

# Recumbent Cyclist News

RCN 090 A Publication by and for Recumbent Enthusiasts — Since 1990 Sept/Oct 2005



Randy Schlitter and the RANS Stratus XP 26x26, see page 8



2005 Bacchetta Giro 26, see page 11



2005 Catrike Speed Review, see page 14



The Barcroft in the Point Hudson Marina, Port Townsend, WA

## The Barcroft Dakota

By Bob Bryant

*"The Dakota is a versatile recumbent bike. With narrow tires and no fenders, it is a fast touring bike. With wider tires, fenders, a rear rack and an under-seat rack, it is an ideal commuter or touring bike. One customer who has been making loaded tours for two decades had Barcroft equip a Dakota as a loaded touring bike. He reports that nothing in his touring history comes close to the Dakota as an excellent touring bike" — Bill Cook, Barcroft*

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

**BIKE:** Dakota  
**BUILDER:** Barcroft  
**ORIGIN:** US  
**STYLE:** SWB OSS  
**USE:** Touring/Sport touring  
**PRICE:** \$1,995

The Dakota is a versatile short wheelbase (SWB) over-seat steering (OSS) recumbent that can be used for just about any purpose. The Dakota is longer, lower than many other SWB models. It has an incredibly smooth road feel as well as very lively, yet stable road manners. It has seemingly everything you'd want in a SWB OSS recumbent bicycle.

Barcroft bicycles are assembled one at a time in Virginia. The main frame tube is custom-bent in Baltimore, MD. The frames are then brazed in Santa Rosa, CA, painted in upstate New York, and then sent to Virginia for assembly. The bikes are assembled in this unique process that is more about building a fine quality bike than it is about the bottom line — which is unique in the bicycle industry.

### COMFORT

Our Dakota came stock with a RANS seat on the old-style RANS slider. The RANS seat is superbly comfortable with

*Continued on page 21*

## Recumbent Cyclist News

Recumbent Cyclist News was published by Bob & Marilyn Bryant from 1990-2007, 101 issues. RCN was closed in December of 2007 when it became no longer financially feasible to publish a print newsletter. [bryantrj@gmail.com](mailto:bryantrj@gmail.com)

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## Editorial License: Ramblings

by Bob Bryant, Publisher

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

### RCN TRIKE MAG!?

People either dig trikes or they don't. I'm starting to wonder if there are geographic limitations to recumbent trike popularity. They don't seem as popular in the Northwest, perhaps due to our crazy, busy traffic, streets, hills and/or lack of dealers specializing in them.

I got an email from one dealer who was very concerned; in fact, so much so that he thought RCN issue sales were suffering because of our recent increased trike coverage.

We love to test trikes, but RCN will not become a trike-specific magazine. We hope to achieve a balance of trike and bike road tests in RCN. While we admit to an overabundance of trikes to test lately, we're hoping that this motivates some manufacturers to offer us some sleek new two-wheelers. On the other hand, many of our biggest advertisers are trike builders and they must be selling trikes. This tells me that it is a huge growth market.

### GAS

Needless to say the price of gasoline is on many people's minds these days. While I feel that everybody should try to park their car and ride a bicycle (imagine the money you'd save), I understand that this is not reality for most. Below are some ramblings and some good web surfing. Perhaps it will plant a seed and get you out of your car and into something more economical.

To figure out how much your costs to run, visit: [www.bikesatwork.com/carfree/cost-of-car-ownership.html](http://www.bikesatwork.com/carfree/cost-of-car-ownership.html). I've seen typical family cars costing upwards of \$700 per month (\$8,400 per year) to run. Now consider the taxes you paid to earn that \$8,400.

You can learn more about the cost of car ownership here: [www.bikesatwork.com/carfree/](http://www.bikesatwork.com/carfree/). And don't forget this wonderful book, *Divorce Your Car*, by Katie Alvord: [www.newsociety.com](http://www.newsociety.com).

### DUMP THE CAR!?

Sadly, it is not currently possible for us to go without a car. Between our two kids, our Jack Russell Terrier, "JR," and living out here at the end of the Known World, we need motorized transportation. Both Marilyn and I are ready and willing to give up our car at some point in the future. There is no doubt; it is inevitable. We've lived without one before, and we can do it again.

What we can do NOW is use our car less. We have two Burley trailers, a Flatbed (for JR and stuff) and a Nomad (for groceries).

We live on the bus line. Both of our teenagers have summer bus passes. We have 1.5 bicycles per person in our household (a few extras in case of breakdowns).

### RUNNING OUT OF OIL

There are lots of places on the Internet to learn about our latest energy crisis. Google "Peak Oil," or visit this website and/or rent the award-winning DVD, *End of Suburbia*. [www.endofsuburbia.com](http://www.endofsuburbia.com). I've read two excellent books this summer: *The End of Oil*, by Paul Roberts and *Sleeping With The Devil: How We Sold Our Soul For Saudi Crude* by Robert Baer. I highly recommend both books.

As I'm putting the finishing touches on this editorial, GM has announced their huge losses and difficulties competing in the global automotive marketplace. I wonder when they'll wake up and realize that the time for giant SUVs and gas guzzlers is OVER. We need dependable, clean burning and affordable transportation — like the wonderful (and now discontinued) Toyota Echo and Suzuki Sprint or Chevy/Geo Metro?


### BIO-DIESEL

I don't advocate burning any type of fuel as there is always air quality to contend with; however, there are some interesting options. Biodiesel fuel can be made from cooking oil or even hemp seeds (as seen in Woody Harrelson's movie, "Go Further," about his SOL Tour (Simple Organic Living) and bike ride down the West Coast with a hemp biodiesel-powered sag bus. [www.gofurtherthemovie.com](http://www.gofurtherthemovie.com). In our town there BioDiesel is sold locally and our city busses run on it [www.biodiesel.org](http://www.biodiesel.org).

### 100 MPG

I ride my bike a lot, but as many of you know, my long time friend and fellow recumbenteur, BJ Strass, publishes the cool magazine called "Scooter Rider Magazine." [www.scooterridermag.com](http://www.scooterridermag.com). Many 50cc-150cc motor scooters can achieve 100 mpg.

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# Recumbent News

## BICYCLES BY HALUZAK

We had not heard from Bill Haluzak since 1998 when he gave me a call a while back. He just wanted to check in and let us know that he is still building bicycles. He offers his delta trikes, and SWB USS models: Horizon, Leprechaun and Hybrid Race. He sells framesets (\$1100-\$1455) and complete bikes direct to customers. He also has a few dealers building framesets into complete bikes, including, Angletech and Spring Creek Recumbents in Colorado, and The Bike Rack in Illinois. There may be more dealers, call or email to find out more: <[www.haluzak.com](http://www.haluzak.com)> or call 707-544-6243.

Source: RCN

## ELECTRIC ASSIST

The folks at Greenspeed have been experimenting with this e-assist motor: <[www.bionx.ca](http://www.bionx.ca)>. Greenspeed's Paul Sims wrote, "I'd have to say it is the most impressive electric assist I have tried to date. It is very intuitive to use, especially as there is no accelerator to twist! It is activated by pedaling, so as the name implies, it assists like a bionic limb would.

The other big bonus is that it has regenerative braking so it tops up your battery on the downhill or even just with application of your normal brake lever. It has four levels of assist and four levels of braking, awesome for those long downhills where you don't want to ride the brakes.

Source: Greenspeed

## ZAP ePOD

Zap, the electric California electric car company is now marketing an electric-assist tadpole velomobile. The trike has a monocoque body with a full tilt forward canopy with lexan windows, an 8-speed hub drivetrain, full suspension, hydraulic disc brakes and joystick steering. The ePod has a range of 20-45 miles (with pedaling) and will cruise at up to 20 mph (without pedaling). <[www.zapworld.com/cars/epod.asp](http://www.zapworld.com/cars/epod.asp)>

Source: RCN

## EASY RACERS RUMORS

Easy Racers is rumored to be working on a carbon-fiber fork for their Gold Rush and TiRush models. The new fork is said to be about one pound lighter than the current fork. In other news, Easy Racers has new dropouts with a disc tab for the Tour Easy, and are working in a new direction, performance MWB. To see more visit the <[www.easyracers.com](http://www.easyracers.com)> forum under "General Discussion" and "Cats and Bags." We have no other info on this bike.

## GREENSPEED INTRODUCES X-SERIES TRIKES

The X5 is a balance of practicality and performance. Greenspeed announces its new breed of trike: The X-series. Following the GT-series (GT3 & GT5) of quality affordable recreation and commuting trikes, the X-series is for those who like to go faster, corner harder and be more laid back. If you want something sportier than the GT5, or something easier to transport than the GTS or GTX sports trikes, this is your trike. Its balance of practicality and performance, places it in a similar category as the GTS.

With recumbent races are few and far between. We wanted a new line of sports trike that was easier to transport to your favorite century ride. The X-Series of trikes mirrors the GT-Series, but is a sportier version of the

folding trikes. But don't let the folding fool you, these trikes are built from the ground up as a fast trike.

The steering we use is a hybrid from the SLR Low racer's camber with extra caster angle, so it can be cornered hard but with the practical under seat steering handle bars of the GT5. This gives you more control than the *side stick* steering, with a tighter turning circle. Due to the cambered wheels (front wheels tilt inwards at the top) the overall width of this trike is narrower than the GT-series trikes but has the same track width. We use the 30° seat as it's a nice balance between comfort and being streamlined. The X-series is designed to take a carbon fiber seat that puts the rider even lower to the ground as an optional extra and will take the same rack as the GT-series.

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*The Greenspeed X3 trike*

The X5 will be offered with yellow gold paint work and the navy blue seat. Equipment spec is the same as the GT5 with 105/Capreo drive train and 4 pot hydraulic Gator Disc brakes. The wheels are hand built with 24 spokes per wheel and have the Scorcher tires. The lighter weight frame is also hand built in Australia. Suggested retail is \$3,245 USD. The X3 is also on the cards with a Tiagra / Capreo drivetrain and drum brakes. Prices are to be announced.  
Source: <[www.greenspeed.com.au](http://www.greenspeed.com.au)>

**KMX KARTS IN THE USA**  
**Born in Britain. Unleashed in America!**

Innovative trike company KMX Karts Ltd, producers of the award winning 'K Class KMX' and 'X Class KMX', are proud to announce that their quality products are now available in the USA through American Distributor KMX America.

KMX Karts prices range from \$449 for the 'K Class' to \$1299 for the X Class. <[www.kmxus.com](http://www.kmxus.com)>.  
Source: Press release

**GIANT VS. BIKEE**  
**Giant Wins Judgment Against Former BikeE Investors**

A federal judge ordered two of BikeE's former investors to pay Giant more than a quarter-million dollars for bikes the Taiwanese manufacturer delivered to the now-defunct recumbent bike company, which had not paid for them.

Federal magistrate judge Thomas Coffin ruled that John Acres, a major investor in BikeE and its one-time president, and his partner

Richard Carone will have to pay Giant \$254,610. Coffin also awarded Giant attorney fees and ordered that "other appropriate assets of BikeE are to be made available to Giant for purposes of satisfying its judgment against BikeE for breach of contract."

Coffin focused his ruling on BikeE's July 18, 2002 sale of 627 CT model bicycles to Bigha Manufacturing, a company Acres had founded in April of that year, for \$254,610. Giant had manufactured the bikes for BikeE, had not been paid for them, and had a secured interest in them, all of which the defendants knew, the judge ruled.

BikeE then used the sale proceeds to pay debts it owed Acres and Carone, bypassing Giant.

The sale itself was not illegal, since Bigha paid BikeE, the judge found. But "BikeE's sale of the CT bicycles to Bigha with the specific purpose of transferring the proceeds to Acres and Carone, however, was wholly inequitable and inappropriate," Coffin wrote.

Coffin had ruled in July that BikeE owed Giant more than \$370,000, plus interest and attorney fees. BikeE ceased operating in 2002, however, and was unable to pay the judgment, so Giant pursued Acres, Carone and Bigha for payment. Whether BikeE has any remaining assets that will close the nearly \$125,000 gap between the judge's award this week and the total owed remains to be seen.  
Source: Reprinted with permission from Bicycle Retailer.  
<[www.bicycleretailer.com](http://www.bicycleretailer.com)>

**GREENSPEED TO OFFER STAN'S NO TUBES**

From Greenspeed: We have now received the first batch of sample rim strips from Stan for the "NoTubes" System, and have been testing the system. Rim strips made for the standard 20" GTR, GTO and GTT wheels, using the Jalco DD32 rims and Scorcher tires seem to work fine. One of our disabled customers, David Bryce in Queensland, Australia, has been testing the system on his GTO. He found a significant improvement in his average speed over using thornproof tubes, and has found complete protection from thorns and broken glass.

Rims strips supplied for the 16" x 1 3/8" Jalco rims as used on the GT3, also worked fine with the Primo Comets, Schwalbe Marathons and the Greenspeed Scorchers.

We used 1" and 2" nails to test the "NoTubes" system with a range of tires. All tyres sealed immediately after penetration and withdrawal of the 1" nail at pressures up to 100 psi. With the 2" nail there was some loss of fluid and air at 100 psi, but little at 60 psi. The best tire was the Primo Comet with the Kevlar belt, which required more force to both penetrate and withdraw the nail from the tire.

You can order No Tube on your Greenspeed, or find more information at: [www.notubes.com](http://www.notubes.com)

Source: Greenspeed press release

*Editor's Comment: We had a GT3 here last Spring outfitted by Greenspeed with the new and Greenspeed Scorcher tires and Stan's Notubes. Throughout our brief test, the system worked great and we had no flats. This trike seemed particularly fast — thanks to the new fast Scorchers, and perhaps less rolling resistance of the Notubes. Unfortunately, this system won't work for you UNLESS you order your new Greenspeed with it, or your recumbent uses fat MTB tires and 26" wheels.*

**BiGHA NEWSGROUP**

If you ride a BiGHA recumbent, or want to learn more about them, there is a new Yahoo group for owners:  
<http://sports.groups.yahoo.com/group/BIGHARIDERS/>

**2006 CALENDAR**

Please send us your ride events for the 2006 season, to:  
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# Recumbent Tip

## FINDING V-BRAKE PADS THAT DON'T RUIN RIMS

By Bob Bryant

I hate most V-brake pads. They are thin, abrasive, wear out quickly and often destroy rims in wet weather. My friend Kent Peterson is training for the Great Divide Race and rides a Redline Monocog one-speed MTB. He also commutes year around on this bike. I asked him what brakes he would be using for the race (The Monocog has V's, but will accept disc brakes). He's into simplicity with his bikes (one-speeds) and isn't into high tech bike parts.

