



# Recumbent Cyclist News

The Recumbent Enthusiasts' Newsletter — Since 1990 — #094 May/June 2006



Human Powered Vehicle Challenge  
2006 in Portland, Oregon



Easy Racers Company Sold  
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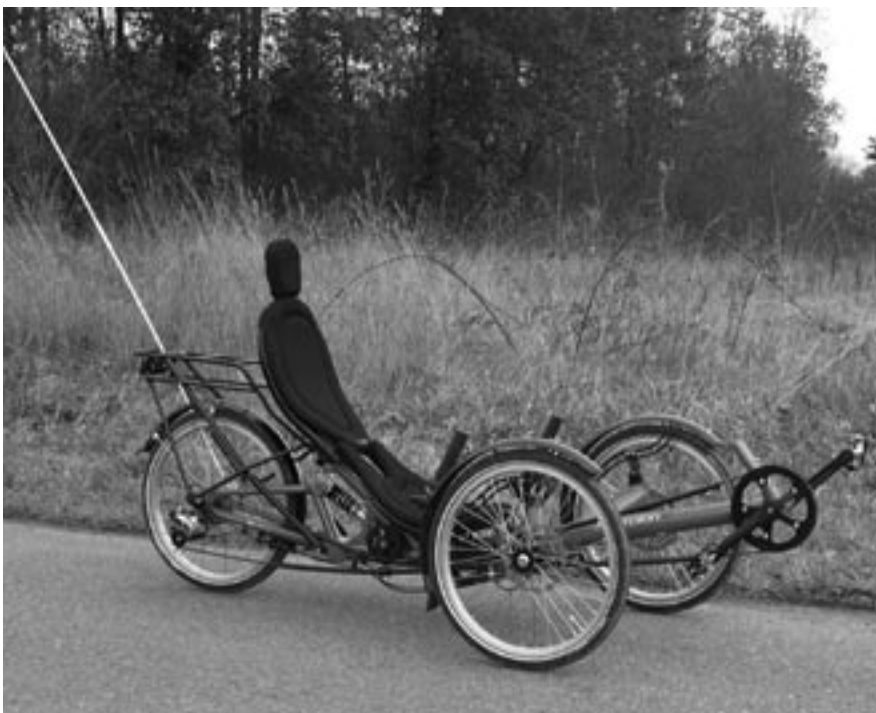
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<http://www.recumbencyclistnews.com>  
<http://recumbencyclist.blogspot.com>



## The HP Velo Scorpion

*"The Scorpion has been designed to create what is probably the most sophisticated touring trike you can buy. The ride is exhilarating — fast and controllable — yet you can carry enough gear for a fully loaded tour with minimum compromise to handling." — HP Velotechnik*

**TRIKE:** The HP Velo Scorpion Tadpole

**PRICE:** \$2,790 + options

**CONTACT:** [www.hpvelotechnik.com](http://www.hpvelotechnik.com)

By Bob Bryant

The Scorpion is the newest model from respected German recumbent maker HP Velotechnik. The Scorpion is a touring (or sport touring) trike with three 20" wheels, a linkage under-seat/side-stick steering, an active coil/oil rear suspension, a finely TIG welded aluminum frame with some unique touches. Like all other HP Velo models, you can customize the Scorpion to your heart's content. Despite HP's location in Germany, dealing with them is as if they were located here in the US. While the designs are very Euro-centric, the level of quality and refinement has been apparent in

every model we've tried.

**USE:** The Scorpion is a sport touring, performance and touring trike all wrapped into one. As with all HP Velo models, accessories are available for long distance travel or for comfortable sport riding.

**SEAT/COMFORT:** The HP Velo Bodylink seat is well suited to this trike. It mounts via eight hex bolts in two unconnected sections. The mid-section extends to accommodate longer torsos. The design is quite ingenious. This is the most comfy Euro shell (with the Airflow pad). The seat feels firm, yet comfortable — and you can definitely feel the lumbar. The Euro seat promotes body English when riding as it allows you to lean more (opposite of a mesh seat, which inhibits leaning).

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# 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

## Editorial License eRCN, Contributors & Perfection

by Bob Bryant, Publisher

### eRCN vs. Print RCN

**S**ome of you have been concerned that we are about ready to jump ship with our printed format and go electronic. This is not the case. We wish to remain a print magazine indefinitely. That said, we have a new blog that will be a companion to the print RCN. Please visit the new blog and mark the URL: <http://recumbencyclist.blogspot.com>. We may offer ads on the blog and/or integrate a forum or mailing list into our website. If you like this idea, please drop us an email.

We believe that a dedicated recumbent bicycle print publication is NECESSARY. A print publication helps to demonstrate that recumbents are real and viable products (though it's too bad that not all recumbent enthusiasts and manufacturers support our vision). We would not consider a web-ONLY RCN unless it was the only choice.

### LOOKING FOR PAID CONTRIBUTORS

We would like to start publishing more voices in RCN. We're looking into *paying* contributors for articles, road tests, contributing to an RCN review (like the Cafe review in RCN 093) and other possibilities. Please email me if you are interested in learning more about this, want to write a review or have a story idea for RCN. Unfortunately, we will not be able to supply test bike loaners.

We're looking for articles on the following late model recumbents: Actionbent current models, Longbikes Slipstream, folding Linear, Cycle Genius LTX & Sparrow, Bacchetta Agio, Lightfoot trike, Hase Tagun, Volae Tour, Sun EZ3 AX, RANS Zenetik, 2006 ICE Q & S, homebuilts, electric or gas power assist and recumbent adventure stories (touring, must include equipment discussion, sorry no travelogues) etc. If you have a story idea, let us know.

We're also looking for reader/riders who would like to be in RCN "Me and My Bike" which will feature a photo of you and your bike, and a questionnaire completed by you. We're not sure if this will be a paid article or not.

We're also interested in hearing from female RCN readers about what recumbents work for you. Please write us a letter to the editor or consider writing an article for RCN.

### RCN SUBSCRIPTIONS

As many of you know, we offer both first class (\$38 per year) and third class mail subscriptions (\$32). First class mail upgrade is

the FASTEST way to receive RCN. Delivery takes about one week and the issues are mailed from our printer in upstate New York. First class subscriptions are also mailed in an envelope. Third class mail can take an additional 3-4 WEEKS to arrive. Also, third class mail will not be forwarded, which means that if you move or put your mail on vacation hold, the Postal Service disposes of your issue and charges us for your new address or to notify us that you are "temporarily away." We must then mail a second issue via first class mail in an envelope (or you'll miss the issue).

So, you might ask, "why does RCN use third class mail?" Answer: Cost. It is less than half the price of first class mail. So for an extra six bucks, you get RCN faster, mailed flat in an envelope, and it will be forwarded if you move or go on vacation. Since we lowered the cost on first class subscriptions last January, many subscribers are upgrading.

If you need to know where your subscription stands, check out the top line of the mailing label on your RCN (or first class envelope). It should read something like this, "EXPIRES 094." This means that RCN 094 is the last issue of your current subscription.

If you want your subscription to run without interruption, please renew three months prior to your subscription expiration. This means if your mailing label says, EXPIRES 095" or "EXPIRES 096" now is the time to renew. The reason we ask for early renewals is that RCN's third class mailing list is sent to the printer eight or so weeks before you receive your RCN.

### RCN PERFECTION

While some may feel that we are just sloppy or don't try hard enough when they see a mistake in RCN. We take the few criticisms we receive very seriously. Editing and proofing are far more difficult than the actual writing and page layout takes a very long time — like a big jigsaw puzzle. Imagine how many letters, numbers and symbols are in each issue. RCN has more type than most publications our size because we use tight 9-point Times text. RCN has a volunteer copy editor, and is read no less than a dozen times before going to press — and there are still mistakes. We do our best, but we're not perfect. Most of the mistakes come during last minute changes in the 12th hour.

Viva Recumbency  
Bob Bryant

bob@recumbencyclistnews.com ♦

# Recumbent News

## EASY RACERS UNDER NEW OWNERSHIP

**A**fter months of speculation, we received the announcement that the Easy Racers company had been sold (March 10, 2006):

From Sandra Sims-Martin:

Yes, it's true; I am retiring but EASY RACERS IS NOT! The same crew will still be here for you with the same excellent quality and service. AND FAST FREDDY MARKHAM AND DENTON COETZEE will be stepping in.

Let me introduce Denton first. I've only just met him, but here are my impressions. He's a successful businessman with global interests. He has a background in manufacturing with expertise to take Easy Racers to the next level. This experience and expertise is something that I lack, so I feel that Denton can be nothing but good for Easy Racers. Also, he seems to be a "good guy" who understands the family nature of Easy Racers.

Fast Freddy probably needs no introduction. Some of you know him, many of you know of him. Fast Freddy was our racer. It was Freddy who was the first to break 50mph (on our prone streamliner) and the first to break 65 mph on the original Gold Rush which went into the Smithsonian. He also took the kilo, the hour, and several road race course records. In fact of the 18 or 20 records we held, Freddy did them all except for the 24 hour one (set by Mhyee) and the 12 hour one (set by Ron Bobb).

Freddy has been a part of the Easy Racer family since he was 19 years old and his mother had to sign the liability waivers in order for him to race for us. Gardner was Godfather to Freddy's oldest daughter, Tanya. Unlike that famous family, it was never 'just business' for us, it was always personal—and it still is. I'm just handing over to another member of "the family." And he really, really, really, knows bicycles.

I feel that I'm doing what is best for Easy Racers, and I know I'm doing what is best for me. I'm confident that Freddy and Denton will only make Easy Racers better while continuing with the Easy Racer Family Tradition.

Please give Freddy and Denton the same support and enthusiasm you gave Gardner and you gave me and I'm sure they'll return it with the same personal support and service we did.

And I'm not going to just disappear, I will be reading the forums and posting when I have anything to say. I may show up at Battle Mountain or elsewhere. I still have funds to distribute from the Gardner Martin Memorial Fund, and I'm working hard on my book. I would like to invite any of you that have Gardner pics or Gardner stories that would help me complete it to send them to me, personally, at xandragon@sbc.global.net. So, until we meet again.

Happy trails, Easy Racers, Fred, Denton, and all,  
Sandra

**Easy Racers Note:** The first change at Easy Racers is that prices have been decreased back to their 2005 level (Tour Easy \$1995, Gold Rush \$2995 and Fold Rush \$3495). We're also hearing rumors of possible new models (including a carbon-fiber Gold Rush), so watch stay tuned to RCN for more information.

## RANS INTRODUCES NEW DUAL 26" TANDEM

The Seavo is a new tandem recumbent from RANS with an emphasis on increased comfort and performance. The Seavo has a more aggressive geometry for better aerodynamics and power extraction, dual 26" wheels, use of standard tandem MTB fork, and 203 disc brakes. A specific feature to the Seavo is folding seats. This allows the seat pan (which is carbon) to adjust in angle or to lay flat for transport. TIG welded in the USA, the frame is 4130 and over a pound lighter than the Screamer, and with ample X-Seam to allow one size frame to fit most all.



*The newly unveiled RANS Seavo dual 26" tandem will be available in June — photo courtesy of RANS*

Handling and speed is something that this bike does very well. Throughout the speed range, control is confident, and predictable. Speed from the dual big wheels will be apparent after your first good ride. The Seavo has a Force 5 riding position and steering geometry and a Stratus stoker position. The Seavo is TIG welded of Chromoly steel in the USA and comes in silver, yellow, black and orange. The Seavo has a 79.6" wheelbase, is 104.6" long and weighs 44 pounds. The price for the new tandem is \$5899/TR \$6499 (S&S couplers).

Source: RANS

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**ESIDEWINDER INTRODUCES SPORTZ**

Sidewinder Cycle, Inc announced the release of its newest model, the SportZ recumbent cycle. The new SportZ incorporates all the mechanical patents that separate Sidewinder Cycles from their competitors plus a new lower price of \$1595.

