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EMAIL: greenshp@ozemail.com.au
WEB SITE: <http://www.ihpva.org.com/Greenspeed/>

GREENSPEED RECUMBENTS

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The BikeE Air Tech
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sport— Bent offroad.

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RCN

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every effort to provide useful and accurate
information, we do not claim to have definitive
answers—particularly with regard to safety,
technique and equipment.

Editorial License



Roadie Rent Part III...the industry takes notice of little old me

Imagine my surprise as I'm reading through the bike industry's #1 trade journal, *Bicycle Retailer* (BR&D) and who are they talking about, years today! One headline on the cover of the November 1, '97 issue read, "MIL IMPOTENT MEN SUE BIKE SADDLE FIRMS!" A very concerned bike industry is about to take notice more seriously.

Back inside the magazine is the "Gaspvise," Rising Impotency Parts I, II and III were published at the top of the page. Part II went as follows, "Robert Bryant, the energetic and knowledgeable master at *Recumbent Cyclist News* takes careful note of the current news flapping over this raging epidemic of impotent males who have kept their secret tucked away in their pants all these years. In Bob's latest rant he notes that after recently buying a Trek 1220 road bike, he discovered that gentle nudges is allured and well. So Bob was grateful that *Bicycling* magazine's Ed Pavlica was showing some spark following his stretch to mountaineers." Bob was I was pained. My jaw hit the floor. I had no idea they read RCN. RCN is my favorite bike trade rag. They do a great job and seem 'bike friendly'.

Back to the PENILE NUMBERS thing. Who'd of ever thought that this is where 'best market share and growth would come from a straight up 'best solution for penile numbers.

PENILE NUMBERS THEORY

With all of the interest in penile numbers, I've done some calculations to see just how bad it is (for me). On my test loop, on a drop-bar seat (bike), I get approximately one minute of penile numbness for every mile ridden—even with padded bike shorts! Admittedly, I can ride for 20 minutes or so with no pain, but after an hour it is worth a minute per mile. I guess if we

grip, grip and bite the bullet we can get real tough and handle the pain like a real roadie. But why would we want to?

BOB REALLY LIKES WEDGIES

Even though my pants would make you believe otherwise, I do like all bicycles, wedgies too. Bicycles are a friendly vehicle for our planet. They are cheap to run, require only a bit of maintenance and they make you feel good. I've sold the drop bar test bike (Gorras test), but still have a pair of like Friday's and I'm looking for another wedgie folder.

I can have a laudful eye for a wedgie, however, it's a shame to hang it on my wall as art, take a back-seat to the frames for parts or strip it for components. Riding drop-bar bikes is not part of the equation.

Even if you don't like wedgies, what will the saddle makers get if through their heads? Constant Flex? Are you kidding? Is this the best they can do? What about Dan Hervey's sling seat for a wedgie on the cover of the May '85 *Adventure Cycling* issue? Dan pioneered this seat on a 'bent in the 60's. These can easily be made. I even have a production version that I bought from *Cyclopolis* years ago. Dan's seat has an upside down drop bar attached to the seat tube with a handlebar stem with webbing strung across. Dan says he's never had an uncomfortable ride strapping this seat on a road bike, "You have to train with it," he explains, launching into a long explanation of how the vector forces are reversed with his seat.

GIANT WEDGIE

I know that people are reading and talking about Bob's rants and RCN when the VP of the Giant Company sends a friendly letter and says, "Take fun at wedgies over in a while...but please avoid resting road bike riding as the most common thing to sell tortures." Gee, it seems like self torture to me. I couldn't have said it better myself.

the illustrious Bob Bryant



'BENT MAIL

WE WANT TO HEAR FROM YOU

Directions for you: Send your notes, letters, POETS, gut
feelings, feedback, responses, opinions, articles, reactions,
thoughtful questions and whatever to:

RCN, PO Box 87818, Denver, CO 80287-1758

Send to: EditorRCN@rcn.com Photo images with or
without captions should be emailed or sent as hard copy to:
RCN, Content and Photo Relations. If you write to RCN and DO
NOT want your letter published, please make this request in the
letter.

Long
Bike...
...Small
Car



RCN GOES SLUMMING

I got issue # 42. Best issue ever! So many great articles, including Slumming of course. Great job with the photos of all the new and interesting 'bents out there, I love it! The photo on page 16 alerted me to the fact that my fairing needed to come up a couple of inches. I raised my fairing and changed my middle chainring from a 42 to a 39. What a nice difference! Just got back from a 38 mile ride, hit 33.8 mph on the way into town, was averaging 21.9 at the halfway point. I think that those two minor changes have improved the performance of my Cold Rush measurably. Speaking of the Cold Rush, I just got a call from a guy in Lakewood, CO, he is coming to pick it up Saturday, unbelievable results from your classed! Milt Turner just didn't seem all that happy with your review of the T16, go figure!

You The Man!!
John Cunningham
JCRCUNJ@rcn.com

VIRTUAL SLUMGULLIAN

What a nice article on Slumgullian! Your email and research are fabulous. I learned more about where we were riding than living here for four years! You really captured the experience.

Kevin Clark
Angletech

WILL RANS BUILD THE LIMBO & SLUM!

Talk about a major SHOCK (pleasant I might add) when I came home from work yesterday and had a package waiting for me in the mail! My parents, wife, and son

were here when I opened the RCN's Gravy thanks for the numerous copies and I was very much flattered and humbled by what appeared on the cover and inside pages.

I thought the Slum article was one of your finest pieces of writing I've read. How you manage to remember the details—and you were accurate—in beyond me. You must've taken notes the whole way across the Rockies, for your descriptions and reviews were 'spot on'. I must say I felt sorry for the many thousands of 'bent riders who only had the opportunity to read about it rather than experience it first hand as we did. It was an awesome time.

I took one of the RCN copies to school today to show my health students and faculty. They had a great time with it. Our school librarian wants me to give her a copy so she can place it in plastic and put it on the magazine display racks.

You still trying with the idea of a ride across the USA or Western states this summer. I'd like to do somewhere between 150-200 miles a day so it wouldn't be a picnic. I might even consider riding to Colo from here and then pick up the Slum or Kansas ride. Thanks again Rob for your flattering review and profile during the Slum. It was a wonderful tribute and account that meant and means a great deal to me. The issue, overall, is the BEST ever!

If Rans doesn't build the Limbo T1 probably will up/building a carbon/Kendal one for this summer's riding. Long, low, and yee...very fast with a bubble up front! The legs are stronger than ever.

To great health,
John "Rocketman" Williams
Philomath, Oregon
wj101@prattco.com

COOL ISSUE & I GOT A '88 V-REX!

I got RCN #42 in Miami yesterday. Great job, this has to be one of the best ones yet. Very balanced, with reviews and new product reports. And it is thicker than usual! BTW: I'm the proud owner of a 1988 V-Rex. In great part thanks to your reviews. Thanks and keep 'em coming.

Frank Gonzalez
fgonzalez@midlandspring.com

TURNER: WHAAAAH!

It was also interesting to read the reaction from Turner Enterprises on your review. My reaction to that is WHAAAAH! Many thanks for your fine publication. I always look forward to the next issue.

Mike Harris
miharris@hoopco.com

VISION: RCN IS A MAJOR INFLUENCE

THANK YOU for your magazine. I've been looking at recommendations on the SIT for a long time now. Finally have one on order, and I want to let you know that your magazine played a major influence in my decision to buy a Vision 8-40 suspended.

I especially enjoyed Scott Groff's article about how he rebuilt his Vision and had a lot of interesting information to share. The fact that he has the same bike I'm getting (with, um) made me value his opinion and intelligence even more.

