

RCN #37

JAN/FEB 1997

# RCN

RECUMBENT CYCLIST NEWS



World Champion  
**ROTATOR**  
"Solar Cat"

# Editorial License

By Robert J. Bryant

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## WHAT BOB DID THIS TIME... AND HE RANTS

As the most vocal recumbent promoter... and critic, sometimes I just can't win. After a long year of working hard on RCN with buyers guides, issues with tight deadlines, all while trying to squeeze in a family camping trip and a trip to Inishake, by October, things really started to catch up with me. Just when I thought I'd be the caretaker of the recumbent-off-season by making out RCNWR-then-the-mag that was a bundle of dealer service) along, comes a rash of RCN criticisms. Just so readers know that I do consider each and every RANT that comes through the door, let me address some of the situations.

### STRAIGHT HEAT

The Lightning Health article first was delayed one issue. When I commented about it in RCNWR, the founders started to roll. Several readers believe that anti-lightning propaganda is my personal vendetta. This makes good computational copy but it's not true. The Freedom F-38 article was planned six months before it ran. The RCN Health agenda is that I don't think Lightning needs RCN's good enough test bikes. Good press, bad press, we cannot seem to get their attention.

### R-44 RANT

Those lucky Vision guys. Heck, "Bob must own stock in the company." Well, at this point, I wish that I did. This company is a small and an industry role-model. A reader (who works in our industry) sent me a really strong letter telling me how biased that I was, how flaky the R-44 is and how I have the best interference issue completely out of the proportion.

Well, the Vision R-44 does far more than other Visions, but most become (non-quest frame) 29ER recumbents have some frame flex. They don't get that weight down by extended I didn't make a big deal about this because Vision offers a full line including heavier stiffer bikes and all have the same good warranty.

As for the best interference thing, it's a serious issue for some riders. Granted, it only happens in very low speeds, but it does happen. The amount of fuel interference is the difference between a 29ER and a new MWB. That and up to two inches of interference. I'm not against bikes with fuel interference, in fact, I personally prefer a longer (medium) wheelbase. The fact of the matter is that it came up in two news in two different issues and was a differentiating factor between those models.

I have yet to hear a complaint about an R-4445 from an owner. It's a well thought of bike and a great value at an high-end mountain go.

The bias issue comes up occasionally. Am I biased? I don't think so. At least I try to be so.

I consider the bias possibilities each time I do a review. I like to see RCN reader treadlights with decent bikes at acceptable prices from conscientious manufacturers. Owners get mad at me when I criticize their message. What it usually comes down to is the level of cooperation, quality of test bike and the amount of trouble (or profit) that comes with any given test. I pride myself on being the only critic in the world who can compare bikes to each other for price. Certainly owners are qualified, but having current examples of the bikes makes all the difference.

When I request a road-test bike, I ask for perfect examples. If they send a bad test bike, this is strike one. If they don't offer a correction or send a better bike, this is strike two. If they refuse to communicate or cooperate, this is strike three—you're outta here and the game is over.

### NINE WORDS—YOU'RE OUT OF BUSINESS

In a recent online message to the entire internet HPV list readership, the owner of defunct recumbent company indicated that I had a hand in putting him out of business by a response to a letter to the editor last year. My comment says something like this, "...you may want to look at the XCR... It is a aggressive one-line and built very tough." Is this what supposedly put them out of business? This support from the customer of 1997?

This particular manufacturer never once followed through in writing up for an RCN review. I never once saw a live rolling example from this manufacturer. My simple response is how can you complain about coverage if you won't cut loose with a test bike?

I suppose that I was as good a person as any to blame for a failed business. From his perspective it probably looks like a smart agency or plot. As some name editorial departments, I juggle a million info-bytes and talk to a lot of manufacturers and customers. If you want press or a road test, make it your business to set it up and follow through, and follow through, and follow through...

Some of those guys don't understand HPV EASY IT IS to get RCN press in the form of a press release. Many are "whipped up" by an hour phone conversations or email bits.

### "PROFESSIONALIZE THE RCN?"

This is what a reader wrote to me recently. This guy is a military officer and maybe an even a recumbent rider who had lots of great ideas about industry wide co-operation, a marketing plan and a single unified frame design. Yes, just one design... and how do we determine whose design? He offered his organizational skills and saw RCN has the key to keeping the recumbent world unified, which is good. In the same paragraph, he mentioned that we need to, "Professionalize the

RCN." Okay, where do we begin with this "professionalization"? I hope to write a huge grant or millionaire benefactor because of office, staff, glossy full color page(s), would have us out of business before the first bank loan installment was paid. This means that a full page ad in RCN could jump ten times overnight. How many manufacturers could handle that? Don't raise your hands all at the same time.

I get one a letter like a few times per year. I always ask, who is going to pay the bill? And get no reply. So the name of these "idea men" have ever followed through.

The right person may be able to put this together, though don't plan on getting down to one unified design (it will NEVER happen), let alone get manufacturers to cooperate. I don't mean to put down these readers or their visions, but we need obtainable public relations goals.

### RCN MISTAKES

Yes, we have our share of typos and other problems. Luckily, RCN's proof reading has improved, we have a great copy editor in Paul Arends and Marlin gives the final okay. The problems usually happen in last minute editing changes to the final document. This is where our small staff becomes apparent.

We pride ourselves on the ability to offer last minute changes and updates. The downside of this is the potential for mistakes. Here are the glitches and apologies from RCNWR:

• **Glitch#1:** We forgot to list one question in the readers survey: **Question#15: BEST LWB!** Paul tries to answer this one. Answers will be tabulated separately to issue future.

• **Glitch#2:** Mike Turner was upset because we made the mistake of saying that the Crookers Team used a Turner chassis, when in fact they used a complete modified bike, sorry Mike.

• **Glitch#3:** Dave Tied submitted the great photo of the three Lightning riders at the Breckenridge, Colorado Jaz. The photo credit actually belongs to Chad Hildbrand, sorry Chad.

• **Glitch#4:** Some readers got the idea that I disliked the BeeTech recumbent building plans. Absolutely on the contrary, they may be too complex. My points about the complexity comes from my lack of experience building recumbents. The Nipper mistake is the entire issue is that the paragraph on the BeeTech design was worded. **Dominate BeeTech** guys has a lot of hard work into these plans, sorry Dom.

Manufacturers, dealers please be aware that it is time to make buyers' guide plans!

Joe Montavaro  
Robert J. Bryant

# RECUMBENT CYCLIST NEWS



Above Photo: Bud Elder's TriStar (see page 18 of this issue)—photo courtesy of Bud Elder

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## What's Coming Up!

RCN#38 March/April 1997 will be the **DOUBLE-SIZED** single issue Recumbent Cyclist News Buyers' Guide. Subscribers expect distribution throughout April. Standard subscribers may want to consider sending a check for \$3 to upgrade your buyers' guide (BG) mailing to **PRIORITY MAIL** service. This can get you your buyers' guide issue as much as four weeks faster (reply by March 15th for the Priority offer/see page 36).

RCN is printed on a bimonthly schedule—6 issues per year. See pages 17 and 39 for details. Manufacturers make this the last call for BG advertising.

### NEW PUBLICATION INFORMATION

Recumbent Cyclist News is a bi-monthly journal in the field of bicycling. Recumbent Cyclist News is 100% subscription only, recumbent cycling and everything else surrounding recumbent cycling and anything else surrounding recumbent cycling. Recumbent Cyclist News is a 100% subscription only publication in the world today.

**SUBSCRIPTION INFO:** This is published six times per year. Like subscriptions are 100% subscription based. (See [www.rcn.com](http://www.rcn.com))

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**COVER:** Cover: "The TriStar" "Solar Car" Photo: Michaela  
 Cover design by: Ben Collins, Karabigan/Magpie Design.

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# Recumbent Mail



Photo by Massimo Marvanti

## DE-ZAPPING YOUR BIKE

I used the ZAP electric motor on my Vision R-45. I am a small woman without a lot of time for training to build muscles and I live in very hilly country. While I love my Vision R-45 it would be great to have a "hill assistant" so I don't hill behind on the hills to group rides. Typically I ride 30-50 miles in a day. I purchased a ZAP electric motor and installed it on my bike. I found that using the motor was a wonderful experience the first 10 miles, turning the motor on only when going uphill. What a kick on the uphill to zip by even the fastest bikers. There were two problems: first, to recharge the battery going downhill you had to get off your bike to engage the motor to the wheel. Second, the battery was exhausted after about 30-12 miles of uphill use. The rest of the ride I was feeling an extra 20 pounds which wasn't helping at all. The ZAP people gave me a full refund. I'm hoping they find a way to lighten the weight of the motor and battery and increase its power. When that happens I'll be first in line for an electric assist.

My husband and I both are extremely happy with our Vision R-45s. We've combined a number of rides to purchase Visions. We also love RCN. It is the only publication we get that we both read cover to cover.

Massimo Marvanti  
MarvCyclist@aol.com

## 20 POUND WREN

I think your magazine is great! I look forward to its arrival and read it cover to cover. Love two mountain, a Classicline Triad and the other is a V-Rex. I bought both from Kelvin Clark at Angelfish. I can't say enough about his guy.

## RECURRENT MAIL

Members receive Recumbent Mail, RCN, RCN-USA, RCN-UK, RCN-Canada, RCN-Australia, RCN-Japan, RCN-India, RCN-South Africa, RCN-Singapore, RCN-Taiwan, RCN-Hong Kong, RCN-Philippines, RCN-Indonesia, RCN-Malaysia, RCN-Thailand, RCN-Vietnam, RCN-Sri Lanka, RCN-Pakistan, RCN-Bangladesh, RCN-Myanmar, RCN-Nepal, RCN-Bhutan, RCN-Moldova, RCN-Ukraine, RCN-Russia, RCN-Czech Republic, RCN-Slovakia, RCN-Poland, RCN-Hungary, RCN-Romania, RCN-Bulgaria, RCN-Greece, RCN-Turkey, RCN-Cyprus, RCN-Israel, RCN-Lebanon, RCN-Syria, RCN-Jordan, RCN-Iraq, RCN-Kuwait, RCN-Oman, RCN-Yemen, RCN-Saudi Arabia, RCN-UAE, RCN-Qatar, RCN-Bahrain, RCN-Kuwait, RCN-Oman, RCN-Yemen, RCN-Saudi Arabia, RCN-UAE, RCN-Qatar, RCN-Bahrain.

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RCN welcomes the right to add comments for clarity, correction and space limitations. If you write to RCN and do not print your name and address, please send the request to the editor.

He is willing to do whatever it takes to make your bike perfect.

I commute about 20 miles per day on the Triad, which is great for all kinds of weather conditions. Including snow! I mean a 20" mountain bike fits on the rear and it can go just about anywhere. It also has a Sachs three-speed rear hub (SxT). It rides 0.008 miles on it!

The other is a Race V-Rex with the folding steering column. I wanted an ultra-light bike and Kelvin put together a bike that weighs in at 20 pounds. After riding the Triad all week, the V-Rex feels super-charged.

The best thing that happened to my hiking was Kelvin's moving to Colorado. The only problem is that my wife won't let me go to his shop without her because it's "so new and cool" I've got to have it.

Wyn Rosenthal  
Aronson's Bicycles  
Rockwood, Colorado

## EASY BIACIN

RCN has kept getting better. RCN#56 for Cyclists/RCN: "It may be the best issue yet. There's something for everybody, from the last-day century rider to the road race cruiser and even the handshaker."

Your coverage of the LA Inurbike was very informative and will certainly help your readers who are looking for some new things for their bikes. Some folks highlight of the Inurbike "We've Saturday's recumbent river ride. The party following at People's Brewery wasn't too shabby either."

So keep you two on track and your head high. The RCN Crew is proud to have a guy like you spreading the gospel.

Gustavo Martin  
Bicy Bicycles Inc.

## VIRTUAL INTERBIKE!

The latest RCN arrived today! I'm trying to read it a little at a time, so as to save such articles. Your Inurbike coverage was so good I felt I needed! Lots of good stuff about the bike.

Thanks,  
Tom March

## KEEPING WITH COOLNESS!!

The latest RCN is scoring coolness all over the place! I really liked the Inurbike report, and when it comes to debriefing and quantifying coolness, it definitely takes one to know...and it's really great to know I'm not the only commuter with remaining resources dedicated to preserving "Big Daddy" Ed Roth's contribution to cultural art. "Cool Road" collectors unite! No Way! This proves for '90s are the '80s' turned upside down!

In Progress/Questal "Music From Green" the color of the paint, the texture, or is it some new environmentally-correct frame material?

Danny Ray Burdick

## DEKAM RECURRENT?

I just received RCN #56 and read your coverage of the new ATP Vision V8-30 with great interest. Check, are they ever so close to the ultimate recumbent! I have four suggestions for improvement to the V8-30 design from my perspective: Offer an under seat steering option, increase the front wheel diameter to 20 inches, add a

chinstrap and keep the price in the \$800 range. Would ATP Vision Inc. just consider my dream recumbent. I will buy one in a heartbeat.

Peter Mit  
pmit@comcast.org

Peter the 16" front wheel and slaying top tube of are the keys to the over-fulfillment of the "comp-put" design. Add in a 20" front wheel, and the 20" and top tube get higher, both are more advanced design traits. The compact 2020-035 bike you are describing is now available from Lincoln.

## VISION V8-30 METHOD

The new RCN just arrived today and the new Vision bike looks like it's everything a CLWB hybrid bike should be. I'm considering getting a CLWB for my wife and have not been quite satisfied with the Bionfi or EC. I and have't yet seen the Race. Here is why I think the Vision looks like a winner. I bet it quickly becomes Vision's best selling bike. First, the seat should be a major plus for this bike. Combine it with the suspension and this bike is going to just kill the competition in terms of comfort. For me, its ability to hold for transport is also a big plus. I'm glad I waited so I can get this for my wife in the spring. This is very subjective, but I think the V8-30 also looks alot better than the competition, much cleaner and more elegant. Combine this with the Progress/Questal which looks like a real group bike. So the design of the Questal was aware of other recumbents when they designed this. It looks like A stretch? This has to be in the making for the next big product of the year! The frame telescopes but there is no steering linkage adjustment!! Duh! THIS is the sort of product that could set recumbents back 10 years.

Dave Boyers  
DABR@att.net

## RECURRENT MYTHS

A couple of us at work are planning to buy recumbent bikes in the near future. We are set on Evan Vagstad due to the comfort and stability that a LWB offers.

Our only concern is based on comments from a dealer that the LWB models can get wobbly while pedaling up-hill, and therefore can present a safety hazard (you can say no you can't, while you're trying to maintain balance).

Another issue, that came up during our discussions with the "experts" is the potential your feet can get caught in the front wheel. Are there issues really something to worry about?

Jason  
Jason, I hope that you have read the FCN#26, the Ryan review with numerous design history by David/Charles Wilson. FCN#26 talks about new rear frame around, an apparently slower handling and they don't have heel interference. They usually have a lower bottom than the pedaled height as well. FCN#26 makes numerous claim center or lower speeds, but your feet are higher off the ground - a potential safety concern (if you know bicycles). On an upright bike, you can narrow side to side, and drive your weight back and forth to climb a really steep hill. With a LWB you can't do much.

Continued on page 30

## Steve Delaire's Rotator Pursuit



RIGHT/LEFT: The ROTator's test Pursuit in Santa Fe—photo courtesy of Steve Delaire

Steve Delaire could be the most cutting-edge recumbent designer in North America today. With his Pursuit, Inceptor and Tiger, he is rewriting the books on performance recumbent design his own way. The Rotator bikes are low, have high bottom brackets, intermediate drives (ID) and straighten seats. Oh yes, they are all fast.

Steve is one of the hottest guys in the industry. He builds the Easy Rider Gold Rush Replica frames, builds Lightning Smith frames and runs Rotator Bicycles. Steve has ideas about recumbents. HeFF's and performance that differ from most every other designer in the industry. He runs long and low high-performance bikes. The Pursuit is the result of years of R & D, prototypes and testing new designs. The idea for the Pursuit was the result of the evolution of Steve's race bikes, primarily the "Tiger-3," which up until a few seasons ago was still a production model. The Pursuit is simpler, easier to build and offers an upgrade path to the recreational imagination!

