

# Recumbent Cyclist News

RCN 085 A Publication by and for Recumbent Enthusiasts Since 1990 Nov./Dec. 2004



RCN reviews the HP Velo GrassHopper on page 14



See our Recumbent Gift Giving Guide on page 8 and our special Holiday Sale order form on page 27



Amy Bryant rides the Quad with 4 x 24" wheels

## The Crank-It Mountain Quad

By Bob Bryant

*The Crank-It Mountain Quad is the ultimate off-road HPV (human powered vehicle). For the first time you can actually have both — true off-road capability AND a comfortable ride — in one machine. Whether bombing down fire roads at 30+ mph or cruising on the local bike path, the Mountain Quad will meet the expectations of the most demanding rider.*

*The Mountain Quad is a four-wheel pedal-powered ATV/sand-rail off-road recumbent. It's a very refined, high performance and high-end unit that will absolutely bring new dimensions to your recumbent riding fun. If you've ever been concerned about your safety riding in traffic or the lack of adequate places to ride, it may be time for a paradigm shift. There is a new little known niche in the recumbent world — recumbent off-road. The Mountain Quad is THE vehicle for such endeavors.*

*The Mountain Quad is loaded with features such as 4-wheel full suspension, hydraulic disc brakes, completely sealed 14-speed Rohloff transmission, carbon fiber seat and heat-treated aluminum frame. The Mountain Quad represents the latest in available technology. If you want the ultimate off-road machine the Mountain Quad is your answer. Period. — Crank-It*

**T**he Mountain Tamer Quad is a four wheeled pedal powered ATV/sand-rail off-road recumbent. It's a very refined, high performance and high-end unit that will absolutely bring new dimensions to your recumbent riding fun. If you've ever been concerned about your safety riding in traffic, lack of adequate places to ride it may be time for a paradigm shift. There is a new little known niche in the recumbent world recumbent off-road. The Mountain Tamer Quad is THE vehicle for such endeavors.

### SYSTEMS

**Frame:** The TIG welded aircraft aluminum frame is built for Crank-It by Steve Delaire of Rotator Bicycles. The tubes are 2" on the mainframe and 2.5" on the boom. The workmanship and quality is very good. The weld beads were not nearly as even and flowing as those on our HP Velo Grasshopper (here at the same time).

The front suspension is custom made for Crank-It by Action-Tec. The front wheel

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# Recumbent Cyclist News

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

## Subscription Information

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## RCN in 2004

by Bob Bryant, Publisher  
bob@recumbencyclistnews.com

I started RCN in the summer of 1990 because NOBODY was publishing a newsletter dedicated exclusively to recumbent bicycles. For the next ten years, RCN was that publication.

From the beginning, I decided that if I was to write truthfully about bikes that were new to the market and often experimental, I'd have to be a fan, a promoter and a critic all at once. Not everyone liked that idea, and there are still a few brands you won't see in RCN and there are still manufacturers who won't speak to me. On the other hand, many loyal readers embraced our independent approach to publishing. As a result, our principal source of revenue has always been subscriptions rather than advertising.

For the last seven years RCN has supported our family. We have no staff, no office, and minimal systems. And believe me; we don't have matching Escalades sitting in the driveway.

RCN remained very strong through the 1990's. From 1995 to 1998, life was crazy, and the phone rang off the hook night and day. We reprinted the 1997 Buyers' Guide twice and sold additional copies for up to \$15 each.

Then along came a little thing called the Internet. Early on, I used to hang out in the Prodigy and AOL recumbent groups, and especially the IHPVA's HPV Newsgroup (which is still around at www.ihpva.org). Now there are more groups than you can shake a stick at and the online recumbent world is more splintered than ever. No longer are we just one big group of people who love our laid back bikes.

Back in this heyday the "Big Three" of recumbency were BikeE, Vision and RANS. Of these, only RANS remains, and still seems to be in good shape. Their bikes are the best I've seen in several years.

The Internet gave rise to 'BentRider Online (BROL at www.bentrideronline.com). And then the freebie magazine Recumbent & Tandem Rider (RTR at rtrmag.com) began to appear. Just imagine: Three publications serving this little niche of bicycle enthusiasts! I have no problem with the other publications. Both Charles Coyne of RTR and Bryan Ball of BROL are to be commended. I learn from both of them and both probably have more modern business models than we do. I would like to think that there is a place for all three publications for a long time to come.

I regularly read my competitors' offerings, but I still like our own easy-to-navigate, and constructively critical view of the scene. I don't accept information from the manufacturer sight unseen. I still weigh each test bike on our digi-

tal scale and I figure gear-inch ranges myself by measuring the rear wheel instead of simply "cutting and pasting" information from the website. If I find a problem or a glitch, I talk to the builder, write about it, and make suggestions.

Because of this approach, some have labeled me as "difficult to get along with" or "opinionated." I plead "not guilty" to the first count and "guilty" to the second. I try to be as fair and honest as I can be, and not a month goes by when I'm not reminded that critical review is necessary in the recumbent world. New builders are appearing all the time and some pay little attention to what is acceptable, proven and popular in recumbent design.

## Please Support RCN

This has been a less than spectacular year for RCN. We face an uphill battle trying to retain readers and attract new subscribers while keeping our overhead in check in spite of rising costs. We're committed to a print publication, because you — the readers — have told us that's what you like. You've also told us you like our independent voice. So we've got a few simple requests: please do what you can to support RCN. If your subscription is due to expire soon, this is a great time to renew. If there's a back issue you realize you're missing and would like to have, check out page 31 and pick up some copies. If you have friends who would enjoy RCN as much as you do, consider getting a gift subscription for them. And if your local bike shop should be stocking RCN, let us know and we'll send them a sample issue. If you're a manufacturer that has advertised in RCN you've found that RCN advertising is working for you, think about expanding your ad purchases for 2005.

We're in this for the long haul, but having your support will make it possible to accomplish our mission.

## The Biz

I'm writing this as I'm making plans to attend the Interbike bicycle industry trade show in Las Vegas in October. At this time of year I talk to lots of people and e-mail them about how and where things are going in our business. There weren't many changes in 2004, and we'll know all about the 2005 offerings soon.

Here are the ongoing micro-trends I see in our business:

**Long wheelbase (LWB)** 'bents with above-seat steering are still very hot, thanks to new models from Sun, Cycle Genius and Burley. Burley has had an aggressive ad campaign this

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# Recumbent News & Rumors

**ULTRA-LIGHT RECUMBENT:** The Carbent is an ultra-light carbon fiber SWB that weighs just 18.5 pounds and sells for \$3995. For more info: [www.carbent.com](http://www.carbent.com).

**ARCHIVE OF HUMAN POWER, THE TECHNICAL JOURNAL OF THE IHPVA 1977-2004:** This is an amazing new resource of International Human Powered Vehicle Association technical journals from 1977-2004 all compiled on one CD. Long-time Human Power editor, David Gordon Wilson, (and author of the book *Bicycling Science*) paid to have 1000 of these CDs produced and sent to HPV groups around the world. The current price \$4 USD but act fast as there is a limited number of these first-run CDs. HPVA, PO box 1307, San Luis Obispo, CA 93405-1307. Check current availability at [www.ihpva.org/HParchive/](http://www.ihpva.org/HParchive/) or send an email to [cd-request@ihpva.org](mailto:cd-request@ihpva.org)

**RANS:** Has some new hot-rod parts: a featherweight idler wheel (\$18) that can be used in place of the large idler wheel. Weighs 36 grams; 64 grams lighter than stock large idler wheel. 20" Aluminum forks are in stock and ready to ship (\$80): [www.ransbikes.com](http://www.ransbikes.com).

The RANS website also has an article about the new 2005 dual 26" Fusion: <http://www.ransbikes.com/ITRFusionEvolution.htm>.

**REYNOLDS:** George Reynolds' newest go-fast machine is the Z-Bone. This new 22-pound titanium dual 700c highracer uses front wheel drive, folds, is available with OSS or USS, and prices start at \$2700 (frame kit). A dual 20" version was seen around the Bentrideronline rally. [www.reynoldsweldlabs.com](http://www.reynoldsweldlabs.com).

**NEW PHOTO CD:** Dick Ryan (formerly of Ryan Recumbents) is offering collection of over 200 pictures from the last 25 years relating to recumbent bicycles. (strong on Ryan Recumbents), contains pics of the MIT airplane and some personal pics as well. The price is \$7 in-



*RANS' 2005 dual 26" Fusion weighs under 30 pounds and costs around \$850. We also expect hot-rod potential with this new enthusiast oriented EZB.*

cluding postage (+ \$2 overseas). Payment via PayPal or money order, to: Richard Ryan, 58 Lyle St., Malden, Ma. 02148 or email [rick@ryancycles.com](mailto:rick@ryancycles.com) or [dick@comcast.net](mailto:dick@comcast.net).

**WIZWHEELZ:** We're hearing rumors of a 27 pound SRAM X-9 equipped carbon fiber trike in the \$3500 price range..

**NEW W.VA. RIDER GROUP:** This is a message forum for recumbent riders in the northern West Virginia and southern Pennsylvania. Visit: [www.yahogroups.com](http://www.yahogroups.com), search for MonBent.

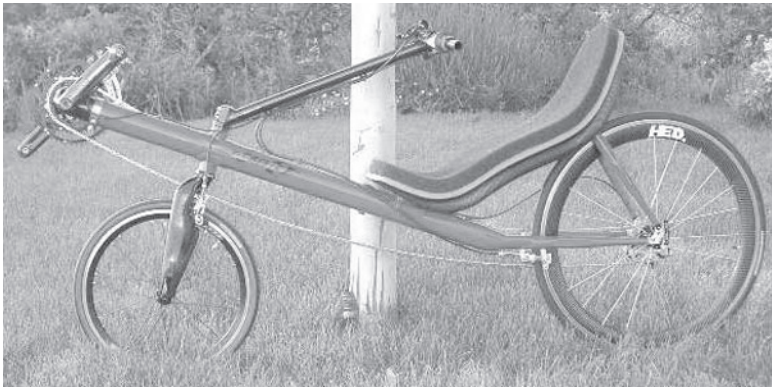
**RCN 2005 CALENDAR:** Please send us your ride listings ASAP.

**RCN 2005 SEASON PREVIEW:** RCN 086 will be our 2005 Season Preview issue. Manufacturers: If you have news, rumors, price updates or other information, please get it to us ASAP. ♦

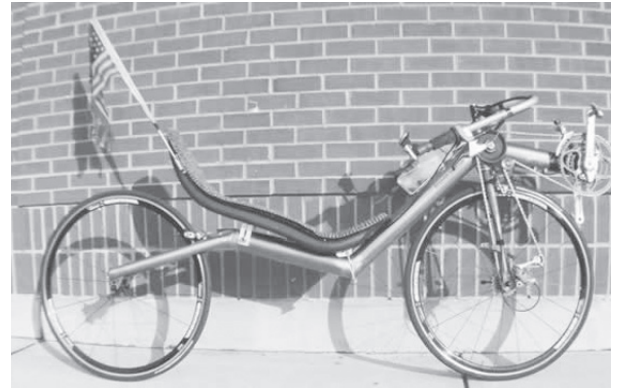
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*The Carpent 18 pound recumbent*



*Reynold's Z-Bone 700c*



*Reynold's dual 20" Z-Bone at the BROL Rally — John Riley*



*Above: Z-Bone 700c folded  
Below: Carbon-Fiber WizWheelz trike*

## RCN Calendar

### Louisville Kentucky Recumbent Rally

November 6 & 7, 2004

Saturday will be a ride for those who already have recumbent bicycles. Sunday will be a mini-expo with bike demos. There will be a route for those who would prefer to ride.