Thank You
George Harvey
Bellevue, WA
gharvey@bluewin.com

■ 'BENT MAIL...

BOB OVER 40? NO WAY!

I've been reading your publication for a year or two. I don't mind seeing your picture before. We're about the same age. Nice to see others over 40 still riding.

Patrick Donohue

Patrick, 40! I'm only 37 (going on 38...) and enjoy kicking the young whippersnappers as often as I can—Bob, RCN

LOAD LLAMA'S ON 'BENTS

Just a note to thank you for putting us in RCN this past summer. I have been so busy I forgot to send you a thank you.

A lot of recent owners are using the Load Llama rack and many have opted for the All Pads Rack and the Auxiliary Kit due to the extra length. Our strap efforts with BikeR have done very well for us also. We hope to put our new Load Llama Expedable Bag on the market soon. It folds flat on the rack when not in use, but is a single bike bag on a very large bag when fully expanded. I went to the store recently and carried out 40 pounds of groceries with it. It attaches to the rack and off you go! I enjoy reading your publication. It is very informative and very well done.

Ted Strassett
norfolkcn.net

RCN COSTING A LOT!

I just finished my first issue of RCN # 41. Thanks!! I just purchased my first 'bent about 200 miles ago and I am hooked. I am selling all the wadgies immediately. I will never go back. This bike is fun!! It has clearly been the answer to my prostate problems I experienced at age 48 when I was riding a traditional bike 4000 miles or more. There has been a drawback — my beautiful wife rides a conventional bike and says she doesn't get noticed anymore when we ride together. I get all the attention!! Time for a tandem?

Really, your RCN #41 will cost me more than my yearly subscription price. The pedal review article was great. My SPD's don't work well and I've ordered the new pedals recommended by the author. I also have requested a cycling from Calicut cycle. I've been looking for shorts that are good for Recumbent cycling.

Starting a class
Jawn Bauer
jawn.law@red.com

BENTS vs. UPRIGHTS

I could not agree more with your and your description of riding 'bents vs. uprights. I turned fifty in April of '96 and rode across country on my newly purchased Tour Edge. I received the bike in March and left Huntington Beach, Cal. in May. We averaged eighty miles per day and finished the 1000-miles right on schedule. I had absolutely no wrist, arm, neck, or back pain. In addition, I truly looked forward to getting up and riding 4 to 8 hours a day. On my upright I did several centuries but would not ride for a day or two or three after completing the ride. As far as being slow up hills, we passed through Flagstaff, AZ at elevation and I was not late for dinner.

Harry Vincent
divincent@cyberdrive.com

RCN#42—BEST ONE YET

Congratulations on a very fine magazine. I received RCN #42 yesterday. It is the best one yet. I subscribed earlier this year. My first issue was the one with the Stratus on



Have you received your RCN#42 yet?

All active subscriber issues should have arrived by this time. If yours has not — give us a call today. The postal service occasionally replaces a bulk mail issue or two. Call 252/521-5725 if you've had a problem.

Now would be the perfect time to upgrade to a deluxe first class mail subscription. Send your deluxe renewal + \$1 per outstanding issue to RCN.

■ 'Bent Bits

Readers, if you have information that may be of interest to others, please share it by sending it to: RCN, Did You Know, P.O. Box 28708, Benton, WA 98028. Please give us the source for your info.

- ◆ RCN HAS A NEW LOW DOWN AND LAID BACK TOBACCI! They are White-Ts in Navy and Forest Green with white ink in size L or XL. The cost is \$28 + \$4 S/H.
- ◆ WE'VE GOT A GREAT NEW RCN T-SHIRT'S DESCRIPTION IDEALLY. Subscribe or renew to a Deluxe 7 Year subscription, and we'll give you an RCN T-SHIRT (e.g. an XL or '80 Bayers' Guide) you will receive any existing subscription to your new delivery. The cost is \$37 + \$4 S/H to RCN.



- ◆ WHO IS JOHN WILLIAMS? I grew up in RCN#42. I'll be working on getting my right hand from my left. This is John Lee left Williams (left), and this is my, Bob Bryant (right). Sorry John.
- ◆ RCN NEM/CAULLEIAN GODE Colorado Springs' Cycling Club recumbent leader Doug Luttell failed to say that our Stangulian-ney-driver's name is Alice Mary, not Luttell as we reported. Doug was concerned that we were trying to messy him up.
- ◆ HERMAN HANFEN TRIBUTE Mike Donohue wrote to say that we misspelled Herman Hanfer's name in the RCN#40 article—sorry!

'Bent News

What's Happening in the 'Bent World

■ 'Cool Stuff

Recumbent ideas tend to have unique interests and views. Cool Stuff will be a listing of interesting non-bike products that might appeal to 'bent riders.

• HUMAN POWERED RADIO

Do your eyes hurt from too much TV, web, cruising or commuting? Buy a good radio. Carry it with you on your bike tour. Or turn off the TV and listen while you work on your bike. The Real Goods catalog sells the BoyGen Free-Play radio from South Africa. This radio plays for 45 minutes with 20 seconds of hand cranking. It was designed for third world countries where batteries are too expensive for average folk. The radio is powered by 0.00009 carbon steel clockwork mechanism. The new version for the US market sells for \$79.95 + \$19.95 for the solar panel option. Real Goods 1-800-769-7325. Another cool catalog is from the C. Crane Company. They specialize in high quality radios. Check out the TV Radio and the models from Sangean and Grundig. Tel. 1-800-800-8883. Some Sangean radios are sold through Radio Shack.



So You Want To Build An HPV

DO IT YOURSELF BRITISH STYLE

The British Human Powered Club has produced a booklet called, "So You Want To Build an HPV." This is a 48-page guide to sources, ideas and opinions about homebuilding. It discusses layout options and material sourcing though mostly for the U.K. Homebuilders will like this fun read. Send \$7 USA\$ to Steve Donaldson, 21 Glenkerr Ave., Dyer, Aberdeen AX1 7YF, England.

SPEED LEVER—THE WORLD'S EASIEST TIRE CHANGER

The Speed Lever was born about a year ago from a trip to the garage to get new tires on my car. I became annoyed by their tire changing methods.

Later that evening, I had a flat on my road bicycle and spent 30 frustrating minutes in the dark trying to remove and install the tire.

With the Speed Lever you just attach the lever to the rim and pivot it around on the axle for the easiest tire change you'll ever experience. Speed Levers are available through your local recumbent shop (alternatives are available through J & B).



More **'Bent News**

■ 'Cool Books

★ **SOLO: Life With An Electric Car.**

Author and Professor of Environmental studies of Dartmouth College, Noel Perrin gives an entertaining personal and passionate account of his solar/electric auto quest. From sourcing a car, to the buying experience, to driving it home across the USA (or attempting to), I found myself mesmerized in a world with gross-out parallels to that of ours ('bent). This easy to read book offers practical advice for newbies along with easy to understand descriptions of the technical side of solar/electric systems. Noel Perrin produces his own electricity in Vermont to run his car. Published by the Sierra Club in 1994. At the urging of Kent "Foil Pig" Peterson, I found this in my local library. ☺



Compact ACS prototype spy photo courtesy of Mark Arnes

A New EvoGlide set for '98 introduction

Wheel & Sprocket in Milwaukee, Wisconsin has become the custom-type headquarter for EvoGlide and Linear Compact Mix III models. For '98, an upgraded spec EvoGlide has been announced. The new bike will come outfitted with Sun CR16 rims, a radially-laced front wheel, Shimano-165 hubs, 30/40/50 triple crank, Avid V-brakes (or standard), Campydrift and a Sachs chain. The EvoGlide will be available in Pewter with a discount and set for \$1399.