This review spans three years and several test bikes. We've had top-ups and downes and certainly Steve Delaire must be tired of my picky rants about this and that. Well, the hard work has paid off. This is one heck of a good bike. For '97 the Pursuit with the optional "Inceptor" riding package is probably the best high-performance recumbent value in the world today.

### DESIGN THEORY

Last fall, Steve dropped by with a prototype framed Inceptor and a Courier<sup>®</sup> to leave for a few weeks of testing. We had this great conversation about performance, speed and handling on a mile in recumbent bicycles. Steve's background is in race-car fabrication/design, HPV fabrication/design, preparation for Lightning/Easy Riders and Rotator HPV'solar electric racing. If you were to apply Rotator theory, Steve's responses are based on his experience with race cars, solar vehicles or other racers beyond recumbency.

Steve believes that recumbents should have 60% rear/40% front weight distribution and that the center of gravity (c.g.) should be low. He thinks

that even SWS isn't good enough as a SWS/MWB as the c.g. is too high, and the SWS recumbents are too "quick" steering and handling at high speeds to suit his personal taste. Delaire said that most all race cars and motorcycles have 60% rear/40% front weight distribution. Basically, his experience shows that the c.g. for any given rider is at higher body levels. He explains this by drawing a triangle. The lowest points create the wheelbase and axle points, and the upper being the c.g. He demonstrates that the problem with many SWS/MWB designs is that handles leaving the weight distribution too far forward, it's too high. He says this tends to weigh the front wheel and potentially cause problems when road bumps such as rocks, ruts or irregular pavement are encountered. Now, if you bring the seat down to 14 inches, the c.g. comes down and weight distribution is improved and the triangle becomes lower. Interestingly enough, Rotator's new low-seat MWB "Tiger" fits all of Steve's design criteria.

There is no doubt that these points can be argued by those who bring the safety issues of a low seat height into combination. How low is too low is a personal decision for each individual rider.

The Delaire designs are very seriously noted in racing. In fact, Rotator is the most active recumbent/HPV manufacturer involved in racing at this time. Performance aspects of Rotator bikes are tested on the race tracks of the world. Steve Delaire has been in Japan to compete in the International Solar Federation's World Solar Rally where he took first place in the Production class this year on the "Solar Cat," which is a production model based on the Pursuit. The Rotator's also debuted well in the World's HPV Championships in Las Vegas, NV this year. Fred Demé won Junior Class World Champion, Dean Pedersen won World Champion in the modified class and Robert Gopford was a bronze medalist in the modified class, 1996 was the year for Rotator.

I am often asked which are the fastest recumbents. My advice is watch the manufacturers who actually race and have the victories and records. This is not, not just speculation.

### FRAMING/CONSTRUCTION

The Pursuit frame is simple, yet high quality frame-based CroMo monotube. The front-heads are left lateral and the tubes are powder-coat painted black. For 1997, the Pursuit uses a CroMo fork as standard equipment. The frames are built along side the Rotator's Easy and Lightning Smith. They have many parts in common, including the seat, 3" main tube, and braided construction.

The built-in passive suspension of the Pursuit automatically absorbs much road. Delaire claims that it allows rider fatigue which will improve performance. One drawback is that the suspension can induce a slight bounce when bumps are encountered. In hard acceleration, the main tube slightly lifts and causes chainstay/main tube joint to wobble and flex. "Whether you'll like it will depend on your view on suspension in general. Many riders love a suspended ride, others feel it makes tracking through a tight curve more difficult and less predictable.

In a frame flex test where I hold the handles and applied pressure to the pedals, I noticed that the chain suspension joint was and stays flex. When riding and pedaling, I noticed the suspension because causes the frame to flex, and the handlebars actually come back at you slightly as part of the flex cycle. Delaire says, "This is a good sign that doesn't seem to matter much."

The single brace connection between the chain stays and the main tube may be a concern to some as it is where all of the frame-flex/passive suspension originates. The Pursuit has a very active frame and so frame triangulation. Whether this offsets the frame-flex will remain to be seen.

As five years, the Rotator factory warranty is shorter than we'd like to see through Delaire reports that there have been no frame failures.

### TILAK STEERING

The Pursuit has dramatic tilak offset like no other recumbent. It is the design trade-off for this fast bike.

The carbon steel stem and aluminum steel/handlebar combination works well. It offers a



Steve Delaine on his Pursuit with Interceptor handlebars—photo courtesy of Hossain

reflecting and telescoping structure attached with an integral aluminum tube that has a 20" wide (and is intended to call the rider).

I'm over 6' tall and had the adjustable handlebar/boom/counter bar set over a 26.4 inches, which demonstrates just how this bike achieves the rider offset. Riders must learn to control the bike's tendency to wheel-flip by offsetting counter-moments as you get to the crest. The Rotor's steering is rather heavy until the bike is pointed straight ahead.

New riders may question the reflectance level of the Pursuit/Interceptor steering geometry, specifically as it relates to the wheel/tube fit. Steve Delaine responds, "Anyone who spends under the wheel flap won't rattle the bike enough to feel how stable it is at speed." Delaine said that he had experimented with different fits and geometries and the current set-up is the best.

Doing away with the "tiler" would mean more upper frame-work and cable (Super-Two "U" joint steering [Wolcott]). Another option would be custom steering like Kevin Haupp's "Power" handlebar (SCM18) or a USB Helium. All of these variations offer trade-offs and are more complicated. I once rode Delaine's Super-T which seemed more difficult to manage than the Pursuit.

Because of the Pursuit's high bottom bracket, the seat must be farther away from the handlebars than on other LWB-RSS direct steering bikes. For this reason, the Rotor's steering geometry and handlebar set-up work well for the bike's design intention. However, it will be the "tiler" aspect of this design that may or may not slow the ride.

## THE BIKE

The Rotor Pursuit design is the most extreme LWB around. The bottom bracket is a few inches above seat-tube level, which is an ergonomic position very similar to the Lightning P-18. The pedal-angle is the most "closed" of any LWB, and the seat-tube has an adjustable recline angle that can be laid way back. The Pursuit is a bit like a race car as you climb down the cockpit. The low speed handling is not the Pursuit's strong point. This wheel flip is very apparent at low speeds and getting going takes some practice. Once rolling, the Pursuit shows its personality. It gets up to speed quickly once you have mastered

the 32-gear intermediate drive shifting. It takes quite more attention to the road than other LWB bikes. I was more confident at speed on the Pursuit as compared to other SWB/MWB two-wheeler.

The comparison to the Rotor Race is inevitable. The Pursuit is noticeably lower. The height of the top of my helmet was 48" compared to my Rotor Race road test bike's 53" (31" rider). The low Rotor seat height and wheel-flap/tiler steering make the bike less user-friendly than an Rotor Race or Rotor Rotor. The Rotor does not have the third handling grace of a Gold Rush Replica.

There is nothing quite like the speed of the Rotor Pursuit with the Interceptor fitting package. It's fast, stable and controllable. With the fittings, expect to cruise along at several miles per hour faster than an ordinary run-of-the-mill SWB/RSS occasion. It is very comparable to a Gold Rush Replica with body stacking and Super-Grippe, though it's tough to my spirit in fact. You can certainly pedal faster on the Pursuit with the 158 gear-inch top gear, though the Pursuit with fitting is a heavier bike.

Delaine tells a story of riding along side an F-40 whose rider was working overtime looking to the bike in a cross wind, while he rode his Interceptor one hand, using a Parovoz.

## DRIVE/CHAIN

The Pursuit has a 32 speed drivetrain that includes a single front driveline on a Sachs (Thom's custom). The front chain goes back to an intermediate freewheel that is linked into various fixed frame mounts. The intermediate drive is shifted by a rear derailleur with five cogs, and a six-tooth that is the rear chain drives back to another rear derailleur. Both derailleurs are Sachs Center mounted with Sachs Pro Tera (triple grip) shifters. The chain is my least favorite KMC and my immediate inclination was that installing a set of Sachs chains would improve shifting. The dual chain drive has four short tube offset sprockets mounted with custom aluminum mounts. These gears guide the chain onto the intermediate drive (I) and the single front chainring (2). The intermediate/rear derailleurs have intermediate gears and the chain tubes are tight and the chain shifted on both of our test bikes, though it was just a matter of a few minute adjustment and all was correct.

Intermediate drives don't usually shift as well, or as quietly, nor are they initially as loud as well. Designers who use intermediate drives tend not to be fans of the Sachs K2 (three speed instead has a 7 gram) which can optimize gearing with 20-tooth drive wheels.

This version of Steve Delaine's Pursuit shifted better than any intermediate-drive occasion I've tried. Though it's still less smooth and quiet than most standard drivetrains. The system finally works like a well-oiled rear derailleur. There are two chains, both about that a standard occasion. It takes an hour or so to acclimate to the new shift style and having five ranges versus three on a standard 21 speed—and all are included.

The '97 version is improved over past models as the intermediate gear is fixed to the frame. The addition of the Shimano hubs and Hyperglide cassette has improved the Pursuit's shifting. Most riders like the intermediate drive more manual.

The chain tubes do add friction to the drivetrain. For a demonstration per the bike mounted and backpedal. Though this does not seem to affect performance.

Some have questioned the life-span of the intermediate gears and bearings. Certainly, the system will need more maintenance than a standard set-up. For this reason, I suggest that users master the art of drivetrain maintenance, detailing and index shifting adjustments. It will be a good idea to purchase some replacement parts considering the planned obsolescence of bicycle components these days.

## BRAKES

The Pursuit uses Sachs 3000 cantilever brakes. These are top super-high-end brakes, though they need just fine and adjustments were easy. The only glitch we found was the rear axle/cable ends not consistently and non-swaying sides and clicks against the bottom of the main tube.

The Pursuit was ideal candidate for upgraded intermediate brake pads or even Shimano V-brakes.

## SEAT/MESH SEAT

The Pursuit's shipment seat is comfortable, though if you are accustomed to a foam pad on top of the mesh like a Vision or Lightning, the Rotor's mesh may feel somewhat firmer than you are accustomed to. The seat has a Credle frame with a layered mesh. The lower mesh is layered with honey-comb offering another level of built-in suspension. The seat also has an adjustable rail.

The seat frame is oriented above a half-round tube that is hose-clamped to the frame. The concern about the hose clamp fastening has always been the possibility of the seat twisting on its mount, as there is no fixed or flat track to hold the seat on a horizontal plane. During our time with this latest Pursuit, the seat slipped only once. It happened on the last test ride up our steepest test hill. Delaine said that he would not be replacing the hose-clamps anytime soon. Concerned about the hose-clamp reliability, I asked Delaine how long the hose clamps last, his response was, "As 50' can such, who cares?" We recently heard comments from Peter Ross about hose clamps being used on Bells Rotor wheel bases (The Thot has hose-clamp seat fasteners). I've also heard the stories about how they are used in the





The 1997 Rotator Cruiser, available with an optional Nexus 7 in 1997

#### NEEDS VIEW OF THE PURSUIT

I'm a Category 3 USCF racer that has been racing for about five years in Road and Cyclocross. I'm also a NCRBA expert mountain bike racer. I've raced many races, and like to go fast. I like a bike that climbs well, descends in the flats, and descends smoothly. My upright stable includes a Leopold, a RoadStar, and a KHS Pro-FE.

For the last year, and a half I've had chronic lower-back problems that has steadily kept me off my bikes. Instead of riding 300 miles a week, I'm riding 20. I can't do steep ascents of the saddle/cadence without major lower back spasms.

I've really been missing the joy of riding and decided to look into alternatives as an alternative. Based on some experimentation, I determined that my lower back problems were coming from being bent over the bike. I figured that the laid back position offered by a recumbent might really help.

I soon rode a Lightning P-38, a Bikooff, a Tour Easy, and two Halex. I also rode the Rotator Passport and the Rotator MPOWERS Eiger. After riding all of these bikes on the flats, steep climbs, and descents, I felt that the Passport was the best all-around combination of handling, performance, and price available. In particular, I really liked the bike's climbing and descending characteristics. The other bikes were generally much more spindly when climbing, and didn't climb very smoothly. I had heard there was some of the super-styzy climb you can find around here in Sonoma County (over 100%). The Passport has very smooth shifting and less gears due to its use of an intermediate drive. This allowed me to constantly adjust my gear to maintain a constant cadence over the changing terrain. The shorter chain allowed by the use of two rear derailleurs means that shifting is quick, and you don't get a lot of chain slap and delayed shifting common in other recumbents. It shifts through all the gears as quickly and efficiently as the best upright bikes. I can keep the bike going in a straight line even at the lowest climbing speeds. So I purchased a Rotator.

I got the frame, wheels, and all of the parts I needed directly from Steve DeLaino. He provided me with several recumbent parts, such as wheels, fairs, tubes, extra long chains and cables, etc. I've put a number of bikes together in the past, and there is always something that's difficult to locate/assemble that way, so, the first time derailleurs clamp onto the tube, some handle bars come up that requires a couple of trips to the local bike shop

to different parts. Needless to say, I was worried that I would have even more problems with such a strange bike with its own special parts. I was pleasantly surprised to find that all of the parts went together smoothly.

The Rotator frame is very sound. All of the cable guides and other fittings are nicely welded in just the right places. The welds are clean, and the black paint job is smooth and durable. The bike tracks straight, One-handed riding is possible.

The seat mounting system is solid and easily adjustable. The seat is quite comfortable. The bike responds lively to the pedals, yet has a spring feel that absorbs the bumps.

As far as upgrades go, I plan on getting the front and rear "Interceptor" fairsings. The Sachs drivetrain and brakes work perfectly. The Sachs cantilevers were some of the easiest cantilever brakes I have ever had to set up. They provide plenty of stopping power, which is essential when you really get going.

My only concern right now is the front wheel—while reasonably reliable and serviceable, the hub and rim aren't of the best quality. In particular, the wheel pins on the rim is fairly rough, which affects the braking somewhat. I will eventually replace the front wheel and hub.

I can hang the Passport on a kick-stand on my bike stable alongside the other bikes, and I can carry it on my Yuleme rack using a standard tandem bike mount. Another plus is that it was easy to mount a standard bike rack onto the rear. Now I can do some serious touring. Overall, I'm a very satisfied customer! I have a great bike, and I can ride long, flat rides once again. Even if I eventually go back to road riding, I am sure that I will use the recumbent for commutes and bike touring, or when I want a change of pace. So I'm sure I'll end up telling this bike as much or more than any of my other bikes.

I also greatly appreciate Steve's obvious passion and promotion of recumbents as a transportation alternative. His frequent trips to solar-bike racing events, recumbent rallies, Critical Mass Rides, and bicycle-messenger races must take a lot of his time and money time and money that could be spent on himself and his family. As a fellow environmentalist, I salute Steve as someone who is making a real difference in the world by living and working according to his beliefs. He sets an example for the rest of us.—Chris Maddy, maddy@comcast.net



The new Rotator Eiger also 20" wheels with new 12" tires, 2000-10k and Asheville City Education bus—photo courtesy of Phelan

#### DELAINE'S PURSUIT

Nearly three decades ago a friendship with Bill Hanes, a single-handed chromes-rigger, ignited my interest in sailing. One weekend my wife, Marian, and I were at a lake where a sail boat manufacturer was demonstrating his craft. We took our run with the boat, and soon could sail it quite competently. The next week I told Bill we had found our boat. He advised against it. "The only because it is such a basic, unexciting boat that you learned to maneuver it so readily. You will soon tire of it and experience performance." So eventually we bought a racier model that challenged us for years.

Three years ago when friends Peter First Cycles in Glens, CA's encouraged us to try recumbent bicycles I took Bill's advice to heart. I wanted to be able to keep up with my strong cycling buddies after switching to a recumbent. I tried a number of bikes including Lincoln, Tour Easy, Ryan, Presto, Vision, Halex, and Steve DeLaino's Rotator Passport. The Lincoln and Ryan were sound bikes, but slow. The Presto was extremely comfortable, but very expensive. The Vision was quick, but so stiff that it jarred my teeth even on city streets. The Tour Easy has an established record as a fast bike, but I felt the non-adjustable seat would not be suitable for the 100 degree plus slope of the upper Sacramento Valley where we live. I had narrowed my choice to the Halex and the Passport, both built in Santa Rosa.