Contact: Tom Armstrong, [bikeolounger@prodigy.net](mailto:bikeolounger@prodigy.net) or 502-253-1746 or [www.louisvillerecumbents.org](http://www.louisvillerecumbents.org)

### Planning an event?

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



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## BOOK REVIEW:

### *Bicycling Science, Third Edition*

"*Bicycling Science* is the bible for bicycle and human-powered vehicle development. It offers the reader a good understanding of the technical aspects of bicycle design, as well as a look back at where we've come from, and perhaps where we're going. Everyone involved in the bicycle industry should read this book—a real gem."

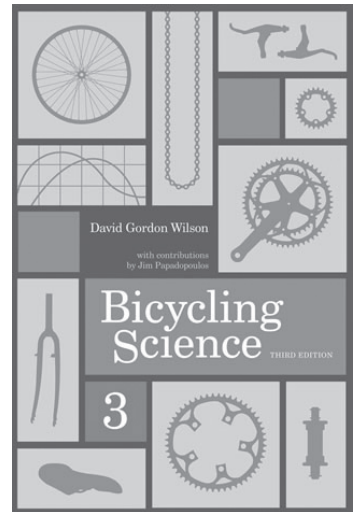
—Bob Bryant, Publisher, Recumbent Cyclist News

The bicycle is almost unique among human-powered machines in that it uses human muscles in a near-optimum way. This new edition of the bible of bicycle builders and bicyclists provides just about everything you might want to know about the history of bicycles, how human beings propel them, what makes them go faster, and what keeps them from going even faster. The scientific and engineering information is of interest not only to designers and builders of bicycles and other human-powered vehicles but also to competitive cyclists, bicycle commuters and recreational cyclists.

The third edition begins with a brief history of bicycles and bicycling that demolishes many widespread myths. This edition includes information on recent experiments and achievements in human-powered transportation, including the "ultimate human-powered vehicle," in which a supine rider in a streamlined enclosure steers by looking at a television screen connected to a small camera in the vehicle's nose and reaches speeds of around 80 miles per hour. It contains completely new chapters on aerodynamics; unusual human-powered machines for use on land, in water and in air; human physiology; and the future of bicycling. This edition also provides updated information on rolling drag; transmission of power from rider to wheels; braking; heat management; steering and stability; power and speed; and materials. It contains many new illustrations.

Bicycling Science author David Gordon Wilson is Professor of Mechanical Engineering Emeritus at the Massachusetts Institute of Technology. He is the co-author of the first two editions of Bicycling Sci-

ence and was the editor of the journal "Human Power" from 1994 to 2002. Jim Papadopoulos, formerly an engineering faculty member, is an R&D engineer for PCMC Corporation in Green Bay, Wisconsin. Bicycle-related science has been his overriding interest for almost three decades.



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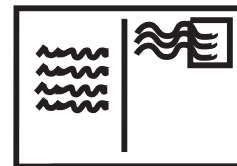
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# Letters To RCN

We want to hear what you have to say!

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



Far left: Karen Nicely on her Linear CLWB

## Recumbent Wins USCF Event!

The rules for Poughkeepsie's Main Event Criterium said that riders "age 12 and under may use any style bike," so we asked our daughter if she'd like to try bike racing. "Sure!," she said. So we bought her a one-day USCF racing license for \$5 and signed her up for the five-lap Junior event.

The officials agreed that her recumbent fell in the *any style* category, although the gear inspector said this was the first time he'd checked out a 'bent. Her Linear CLWB passed with flying colors: rack, panniers, fenders, and all.

She was one of six in the 10- to 12-year old group, with six more 13- to 14-year old Juniors. Karen placed second in her group, trounced by the current New Jersey 10-12 champion. However, the way they score these things, she placed first in the Women's Division!

Now, admittedly, several of the older roadies lapped the younger group twice, but that was to be expected. Karen rode steadily and largely alone, finishing to the acclaim of the crowd: "And here comes Karen Nisley, looking very smooth on her recumbent bicycle!" Just wait 'til next year . . .

Ed Nisley

## Midwest Recumbent Rally

The 11th Annual Midwest Recumbent Rally was held July 30 - August 1 in Stevens Point, Wisconsin under almost ideal weather conditions. Mornings were cool, in the low 60's, warming to the mid-70's by afternoon. No rain during any of the rides. The event was attended by more than 300 riders. The Ice Cream ride

(12 miles) on Friday and the Saturday morning ride (22 or 37.5 miles) covered the same routes as last year. For Saturday afternoon's ride, the Hostel Shoppe had maps available for self-guided tours of various distances. Sunday's ride (14, 29.5 up to 60 miles) started at Standing Rock Park, a much closer location than last year's Sunday ride. This ride was more challenging, with several stiff climbs. The route was cleverly done and offered a base route with various optional loops to add distance.

The large number of tandems was most noticeable this year. There were at least 25 tandems by my count, but there could have been more. Screamers predominated; there were also a number of Visions, a Ryan Duplex, a Barcroft and one Mic-Wic back-to-back. Once again, the Chicago contingent of lowracers attracted the most interest, including two No-Com super low racers designed by Ed Gin and others and fabricated by Velokraft. The older Velokraft models, which are very low riders, seem to tower over the new No-Coms. A tailboxed Sunset lowracer was also part of this group. Watching the group pass you (and they do pass you!) makes you realize how fast these machines (with their fast engines) can be. As you watch the riders pull off into the distance with their heads bobbing barely three feet above the road you wonder if that is what Munchkins on recumbents would look like. But there is no joking about their performance. And while riding at that speed could be more dangerous in the event of a blowout, at least they don't have far to fall!

The demo area was stocked with Volaes as well as some of the demo bikes Hostel Shoppe

was offering at discount. Test rides were available on the whole Volae lineup (except the Team Rolf), the HP Velotechnik GrassHopper, the Hase Kettweisel, the Lightning Phantom and a number of others. Just Two Bikes was present with an all-wheel steer delta trike and a "two unit" (two SWB recumbents joined together). Mark Mueller's Windwrap Fairing tent featured his highracer equipped with a small fairing and a bodysock. The bodysock, a sparkling cherry red, is narrower than those found on the Easy Racers (the frontal area for it to cover is also narrower on a highracer) and watching Mark float by during Sunday's ride was very impressive. The demo bodysock went home with Mike Katz of St. Louis to become a part of his Aero. Rotor cranks was also represented. It was surprising that more manufacturers weren't there. Stevens Point may not be easy to get to but there was a large recumbent audience in attendance.

A large number of V-Rex's were sighted, all with custom paint colors. There was also a custom-colored Bacchetta with a sparkling deep blue/purple hue. It seems custom colors may be the next *accessory* for the recumbent crowd. Bacchettas and Volaes were present in large numbers, but oddly there were not many Aeros, and there were no Bassos. There were a number of V2s, Tour Easys, Gold Rushes, EZs and several Lightnings. Trikes ranged from Catrike to WizWheelz with everything in between, but I did not see a Windcheetah. (Last year's ride had at least three.) The swap area had a few nice buys including a 2003 V2 retrofitted with a 2000 seat channel and seat for \$750, a Trice, a Longbikes Slipstream and at least another six offerings. Recumbent jewelry and fancy new tailsocks were also available.

One of the most outstanding features of this rally is the routes. After riding some of these courses, you leave with the impression that

### 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@recumbentcyclistnews.com](mailto:bob@recumbentcyclistnews.com) or RCN, PO Box 2048, Port Townsend, WA 98368



Wisconsin either has no traffic (a thought quickly dispelled as you navigate the roads around Madison and south through Rockford, Illinois), or that the bike paths are built to look like two-lane roads. All roads were well paved and there were hardly any automobiles. While I never advocate riding two abreast on traveled roads, it was possible to ride three across for miles without ever seeing a car.

All in all, this really is a must-attend event for the recumbent enthusiast. Pleasant routes in scenic surroundings with friendly people and well organized events all contribute to the good times.

Mike Stern  
mbstern@primary.net

## Rotor Rider

I recently installed Rotor Cranks on my bike — a highly customized Bacchetta Strada. My primary reason for getting the Rotors was knee pain. Although not severe, my knees have been sore and remained sore between rides. Never having had this experience before, I assumed it was due to turning 50 a few months ago. I've done only five rides so far but the improvement in my knees and performance has been surprising. My knees now feel normal.

I will say though that I can feel some muscles I wasn't aware of before, but I expected this because my leg muscles are now being used differently. I also have to say that I experienced a significant increase in performance. For the maiden voyage on the Rotors, I did a 22-mile loop and averaged .9 mph faster than normal. This was very surprising because I took it easy to allow my legs time to adjust to the Rotors. I usually wear a heart rate monitor on my training rides, and my heart rate was generally 10-15 bpm lower than usual. On the third ride, I was caught in a snow storm and rode the last 15 miles of the 43-mile route nearly flat out — maybe not the smartest thing to do with 650 23c tires, but I wasn't dressed for the weather. I expected my knees to be sore, but they weren't at all!

Yesterday, I dispensed with the heart rate monitor and went for a "perceived effort" ride. Climbing definitely feels easier and I stay in a higher gear for a longer time, although I even-

tually end up in the same gear as usual. Even so, I don't feel I'm pushing on the pedals as hard.

To me the improvement in performance is secondary — but I'm not complaining. My real purpose is to limit the wear and tear on my body and I know that there are many people whose knees can benefit from these cranks.

Paul Tepley  
pttep@comcast.net

## LWB Crash

Since I bought a Gold Rush a few years ago, I have thoroughly enjoyed the recumbent. But last week I had a terrible accident, and I want to tell you what happened so you can inform others to be very careful. I braked hard going downhill to avoid a car, and rode over a patch of gravel. I started to slide, put my left leg down, and the bike rotated counterclockwise with a lot of torque. Unfortunately, my leg didn't move with the bike and I suffered a compression fracture in my left leg, a torn ACL and meniscus damage. I'll need surgery.

I've heard that when you go down on a 'bent you shouldn't put a leg down but it was an automatic, natural reaction. Please remind others so that they may try to avoid this type of injury.

Steve Chavez  
SteveC9957@aol.com

## Consumer Reports

Did you read the July 2004 issue of Consumer Reports? It contained an article on bicycles that said something like, "Moderately priced bikes now offer higher-end features. We test 24 models of four types." Of course they didn't test recumbent bikes, even though they are far more comfortable, safer and (depending on the model and the "motor") faster. Do you think it would help if you wrote to Consumer Reports?

John Hamilton

*Editor's Comment: The best thing each of us can do is to write to them. The chances are that recumbents are just too small of a market infor them ... but it would be good for them to know that "we're out there."*

## Recumbent Weight

I have to agree with Paul Krieg (Bike Weight Comments — RCN 083) on what bicycle specifications are really significant.

I am a tourist — my idea of cycling is to attach panniers, load them with 35 to 50 pounds of gear, and hit the road for 4 weeks to 4 months. I want a bike that will handle the occasional rough road and several thousand miles of travel without regular visits to bike shops along the way. The weight of the bike, how "fast" it is and how "fun" it is to ride are not significant issues for me.

I prefer a LWB and USS, but I am willing to try other bikes. My old Ryan Vanguard is my most reliable bike and I keep returning to it. I am planning to test ride a WizWheelz, and the questions I want answered relate to my ability to "tour" rather than "perform."


Bicycle tourists are probably a small percentage of the total number of bike riders, but there must be more than just two! I hope at least a few recumbent manufacturers will supply what I call a "touring" bike. Maybe it should be called an "expedition" bike.