Also new for '98 on EvoGlide and Linear Mix III models are redesigned seat stays, a new tall back seat (w/ a lumber bend) and an improved Crodo fork. The wheelbase has been extended to 39.5". An above-seat steering version with a "T" bar and ACS-specific steering geometry will be available in March.



*for the
owner-built & production
recumbent!*

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Even More

'Bent News

■ A Free 'Bent

★ RCN TO GIVE AWAY BIKEE
AIR TECH ALLAROUNDER



In a special promotional deal with the Bink Corporation, RCN will **GIVE AWAY** absolutely **FREE**—one new 1998 **Bink Air Tech All Arounder** 21-speed bike shipped within North America. The winner will need to pay their local dealer for set-up. The rules are as follows: You must have an active RCN subscription that runs through and including RCN60 at the time of the drawing the first week of July 1998.



NEW LINEAR COMPACT / EVOGLIDE BAGS NOW AVAILABLE

Two new bags for the EvoGlide/Linear MLIII are now available from Wheel & Sprocket/Wheel Recumbents. The first is an under-frame bag that sells for \$50. The second is an above-frame bag that doubles as a computer mount and sells for \$80. These bags will also fit Bink's Wheel Tel. 1-800-363-8507.

ANGLETECH INTRODUCES P-38 LIGHTNING MODELS

Riverton Park, CO—While we have offered Lightning P-38's in a low profile sort of way in the past, mention by Bob Bryant of a GL40 model in RCN41 that he saw in our shop on a recent visit has generated a considerable number of inquiries. In response we will hence forth offer a full line of P-38's with well coordinated Angletech component packages, hand-built wheels, and complete assembly and road testing prior to shipment.

The Lightning has been available since the late 1970's, and has become known for its stiff, lightweight frame, ergonomic full mesh seat, and speed. Angletech versions add the Kuro tilt/adjust steering disc, and a 20" front wheel, exclusively to enhance stability.

The GL40 offers a Sachs 3x7 hub, providing a 17-140 inch gear range, Full Wood bottom bracket, cold forged Binkley cranks and top-of-the-line BSP 9.0 SL Derailleurs.

The Multigra is something new for '98, for those wanting a wider gear range, but without an internal hub. The Multigra features a Shimano Nexus 11-36 Megarange cassette, Nexus Rapid Rise rear derailleur and Top Five shifters, new Ultragra hollow forged cranks, bottom bracket, and front derailleur.

The SHO is our ultimate speed package. Look for a Roll 16-spoke super strong aero rear wheel, HED carbon fiber front wheel, new Ultragra hollow forged cranks & bottom bracket, Continental Grand Prix rubber, BSP 9.0SL derailleurs and shifters, Chris King headset, and Sachs PCN drilled cut chaps.

Our mission is to provide you with your "dream bike," so don't hesitate to call with how you'd like your bike configured—Kevin Clark, Angletech tel. 719/687-7175.

'Bent Rumors

■ New Tires

★ Primo to Introduce 16" x 1.5 V-Monster tire

The coolest thing about recumbents coming of age is the new recumbent-specific products that are coming on-line. Primo has a commitment to recumbent bicycles.

The 20" 406 and 451 mm Corral are the best sport-touring tire available. The matching 16" \$49mm is the icing on the cake (BikeE RoadE matching set). The Primo V-Monster is a tough fat, high pressure ribbed tire that is perfect for commuting, touring or gravel roads. With the new 16" 305mm V-Monster, this is the optimum set-up for your BikeE All-Arounders. V-Monsters are our favorite SWB dual 20" tire as well.

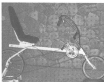
People Moves alerted us to this tire first has them in stock. They will be stock on new BikeE's soon and are available through

BikeE dealers. #

BACKSAFER SET TO UNVEIL NEW \$499 COMPACT

The prototype Backsaver Compact will be unveiled later this year. A prototype is currently being tested as the company awaits offshore quotes for production.

The new Compact has a myriad of improvements over the Backsaver SWE, including: a two-track monocoque rear-frame, and conventional above-seat-steering. There is no telescoping boom to create flex or instability, but rather the seat adjusts to fit riders from approximately 4'11" to about 6'3" and possibly taller. The seat has been shored up with a very sturdy frame and slides for adjustment purposes on a drilled-out member above the frame at a "constant angle." A new 20 inch rear wheel is used rather than a 16 inch from wheel giving greater stability, traction, and speed.



HAIJAZAK TO INTRODUCE "JUMP" COMPACT

Bill Hajazak is putting the finishing touches on a new low-priced Compact model called the "JUMP." The new bike should be available soon as a Juvenile (Kids) model sold exclusively through People Moves. The price is rumored to be around \$380 for a single speed and \$400 for a 7-speed. Adult models will follow if there is sufficient demand. For more info, contact Bill Hajazak or Jim Wronski at People Moves.



get your 'bent off the roof!

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The standard DraftMaster will accommodate SWB bikes. Add the compact mount to carry CBW up to 36" or a tandem rail to carry SWB bikes up to 75".

The DraftMaster even folds away for easy access to rear cargo doors and easy SWB bike mounting. So reach for the phone and stop reaching for your bikes.

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RCN

The BikeE Air Tech

How suspension made this a world class 'bent

By Robert
J. Bryant

Add the knobs
(knobby tires) and
you'll be slow until
you hit the mush,
acid and gravel—
and that is when,
with a sly grin,
you'll leave your
skinny tire cohorts
begging for
mercy

Every once in a while, I have an experience that forever changes my view of a bike. Since its inception, I've always been a fan of BikeE, though I've been a vocal critic as well.

It's a rainy November day in Seattle. I need a sunny day in Irvine Regional Park in Orange, California like it was yesterday. It was Dirt Demo day for the Interbike trade show. Historically, this tends to be a recurrent no-mans land. This day in early September would be different. I make a bee-line down to the BikeE booth to see the new Air Tech suspended model. I've heard rumors of this bike for a year. A month ago a postcard came in the mail with an Air Tech "getting air" which got me excited. Just as I am making pleasantries with the BikeE crew which I had not seen for a year, the Air Tech rolls into the BikeE pits. I quickly snag it before anybody else can. The Air Tech comes in two basic versions, RoadE and All AroundE. Each of these is available in 7 or 21 speed (Sachs Sa7). The one drawing my eye is an oxidized black with mild knobby tires. It's already dusty—looking its part and I'm intent on looking for some mud.

Before I pull out of the pits, Air Tech co-designer Paul Anzorell checks the Cass Creek ADS air/oil shock for proper pressure. I've learned that this is a must and the feel of the shock pressure alone can change your opinion on a bike. Soft shocks feel nice and squishy, but can rob power. Pump them up to 100% of your body weight—and they do their job. Don't even consider ordering a bike without a shock pump. The shock needs to be checked before a week, at least until you get an idea of how long the air pressure holds.

The new suspended design has transformed the look of the BikeE. It's something about the aesthetics and angles of the swing arm. It's like a VW bug being morphed into a Porsche Boxster (well, maybe not that

dramatic). Whatever the case, the Air Tech has the look. Trendy 'bent meets Gary Fisher and out of the dust comes a BikeE Air Tech KnobbyE.

I roll out of the pits doing a few bounces to see if the suspension is active and how it dampens—not much, yay—good! Once out of range, I went over a curb while thinking to myself that I hadn't done that on a recumbent for awhile. The first thing I do on a new recumbent is get away from any possible audience. I quickly get up to speed on the paved bike trail as the knobs hum in unison. I shift up through the gears. The BikeE drivetrain has always been a good one—no idlers and a free flowing chainline, an easy shifting Sachs Sa7 21-speed drivetrain. A simple chain tube (standard equipment) keeps the grease off of your pant legs. I can't even criticize the KMC chain on a BikeE—though I'll bet a Sachs would improve the shifting. I make a loop around the park perimeter trail, by the way, the equestrian center and mini steam train. This is one of the nicest parks I've ever been to. I come to LA two or three times a year and I've never been here before. Next time you're in LA, make Irvine Park a destination.

