RCN 077

A Publication by and for Recumbent Enthusiasts Since 1990

July , 2003



See the Cycle Genius ALX20 review on pg. 9 New Volae SWB on pg. 4



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RCN ROAD TEST The ICE Trice Explorer

BY BOB BRYANT

bob@recumbentcyclistnews.com

hroughout my 15 years of recumbent road testing, I've been accused of many things. Two such things are:

- 1. Not liking recumbent trikes.
- Not liking European, or British recumbents.

Neither statement is correct.

Perhaps it's my age (43), or my current view of the recumbent world, but I'm really enjoying testing recumbent tricycles. Riding on three-wheels is well suited for my current locale here on the Olympic Peninsula of Washington state.

I've long been fascinated with English stuff: James Bond, British movies, British cars, Shakespeare, of course, fish & chips! Paint it British Racing Green and I'm a fan.

The ICE Trice is a world class trike — very British — the Rolls Royce of recumbent trikes. They don't come much better than this. If you want to know why, keep reading.

I've reviewed 5 Trice trikes over the years.

Previous to the 2003 Explorer, we had a 1998 Peter Ross 26/20 Trice (Peter is the original Trice designer).

Until March of 2003, I'd never seen or ridden an ICE Trice. Recently, I was whining about this to a recumbent friend. He suggested I write the folks at ICE to see if they would be interested. I did, and they were. Three months later our Explorer arrived.

Systems

Each Trice frame is custom built for the customer in the ICE factory. ICE trikes are brazed, "Brazing takes longer and requires considerably more skill than MIG welding but is the traditional way that bicycles have been built for over 150 years."

Frame — The mainframe is built with T45 Carbon Manganese steel (the aerospace equivalent of Reynolds 531) with a CroMo

Continued on page 22

Recumbent Cyclist News

Subscription Information

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

Recumbent Cyclist News is published eight times per year. US subscription rates are:

\$32 1 year, 6 issues*

\$45 1 year first class mail**

\$60 2 years, 12 issues

\$80 3 years, 18 issues*

\$45 Canadian Airmail (US Funds)

\$60 International Airmail

We accept payment via cash, check money order (mailed) or PayPal (see our website).

- 3rd class mail is NOT forwarded by the USPS. If you move, there will be an additional charge to resend issues.
- ** Recommended for those who've had trouble with their mail, move often, or have two seasonal addresses.

Contact

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Web: www.recumbentcyclistnews.com
If you need a personal reply, please send a letter and SASE or write us an e-mail.

Schedule

RCN is published eight times per year. For the 2nd half of 2003, expect issues in July, August, Sept./Oct. and Nov/Dec/Jan.

When to Renew

Please renew 60 days in advance if you can. By the time you read this issue, the next issue and database have gone to the printer.

Your Mailing Label

"EXPIRES W/RCN 076" means that RCN 76 is the last issue of your current subscription.

Address Changes

Don't forget to send us your new address when you intend to move. Please allow 60 days' notice for address changes.

Standard Subscription/Missing Issues

RCN is mailed USPS 3rd class — which is not forwardable (unless you have opted for our First Class mail upgrade). You are responsible for keeping us aware of your current mailing address. If you miss an issue due to an RCN or USPS error, we'll send a free replacement. If you miss an issue because we have an old address — we'll resend it via first class, but reduce your subscription by one issue (\$4 charge), which is below our cost to resend.

Privacy

We DO NOT release, sell or, give out the personal information of our subscribers for any reason. If you need to contact an RCN subscriber, send us an SASE letter to the person, place inside another envelope and send it to RCN.

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Editorial License

by Bob Bryant bob@recumbentcyclistnews.com

style of RCN. This is the style of publication that I've been working my entire career in publishing to pull together.

While everyone may think I spend my days hanging on the Internet recumbent newsgroups and playing with cool bikes — this is not exactly the case. Over the past few years I've been honing my craft — the art of micro-publishing.

We currently do two other newsletters on a monthly basis. I soon realized that it would be possible to do RCN on a monthly basis. The only glitch was getting our advertisers from a 6x schedule to our plan of 10x. We've decided that 8x (8 issues per year) will be a pit-stop to allow everyone to catch up — and for us to see how it goes.

Despite our 13 years of our print history, RCN is *not* really a model concept for making "big bucks." We've only survived the past few years by streamlining all of our systems and cost-cutting (I honestly don't know how the "FREE" publications stay afloat). I love this publication and would like to do it for the rest of my life. The changes we're making will hopefully make us more timely, current and even more streamlined in our "back-to-our-roots" newsletter style (RCN started out as *The Recumbent Cyclist Newsletter* back in the summer of 1990.

Unfortunately, in our current economic downturn, we're not sure if our new publication format will be supported. Only time will tell. We hope so, RCN is still the only print recumbent-specific publication in the world. Some manufacturers don't even subscribe let alone take out a small ad — a strange situation to say the least.

Write For RCN

We're looking for writers again. With the new schedule we hope to be able to publish more of your articles. Visit our website and check out our Writer Guidelines.

Our New Website

www.recumbentcyclistnews.com

Tell all of your recumbent friends to visit our newly updated website. We've uploaded several complete issues of RCN as downloadable Adobe pdf documents and there are articles as well. We plan to place one or two pdf issues per year at the website. RCN is still a subscription-based print publication and the mission of the website is to sell subscriptions. 75% of our revenue comes from subscription sales. This is how we make our living and have kept

RCN going for over a decade.

At the site you can find our Writer Guidelines, Ad rates, and just about everything you need to know about RCN.

RCN can now accept online payments via www.paypal.com. Anything we offer for sale (subscriptions, renewals, back issues, and consulting fees) can be paid for with *PayPal*.

We have also started offering consulting for individuals and industry. For more info, check out our website under "Consulting."

RCN Test Bike Stable

Two of the most fun bikes we've had this year have been the HP Velo Spirit (RCN 075) and the ICE Trice Explorer, these were very enjoyable reviews. Here's what else we have coming:

Hase Kett Wiesel — Our German delta test trike has a ti-boom and Schlumpf Speed drive. Watch for the review coming soon.

Greenspeed GTT — Our Greenspeed tandem trike test has been delayed, but is coming soon. We had lots of fun with this super road lime.

Scooterbike — This is a new CLWB built in Taiwan and distributed out of Portland, Oregon. Watch for the test soon. If you're riding one, please email us.

Maxarya — This is the new Canadian dual suspension, dual disc-brake CLWB. We hope to have one here soon.

Bigha — We expect our test bike soon.

Easy Racer Tour Easy — We've got a gold plated Tour Easy here that we're riding now. She's a peach: loaded with options including a Gold Rush components upgrade.

Catrike — Our "Speed" model is one of many that has been pre-ordered and is highly anticipated. We hope to have it here soon.

Volae — We should have a Volae by Fall.

Bacchetta Corsa - Coming soon!

Lightning P-38 — Watch for a long anticipated Lightning review coming later this year.

Lightfoot — We'll be getting a Lightfoot delta trike this fall.

Reader Reviews— We could use reader reviews of the following bikes: 2003 RANS V2 or Status (new bars); 2003 Angletech S&S Rocket; Angletech Quadraped; 2003 Haluzak; Hase Lepus; 2003 Vision R40; 2003 Longbikes Slipstream; HP Velo Street Machine; Zox; Organic Engines; 2003 Double Vision, RANS Screamer or Sun tandem; Heinzman recumbent electric conversion; any currently produced Velomobile.

Viva Recumbency! Bob Bryant ◆

Recumbent News



Mueller Windwrap Offers Full Length Fairing Sun EZ Sport

Mueller Human Power has developed a full length front fairing for the Sun EZ Sport and EZ Sport LTD. This fairing is quiet running and will improve your speed or reduce pedal effort at the same speed. The handlebar mounts are simple, very adjustable, and can be installed without removing the controls. The lower struts place the fairing back closer to the rider's feet for better weather coverage and aerodynamics. All this for under \$250! For more info check MHP's web site at: www.windwrap.com/ezsport.htm or call toll free 877-267-1645. ◆

Angletech Introduces Techwind Panniers

With the success of the Angletech AeroTrunk, we'd been looking for a way to haul more touring gear — without adding drag. Back in 1982, Zzip Designs offered Zzipper Tailwind Panniers. These panniers were wind tunnel designed and proven, making your bike up to 7% faster through the wind than a bike without panniers. Angletech, with the blessing of Glen Brown and Karl Abbe has reintroduced these very modern and ultimate panniers as the Angletech Techwind system.

The basic philosophy of the system is: An aerodynamic shape that reduces the drag of your bike by 7%. Angletech Techwind's maintain their shape whether full or empty, always delivering the speed and good looks. The rear of the Angletech Techwind's are square profile to catch those tailwinds and blow you down the road.

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The perimeter stiffeners maintain rigidity and a finite shape. Fitted, color keyed stuff sacks (4 per pair) take place of exterior pockets to organize the interior of your *Angletech Techwind's*. Clothing can be compressed into rock hard cylinders so you efficiently use all your interior space.

Press to seal bags that hold 2 stuff sacks each provide the most waterproof system available for items that absolutely must not get wet. The capacity is 1436 cu. in. small, 1783 cu. in large per pair.

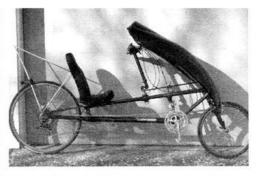
Techwind's are made from slick urethane coated 420 dennier polyester packcloth on top and perimeter, ABS and HDPE internal stiffeners, 1000 dennier polyester bottom and bike facing panels. Double pull YKK zippers covered with silent rubber tabs to eliminate clatter. For safety, a retroflective reflective tape on perimeter panniers. There is a loop for mounting a flashing LED light at rear. Techwind's weigh 448 grams, pair, small. 526 grams, pair, large.

Quick convenience: High quality quick release fittings to mount to your rack system

The panniers snap to fasten left and right sides together and a shoulder strap that fastens to 2 "D" rings.

The panniers fit all types of underseat, front, and rear mount racks. The panniers are lined in grey nylon. They are fitted with color keyed stuff sacks to separate your gear. A blue mesh cargo floor new with two Nexus buckles strap to anchor your gear. The panniers come in Black, Red, Yellow, Lime. Custom colors on request.

Source: Angletech Cycles press release, www.angletechcycles.com ◆



Fast Freddy & Calfee To Build New Carbon Fiber LWB Recumbent

The Calfee Stelletto — "I've had it up to 50mph so far and I could have done that with one hand!" The weight on this one as you see it is 25 lbs. The production bikes will more likely be about 2-3 pounds lighter. If you want more info contact Craig or Fast Freddy at www.calfeedesign.com. ◆

RCN Calendar

August 1-3, 2003 10th Annual Midwest Recumbent Rally

Stevens Point, WI Contact: 1-800-233-4340

www.hostelshoppe.com/recumbent_rally.php

August 15, 16, 17, 2003 2003 Recumbent Retreat

Fort Stevens State Park Warrenton, Oregon Contact: jjoyful1@aol.com and www.ohpv.org

September 6, 2003 Michigan Recumbent Rally West

Kalamazoo area. Recumbent displays, socializing. Numerous ride options. 10a.m. - 3p.m. Contact: www.LMB.org/wollbents. Paul Pancella

Contact: www.LMB.org/wolbents, Paul.Pancella @wmich. edu or tel. 616-353-0125

September 20, 2003 Fall Recumbent Rendezvous

Northern Detroit area. Recumbent test rides, group rides, displays. 9am - 3pm. Stony Creek Metropark Eastwood Beach shelter.

Contact: www.LMB.org/wolbents, wolverbob@cs.com or tel. 734-487-9058.

September 29, 2003

Worlds HP Speed Champs/.decimach 2003 Battle Mountain, Nevada

World Human Powered Speed Championships and decimach Challenge. Racing occurs daily 9/29 -> 10/4. HPRA racing the last two days. Will somebody break 82 mph and win \$24,000!?

October 1, 2003 Ohio HPRA HPV races

Columbus, Ohio Two days of HPV racing, probably at the Columbus Motor Speedway.

October 11-14, 2003 Interbike Industry Tradeshow & Demo Las Vegas, NV www.interbike.com

Recumbent News

Hostel Shoppe Introduces Volae SWB Recumbents



The Volae "Century is a 28.5 pound sport touring bike that sells for \$1795. The similar 30 pound "Tour" is \$1395. All models are built in the USA.

olae, Italian for "you fly", is a new high-performance SWB recumbent sold exclusively through the Hostel Shoppe. Volae uses well balanced design to maximize efficiency while addressing the need for comfort and handling in the real world of traffic and hills. The target market group is the athletic cycling enthusiast.

The Volae line consists of four models. The two dual 650c models are the Club for \$1,995 and the Team for \$2,995. The Team and club were designed to out-perform the best upright road bikes on the market and extensive prototype testing indicates that they are up to the task. The two 26"/20" wheel models are the Tour for \$1,395 and the Century for \$1,795. The Tour and the Century, which have a lower crank height and wheels that accommodate higher volume tires, are the touring/commuting models of the line. However, the Volae design team has been pleasantly surprised by the speed and efficiency of these models, as well. Volae President, Rolf Garthus, exclaimed, "After several test rides on the Century prototype, I had to go back and re-write the description on our web site to reflect higher efficiency and speed than we initially expected!"

Volae combines several innovative design elements with the best features of a number of other recumbents on the market. The seat slider, designed by Rolf, is simple, easy to use and trouble free. It won't move when it's locked down, and it won't come off when you don't want it to. The seat stay design is extremely solid, provides easy adjustment for seat back angle, makes seat removal for transport simple and adds a professionally finished look to the rear triangle.