Steve suggested and drove me, Bill Halex graciously loaned me a Hybrid Race with narrow tires. Steve and I took both bikes to the top of a small hill and coasted down. The Passport finished the roll down many lengths ahead of the Halex.

My Passport is equipped with narrow tires, a Zeppier fitting, and Steve's passers which function as a fair fitting. It climbs about as well as my Trek mountain bike. A recent race in Oregon included a climb from Medford to Crater Lake and later on a 1 1/2 grade as we crossed the coastal range to the Pacific. I kept up with the mountain bikes. On the flats the Passport allows this 54 year old to keep up with a much younger crowd. A side ride in our valley's western foothills concluded with one half mile into a strong wind. I pulled out from the pack and got paid near several pace lines! The Passport doubles as a commuter bike. Even with its passers stuffed with books, the Passport's handling does not deteriorate.

The long wheelbase helps absorb some





The Pursuit next to a Scott Flash Asplasia



Steve DeLore on his Pursuit with Interceptor bearings—Motor

about, so it's more comfortable than the SVD Vision. The big bumps were punishing until I got the new shock seat which saves loads in the seat frame with shock seat. I now prefer the Pursuit to Martin's fully suspended Pismo.

The Pursuit is not for everyone. Some will not like its low profile. We are both 5'9" and I am a head lower than Martin in our Pismo.

On the visibility question, Luggage fly bright colored and reflective nylon ribbons from a pole and always wear "daytime" jerseys to be seen.

The Pursuit has above seat "flier" steering, and with the bike's wheel-flop, you have a bike that most will not be "in one with" for the first few miles. But let me remind you that Bill Niese's advice about buying tires may apply to bicycles.

If you can move effortlessly from your diamond frame to a recumbent, it may mean that you will not realize the performance advantage of some recumbent designs. To gain the performance advantage you may have to invest a few practice rides just to become confident with a bike that at first handles differently from what you have been riding, but in the long run will pay off with speed and comfort and the incomparable pleasure of pedaling those pedals!—Dick Kelly, Kelly-Bowens.com/dkbrn@cs

#### INTERCEPTOR COMMENTS

My bike is a 31-speed Rotator Interceptor. I've ridden it over 5,000 miles and love it! It's just the best all around bike I've ever ridden. I've ridden in an 25 mph wind no hands, something I wouldn't do on other recumbents.

The shock absorbing is unlike these others



Steve DeLore in Japan—photo courtesy of Motator-Royalty

a very comfortable ride. I've climbed every hill I have come across. A sample of the toughest are up on Vancouver Island, around Ladysmith. The gearing gives a very wide range, from lows right down in the MTB range to high gears that let me drop tandem, along with the aerodynamics so I can maintain 35 miles-a-day on my Interceptor. It is stable, fast and comfortable, and reliable.

Rotator uses a couple of hose clamps to



Steve DeLore on the Rotator Solar Car since that won first place at the '96 World Solar Rally in Production Class in Japan this past summer. The solar-electric assist model is available from Motator—photo courtesy of Motator

mount the bottom of the seat. All I can say is that in 5,000 miles and a number of repairs/changes, I've had no problems at all, and I like the idea that if I did have problems on the road it is easy anywhere to get a replacement.

The bottom line is when you see me on the road you will always see me with a great big grin!—Baker Coggins, 800-cogweb@net.com/CA

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## Road Test: The 1997 Rans Rocket



The '97 Rocket (steel tube)—RANS

### THE RANS ROCKET

1997 will be your best year for the RANS ROCKET really blows off. The Rocket started life as the little brother to the V-Rax with the square main-frame tube. The Rocket is one of the simplest, most upright forward-recumbent bicycle designs available today. In its most basic form, the Rocket costs \$850 less than the V-Rax. It has a slightly lower seat height, a more upright or riding position, matched with the versatility only found with the dual BMX-style 20" wheels. This bike can be a home on a country ride with sticks, to urban/hybrid use with the stock tires, or you can even get mountain bike looks to fit. This makes for a very versatile recumbent bike.

The Rocket's bottom bracket (BB) is a few inches higher than the seat. This makes the ergonomics comparable to the P-38. The pedal angle can be as closed as a Lightning, but is adjustable by 23° thanks to the telescoping RANS spring braces. This allows a full range of positions from flex-kick back to extreme closed.

### FRAME

The Rocket is a medium-wheelbase (MWB). I stand corrected, for Rocket is a short-wheelbase (SWB). Actually the 36.5 inch wheelbase makes the Rocket into a gray area between the two. (Maybe our terminology is due for a revamp?) The Rocket should inherit a MWB by virtue of its design characteristics, though the 20" wheels shorten the bike, just judging it into the SWB category.

For 1997, the Rocket has a round 1.5" CrMo mainstay, triangulated stays and a CrMo fork. The new round main tube replaces the 1.5" CrMo square tube design of years past. The new

frame uses a thicker wall 1.5" CrMo mainstay and the boom has been shortened (aka Sumner). The aesthetic improvement is amazing! This change has truly transformed the Rocket. The CrMo frames in MBU welded, although you'd be hard pressed to notice the MBU weld looks. Overall, the welds are better than many THU welds we've seen. The frame fabrication quality is impeccable, especially the almost quality metal work done in house by RANS' aircraft welders.

The fixed above seat steering (ASS) works great and can offer near ergonomic perfection. Keep in mind that there are three different variations of stemless for the Rocket. For taller riders or those who like the bars closer to their bodies (aka Proton), the new "SL" stem brings the bars back an additional three inches. This works particularly well for those who like their seats laid back. The optional Flip R rear is available and makes the cockpit even more adjustable.

### DRIVETRAIN

The Rocket's entry-level drivetrain works pretty well even though several of the components have been downgraded for 1997. There are a few dated and out of production Sumner parts in the front derailleur and Sumner X-1 crank, though it looks pretty good with the black crank arms and larger 24/46/58 chainring set. The Shimano Alvin rear derailleur (RTX last year) and Sumner XC LTD (last year) are dated by City Shifts SRT400 (new) grips. The drivetrain shifts pretty good, though from shifting tests added rear effort because of the strong spring in the Sumner front derailleur. The SRT 400 City Shifts are entry level, noisy and take more shift effort than we'd like to see in a recumbent drivetrain. However, City Shifts are

generally trouble free and work well.

And then there's the chain. It's our least favorite BMC brand. The more miles I put on the Rocket the worse the shifting became. Constant index (no-tune) adjustments just don't bring shifting up to my picky standards. Those who use BMC, think I'm "out-to-lunch" on this one, but those who've stopped using BMC agree. AIP and RANS use BMC. Easy Riders and Angle Tech won't use BMC and give the better and more responsive Sachs-Sachs. Kelvin Clark (AngleTech) recommends that owners remove the BMC from new stock bikes and use a superior upgrade grade.

My point is that Sachs-Sachs chain may add a few bucks for the manufacturer, though when the customer upgrades to Sachs, it could set them back \$60. For this reason, I will continue to rant.

The Rocket chainline is managed very well and the two RANS rollers work perfectly. Some perceptive riders may detect a slight vibration because its an upper-chain roller.

The Rocket's gear inch range of 26-102.9 is fairly wide range for a bike with a 20" drivetrain. The gearing works pretty. Taller gearing is available on the upgrade Saturn V Rocket. If you require even wider gearing, you may need custom drivetrain components.<sup>1</sup>

### TIRES, WHEELS AND BRAKES

The Rocket has an excellent wheelset that includes the new Shimano Alvin tires, 11-28 7-speed cassette and 36 hole 48mm 20" x 1.5" (EMX size) rims. This has become the optimum choice for the 20" wheel consciousness. The tires are 65 psi flats-free, one of the best recumbent tires ever made. I've had recumbent-market tires of Hans's listing 11.000 miles. T4 Rogues just got here smooth like the stars.

Tires make a really big difference in the ride of a bike. There is no end-to-information case for this wheel size wheel. Be sure to check out the Schwabe City Marathon, Avocet Papyrus 1.75 65 psi slicks (designed for solar cars) or the new Continental Grand Prix tires. The favorites for this bike are the Avocet Papyrus and the Mitsubishi Comp-Pod available from Lin Sate at Glimpsed.com (BUNMPS). There is an US source at this time.

Some early Rockets with dual-caliper brakes were known for very marginal braking. Since there are a few new old stock '95 Rockets still available<sup>2</sup>, you may want to upgrade the brakes.<sup>3</sup>

Our test bike had a very strong Deore LX rear-quickrator through 1997 spec collarless Sumner XC LTD, which is a downgrade. The star brake is pretty strong and will lock up if necessary. The front brake is a Life Comp's Bull Dog long-reach EMX from caliper. Even though this is a decent quality brake, under pressure the arms flex and feel spongy. Kelvin Clark of AngleTech suggests upgrading the brake levers, cable, housing and adding aftermarket Anco brake pads.

Just as we were going to press, RANS announced optional Magura hydraulic brakes for the Rocket. As long as you don't mind making oil running through the veins of your bike, the Magura's offer the best disc braking known to recumbent-kind (I really do like Magura).





# The Slumgullian Tour

*Slivy by Robert Meintzer*  
Photos courtesy of Robert Meintzer

My Bore V-Rex24 was shipped out to Colorado on Friday. That afternoon and again on Saturday I rode about 25 miles on my Trek 1300. My feet painfully reinforced why it is that I now ride a mountain.

After our late Tuesday night, UnitedAirlines was offering a special \$141 round trip fare Chicago O'Hare to Colorado Springs. Because I wanted my bike to arrive by Tuesday, it continues to ride the bike than to ship me.

On Wednesday morning I rode to Angeloch in Woodland Park. The 26 miles daily pass through the Garden of the Gods and Cave of Winds areas near Manitou Springs.

In the morning, I set up my bike and bang around the shop for a while. In the afternoon I took my first ride "at altitude." Woodland Park has an elevation of 8,000 feet, and looks remarkably like Pike's Peak.

Thursday afternoon was travel day from Woodland Park out to Garden (elevation 7,600 feet) where we had our five-day trip. But I rode my V-Rex 14 miles in the morning just to get the feel of it again and increase my lung capacity.

We had 12 people in our group, 11 riders and one Amman's wife Patty who drove the big Ford van wagon. All but one of the riders rode mountain. She, who is about 5'-8" and rides a 16, rides a Giant carbon-frame sport.

My reason for the tour was, Tom Barbare, a school teacher from Littleton, Colorado. He has a history of riding major miles in the mountains. Some of the people on the ride belong to the "best animal" class. As it turns out, I ride near the back, but usually ahead of some riders. The "best animal" in most situations finish on top or very close ahead of the last guy over a 75-mile day.

Thursday night, everyone stayed at the Holiday Express in Colorado where management gives us showers, cover the bikes so they don't get grass or the burnings. One steady walk to a Mountain, too, because her bike is used to warmer climates.

Denver Thursday is in Gothic Mills, a 4-star restaurant in my estimation. Many of us do the cubic lead with pasta. Mine is prime steak, and it is extraordinary.

Breakfast the next morning is at the powder house where for \$1 you get a pancake that is bigger than my Bore seat bag. Mark Pardy, the guy who inspects all bikes at Rans before they ship, gives most of his pancake for a good meal.

And now, "The Old Man and the Mountain," or how I survive my first-ever bike tour. Our first day's ride brings everything that Kolo's assurance we will not happen—four starts, including lightning, hail and 80 mph winds.

We finish breakfast and check out of the hotel before 8:30 a.m., eager to get onto the road. This is the day we ride 75 miles because there are no towns, gas stations, convenience stores nor even crossroads until we reach our destination at Saguache (pronounced Sah-wah'?).

The first 12 miles out of town is on Hwy 50, a main road. Everyone is in jackets because the



The author, Robert Meintzer, on his "original" Angeloch/PAWS V-Rex24 GL03

temperature is in the high 40s. Patty has parked the van at our turn off for the hikerland. When we reach it, the sun is warming the sky and riding has built-up our body heat. Patty happily collects our jackets and runs gear to lighten the load because as we move away from Hwy 50 we begin our first climb (North Pass at 10,140 feet) which doesn't peak until the 25-mile mark.

It's now that our collection of animals and metals begins to separate. Our bikes include something representative of most mountain styles—a 70002 Shimano Shim V-Rex; a 2400 V-Rex with front suspension and fat tires and a Sachs 207 Internal hub; my skinny tire original 2420 V-Rex with its 21-108-inch gear range; a 2020 Bore mountain bike run-bike from the factory; a Hahaka with steel wire steering; a LWB Bore Strata and an Easy Rider Gold Rush Spoke with extra originally wide-range gearing.

Previously, I'm conversing with nature and leaving every peep from the birds, speak from the prairie dogs and moos from the herds. I see the dropping black clouds at about the 20-mile mark, but seeing Kolo's comment that it usually rains a little around 3:30 p.m. I'm not worried. The only in Kolo's evaluation of wet, so on 1. Now my seat is peddling (no, I'm not peddling). I learned later that all Rans seats now are drilled to drain the water, but my bike, being the concept bike for the 2400 idea, is not prepared this way.

I'm getting cold. The rain drops the temperature from the comfortable 70's down to the "wind-swept 30's." Patty soon finds me. I put on a dry shirt and my Goretex jacket. The Goretex in my shoes has kept my feet dry and with a wet seat,

there's no way I can have a dry bottom.

Somewhat drier, I press forward and upward. Because this is my first time on the bike in the mountains and my first time on this route, I'm not sure how far it is to the top of the pass. It's seemingly a narrow winding uphill, switching back and forth between towering pine, spruce and canyon walls as I climb. But it's progress.

Rain comes again, drizzle at first and then steady for about 10 minutes. Lightning that has been miles away across closer, and closer. I'm feeling very humble under God's magnificence. I'm starting to count seconds between lightning and thunder...one thousand one...one thousand two...one thousand three...it's still not really close. Then I get the scare of my life. Dead ahead of me the lightning strikes the road, the thunderstorm, deafening thunder strikes off canyon walls that have closed me in. My heart explodes in an adrenaline rush "Like me, Lord, you know I'm yours, but please don't fry me first."

Patty is a short distance below me on the hill and I high-tail it to the van for cover. We pick up two other riders within a quarter mile and "tag" to the top, just another mile away. It's now that we learn that Doug and Lisa, caught in a canyon, are hit by "half-inch hail." Doug is nearly a victim of hypothermia, but Marketa and the van/steer-woman makes his desire to continue. While not affected as much by the cold, he sees the marks made by hail on her thighs for the next three days.

At the top we sit out the rain for another 10 minutes. Even before the rain stops, we see billiant sun across the valley ahead of us, maybe only 5 miles away. We are not going to waste the down-



The Mustangian crew (L-R) West Purdy from Reno, Ray Shanon and author Bob Moirhana



The Mustangian crew (L-R) Mark Purdy, Don Ishihara, Betty Lynn Malinoff, Doug Lubell, Sue Uttermark and Roy Atkinson

hill we so laboriously earned. It's my last. I'm apprehensive about the steadiness of the bike, about the brakes and about the rain-slick road. Kettle says not to worry and leaves first, confident in his front shock and fat tires. I fall in not so confidently behind him. Kettle says "Let it roll out/you don't need to brake." But thanks for the very first 35 mph coast. The V-Rex is amazingly steady both over the bumpy pavement and the curve. I gain confidence. Despite the wet pavement, the water has falling back into my face and my apprehensions about it, I pick up speed checking to regard. I may be 37 years old, but I'm as glibly as a little kid. Between setbacks, which in truth are not severe, I see my computer building from 35 to 40 mph. Ahead we now look like a class, single downhill, so I'm off the brakes completely. 42, 43, 44, 45...on up to 47.5 mph.

The car indeed chases as we hit the valley and the winds rise again into the 70s. But as we begin our next uphill climb we catch a break of nature. We can see into coming toward us rapidly over the canyon wall behind our left shoulder. We cut on our own it. It starts to drizzle, and we stop to put on our Gore-Tex once more. The line, the 50 mph gusts rip out as so strongly that I can't get my second arm into the coat. Between gusts I manage to struggle into the coat, but we've got a ride for fear of being blown off the road. In less than 3 minutes, however, the rain stops and the wind eases and we dismount.