He suggested that I get some Kool-Stop cantilever (threaded) replacement pads, which are thicker and wear better than the longer thinner V-brake pads. I used these on recumbent bicycles with side-pull brakes back in the early 90's, so I just happened to have a set in my spare bike parts box.

My bad weather bike has Tektro V-brakes. The first set of pads wore out in 1,000 miles; the second set in 800 miles. The second pads were after-market MTB pads, and have some abrasive crap mixed in with the pad compound — perhaps a plot to ruin rims!? I removed and tossed out the very abrasive rim sidewall munching MTB pads and mounted the Kool-Stop brake pads.



*Kool-Stop Eagle Claw threaded cantilever replacement pads. Note the shorter thicker pads. These have lasted longer and been less problematic than other V-pads I've tried.*



*Common V-brake pads, these are Kool-Stop Thinline models.*

You may have to play around with your washer stack on each pad (save your old pad's mounting hardware), but I eventually got it right. The brakes are smooth, quiet, soft-feeling and they stop great. No more abrasive fingernails-on-the-chalkboard V-braking for me. This may actually get me another year out of the rims, which are grooved badly from the abrasive pads.

### WHAT YOU NEED TO KNOW

Kool-Stop makes both cantilever replacement pads and V-brake-specific pads. The cantilever pads are thicker, will last longer, and are sometimes less expensive

I use the basic black Kool-Stop Eagle Claws which are about \$9 per pair. The salmon-colored Eagle 2's are supposed to be better for diverse weather conditions, but my Eagle Claws work great on my rain bike.

If you don't go through pads that often, buy the V-brake-specific Kool-Stop Thinline threaded pads. They are about \$12 per pair.

If you ride in bad weather, consider the Kool-Stop Eagle 2 (salmon), Kool-Stop Eagle Claw (black) or Kool-Stop Supra 2 (salmon). They are about \$13 per pair.

For more info on Kool-Stop brakes, visit: [www.koolstop.com/brakes/index.html](http://www.koolstop.com/brakes/index.html)

Another quick brake selection tip: Kent suggests that you choose a simple V-brake, one without fancy linkages and pivots. He calls the fancy high tech V-brakes "squeal factories." ♦

An advertisement for RANSBIKES. The top section features a large image of a recumbent bicycle with a grid background. Above the bicycle, the text reads "UPRIGHT + RECUMBENT = FUSION". To the right, there are icons and names for bicycle models: "CRUZ", "DYNAMIK", and "ZENETIK". Below the main bicycle image, there are smaller images of people riding different styles of bicycles. At the bottom, there is a banner for "SHAPE HAPPENS T-SHIRTS AND MANY MORE ACCESSORIES AT WWW.RANSBIKES.COM". The RANSBIKES logo is prominently displayed in large, stylized letters. Below the logo, the address "4600 HIGHWAY 183 ALT. HAYS, KS 67601" and phone/fax numbers "PH. 785.625.6346 FAX. 785.625.2795" are listed.

# Letters to RCN

If you have a comment, or a differing view or experience, send us a letter. Please limit your letter to 300 words. We reserve the right to edit for clarity, content and space limitations. Write: <bob@recumbencyclistnews.com>.



Harvey Stackpole's V2 with custom 16" wheel and drum brake. Photos by Ralph Rishty

## CUSTOM RANS V2

In October of 2004 I bought a RANS V2 from a friend. It's one of the original, a 2000 or 2001. This is the 11th recumbent I've owned. It was exciting at first. After a month or two my knees and hips were constantly sore. Even though the bottom bracket (BB) height was not extreme, it was too high for me. I had never owned a bike with such a high BB. I either had to sell it or lower the BB. I didn't want to sell it because I liked the bike. The only way to lower the BB was to put a smaller wheel on the front. After I sold my Turner SWB, I told myself I'd never have another 16" wheel. However, there wasn't a lot of weight on the front, and if I was going to sell it anyway, what did I have to lose by trying?

I went down to Ajo Bikes here in Tucson and took a 349mm 16" from a Turner and put it on my V2. With no preconceived ideas of what would happen, I took off and was amazed at how well it handled. The tiller had almost disappeared. The smile returned to my face. I lowered the BB two inches. I wanted to make sure this was a good thing so I borrowed the wheel and rode it on my usual ride around Sahauro National Park. This is a difficult eight-mile loop which includes a 1.5 mile climb which we humbly call Cardiac Hill. The handling was superb with very little tiller even in the granny gear (24/39/52 crank and 11-32 cassette). The bike isn't any faster, but it was no slower either. It is still a heavy bike and a slug on a long steep climb. That's okay, as it does everything else well. The climbing is getting better as my body adapts to the bike.

The brake problem was solved by using a terrific Sturmey-Archer drum Brake. It's strong, quiet, and smoother than the LX hub it replaced and the drum brake is as strong as the SRAM 9.0 V-brake that came with the bike — maybe even stronger.

I'm using the new Greenspeed Scorcher tire. It's good looking, tough, and rolls well. In this application, I can't tell much difference in the two wheels. It has a tacky compound and grips the road well. The front end is very stable at all speeds, especially in fast switch-back type turns. I've had it through a lot of debris and there's hardly a scratch on it. It's too bad it isn't available in a 559mm 26" wheel.

These results are only for me and may not work for all. It's a better bike in every way. I didn't try a different fork since it worked so well with the RANS fork.

I know that big wheels are the IN thing now, but big isn't necessarily better. It depends on the application. In most cases a 20" or larger is better. In this case I got a better handling bike without giving up any speed. I feel much safer with it in traffic and my knees and hips no longer hurt.

Notice that the seat cushion is 3" filter foam. It isn't attached to the pan. When you're sitting on it, it doesn't move. It's comfortable and breathes well. The 3" foam holds up well. I've had it for four or five months and it is still fine.

We need to keep an open mind, whether it is wheel size or crank arm length. The fact that we ride recumbents at all should open our minds to any possibility. The bicycling industry has done a good job of programming us. Sometimes we need to forget the *experts* and just do whatever works, no matter how silly it may seem.

Harvey Stackpole  
stackpole2@hotmail.com

## CATRIKE POCKET RT

I picked up my new Catrike Pocket on Wednesday from Hostelshope in Wisconsin. It was an eight-hour round trip, but worth it as Pockets seem to be rare. I can tell right away that hills are NO longer a problem. Between the light weight and the aerodynamic design, I feel like I am just flying through the neighborhood instead of crawling!

I DO like the direct steering! It gives me a great sense of control. I guess I do like the quickness of it. I will update you after I get in a lengthy ride, but I can tell already that I am going to do much better than on my Sun tadpole.

Donna (via email)

## ROTOR CRANKS FROM A NON-RACER

I'm a Randonneur and I'm into riding brevets. I have Paris-Brest-Paris in mind for '07. I first installed my Rotor Cranks on my T-Bone the night prior my 100K Populaire on March 5, 2005. I wanted to test them on a ride where I could really feel the difference. It took only two to three miles to get used to them. After five miles, they felt no different to me than my usual crankset. I liked them. Two weeks later I did another 200K brevet. After 350 miles I'm thinking the Rotor Cranks are going to stay on the bike.

My non-scientific opinion of the Rotor Cranks is that they help you when you're NOT spinning, but when you are starting from a dead stop, on steep climbs, and when accelerating (when you put the pedal to the metal).

Are they worth it? Some people spend over \$1,200 for a wheelset in order to try and shave ONE MINUTE off a 40-mile time trial. I truly believe the Rotor Cranks can do the same. I feel that YES, the Rotor Cranks are worth it.

So, the Million Dollar Question (more like \$1,000) is, do they make me faster? My cruising speed is about the same but, I can honestly say that my top-end speed (when sprinting) and my climbing speed have gone up at least one mph. Also, the steeper the grade, the happier I am that I have them. Maybe because it's harder to spin when the grade gets into double-digit percentages.

Tony Licuanan



## ROTORS & TRIKES

In response to "RCN Newbie's" question about Rotor Cranks in RCN 088: After 10,000 miles on my Bacchetta Giro, I put on a set of Rotor Cranks. Now I only have one issue: How fast can I save enough money to put them on my other bikes?

They are expensive, yes, but worth every dollar. I have no more joint pain. This is one product you have to try! But I warn you, I believe you will never go back. The only complaint that I have is they did not come in 160mm. My Giro came with 170mm cranks. Going for the "shorter is thought to be better idea" I really wanted 160mm. But Rotor's come in 155mm, 165mm, 170mm and up. I was not ready to try the 155mm as a first shot but I am considering it for my next bike after riding 500 miles on the 165's. Sign me up for the *Shorter Is Better Club*. What a combo — shorter Rotor Cranks.

I loved the articles on the trikes but wondered why you did not include any delta trikes. Anyone seriously considering a trike really must also look at the high-end delta trikes as well. Owning not one, not two, but three Hase Kettwiesels, I can tell you that many of the handling issues with the Tadpoles do not exist with the Kettwiesels. And the option to put them in tandem is really sweet. Yes, there are always tradeoffs, but the latest versions of the Kettwiesels can be purchased with a system that drives both rear wheels, which may just make it the ultimate trike.

Mark Libner  
NS9N@comcast.net

**Editor Comments:** *We didn't discuss deltas because the article was about tadpole trikes that sell for under \$3,000. There really aren't many deltas to choose from if you focus on affordable lighter weight enthusiast models.*

## TRIKES

Thanks for your issue on trikes. I thought you might be interested in our experience. My husband and I each own an ICE trike, and this will be the fourth year that we pack them in bike boxes, take them to Europe as luggage, reassemble them, and go on a week's bike tour on our way to a conference. (Trikes travel free on international trips on our airline.) We have taken week-long tours in Sardinia, Northern Italy, Switzerland and Australia, and this year we will be going to Ireland. We take a self-guided tour, so routes, hotels and luggage transport are arranged by a local tour organizer. Generally the routes are about 50 km a day. Most trains in Europe are bike-friendly, and occasionally we have taken the train with our trikes to cut short a ride in very bad weather.

We have our trikes outfitted with a rear rack to which we clip one or two grocery bag carriers, simple panniers that fold down

to accommodate a grocery bag. This allows us to get in training rides as we shop around home. We have fenders, mirrors, headrests, and 81 gears: The usual 27 gears plus a SRAM DualDrive. This gives us a very low gear for spinning up steep hills. While a trike is too wide for single-track, and very steep gravel paths sometimes cause the rear wheel to spin, we have taken on the roughest trails and steepest hills with ease. I take my time going uphill, and when I get tired I just stop pedaling, sit back and rest. When we get to the top, my husband loves to race down the other side. Even though a front tire popped on him as he did this one day, there was no worry about falling over and breaking a leg, as he did once on our tandem recumbent.

I can't say enough good things about tricycles, and I'm glad to see that others are beginning to discover them.

Mary Poppendieck

## EASY RACER BIKE COVER

Each year my extended family participates in the fantastic Pan-Massachusetts Challenge, a two-day, double-century charity ride. I do the ride on my Tour Easy, and we always extend the trip to spend the rest of the week on Cape Cod. This year, we've found a new motel, and it has only one drawback, as far as I can tell: a strictly-enforced prohibition against storing bikes in the rooms. (The motel was recently renovated, and the owners apparently fear damage to the rooms.) I'm looking for an affordable solution to the problem of protecting my Tour Easy, which will have to be locked and stored outside when I'm not riding it that week. I'm concerned about it being out in the weather and salty sea-air all week. Any recommendations on some sort of cover that will protect my bike from the elements? I found the "Protect Bicycle Jam" on the Adventure Cycling Association website <[www.adventurecycling.org](http://www.adventurecycling.org)>, but it's not big enough to fit the Tour Easy. I sure would appreciate some creative (and hopefully, inexpensive) ideas for keeping my bike from oxidizing, etc.

Steve Heller

**Editor's Comment:** *We wrote to Laurie Smith at the Easy Rider Recumbent Club to ask if she had any information on either item, and here is what she said, "My mother and I designed and currently sell water-resistant seat covers (\$18.95 + shipping/handling) made of Teflon coated Lycra. The ERRC Magazine also featured an article a few years ago on how to make your own custom-fitted bike cover. A copy of the article is available for \$3. Email: [ERRCMagazine@hotmail.com](mailto:ERRCMagazine@hotmail.com) Mail: Laurie Smith, PO Box 1688, North Plains, OR 97133-1688*

*Other ideas include:*

1. Tyvek house wrap sewn with a surge

*sewing machine.*

2. A Scooter or motorcycle cover
3. A plastic tarp with grommets and bungee cords

*You might also want to consider Frame Saver spray to keep the inside of your steel frame from rusting. Leaving your \$2,000+ bicycle outside, unattended in the rain is not a good idea. Another idea is to find another motel that caters to bicyclists by offering a storage room, basement, etc.*

## RECUMBENT HITCH RACK

I'm looking for a car rack for my new Sun EZ Rider. It fits on the saddle-type rack I have, but I end up with grease from the chain all over me. A tray-style systems like Sportworks' Universal bent rack looks perfect, but they are in the process of a merge with Thule. (Racks were not available at the time the letter was emailed to us — Ed.). Would you have suggestions?

VGK (via email)

**Editor's Comments:** *Check out:*

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

[www.badgerrack.com/recumbent.htm](http://www.badgerrack.com/recumbent.htm)

*I haven't tried either, but both look like they'll work. As for roof racks, here are the two:*

[www.atoc.com](http://www.atoc.com): *These work great.*

[www.topperfloats.com](http://www.topperfloats.com): *I haven't tried these.*

*Be sure you take a copy of this email to your local recumbent bike shop so that they can look into stocking them.*

## TRIKE BRAKES

In "How to be a Recumbent Tricyclist," (RCN088) your experience with disc brakes seems to be a lot different than mine. I have a WizWheelz TT 3.4 with Shimano Deore disc brakes. I've ridden about 7,000 miles on the road, and have never had to adjust them. All I've ever done for maintenance is lube the cables after a wet ride, and I live in a fairly hilly area.

The rest of this comprehensive article filled in a lot of blanks for me, and will be a big help as I continue to mildly modify my mount. I bought this trike originally even though I thought I couldn't afford it, because I had low speed balance problems (read stop/start and hills) with a used 'bent bike. After making the switch, the improved ease of use, safety factor, comfort and just plain coolness factor made it a no-brainer. I'd never go back to two wheels. The icing on the cake turned out to be the \$400 per month reduction in medical bills over the first two years. Outside of marrying my second wife, it's probably the best decision I ever made.