Lightweight, sleek, comfortable, molded seats are standard equipment on all Volae models. Custom pads are easily attached or removed to allow the molded seat to facilitate everything from a more upright position to an extremely laid back position. All models except the entry level Volae Tour, feature the hot new Velocity wheels and the dual 650c models use carbon forks. The Team and Club fit riders from about 5' 4" to around 6' 6". The Tour and the Century fit riders from about 5' 2" to 6' 6".

Volae utilizes the open cockpit design, which provides ample room for getting on and off the bike without a hinged handlebar riser. A variety of stems are available from the Hostel Shoppe to allow each rider to adjust the arm reach and knee/shin clearance to their needs. Riders can also choose from three widths of handlebars to adjust the lateral knee/thigh clearance as needed.

Chain management effects efficiency. Moving the drive side chain out of a straight line introduces friction. Volae designers have kept



The Volae "Club" is a 27.5 pound dual 650c performance bike that sells for \$1995. The similar 23.5 pound "Team" is \$2995.



The seat mounts go through the main frame via a small tube in between the mainframe tube. Note Greenspeed idler.



Volae's come only with OSS steering and M5 Euro shell seats.

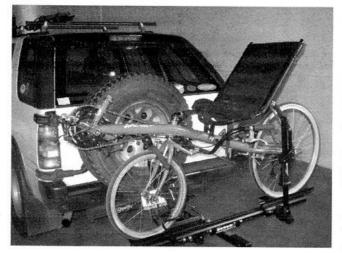
vertical and, more importantly, horizontal chain line displacement to a minimum by using a double idler system. The drive side idler is a state-of-the-art slotted/sprocket hybrid that is designed and manufactured by those ingenious folks at Greenspeed. It's very quiet and supremely efficient.

Designed with easy accessorizing in mind, all Volae models can be fitted with a mirror, water bladder, kickstand, seat bag, light, rear rack and computer. Fenders can be installed on the Tour and the Century. The seat back angle adjustment clamps are cleverly designed to double as the upper mounting points for a rear rack.

Volae Recumbents are built in the USA for the Hostel Shoppe/Volae by Advanced Transportation Products (builders of Vision Recumbents)

For more information, visit Volae's website at www.volaerecumbents.com and www.hostelshoppe.com.

Source: Volae Recumbents Press Release •



lar, riders and dealers are looking for ways to transport the bikes," says Julie Gregg, Sportworks Product Manager. "The Sportworks Universal Bent Bike Rack is a simple solution to the recumbent transport problem."

The Sportworks Universal Bent Bike Rack™ is available now and carries an MSRP of

Source: Sportworks can be reached at 888-661-0555 or the web www.bicycleracks.com. *



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Sportworks Goes Long With Universal Bent Bike Rack™

Is there any bicycle more difficult to transport than a recumbent? Not anymore. The Sportworks Universal Bent Bike Rack™ solves the recumbent transport problem.

The Sportworks Universal Bent Bike Rack™ features quick-fitting adjustments to allow for the transport of a wide range of recumbents. The Sportworks Universal Bent Bike Rack™ can accommodate a recumbent with up to a 63 inch wheelbase.

Sportworks Universal Bent Bike Rack™ can be configured to carry conventional and recumbent bikes at the same time. "With recumbents becoming more and more popu-

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

www.bikescor.com

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At HP Velotechnik, we are interested in the real needs of people when designing a new bike. We start from the user's point of view your point of view. We understand you want to be comfortable, relaxed and to have a position on the bike which makes cycling as easy and efficient as possible. You simply expect the same standards of luxury that you would get from other advanced forms of transport. Plus all the fun and benefits from cycling.

HP Velotechnik is well known for high-end sports and touring recumbents. Now we have applied our expertise to the needs of the everyday cyclist and leisure rider. The result is a fast, comfortable and easy-to-ride machine which challenges convention. Here is a bike to use every day, offering a ride of

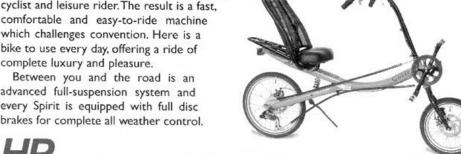
advanced full-suspension system and every Spirit is equipped with full disc Due to the low step over height and the well balanced geometry the Sprit is easy to handle, even for untrained cyclists. The compact design gives good control even in narrow and crowded streets. And at 67" length the Spirit is no longer than the average touring bike handy when you want to transport your Spirit with your car or carry it downstairs to the basement.

The Spirit is suitable for people that are from 5' - 6'7" tall with one unisize frame. This is possible through our practical quick seat adjustment. You can move the seat on aluminum saddle rails and adjust the backrest angle as well as the seat base

> position independently with a quick release. This means every member of the family can get on and ride in seconds.

Not that this means you have to sacrifice performance. It will carry a full load of luggage with no adverse effect on the handling, and the suspension makes it ideal for rough tracks and off road trails.

Check out www.hpvelotechnik.com now for details, and arrange for your test ride soon.



Velotechnik

Velotechnik recumbents • Paul Hollants and Daniel Pulvermüller GbR • Bleichstrasse 5 • 65830 Kriftel • Germany Engineered in Germany, available at recumbent dealers throughout the USA and abroad • Please visit www.hpvelotechnik.com for details

Letters To RCN

Write RCN . . . Write Soon . . . Write Often . . . bob@recumbentcyclistnews.com

The Pleasures of Riding

I read Jeff Green's Back Page "Faux Recumbent Racers" (RCN 075) with great interest. He makes an excellent point that for many recumbent riders - perhaps even the vast majority of riders - speed and performance aren't the paramount pleasures of riding. A point very well taken.

However, I feel Mr. Green overlooks a point in his comments. Riding hard and riding fast, riding with a competitive spirit, riding against someone more or less match to your abilities, is an intensely pleasurable activity.

In fact, for me few other pleasures equal the rush of going neck-in-neck with someone who is about as fast as I am. It's both a physical rush and an emotional rush. Intense exercise stimulates the body to produce endorphins that provide a feeling of well-being - "runner's high"- that helps control stress. In addition, there's a sense of accomplishment if you win, and the pleasure of camaraderie in knowing you gave your all but lost. This is part of the reason millions of people participate in sports, and the pleasures these sports bring is very real indeed.

All too often, I fear, we as recumbent riders - perhaps because we endure the derision of being different- feel a need to defend recumbency as if it were a way of life. And while perhaps for many of us it is a way of life, cycling is also a very pleasurable sport. Just as it would be unkind to label those who participate in a community baseball game as a "wanabee" athlete, it's perhaps unsporting of Mr. Green to label those who want to enjoy cycling as a sport as "faux racers." I for one applaud people like Bacchetta's Rich Pinto, a new wave of recumbent designers, who are helping redraw the recumbent planet's map to include those who enjoy cycling as a friendly competitive sport. This is a pleasure indeed!

Matt Schneps

Editor Comments: We also applaud Bacchetta for pushing the limits of SWB design, and bringing a relatively advanced (and extreme) SWB design to the mainstream. Many feel that the serious rider (read: roadie) market is a vast untapped market for recumbent manufacturers. However, it's certainly not exceeded by those who're just interested in a comfortable ride. Having been on both sides of this over the years, I have the utmost respect for both groups. Mutual respect for all levels of cyclists is the best we can hope for.

Fat Tires Rule

In your car-free article, you were quite specific about your tire choices etc. You actually saved my skin in the literal sense. A few years ago you wrote in RCN about why riders should consider wider tires I promptly ditched my original equipment Conti race rubber in favor of 1.75" front and 1.5" on the rear of my V2 and V-rex. Unfortunately my friend did not listen. Last summer, on the Western Michican Tour, he wiped out twice and I was able to keep the sunny side up. He is a better rider; but I had the stability advantage.

Please keep testing the folders: Bike Friday, Saturday, Giant, Dahon, Birdie, Airnimal, Moulton and others. Thanks for your kind attention and keep up the great work!

Scott Arbit

Editor Comments: We'd like to do more folder tests, but have had a difficult time getting test bikes. If anyone out there is an owner who'd like to do a review, please let us know. Oh yeah, fat tires rule for urban and touring cyclists.

High Racer Debate RCN 075

I found the mail section to be more interesting than usual particularly regarding the letters debating the merits of high racer style 'bents. I was amused by the fervor of each side of the issue. Sounded a lot like what happens when a group of cyclists debate the merits of their favorite chain lube. The other guy's stuff is never quite as good as what you are using! I have both a V2 style bike (custom built aluminum with same geometry, RANS seat and steering) and an aluminum high racer I made myself (very similar in design to a Bacchetta Strada or Volae Club) with an M5 seat.

My anecdotal observations are as follows: The V2 style bike was made as a replacement for my old Linear LWB for loaded touring with the hope of adequate usage on club rides. As it turns out, the V2 is a superb tourer in ever aspect, it's comfortable, great handling (even loaded heavy) and pulls a trailer beautifully. However, in our hilly terrain of piedmont Virginia I could never keep with the middle speed group on club rides due to less than great climbing. I'm sure that a big part of the climbing problem is due to the weak "motor." I do enjoy "the journey is the destination" philosophy of touring but on a club ride the emphasis is on arriving with the pack.

Thus the high racer - after riding both Bacchetta Strada and Aero I chose to build my own as I did not like the Strada mesh seat (the top of the recurve did not fit right) and titanium was out of the question price wise. Someday I'll get some of the magic metal. Besides, building a bike is as much fun as the riding for me. I ended up halfway between the two models weight-wise with disk brakes and not the lightest of components.

It's only the beginning of the club riding season and I'm averaging 1.5-2 mph faster on the high racer over my LWB (end of last season speeds). This performance gain is on par with what other high racer riders report they are experiencing. This allows me to hang with the mid speed group of roadies as I had hoped. I think it is due to the better aerodynamics and climbing performance. Seems to me that the higher bottom bracket is largely responsible for both factors. And the roadies seem to be better able to draft off the high racer than the lower LWB bike.

I even found the hard-shell seat to be more comfortable than expected, actually pretty good. But if I'm going loaded touring it will be on my LWB bike. Either style of bike sure beats walking and could be used for most applications however, I found I wanted different bikes for different uses. That's the fun thing about recumbents - there's a style of bike (short, long, high, low, even three wheels) that is sure to suit everyone's preference and needs.

> D. M. Fulks DMFulks@aol.com

Editor Comments: Information such as the above is exactly why the highracer style SWB has become so popular. I believe it's the shape of SWB to come and that most SWB designs can benefit from what's going on with Bacchetta, Vision Saber, Volae and the highracer style SWB. However, this isn't to slight the LWB OSS recumbent that has been popular for performance, tourists and all around riders for several decades - and is currently the most popular style of recumbent in North America. I'm not choosing sides, I ride one over the other, but respect each recumbent enthusiasts' right to choose for themselves. Having one of each might not be such a bad idea.

LWB Crash

I recently had the misfortune of getting seriously injured in a most mundane bike accident. I commute 7 miles per day using a variety of bikes. It had rained lightly and very briefly moments before. I was riding my Easy Racer Tour Easy EX. While making a left turn the bike slid out from under me. I've crashed

years I have been riding but always could brush myself off and walk away-not this time. I broke my left Fibia and fractured my left Tibia. This seemingly minor mishap was anything but. My bike had Power Straps. Apparently my left foot stuck in the pedal, this combined with me falling and siding snapped my leg. So I believe if I had some kind of quick release pedal system my leg would not have broken. Anybody have something similar happen to them?

> Rick Honor rhonor57@aol.com

RCN 2003 Buyers' Guide

I've been reading your magazine for several years. The 2003 Season Preview issue (RCN 074) is the best I've read when it comes to information about recumbents and where to buy one. The issue gives you everything you need to know about what a recumbent is, USS, OSS, etc., and where to reach the manufacturers. Keep up the good work.

Herman Smith

RecumButt

Below is slightly revised edition from recumbent buttee seeker of enlightenment: After many years on conventional bikes I finally inhaled and bought a shiny new lollipop red Lightfoot Ranger. Prior recumbent riding experience amounted to a half hour on a friends EZ-1. Some of us mountain folk don't get out very often to visit such amenities as parent that recumbent riding utilized entirely different muscles than those honed on the "wedgie." Little by little I have put the bike and rider through the paces. My legs are adapting but my sore tush took me by surprise. Yes, it's embarrassing but it seems when I put the pedal to the metal, particularly climbing (and here in Colorado it's either up or down) I wind up with a sore butt by the end of the ride. Friends have indicated that it is probably due to my underdeveloped glutes-that's plural for gluteus maximus-I think. Journals such as RCN indicate that "recumbent butt" is something to reckon with. Nobody, however, explains what it is. And more important, do I have it. And if I have it how do I get rid of it? All very deep questions. And lastly, does this mean that all recumbent riders have "buns of steel"?

Jack D'Orio dorioshillsideacres@msn.com

Editor Comments: Recumbent butt basically a sore butt when you ride on a recumbent. It's most common on recumbents with very upright riding positions that put a lot of weight on the recumbent seat and/or recumbent seats with minimal padding, or a a non-ergonomic seat sition, though the fact remains that if you knock back the seat recline a few degrees [and raise the bottom bracket (BB)], recumbent butt is less apparent.

Finding the perfect ergonomics for yourBODY can be a difficult or time consuming process. For myself, I prefer upright seating and low BB's. However, I get recumbent butt after 60-90 minutes onboard. In contrast, if I ride a bike with a high BB, I experience numb toe(s). The perfect riding position for me is the very rare neutral BB position at, or slightly lower than the seat like a RANS Tailwind or old Gliss. The ICE Trice Explorer worked very well for me, too.