For over 10 years, Sidewinder Cycle, Inc. has been building recumbents focusing on perfecting their first model, the Pro-cruiser. The decision to add to their product line consisted of many years of customer feedback, industry competition and the desire to continue to support the health habit of the Boomer generation.

The Sidewinder SportZ guarantees a comfortable ride with a folding option for ease of storage and transport. In addition, the patented drive train differential is now five pounds lighter and can be set for single- or dual-handle mechanical brakes. Both front wheels are equipped with spin-off hubs for quick transport or storage. Another exclusive feature incorporated into the design of the SportZ, is unlimited seating angle options that will satisfy the most demanding backs.

Loaded with features with an unbeatable price, the SportZ is set to create a revolution with the Boomer generations goal for fitness. With an aggressive dealership program developing along with manufacturing established, the SportZ is set for success.

www.sidewindercycle.com  
Source: Sidewinder

**HP VELOTECHNIK VOTED #1 BIKE MANUFACTURER IN GERMANY**

The german dealer organization VSF just voted recumbent manufacturer HP Velotechnik #1 bicycle manufacturer for 2006. Out of 17 important bike producers (of all kinds, not only recumbents), HP Velotechnik was chosen number one for superior quality and customer service. Source: HP Velotechnik

**CUSTOM SEAT COVERS**

Xpressions 4Youride Recumbent Bike Seat. We offer seat covers in spandex patterns that fit the EZ-Series Recumbents made by Sun



*The Sidewinder Pro-Cruiser*



*Right: Dick Buist's Shark Trike. See: <http://web.mac.com/dickbuist/iWeb/Site/Shark%20Trike.html>*

Bicycles and all Easy Racers Recumbents. Source: <http://www.x4yr.net>.

**PACIFIC NORTHWEST RIDER GROUP**

Long time Pacific Northwest recumbent rider, Tony Licuanan, has started up a Yahoo group for Pacific Northwest recumbent riders. For years we had monthly and even weekly recumbent rides and we hope to get the group going again. To join the Yahoo group, go to the following website: <http://sports.groups.yahoo.com/group/BentPacNW/>

**SHORT CRANKS**

Bikesmith Design's Mark Stonich is now offering Shimano M-440 mountain bike cranks, shortened to 153mm or 148mm. They are fairly basic cranks, for square taper bottom brackets. The 22-32-44t chainrings are steel, but are ramped and pinned so shift nicely. Rings are spaced for Shimano 9-speed indexed

shifting. But work fine with 8-speed chain and non-indexed front shifting. The crank and rings weigh 865 grams after shortening (lose 150 grams by changing to alloy rings). Available alloy rings are: 22, 24 or 26 tooth (inside); 32, 34 or 36 tooth (middle); and 42, 44, 46 or 48tooth (outside). The crank is priced at under \$100 complete, more if you want new alloy chainrings. For more information check out: [www.bikesmithdesign.com/Short\\_Cranks/m440.html](http://www.bikesmithdesign.com/Short_Cranks/m440.html)

**RCN 092 CORRECTIONS**

**GREENSPEED:** The X-series trike chain idler is delrin, not aluminum. ♦

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**EASY RIDERS RECUMBENT CLUB MAGAZINE**

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

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

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# Letters

Please write us. Letter limit is 300 words (or write an article).  
We edit for clarity, content and space limitations. bob@recumbencyclistnews.com



## BUYERS' GUIDE #1

Your issue RCN 092 is a blockbuster, a jewel that will be recommended to everyone who asks me about recumbents! Congratulations on a masterful achievement!

The recumbent spec/price list is worth a year's subscription all by itself. And it made me feel very old-fashioned. I love under-seat steering, but I see that it's in the same class as buggy whips (along with me). The list has all the important numbers and descriptions needed before looking seriously at a 'bent. Thank you very much! Keep going for ever!

David Gordon (Dave) Wilson

## RCN BUYERS GUIDE #2

Thanks for the new issue. IT'S GREAT! WHAT A RESOURCE! It's just full of amazing things.

Jeff Potter  
www.outyourbackdoor.com

## BUYERS' GUIDE #3

Thanks for a great RCN 092. There is a good balance of information about all bikes. I like the issue, and will use it for a year-long reference.

Randy Schlitter  
www.ransbikes.com

## BUYERS' GUIDE #4

I just read RCN 092, and want to compliment you on your "Recumbents 101" article. I have been promoting and explaining recumbency to my friends for seven years now, and your Recumbents 101 summary is a fantastic collection of all of the "conventional wisdom" that I have collected over the years. I even think it would make a good handout for dealers to offer to prospective 'bent buyers to help them understand the confusing variety of choices. Again, a great job.

Steve Christensen

## BUYERS GUIDE #5

This is my first message to you ever. Wow, I really liked RCN 092. The components review was great. Maybe I am prejudiced, as a five year RANS Stratus commuter. I almost got an Easy Racers Tour Easy initially but you feel every crack in the pavement, and I commute on this long sidewalk called the Seawall that goes for about 10 miles along the Gulf of Mexico. It is cement, with the usual cross lines. I am now on my second Stratus. The idea of the big wheel up front is great, and maybe that is my future bike. It raises the bottom bracket and gives you a little more seat recline.

Dave Yngve

## HIGHRACER BLUES

I just read with great interest Mike Stern's article on highracers in RCN 093. I fully agree and Mike is right on. Highracers are being sold with a promise and an image that just doesn't work for us vertically challenged athletes. At 5' 7" I have yet to find one that really works. I tried the Giro 26 and the new Corsa. I will stick with my Phantom and Giro 20, thank you. They are great rides, stable and work fine for me. I have really lusted after the idea, and now that Mike has fully validated my experiences, my lust will turn to other things, like upgrading. The split Mike refers to, where one foot is clipped in while the other tries to maintain stability on the ground is a stretch — literally, and just does not



The ERRC Lloonngg panniers (see letters below)  
Photo courtesy of Connie McAyeal

fly. The beauty of recumbents is their tremendous variations, so there really is something for everyone. Once again, RCN proves it is a great read.

Irwin Koransky  
Phantom, Giro and loving it

## FOLD RUSH REVIEW

Thanks for the review of the Fold Rush in RCN 093. As always, we will take your criticisms under consideration. And, as always, we appreciate that you recognize quality when you ride it. Keep on keepin' on and calling 'em like you see 'em. In the paragraph "Upgrades and Accessories" you mention several possible bags but do not include the set-up that we consider the best: Laurie Smith's (ERRC) under-seat rack, the Easy Reacher with her "Lloonngg" panniers (2980-4924 cubic inches). It's a great set-up as it puts the extra weight in a better (for bike handling purposes) position than any rear bag can do. Perhaps you were just mentioning the day-use type bags as opposed to the all-purpose set-up, but I really think people need to know about these bags to go with their LWB recumbent.

Happy trails,  
Sandra Sims-Martin  
Easy Racers, Inc.

## ERRC LLOONNGG PANNIERS

I just finished reading the latest RCN. I read the Fold Rush article, and noticed your comments about different bags etc. that are available. I don't know if you realize that my daughter Laurie actually 'designed' the Lloonngg ERRC panniers. They have been successfully used on numerous touring adventures (including Trans-Am tours). They are very large, water-resistant, and keep the center of balance low and towards the center of the bike, allowing for much better handling with a touring load. She has them manufactured and sells them herself.

She also worked with her bag manufacturer to modify an existing 'upright' pannier they produce by turning it sideways (this allowed them to use an existing template for the interior plastic stiffener and not have to design a different one from scratch). This modification resulted in her ERRC standard under-seat panniers (she also had them add mesh water-bottle pockets and an exterior mesh pocket along the length of the

... Letters continued on page 19

I have a difficult time with very reclined recumbents. In order to be comfortable, I need to have my neck supported when reclined in this riding position. The HP Velo headrest is simple and bolts right onto the seat. The problem is that it really works best when you ride WITHOUT a helmet (a big taboo and illegal in some parts of the US). If you ride with a helmet, you can feel the lower section of your helmet resting on the headrest.

**RIDING POSITION:** The riding position is less extreme than any trike I've had here lately. The bottom bracket is fairly low, and the seat angle suited me just fine. The unique seat is what sets this trike apart from its competitors.

**RIDE:** The Scorpion has a very forgiving and refined handling. I had no tense moments. The trike has almost no brake steer when you are coming to a stop, and I even did some one brake stops when signaling a turn. I rode up and down the steepest hills in town with relative ease. The Scorpion offers excellent stability and high-speed handling, for as fast as I care to go on trikes (up to the low 20 mph range). The refined handling is similar to what I've experienced with other high end trikes. The Scorpion has quickly moved to the upper echelon of fine-handling tadpole trikes.

The rear suspension keeps the rear wheel on the ground and makes for an even safer and more controlled ride. Despite the rear suspension, I could still feel the jarring of the stiff aluminum frame and high pressure tires over our very rough paved roads.

The Scorpion feels a bit taller than other trikes, though it really isn't. Perhaps it was the 20" wheels. With tadpole trikes you are down low. I never felt unsafe while riding our country roads or even downtown streets. I still get nervous when I'm surrounded by cars, such as the middle lane of a three-lane intersection; I don't like being beside cars and down low. Also, on a tadpole you are at automobile exhaust pipe level. I found myself holding my breath in these situations. This is worse than on my long wheelbase 'bent, and much worse than on my upright commuter.

**PERFORMANCE:** The Scorpion is capable of just about any kind of riding. The Scorpion is relatively fast as trikes go, perhaps not as quick feeling as the small-wheeled Greenspeed X-series or a Catrike Speed — but the Scorpion is handles more easily and is more forgiving on the road than a dedicated sport trike.

**FRAME:** This is HP Velo's first trike model — and it's stunning. The frame has many fine details. The aluminum weld beads flow nicely, and the handlebar stem bolt is recessed into the main tube. The swing-arm and suspension looks refined and well-designed and is an integrated part of the trike. The bolt-on swing-arm pivots on maintenance-free bushings. The extendable boom slides on a plastic liner sleeve, and two hex bolts clamp it down. There are zip-tie style cable guides. Since the standard drivetrain is a DualDrive 3x8, the front derailleur post is optional.

The front wheels have a unique axle arrangement where a hex bolt tightens the axle into a 3/4 round (slit down bottom) wheel mount. I'm no engineer, but this mount is the most convenient trike front wheel mount that I've seen.

**SUSPENSION:** The Scorpion has HP Velo's trademark "No Squat" rear suspension with 2.75" of travel. This is the finest suspension in the recumbent business. While it does add weight and complexity, HP Velo has suspension down to a science. The stock shock is a DNM coil/oil shock. There are optional shocks for heavier riders. An optional and lighter weight air shock is available.

**STEERING:** The trike steers easily and the parts all work great. The handlebars pivot on sealed bearings and the steering rods have bronze bushings. The kingpins (forks) pivot on headset bearings, making this about the finest quality front end we know of on a tadpole trike.

**WEIGHT:** The Scorpion is a bit heavy for a tadpole in this price range. This is primarily due to the rear suspension. Ours weighed about 40 pounds with pedals, Airflow seat pad, parking brake and a headrest.



*The Scorpion is attractive, robust and refined trike.*



*The Scorpion has a rear suspension, an optional V-parking brake and super-tough (and expensive) rear rack.*



*Note disc brakes and true quick-release front axles. Also, the seat is a BodyLink shells seat with optional Airflow cushion.*

With the rear rack and fenders, it weighed in at 44.5 pounds.

According to HP Velo, you can get the trike down to 36.5 pounds by adding the following options: DT Swiss Air shock (-200 grams), Deore XT gears with 40/60 double crank instead of DualDrive (-382 grams), standard EVA foam instead of Airflow pad (-407 grams), Magura Marta disc brakes instead of Avid mechanical (-376 grams), Schwalbe Stelvio

tires instead of Marathon Slick (-320 grams). You would also need to order the trike with no parking brake (-330 grams) or headrest (-155 grams).

