options for the Mountain Quad. We currently have a seat back, strap-on 100 oz. hydration pack system available and we have 20" studded snow tires available (just in time for winter).

The Crank-It crew  
www.crank-it.com

## Foamie Fenders

Here is a photo of the foam fender on the back of my Vision Saber. Most high racers are set up for narrow very high pressure tires and design the forks and chain stays accordingly, leaving little or no space for fenders — although purists would say that these dorky things don't belong anyway. Although I only ride my Saber on fast, dry outings, I don't like the black rubber road dust from tires getting on my bag and jersey. I like to wear yellow for visibility but the color does show discoloration. I bought this six-foot long foam water toy at Wal-Mart for \$1.67. It comes in several bright colors and the stiff foam is intended for use in sun and water and is nonabsorbent. It is about three inches in diameter with a small hole down the middle. I cut off a 18 inch piece and sliced it diagonally long-wise. I then

## Send Letters to the Editor of RCN

If you have something to say, a differing viewpoint or experience—we want to hear from you! **Please limit letters to 300 words.** RCN reserves the right to edit submissions for clarity, content, and space limitations. Please send to [bob@recumbencyclistnews.com](mailto:bob@recumbencyclistnews.com) or RCN, PO Box 2048, Port Townsend, WA 98368





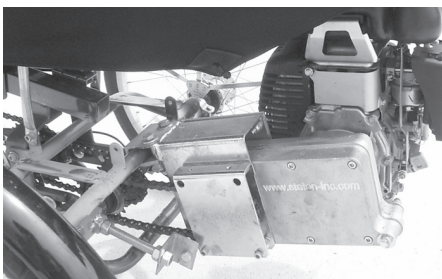
Roger Fuller's foamie fenders



Roger Fuller's foamie fenders



Staton Inc.'s Honda 49.3 cc "GX50" motor and gearbox cost \$750. For more information check out: [www.staton-inc.com](http://www.staton-inc.com)



The GX50 and some additional bracing on a Sun EZ3. They also show a motor equipped WizWheelz trike as well — photos courtesy of Staton Inc.

notched and hollowed it out to clear the brake arms and pivots and zip tied it on. Since the foam easily compresses, this stage doesn't have to be exact. In fact, the fender move slightly under braking with no discernible interference. The fender weights about two ounces-including the zip ties and total cost was about 35 cents. If a benter only wants the fender for inclement conditions, it can be carried inside of the seat back straps with a few zip ties in his bag. I find zip ties very useful to have on hand anyway.

A fellow traveler  
Roger Fuller

### Power Assist

I'm interested in combining my recumbent with a touch of gas power, a small Honda 4 cycle motor driving through the pedals. Is there anyone out there who has already done this? My intention is a kind of hybrid that can power me out to a dinner engagement, clean and without sweat, from which I can return without the motor to burn off the carbs — a simple concept.

Steve Chamberlin  
[stevechamberlin@tds.net](mailto:stevechamberlin@tds.net)

*Editor Comments: Lightfoot offers it as an option and has done some electric/gas experimentation (Honda generator). Staton Inc. has the best set up I've seen: [www.staton-inc.com](http://www.staton-inc.com).*

### Looking for a Good Climber

I live in western Pennsylvania and it is very hilly. I am definitely hooked on recumbent riding because of the fun factor and comfort. I have a fancy Lemond racing bike that climbs like a Ferrari, but I hate riding it for obvious reasons. I own two recumbents, a BikeE RoadE and a new Giant Revive which I doctored up with 21-speeds. The BikeE is much faster and a better climber of the two, but from 30 mph and p it is scary as hell. The Revive has a 20" wheel in front and is very stable at speed, but a lousy climber and slow compared to the BikeE.

Letters continued on page 28

... Editorial cont'd from page 2

### Respect

While I don't think I'm a typical recumbent cyclist due to my transportation cycling, I believe that my needs from a recumbent are very typical. Perhaps I push the equipment more than most, which is good from a review standpoint.

My aim is not to disrespect sport riders, but to point out that there are many types of recumbent riders, from recreational cruisers, to Lycra-head racers, to car-free utility

## Recumbent Cyclist News Back Issues For Sale

We have a limited number of each of these back issues for sale. The rate is \$5 each postpaid USA/\$6 Canada/\$8 Everywhere else. Buy 5, get one free.

- RCN 086: 2005 Season Preview: What's New in Recumbents; plus our Recumbent Component over-view, a must read; Tribute to Gardner Martin.
- RCN 085: Crank It quad & HP Velo Grasshopper
- RCN 084: GS GT-3, Actionbent, Giro, Rotor crank
- RCN 083: HP Velo Street Machine & 'Bent GPS
- RCN 082: Bacchetta Corsa
- RCN 081: 2004 Season Preview/Buyers' Guide.
- RCN 082: Bacchetta Corsa; Sun EZ tande.
- RCN 080: BiGHA; Cycle Genius CGX; RANS Screamer tandem; Windcheetah Kit.
- RCN 079: Easy Racer Tour Easy; RANS Stratus; RANS V2; Euro Seat SWB Instalation.
- RCN 078 :Catrike Speed; Hase Kettwiesel; Velomobiles.
- RCN 077: Greenspeed GTT; Bacchetta Aero 1000 Mile.
- RCN 076\*: ICE Trice trike; Volae Intro; CG ALX20.
- RCN 075: HP Velo Spirit; Barcroft Columbia tandem; WizWheelz trike.
- RCN 073: Bacchetta Giro; Bacchetta Strada & Aero.
- RCN 072: Sun EZ Sport; Why We Sold Our Car.
- RCN 071: Penninger Trike; Burley Hepca; Burley Canto and Burley Nomad trailer.
- RCN 070: Lightfoot Ranger
- RCN 071: Rotator Pursuit; Cycle Genius STX (CLWB version); Pantour suspension nub)
- RCN 069: Cannondale; Trimuter Trike; GS GTO.

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_  
State/Zip: \_\_\_\_\_  
Email/Tel: \_\_\_\_\_

Mail To:  
RCN, PO Box 2048  
Port Townsend, WA 98368

For faster service, visit our website and order via PayPal:  
[www.recumbentcyclistnews.com](http://www.recumbentcyclistnews.com)

riders — and everything in between. Don't get caught up in which is best or make judgments about cyclists that are not up to your particular standards. Be realistic about your bicycle use and be comfortable with it. If you're selecting a new bike, be sure to ask more than just, "how much does it weigh."

**Calendar Note:** Be sure to check out all of the great 2005 recumbent events in our calendar on page 29 of this issue.

Viva Recumbency!  
Bob Bryant ♦



Julie Lester on the WizWheelz Edge

... WizWheelz cont'd from the cover

heat means no frame distortion. For example, you don't have to pry apart the chainstays; the rear wheel just drops in place perfectly aligned with no hindrance." — WizWheelz

### Frame

WizWheelz has always been known for keeping its designs simple and clean. With the new Edge, they have both the chain and the cables running inside the carbon fiber main frame tubes (see Chain Management section).

The frame is made up of several custom carbon fiber tubes. The tubes are connected with custom CNC machined aluminum lugs. The lugs and tubes are then joined with Hysol epoxy (made by Loctite). According to WizWheelz' Jack Wiswell, "The carbon-fiber tubes are custom wound from micro filament for their size and purpose. The angle of the fiber winding even changes orientation within each tube. This way, we can make the tubes more torsionally rigid on one spot, and more laterally rigid in another. This is how we are able to make the frame so strong and so com-

fortable at the same time. We can actually control the amount of flex and orientation of a single tube." Jack went on to say, "The frame should last virtually forever, and should anything happen, it's easy to repair." The Edge frame comes in three sizes, one color (natural clear coated black carbon fiber) and with your choice of yellow or green graphic logo decals.

**Steering:** The Edge has direct under-seat steering. Each handlebar is mounted directly to the corresponding kingpin assembly. The Edge's independent handlebars are adjustable fore/aft and can be angled inward or outward. This is a very simple set-up. In contrast, the TerraTrike (TT) 3.6 has a "U" shaped under-seat handlebar that pivots on a bushing with steering rods connected to each kingpin. The TT 3.6 has a more relaxed steering.

**Fabrication/Finish:** The Wound Up/WizWheelz frame is among the highest quality frames we've seen here at RCN. It is surely the most finely crafted carbon-fiber recumbent we know of.

**Weight:** The Edge weighs 28.9 pounds and is quite light for a recumbent trike (our preproduction model weighed 30.6 pounds).

### COMFORT

The seat frame is heat-treated aluminum and the material is a fully breathable Nylon and Cordura mesh. There are 13 seat straps to adjust the tension and customize the fit to your personal preference. The forward edge of the seat frame has been curved down more to take pressure off the backs of your thighs. The seat has a unique sage green material and a black partially see-through mesh appearance and is very comfortable. While seat comfort is subjective, the new WizWheelz seat is larger than some of its competitors and fit me perfectly. It was an absolute pleasure to ride.

The Edge seat has basically the same dimensions as the newly redesigned TT 3.6 seat, but differs in its mounting system. The Edge seat slides on twin carbon fiber tubes, with twin quick release levers making for easy adjustment. That means no messing around with chain lengths or boom settings. The recline is adjusted between 40° and 70° with two adjustable seat back braces (not quick release).

### FIT

Most average size adults and older kids can be fitted to the Edge in a few minutes from the time the box arrives at your house. WizWheelz is the best trike to own if you have multiple riders sharing a trike because the seat, rather than the boom, is adjustable. A switch will take just a minute or two.

### DRIVETRAIN

The Edge components are excellent. All parts appear to be carefully selected to suit a high-end purpose. From the Velocity wheels to the FSA Gossamer crank and Ti bottom bracket to the Dura Ace front derailleur and

#### For

1. Lightweight
2. Comfortable seat
3. Infinitely adjustable seat slider
4. Shipped fully assembled
5. Twin-main tube design

#### Against

1. Will be difficult to try before you buy
2. Limited steering range (some adjustment settings)
3. Chain management/idler noise
4. Direct steering can be quick
5. Long crank arms

#### Why Buy This Trike

If you want a superbly designed, lightweight, carbon fiber trike with great specs — and you want to have the first one in your neighborhood.

#### Contact

WizWheelz  
Web: [www.wizwheelz.com](http://www.wizwheelz.com)

#### Specifications

**Model:** Edge  
**Type:** Tadpole direct-steer USS  
**Size:** 3 frame sizes  
**Wheelbase:** 38"  
**Seat height:** 9"  
**Pedal height:** 13.25"  
**Track Width/overall width:** 28.75"/31.63"  
**Weight:** 28.9 pounds  
**Frame:** Carbon fiber & aluminum  
**Price:** \$3499

#### Seat

**Back/Base:** Sling/mesh  
**Frame:** Aluminum

#### Components

**Crank:** FSA Gossamer 32/44/55  
**Bottom bracket:** ISIS Platinum Pro Ti  
**Derailleurs:** SRAM X.9 (rr.)/Dura Ace (ft.)  
**Cassette:** 11-32 9/27 speed  
**Shifters:** SRAM X.9 twist grip  
**Chain —** SRAM PC59 hollow pin  
**Gear inch range:** 19-95 (19" dia. wheel)  
**Pedals:** Shimano SPD  
**Wheels:** Velocity 406mm 20"  
**Rims:** Velocity Aeroheat  
**Tires:** IRC Metro 1.25" 100 psi  
**Brakes:** Hayes MX1 mechanical disc  
**Colors:** Black natural carbon fiber with clearcoat, black finished aluminum.



shifters (optional, Dura Ace bar-end or X.9), it's a sweet set-up.

**Shifters:** Our Edge came outfitted with SRAM X.9 twist grip shifters. While they are the most popular type of recumbent shifter, I don't like them on trikes. The twisting motion on the slightly angled steering sticks (handlebars) is counter-intuitive and has the ability to cause unwanted steering movements. This is especially so on quick-maneuvering direct-steered trikes. Additionally, the twist shifters take much more effort to twist than the optional Shimano bar-ends (my favorite shifters) that are available at no additional cost.

**Gearing:** The Edge has a gear-inch range of 19-95. This gearing was nearly ideal for me, but may be considered a bit low for a performance trike. I could have used a lower gear for steep climbs or when hauling cargo. Installing a smaller inside chainring would do the trick. The shifting quality is good, although the jump from the middle 39-tooth to the outside 55-tooth is a big one, and is not the easiest shift. I think bar-end shifters would improve this (lower and easier effort than a twist grip). For those who need higher gearing, the Schlumpf Drive (2-speed bottom bracket/crankset) is the way to go.

The crankset on our Edge has 175mm crank-arms! With current trends moving towards shorter cranks, you may want to consider this upon purchase. I plan to try out 145mm and 155 mm cranks this season. (I am currently using 170mm-175mm.)

**Chain Management:** The Edge's chainline is a bit extreme, and is routed this way for aesthetic reasons (because it looks cool). The chain routes from the crank down to a double idler and into twin chain tubes that run *through* the right side carbon fiber mainframe tube. Yes, the chain runs internally. This is a simple, yet very elegant design feature. The power side chain rolls over another idler out the back to the cassette. This system is reasonably quiet, looks great and works even better.

While in the large chainring, the chain runs at a fairly intense angle from the idler to the crankset. One way to improve this routing would be to opt for the Schlumpf 2-speed bottom bracket/single chainring instead of the stock triple crank. WizWheelz has recently redesigned the idlers and they seem more robust and quiet. It would still be advisable to keep a set of spares in your parts kit.

**Brakes:** This was my first experience with the Hayes MX1 mechanical discs. The left caliper is inverted (discs were designed for MTBs, and nobody makes a left side front disc brake for a tadpole trike). WizWheelz has done testing and came to the conclusion that there are no problems in doing this. The brakes stop very well and were easy to adjust. WizWheelz uses a velcro strap on the brake handle as a parking brake. I'm happy that it has something, but I prefer the spring loaded pin on our ICE



Our test Edge outfitted for winter riding

trike's brake handle.

**Wheels:** The Edge comes with Velocity 20" wheels with Aeroheat 32° rims, and Velocity disc hubs. The rims are black and look great. After about 100 miles we had some spokes creaking, so it was time to get the wheels in for their break-in truing.

**Tires:** You can tune a trike's ride by selecting the right tires. Some tires are fast and twitchy, and some are slow and cushy. Jack Wiswell writes, "I chose the IRC Metro 20 x 1.25 for the Edge. It is my personal favorite, has a good tread life, though it is a little heavier than some." The Metro is a good, tough and affordable all-around tire, which I found to be quite fast. I must say that I can't wait to try the new Greenspeed Scorcher trike tires.

If you look over this trike, there is no skimping on the components. WizWheelz even uses a SRAM PC-89R hollow pin chain.

## RIDE

The ride of this trike is phenomenal. It is the smoothest trike I've ridden. I'm sure that it is the carbon fiber that is deadening the road shock. It also seems that the twin tube frame has a bit of suspension, according to Jack Wiswell, "The Double Barrel" frame design allows the Edge to be very stiff torsionally, and nicely compliant vertically." The frame feels very stiff and I can't feel much flex, but I know there must be some *give* somewhere because it rides so smoothly.

The Edge's frame feels torsionally stiffer than the WizWheelz Chromoly TerraTrike 3.6 as the rear end did not wag (pedal steer) as much under heavy pedaling. (I believe this has something to do with the rear end of the frame being stiffer and more triangulated than the TerraTrike.)