Fred Swift

... Letters continued on page 28



*This is our prototype RANS Stratus XP XL. The main change on production models is that the top tube comes rearward towards the seat four more inches.*

## RCN Road Test: The RANS Stratus XP

By Bob Bryant

*There is a cool feel to the big wheels on the Stratus XP. The bike no longer handles so much like a bent, but feels more bike-like with the same size wheels.*

*The big wheels also make the bike roll easier. All combined produces the experience I was looking for when I started with bents three decades ago.*

*The Stratus XP tracks arrow-straight, climbs nicely, and is easy to hold at speed. It has all the makings of a hot rod, but the handling welcomes those new to bents.*

— Randy Schlitter, RANS

**BIKE:** RANS Stratus XP (26x26)

**BUILDER:** RANS

**ORIGIN:** U.S.

**STYLE:** LWB OSS

**USE:** All-around

**PRICE:** \$1,950

The XP is the newest incarnation of the classic RANS Stratus LWB recumbent. The bike came about as a result of Randy Schlitter's recent design updates to the crank-forward Fusion bike. Randy realized how much better the bike looked and rode when he updated it with a 26" front wheel. Randy's theory was that the big wheels create a more *normal* looking bicycle in the public eye. The unexpected benefit was the improvement in the bike's handling, performance and ride quality. So Randy decided to add a 26" front wheel to the Stratus — and the XP was born.

The Stratus is one of planet's favorite LWB recumbents and has been in continuous production since 1979; the Stratus turned 26 this

year! RANS owner and chief designer, Randy Schlitter, loves LWB recumbents, and it shows. The first Stratus model was the Stratus A with a joystick control mount protruding forward from the frame like a seat horn. The shifters and one brake lever were mounted on the joystick, and the second brake lever was on the handlebars. The Stratus B had big wide chopper-style bars. RANS also offered the Stratus C, which was similar to the Stratus A, but with closed loop bars (like a golf cart), but with all controls on the bars. In the late 1990s RANS switched to the single bend "T" bars (which originally came on our XP). The current 2005 Stratus 20 (26/20) has double-bend bars for an even more unique feel.

You can find more Stratus history at [www.ransbikes.com/ITRStratus.htm](http://www.ransbikes.com/ITRStratus.htm).

### USE/UTILITY

This bike will do anything, but it is primarily an all-around road bike. Despite the XP's streetwise style and skinny tires, I was able to ride it over gravel roads, trails, and even

singletrack with ease. (Our test bike had Primo Comet 1.5 tires).

### COMFORT

The Stratus 26 comes with the standard RANS seat. You can update the pan with the optional carbon fiber variety, or even with a Zephyr seat. There should be another optional upgrade seat within a year or so called the "Z" seat.

The RANS seat is superbly comfortable and can be tailored to most any rider with the available options. Lighter riders may want the light and thin pad/cover; larger riders will appreciate the thick molded foam. The RANS seat back is the best in the business. If you've found one that works better for you, it was mostly likely inspired by the RANS seat back.

The Rad-Loc held perfectly tight with one exception. I was adjusting the seat quite a bit and needed to tighten the twin hex bolts on the Rad-Loc. Once done, the seat never slipped again.

### FIT

Imagine the Stratus 26/20 with the front end lifted up and the geometry fine-tuned. While the bike retains its rather upright position, the new chopper bars allow the seat to be reclined and the controls brought back closer to the rider. This gives the rider much more opportunity to customize and refine the bike for a truly personal fit. It's a big bike, but it is *very* user friendly. As with most low(er) bottom bracket LWB models, it's very stable at low speed and can turn on a dime (though the chopper bars do swing wide in tight turns and you have to watch your knees).

Those who don't like the chopper bars can outfit the bike with "T" single bend or double-bend bars.

### RIDE

Adding a 26" front wheel to the Stratus has transformed the bike. The XP's seat height is the about the same as a standard Stratus, but the bottom bracket is higher by about 2", which allows the seat to be reclined a hair more and seems to improve power generation and for some, improved climbing ability.

The big wheel up front gives the bike more gyroscopic tendency (it feels like an upright bike when steering a slight slalom course), and makes for a smoother and faster ride. The bike just seems to roll easier and faster than a 26/20 Stratus. The steering does high center when pointed dead ahead, and falls slightly when steered — giving it that natural sweet spot handling groove. The bike tracks perfectly. This is hands down the best handling and performing Stratus I've ridden. The bike floats down the road effortlessly and quietly.



(Okay, so the idler makes a wee bit of noise, but I've been riding my test bike without a lower; I just reinstalled it for the photos.) The ride quality of this bike is just beyond reproach. It almost feels like a suspended bike, though little power seems to be lost from the passive shock absorption of the frame, seat and big wheels.

There can be some tiller, but this can be refined out of the steering by either adjusting the chopper bar or moving to the single-bend "T" bars or double-bend "T" bars. The double-bend bars reduce the tiller effect, but provide less of the road feel that makes this bike so special; the "T" bars resulted in a more reach-forward position.

The performance and climbing of the Stratus XP are improved over previous RANS LWB. Low speed steep hill climbing with such a long bike takes practice, and requires lower gears than this stock bike comes with. I would bet that the V2 Formula is a slightly faster bike, but certainly not as comfortable, or as much fun to ride. It will come down to personal preference.

## FRAME

The Stratus XP frame is built in the RANS factory in Hays, KS. Look closely and you will note some updates. New are Y-braced chain stays to replace the former twin tubes. A new vertical tube connects the Y-brace stays to the main tube. The lower main tube is ovalized as it connects to the Y-brace. The CroMoly frame has many unique details, is beautifully welded and looks great. Despite these updates, the Stratus still has the sweetest LWB ride in recumbency.

**Fork:** The XP has an aluminum fork that is made for RANS.

**Steering:** Our prototype XP arrived with single-bend "T" bars, similar to the late 90's vintage Stratus. A few weeks later, Randy Schlitter, surprised us with a prototype chopper bar that is very similar to the old RANS "B" bar (on Stratus B models). The cool thing was that I had been begging and pleading for a return to the old "B" bar, and these bars are better than any bars we've seen before from RANS. The chopper bar consists of three pieces, with both risers telescoping into the main body of the bar. This allows the bars to adjust in the following ways:

- Adjustable wrist angle (each side of the handlebars rotates in the main body "U" of the bar with a clamp bolt collar.
- Each side of the handlebar independently telescopes into the main body of the bar which makes the height of the bars adjustable.
- The bars also rotate at the stem for recline (tiller) adjustment.
- The bars clamp to a stem stub (as do many other RANS bars).

As an above-seat steering fan, I was in heaven with these bars. The bars are wider than competitors' offerings (risers are 12" wide; with my settings the bars are 23.25" wide to the tip of the bar ends; the single-bend "T" bars are 21.25" wide), but can be narrowed through the wrist angle adjustment. I was able to change the adjustments depending on whether I was sitting more upright (close to the bars) or more reclined (further away from the bars). The adjustments just take a few seconds. RANS will be etching easy adjustment guidelines onto the bars to make alignment easier.

**Weight:** For a bike this size, the weight was decent. Target weights for production models are 28.5-28.7 pounds (no pedals). The chopper bars are 1/10th of a pound heavier than the "T" bar setup (our scale).

A 26 pound XP could be possible with lightweight options including Velocity Thracian wheels and a RANS featherweight seat cover.

**Size:** So the bike is a bit long, but not as long as you'd think. Here are some numbers:

Bike	Wheelbase	Length	Difference
Stratus 26/20	66"	88"	
Stratus 26/26	67.875"	93.5	+4.5"
Stratus 26/20 XL	70.25"	92"	
Stratus 26/26 XL	71.875"	97.5"	+5.5"



RANS' Randy Schlitter with the Stratus 26/20 (left) and new 26/26 Stratus XP (right)

## COMPONENTS

**Drivetrain:** The XP's drivetrain is straight off the Stratus 26/20. The components are a perfect mating of reliability and value. The drivetrain works well with little fuss.

**Shifting:** Okay, so you know I don't much like twist grip shifters, but I'll admit that they work wonderfully on a bike like this. The shifts are quick and precise. We didn't even have to adjust anything during our several hundred miles of testing.

**Gearing:** The crank is a 170mm road triple. I used the high gear often on this bike. The mid-range was just a tad high, and the low was definitely not low enough for adequate spinning up steep northwest hills. This is common finding of ours, and is due to component makers failing to pay attention to the recumbent market. If you ride on mostly flat terrain, the stock set-up will be fine. If you ride up steep hills, consider lower gears. The easiest way to hack this is to add a 24-tooth or 26-tooth inner chainring. Tourists could opt for an MTB crankset.

**Braking:** The XP has Avid Arch Rival V-brakes with Speed Dial levers, offering stopping power a-plenty. Disc lovers will be happy to note that the bike has front and rear tabs, so you can add discs any time you wish.

**Chain Management:** Our XP prototype arrived with a RANS LWB double idler system (two delrin idlers). We also tried an oversized cog-style idler prototype, but both Randy and I realized that the bike doesn't need a power-side idler, so the stock offering will be with a lower chain idler only. Our test bike was quietest, smoothest and most powerful with no idlers whatsoever. You get a bit of lower chain dance, especially when shifting up front bit to small, but it has been trouble-free for many miles.

**Wheels:** The XP comes with Shimano Deore LX hubs and Alex rims with CNC machined sidewalls. RANS wheels are built in Taiwan, but have held true for hundreds of test miles over versatile terrain. They were due for a tensioning at the end of our review.

**Tires:** The XP comes with the wonderfully wimpy Primo Comet tires. As much as I complain about them, I do like them and are tough to beat. They are affordable, fast, but not the most durable tire (one flat during our XP test). Our prototype XP came with 1.5" Comets, which we have on several RCN bikes. RANS will be using the 1" tire to squeeze a bit more performance out of the XP. If you are over 200 pounds, opt for the 1.5's. If you ride in rough conditions, or tour,

choose some tougher Schwalbe tires. I rode our 1.5 Comets hard, including trails, gravel and even some mild off-roading.

**Forgettable Parts:** I'm still not a fan of KMC chains because the chain uses disposable master links, and I clean my chain often. The SRAM links are reusable, which is good. That said, I wouldn't give my KMC chain a new home in the trash can until it was worn out.

## HOW TO BUY

RANS sells their recumbents through bike shops. They have a great dealer network, but this bike might be difficult to find because it is so new. Ask your dealer to order one. It's a very cool bike.

## COMPARABLE MODELS

The 26" front wheel transforms the formerly mild-mannered Stratus into a big bike that wants to roll all over everything. 26x26 LWBs are rare. You have a choice between just a few. The Stratus XP is an extremely versatile bike that can be used for just about anything. It was designed as a road bike, but that didn't stop me from taking it through the woods, gravel and trails. That said, it is still a road bike. If you want a mountain or back-country touring LWB, the Lightfoot Ranger may be better suited for this type of use.

The Easy Racers LWB has more performance (fairing) options and uses arguably faster 700c rear wheels, but I believe the XP rides smoother and more comfortably. Easy Racers frame and bars are stiffer. The RANS frame has a compliant, smooth, almost-suspended, feel to it. The same goes for the chopper bars which flex just enough.

## EXTRAS

The XP comes with a seat with Rad-Loc seat clamp and buyer's choice of T-bars or chopper bars. RANS can also outfit the bike with light and fast Velocity wheels.

RANS may reintroduce the fabric handlebar fairing which adds aero-advantage and is a great place to store stuff.

I was able to fit fenders to the XP, though it took some ingenuity. There is no lower cross-braze between the chainstays, so I had to fasten the bottom of the fender with zip ties. On the front, the mountain bike-style SKS fenders did not offer enough coverage over the front of the tire, and on rainy days I got hit in the face with spray. This bike would look great with a pair of custom-fit wood fenders from Angletech (improved front wheel fender coverage).

## COMPANY

RANS is the one of the most respected recumbent bicycle dealers in the world today — and they have been building fine recumbent bicycles since 1979.



*The new RANS chopper bars. Note the telescoping bars (2)*



*This is the bar clamp. The production model will have alignment marks on the bars for easy sight alignment*



*This is the stem piece for the chopper bars. It does not adjust vertically.*

## VERDICT

The Stratus design is unique in that it's not a chopped bicycle, but rather was designed as a dedicated long wheelbase (LWB) recumbent bicycle. The Stratus looks nothing like the other LWB of the past or today. The series of triangles allows for excellent power transmission, but also adds passive suspension. The upward sloping seat tube keeps the rider in the same relationship to the pedals no matter what height the rider is. The Stratus is an original.

I rode our Stratus 26 test bike for hundreds of miles in May and June of this year, and I fell in love with this bike. The XP is fast, VERY comfortable and VERY smooth riding. It feels refined and dialed, like an old friend — but with a new pair of shoes (big front wheel). The handling is spot-on and it made

me want to glide down and slalom every quiet road I came upon. The ergonomics are excellent, as are the options available to help customize the fit. We congratulate RANS and Randy Schlitter for continuing to push the limits of LWB and for remaining passionate about design and performance. The Stratus is a wonderfully versatile, classic and timeless recumbent bicycle.

RCN correspondent John Riley visited the RANS factory and went for a ride on the Stratus with Randy Schlitter. John writes, "This is a way for 'the rest of us' to get in on big-wheel recumbents. For the go-fast crowd, the big issue is aerodynamics, and that is a big part of the success of the highracers; much more so than any improvement in rolling resistance that comes with the big wheels. But big wheels give a bike a different feel, and now that feel is available to those who, for one reason or another, can't comfortably ride a highracer. In general, big wheels don't accelerate as fast as small wheels, but they maintain momentum better, and that gives this bike its special feel. The big front wheel will make the bike feel more stable at speed as well. Some people who've ridden ride low bottom bracket LWB recumbents have thought that maybe they would work better if the bottom bracket was just a bit higher. On this bike, it is. There are also all the usual advantages of having two standard size wheels: a wide availability of tires and tubes (emergency replacements at Wal-Mart), spare tubes will work on either end of the bike, etc."