Roger J. Rowe  
profrjrowe@yahoo.com

*Editor's Comment: "Touring" is a broad topic. To some, this means a 10-mile weekend ride in the country; to others, it means crossing the continent. Perhaps for that reason, expedition-ready recumbents are rare. A recumbent can be built up for heavy-duty touring, but few are ready to go "as-is." If I listed the 'bents I would use for touring, I'd be sure to get emails from unhappy builders asking me why their bikes were not listed. We invite builders to tell us about their "expedition-ready" recumbents.*

*The weight issue is clearer for me. There is no reason for any of us to ride recumbents that weigh over 40 pounds. Even the toughest touring bike with full racks should weigh less than this. I find that my performance drops noticeably when I'm riding a bike that weighs more than 40 pounds.*

Letters continued on page 22




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# The Seven Days of Christmas

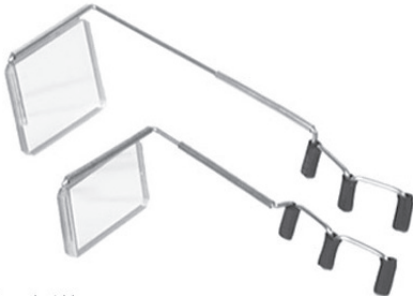
(or whatever holiday you happen to celebrate in late December)

## A Gift Giving Guide for Recumbent Riders

By Bob Bryant (see my enclosed list)

### Instructions for use

- Read this article.
- Get a highlighter pen and mark all items of interest to you.
- Leave around the house where your wife, husband or significant other might find it, or do the above, photocopy and use as your own personal gift list.



### 1. Take A Look Mirror

This little gem clips to your glasses or your helmet, adjusts two ways, is made of metal and will LAST. Mine is over 10 years old (maybe 15; I can't remember), and is clipped to my prescription Ray-Ban sunglasses. I change bikes too often, and it's a pain to fuss with non-aerodynamic handlebar-mounted mirrors, so I use a Take A Look. Also, your head makes a better mirror mount because it seems to vibrate less than the handlebars. More people ask me about my mirror than about my recumbent bicycle. Don't settle for the plastic ones that stick to your helmet with adhesive or Velcro. Looking out of your left eye requires some practice, but it's worth it. (Bike Peddler, Greeley, CO 800/832 BIKE (2453), REI, Hostel Shoppe and perhaps your local shop carry the Take A Look).

### 2. Airzound Bike Horn (honk at SUV's;

Order from your local bike shop — Delta Bicycle). Advertised as "the world's loudest bike horn," this monster puts out a 120-decibel sound that will scatter almost anything. It uses compressed air, and you can recharge it with a bicycle pump. For bike trail use, it's also a good idea to have a softer sounding Incredibell. Some cool retro-style bike bells are also available at Rivendell Bicycle Works. ([www.rivbike.com](http://www.rivbike.com)).



Boure shorts & Mt. Borah jersey

### 3. Lycra recumbent shorts with no padding AND a recumbent jersey

My favorite recumbent clothing is made by two different companies: Mt. Borah Designs in Coon Valley, WI ([www.mtborah.com](http://www.mtborah.com)), and Boure Bicycle Clothing by Ned Overend in Durango, Colorado ([www.boure.com](http://www.boure.com)). I've had my recumbent bib shorts from Boure since 1997. My Boure jersey is very high quality and sewn in the US. Both companies are excellent and make stuff specifically for recumbent riders. If skin-tight bicycle shorts are not for you, try Mt. Borah's "Bent Short," mountain bike-style shorts with a lycra inner liner. I always feel faster when wearing my recumbent shorts, and the adjustable leg openings also help with cooling and bee control on hot days.

4. Gift certificate from your local recumbent shop, recumbent specialist or from the Hostel Shoppe Catalog for recumbent tools/acces-



Angletech's Aero trunk

sories ([www.hostelshoppe.com](http://www.hostelshoppe.com)). They just happen to have the coolest recumbent catalog around.

### 5. Aero tailbag or high quality seat bag

If you're looking for a seat bag, there are many good ones. Check with the manufacturer first. For our money, the absolute coolest is the Angletech Aero trunk ([www.angletechcycles.com](http://www.angletechcycles.com)). You can even get aero panniers to match. RANS has several seat bags specific to their seats ([www.ransbikes.com](http://www.ransbikes.com)) as does Bacchetta ([www.bacchettabikes.com](http://www.bacchettabikes.com)). The Hostel Shoppe catalog ([www.hostelshoppe.com](http://www.hostelshoppe.com)) lists several bags suitable for many different recumbent models.

### 6. Fairing, bodysock or tail sock (LWB or CLWB riders)

Fairings just work better on long wheelbase or compact recumbents, but hey, if you want to buy one for your SWB or highracer, please do. The best place to start is Mueller ([www.windwrap.com](http://www.windwrap.com)) or Zzip Designs ([www.zzipper.com](http://www.zzipper.com)). Also, HP Velo bike offers their own Lexan fairings for HP bikes. If you ride a Sun recumbent, the "Edge" fairing just happens to be the most affordable recumbent fairing (at under \$200) you can find. Tailsock kits are available from Terracycles ([www.terracycle.com/parts.htm](http://www.terracycle.com/parts.htm)).



7. Velocity Thracian wheels ([www.velocityusa.com](http://www.velocityusa.com)) and Schwalbe tires and tubes ([www.schwalbetires.com](http://www.schwalbetires.com); preferably on Velocity wheels). If you don't care for new-fangled "paired spoke" wheels, a custom hand-built set



of wheels is the best upgrade for your bike. Machine-built wheels come on most bikes and have over- and unevenly- tensioned spokes. Luckily, recumbent riders just don't seem to be as hard on wheels as MTB and road riders. Try your local recumbent shop or Angletech ([www.angletechcycles.com](http://www.angletechcycles.com)) for some hand-built wheels

### Other possibilities:

Consider some cool option made specifically for your bike. Contact your selling dealer or manufacturer for more info. If you happen to have a RANS, Bacchetta, Volae or Easy Racers there are lots of cool brand-specific accessories to see at these manufacturer's websites.

### And let's not forget:

How about doing yourself a favor by renewing your subscription to RCN or getting a gift subscription for your buddy who keeps borrowing your issues and is slow about returning them? See our special renewal and gift subscription rates on the inside back cover of this issue. ♦

### Bob's 2005 Bike Wish List

1. A 2005 Bacchetta Aero.
2. A Burley Nasoke  
2005 Limbo replacement; It looks like a Jett Creek with rear suspension).
3. An Easy Racers TiRush or Fold Gold  
I've never tested either.
4. A new Angletech Titanium tricycle.
5. Any Volae with a Waterford paint job
6. A lowracer (I've never ridden one)
7. A Lightfoot delta trike with optional power assist for those lazy days.
8. A RANS dual-26 Fusion for around town.
9. A Greenspeed UTE for hauling the loads of RCN orders and renewals.
10. A Trek Madone 5.2 17 OCLV pound carbon-fiber road bike in black (the Bat-Bike) to compare recumbent vs. upright bike performance . . . don't laugh, I really want one!



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## Mountain Quad . . . Cont'd from pg. 1

attachments are essentially one-sided suspension forks fitted into head tubes with Ritchey headsets. Each one has an oil-dampened coil spring and offers 2.5" of suspension travel on each side. It's an extremely good system that feels smooth and refined. Two tie-rods connect the "U" handlebars up to the top of the fork/kingpin.

The rear suspension is a NicholsLink rear swing arm suspended with two oil-dampened Fox Air Shocks with 3" of travel. This shock offers an adjustable rebound. While I'm no mountain bike expert, the smoothness, adequate dampening and zero bounce make this suspension feel as refined as I've ever experienced.

**Steering:** The Crank-It has a custom under seat-steering system. The long and wide "U" bars rotate fore-and-aft with a quick release lever. Teflon/Kevlar impregnated rod ends connect the USS bars to the front wheel kingpins.

**Weight:** The Quad is not lightweight, but then again gram counting is probably not the best idea for an all terrain bike such as this. Our test unit weighed in at 65 pounds. The 24" wheels and Schwalbe puncture-resistant tires add two pounds. The rack (which ours did not have) adds another two and one-half pounds. Clipless pedals, Schlumpf drive and computer mount can add five or six more pounds.

Weight only seemed to be an issue in low speed climbing on loose terrain (dirt, mud, gravel). The weight distribution is 48% front/52% rear.

### DRIVETRAIN

The standard drivetrain is a Rohloff 14-speed internal hub gear. The hub is mounted under the seat. A forward chain is routed through chain tubes and one large chain idler wheel (top chain) to the front crankset. The crankset can be an optional Schlumpf Speed Drive. This is an amazing two-speed bottom bracket internal gear that increases the standard gearing of the Quad by a factor of 1.65. Shifting is done by the click of a heel button (button is the crank dust cap). This is really the ultimate setup for any small wheel bike. Adapting them can be expensive and requires someone who knows what he's doing.

A rear chain runs from the Rohloff hub (under the seat) back to the NicholsLink swing arm rear end and posi-traction (both wheels driven) differential. The current differential is made by Crank-It for the Mountain Quad. The unit houses two heavy duty ACS Claws BMX freewheels. They have been tested to withstand 350 lb.-ft. of torque into the housing and axles. A Razor Rock differential is available for customers who



The Quad with 4 x 20" wheels

have extreme duty requirements.

The Rohloff 500/14-speed hub is the finest internal gear hub made, and is quite expensive. It's also the most efficient internal hub. I've seen reviews stating that the hub is as efficient as a derailleur system (Bernard Rohloff and Peter Greb; Human Power Winter 03/4),

to 2% less efficient (Human Power, same issue, Chester Kyle, [www.ihpva.org](http://www.ihpva.org)). The Schlumpf drive loses approximately 3% efficiency over a derailleur system according to Florian Schlumpf.

**Gearing:** The gear range is super-wide. Stock gearing on our 24" Quad is 16.5-87

#### For

1. Unbelievable fun
2. Excellent build quality
3. A recumbent rock crawler
4. Refined design
5. Choice of wheel sizes (20 or 24")

#### Against

1. Fixed seat recline (very laid back)
2. Very expensive
3. Wide
4. Heavy
5. Ergonomic issues for some

#### Why Buy This Bike

If you want to ride the world's most technologically advanced recumbent off-road HPV (human powered vehicle).

#### Contact

Crank-It  
Web: [www.crank-it.com/](http://www.crank-it.com/)

#### Specifications

**Model:** Crank-It Quad  
**Type:** 4-wheel, full suspension off-road quad  
**Size:** One size fits most  
**Wheelbase:** 43"  
**Suspension:** Full suspension  
**Seat height:** 12.5"(20")/14.5" (24")  
**Pedal height:** 17"(20")/18.5" (24")  
**Weight:** 65 pounds (RCN)  
**Frame:** TIG welded heat treated aluminum (frame built by Rotator)  
**Price:** \$7,950 shipped USA + options

#### Seat

**Back/Base:** Quick mount Carbon fiber bucket with reversible cushion.

#### Components

**Crank:** Schlumpf (option)  
**Bottom bracket:** Schlumpf (option)  
**Drivetrain:** Rohloff/Schlumpf (option)  
**Shifters:** Rohloff twist grip/Schlumpf heel  
**Chain —** Sachs (SRAM)  
**Gear inch range:** 14-73 (20")/16.5-87 (24") w/Schlumpf: 12.5-108 (20")/15-130 (24")  
**Pedals:** Shimano PD-M424  
**Wheels:** 20" or 24"  
**Tires:** Ritchey Speedmax or FourPack  
**Brakes:** 4-Wheel Magura BIG hydraulic disc  
**Colors:** Red, yellow, blue or custom



gear inches. With the optional Schlumpf, 15-129 or 16.5-143.5 are available. While you're spending this much dough, you may as well opt for the Schlumpf, too. I used it often and utilized even the lowest gears. In fact, the Quad could use even lower gears, certainly more than it would ever need a 129 or 143 high gear.