By this time we have less than 15 miles to ride to our next just beyond Saguache. In one of those rare instances proving all's well that ends well, we are treated to an exhilarating ride that propels us along a slight downhill at 37 to 38 mph in our stillness. I lose little sound and feel no wind. This is doubtless my normal cruising speed.

As we settle in to a coast of the town's largest (and only) 18-room hotel, the owner regales us with tales of his neighbor just last night bringing home a new pig-killed pig and lets show among the grounds intent upon a late-night pork-bone. I'll never know if the bear showed a second night. I would have slept through any conversation.

The first 30 miles of Day Two takes through a part of Colorado that really can be mistaken for the flat lands of Kansas or Nebraska, where they grow hay and potato-crops. We hit rain again before our breakfast stop 15 miles down the road on Doll Mesa. I was able to photograph a rare two-toe-toe-toe double rainbow. It will rain again before lunch. The pack stays close together. We all quit at the restaurant and changed clothes for the third time this day. The bikes become clothes drying racks in the restaurant parking lot, and lots of people ask us questions about our "new chairs with wheels." After lunch we settle in for a hazy, cold ride along the Rio Grande into the picturesque upscale canyon community of Creede, elevation 8,834 feet.

Since the second day has the least amount of

climbing, we arrive early in the afternoon with plenty of time to finish drying our clothes in the sun and enjoying a good brew. Dinner is at the Creede Hotel, another 4-star experience where they have fine and ginger scallions, chili or ginger grilled salmon, herbed pork chops, and innovative salads, pasta and citrus desserts. Our dramatically beautiful waitress is in costume for her role in *Bygone Beach*, a musical at the adjacent reputation theater. Storage for a table of 12 consumes three pitchers of water before drinks are served and continues to ask for refills throughout the meal. Altitude and mileage demands hydration.

Unfortunately, Day Two also sees our first and only mechanical problem. Doug breaks a spoke on the rear wheel of his Stratus. Although there is nobody that sees maintenance in Creede, population 400, their mechanics is out of town (bring) and the shop tools don't include a three-wheel puller so Doug, an auto mechanic, can do the job himself. So, in the morning, the rag takes him 15 miles into Lake City, population 200, and the famous "Dad" who can do the job for him.

Day Three dawns as Kelli's bike prepared me to expect. Chaps in the early morning, but a single long-draw T is fine by the time we hit the road. This is the day we tackle our mountain pass, "Wingspinner" at 11,538 feet. The first 20 miles take us past some of the largest, most lush three valley pastures and herds. I've ever seen. This is pleasure look, mountained, better-than-you-can-

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dream machine. What the troops do not tell me is that on the way to Stampflistan, we mount Spring Creek Pass (10,961 feet) and the Continental Divide (10,888 feet), give up 1,800 feet of that climb on a short, exciting descent. Then ascend 4 miles of 7% or steeper grade climb to Stampflistan. Two miles up I'm walking 200 yards, riding 400 yards, stopping for wind and strength, craning to see what's around the next bend only to learn it's a steeper climb. After three miles, I don't make it. Patsy again says me the last mile up. When I do this next year, if I give my bike more life my chances — half again lower than my lowest gear — either with a 3x7 (normal) bike or at least a 3x6 on the road. Then I'll do it!

At the top of Stampflistan, I wait for Kalkin and Tom. As I whip out a bag of bagsels from the van, a panoramic view of the West (Clark's Walkabout I've been told) sweeps in from the county road and six trees that form my tent. He looks at me and winks twice as he moves a little closer. "The tent bigger than your bagel?" Patsy says. So, I break off a piece and start to use it in time. As I begin the motion, he moves closer still. "I'll be back if I take it from your hand," Patsy says. And so he does. You ride all the way up into this remote area only to see that man has shared the color of things here to wit.

What comes next borders on the incredible. We get a morning, evening, snow-pedal-60-wet-100-wet 8-mile drop from 11,250 feet to just over 8,000 in the Lake City. No talk could prepare me for this. We average 12 to 18 mph/backs, over 12 mph, the most grade 40 mph. I'm getting gaudier as we go, full of confidence in the V-Rex and rapidly gaining confidence in myself.

I begin to change the curves, braking only at the last minute as I approach. The riskiest thing is to compromise for the change in wheel direction and maintain velocity with each curve. I hit speeds greater than 50 mph, though I'm anxious about the 37 mph/achievability Animal Inter-Climbing on his Easy Rider Gold Hawk Replica. I'll give him his superior skills, but I think a lot of it has to do with bolus on his bike. They are better than mine which allowed him to ride closer to the curve and gain speed faster. I'm planning to install V-brakes or Magura hydraulics on my V-Rex.

Intuitive (and twenty demands) I confirm that my uphill speed on Stampflistan was at times less than 2 mph—walking speed. I'll stay there side to side, too. Maybe the lower gearing will permit a better balance, and keep me in a straight line and on the bike longer. I can't wait until next year to find out.

Our hotel in Lake City is the nicest on the trip, especially the remote view of the Rio Grande River we will follow for 20 miles or more on Day Five. And once more, dinner is terrific. Sure, it's 10,000-12,000 calories and anything will taste good, but the food quality is above all expectations, truly a gourmet experience.

By now I'm really getting into like this bicycle-riding business. I see that I'm in having trouble riding for upright with the big boys, and that Mark, who has gotten so lower than mine, is actually riding faster than the big boys. Of course, Mark is 25 years old, weighs 150 or less, and is a former Cit II (amateur) racer just a very shy of the pros). Even Betty Lynn, her 30s, electricity, Guatemalan house building contractor for three years, is plugging along with the group

on her Stages. I have respect for both of the ladies riding in our group. I admire their spirit.

Climbing on Day Five is not the spectacular stuff we endured on Day One or Day Three, but it's no joke in the past, either. The maps do not label the peaks in passes. Maybe this is a clue. As we leave the river we begin an ascent that takes us up a few 7% grades, most not as severe as if they are, they are shorter, to sparsely covered peaks. The efforts of previous climbs have either numbed me to the pain, or they have indeed strengthened my nerves. I make it to the top—no way!

The downhill toward Guastavica also is more gentle than Stampflistan's descents, but it's longer. There is no need to pedal unless you want to maintain higher than 20 mph, speeds between drops. It gives for nearly 15 miles past lakes of the Corcovad National Recreational Area and back onto Hwy 50. (These lakes — drop, stop, picnic — are why you see so many buses in Colorado.) Although Hwy 50 is busy, it has a wide paved shoulder, and the gentle downward slope continues nearly all the way into Guastavica where the tour ends.

One final thought on Colorado, the drivers in Colorado seem to be driven by some of the most thoughtful and courteous motorists I've encountered. The state of Colorado is spectacular and at times even spiritual. It was a great time. ☐

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## LOW DOWN and LAID BACK by Gern Fairing



### CHAPTER III

As most of you know, my wife and I have successfully escaped the pressures of urban sprawl and settled down in Steamboat, a little, rural town on the Western Slope just nestled on the western slopes of the Cascade Mountains. To our surprise, Steamboat proved to be a beautiful corner of mountain action (riding terrain in California, Colorado, and Maryland that sometimes proved to be the center of the recreational bicycling universe. We even have a club, the Low Down and Laid Back Cycling Club of Greater Steamboat. My wife, Felicity, and I are both club members, and we test right at home here.

The winter months in tiny Steamboat still represent activity into a slightly different pace. It's a question of light, really. Remember, you see just as many recreational out and about, but riders are usually on purposeful winter missions like repairing stikes, picking up the old screw or bolt at the hardware store, or reinforcing with the county library bookmobile on its biweekly visit to town. As the light fades, you see "beats" frequented with blinking red LEDs, halogen floodlights, and dazzling displays of reflective tape emanating about like fireflies.

I teach English up at Steamboat High School, and I continue to attend each day about three miles each way. These winter mornings are dark, but, rain or shine, I roll out and pedal to school. The only thing that stops me is compact snow or ice. At such times, I'll drive my car if I can't represent "SAH" (Sno-At-Home) all the way to work and back.

The Low Down and Laid Back Cycling Club changes to monthly meetings in November, and the meetings switch from the church basement to Vern Bob's Recumbent Barn because Vern's got enough floor space to allow some purposeful indoor mountain riding. In fact, Vern Bob's special storefront and window shop have given rise to some impressive winter riding events that have become the highlights of our winter meetings in Steamboat.

Vern Bob is a legend in our little town. Fifteen years ago he drove into town in a battered, old camper with seven recumbents lashed to the sides and back. His life before his appearance in town has always been a mystery because "Vern Bob" doesn't talk much about what he calls "his best years." People knew he had money because he

leased the old, abandoned International Harvester Farm Implement Shop and Showroom and quickly set up a successful dealing in recumbent bicycles. Recumbents are so practical for and dropped in to examine Vern Bob's strange and exotic wares. The local populace took little "beats" over and decided that the bike's "mule" score." At first business was understandably slow, and Vern Bob had to augment his income by doing freelance repair, design and hardware work. Little by little, however, Steamboat took to recumbents and the rest is, as they say, history. There isn't a day now when there isn't a wonderful mix of locals and out-of-towners down at Vern Bob's Recumbent Barn trying out his inventory, talking "beats," and exchanging the obligatory victims dog parrot story. Vern's been so successful that he hasn't taken hardware work in ten years.

Recently Felicity and I headed our recumbents on to our own rack to head down to the November meeting of the L.D. and L.B. C.C. of G.S. The weather was too dreary to allow a safe ride on our "beats. Four inches of snow had fallen and had gotten compacted pretty good. It was going to be a slow go even in the car, but we were bound and determined to make the meeting. It was, after all, the night of Vern Bob's Recumbent Winter Olympics, and everybody in the club wanted to get to it since it. We arrived safely, unloaded our bikes, and rolled them inside.

Vern Bob liked unassumingly spare and over the years had removed most of the non-supporting walls in the old building. As you come in through the front door, all of his recumbents are on display, but the rest of the shop is open space. In fact, the only bigger open, indoor space is town was the bowling alley. Vern Bob was the member's Acting President of the club, and he greeted us as we came in.

"Class, Felicity. Good to see you. This is your first Recumbent Olympics. We'll find out what you're made of tonight."

"Be easy on us, Vern. We're just novices. Remember that." I reminded him.

It took another twenty minutes for the rest of the membership to roll in. While we waited, we looked at Vern Bob's machines and got to closely examine other members' bikes before he got the meeting going.

"There's no old business as far as I'm concerned. We've been to have a little fun, so let's get

right to it. You'll notice that my showroom floor and shop is strewn with old bicycle parts. Tonight our first and only Olympic event is called "The Recumbent Bike Pin Pick-Up." Each contestant has thirty seconds to ride around this cluttered hall of recumbency and pick up as many as many bike parts across the finish line as he can. Points will be deducted for each time a contestant hits the ground during your ride. Bonus points can be earned for the number of parts carried and the total weight of the parts that are successfully transported across the finish line. "Enough said? So to the games begin!"

Felicity and I watched in awe as one rider after another started their timed event. One of my students, Emily Haggrenson, was the third contestant and obviously the champion of the field. In the summer she did competitive barefoot racing on her bike, freestyle, and she looked right at home on her over limit SWS. She was poised at the starting line in one side of Vern Bob's two floor space. "You ring the starting bell, and she was off. Emily was coasting wildly around the three picking up wheels, hubs and cranks as she rolled along. At times she was off speed, and, then, in the last moment almost motionless as she deliberately picked up a rear gear cluster and a length of chain. Although there was the occasional wobble, Emily rode clean and gathered an amazing twelve items totaling twenty-two points. After her ride, we all knew who would win, but we all give it a go anyway.

Felicity and I were on LRB's, so maneuverability was difficult. During my run around the floor, I stumbled exactly twenty over more items than I ever picked up. My feet hit the ground more times than I could count. I did manage to pick up an old tire before (spontaneously) giving out of Vern Bob's showroom walls. My score was the only one in negative numbers that evening. Felicity flared much better and crossed the line with three items and only one lost lead. She was awarded the best run on a long wheel base by a novice and received a ribbon. I didn't get any award, but Vern did let me keep the old tire I picked up.

After the awards ceremony, Vern turned the meeting over to me. I was to make a special introduction. Since I had to school each morning and parked my recumbent in my classroom, my students were kindly interested in my bike-Steambot,



of income, had more "cents per capita than most places, and the kids had an oddball interest in alternative bike designs. Capitalizing on this interest, I had given an assignment in class. Students were to compose an poem using the style of their favorite poet. The subject of the poem was the recumbent bike. My class took to the assignment with creativity and enthusiasm. Vern Bob heard about the assignment and asked if a student might read their poem to the club at one of the winter meetings. Tonight was the night.

Wayne Dinkler, a freshman in my second period English class, had written an excellent recumbent poem in the style of Edgar Allan Poe. Wayne agreed to do the reading so long as I gave him extra credit points in class and since he was really good at his work.

"May I introduce Wayne Dinkler to you. He's one of my students and son of Madge, one of our many past acting presidents. Take it Wayne."

Wayne stepped forward and the room became very quiet.

"This is my recumbent poem written in the style of Edgar Allan Poe. Hope you like it:

Once upon a moonlit evening  
While I pedaled weak and weary  
Over many a forgotten highway in  
Shedden town,

It was certain I was lacking,  
My neck and back were aching,  
My old upright bike was making  
My whole bike into a tremor.

So late when I quickly failed  
To try to find a bike I liked  
Vern Bob told some strange new tales  
That didn't make your ear so sore.  
Vern'd show me bikes of wonder,  
Long and short, steering over- under  
I picked one one called **ROLLING THUNDER**  
And tried it for an hour or more.

Ah, distinctly I remember  
It was in mid-September  
That I bought that "barn with legal tender  
Down at Vern Bob's Recumbent Barn.  
Now my wrists and ear ain't sore  
Since my "bent rolled out Vern's door.  
Lad! back riding's what's in store.  
I'll be a wriggle—  
**NEVERMORE !!**"

Wayne politely bowed, and the gathered members gave him cheers and applause for a job well done. As a prize, Vern Bob gave him five two-ups for a year and the promise of first rides

on any of his new rolling stock that would be arriving in Spring.

Well, that's it from all of us out here in Shedden where all the facilities are wide and all the bikes are recumbent. ☺

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- BCN871—Jan/Feb '87
- BCN872—Mar/Apr '87
- BCN873—May/June '87
- BCN874—July/Aug '87
- BCN875—Sept/Oct '87
- BCN876—Nov/Dec '87

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## Homebuilders Corner: The Tri-Star



Story and photos: Brad Glider

My first exposure to recumbents was on the 1985 Florida Safari, a Six Day Bike Tour across the state of Florida. During the ride I met Scott Galla from Indiana who came down with his Tom Racy trike this year. I was so impressed with this trike and the comfortable riding position that I ordered the plans from Racy Racers in California and began to build the LWB. It was three after ten years of pleasurable riding I decided to build and ride a full-suspension SWB.

I spent about five months planning the design before actually drawing up the plans. My desire was to have a trike that could be used on the road and then with a quick change be used for off-road riding. My intention was not to design this trike to compete with road bikes or mountain bikes but to be versatile for both types of riding. It has fulfilled these expectations.

I began construction in January 1990 and completed the trike five months later. The frame is built of aluminum and the road fork fork is steel. The suspension fork is an RST. The dropouts and other components of the rear suspension were all machined from solid stock. Being a machinist by trade and having my own home machine shop made the job easier. I also did my own TIG welding. The main frame is 2.25" diameter by 602 wall, and the rear tubes are 2.25" diameter by 602 wall 6061 T6 aluminum. Titanium was used for the intermediate drive shaft.

The main frame and road fork are powder coated bright red. The rest of the frame was anodized in red, blue, and gold, and both the powder coating and anodizing have held up very well.

For the gearing, I included a 13-32 front-hub and a 14-50 secondary drive and a 19-60 on the primary side. This gives me a gear range of 24.8 to 131.1 gear inches. For a little more serious off-road riding, I can change my 19 tooth primary sprocket to a 21 tooth and adding three links to the chain and have a 21.4 to 113.2 inch combo.