Everybody always wants to know if a trike has brake-steer. I think they all do and direct-steering trikes seem to have it more than indirect-steered trikes. The trick is in the ability to do a controlled (and safe) one-brake stop while you are signaling a turn. With its direct steering, the Edge isn't as good at this as the TerraTrike, but it is commendable. The simplicity and ultra sporty feel of the direct steering does have its price. Also, the Edge has more brake steer than the TT 3.6.

**Direct Steering:** The *direct steer* handling is a bit quick, and will take some time getting used to. The handling is noticeably quicker than the TerraTrike (TT) 3.6, though if you respect it, the handling can be very smooth. Where I notice the quickness is if I turn very sharply and the inside front wheel wants to lift off the ground.

Once you are out on the open road the steering is so easy that you can almost ride with no hands, or with your palms on the end of the bars. The Edge is well within the riding abilities of anyone at bike trail speeds. Those who want to push the trike harder will need to learn the limitations of the Edge, or how far you want to push it. The Edge steering compares favorably to any direct-steer trike and there are certainly quicker handling trikes than this one.

**Handling Dynamics:** The WizWheelz seat is fairly wide, and the track width is fairly narrow (The Edge's gross width is 31.63" and the track width is 28.75", compared to 34" and 31.5" respectively on the TT 3.6). With the direct steering, the handlebars are very close to the front wheels. You can adjust them back and forth, angled toward the seat or wheels. If you angle toward the wheels, tolerances are tight. If you angle towards the seat, the bars hit the seat frame and you limit your turning circle. I did find a happy medium where I could turn around in a one-lane road, yet still not worry about getting my fingers being too close to the front wheels.

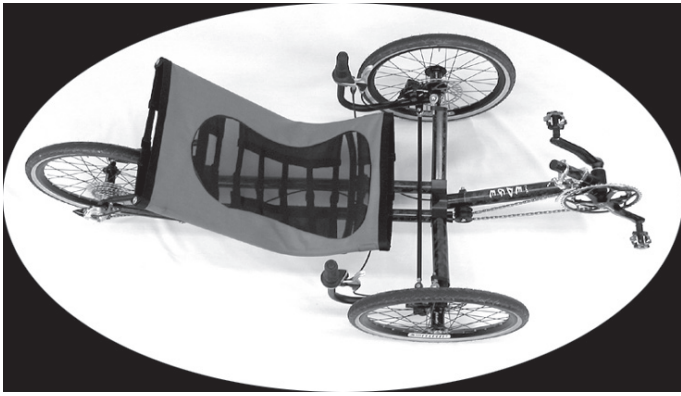
WizWheelz describes the Edge as a "no-compromise speed machine." I think it's more of a high-end all-around trike. I rode it on my daily commute in December, and even in the rain on several occasions. What I liked best about it was the smooth ride (over our very rough roads) and the light weight. So I think the Edge could best be described as a narrower, sportier handling and lighter version of WizWheelz' popular TerraTrike.

The performance of the Edge is very good. The light weight is noticeable every time you put power to the pedals. I was slower up hills compared to a performance two-wheeler, but faster on the flats anytime I encountered wind on this low trike. The performance limits of the Edge will be based upon the gearing (high gear is rather low) and your riding ability.

## OWNING

**Purchase Details:** WizWheelz has been in the business of building recumbent trikes since 1996. For 2005 they will start selling through dealers. I would guess that the Edge will be difficult to find on dealers' showrooms, and most will be ordered.

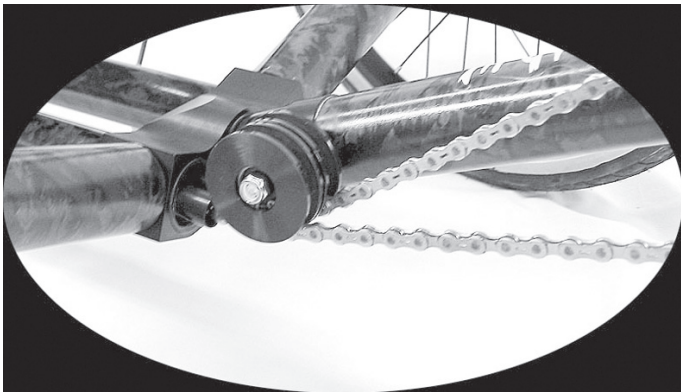
Normally, assembling a trike can take half a day or more and there are always questions. But the WizWheelz Edge arrives in a giant box about 98% assembled. You split the top of the box, lift the trike out, fill the tires, set the seat position and hit the road. My box arrived at



*Note the twin mainframe tubes*



*The Edge direct steering (not bar and seat proximity)*



*The chain as it enters and exits the frame/chain tubes*

4:00 p.m., the trike was out of the box at 4:05, and I was on the road at 4:10. Having assembly done for you really makes the experience much more pleasurable. The shipping cost was \$119 (to a home address) or \$179 (business address). If you don't like your new trike, WizWheelz has a 30-day money back guarantee (on direct sales).

**Options & Accessories:** WizWheelz has several options for their trikes: The Schlumpf two speed bottom brack (\$320), WizWheelz safety flag (\$29), rearview mirror (\$20) and a small seat back bag that is large enough for a small tool kit, your wallet and keys (\$65). A rear cargo rack is also available (\$65). Try to make do with as few options as you can to keep this baby lightweight.

The Edge was here during our rainy season. WizWheelz provided a custom fender set (\$99). They take Planet Bike fenders and custom-fit struts to mount to the trike. WizWheelz has done an excellent job in the modification. However, the Planet Bike fenders are not the most robust. I managed to shatter the plastic of the rear fender at the lower mounting hole (and I've done it on other test bikes as well). So be gentle when you're mounting the fenders.

## MARKET

Nothing even comes close to the Edge. There are no other carbon fiber trikes that we know of. Most other American, European and Australian performance trikes use steel or aluminum frames and smaller tires — so the Edge is unique. See our TT 3.6 review in RCN 087.

## SAFETY

I felt very safe riding the Edge in most situations. In fact, I've sort of changed my tune about trikes. In most cases, I received more respect on the road than I usually do on any two-wheeler. The one concern is riding at high speeds among cars. I never had a close call, am much more cautious on fast descents. I never felt vulnerable under 20 mph, but riding over 20 mph takes skill, practice, alertness, and a relaxed hand on the bars — especially when braking. I limited my downhill speeds to 35 mph (and it took me weeks to feel comfortable with this).

## VERDICT

WizWheelz really snuck up on us with the Edge. Most riders just wouldn't expect such an advanced trike from them. I know many of you might be thinking that this trike may be too good to be true. It is very cutting edge, yet it's new and has no track record. However, WizWheelz sought out a respected carbon-fiber expert to help design and build the Edge. So if you are judging them by what you know about early TerraTrikes, think again. That would be like judging Honda by the 600 coupe or a Lexus by a 1972 Corolla.

Do I think it's perfect? Not quite. I'd like to see WizWheelz continue to refine the handling and relationship between the seat base frame, front wheels and handlebars (which can be tight) and I'd like to be able to steer a tighter circle. I also couldn't help think about what this trike would be like on three 349mm 16" wheels. This is all relatively minor stuff — a wish list if you will.

The Edge is a very sweet trike. The look, design, tubes, chainline, cable routing are great and it has to be one of the best looking trikes on the road. The seat is superbly comfortable and the component picks are mostly spot on. This is one very cool trike — and it is Rocket Science. ♦

# Volae

www.VolaeRecumbents.com

Your Only Excuse Is The Engine



Imagine a compact long wheelbase (CLWB) over-seat steering recumbent with a curvy tubed cruiser-style frame and an active rear suspension to take the edge off the rough pavement. Now imagine this bike readily available in three versions with different components and price ranges. Now consider that this is what the late Gardner Martin and company were working on during the last few years — and you have the new Sun EZ-Rider recumbent.

Some may find that this bike is too basic, or is somehow not good enough for them. I've spent most of the summer of 2004 using two different EZ-Riders as my daily commuter on the mixed terrain in and around Port Townsend, WA. Some weeks I put over 150 miles on our EZ-Rider AX. I rode it on every type of terrain you can imagine — even steep technical downhill trails. This new bike has a lot to offer whether you're a newbie looking for your first recumbent, or a long-time LWB rider looking for the increased comfort available with a rear suspension. In short, the EZ-Rider deserves a look.

## SYSTEMS

The Sun EZ-Rider is the latest two-wheel offering from the design team of Easy Racers and Sun. The EZ-Rider has been rumored for some time, and was finally introduced for the 2004 season.

The EZ-Rider has two 20" wheels instead of a 26"/20" wheel combination found on the EZ-Sport. The EZ-Rider is approximately 6" shorter and the seat is 1.5" lower than the EZ-Sport. The EZ-Rider comes in three different flavors: the SX has a high-tensile steel frame and V-brakes; the CX has a chromoly frame and disc brakes; and the AX has a lighter aluminum frame, a better shock and components.

**Frame:** The EZ-Rider has a curved tube cruiser-style frame much like the Sun EZ-Sport. The difference is that the EZ-Rider has dual 20-inch wheels and rear suspension. We were able to try the chromoly CX model and the AX aluminum model. Both frames are nicely built and look good.

The Sun EZ-Rider CX has a chromoly frame and fork that are TIG welded, painted and assembled in Taiwan. The SX is powder-coated blue, the CX is red and the AX is silver. The frame quality looks good, is more attractive than the square tube Sun recumbents and mostly on-par with the EZ-Sports (the EZ Rider is more a more complicated bike). Some of the details have been improved over the last Sun model we reviewed, primarily in the seat and some of the finish details. The bikes are becoming more refined.



*"EZ-Series recumbents are a pleasure. You sit slightly reclined; back fully-supported, arms relaxed, neck straight; in a normal sitting position. Compare this with the contorted riding position on a traditional bike. Even after a long day of touring, you're still riding in comfort. No more stiff neck, aching back, numb hands or crotch. No straining either. A combination of lower mountain bike gears with higher road bike ranges ensures the correct gear ratio for any terrain." — Sun Bicycles*

## RCN Road Test: The Sun EZ Rider Dual 20" + Rear Suspension

By Bob Bryant  
[bob@recumbentcyclistnews.com](mailto:bob@recumbentcyclistnews.com)

**Fork:** The CX and AX have full chromoly forks. The SX has high-tensile steel blades and a chromoly steerer tube.

**Suspension:** The SX model has an A-Pro SSD rear shock, the CX model has an A-Pro SSD and the AX has an upgraded A-Pro Tough Shock. Both the CX and AX worked very well thanks to the low pivot point suspension design. (Higher pivots can *pogo* and bounce with each pedal stroke). I experienced no pogo whatsoever on either model. With each more expensive model the shock quality increases. While I found the CX's shock perfectly adequate, the AX had an additional rebound adjustment feature (that I never used). The suspension action on rough trails was the smoothest and softest of any Easy Racer or Sun bike I've tested.

**Steering:** The steering is light and effortless and the handling feel is refined. It has that Easy Racers-style steering *groove* that is the reason so many riders love these bikes.

The EZ-Rider has handlebars that are much

like, if not exactly like, the EZ-Sport. All three models have a stem riser tube with a vertically sliding stem. So the bars can be lowered, raised and rotated back toward you. The aluminum bars are powder-coated black. These bars are a bit wider and have a less extreme wrist angle than do Easy Racer bars. They look and feel awesome — better than the price-point competition from Sun, Cycle Genius and Burley. (Cycle Genius now offers similar bars as an option.)

**Weight:** The EZ-Riders are not lightweight. The suspension definitely adds weight. The SX weighs 48 pounds, the CX weighs 46 pounds and the AX weighs 40.8 pounds. These weights were provided to us by Easy Racers, and we verified the CX and AX weights on our own digital scale. They differ somewhat from Sun's pre-production weights. In contrast, Easy Racers' electronic UPS scale weighed an EZ-Sport CX at 39 pounds and an EZ-Sport AX Limited at 36 pounds. So you can see that the suspension



*An EZ Rider on the dirt — photo courtesy of Easy Racers*

adds significantly to the EZ Rider's weight.

## DRIVETRAIN

**Components:** The Sun components are generally pretty good for the price ranges. Our CX chromoly model has a Shimano 8/24-speed drivetrain shifted by SRAM 4.0 twist grip shifters. The SX uses a SRAM 3.0 mix. The CX's 4.0's are low-line, but they shifted smoothly and quietly. However, neither is adequate for use by serious daily commuters. Our AX had up-line SRAM X.9 9/27 speed derailleurs and shifters which are a definite improvement — though we had no trouble with either the CX or AX drivetrains during our testing.

Our biggest concern about the EZ-Rider drivetrain is the long cage derailleur. On both our CX and AX the derailleur hangs very low with about three inches of ground clearance. The derailleur also comes fairly close to the side walls of the fat tires that are standard on these bikes. I had to pick weeds out of the derailleur pulleys several times while off-roading. A shorter cage derailleur would be a better choice, particularly for riders who plan to use the EZ-Rider off-road. However, switching to a short or medium cage derailleur won't work with the 11-32 cassette, and may also require a change in the front crankset gearing to make up for the smaller range of rear gears. Make careful choices here, because these types of upgrades can be expensive. Aside from pulling some weeds, I never even came close to tearing off the rear derailleur on either of the test bikes.

**Chain management:** The EZ-Rider drivetrain runs smoothly and is relatively quiet. There seems to be a bit more idler vibration

in some gears than we've noticed on the EZ-1 and EZ-Sport models. Like the EZ-Sport, the EZ-Rider has a lower chain idler that the chain rolls over (versus the spring-loaded rear derailleur style that comes on Easy Racer models). An upper chain idler routes the chain through the swing arm area near the pivot point. About 500 miles into the AX test one of the idlers fell off the bike and both bikes became noisier over time, thanks to rainy season grit and grime. Cleaning both bikes definitely helped. If you plan to ride an EZ-Rider hard or use it for commuting, I suggest you order a spare set of idlers — and you'll need to spend some extra time keeping your drivetrain parts clean.

**Gearing:** The 18-90 gear-inch range is nearly perfect for this bike and comes on all three models (though the AX is a 9/27 speed). The 18-inch low gear is good for climbing. The 90-inch high gear spins out fast on the road — but you'll need the low gears more than the high gears. I was surprised at the 18-inch low gear because the gear did not feel this low, probably due to the weight of the bike.

**Brakes:** The EZ-Rider CX comes with Promax disc brakes. These brakes have a limited adjustment range and are a bit noisy when they get hot (think fingernails on a chalk board). The brakes performed adequately, but I would have preferred the SX's Tektro V-brakes or, better yet, the AX's Avid mechanical disc brakes.

**Wheels:** The EZ-Rider has black alloy hubs, rims and spokes. The wheels are quick release, and the rear hub is Shimano. The wheels on the AX were not as dependable as on our Sun EZ-Sport Limited. We had to true them a few times and I eventually broke a spoke on the

rear wheel. Finding a black 20" spoke was next to impossible, so our local bike shop had to cut one special. I'm a bit concerned for serious commuters riding on the EZ Rider stock wheels (see RCN 085's article on Components and wheels in particular).

**Tires:** The tires are Kenda Kwick 20" x 1.75" 100 psi tires. They are a scaled down version of a 700c Cyclocross tire. They have a relatively smooth patch down the center with knobs on the side. The Kwicks hum down the road. If you ride mostly on the road, or on trails where you don't need much traction, I'd suggest a different tire to suit your needs. The 20" Kwicks felt sluggish on the road. I swapped them out for the new Primo Comet 1.95" 110 psi tires, and I kept riding on varied road and off-road terrain. The only time I got into trouble was when the trail was wet. (What a mess).