**Chain management:** The chain management is complicated with several proprietary and custom parts. It is reasonably quiet. The drivetrain noise comes from the Rohloff itself when coasting. The Quad drivetrain isn't quiet, but it's refined and worked smoothly. I've become a fan of both the Rohloff and Schlumpf drives — if you can afford them, they're wonderful options.

**Braking:** The Quad comes with Magura "BIG" hydraulic disc brakes on each wheel. The front brakes are controlled by the right lever and the rears by the left lever. A Velcro strap has the left side lever doubling as a parking brake. While the Maguras aren't the strongest brakes I've used, they are perfectly adequate. The system uses sealed lines filled with mineral oil. Pulling a line by accident while out riding would really put an end to your fun (and may require a trip to a shop that can work on hydraulic brakes).

**Wheels and Tires:** The Quad comes with your choice of 20" or 24" wheels. The rims are Velocity Aero Heat 24x1". The hubs are custom Hope one-side mount. Each wheel is mounted to the frame via one quick release lever — removal is very quick. Since the vehicle has four wheels, it serves as its own repair stand.

The tires are BMX 20" or 24". The 20" are Ritchey Alpha/Omega SpeedMax rated at 40 psi/35psi. Optional FourPacks can run to 110 psi. The 24" SpeedMax tires run at 60 psi. Which size you choose depends on your home terrain.

The 24" size tires are a bit rarer. These taller wheels will climb over higher obstacles with more ground clearance and will be better on loose terrain. I found the 24's to be faster and moved better over the trails in my neighborhood. The 20's make the Quad slightly lower and shorter and gave it a livelier ride. I enjoyed this for squirreling around, but I preferred the larger 24's overall. Another downside of the 24's is tire scrub. In sharp turns, the tires will hit the inside of the frame. Also, in aggressive riding, I did scrub my elbow on the rear tire.

## COMFORT

While the seat is fairly reclined, the pedal height is moderate. The proprietary Crank-It carbon fiber "bucket" seat is comfortable. The seat rides on rubber doughnuts and mounts to the frame with four tethered quick-nuts. The reversible seat pad snaps into the bucket. There is also a movable Velcro-mounted lumbar support. A rib in the seat base helps to eliminate tailbone pressure.

For short rides of 15-30 minutes, comfort is great. On my afternoon rides of an hour or more I started feeling the firm shell of the seat, and the laid back aspect of the seat and the lack of neck support became issues for me. There was 3-4" between the back of my neck and the seat. The Quad's seat can only adjust +/- 1 degree — which didn't help me. I believe that I could develop a head or neck rest that would work, but I'd prefer a more upright seat. This is a personal call. I tend to like more upright ergonomics, and I absolutely require neck support. When I did lean my head back into the seat, I was staring at the tops of the trees, so as-is, the seat's head rest doesn't do much. Modified seat mounts, spacers and shims can be included on request.



*The Quad at Moab (this wasn't me . . .)*

## FIT

The one-size frame fits riders from 5' to 6'6" with a sliding boom (39"-49" x-seam).

## RIDE

The Quad was quite busy while here at RCN. My kids rode it daily and created a track around our house. We are lucky enough to live a block away from Cappy's Trails, which is awesome mountain bike terrain. I had never been on many of these trails before. I spent several afternoons exploring all of the trails — which go for miles. The Quad was the perfect vehicle for this job.

**Stability:** The Mountain Quad is THE most stable recumbent I've ever reviewed. The four wheels, refined suspension, design and well thought-out systems all help achieve this high standing. Riding the Quad makes me wonder why there aren't more models, perhaps a road Quad.

**Performance:** The Mountain Quad is pretty slow on- or off-road. The culprits are the knobby tires and the heavy weight. A slight downhill will change everything, and the Quad will come alive. With the suspension and precise light touch steering, you can track the Quad in on a reasonably high-speed course, missing the road hazards that you don't want to bounce through.

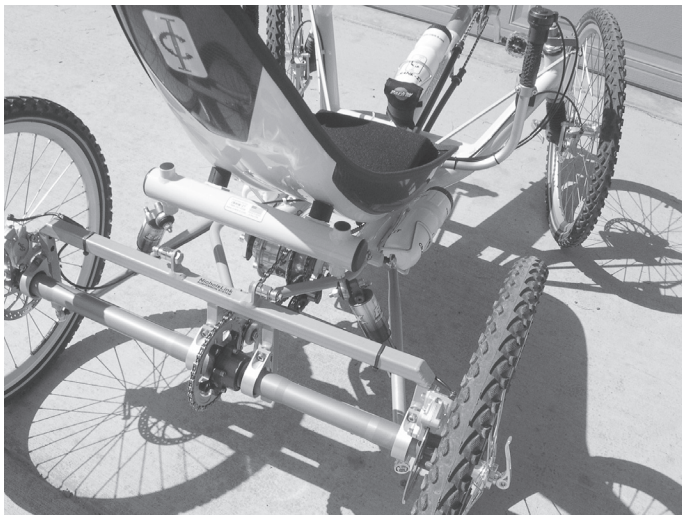
**Climbing:** The Quad has 5.25" (20" wheels)/ 7.25" (24" wheels) of ground clearance. Climbing off-road can be slow going, but that's okay, you have a low gear of 14 gear inches and no roadies to impress. Gear down and spin up just about any hill (and many obstacles). I found the Quad climbed well as long as you had the wind power to make it where you were going. The Quad needs lower gears than most any other recumbent. Having the posi-traction rear end also helped to in-and-out of the slick stuff and when climbing on loose terrain. I never had to dismount the Quad due to loss of traction.

**The Ride:** The ride is as smooth and plush as you can imagine. The steering is ultra precise and effortless, and reflects a very refined steering geometry. The turning diameter is 15'. The Quad is a lot of fun on any off-road courses that are slightly downhill. Maneuvering is easy and it can handle all the last-minute direction changes you can throw at it.

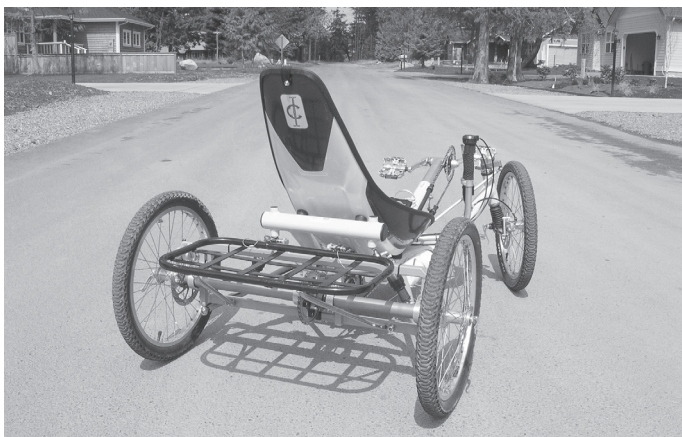
Riding on the streets proved to be slow and tiring. I veered off-road every chance I got. I never took the Quad more than five blocks from home playing on the wooded trails. The Quad is ideal for riding on the walking trails in and around my neighborhood (they go for miles through the woods). This and fire-roads are absolutely ideal for the Quad. When riding on single track narrow walking trails or Jeep trails where you ride in one track — the Quad's wide track became a detriment. Having ridden two-wheeled recumbents on these trails, you really need to decide whether a two-wheeler or a four-wheeler is best suited for your local terrain. If you ride in the snow, there's no contest: the Mountain Quad is the best.

**Obstacles:** I rode over and through large ruts, rocks, mud holes, landscape timbers, my son's skateboard ramps and just about any place I could think to take the Quad. I never once high centered or hit the boom on anything. The Quad is quite wide (35"),

I did hook the inside rear wheel a time or two and clinked the rim or wheel quick release when going through a narrow passage. One problem with riding a Quad is that many trails have narrow entrances to keep motor vehicles out. Most are barely wide enough for the Quad. I had to come in at an angle with my outside wheels off the path several times, or make my own path to gain trail access.



The Crank-It Mountain Quad suspension — Crank-It!



Our test Quad with the optional rear rack and 4 x 20" wheels



Our test Quad with 4 x 24" wheels

## OWNING

**Purchase Details:** Orders must be accompanied by a 10% deposit upon order. A second deposit of 40% is due at mid-production, and the remaining 50% is due upon completion. The standard delivery time is four to six weeks.

**Accessories:** The Quad is well equipped with a Park tool kit, Fox air pump, rearview mirror, a two-piece safety flag, and Shimano SPD pedals. Three water bottles are fitted on the bike. One is mounted on the boom along with the Park tool kit. Two more are on the frame rails alongside and under the seat.

**Options & Accessories:** There are several gearing options. The most notable is the Schlumpf 2-speed bottom bracket Speed Drive (\$300 option, plus \$30 for the chain guard).

Other upgrades include a luggage rack that mounts to the rear of the Quad (via BOB Nutz) priced at \$125. The 24" wheel upgrade is \$120.

## MARKET

There is no competition. Crank-It offers a beautiful machine for those serious enough to want to recumbent off-road. The only other off-road recumbent worth considering are the Lightfoot Ranger and Sun EZ Rider. While the Ranger is more versatile, it can't go where the Quad can. Also, the Quad can be ridden in the snow. What a blast that would be. The EZ Rider is vastly more affordable than the competition (starting at \$699), and has dual 20" wheels.

## VERDICT

My only real criticism is the seat and neck support. I'll readily admit that I'm more temperamental than most riders when it comes to this. No one else at RCN who rode it even noticed.

Once in a while we get to review a recumbent where no expense has been spared to make the machine the best it's designed to be. This is one of those occasions. The Crank-It Mountain Quad is about as good as it gets. Granted, it's a limited market, for a rider who is serious about recumbent off-road fun. I'm certain you'll be the only one in the neighborhood with such a vehicle. Your neighbors will say, "What is that thing?" as you ride by. While I wouldn't want to commute on the Quad every day, it's the most fun I've had testing a recumbent in quite some time.

The Quad concept is an interesting one. I could imagine two-seaters, small pedal trucks and enthusiast road quads. A Quad is the most stable recumbent design there is. I just don't understand why more designers don't product them. Don't discount the four-wheeler — especially if you're riding off-road. The Crank-It Mountain Quad is definitely on my Top Ten Favorite Recumbents list. ♦

Note: For more information on recumbent quads, see Pippa Garner's "Project H.P.U.V. article in RCN 080.

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# RCN Road Test: The HP Velo Grasshopper

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

## The Art of Comfortable Cycling

The GrassHopper is the new touring recumbent from HP Velotechnik. The bike is a fully-suspended compact sporty short wheelbase model for cyclists who enjoy a fast ride and seek maximum seating comfort. The bike rides well over smooth roads as well as unpaved trails. The adjustable suspension on both wheels helps you relax even on rough roads. Our famous No Squat Design works without any influence from pedaling forces.

The ergonomically shaped BodyLink recumbent seat and the bottom bracket height of 26-inches significantly above the seating height of 21-inches support an aerodynamic riding position that keeps the rider fresh and relaxed on a long ride. Both make the GrassHopper the perfect touring bike. — HP Velotechnik



The HP Velo GrassHopper is yet another very refined short wheelbase (SWB) under-seat steering (USS), full-suspension touring recumbent from the talented designers at HP Velotechnik in Germany. The GrassHopper has a unique new two-piece BodyLink seat that is more adjustable and arguably more comfortable than other Euro-style shell seats. The GrassHopper is outfitted with dual fully-suspended 20-inch wheels and comes with your choice of over-seat steering (OSS) with a FlexStem, or linkage under-seat steering (USS). There is a host of custom component options to help you build the perfect GrassHopper to suit your needs.