Catrike

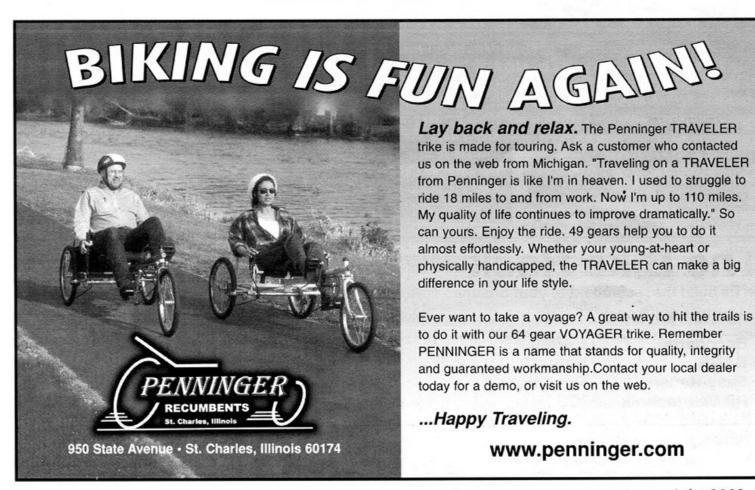
I would like to thank you for the review which I enjoyed very much. I think it was fair and with a good content. I am glad Rick took the time to do it and I appreciate his efforts and technical level. Great Material. Keep up the good work!

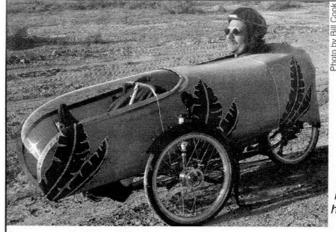
> Paulo Camasmie Big Cat HPV, www.catrike.com

... Letters continued on page 27

Send Letters to the Editor of RCN

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





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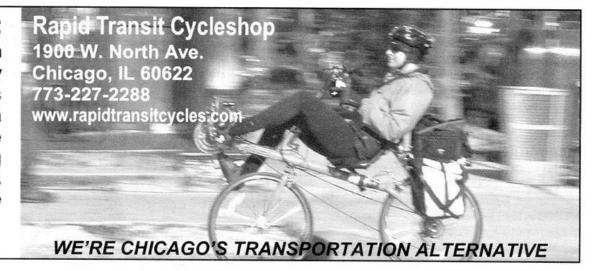
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Gaylynn Hanavancoon, Queen Voice of Bike Friday, rides her custom DoubleDay with son Elliott. "It's the most adjustable bike we've owned. The whole family can ride it in some combination or other. We like to take it in the van, because we can pop off the seats and fold it in a couple of minutes." Although Gaylynn is one of our busiest people at

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RCN ROAD TEST

The Cycle Genius ALX-202

BY BOB BRYANT

bob@recumbentcyclistnews.com

When we first envisioned the ALX, we had a certain type of rider in mind—one who wanted a sporty yet affordable bike that could hold up to tough city streets and rugged country roads while delivering many miles of comfortable trouble free riding. We wanted the stability of a LWB and the maneuverability and crisp handling of a SWB. The ALX is a comfortable, affordable and sporty CLWB right out of the box and because of its well thought out design it can easily be tailored to fit like a fine custom made suit. — Cycle Genius

The friendly folks at Cycle Genius (CG) are the new kids on the block in the arena of entry level recumbents. CG introduced their first model, the CG-24, a few years ago. The new ALX-20² is similar in design to the CG-24 (now the STX-24), but has an aluminum frame (mix of square and round tubes), dual 20-inch wheels (instead of the 20/16 combo) and upgraded components in the Shimano Sora/SRAM 7.0/Truvativ spec — and most notably are the Avid disc brakes (which we can't even get on some bikes costing twice as much).

Systems

Frame — The square section frame is welded 7005 series aluminum. The frame is fabrication and material details is very similar to the Sun EZ1 SC Lite as it is built in the same factory. The fork is full CroMo. The build quality is pretty good. The ALX-20² appears to be a

robust and heavy duty bike. However, some might feel that the details have a slightly unrefined look (in an EZ1 sort of way). We've found over the years that this is how some react to square frame tubes being used on bicycles. Aside from this "personal preference" issue, the ALX-20² is fine. We didn't find any aspect of the bike that seemed delicate or problematic.

Steering — The bars connect to an aluminum riser, and stem with ball-detent adjustment. Quick releases clamp and hold the bars in place. Adjustments are fairly easy. The ALX-20² has a bit of wheel flop (noticeable when the bike is standing still; steering wants to move very slightly to the right or left).

Weight — At 36-37 pounds, the ALX-20² is heavier than it looks or you'd expect an aluminum "lightweight" model to be.

Drivetrain

Components — The ALX-20² has a SRAM/ Shimano 24-speed drivetrain. The rear derailleur and 11-28 cassette is shifted by a SRAM 5.0 twist shifter through a SRAM 7.0 rear derailleur. The big front chainrings are shifted by a Shimano Sora front derailleur. The crankset is a TruVativ Elita 30/42/55. The gear inch range is 20-95 gear inches. Some may feel that the high end is a bit low — and it is. However, this is adequate for an entry level performance recumbent

The rear shifting and braking are excellent. The front shifting is as good as it can be — given the fact that the large chainring is a 55-tooth. I prefer an internal hub over the big chainrings due to the added chain noise and shifting that can be a bit more finicky. One thing you can say for big chainrings is that they're simpler and more affordable. The drivetrain on the ALX-20² works really well. I'm being a really picky by even mentioning my above preference.

Chain management — The Cycle Genius ALX-20² has the best possible recumbent chain management. With no idlers the chain runs free and unobstructed. The bike is designed in such a way that it doesn't need idlers or tubes. If you can get away with it, do it. This bike has one silent drivetrain.

Braking — The Avid mechanical discs are my personal favorite recumbent brakes. Sure you can get a better stopping hydraulic disc — but then you'd have to find somebody to maintain them (bleed hydraulic fluid, etc). That's enough reason for me to stick with the Avid's.

Wheels and Tires — The ALX-20² has a unique aero-style double wall deep dish rim. Usually it is difficult to get air in — but not with these. I haven't heard of this brand, but they look cool, and held up fine.

Comfort

Seat — The seat is the same as the one found on the STX-24 — a patented "suspension" seat according to Cycle Genius. It has an aluminum frame with base that bolts to the back. The quick-release sliding mount is very similar to that found on the Sun EZ1 SC Lite.

One added benefit for dealers this year is no more seat assembly. The bike comes with the seat preassembled (good for me, as I couldn't figure it out last year).

Cycle Genius took some heat for the "new fangled" sling mesh seat. Or maybe it's the furniture-style chrome-plated "S" springs in the seat base (they are removable). Anyway, they felt the need to offer a seat pad. They did a nice job. The nylon envelope both velcro and laces to the seat. There are two thicknesses of foam inside. The first is a 3/4" rectangle of closed cell foam. On top of this is a 1" rectangle of open-cell foam.

I'm not one of the critics that said the bike needed a foam pad, but I certainly liked this one. However, it does make this already tall bike - even taller. Instead of setting flatfooted at a stop, I was on the ball of my foot; I'm 6' with a 44.5" x-seam and 32" inseam).

Ergonomics — The controls are a bit far away compared with other CLWB models. For taller riders, it is an arm-stretched out riding position.

User friendliness - The CG bikes are not as user-friendly as other CLWB models. The reason for this is the higher bottom bracket (BB) and more rearward c.g. (center-of-gravity: which may make the front end feel light). I can't decide whether the ALX-202 is more or less user-friendly than the CG-24. On one hand, 20-inch wheels are more stable, predictable and reliable, on the other hand, the BB is higher with the bigger wheel, the c.g. is higher (and seemingly more rearward on the bike), and the bike is longer.

What is really cool about the ALX-202 is that it feels like a SWB recumbent, yet you don't have the heel interference problems (with the front wheel) that you would on a typical SWB.

Ride and handling

Stability - The bike is fairly quick handling, even quicker so than the STX-24. With the 20inch front wheel, the BB (bottom bracket) is raised up - and it feels like the c.g. (centerof-gravity) has been moved rearward - which seems to quicken the handling of the bike. Shorter riders will find this less of a problem than taller riders, though seat height will be a concern for some.

Maneuverability — The CG ALX-202 is a fairly maneuverable bike. One very positive attribute is the feeling that you're on a SWB without a boom - which means no heel interference with front wheel. On the negative side, the bars are far away and swing wide and far in tight maneuvers.

Performance — The ALX-20² feels fairly

fast. It's stiff, rolls well, and has that free-running (idler-free) drivetrain. It felt like a barnburner on flats and downhills. Since it's a heavy bike, climbing performance may not be as good as some would like. However, the frame stiffness, short length and lack of SWB style heel/front wheel interference all help out climbing performance.

Owning — The best use for the ALX-20² seems to be an entry-level rider group bike. It has the performance for day rides with other 'bents, and the price is right. What it doesn't offer is a wide selections of options that can give it alter-egos as a loaded tourer or serious commuter.

Options & accessories — There is a padded seat cushion with two densities of that Velcro's onto the seat base \$30; a kickstand is \$10; a water bottle cage mount clamps to the steering riser \$20; Clipless pedals are \$60; fenders are \$35. A medium size Zzipper fairing is \$245-\$265 (tinted). We haven't tried it yet, take a look at the website to see how they look before you order one. It doesn't seem like the higher bottom bracket design works as well with a fairing.

We tried with no success to mount our Radical bag, Angletech Aerotrunk and even our trusty LL Bean backpack to the CG. The solo seat mount does not make for easy adaptability. What CG does offer are mid-ship mount pannier rack. These are steel hooks that hang off the side rails of the seat. A lower mount cross the frame underneath the seat. We're glad to see this option, though we'd still like to see CG offer a seat-back bag. If you know of one that works, please let us know.

Market competition

Comparison — The ALX-20² is a unique recumbent. It is more performance oriented than just about any other CLWB. The closest CLWB performance-wise would be the Sun EZ SC Lite. The Lite is a better buy, but doesn't have Avid disc brakes. The performance decision between these two will depend on whether you



The ALX 20 on a winter day at Pt. Hudson in Port Townsend, WA

INFO AT A GLANCE

Specifications

Model — Cycle Genius ALX-20² Type — CLWB

Steering - OSS

Wheelbase - 54"

Seat height - 26"

Bottom bracket height - 23.25"

Frame sizes - one-size-fits-most (5'4"-6'5")

Weight - 36-37 pounds

Weight limit - 300 pounds

Frame - 7005 Square alum. (round & square) Fork- CroMo

Stem - Kalloy custom QR, alum.

Riser - Alum.

Handlebar - Kalloy 560mm alum.

Suspension - Seat

Seat frame - Alum.

Seat material - Mesh w/opt. foam pad

Components

Crank - Truvativ Elita 30-42-55

Bottom bracket - Truvativ XR-320

Headset - TH model 856 alloy

Derailleur (front) - Shimano Sora Derailleur (rear) - SRAM 7.0

Shifters - SRAM 5.0 (twist)

Cassette - CS-80 11-28

Chain - KMC Z-72

Gear inch range - 20-95 (19" wheel dia.)

Wheels - 2x406 mm 20"

Hubs - Quando

Rims - JetSet 290 Aero double wall black ano.

Tires - Kenda Kwest 1.5 100 psi

Brakes - Avid Speed Dial 5disc

Brake lever - Avid

Pedals - Platform/clipless

Incidentals

Priced from-\$959

Warranty (frame & fork)) - 5 years

- Stealth (black) or Patriot (red, white,

Fits Riders - One-size-fits-most

A Bargain speedster

Great brakes

Full mesh seat

Great urban assault vehicle

Feels fast

Made in same factory as Sun bikes

Con

Long reach to controls (taller riderrs)

Stiff ride

Upright riding position + high(er) bottom bracket

Tall bike and seat height

Foam seat pad makes bike even taller

Springs in seat (some like them, others don't, they are removable)

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THE AGE OF THE BICYCLE

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prefer a mesh seat base or a foam seat base; low BB or high BB; SWB feel or LWB feel.

The Spirit is a different type of CLWB - a suspended commuter/tourer - while the ALX-202 is a hard tail barn-burner. Though the HP Spirit initially felt like a slower bike, it wasn't. We mounted the Streamer fairing and a tailcone shaped Radical seat bag and it made up for any CLWB performance cliches. The suspension made riding fast easier to handle. The Spirit was far more comfy to ride.

Value — The ALX²⁰ is an exceptional value. If you've been looking at SWB recumbents like the Vision R-40 and RANS Rocket, you might want to check out the ALX.

Final analysis

Verdict — The ALX-20² is an affordable and tough urban speedster. The value is there, and CG's manufacturer in Taiwan seems to know how to build durable and affordable recumbents. CG itself has a great mission of building, "The Most Affordable Quality Recumbent." This sums it up and I think they're doing a great job. I'd like to see CG continue to refine the details (as they continue to do) and perhaps lighten the bike a bit.

From an ergonomic perspective, I'd like to see CG look into bringing the handlebars/controls closer to the rider. This seems to be more of a concern for taller riders as the seat backs away from the stem/riser/T-bars. I'd like to see some Bacchetta "tweaner", Volae or Vision Saber-style bars on the ALX-202.