Retrofitting the bike with Primo Comet 1.95 110 psi tires transformed it into a fast rolling urban assault vehicle. These tires are striking to look at (imagine a Comet at two to three times the size). The tires are hard and roll FAST. I regularly spin this bike out. It's no slouch, but slows down fast on hills.

**Forgettable parts:** I don't have good luck with low-line SRAM shifters. I've replaced two front shifters on two different bikes in the last year. These were relatively low mileage bikes, less than two years old. These shifters work great when they are new. The only other mediocre component was the Promax discs. A disc upgrade on either test model would cost a few hundred bucks. If you plan to do this, just order the AX — and you'll get a lighter frame to boot.

## SEAT/COMFORT

**Seat Back:** The Sun seat comes in two versions. One has an aluminum seat back frame, the other has a steel seat back frame. Both the CX and AX have the lighter version. The Sun seat was updated with a new seat base shell made of plastic to replace the wood.

**Seat Base:** Sun's seat base is reasonably comfortable, but doesn't offer the support of an Easy Racers or Cycle Genius seat base. Lighter riders (under about 175 pounds) should not experience any difference. One feature I do like is the ability to reposition the seat base in relation to the seat back.

The seat mounts on the EZ-Rider are unique. There are additional set-up steps including a bolted-in wedge that needs to be positioned (by trial and error); the rear quick release goes below the frame's angled seat tube, and the front quick release goes above it. The seat base should be completely level (while the frame's seat tube slants at an upward angle). This set-up note is not addressed in print anywhere that I saw. Easy Racers



sent me a digital photo that showed me how to set up the seat properly.

**Ergonomics:** The ergonomics are user-friendly and refined à la Easy Racer. The riding position is about as buck upright as you can get. I find that my back separates from the seat back about mid-point. This position is perfect for off-roading, mixed terrain and urban commuting. It may get tiring after a few hours on the bike.

## RIDE

The EZ-Rider is a low-medium speed urban and off-road fun bike. It's a comfortable neighborhood cruiser that is capable of going just about anywhere. The bike is really at home on rides where open road high-speed potential is not necessary. It would be the first bike I'd jump on for a trip around the neighborhood or to the store.

**Stability:** The EZ-Rider is a very stable bike at low to medium speeds. I only had it up to perhaps 35 mph, which was fine on the road. The bike is very maneuverable in both urban and off-road conditions. The low bottom bracket makes riding this bike a breeze just about anywhere.

While the EZ-Rider was here, I also had an Easy Racers Tour Easy and a Cycle Genius RDX, both of which are noticeably faster bikes. However, they are definitely not comfy to ride or as much fun for dorking around the neighborhood or riding on unpaved trails.

**Performance:** As set-up, the EZ-Rider is not a fast bike. You can especially feel the weight when climbing. You can improve the performance a bit by adding some Primo Comet tires and an Edge fairing and you'll have performance just shy of an EZ-Sport, but with a more comfortable ride thanks to the EZ-Rider's cushy rear suspension.

**Off-road:** The EZ-Riders are actually being marketed as a recumbent for trail use (note the factory use of Kenda Kwick tires). So early in my review process, I ventured into the woods for a portion of nearly every test ride. The shorter length of the EZ-Rider was a real plus on technical single track and switch backs.

The 20" wheels are a trade-off in this re-

## For

1. Redined handling
2. Best handling Sun LWB
3. Easy Racers design
4. Great value
5. Doesn't perform as well as an EZ Sport Ltd. or Tour Easy

## Against

1. Heavy
2. Some mediocre components (CX)
3. Some chain noise
4. Mediocre brakes (CX)
5. 20" wheels are small for off-roading
6. Rear derailleur hangs low

## Why Buy This Bike

This bike is for casual comfort cruisers who love the Sun/Easy Racers riding position and want the supreme comfort that rear suspension offers.

## Contact

Sun Bicycles  
Web: [www.sunbicycles.com](http://www.sunbicycles.com)

## Specifications

**Model:** EZ-Rider CX  
**Type:** LWB OSS  
**Size:** 1 size  
**Wheelbase:** 59"<sup>mm</sup>  
**Seat height:** 25"<sup>mm</sup>  
**Pedal height:** 15.25"<sup>mm</sup>  
**Weight:** 46 pounds (RCN digital scale)  
**Frame:** 4130 Chromoly  
**Suspension:** Rear A-Pro SSD 150mm shock  
**Fork:** Chromoly  
**Price:** \$999.00

## Seat

**Back/Base:** Aluminum frame, mesh back, lycra covered foam base

## Components

**Crank:** Shimano 30/42/52 170mm  
**Bottom bracket:** Sealed Cartridge  
**Headset:** Alloy 1-1/8"  
**Drivetrain:** SRAM 4.0 (rear)/ Shimano FC2203 (front)  
**Cassette:** Shimano 11-32 8/24-spd.  
**Shifters:** SRAM 4.0  
**Chain —** SRAM PC9  
**Gear inch range:** 18-90  
**Pedals:** Wellgo LU-812platform  
**Wheels:** 20" x 1.75" alloy QR  
**Hubs:** Shimano FH-M475 (rr.) alloy (rr.)  
**Tires:** 20" x 1.5" Kenda Kwick 100 psi  
**Brakes:** Promax Mech. Disc  
**Colors:** Red

## Specifications

**Model:** EZ-Rider AX  
**Type:** LWB OSS  
**Size:** 1 size  
**Wheelbase:** 59"<sup>mm</sup>  
**Seat height:** 25"<sup>mm</sup>  
**Pedal height:** 15.25"<sup>mm</sup>  
**Weight:** 40.8 pounds (RCN digital scale)  
**Frame:** 7005 TIG Aluminum  
**Suspension:** Rear A-Pro Tough Shock  
**Fork:** Chromoly  
**Price:** \$1499.00

## Seat

**Back/Base:** Aluminum frame, mesh back, lycra covered foam base

## Components

**Crank:** Shimano 30/42/52 170mm (blk)  
**Bottom bracket:** Sealed Cartridge  
**Headset:** Alloy 1-1/8"  
**Drivetrain:** SRAM X.9 (rear)/ Shimano FC2203 (front)  
**Cassette:** Shimano 11-32 9/27-spd.  
**Shifters:** SRAM X.9  
**Chain —** SRAM PC9  
**Gear inch range:** 18-90  
**Pedals:** Wellgo LU-812platform  
**Wheels:** 20" x 1.75" alloy  
**Hubs:** Shimano alloy QR  
**Tires:** 20" x 1.5" Kenda Kwick 100 psi  
**Brakes:** Avid Disc brakes & levers  
**Colors:** Silver



Easy Racers designed EZ-Series recumbents are a pleasure to ride. You sit slightly reclined, back fully-supported, arms relaxed, neck straight, in a normal sitting position.

Compare this with the contorted riding position on a diamond-frame bike. Even after a long day of touring, you're still riding in comfort. No more stiff neck, aching back, numb hands or crotch. No straining either. From cross-country touring to daily commuting to world speed records, Easy Racers has been the leader in recumbent design for over 22 years. And now with the EZ-Series line of recumbents, designed by Gardner Martin, the doors have opened up for entry level riders.

THE ULTIMATE IN CYCLING

**Comfort & Price**



EZ-Sport



EZ-3 Trike



EZ-1 & EZ-1 Lite

EZ-Series Recumbents are distributed by Sun Bicycle Co./J&B Importers and available from most bicycle shops. [www.sunbicycles.com](http://www.sunbicycles.com) / [www.jbimporters.com](http://www.jbimporters.com)



The EZ Rider AX (aluminum) — photo courtesy of Sun Bicycles

spect as they don't give the bike enough ground clearance, nor are the tires tall enough to ride over trail obstacles. The low crank height and reasonably low seat, combined with a refined and forgiving steering geometry make this a great handling bike — on or off the road.

One aspect of the EZ-Rider that did surprise me is that the front end feels pretty light. I could bunny hop the front end on steep climbs, and at speed on gravel roads the front end would wander as I approached 20 mph. This could be me as well, since I'm at the upper end of the sizing for this bike at 6' tall, 33" inseam and 44.5" x-seam.

Overall the bike is great for easy single track, rail-trails and just fun riding. It isn't an aggressive mountain bike in the usual sense of the word, but a capable cruiser. And the Easy Rider is much better going downhill than up.

**Climbing:** The EZ-Rider is no fun going uphill. With weights ranging from 40.8 to 48 pounds, this bike is just plain heavy. The stock tires make matters worse. Opt for the AX aluminum and throw on some Comet tires and it gets noticeably better, but climbing on this bike took more out of me than the same hills on a Cycle Genius RDX, Easy Racer Tour

Easy, or a Burley Jett Creek. Climbing on an uphill trail is a real workout on this bike — but it's a real bomber downhill.

### OWNING

**Utility:** The EZ-Rider is a tough bike. I rode mine on the most advanced off-road terrain that I've ever ridden a recumbent on. You can set up an EZ-Rider to fit nearly any recumbent budget.

**Purchase Details:** Sun has nine different warehouses throughout North America, and Sun recumbents are the most accessible in the business. Virtually any bike shop that buys parts from J&B Importers (a bike parts wholesaler) can order and deliver a new Sun recumbent for you.

**Options & Accessories:** Sun/J&B offers a seat back bag, baskets, fenders, a fairing and other options. I also was able to mount a Radical wedge bag (from a Hase Kettweisel) to the back of the seat. The 20" rear wheel makes large capacity cargo bags work really well.

**Fairing:** The J&B Edge fairing is the ticket for the EZ-Rider. While the EZ-Rider could benefit from the performance boost, a large fairing is not ideal if you plan to run this bike

through the woods and trails. The Edge fairing covers down to the handlebars (approx. \$169).

### MARKET

The Sun EZ-Rider is the only rear suspension LWB under \$2,000, so market competition isn't really available. As for off-road recumbent comparisons, we have to mention the Lightfoot Ranger. The Ranger (just under \$2000) is currently hand-made in Montana, has a rigid frame (with an optional suspension) and dual 26-inch wheels.

If you don't care about off-roading, the entry level LWB market competition is hot. Those considering an EZ-Rider should also check out the Burley Koosah (\$999)/Jett Creek (\$1,299), the Cycle Genius LTX (\$1,049) and the Sun EZ-Sport AX (\$1599) All are excellent values, lighter and better performing bikes than the EZ-Rider, although they do not offer rear suspension or the super smooth ride.

Among the Sun EZ-Rider models, prices start at \$699 for the SX with its high-tensile steel frame and fork, 8/24-speed SRAM 3.0 drivetrain, alloy crank with steel rings, lesser shock, and Tekro V-brakes. The price for the CX jumps up to \$995 and buys a cromoly frame and fork, the lighter seat and an 8/24-speed SRAM 4.0 drivetrain. The CX has Promax disc brakes (which I didn't care for), and upgrades are expensive. The AX has much better components, but the biggest difference is the 5-7 pound weight advantage.

### VERDICT

Through the 2004 season, we rode our test EZ-Riders hard hard. Both were put through daily commuter and off-road use. While the frame, seat and handlebars are very tough, we did have a few concerns:

- The rear wheel on the AX had to be trued twice and we eventually broke a spoke (finding 20" black spokes is not easy).
- The Sun bikes seem to get a lot of wear

SHOCKING NEW 'BENTS FOR 2005!

Introducing the Spider and Nasoke, featuring Burley's progressive rate suspension system with 5.5" of infinitely adjustable travel for a smooth, confident ride





**BURLEY**

Handcrafted in Eugene, Oregon  
866-850-5486 • www.burley.com

PROUD SUPPORTERS OF THE  
WASCO WILD WEST 75 RECUMBENT RACE







The Sun Edge fairing



The Sun seat-back bag

on the frame's seat tube (the plastic tape peels off and we didn't adjust the seat very much).

- Some of the components on the CX may not be up to enthusiast demands.

The EZ-Rider is one of the least performance-oriented of the Sun recumbents. You'd have to ride a base EZ-1 or EZ-Sport, and they still might surpass the EZ-Rider. When I commented about the performance and weight of the CX last July, the late Gardner Martin of Easy Racers shipped an aluminum AX for me to try. The five-pound weight reduction was

immediately noticeable. I then mounted the Primo Comet 1.95 110 psi tires and the bike was transformed. I never got to try the Edge fairing, but that would have been my next option.

For my *mixed terrain* riding around town and country roads, city streets, walking trails, rail trails and even some off-roading, the EZ-Rider is the ticket. While 26" wheels may be better for true off-roading, the 20"s are more compact, making the bike shorter and more maneuverable on single track. Yes, I actually rode technical single track on both of the EZ-Riders. I took on steep trails that are difficult

**ALPACA™**  
**MULTI PURPOSE CARRIERS**  
*Carry two recumbents.*



[www.alpacacarriers.com](http://www.alpacacarriers.com)  
 1-877-350-3361  
[alpacacarrier@cs.com](mailto:alpacacarrier@cs.com)

on my upright MTB.

The handling and road feel of the EZ-Rider is very refined, perhaps more than any other Sun CLWB or LWB model. The suspension is a LWB rider's dream, but there is a price and weight penalty. Despite my concerns, I loved riding the bike, and I miss riding it. It's a recumbent cruiser. It has the curvy tube traditional cruiser looks, fat tires and a cushy rear suspension. If you want to cruise your neighborhood or local trail system in style, the EZ-Rider is for you. ♦

# **WizWheelz**



**EXCEPTIONAL HUMAN POWERED VEHICLES**

[WWW.WIZWHEELZ.COM](http://WWW.WIZWHEELZ.COM)

269-945-5581

# RCN Road Test: The Volae Club

By Bob Bryant  
[bob@recumbentcyclistnews.com](mailto:bob@recumbentcyclistnews.com)

*"Volae recumbents are designed to out-perform the best upright road racing machines while providing the incredible comfort that recumbent bikes are famous for. Volae offers recumbents equipped with carbon forks, top-notch components, racing wheels, and lightweight, high-tech, molded seats and they are proudly built in the USA. These recumbents look like what they are: modern, sleek racing machines." — Volae Recumbents*

Volae is a relatively new company founded by Rolf Garthus and family, the owners of the Hostel Shoppe in Stevens Point, WI. The bikes were designed by Rolf and the prototypes were worked out by Vision Recumbents before the demise of that company. Rolf worked as the builder for Richard Schwinn's Waterford Precision Cycles ([www.waterfordbikes.com](http://www.waterfordbikes.com)). The result of Rolf's efforts is a stunning, yet slightly different, take on a performance highracer.

With the backing of the Hostel Shoppe, customizing the specifications is easy. Volae offers seven models. Our test unit, the \$2300 Volae Club is a beautiful example of a Volae highracer.

## SYSTEMS

Perhaps the biggest benefit of the highracer concept is the ability to use off-the-shelf high-performance road and triathlon parts — such as forks and wheels. Even the seat is a fairly standard Euro-style shell with Volae mounts.

**Frame:** The Volae Club's frame is one of the finest examples of craftsmanship you'll see on a recumbent. The frames are built in three sizes by Waterford Precision Cycles, successors to the builders of the prestigious and high-end Schwinn Paramount frames since 1938. Paramount frames were known for their fine quality and beauty. The Volae frame is no exception. While there are no crafted lug works or two-tone paint, the weld beads and craftsmanship are sheer kinetic art. Note: The 2003 Volae models were built for by ATP Vision, which has since gone out of business. The transition to Waterford took place in early 2004. Vision's Steve Nash built the jigs/alignment table.