## FOR

- Fast
- Comfortable & smooth riding LWB
- Big Wheel feel on a LWB
- Best handling Stratus ever
- Not as long as you'd think

## AGAINST

- Expensive
- A bit longer than 26/20 model
- New and may be difficult to find
- Kansas low gear is not low enough

## MORE INFO

Web: [www.ransbikes.com](http://www.ransbikes.com)

## NUMBERS

Fits Riders: Approximately 32.2-43.7 (Std.)  
35.2-46.7 (XL) x-seam  
Wheelbase: 68"/71.875" (XL)  
Length: 92.7"/95.7"  
Seat height: 21"  
Crank height: 15.6"  
Seat angle: Adjustable  
Weight: 28.5 (Std.)/28.7 lbs. (XL)  
without pedals  
(RANS target weights)

*Stratus XP . . . Continued on page 26*



## RCN Road Test: The Bacchetta Giro 26

By Bob Bryant

*"The Giro 26 is the perfect solution for riders that love the dual 26" format, and want something for long tours and traveling. With big wheels to get you there fast, you'll enjoy a comfortable ride over the bumps while the high gearing will get you over those big mountains. Our Giro 26 is setting a new standard in touring and commuting." — Bacchetta*

**BIKE:** Giro 26

**BUILDER:** Bacchetta Bicycles

**ORIGIN:** St. Petersburg, FL (Taiwan)

**STYLE:** SWB OSS Highracers

**USE:** All-around/sport touring

**PRICE:** \$1550

**H**ighracers have become the rage among performance-oriented recumbent cyclists. However, those of us who are commuters and tourists, and require bigger and fatter tires for riding on diverse terrain, really didn't have a many choices in a dual big wheel SWB.

The Bacchetta Giro 26/26 is a big and tall SWB highracer. It kind of reminds me of what a Lightfoot Ranger (dual 26" off-road) is to long wheelbase recumbents. It's fast, smooth and can seemingly roll over most anything. The downside is that if you're not a fairly tall person — you need not apply.

### USE/UTILITY

The Bacchetta Giro 26 is a tough big wheel SWB. While the bike is very versatile, it isn't as multi-talented as Bacchetta's 26/20 model. The main issue is that in order to keep the Giro 26's height under control, Bacchetta chose to use a lower profile fork, which limits the size of tires or fenders the bike will accept. You can use fatter tires, or stock tires with fenders, but not both.

### COMFORT

Bacchetta's Re-Curve mesh-back, foam-base seat is among the best in the business. The seat is similar to the famed RANS seat. The main difference is that the seat back angles up instead of back. This is better for the more reclined position. An added bonus is the two-stage seat cover that repels water. Without this the seat foam can become a big sponge when riding in the rain.

### FIT

The Giro 26 comes in two sizes fitting normal proportioned riders from 5'8" to 6'2" (M) and from 6'0 to 6'6" (L). I suggest that riders in the 5'8"-5'10" range be very cautious in their bike selection process. This is a tall bike, and not all riders will be able to get their feet flat at stops. There is also a weight limit of 275 pounds (bike + accessories + cargo).

### RIDE

The Giro 26 has a superb, smooth ride — smoother in fact that any other highracer I've ridden recently. Some of this is the fatter 26" wheels, but part of it is also Bacchetta's frame design, which offers a direct transmission of power to the rear wheel as well as a compliant ride. While the bike feels tall, the dual big wheels give the bike more of an upright bike-like feeling through the gyroscopic

tendency of the larger wheels. They also seem to make the bike feel faster in most situations, Low speed steep hill climbing with such a tall, laid back bike does take some practice.

### FRAME

**Frame:** Like the other steel Bacchetta bikes, the Giro 26 uses a customized oval Chromoly mainframe. The workmanship of the Taiwan made frame is fine, but perhaps not quite as fancy as their competitors' USA made frames. The fork is aluminum with a disc brake tab. The frame is beautifully finished in Bugatti Blue powdercoat with black accents.

**Steering:** The Giro 26 has a new Bacchetta B-Pivot adjustable threadless stem. The B-Pivot is a simpler design than other similar stems. It utilizes a barrel bolt that is isolated from the pivoting riser by Delrin bushings. The bolt doesn't move with the riser, so it doesn't come loose when you're riding. The bike has a top-loader stem with black anodized "tweener" bars (legs move in between the bars).

### COMPONENTS

The component mix is pretty good for the price range. The Bacchetta Giro offers excellent value.

**Gearing:** Thanks to the 11-34 9-speed cassette, the Giro 26's gear range is 22-118. For most sport touring uses this will be fine. Tourists, commuters in hilly areas and those who haul cargo will want even lower gearing (swap to crankset with smaller chainrings, or install a 24- or 26- tooth inside chainring).

**Shifting:** The Giro 26 comes outfitted with SRAM X.7 twist grip shifters. They are intuitive and work well, and you all know they aren't my favorite shifters, but they work fine on this bike. The Bacchetta bars put the rider's hands in the optimum position for Shimano bar-end shifters as well. Your selling dealer can make this upgrade for you.

**Chain Management:** Bacchetta has the best chain routing of any of the highracer builders. A simple x-path idler is mounted to the mainframe. The upper chain goes under and the lower chain goes over. It is quiet, smooth and doesn't create much noise or added friction.

**Braking:** The SRAM X.7 brakes haven't been my favored brakes since I experienced premature pad wear on a BikeE years ago. The X.7 V-brakes on this bike worked well and have great stopping power. Also, SRAM now owns Avid, which is my favorite brake (both V- and mechanical disc). The cable routing to the rear brake makes for a somewhat slow spring-back, but this didn't seem to be a problem. Since the bike is set up to accept disc brakes, it would be a great, albeit expensive, addition to this bike.

**Wheels:** Our dual 26" wheels took a lot of abuse and remained true for most of our review, but then needed to be retensioned after a few hundred miles.

**Forgettable Parts:** I don't like KMC chains. While I can't detect any performance difference, the hassle begins when you remove the chain. The KMC links need to be replaced each time they are removed, and finding them can be a hassle. Shimano connecting links are even worse. SRAM is the best in the business. Don't rush out to replace this chain, just order a SRAM chain when your bike is ready.

#### HOW TO BUY

Bacchetta bikes are sold ONLY through dealers so they can be set up by knowledgeable experts.

**Comparable Models:** Bacchetta makes the Giro 26/20, but the only other 26/26 model comes from Volae.

#### EXTRAS

The Bacchetta seat bags are small and for minimal gear. To carry

any kind of load, an under-seat pannier rack and bags is the way to go. So the Giro 26 could be a commuter or tourer once adequate accessories are installed.

Bacchetta makes a seat bag (One For All, or OFA). It carries 502 cubic inches of stuff and comes in yellow or black with fancy logo stitching. Inside the bag is a small zippered compartment that was not large enough for my wallet and keys. I could get a few bucks and my keys, my 6' cable lock rolled up, and the RCN mail on a light day. I liked the bag, but it is a bit small for my needs (\$80 + \$22 for the mesh seat adapter).

Bacchetta makes a sweet mid-ship pannier rack that mounts under the seat. This keeps the weight in the middle of the bike. The rack is made of 6061-T6 aluminum (\$50). Bacchetta also makes the Back Rack, a small rear rack (\$36) that connects to the seat braces and the dropouts. The rack and mount is much more elegant than allowing a full size rack to come through the seat braces. This 6061-T6 aluminum rack sells for \$36.

Bacchetta does not yet offer fenders for the Giro 26. We adapted 50mm MTB fenders to the bike, and the fit under the front fork was tight. The mounting involved some improvisation and a trip to the hardware store to get a longer through-bolt to mount the front fender, but the fenders work great.

#### TOURING

While the Giro 26 is considered a touring bike, it lacks a triangulated frame for added stiffness. This could be a concern for tourists loading panniers on the bike or those running disc brakes with a touring load. Keep in mind the bike has a capacity of 275 pounds (rider + options + gear). Towing a two-wheeled trailer is an option. Regarding one-wheeled trailers, Bacchetta says, "proceed with extreme caution."

#### SAFETY

The Giro 26 is a tall bike that you can't miss on the road. Our only slight concern is that "tweener" bars make maneuvering in traffic and at low speeds a bit more difficult. This is perhaps not the best choice for a new rider, but certainly within the realm of any enthusiast.

#### COMPANY

Bacchetta is a relatively new, but well established recumbent builder. Their specialty is performance SWB OSS highracers. RCN recumbent expert John Riley, put it best: "These guys are unique in the recumbent world in that they pull together most of the accumulated knowledge and it goes into their bikes."

#### VERDICT

The dual 26" wheels feel like they can roll longer and farther, faster and a ride over most anything in their path. Another benefit — tire selection is superior, as is ride smoothness (26" ride smoother than 20's).

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The downside is that the Giro 26/26 bottom bracket is quite high and the bike is quite tall. I have read Internet discussions about the bike being too tall for some riders. For me, the Giro 26/26 was great for rides of 90 minutes or so, after which I did experience some toe numbness and neck fatigue (I'm part of the 10% or so of riders who are bothered by this, "recumbent weenie syndrome.")

While the bike feels very fast, I'm not sure there is any measurable performance increase over the Giro 26/20, but it sure felt that way. After riding the Corsa, F5 and Volae, the Giro 26 was the smoothest and most comfortable highracer of them all. I also love the Bacchetta ReCurve seat. The seat alone is enough reason to buy the bike.

The Giro 26 has a narrow fork that didn't allow super fat tires, or wide fenders. I think the Giro 26/20 is better in that respect. Bacchetta chose to use a smaller fork to keep the front end lower, rather than allow for the added height necessary to give ample fat tire and fender clearance.

The Giro is a superb SWB recumbent, but most will find the 26/20 model more suitable. This is due to the high bottom bracket and tall stature of the Giro 26, and that more riders will fit the Giro 26/20. Those doing loaded touring could find a more stout (triangulated) frame, but for most sport touring riders, either Giro model is near perfection. Beyond these issues — there is nothing quite like the dual big wheel feel. ♦

#### FOR

- Expensive
- Great seat
- Superb big wheel ride
- Excellent handling
- Excellent comfort

#### AGAINST

- Not a featherweight bike
- Rather extreme riding position
- Lack of fender clearance
- Not enough utilitarian options
- Tall riders need only apply



Our Giro 26 test bike



#### MORE INFO

Web: [www.bacchettabikes.com](http://www.bacchettabikes.com)

#### NUMBERS

Wheelbase: 46"  
 Seat height: 24-24.5"  
 Crank height: 32-32.5"  
 Seat angle: Adjust.  
 Weight: 31.7 no pedals  
 (RCN digital scale)  
 Weight limit: 275  
 Gears: 27  
 Gear-Inch Range: 22-118  
 (25" wheel diameter)  
 Frame: TIG welded chromoly steel  
 Color: Blue powdercoat w/black accents  
 Stem/Riser: Bacchetta  
 Handlebar: Bacchetta tweener  
 Seat: Bacchetta ReCurve mesh  
 Sizes: Two, medium and large

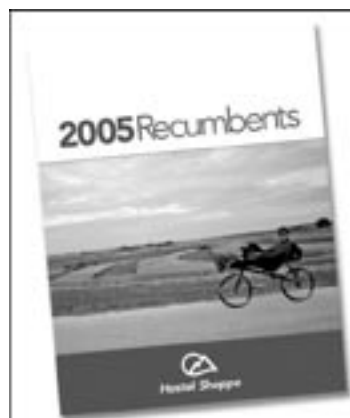
#### SPECS

Crankset: TruVativ Elita 30/42/52  
 Bottom Bracket: FSA ISIS  
 Cassette: SRAM PG-950 11-34 9-speed  
 Derailleur (ft): Shimano 105  
 Derailleur (rear): SRAM X.7  
 Chain: KMC Z-9000  
 Shifters: SRAM X.7  
 Headset/s: Cane Creek TH  
 Brakes/levers: Avid V; disc brake ready.  
 Wheels: 26", 32"  
 Hubs: Formula 32°  
 Rims: Alex DA16 w/machined side wall  
 Tires: Kenda Kwest 26 x 1.25" 100 psi.  
 Pedals: Wellgo LU-897 platform



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*The Speed looks fast standing still. This is the set up for a 6' tall rider (44.5" x-seam)*

## RCN Road Test: The 2005 Catrike Speed

By Bob Bryant

*The Catrike Speed is quickly becoming a recumbent legend. It's the product that made us who we are and the reason for our existence and our lead position in the USA market. The Speed is unique and timeless — it's designed for those that want to ride very fast, with style. The Speed is the answer for those searching for a minimalist, efficient, and lightweight performance trike — with hidden complexities and sophistication. It looks fast standing still and it's the product that best represents what Catrike is. — Paulo Camasmie*

**TRIKE:** Speed  
**BUILDER:** Catrike  
**ORIGIN:** Florida, USA  
**STYLE:** Tadpole trike  
**USE:** Performance  
**PRICE:** \$2,350

Since our last review in RCN 078, the Catrike Speed has been completely redesigned. The Speed is built in Florida by Brazilian-born engineer Paulo Camasmie of Big Cat HPV. The Speed is Catrike's new flagship tadpole trike and it's state-of-the-art. Catrikes have become quite popular in the last few years by offering North American tadpole enthusiasts what they want. The new Speed has some unique features, some of which are not found in other designs:

- Stiff space frame
- Unique low slung design
- Refined direct steering geometry and controls
- Neck/Headrest (with suspension)

- Dual Avid front disc brakes
- Lightweight heat-treated aluminum frame
- Stiff integrated seat (part of the frame)
- Seat mesh with a zipper pocket & pump holder
- Fast and light small wheel combo (451mm/349mm)

### USE/UTILITY

This is a high performance trike. It is best for performance rides with minimal gear. When I suggested to Catrike that the Speed lacked all-around utility, I was told that a rear rack, fender set and new seat mesh with zippered pocket and pump holder will be shipping in August. While I wouldn't be venturing out on any overnights on the Speed, it's great that Catrike will be offering such versatile options.

### COMFORT

Catrike designs the seat as part of the space frame. The seat recline is also built in and is not adjustable. The mesh and aluminum seat

frame feels good, despite the lack of a lumbar support. This has to be the simplest recumbent seat there is. The seat straps were longer on the Speed than on our previous Pocket, and much easier to adjust.

The riding position is, well, can you say — L A I D B A C K? With a seat recline angle of 33° and without the neck rest, this trike would have been nearly unrideable for me since I need neck support due to a previous neck injury. It took me quite a while to get the neck rest into position but once I did, everything came together.

Our trike was from the first batch of Speeds and had the one-sided headrest mount on the chain-side of the trike. We complained that the adjustment bolts were difficult to get to because the tire is in the way, and the rear wheel had to be removed to access the clamp bolts and adjust the headrest height. Catrike's Camasmie told us that he did this for aesthetic reasons, but would be changing the design on future production runs to make the headrest easier to adjust. Some have commented that the neck rest is unattractive. I'll admit that it isn't as refined looking as the trike itself, but adding a cover over the foam would definitely improve the look.

The standard Speed will fit riders with x-seams of 39"-45". The boom can be cut down at the factory for x-seams down to 36" and an extra long boom option can accommodate x-seams to 53". With my 44.5" x-seam, the standard Speed fit me perfectly.