Okay, now for the nitry gritty. I'm comfortable with the bike. Now it's time to see if it lives up to its tough new gearby knobby look. "TRAIL THIS WAY" is what the sign says. Somebody says to me, "How'd they get you to ride that..." I didn't offer a response. The answer may have started a riot. I'm thinking to myself, if this little BikeE brags rides as good as it looks, it will be the perfect bike to get me off the torturous roads with flocking commuter showers or holiday-frustrated shoppers who like to run cyclists off the road. I am dreaming of local fire roads, trails and easy single track that I've wanted to try.

Immediately I do some weighting and downweighting my heavy off the seat. I'm sur-

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The *Blue* All Rounder at Irvine Park. The *Knobbl* is not an "official" model. Your dealer can help you acquire the three.

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prised at how effectively it maneuvers through the three inch deep fire sand over the trail. The trick is to gear down, spin and keep your speed up through the mush. Everyone is looking at me. Maybe their butts are hurting from those fi-re-a-iled bandaid size seats.

"Maybe their butts are hurting from those fi-re-a-iled bandaid size seats"

I don't lose traction in the sand—wow! The front end is light, but it works as a front mounted rudder, while the suspended rear wheel grabs all of the traction it can. I veer left and up a small dirt hill, well I almost made it. Back down the hill I roll through some scrub/bush and down what looks like a dry river bed. I'm away from the go-to type practicing my novice offroad skills. I ride slow, zigging and zaggging around rocks, over downed twigs, branches, etc. The trail gets smaller and turns to single track. I ride slow and pay attention. Man, this thing handles sweet.

I'm surprised that my honey is so comfy. When I said I've been a Bikell critic, mainly it's the seat that I've never connected with. Dave Ullman says that he and Paul Aronoff did extensive ergonomic study for the new seat base and even used electronic sensors to determine pressure points. For me, the Bikell seat has always been a 10-mile-down-the-bike-trail seat. Earlier this season I was amazed at how comfortable it was on the Koadill on my test loop back home. More on this later.

The seat base is a bit on the small side as BJ Strass brought up in "Bikell Zen" (BCHW55). The trick is learning to adjust the seat for your body. I am 6' tall. The first thing I do is move the seat base out to its

forward-most adjustment. I then tilt-adjust the seat nose to its upper-most adjustment. With my XL sized body in mind, I then loosen the lower back strap of the seat. This allows me to place my honey directly on top of the seat base. These careful adjustments are guaranteed to increase comfort.

The softer upright Bikell seat is very user-friendly and gives you an optimum view of your surroundings. It even makes looking behind you easier. The Bikell seat adjusts easier than any other I love riding seat. The two under-seat quick releases allow the seat to slide very easily to fit a vast range of riders sizes.

The drawbacks to the erect seating position is that after a while, it loads-up your honey and can lead to the dreaded "recumbent-butts." This means that you need to stop, stand and stretch. This is not something specific to Bikell, but to every recumbent with an upright seating position. It is my belief that in order to achieve true all-day seat comfort for long distance touring, you must be able to recline the seat and take the weight off your honey. I proved my point in the mountains of Colorado on the Shampallian tour.

The Bikell seat is perfect for the Bikell and who knows what they'll come up with in the future. One Bikell rider attached a ReBike-like seat base to their Bikell seat! Theoretically, the Bikell design may not allow for a super-laid back seat as the handlebars would be too far away. I plan to test this theory by mounting my Easy Racer model Race seat onto our test Bikell for fun. I'll let you know how it works out.

Next, I recall Peter Sharp's "Draining" article from RCNWS (reprinted this issue). Draining involves propelling the bike while seated and "rearing" with it. Little did I know that this works great for offroad tents. Karl Von Drats would be spinning in his grave, though he'd like the Bikell too.

No other recumbent design/seat works as well for draining. You'd be surprised how often this comes in handy in traffic, at a stop light or offroad.

"I've now mastered every aspect of mountain biking that I'd care to—on a recumbent!"

I've been out hammering the Orange (CA) out-back on the Bikell for forty minutes. I came down some steep single track. My feet dangle into a steep dry stream bed. I wonder if I have the clearance. It's a good thing I'm not clipped in. I continue to roll over obstacles and I'm disappointed as how well the Bikell is doing. I get close to the main test track. There is a fast dirt road with a fairly intense climb that would be easy on your Kookhopper, though I had my doubts about how the Air Tech would do. A group of serious MTBers watched me intently, shift down, spin hard, climb, lean forward, climb, dig in, slow down, rear stop. Ahah! Drats! Yes! I easily move my feet down to the ground and start to draining up the hill. I didn't make it all the way, but I'll try again. I go around the track again, this time more speed, less lean, rear end flailing as knobby dig in—bouncing up over the top! I've now mastered every aspect of mountain biking that I'd care to—on a recumbent! Yes, it's true, I won't be taking up downhill racing. I'll bet Bikell didn't know what they were getting into when they put the knobs on this bike.

I didn't want the dirt seat to end. Reluctantly, I rolled back into the Bikell pits along with a "best alternative made—from a Bikell test ride! This isn't supposed to happen, but I love surprises—Bikell Zen. I love feeling this kind of passion about a

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bicycle, I've gotta have one of my own to get muddy on.

Bikefi did "seem proud at the bike industry trade shows. Besides showing the die-cast die casters that we've been on play barbell, the booth and staff were outstanding. Besides that, a Black All Axonator Air Tech XL is now in the RCN stable. Right your old Army Bryant rides a 21-speed All-Axonator head-tail (CT) as well.

ABOUT THE BIKE

The Bikefi is built in Corvallis, Oregon, USA. They use a custom designed aluminum extrusion for a mainframe. The Croble stays are attached via heavy duty rivets on the head-tail. I questioned the rivet technology until I learned that Boeing 747's are built this way. The suspended Air Tech Croble rear stays are a custom oxidized tube—an especially nice touch. The swing arm pivots on a bearing that comes out of the mainframe extrusion at about the center of the bike. A simple, quiet and effective system designed by Paul Atwood and Dave Ullman. The Bikefi fork has an investment cast crown like expensive road bikes of decades past. Not even \$2000 dream "seats have these anymore. The Croble fork is custom built and designed by Bikefi for optimum steering geometry and dialed-in handling. The headset is an Absolute and is better quality than most "seats come with. It even dampens the steering a bit. I may be able to ride this Bikefi without hands. The steering, handling and control are at the top of the Compact class. The seat frame, bars and stems are all built of welded stainless steel. The seat slides on an edge of the mainframe extrusion and is held by two easily adjustable quick releases. The frames are anodized in your choice of black, blue, red and violet with an accent grey swing arm/rear stays. The blue is my favorite, Amy's is violet. As with the rest of the build quality, the finish is exceptional. Bikefi's Compact commitment is demonstrated in this world class frame.

ON-BIKE SYSTEMS

The Sachs Pro Shift shifters. Centers derailleur and 367 hub drivetrain performance borders on "best" perfection. The 30-tiler drivetrain adds to the positive effect. You learn how much you dislike them when you get a bike that doesn't have them or need them.

The Bikefi All Axonator has a reverse mounted? Tekno cantilever brake on the front. The rear brake is a Tekno V-brake mounted on the swing arm. The braking is

powerful. My only criticism is that I could feel the rim wobble via a minor pulsation during hard rear braking. The front brake cable routing sometimes needs to be retrofitted with a zip tie or two. The Tekno levers work fine on our Bikefi test bikes.