**Fork:** The fork is a high-modulus carbon fiber steerer tube and legs and with a threadless steerer. The dropouts are aluminum and



## For

1. Excellent fit & finish
2. Smooth ride
3. Light & fast
4. Excellent service
5. Moneyback guarantee
6. Shipped almost fully assembled

## Against

1. Must be purchased direct
2. Tall bike
3. Roadie performance bike (no fenders or racks)
4. Chain management/idler noise
5. Very stiff ride

## Why Buy This Bike

The highest quality Highracer this side of a Bacchetta Aero

## Contact

Volae  
Web: [www.volaerecumbents.com](http://www.volaerecumbents.com)

## Specifications

**Model:** Volae Club  
**Type:** SWB OSS Highracer  
**Size:** 3 frame sizes  
**Wheelbase:** 44.5"/45.25"/46.75"  
**Seat height:** 26"/26"/26/25"  
**Pedal height:** 32.5"/33"/33.5"  
**Weight:** 26 pounds (RCN digital scale)  
**Frame:** 4130 Chromoly  
**Fork:** True Temper Alpha Q EX  
**Price:** \$2300

## Seat

**Back/Base:** M5 Carbon Shell (2 sizes)

## Components

**Crank:** Truvativ Elita 30/42/52 170mm  
**Bottom bracket:** Truvativ ISIS  
**Headset:** FSA Orbit XL-II  
**Drivetrain:** SRAM X.9 (rr.)/Ultegra (ft.)  
**Cassette:** 11-32 9/27 speed  
**Shifters:** SRAM 9.0  
**Chain —** SRAM PC9  
**Gear inch range:** 23.4-118.2  
**Pedals:** None  
**Wheels:** Velocity Spartacus 650c  
**Tires:** 650c x 23c 120 psi Conti GP  
**Brakes:** Shimano 105 Dual Pivot Sidepull  
**Colors:** Light Brass powdercoat



the fork weighs just 375 grams.

**Steering:** The Volae Club has a fixed over-seat steering (OSS) stem/riser. A threadless-style stem attached to the mast holds the handlebars. The stem and riser length are set at the factory based on all those funny little measurements you supplied with your order (including height, weight, shoe size, arm length, x-seam, seated shoulder height, standing shoulder height and inseam). The amazingly cool thing about this is that once the factory has all these measurements, very little time is needed to fit the bike to you because it's mostly already done. You need to set the seat recline and position the handlebars (though a proper setting was suggested by Volae and it worked for me). The ergonomics were exceptional. The "fit" of the Volae is something special and seems to be a very refined process given the young age of this company.

**Weight:** The Volae Club is supposed to weight 26-pounds — and ours came in just under that amount. The Volae Club has a weight limit of 250 pounds.

## DRIVETRAIN

**Components:** The Club comes with SRAM X.9 shifters and rear derailleur — which shifted the Truvativ Elita 30/42/52 (170 mm) crankset flawlessly. The bottom bracket is a Truvativ ISIS. Truvativ components are usually picked as a cost-saving measure, as a full Ultegra would be more expensive (at least this is my understanding from the road bike world). Personally, I prefer Ultegra components, but there is absolutely no problem with the Truvativ spec on this bike. The Club comes with an Ultegra front derailleur, and bar-end shifters could be an option.

**Chain Management:** The upper chain rolls under a very durable modified Greenspeed 15-tooth idler modified by Volae with tapered teeth and a 10 mm bearing. The lower chain rolls over a small Vision-style idler to guide the chain by the front wheel and out to the crankset. While the chainline looks good and works smoothly, the chain management is a bit noisy on the Volae. The chain, derailleur pulleys, and Greenspeed idler placed under that stiffly mounted carbon-fiber seat act as a resonating chamber which makes the drivetrain noisier than the competition. The idlers and parts seem to be very high quality, but when all parts come together, there is noise. The chain management is quieter on both the Bacchetta and the RANS. When we rode the bike with the Vision-style mesh seat it was quieter as well.

**Gearing:** The 30/42/52 crankset and the 11-32 cassette give an effective gear inch range of 23.4-118.2 which is close to perfect for this bike.

**Braking:** Our test bike had the fantastic Shimano 105 dual pivot side pull brakes. If these brakes are good enough for the Tour de



Volae's Rolf Garthus



Volae's optional mesh seat was formerly the ATP Vision seat

France, they should be good enough for most every recumbent rider. They are easy to adjust, offer great braking power and give a clean look to the bike.

**Wheels:** The Club comes with a Velocity Spartacus 650c lightweight and aerodynamic wheelset. This was our third set of these wheels — and all have been trouble-free. These fast and durable wheels are good for riders under 250 pounds.

**Tires:** The Continental Grand Prix 3000 650c x 23 were very fast and trouble-free, however they are too skinny for my weight, riding style and home terrain (rough roads). Be sure you carefully consider tire size.

## COMFORT

Our test bike came with an M5 seat, as did most 2004 models. Shortly after we finished our test, Volae began producing its own shell seats in both fiberglass and carbon fiber. According to Volae, "The seats are available in three sizes: small, medium and large. Riders will notice that the longer and more upturned seat pan on the Volae seat cups their butts better than other molded seats on the market. This eliminates the *recumbent butt* that some riders get on the backside of their butts when using other molded seats. The fiberglass seat weighs about 2.2 pounds (medium) and the carbon fiber seat weighs about 1.5 pounds (medium)."

The optional Vision mesh seat is also available. I spent a fair number of miles on the optional Vision seat. It is more comfy than I remembered, but there is what we call a *seat horn* that sticks out forward center of the seat base and can cause irritation under your groin. Some riders are sensitive to this, others are not. This has always bothered me on Vision bikes, and on Ryan Recumbents before them.

The mesh seat raises the riding position and changes the dynamics of the bike. I had to move the seat forward 1-1.5 inches, and I was on my tiptoes at stops. The mesh seat is also quite noisy. While the bike is quieter with the mesh seat, the seat itself squeaks. The bike is very fast with either seat. The Vision seat is also very light, and is about the same weight as our M5 seat.

One of the beauties of this bike is the seat mount — it seems bomb-proof. The Volae system is similar to the former Vision (drilled holes in the frame). A unique seat mount slides fore-and-aft and there are adjustable seat back braces as well. Volae's seat mount is reversible, making for a full range of seat positioning. While not as quick as a Rad-Loc or Bacchetta system, it locks down very tight, and makes seat removal quick.

## RIDE

The Club is fast and stiff — like a drop-bar road bike. The mono-tube frame has some minor give or flex, but the Volae rear seat struts are extremely tough and stiff. The seat mount seems stiffer than either the RANS or Bacchetta. Volae's theory is that this puts more power to the rear wheel — but it also seems to make for a slightly rougher ride.

The bike feels like a much longer bike — read: stable. That is until you go bombing down some rough country roads. I got into some trouble zooming down the back side of Morgan Hill in Port Townsend: I had a *death grip* on the bars at 30 mph when the bike started to bounce on the road surface. I was concerned that my hands would slip off the handlebars, but this didn't happen. This doesn't happen with just the Volae, but with other highracers, and even with some LWB OSS performance bikes. The stiff frames, wheels



*Volae's tweener style bars. A rearview mirror can be mounted on the left bar where the straight tube meets the curved section*

and skinny tires transmit road shock, so be careful.

**Performance:** The Volae Club felt light on the road, and quite fast. Highracers have been the fastest bikes on my test course this past season.

## OWNING

**Utility:** The Volae Club is not exactly a utilitarian recumbent. You can carry a small seat bag, but that's about it. The Volae Tour and Century have 26/20 wheel combos and can accept all of your favorite touring accessories. The Volae and Hostel Shoppe websites are full of cool stuff to adapt.

**Purchase Details:** No messing around here. Volae makes purchasing super-easy. You take several measurements to give the nice folks when you order. When your new bike arrives at your home, it's nearly ready to ride. The fixed OSS stem/riser is set based on the measurements you supplied. You lift the bike out of the box, remove the packing materials, unwrap the bubble wrap on the chain, install the front wheel, flick the front brake quick release, install your pedals, inflate the tires, — and you're rolling. And if for some reason you really don't like your new Volae highracer, Hostel Shoppe offers a money-back guarantee that is unmatched in the recumbent business. According to Volae, "If, after two weeks, you decide the bike is not for you, we'll have the bike picked up and will refund all of your investment less a 5% demo/rental fee. This refund also includes shipping charges both ways."

Volae's mail-order purchase program is very impressive. The trick is in the oversize box that Volae uses to ship the bike. In this respect, receiving a new Volae is much the same as our experience with WizWheelz or BiGHA (the bike was delivered almost ready to ride in a huge box).

## Options & Accessories

With the Hostel Shoppe behind it, Volae has the largest selection of recumbent goodies in North America. There are print and online catalogs for recumbent enthusiasts to drool over. Volae offers a kick stand and mount (\$36.95), a B&M Cyclestar mirror (\$22) that neatly mounts into an open-end in the custom Volae handlebars, two custom bags for all your junk, including a small bag (350 cu. in.) for \$60 and a large bag (1,050 cu. in.) for \$80. Fenders, a light T-bar mount and a White Industries RC8 suspension fork will fit some models (not the Club). There is a rear rack, but don't even think of mounting one of those on this beautiful machine.

## MARKET

The Highracer market is heating up: Bacchetta is on fire and has a

newly updated value-added Strada model, the Giro 26/26 tourer, the titanium Aero and the upcoming aluminum Corsa. RANS introduced its hot new Force 5 models this year. For 2005 you can choose from a RANS standard seat, Zephyr seat or M5 seat.

The three brands all vary just enough to make them unique in their own ways. Certainly Bacchetta has the edge because they came out first, have sold more highracers, and they have a host of dealers and a group of extremely loyal owners.

The closest models to the Volae Club are the RANS Force 5 XP and the Bacchetta Strada. There are pros and cons to both of these as compared to the Volae Club. The RANS frame is built in Hays, KS and has a trussed (triangulated) frame. The Bacchetta Strada frame is built in Taiwan — but this bike is an especially good value for 2005. (Bacchetta has been paying attention to its competition). These are all VERY nice bikes and making a choice will be difficult.

Volae offers six SWB highracer models to choose from: The 26/26 Tour is a unique touring highracer with a mesh back seat (\$1400), the Century is a 26/20 (\$1700), the Sport is a dual 650c (\$1700), the Club is our test bike (\$2300), and the Team is the racer (\$2950). All models have cromoly frames built by Waterford, but the forks and seats (M5 models and Volae mesh-back) differ.

## VERDICT

Highracers are sleek and lightweight recumbents. They are the closest thing we have in recumbency to upright drop-bar racers. They bring together lightweight systems from hpv racing, road and triathlon bicycles. These laid-back machines are efficient and can be very fast. They are wonderful machines if chosen for the right purpose.

The fact remains that not every recumbent rider will want a highracer. Some won't like the tall, skinny wheels with their hard high-pressure tires. Others may want to sit more upright. And yet others won't like the knees-between-the-bars outstretched-arm ergonomics (best for the open road). Many aren't so good for commuting or touring — and they are expensive. Highracer manufacturers mostly know all this and all offer less extreme more real-world-friendly machines in their lineup.

For those in the go-fast crowd, you know who you are. Perhaps you're a seasoned recumbent enthusiast or roadie-convert and you just want to go fast riding with your club or in a race-type event. You might own several recumbents or bicycles for various purposes. The highracer could be the bike for you. As far as performance is considered, there are only a few recumbents that can even compare, though most will agree that the highracer just might be the fastest widely-available enthusiast recumbent.

Rolf Garthus and his crew, including Waterford Bicycles, have done an excellent job with the Volae bikes. The level of finish quality, service and delivery is very rare, and welcomed in the recumbent world. Despite our minor criticisms of the drivetrain noise and mesh seat horn, Volaes are sure to become respected machines in the world of high performance recumbents.

If you are concerned about buying a bike like this directly from the manufacturer, don't be. The Hostel Shoppe has lots of experience with recumbents. The Volae is based on sound design principles — inspired by the Vision Saber, Kingcycle, Bacchetta and the Hostel Shoppe's own recumbent bicycle expertise. If you want to see what to expect when you receive your Volae, check out the website and take a look at the *Volae Quickstart Manual* which will outline the steps needed to get you out the door. Also, don't forget Volae's satisfaction guarantee (5% charge if you are not satisfied after a two week test ride).

Not everyone needs or can use a highracer, so Volae has adapted its high quality and design attributes to create the Volae Tour dual 26" model and two 26/20 models, the sporty Century and the Tour, both of which are state-of-the-art SWBs. The coolest thing is that you'll get the extremely high quality of a Waterford-USA built bike on Volae models starting from \$1400. So besides being one of the finest built recumbents, they are also a fine value. ♦



**STELVIO:**

16" 28-349,  
17" 32-369,  
18" 28-355,  
20" 28-406 folding, 28-451,  
26" 28-559, 23-571,  
28" 23-622, 25-622, 28-622,

**BIG APPLE:**

16" 50-305,  
20" 50-406, 60-406,  
24" 50-507, 47-507,  
26" 50-559, 60-559,  
28" 50-622, 60-622,

**MARATHON PLUS:**

SmartGuard

20" 47-406,  
26" 47-559, 37-590,  
28" 28-622, 32-622, 37-622,  
40-622, 47-622, 40-635,

**MARATHON SLICK:**

20" 35-406,  
26" 35-559, 47-559,  
28" 30-622, 37-622,

**MARATHON:**

16" 40-305, 47-305, 37-349,  
18" 40-355,  
20" 40-406, 47-406,  
24" 40-507, 47-507,  
26" 40-559, 47-559, 50-559,  
37-590,  
27" 32-630,  
28" 28-622, 32-622, 37-622,  
40-622, 47-622, 40-635,

**SCHWALBE**

**ALWAYS AHEAD**  
[www.schwalbetires.com](http://www.schwalbetires.com)

## HEDIGER CYCLES

Trimuter • Big Wheel • Hed Turner  
*Optional Power Assist • Trikes with 20" or 26" rear wheel*



Hed Turner



Trimuter

**Tel. 618-654-6740**  
Visit Our Website: [www.trimuter.com](http://www.trimuter.com)

## JAY'S

### PEDAL POWER BIKES

512 E. GIRARD AVE, PHILA., PA

- Burley
- Bacchetta
- Easy Racers
- RANS
- Greenspeed
- Hotmover

We ship worldwide. Call for Catalog  
**Tel. 215-425-5111**

Visit us at: [www.jayspedalpower.com](http://www.jayspedalpower.com)

## Reynolds Z-Bone ST (Soft Tail)

High Performance without the Bone Shaker Ride



- Fast
- It Folds
- Rear Suspension
- Front-Wheel Drive
- Light (Titanium)

**Tel. 603-432-7327**  
**Web: [www.reynoldsweldlabs.com](http://www.reynoldsweldlabs.com)**

He is not pleased with the strength of horses nor in the legs of man, but the Lord delights in those who fear him and hope in his mercy — Psm 147: 10 & 11

## KneeSavers

Kneesavers steel pedal extenders move your pedals out 20 mm from the crankarms increasing the "Q Factor" and improve cycling biomechanics. They are ideal for recumbent cyclists. They allow a more toed-out position in those with a toes-out/heels in-gait pattern. As a result, foot, ankle, hip and most commonly knee pain is eliminated. Visit your local SCOR/recumbent dealer or our website at:

[www.bikescor.com](http://www.bikescor.com)  
**Tel. 800-548-4447 or Email: [BikeIce@aol.com](mailto:BikeIce@aol.com)**  
**SCOR Productions**

[www.TopperRacks.com](http://www.TopperRacks.com) (800) ATOC-021

**TOPPER RACKS**

Roof top carriers for singles tandems recumbents



Pivoting & non-pivoting styles available

ATOC

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

DECALS TOO!