### RIDE

This is the best handling Catrike to date. All of the features are there: center-point steering with Ackerman compensation (buzz words for correct steering geometry), combined with Catrike's state-of-the-art simple and lightweight independent direct handlebars that are attached to each kingpin. While direct-steered trikes handle more quickly and do demand more attention to the road, they offer an unequalled sports car-like road feel. This isn't the best geometry for the casual commuter or tourist, but the Speed's handling will put a big grin on the face of any sporting tadpole rider. The Speed is fast and is like riding in a video game. With each movement of the joystick-like controls the trike fluidly changes direction, almost as you think your moves. Despite this instant reaction, the Speed is much more stable than our recent test Pocket or previous Speed test trikes.

Performance and climbing ability is on par with other fast trikes — though the Speed has a benefit and that is light weight (cost much more on imported models).

Like the Pocket, the Speed has a split personality. On smooth roads and trails at moderate speed it's an absolute joy to ride. On our rough country roads the Speed's personality



changes. Lots of vibration is transmitted to the rider and the ride is rough. The vibration was so bad the brake levers were chattering like crazy, something I've never experienced on any recumbent. I suppose these findings prove the point that this is not a casual comfort cruiser, but a recumbent where sacrifices are made in the name of high performance.

I've been fairly comfortable on the Speed. The neck rest takes some getting used to and it's difficult to move your head. Most of the time I'm relaxing into the neck rest, but I find myself leaning forward at stops to look right or left. I did experience some shoulder and neck fatigue, but the neck rest does a fairly good job.

A few minor issues I had while riding the Speed: Casual attire is out — you really need to ride with tights or bike shorts because if you wear loose-fitting casual shorts, they will become bags to catch the wind and slow you down. I'm an XL-sized guy and while I fit the seat well, the controls are a bit narrow (16.75" +/-1" or so between the handlebars). Climbing down into and getting back out of this trike is more difficult than on some less extreme models. With this riding position, clipless pedals really work best to keep your legs in that upright position.

## FRAME

The Speed's frame is well thought out and everything works right — this is a big deal, as the tolerances on this trike are tight. The proprietary aluminum space frame is TIG welded in the US and heat-treated for strength. The boom slides into the mainframe with a liner in between the frame and the boom. Two quick-release collar clamps on the frame hold the boom tight. Catrike frames are now powdercoated in house thanks to a new powder coating booth installed earlier this year.

You won't find much flex in this space frame, but I did experience some boom flex. I asked Camasmie about the boom flex. He replied, "When you pull the brakes and apply force to the pedal you will see the boom flex. That is in part because the tires give. The little flex that the boom has, while not ideal as far as energy transfer goes, it is not of a structural concern. The boom is heat-treated and we've never had a boom failure on any of our trikes."

Catrikes are designed on CAD/CAM software, and built using proprietary aluminum tubes. Catrike has worked with their aluminum supplier to come up with ideal solutions for their trikes. Catrike also does stress analysis on their trikes when they are being designed. It seems to me that Camasmie has done his homework. If you want to read more about Catrike design, check out <[www.catrike.com/about\\_us.asp](http://www.catrike.com/about_us.asp)>.

Another unique aspect of the Speed is the



*Me (Bob) on the Speed. Note the laid back position. I definitely used the head/neck rest on this trike. Also note hand position in proximity to the front wheels (more clearance than with a 20" wheel).*



*Note the formed frame cross-member that allows the trike to sit so low. Also note head/neck rest mount. Mount on photo below is current.*



*Note the low slung frame, integral seat and clamp-on spring loaded head/neck rest — Photo courtesy of Catrike*

low-slung frame. The ability to make a frame like this is in the unique process of BENDING the frame cross-member. This design aspect was brought to my attention by another trike expert, so I decided to ask Catrike's Camasmie about it, "When you form or, in other words, cold-forge a tube like that, you are in fact hardening the material. Our bending dies are custom made for us in Italy. We use aluminum cast dies and polymer backing block which is very easy on the aluminum surface. Because they are in the exact shape of the cross-section of the tubes, it spread out the stress when forming the tube. If anything goes wrong, it would be during the actual bending process, meaning that you would see kinks in the tubing, or even collapsing the tubing, during bending. We have never had a failure in our bends and when we cut our bending cross-section, we've seen no signs of cracking."

**Steering:** These are minimalist trike controls at their best. It can be a snug fit climbing down between the inward-facing independent handlebars. The smaller 349mm 16" wheels are an excellent choice for a direct steering trike because your hands have plenty of clearance from the tires. (Marilyn noticed this immediately.). The proximity of your hands to the front wheels was a concern on direct steered trikes with 20" front wheels. The independent handlebars are very stiff and pulling into them really helps for climbing and power.

**Weight:** This is one lightweight trike. The stated weight is 29 pounds, and ours weighed just a tad less than that.

## COMPONENTS

**Drivetrain:** The Catrike Speed drivetrain is well thought out and no short cuts are taken. The Shimano 165mm cranks 30/42/52 work well with this 20" (actually measures to 20.5") drive wheel. The X.9/X-Gen derailleurs with twist-grip shifters worked fine. The gearing is fairly low (27-97 gear inches), but very useable. Having just experienced a 145mm crank on a Greenspeed trike, I'm sold on shorter crank arms.

**Shifting:** The Speed has SRAM X.9 twist grips with 1:1 shifting (fast). I'm not usually a fan of twist shifts on side stick-style steering, especially direct steering, because the twisting motion can cause you to unexpectedly veer. But the Speed's SRAM shifters work just fine, and I certainly wouldn't change them on this trike. The downside of the SRAM X.9 shifters is that they are very difficult to replace the cables and if you try to dismantle the shifters without knowing what you are doing, you may break them.

**Braking:** Catrike uses only Avid mechanical disc brakes. The cable runs are short and direct, and these brakes have all of the stopping power you will ever need. Our trike

arrived with an out of true rotor (for the second time). I'm told that skilled mechanics can true these up, but I either don't have the necessary skill (I've spent hours trying) or am too picky about my brakes. (It's probably a little of both). The Speed has no parking brake, and likes to roll away at stops. A velcro band will be necessary so you don't end up chasing your Catrike down the street.

**Chain Management:** The Speed has a power-side chain idler and a slack-side chain tube. The main idler is a CNC machined delrin idler with double bearings and a built in O-ring to keep the chain quiet. The drivetrain works well and is quiet. There is a chain guide under the idler wheel that gets real noisy if it rotates backward, so watch for that.

**Wheels:** Catrike's wheels are hand-built in the US and our wheels have been good on previous trikes. Our Speed's rear wheel went out of true relatively quickly. Granted, customers should never have to deal

with this as the wheels would be tensioned by the selling dealer.

**Tires:** The Speed was built around the skinny high-pressure (120 psi) Schwalbe Stelvio tire with Raceguard puncture protection. The rear is a 451mm 20", which is just a bit taller than the more "all around" and more common 406mm. The front Stelvios are 349mm which is the folding bike 16" size, not the BikeE size (305mm).

While a perfect match for this trike, the 451mm is truly a performance tire, and not the best choice for commuters or tourists. For those who don't like 451mm wheels, or somebody who wanted a more robust wheel/tire combo, changing to a 406mm wheel would not be difficult — just rebuild the wheel with a 406mm rim. If you're thinking about swapping wheels to get wider tires, you may want to consider a Catrike Road instead.

#### HOW TO BUY

Catrikes are sold through dealers. They are shipped in small boxes and require an intensive set-up and are not suited for amateur mechanics. This trike needs to be patiently set up by somebody who has done it before. The dial-in will require careful boom length measurement, chain length sizing and headrest positioning (the most time-consuming aspect of the build for us; hopefully this will improve with the updated design that will make adjustments bolts accessible without removing the rear wheel.

#### COMPARABLE MODELS

There are other small-wheel performance trikes available, but really nothing at this price point. The Speed is state-of-the-art and much less expensive than competitors' models. The Greenspeed GTX is \$4,950; the new folding X5 is \$3,245, but it weighs 37 pounds. The ICE S is \$2,320, but it also weighs 37 pounds; The ICE Micro is \$5,500 and the ICE Raider is \$5,000 (depending on current exchange rates). ICE also uses the less available 355mm 18" wheel size. WizWheelz has the TTR and Edge models that are of similar weight and price range, the one big difference is the use of three 20" wheels, and the riding positions are all more upright (but adjustable).

#### EXTRAS

A spring-loaded neck rest is standard equipment. In June 2005 Catrike started shipping a new seat mesh with a zippered pocket for keys, wallet and other incidentals, and with a bicycle pump holder.

#### OPTIONS

A custom rack (\$125) and fenders (\$95) are also available.

#### COMPANY

Catrike has been building recumbent trikes since 2000 and has quickly become the best-selling performance trike builder in North America.

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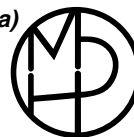
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## VERDICT

The first thing that would-be buyers will need to consider is that Catrikes are NOT old school designs with simple bends of welded CroMoly steel. All Catrikes are built from heat-treated aluminum, which doesn't have the fatigue life of steel and can't be repaired. If engineered properly it can last a long time, but isn't as tough as steel. The big benefit is that it's lighter in weight. Catrike combines the benefit of the lighter material along with several features that simplify the trike in general to keep the weight down. Among these are the integral seat (part of the frame) and simple direct steering.

I have very few criticisms of this trike. Catrike has outdone itself with the Speed and will sell a bunch of these trikes. While not exactly affordable, the Speed is underpriced at \$2,350. If you've shopped around for light-weight small-wheel high-performance trikes, you might even call the Speed a bargain.

The 349mm wheels are a great idea for direct steering because there is no interference with your hands (like with the WizWheelz Edge's 20" wheels). The only criticisms that I can imagine will be the use of the 451mm rear wheel and the skinny Schwalbe Stelvio tires. The fact is that this is a performance trike, and this is a performance wheel/tire set. With these skinny tires, I would recommend that owners keep an extra set of tires and tubes around just in case. If you are concerned about the use of this wheel/tire set, it's a good indication that maybe you are better suited toward a more utilitarian model such as the Catrike Road.

Potential buyers will need to ask themselves what they really want from a trike. This one is truly a high-performance machine that won't be good for commutes, sport touring or even a day tour. It will be ideal for aggressive sporting rides with minimal gear: hotrod triking fun.

The design, steering geometry and handling are excellent, the best direct-steer handling I've experienced so far. The trike steers easily, doesn't veer too much when braking and has very little brake steer. The steering al-

most seems to self-center (very cool). I really like the small front wheels on direct-steered trikes. With 20's, your hands are too close to the wheels/tires.

The super laid back position is more comfy than I thought it would be thanks to the head/neck rest. There is some stiction in the head/neck rest spring, maybe it will loosen up over time. I find turning my head to look for traffic is more difficult with a neck rest, but that is what you get with this type of trike.

Perhaps the biggest concern for would be buyers of the new Speed is the rough ride and vibration transmitted through the stiff aluminum frame. Like the Pocket, this trait really became apparent once I took the Speed out on my test course (rough country roads), and away from the smooth new roads in my neighborhood.

Another consideration is that fast trikes such as the Speed are not generally faster than racey two wheelers such as highracers and partially faired long wheelbase recumbents. Buyers need to understand that this is a fast trike, but perhaps not as fast as their two wheeled performance rivals.

The Speed is truly a "specific purpose" trike. It's advertised as such, and there's nothing wrong with that. This trike's name pretty much says it all — SPEED. As far as the design goes, this is "new school" performance tadpole triking at its best. My hat is off to Catrike — the competition should be scrambling with the sight of this trike. ♦

## FOR

- Very fast
- Excellent "new school" trike design
- Excellent "direct-steer" steering geometry
- Light weight
- Great specs

## AGAINST

- Very low
- Specific use trike (performance only)
- Extreme riding position (laid back seat + high pedals)
- Stiff ride over rough roads.
- Lots of vibration on rough roads

## MORE INFO

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

## NUMBERS

Fits Riders: 39"-45" (standard; see above)  
 Wheelbase: 39"  
 Wheel Track: 27.5"  
 Seat height: 6.5"  
 Crank height: 17.125  
 Seat angle: 33 degrees  
 Weight: 28 pounds  
 Weight limit: 275 pounds  
 Gears: 27-speed  
 Gear Inch Range: 27-97

## TRIKE

Frame: Heat treated TIG welded proprietary aluminum  
 Kingpins: CroMoly steel  
 Color: Graphite powdercoat  
 Handlebar: Catrike independent direct aluminum (no linkage)  
 Seat: Integral  
 Sizes: Standard fits 39"-46" x-seam; Short fits from 35"; Long to 53"

## SPECS

Crankset: Shimano 105 30/42/52 165mm  
 Bottom Bracket: ISIS hollow  
 Cassette: 11-23  
 Deraillleur (front): SRAM X Gen  
 Deraillleur (rear): SRAM X.9  
 Chain: SRAM PC-59  
 Shifters: SRAM X.9  
 Headsets: FSA oversize cartridge  
 Kingpins: CroMoly  
 Brakes: Avid 7 mechanical disc  
 Levers: Avid  
 Wheel (front): 349mm 16"  
 Wheel (rear): 451mm 20"  
 Hub (front): Catrike hollow axle CNC  
 Hub (rear): Shimano Deore LX  
 Rims: Sun M14 349mm and 451mm  
 Wheel Build: Hand built US  
 Tires: Schwalbe Stelvio 120 psi w/Raceguard  
 Pedals: None

**STELVIO:**

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

**BIG APPLE:**

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

**MARATHON PLUS:** smartguard

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

**MARATHON SLICK:**

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

**MARATHON:**

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

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*The author's Challenge Wizard equipped with an aftermarket shock, front suspension, and bars. (Photo by author)*

## A City Bike With Urban Class: The Challenge Wizard

*By Matt Schneps*

### GRACEFUL DESIGN

In my book, the classiest, sexiest, most eye-catching recumbent designs are the bikes produced in Holland and Germany by companies with names like Challenge, Optima, M5, Zox, and HP Velotechnik. What gives these bikes their distinctive look is that their frames bend and flow. They completely abandon the technical rigidity of the traditional diamond frame design and create a new look that is as beautiful as it is functional. Some of the best-known European lowracers like the Challenge Jester or the Optima Baron could easily be imagined hanging in a museum. And not only are these bikes gorgeous to look at but they're often lightning fast — proven winners on the velodromes of Europe.

Those who covet the beauty of the graceful European 'bents, but who may have been turned off by the extreme riding position of many of these bikes (the famous European lowracers are so low and laid back that riders often need a headrest) will be delighted to learn that several European manufacturers, chief among them Optima and Challenge, offer a line of models suited for everyday riding, bikes that are every bit as graceful as the beautiful lowracers.