The components I used were a Shimano Deore LX handlebar and derailleurs, Gripshift for index shifting and Phil Wood hubs. I used the IRC 27" x 1-1/4" tire on the front and a Conti-



normal 27" x 1-1/4" on the rear. The weight of the trike in road trim came out at 29.5 pounds.

For the rear suspension, Fox Engineering provided me with one of their shocks. It was named out to be by far one of the best shocks on the market. By being able to adjust the air pressure, this shock will accommodate most any weight and riding condition. It only took me two or three rides to get it adjusted to my weight and condition of riding. There have been very pleased and would highly recommend this particular shock.

Changing from the road mode to off-road is quite easy. There is a tube welded to both forks that holds the handlebar. By loosening the clamps, the handlebar will slip out with all the controls, and the forks can be re-adjusted. The brake cable is left attached to the brake calipers on each fork. The cable and can then be inserted into the brake lever and with a small adjustment on the brake handle bar is ready to go. For the rear brakes, I have two mounting positions for the caliper pivot pins. I found it was easier to have two sets of calipers, one set adjusted for each rim as they are of different diameters.

The under-seat steering took some practice to get accustomed to, but to me is far more relaxing, especially on longer rides of 60 to 100 miles. With the handle-on the under-seat steering, the position is comfortable and more natural for me.

My mountain bike was finished in time to do the Bicycle Ride Across Georgia (BRAG), from Rome to Augusta. Rome is located in the northwest cor-

ner of Georgia. This ride took seven days, 365 miles, and about 1,800 riders participated. The first three days of riding were in the mountains with some towering climbs. Upon a lot of time in my low gears, but the down-hill runs were fantastic and worth it. There were a number of 40 mph plus down-hill runs including one at 50 mph. The trike was very stable at high speeds and gave me no indication of poring-out of hand. I planned this high gear of 130 inches for down-hill runs. I really enjoyed the speed and didn't spin me as quickly as I had on my LWB.

My new recumbent attracted a lot of interest wherever I stopped. A lot of people, including those riding standard bikes, had never seen a recumbent and had many questions. One of the most often asked were where did I purchase it, and was surprised to hear that I had built it. One feature of building and riding a recumbent is that you meet and talk to many more people as the unique vehicle attracts attention, a great way to expose the recumbent bicycle.

I'm very satisfied and pleased with the results of the construction of my SWB recumbent. The intermediate drive adds a little more weight, but to me this offsets the disadvantage by being able to have the wide gear range that I wanted. The SWB trike is also easier to transport and lighter in weight than my LWB. I now have about 1,200 miles on the odometer, and there isn't anything I would change if I were starting over today. □

# Recumbent Tech: Unscientific Testing of Chain Lubes

By Richard Deitz  
Email: [rd@rtdcink.com](mailto:rd@rtdcink.com)

It seems like I've been searching for the perfect chain lube forever. Many years ago, in the dark ages of friction oiling, I used oil. Not motor oil, but not a whole lot better. Then, I lubed the chain well, but it got dirty—usually really dirty. At the end of every ride, I had at least one cleaning session on my leg. Requiring a fair rate, the wax was not a pretty sight, and you could find wearing your clothes for anything but cycling if they accidentally brushed the chain.

Since becoming a recumbent convert, my desire for a clean and effective chain lube has increased tremendously. I have big calves, and they often rub the chain on my SPH. Greasy legs are a drag. So is spending half an hour every week cleaning and reoiling the chain, especially a long recumbent chain.

So I set off on a quest to discover the best chain lube. Because the RDN research-and-development budget is so small, I couldn't afford to analyze the ultra-long, high-tech test procedures of the big name bicycle magazines. So I ran my own cost-reducing devices and durability graphs here. Instead, I simply lubed the chains on my bicycles with various chain lubes, and rode them. The fact that most of my bicycles are uprights, and that this did not drive me from my chain-lube testing is evidence of my dedication to the cause.

## THE PERFECT CHAIN LUBE

Before I reveal the results of all this unscientific testing, it's worthwhile to first consider what makes the "ideal" chain lube.

- It should lubricate the chain. This is the primary function of a chain lube, and if it doesn't do this, forget it. All the chain lubes I tested met this criterion.

- It should be durable, meaning that it will remain on the chain for a reasonable period of time before more lubricant must be added, and it should resist washing off in rain.

- It should be clean, allowing a cyclist to handle the chain without getting dirty.

- It should be easy to use, meaning that no equipment is required nor large amounts of time.

- It shouldn't be expensive. No chain lube that I tested met all of these criteria. Some were clean, but wore off quickly. Others hung on for two lifetimes, but required frequent and time-consuming cleaning and reoiling. Your choice of the perfect chain lube will depend on what's important to you. For what it's worth, I'll tell you which lube I liked the best, and what I didn't like about others.

## MY FAVORITE

My choice for best chain lube is **White Lightning**. This stuff is clean and easy to use. It's not long lasting, but it's so easy to apply that this isn't a concern, and it's reasonably priced (I can buy it locally for \$5 per bottle).

White Lightning is a mix of wax and other chemicals, suspended in kerosene. To use it, you shake the hell out of the bottle so that all the

good stuff is in suspension, and then squirt it on the chain as you backpedal. Get enough on to saturate the chain without getting so much on that it runs all over the floor. When it dries a few minutes later, you're left with a whitish wax on the chain and inside the rollers. By the way, make sure you do this at temperatures above 50 degrees (50 Fahrenheit), or else all you'll get is this sticky gloopy mess on your chain. When it's colder, I stick the bottle of White Lightning in my armpit for a few minutes to warm it up.

What sets White Lightning apart from the other chain lubes is that it actually cleans your chain. When dirt gets on the chain (or if it's already there), the wax bonds to the dirt. Then a flood of wax-containing lube causes the dirt to flake off the chain, taking the dirt with it. What you get is a nice black waxy flocc on the road, on your chainrings, on your rear derailleur and on your rear wheel—but these floccs come off easily upon oil. What you don't get is a dirty chain. In fact, you can grab a handful of chain, and your hand comes away clean.

Obviously, the more dirt you get on your chain, the more floccs of wax will collect on-chain, and the sooner the White Lightning will wear off. All you need to do when the chain starts to squeak (or before it reaches this point), is simply re-apply more White Lightning. I find that in dry conditions, I can go several hundred kilometers on my "test bikes" I need to apply more lube. When it rains, I usually need to apply more afterwards (don't let a water drip wash in the lube, or you don't have to wait for the chain to dry completely). White Lightning chains the lube is water-proof once it has dried, and notes that in rain there's usually a lot more grime thrown up from the road, which wears the lube off faster. I carry a small spray bottle of it with me on long rides to use the chain made more.

If you plan to switch to White Lightning, you have two choices. The best way now seems to be you replace your chain. I clean my new chains with solvent to remove all the old stuff, let them dry, and then apply the White Lightning (if you use a chain solvent, be sure to clean the chain thoroughly as the solvent will dissolve White Lightning—this is not a concern if you use paint thinner or varnish).

If you plan to use White Lightning on a chain that has another lube on it, first clean it as well as you can. It's worth removing the chain from the bike and washing it in a solvent bath, to get as much of the old as possible out from the rollers. After applying White Lightning, you'll notice lots of black floccs coming off the chain for the first few hundred kilometers or so, as the White Lightning cleans out the rest of the crud that you didn't get. Once the chain is clean, the spray of black floccs dies down, and re-applications are needed less frequently.

Before giving White Lightning my absolute endorsement, I felt that I had to subject it to its ultimate use of any chain lube—a weekend of mountain biking. We're talking dry days, wet roads and everything in-between—stuff you don't usually encounter on the road. The result? White

Lightning performed flawlessly even that fabled need to multiply it once during 100 km of riding.

If you'd like to try White Lightning, the nearest of the small bookies, which contains answers to frequently asked questions about the product. One question not addressed in the booklet is an extended chain wax, which a couple of cyclists on the Internet have reported. White Lightning claims that the opposite—longer chains and component life—is desirable. I'm assuming my chains and impacting my cogs and chainrings carefully, especially on the weekend, and have had no more problems to date.

## THE OTHER LUBES

I tested a half-dozen or so other lubes for various amounts of time, depending on how much promise they showed. I eventually gave up on all of them, and have converted all my bikes to White Lightning.

- **Rock 'n' Roll:** This stuff goes on like White Lightning (shake it) and apply only about 13 degrees or 50 Fahrenheit, due to a waxy coating, and keeps the chain clean. There are some benefits to this. It does not clean the rest of the chain like White Lightning does, and it doesn't wear off. In fact, you have to scrape the stuff off the chainrings and cogs where it builds up. As an indication of how non-removable Rock 'n' Roll is, consider this—I accidentally applied a bit on the rear window of my car (which never washes) and it's still there a month later, despite plenty of Washolene and frequent use of the windshield wiper. Also, if you shake, dirt's not the best—it's flammable.

- **Speedlub 150:** Originally developed by Boeing to protect metal parts in aircraft, this product gets a lot of use in marine applications (you'll find it at marine supply stores), and has recently been promoted as a chain lube. Supposedly, it dries to a waxy film. Maybe, but it also attracts dirt, and both chains that I tried it on (one on my 'beam, the other on my upright converter) eventually became as greasy as if I'd used oil.

- **Pinfish Line Bicycle Lubricant/Tri-Flow:** They're probably completely different chemical compositions, but they work the same. Reasonably durable, good for road riding, but eventually the chain goes gray and needs to be cleaned before applying more lube. Too much time, hassle and price for me.

- **Pink's Transcon Oil/Pinfish Line Cross-Country Lube:** you'll use these lubes on my mountain bike during the wet winter riding season, because they slip so no matter how much slip you ride through. But both lubes got dirty real fast, and then it's the old clean and white routine again.

- **Wax:** I actually bought a can of wax to try (with all sorts of silly chemicals added to it to justify the \$7 cost), before I realized what I was about to do. I was going to remove the chain, clean it thoroughly, hang it up to dry, then use the dip the chain in it, centers, rollers. So I took the can of wax back to the store, squandered some more White Lightning on the chain, and went riding instead. ☐

## Custom Gearing Alternatives



Custom triple pulley-extended cage Shimano rear derailleur

by Zach Kaplan and Conrad One  
Photos by Conrad One

Recumbents generally need a lower low gear and higher high gear than most wide range mountain bike gearing can provide. Unfortunately not many mountain bicycle manufacturers provide appropriate wide-range gearing. This is due in part to a lack of readily available economical off the shelf components.

To increase gearing range some recumbent designers incorporate intermediate drive systems. These are two chain systems with an additional cogset or chainrings located in the middle of the bike. While these systems can provide for very wide gearing ranges the disadvantages include significantly increased weight, higher friction losses, greater complexity, and the need to specially design the frame to accommodate the intermediate drive with adequate reinforcement for the stresses involved. The additional bearings also need to be properly sealed and sized for the loads involved which adds to the cost penalty of intermediate-drive systems.

The Sachs 3x7.5 speed internally geared hub with 7 speed cassette body was originally introduced as a multiple front chainring/freedom derailleurs replacement for city bikes. It has since been adopted by some recumbent riders to increase gearing range in conjunction with existing multiple front chainrings. While the 3x7 hub is fairly simple to retrofit requiring no structural changes to the frame it suffers from a number of drawbacks. According to Sachs while it has the 90% efficiency of a derailleur system when in the middle drive ratio, the efficiency drops to 82% in the upper and lower ranges. It is also heavy adding approximately 600 grams to the drive system. The internal gear shift poorly if at all under load and



Conrad's custom cassette and greater sprocket hubs

it is not possible to change the internal ratio as it is with cogs and chainrings. When in the direct and overdrive ranges the 3x7 hub makes a continuous clicking noise. Finally it is not possible to use a quick release skewer as the 3x7 hub uses a solid axle, requiring a spacer for wheel removal.

These problems led us to design a light-weight, smooth shifting, high-efficiency ultra-wide range gearing system.

We design and manufacture the following wide range gearing components:

1. Triple pulley extended cage Shimano rear derailleurs. I have been using one of these on my R-14 which requires 60 teeth of chain wrap. We are now on our second generation design which has proven to be extremely trouble free during one year of hard use. The largest capacity stock Shimano derailleur is rated at 38 tooth capacity chain wrap. The triple pulley rear derailleurs range in weight from 259 to 382 grams depending on configuration. Price ranges from \$80 to \$150.

2. Extended cage front derailleurs with a 42 tooth capacity. The largest capacity Shimano derailleur is rated 26 tooth capacity. Shifting smooth shifting with a 26 tooth lower chain ring and 68 plus tooth outer ring becomes a reality with the extended cage front derailleurs. Our extended cage front derailleurs weigh approximately 130 grams and cost approximately \$100.

3. The widest range stock Shimano 7 or 8 speed cassettes are 11-30. We offer a custom modified 8 speed Shimano Interactive Glide cassette with a range of 11-32. Interactive glide is an improvement over Hyperglide in that it smooths the shifts going to the smaller cogs as well as going to the larger cogs. The 32 tooth cog is available in steel or titanium with Hyperglide shifting qualities. The 11-32 IG steel cogset weighs 349 grams and costs \$65. The 11-32 IG titanium large cog weighs 284 grams and costs \$180. We also offer Hyperglide shift quality cogsets with more titanium cogs at higher cost. For the truly budget conscious we have an all Hyperglide and 11-32 8 speed cogset weighing 404 grams for \$25. We have also produced a 8 speed 14-38 and 14-28 mostly IG cogsets in addition to other exotic custom configurations for bikes which are brought to us for



Conrad's custom elliptical chainrings

fitting. An 11-34 8 speed HGHG cogset is in development and should be available by the time you read this for \$75.

4. Another one of our gearing specialties is elliptical chainrings. These are not in any way related to Shimano's Biopace. The phasing is opposite of Biopace and the shape is a true ellipse. The gear ratio gradually becomes higher peaking out somewhat into the power stroke while the gear ratio becomes the lowest going through the dead spot of the stroke. These rings improve efficiency, increase pedaling smoothness, reduce fatigue associated climbs, and greatly reduce wheel spin on slippery surfaces. These are not in any way related to Shimano's Biopace. The phasing is opposite of Biopace and the shape is a true ellipse. The gear ratio gradually becomes higher peaking out somewhat into the power stroke while the gear ratio becomes the lowest going through the dead spot of the stroke. These rings improve efficiency, increase pedaling smoothness, reduce fatigue associated climbs, and greatly reduce wheel spin on slippery surfaces. We presently offer elliptical rings in 24, 28, 36, 38, 46, and 48 tooth configurations ranging in price from \$20 to \$50. We offer round rings in sizes ranging from 20 to 60 teeth for wider range applications.

In addition, we believe most components with bearings can benefit from lube injection fittings to greatly increase life and reduce maintenance. The main reason why bearings on bicycle components such as hubs wear out is because of contaminated lubricant. Water is drawn in to cover so called "waxed bearings" and can bring with it abrasive substances. It is possible to greatly extend bearing life and reduce frequency of overhauls through the use of a lube inject system which allows clean lube to be injected through a fitting purging the old contaminated lubricant out.

We offer lube inject conversions to all Shimano road hubs. A single grease fitting is installed in each hub shell with internal modifications designed to bring clean grease to all of the bearings in the hub system. The cost is \$25 for a front hub conversion and is \$35 for a rear hub. For front hubs less expensive clip-over hubs option is available for \$15.

For more information:

Zach Kaplan Cycles  
225 Pacific Way  
Malibu Beach, California 90260  
USA

Phone: 818-361-0223.

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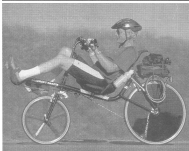
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## A Tour Of North Dakota



By William J. Cook,  
leech@ciark.com  
Photo by David Huxter

For seven days last August, I rode the **CANDESC**, Cycling Around North Dakota in Saksatchewan County. A total of 247 riders from 24 states and two Canadian provinces covered 454 miles on my expedition. (Saksatchewan was the Blackfoot Indian woman who was the guide for Lewis & Clark. The huge reservoir behind Garrison Dam on the Missouri River in North Dakota is named Lake Saksatchewan.) The riders ranged in age from 18 to 77, with the average 41 years. Fifty per cent of the riders were female. The group seemed exceptionally able, with no amputees in our rear ends on country bikers. Lots of big calves, but it was a lot less a competitive ride.