(800) 659-5569 [www.Draftmaster.com](http://www.Draftmaster.com)

A NEW DIVISION OF ATOC

**DRAFTMASTER**



Receiver hitch carriers for singles tandems trikes recumbents

# Recumbent Safety

By Bob Bryant

Bicycle safety is a subject that is just not written about enough. This article is written primarily for those recumbent riders who plan to use their bikes for transportation. But even if you ride recreationally on a bike trail, you will also glean some useful information from this article.

Back in 1975, John Forester wrote the first edition of the classic bicycling book, *Effective Cycling*. In this book he outlined what he called “vehicular cycling principles.” Forester’s principles can be summed up in this one sentence: “Cyclists fare best when they act and are treated as drivers of vehicles.” As stated in *The Art of Urban Cycling* by Robert Hurst, Forester’s principles “won over the cycling community.” They are still taught to this day by the League of American Bicyclists.

In *The Art of Urban Cycling*, Hurst notes that there are 65 million more people and even more cars than there were back in the 1970s. He advocates that modern urban cyclists need to be a bit more flexible as to routes and safety.

After a series of close calls this past spring, I started researching the cycling safety books just to make sure that I was doing the right thing. I’ve always blazed my own trail when riding. I don’t need to be out with the cars on the road. If there is a bike or multi-use trail going in my direction, I’m there. I choose lightly-traveled roads, and I carefully consider the various situations that I get into.

I had several spots on my commute where I was having repeated problems with cars:

In downtown Port Townsend there is a ferry dock. In the summer, there is always a line of cars. I stay in the bike lane, which then becomes the ferry turn lane and then ends at the ferry dock. I move from the bike lane/ferry turn lane into the main lane of traffic. I ride 40% out into the lane so that cars cannot pass me. The reason why I do this is that there is a strip mall less than one block after the ferry dock. Several times a month cars would pass me, and immediately cut me off by turning right across my path into the mall. I confronted a few of these drivers. Two actually said the same thing to me: “You were in *my* road,” and “What am I supposed to do?” I reminded them that I had a full legal right to that lane. But now I don’t give them the chance; I ride out in the lane.

Further into town traffic slows down to a 20 mph two-lane main street. Many safety advocates would tell me to stay out of the bike lane for fear of being hit by an opening car door; and to ride in traffic if I’m going the same speed as the traffic. While in principle this sounds right, often the traffic is going less than

10 mph or is stop-and-go. If I sit there with the cars, I end up overdosing on exhaust fumes. In this case, I carefully ride up the bike lane — carefully not getting too close to the parked cars or to the line of stopped traffic. To make matters even more like a video game, there are often delivery trucks parked down the center of the street so a careful cyclist needs to be aware of the “squeeze”.

On a rural street out towards my house the two lanes haven’t been resurfaced in years and are full of potholes and ruts. If I ride in the right 20-30% of the lane, drivers quite often will attempt to pass. The lane narrows significantly and I’ve been run off the road several times (most recently by a bus). In this situation, I have now moved out into the lane so that the cars cannot pass, or they have to move into the oncoming lane to pass. Ridiculously, many try to pass anyway when they don’t need to. I’ve measured my speed at over 20 mph through this area, and the speed limit is only 25 mph.

I’ve never admitted publicly to my flexible view of Forester’s “effective cycling” concepts. It wasn’t until I read *The Art of Urban Cycling* that I became empowered and began to see myself as a capable, experienced cyclist who is able to ride in a safe and predictable way — even though it doesn’t go along 100% with the rules of “effective cycling.” My recommendation to RCN readers is to visit some of the websites outlined below and perhaps check out some books from your local library. Think about the situations on your rides/commutes and come up with careful and safe ways to handle them. Also, riding a bike suited for traffic riding and having adequate safety gear will help you along the way.

## Safety Equipment

As a commuter cyclist, I ride 10-12 miles, twice per day, to the post office and back and on errands around town (combined with fitness rides). After several close calls this last season, I decided that I had to make some changes to *be seen* by motorists. The information below outlines some of the changes that I made to get safe.

**Bell:** I have a thumb activated bell to alert other riders, pedestrians, and dogs of my presence. Something like the Incredibell sells for \$6-\$11.

**Horn:** In traffic you need more than a bell. The Airzound air horn (\$30) is a good way to go when you need to get the attention of car drivers. Yelling at the top of your lungs is another way to alert them.

**Flag (vertical):** Most recumbent trikes come with safety flags. For those that don’t, most bike shops sell safety flags. If anybody knows of a good source for a two-piece flag pole and high-quality flag, please let us know.

**Flag (horizontal):** The Flash Flag will help motorists judge just how much room to leave you in traffic. [www.flashback.ca](http://www.flashback.ca). Some feel this is a great idea, others have told me that it may antagonize motorists. I haven’t tried it yet, but would do so on a two-wheel commuter bike.

**Helmet:** This is a must-have, and don’t use your 25-year old Bell helmet or your kid’s roller blade helmet. Get a modern helmet that fits you well. For urban cyclists, the Bell Metro is the helmet that people are talking about.

**Lights:** On dark or drizzly days, or in fall and winter, I ride with the lights on. RCN light expert Kent Peterson tells me that the best and most affordable basic lights available out there are the 1000 candle power Cateye EL500 LED headlight (\$50) and the LD1000 tail light. The LD-1000 has 10-LED lights that flash on the sides and to the rear (about \$35). Both run on AA batteries. Another option is a clear flasher on your handlebars.

One of my bikes has a hub dynamo generator and light combo. I loved this until I realized that a friend’s Cateye light was brighter and doesn’t flicker with varying power output.

**Mirror (rear view):** I ride so many different bikes that I like a mirror that attaches to my glasses. I use a Take-A-Look (see RCN 085, pg. 8). I’ve had this mirror for years. I find that glasses or helmet mirrors vibrate less, but consult your selling dealer to find a mirror that works best for you. Just get a mirror — this is the single most important safety option you can get for a recumbent bicycle.

The Mountain Mirrycle mirror is a high-quality and widely-used handlebar mount mirror (\$15).

**Reflective products:** I wear a fluorescent green cycling jacket. Mine is made by Pearl Izumi. I also have a Burley rain coat that is bright yellow with some reflective material sewn in. It is a wise decision to place reflective safety triangles on the back of your bike.

## Safe Recumbents

**Compact Long Wheelbase (CLWB):** These are the ultimate commuter/recreational design. A suspended model, like the HP Velo Spirit, can be a very comfy urban ride. They tend to be heavier, and not perform as well once you get out on the open road. The tall and upright position gives a safe and commanding view of the urban environment.

**Long Wheelbase (LWB):** While these bikes are long, they are lower than a SWB or CLWB. The length can be an issue for some, but most are user-friendly enough. Fairings can make tight turns an issue. LWBs are generally



heavier than SWBs, and won't go on a transit rack.

**Short Wheelbase (SWB):** The American style SWB may be the best compromise for an all-around commuter/touring/recreational recumbent. The good old "begging hamster" position is user friendly, and a medium pedal height is user friendly enough for most enthusiasts. I also prefer them because they will go on a transit bus rack if I care to do some riding in another county.

A highracer is about the same as a SWB, but most have "tweener" bars (your legs are pedaling in between the bars). I find these more

difficult to ride at low speeds and in dense urban situations. Also, the higher pedals and recline seats make starts/stops a bit more difficult. Highracers are generally sport bikes and are not equipped for urban riding.

**Trikes:** For a long time I thought trikes would just be too vulnerable in traffic. During a recent trike test experience, I noticed that I get more room and respect on the road when riding a trike. There are times when it has to be difficult for motorists to see a low trike, but it just depends on how dense and fast moving the traffic is. I would certainly plan my route carefully. Delta trikes may be a bit easier

to ride and more visible in traffic, but they don't perform as well, and some have traction issues (those with one wheel drive). Trikes won't fit on a transit rack. This aside, I'd rather ride a trike through my town than any other recumbent commuter. Lowness will be an issue for some. The ultimate decision on this must be made by the owner/rider and local riding environment.

## Websites

**Bicycling Street Smarts:** This 46-page

... *Continued on page 28*

# Recumbent Safety

By Mike Librik

Mr\_Safety@UrbanCycling.com

**D**ammit but what the skillful driver wants when in traffic is to help create a traffic situation that is safer for everyone involved. The "good driver," whether a biker or a motorist, uses his/her presence to organize a chaotic, fast-moving situation into an ordered, understandable one, where the right moves are obvious to everyone and doable with minimal worry.

Bad traffic happens when a driver acts purely for personal gain, ignoring what situation will result for the other drivers. Motorists use raw power and intimidation to blast a way through traffic. Cyclists use their nimbleness to slip through small gaps. In each case, the driver forgets that their opportunism creates a less predictable, more stressful situation for others.

No one is a "good driver" all the time, but it is a worthy aspiration. The key to refinement is self-criticism. When scary situations inevitably occur, one must question how one's own actions, or lack of preparations, helped bring about the bad event. Blaming the other driver, society, or the world, squanders the chance to learn something. It also makes one feel helpless. Nobody leaves a driving class as a good driver, but hopefully everybody leaves with this habit of asking "how could I have done that better?"

With all this theory in mind, consider these factors in the design and equipment of your recumbent:

**1. Mirror Position:** Devotees of helmet mirrors may disagree, but properly positioned and non-vibrating handlebar mirrors give the most information about pursuing traffic. I recommend Mirrycle (pronounced "miracle") brand mirrors, or their derivatives. A good bike for traffic should let you elevate your mirror into your normal line-

of-site, so you can make frequent and sustained observations of pursuers without sacrificing control. Mirrors should be set wide enough to give a wide cone of visibility behind you. Handlebar placement should also set your mirrors forward enough so you do not fatigue your optic muscles from the high-frequency refocusing between the road and the mirror. By watching your mirrors long and often enough, you can default to a controlling position in your lane, increasing your "presence" (see 5 below) and slowing the approach of traffic. Given detailed knowledge of pursuers, you can easily yield lane position to assist an overtaking car without letting it pass you fast and close.

**2. Easy stops and starts:** A complete stop is one foot flat on the ground. If your bike does not allow this, you will be disinclined to stop, reducing traffic safety. Having to slide forward in the seat to stop increases the time needed to start. This increases the risk of crossing busy streets or creeping into blind intersections. Recumbent designs with an upright seating position, a cut-away seat base, a low-enough seat height, low pedals, and certain steering characteristics, have easier stops and starts. I think that small wheels improve these conditions, and may also provide better acceleration away from a stop (though they limit top speed). Similarly, internally geared or hybrid hubs help here. Naturally, taller cyclists can easily stop a wider range of designs.

**3. Eye position:** When biking in the city, you need to see around blind corners, meaning your eyes should be high and forward. Recumbents sit the driver back, but some designs put less bike ahead of the eyes. The lower one sits, the greater the likelihood of encountering blind corners. The conflicting needs of easy stops and eye height makes a delicate balance in recumbent design, since the seat must be low

enough for the stop but high enough for the view. By the same token, fast starts and easy stops reduce the problems of blind intersections caused by poor eye position.

**4. One-handed control:** Good one-handed control makes big, sustained hand signals easier. The cyclist should have no problem starting the bike from a stop with one hand committed to a big left-turn signal. All recumbents do well here, since a recumbent rider's weight is on the seat and not the arms. Short wheelbase USS has a problem with one-handed control at downhill speeds, which can be reduced by front suspension (at the cost of increased seat height).

**5. Presence:** This ultimate concept subsumes and expands the matter of visibility. Beyond just being visible, you must be visible early and immediately establish yourself as an inevitable constituent in the traffic situation. Meeting minimum standards for visibility equipment is not enough. Get enough visible surface and properly-charged lights to look like something substantial at the instant you appear. Fly flags over line-of-sight obstructions. Know the situation to your rear and position your visibility rig at lane center whenever possible. Activate remote strobes in response to your pursuers' behavior. Employ forward audible alerts (Incredibell, etc.) or strobes early. Presence requires not just equipment, but skill in using it. Drivers must make split-second decisions under stress, and you must be instantly detected and deciphered. Social relations in traffic often last but seconds, and making a first impression of reserved yet powerful presence can reap great respect during this short encounter. ♦

*Mike Librik is a League of American Bicyclists League Certified Instructor for bike safety. He teaches basic Road 1 and advanced Urban Cycling classes (www.UrbanCycling.com) in Austin, TX. He owns Easy Street Recumbents, and wrote the content of www.EasyStreetRecumbents.com.*

# RCN Road Test: The Cycle Genius RDX

By Bob Bryant  
bob@recumbentcyclistnews.com

*"The RDX is equipped with a set of 700c/451c aero wheels to provide exceptional high-speed stability, Truvativ Rouleur crank and SRAM X-Series drive train to insure that high speed becomes your normal state."  
-Cycle Genius Recumbents*

Cycle Genius has been known for its affordable short wheelbase (SWB) recumbents and, more recently, for the RDX and LTX long wheelbase (LWB) over-seat steering (OSS) models. For 2005, the company has continued to focus on the LWB.

The LTX and RDX share the same aluminum frame, but the RDX has an aluminum fork (the LTX has cromoly). Both also share the same seat, which is used throughout the Cycle Genius' line. These two new recumbents are a welcome addition to the long wheelbase arena. Cycle Genius likes to think of the RDX as affordable competition for the Easy Racers Gold Rush. Read on and we'll see how the bike compares.

## SYSTEMS

**Frame:** You'll think that the frame design is either a unique retro '50s hot rod style, or a kluge of tubes. People seem to either like it or hate it. It doesn't have the swoopy chopper-esque looks of the most successful LWB OSS recumbents. The aluminum frame is made for Cycle Genius in Taiwan.

**Fork:** The RDX has a stunning 7005 aluminum fork. Not even the Gold Rush has an aluminum fork. The fork has a unique shape: it is flat on the inside and rounded on the outside, somewhat in the shape of an awing. The fork is disc ready, but does not have fairing mount braze-ons (see accessories).

**Steering:** Cycle Genius has a well thought-out three-piece riser tube. The first piece is the stem that mounts into the threaded fork. The second is the clamp, and the third is the riser. A ball-detent allows for quick and easy settings. A touring style aluminum riser bar mounts into the two bolt stem clamp. The standard system works really well, but aesthetically it doesn't have the chopper-bar look to it. (For 2005 Cycle Genius is offering a black anodized chopper-style Easy Racers handlebar that is similar to the handlebars on the CGX. I prefer



## For

1. Excellent value
2. Unique look; like it or not
3. Light for LWB and price range
4. Cool aluminum fork
5. Optional chopper bars
6. Disc brake ready

## Against

1. Funky frame design; like it or not
2. Heavy seat
3. Fairing mount needs refining
4. Low back seat
5. Performance
6. Some no-name brand parts

## Why Buy This Bike

You've always wanted a Gold Rush, but you only have \$1350.