## SYSTEMS

**Frame:** The frame and swing arm are TIG welded of 7005 T6 heat-treated aluminum made in Taiwan. The powder coating and builds are done in Germany before being shipped on to the customer. HP Velo warranties the frame for ten years.

**Fork:** The Meks All carbon fiber suspension fork works smoothly and offers two inches of suspension travel. Upgraded Meks forks are optional.

**Suspension:** HP Velotechnik's trademark "No Squat Design" rear suspension is very plush and offers 4.25" of rear suspension travel. The shock is a German DMN which was also on our Street Machine test bike. All I can say is that it will spoil you. The

## For

1. Excellent fit & finish
2. Smooth & comfy ride quality
3. Compact size
4. Lots of options, OSS or USS
5. HP's BodyLink seat is excellent
6. Great company; friendly folks

## Why Buy This Bike

If you want a compact, state-of-the-art, well equipped, full suspension sport touring SWB OSS/USS — and prefer a very laid back riding position

## Contact

HP Velotechnik  
Web: [www.hpvelotechnik.com/](http://www.hpvelotechnik.com/)

## Against

1. Heavy (see weight section)
2. Very laid back riding position
3. Expensive, especially when upgraded
4. V-Brakes are standard
5. No brand name double big ring crank

## Specifications

**Model:** Grasshopper  
**Type:** SWB OSS/USS full suspension  
**Size:** One size fits most  
**Wheelbase:** 40.5"  
**Seat height:** 21"  
**Pedal height:** 26.25"  
**Weight:** 35 pounds (RCN)/ 30 (HP Velo)  
**Frame:** 7005 T6 Heat Treated Aluminum  
**Suspension:** ft. (2" travel) & rear (4.25")  
**Fork:** MEKS Carbon All  
**Price:** \$1990 + options (\$2274 as tested)

## Seat

**Back/Base:** Two-piece composite shell with velcro'ed foam or optional Airflow cover.

## Components

**Crank:** Alloy 40T/60T 170 mm  
**Bottom bracket:** N/A  
**Drivetrain:** Shimano Deore (rr.)/105 (ft.)  
**Cassette:** 11-34 9/18 speed  
**Shifters:** SRAM Attack Twist  
**Chain —** SRAM  
**Gear inch range:** 22-104  
**Pedals:** Wellgo  
**Wheels:** 20" x 1-3/8" 406 mm  
**Hubs:** Quando alloy quick release  
**Tires:** Schwalbe Kevlar Marathon 1.375" 95 psi  
**Brakes:** Tektro V-brake  
**Colors:** Two layer powdercoat



“No Squat” suspension works as advertised. I found no pedal-induced suspension movement.

**Steering:** The GrassHopper comes stock with a FlexStem over-seat steering (OSS) system. The riser is arced back toward the rider, and the handlebars are a unique bend that come out and bend out and downward. The cockpit is somewhat tight by North American standards. The steering column will adjust adequately for those who want to be very laid back or as upright as it will go.

**Finish:** The two stage powdercoat is exceptionally attractive. Our green test bike is beautiful. It’s one of the best looking recumbents to come through our shop in some time. Standard colors are Dormant Apple Green, Steel Blue and Carmine Red. Dozens of optional colors are available for an additional \$79 USD. A complete color chart is available online.

**Weight:** Our GrassHopper weighed in at 35 pounds. The website indicates a weight of 30 pounds. We asked HP Velo’s Paul Hollants for a clarification. His response: *“I checked your ordered configuration and the possible weight-saving options that are available from us:*

- No headrest saves 101 g
- Airflow-cushion is 491 g, standard foam is 106 g saves 385 g
- Meks All 1790 g, Meks AC light 1370 g saves 420 g
- Carbon seat saves 600 g
- Deore rear derailleur 302 g, XT rear derailleur 250 g saves 52 g
- Suspension DV22-650 504 g, DT-Swiss SSD225 228 g saves 276 g

Total difference to your bike: 1834 g converting to lbs: 1835 g / 453.6 g/lbs = 4.04 lbs

So, if you measured exactly 35 lbs., the lightest version should be 30.96 lbs. Our scale with the lightest bike showed 13.9 kg (30.6 lbs) including pedals, which is what we state on our website. We are really happy with this weight, considering you get a full suspension (adds about 5 lbs) touring bike with length and angle adjustable seat.”

## DRIVETRAIN

The components are about average. I feel that some are not up to par for this fine frameset and seat. Most, but not all hubs and crankset can be upgraded with HP Velo’s vast list of upgrade parts. The crankset is a bit mediocre — it’s a no-name brand 40/60 double crankset. Thanks to the small drive wheel, gearing is quite adequate (22-104 gear inches). By looking at the front crankset, you might wonder if it will ever shift from the 40-tooth chain ring up to the large 60-tooth chain ring. While



The GrassHopper



Note front suspension, OSS unit and over-size main tube



The new HP Velo BodyLink seat



Note the sleek suspension unit and over-size chain idler along with custom chain tubes.

I had my doubts, once on the road I found that the Shimano 105 derailleur does an admirable job.. While the stock system works well, I’m not a huge fan of extreme front shifting. The Rohloff (\$829) and DualDrive (\$20) options are available. I did appreciate the simplicity of the 18-speed drivetrain. The cassette is a SRAM 11-34 9-speed shifted with a Deore rear derailleur and SRAM Attack twist-grip shifter.

There is a lot of chain deflection in a 9-speed double crank drivetrain. I found gears 1-5 worked well on the 40-tooth, and 1-9 on the 60-tooth. I rode the bike mostly in the 60-tooth, and dropped into the 40 for lower hill-climbing gears.

**Chain management:** The upper chain runs through two chain tubes and under a smooth and quiet chain idler. The lower chain runs through another chain tube.

**Gearing:** This bike has several gearing options. Our test bike was outfitted with standard 18-speed gearing with a wide range double crank and 9-speed cassette. With the 20” drive wheel, this minimalist gearing will be adequate for many riders. HP Velotechnik offers Rohloff 14-speed internal hub gearing and a 24-speed SRAM DualDrive option.

**Braking:** Standard braking comes from Tektro V-brakes and levers. At this price, the standard bike should have disc brakes. The following brake upgrades are available: Tektro disc (\$129), Magura hydraulic rim (\$159), Magura Marta (\$519-\$599) or Julie hydraulic discs (\$239).

**Wheels and Tires:** The wheels have generic alloy rims and Quando hubs. Though not a name brand, they seem fine. The tires are the tough Schwalbe Kevlar Marathon 1.375” 95 psi tires. This is the best all-around tire for a bike like this.



*This GrassHopper rider forgot his helmet — HP Velo*

## COMFORT

HP Velotechnik's new BodyLink seat is perhaps the finest Euro-style seat available. It's a two-piece seat that bolts together in the center section. The seat naturally adjusts to the shape and length of your spine. The seat can be adjusted taller or shorter so you can't order the "wrong" seat (which we've done before). The base is larger and the back more supportive than previous HP Velotechnik and other Euro-style seats. The standard EVA foam is not that great (simple Velcro on foam with no cover). The optional Airflow seat cover is exceptional and a must have when you order your Grasshopper. It offers three layers of foam inside a seat cover that Velcros onto the seat shell.

There is no hiding the fact that the ergonomics of the GrassHopper are extreme. Would-be riders must like to be laid back with their feet up. The pedals are 5.25" above the seat height. The seat angle is 35 degrees with 5± degrees of adjustment.

Our bike came with the optional headrest, which works pretty well. The headrest works best when riding without a helmet. When wearing a helmet, the problem is that the headrest doesn't come into contact with your head or neck, but instead with the lower back section of your helmet. This just doesn't work as well as it should, but it's the only option I know of. (Oh, and by the way, we recommend wearing bicycle helmets.)

## RIDE

**Performance:** The GrassHopper performs admirably. It's in the range of a RANS V-Rex or Rocket, though it may be a tad heavier than either of these two bikes.

**Climbing:** While the bike climbs fairly well and doesn't seem to pogo, I found my head

pogo-ing against the flexible headrest which was somewhat annoying. Also, I've never quite mastered climbing steep hills on laid back bikes. It always gives me the feeling of flipping over backwards.

**The Ride:** The GrassHopper tracks well and has a stable ride. To the uninitiated, it may feel quicker than a 26/20 (or 20/20) American style SWB. The steering geometry is not 100% neutral. It tends to high center when straight ahead, and falls ever so slightly as you turn right or left. This is actually quite ideal.

## FIT

While the GrassHopper looks like a small bike, it fit me well. The bike will fit riders from 5'2" - 6'7" and up to 275 pounds. An optional harder rear spring is available for riders over 230 pounds.

## OWNING

**Utility:** The GrassHopper is almost a do-anything bike if outfitted correctly. It would be fine around town as a commuter with racks, panniers and fenders. Perhaps the Rohloff or DualDrive would be better in this application. The "almost" I write of depends on how you personally relate to laid back riding positions. The laid back position is not the best for me in urban areas, and seems more suited for the open road. I would expect others to disagree with me on this.

**Purchase Details:** HP Velo bikes can only be purchased through full service dealers. We don't recommend buying one via mail order if you can help it.

**Options & Accessories:** There is a vast list of upgrades for this bike. See the website or your dealer for the complete list. At the very least consider the Airflow seat cover (\$109), a

rear rack (\$99) or under-seat rack (\$95), headrest (\$30) and fenders if you ever ride in the rain (\$39). Several optional braking systems, and a SON hub dynamo lighting systems are also available.

## MARKET

The GrassHopper is available in OSS or USS. There's nothing similar that is available in USS. With the demise of Vision, and the downscaling of Haluzak, HP Velotechnik really owns this segment of the market these days. HP Velotechnik also offers a world-class suspension. There are less expensive SWB OSS hard tail machines available (the RANS V-Rex, Bacchetta Giro and Volae Century and Tour models), but none of these are full suspension.

To the untrained eye, the GrassHopper may appear similar to the HP Velotechnik Street Machine. Besides the drive wheel size difference (20" vs. 26") and the GrassHopper's OSS and USS options, we asked HP Velo's Paul Hollants to explain the difference to RCN readers: The Street Machine Gt is the "world tour" recumbent, with a very steady ride so you don't need to concentrate on steering even when heavily loaded. (It also fits four big panniers). The higher seat position gives very good visibility and vision in traffic. It is basically designed for the direct USS. It's great for taller riders. The seat feels especially good in the more reclined position.

The GrassHopper is more agile, and with the indirect USS or OSS you can corner much sharper turns. It is designed for both USS and OSS. The suspension has more travel at the rear end, so that I also enjoy this bike on off-road trips. It is lighter, which adds to the more agile feeling. (It only fits two big and two small panniers). With the adjustable seat base, even more upright seat angles feel fine without sliding off the seat. The lower seat position and indirect USS work fine for smaller people.

## VERDICT

HP Velotechnik recumbents, and some other brands (most notably Optima's) suggest that this is the ultimate touring and comfortable position. This concept is about the opposite of what's been known as a touring recumbent in North America for the last two decades (mostly long wheelbase with low pedal heights). I won't argue who is correct as I don't think either are. Some folks will prefer the laid back seat and high pedal position of bikes like the HP Velo GrassHopper and others may not.