**COMPONENTS:** The Scorpion's drivetrain is based on the SRAM DualDrive 24-speed. The down side to this system is the SRAM twist grip shifters. While some people like them, I think they just don't work as well on a trike as Shimano bar-end shifters.

**GEARING:** The DualDrive has three internal gears inside the hub, gear #1 is a 27% reduction gear, gear #2 is a 1:1 lockup (the most efficient gear), and gear #3 is an 136% over-drive. The DualDrive is shifted like a front derailleur by a twist shifter.

With the 19" diameter rear wheel (actual measurement), a 46-tooth chainring and an 11-32 cassette, the gear range is 20-108 gear-inches. The gearing in DualDrive gear #2, the 1:1 lockup is an excellent 27-79.5 gear-inches. Overall, this gearing may just be a bit too high for hilly terrain with a touring load, but fine for flatter terrain or commuting.

DualDrives have more internal friction and I could definitely feel it in my shifts and power to the pedals. While they are quite functional and even impressive, less power gets to the pedals than with a straight 27-speed drivetrain. The DualDrive has a shifting rod that comes out of the drive-side axle and a plastic shift box that clamps on and holds the cable to the shifter.

Those who just can't get enough, can opt for the new Deore XT/105 DualDrive 81-speed option, which combines the DualDrive with a triple crank (3x3x9 = 81 speeds).

**CHAIN MANAGEMENT:** HP Velo uses high quality PTFE Teflon tubing to guide the chains. The Scorpion has three of them. The power-side rolls under a 4" cartridge-sealed bearing idler in between two chain tubes. The HP Velo system does a nice job of protecting your thighs and trousers (if you ride with street clothes, as I often do in the winter).

**BRAKES:** The stock Avid mechanical disc brakes performed flawlessly. Our test trike had the optional rear Avid V-brake (\$49) attached to a friction shifter that acts as a parking brake. This is the best parking brake I've used. Optional Magura BIG hydraulic disc brakes are costly, but allow both front disc brakes to be connected to one lever. They are also hydraulic, which means they have fluid in the lines and somebody has to bleed them occasionally (not me).

**WHEELS:** HP Velo wheels are built overseas and touched up at the factory (a good plan). The hubs are very nice HP Velo brand with sealed bearings. The rims are a modest anodized Alex brand. The tires are venerable Schwalbe Marathon 1.35" 95 psi and work fine — a good match between performance and durability.

**UPGRADES:** Options and upgrades include: custom colors (\$119), DT Swiss shock (\$290), Shimano Deore /Tiagra 18-

speed (\$109), Deore XT/105 (\$219), Deore XT/105 DualDrive 81-speed (\$319), Rohloff Speedhub 14-speed internal hub (\$1129), short cranks (\$49), Magura hydraulic brakes (Marta \$409 or BIG \$339), B&M light generator (\$139), rear rack (\$179), fenders (\$119), Airflow seat pad (\$109), headrest (\$69), two different rearview mirrors (B&M \$25 and Mirrcycle \$35), computer mount (\$15), safety flag (\$12), aero panniers (\$269) and finally a Streamer Lexan fairing (\$399). With these options you can truly customize your trike beyond compare.

While we applaud HP Velo for this extensive listing of upgrades, it can increase the price dramatically. The *must have* items are the Airflow pad, fenders and a rack, which add a whopping \$407! The stock seat pad is mediocre, and you can't haul anything on this trike without the rack.

The rack is very nicely made just to fit this trike. It's made of 1/2" aluminum tubing and is suitable for serious use. Installing it was difficult, as you have to remove the rear swing-arm bolts. Getting the four bolts threaded was a juggling act and not the easiest thing I did that day.

HP Velo takes fenders seriously. The fenders are black Zefal 55mm. The rear mounts traditionally, but with some custom spacers. I had to enlarge the lower hole to fit. The fronts have CNC aluminum side-plates that bolt onto the kingpin headsets. The fenders are firmly mounted and work exceptionally well. Five star fenders.

**VALUE/RESALE:** This is a hot new model and should hold its value well. The downside is that options are expensive and won't have as good resale value as the trike itself.

**COMPARABLES:** In January, ICE from the UK announced their redesigned "budget" line of trikes — all with rear suspension. Similarly priced trikes (non-suspended) are the Greenspeed GT- and X-series trikes, Catricle and WizWheelz. The level of refinement of the Scorpion is very fine, though the standard component choices are not as good. The choice comes down to suspension or not, and seat: Euro shell or mesh.

**RECOMMENDATION:** The HP Velo Scorpion is one of the finest trikes available. It has no bad habits, rides comfortably and performs well. HP Velo took some chances with the design; this isn't just a copycat trike, but a well thought-out and original new design. I especially like the front wheel mounts. What I didn't like was the twist grip shifters which are required if you want the DualDrive (at least the left rear shifter). Bar-end shifters are much more intuitive and easy to use with side-stick style (under-seat) controls. The frame and build quality is exceptional. The BodyLink seat isn't for everyone, but is a very well designed shell seat (be sure to read my headrest comments above).

This trike rides like a very refined tadpole that has been built for years. HP Velo is serious

about recumbent design and the Scorpion demonstrates this — and shows that they are very serious about the trike market. The Scorpion is one impressive trike.

**FOR:** Beautiful craftsmanship, refined look, slick front wheel/axle mounts, lower bottom bracket, most comfy use of the Bodylink seat, sophisticated German engineering.

**AGAINST:** Weight, cost, cost of upgrades, standard spec is not great for this price range (DualDrive, Tracer crank and twist grip shifters).

**NUMBERS:** Wheelbase: 43". Seat height: 9.5". Width/track: 32.75"/30.75". Weight: 36.5 lbs. (per HP Velo). Our stock model weighed 39.5 lbs. on the RCN digital scale; with fenders and a rack, it weighed 44.5 lbs. Weight limit: 275 lbs. rider + cargo. You can tow a cargo trailer of up to 69 pounds.

**FIT:** Telescoping boom, one size fits riders 5'5"-6'7".

**FRAME & SEAT DETAILS:** Frame/boom: TIG welded 7005 T6 aluminum. Chain idler: HP Velo 4" diameter cartridge sealed bearing. Seat: BodyLink composite core (two-piece) with foam pad (optional Airflow mesh 3/4"). Handlebar: HP Velo "U" underseat. Stem: HP Velo linkage. Color: Orange or dark blue powdercoat or custom.

**COMPONENTS:** Rear derailleur: SRAM DualDrive 3x8. Front derailleur: None. Shifters: SRAM DualDrive twist grip. Crank: Tracer 170mm 46-T. Bottom bracket: square taper. Cassette: 11-32 8-speed. Chain: SRAM. Brakes: Avid disc (fronts). Brake levers: Avid. Front hubs: HP Velo sealed. Rear hub: SRAM DualDrive 3x8. Rims: Alex K-rim. Wheel build: Machine. Tires: Schwalbe Marathon 20" x 1.35" 95 psi. Pedals: Wellgo platform. ♦



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# ROAD TEST: HP Velo Speed Machine



*Author John Duval and his Speed Machine*

**BIKE:** Speedmachine  
**BUILDER:** HP Velotechnik  
**ORIGIN:** Taiwan & Germany  
**STYLE:** SWB OSS (over-seat steering)  
**USE:** Performance  
**PRICE** (frameset): \$1,790, as tested \$3,961 and stock complete DualDrive bike): \$2,490  
**CONTACT:** [www.hpvelotechnik.com](http://www.hpvelotechnik.com) & [www.bentupcycles.com](http://www.bentupcycles.com)

By John Duval

**T**he Speedmachine is faster, more efficient and more comfortable than you would ever have thought possible. It's an ergonomic machine dedicated to absolute speed.

You have probably never ridden a bike this fast or this comfortable. In fact you probably assumed that gain meant pain. But the Speedmachine rewrites the rules. By combining an oversized aluminum frame, a full suspension ride and a totally ergonomic riding position with perhaps the smallest frontal area on the planet, we have created a machine to give you incredible performance along with total comfort.

With all the attention focused on highracers in the last few years, some feel the venerable 26/20 SWB is poised for a comeback. While the Speedmachine is not a new model, it serves as a reminder of what a 26/20 SWB layout has to offer: an easy reach to the ground, lower center of gravity, and a perfect layout for adding suspension. This is achieved without sacrificing aerodynamics or rolling resistance.

The Speedmachine is a short wheelbase (SWB) semi-lowracer offering incredible performance with a silky full suspension ride. At HP Velo, full suspension has been part of the design philosophy since the company produced its first bike in 1991. Located in Krißfel, Germany, HPV has earned a reputation for producing highly refined Euro-style sport and touring recumbents. HPV offers many options to customize your machine, or you can start with the frameset and build your own as I did.

As someone who enjoys speed, spends a fair amount of time in the saddle, and is a lifetime member of the Clydesdale class (XL-sized rider), this bike offers the perfect solution. My typical rides include the semi-urban roads and bike paths of Los Angeles and Orange County. Frequent stops, spine-crushing bumps and poor road surfaces are a way of life. Where other bikes are forced to slow down, this one flies.

## USE/UTILITY

The Speedmachine is best suited to fast, all-day rides and centuries, but it is also quite capable of racing, light touring or a run to the grocery store. The layout of the bike does not allow much room for cargo, but HPV makes a beautiful bike-specific rear rack. With careful hunting you can find bags that will carry the bare essentials without it.

I set up the Speedmachine purely for speed, with skinny tires and rims and no rack. The rear tire will crush conventional seat bags. I use a Fastback Carbon LS, which slings under the left side of the seat. It carries a water bladder

and pump, and its piggyback compartment is stuffed with three tubes, multi-tool, patch kit, wallet and cell phone. I had the factory install the optional water bottle mounts on the seat so I would not have to drill the holes myself.

To carry more you will want the HPV rear rack. It is very sturdy, allows a substantial load. Credit card touring would be fine. A lockable tailbox trunk is an option, which improves aerodynamics as well. Fenders, lights and generators are all available from HPV.

## COMFORT & ERGONOMICS

Sliding into the saddle of this bike gives you the feeling of becoming part of a high performance machine. The seat rides 16" off the ground so my feet reach the ground easily without stretching. The crank spindle is 11" above the seat while the seat recline adjusts from 25-35 degrees, giving it a slightly more closed position than other performance bikes and a stable platform for applying torque to the pedals.

There are two options for steering: tiller steering (praying hamster), and tweener OSS. Both versions use the same fixed-angle stem. I tried the tiller steering but the bars hit my belly and my elbows were well behind my back. So I opted for the OSS tweener bars. I would have liked a third option with a stem that places the bars low and just behind my thighs.

I do not recline the seat back all the way because the handlebars begin to intrude on the line of vision down the road, which is typical of performance-oriented machines.

The shape of the hard shell seat allows for a much more reclined position than a typical flat-backed mesh seat. The shape opens up my stomach and chest for easy breathing and blood circulation. The top curve keeps me from sliding up and places my neck in a semi-relaxed position. I do find that I need to take a moment to stretch a little more often than on a mesh seat to prevent numb spots.

In the past, I've occasionally had foot numbness and recumbent butt. On the Speedmachine I have not experienced any. It seems there are many factors besides bottom bracket (BB) height that contribute to these issues, but if you suffer from them, you will want to take extended test rides before purchasing.

## THE SEAT

My bike has the previous one piece Euro-shell seat that came in four sizes. For 2006, the bike now comes with the very adjustable (mid-section expand) HP Velo BodyLink Euro-shell seat. Unfortunately my frame can't be retrofitted.

Other options include the Airflow seat cushion, which has a good looking breathable





*The Streetmachine ready to go*

mesh surface. The standard cushion is closed cell foam (like backpacker mats) and is light and good for foul weather, but the Airflow is a must-have. I also opted for the lower seat extension, which kicks up the front end of the seat. I got the headrest, which does not seem very useful.