## Contact

Cycle Genius Recumbents  
Web: [www.cyclegenius.com](http://www.cyclegenius.com)

## Specifications

**Model:** Cycle Genius RDX  
**Type:** LWB OSS  
**Size:** One-size 5'1"-6'5"  
**Wheelbase:** 69"  
**Seat height:** 23.25"  
**Pedal height:** 13.75"  
**Weight:** 32.6 pounds (RCN digital scale)  
**Frame:** TIG 7005 aluminum (Taiwan)  
**Suspension:** None  
**Fork:** 6061 aluminum (disc ready)  
**Price:** \$1349.99

## Seat

**Back/Base:** Mesh back/foam base  
**Stem:** Kalloy custom  
**Bar:** Kalloy 2" rise

## Components

**Crank:** Truvativ Rouleur 30/42/52 172.5mm  
**Bottom bracket:** Truvativ ISIS  
**Headset:** Alloy sealed  
**Derailleur (front):** N/A  
**Derailleur (rear):** SRAM X.9  
**Cassette:** 11-32 9/27 speed  
**Shifters:** SRAM X.7 twist grip  
**Chain —** KMC 9-speed  
**Gear inch range:** 25.3-127.6  
**Pedals:** Alloy platform  
**Wheels:** 700c rear; 451mm 20 x 1" front  
**Hubs:** Quando High Pro alloy  
**Tires:** Cheng Shin CST HP 100/110 psi  
**Brakes:** Tektro Quartz w/carbon inserts  
**Colors:** Polished aluminum or black powdercoat



the optional handlebars.)

**Finish:** Our RDX came in a very attractive natural polished aluminum. The optional color is black. Hmm, aren't these Gold Rush colors? The bike is busy with decals, including one that says that mistakenly says it's made from cromoly.

Natural (no paint) is a great option for aluminum bikes. There is no paint to scratch or get damaged.

**Weight:** During this review we got a new Topeak Prepstand bike repair stand. While there are many good stands, this one has a digital scale on it so we can get accurate weights for all test bikes. The RDX weighs 32.6 pounds with no pedals or other options. The LTX uses the same frame with a cromoly fork, disc brakes and a different component package. We did not weigh the LTX, which is listed at 35 pounds.

## SEAT & COMFORT

**Design:** The CG seat has a medium-height mesh back hinged to a foam base. A crude and mostly useful angle adjustment is located under the seat, but is difficult to use compared to the other quick release adjustments for the seat position and seat stays. The only problem we found was that we couldn't make the seat base sit flat without some filing. I especially liked the quick release seat recline adjustments.

**Ergonomics:** The position is very close to that of an Easy Racers recumbent. The seat is 1-1.5" higher, and the bottom bracket is 1" higher than a Tour Easy. The riding position does not seem as aggressive. I thought for sure the Easy Racers seat was lower, but it's an optical illusion from the CG's straight top tube (vs. the Easy Racers sloping tube).

**Seat Back:** I really liked the way the seat back arched and hinged. Despite its lack of height, the arch fit my back very well. The material stays taught and there is no adjustment to slacken the mesh. I felt no need to loosen the mesh as I do with the Sun seat. The seat back position is fairly upright which suits the design. So the short adjustment range is adequate.

**Seat Base:** The foam base is thick, firm and contoured like a John Deere tractor seat, only a bit smaller. The base will be comfy for most riders, but we have heard complaints from some who tried the bike and preferred a different brand/seat. The base is probably larger and with more foam than necessary. The CG seat still has a wood base, with some sort of plastic underlayment so that you can't see the wood. The seat base frame is chromed steel. While the seat design worked well and is more refined than previous CG seats, it could certainly be lightened up a bit.

While the seat should be trouble free, overall the seat could be improved. They need to make an option so it sits flat, perhaps less foam in the base and they could easily shed some

weight from this heavy seat (or offer a light-weight seat option).

## DRIVETRAIN

**Components:** The specs on the RDX are mostly impressive. The SRAM X-9 rear derailleur and the SRAM X-7 twist grip shifter worked fine. I like the way the bike shifted, but I couldn't quite get it adjusted properly. The X-7 shifters are very loud. The front derailleur is a Shimano 105 which was fine, but the bike had a bad case of chain rattle (see below). 2005 models will have a different front derailleur.

**Chain Management:** The chain is easy to manage. It rolls over one cartridge-sealed bearing idler that is on a floating mount (side-to-side). This is Cycle Genius' first venture into chain idlers. Their "X-frame" models don't need them. While the idler looks well-designed, it produces an annoying rumble, especially in lower gears (on each chain ring). The only solution to the annoying noise is to lift the chain off the idler and let it run free. I didn't have any big problems while doing this. The folks at Cycle Genius are not big fans of chain idlers — and it shows. If they plan to use them on the LWB bikes, they should try and find a quieter idler. The chain also rattled on the front derailleur cage when in the large chain ring. I repositioned the derailleur several times to see if I could quiet the drive train down and I could not. Happily, the 2005 RDX model we rode at Interbike did not have this problem.

**Gearing:** The beautiful Truvativ Rouleur 30/42/52 crank set spins on an ISIS-style bottom bracket. If you ride in hilly country, the odds are that you'll find the gearing just too high on this racing-style road triple. On rolling hills I didn't have the lower mid-range gears that I require. The gearing on this bike might be adequate in relatively flat places, but I'd still prefer something like a 24/39/54. And I would readily give up my high gears to have adequate low gears.

**Braking:** The carbon-fiber/aluminum Tektro MT-50 V-brakes look good and stopped even better. I had to adjust the spring tension on the front brake and was delighted to find a hex bolt (instead of a crappy odd-sized screw slot). I almost kept these brakes for myself. The handles are matching Tektro Carbon Eclipse models. I had never heard of this model of brake before, but I sure did like the feel of the handles as well as the stopping power.

**Wheels:** The rear 700c x 23c is skinny and fast, and presented no problems during our test. The wheels were a bit skinny for me. My riding pal commented that my rear tire looked a bit low shortly after I pumped it up to 100 psi. (I weigh 220 lbs.) The rear wheel spokes are radially laced on the non-drive side, which is unique.

The front wheel is a radially-spoked Alex D22 aero-rim laced with 28 light-duty 15-

gauge spokes. The front wheel's spokes eventually started making a popping noise when I rode and eventually went out of true.

The tires are Cheng Shin road tires which I had never seen before. CG's Danny Savitzky says the *long wear* tire is from the wheelchair industry. The front is a 20" x 1" 451 mm (a tall and rare BMX size). The SC Super ST tire is rated at 110 psi.

The rear tire was a match to the front, but just 100 psi. I had one flat tire with these skinny tires and I rode this bike daily for more than a month. CG offers a paired spoke wheel option for the RDX.

**Forgettable Parts:** The CG specs are good and bad. While there are some real highlights, there are also a few no-name brand parts in the hubs and headset. The most forgettable part on the bike was the no-name "alloy sealed" headset which was too tight and didn't rotate freely (an upgrade costs \$60-\$100). We haven't tried the no-name brand front derailleur that is spec'ed on the 2005 model.



High Performance Recumbent Accessories



Under Seat Racks Super-Fast Idlers



Bars Stems Masts Light, Fast Tail Fairings

**1-800-371-5871**  
www.terracycle.com

## ZACH KAPLAN CYCLES

**High Performance Recumbents  
for Transportation**

Fairings · Suspension · Lighting systems  
Pedal systems · Excellent Tyre selection  
Wide-range gearing

**Bacchetta · Burley · Challenge  
Greenspeed · Easy Racers · RANS  
HP Velotechnik · ICE**

**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**



The new optional bars



The Truvativ Rouleur crankset



The similar CG LTX comes with a 26/20 wheel combo, fatter tires and disc brakes and is a very good buy.

## RIDE

**Stability:** The RDX offers good stability. I didn't feel as rock solid at high speed as I do on a Gold Rush, but I did like the way the bike handled. The road feel is not as refined or fluid graceful, but the bike rides well and doesn't have any negative handling traits.

**Performance:** The RDX isn't quite as fast as a Gold Rush. It doesn't beg for more and offer the instant acceleration of an Easy Racers LWB, but it's no slouch either. While I'd like to say it's the magic dust sprinkled in the tubes at Easy Racers, it comes down to something more simple — aerodynamics. The RDX has a wider handlebar stance, and the bike seems just a bit taller (sorry, no Gold Rush here at the time). One secret of the Easy Racers bikes is that the Super Zipper fairing was designed to fit the bike. It fits like a glove. The handlebars tuck your arms and hands inside the fairing. Not so with the CG RDX (or with Burleys or others). The hand position is wide, and the fairing is mounted a bit too high.

**Climbing:** The bike climbs well. I went over the steepest hills in Port Townsend (Cook Avenue and Morgan Hill) with relative ease. The low-speed handling is great. I was able to make my switchbacks climbing at walking speed, perhaps even a bit better than on a Gold Rush. There was no knee interference with the bars during quick handlebar movements.

The biggest downside to the climbing performance is the RDX's stock gearing. This bike is the antithesis of ideal gearing (as per my RCN 079 Gearing Rant). In case you don't recall: the low and mid-range gears aren't low

enough. This is what happens when you throw a road triple onto a recumbent that wasn't designed for it.

**The Ride:** The CG RDX has a smooth and compliant ride. It soaks up the bumps seemingly smoother than a cromoly frame, but also is stiff enough so that no power is lost. The CG RDX has a ride much like a Gold Rush.

## OWNING

**Utility:** Cycle Genius does not offer a seat bag and there isn't much room for one between the tall 700c rear wheel and the medium seat back. The bike will accept a standard rear cargo rack (and bag) — which adds much more weight than a seat bag would. There are also braze-ons for fenders, a rack and disc brakes. The RDX is not the most ideal LWB commuter/cargo hauler.

**Options & Accessories:** The RDX comes disc-brake ready, has a kickstand mount, two water-bottle cage mounts (one on the stem riser) and fender mounts. Options from CG include Aerospoke wheels (\$650), a Greenfield kickstand (\$10), water-bottle cages (\$15 each), clipless pedals (\$60), fenders (\$40) and a repair stand adapter (\$30).

A fairing can be purchased through Cycle Genius. The lower mounts are the V-brake stud bolts. The fairing has a custom wheel cut-out for the front wheel. The upper mounts are T-brackets.

**Purchase Details:** Cycle Genius bikes are sold through dealers only. They are designed to be set up by a dealer and we encourage this option. Our test bike was bench-tested in Texas, but required much more adjustment time than most test bikes.

## MARKET

The entry level LWB recumbent market is really heating up. Buyers in the \$900-\$1500 range have some great choices from Burley, Sun and RANS. The RANS V2 and the Burley models are leaders in this segment and are the ones to beat. At the moment, the Burley Jett Creek, Koosah and the new '05 models seem to be the new LWB sweethearts. The V2 has a more aggressive style with its higher bottom

bracket. The Sun EZ Sport AX has cruiser styling, but is not as performance oriented and the build details are not as refined as the Burley. I found the RDX to be faster than our recent Sun and Burley LWB recumbents, but not as fast as any of our recent Easy Racers or RANS V2 Formula.

The Sun, RANS and Cycle Genius LWB models are more refined than the model from Burley, however, the Burley models have a that sweet and simple "Z" frame that is made in the USA frame.

The LTX model has the same aluminum frame, but comes with a cromoly fork and 26/20" wheels. It has a SRAM 5.0/X.7 24-speed drive train, Truvativ Touro cranks and Tektro disc brakes. It comes in Silver or Tequila (an odd green color which I liked) and is a great buy at \$1049. The LTX comes with equally poor gearing, a rather high-g geared triple with 27-118 gear inches. This is just too high for a recreational/entry level LWB.

## VERDICT

Cycle Genius bikes all have some unique (some might say odd) design features. The RDX/LTX models are no exception. There are lots of tubes, some bent, some straight, some large, some small, some round, some square. I didn't find the aesthetics particularly pleasing, but some riders really liked the unique look.

The component specs are mostly good for this bargain price, but if you are over 200 pounds or ride hard, I might be concerned about this wheelset. Our only other concern is the noisy chain idler. If you don't like the noise, just don't use it.

The CG RDX is a terrific bargain in a performance LWB OSS recumbent and a fine riding and performing recumbent. I rode the wheels off this test bike during the summer of 2004 and enjoyed every ride. The bike is fast, handles well, and feels good. The reasonable price should also put a smile on every buyer's face. This is truly a decent performance LWB recumbent — perhaps a poor-man's Gold Rush. It even has a few upgrades that the Gold Rush doesn't offer (disc brake compatibility and an aluminum fork). ♦





The author and Jack

## Now I Know Jack (knife)

By Tom Beuligmann

[bikemann42@shawneelink.net](mailto:bikemann42@shawneelink.net)

There is a type of recumbent that provides the answers to nearly all of the shortfalls of the crop of reclining bikes available today. Just name the issues that confront you while considering a recumbent design: Seat height and recline angle, crank height, wheel base length, even chain line, handlebar placement, utility or sport usage. This radical type of bike cures all the issues . . . Well, maybe all the issues. Oh, one other problem. You can't buy one.

I have been involved in some fashion with recumbents for over 22 years. Whether riding, building, evangelizing or selling, I have done it all. Like many RCN readers, my brain starts clicking every time a new model is introduced. I have designed and built many of my own recumbents and, like many of you, I can't settle on a single favorite design. Therefore, I create something radically different with each build, never refining an existing model. Like recumbent manufacturers must do, I lament the design compromises before settling on a format. SWB or LWB, high bottom bracket (BB) or low, chain idlers here, or there, rear wheel drive or . . . *front wheel drive* (FWD)?!

Yes, I know, almost nobody makes FWD, and definitely not the funky pivoting boom type. I had to find out why. After all, they could have some terrific advantages. Over the span of several months, I built and learned to ride my home-built pivoting boom front wheel drive recumbent (PBFWD) I call Jackknife.

Here is my experience:

### Why?

Even during the 14 years I sold recumbents, I always had to settle for a bike that wasn't exactly what I preferred. I loved the Tour Easy Ergo, but I couldn't fit my 49" X-seam on the largest frame. A custom frame would have put the wheel base well over 70". My Rocket and V-Rex were great, but the seats were so far back that I could easily do wheelies, and I didn't like the "begging hamster" arm position. I had built a couple of extended SWBs, but I really didn't nail the design, and I was beginning to prefer a lower bottom bracket. I contemplated another SWB, and even started to build one with a low BB, but the chain management was a nightmare. The FWD format seemed to address all these issues.

### History

Before you write off the concept of front wheel drive, consider this; The very first bicycle to have pedals was...you guessed it – the front wheel drive Velocipede. That was in 1861. The Penny-Farthing, or Ordinary bicycle, popular until the 1890's was also a FWD. Don't think for a minute that those high-wheeled bikes weren't intimidating to learn to ride. Yet folks of that era flocked to riding schools to have an instructor teach them to master it. Chances are your first *ride* as a child was a tricycle; also FWD. Torque steer prob-

ably didn't deter you from riding that little vehicle of independence.

I remember when I first began riding seriously as an adult in the '70's (that's *nineteen* 70's!), the only "real" bikes had drop handlebars and lugged steel frames. The brand name of your steed had to end in an "I" and the component brand had to end in "O". Narrow-minded cycling snobs would never have considered any other kind of bike. I credit the mountain bike boom for opening the door to radical new designs. Suddenly, any frame material or type of construction was okay. Innovations were pouring out of bike designers' minds.