The CG has a fine seat. It's not the cheapie Taiwan mesh back, smallish seat-pod base that we've seen on several other Taiwan CLWB's, but a real 100% sling mesh seat. These were once considered the Holy Grail of recumbent seats. They are far more comfy over the long

haul, but take some getting used to as the mesh base makes the seat seem higher off the ground (and height from the ground can be a concern). I find it interesting that CG has had to defend this seat by offering to remove the springs or coming out with the optional foam base pad. I for one was quite comfy on the mesh base with or without springs or foam pad. If I had to choose a CLWB recumbent seat to ride all day long - this would be it.

From a performance and durability standpoint, the 20-inch front wheels is a big plus. When you get into speeds over 15 mph, the 20 has better stability and rolls faster. It just feels

Personally, I prefer the 20/16 of the STX-24. It keeps the bottom bracket a bit lower and the center-of-gravity (cg) a bit more forward. This will be less of a concern for lighter weight, riders in the mid-high 5' tall range.

The folks who'll really dig this bike is just about anyone who's ever wanted to put a 20inch front wheel on their CLWB recumbent to

go faster, lift the bottom bracket up higher, improve performance and rid themselves of the hassle-prone 16-inch wheels and tires. In that respect, the ALX20 is a real winner.

We haven't heard any negative feedback from CG owners, though after we published our CG-24 review one year ago, we heard from several satisfied owners. Lastly, we always love it when company's are committed to high value recumbent bicycles.

New For 2003

CG is about to unveil their sub \$500 CGX 3.0 20/16 CLWB with a 24-speed drivetrain, Vbrakes and longer reach bars (Interbike).

Since our review one year ago, the 2003 STX-24 has seen some upgrades: CG has shaved more than 1.5 pounds out of the 24s' frame, gone to a wider handlebar, better tires (60psi Kenda Kontacts), upgraded crank set with replaceable chain rings and a 52 tooth big one. They've also redesigned the seat back and we went to a SRAM front derailleur. •

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RCN READER REVIEW

Mini Review: The Trice Mini

BY BERNIE ROSEN triker77@webtv.net

The Mini came on the trike scene about six months after the successful intro duction of the Trice Micro. I wanted a Micro from the moment I saw it. "The most aerodynamic trike ever produced. The micro was designed as a super compact, road going, no compromises, speed machine," says the ICE brochure. What intrigued me was that it had everything I wanted in a trike and in a small package.

There were concerns. Getting on and off of such a low trike is not easy for me. The seat is very low. If I somehow managed to get seated without mishap, I was sure I'd have to find a tree with a low-hanging branch to dismount. Neil Selwood of ICE who was aware of my physical limitations, suggested I consider the XL-NT instead. It was a good suggestion but I decided to hold out until I could try the Micro.

In the interim ICE brought the Trice Mini to market. This Mini is a bit more tame, with its more upright and higher (8.5" instead of the Micro's 4.5"). While the Micro is a speed machine, the mini has the capability for three fenders and a rear rack — a mini touring machine. This seemed like the perfect trike for me. I checked the specs — I ordered the Mini sight unseen.

Dial-In

When I first saw the trike, it looked like a 3/4 scale trike for kids. I knew the seat was 8

inches off the ground but it appeared lower. Would I be able to mount and dismount without help? I had flunked that test on the Micro—the Mini's road-hugging sibling.

The Mini's form-fitting, rigid carbon fiber seat has a 29 - 43 degree angle adjustment. I had it set around the halfway point by the dealer. I rode it that way for a few days. The sporty feeling was exhilarating. However, my lateral vision at intersections was severely restricted and I had to strain my neck downward to view the mirrors. Had I opted for the SRAM Grip Shifts — the mirrors would have been mounted five inches higher where the bar ends are now. That's an option I'm considering.

I raised the seat back a few degrees at a time and rode it at each stage. As I neared the maximum erect angle I felt as though I might slide forward on the seat base but I didn't. At this time my seat is at a nominal 43 degree angle. I can pivot my head on the neck rest for sideward vision to the mirrors and beyond. Pedaling seems to be just as easy as when I when my posture was more recumbent.

I straddled the boom and plopped my 200+ pound body into the seat—so far, so good. Now, to get up. Intuitively, I grabbed hold of the pedals, leaned forward and tugged myself upright. After a few tries I was able to do it smoothly without lifting the front wheels.

The Seat

The carbon fiber seat and neck rest is really

meant for laid back riding. I prefer a mo upright posture. Even with the trike's mo erect seat angle, I cannot keep my head u without support.

The neck rest is adjustable but in my case I'm an inch or two shy of getting it low enough Instead of fitting into the nape of my neck, the rest supports my head. My helmet, which i mandatory on club rides, doesn't clear unles I tilt it forward on my forehead.

I would not call the Mini's seat comfortable Then again, I'm not broken up after a ride—just sweaty, though I also live and ride in Florida. If you crave ventilation but still wan a Mini, ICE will fit their standard mesh seat The seat's upward tilt on the Mini frame may be compromised somewhat, even with a longer seat post.

To change the seat tilt angle on the Min takes nine adjustments. That's more complicated than I would like. But the result is a sleek, compact trike with an expanding/contracting wheelbase that is pleasing to the eye.

The fully inflated 16-inch tires are very reactive, more so than 20's. Every road irregularity is heard and felt in the headrest. ICE offers an optional rear shock for the Mini which I declined because it added 2.3 pounds. With hindsight, I think it would have been worthwhile.

Drivetrain

ICE offers a variety of gearing combinations. With Ed Deaton's help, (Fools Crow Cycle) I selected a 42/57 double chainring + Schlumpf drive (2-speed bottom bracket) up front, and a 9-speed rear cluster. So far it's suited me fine. I particularly like the Schlumpf drive which gives me an instant climbing gear at the press of a button.

Maybe it's illusory, but with the Schlumpf set up I find it no hardship to spin uphill at 5-6 mph. The Mini is definitely easier for me to propel than were the Trice Classic or the my '99 Greenspeed GTR.

The Mini's steering is tight and true. There is no pedal steer or brake steer. The turning circle is larger than I expected but that hasn't hampered me. Both handlebars have fourway adjustment.

Wheels

On both the Micro and Mini, ICE has outfitted the 355 mm 18" wheel size (50 mm larger than the BikeE 16" size, and 6 mm larger than the more popular 349 mm wheel size used on the Brompton folders, Greengear SatRDay and the Greenspeed GTX. Previous criticisms of this size were primarily due to tire availability. Schwalbe now offers the Marathon in an 18" x 1.5" size which has answered that concern.

Braking

I don't ride fast enough for braking to be a concern. However, I do relish the lever-actuated parking brake — a nice upscale touch. If you opt for the Mini Lite, then the parking brake becomes an option.

Transporting

I haven't tried to transport my Mini in the current crop of hatchbacks but it looks to me like most will work. For really serious cartage there is a mid-boom slip joint which allows for dissembly.

The Mini is light enough for me to load by myself on the upper portion of my Hitchrider rack. To me, that's more important than how well it corners on two wheels.

Verdict

Nitpickers may complain that the computer mount is in an awkward spot and that there is no sensor mount. They'd be right. They may also complain that your lights loses a bottle cage spot when they mount a light on the front derailleur post — right again.

The Mini is my third trike in as many years. It was preceded by a Greenspeed GTR and a Trice Classic. In my two-wheeled days I rode a Tour Easy. The Trice Classic is an easy trike to like. I'd recommend it to anyone for recreational riding, with the accent on comfort. It took minimal time at all to get accustomed to. The GTR is a well made machine but lacks an adjustable seat. In the year I rode it I never was truly comfortable. If Greenspeed ever decides to go adjustable, I would consider buying another one.

I'm lucky that the Mini was my third trike because if it were my first, I think it would have unnerved me. Getting used to has been a challenge. It's my only trike right now — but I'm always looking. ◆

Bernie Rosen is 77 years young and lives and rides in Venice, Florida. Bernie is a frequent contributor to RCN. You can read more about Bernie in RCN 064 (50-Year Recumbent Quest) and his review of the Inflator pump in RCN 065.

Editor Comments — ICE Trikes are very popular in Europe and in North America. They are highly thought of by trike conoisours. The company dates back to 1986 when Peter ross first introduced his tadpole trikes. I first rode the Trice back in about 1989. At one time a USA licensed Trice was built in Corvallis, Oregon. In 1986 Chris Parker joined Peter Ross to help with production and development. In 1999 Chris teamed up with Neil Selwood and they formed Inspired Cycle Engineering, taking the business over from Peter Ross.

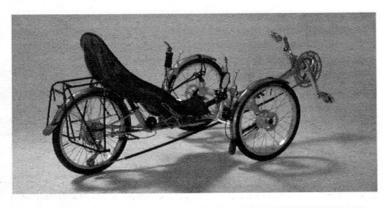
There are many models, custom features and options to choose from. The use of the Euro style shell seat makes the ICE trikes unique. There are track width variations on some models (not the Micro or Mini). A 3" travel air shock suspension is optional on both the Micro and Mini (and other models). Custom colors, a rear dynamo mount and Hope Mini front disc brakes can be fitted to ICE front hubs. The neatest option in their catalog has to be the decorative tradtional highly detailed



Bernie and his Trice Mini

main tube/cross member lug. The detail is so fine with this joint, it must be silver soldered.

Fenders, racks (and mounts for both) as well as a front fairing, mirro and light mounts, AND a very cool full adjustable neck rest (support for your neck) is available (music to my ears), "it helps relieve upper body strain particularly when climbing hills. The neck rest fits all Trice manufacturered from 2001 on," from the ICE brochure.



The Trice Mini with stock (shell) seat (above) and Bernie's with a mesh seat (lower right).







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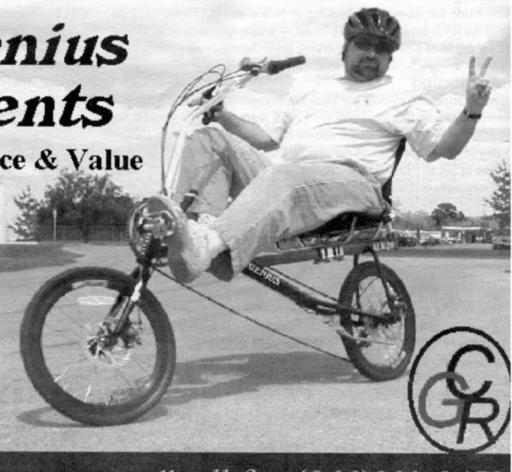
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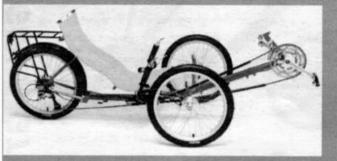
- •Patented Comfort Suspension Seat
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Bob Bryant of RCN



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Research indicated that even with our centrepoint steering, there was some toe-out under heavy braking with the optional hydraulic disc brakes. Thus the steering has been re-designed to give a small amount of stabilising toe-in under braking. The difference in single wheel braking from high speed is quite marked. To line up better with the new kingpins, the handlebars have been to moved to the top of the main tube, giving better ground clearance, and shorter bars. Plus they have been given more rake, so that they fit the hands better, yet are still in line with the pivot, eliminating any tiller effect.

NEW LUGGAGE RACK

Our new rack is made from high tensile aluminium tubing, by Massload. It weighs only 370g, yet has been tested successfully to 40kg. Thus we rate it at 30kg. It has a universal mounting plate for lights or reflectors, and a mudguard attachment point.

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RCN READER REVIEW

The Lightning Phantom II

BY BOB ROSE bent_rider@hotmail.com

hitting the new recumbent designs hitting the market — lowracers, highracers, dual 650c wheels, full suspension — two bikes still command the most respect in the marketplace. For LWB fans, it is the Easy Racers Gold Rush. For SWB fans, it is the Lightning Cycle Dynamics P-38. Those of you who wish to save a few dollars have the Tour Easy. Does the Lightning Phantom II, with the same component spec as the base P-38 fill the same niche? The Phantom started out as the Stealth, with the B2 model filling the niche the Phantom II now holds.

The Phantom is an improvement over the original Stealth model. Before you start gathering pallets and old railroad ties to burn me at the stake for heresy, let me explain my thesis. Comparing the Phantom II and Tour Easy is a difficult task. Their design philosophies are worlds apart. I'm using an analogy. If you accept my premise that the Gold Rush and P-38 still hold the title of tops in their class; then is the Phantom II the little brother of the P-38 the way the Tour easy is to the Gold Rush? Think outside the box for a minute. Granted the P-38 faces stiffer competition performance-wise in the SWB class than does the Gold Rush. The Phantom II the little brother of the P-38 the way the Tour easy is to the Gold Rush? Think outside the box for a minute. Granted the P-38 faces stiffer competition performance wise in the SWB class than does the Gold Rush.

Systems

Frame — The Phantom frame is made of 4130 CroMo steel with an aluminum BB (bottom bracket) boom tube. The fork is also CroMo. It's a mono-tube design with a BB slightly higher than a V-Rex, but noticeably lower than the current crop of high racers. Actually, the BBs are about the same but the Phantom seat is noticeably lower.

The frame design was a collaborative effort between Tim Brummer of Lightning and Steve Delaire of Rotator Recumbents. Rotator built the early Stealth and Phantom frames, but Lightning now produces them. Steve Delaire still makes the heavy duty seat frames for riders who weigh up to 300 pounds. You can see some of the similarities between the Lightning and Rotator chainstays.

Wheels — Lightning uses Sun CR18 rims laced onto Shimano Deore LX hubs. There are eyelets on the spoke holes for added strength. A Primo Racer on the rear and a Schwable City Jet on the front complete the wheels. There are faster tires, and there are tougher tires, but this combination is certainly

adequate for both. I see no need to change the tires until necessary.