#### **FIT**

This is a one-size-fits-most bike. My 49" X-seam is the absolute limit. The fore-aft position of the seat is fixed so leg length adjustment happens at the adjustable boom. Two booms (350 mm and 400 mm) are available to give a wide range of adjustment. HPV says the dealer can cut the boom down if needed.

The handlebar stem telescopes, but at the limit it was too close to my shins. When I wrote to the factory about this they sent me a 3" longer upper stem. Moving the bar out another 3/8" made all the difference in the world in comfort and handling.

#### **RIDE**

The feel of the Speedmachine is one of smooth, quiet precision. The suspension gives it a very car-like ride. It inspires incredible confidence at speed with outstanding stability and firmly planted wheels. I didn't realize how fast I was blazing turns until I noticed the horizon at angles I had never seen before.

I would attribute a lot of the road feel to the exceptionally stiff chassis. I cannot detect any give in the seat mounting at all. The rear wheel tracks true and firmly on line. Bending, twisting and shimmy are non-existent, which is something I can't say about many bikes I have ridden. Even the handlebars feel more like a piece of gym equipment than a bicycle, a benefit of the fixed-angle stem.

As you might guess, a bike this stout is no feather. Even at 34.5 pounds, it rides like a lightweight bike. On the same hills I struggled a week before in a 30-32 gear combo on my Lightning Phantom II SWB (decent climber), I now found myself climbing in a 42-24 at twice the speed. Sprinting around slower riders used to take a long windup, but now takes a few sharp

jabs on the pedals.

The front fork feels like it has a lot of trail. This makes for rock-steady handling at high and low speeds, but also makes it want to over-correct. I suspect the tiller steering would be more neutral handling, having the mass of the bars further back. I found the learning curve pretty short for a recumbent.

This is the quietest bicycle I have ever ridden. This is surprising because hardshell seats and oversize aluminum tubes tend to act as sounding boards for every road bump and sound the bike makes. In this case, shifts are marked only by the click of the lever and the twang of spokes. Driveline noise is nonexistent. Road noise is very muted. Even the Velocity freehub has a nearly silent ratchet. On the other hand, anything that is not adjusted perfectly breaks the silence in a most annoying way.

Riding straight at slow speed is as stable as sitting in a resistance trainer, which is good for climbing. The handlebar configuration makes it ungainly at tight, low speed maneuvers, or when I do sometimes lose balance on a slow climb. Knee clearances require straightening my inside leg on tight turns, which is a bit counter-intuitive. There is no heel overlap with the front wheel.

#### **FRAME**

The frame is all aluminum, fabricated and heat-treated in Taiwan, then shipped unfinished to the HP Velo factory in Germany. When an order is received the frame gets its powder coat paint, decals, and is finished off with a full clear coat. Red and silver are standard colors, with many more available at a modest additional charge. The paint is glassy smooth and nearly flawless.

Welds are neat and even, neither too large nor too small to my eye. Tubes are tapered, nicely formed and ovalized at critical joints. Dropouts appear to be CNC with a replaceable derailleur hanger with smooth tumbled finish. Attachment points are welded on for fenders, cable clamps, one water bottle at the front shifter tube, and for the bike-specific HPV rear rack.

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HPV lineup, the frameset and suspension are designed to be reliable with a heavy load. I have had problems in the past with recumbent load ratings that were, shall we say, a bit optimistic.

**Suspension:** The rear 'no squat' suspension delivers on its promise. The front works nicely while giving good road feel. It transparently does its job, improving comfort in all road conditions while keeping the wheels firmly planted on the ground. The exclamations of my riding companions are more unpleasant (and entertaining) than the actual bumps.

The ride is much softer and more supple than any upright bike I've ridden. On this suspended recumbent, pedaling efforts are not directed into the suspension, so softness does not detract from pedaling efficiency. Adding suspension allows the frame to be very stiff to maximize pedaling efficiency without making for a brutal ride quality. The tradeoff is added weight, and I think it's a worthwhile feature.

The suspension contributes a low rolling resistance that has no match, and the wind resistance is very low. It still feels strange to stop pedaling and not sense the bike slowing down. Bumps and surface irregularities that once ate momentum or had me slowing down in fear are simply erased. Road condition now makes little difference in cruising speed.

The rear end is a triangulated swing arm driving a coil-over hydraulic shock with a rising rate (the shock moves faster deep in the stroke than at the beginning). The front suspension is housed within the head tube similar to a Cannondale Headshock. The front rises slightly on launch and dives slightly when braking, but otherwise remains steady.

The rear shock is a German made DNM DV-22 coil-over. A lighter (and much more expensive) air shock is offered, but the coil spring unit offers a rideable bike even if the internals should blow out entirely. The peace of mind was more valuable to me than the grams saved.

There are surprisingly few parts and no ball bearings in the front suspension other than the sealed headset. When lifting the front wheel off the ground there is a slight clunk, but this does not show up while riding. The damping adjustment knob above the stem compresses some elastomers to create friction damping. This creates some initial resistance to eliminate unwanted motion from pedaling action, but allows it to respond easily to bumps.

This is not to say the suspension is perfect. Front and back each erase smaller impacts equally. Larger impacts and g-outs on rare occasions reveal some disparity between low-tech friction and high-tech hydraulic damping.

## COMPONENTS

This bike was custom built with my own component selections. HP Velo offers a standard spec of a SRAM DualDrive and single chain-

ring up front as well as other stock options.

The frameset comes standard with seat, forks, headset with integrated suspension, stem and handlebars. You get your choice of tweener bars or tiller steering and coil-over or air rear shock.

**Cranks:** FSA Gossamer 175mm. These cranks are fairly light, have a very nice glossy black finish and a reasonable cost. The spindle is an FSA Platinum with sealed bearing. It seems like a good quality unit also at a reasonable price.

**Drivetrain:** I selected a Shimano XT rear derailleur with 105 triple front all driven by XT M760 STI levers. With the integrated shifter/brake levers I shift at least twice as much as I did with bar end shifters. It is easy to shift and brake at the same time. The rear derailleur is 'low normal' which means that when approaching a stop I can quickly punch the downshift button 3-4 times and the derailleur does the rest with a slow turn or two of the cranks. Upshifting is accomplished by pushing downwards on the brake lever, which gives a very light and precise feel. This setup seems tailor-made for a recumbent. The front shift lever, however, has never worked quite as well.

**Gearing:** The Shimano 11-32 9-speed cassette and 30/42/53 crankset setup gives 23-120 gear-inches. I have more gear choices in the upper end for my flat home rides while still having some reasonable bailout gears for doing hilly centuries. I seldom use the granny on this bike so I may switch to a tighter-spaced rear cluster.

**Chain Management:** The chain runs under an over-sized idler wheel on the drive side and Teflon chain tubes. Until now I was skeptical about chain tubes. In practice this setup is very efficient and the chain has no opportunity to flop or to cause mess or damage anywhere.

The idler wheel is made of hard plastic hardly wider than a chainring. A center ridge supports the chain by the bushings, not the side plates, while O-rings on either side stabilize the chain and keep entry and exit silent. There is no chain drumming at all, a common problem with hard, performance-oriented idler systems.

The return path is entirely within a chain tube supported by two adjustable brackets. The continuous housings not only keep my legs clean, but keep dirt from the tires off the chain so it takes a lot less lube and maintenance. The chain tubes are flared at the ends to ease entry and exit; a nice touch.

**Brakes:** This is my first experience with the Avid 7 disc brakes. HPV offers the Avid 5 brake along with other offerings by Magura. The main difference between the two Avids is that the 7 has brake pad adjusters on both sides of the caliper while the 5 has them only on the outside. This makes the 7 easier to keep the pads centered on the rotor and take up wear. I appreciate this because when the inside rear pad rubs the rotor it squeaks. Braking is noticeably

stronger up front with the smaller wheel, but it seems entirely proportional to their respective duties. Braking is strong and quiet, except in the rain where it howls.

**Wheels:** Velocity Heater 26/20, 32-spoke with Velocity sealed bearing hubs, 14g spokes front and 14/15g butted rear. Velocity does offer sexier looking wheels with reduced-count paired spoke patterns, but they are probably less durable. One problem I have always had with OEM wheels is that it is very difficult to get the tire on and off when I get a flat. I don't know if this is an oversight or a safety feature, but I think it is a pain in the tire levers. With the Heaters, you can peel the tires off or on easily by hand.

**Tires:** The bike has Schwalbe Stelvio tires. These are small, high pressure tires and I do get flats occasionally on my typical urban rides. I can't say they flat any easier than the Marathons I used on my previous bike, but they are noticeably faster rolling. With the suspension I run the pressure at the max 115 psi, where my unsuspended Phantom II ran the fatter Marathons at about 70 psi in order to retain my teeth in my skull.

## EXTRAS

A very sweet rear rack is offered, which is about the only way to carry anything. Fenders, generators, even a lockable trunk are offered, but I am a fair weather flyer and there is plenty of that in Southern California. I got the Airflow seat cushion, seat extension and headrest. The headrest doesn't seem to work well while wearing a helmet. The seat is XL and the suspension springs firm, of course.

## COMPARABLE MODELS

Other bikes I considered included the RANS Force 5, the Bacchetta Strada and Corsa highracers, the Challenge Wizard, and the HPV Grasshopper and Streetmachine. The RANS and Bacchetta bikes start at half the price of the Streetmachine, while the Euro bikes are all similar in cost.

The lower cost, lighter weight and simplicity of the highracers makes them strong candidates for tall, light riders on smooth roads with few stops. I'm tall, but the rest describes someone else. A stick bike is a bad choice for someone my size.

The Challenge Wizard looks similar to the Speedmachine but sits a little higher and has a lower bottom bracket. The Streetmachine is similar to the Challenge, but I don't like its forward weight bias. The Grasshopper was a possibility with its reclined position, higher seat and greater cargo space, but I didn't think a rear 20" wheel was best for performance.

## SAFETY

The low riding position limits visibility, so I plan my routes to some degree. There is room for substantially beefier wheels and tires. The

bike is not suitable at all for off-road riding.

### VERDICT

The Speedmachine is an excellent choice for a large or heavy rider looking for speed on less than pristine roads. It is on the heavy side, so smaller riders may not benefit as much from its stout construction.

There is little to nitpick about this bike. I would like to see better front suspension for this cost, and more options for the handlebar/stem setup. A lighter version would be nice (not that I could ride it).

It goes without saying, this being an owner review, that I think it is worth the very high price tag. A better question is, does the Speedmachine meet the high expectations of an HP Velotechnik product? The answer is yes, which is high praise indeed.

### FOR

- Faster than a pack of roadies
- Outstanding build quality and reputation
- Stout chassis
- Plush suspension
- Easy reach to the ground

### AGAINST

- Cost
- Weight
- Need more handlebar options
- Low (choose your routes carefully)
- Not enough dealers

HP Velo bikes are available only through dealers, but HPV will provide direct service, accessories and spare parts if needed. My dealer is Bent Up Cycles in Van Nuys, CA, which also does online orders.

**NUMBERS:** Wheelbase: 47". Seat height: 16". Bottom bracket height: 27". Weight: 31 lbs. Weight limit (rider & cargo): 275 lbs. Seat angle: 25-35°. Weight: 35 lbs. (not current model; 2006 weights from 31.5 lbs).

**FITS:** 5'4" to 6'6", 49" maximum X-seam.

**FRAME & SEAT DETAILS:** Frame: TIG welded aluminum with suspension. Fork: aluminum suspension. Chain idler: power-side idler, slack-side tube. Headset: HP Velo. Seat: HP Velo BodyLink. Handlebar/stem: HP Velo. Color: Silver grey, Carmine red or custom.