Before you think I've diverged too far, let me make my point. Most "innovations" in cycling are not new. They were tried long ago and have just been repackaged for modern man. FWD is no exception. The package may have changed slightly, but the concept is tried and true. Why not keep with the innovative trend that started with ATB's and helped lead to recumbent popularity? To write off FWD as hype would be to cheat yourself out of a neat experience.

The pivoting boom front wheel drive recumbent was not a new concept for me. Having attended Midwest HPV events for several years, I had seen all manner of home-built creations. I have photos of Sean Costin on a PBFWD scrapped out of old frames and conduit. I visited Tom Traylor's web site (listed below) and checked out his keen composite PBFWD's, including a 2WD back-to-back tandem. I even saw articles on Bill Patterson's FWD two-wheel-drive tandem.

Tom Traylor has to be *The FWD Guru* as he claims more miles aboard them than just about anyone. One look at his web site and I doubt you would argue. If Tom's wife, Sima, has over 15,000 backwards miles on their tandem, he must have many more than that on his singles. Traylor built his first FWD in 1979, and was issued a patent on the drive design in 1982. He still sells plans for that bike. Tom boasts superior climbing and sprinting for this design, too. Given his two decades of experience and his racing record, I am not willing to argue those claims. Both Traylor and Patterson claim no hands riding on their bikes. I had to try to experience this, though I was somewhat skeptical because I could not do it for any distance on any other 'bent I've ridden.

### The Build

This was going to be the easy part compared to other bikes I built. This style of bike can easily be done by copping the drive end from an old 10-speed, and that is just what I did. This is the beauty of it... short chain, standard parts, no idlers and no alignment or fabrication hassles. A hacksaw is about all that's required. Just cut away the front half of the diamond, leaving enough top tube to clamp a stem



to. The back half of the bike required more fabrication, but less than a RWD would have. I recycled the stays from a RANS Response and attached them to a cromoly main tube that was bent up at the tail like a Barcroft frame. I brazed a head tube onto the front of this assembly, and it pivots over a modified (widened) 20" fork. The rear frame assembly piggybacks the 10-speed drive unit via stub axles brazed to the rear (now front) dropouts. Using the existing seat post from the scrapped frame and adding a stem extender to the rear frame gave me the attaching points to secure the frame halves together. I used 1" x 1/4" aluminum strap to attach the post to the stem extender, connecting the frame sections. A series of holes drilled in the strap allowed for adjustment.

What adjustment, you say? Well this dude has an adjustable BB height, and this feature, by the way it's executed, allows the bike frame to be separated for hauling or storage. I simply detach the rear brake wire from the Odyssey A-brakes (no tools needed), and loosen three screws. The bike is halved with only one socket wrench in less than a minute. I remove the seat for an even smaller package. Oh yes, the seat. I found early in my building career that making a good seat was harder than making the whole rest of the bike. Buy a good seat, period.

Getting back to the BB adjustment, just select a hole in the aluminum strap, rotate the whole drive unit up or down, and replace the bolt into the strap/seat post. This yields about four inches of BB adjustment, from 14.5 to 18.5", and could be even more with holes added. This, combined with seat, handlebar and stem adjustment can tune fit, ergo or weight distribution. You must be careful to keep some weight on the front wheel or take-offs on grass or loose surfaces will cause wheel slippage.

A side benefit of the PBFWD design is foldability, sort of. It is its own kickstand. Just flip the front end around and it rests on the pedal or chain ring and the tires. Seems fitting to name this bike "Jackknife".

## Finally, The Ride!

It took me over two years to learn to ride this bike! Not really. It was actually over two years from the time I built it to the time I committed myself to learning to ride it. After my initial parking lot trials, I was pretty sure I had wasted my time and money, so I stored it away for someday. Someday finally came this spring. I dusted Jackknife off and clumsily weaved around a parking lot near home. I spent an hour starting, stopping, trying to hold a line and negotiating a series of poles at the lot edge like a chicane. It was slowly coming to me, though my arms and legs were fighting each other, and my legs always won. It was as if my arms were desperately trying to do what they're trained for (steer), but they must overcome a huge steering damper (my legs). This slows steering inputs, making fast direction changes tough.

Over time, my limbs quit fighting and reversed roles. My legs began to steer and my arms became the dampers. At the end of the first hour, I was confident enough to slowly, tentatively cruise the 'hood. The

next day I was confident enough to ride fifteen miles to a friend's house. I was starting to see the possibilities, but still skeptical. I was anxious to ride with my friends to compare performance. I got my chance on Father's Day.

I had the BB set in the lowest position, and the performance was about what I expected. I had no problem cruising and climbing with my riding partners, but they slightly outcoasted me on the downhill, the reverse of the usual since I outweigh them. My buddies ride two SWB's and one diamond frame bike. I did notice some "recumbutt" at about 20-25 miles. No problem, I just raised the BB and reclined the seat. Or, maybe I could adapt to the vertical position and mount my Super Zzipper to add speed. Imagine that, a SWB that sits like a Tour Easy and has a full fairing. For then, I settled for the BB adjustment and went again after my Sunday ride. I put the cranks all the way up and everything seemed to fall into place. I was suddenly smoother and more confident, so I thought. Later rides would show that it was not the adjustment, but maybe my relaxed state, riding alone slowly that made it seem so easy. On later rides, I returned to my smoother form, but even after my learning curve flattened, I doubted I would ever ride no hands... but I DID! It was never really my goal, but at some point, maybe 50 miles or so, I realized my hands were not pulling at the bars any more. Five minutes later I could hold a straight line steering only with my feet!

Looking back now with about 300 miles on Jackknife, it wasn't that tough to learn to ride. I still wouldn't say I can handle it as precisely as my other 'bents or an upright, but maybe 90% as well. Yet, I still can hold a line better than most folks I see on organized rides. By comparison, it took me five to ten hours to learn to ride a unicycle, and I did that at 35 years old, nearly ten years ago. Maybe my gray matter is still flexible.

## Performance

The above word has little relevance to my riding in recent years in terms of speed, so I will avoid comparison to my riding partners or other bike types. I will say that based on ME compared to ME, this bike shows potential. Why shouldn't it be fast? It could resolve some of the issues associated with recumbents such as inefficient drive trains, and the inability to involve your upper body when sprinting or climbing. Plus, aerodynamics is completely at the designer's disposal. Any seat height, BB height or handle bar configuration is possible without complicated chain management. Tom Traylor even has aero triathlon bars on his bikes, pushing the wind away from his chest. Dual 700c or 650 wheels might even be used, but with a lower seat height than current high racers.

## Comfort

As I stated earlier, I don't prefer the hand position that many SWB's require. There are two popular positions; hands above knee tops ("begging hamster"), and hands along-side the knees, elbows straight ("Superman"). Jackknife's wide swept-back alloy bars put the grips within easy reach beside the legs. This may not be the ultimate in aero, but for me it is the ultimate in comfort. The Ahead style stem I have installed can be moved along the top tube, or can be flipped to adjust the fit fore and aft. The stem length could be changed to adjust bar height. Otherwise, there's not much to say here that differs from experiences with other recumbents. It's mainly about the seat and personal preference. For me, a reclined seat and mid-height BB is best. A person learning to ride a PBFWD may experience hand and arm fatigue at first, but experience should minimize that. I suppose the pivoting pedals could cause some knee problems, but so far, that has not aggravated my already damaged knees. More input is needed from multiple riders to form a consensus here.

## Safety

The safety of this design is somewhat unknown compared to other



bike types. It largely depends on rider reflexes, but this bike adds other dimensions. Mine is rock solid at speed, but low speed maneuvers take practice. Bumps large enough to launch the front wheel can be precarious because pedal steer can throw you off line. It's best to pause pedaling over big bumps. I did attempt some rear wheel skids by locking the rear brake. They were manageable. I have caught the road edge a couple of times, but I was able to recover without a fall. Since the wheel that drives also steers, loose surfaces should be traversed with care. I did almost fall starting off when the wheel slipped in a grassy driveway. Only time and the experience of many riders will bear out the safety of this recumbent design. It sounds awful to say it, but more crashes are needed to know. The (non)-safety records of the *Ordinary* and *Safety* bikes are well documented, but we are just starting to get a snapshot of the types of injuries associated with the recumbent riding position. Reference the letters to RCN about hip and leg injuries from *leg suck*, and then weigh that against head and shoulder injuries common with upright bikes. Possible injuries with a pivoting front end are still unknown.

### Versatility/Viability

This design format is exciting to me. I plan to continue riding Jackknife as my primary bike for the foreseeable future. Imagine the flexibility of the design. With no chain passing under the seat, you could carry cargo there, or just make the seat as low as you want. You could use the same drive unit to pull a trike, bike or cargo bed rear end. Why not make it convertible to a tandem with completely separate drivetrains? Consider electric assist to the rear wheel and a battery under the seat. Imagine the easy application of a no-pogo swing arm suspension front and rear. The design is wide open and limited only to your imagination. All you have to do is commit to a longer learning curve. After all, it took you longer than an hour to learn to ride your first bike, right? Wasn't it worth it?

### Just Do It

Some RCN readers may have seen scary stuff on the Internet about bikes such as the Flevobike FWD being very difficult to ride. I would classify bikes of this type as articulated (hinged in the middle), and not comparable in type or learning difficulty to PBFWD. It has been described as unstable at higher speeds.

I highly recommend buying the Traylor plans and building this bike yourself. Most of us have a donor bike hanging from the garage ceiling. If your fabrication resources are very limited, you may even be able to use a 20" BMX frame for the rear section of the bike. That wouldn't allow a very low seat, but if you modify the fork to have a heavy dose of trail, it should handle okay. Your first attempt may not yield a great bike, but it should prove out the design at a minimal cost. If you stick to the building plans and commit to the learning, you will be rewarded. I do guarantee one thing...the grin you had from your first recumbent ride will return. ♦

### Specs

Bike:	SWB FWD OSS, w/pivoting boom
Frame:	Cromoly
Seat:	RANS
Wheels:	20"
Wheelbase:	41.25"
Weight:	31 lbs.
Seat Height:	20"
BB Height:	14.5 – 18.5" (adjustable)

### More FWD info

Tom Traylor's bikes, photos, plans  
<http://traylorfwd.home.mindspring.com>

### FWD utility vehicles

<http://members.efn.org/~cat/html/trihaul.htm>  
<http://www.organicengines.com/Index.htm>

*Tom Beuligmann of Mt. Carmel, IL, owned Tom's Bike Annex (1988-2002) and sold recumbents from 1991-2002. He bought his first bike in 1982, an Infinity that he saw in the Bike Warehouse (now Bike Nashbar) catalog. He has designed and built at least 10 recumbents.*



- Eliminates the Dead Spots
- Climb Easier & Faster
- Healthy Knees
- Accelerate Better
- Constant Power to Rear Wheel
- Faster Cardio Vascular Recovery
- Higher Cruising & Top Speed
- Easy to Fit on All Recumbents & Uprights
- 100% Satisfaction Money Back Guarantee



**Rotor USA**  
 PO Box 4828, Breckenridge, CO 80424  
 Tel. (970) 389-7082 or (970) 453-2989

Dealer  
 Inquiries Invited  
[www.rotorbike.com](http://www.rotorbike.com)

## Coventry Cycle Works

Oregon's Recumbent Headquarters



- Easy Racers
- Bacchetta
- Sun
- Burley
- RANS
- Big Cat
- Haluzak

2025 SE Hawthorne, Portland, Oregon 97214  
 Tel. 503/230-7723 [www.coventrycycle.com](http://www.coventrycycle.com)

I am looking for advice from you o what recumbent can climb best and is fast and stable without a twitchy front end. I'm selling my Lemond racer for the ultimate recumbent.

Edward Kemena

**Editor Comments:** What makes a good climber is a light and efficient bicycle that you are comfortable on. Most performance oriented cyclists these days would probably sat that is a

lightweight highracer, such as a Bacchetta Aero, Volae or RANS Force 5. These are tall bikes with reclined seats and high bottom brackets. I would agree that they are good climbers, but they are road performance bikes and may not be the best for all around rides, touring, commuting, etc.

Before highracers came along, bikes like the Lightning P-38 and RANS V--Rex were considered good climbers. I climbed the Rockies on a V-Rex and would agree that it is a fine climber. I would choose one over a highracer,

though I believe the highracer is probably faster.

The Easy Racer Gold Rush Replica and TiRush are fine climbers. They probably offer the best mix of performance, user-friendliness, high speed handling and stability. They are also fine all arounders (your, commute, club rides).

I suggest reading all you can on the bikes that make your list and then ride several before you spend your money. ♦

. . . Safety by continued from page 21

booklet has sold 300,000 copies. Clubs and organizations can purchase the book in bulk at reasonable prices. You can also buy a single copy online at: [www.tamassee.com](http://www.tamassee.com) or you can read it online at: [www.bikexpert.com/streetsmarts/index.htm](http://www.bikexpert.com/streetsmarts/index.htm).

[www.bicyclesafe.com](http://www.bicyclesafe.com)  
[www.commuterbicycle.com](http://www.commuterbicycle.com)  
[www.bicyclecommuter.com](http://www.bicyclecommuter.com)  
[www.bikeforums.net](http://www.bikeforums.net) (active commuter thread)  
[www.bikeleague.org](http://www.bikeleague.org)  
[www.urbancycling.com](http://www.urbancycling.com) (Mike Librik and Amy Babich from Easy Street Recumbents teach a course in the Austin, TX area.)

### Books

**Bicycling Street Smarts** (see above)

**Urban Bikers' Tricks & Tips** by Dave Glowacz: This is a good-natured graphically-oriented book that is a really fun read and will help you select a bike, fix your bike, and ride your bike. The book is full of tricks and tips. This is a must read.

**The Art of Urban Cycling: Lessons from the Street**, by Robert Hurst

This is a book of essays about urban cycling and the like. I was somewhat disappointed with this book until I got to the Beyond Vehicular Cycling chapter which really empowered me and my own urban cycling style. These chapters were worth the cost of the book. ♦

**2 SEAT BIKE DRIVES LIKE A CAR**

- Easy to Pedal
- Multi-Speed
- 1, 2 & 4 Seaters
- Optional Electric Motor

**FREE BROCHURE**


1-800-974-6233 Ext. 16186 • [www.4wc.com/#16186](http://www.4wc.com/#16186)  
Dept. 16186 • 125 Rhoades Lane  
**RHOADES CAR** Hendersonville, Tennessee 37075



**EASY RIDERS RECURBENT CLUB MAGAZINE**

**Easy Riders** Magazine

To order a sample issue, or to subscribe: [www.geocities.com/e\\_r\\_r\\_c](http://www.geocities.com/e_r_r_c) or sample copy \$5 to: Connie McAyeal, PO Box 1688, North Plains, OR 97133-1688



**Atlantic Bicycle**

Atlantic Bicycle is one of the east's largest recumbent dealers offering models from RANS, Haluzak, Lightning, Easy Racers, Burley, Sun and others.

6350 West Atlantic Blvd  
in Margate, Florida  
(near Ft. Lauderdale)  
[www.atlanticbicycle.com](http://www.atlanticbicycle.com)  
888-41-BENTS or 954-971-9590




**Mountain Quad**

Engineered Like No Other,  
The Ultimate Offroad Machine!