The Challenge Wizard (along with Optima's similarly styled Lynx) is one such

bike — little known in the United States — designed for those seeking a fully-suspended 20/26 SWB OSS design, perfect for long-distance touring or riding city streets. The Wizard is a close cousin of the lowracers like the Jester or Taifun — and inherits their cool looks — but supports the rider in a much more practical position that makes it suited for use in city traffic.

I bought my Wizard from Calhoun Cycles through the mail without a test ride. I felt I needed a suspended bike to negotiate Boston's notoriously rough and broken streets. I wanted a bike with front and rear suspension (common in many European 'bents but rare in American designs) that would allow me to handle the bad roads in comfort. But I also wanted a bike that wouldn't sacrifice speed for comfort. And the bike I was looking for had to have a very special look, one that would draw the admiration of 'bent riders and others. Searching the web, I decided on the Challenge Wizard, and this bike did not disappoint.

First off, the Wizard is indeed stunning. Even after owning the bike for almost three years I still find myself making excuses to go to the basement (does the dog's food bin need filling?) just to admire the bike. Challenge offers the bike in a wide array of colors. Mine was jet-black and came with Magura rim brakes that gave the bike a highly technical look. This bike looks like a serious machine. People who aren't familiar with European

bikes often mistake it for a low-racer, even though the Wizard is clearly a touring bike.

Though the Wizard is nowhere as low and laid back as the lowracers, the bike is a bit more extreme than many US-made bikes. I like the Wizard because it gives you a taste of what it's like to ride a European low-racer, but still provides the control and visibility I need for riding busy city streets. When you sit in the Wizard, you feel like you're being strapped into the cockpit of a fast racing machine. The handlebars and riser pull down close to your chest, effectively locking you in place. The bars easily adjust and set to various body sizes and types, and can be lifted out of the way even while riding — a handy trick for making tight turns when the bars restrict. I found the steering steady and sure at both low speeds and high.

### SUSPENDED RIDE

Since the roads in New England are often badly broken by cavernous potholes, suspension is pretty much a necessity. With front and rear suspension I feel confident that my spokes, rims and wheels are going to stay intact even if I hit an unexpected pothole at high speed. The suspension lets me careen down steep hills at white-knuckle speeds, sail off curbs, and leap road-moguls with both wheels off the ground.

The Wizard's rear suspension is integral to the bike and an important part of the design. This suspension doesn't look like an afterthought. While some suspended bikes pogo their way up hills, wasting your energy as the chain works against the shock, the Wizard lays the chain directly over the pivot so that rear pogo is not an issue. Front suspension for the 20-inch wheel comes as an option.

I purchased an aftermarket Ballistic suspension fork, and I found it to be robust and serviceable, though a bit heavier than I'd like.

### LOADED FOR TOURING

Camping is popular in many parts of Europe, and so the bike came out of the box loaded and ready for touring, equipped with a full complement of racks and fenders, a rear rack with a built-in taillight, and a set of amidship under-seat racks ideal for carrying day packs and perfect for carrying a computer case or two. The frame provides for all sorts of convenient attachment posts for lights and other accessories, and came with a built-in quartz front light connected by internal frame wiring to a small but effective generator mounted with braze-ons to the rear fork. The bike came set up with steel handlebars that wrapped tightly around the stomach. I didn't care for these, but since they easily disconnect from the riser, I was able to replace them with an inexpensive set of aluminum bars that allowed me to hold my hands in a relaxed thumbs-up position.

## BOMB PROOFED FOR WINTER

The bike is bomb-proof against bad weather. The aluminum frame seems impervious to salt and other hazards of winter, and the chromoly rear fork is sealed so internal rust is never a concern. My bike came with Magura rim brakes and these too are sealed against water and dirt. In Europe, the bike is sometimes sold with a completely sealed chain system so that water and grit stays out of the drive system entirely, minimizing maintenance. To accommodate this sealed drive the bike is constructed so that the drive-side chain line is pretty much a straight shot from the front derailleur to the rear.

Bikes sold in the US usually don't come with the sealed drive system, but the chain is covered by full length chain tubes that help keep the chain clean and keep it from rubbing the rider and the frame. While the chain tubes definitely add protection, they do add resistance, and ultimately rob you of power. It's possible to install an idler to replace the tubes, but because of the suspension it's not trivial to get everything lined up unless you use the tubes.

Everything from the quality of the powdercoat finish to the finish of the welds is first rate. And the finish has held up beautifully even after three New England winters. Through salt, sand, and slush, the paint looks almost as good as when it was new. And unlike some frames where the paint chips when dinged by a wrench, the finish on the Challenge stays put and resists marring.

## ADVANCED SUSPENSION TECHNOLOGY

One of the things that's fun about the Wizard is that it lets you experiment with some of the new high-tech shock technologies developed for MTBs. MTB shocks have come a long way in recent years, and all sorts of shocks are available, including some high-end versions that allow you to change the shock's response characteristics during the ride using remote control cables mounted on the bars, like a shifter, to adjust the shock. The Wizard has a set of predrilled holes to accommodate a variety of different shocks, and so I swapped out the plain vanilla coil-oil DNM DV-22 suspension that comes standard with the bike for a Fox Air RC that permits more control.

While most people will find the DNM more than satisfactory, I found the Fox Air RC to be lots of fun. It has controls for both compression damping (affecting how the shock responds to high frequency bumps) and rebound damping (affecting the amount of "kick back" you feel over a bump). These controls let you tune the ride to the roads you encounter most. The RC even has a lockout lever you can flip while riding to disable the suspension completely, a handy option when climbing steep hills. The Fox shock performed very well for me, and needed no maintenance over the three years and 14,000 miles.

## BUYING EUROPEAN RECUMBENTS

There are a growing number of bike dealers specializing in importing European 'bents, and many of these, including Calhoun Cycle, Zach Kaplan, and Mt. Airy Cycles, take a great deal of pride in their knowledge of foreign bikes and the strength of their relationships with the manufacturers. These importers generally can be relied on to give you good advice, and to stand behind the products they sell. Challenge has been very responsive and is easily available via email.

## COMPONENT OPTIONS

The bike can be equipped in a variety of configurations and pricings, and these change according to the supplier. Mine came with Shimano Deore LX Rapid Fire shifters, derailleurs, cassette, and hubs. The rapid shifters have been great, and they're perfect for the thumbs-up hand position of the bars. All of the Shimano components performed flawlessly and lasted well. The bike came with Alivio rims alloy rims, which have a deep-V profile, and these performed adequately over time.

I love the Magura brakes that came with the bike. I found that even after 14,000 miles of riding, the brakes required only occasional main-

tenance. In the rare instance a part became worn or needed replacing, I found Magura USA very helpful, providing parts for free, or at nominal cost. The braking action is superb. They provide a firm and controlled pressure that brings the bike to stop even when the bike is loaded for touring and cruising downhill at speed.

Some of the other components on the bike didn't fare so well. The Dotec triple crank set, common on European bikes, was pretty basic and was among the first parts to go. The rings were soft and bent easily, and eventually damaged the Shimano HG-73 chain. I swapped the cranks out for Shimano and shifting improved considerably. The Tecora headset lasted well, but the plastic-shelled bottom bracket they supplied fell apart when first removed. (Challenge replaced the entire boom and upgraded the BB, no questions asked.)

Everything on the Wizard fits you just-so and there's no room for slop. The aluminum Euro-seat in particular is designed to fit a rider exactly and must be sized to fit. Not all importers stock a range of seat sizes, and you should discuss your options before you buy. Challenge seats come in three sizes. Mine was not sized properly, was never comfortable, and eventually split. Challenge replaced the wrong-sized seat at no cost with another that fit me well. The seat comes with both a foam camping-pad type cushion as well as an open-cell foam. I found that the filter material, while offering a bit of added cushion and some cooling, tends to trap odors and needed to be rinsed every few rides. Eventually, I got used to the lower maintenance camping pad.

## EVALUATION

The Wizard is a bike that gives a touch of European class in a package that is practical for city riding, and fast enough for weekend club rides. It lets you blast over rough roads at full speed and never miss a beat. It is beautifully finished and constructed and will give years of service with only minimal maintenance. The only downside is the weight: 37 to 39 lbs depending on configurations, a disadvantage off-



**GrassHopper** [gras:'hoppə] *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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set by the comfort, convenience, and minimal maintenance of the bike. The Challenge Wizard is a well-made beauty that will draw loads of admiring glances, and is a joy to ride.

#### REASONS TO BUY

European lowracer sleekness in a practical, fully-suspended, city-bike package, that can handle rough roads.



The Challenge Wizard as equipped in Europe. Notice the closed drive system designed to seal out dirt. (Photo courtesy Challenge)

#### CONTACT

www.challengebikes.com

#### FOR

- Sleek Design
- Excellent Craftsmanship
- Full Suspension

#### AGAINST

- Greater Weight
- Limited Dealer Support
- Includes some low-end stock components

Matt Schneps, when not riding his bike, is Director of SportSmarts, a science education initiative of the Smithsonian Institution.

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its mesh back and foam base. The Dakota begs for a laid-back seat as you can see from the photos of our test bike. The photos show the bike with the seat in the most upright position. Bill Cook suggests 40-45° to start with. Barcroft offers a kit for a more upright seat, though the bike is really designed to be laid back.

The RANS seat is wonderfully comfortable; however, at the top of the seat back the vertical tubes are rounded rearward. This is in direct contrast to the Bacchetta and Euro shell seats which are rounded forward to support your upper back, shoulders and neck when reclined. My theory is that the RANS seat wasn't intended to be this reclined. I have a long torso and found that I did not achieve the upper back, neck and shoulder support that I do on the aforementioned seats. As usual, I'm the only one (that I know of) who has ever brought this up. If you think this will be a concern for you, just request the kit to place the seat in a more upright position.

I have heard no reports of seat slippage, nor did I experience it myself. Barcroft does not use the RANS Rad Loc on the Dakota or Virginia models because the chainline will not allow it.

## FIT

"The reclined seat on the Dakota contributes greatly to its comfort," according to Bill Cook. "More of the rider's weight is carried on his back, eliminating the dreaded *recumbent butt*. The seat is not reclined as much as on a racing recumbent; just enough to improve comfort (and, to some extent, aerodynamics). This is possible because the cranks are about three inches higher than the seat bottom. This means that the angle between a rider's torso and legs on a Dakota is about the same as on other recumbents, such as the Tour Easy or V-Rex. The difference is that on a Dakota only part of the rider's weight is carried by the seat cushion." Our test bike came with the optional adjustable boom (and sliding seat) which I highly recommend (see "Steering" below).

Our Dakota was sold to a rider who is 5'4" tall with a 39" x-seam and weighs 140 pounds. He found the bike a bit tall and the standard RANS foam too thick. He replaced the stock foam with the thinner RANS seat foam, which lowered the seat noticeably. He is also getting a different stem, as the stock one is too high, and close to his body.

## RIDE

Thanks to the longer wheelbase and refined steering geometry, the Dakota is rock-solid stable at speeds up to 40 mph (as fast as I rode). I was just amazed at how smooth and stable the bike feels at speed. The steering is crisp and sharp without being unnerving. The ride is comfortable and the handling is spirited and refined.

"The long mono-tube will give a bit vertically, which makes the bike ride nicely. But it is hard to twist a big tube, which is one reason the Dakota and Virginia handle so sharply," writes Barcroft's Bill Cook.

At low speed, stopping and starting on this laid-back SWB is more difficult than on other types of recumbents, but the handling is so refined, you should get the hang of it easily.

While a bit taller than the Barcroft Virginia, the Dakota has a lower seat height than most SWBs these days. This means that most riders can put their feet down flat on the ground at a stop.

The performance is better than expected for a touring bike, however, if speed is your thing, Barcroft builds the more performance oriented Virginia GT. The bike climbs well, but I've found the laid back seat angle to be a negative as it relates to climbing. I prefer my seat back more upright with all of the climbing I do on my home terrain.

There is a negative aspect to the ride. If you like to go off the pavement, this is not the bike for you. The laid back riding position just made the bike feel a bit twitchy and unnerving while riding on gravel and hard packed-rail trails.

## FRAME

Steve Delaire, of Rotator fame, is the frame builder. The Barcroft frames are unique in that they are brazed instead of TIG welded like all of the other steel test recumbents we've had here this year, "We had the choice of TIG or brazed joints. Steve recommended brazing, and I followed his advice," writes Bill Cook. With brazing, the frame pieces are joined together with molten brass. I am told that if done correctly, and with high quality materials, the braze joints are stronger than TIG or MIG welded joints.

The downside is that the joint is larger. On the Dakota, the beads are left natural; they are not filed or filled in. Lightning P-38's are built this way as well. Most of the brazes are so perfect you can't even see them or distinguish them from your average TIG weld. However, the main braze, at the junction of the head tube and the front and rear boom sections isn't very attractive, as welds and braze joints go — but serves a purpose (adjustable boom model only).

There are other unique features of the Barcroft frame: First are the one-piece chainstays and seat stays. The tubes have hairpin bends and double back to the other side. I saw this once before years ago on a Ryan recumbent.

Most SWB booms end with the curved section of the bottom bracket shell. Barcroft extends the frame tube past the bottom bracket and does a slant cut and has a cap on the end of the tube. This creates a large head tube and a spot for the big "B" logo, much like a head badge. This is another artistic touch that adds weight and complexity to the build.

This big 2" main tube has a serious bend in it, "It took several months to find a tube bending company that would tackle thin-wall two-inch tubing." The tubes are now bent by Buchanan Tube Bending in Baltimore, MD, according to Bill Cook.

**Paint:** The paint on our test bike was metallic black wet spray done by Northeast Custom Paintworks in upstate New York. Billy Lane, the owner of the shop, painted bikes for Serotta before starting his own company.

The finish was gorgeous and Bill Cook selected several other components with contrasting black accents. The Barcroft decals are protected under layers of clear coat for added gloss and protection. Not exactly subtle, the Barcroft's decals scream out at you. BARCROFT is on each side of the boom in bright white bold caps, the web address is on the chainstays and a white "B" is on the flat-nosed and angled boom tip.

**Fork:** The aluminum fork is finished natural and looks good. It is the same fork as on the RANS models.

**Steering:** The Dakota has a TerraCycles FlexStem and narrow 19" wide bars. Both work well. The riding position is typical of American style SWB OSS (over-seat steering) models. The handlebars close to your chest is called the *begging hamster* position. I really like the ability to use the angled-up brake levers as an impromptu aero-bar. (For long stretches I rode hanging onto the brake levers, and not the handlebars.)