### UPDATES FOR 2006

HP Velo has recently updated this model for the new year. Here are the changes: BodyLink seat, new low rider option, a total of four panniers can be mounted now, indirect underseat steering, improved steering geometry, new lighter aluminum fork, weight from 31 lbs., standard colors silver grey and carmine red, optional custom colors, lower entry price for basic model with the SRAM 3x8 DualDrive. ♦



Speedmachine photo by John Duval



Speedmachine photo by John Duval

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# Road Test: Sun EZ1 — The People's Bent

"The EZ1 is the most functional of the EZ series. Regarded as an all around recumbent, its strength lies in its stability, comfort, and predictable handling" — Sun Bicycles

**BIKE:** SUN EZ1 SX CLWB

(compact long wheelbase)

**PRICE:** \$625 (we've seen them priced lower)

**CONTACT:** www.sunbicycles.com

By Bob Bryant

**T**he EZ1 SX is a simple, straightforward and very affordable recumbent bicycle.

It's perfect as first bike or as an extra recumbent to keep around. It isn't that fast, or that attractive, but it works well, and could be described as *The People's Bent*. Originally designed by the late Gardner Martin of Easy Racers fame, the bike was then updated and licensed to Sun Bicycles and has since become perhaps the best selling recumbent there is.

The EZ1 has been around so long we take it for granted, yet it's a near perfect recumbent for what it is: user-friendly, unassuming, downright cheap, durable and reliable. The platform is ideal for customizing and will fit a large range of riders (larger than any other Sun model).

**USE:** The EZ1 can be used for just about any type of riding: recreational, commuting, maybe even light touring. The EZ1 is best suited for casual rides on smooth neighborhood roads and trails (due to the small wheels).

**SEAT/COMFORT:** The EZ1 seat has a steel seat back frame, and shares the foam covered base with all of the Sun models. Initial comfort is excellent, though the seat base foam is thinner and less comfy than an Easy Racer. The upright position and foam may have some riders experiencing recumbent butt after an hour or two.

**RIDING POSITION:** The EZ1 places the rider in a buck upright position with feet placed on low pedals. It's a perfect place to be for new riders. I took several one- to two-hour rides on our well-worn test bike, and only experienced recumbent butt discomfort as I neared the two hour mark.

**RIDE:** The ride of the EZ1 is better than you'd expect. The high-tensile steel frame is compliant, and the usually stiff frame and small diameter wheel set was softened by the Kenda Kwest tires run at low pressure (I did this review while vacationing in Sunriver, Oregon. The rental shops run the tires at 40 psi so they don't explode in the hot sun). The ride is light and agile feeling — perfect for bike trails.

**PERFORMANCE:** The bike accelerates well, but tops off quickly. Retaining speed is more difficult than with larger wheels. I honestly never noticed this on the smooth bike trails (15 mph speed limit), but it became apparent when we tried an EZ1 AX on the rough roads



*My well-worn summer test Sun EZ1 on the path in Sunriver, OR (near Bend)*

of Port Townsend late last summer. The Sun EZ Sport has a 26"/20" wheel combination which offers a smoother ride and perhaps improved performance over the EZ1's small wheels.

**FRAME:** The EZ1's ladder-style TIG-welded high-tensile steel frame is a bit homely though seemingly tougher than nails. The square section steel makes for easy seat mounting, and the little bike just works. Also, the EZ1 has a larger adjustment range than any other Sun model.

For 2006, Sun has new paint schemes for the EZ1. Both are bottom to top fades, black to blue or black to red — very stylish.

**WEIGHT:** The EZ1 is no lightweight at 39 pounds. The AX aluminum model is five pounds lighter, but more expensive.

**COMPONENTS:** In this mostly pedestrian mix of affordable components, which is nothing to rave about, everything worked great on our well-worn rental test bike. The bike shifted great, the generic V-brakes stopped it on a dime and the wheels were true. The "alloy" crank does have steel chainrings.

**GEARING:** The EZ1 SX has a 30/42/52 triple crankset and an 11-32 8-speed cassette, which makes for a 18-92 gear-inch range (the 20" drive wheel measures approximately 19.5"). The gearing range is low and is well suited for casual riders.

It would be quite easy to set up an 8-speed EZ1 with a gear range of 29-85 gear inches (48-tooth single crank x 11-32 cassette), or a 16-speed with a gear range of 24-94 gear inches (39/53 double crank x 11-32 cassette).

**CHAIN MANAGEMENT:** The EZ1 has a fairly free-floating drivetrain with a single lower chain skate-wheel idler. You can lift the chain off the idler and run without it. The chain

dances a bit, but there is less friction.

**BRAKES:** The basic cheapie linear (V) brakes worked fine. If you want to make them better, add some Koolstop pads.

**WHEELS:** The wheels and hubs are aluminum and BASIC with a capital B. Nothing special here, but no problems. The short spokes make for a strong wheel.

**TIRES:** The EZ1 comes outfitted with Kenda Kwest tires, these are the more recreational 65 psi version (instead of 100 psi). These are very comfortable tires, and just a bit slower. If you want to go faster, get some Primo Comets.

**UPGRADES/ACCESSORIES:** It's possible to lighten up the EZ1 by ordering an aluminum seat back (\$90 retail, J&B part #67455 — see J&B note at end of article), aluminum seat lower struts (\$12 retail; J&B part #67457), upper struts (\$12 retail; J&B part #67456) and alloy handlebars (\$70 retail; J&B part #67349). This might save two or three pounds. Lighter wheels and tires are also possible. An EZ Sport 20" fork (J&B part #27664 black or #27665 silver) will also fit, so you can convert to a 20"/20". If you are going to make all of these upgrades, you should probably just buy the lighter AX model.

Sun offers an EZ-Messenger seat bag (\$42), fender set (\$30), the Edge front fairing (\$170), a rear basket (\$30) and a 20" wheel indoor trainer (\$126) for the EZ1.

**VALUE/RESALE:** This model is sometimes on sale or sold used from rental fleets or found used on eBay. Our experience is that Sun bikes initially depreciate faster initially than other recumbents because so many are sold. The standard EZ1 will probably depreciate the least of any Sun model because it is so affordable new.

**RECOMMENDATION:** The EZ1 can be purchased at nearly any recumbent shop and is one of Sun's best selling models. The EZ1 really has no peers for price, track record and dependability. I preferred the affordable SX to the more costly aluminum AX. The AX is lighter for sure, and has one notch better shifters AND derailleurs and better Avid brakes — but costs \$325 extra.

The EZ1 is the perfect recumbent for the smooth and perfect bike trails of Central Oregon's Sunriver resort — or anywhere else. Buy this bike for a tough, casual and fun neighborhood/bike trail cruiser for kids, friends or a spouse to ride. The EZ1 is the best bargain the recumbent world has to offer.

We're not through with the EZ1. We plan to tinker with one during this season. We want to try simplifying the drivetrain (double crank friction shifted), experiment with a shorter crank, and maybe even try it with 20"/20" wheels or an electric-assist conversion.

**COMPARABLES:** EZ1 SC Lite; EZ1 DualDrive (\$950), same bike with a SRAM DD internal 3-speed + 7-speed derailleur; The RANS Tailwind is a very good CLWB (\$995). The Cycle Genius CGX (\$499) has a higher bottom bracket (less user-friendly) and they also have their new 20"/20" Sparrow (\$699). We are riding one now.

We also tried the upline and more rare aluminum EZ1 AX (\$950). The AX weighs five pounds less, has better components, but has a rougher ride (more vibration from the aluminum frame). The steel frame seems to dampen the ride better, as does lower air pressure in the tires. Those looking for upscale CLWB models should look to the fine fully-suspended models from HP Velo and Cannondale.

**FOR:** Great buy, excellent handling, wide fit range, cheap recumbent fun.

**AGAINST:** Not super fast, kind of heavy, feels smallish (though has a wide fit range) and some low-end components.

**NUMBERS:** Wheelbase: 56.5"; Seat height: 24.5"; Weight: 39 lbs.

**FITS:** 34-48" X-Seam. (For a definition of X-Seam measurement, see:

[www.sunbicycles.com/03/infopages/X-Seam.htm](http://www.sunbicycles.com/03/infopages/X-Seam.htm).)

**FRAME & SEAT DETAILS:** Frame: HiTen TIG steel. Fork: HiTen blades/ChroMoly steerer tube. Seat Back: Steel frame. Seat Base: Foam with cover. Chain idler: Return side Sun skate-wheel type. Headset: VP 1". Handlebar: Steel. Stem: Alloy. Color: red/black or blue/black (vertical fade, black on the bottom; the AX model is grey/black).

**COMPONENTS:** Rear derailleur: SRAM 3.0. Front derailleur: Shimano C102. Shifters: SRAM 3.0 twist. Crank: Alloy arms/steel rings 30/42/52. Bottom Bracket: Loose ball. Freewheel: SRAM 11-32 8-speed. Chain: NA. Brakes: Tektro alloy linear (V). Brake levers: SRAM 3.0. Headset: 1" steel. Hubs: Shimano. Front rim: 20"x1.75 alloy 36°. Rear rim: 16"x1.75" alloy 28°. Spokes: 14g SS. Rear tire: Kenda Kwest 20"x1.5" 65 psi. Front tire: Kenda Kwest 16"x1.5" 65 psi. Pedals: Wellgo platform. ♦

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# The Portable Touring Recumbent

By John Stephens

I'm not sure when the idea of a Portable Touring Recumbent (PTR) was planted in my mind; perhaps while bandaging my saddle sores on a long New Zealand tour or while talking with fellows who were riding Greengear SatRDay folding short wheelbase (SWB) recumbents on a tour in Italy (to the amazed bewilderment of the locals). Or perhaps it was just the realization that I have fully optimized my road-touring "upright" and off-road mountain touring bikes and was looking for a new project. In any case, the idea took hold and the concept of a PTR blossomed with an eye toward developing the ultimate on-road, self-contained portable recumbent touring machine.

Over the previous eight years, I have done a number of tours in New Zealand, Australia, Europe, and the US. They have been both supported and unsupported, mostly on-road but some both on- and off-road, including some self-contained tours with Adventure Cycling. Not an impressive resume by bicycle touring standards but sufficient to serve as a basis for comparison between "conventional" touring bikes and a touring recumbent.

The only problem was that I had never ridden a recumbent more than across the parking lot, let alone for the 1,000+ miles that a long tour would entail. But since I am an experimental scientist and build scientific apparatus for field experiments for a living, it allowed me to do some research into the problem. On every tour I asked folks if anyone had experience on a recumbent. The tours I have been on typically have twenty or so riders, and of the hundreds of riders I spoke with, only a handful had either ridden a recumbent or toured on one. Only three riders rode recumbents on tours I have been on (all van-supported). These riders rode Greengear SatRDay SWB (a couple) and a RANS Wave (the 20"/16" version of the Tailwind). Of the others who had recumbents but did not tour with them, the shortcomings of "too slow", "not portable", and also "get a LWB recumbent" were the recurrent themes. So the priorities for the Ultimate PTR became:

- Portable: (S and S couplers)
- Light: Under 35 pounds
- Compact long wheelbase (CLWB) or long wheelbase (LWB)
- Taller seat height for visibility
- Level-height BB for efficiency
- Ability to sit flat-footed at stops

To these recumbent-specific requirements, my touring-oriented criteria included:



John Stephens on his Tailwind PTR. Photo courtesy of Jerry Beckett

- Good quality
- Simple
- Robust
- Non-exotic
- Standard components
- Capable of handling a full self-contained load

I soon discovered RCN and other sources of recumbent information and was off on the quest . . .

The first criterion, portability, was fundamental, though, some would say, a bass-ackwards way of choosing a recumbent bike. The concept is based on the two custom touring bikes I presently own, each built by Steven Bilenky ([www.bilenky.com](http://www.bilenky.com)), with S & S couplers ([www.sandsmachine.com](http://www.sandsmachine.com)). The bikes fit into an airline legal hard case of 26" x 26" x 10", and weigh less than 50 lbs. in the case (important in this day of mistreatment of luggage and airline surcharges). While this portability is not truly essential it is well appreciated when traveling overseas and domestically where airlines charge \$75-\$100 per flight to transport full-sized bicycle boxes. Shipping a full-sized recumbent via UPS, including touring equipment, typically runs \$100-\$200. Portability becomes increasingly important when traveling using several forms of transportation including airplanes, buses, trains, and taxis. So the recumbent had to be capable of being coupled with S and S couplings.