If you can relate to these designs, prefer the laid back and very reclined riding position of the Euro bikes — and if you're looking for a sport touring full suspension, SWB — HP Velotechnik is your company. They are easy to deal with, have several US dealers, communicate effectively on the Internet, and best of all — build great bikes. ♦



# BACCHETTA



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



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*The fast new bikes like the Bachetta Aero, ridden here by inventor Rich Pinto, exercise the Psoas muscle group, core body muscles invoked in the performance-oriented bikes.*

*Photograph Copyright © 2004 Randy H. Goodman*

## Fast 'Bents, Big Power And A Whole New Kind of Pain

By Matt Schneps  
mschneps@cfa.harvard.edu

### A Harley You Pedal

I was touring through New Jersey on my Bacchetta Aero one Sunday morning when I found myself lost in a rough neighborhood. I pulled my bike into the parking lot of a deserted bar — really more of a girlie club — to check my map. This was the kind of place you'd expect to see Tony Soprano and his friends hang out in. Not the sort of place you want to stop to ask for directions. But it was early on a bright Sunday morning so it seemed safe, until some guy spotted me from a window of the bar and came staggering out, beer in hand. He was missing most of his front teeth, and when he waved his buddies over to gawk at my bike I started to panic.

"What the [bleep] is that thing?" he yelled as his gang gathered close. I could smell the alcohol on their breath. I explained that the Aero was a fast bike, that the cranks were up front, that it was real comfortable, etc., etc., all the while hoping the drops of sweat gathering on my forehead wouldn't give away my fear. Drunk as these guys were, they were really interested in the bike and actually seemed impressed. They asked me to demonstrate how it rides. When the guy with the missing teeth saw me ride with my feet way up in the air, he smiled and blurted out, "Hey, look! That's real cool! It's just like my Harley, only you pedal!" I waved, smiled, and quickly pedaled away.

### New Kinds Of Pain

Having a gang of Jersey thugs break your kneecaps with a baseball bat is certainly one way to experience new kinds of pain riding a recumbent. But the new laid-back high-bottom bracket (BB) geometry of the European-inspired designs (now popular in bikes like Bacchetta, Volae, Rans Force 5 and almost all the European low-racers) opens the door to other kinds of pain unfamiliar to riders — different from the usual knee pain, recumbent butt, and numb feet. These new pains come about as 'bent athletes adopt more extreme positions to reduce aerodynamic drag and improve performance.

Any time a sport evolves so that performance improves, and as athletes push their bodies in new and untried ways, doctors begin to see new kinds of injuries walk (or limp) in the door. Riders can learn to spot trouble early and take steps to prevent serious injury from occurring if they are armed with knowledge about what might go wrong and if they become familiar with the danger signs of injury.

### Different Angles, Different Muscles

Classic recumbent design styles like the Easy Racer Tour Easy, RANS Stratus or the Sun models have the rider seated as if in a

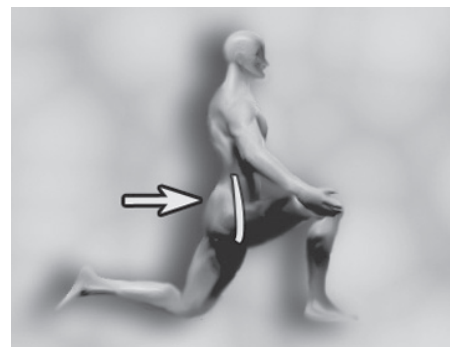
chair, bent at both the waist and the knees. The new laid-back high-BB designs, fast becoming popular in the U.S., put the rider in a much more prone position. With buttocks raised and less bend at the waist, the rider's torso is more in line with the cranks. One advantage of this new position is that the rider is more aerodynamic. Another "plus" is that the rider can use the largest muscles in the buttocks and lower torso to generate great bursts of power.

The high-BB design brings the psoas muscles — the main muscles you use to raise your legs — into play when you pull up on the cranks. These muscles join your spine (just above the pelvis) to the upper part of the thigh. It's an odd muscle used in walking and balance, and most people aren't even aware they have these muscles since they're part of the core body, concealed under the intestines.

### Bursts of Power

Ordinarily the psoas muscle is shortened when we sit and is stretched when we stand. You can feel this muscle by doing the following: Kneel down on one leg (as if you're going to be knighted) with your back straight, and then gently and gradually move your torso forward (being careful not to arch your back or overdo!). You will feel the psoas muscle stretch on the side opposite the bended leg.

When riding in a laid-back position, as you pump your legs, your leg alternates between being raised in a bent position and straightening out, almost in line with your torso. This action alternately contracts and stretches the psoas. If you pull hard on the up-stroke, you can actually use the psoas to power your stroke. The more laid back you are, the more your psoas can come into play. If further, you raise your buttocks slightly off the seat and pull hard on the pedals, you will get a short burst of power from this muscle that can help you crest a hill or accelerate past a rider. But be careful, because pulling on the pedals with your buttocks raised stretches and strains the psoas



*Pushing in the direction of the arrow while kneeling will stretch the Psoas muscle group, a collection of muscles under the intestines connecting the spine to the upper thigh.*



even more, and injury can result unless you know how to work with these muscles.

## Knowing When To Stop

Since the psoas is located under the intestines, injury to the psoas sometimes doesn't feel all that different from intestinal distress. A mild soreness of the psoas might feel like gas, or like bladder discomfort. Since this muscle is also attached to the pelvis at the lower back, psoas pain can also feel like localized lower back pain, as if a fist is being pressed into your kidneys. The sensation doesn't feel like other muscle pains, and you're very likely to think it's something else, and to continue riding and overstretching the muscle.

Few of our daily activities or other sports (except dancing, weight lifting or martial arts) tend to put undue stress on the psoas. Consequently, your doctor is not very likely to associate psoas pain with biking, and can easily misdiagnose the symptoms. I know about this first hand, because last fall — not knowing the signs of psoas distress — I over-extended myself doing hills and century rides, despite mild symptoms of psoas pain. With more riding, the mild pain eventually grew intense and sent me to the emergency room. After a month of tests, multiple visits to hospitals, and a litany of ineffective abdominal treatments, the doctors just gave up. They labeled my problem as undiagnosed "skeletal-muscular pain," and sent me off with a bottle of painkillers. Meanwhile, the needless tests and treatments cost my insurance company close to four thousand dollars! If I had known about the psoas, and had taken a few simple preventative steps, all the pain and cost could have been avoided.

## Preventing Psoas Injury

If you ride a high-BB bike and feel abdominal or lower back pain, especially after pulling on the cranks on some big hills, take heed!

This pain could be your body telling you to take it easy to take care of your psoas. If you suspect you have psoas pain consider taking the following steps:

**Stretch the psoas.** Doing a psoas stretch just once or twice a day, particularly before and after a ride, can virtually eliminate symptoms and prevent injury. These stretches (such as the "Sun routine" in Yoga) are easy to build into your routine, and you can find directions at the Spinal Injury Foundation [www.whiplash101.com](http://www.whiplash101.com).

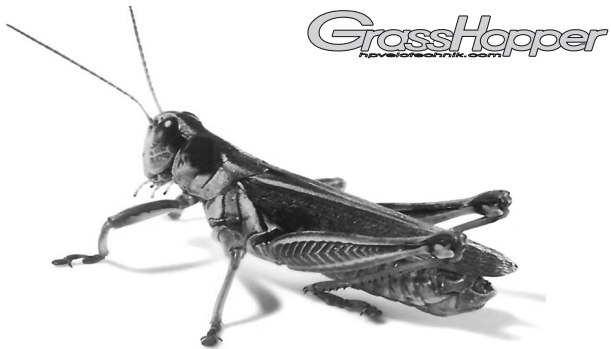
**Push More And Pull Less.** Though it may be considered "good form" to pull smoothly through a stroke, pulling on the cranks while laid back can stress and injure the psoas. Find a balance between pushing and pulling that works best for you, and try to let the big leg muscles do the lion's share of the work.

**Try Rotor Cranks.** These help bring your cadence up and allow you to make better use of your large leg muscles. You'll be able to push more and pull less and still not lose power. These cranks have been extremely effective for me, and pretty much eliminated my psoas pain completely.

**Adjust Your Seat.** As a last resort, try angling your seat so it is less laid-back. Classic low-BB 'bents that hold your body in a sitting position (as opposed to laid-back prone positions) will stress your psoas less. Avoid positions that raise your buttocks.


Becoming aware of how your psoas comes into play, and conditioning these muscles for hill climbs and fast rides will allow you to safely enjoy the speed and thrills that come with the new generation of high-BB bikes. ♦

*When not out riding the author directs SportSmarts, a science education initiative of the Smithsonian Institution. Thanks to the Spinal Injury Foundation for use of their web site and illustration.*




**GrassHopper**  
hpvelotechnik.com


**GrassHopper** [gras'hoppe] lat. *Lucustæ*  
weight: fully suspended specimen from 30.9 lbs / biosphere: country lanes, dirt roads, outdoor cafés / its occurrence indicates a healthy environment / profile: compact, luxurious, fast, carries up to 8.6 times its weight / skeleton: stiff full suspension aluminum frame / support: **BodyLink®** seat with ergonomically shaped seat base, length adjustable back rest and flexible joint for maximum lumbar support / colors: dormant apple green, steel blue, carmine red and custom colors / observation: first appearance in spring 2004, available worldwide from recumbent dealers now.



GrassHopper ASS




GrassHopper USS



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## Recumbent History: The Moller Autocykle

By Stan Smith  
stan@myersmith.com

A fine example of an early recumbent bicycle is on display at RBR (Recumbent Bike Riders) in State College, PA. In original condition, this 1935 Moller AutoCykle has been in the Moller family since it was new and is virtually identical to the one shown in Gunnar Fehlau's book "The Recumbent Bicycle."

The bike at RBR has a leading arm front suspension and no front brake. It was found in nearby Lewistown, PA, 20 years ago by its current owner, Stan Smith, an engineering consultant for RBR. The paint shows evidence of 70 years of use but the original decals on the lower frame tubes still clearly state that it's a Moller AutoCykle. The Danish patent number is stamped on both the front and rear fender brackets.

Holgar and Wilhelm Moller were born in Denmark. Wilhelm raced bicycles throughout Europe, set a number of records and won many long distance and sprint championships. After arriving in the United States in 1901, Wilhelm continued racing at tracks all over the country before settling in Lewistown, PA. He worked at Standard Steel Co. and was joined there by his brother Holgar. Wilhelm married a local woman, Maud Wilson, and for a year or so they lived in Jamestown, NY where he ran a bicycle repair shop.

The brothers' first joint business venture was a Regal automobile dealership. Holgar had good business sense and Wilhelm was a mechanical wizard. Wilhelm held several patents,

including the "Auto Aconomizer," a mechanical device that produced better fuel economy and prolonged battery life.

Wilhelm continued to race and set more bicycle records, including the record for a 24-hour non-stop endurance race. He was also one of the first to ride a bike at 60 mph behind a pace train. During the late teens the brothers formed the Moller Motor Company to build a small car for export. Production of the new Moller car began in Lewistown in 1920. The company offered 2- and 4- passenger convertible models, featuring an aluminum body on an 850-pound chassis. The vehicle was powered by a 4-cylinder engine that provided good economy (50 mpg) and performance. Standard features included a tilt steering column, designed and patented by Wilhelm, and wire wheels. The brothers planned to export the car to Europe and distribute it in the US.

At the 1921 New York City Auto Salon, Moller Motors exhibited the new center-door sedan. The body was built by Healey Body Company of Keyport, NJ, and the motor and transmission were produced by Moller Motors. Advertised as "1,000 pounds of car for \$1,000" the company received orders from Africa, Australia, Brazil, England, Sweden and, of course, the brothers' native country of Denmark. In 1922 the car's name was changed to "Falcon." No Moller Motors cars exist today, and there are no records of how many were produced, but a Moller transmission and some factory photographs are on exhibit at the

Mifflin County (PA) Historic Museum.