Bottom line: My bottom felt great at the end. No aches, no pains, no knee hurts, no neck throats — a big contrast to several sprint riders who were complaining by the last couple days about sore knees and other body parts.

The trip was, in all respects, simply epic: I rode with three experienced recumbent bikers who'd been on many multi-day rides, and they and several others said this was their best ride ever. It was also no great North Dakota weather. Last year **CANDESC** riders faced head winds nearly every day. One day, I was told, the head winds were 30 knots gusting to 50. Many stayed home. This year, we all weathered about the wind. For the first five days, however, we had lovely tail winds. The other two days the winds were calm. Temperatures ranged from 50 degrees at night to high 70s during the day, with low humidity and visibility extending 30 miles or more. Absolutely perfect. The scenery was starkly spectacular when

fields, pastures, barns. The night before we left R. Stewart State Park to begin the trip, we were hit by a seasonal thunderstorm that flooded my tent. But the next morning, it was clear and weather was never again a problem.

Why North Dakota? I live in northern Virginia? Well, I'm from there originally, and I have relatives there. I wanted to go on my first multi-day ride. I got a ticket to **RACERJAI** but was deterred by the logistics. I'd recently become reacquainted with a Minnesota cousin I'd last seen in 1958; he is a major bike person, and when I mentioned the MD trip, he said his friend was trying to get him to go. His friend, Quentin Rabbin, rides an Ocell recumbent, and my cousin, Dick Dewden, has a Blue State which he calls Racismore, after Don Quixote's imaginary horse. So that meant we'd have at least three recumbents. Mine is a hybrid, the Barcroft Dakota, built in July '81, it's a English curved monocoque **SWB** with high bottom brackets. Ram was angled sharply back. Race handlebars, AMP suspension fork, Shimano-V-brakes, wheel drive in the rear and an Aerospoke 30" front wheel. It is a colorful candy purple color.

There were two other bikes on the ride. Elmer Wern of Fargo was on an Ocell and Ken Covey of Moorhead rode a P-38. Dr. Covey, 77, the oldest rider on the trip, had a team radio on the back of his bike that he mentioned as he rode along. Covey carried a small air on the seat to the last day. When we camped at a high school in Bismarck, Covey didn't show, and the organizers sent out car looking for him. Finally, Covey drove up in his pickup to get his baggage. He'd ridden all the way to the end 143 miles that day because he had to return home today early. The tail winds were so high, he said, that he crashed at 21 mph.

The Ocell is made by Terry Ocell of Minne-

sota, who runs a bike shop that I visited on my trip. He told me he makes about 15-18W bikes a year and he's looked solid. His beautifully made bikes are laid out a bit like a TourBike, and they use TourBike handlebars and Raceomatic. The drive line, however, is custom style. The pedals are linked by a tandem chain to a second bottom bracket under the seat.

My bike, I must say, was the most comfortable I've ever ridden. With the seat tipped back, about half my weight was on the seat back, about half on the seat bottom. The suspension fork makes the bike ride like butter. I'm a terrible hill climber (I went up some hills at 4 mph and was passed by lots of other riders). But with the rear wheel disk, Aerospoke front wheel, and inclined front arm (because my feet were directly in front of my body), the bike was a downhill rocket. I could easily out-coast Quentin's Ocell that was equipped with a TourBike Zipper fitting. Because I'm a coward, however, I never exceeded 40mph downhill. I'd get on the brakes. I'm sure I could have gone much faster.

With five bikes on the trip, we attracted quite a bit of attention. The Bismarck Tribune ran a very thoughtful story about us with a nice picture. We all managed to hold our stomachs in for the photos, so we looked half-way trim. I'm still upset about one line in the story, however. It was the first time I'd seen "60-year-old Bill Cook" being hit. That was after, however, outside a little cafe north of Bismarck where several of us were standing. A former wearing bib overall stood as an imbecile at all the grey hair "dweepers," he said, "you don't need to be a young fellow to ride in this."

There are very few people in MD, so that means very few cars. Since we could have cars coming for a mile or more (up to 20 minutes elapsed between cars) we sometimes rode 10-15 without and chatted. One rider said the highways could be treated like very wide bike paths.

Our route was from the state park near Garrison down the west side of the Missouri River to state route 1804 (the year Lewis & Clark went up the Missouri through the area) to Bismarck, MD, then up the east side (on Route 1008) for the year the expedition came through again headed south through Bismarck, and back to Garrison. The highways over the often-stop cutting hills were hill-and-valley smooth. There were rest stops every 10 to 15 miles operated by local volunteers, a few were an excellent bike mechanic along, a motor home from St. Alexis Medical Center with full emergency medical gear always parked at the route, and another motor home pulling a trailer used as a bag wagon. Our baggage was hauled by truck from campsite to campsite.

The portable toilets at the rest stops were on a trailer pulled by a volunteer who always wore a top hat. The jakes had air blowers inside and a boom box outside playing music to mask the activity in case you didn't recognize the jakes; they were always marked by flexible curtains of The Three Stooges. Our only complaint was that the driver pulling the jakes drove on fast between stops

## Recumbents in China



Story by Stephen Rieder  
Photos courtesy of Stephen Rieder

About a week before, we returned to "Wuhan, People's Republic of China, where my wife and I have been teaching for the past five years. I walked into Fritz's Bicycle Shop in Worcester, MA, and there it was, the mountaintop bicycle of my dreams. The dream all started when I saw an ad in the back of *Bicycling Magazine* about recumbents. I sent in my check and soon watched the video about the P-38 Lightnings. I played it over and over and soon I could think of little else. I've always enjoyed biking, but after three seasons the wrist and knee pain took much of the joy away. So I could hardly wait to see if I could ride this beautiful, almost new P-38 sitting there at the front of Mr. Fritz's showroom. It went a bit slowly at first, but soon I was rolling along the back streets of Worcester on the most comfortable bike I had ever ridden. To say the least I was ecstatic. But I feared we got home up, it would probably cost close to \$2,000. Mr. Fritz explained that it was caused by a race who had had an accident and could not ride his racing bike. To keep in shape while he was recovering, he bought two recumbents. He was back to riding soon, and wanted to sell both of them. The bike had been on the floor over a month and had been ridden in pieces. When he told me the cost, my heart leaped, it was only about half what they cost. After talking it over with Bruce, my lovely and agreeable wife, soon I was riding it back to our son's apartment several miles away.

For the next three days, I could hardly leave it alone. I transferred the rack from my *Motobike* road bike and it fit just right. It seemed to glide along so effortlessly and I experienced no pain or discomfort. On the fourth day, I decided to really try it out. I started early in the morning and headed east towards Quincy, MA, over fifty miles away. It was a foolish thing to do perhaps, but at least I did two things right. I had a gallon of *Castrol* on the rack, and I didn't push hard, just cruised along. About 6 hours later I pulled up in front of my son's house at Mount Vernon, tired, but with no pain or discomfort and I had just pedaled 25 miles, the longest bicycle ride of my life. It was not exactly as easy to write on me. But, but I really couldn't see trying to pack it up and take it half way around the planet to China, besides I was

afraid that something bad would happen to it.

After we returned to our teaching there at the Xiangtan University of Finance and Economics, I greatly missed the joy and comfort of riding the perfect bicycle. My son sent me *Bicycling Magazine*, and one day I noticed an ad for RCN. I sent a check to Ron and asked him to subscribe to it. When he sent me several back issues and the 1994 *Rider's Guide*, a new day dawned in my life. Now I was really hooked. I read and studied each article over and over.

While reading *Homebuilders' Corner* the idea came to me. Why not make a "gem" here in China. So I began collecting bicycles for parts. First a student gave me his old work bike that he no longer wanted. It was a big black 28" wheel work horse. Later I bought a nice little pink mountain bike that I also planned to use. The problem was finding a welder who could weld bike tubing. The thought occurred to me to find a bicycle factory and see if they could help me. I was disappointed to find out that in this great city of six million people, the only bicycle factory had gone out of business. My friend Dai Ping came to the rescue. She borrowed his brother's car and took me to Shuangdi, an hour and a half away to the Gold Dragon Bicycle Co. Some of the top people were quite interested in the photos of my new and strong kind of bicycle. I was happy to see they had MIG welders and all sorts of frame tubing, unfortunately, they had no Chromoly steel tubing, so I decided to continue to look.

For three months I looked, but nothing turned up. Finally, I called Mr. Xia, the head of the bicycle factory, and explained my desire to make a recumbent bicycle and asked him if he was interested in the idea. He welcomed me to return to his factory, and so the next day I flagged down a bus and rode down to Shuangdi. Mr. Xia had assigned Mr. Guo to take care of me, and we met in the factory restaurant. Using my limited Chinese along with his basic English we got along well. Later he introduced me to Mr. Tu and Mr. Chen, their engineers, who actually construct new bicycles. I wanted to work with them, but they did not allow me, so I drew the plans for a 28x28, USX model based on several I had admired in RCN.

Mr. Guo called after the first week to say they had a problem. I went to Shuangdi again and



discovered they had decided to use a 28" wheel instead of a 24" that the plans called for causing the pedals to rub the front wheel. I pointed out the problem, suggested alternatives and soon they were working on prototype #2.

Several weeks later I returned to take a look at #2. The underside mounting was difficult for them to understand and the seat extended so low, the handle bars could not be turned. We took a back-saw to the seat and after some adjustment, I actually was able to ride #2. The seat was not supported and the boom was so long I could hardly reach the pedals. I made suggestions about this and other things that needed improvement.

After two more weeks I went to see #3. What a surprise! They had changed to above seat mounting. I stored they so I decided not to build it and instead tried to persuade them to shorten the boom and move the seat back so more weight would be on the back wheel. Also, please could I have cantilever brakes. They said they would try but #4 would be it, and they asked the what color I wanted. I asked for purple with fireworks on it. Fireworks are a splash of several metallic colors "which wouldn't make sense" but look almost quite attractive. I took the workers out to lunch that noon and we celebrated the progress that had been made on the bike. It was fun to see how much they enjoyed riding it around the factory alley.

Several weeks later Mr. Guo called and told me it was ready. He said to bring 400 RMB for the materials and 200 RMB for the engineers. This comes to US \$73. When I saw #4, I was pleased. The paint job was the best part. There were still some paint areas, I couldn't get into shift mesh, and the brakes weren't right. But I could ride it with no problems to the bus station to get it home. At the bus station I almost made the mistake of leaving it parked on the street when I want to buy the \$1,18 (US) back-bike for the 10 mile ride back to Wuhan. The bike was quickly surrounded by curious bystanders, and one grabbed it and asked if he could take it for a ride. I politely explained my lack of time and carried it up the steps and over to the ticket window. How do you take your bike with you when you leave by bus? No problem in China, you buy an extra ticket, and the driver will hand it up to you after you climb up the

Continued on page 28

# Me and My SuperBike



Story by Jeff Foster  
Photos courtesy of Out Rear Back Door

I once wrote a story about how eye-bombers opened my eyes from being a bike snob. How suddenly I saw the world full of bikes of all kinds—instead of just a black and white world where only uprights were worth. Suddenly my eyes opened a little...and all kinds of bikes, trikes, foldies, you name it. That was then, this is now.

Now I go into bike shops and they seem barely half full despite how jam-packed they are. Where are the rest of the bikes, I wonder? I came here to look at bikes and there's only two kinds! What kind of bike shop is this? When I visit a shop I want to see what kind of cool design the bike makers have been giving themselves up to. In the upright scene, we have fractional tubular multipiped cantilever. If the shops opened their doors to trikes, our eyes would pop! The bike shop would cover again be a place to go to see What's New? Because these makers come out with the wildest, wildest inventions.

OK, you say I've been talking big. What have I been doing? Alah, I will not disappoint. Last fall my pal Tim and I visited the best bike shop in the midwest, Shel's Recumbent Sea in Midvale, Michigan, a subsidiary of Grand Rapids. Where rules define different brans and bikes all day. We were like kids. They all were so different from each other. We noticed strong points left and right. We changed our entire orientation tables. "Man, this puppy is slow, but guess what? I don't care! It's great!" we both said about our first recumbent-riding experience. We felt giddy too. What were we doing talking for slow bikes? Having a great time, that's what! What a view! What wonder! City kids were all yelling at us—"Child bike!" We'd been like racing for years. Tim and I, and had never had a kid say anything to us. We were special!

So I bought a Vision XTP R40, a midwest marvel 27.9 (what would you call it) recumbent. It was rock steady and stiff under max torque, in per-



formed like the best (some costing 3 times as much), it was way easy, it was beautiful, light, simple, elegant...and a heck, I had no other option when you get down to it. The bike found me.

Over the next month I rode all over town. I didn't touch the other bikes, I avoided the car. "Want some groceries, foot?" Sure I hadn't adapted to the slack power angle yet, so I wasn't that fast, but boy was I happy!

The kids are great. They used to ignore me on my uprights, but now everywhere they come up, wave, yell big slogans like "Hi!" and other incantations. Actually, people of all ages and types seem to be kind to the new bike and me along with it. And guess what else? We horizontal now usually! Note! Cars give me lots of room and hillbillies wave their beers at me! Happy day!

My brother says that I like being on pedals just like my Gramps. I take that as a compliment. Another cool benefit is that the ladies obviously know a good thing when they see one. They know that regular bikes are closely aligned with suffering. When I first pedaled customarily into our driveway with the New Bike on the road, I thought I'd get a funny look from my mom and Martha who were both in the yard. Instead, they beamed. And Martha didn't even wait for me to tell her how it worked. Off she rode. Well (and the 'other' ladies? Well, they just keep yelling from their cars and waving and such. I don't mind!)

Sally, Martha, on her upright and I on my Vision were on a breezy ride together. I suffered for her, watching her push her way through that headwind. I just coasted most of the time.

Here's a funny thing, my recumbent took it less well. Some didn't even want to try to ride it. When they did, it looked like they were purposefully trying to lose themselves off in order to say that it was superior. Others said it handled better after they'd had the first Mischief, pain free riding experience of their lives. People don't like it when their pain is frustrated. The kids, bikes and inexperienced, though, hopped on and off they went, smiling.

I can't leave well enough alone. As soon as

it got cold, I built a full fairing for my new bike. With a full canopy (for \$25 I bought a couple sheets of yellow vinyl) board, some clear plastic paneling, 6 rolls of duct-tape, velcro, 2 hose-clamps, and a couple dozen zip-ties, plus some electrical conduit and a BMSX post-clamp and a couple old stems and handlebar for my homemade ABS conversion. The lot for my new-come top-support, I got them from the garage. After a couple evenings of cut-a-paste, I ended up with a beautiful, light-weight (30 pounds) full fairing with doors and a trunk.

The new Superbike easily cruises at 25 mph, and though I've a slight grade or wind to lose my force. On winter days at 30 degrees all I need to wear is a shirt and pants (I keep a coat in the trunk for when I get out at the store.) It's a quiet ride. I don't notice headwinds anymore. But I notice up-hills more if my speed ever drops. Smooth rollers I can power over with great zero-advantage.

The car's got truly say now. They usually stay a nice distance away from the Superbike when—and if—they pass. In heavy traffic, I can often go past them now! Still lots of waves and handshakes. No nasty words at all yet.

I live a few miles out of town and it's easy to be totally car-dependent. But most of it is such traffic hell, despite the overall scenic niceness, that I'm going back to car-driving. I'm usually trying to perfect my SuperVision here so it's comparable to car-speed around here so I'll really use it as often as possible. It's slow already. I think I can do a bit more easy climbing to get it right where I want it and then we'll be on easy street.

Of course, I realize that I'm in trouble. It's a good thing that riding with this bike is so cheap and so much fun! The Vision truly is a versatile bike—I really appreciate how it has been so easy to adapt it to my growing experience and demands.