My first idea was to purchase, and have cou-

pled, a Bacchetta Giro short wheelbase (SWB). However, I found that the couplings were only certified for use with triangulated frames with conventional round steel (or titanium (Ti)) tubing, not with mono-tube frames. This requirement eliminated all carbon-fiber and aluminum frames as well as exotic tubing designs. Unfortunately, these coupling requirements also eliminated truly light bikes (though a Ti frame can be coupled with Ti couplers at about twice the cost of coupling a steel frame).

RANS ([www.ransbikes.com](http://www.ransbikes.com)) bikes seemed a good possibility because most are made of steel that is capable of being coupled. They are well regarded and are available used on eBay on a regular basis. Easy Racers bikes are also capable of being coupled but may be too long to fit into my hard case. Lightning Cycles Dynamics ([www.lightningbikes.com](http://www.lightningbikes.com)) makes the SWB P-38 that is available as the fully coupled Voyager model that fits in an airline-sized hard case.

The next decision was whether to use a short wheelbase (SWB), long wheelbase (LWB) or compact long wheelbase (CLWB) bike. Having no experience, I tried out a few recumbents at a dealer in New Mexico. The area is hardly a hot bed of recumbent bicycling, and my wobbling around the parking lot on SWB and LWB bikes did not help the cause. The chief deciding factor seemed to be which frame, when coupled, would fit into the hard case. My first assumption (erroneous as it turned out), was that a SWB frame could be fit into a hard case with judicious coupling but that a LWB could not. This

assumption led me to bid on a RANS Rocket on eBay, but fortunately I was out-bid. One of the attractive features of the Rocket, as opposed to a RANS V-Rex, was that the Rocket uses two 20" wheels, rather than a 20" and 26" wheel. Since the 20/26 configuration means carrying tubes and tires for both sizes, I would have violated both the "light touring" and "simple" criteria. Since I'm light (130 lbs.), and small, (5' 6") and, when traveling self-contained, only add about 35 pounds to this load, I reasoned that having a 20" rear tire was not much of a handicap, particularly since the RANS bikes are listed as having load limits of 275 lbs!

A further look at the RANS catalog, with a ruler, straight edge and tracing paper showed me that a RANS Tailwind could (probably) be coupled and fit into my hard case as easily as a Rocket. In addition, using a CLWB avoids the dreaded heel strike problem (heel striking the front wheel in low speed turns) inherent in SWB bikes. It appeared, as well, that it might be possible to use lowrider racks on the front fork to give a better balance to the loaded bike, though RANS does not offer a front rack for the Tailwind.

The RANS Stratus and Velocity are too long to be coupled and fit into a hard case, though I do not see any problem with shortening the frame by 4-6 inches during the coupling process for a short rider such as myself. However, the Stratus uses 26"/20" or 26"/26" wheels, making packing more problematic. After reading reviews on the Tailwind, it appeared to be a competent bike but suffers from low level components and seems to be somewhat of an orphan in the RANS line. So, to make a long story short, I purchased a RANS Tailwind (2003) on eBay for a decent price from a very accommodating seller. It arrived in order and was in perfect shape except for a few scratches, or so I thought.

My first few rides were a kick and, on one of my standard routes around Santa Fe (20 miles and about 500-1,000 feet of climbing) I was 15% slower than on my unloaded upright touring bike — fair enough. The SRAM shifters, derailleur, brakes, and levers were serviceable but not at all to my liking, but I intended to put a few hundred miles on the bike to see if I wanted to replace most of the drive train and other components anyway with my garage stock or just resell the bike and give up recumbents as touring bikes.

The day after I got the bike, I got an email from Steven Bilenky asking if I was still interested in coupling a bike and saying that he had a special on coupling and accessories. I took this as an omen and decided to strip the bike to the frame and send it off to have it coupled. Just to make sure it would fit in the hard case, however, I made a full size model of the frame, using PVC pipe and plastic, and worked out the locations where the frame should be cut and the couplings installed. The coupled frame

WOULD fit with the two 20" wheels and other components if I removed the bar, riser, fork, and seat. Further measurements revealed that the seat would fit into a large roller duffel together with the necessary touring racks, packs, and other gear so I would be fully airline legal.

I removed all of the parts from the frame and shipped it to Bilenky to have the couplings put in. Many of the components were on very tight and getting them off was difficult. We had to clean out the eyelet threads and respace the rear triangle to 135mm. Several weeks later, I received the coupled frame back with a note from Bilenky indicating that my recommended coupling locations were correct. So I was ready to rebuild the bike from the frame up.

I purchased a number of components from RANS, including a new handlebar, stem, rear rack, fenders and a seat bag. (No one ever said that this was going to be a cheap experience). The riser/handlebar that came with the Tailwind was a narrow "T" handlebar with no angle adjustment, so it had to go. I replaced it with a deep single bend bar that was not so deep that I had to deal with the "tweener" issue and knee interference with the bar. The twist grip shifters were replaced with wonderful Ultegra 8-speed bar ends (with a friction mode). The stock gearing was too high for touring, so I bought a Truvativ 30/42/52 triple crank on eBay, which works great (the stock crank was a 30/46/62). The cassette was replaced with a mountain bike custom cassette (8-speed) with gear range of 12-34. The brakes were replaced with Avid single digit 7 brakes, and what a difference. The rear derailleur was replaced with a Shimano Deore XT that I had.

With most of the major work done the bike came out of the garage in the spring working well. While I got into recumbent shape several small tweaks were carried out, including increasing the lateral range of the idler shafts and adding a Terracycle power-side idler, both of which greatly helped decrease the clattering sound of the chain that occurred with the standard idler setup.

To prepare for loaded touring, I contacted Old Man Mountain ([www.oldmanmountain.com](http://www.oldmanmountain.com)), a company that makes fine brake-bolt and skewer-mounted racks. They recommended a mountain bike (26") rear rack with a front fork adapter for the Tailwind 20" front wheel. After making a small custom adapter the rack worked beautifully. A RANS rack was used in the rear. I also purchased an under-seat rack from Terracycle, but I did not use it because I did not need the storage space for the tour. Four medium sized Ortlieb waterproof panniers fit well to both racks.

The bike, suitably modified, worked well on my 1,400-mile self-contained (camping) road tour, the western half of the Lewis and Clark trail ride with Adventure Cycling. The bike frame, components, handlebar and wheels fit into the hard case, and the seat and all racks and

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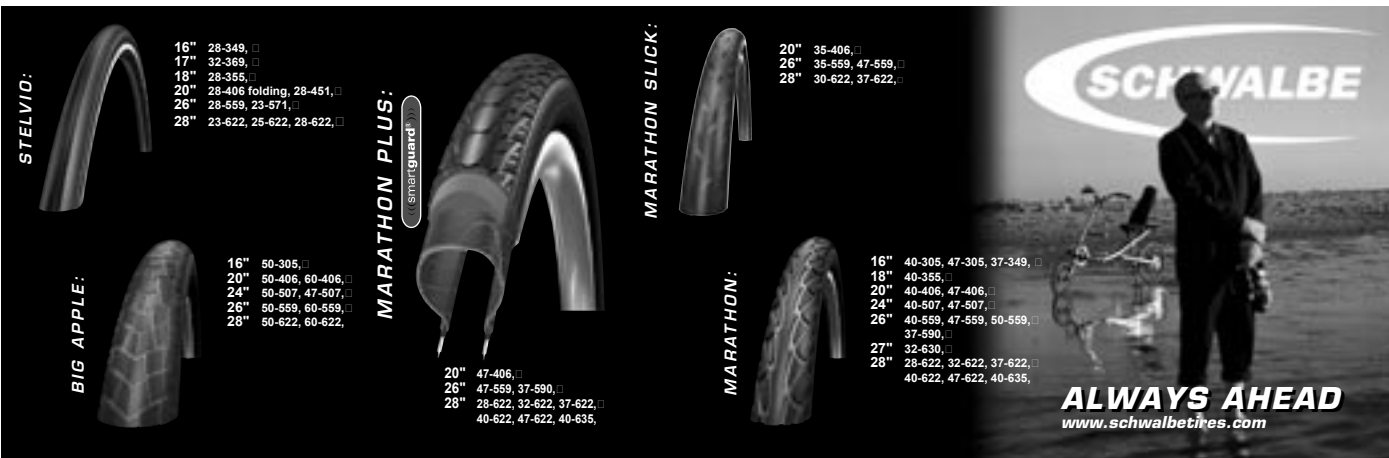
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equipment fit into a 36" long rolling duffel. Both were accepted by the airlines without charge except for a small overweight charge for the 55-lb. duffel. Disassembly and re-assembly required about two hours and all of the components, except for the brakes and bottom bracket, needed to be removed from the frame. The disassembly is similar to that required for an upright bike to fit into the hard case. The hard case and duffel were easily shipped via UPS to Portland, OR, our tour destination.

The bike handled well on the road with few problems. The additional weight of panniers on the front wheel stabilized the steering considerably and the bike was highly stable at touring speed (12 mph) and at high speed (to 45 mph). The only problem I encountered was a lack of directional stability below 5 mph when climbing long uphill grades in the Rockies.

After the tour, I discussed possible solutions to the low-speed instability with folks at Coventry Cycle Works ([www.coventrycycle.com](http://www.coventrycycle.com)) in Portland. We measured the trail (distance between the projection of the steering axis to the tire contact with the road) of an Easy Racers Tour Easy (about 2") compared to the Tailwind (less than 1"). Eventually this led me to install a BMX fork on the Tailwind which gives the bike greater than 2.5" of trail. This improves the low-speed stability considerably but retains good cruising and high speed stability. The BMX fork exhibits considerable "fork flop" but makes the handling quicker with more stability. The final answer will be to have a custom fork fabricated with about 2" of trail.

Since returning from the tour I have replaced the original "T" handlebar with RANS chopper bars (from the Stratus XP) that give a larger range of adjustment and a better view forward. Another set of chain rings (30/44/58) was installed, which gives excellent gear ranges for unloaded riding.

In summary, the suitably modified Tailwind has proven to be a capable Portable Touring Recumbent for fully-loaded touring both on the road and while being transported.

**Editor's note:** It is amazing to me that so few builders offer a compact touring recumbent that is a two-wheeled version of the Greenspeed GT3 trike (that fits into a travel case) or the Greengear Bike Friday SatRDAY. Loaded touring is an ideal use for recumbent bicycles, yet there are few models that are turn-key touring bikes (with beefy wheels, stiff Chromoly steel frames, fatter tires, and rack/cargo options). The S and S Couplers are amazing and can be fit on several recumbents models including RANS, Lightning and Barcroft. Bilenky, Angletech and Calhoun Cycle are all good contacts for this.

Lastly, I'd like to see more recumbents shipping with couplers and folding options as they can ship in smaller boxes — thus saving on shipping costs. I recently shipped a LWB recumbent to Colorado and it cost \$125 one way. Ouch.

Folding bicycles are getting more popular and the recumbent world is ripe for more folding and coupled models for travel touring. ♦



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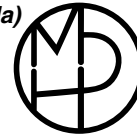
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# Bad day, Blowout and a Long Walk (and lessons learned)

By Bob Bryant

I look forward to Wednesdays. Here in Port Townsend, we have small group of riders. Chet Rideout, John Lockwood, Bill Woodson and I, and sometimes a few others, get together. We meet at the Port Townsend Food Co-op for coffee and to chat. During the cold and rainy winter days we really have to work ourselves up to heading out the door to go cycling. We've ridden in gale winds, pouring rain, snow and beautiful sunshine.

On this particular day, the sun was out. It was cool and clear. It had all the makings of a perfect ride. One of the guys (I can't recall who to blame it on) suggested we ride out to the Jefferson County airport for lunch. This route takes us along the bay, through a converted rail trail, some back roads and the trails of Old Fort Townsend State Park. OR, in this case, on the state highway.