**CRANK-IT**

[www.crank-it.com](http://www.crank-it.com)  
1-888-747-2038



**Bike Technology From A Different Angle**


**Stock and Custom Spec'ed Recumbent Bikes, Trikes and Tandems!**

**"ANGLETECH"**

318 NORTH HIGHWAY 67  
WOODLAND PARK, CO. 80863

- Bacchetta
- Easy Racers
- RANS
- HP Velo
- Vision
- Greenspeed
- Haluzak
- Quadraped
- mC2
- Altitude
- Tandems
- Aerotrunks
- Bags
- Accessories

**CALL 800-793-3038**  
[www.angletechcycles.com](http://www.angletechcycles.com)



Bacchetta



# RCN Calendar

**The Bike Center Recumbent Rally**  
**April 17th — St. Louis, Missouri**  
 Contact: [www.bikecenterstl.com](http://www.bikecenterstl.com)

**Smell The Roses Ride**  
**April 24 — Portland, Oregon**  
 11:00 AM - Slow pace, 12 mi., Lunch stop  
 Contact: [Connie McAyealohyesbent@hotmail.com](mailto:ConnieMcAyealohyesbent@hotmail.com)

**Wasco Wild West 75 Mile Recumbent Race**  
**May 7 — The Dalles, Oregon**  
 \$2000 Cash Prizes, \$75 entry fee  
 Contact: Clay Smith email: [clayrace16@yahoo.com](mailto:clayrace16@yahoo.com) or Tel. 541-296-1314

**Michigan Recumbent Rally East**  
**May 7 — Southeast Michigan**  
 Displays, dealers, test rides. 9am - 3pm, Willow Metropark pool shelter (southeast Michigan area).  
[www.wolverbents.org](http://www.wolverbents.org), [wolverbob@cs.com](mailto:wolverbob@cs.com) or Tel. 734-487-9058

**Michigan HPV Rally**  
**June 11-12 — North Detroit**  
 Time trials, hill-climb/coast-down, practical vehicle, camping. N. Detroit area. [www.mhpva.org](http://www.mhpva.org), [wkiehler@comcast.net](mailto:wkiehler@comcast.net) or 313/884-0109

**Michigan Recumbent Rally Central**  
**June 25 — Lansing, Michigan**  
 Recumbent/hpv gathering. 10am - 3pm.  
[www.wolverbents.org](http://www.wolverbents.org), [wolverbob@cs.com](mailto:wolverbob@cs.com) or 734/487-9058

**Bentrideronline Rally**  
**August — New York State**  
[www.bentrideronline.com](http://www.bentrideronline.com)

**12th Annual Midwest Recumbent Rally**  
**August 12-14 — Stevens Point, Michigan**  
 Contact: [www.hostelshoppe.com/recumbent\\_rally.php](http://www.hostelshoppe.com/recumbent_rally.php)

**Recumbent Retreat**  
**August 19-21 — Warrenton, Oregon**  
 (Camp sites avail. Aug. 15-21) Ft. Stevens St. Park Premier Recumbent Event on the West Coast!  
[www.recumbentretreat.org](http://www.recumbentretreat.org)

**Midwest Tandem Rally 2005**  
**Sept. 2-5 — Grand Rapids, Michigan**  
 Great Lakes, Grand Times, Grand Rapids! Hosted by the MUTS [www.cmiregistration.com/user/splash.jsp?org=441](http://www.cmiregistration.com/user/splash.jsp?org=441)

**Michigan Recumbent Rally West**  
**September 10 — Hastings, Michigan**  
 Displays, socializing, ride options. 10am - 3pm.  
[www.wolverbents.org](http://www.wolverbents.org), [wolverbob@cs.com](mailto:wolverbob@cs.com) or 734/487-9058

**Fall Recumbent Rendezvous**  
**September 17 — North Detroit, Michigan**  
 Stony Creek Metropark Eastwood Beach shelter. Test rides, group rides, display. 9am-3pm.  
[www.wolverbents.org](http://www.wolverbents.org), [wolverbob@cs.com](mailto:wolverbob@cs.com) or 734/487-9058

**New England Velomobile/HPV Rally**  
**October 8 — Northampton, Massachusetts**  
[www.velomobiles.net](http://www.velomobiles.net)

**Planning an event?**  
[bob@recumbencyclistnews.com](mailto:bob@recumbencyclistnews.com)



**Recumbent Specialist**  
 for over 10 years

**Come to our Recumbent Rally**  
**April 17, 2005**

- Burley
- Bacchetta
- Sun
- RANS
- Cycle Genius
- Lightning
- Catrike
- Greenspeed

12011 Manchester Road  
 St. Louis, Missouri 63131  
**Tel. 314-965-1444**

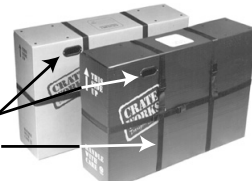
[www.bikecenterstl.com](http://www.bikecenterstl.com)

## AFFORDABLE PLASTIC BIKE BOXES

**HIGHLY IMPACT RESISTANT**

**FACTORY DIRECT:**  
 as low as **\$109.**

Reinforced Handholds  
 "Anti-Drift" H-DESIGN  
 Strap System



- Designed to Last For Years
- All Parts Replaceable
- Optional Wheel Caddy Kit as Low as \$35.

*Fits All Adult and BMX Bikes • Meets UPS/Airline Specs*  
*All Models Collapsible For Easy Storage*

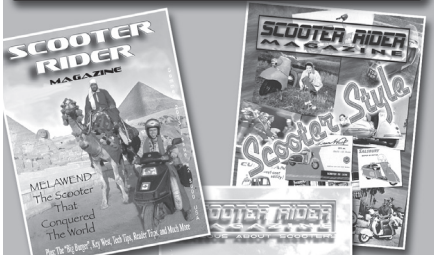
- 3 OPTIONS:** **Pro-1:** Double-wall Corrugated Bike Box - **\$109.**  
**Pro-XLC:** CORR-X® (High Density Polyethylene) Bike Box - **\$159.**  
*OUR BEST SELLER*  
**Pro-XL-RC:** Recumbent Box (h.d.p.). Fits BIKE E Models FX, AT, CT & NX5.0. Can accept VISION/RANS short wheelbase w/o seat - **\$159.**



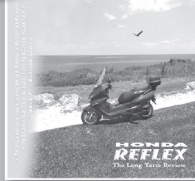
Ask about our **TANDEM BOXES**

24 Hr. Hotline:  
**1-800-934-5214**  
[www.crateworks.com](http://www.crateworks.com)

## SCOOTER RIDER MAGAZINE



Scooter Fun  
 Scooter Knowledge  
 Check Us Out



Subscribe @ [www.ScooterRiderMag.com](http://www.ScooterRiderMag.com)

## schlumpf innovations

The smart way to  
 drive your bike

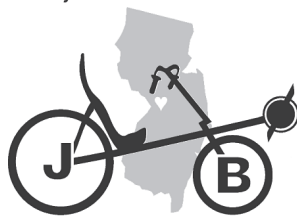


Infos:  
 schlumpf innovations gmbh  
 CH-7324 Vilters/Switzerland  
 Tel. +41 81 723 80 09  
 Fax +41 81 723 83 64

[www.schlumpf.ch](http://www.schlumpf.ch)

## The Largest Source of Recumbents in the Tri-State Area since 1999

*is conveniently located in the Heart of New Jersey!*



### JERSEY "BENTS" LLC

**Economy Bicycle Shop**

31 George Dye Road  
 Hamilton Square, New Jersey 08690  
**609-586-0150**

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

Phone/Fax 609-259-1404

Bacchetta • RANS • Vision • Quetzal • Haluzak

*All Bacchetta and RANS Models in Stock.*



## CYCLE GENIUS RECUMBENTS



Introducing the \$999.99 2004 LTX  
 Quality Recumbents from \$449.99

**866-901-2453 (BIKE)**  
[www.cyclegenius.com](http://www.cyclegenius.com)

# Classified Ads RCN

## Tandems For Sale

**FOR SALE: 2000 BikeE E2 TANDEM**, Good condition, blue, fenders, mirror, all factory upgrades. \$1,000 + shipping (originally cost \$2,690). gerryrf@hotmail.com (Seattle, WA/088)

**FOR SALE: 2003 CUSTOM BORTHWICK** recumbent tandem. Easy Racer handlebars, Phil Wood hubs, RANS seats, Sram 9.0 shifting. \$2495. Call for photos. Tel. 641-236-0968 (087).

## LWB For Sale

**FOR SALE: "Gold" Easy Racers/Angletech Gold Rush**, large, 99 w/02 upgrades: fairing, XTR cranks, 11-34 gearing, RANS seat, HED/Rolf whls, extras \$3,000 bob@themeierhans.com 630-557-2575. (087)


## Racks For Sale

**FOR SALE: SPORTWORK BIKE RACK** for two recumbents. Now fits 2 Vision bents but can be adjusted to fit other bikes. Excellent condition. \$175 + shipping. sjco@comcast.net or 904 249-7576 (087)

## Recumbent Wanted

**ANXIOUSLY NEEDED:** LWB low BB, triangulated frame bike (RANS, Easy Racer, Lightfoot, etc.) I make art, must barter, see website: funnyfarmart.com. John Lindsey, email: jawnn.geo@yahoo.com (087)

**Bent Up Cycles**  
For All Things Recumbent



Bacchetta • Catrike,  
Maxarya • Greenspeed,  
Sun • RANS • HP Velo  
Van Nuys, CA 91408 Optima • Burley • Reynolds  
www.bentupcycles.com Velocraft & Accessories

## SWB For Sale

**FOR SALE: 2005 BACCHETTA GIRO 26.** Blue, fits 6' rider, \$1195. 360-379-5607 or bob@recumbentcyclistnews.com (WA/088)

**FOR SALE: 2004 BACCHETTA BASSO.** Cadence computer, 11-34 rear cass. (+ stock 12-27). 400 miles. Exc. cond. Riders <5' 8" \$3000, split shipping. Bentpair@sbcglobal.net., or 314-993-8435 (MO/088).

**FOR SALE: VISION R-40 SWB OSS 26"/16"**Wheels kickstand, headlight mount, seat bag, rack, lights and horn. Good condition \$400 Contact Rick 718 646 4395 rhonor57@juno.com (087)

**FOR SALE: Vision R-42 SWB USS.** 16 " front, 24-spd., Vetta cyclometer. Vision seat bag. Exc. cond., <8k mi. Cost \$1600, sell for \$495 +shipping/COD. Tel. 803-438-9520 (SC/088).

**FOR SALE: 2001 RANS V-REX,** good cond., clipless pedals, kickstand, mirror, 2 WB cages, Back Rack, new chain, cassette and nearly new tires. \$800 + shipping d Davis@waypoint.com or Tel. 989-621-0480 (WA 088).

**FOR SALE: RCN TEST BIKES** We will have several low mileage 2005 model trikes, SWB and CLWB for sale this Spring. Save! Please email for list and prices. bob@recumbentcyclistnews.com or 360-379-5607 (WA/086)

**AUSTIN, Easy Street Recumbents TEXAS**



512-453-0438  
informative website:  
www.easystreetrecumbents.com

**Quik-Pak Bicycle Trailers**

Lightweight • 20" wheels  
A serious touring trailer  
wrq11@netzero.com  
www.quik-pak.com  
Tel. 719-269-7535



**LaBent by LaDue**



Recumbent plans & kits  
Trike plans & web (mesh) seat plans  
SASE for prices & info to:  
1607 S 84<sup>th</sup>, Lincoln, NE 68506.  
Or visit our website at: www.radiks.net/~ladue/

## 'Bents on the Web

**www.bentrideronline.com**

The Internet's largest online Recumbent Magazine

## Tours

### NEW ORLEANS BIKE & BLUES TOURS

Three and five day bike, food and music tours. Beautiful countryside, historic neighborhoods, B&B accommodations. Recumbents available. www.laidbacktours.com or 1-504-488-8991 (LA)

## RCN Back Issues

**FOR SALE: RCN BACK ISSUES,** RCN 047-053, 060-075, and 077-085. 29 total magazines in all. \$100 + shipping Tel. 563-927-4026 (088)

**RCN OLDIES:** We accept donations of old RCNs and we have single issues for sale. Please email for current list: bob@recumbentcyclistnews.com

## Hampton's Edge Trailside Bikes

Sale • Service • Rentals  
Easy Racers • Sun EZ1 • Bacchetta • Catrike  
Burley • Turner • Lightning • RANS  
9550 East Atkinson Court in Istachatta, Central Florida on the Withlacoochee Trail  
60 miles north of Tampa close to Interstate 75  
Email: bentedge@earthlink.net  
Tel. 352-799-4979 • Credit cards accepted

## Recumbent Cyclist News

### Classified Ad Rates & Information

**Subscriber Rate:** 35 words or 4 lines are FREE to subscribers (non-commercial ads).  
**Non-Subscriber Rate:** \$20 per 40 words  
Subscriber ads may be e-mailed. Non-subscriber ads must be submitted with payment via US Mail.

**Commercial Rates:** Email or call for rates.

**Ad deadline:** Is 60 days prior to issue date.

**Ad Submissions:** Mail to RCN, PO Box 2048, Port Townsend, WA 98368 or email to bob@recumbentcyclistnews.com

www.ice.hpvc.co.uk



Hand built in the UK

# Trice

# The Bike Rack

Let us build the recumbent of your dreams  
Recumbents from:

- Bacchetta
- RANS
- Easy Racers
- HP Velotechnik
- Burley
- Haluzak
- Penninger
- ICE Trice

Home of Creative Mobility  
Mobility Solution Specialists:

- Hand Powered Bikes
- Wheelchairs
- Trikes
- Custom Fit is our Specialty
- Full Service Shop



The Bacchetta Strada

2930 Campton Hill Rd.  
St. Charles, Illinois 60175

We ship world wide

Call us at 1-800.711.BIKE  
www.thebikerack.com





# get out there...

These days most people understand the values and benefits of recumbent trikes. So what is it that makes Greenspeed Trikes head and shoulders above the rest? Simple. We never rest. We love trikes so much we continue to spend countless hours researching, designing, building, developing, and testing, so that we produce the best trikes and accessories possible.

Our trikes look great, are comfortable to ride, and easy to handle. They use time tested Cromoly

tubing and are easily maintained. They give many years of service and can be easily upgraded.

- 15 years of development.
- First class dealer and customer support.
- Largest range of models.
- Trikes that are the industry bench mark.
- High re-sale value.

Test ride today and discover the '*trike grin*'.

e-mail [jerome@greenspeed.com.au](mailto:jerome@greenspeed.com.au) for your free CD catalogue. **Greenspeed**

**RANS BIKES**

*Ride the Leader, RIDE RANS*

**RANS**

**v-rex**  
*The Speed King*

4600 HIGHWAY 183 ALT. HAYS, KS 67601 785.625.6346 FAX: 785.625.2795 WWW.RANS.COM

*Go faster today, MSRP. \$1649.00*

# *The Gold Rush*



*Speed, Power and Beauty  
Form Following Function*



It doesn't get any better than this!

Call us today!  
831-722-9797

*Easy Racers Inc.*  
200 Airport Blvd.  
Freedom, CA 95019

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



POSTMASTER: CHANGE SERVICE REQUESTED

**Recumbent**  
**Cyclist** News

PO Box 2048  
Port Townsend, WA 98368 USA

PRSRT STD  
U.S. POSTAGE PAID  
PLATTSBURGH, NY 12901  
PERMIT #148