The Roadfi uses a reverse? mounted KXH100 dual pivot side-pull on the front with a 340mm 16" wheel that barely clears the fork crown. I didn't have any problem with this and I love K2008 brakes, but the clearance was definitely close. You can forget about installing a front fender on a Roadfi.

Bikefi uses a crank that I'm not crazy about. It's a Datsch D70mm single chainring with an integral chain-guard ring. By appearance, the Datsch looks great. I've seen one that had out-of-round crank arms that cause a slight chattering wobble. Bikefi's Doug Oosen is aware of this situation and told me that they carefully inspect each crank before the bikes go out. To the Datsch's defense, it has a great built-in chain-guard chainring that is responsible in part for the Bikefi's dependable chain-management and insures that the chain will stay on. The Datsch chainrings are only medium. Though, again, they never give us any trouble on the Bikefi.

The wheel set on the All Axonator is a 400mm 20" x 1.75" BMX sized rear with an RCN favorite, the Primo V-Monster tire. This is the best and toughest wet-weather commuter tire I know of. These high pressure ribbed heavy tires have a bit, but grip like nuts. The front wheel is a 300mm 16" BMX with a new matching 16" x 1.5 Primo V-Monster (available in late Jan. '98).

Even though the Knobby is not an "official" Bikefi model, they may make the 20/16 knobbies (see available to dealers). The Roadfi has a 400mm 20" rear and matching 340mm 16" front wheel with Primo Comet 20" x 1.75" tires—a fast and smooth setup.

WORLD TOURING!

I've said in the past that this wouldn't be the best "best for touring—in truth, it just may be the best replacement for a certain type of touring. Imagine a trip where you fly to a distant location, unplug your Bikefi, load it up and tour. The Bikefi quickly comes apart, the seat comes off easily, fits into a regular bike box and it should easily stow on buses, trains, planes and automobiles.

The Bikefi has all the right options for trips to faraway places. The large Bikefi bag clips on behind the seat. When not on the bike, it has a shoulder strap. The bag

has a reflective stripe, zippered pockets and a neon green reflective Bikefi logo, along with waterbottle holder. There may be enough room in here, alone, to do some light credit-card touring. Bikefi has a slide-on accessory mount that will adapt a Nott Load Liama to hold even more stuff. The factory option low-ride racks hold full-size panniers and saddlebags down where they are out of the way. A fender, fenders, mirrors, heavy duty wheel options, etc. makes truly personalized Bikefi possible.

The little details like the chain tube, chainguard ring (crank), reflectors, owners manual, assembly instructions, excellent warranty and a full line of usable accessories are why Bikefi is an industry leader.

The finer aspects of this "world tourist" (best Friday?) may also make it the best possible urban commuter. Air Tech riders get the suspension to bounce off curbs when necessary. There is storage for your tentcase or Powerbook all in a compact and affordable package.

PERFORMANCE

As the Bikefi is an accidenter tourist, it's also a torturous high performance Compact. Nobody would have believed it until Bikefi co-designer, Paul Atwood, started ascending around Corvallis on one, and then his old friend Andrew Letton road one at Las Vegas Speed Championships in 1998. Andrew won the 200-meter sprint in his class on a Bikefi Roadfi.

On my 22.4 mile test course, the untired Roadfi surprised the heck out of me. My time through the course was 29 minutes—a 37 mph average speed. This is a fairly common time/speed for me. Bikes which have had similar performance are the Hans Knopf, Halafox Hybrid Race and an untired Tour Easy—exceptionally good company I would say.

The trick to my Roadfi performance is to lean slightly forward and push into the seat with your lower back while pushing into the pedals. A key to this is to lower the handlebars down for a more aero position (see page 38 of ICN98). For most riders, this will not be a sustainable position for hours on end. This indeed made the Roadfi go fast on the RCN test loop. Hey, it's good enough for Fast Friday on the Gold Rush, it will work for me.

My last Roadfi trip required more energy than the laid-back seating position my Rocket. I'm still of the belief that the 16" wheels slow you down a bit. If not in actual performance, they tend to transmit road shock more, they do not track as acc-



Bikel Zipper, Bikel bag and pannier on rack

fly, and the little tires are not as durable as a flat 20 inches. The road-stock bike is a non-issue for the Air Tech which offers among the smoothest rides in recumbency.

In saying all of this, the 20/16 wheel combo is the definitive Compact best style, works great and keeps the bike compact—with the unique step-through frame.

The All Around's performance will not be as good as a RoadE, but it's a more suitable bike for most riders. Add the frame durability steel and you'll be slow until you hit the mud, mud and gravel—and that is when, with a sly grin, you'll leave your skinny tire cohorts begging for mercy.

One possible upgrade for road riders is an All Arounder with a RoadE front wheel and brake. This may be the ticket for riders wanting to transform their bikes from a core-chaser to a burn-burner.

The Bikel Zipper mounts easily above the front wheel via two custom mounting rods. The upper mounts are a pair of mountain bike style bar-ends that offer additional hand positions for long rides. Shorter riders may end up looking through the tubing like the optimum position is to look just over the top edge of the fair-

ing). Of the many Zipper mounting systems the Bikel's is one of the best.

"Bikel's CEO, John Moreland, wants to make Bikel's even more affordable—two in every garage, and for little ones too. Well, I made that part up."

RECOMMENDATIONS

The Bikel gets my wholehearted recommendation. In fact, the Air Tech All Arounder is the RCN Editor's choice for Best Recumbent 1998 and other awards. I have more respect for the Bikel seat ever since late dirt is Orange, however, I hope that Bikel comes out with a taller, wider base seat for this very versatile machine.

Stick to something to consider. The standard Bikel fits most riders. Those edging towards 6 feet tall may want to consider the XL. It offers 5" more wheelbase, added stability and more room to store junk off the seat of the machine. Bikel can build

extra, extra long frames as well as extra short frames to fit nearly any rider.

Due to their design, Compacts often suffer from heavily loaded rear wheels and marginal weight distribution. Bikel's more upright seating position and availability of the XL frame sizes for custom steel gives it the best balance and weight distribution of any Compact best.

Bikel's quest is to build a bike that is easy to ride and trouble free for thousands of riders...not those dozen who can pay several thousand bucks a copy. Bikel's CEO, John Moreland, wants to make Bikel's even more affordable—two in every garage, and for little ones too. Well, I made that part up, but if you are 4'11", you can ride a Bikel. So, there are a few components that I'd like to see upgraded, but it's tough to criticize given the extremely affordable pricing of all Bikel's and how well the stock Bikel works and rides. With this in mind, the Bikel is as close to perfect as we've seen for any Compact best.

One I forget to mention the comfort of the suspended ride. It is incredible—offering more cash than any other suspended best. It makes the bike. I expect the Bikel market to explode and wish their stock was traded publicly.

"The \$1100 price tag seems like it should be a misprint"

CONCLUSIONS

All in all, the Bikel Air Tech is an incredible machine—and the pluckiest Compact best on the planet. The \$1100 price tag seems like it should be a misprint. The suspension offers everything a best rider would want, with none of the hassles. This model has been under development for 18-months and is ready to go. I can just imagine how the Bikel crew must have been biting their lips a year ago, but now it's here. Bikel, the Compact by which all others are judged. Bummer has it that a limited edition model is coming out later this year for Bikel's 5th Anniversary. ☺

FOOTNOTES

¹ Jim Woodard of People Movers sold one Bikel rider a seat off a Troncycle. This seat for his Bikel. The seat base looks just like that of the Peloton—which is similar to those that John Deere puts on riding lawn mowers.

² Mounted behind the forks.

³ Mounted on the back side of the fork.