Our bike came with both the optional adjustable boom and the standard sliding RANS seat. I'm really glad I ordered the adjustable boom because without it this cockpit would have been claustrophobic for me. To get a better fit, I had to move the boom in and the seat back about 2". That opened up the cockpit, and the position was about perfect for me.

**Weight:** 34.7 lbs. on my digital scale with computer, bell, kickstand, rack and fenders.

## COMPONENTS

**Drivetrain:** "We use higher-level components than most other manufacturers. The cranks (typically FSA), rear derailleur and shifters are all Ultegra level, though we typically use FSA and SRAM parts. We allow the customer some discretion in choice of parts. We will upgrade, but not downgrade, for a customer." — Bill Cook



Our test Dakota

**Gearing:** The gearing is a fairly common road triple and wide range cassette. As usual, the low gear was not low enough. This could be solved by opting for a smaller inside front chainring, say a 24- or 26-tooth. As is, the stock 22-inch low gear is not low enough for climbing mountain passes with touring load. The downside to changing out the gearing is that the FSA chainrings are very attractive alloy and black. Barcroft offers a 24-tooth inside chainring as an option, or they can install a Shimano Deore XT mountain bike crank which offers a lower gear range.

**Shifting:** Front shifting was good; however, with the handlebars so close, the front shift takes a lot of effort to twist. I found myself taking my left hand off the bar, and rotating my hand up, to get more leverage to make the jump to high gear. The rear Deore XT derailleur and SRAM Rocket shifter worked well, but the cable tension had to be adjusted several times during our review. While I generally prefer Shimano drivetrains to SRAM, I'd wondered whether there would be fewer break-in cable adjustments with a SRAM rear derailleur.

**Braking:** The Dakota comes with Shimano Deore LX V-brakes. The stopping power is fine and there is no rear wheel skidding or other awkward moments when you brake hard. If you want stronger disc braking, you'll need to upgrade to the Dakota S model.

**Chain Management:** The Dakota has a reasonably straight forward chain path through an x-path idler (bottom chain over the top, top chain under). The idler, built for Barcroft by Creative Urethanes, the company that invented the urethane skateboard wheel, was of excellent quality. The system is quiet. Bill Cook tells me that he's seen his idlers go 7,000 miles, but I'd still carry an extra in my parts kit. The only downside to this chain management is some minor chain interference with the chainstay (which was wrapped with tape to protect it).

**Wheels:** The wheelset is hand-built by Velocity with an Aeroheat rim. The wheels have black rims and spokes and are very attractive. This wheelset has just one problem: The 20" rim has a seam that you can feel on the brake pads with each rotation of the wheel. This would not be apparent on a model with disc brakes, but it is noticeable on the Dakota with V-rim brakes. The Velocity wheels on the Dakota looked great, and stayed in true. However, we've heard some criticisms about these wheels from other sources.

**Tires:** The Dakota comes with Schwalbe Marathon Kevlar (559mm 26" and 406mm 20") 1.35" 100 psi slicks. I ran them at both 80 and 100 psi and found them to be comfortable high quality tires.

## HOW TO BUY

The Barcroft is not the easiest bike to buy. The bikes are sold direct only and there are no dealers. The order to shipping process usually takes 4 to 6 weeks, and add a week or so for shipping.



Note the "begging hamper" position

**Shipping:** The bike came carefully packed in two UPS-size boxes. The shifters and brakes were adjusted and the bike had been tested before going into the box (which we appreciate).

**Set Up:** Despite the careful attention by Barcroft, assembly is not easy. While the bike will fit in many stands with large jaws (to fit the 2" tube), unless you have a Park Pro stand. The bike must be clamped off-center, just behind the head tube forward of the long seat track, and can be tippy on the stand. Once I got the wheels on, I moved the bike to my two Black & Decker Workmates (one with a Topeak Prep Stand bungied to it) for finishing adjustments.

I also had to make some ergonomic adjustments which would not be easy for a novice (adjustable boom model). This involved moving the seat rearward, moving the boom in and then cutting the chain to size. Some owners might not know to make this change (experience, knowledge or skills to do it). Opening up the cockpit made the experience much better for me, so these details are important. The adjustment range of this bike is so vast that some documentation or suggestions for optimum set up would have been helpful.

**Value:** The Barcroft is at the higher range of its market segment, but considering that it is almost a custom-built bike, it is a bargain.

## COMPARABLE MODELS

The Dakota is a unique CroMoly SWB recumbent with a fully triangulated rear frame and an oversize boom. The bike makes for an excellent touring bike. The only similar models are the RANS V-Rex (\$1,700) and Angletech MC2 (\$4,300). If you don't need the stiffness of the rear frame triangulation (recommended for loaded touring), you should also check out the touring-oriented SWB models from Volae and Bacchetta. Note that there is a distinct difference between the *begging hamper* position of the Dakota and V-Rex and the lower stretched-forward ergonomics of the Bacchetta and Volae tweener bars. This will probably be the determining factor in your bike selection.

The Barcroft Dakota S (\$2,595 + S/H) comes with disc brakes and a White Brothers air suspension fork (see my comments in RCN 086 "Components"). The sportier Barcroft Virginia GT (\$2,295 + S/H) has a 2" lower seat height.

## EXTRAS

We ordered the optional bell and Cateye Astrale 8 computer (\$50 installed) because I don't like installing computers. Anytime you can get the builder or dealer to do this it is worthwhile. Being a Mac user, I often judge electronics by its user-friendliness and by whether I can figure it out without the two gigantic fold-out instruction manual in six languages. For you tech dorks, this one will require actually reading

the manual. I always ask for the simplest, most durable and most affordable computer in any bike shop.

We also ordered the Delta "Super Sherpa aluminum mega-rack" (\$35 installed). This sweet rack weighs just 430 grams, is powdercoated (black) aluminum with built-in pannier hooks, has rubber grippers on the deck and anti-rust hardware, and is rated for a cargo limit of 60 lbs. This rack has a lifetime warranty. Check it out at: <[www.deltacycle.com](http://www.deltacycle.com)>.

**Water Bottles:** Two water bottle cages mount to the back side of the RANS seat. Holes are poked in the material to get the bolts through to the threads. I could not see the threads and had a difficult time mounting one of the cages. The material where the hole was poked was frayed a bit.

We also ordered the kickstand (\$15) which worked great. I love kick stands.

**Fenders:** We ordered the optional Planet Bike fenders (\$25 each installed), and they work fine. These fenders have the new style plastic connectors and are less adjustable and they can rattle. I've also had them vibrate loose on rough roads (20" wheels) and even break. I prefer the Planet Bike Freddy Fenders or SKS with the retro style (strut/clamp) mounts which I've had better luck with.

## COMPANY

The Barcroft Dakota was originally designed in 1998 as a cooperative venture between Bill Cook and Bacchetta cofounder, Mark Colliton (pre-Bacchetta days). Mark had previously co-designed the RANS V-Rex, and this was the next step. According to Bill Cook, "I knew Mark from the Washington DC area rider group. We talked endlessly about what a recumbent should look like. Together we designed the original Barcroft Dakota."

"Barcroft Cycles became possible when I retired from journalism in May 1999. My longtime friend, Will O'Neil, and I formed the company to build a limited number of high-end recumbent bikes. Will has been around exotic vehicles for a long time. He was one of the chief engineers for Lockheed-Martin's F22 Raptor fighter. Paul Collier, a riding friend and a super upholsterer, is our chief wrench and Chris Burkhardt designed our Columbia tandem."

## VERDICT

The Barcroft Dakota, with its long, reasonably low and sleek look has a lot of style. The large tube bend is a signature item. I've heard people say it is one of the best looking recumbent bicycles, and I agree.

The Barcroft Dakota is definitely NOT a minimalist design. The Dakota is the way it is because Bill Cook likes it this way. Bill likes the ride of the triangulated frame, and the

look of his bent main tube. There are other more minimalist designs out there if that is what you're into.

One aspect of the design that we'd like to see simplified is the use of the RANS sprint braces (seat stays). These run from the seat all the way back to the dropouts, paralleling the seat stays. It would seem to me that a custom "U" mount of some kind could connect the seat back to the top of the curved main tube and simplify the seat back attachment.

The determining factors of whether you'll want a Barcroft rest mainly with Bill Cook's design intentions. We can all appreciate the lower stature (SWB can be very tall), and the longer wheelbase adds to the stability and handling refinement. So this leaves the laid back seat position and the begging hamster handlebar position (bars near your chest). I found even the most upright position fairly laid back. Those wanting a more upright position should also check out the RANS V-Rex. Begging hamster (Barcroft/RANS V-Rex) vs. tweener (Bacchetta/Volae; bars lower and at the sides of your legs) is 100% personal preference. Our Dakota came outfitted with the optional extended boom, which allowed me to move the otherwise too-close handlebars farther away from my body (boom out and seat back).

For fixed boom owners, RANS has an option that might work on the Barcroft as well: Arm Position Extended or A.P.E. <[www.ransbikes.com/APE.htm](http://www.ransbikes.com/APE.htm)> where you turn your stem around. You can also add a RANS B-37 double bend bars and fixed stem <[www.ransbikes.com/ITRRocket.htm](http://www.ransbikes.com/ITRRocket.htm)>. Tweeners are lower and have more of a reach. Both are excellent refined systems. You'll need to decide which one works best for you.

I would like to see the Barcroft ship in a larger box with more preassembly and sizing adjustments for the customer. Other direct sellers, WizWheelz, BiGHA and Volae ship nearly fully assembled bicycles these days — this is becoming the standard for recumbents sold direct.

While highracers are all the current buzz in the recumbent world, most riders will find a traditional SWB OSS a more useful all-around machine. With its triangulated rear frame and 2" diameter main frame tube, the Barcroft is an ideal touring bike. Once dialed in, this is one of the finest touring SWB OSS recumbents made. The Barcroft Dakota performed beyond my expectations. Bill Cook believes the bike rides so well because he's not an engineer. This could be it. Many Barcroft owners are also smitten with the bikes. What's not to like? It's a near perfect example of an American style SWB OSS — with the seat reclined a bit more than usual. ♦

## FOR

- Very smooth ride
- Comfy RANS seat
- Excellent road manners at all speeds
- Careful preassembly
- Very laid-back feel\*

## AGAINST

- Claustrophobic cockpit (for those accustomed to highracers)
- Old style RANS seat mount
- Lots of assembly required
- Very laid-back feel\*
- Boom/head tube braze joint isn't the most attractive joint (adjustable boom model)

\*Laid back feel could be a "For" or "Against" depending on your personal preference.

## MORE INFO

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

## NUMBERS

Wheelbase: 47"  
Seat height: 21.5" (RCN measured)  
Crank height: 26"  
Seat angle: Adjustable  
Weight: 28.5 lbs. (factory)  
Weight limit: 275 lbs.  
Gears: 27  
Gear-Inch Range: 22-118

## BIKE

Frame: Brazed 2" mandrel-bent Cromoly  
Fork: Aluminum 20" (RANS)  
Color: Metallic black (wet spray; 10 colors available)  
Handlebar: (narrow)  
Stem/Riser: TerraCycle Flex Stem  
Seat: RANS (old style clamp)  
Sizes: One size fits most, optional sliding boom (+ sliding seat) is available.

## SPECS

Crankset: FSA 30/42/52  
Bottom Bracket: FSA  
Cassette: Shimano XT or SRAM 11-34  
Derailleur (front): Shimano 105  
Derailleur (rear): Shimano Deore XT  
Chain: Shimano  
Shifters: SRAM Rocket twist grip  
Headset: Cane Creek S-2 cartridge bearings  
Brakes: Shimano Deore LX V-brake  
Wheel (front): 406 mm 20"  
Wheel (rear): 559 mm 26"  
Hubs: Velocity  
Rims: Velocity Aeroheat  
Wheel Build: Velocity  
Tires: Schwalbe Marathon slick (1.35/1.25)  
Pedals: Not included

# Buying Builder-Direct

By Bob Bryant

In the old days of recumbency, finding a bike to look at, let alone ride, was difficult. Now we have many brands sold through dealers, and it is much easier for new enthusiasts to find and test-ride recumbents locally.

Several smaller custom builders sell direct to the customers via mail order. This cuts out the middle man, and saves the builder lots of cash. This isn't so much about making lots of money; the idea is for these smaller builders to be price-competitive. As recumbents go more mainstream, the smaller builders are finding it more difficult to compete against the larger builders, with their credit terms, larger profit margins, etc. Entry level recumbent offerings have never been better.

One negative aspect of buying builder-direct is the added cost to you, the buyer. You might save sales tax, and it might save you a drive to the local dealer, but you will pay a premium to buy builder-direct. You will pay for shipping. This can be \$60-\$200 or more, depending on the carrier and how small the boxes are (small boxes = more set-up time and cost). Lastly, having your bike set up by a local shop can be

costly (\$50-\$200 or more for something like a tandem trike) and you might have to deal with indifferent bike shop mechanics who don't like recumbents.

There are a lot of reasons for a small manufacturer to sell direct. So what benefits are there to the buyer? The only real benefit is that you'll get a special bike, often hand-crafted for you, and you'll get more personal treatment. If you're considering buying direct, we've worked up a list of what to look for:

**1. Communications:** Dealing with a one- or two-person company can be difficult, especially if there are problems. And believe me, there can be problems. I've heard it all over the last 17 years. What you need to look for is a builder who is:

- A Proactive/Problem Solver who will work to find solutions.
- Available by phone or email and responsive. (A response within 24 hours is good; within 48 hours is acceptable; and any more than that makes me nervous.)
- Friendly, patient and not condescending for those nit-picky little detail problems and questions. Builders need to check their egos at the door when dealing with customers spending \$2,000 or more on a bicycle (and this doesn't always happen).
- Flexible, and who will go the extra mile to take care of anything that comes up, even if it's the customers mistake. Builders are saving hundreds of dollars in dealer margins and should be willing to take care of problems for their customers.

**2. Documentation:** A direct-sale recumbent should have assembly instructions (with photos) and suggestions on how to set up your bike, and even how to use and maintain your bike. Manufacturers should keep a copy of this information on their websites in pdf format.

Every recumbent needs an owner's manual or at least a fact sheet. The only viable alternative to omitting assembly instructions is to ship the bike fully assembled (like BiGHA, Volae or WizWheelz) or to ship the bike to a dealer with the set-up bill paid for by the manufacturer (Easy Racers used to include this on direct-sale recumbents).