Seat — The seat frame is aluminum, and the seat is laced to the frame instead of the padding over a rigid base found on RANS or Bacchetta bikes. This has previously been described in RCN as a full sling/mesh seat. The Lightning seat is comfortable and functional — and has been considered one of the most comfortable recumbent seats for years. It's also lighter than a RANS or Bacchetta seat.

The seat base has a one-inch thick foam insert. This is plenty given that the seat does not have a hard base. Some riders remove the foam; others opt to insert a Therm-a-Rest stadium seat for added comfort (approx. \$18).

Steering — The Phantom II comes with the same drop handlebars as the P-38. They are adjustable through plus or minus 20 degrees from vertical using a quick release a lockdown lever. You can also adjust the height of the bars and the angle of the bars on the riser. The Shimano Dura Ace bar end shifters extend vertically below the drops. With a little practice and proper adjustment, you can avoid hitting your knees during a slow speed turn.

Lightning handling has been described as "twitchy" in the past. They are only twitchy if you twitch. The steering is sensitive — like a road bike, but gives the bike a lively feel. Like any recumbent, steer in a more fluid and deliberate motion rather than jerking the bars like a mountain bike and you will not have any problems. I enjoy the sports-car like handling of this bike.

Finish — The bike I ordered came in Mango Metallic. Early in production, I heard that the boom color did not match the frame. If true, it has been corrected. The frame is TIG welded, not brazed, and the quality of the welds is what you should expect from a bike in this price range. The finish is attractive The handlebar taping professionally done, and cables are neatly routed — no complaints here.

Weight — The large frame Phantom II weighs in at 27.5 lbs. That's not bad for a steel recumbent, and in line with its competition. In fact, it is on the lighter side of most of its competition.

Sizing — The Phantom comes in two frame sizes: S/M for riders 4'10"-5'8", and a L/XL for riders 5'7"-6'6". Given the wide range of adjustment on the Phantom, these two frame sizes cover the wide height differential easily.

Drivetrain

Chain Management — No mention of chain management is complete without mentioning the need for adjusting the length of the chain along with any boom adjustments. Once you set the bottom bracket length, you must add or subtract links in the chain for proper function. Too short and you lose the high gears, too long



Bob's Phantom II. Note trademark Lightning curved handlebars and bar-cons

and the chain slaps around while on the small crank. If you plan to do this yourself, get a good chain tool. If you are mechanically challenged, have a temper, or your significant other doesn't like you swearing, take the bike to your local bike shop. Once adjusted, the chain routes through two Delrin rollers easily with minimum noise and chatter. The chain doesn't rub against your leg.

Brakes — Like the P-38 base model, the Phantom II uses the Odyssey A-Brake. Odyssey is one of a few companies that make ambidextrous brakes. Lightning routs the brake cable on the left side to keep it out of the way of the chain. After receiving the bike and making small adjustments - BB, pedals, etc.-it was time for my first ride. As I put the bike into my pickup truck the fork turned sharply and I heard a snap. The front brake was broken — hardly a way to start a relationship with my new bike. Lightning promptly sent a replacement, but it may not have been as freak an accident as I first thought. Apparently, this has happened before to Lightning owners while loading the bike into a truck, apartment, or hanging the bike up on a rack. Exercise care when turning the fork sharply.

In Lightning's defense, it was an "oops" moment. If you transport your bike by removing the front tire and locking it down to a rack or carrier, you will notice that you must adjust the brake every time you re-install the tire.

There are two plastic wedges that adjust the spring wire on the brake levers, centering the pads over the rim. Once you know the proper setting, re-adjusting the brake is easy. Once installed and properly adjusted the Odyssey A-Brakes perform very well. They stop quickly without squealing. The brake levers are Tektro RBP 377A that have a slight factory bend to fit the drop bars.

Shifting

The Dura Ace bar end shifter requires a learning curve compared with the SRAM half-pipes with which I'd been using. I learned to love them. The front lets you adjust for "trim" to eliminate noise when shifting through the gear range. The rear indexes each gear easily. Connected to a Shimano 105 front derailleur and a Shimano Deore LX rear derailleur, the drivetrain shifts smoothly and quickly.

Comfort/Ergonomics

One of the advantages of the Phantom is the range of adjustment for a custom feel. The rider can adjust the seat fore and aft, and adjust the seat angle, although you remain in a relatively upright (closed) position. There's also plenty of adjustment in the handlebars as mentioned previously.

Having an adjustable boom as well as a seat is an advantage. You can adjust for comfort, and a custom ride. Lightning bikes put 55% of the weight on the rear wheel and 45% on the front. While I did not measure this directly,

I can certainly tell that the rear wheel isn't as heavily loaded as my Tailwind. The only quick release adjustment on the Phantom is the handlebar release, which also makes it easier to transport. Everything else requires a hex key or box wrench. This is not a bike to share, unless it is with your twin. Once properly adjusted, you get the feeling that you are wearing the bike. It becomes an extension of you.

Performance and Reliability

After an initial test ride of less than 10 miles on the Silver Comet Trail to make adjustments, my first "real" ride was a memorial ride for a local racer killed by a drunk driver. The course was a relatively hilly ride around the North Atlanta suburbs. The hill climbing ability of the Phantom was tested early and often.

INFO AT A GLANCE

Specifications

Model — Lightning Phantom II
Type — SWB
Steering — OSS
Wheelbase—44"
Seat height — 19-22"
Bottom bracket height — 26.25"
Frame sizes — S/M and L/XL
Weight — 27.5 pounds
Weight limit — #250 (L/XL); #300 (HD)

Frame — Brazed CroMo w/alum. boom
Fork — CroMo
Stem — LCD Lockdown tilt steering
Handlebar — LCD Alum. custom drop bars
Suspension (front) — NA
Suspension (rear) — NA
Seat frame — Lightning Ergofit, alum.
Seat material — Mesh w/opt. foam pad

Components

Crank — Shimano 105 30-42-52 170mm Bottom bracket - Shimano 05 Headset - DiaTech threadless Derailleur (front) - Shimano 105 Derailleur (rear) - Shimano Deore LX Shifters - Shimano Dura Ace Bar-Con Cassette - Shimano LX 11-32 9-speed Chain - KMC Z9200 Gear inch range - 24-120 Wheels - 559 mm 26"/406 mm 20" Hubs - Shimano Deore LX Rims - Sun CR-18 Tires - Primo Racer/Schalbe City Jet Brakes - Odyssey A-Brakes Brake lever - Tektro Pedals - None

Incidentals

Nimble handling

Priced from—\$1840
Warranty (frame & seat) — 5 year warranty
Colors — Small/medium: Metallic Green, Crimson
Red; Large/extra large Jet Black, Mango Metallic

Pro

Great climber Smooth ride Well designed Almost as fast as a P-38 for nearly \$1000 less. Good bike for touring, recreational rides, or commuting.

Con

Brakes are fragile (be careful when storing/ transporting)
Seat lacing stretches (a small price to pay for lightweight seat)
Tire set is not matching

Contact

Lightning Cycle Dynamics, Inc Telephone: 805-736-0700 Web: www.lightningbikes.com Although I was no where near "hill climbing shape," I climbed every hill with ease. When another rider cut me off on a descent, I lost all my momentum, and had to climb a steep hill from a dead stop. I was able to climb the hill without using "granny".

I can see that once I get my hill legs, the Phantom will surprise a few roadies. It may never climb as well as a diamond frame, but I doubt I'll get left in the dust either. On hills that I usually climbed between 5-7 mph on my Tailwind, I climbed 12-14 mph on the Phantom, with a few gears left to spare. Pretty good considering I'm not in as good a physical condition this winter compared to last summer. A quick look at the component spec will show you what you can expect in regards to reliability. Lightning used quality components on a solidly built frame.

Accessories

The Phantom has only one braze-on to hold a water bottle. Accessibility is OK, but someone with shorter arms may disagree. The factory seat bag is functional and bright yellow with a safety reflector. The bag has no frame, but holds enough gear for a day trip, along with a hydration bladder. It's large enough to carry what you need, but packrats may want more space. Those of you interested in touring may opt for the low-drag panniers.

Market Competition

My first recumbent was a RANS Tailwind, but I was looking for a 26/20 SWB recumbent with

a bit more performance. I test rode (in order) the following bikes:

Bacchetta Strada — This bike is quick! I believe you are at a disadvantage taking a test ride with platform pedals. You do put forth a fair amount of effort just to keep your feet on the pedals. Clipped in it would be a different ride altogether. However, I do not think I could do a century with my feet that high up in the air. With the right amount of adjustment, it's a sweet ride.

Bacchetta Giro — In my opinion, the Bacchetta seat is an improvement over the RANS. The "tweaner bars is the most significant difference on the bike compared to the competition. Some will like them, others will not. I found the Giro to be an unremarkable bike. It compares more to the base model Phantom. With some better components, you would have, well, a V-Rex.

RANS V-Rex — This is a really good bike. If you had to make a catalog decision without trying any of these bikes, then buy the V-Rex. It is your play-it-safe choice — a great "all around" SWB. RANS should introduced a high-end version like they did with the V2.

Vision R45 — I can see why USS has its fans — it's a comfortable ride. I didn't have any difficulty handling the bike the first time. Once on the trail, the bike went where I pointed it — very intuitive. You USS people know what I mean. I liked the rapid-fire shifters. You get a great view with USS!

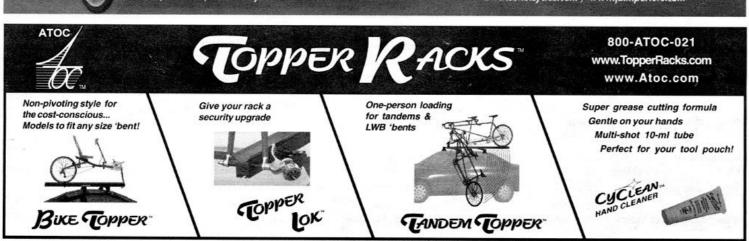
Others — The other bikes worth considering that I didn't try are the Vision 64 Saber and Rotator Tiger. The Vision Sabers are well documented. Since Steve Delaire helped design my bike, I should give a plug for the Tiger. It uses a 54-speed mid-drive and comes in three grades, the highest of which is a 21-pound Titanium racer.

Verdict

The Lightning Phantom II is at home on the bike trail or road course. The handling, ergonomics, and performance meets or exceeds that of its competition. In the beginning, I made the analogy of a Tour Easy. The Gold Rush and P-38 still hold the top spots in their class even with stiff competition from newer designs. I believe that the analogy between the Phantom II/P-38 and the Tour Easy/Gold Rush is valid.

The Phantom has a long way to go before matching the popularity and cult status of the Tour Easy, which compares well with Harley-Davidson in that regard. I believe that Lightning (and many other bike manufacturers for that matter) can learn a thing or two about customer service from Easy Racers. I recommend buying your Lightning from a local dealer that will provide the support you need rather than directly from Lightning. Of course, I would give you the same advice on any bike. In both the SWB and LWB class, there are flashier new designs, and faster bikes. However, for all day riding, touring, or a fast club ride, it's hard to beat the Phantom II. It shines best when going uphill. In my opinion it's the best SWB bike under \$2,000. ◆







RECUMBENT TOURING

GOBA: Observations of a First Time Tourist

BY SANDY COEN

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his must be my 15 minutes of fame as an A rider," I thought as we cruised at the very rare (for me) speed of 25 to 30 mph through several miles of a smooth, slightly downhill section of rollers — pure bliss. We were on the third day of the 14th Great Ohio Bicycle Adventure (GOBA), a tour in June 2002 that made a 350-mile circle around our hometown of Columbus.

Earlier that morning I had struggled, doubts in my mind as to what a "vacation" is, to climb the 450 feet out of the Licking River valley. After two nights of camping, we were treating ourselves to a B&B in Chillicothe, 60 miles away. GOBA was our first long tour. My hope here is to give my impressions, as a first-time tourist, of a big week-long tour.

Ohio Bicycle Adventure

Since its inception in 1988, GOBA has been organized by Columbus Outdoor Pursuits (COP). COP has cycling, canoeing, rafting, caving, and hiking outings year-round. They also put on TOSRV, the two-day, 210-mile Tour of the Scioto River Valley. More aimed at fami-

lies, enjoying the ride and each other, GOBA has grown to be the second-largest group bike tour in the United States. There are six days of riding, with a rest day in the middle, though the restless do a century ride that day.

Each year the route is in a different part of Ohio. Your gear goes in trucks, and each night a "GOBAville" of 1,000 tents springs up in a city park or fairgrounds. All but about 300 of the 3,000 riders camp. Bike shops set up repair stations and displays, food vendors pop up, and buses shuttle folks to church lasagna dinners, the nearest Bob Evans (the major sponsor), and other restaurants, music, etc. It's been estimated that the riders bring about \$100,000 worth of business to each night's small town, so the welcome is quite hearty.

About Our 'Bents

Florence, my wife and riding partner, rides a BikeE RX compact long-wheelbase (CLWB). She's added one-sided SPD pedals and a seat bag, and she has a fairing on order. She had about 500 miles in this year before GOBA, and she rode 900 miles last year on a Specialized

hybrid bike.

My steed is a RANS Rocket short wheel-base (SWB). I've added a Windwrap fairing, tire liners, KneeSavers pedal extenders, and Power Grip pedal straps. The fairing seems to be good for pedaling one gear higher than before I put it on, and it helps on cold rides. A \$10 collapsible fishing pole from K-Mart, mounted with cable ties, flies a flag. And I sometimes carry *Recumbent Cyclist News* (RCN) Buyer's Guide in my seat bag, for when I get asked about recumbents.