The *bikeE* Air Tech All-Around rear suspension—John Riley.

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By Paul K. Nolan, M.D.

Would I do a trip like this again on my custom paired Vanguard? In a heartbeat. In fact, I have already done a 300 mile road tour this year and am planning a similar trip to Lajitas for next year.

Lajitas, Texas hosts the Annual Chihuahuan Desert Challenge Mountain Bike Race on Presidents Day weekend. I have gone there several times and on a previous trip there I road part way on my conventional touring bike. For my 1996 trip, I decided to ride the entire distance from my home in Mandu, Texas to Lajitas on my Ryan Recumbent Vanguard, a journey that would take me over 600 miles through the heart of the central Texas Hill Country. Two of my mountain biking/road touring cycling friends George Rickard, of Off Road Proffers in Houston, and Jay Reeder, a retired electrical engineer, joined me as my guest. George had already circumnavigated the United States on his conventional touring bike the year previous, and Jay is a veteran of many solo self supported cycling tours across the United States and Canada. I had done several weekend and a couple of week long bike tours but this was going to be my longest unsupported touring excursion and my first on a recumbent.

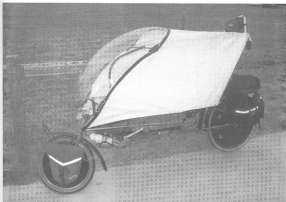
■ THE FRAME BUILD UP

The Vanguard was purchased as a frame set only and was custom assembled and spe'd by me five months before the Lajitas trip. Assembly went quite easily unlike what was noted in the previous RCN #29 article. However, I have a well equipped home bike shop and have personally custom assembled or totally overhauled four mountain bikes, four road bikes, a three wheel off road bike and one tandem. The cranks are Topline ATS Lights with a Topline titanium sealed bearing 125mm bottom bracket. The pedals are Cross duplex with titanium axles, a set that I had excellent experience with racing on my mountain bike. The brakes are Machine Tech Zexoflex cantilever with Scott-Matthews pads and Machine Tech off road brake levers. I did have to do some filing

on the brake pad spacers to get proper toe-in with the cantilevers (The supplied Kool Stop pads with the Zexoflex levers did not have this problem, however I wanted the better performance of the Matthews.) I installed an old model Shimano XT front derailleur (pre-compact drive) which handled the front 32-38-44 chain rings with ease. The rear Action Tech 31-28 seven speed cassette was handled by a long cage Paul rear derailleur. The chain is a Sachs AT8. All of the cables are Nite-On Gore-Tex. The shifters are Shimano-bar cons attached to the provided bar ends which were then wrapped with Vette handle bar tape. I positioned them facing forward and up at 30° off vertical which allows finger tip control with my hands in a neutral position. I had narrowed the order seat steering R500 handlebars down to 21 inches which allowed for more comfortable positioning of my arms along my sides while also providing a more narrow aerodynamic profile.

■ CUSTOM WHEELS

The rear wheel has a Nitec Proof 26 hole hub load 3-cross with straight 14 gauge spokes to a 26 inch Mavic 117 CD ceramic rim covered with a Uni Disc wheel cover. The front wheel has a 32 hole Nitec Proof Bombshell laced with straight 14 gauge spokes laced two cross to a Sun 20 inch RdDura also covered with a Uni Disc. The spoke nipples are all chromed brass; I had previously learned the hard way that lightweight alloy nipples were heavyweight headaches if a wheel ever has to be retired or a spoke has to be replaced. Myron Brown of Bicycle Country in Giddings, Texas built these awesome wheels and was the dealer that supplied my Vanguard frame and custom components. The tires are a front 26 x 1.5 inch Hero which I run at 90 psi and a rear 26 x 1.25 inch Specialized Fat Boy slick at 110 psi.



Paul Nolan's very Irish touring flyer. Note Zipper with body sock, wheel discs, fenders, and panniers—© Nolan.

The supplied Tingo threaded headset was utilized but I replaced the bearings with 100% Teflon grease and secured the threads with Lock Tite. I had outfitted the Vanguard with a Zipper fairing. I inserted an 80mm. road stem into the front head tube and attached a 3-1/4 inch wide carved oil tube of an old drop bar, the ends of which I plugged with handle bar end plugs. This allowed me to attach my Nightmax headlights without fairing interference.

■ CUSTOMIZED SEAT

During the initial five months of riding the Vanguard, I discovered some deficiencies in what was overall a very good seat. The back terminated too low, ending just below my shoulder blades and the back fittings of the seat were beginning to bend backwards from my leg press-like leaning of the pedals on steep up hills. I addressed both of these problems by making a custom seat extension. This seat modification was made from 7/8 inch 6061 T6 TIG welded aluminum tubing. The extension was secured to the original seat tube back

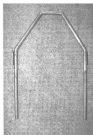
with 3/4 inch 6061 T6 aluminum tubing inserted in a sleeve fashion into the seat back tubes and then sliding the extension down on the protruding sleeves. I had to machine off a couple hundredths of an inch on the sleeve portion that inserted into the Vanguard seat back due to some narrowing of the diameter of the 7/8 inch seat back tubing where the cross support braces were welded. Anti-Seize was painted on the sleeves to prevent binding. The sleeves were made long enough to extend the full length of the Vanguard seat back effectively providing a laminated reinforcement to the original tubing. Small stainless steel tap screws were placed in the seat extension tubes to prevent loosening or rattle. Nylon webbing straps and nylon mesh were hand stitched together with quick snap nylon buckles in a similar way to the original seat and were secured to the top of the original seat with hook and loop placing the loop on the front side of the original seat and the hook on the back side of the seat extension to prevent the back from snagging my skirt. A headrest was made by

stapling a 7 x 5 x 3 inch nylon zipper belt pouch with closed cell foam. The pouch was secured with hook and loop to the top of the extension which allowed for vertical adjustment.

Enough lumbar support could not be provided for my ratherly lordotic lower back, and the thigh portion of the seat did not provide enough support. Tightening the front seat strap more caused the end of the seat to dig into my thighs on the pedal down stroke. The original seat was provided a better lumbar support by taking two inch nylon webbing and quick snap buckles and covering this with closed cell foam pipe insulation and positioning this on the seat back in the lumbar area and tightening the strap down. A stroller styled hip support was made without the pipe insulation to give a more firm support to the front of the seat with a wider base eliminating the digging into the back of my thighs. I padded the lower portion of the seat tube uprights with foam pipe insulation where my elbows rested further increasing the seat comfort.



Completed custom seat & horn.



Seat back extension.



Custom seat wash for seat extension.

■ SEAT HORN WORK

Finally the seat saddle horn bolt could not be kept secure even with Lock Tite, with the bolt eventually being stripped out on a fast potholed down hill. Dick Ryan provided a replacement seat horn and anchoring bracket. I modified this further by taking a 3-1/2 x 3/4 x 1/8 in. stainless steel plate and custom bending it in a flattened "U" shape to form a reinforcing brace for the seat horn (see accompanying picture). With this modification the seat horn and bolt have not loosened even on my 850 mile fully loaded trans-Texas tour. Additionally I found that zip tying the seat horn anchor plate to the saddle horn kept the two from bouncing apart on rough roads.