Production of the car stopped in the mid-1920's, and Wilhelm returned to the world of bicycles. Wilhelm and his son, Holgar, opened a shop in downtown Lewistown at West Chester Pike and Keystone Ave. He continued to invent new devices for both bicycles and cars. One was a car steering "Stabilisator" which prevented shimmy problems. His "Balancing Bike" patent was for a beginner's bike that had two small wheels on springs attached to the sides of the bike. He built a racing bike that weighed only 12 pounds and built another which was used for his riding the "loop the loop" at county fairs.

The Stan Smith collection also includes a Moller bicycle with a two-speed cluster at the bottom bracket and two chains going to the rear wheel. Another Wilhelm Moller experimental bike has a 20" front wheel driven through a 3:1 ratio sprocket arrangement. Both of these were built in the 1930's along with the Moller AutoCykle. Specifications for the AutoCykle are:

- Single speed
- 24" wheels
- 47 inch wheelbase
- 50 pounds
- Adjustable steering column
- Front suspension (expanding coil springs)
- Fully upholstered seat and back support
- Battery powered front light

The bike can be seen and taken for test ride at RBR's store at 1306 South Atherton Street, State College, PA. RBR's Rob Gentry and Stan Smith would also welcome any new information on this early recumbent. ♦





year — and another hot new model is due for 2005. With the demise of BikeE, the old compact long wheelbase (CLWB) lost steam and the 16-inch wheel just isn't as popular these days.

**Highracers:** Many riders are finding that the recumbent-roadie highracers are the answer to their recumbent performance dreams. Contrary to what you may hear, I love highracers. RCN has offered more in-depth reviews and information about highracers than any other publication — but we don't get enough credit for this. In fact, some still see me as a LWB-riding curmudgeon. (Perhaps this is an attitude they copped a decade ago.)

This past August, while testing a RANS Force 5 XP, I cut five minutes off my 10-mile fast test course — completely by accident. The XP XL is a bit too large for me, so I ended up with the seat laid back more normal. This resulted in a much more aerodynamic position — and voila, I was faster than I was on several LWB test bikes. Bacchetta's Rich Pinto has been telling me about this for years, and I finally had THE experience for myself. I'm

not saying that everyone should run out and buy a highracer, because they are an out-and-out performance bike and not perfect for every situation. However, lightweight and laid back makes for fast recumbent fun — more fun than I've had in years testing these bikes. I'm hoping to get my hands on a 2005 Bacchetta Aero and buy my first highracer for next season.

**Trikes** are another hot market segment with new and more affordable offerings from several makers. EZB's, or Easy Bikes, such as the RANS Fusion, Giant Revive and Electra Townie are probably the biggest growth market for recumbents — but probably not for recumbent enthusiasts. Nevertheless, a lightweight EZB for quick urban commutes (like the RANS' Fusion) does interest me.

### RCN Mailing — IMPORTANT!

Please keep in mind that a standard RCN subscription is mailed third class bulk mail. We do not use second class mail like other more mainstream magazines. Our mailings are prepared eight weeks before you receive an issue. The US Postal Service will not forward third class bulk mail, so if you move, the issue

will end up in the trash and we'll be charged for notice of your new address. We must then resend a second issue via first class mail. So, unless you give us six to eight weeks notice of your change of address, we'll have to charge you \$6 (or charge your subscription one issue) to cover the issue replacement costs. We apologize in advance for this glitch in the system.

One way to avoid this is to upgrade to first class mail. Your RCN will arrive faster, in an envelope and the postal service will forward the magazine to your new address. To get upgrade information, contact us at bob@recumbencyclistnews.com.

### Letters & Broken Legs

I try to respond to most emails, and I provide many hours of free advice to RCN readers each month. However, please understand that I cannot always respond to every email, and I can't publish your letter if it will get us into legal trouble. (The last time I checked, we still had a zero balance in the RCN Legal Defense Fund.) And, of course, we can't be responsible for broken legs.

### RCN Articles & Road Tests

If you'd like to write for RCN, we'd be glad to hear from you. Our guidelines for writers are available on the RCN website, and we gladly accept article submissions. Lately we've had more articles than space to print them. At this time we have a half dozen road tests awaiting publication, and we also have test slots available for prime Spring/Summer 2005 issues. If you have touring or technical articles, we could print those right away.

Article submissions require emailed text (or CD) and photos (color hi-resolution jpeg's). If you submit artwork that needs to be scanned, this may delay publication until we get a new scanner or figure out a Plan B.

### 2005 Season Preview

Watch for our 2005 Season Preview edition coming up in RCN 086! ♦



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## Giro Road Test Article Update

I just reached 8,000 miles on my Bacchetta Giro (See RCN 084). I did my first major "service visit" at 7,500 miles which included:

1. Cleaning and repacking front and rear hubs — both were in excellent condition.
2. Replacing both brake cables — from standard braided cables to solid version. Not that they failed or needed to be replaced but the bike shop told me I would have better stopping power with solid cables and, indeed, they were correct.
3. Replacing the brake pads.
4. Minor adjustments throughout the bike.

This service cost me \$80 — not bad for 7,500 miles of riding!

I also just completed the Bike Illinois ride — 511 miles in six days — and the Giro was the hit of the ride. The other 13 riders were all roadies and by day five, they were all in great pain. Since they all gave me grief on the first day for "sitting down on the job," I must admit that I took some pleasure in seeing how they reacted to their "time in the saddle."

Mark Libner  
ms9n@comcast.net

## RCN GPS

I have been a subscriber to RCN since 1997. I thoroughly enjoy your magazine and hope you keep publishing forever. I recently read "More Fun with GPS" by Ken Huizenga (RCN 083). Since I am a gadget nut, I immediately bought a Garmin GPS V on eBay for \$250. I am having a lot of fun with this thing. It is great. I want to mount it on my Gold Rush but am having difficulty finding a mount. In the article Ken says it is easy to mount on a Gold Rush if you use a "Ram Mount". What it that and where can I get one?

Mike Manna

**Writer Comment:** A good on-line source for Ram Mounts is [www.gpscycity.com](http://www.gpscycity.com). For most bikes the four-piece Ram Mount kit RAM-B-149-GA2 (Stainless Steel U-Bolt) or RAM-B-149Z-GA2 (Zinc Coated U-Bolt) will work with

the Garmin GPS V. Just look for the product number in the drop down list for Ram Mounts on the GPS City main page. When on the web page for the kit note the instructions and view the active graphic for "PLACING YOUR GPS INTO THE CRADLE." If you have multiple bikes you can just buy additional U-Bolt mounts and then swap the other three pieces of the Ram Mount kit between bikes. — Ken Huizenga, [kenhuizenga@new.rr.com](mailto:kenhuizenga@new.rr.com).

## Recumbents Future

I recently read the results of your reader survey (RCN 083), showing the percentage of recumbent riders over 50 years of age. With baby boomers getting older, shouldn't this increase the demand for recumbents?

On the other hand, it is obvious to me that this industry is at best a cottage industry. I would like to hear your observations on why it has not been a "real" business. I think there is room for new thinking if I am right about the future potential for the recumbent bicycle.

Andy Melnick

**Editor's Comment:** Recumbents still represent a very small percentage of the total number of bicycles sold (far less than 1%). They are relatively expensive, and entry level models are heavy and don't compete well with MTB's and road bikes in either value or weight. Recumbents are perceived by many to be a type of bicycle someone has to ride if they cannot ride a "regular" MTB or road bike.

The public's acceptance of recumbents seems to be at an all-time high, but finding specialist dealers, knowledgeable salesman and skilled mechanics is still very difficult. I find that my amateur wrenching skills are still superior to dealing with a "pro" bike mechanic who doesn't really know about — or like — recumbents (I've been known to drive 2 hours round trip to get to a good mechanic). If the industry can't get products into bike shops that are willing to "sell" the benefits of recumbents, the market will simply be unable to grow.

There are several routes being taken in the quest to develop more market. Certainly the

one with the most sales potential would be new cyclists (the ones who are now buying comfort bikes). For them, most recumbents are too expensive and maybe still a bit too odd. This is where the EZBs (easy bikes) come in, such as the Giant Revive, Electra Townie and the RANS Fusion. Some feel that the huge seats, small (or odd size) wheels are just too much, yet the concept of a "flat footed" cruiser or comfort bike is very interesting. Recently a small-town bike shop owner asked me for a recommendation for the Revive and Townie. I explained my thoughts on the market. The shop bought a half dozen Townie's and sold them all in six weeks. So you might ask, why not recommend a Sun EZ Sport or Burley Koosah? The reason is that the Townie I suggested retails for under \$400. When the prices jump to \$1,000, demand decreases and the buyers are limited to knowledgeable recumbent enthusiasts.

For the enthusiast recumbent market, micro-trends can be identified in trikes, highracers and the usual recumbent styles. Long wheelbase is still the sales leader, thanks to all of Sun's models and Burley's new marketing campaign, as well as mainstays from RANS (V2 & Stratus) and Easy Racers. The SWB market has lost ground to highracers. Lightning recently discontinued their Thunderbolt and Phantom models. While most of the SWB performance riders are moving to highracers, there is still a market for all-around SWB recumbent bikes like the RANS Rocket/V-Rex and the Bacchetta Giro. I'm not sure where we go from here — but I would certainly invite comments from those in the industry.

## RCN Buyers' Guide

I was just reading the results of the 2004 reader's survey (RCN 083) when I came to this declaration: "You may be interested to know: RCN 081 was the last Season Preview/Buyers Guide issue that we'll do." I can't believe it! The only one issue that I wait impatiently for each year and you're going to dump it! I've been a subscriber since 1998 and one of the main reasons I get RCN is for the



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Your Only Excuse Is The Engine



Season Preview issue.

When I first became aware of recumbent bikes I got some information from my dealer, but most of the information came from past Season Previews of RCN. I buy most of my recumbent bikes (I've owned eleven so far) used rather than new, and I rely on the preview issues to look up prices, specifications, and reviews. It helps greatly to have this information at my finger tips instead of having to go through many issues of RCN. Prospective recumbents buyers need a convenient source for this information in order to make informed choices. The articles about "How to Buy a Recumbent;" the "Recumbent Directory;" the "Recumbent Resource Guide;" and "Types of Recumbents" are only available in the preview issues. Also, you can't possibly test all available recumbent lines in the USA in regular issues.

Many manufacturers sell different types of recumbents (SWB, LWB, CLWB's, etc.). Readers need to know what is new and what's discontinued or revamped each year. Please don't stop this important issue. If it disappears I think many of your readers will disappear too.

William Kunkle

**Editor's Comment:** *Thanks for your compliments on the annual preview issue. You can be sure that we will continue to cover recumbent news the way we always have, so that our readers will always have the latest information available. We've wrestled with the issue of repeating similar "buyers' guide" type information year after year and, instead, we plan to offer a book on recumbent "basics" in 2005. The information in this book will provide newcomers and veterans alike with valuable tools to guide their purchases of both new and used recumbents.*

## Touring Recumbents

In response to Paul Krieg (RCN 083), all our Touring Trikes, including the New GT3 Folding Trike, are designed to carry at least a 30 kg. (66 lb.) luggage load over any distance.

Our standard alloy racks are rated at 66 lbs., and tested to 88 lbs. Our optional heavy-duty racks are rated at 88 lbs., and tested to 110 lbs. We also use and recommend the Burley line of trailers for our trikes. For people who want to carry even more stuff, we offer the GTE Expedition Trike, which has a tandem rear wheel and is designed to handle 80 kg. or 176 lbs. of luggage. The GTE Expedition can also be ordered with an optional tow bar for pulling heavy-duty trailers. Finally, there is our new GTU Utility Trike, which has a load capacity of 100 kg., or 220 lbs. The GTE weighs less than 50 lbs. and the GTR about 40. We also fit a gear range from 13 to 125 inches on the GTR and GTO, so you can climb a mountain with your camping equipment. Options like the Schlumpf are available for even lower and wider gears.