I'll be 50 this year. I rode my Schwinn 10speed everywhere through school and college, but I hadn't ridden more than 15 miles at a time since then, until Florence said, "I want to ride GOBA this year" and "Why don't you try a recumbent?" I tried a friend's Longbike SWB USS and fell off the first three times I tried to start (I'm still his friend). He also introduced me to the RCN. The next week I test-rode six different recumbents and bought the Rocket. It just "clicked" with me.

I'd put about 700 miles on it in the six months before GOBA (we had a mild winter), but only one ride of 50 miles. I try to commute six fairly flat miles to work about three times a week. We're solid C-B (I'm C, she's B) riders on the COP scale; 12 to 14 mph seems to be a good pace for us this year. We've ridden day rides but no multi-day trips.

The Tour

The fairgrounds in Delaware, Ohio, were the starting and end point for GOBA this year. Our 17-year-old son was playing in a soccer tournament the weekend GOBA started, so we drove up to register late on Saturday afternoon and did not camp. Hundreds of tents dotted the fairgrounds. We signed our safety pledge and got our route map packets, bike tags, and color-keyed luggage tags (max two bags each), etc. The main street of Delaware was blocked off, several musicians were playing, and people and bikes were everywhere. At 6:30 there was a bike parade. Not just kids had decorated their bikes. There were pink flamingos, a large group calling themselves the GOBAnanas (regulars, we learned), and every stuffed critter and beanie imaginable as bike mascots.

Day 1—At 7 a.m. Sunday our son dropped us, our bikes, and our three duffles off, and we wished him well on his last soccer game. We soon figured out another advantage of recumbents—their seats are natural luggage carriers for getting your stuff to and from the SAG trucks.

At 7:45 we were ready to ride. You can leave anytime from can-see to about 9 a.m., but 3,000 bikes are a lot of bikes. The route is marked with an "A" painted on the road at every intersection (just follow the point), but we just followed the crowd. Today's goal was the Ohio

State branch campus in Newark, 55 miles away, terrain flat to gently rolling. It was a beautiful day—partly cloudy, 75 degrees and a tailwind. Just what this newbie wanted.

Once on the road we saw recumbents in all flavors and permutations. Long, short, compact, over-seat (OSS) and under-seat steering (USS), homebuilts, a few low-riders, a few trikes, and two streamliners. At least three other Rockets, and a lot of BikeE's, including a family of six with one DoubleE and four single E's. One Cannondale. Dozens of recumbent tandems, lots of Double Visions, a few Screamers, and at least one Counterpoint Opus (half recumbent, half upright). I'd guess that about 5% of GOBA riders were on recumbents.

There are morning and afternoon snack stops, and a bigger lunch stop each day, with food and drink sold by youth and church groups, firefighters, etc. And always lines for the port-a-potties. Some of the small towns hosting lunches also had live music.

A few miles before lunch we heard a "tic tic tic" from Florence's front tire. We stopped and found a small piece of glass, but not before it gave her her first flat in 1,500 miles of riding. We put in her spare tube. Sunbury's shady central square, antique shops, and stores were an inviting lunch stop.

We rode through farmland, woods, across Alum Creek reservoir, sometimes in groups, sometimes strung out. Occasionally we were passed by pacelines of folks with matching jerseys. Always "on your left" and friendly. For several miles I rode and talked with a retired firefighter, now working part- time as a nurse, on his own schedule. Several times we both were asked about recumbents, not as a curiosity, but how and why did you pick yours. In Granville we took a short, steep detour up the hill to visit Denison University, our alma mater, classes of '75 and '76. The last few miles to Newark followed a rails-to-trails path along Raccoon Creek. Some of the fast guys complained that they couldn't ride a paceline on the path. Hey, isn't that what TOSRV is for?

A sea of tents awaited us as we pulled into GOBAville at about 2:30. We found our luggage (the "pink" truck), picked out a spot to camp (recumbent valet service), and put up our tent. The farther you were willing to carry your stuff, the less crowded it was. We found a cool drink and crashed in the shade for a while, patched Florence's innertube, and got in line for the showers. I talked to people from several states, and a father and son I didn't know who lived a block from us. Most people thought it was a fairly easy day. My legs were a bit sore, but it was a great first day of our first tour. Dinner tonight for us was the Bob Evans' GOBA chicken and noodle special. Not bad. Really.

Day 2 — "Breakfast bags, \$5" we heard as we put our duffles on the truck at 7:30. They contained a bagel, jelly, banana, apple, granola bar, peanut butter crackers, orange juice, and water. This was breakfast and part of lunch, and the money went to local folks, a church or community group. Today was 55 rolling to hilly miles to the fairgrounds at Lancaster. After about 10 miles we arrived at Dawes Arboretum, a park with trees and plants from temperate regions all over the world. Florence talked me into riding the three-mile loop through the park, with my first decent hill, and an observation tower at the top. This morning the U.S. soccer team was playing in the second round of the World Cup in Korea. At the park we heard that our own Columbus Crew's Brian McBride scored, and the U.S. beat Mexico 2-0! A few intrusions from the outside world are OK.

The 18 miles to lunch were on small roads with lots of short, steep hills. The BikeE RX has lower gears than my Rocket, and I walked a few sections. Lunch was in Millersport, home of a Sweet Corn Festival every fall, on the shores of Buckeye Lake. The afternoon continued on, rolling farmland, breaks under shady trees, short hills, quick descents. We hit 37 mph on one. It was in the mid-seventies, nice. My legs are definitely tired now, and tomorrow is the "hilly" day.

We set up camp at about 3 p.m. in Lancaster, just in time to miss a short rain shower (the only rain we had all week). Today each of the four luggage trucks was in a different part of the fairgrounds, spread-



GOBAville — Youctangee Park in Chillicothe, home for nights 3 & 4.



Madison Lake was a very welcome stop after 63 miles on a very hot 71 mile day. I don't remember the names of the trike riders.

ing folks out. Tents were all over the fairgrounds, including on the infield of the harness racing track. A lone Gold Rush Replica was cruising on the track. A shuttle bus took us downtown, which turned out to be only about eight blocks. We ate at Ann's Cheesecake House, which also had excellent quiche and chicken wraps. A rockabilly band was playing in the square. We walked back with a group of riders, talking about our various uprights and recumbents. A bright moon tonight.

Overheard in line for the shower:

"I never saw a hill I couldn't walk."

"They shouldn't paint BAD DOWNHILL on the road. There are rough downhills, and dangerous downhills, but no bad downhills."

"It's a lot quieter sleeping next to the Wild Bunch [a big bunch of regulars] than near those little kids. Guess they don't get tired riding in their trailer"

"I sure loved those hills last year."

"Let me tell you about this tour on the coast of Maine last year."

"It was way too hilly last year!"

"Those recumbents look comfortable."

Day 3 — Each morning we would awake to the gentle sounds of tents being folded and tire pumps wissing, but most riders seemed to be quieter than many campers in state parks. It would start getting light about 5:30. Many folks were riding by 6, some slept in. This morning we couldn't find a group selling breakfast bags, so we scrounged for

bananas, orange juice, and coffee. Sixty-one miles today, and by mile 8 we are supposed to be at the top of the biggest hill on the tour. It was a slow climb for me, not as steep as yesterday, and broken up by a 100-yard-long construction zone where we all walked our bikes. We were going up the backside of a wellknown hill called "Revenge" by cyclists, for the village of the same name at the bottom. The descent was twisty and uneven, and we went down at about 20-25 mph. I definitely would have had to walk part of it if we were climbing it. We both noticed, after two somewhat hilly days, that more upright riders were walking hills than were recumbenteers.

Now came the aforementioned section of smooth road and rollers! The land falls gently toward Chillicothe and the Scioto River, the lowest point on the tour. A short stop to walk to Tarlton Cross Mound-aligned with the North Star — built by Adena Culture people hundreds of years ago. Lunch was at the Tarlton Fire Department. Yes, my legs are sore, but I'm really enjoying this ride.

Tonight we're staying at the Guest House B&B, built in 1826 by Governor Tiffin, Ohio's first, as a wedding gift for his daughter. It's run by a retired TWA pilot and his wife, and he was familiar with the small planes made by RANS, the maker of my Rocket. Our son and daughter are coming down from Columbus. Today is Forrest's eighteenth birthday, and in three days it will be our twenty-second wedding anniversary. Thirty more rolling miles, and a 300-foot ridge no one told me about! Then family and a shorter line for the shower.

Youctangee Park was GOBAville for two nights. It's a city park in the historic part of Chillicothe, with a public pool and lots of big old trees, surrounded in part by an oxbow lake. It's picturesque, and it would have been our favorite, but our B&B was only five blocks way. A couple with homebuilt Easy Racer- style recumbents labeled "Bent There" and "Done That" were also staying there. After we cleaned up and Forrest and Emilie arrived, we walked to the edge of the park, where a professional bike race was taking place, the first stop of the six-day Tour of Southwest Ohio. About 150 riders raced a half-mile circuit through town at speeds around 30 mph. After 30 miles, a wild sprint to the finish!

Day 4 — Some of the young and the restless riders on GOBA rode a optional hilly 60- or 105-mile ride on Wednesday, but for most of us it's a rest day. Canoeing and hiking were also available. We walked through town and GOBAville with our kids, swam, and watched some World Cup soccer. That night, instead of the Dixieland concert in the park, we saw Tecumseh! - an outdoor drama with a cast of 100, plus horses and cannons, that portrayed the life of the Shawnee chief.

Day 5 — Our kids went back to Columbus, and we're back on the bikes. Seventy-one miles to London would be our longest day. It's fairly

flat, but London is about 400 feet higher in elevation than Chillicothe. The last three days of the ride were going to be humid and in the nineties. I took off my fairing, rolled it up in my towel, and tied on top of my seat bag. I did notice I had to pedal a little harder, and I didn't coast away from Florence on downhills as fast as I did before, but the extra breeze was worth it!

We were riding by 6:30, starting out on the shady Tri-County Triangle bicycle trail. Soon we were back on country roads and fell into a rhythm of riding, drinking, munching, finding a shady tree, and putting on more sunscreen. We were each drinking at least a water bottle an hour. We rode through Williamsport and Mt. Sterling. The high point (and saving grace) of this long, hot, and sticky day was an extended swim break at Madison Lake State Park, only six miles from camp. We set up our tent and showered again. In line, I talked to two folks who had ridden all fourteen GOBAs, and a 77-year-old man who, since retiring, had hiked the Appalachian Trail and will be trekking in Nepal this November. We both hope to be that active in another 25 years. After a rest we rode a half mile to the center of town. London's annual Strawberry Festival was in progress. In between the rides, games, and carnies, one could find fresh strawberries, strawberry smoothies, and strawberry pizza. Back in GOBAville we treated our legs to a professional massage, 12 minutes for \$10. We slept well.

Day 6 — Friday's ride to Marysville was shorter (55 miles), more scenic, but a little hotter. It's not far from paradise to the top level of Dante's inferno. We passed through Catawba, the second-highest point in Ohio. We rode through pretty, rolling farmland, and two covered bridges. We heard from someone with a radio on their bike that the U.S. soccer team lost their third- round game to Germany, 1-0. They had a great run and turned a few heads.

At lunch in Mechanicsburg, there were four folks under a tree picking traditional bluegrass on guitar, mandolin, banjo, and a dobro. I love it! There's something real about live, unamplified music-kind of like traveling under your own power, on a bicycle.

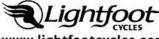
GOBA's organizers, in their wisdom or experience, supplemented the scheduled stops on these hot days by having some of the medical squads spaced out between stops with lots of cool water. I later found out they gave out 40 gallons today.

Marysville and GOBA put on a nice party for our last night. The city park was nice, with shade, playgrounds, and basketball courts. A GOBA tradition is a song contest. Riders or groups (especially return riders) sing songs with the words changed to be more bicyclefriendly. Nineteen songs ranged from the Beatles, Beethoven, rap, grunge, and motown



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to two versions of Jimmy Buffet's "Margaritaville." Then Arnett Howard and the Creole Funk Band (a Columbus mainstay for high-energy danceable music) took over, and folks danced till dark.

Day 7—Only 40 flat miles back to Delaware. A year ago I would have laughed at the thought that I would want to ride that far—now no sweat. Except today was another hot one, and we all sweated a lot. The last day, and I got one and a half flat tires. I didn't find the cause of the first, but I did find the culprit for the second. Everybody on GOBA gets a collectible pin for their hat or bike bag. We saw several folks with all 14 GOBA pins. I "collected" a second 2002 GOBA pin with my back tire about mile 20. It was a slow leak, and I made it in with pumping up the tire twice.

We rolled in to Delaware about 12:30, tired, ready for our own beds, but happy and with many new friends. In six days of riding we covered 334 miles, spent about 29 hours on our bikes, had two flats, and averaged about 12 mph.

But the numbers will be forgotten, the memories won't. Will I be back on another GOBA? Yeah!

14th GOBA by the Numbers

- 7 days, 334 miles, optional hilly century on Wednesday
- 3,000 riders from 46 states, Australia, Canada, and the Virgin Islands
- · About 5% recumbents (my estimate)
- · 59% men/41% women
- · 33% first-timers
- · 9% ridden 10 or more GOBAs
- 15% under age 15, many two-year-olds in trailers (the youngest allowed)
- 36% over age 50, oldest age 84
- 4 semi-trailers carrying luggage, 2 mobile shower trucks, dozens of port-a-potties, dozens of llama, 1 camel

Observations

Recumbenteers and roadies, A-riders and comfort-bike cruisers, young and old—all can happily share the road, can ride in common pleasure,



Florence & me in Marysville, our last night on GOBA 2002. We'll be back next year . . .

and can find what they came for, on a ride as well run as GOBA. A special *thank you* to the GOBA staff! Recumbents are wonderful tourers, and they do climb hills. Ohio is quite beautiful at 13 mph.