**3. Ease of Assembly:** Most recumbent buyers are not capable of setting up their recumbents — properly. I have 17 years experience setting up test bikes and get over my head once in a while. My recommendation to builders is to ship the bike fully assembled. Among direct sellers, shipping bikes fully assembled to direct purchasers has become the norm. There are more shipping options these days and it is not the big deal that it once was. It just takes some planning and homework by the builder. Most could have viable options within a few hours (custom boxes or crates and a list of shippers). There is no reason for builders to use UPS and small boxes to ship bikes going direct to customers any more. If a builder can't afford to offer this, I suggest they raise their prices, or offer the bike in kit form for those who are capable mechanics. ♦

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www.sunbicycles.com / www.j&simporters.com

# Recumbent Sleepers

By Bob Bryant

Like many other industries, the recumbent world seems to love new product buzz and hype. Enthusiasts want to know about the latest greatest recumbent models. Sadly, this places builders who refine their designs over years and decades at a disadvantage. Bryan Ball of [www.bentrideronline.com](http://www.bentrideronline.com) and I were talking about this on the phone recently. We discussed how there are many great bikes in the market that were designed several years ago and just don't get the press that they deserve. Bryan published his list at BROL and here is my list:



**RANS V-Rex:** This SWB changed recumbency. The unique design has a trussed (triangulated) frame, near-perfect road manners and the bike does most everything well: commuting, touring, club rides and centuries. It is the Speed King as the Jack-of-all-trades recumbent (making it the Jack of Speed?; a cool Steely Dan song). Through the years it has been continually refined and is at its best right now. While other more extreme SWB models are the media darlings, the venerable V-Rex is the bike that started most of the current SWB trends. Countless newer models were inspired by the V-Rex. The bike is comfortable, easy to ride and has a lower bottom bracket than most current SWB models. <[www.ransbikes.com](http://www.ransbikes.com)>



**RANS Rocket:** Imagine a V-Rex that is a tad smaller, more compact, stiffer riding, but with an incredible handling that only dual 20" wheels could offer. The secret of the Rocket is the dual same-size wheels. The Rocket feels like a road bike in the way it handles



in and out of the turns. You can almost control the bike through side-to-side weight shifts (like a road bike), which is very rare for a recumbent. The Rocket feels faster in acceleration, but it takes more effort to keep your speed up with the small wheels. <[www.ransbikes.com](http://www.ransbikes.com)>

**RANS Stratus:** Always in the shadows of more popular LWB models, the Stratus is one of the most attractive and comfortable riding recumbents ever built. This bike was purposefully designed with triangles in the right places. It was not a clone, or a *chopped* upright or cruiser. The result is perhaps the most unique and comfortable riding LWB OSS recumbent. The Stratus won't be on our Sleeper list for long; the bike is due for a big comeback: A 2006 lower cost Stratus is rumored, as well as a dual 26" wheeled model are on the way, with a new *chopper* handlebar option. RANS is also rumored to be bringing back the fabric fairing that fastens to chopper bars. <[www.ransbikes.com](http://www.ransbikes.com)>



**Sun EZ1:** Reports of the demise of the CLWB (Compact Long Wheelbase) recumbent are clearly premature. The market for the CLWB clearly changed after the disappearance of BikeE. In the years since, Sun has quietly been selling thousands of EZ1s. In fact, for 2005, the EZ1 is Sun's best selling two-wheeler. The EZ1 was originally designed by Gardner Martin. The EZ1 is compact, handles great and is very easy to ride. The aluminum AX model is also Sun's lightest recumbent. Throw on a Sun Edge fairing and you have a compact speedster. <[www.sunbicycles.com](http://www.sunbicycles.com)>

**Sun EZ Sport:** The EZ Sport was designed by the late Easy Racers' Gardner Martin to be a more recreational version of his famous Tour Easy recumbent. We prefer



aluminum AX model, but the steel model is a bargain. Many RCN reader newbies research the higher-end bikes, but when they climb on an EZ Sport and look at the price tag they go for it. The Sport has the looks, style, comfort and feel that many casual recumbent riders are looking for.

<[www.sunbicycles.com](http://www.sunbicycles.com)>



**Linear:** Many RCN readers love USS (under-seat steering). LWB (long wheelbase) USS bikes were once the most popular type of recumbent back in the days of the Ryan, the Linear and the Infinity (the original affordable recumbent). In the early and mid-1990s, Linear was one of the top three recumbent manufacturers in the US. The business then changed hands a time or two before going out of business. Peter Stull, the Bicycle Man in Alfred, New York, bought the company and is quietly producing these aluminum mono-beam LWB USS recumbents in folding and non-folding styles. The Linear has proven to be a very unique and timeless design. [www.linearrecumbent.com](http://www.linearrecumbent.com)

These are all bikes that I have enjoyed reviewing and writing about over the years, and I hope they all gain in popularity. <[www.linearrecumbent.com](http://www.linearrecumbent.com)>



**Lightfoot Ranger:** Lightfoot is a small company that builds recumbents in Montana. The Ranger is a very unique model. It's designed for rough country touring over versatile terrain. The Ranger has a big long frame, dual 26" wheels and is TOUGH. The bike also sits tall on the road, so it makes for

a good commuter as well. In fact, the Ranger can be anything you want it to be. Lightfoot also builds excellent utility, commuter, and hybrid delta trikes.  
<www.lightfootcycles.com>

**ANOTHER KIND OF SLEEPER**

Another subgroup of Sleepers is from builders who seemingly keep a low profile in the recumbent world.

Here are some makes/models that fit this category: Lightning <www.lightningbikes.com>, Longbikes <www.longbikes.com>, Haluzak <www.haluzak.com>, Human Powered

Machines <http://members.efn.org/~cat/hpm/index.htm>, Organic Engines <www.organicengines.com>, Turner <www.turnerrecumbents.com>, S&B <http://home.pacbell.net/recumbnt> and to some extent, Actionbent <www.actionbent.com>. If you visit these websites, please let them know you read about their products in RCN. ♦

Stratus XP . . . Continued from page 10

Weight limit: 275 pounds  
Gears: 27  
Gear Inch Range: 24-121  
(25.625" wheel diameter)

**BIKE**

Frame: 4130 CroMoly steel  
Fork: RANS Aluminum  
Color: Corvette Blue  
Handlebar: RANS T or chopper bar  
Stem/Riser: RANS quill style  
Seat: RANS mesh (others optional)  
Sizes: Standard & XL

**SPECS**

Crankset: Truvativ Rouleur 30/42/52  
Bottom Bracket: Truvativ ISIS  
Cassette: SRAM 11-32  
Derailleur (front): Microshift  
Derailleur (rear): SRAM 9.0  
Chain: KMC Z9000  
Shifters: SRAM 9.0 twist grip  
Headset: FSA TH-865N  
Brakes: Avid Arch Rival V  
Levers: Avid Speed Dial 7  
Wheels: 559mm 26"  
Hubs: Shimano Deore LX 36°  
Rims: Alex DA 16 Black ano, CNC sidewall  
Tires: Primo Comet 26" x 1" 100 psi  
Pedals: Wellgo LU-897 platform

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**POWER ASSIST**

Lightfoot Cycles has Honda 4-stroke gas and electric assist options for their recumbent bikes and trikes: <www.lightfootcycles.com/power.htm>.

Staton Inc. sells Honda 4-stroke motors in sizes from 31 to 49cc, plus a custom gearbox. These can be adapted to many recumbent bicycles: <www.staton-inc.com>.

Doyle Custom Bikes builds a tadpole trike with an integrated Honda 4-stroke motor: <www.doylecustombikes.com>.

**ELECTRIC BIKES**

Giant USA offers an electric version of their Suede (flat-footed cruiser, like a Townie) and an electric Revive. <www.giant-bicycles.com/us>.

**ELECTRIC KITS**

<www.largoscooters.com> (Go-Hub)  
<www.evdeals.com>  
<www.evsolutions.net>  
<www.tidalforce.com>  
<www.bionx.ca>

**ELECTRIC CAR**

Neighborhood Electric Vehicles (NEV): Here in my town, these small and efficient cars make sense. NEV speeds are limited to just 25 mph, and can only be used on roads with posted speed limits of up to 35 mph. The downside is the cost, over \$10,000.

Dynasty It Car: I drove one of these at our Earth Day Festival two years ago and I liked it a lot. www.itiselectric.com

GEM Car: Several people I know own these. They are user-friendly and fine for around town transportation. The downside is that the batteries need to be replaced every few years <www.gemcar.com>.

NEV's are basically golf carts with turns signals, but they are expensive just like regular cars (hmm, how did that happen?) While a few people I know purchased second hand GEM cars for very affordable prices (eBay and from out of state), new ones are now upwards of \$12,000 or more — for an electric car that tops out at 25 mph!

Even worse is the high cost and poor availability of recumbent velomobiles. They can be \$10,000 +/- — if you can find one. One day while surfing the net, I found the website of Blackbird bikes <www.blackbirdbikes.com>. These folks sell a kit that allows you to bolt two Sun EZ1/EZ Sports (and maybe even the suspended EZ Rider) together making for a two passenger commuter quad. I'm daydreaming about building one of these up over the winter.

**COMMUTER RECUMBENTS**

I'm disappointed that there aren't more

recumbent commuter bicycles offered — how about a turn-key commuter model with reasonable gearing (read: low gearing) a rack, fenders, bell, lights, and a kickstand.

This bike should have user-friendly ergonomics (read: moderate seat recline and low bottom bracket, be fairly compact and affordable. I think a 20"/16" wheel combo with a wide-range 16-speed (2x8) would be ideal.

One distinct change I've seen in recumbent design over the years is a move more and more towards performance and extreme riding positions. While this is good for some high performance riders, it's not so great for casual riders, commuters and tourists. Remember when touring 10-speeds and mountain bikes had comfortable geometries (70s and 80s)? Well, I remember when recumbents did. There is still a lot to do, and I don't think it has to do with going faster.

**PEDALING TO A CLOSE**

I don't own a scooter, electric bike, NEV and I rarely drive our family car. I find my bicycle is a perfect way to get around. I get exercise, attempt to stay fit, and don't have to buy gas, pay insurance or spend \$80 per hour for maintenance. The bicycle is the simplest and most efficient vehicle on earth.

**RCN BACK ISSUE SALE**

Due to a back issue over-stock, we're offering a special deal on 6 back issues for \$24 (USA funds), this includes postage (USA & Canada). This special price ends December 31, 2005 — no exceptions.

**RCN NEW FORMAT**

For the first time in a dozen years, we've had to change design software that we use to do the page layout for RCN. We've moved from Adobe Pagemaker to Adobe In Design. We've had to simplify our layout, but will spend much time refining it over the next year. We're also working on a new template with more varied types of articles. If you have an opinion on what types of articles you'd like to see, or ones that you don't want to see, please drop us an email to: <bob@recumbentcyclistnews.com> ♦

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**Editor's Comments:** I commute about 12-20 miles per day year round including up and down steep hills. I have to adjust my disc pads every month or so (turning the pad adjust dials). However, my main disappointment with discs is usually in the number of warped rotors we see on new bikes and they seem to go out of true easily. They also complicate rack and fender mounting — though they do stop well.

**HYDRATION BAGS**

I've been enjoying your magazine very much. At the same time, as a newbie bent rider, I'm getting frustrated with some aspects of riding. For example, does anyone make a good cycle computer that works on a long wheelbase recumbent (I've tried a couple of wireless models and they don't have enough power to reach to the back wheel)? And does anyone have a solution for employing a hydration pack? An article on some of this stuff would be very useful!

Steve (via email)

**Editor's Comments:** Hydration bags vary by model and seat. The first place to look is for a good seat bag; the second option is to mount the hydration system to the seat. You may also need a long tube. As for computers, my best advice is to order the computer ON your recumbent. I realize that it is now too late for

that, but you should go back to your selling dealer. If not, find a forum or newsgroup that covers your brand of bike and start asking questions. Another option would be a wireless computer. Mounting computers varies by model and where the computer goes. This makes doing an article difficult, but I will look into it.

**LONGBIKES**

I just wanted to let you know that I got my Longbike Slipstream with USS. Longbike prides itself on its workmanship, and I will admit it met my expectations. The welds are uniform and the paint job is great. The bike comes with a 26"/20" wheel combo and Kenda Kwest 1.5" tires. The hubs are Longbikes/Quando hubs with sealed bearings. I have no experience with these hubs, but will find out how they hold up. The brakes are Avid mechanical discs. brakes. The Shimano Dura-Ace derailleurs are shifted by bar end shifters. The crankset and bottom bracket and made by Longbikes. Longbikes uses its own hip-hinged full mesh seat that is easy to adjust. My opinion is that if you want a USS touring bike, then you should consider this one. I ordered this bike with a fairing, carbon fiber fenders, rear rack and panniers. This decked-out bike set me back about \$4,000. Currently I cannot think of any negatives, but maybe in a year I will have some.

Eli RR Miller

**Editor's Comment:** The Slipstream looks like a fine, albeit expensive, recumbent. We are interested in testing one, but so far our attempts to get a test loaner have not worked out.

**1/2% RECUMBENTS**

I recently rode a century tour in Salt Lake City. It was not the first time I had done a hundred-mile day, but it was the first time I joined an organized event. It was a fine route with great service on a beautiful spring Utah day. I was one of the happy few on my recumbent, along with roughly seven others, out of 1,650 riders (only 1/2 %)

For the most part, I care nothing about what others do. It isn't in my nature to "convert" anyone. But for those in the business of doing so, think about that untapped market . . .

Martin Neunzert

**Editor's Comment:** Recumbents are still less than 1% of bicycles sold, probably less than 1/2%. While recumbent turnout is higher in areas that recumbents are more popular, at least you weren't the only recumbent rider.

**RCN PDF**

I have subscribed to RCN for many years and think it's great.

At your website I saw you have samples in PDF, and it suddenly occurred to me how great that is. How about letting subscribers ALSO get a PDF download of the issue. I could read the paper version at the beach, but also have a PDF for my archives — much easier to store than a zillion magazines! Or let us subscribers have access to an archive. Or even let subscribers have an option — paper OR PDF!

I don't know how hard it is to get it into PDF, but I'm sure it's something we all could use.

Carey Allen

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**Editor Comment's:** We make several PDF copies of every RCN. The problems are as follows: A high resolution PDF of RCN is 35 megs — a huge file. The samples on the website are low resolution and the photos are marginal at best, but the files are about 1 meg. What we would really need to do is try our monthly (9 or 10) issue format again to get the issue page count smaller.

The main reason we haven't done this is the lack of a database-driven website that integrates with our regular database. We are just too small a company to make this happen. What we may do is sell PDF copies of RCN by single copy on the Internet; that way we wouldn't need the fancy database-driven website. We are continually thinking about this and we appreciate your comments, ideas and feedback. We invite comments from anybody who has expertise in this field. ♦

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