■ CUSTOM BODY

Prior to my Lajitas trip, I designed custom body panels that my wife, Susan, stitched together. The panels were made from white, nylon heavy duty sail cloth that was UV and waterproofed. The panels were anchored to the fairing using hook and loop fasteners and reinforced with fibreglass 1/4 inch diameter poles (sourced from bicycle safety flag poles) that ran from 1/8 inch thick 90 degree angle aluminum stock drilled out with scooter holes for the poles and bolted to the fairing brace struts. The poles ran horizontally back to the seat on the Vanguard. The lower poles were anchored into forward facing, curved, CroMo Omega bar ends clamped to the seat bottom tubes. The bar ends were plugged with dowel rod and drilled with insert holes for the poles and had attached small screw eyes for anchoring 3/16 inch diameter bungee cords to counter tension the fibreglass poles. The upper poles terminated just above my shoulder height on the back of the custom made seat extension. These also had counter tensioning bungee cords. As the pictures show, I used pannier bags and frame bags behind the seat to provide a streamlined aerodynamic transition area on the rear of the Vanguard. My head is above the side panels and I am able to see rearward easily with my helmet-mounted mirror. Additionally I can extend my arms out through the rear portion of the panels for hand traffic signals. Mounting and dismounting required peeling back the hook and loop secured body panels and stepping through the support poles.

Other modifications included additions to allow carrying adequate water supplies through the desert portions of our tour. I placed Blackburn B-82 Bamber 1.5 liter bottle cages on the top tube water

bottle mounts and zip tied one under the seat on the left side of the frame's rear vertical tube. I used a CamelBak Narrow Gauge Back Pack with two 70 ounce bladders behind the seat. Further, I zip tied an additional bottle cage to the lower portion of the frame's front down tube to carry my Nighthawk's water bottle battery pack. Rear lighting was with two Vmax Light VL300's secured to the seat tube vertical portion at shoulder height.

■ LOADING THE VANGUARD

On my daily work commutes on the Vanguard, I had learned that loading the rear end only made the front end skittish on gravel, rough or wet roads. I had to custom modify a pair of Nambiar Daybreaker panniers (only 12 inches tall) to fit my low rider front pannier racks. The taller dimensions of other conventional front pannier bags could not be used with the 28 inch front wheel because they dragged whenever it was leaned into turns, tearing the bottoms of the bags. Placing my heavier items in these modified shorter front panniers provided secure handling on less than optimal road conditions.

■ TRANS-TEXAS

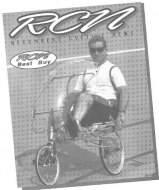
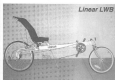
Our trans-Texas tour was a delight. We passed through gorgeous hill country and desert scenery, discovered several great eateries and met many a delightful and interesting individual along the way. We averaged 58 miles a day for 12 days with a high mileage day of 99 miles and a low mileage day of 20 miles. We climbed several hills ranging from 8 to 15 % grades with several continuous climbs of 2-6 miles long. I packed a lower 30 granny rear cog and wisely switched to it on the third day just prior to our entry into the serious hill country. Even though Georgia had chinked my leg, loaded recumbent "Bertha Tomahawks," I never had to bail on any of the climbs and in fact made the top of the climbs consistently well ahead of my conventionally mounted cycling companions. On the descents the faired Vanguard was a screamer consistently out coasting the conventional touring bikes. On descents with strong cross winds, I had to keep my speed in check as the front end would lighten and wander if I got much over 20 MPH. On the flats the Vanguard was consistently faster. My daily averages were consistently 2-3 MPH faster.

■ COMPONENT NOTES

In regards to the braking, the Machlax

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Tech cantilevers and Scott-Matthäuser pads with the Ride-On cables worked extremely well. There was no boggiens on the front or rear brakes, and I had no overheating problems on the long descents. However, the combination of the harder compound Scott-Matthäuser pads on the rear ceramic coated stes caused squealing no matter how much reasonable toe-in was provided. I wound up switching back to the Kool-Stop pads on the rear after the trip and cured the squealing problem. The tires worked well, however I had used Tuffy tire liners to stave off puncture flats. George warned me that with high pressure tires, Tuffy's would actually cause flats because of the rubbing that occurs between the liners and the tubes and that I would be peeling them out before trip's end. I previously had no problems with Tuffy's on my low pressure fat tires on my mountain bike so I doubted George. Three flats later, all from the liners rubbing holes in my tubes, I peeled the Tuffy's out and told George he was right.

My unconventional gearing set up allowed me to spin up the steep hills in granny low at 4-4 miles an hour. The Action Tech cassette did not index well on the low and high gear extremes but the Shimano bar cone allowed me to use friction mode without any problems.

■ CRASHWORTHINESS

I even had an opportunity to test the crashworthiness of the Vanguard when I was crossing a low water river crossing that was both rough and slick. The Vanguard skidded out sideways, I read it down like I had gone down on my old street motorcycle with crash bars. When I climbed off I was thoroughly soaked but unscathed otherwise. Had I gone down on a conventional bicycle in such manner (a feat that I have done a few times), I would have had lost several layers of skin, and probably broken or at least strained a limb or two.

■ TOTAL COMFORT

At each day's end, I had no soreness in the neck, shoulder stiffness, saddle sores, numb hands or fingers or sore wrists, all symptoms I had been experiencing with greater frequency on my conventional touring bike. Would I do a trip like this again on my custom built Vanguard? In a heartbeat. In fact, I have already done a 300 mile road near this year and am planning a similar trip to Lajitas for next year in February.

■ TECH NOTE FOLLOW-UPS

Further follow-up on hubs and gears



George Rickard, Jay Reader and Paul Nolan (L to R)—Paul Nolan.

in is order. The Nuke-Proof rear hub flange on one side developed a fatigue fracture after 4000 miles. The Nuke-Proof front hub has held up for over 4000 miles, however with long wheel base recumbents the front is lightly loaded and the rear is far more heavily loaded. I replaced the rear hub with a Phil-Wood 140 mm spacing 8 speed cassette tandem hub which allowed me to switch to a SRP titanium Hyperbike 12-32 eight speed cassette which gives full indexing with another step between gears than the more widely spaced 11-32 seven speed Action Tech cassette.

■ TIRE NOTES

The Hare BMX 28 x 1.5 inch slick front tire handled the 90 psi without problems and still looks brand new. The heavily loaded Specialized Fat Boy 26 x 1.25 inch rear tire handled the 120 psi without problems. On this year's road tour, I tried the new Continental Grand Prix 26 x 1 inch 120 psi tire on the rear, the rolling resistance

seemed less, but the tire did not fair well on the rougher back roads. The side walls were easily cut by stones and debris. I had tried this same tire on my lightly loaded commuter to and from work 214 miles round trip and found the tires could not handle the mile of gravel road I had to ride on each way. The side wall tire cuts claimed two more of these fat tires. At \$36 a pop, I had an expensive lesson in the dynamics and durability. I have switched back to the 1.25 inch Specialized Fat Boy. I've learned with these tires to keep the pressure high at 120-118 psi. If the tire gets down below 108 psi, it is prone to pinch flats on rough roads even when loaded lightly probably due to the weight distribution of the LWB.

The 100% Teflon grease I put in the head set turned into the consistency of window putty after 3000 miles and a year of riding. I had used the lighter 100% Teflon lube on the brake pivots and found that this dried to a hard shellac-like coating that braked easily. Needless to say, I no longer

use these two overrated tubes on any of my bikes.

After conversation with Dick Ryan this year, I dragged the zip tie water bottle cage mounts and put in pop rivet water bottle mounts for the spare cages. This is a far more secure method of mounting the cages that Dick feels does not compromise the integrity of the frame. If you order a Ryan Vanguard, have Dick put the extra mounts on when he assembles the frame.

The front 27 inch fender which was overrated for the 20 inch wheel has subsequently been replaced with a custom 20 inch carbon fiber fender made by Easy Racers, an upgrade I strongly recommend for any touring or commuting recumbent. It is far more durable and the craftsmanship and looks are excellent. ☺



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By Peter
A. Sharp

Of course, I recalled that this combined sitting and running was the method of propulsion used for the very first bicycle—the steered and balanced “Fahrmachine” (travel machine) patented by Karl Von Drais in 1815.