If you drink enough, munch frequently, and find occasional shade trees, you can ride a long way, even in very hot weather.

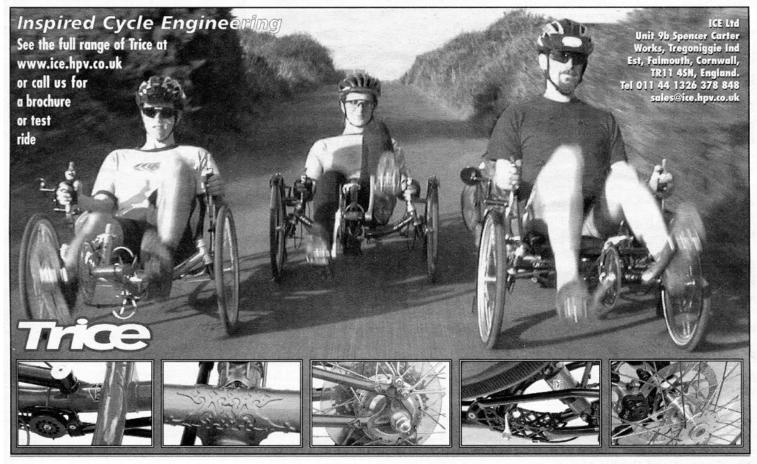
It's good to relate to our world in the terms of the height of the next hill, the distance to the next stop, and the friendly ache of our own muscles. Even for only a week. Too often we make the world relate to us.

Cyclists are a good group. Camping with 3,000 folks can be hectic, but it's fun.

If the pair gets along well, tandems are fast.

People with skinny tires have a lot of flats.

Whether riding through Ohio or riding through life, the right partner is everything. ◆



bottom bracket (BB) shell. The frame is beautifully hand crafted with strict attention to detail. Many of these details will send shivers up the spines of those who love bicycles as art. It's not all about looks either, this trike goes together as smooth as silk.

The frame comes in three sections: The mainframe; the boom; and the cross member. The boom has quick release levers. The rear triangle is held to the main cross-member with marine grade stainless steel allen bolts.

The cross-member is mated to the mainframe section by a custom ornate laser-cut lug. It's the finest lugwork I've seen on a recumbent. Few others use costly lugs. The only one I can recall offhand is the Lightning P-38.

The rear triangle is made from Columbus Gara CroMo tubing. Rear dropouts are investment-cast and have extra eyelets for mounting fenders. The suspension features an ICE spec'ed Cane Creek air shock. The suspension rear triangle is stiff and lightweight. The pivot is Delrin bushed and runs on a CNC machined shaft. The lightweight pivot parts are maintenance free.

Looks aside, what I liked best about the frame was the CNC machined, anodized aluminum sleeve that the boom and rear triangle section slide into. Again - smooth as silk. Having fought with booms, and slider adjustments of other types, I can say that this set up is the smoothest sliding adjustment there is.

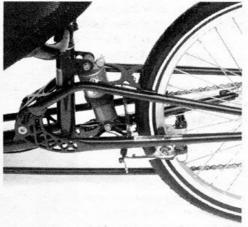
Custom frame tube sizes, thicknesses and special frames for larger or heavier riders are available.

Each Trice is powdercoat painted in a wide choice of colors. A clearcoat is then baked-on over the powdercoat. Inside the frame is treated with Framesaver Internal Corrosion Prevention Spray.

Steering - Another excellent aspect of the Trice is the light-touch steering. This handlebars pivot on bearings that connect to tie-rods, that connect to each front wheel - pivoting on kingpins which rotate in Stronglight A9 roller bearing headsets (several competitors use bushings). The result is the smoothest, most effortless trike steering you'll find. Even with my XL-sized body, I could control the trike with two fingers.

The 6082-T4 aluminum bars slide into a CroMo stem that spins on two cartridge bearings. The bars are adjustable in width and foraft angle.

Weight — The Trice Explorer weighed 48 pounds with the rack, rear fender, light mount, two rearview mirrors and computer. While not exactly lightweight, it's reasonable for this "super touring" trike. With the front fenders, safety flag and headrest on, it might weight another two pounds.



Trice optional rear suspension



Trice steering pivots on Stronglite headsets



The nicest lugwork we've ever seen on a recumbent

Drivetrain

Components — The drivetrain is primarily Shimano Deore XT shifted by Dura Ace barcons (my favorite stuff). The XT MTB crankset has microdrive gears of 22/32/44 which was perfect for this touring trike (and a worthy contender for any touring recumbent). I'd have preferred a 175 mm crank to the stock 170 mm. I forgot to specify this upon order.

DualDrive 81-Speed — The Trice Explorer is equipped with 81 gears! The 27-speed drivetrain is shifted with the Shimano bar-cons mounted on the USS bar-ends. The DualDrive is shifted with a SRAM ratchet/trigger. I fell in love with these years ago on an Angletech bike - and they were not available for some time. Well, ICE has them, and there's on this Explorer.

INFO AT A GLANCE

Specifications

Model - Trice Explorer Type - Tadpole trike Steering - USS Wheelbase-39" Seat height - 13"

Bottom bracket height - 14.25" Width - 32.25'

Frame sizes - Built for rider

Weight - 48 pounds w/rack, pedals, fenders Weight limit - Built for rider

Frame - Carbon maganese steel, CroMo, lugs, brazed

Stem - Custom

Handlebar - 2 piece alum.

Suspension (rear) - Optional, rear Cane Creek

Seat frame - Full mesh, foam base

Seat material - Nylon

Components

Crank - Shimano Deore XT 22/32/44 170 mm Bottom bracket - Shimano Deore XT

Headset - Stronglight

Derailleur (front) - Shimano Deore XT

Derailleur (rear) - Shimano Deore XT

Shifters - Shimano Dura Ace Bar-Con, SRAM trigger (DualDrive

Cassette - SRAM DualDrive 9/27-speed

Chain - Shimano

Gear inch range - 09-104 (other options avail.)

Wheels - 3x 406 mm 20"

Hub (rear) - SRAM DualDrive

Hub (front) - ICE cartridge bearing

Rims - Apex

Tires - Schwalbe Marathon Kevlar 1.5 100 psi Brakes - Shimano Deore disc/V parking brake

Brake lever - Shimano Deore

Pedals - Alloy VP 607

Incidentale

incidenta	IIS .	
Price —	Explorer	\$3259.
	Rear susp.	\$0501.
	Lugwork	\$0160.
	SuperTouring upg.	\$0206.
	Extra bottle bosses	\$0013
	Susp. rear rack	\$0121.
	Fenders (3)	\$0115.
	Mirror & mount	\$0030.
	Neck rest	\$0074
	Computer & mount (Cateye cordless)	\$0049
	Shipping/packing	\$0187
	Customs duty	\$0121
	Total	64000 HCD

Warranty (frame) - 3 years Colors - Owners choice Fits Riders - Built to fit rider

A very comfy ride Excellent craftsmanship Exceptional handling Exceptional ergonomics Lots of options & custom features European styling World class mesh seat

Expensive

Limited dealer base

Purchasing requires patience (takes time to build a custom trike for the owner)

Not lightweight (though other models are) Rear end fairly lightly loaded (w/o cargo load) Seat recline adjust can be time consuming Centering frame sections can be tedious

Contact

ICE (Inspired Cycle Engineering www.ice.hpv.co.uk

Though it sounds very complex, It's actually very simple if you think about it this way: you basically have typical 27-speed MTB style drivetrain, with a three different gear ranges (SRAM 3x9: gear #1 is a 27% reduction; gear #2 is a 1:1 lockup; and gear #3 is a 36% overdrive). Leave the trike in SRAM DualDrive gear 2 unless you are climbing a very steep hill (gear 1), or descending a steep downhill (gear 3). Keep in mind that these is less friction loss when in gear 2. Also, the DualDrive can be shifted at while stopped. I just found that shifting the DualDrive last always left me with more gears (that shifted easily and quickly).

Chain management — The Trice requires just under 3 lengths of chain, connected by quick links (probably the best way to connect multiple chains these days). The chains run through what are the most finely machined recumbent idlers I've seen (one for the top chain; and two others on the boom for the quick adjustment system). The "low noise long life" cartridge bearing chain pulleys are CNC machined by ICE and are world class.

The chains also run through chain tubes, attached to the mainframe cross-member and main chain idler. The system worked as good as it possibly could. The system is reasonably quiet, especially considering the chain tubes and multiple idlers.

Braking — The brakes rival the best we've experienced. The discs — surprisingly — are Shimano Deore's. These were seemingly improved since our last try of them on the Cambie Recumboni. We had no disc rotor trueing problems, and the brakes are strong. The levers operate each front brake independently. A Deore V-brake is connected to a thumbshifter-like parking-brake lever — BRAVO! Few manufacturers provide decent parking brakes. The folks at Trice have on every test trike I've tried over the years. Avid or Hope discs are optional.

Wheels and Tires - With disc brakes, the



The ICE Trice Explorer with a full touring load

rims take much less of a beating. After our testing, they still looked like brand new. The front wheels have precision bearing CNC machined hubs made to ICE spec from 2014 Aerospace Aluminum. The rear hub is the SRAM DualDrive. The hubs are Alex DV-15 double walled eyeletted rims with Sapim spokes. The wheels stayed in perfect true. The tires are a perfect choice of Schwalbe Marathon Kevlar 406 mm 20" x 1.5" 100 psi tires.

Comfort

Seat — The seat frame is TIG welded aluminum and then powdercoated. The mesh section is breathable and durable. There's a pronounced lumbar, that my back surprisingly well. There are tension adjustment buckles to optimize the fit. The seat has an adjustment range of 15 degrees. The seat isn't part of the mainframe and removes in a minute or two (4)

allen bolt clamps). However, seat recline adjustments can be time-consuming and require multiple adjustments and recentering of frame sections.

Even with my picky long-torso body felt right at home on this seat - excellent comfort mid-back, upper back - and especially seat base. I'd been riding a few test bikes with the imported foam covered smallish seat bases as of late. Sitting into a refined sling/mesh base was recumbent whoopee heaven. While a bit narrow for XL sized hineys, the seat base still worked fine for me. ICE uses a slice of the reticulated foam (used on Euro-shell seats) and places it under the seat base mesh. This foam is breathable and won't absorb much water. Wow! What a seat to tour on. They don't get much better than this. I sure can't think of the last time I'd been this comfortable on any bike - or any recumbent. This sling/mesh seat is

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the most comfortable seat I've tried in years!

Ergonomics — The ICE Trice Explorer has just 1.25-inch differential between the seat and bottom bracket (BB) height (BB is higher). I prefer lower BB's. Tadpole perfection for this reviewer. Being a touring trike, the Explorer is the least "extreme" of any of ICE's tadpole trikes. To me it was the most ergonomically perfect tadpole trike I've reviewed. I experienced no toe numbness, no recumbent butt whatsoever (I tended to stay in the seat longer than I usually do on test rides). The seat is reclined quite a bit. I did feel some neck fatigue, but the Trice has an optional headrest. I did try it, but didn't make the necessary modifications to complete the fit to my neck. I'm sure that it would've worked.

User friendliness - Trikes are generally user-friendly. The Explorer gets the highest possible marks a tadpole can have. Being a touring trike, it sits a bit higher off the ground than other trikes - making getting in and out of the seat easier. The controls are very straight forward though the 81-speed drivetrain may overwhelm some (see drivetrain).

Ride and handling

The Trice tracks straight and doesn't veer. The longer I rode it, what tail wag was apparent, slowly went away. Trice steering incorporates a unique "No-brake steer" geometry. Essentially, this means that with single sided braking, just one brake can be applied and the TRICE will not veer off line.

Stability - The Trice Explorer is very stable in 90% of riding. I was still a bit nervous riding very steep down hill at 40+ mph. The handling is not twitchy, but gets more jit-

tery at mountain pass descent speed - even more so with a load).

The Trice rides higher than the ultra-low performance trikes. It's possible to roll it. I put it on two wheels a few times, one time was unplanned and a bit disconcerting. I actually felt safer on this higher tadpole than on lower tadpoles I've reviewed. The one downside is that if you lose it at speed, you're likely to crash and roll. But hey, keep in mind that this is a touring trike, not a speed racer.

Maneuverability — Despite it's super touring designation, the wheelbase is shorter than most modern SWB recumbents. And with that feather light steering touch, maneuverability is a breeze, even with a load (or XL sized rider).

Performance - While other manufacturers have told me that the lower BB would make the performance suffer, I found this not to be true at all. I found the trike fast (enough) and as suited to performance as my riding style required. For me, the Trice Explorer would perform as well as any other trike I've reviewed because the ergonomics suited me so well (i.e. if you are comfortable on a given design type, you'll perform well).

Owning

Utility — The Explorer offers the best of all worlds: it performs well, can carry lots of cargo, is taller than the ultra-low racey tadpoles and is very durable for "super touring." If you want a trike that will do it all: weekend rides, self-contained tours and commuting to work - this is it!