However it happened, we ended up getting on the state highway. Single file, with semis, RVs, buses, tourists and commuters all buzzing along at 60 mph three feet from us. I was tailing the group as we headed down toward the airport. All of a sudden I looked down and saw a pile of glass: a broken headlight beneath my wheel. #&\$%@! (Translation: "Shucks.") I wanted to blame the rider in front of me for not warning me, but the reality was that I was following too closely. "Pssssssss." With the possible exception of the air horn on a semi truck, this one of a cyclist's least favorite noises.

With the drone of the traffic, my fellow riders didn't hear it happen. I pushed the bike three blocks to our destination. No problem. I'm totally prepared for this. (Not.) I had my pump and patch kit, but no spare tube and no tire levers (how did I forget those?). Since I change bikes very often, I carry all my gear in a compact backpack that stuffs into my tail bag, pannier or can strap on my back.

**Lesson #1:** Always carry a tire repair

*kit, a pump (that you have used and know works), and tire levers. And, make sure you can change a flat with your chosen tires (the skinnier they are, the more difficult to get on and seat on the rims properly).*

The test bike has 26" x 1" wide tires. Not my usual tire and far skinnier than I usually ride with, and the skinniest tires in the group. In a few minutes I had the bike upside-down, wheel off, tire off and I found the hole. Good job. (Hey I'm an experienced cyclist.) I followed the direction on the cheapo generic patch kit. I usually use brand name patch kits, but I really didn't think it mattered. It does. This glue just doesn't dry quickly enough, and the patches don't fuse on as well as the good patches. I knew this because after having only two flats this year, I had four in the last week (three due to wheel problems and one with this blowout).

**Lesson #2:** Buy a name brand tire repair kit and practice changing flats until you know how to do it.

I took my time and finally got the patch on. The next task was to fit this 1" tire back on the rim. This is a tiny tire and lever force was required to get it back on. I tried as carefully as I could. So far so good. Not. At 50 psi the tube exploded. #&\$%@! (Translation: "Drat.") "Anybody have a tube?" I asked. My planning was lax for this outing. I didn't have a spare tube, and I don't usually stock 1" tubes and, as I found out later, neither does my local bike shop.

**Lesson #3:** ALWAYS carry a NEW spare tube in the exact size of each of the tires on your bike, with the correct type of valve. This is extremely important if you have an odd size tire (like a 1" wide MTB tire or one of any number of odd recumbent sizes).

At this point I gave in, borrowed John's cell phone and tried to call Marilyn (wife). She didn't pick up, so I assumed she had gone out for a few minutes. We decided to eat at the airport and figure out what to do later. After an enjoyable lunch and three more calls home, I left a message for Marilyn telling her my route and began to walk home. Chet offered to have his wife Lynn come get me but, stubborn me, I turned her down thinking Marilyn was on her way.

Also, I know this big long wheelbase fits in our wagon, but doesn't fit in many cars short of a minivan.

**Lesson #4:** Buy good tubes. I have just as many flats from broken stem flats as I do from punctures. I check my tire inflation once per week per bike, and I mostly use cheap tubes. I

*should really buy good tubes. I like Schwalbe tubes.*

We were six miles out and I started walking. No problem, right? Wrong. Walking a bike with a flat tire on a state highway SUCKS. As I walked along the main two-lane state highway in and out of Port Townsend, I watched every car coming by, thinking it would be Marilyn. I watched a semi driver looking at his passenger drive by me at well over the speed limit and it seems like every other car was over the white line. I lost my baseball cap twice. (I had taken off my helmet at this point, but I probably would have been safer leaving it on).

I had reinstalled the tire with no tube to protect the rear wheel. I walked on the outside of the bike (on the car side walking against oncoming traffic). I rolled the bike on the grass to protect the rim. I walked a few miles. It was Hell. As I approached Otto Street, the industrial area of Port Townsend, it occurred to me that I should stop at Williwaw, a local bike shop/art gallery. Scott, Williwaw's owner, would certainly get me back on the road quickly.

I had pushed the bike 3 miles so far. Just as I crossed the road to walk the two blocks, my friend Bonnie, with her beloved Chevy Suburban, stopped to see if I needed help. She had driven by me twenty minutes before, called Marilyn, and when she couldn't get hold of Marilyn, she turned around to come see if she could help.

All SUV rants aside, Suburbans are wonderful for hauling stuff, whether it be family, friends, gear, or broken down recumbent bikes and recumbent journalists at the end of their rope. This particular Suburban is both a farm vehicle and family truckster. It has about 300K on the clock and has served our friends well. And I have never been so happy to see a Suburban. EVER.

Another thing you never think of when preparing for a bike ride is how walkable your bike shoes are. I loved my Shimano Cycling shoes. They have flat soles and you can't feel the cleats. On my shoes, you really can't feel them because about a year ago I quit using clipless pedals, made a rubber patch and ShoeGoo-ed the cleat holes. I now use downhill MTB-style pinned platform pedals. I love them, and I don't really want to go back. I can't imagine walking even two blocks in my old contoured racing-type shoes with cleats.

**Lesson #5:** Be prepared. Take any ride offered to you.

When we got back to my house, I was



exhausted. I had semi trucks on the brain, I was filthy from being sprayed with semi road grit, and I was ready for a new career and sport. I immediately removed the rear tire to inspect the rear wheel. There was lots of little nicks in the edges of the machined sidewall and I thought the wheel was ruined.

Marilyn finally got home. She'd been out taking Daniel to get a haircut. I had resisted cell phones since leaving my previous career. But with two teenagers and everyone going in different directions, it's time.

**Lesson #6:** *There may be good reasons to own a cell phone.*

I jumped in the wagon and headed off to the hardware store to buy some wet and dry sandpaper. I then went down to PT Cycles to get three 26" x 1.5-1.95" Presta tubes to use with the new Kenda Kwest 1.5" 100 psi tires that would be installed on the bike once I sanded down all of the rim burrs. Jason, chief wrench at PT Cycles looked at the rim and said the nicks were just cosmetic.

I spent another hour putting the bike back together with fatter tires. I love the Kwests because they mount and seat without levers and have proven over and over to be trouble-free tires. In the late spring I'll replace them with 1.5" Comets for speeding around town, but Kwests are my favorite tire for riding in the off-season. Sure there are tires that are as good, even better, maybe even offering better flat protection. However, none are as cheap, dependable and easy to find.

I wasn't good for much of the rest of the day. My feet were bruised and blistered from 3 miles of pushing the bike, and were killing me. Marilyn got me some hot water to soak them and I sat down to a large glass of wine.

So the next time you want to argue the benefits of skinny tires with me, please don't. All you performance weenies riding around on 1" tires, I suggest you average your flat time, down time, walking time and seeking-out-replacement-tube time into your average speeds.

The next day I ceremoniously burned my bike shoes with a torch — never to be used again (I didn't really do this, but wanted to). Since I ride with those big platform pedals, I don't really need stiff soles in uncomfortable and over-priced shoes. Today I rode in my neon green Converse Chuck Taylors. They match my green cycling jacket. I'm so tragically unhip.

After writing this article, it came to me that you almost never read about situations like this in the bicycle media. I've been a cyclist since 1969 — 37 years (I'm 46 years old). As a recumbent rider, crank-forward stroker, single-speeder and country cyclist who likes as few gears as possible, doesn't use clipless pedals and rides in street clothes a lot. I like telling it like it is. You get what you get. Sure I look like a dork, but after 37 years of cycling, I've earned the right. ♦

*Letters . . . continued from page 5*

bag, which works well for maps, easy-to-reach snacks, etc). She also sells the ERRC Handlebar Bag, ERRC frame bags (in two sizes), and the ERRC Wide Load Rear Seat bags, both designed by the same manufacturer. She also sells water tight pannier covers for the standard under-seat panniers.

Laurie worked with the manufacturer to ensure that her bags were designed to work in-tandem with the Easy Reacher Under Seat Rack made by Pat Franz. After Norm Nieberlein made her an under-seat rack for her "Return To Freedom Tour" that changed how her bike handled so dramatically, we drove straight over to Pat's shop upon her return and convinced him to design one for resale. Over the next few months Pat and Bill Stites met and brainstormed in Laurie's garage to get these racks developed.

I would like to see her get credit for all the work she has put into these bags as well as letting more recumbent riders know they are available. Those who have used them rave about them.

Connie McAyeal

#### **RECUMBENT SAFETY**

I just wanted to let you know something that you forgot to include in RCN 092. In the "Why a Recumbent?" article, you forgot to note that they are SAFER than a regular diamond frame bike. Yes, I don't own a recumbent at the moment, but I have ridden a few. Also I have subscribed to RCN for several years.

Just to let you know, a bit more than three decades back I was riding a regular diamond frame bike on the way home and the weather was a bit on the sprinkly side. When I jumped up on the grass to try to get on a foot bridge my brakes didn't grab until I had already passed the pathway that led to the bridge. When the brakes finally did grab I went over the handlebars and hit my HEAD on a discarded concrete building block.

Going over the handle bars is pretty HARD to do on a recumbent; also if you fall to either side, there is less distance to fall.

John Hamilton

*Editor's Comments: I don't think that all recumbents are safer than diamond frames in all situations. There is no substitute for rider height in traffic, and the low bikes concern me in city traffic. Also, getting your feet down (or unclipped quickly) on a high bottom bracket and/or being very laid back limits visibility and your ability to glance around in traffic. That said, low and laid-back recumbents can work fine on lightly traveled roads and trails.*

#### **NO CARBENT!?**

Thanks for another great issue of RCN, and thanks for your sustained dedication to

informing the 'bent world. When it comes to lightweight (the lightest), reasonably priced, innovative, American-made recumbents, Carbent should be recognized. The Recumbent Buyer's Guide just isn't complete without Carbent.

Al Brody

*Editor's Comments: I know almost nothing about the Carbent, having never seen or ridden one. The company keeps a very low profile. However, the deletion was an oversight, so here is the link: [www.carbent.com](http://www.carbent.com).*

#### **NEWBIE TIP**

The latest issue of RCN, my recumbent bible, came recently and was quickly read.

You made suggestions for first time riders, such as having someone run along side the rider. I find a paved street with a slight downhill grade about a block long. We start at the top of the grade with the rider in the seat and with feet on the pedals while I hold the bike upright. The rider just sits there until he or she becomes comfortable and relaxed. Then, I slowly push the bike ahead and finally let go. I tell the rider not to pedal, and stop at the bottom of the grade and walk back up. The process is repeated, but this time if the rider is comfortable he or she can pedal. I have had first-timers tell me that the first no-pedaling ride was very important.

Nelson Parke

#### **PEDAL POWERED GOLF CART**

We bought the EZ-3 trike and have been on many golf courses over the past three weeks. "It's about time," is the most common comment from the golfers. The kids on the high school golf team all want one, and the golf pros are considering purchasing a small fleet to rent out. The EZ-3 easily outruns motorized golf carts. It is FUN. The first round with this trike was a kick in the pants. I was having so much fun that I overdid it. I went home and crashed for a five-hour nap. After five rounds, I am used to the trike. Great exercise. However, the trike's selling point is fun. Many golfers will purchase it for exercise and soon find out that fun is the best thing about it.

The EZ-3 adds a new dimension to golf. Exercise is the second selling point. Speeding up play is the third. The Japanese golfers go nuts over the idea of a golf cart trike. They get on their cell phones immediately and call people. Maybe they are calling their companies back in Japan to start mass producing golf cart trikes. Flat golf courses are best. I've been to the worst courses with many hills and found a few that are difficult. It's not the trike's fault if I cannot make a hill. It has 21 gears but I do not have the stamina to go up those hard hills. (I am a fat golfer.) This trike is catching on in the El Paso, TX, area.