For starters, I really wanted to improve the power configuration. I hated the uphill climbing experience. Even with the full fairing, uphills killed my speed (I'll never) cared. I love uphills on my upright bike. I'm like a rabbit over there. So I cut... and the bike is a 20" rear wheel. I added a frame-





## RECURRENT NEWS & RUMORS



The 1997 RANS Tailwind—RANS

### THE NEW 1997 RANS TAILWIND

**Alto, AZ**—The 1997 RANS Tailwind is a much improved ride-over the '96 version. For starters, we've dropped a couple of pounds out of the spine and laid the head tube angle back a few degrees. The wheelbase is the same, but the handling is oh so sweet! The Tailwind comes with an extremely adjustable "T" style handlebarstem combo. The new RANS T-Bar features 4" of height and 4.5" of reach adjustment! The union of the tall back head angle with the T-Bar all but eliminates the flip effect evident on past Tailwinds (and most other LWB A&S models). No B.S., this bike is one value ride! It comes standard with 1.3", 42 psi. Here there or, for a slight upcharge, you can get Schwalbe City-Matador or Continental Grand Prix tires. Tailwinds are available in Gloss Black, Hot Red, or for a slight additional fee, any custom hue you desire (within the bounds of decency, of course). Contact your local dealer or the factory for more information. RANS, 4800 Highway 183 Alt., Alto, AZ 87001, 5144623-6348.

### BIKEE RECEIVES NEW FUNDING

**Corvallis, OR**—Bikee Corporation, designer of unique semi-recumbent bicycles, today announced it has received \$65,000 in funding from private investors. Bikee has experienced rapid growth over the past year, and this investment will help fund continued expansion.

"With the tremendous demand for a bicycle that is comfortable and easy to ride, Bikee's only recent investment has been working capital," said John Mierland, president and CEO of Bikee Corporation. "These funds will allow us to invest in areas that benefit dealers, as well as maintain and

build on the company's overall growth pattern."

Bikee Corporation designs and produces bicycles that are both fun and comfortable to ride. The Bikee places the rider in an upright position on a padded, contoured seat with back support.

The unique, comfortable design has earned Bikee's recent accolades from consumer publications such as *Adventure Cyclist News*, *Outside Magazine*, *Pulse Health & Fitness*, and *Bicycling*.

Bikee is based in Corvallis, Oregon, where it manufactures both 21- and 7-speed bicycles and a complete line of accessories.

### EASY BACKERS GET PRICE REDUCTION

**Honolulu, HI**—Easy Racers is proud to announce that the Easy Racer K2-1 will have a lower MSRP/Manufacturer Suggested Retail Price for the 1997 season. The standard K2-1 will come with the "speedsteer" 21 speed option and Prime High pressure tires. Also new on the K2-1 for next year are front and rear cantilever brakes and an optional fender, wider base seat with more generous padding for more rear-end comfort.

For more information, contact Easy Racers, Inc. (949)87712-9797.

### ANGLETECH INTRODUCES NEW MODELS

**Woodland Park, CO**—For those interested in the Stronglighter, and would like full spec and option list results are available on this new version in Angletech DL format, please leave name, address, and telephone here for information packet. These are still available on an informed order that would be a fairly "quick turnaround" situation.

**Title Note:** Richard King of Fosterton and Kelvin Clark of Angletech have reached an agree-



Easy Racers lowers the price of the K2-1 to \$899! Fast Freely identified as the K2-1—photo courtesy of Easy Racers

ment to offer the high-quality Angletech powered Quadraflex recumbent trike, and the top powered Tri-Speeder trike to the planet Earth through Angletech. We hope to have a continuous supply available starting around year end.

We have a stock order of Angletech trikes with specific versions to fit. Come for a highback trike, Hubster, Lightning P-38, Counterpoint Prover and ATT Vision. The price is \$68.99 for most trikes. For more information contact: ANGLETECH, 318 N. Highway 97, PO Box 1899, Woodland Park, CO 80861, (970)871-3415.

# Mt. Airy

BICYCLE

### MT. AIRY ANNOUNCES EXPANSION

**Mt. Airy, MD**—Mt. Airy Bicycles announces the opening of its expanded store in Maryland. It was only just over a year ago that ECN announced a "doubling" of their original 800 sq. ft. shop, one of the world's top tandem, recumbent, and specialty bike shops.

Due to increasing popular demand, Larry Black signed on to take another role of the center giving the "new" shop nearly 1600 sq. ft. The shop retains its "small, country store flavor" and customers appreciate the extra space and the ability to find things easier.

In addition to the expanded shop, Larry and Linda Black announced that their original store, College Park Bicycles, adjacent to the Maryland School University of Maryland, is adding more and more recumbents in their line.

Opened in 1976, the shop is convenient to the Nation's Capital and only three short blocks from the Metro station and the College Park Airport and Museum, the oldest continuously running airport in the US.



The new RANS rear bag—RANS

#### RANS ROCKET SATURN V (S)

Take the road tube Rocket. Let RANS (RANS Company's master T&E editor) lay down the patented bag. Send the beautiful new RANS to James (RANS) man of many colors to do the customer's choice of any two colors, with a good reason or good taste. In the SATURN V split, light down the rear through the head tube and down the fork.

Preparation for the S2, of course, is human power. To fit this mass of new power to the S2 we select a mix of five components. Start with a Shimano BB-5302 bottom-bracket, Shimano KT crank arms (175mm or 178mm, 42/32/24) clustering selection, connected to an 11-28 eight-speed cassette via a Super Shuntle 918 chain. To control the drivetrain we use a Campagnolo ESP 90 rear shifter and a Shimano Deore XT front derailleur with Campagnolo ESP-900 shifters. This fits a set of Shimano XT hubs connected by D.T. Swain steel straight gauge 2.0mm spokes to Velocity Aero Race 406 rims with the last new Continental Grand Prix tires. Controlling the descent of the S2 is a Magura Hydraulic RS11 brake.

Add to the RANS Flip-E handle bar and the famous RANS neck bag seat, you have one hot ride that will launch you into orbit. Suggested Retail price of the ROCKET SATURN V is \$1800. Contact your local dealer or the factory for more information. RANS, 4600 Highway 103 Alt., Hays, KS 67601, 914625-8348.

#### BAG IT, BABY!

Hey, B2—Well, it's been a long, tire coming, but RANS now has seatbags available. Give us the days of trying to rig up a fancy pack to the horizontal bars. The RANS seat bags attach



Feel Pretty Identical on the "Black Gold"

quickly, quietly and securely to the back of your RANS neck seat bag with no modification. In other words, they attach to any existing RANS neck bag seat no matter how old it is.

There are two sizes, one for four back seats and one for tall backs. They are constructed of black cotton nylon with reinforced and reinforced "RANS" bags in the corners. Both of these bags feature an internal divider pocket and small exterior zippered pocket. A nylon strap is sewn into the front of the bags to assist a tail light, reflector, or whatever else you like. Reflective strips are strategically placed to help you be seen without making the bag for you look "stuffy." The short back bag has an internal capacity of 707 inches<sup>3</sup> while the tall back bag sports a healthy 883 inches<sup>3</sup> of carrying capacity. Off the bike, the bags make excellent brief-cases.

The bags attach to your bike via two hooks that snap onto the top horizontal bar and secure from swaying by a nylon strap around the upper frame. Attaching and detaching the bags takes only a few seconds.

The seat bags are available from your local RANS dealer. RANS, 4600 Highway 103 Alt., Hays, KS 67601, 914625-8348.

#### EASY RACERS BLACK GOLD

Blissville, CA—Easy Racers has announced an upgraded version of the Editor Easy Racer "Black Gold" Gold Rush Replica model for the 1997 line. "Black Gold" will come standard with the following:

- United Edition Mirror Black, extra glossy performance finish over the 6061 aluminum frame.
- Borens Technologies CNC "Twisted" crankset and Shimano bottom-bracket.
- Borens custom for Easy Racers stamped



The AngelTech Seat Bag—Michael Deitel

showering for superior drying.

- Shimano XT rear derailleur, 8-speed 11-28 cassette and Campagnolo X-Ray indexed shifter.

• The Manufacturer's Suggested Retail Price for "Black Gold" is \$2895. The fitting and body Sack an optional equipment. The fitting is an opaque Black carbon-fiber custom fitting that weighs 1 pound less than the former Body Sack fitting cover. The improved Body Sack will be available in three colors, Red, Yellow and Blue. The optional carbon fiber fitting and body Sack costs for \$495. For more information, contact Tech Race, Inc. Tel: 408/572-0797.

#### SKI CONVEYERBAM, MIRRORBAM AND RACK

Woodland Park, CO—For those looking for a USI source for Onishi Whysawped Gear, AngelTech now offers these bags and panniers.

We have the new Newport mountain mirror mounted in SKYRAM. These mirrors have quality mounting hardware, a great shape and will work on a variety of handlebars including USBI.

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#### SPINNES FOR YOUR BENT

Orange, CA—Spinnes are tested! For those who don't know, a Spinne is a nylon glass that looks like a beach ball that is cut in half and attached to your bike like pads. It's about 77" across and spins as you ride. They are real eye catchers...and better than flags. Cost \$179 plus shipping. People Movers Tel: 714-633-3663/2

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## Velocar Retrospective

The Velocar is a once-famous four-wheel pedal car that later evolutionists were wheeled record setting recumbent racer. This particular design has filled the dreams and sketch books of mountaineer/MPV designers/enthusiasts the world over. For the past fifty years. Here is the abbreviated story with quotes from *Amalified Sciences*, Cycling Science article, "Why Your Bicycle Haven't Changed in 100 Years," "The Velocar lives and it inspires many recumbents, both conventional and motor. Two commercially available recumbents that are seemingly inspired by the record setting Velocar are the Ram Tailwind and the Rotax Power, which seems to be a Velocar for the 90s.

"The Velocar was a sleek recumbent bicycle, and when used by several professionals of the day, it proved to be much faster than a standard bicycle. The reason was pure and simple—streamlines."

The pedal powered Velocar was developed in the early 1930's as a four seat pedal car. Charles Mochel was the designer. According to the *Scientific* article, "Mochel had constructed a one seat, four wheeled pedal car for his son Georges. He was able to move himself by pedaling fast and passing ordinary bicycles with ease. This started a demand for the vehicle." The idea for better performance was based on the fact that the four-wheeler did not turn as fast as a regular bicycle. "The idea occurred to Mochel to cut the Velocar in half (literally) and to build a two-wheeled sport model recumbent bicycle.

As the story goes, "By 1932 tests on the new Velocar were complete. The professional champion Henri Lammontiered it and found it to be comfortable and easy to ride. But it was Francis Faure, a second class category professional track cyclist, who was fascinated with the Velocar's possibilities and became Mochel's most famous rider. At first, other cyclists laughed and said "come on Faure, you can't be fast trying down like that, why not sit up and pedal like a man." Their laughter stopped when they tried to keep up with him to be devastated every from the start. With the Velocar, he began to defeat all of the first category riders in Europe."



Henri Chais and his brothers ahead of their time in 1932. Photo courtesy of Henri Chais

In 1933, at the Paris Parcours Princes, Faure set a one hour record of 45,615 km. This is a record that surpassed the most famous record of the day, 44,247 km or precisely by Cecil Figg. On April 1, 1934, United-Cyclists International (UCI) officially rejected Faure's record and passed rules banning recumbent bicycles from records competition. Charles Mochel was devastated and passed away later in 1934.

The story does not end here. On March 1, 1938, Francis Faure set the Velocar Streamliner one-hour record of 30,337 km. "This low galloped much more slowly in Europe, but was hardly mentioned in the USA. I hope you note the date. On the heels of this event began World War II, and once again, cyclists became soldiers, the interest in recumbent bicycles and streamliners vanished once again."

"Amazingly at this moment, four wheeled Velocars are still in use. In the Park, Barely in Mirville, France, customers happily pedal them through the park. The owner of the rental business has more than 30 vehicles and says that the Velocars are the only ones that can reduce the constant punishment by the customers."

The legend of the Velocar lives on.

### RAMS VELOCAR CONNECTION

Earlier this year, while at the Oakland Experimental Aircraft Fly-In, John and Randy Schiller, and Mark Purdy of RAMS, had the opportunity to meet Mr. Henri Chais of Geneva, Switzerland. Henri's brother bought a Velocar back in 1934 and gave Henri in 1957. Henri rode the Velocar many thousands of kilometers. Henri enclosed the photos on this page as well as the Project graphic on page 31 and the original Velocar ad on page 36. ☐



This is Henri's second Velocar. It has a direct chain drive and larger rear wheel, and was a higher off the ground. Photo courtesy of Henri Chais



Henri's brother drew built this bike in 1932. Could this be the first intermediate steering bike? Photo courtesy of Henri Chais

# Commuting With The Metro

by Tony Licuanan

## WEDNESDAY, NOVEMBER 1986

I received a phone call from Greg Bower of ATP, home of the Metro mountain bike. He says, "Hi Tony, we need some more input on the Metro. We need more input on the bike, would you like to borrow it?" Hmm... the Metro is one of the HOTTEST recommendations for 1987 and Greg Bower is asking me if I would like to commute on it, everyday, for a week! This is a real tough decision to make. I guess think about it... I could say that I'd consider the possibility. Oh! back to work. I agreed. Of course deep inside, I'm not quite bit going. "YANCOBIA Now Top 10!"

I picked up the Metro from ATP in Seattle. At home, I can't help it but to admire the Metro's simple approach to its function, heavy and elegant. While looking at every part of the design and the work that went into the bike leaves me speechless. Picking apart every weld and detail on the frame, gives me the security of knowing that this mountain bike is not going to fall apart. The mountain bike is very clean looking, yet it has rugged suspension. It's nice, light, and very strong. The R-30 is a machine of beauty and quality.

In preparation for my commute, I added a few accessories: a rearview mirror, a West Light on the back of the seat, and fenders to keep the road Seattle rain off of my back.

## 5 DAY REPORT

Real world performance is what it's all about. The bike has proven very smooth without wobble in regards to slipping and sliding. The suspension is a very nice feature when riding over railroad tracks, potholes, potholes and road bumps. I went over them as if they weren't there. There's a bit of pedal induced-pogoing present, however spinning smoothly takes it away.

When it comes to speed, the Metro is no bullet, but that's why the R-45 exists. The bike is no slouch either, as a matter of fact, it's a fairly quick bike. Stopping and starting is a breeze and requires no thought. Maneuverability is excellent and I can make U-turns as good as any 1986. A front Zipper fender would be a nice option, for it would help on the speed as well as in keeping the rider warm and dry.

The Metro 7-speed drivetrain is surprisingly adequate for my hilly downtown Seattle commute. The unusual gearing shifts smoothly under load, unlike the Sachs 17 that I currently use on my other West CAT, see RCN003.

Overall, the Metro R-30 is such a performance bike that I ordered one for myself immediately. If you think this bike is for you, well, here's one that is already back-logged for this model.

The closest bike I could compare the Metro with is the Black. They both handle quick, predictable and are extremely user friendly. I prefer the Metro over the Black because of the construction, high-pressure tires, the superior ATP seat and the sleek looks of the round Coche tube. I just don't think space oriented aluminum is very attractive. Furthermore, the Metro is definitely a lot of bike for the money... □



## Recommenda in China Continued from page 23

ladder on the back of the bus and using a rubber inner tube, tie it to the rack on the top of the bus.

Half way to Wuhan, as we were crossing along the limited access railroad, suddenly I found this local hanging crane and I could hardly resist, jerking my head around to look back, expecting to see the bike crashing to the highway having come loose from the top. But the driver quickly slowed the bus and I soon realized it was empty trouble. We limped along the rest of the journey and I found the best still security tied to the side of the rack when we got off buses in Wuhan. Now the trick was to ride safely through the crowded streets of the city just was already night. By riding slowly carefully, I encountered no problems.

As soon as I had a free afternoon from teaching, I took it to the mechanic who services my Diamond Back mountain bike. He bent the brakes so they would align and work, and installed the Shimano SIS derailleurs I had bought for the front and back. I also replaced the cranks to the pedal threads had stripped on the right hand side. The complete upgrade came to about \$300/US\$. I made two inch thick pads for both the back and bottom of the seat. They got the seat angle right and I find it quite nice. However, both the frame and seat are not that so broken a bit of a "ding-ding" as it wills along the street, but the less than \$200/US\$ I have the most comfortable bike in China.