Options & accessories

Fenders - Optional (and a must have) are the ICE fenders. The fronts have ornate custom mounts, that attach to the kingpin/headset with one-bolt (each side). The rear is mounted with two struts on each side and a lower mount inside the chainstay bridge. The front fenders can be removed in 30 seconds.

Rack — A beautiful rack aluminum adorned the back of this super touring trike. The rack is made in-house by ICE. The rack must attach to the seat when the rear-suspension option is chosen. The "suspension" rack truly a work of art. The rack can be removed in a few minutes (4 allen bolts).

Waterbottles — The Trice has braze-ons for 3 waterbottle cages, probably more.

Headlight — A custom mount is available to mount headlights on the BB shell. There is room for a large flasher off the rack.

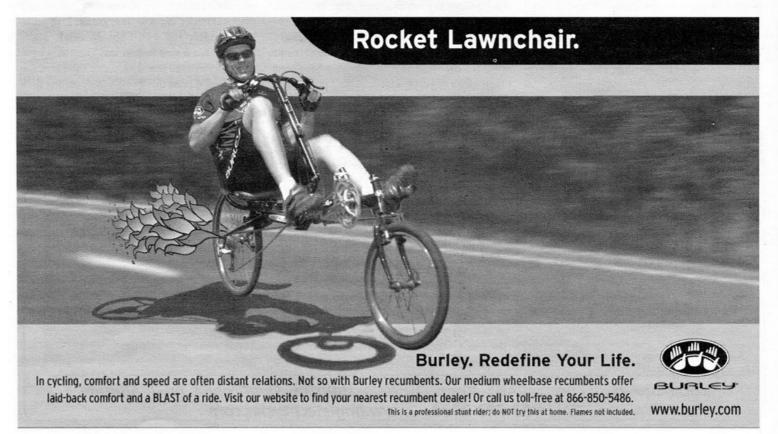
Safety Flag - Another must for the serious tricyclist. The Trice has two mounts, one low just behind the axle, and one on off the rear rack.

Head Rest - A custom ICE Trice headrest is optional for all Trice models. Some cutting/ fitting is necessary for optimum fit.

Computer — Our trike came with optional computer mounted, fit and working (cool!).

Rearview mirrors - Two Mirrcycle rearview mirrors with custom mounts fastened one to each USS bar.

Each one of the options are adapted especially for the Trice - and it is clear that the ICE folks took the necessary time to make them fit and work correctly - something that is not the case for all accessories and manufacturers.



Verdict

If you're shopping for a high end trike, there are several good ones out there, and I suggest you look at them all. However, we know of no other trike that can compete with the ICE Trice as far as build quality and refinement of details. This is the finest recumbent trike I've reviewed. It's like the designers envisioned what they wanted to sell, designed it, built it, refined it, developed options for it, and after they were done, they priced it accordingly. The Trice has little to do with a "price point." It's seems to be about building the finest trike they can - and from where I sit, they've done it. You'll pay more for a Trice, but there are noticeable differences. Does this mean that everyone needs a fancy trike like this? Absolutely not. In the next year we'll see the best recumbent trike values we've ever seen - with several sub \$2000 entry level trikes coming to market. However, in the 15 years I've been reviewing recumbent trikes, this is the nicest one I've seen. If you love high end exquisite, hand crafted recumbents, the Trice is it.

Finding a Trice

There are a handful of dealers in the USA. Those of whom advertise in RCN are: Calhoun Cycle in Minneapolis, MN; Bicycle One in Gahanna, OH; The Bike Rack in St. Charles, IL; Zach Kaplan Cycles in Alameda, CA. ◆

ICE Crew Bios

Chris Parker, age 35 (Director): built his first recumbent back in 1995. His background is in crafting ceramics and furniture. He moved to Cornwall and started making trike parts for Peter Ross (Trice) in 1995. Chris took over the Trice business when Peter Ross retired. His main duties are design concepts and CAD, frame build, assembly and wheel building. Likes: Work and riding Trice; Dislikes: Not working.

Neil Selwood, age 43 (Director): built his first mount abike in 1985 and a recumbent in 1993. He trained as a CNC manufacturing engineer in the Aircraft industry. He became bored after 22 years. He moved to Cornwall in July 1998 looking for a new start in life. He met up with Chris and together formed ICE taking over production of the Trice. His main duties are purchasing, accounts, subcontract, web site maintenance, communications. Frame build.

Likes: Making new stuff, Test riding and

Surfing; **Dislikes**: Making the tea, tidying up.

Ben Dickinson, age 33: built his first recumbent in 1996. He then worked in the film industry in special effects and model making. He joined ICE in 2000. His main duties are fabrcating the tricky bits, carbon fibre and composite work, frame build, assembly. Likes: Riding too fast, Hi Fi; Dislikes: Mess and imperfection.

John Olson, age 42: built his first recumbent in 1983; 20 since then, LWB, SWB and trikes. He is a computer programmer/ Systems Analyst. He got very bored so built his own recumbents and then his own 32ft steel yacht in Vancouver B.C. and sailed it to the UK. He joined ICE in 2001. His main duties are frame build, assembly and loads of ideas. He also sorts out the PC when Neil can't handle it.

Like: Mess, building prototypes; **Dislikes**: Computers and mornings. ◆







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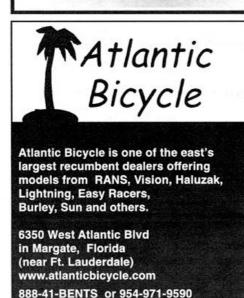
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RCN 074

The recent issue of RCN is my all time favorite. The only other issue I liked about as well was the 1997 Buyers' Guide.

I own a Reynolds T-Bone Dual 650. It happens to be the one pictured in the article. It has a Lightning seat and is leaning against the back of my Ranger truck. This bike is incredibly fast and fun — and absolutely trouble free. George has been extremely easy to work with. I've recently changed to a M5 carbon seat and now climb even better.

I'm also considering a Bacchetta Aero to add to my collection. Reviewing a manufacturers entire lineup made for a great comparison issue. I'd love to see that approach done on other lines. RANS, Lightning, Haluzak, Vision, Rotator and many others are making some fantastic bikes and trikes.

Recumbent Cyclist News

RCN Available Back Issues

- RCN 075 HP Velo Spirit, Barcroft Columbia
- ☐ RCN 074 2003 Season Preview/Buyers Guide
- RCN 073 Bacchetta Giro, Strada, and Aero reviews; Reynolds T-Bone
- RCN 072 Sun EZ Sport, Catrike, Bike or Trike?, Car Free Adventure
- RCN 071 Penninger trike, Burley SWB
- ☐ RCN 070 Lightfoot Ranger, Rotator Pursuit 700, Cycle Genius, Pantour
- ☐ RCN 069 Cannondale GS GTO. Wicks
- ☐ RCN 068 EZR Fold Gold, RANS 20x20's
- RCN 067 2002 Buyers' Guide
- □ RCN 066 Vision Saber, BikeE E2 Barcroft Dakota, Bentech kit build

Prices: \$7 each postpaid, buy 3, get one free + Priority Mail service upgrade. Payments accepted via PayPal as well. Visit www.recumbentcyclistnews.com

To order send payment to: RCN, PO Box 2048 Port Townsend, WA 98368. I'd much rather read articles on bikes instead of the elimination of automobiles. I prefer recumbency as alternative cycling style, not an alternative lifestyle. Thanks for a great Magazine,

Mick Steltenpohl

Editor Comments: Our car-free article (RCN 072) was a bit off-topic, and a one-shot deal. We plan to stick to our topic of recumbent bicycles, and some alternative bike stuff.

Burley Seat Fix

I have a Burley Canto. I like this bike, but have a problem with the seat. The seat's design is complicated and its not very confortable for long rides. It transfers even the smallest bump to the rider. I haven't been able to get it to stay put (slides back) and I even broke the skewer trying to tighten it. The seat base is tolerable but not comfortable the material makes you perspire a great deal in areas where you do not need moisture! The lumbar support is actually irratating and not very conforming at all. Well, I am just plain fed up with it.

I also own a Rotator Pursuit and absolutely love the seat. In my opinion, it's the best designed seat out there. It's lightweight at 3 pounds (less than 2 pounds for the racing version) versus the 10+ pounds for the Burley seat. The Rotator seat is simple, stays put and even if you don't like the hose clamps — the simplicity makes it a winner. I've never had the seat slip on me. No matter where you are, you can get replacements. Try that with the proprietary skewers from Burley.

So I took the seat, cradle and supports from the Rotator and put it on the Burley. This reduced the Burley's weight by 7 pounds! The seat will soak up bumps that with the Burley seat transfered into me. I rode 35 miles tonight with the Rotator seat and it transformed a pretty good bike into an awesome riding comfortable machine.

If Burley is listening or you have a Burley that you are fed up wit — call Steve Delaire at Roator and purchase his seat for your bike.

Mike Rocole mrocole@ez-net.com

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More Fat Tires

I just read your comments about the Stratus and wider tires. I'm curious why you think a 700 c drive wheel on the Easy Racer is a downside. While I haven't run tests, I keep coming back to the conclusion that a larger wheel is a faster wheel overall at the riding pace of what I consider to be an average recumbent rider (13 - 16 mph). I reach this conclusion because the Easy Racers on average appear faster to me than their LWB RANS brethren and the P-38 is faster than their 26" brethren like the Burleys, RANS etc. If you can get your average speed up to 20 mph or so then I think smaller is better since lower profile means more aero and thus less wind resistance.

The more I ride our Columbia with its dual 406s the more I experience a rapid bleeding off of speed on uphills (comparing it to Screamers so I am somewhat comparing apples to apples) although it picks up speed well on the descent. In fact, on descents, the bikes closest to keeping up with the tandem are the GRRs and the P-38s. We leave Stradas, Stratus, and almost everything else in the dust. Or is your comment more directed toward problems with putting a wide tire on a 700 c rim? Appreciate your analysis. No matter how I convince myself otherwise, in actual practice I keep coming back to the better speed of a larger wheel. Mike Stern

Editor Comments: I'm not sure I'd be so bold as to call the 700c a negative anymore. My past reasoning behind the comment was that

the 700c wheel is not as strong, you cannot find very many wide tires (compared to 26's), matched tire sets are more difficult to find and you may have more flats (skinny tires). Most everyone (okay, maybe not Zach Kaplan; -) would believe that the 700c is faster.

For me, the Easy Racer LWB bikes are faster than the equivelant RANS LWB model. With the 2003 RANS bars, this reign should continue for Easy Racers. The narrow Easy Racer bars and Super Zzipper fairing fit like a hand in a glove, making the bike very fast.

Regarding being more aero, you don't see any Goldrush 20/16's out there, and I wouldn't trade for a 16-inch front wheel with hopes of going faster.

Giant EZB

Thanks for including us in your EZB article in RCN 074 - some very good insight into the marketing and positioning of the bikes. I hear and understand loud and clear your comments about the bikes "not being recumbents." However, I was surprised at the defensive nature of the article overall. Rather than embrace the segment and consider it as a way to get more people interested in recumbents (and cycling in general), you dismiss it as insignificant.

We have just participated in two consumer shows over last weekend (Quality of Life Expo at the LA Marathon, and the Seattle Bicycle Expo), and the response to Revive was great. Many of our outside reps report that the Revive is the hottest bike for them right now, and that many have already been sold.

One of the most interesting stories that came out of the consumer show in Los Angeles was about a woman who is a recumbent cyclist that stopped at the booth to look at the Revive. She was with her friend that wasn't a cyclist. She said that the Revive would be perfect for her friend, pointing out the benefits from her perspective.

Keep in mind that at Giant, we're not aiming Revive at the enthusiast, or even casual cyclist (even though I'm sure it will appeal to them as well). Revive is for the rest of the population who wants a fun, outdoor exercise experience who never considered themselves candidates for cycling.

Thanks again for thinking of us in your article.

> Sincerely, Mark Langton Giant Bicycle Co.

Editor Comments: Our article was written from a perspective of frustration with a bike design with an identity crisis - seemingly promoted by the segment's own designers, builders and manufacturers. I didn't have to say much - the printed quotes prove my point. While we feel the bikes have some merit, in comparisons with your average recumbent bicycle, they don't compare that well:

- 1. Seats are not as comfortable as a 'bent.
- 2. There's no minimal back support.
- 3. Bikes are (mostly) heavier.
- 4. Most have inadequate gearing.
- 5. Most are heavy.
- 6. Most don't climb as well as recumbents.
- 7. Most don't perform as well as recumbents.
- 8. Most don't look as good as recumbents.
- 9. There is little or no marketing going on for these bikes (that we've seen).

10. What do you call them?

Sadly, the builders of these bikes have done little to create a niche, character or market for them.

To see the article in question, check out RCN 074 March/April 2003. ◆



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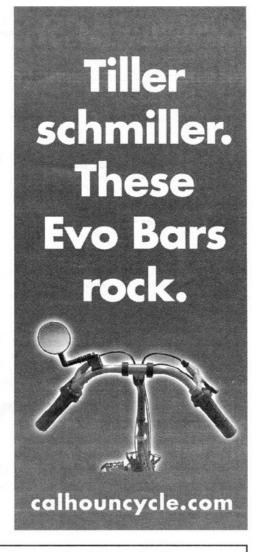
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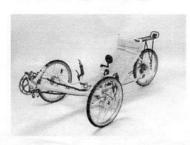
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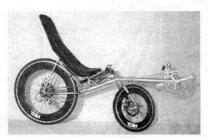
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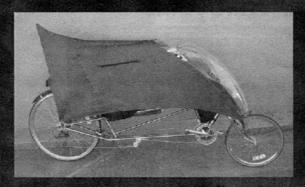


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