Ian Sims

[www.greenspeed.com.au](http://www.greenspeed.com.au)

## Homebuilt Recumbents

Thanks for all of your excellent coverage over the years. I look forward to every issue for the latest news and developments. Is there any chance we'll hear from homebuilders again? We now have a homebuilt Tour Easy, an EconBent and a factory-built RANS V2 and EZ1 SC Lite.

Steve Lahey

**Editor's Comment:** *We continue to welcome articles from homebuilders. Homebuilding seemed to lose steam in the late '90s as the prices of recumbents came down, but a number of homebuilders seem to have found a home on the Internet. We'd be happy to share their work with our other readers.*

## Recumbent Repair Stand

I just read your informative article in RCN 084 entitled Outfitting Your Home Recumbent Shop. Here is a link and instructions on how to build your own recumbent repair stand: [www.bicyclemuterc.com/PVCWorkStand.htm](http://www.bicyclemuterc.com/PVCWorkStand.htm). This one seems to work particularly well for RANS SWB bikes. Thanks

for the excellent magazine

Jeff Green

## Recumbent Racing

I am a long-time subscriber and I really appreciate the effort and care you put into your publication. I especially like the independence of your editorials and your dedication to promoting recumbency in the bicycling world.

So I was a bit surprised to read the Editor's Comment in response to Dr. Kim Henry (RCN 084) suggesting that getting recumbents "into organized road races will be another difficult, if not impossible feat." Perhaps this was written during a moment of weakness. In any event, I would like to offer a perspective from another sport where our "non-traditional" machines have become widely accepted in the racing circuit.

I began subscribing to Multihulls Magazine in 1976, its second year of publication. At that time most trimmerans and catamarans were excluded from the racing circuit. When these boats raced with traditional yachts and won, the reaction was similar to when recumbents proved to be faster than upright bikes: "It just looks like cheating." Thanks in part to the advocacy of Multihulls Magazine publisher Charles Chiodi, multihull sailboats are at last starting to be accepted in the sailboat racing circuit. While I realize it took the efforts of many others within the sailing community to achieve this, it would have been much harder, and could have taken much longer, without the untiring support and dedication of the primary multihull sailboat magazine.

I believe that Recumbent Cyclist News and its supporters have the same role to play in the bicycle community. As the recumbent bicycle community matures, we will be accepted in the racing community just as we have started to be accepted in the recreational bicycle community. Thank you again for all the support you have given this innovative and forward looking human-powered transportation movement.

David J. Cunningham  
[directascent@earthlink.net](mailto:directascent@earthlink.net)

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**Editor's Comment:** Thanks for your kind words. I was very surprised that we received so few letters responding to my very pointed comments about bicycle racing. But I still think the outlook is bleak. Bicycle road racing is a team sport and I don't ever see it happening with recumbents. We would have to infiltrate the various local racing organizations and would need dozens of fit recumbent racers all over the country. Right now, human-powered vehicle racing is poorly attended and there are very few races. There is no movement whatsoever to get recumbents into road racing. If the

restrictions were ever lifted, there would have to be a recumbent racing organization and some racing teams ready to show up at professional bicycle races. Then we would have to decide what constitutes a raceable recumbent. A SWB, LWB, highracer, or lowracer? I can hear the arguments now: "That (LWB) bike is too long." "I'm afraid the chain ring on that bike (SWB) will cut open my rear tire." "I can't see that bike (lowracer). It's too low." Come to think of it, a highracer might have a chance. Hmmm. ♦

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# Recumbents On The Web

In case you just can't endure the eight weeks between RCN issues, there is a lot to read about on the recumbent web (internet). The following, in alphabetical order, are the active newsgroups and forums for currently available recumbents that we know of. If you know of any other active groups, please let us know. Also, let us know if you'd like to see an RCN Yahoo (or similar) group.

## ActionBent

<http://sports.groups.yahoo.com/group/actionbent/>

Members of this group share stories, tips and tricks about the ActionBent recumbents they've purchased on the Internet.

## ARBR Newsgroup

[Alt.rec.bicycles.recumbent](http://alt.rec.bicycles.recumbent) (search for this at Google Groups)

This was once the most popular recumbent newsgroup, but it turned into a soapbox for personal opinion and politics for a select few. On any given topic, about 10% of the posts contain good information.

## Bacchetta

There are two Bacchetta groups, the website forum and Yahoo group.

[http://sports.groups.yahoo.com/group/Bacchetta\\_Bikes/](http://sports.groups.yahoo.com/group/Bacchetta_Bikes/)

<http://bacchettabikes.com/forum/>

The Bacchetta Yahoo group has become one of the most popular places on the internet for those who like to discuss their favorite brand of highracers.

## BikeForums.net

<http://www.bikeforums.net/>

This bicycle forum has a permanent recumbent topic, though it seems mostly for newbies.

## BROL

<http://www.bentrideronline.com>

Our friends at bentrideronline.com have the most popular 'bent web board on the Internet.

## Burley Bent Riders

<http://www.smartgroups.com/groups/burleyriders>

There are good tips and technical discussions on items relating to Burley recumbents.

## Catrike

<http://p216.ezboard.com/bcatrike>

## Easy Racers

<http://www.easyracers.com/vbb/>

This forum is at the Easy Racers website and is a must-read for fans of Easy Racers and Sun recumbents.

## International Human Powered Vehicle Association

(IHPVA) (HPV & Trike lists)

<http://www.ihpva.org/mailman/listinfo>

The IHPVA sponsors a number of public mailing lists, including a very active trike list and discussions about several forms of human-powered vehicles. You will have to subscribe in order to post, but you can read the archived messages without subscribing.

## Linear Bicycles

<https://listserv.indiana.edu/archives/linear-l.html>

## RANS

There are two RANS groups:

<http://www.smartgroups.com/groups/ransownersgroup>

<http://sports.groups.yahoo.com/group/RANSbike/>

## Volae

[http://groups.yahoo.com/group/Volae\\_Recumbents/](http://groups.yahoo.com/group/Volae_Recumbents/)


A gathering place for Volae owners and interested purchasers.

## Others

There are also lists for BikeE (send email to: [bikee-list-subscribe@earth.org](mailto:bikee-list-subscribe@earth.org)), Vision (Yahoo: [vision-bent-owners](mailto:vision-bent-owners)), Trek (Yahoo: "Trekent").

If you are aware of any other active internet recumbent groups or forums — please let us know: [bob@recumbencyclistnews.com](mailto:bob@recumbencyclistnews.com). ♦

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# Classified Ads RCN

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**FOR SALE: WIZWHEELZ TRIKE,** exc. cond., orig. tires, \$1000. Contact Jack, tel. 770-445-5031 (085)

**FOR SALE: WIZWHEELZ TERRATRIKE 3.0.** Very good cond., used little, I have brain cancer and can no longer ride it. Jason 727-561-0620 (Tampa, FL/085)

## LWB For Sale

**FOR SALE: RANS STRATUS,** exc. cond., orig. tires, \$1000. Contact Jack, tel. 770-445-5031 (085)

**FOR SALE: 1999 EASY RACERS GOLD RUSH,** white, small frame, low miles, Koolback seat, extra tubes & tires. Great shape \$2000. Tom Tel. 302-798-6660, pubtext@yahoo.com (DE/085)

**FOR SALE: 2001 Easy Racers Tour Easy M/L frame:** Includes fork, headset, and disk brake adaptor. I'm upgrading to Gold Rush frame. \$700. jcsebs@hotmail.com (085)

**FOR SALE: 2002 Tour Easy EX (Black) M/L frame,** 24-spd., Exc. cond., <1600 miles, Super Zzipper fairing, koolback seat, fenders, rear rack, computer + extras \$1800 + shipping dprince@wideopenwest.com (085)

**FOR SALE: 2004 Sun EZ Rider AX (aluminum),**20/20 wheels, silver, rear suspension, Primo Comet tires, RCN test bike \$849 + shipping. bob@recumbencyclistnews.com or 360-379-5607 (WA/086)

**FOR SALE: VISION RECUMBENT LWB, USS.** Like new, can no longer ride due to age. Ray 360-671-3639 (WA/086).

**FOR SALE: 2000 RANS STRATUS,** dark green low miles, rack, kickstand, bag, Cateye micro. \$900 OBO. 859-846-5074 or rcsilver@hotmail.com (086)

**FOR SALE: 2003 RANS VELOCITY SQUARED,** very few miles, 64" wheelbase, SRAM 9.0, 27-spd., black, Mueller fairing. \$1200. Call Dave Burgess @ 256-549-3888 (086)

**FOR SALE: 2003 EASY RACERS TOUR EASY,** size M/L, black, Gold Rush component upgrade (105/ Ultegra), rear disc brake, composite fenders, 2 wb cages, double leg kickstand, 2 frame bags. \$1850. Bike In exc. cond., Zzipper is well worn. RCN 079 test bike. Tel. 217-632-3917 (IL/086)

## CLWB For Sale

**FOR SALE: Sun EZ-1 CLWB,** 200 miles, blue, like new. Cost \$500; price \$400 + shipping. Will deliver free in NYC metro area. GreenwoodDL@comcast.net; 201-432-9599 (085)

**FOR SALE: 1996 ReBike.** Good cond., low-mi., black, 18-spd., 26"/16" wheels. Very comfortable. \$100 + packing and shipping. Scott 860-664-4481 (085)

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## SWB For Sale

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**FOR SALE: LIGHTNING R-84.** carbon fiber; 19 lb., light and fast, F/R susp., White Ind. hubs, wide-range gearing, incredible climber. Exc. cond., \$3500. Ed 202-544-0073 or zyme20003@aol.com (Wash. DC/085).

**FOR SALE: VISION R-40 SWB** 1 year old with kickstand, headlight mounted, seat bag, rack. Low miles, exc. cond. \$1000. Located near Columbia, SC. profjrjrowe@yahoo.com (SC/086)

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**FOR SALE: 2003 RANS FUSION** exc. cond. low miles!! Lightweight and very comfortable!! 500 + Packaging and shipping!! Contact Nancy 678-296-3302 or nlholden@bellsouth.net. (086)

## Publications

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## Recumbent Wanted

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**WANTED: EASY RACER TOUR EASY OR GOLD RUSH,** Sm/Med frame. Please contact Leah at (309) 274-4234 or at circ@mchsi.com (085)

## Home-Built For Sale

**FOR SALE: FRONT WHEEL DRIVE,** 42" wheelbase, cranks swing (Tom Traylor style), 12-spd. (one piece cranks), 27"/20" wheels. Experience FWD for cheap! \$400 + shipping. Tom 207-583-4183 (085)

## Bike Trailer

**FOR SALE: QUIK-PAK TRAILER** ([www.quik-pak.com](http://www.quik-pak.com)) New 7/04. < 50 miles. Like New with high pressure tires \$225. bob@recumbencyclistnews.com or 360-379-5607 (WA/086)

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## RCN Back Issues

### RCN BACK ISSUES FOR SALE:

(Regular stock RCN issues)

**RCN 081:** 2004 Season Preview/Buyers' Guide.

**RCN 082:** Bacchetta Corsa; Sun EZ tandem.

**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:** Catricle 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;

**RCN 070:** Lightfoot Ranger

**RCN 071:** Rotator Pursuit; Cycle Genius STX; Pantour

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