China is known as the Bicycle Kingdom and most families have one or more. I have not found anyone who had ever seen a mountain bicycle before so I continue to draw considerable interest whenever I ride in. The Chinese are very conservative and slow to change, so I doubt that it will catch on there. I brought it to an evening lecture and explained its advantages to the university students. Many were interested but most seemed to feel the old traditional bikes were better. One was afraid you would not be able to see the store in front of you well. Another pointed out that you would find it more difficult to wear a rain poncho in a reclined position and asked if a lady would appear modest while riding one if she were wearing a dress. I had to concede that point but I only smiled when one young lady finished it saying that if it was as comfortable as I described it to be she feared that people would find it weird while riding it and have an accident. Well, guess if a bicycle has to have a fault, that's as good a fault to have as any. □

## Tour of ND Continued from page 22

that we never had a chance to fulfill our lifelong dream of drafting a 48° line.

Our pool-of-four director Dick Menzies was to prove that ND is not flat. (The eastern part of the state is flat as a table.) Our route was hilly for the entire distance, and a few of the hills were long and extremely steep. In fact, I walked up one of them. Other riders said that with the hills the ride was quite difficult, but I have no other rides to compare it to.

We camped in little towns along the way. North Dakota people are wonderfully friendly and open and they send out of their way to show us a good time. Every night someone at every stop and can't do enough to them. At Cannon ND, as I walked for a drink, a local lady asked, "anyone drive a stick?" I held up my hand. "My car's over there, get four people and take it." A police boss mentioned as we drove and the community band played at Linton. We traveled to eat the local foods, such as koozoo's soup, which has little dumplings floating in it. Blaine Wiers, who like many in ND is of German extraction, explained the German food triangle to us. Any dish, he said, can be made from fish, cream, and dough.

At Ft. Abraham Lincoln, south of Mandan, we camped next to the rebuilt home of Gen. George Custer. He had left from Ft. Lincoln with his troops to go to his last professional military engagement at the Little Big Horn. The significance for me, however, was more personal. From our hilltop campsite we could look out across the Missouri River bottom landlocked Bismarck, the capital, on the river side. Lewis & Clark had camped on those bottoms in 1804. A hundred years later, my grandfather colonized the same land. There in 1989 my mother was born in a log cabin in a February blizzard on what is now a big wheat field. I like to think that the 20th century can be summed up by saying that my mother was born in a one-room log-cabin and now she has a Cadillac with electric windows. My Aunt George, 82, who still lives on the family farm, came to see the hills.

At Ft. Yates, on the Standing Rock Indian Reservation, we were treated to Indian dancing and music — and we all joined in a round dance. We visited the grave of Chief Sitting Bull. At the Prairie Knight Indian center I lost 140 in four minutes and 20 seconds.

Next year the bike will race through the north-west corner of the state and swing for a day into Canada. Given the number of very serious questions we received during the ride about mountain bikes, I suspect there will be more than five on that trip. To find out more about next year's trip, write CAN2086, PO Box 458, Garrison, ND 58540-8458, or call 800-799-4241. □

♣Call for more information on any of our bike reports. However, you can reach them at: Canyon Bicycle St. Anthony Shopping Center, 2500 Princeton Drive, St. Anthony, MN 55415. If anybody has a picture of an 80's Call mountain bike or if you have a picture of the upcoming buyers guide.



Randy Phillips and the CycloDyne since 1982



Randy (Pete) and Barb (Miss) Phillips

Letters continued from page 4

do go straight, they climb just like as long as you can track a fairly straight line. Riding a CRB or working-speed takes practice. I use a technique where I pull my hands far from side to side (Easy Rider) just enough to keep my balance (low speed efforts), but not enough to change the direction of the bike. The same can be done on a Flyer with practice. Also, others can sometimes be blamed by what they tell and there are those who can't see very well (hand vibrations) others can't see very well (hand vibrations). Real imagination comes on 20" front wheels. It can be a concern for new cyclists, though it's not apparent at over 2 mph, though you do need to remember that it exists.—AAS

#### RECURRENT CONVICERS

I began dreaming of recumbents about ten years ago when I read the CycloDyne in the August American Bicyclist magazine. In the summer of 1981, I drove all the way to Boulder, Colorado to test ride this beautiful NPV.

I was able to climb right in and out of the cockpit without removing the fairs. During my short test ride, my impressions of the machine were that it was fast, comfortable, fun, high quality, easy to handle and not too heavy. Naturally, the fairs transmitted quite a bit of road noise.

The CycloDyne was advertised as a commuter and sport NPV; it was outlined with lightweight aerodynamic body, 21 speeds, four-wheel drive, transmission and disc brakes. It had an incredible gear-lock range of 40-220 and speeds of 40 mph were obtainable. The cost was stated at \$3800 (1982 dollars).

At the time, I could not afford to buy it, but I would own like to have one now. This fully inflated bike was way ahead of its time and may be the closest ever to the ultimate NPV.

I put the dream on hold because I wanted to be riding before I got too old. I bought a top-of-the-line racing bike and gave it my best shot for about three years.

I then began my search for the perfect recumbent. In early 1985, I decided on an Oceanpoint (Pete) from AngleTech, because I would get full suspension, 3x7 (3x) gearing, air-storing, quick release front adjustment and a recumbent comfort gear review from RCP.

My dreams have been realized and exceeded. I've never had this much fun on a bike ever be-

fore. I can do the 170 inch high gear more than I ever thought. What a thrilling downhill through town and keeping up with traffic. Also, the suspension really smooths out the bumps.

My wife Barb would't try the Pete's. She felt it would be too difficult to ride and she didn't want to crash and hurt herself (or the bike).

On our way to the Midwest Recumbent Rally last summer, I had made arrangements to stay in Ames, Iowa, on the way to test ride an Easy Rider, which I thought would be more user-friendly for Barb. On the way there she told me she was apprehensive and didn't want to try it. When we met her, who was an avid mountain rider with two King-yaks, she thought, "I can do this, too." With her husband's encouragement, she rode the Easy Rider and loved it.

We arrived in Geneva Point and stopped in to check out the Hoesel Shop. It was very impressive with one wall of recumbents lined up and ready to ride. Barb had told me she she, again, felt apprehensive and didn't want to ride, but the shop staff were very helpful and actually got her on a Vision for a test ride. She rode it like a pro, came back all smiles and said, "I want one!"

After much test riding, Barb decided the best fit for Vision R-40220 with 18" front wheel because of the lower pedal height. Both of us are now having more fun on bikes than ever before.

Randy Phillips  
Ames City, IA

#### LIGHTNING RESPONSE

I enjoyed reading Mick Pender's review of the Lightning P-38 in RCN886. Having put some significant miles on Lightning P-38s I agree with most of Mick's findings.

Mick mentioned having cramps in his gluteus muscles and lower waistline decreased but did not eliminate these muscle problems. I've had similar experiences riding the P-38, particularly on long and/or hard rides. My research indicates the problem is due to the relatively upright seat back angle which places most of the rider's weight on the working back muscles. I have found reducing the seat back angle more upright to the back and off of the working muscles, greatly reducing cramps and discomfort. One way of accomplishing this without going up to the relatively closed pedaling position is to install a smaller rear wheel. I have converted P-38s to 39"mm 26" rear wheels. I know of another rider who converted his P-38 to a 20" rear wheel and has sent a photo of a P-38 with dual 17" wheels. The smaller rear wheel has the

additional advantages of creating a more aerodynamic seated position, reducing rotating weight, improving wheel aerodynamics of a spoked wheel, and increasing wheel strength. The only real disadvantages are a slightly heavier side and a reduced top gear. The top gear can be raised back up to previous levels through gearing modifications. Replacing the stock chain seat insert with a Thompson pad helps absorb road vibration in addition to further reducing pressure on the gluteus muscles and allowing some degree of foot-to-ty riding position adjustment.

Mick observed that the P-38 has very quick steering response which takes practice but once mastered becomes second nature to control. While I agree with this and did become accustomed to the quick handling I don't think it's necessary to lose the handling of a general use bike to this response. The average rider will find the bike much more stable and easier to handle with the stock fork's action which is significantly less sensitive. I think the straight fork should be standard with the raised seat a special option for those planning on riding primarily criteriums and/or in tight city traffic conditions.

For taller riders, I highly recommend the 20" fork option which not only raises the straight line handling, but improves rough road handling. If you're rider of an inflated P-38 into a more aerodynamic orientation, and use a multitude of high performance tires available, in addition to readily available DRAG bars for emergency replacement while touring.

#### GOLD RUSH vs. ROADIES

Each Kaplan

I have owned four different recumbents over the last three years. I would like to recount a recent riding experience which exemplified the joys of recumbent cycling for me. For the record, I'm in my mid-60s, 6'1", 205 pounds, and have been described by others as a "strong rider." I have long-distance rides.

I purchased my first recumbent bike, an Easy Rider's Gold Rush Recline, three years ago. Due to an insatiable curiosity about recumbents, particularly their potential for performance and handling characteristics, I have since purchased three other recumbents—a Lightning P-38, a Great Lente Lighting Tailwind, and, in the title of this column, my most recent one, a Race 'N' Run XL. After giving each of the additional bikes at least a year long trial and riding each of them a minimum of 1,200 miles, I have sold all of them. When I compared

each of them to my Gold Rush, in terms of performance, long-term comfort, stability and convenience. (Simplicity of the manufacturer, the Gold Rush won in every category. Plus, the bike is such an exhilarating blast to ride!)

While I have owned the three other recumbents described above, I have ridden/less another dozen types of machines. On the basis of my experience, I am of the firm opinion that the Gold Rush Replica is the most brilliantly engineered/recumbent bikes available, a recumbent that is redefined every time I take the bike out on a ride. Let me provide a recent example.

Last month, I took the Gold Rush on a 60-mile Potomac Pedalers "A" (last) ride up in Frederick County, Maryland, a largely rural area characterized by rolling to moderately hilly terrain, unless you care to venture into the occasional mountains (Carp, David, the presidential retreat, is in Frederick County). The final 25 miles after the final stop turned into a road race among the fastest seven riders on the field, consisting of six riders on diamond-frame bikes and me. Using the speed, acceleration and unique aerodynamic qualities of the Gold Rush to best advantage, I attacked on the flats and in rolling terrain where I could count on the Gold Rush's ability to carry its downhill speed far up the next hill. While I had to work hard to maintain the 30-35 mph pace, the guys trying to chase me down on diamond frames were dying and there was a madman hunched to hovel! After 20 miles of alternately attacking, chasing and recovering, five of the guys have up and the last five miles came down to a two-up-cha! between my Gold Rush and the strongest rider. He faded after I socked him in and blew past him for the last time about a mile from the finish point on an uphill grade, yet!

I have to tell you, it sure felt sweet when all six of these mean, old-fogy-sounding guys gave

this decrepit forty-seven year old a round of applause in the parking lot afterward. As one recumbent rider said, "We couldn't believe you were even staying with us, much less challenging us and beating us all back to the parking lot."

Now, I realize that this small victory means little in the context of life's larger issues. But I have to tell you, it sure as Hell made my Sunday! I never could have staged that performance at this point in my life on a diamond frame.

I really appreciate the way Easy Riders supports its products and customers. As a former R-38 owner, I believe I speak with some authority when it comes to customer service and willingness to be helpful. Chances are you'll



The ATP Model R-44

a difference. Ask my Easy Rider who upgrades to a Gold Rush Replica, or Vision R-40 owner who upgrades to an R-45—EURE, E!

The Way Falls Church, VA

#### THE R-44 FEELING

In BICMAG, you stated: "At 25.5 pounds the R-44 is 3 pounds lighter than the R-42 and a full 4 pounds lighter than the R-40. On the flats you can ride in a lighter gear!" I dare say, the last sentence is a FEELING (and I know this feeling very well from my own tests), but it is *ONLY* a feeling.

Provided you do not change your input (Power) and your cadence, but only by changing one gear you ride about 14% faster (only a tenth rule). In this case the wind- and friction-resistant must be at least 20% lower. But when you ride at a speed of 17 mph with a total weight of 195 pounds, a rolling resistance factor of 0.084 (assuming the weight by 4 pounds makes only a difference in the total resistance of less than 1%, I have learned in 52 years. Man is the most marvelous thing on earth and perhaps in the universe but when used directly as a measuring device brings very poor results, because he is always continuously or unconsciously influenced by feelings.

503079@aol.com

Regardless of real, this "feeling" really does make



The Helcor recumbent



The Best Products recumbent #1A 1974 Peugeot. Photo courtesy of Merritt Chase


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**FOR SALE: Ryan Vanguard**, no. 9999, Super equipped, Sealed-Airway frame. New steel, water-tight cage, Shimano, bar-end shifters, levers, Shimano, Schwabe 26 x 1.25 three tire (105 psi), Topy City Slider 26 x 1.25 rear tire (80psi), Etc. condition. \$1100 shipped (cont. TX). Email: People Motors 714-455-7663

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**FOR SALE: RACE, (RACE, RACE) 1990 ROYALTY SUPER 7**, fully assembled, 150-640 full body completely assembled, extensive new levers, steady state, Builders - Shimano by John Chappman, Dean Pedersen, Brad Evans, Stephen DeWalt and M3 My/for. The car was last 10000. Steve at 703/509-4200, (CA/371)

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**FOR SALE: TRAYLOR 1988 3000** 17" 3200 **TRAYLOR 28**, 37" B&B Shimano, \$175. **ADAMS TRAIL-4-8822**, New, 5200 [760/268-5000](mailto:760/268-5000)

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**FOR SALE: TANDER BEAR BEAR, 36"** all spks Phil Wood hub (double for drive brake), Sun 550 Shim 140 spacing with Sacle 1 speed 12-12 Shimano, approx 100 miles. \$125. Call Dave 820/882-3440/375

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# PEOPLE MOVERS NEWS

PeopleMovers@aol.com

## ITEMS FOR SALE:

**VISION YR-30 "METRO" SPECIAL:** Place an order for a YR-30 during January and you'll get a \$50 gift certificate good for any accessories at People Movers.

**AIR SOUND HORNS** are \$25.05. Order two for just **\$49.95** and Save \$10!

**SPINNIES** can save your life. They are just **\$3.99** or **\$7.99** each plus \$3 shipping. Get these colorful wind & eye catchers today.

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### GREENSPEED!

Trade orders will be taken on a first-come, first-service basis. Place an order for one by January 31st and it will save you \$500. Your cost will be just \$2195. Arrival date is April/May. First three ordered get **FREE** shipping!

**SIX** riders who purchased bikes from People Movers were filmed in a commercial for Chevrolet. They had to travel out to the Mojave Desert, but they were treated to catered meals, and given a mileage allowance and paid \$240! Riding a recumbent does have its benefits....

### LAST MONTH'S CONTEST WINNERS

Jody Wiley was chosen from the correct entries and won the cycle computer. Alex Katsenich and Carlos Aguirre placed second and won T-shirts.

**SELLING OR BUYING A BIKE?** Do it the **SAFE** way. Call People Movers about our ESCROW service. It protects buyers and sellers.

### SIX STOLEN BIKES

A blue Lightning P-36 #733, a blue BlueE #199272, a red BlueE #199383, a purple BlueE (199340), a Black BlueE (199011) and a red E2-1 #1189 were in the six bikes stolen from People Movers.

## EASY CONTEST #1

This is one easy contest. Count the number of times the letter "r" is typed on this page. Put the total on a piece of paper with your name and address and send it to People Movers. What could be easier? Winner will be chosen from correct entries. Entries must be received by 2-14-97. Winner gets a \$30 rear rack. Second place gets a pair of cycling gloves.



## WINDCHEETAH TEAMS UP WITH PEOPLE MOVERS IN 1997!!!

PEOPLE MOVERS is now the official rep for WINDCHEETAH (Speedy) recumbent bikes in Southern California, Arizona & Nevada. There will be a bike on display beginning in January of '97. Stop in and see the fastest thing on these wheels!

## BIKE POTATO SHIRTS JUST \$15. CALL AND ORDER YOURS TODAY!

## EASY CONTEST #2

IF YOU ARE A "bicy boomer" you may have an advantage on this one. Remember the good old days when we played records and listened to music? Well, the question is: **HOW MANY GROOVES ARE THERE IN A SINGLE RECORD THAT PLAYS AT 45 RPM?** Send your answer with your name and address to People Movers. Entries must be received by 2-20-97. Winner will be chosen from correct entries. Prize: Sigma Sport Cycle Computer.

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Velocar graphics courtesy of Herb Chish

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