Dave & Diane Black

*Editor's Comments: My pal BJ Strass (now of Scooter Rider Magazine, www.scooterridermag.com), formerly of BikeE, Atlantic Bicycles and Introspect Cycles, built a golf trike years ago. The Sun and Lightfoot trikes could certainly be adapted. I'd like to see 26" wheels for easier travel over grass. Here are other golf recumbents that we found: www.justtwobikes.com and www.ultimate-quadracycle.com.*

## RECUMBENTS FOR WOMEN?

My lady friend is very special to me, but in some ways she is decidedly ordinary. She is 5'3" tall, which means that she is within an inch of the median height for adult American females. She is a little light for her height, and she does not have strong muscles, but she is hardly atypical in this regard. There are tens of millions of other women in this country who are physically very similar to her. Unfortunately, there are seemingly NO two-wheeled recumbent bikes that are specifically designed for my average, but special, friend. The laws of physics are obviously somewhat against her in that LWB bikes are often going to be too heavy and SWB bikes will generally be too high. We looked at over 20 different models, and NONE of them fit well.

A lot of the recumbent bikes that were billed as being suitable for my friend proved to be too heavy. My friend is no feminist, but she does believe that she should need a man in order to go biking. So if she couldn't lift the bike into the back of her station wagon by herself, or carry it over a NYC subway turnstile, it was usually rejected. She can only lift about 30 lbs. without straining her back, so not a lot of bikes passed this test. And she could not place her feet firmly on the ground when seated on any of the SWB models we tried.

I asked several of my female biking friends about this problem, and I quickly learned that recumbent bikes have a bad reputation in many ladies' locker rooms. Several very knowledgeable female friends told me that recumbent bikes are generally too heavy and too high for most women. They described them as bikes designed by guys for guys, and when girls use them they often have really nasty accidents. None of my many female biking friends who were less than five feet tall would have anything to do with them.

Thanks to your magazine, we found out about the Catrike Pocket trike, which turned out to be an ideal bike for my friend — once we sawed off some of the beam, and switched to shorter cranks. My friend loves the trike because it is light, low, fun to ride, and looks great. She is now a very happy recumbent biker.

I'd like you to see an article in your magazine listing all of the recumbent bikes that are specifically designed for smaller adult females who are not especially strong. There are over twenty million such women in this country, and even more in Europe, so there ought to

be dozens of suitable models on the market. I suspect that this is not the case, and that this is perhaps one reason why recumbent bikes have such a marginal presence in the general bike market.

I get the sense from your magazine that recumbent bikes are more than just a bike to you. They are a means by which you hope that we can make a better world. I agree with this concept, which is why I found my friend's shopping experience so frustrating.

Graeme Birchall

*Editor's Comments: I think the best two-wheeler out there for ladies is the Easy Racers Gold Rush/TiRush because they are reasonably light and come in small sizes. (SWB and highracers tend to be too tall.) Of the trikes, the Catrike Pocket seems to be the only one if you need it to be less than 30 pounds. Sadly we can't compete with the upright world's lightweight road bikes designed for women (like the feather-light Trek Pilot 5200 WSD carbon fiber).*

## RCN KUDOS

In eight years of reading your publication, nothing has changed. Keep it as is. No automobile ads, no soft-core porn (as in other bike magazines), just good intelligent writing. Real cyclists read *Recumbent Cyclist News*.

John Doyle

## PRIMO COMETS

I've noticed that you upgrade the tires of many of your test bikes to Primo Comets. I have a Sun EZ Sport AX with Kenda Kwest tires and was wondering what I could expect by switching. Something worth doing now or just wait till it's time to replace them?

Robert Vleugels

*Editor's Comments: There are many excellent tires out there. I like affordable tires with good performance. I run Comets in the summer and Kwests in the winter. I am looking forward to reviewing some Schwalbe Big Apples. These are supposed to be very comfortable riding tires. If you go to Comets you will be a tad faster with less effort, but you'll get more flats. I've had two Comet flats this year, and no flats with Kwests or Continentals.*

## BIKENAPPED

My wife and I stopped at a Carl's Jr. in Woodland, CA (a few miles northwest of Sacramento). We parked the truck, with my trike in the back, on a main street, about 100 feet from the restaurant and right across from some other stores. We were in the restaurant no more than 20 minutes and when we came out, my trike was gone! Somebody had undone two straps and cut the third one, right in plain view of shoppers, people in cars, etc. I immediately called the police. They said they would send someone out.

In the meantime, a fellow came walking up the sidewalk towards the truck. When he got about 50 feet from us, he said in a loud voice "It's a nice day, isn't it?" It seemed a bit odd, but I thought maybe he was just an extra friendly guy and besides, I've had this problem of my trike being gone. I told him "it was a nice day until someone stole my bike." He asked me to describe the bike. I said it was a red recumbent trike, with a green bag on the back. He said he had just seen a guy riding my trike up the street a block away and asked if I wanted him to chase the thief down and get the trike back. When I told him to go for it, he asked me if there was any incentive for him to do so. That should have rung a bell, but I was still in shock and replied that I'd give him \$100 if he recovered my precious trike. He took off running, went around the corner, out of sight.

Meanwhile I walked over to the Carl's Jr. to see if the police had shown up. When I returned to the truck, the police, my trike and this "extra friendly" guy, with his own bike, were all there. (My wife told me that the guy had ridden up on MY trike with HIS bike balanced on the back). The fellow said he had chased the alleged crook, yelling at him, and that the "thief" jumped off the trike and ran off into the sunset. My buddy, the "extra friendly" guy, was out of breath from his heroics and proceeded to tell the policewoman and me his story, which was pretty good. The police asked for an ID; he had none. She asked for an address; he had none. He said he was homeless and was thanking Jesus for his good fortune in getting a reward for recovering my trike. He said he and his little sister would be able to stay in a motel and have a much-needed shower and a good night's sleep.

The policewoman took me aside and said this whole thing sounded suspicious to her. She called her superior and was told they couldn't really charge this guy with anything because apparently no one saw him take the trike and that I should be satisfied with recovering my trike unharmed. I still half-way believed the "hero" because he had a pretty good tale to tell about the recovery of my trike. Good details, scratches on his arm from falling off of his bike, etc. It was only after I gave the guy \$30 and drove out of town that I became thoroughly convinced he was both the hero and the thief in this caper. (I didn't give him \$100, because I only believed 30% of his story). Too many things didn't add up. I guess you could say my trike wasn't stolen, it was "bikenapped." I suppose the poor guy needed \$30 more than I did. I was just glad to get my trike back, although I'm a bit miffed that the guy ruined one of my best straps. Lesson learned: lock your bike/trike . . . it might save you \$30 someday.

Dee Medley

## CRANK FORWARD COMMENTS

I'm a recumbent fundamentalist. I ride my recumbent trike nearly every weekday, some-

times by myself, and sometimes with a group of as many as ten other recumbent riders. The group includes five Greenspeeds (including one folder), three Windcheetahs, three homebuilts (two of which are front wheel drive), one Easy Racer, one Trimuter, one Linear, two Catrikes, three Lightnings, and one Sidewinder. As you can see, many of us have more than one recumbent. My wife and I have four recumbents (down from five because we recently sold a Greenspeed GTR to a friend). My wife likes to ride her Sidewinder if she's not riding stoker on our Greenspeed tandem. I ride my Greenspeed GTO and sometimes my Windcheetah when I'm feeling racy. As you can see, we are all dedicated recumbent riders, and scoff at the sore-butted wedge bunch, although we never miss a chance to educate them on the error of their ways on our never-ending crusade through Wedgie-Land.

We ride mainly on the bike paths in Southern California, so you can see it's a year-round sport for us. Except for three of us, we're all retired, and many of us are former rocket scientists. Several of us are easily identified by our bearded visage and close-minded attitude. Our group expands with new converts and shrinks as members move away to Idaho, etc.

I can appreciate that RCN is interested in reviewing new products, but we are interested in reading about the aforementioned RECUMBENTS and not about off-topic, crank-forward, semi-upright "comfort cruiser" abominations.

It's your business if you want to write about these, but we feel that any deviation from an orthodox recumbent is misguided at best, and evil at worst. At some point you have to consider your subscribers and those who may want to renew their subscriptions.

Don't expect any submissions from this group, especially in electronic format. Most of us can't even set the clock on our VCRs! That's my two cents worth, and the sun is shining, so I have to go for a ride. Best regards from your faithful RECUMBENT rider/readers,

Hal and Andrea Burchell  
(a.k.a. Mr. and Mrs. Herschel Bupkes)

### RAPID-MISTAKE

After reading RCN 092, I would like to comment on your description of "Under-Bar Shifters" (like Shimano Rapid Fire). You state: "Don't work well on recumbents (especially OSS) due to knee clearance issues." Your comments will undoubtedly cause many readers to dismiss these shifters. This is both an injustice to the shifters and a disservice to many recumbent riders. My wife and I have been using Shimano Rapid Fire shifters since 2002 on five different recumbents and we are VERY happy with them. The improvement in shifting, when going from twist-grip to rapid fire, was both significant and immediate. We've never had a problem with knee clearance that we can

recall. Rapid Fire Shifters shift more precisely, are easier to shift, are safer, more user-friendly, and you won't get sweaty palms

I started using Rapid Fire shifters on my RANS Stratus back in 1996. I liked the bike a lot except for two things: the front of the seat hit the back of my legs because of how far I reclined the seat and because of the twist-grip shifters. I upgraded the twist-grip shifters twice, but they never worked to my expectations. Whenever I talk to my friends that ride recumbents with twist-grip shifters, they acknowledge the same problems I experienced.

One time a friend of ours flew in from out of town to ride the MS150 with us. He borrowed my wife's Stratus. His first comment was how much better the rapid fire shifted than the twist-grip shifters on his Stratus back home. If you want it to shift correctly, get Rapid Fire. I NEVER recommend twist-grip shifters to anyone. Thanks for a wonderful magazine.

Robert Long

**Editor's Comment:** *We love passionate letters, so thanks for writing. I used Rapid Fires on my MTB for several years with no problems. You are preaching to the choir about twist grips, we've broken several over the past few years. I'm happy Rapid Fires are working well for you. Two of my bike friends have Rapid Fires and both have had problems. One set has a few thousand miles and are very stiff. The other has been told his are worn out as the shifting quality is sloppy.*

*Your point is well taken that perhaps we dismissed them too quickly in our article. I am often reminded by inventive readers of the danger of generalizing. You don't see them stock on many bikes. Also, I'm of the old school belief that a touring recumbent needs a friction mode just in case. You only get this with bar-end shifters (or bar-ends in Paul Thumbies). Shifters are a personal preference issue. Your letter was timely, because I just spent a two-hour ride discussing the merits of Rapid Fires vs. twists vs. Thumbies (friction and indexed) with my riding pal John. John has Rapid Fires (the ones that are wearing out). He is planning to replace them with twist grips and a SRAM derailleur (replacing an XT derailleur). I'm cringing as I write this (John can I please have the old XT when it comes off your bike?). For something totally unique, check out the Shimano bar-end shifters on Thumbies.*

### TWEENER AIR DRAG

I was doing some air drag testing on a variety of handlebars. Of course I included the "tweener" type found on highracers. The handlebars with the lowest drag were the narrow ones like the ones on lowracers, with the arms between the legs and torso, and most importantly with the elbows tucked in. This type of handlebar makes the bike more than 2% faster than an

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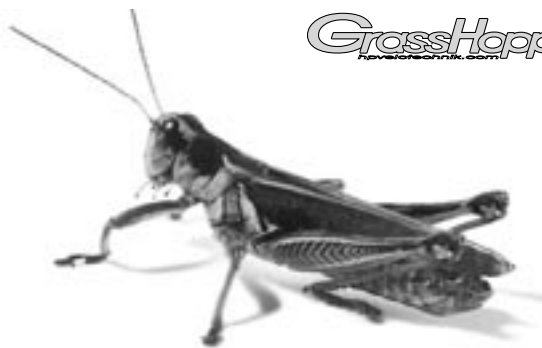
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