Recently, a friend of mine, Jeff, decided to buy a bicycle and I told him about recumbents. He decided to try some and we ended up at a local recumbent shop. This tiny shop contained a good cross-section of short and long wheelbase recumbents, with both over and under the seat steering. The owner was kind enough to let me ride any bike I wanted to try. My own bike is a Tour Easy, so I tend to get a bit snooty around other recumbents.

Jeff and I were unexpectedly impressed with one of the bikes: the Biko® Motion. It took no practice whatsoever to ride it. It was also the most comfortable by a long shot. Both of these attributes surprised me. I had seen pictures of the Biko® in RCN, but the bike had not appealed to me. Aesthetically, I don't like the look of wheels smaller than 28" in diameter (the Biko's front wheel is 16"), or wheels of different widths. Jeff thinks it's a terrific looking bike, but then, what does he know? I'm skeptical because the bike has no down stays to triangulate the chain stays. Also, I need lower gearing than 29 gear inches for the hilly hills-around-where-I-live. And frankly, I couldn't imagine a worse model name for a recumbent than “Biko®” (Eigh). I still can't figure-out how to say it without sounding affected. I figured that anyone who would pick a name like that must have made some other mistakes as well. But when finished riding the Biko®, I expressed my surprise and pleasure to Jeff. They agreed. The dealer said that the Biko® is the bike in his shop that he naturally grabs whenever he has to run an errand.

The Biko® offers unusual control. It is a very compact long wheelbase recumbent with a high seat and narrow up-front handlebars. A big plus is that it can be moved along at quite a rapid clip without even using the pedals. I just sat on the seat and started running. In fact, since the handlebars are at the balance point of the bike, I could stand, lift the bike without taking my hands from the handlebars, spin 180 degrees, and take off running in the opposite direction! What fun!

Of course, I recalled that this combined sitting and running was the method of propulsion used for the very first bicycle—the steered and balanced “Fahrmachine” (travel machine) patented by Karl Von Drais in 1815. Von Drais demonstrated that he could outrun runners with his “travel-machine,” and he probably did it while wearing a top hat. He could maintain speeds of 4-10 mph for long



Karl Von Drais

distances. Now, I know exactly what that original experience was like, and why it eventually became all the rage among the young gentlemen of the time. Since I didn't know what to call this half-riding/half-running, I decided to name it after good old Karl, the father of cycling. So, I call it “draising” (pronounced “droy/sing”), the verb to be “to drais” (pronounced, “to droyz”).

Draising is very useful for making quick maneuvers in crowded situations. I have often used it. For instance when I have to cross a street quickly through traffic, or when I'm on the sidewalk and

"Since I didn't know what to call this half-riding/half-running, I call it "draining"

sporting past baby carriages and shoppers. I am able to drink a bit on my Tour Easy, but the low seat makes it somewhat awkward and slow. I feel more like a crab than a marlin when I ride. Some recumbents with really laid-back type seats make draining almost impossible. Frankly, those seats make me worry about getting caught in some on-ward traffic situations without being able to get my feet on the ground for quick manuevers. In fact, I fell down just trying to get out of one of those seats. Draining could also come in handy on really rough or slippery roads, or when the chain goes kaput. It would make slow stop-and-go right riding much more convenient as well. Now that I have experienced really good draining, I want it on any bike I would use as a general purpose or a working bike.

Good draining requires not only a seat that is high enough, but also one with the

proper shape to permit a natural leaning motion. The seat base on the BikeE is one of triangles, with the wide part at the back. This seems to work perfectly. The softness of the seat foam probably helps as well. Also, the pedals are out in front of you and out of the way. Try draining on a conventional bike, and you'll find that the pedals serve as good ankle levers unless you are mighty tall and bowlegged. Of course, it is possible to use a conventional bike sort of like a scooter by standing on one pedal and using the opposite leg for propulsion, but that offers much less control. I guess that would be called "scooting" (kidding).

I haven't yet had the opportunity to ride any of the new Compaqs, but both look like they might have the right height and shape of seat, and handlebar place-

ment, for good draining. The BikeE allows adequate draining for safety. For a touring or commuting recumbent, draining is probably less important. But for an all-around recumbent, I will compare every bike from now on to the BikeE for comfort, control, and draining ability. Obviously, the designer understood what he was doing when he selected the ergonomics of the bike. Let's hear from other readers about the draining abilities, and other unique capabilities, of their recumbents. □

References

- 1) A. Sharp, 1990. *Bicycles and Tricycles*. London: Longmans, Green. Repr. MIT Press, 1977
- 2) D.O. Wilson, 1988. "A Short History of Human Powered Vehicles." *American Scientist*, Vol. 74, July-Aug.



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By David G. Ullman, P.E., Ph.D.
BikeE Founder

When it came to designing the BikeE, Paul and I decided to place the rider in a standard seated position because it is one of the most comfortable positions for the human physique.

As a professor of product design, I encourage my university students to begin the design process with the end-user in mind.

When we transferred that axiom to our own design process for the BikeE, colleague Paul Atwood and I began with the rider, designing the BikeE around the requirements of the human form.

When we designed the BikeE, I had been commuting on a bicycle to work for more than 30 years. I'd ridden on countless Saturday club rides and toured with full camping gear loaded on the back of my bike as well. Throughout all these miles and hours of bike riding, I was never truly comfortable. My neck, shoulders, wrists and tailbone would invariably ache.

When it came to designing the BikeE, Paul and I decided to place the rider in a standard seated position because it is one of the most comfortable positions for the human physique. We set the angle between the back and the seat and the seat base and the ground to meet standard furniture design guidelines.

Next, we designed the pedals with a slightly downward angle, again based on the principles of furniture design, and because it is easy to move the feet from the ground to that position. The angle of the BikeE pedals makes it comfortable to sit with one foot on the pedal and the other on the ground. Finally, it is a position that prevents the pedals and the feet from interfering with the front wheel.

When it came to arm positions, we had two options. On some recumbent bicycles the steering is under the seat which

results in the arms being down, next to the body. For the BikeE, we decided that this position was not entirely natural and that it would be much more comfortable and reassuring for riders to have their arms in front of them. It is a streamlined and nicely relaxed position.

Our most difficult design challenge was the seat. Our early models came with a flat seat padded with two layers of carefully-chosen foam. In 1999 we developed a contoured seat with the same type of foam which improved the design by conforming more to the

shape of the seated rider.

Even more recently, we conducted tests using electronic seat sensors to study riders of every imaginable shape, size and weight. The goal was to design a seat for optimum contour and foam density so that it would be comfortable for a



wide range of riders. Based on our findings, BikeE has redesigned the seat with an injection-molded seat base and cushions, now being manufactured by one of the largest bicycle seat manufacturers in the world. We continually strive to make the BikeE the best bicycle of its kind in the world. Our current BikeE, with its ability to be tailored to a wide range of riders, riding styles and applications surpasses even our own aggressive design objectives. With BikeE continuing to receive praise from both riders and reviewers alike, Paul and I are extremely pleased that our original vision has matured into a great design that contributes so much to our customers and to the cutting edge of bicycle technology. □

By Robert J. Bryant

Every recumbent rider will have his or her favorite bikes and they may not be the same as ours. My hope is that you will read through the SuperGuide and process the info presented through your own filters to develop a list of your own personal favorites. Each rider's quest will be different and likes/dislikes may change over time. I don't pretend to have all the answers... I just report my preferences as honestly as I can.

The following Awards are the editorial opinion/choice of RCN Publishers, Robert J. Bryant. For each of these categories, we painstakingly review each model's specs, ride them and even test them if we get the chance. The award-winning bikes are really in production, really available and are really good.

RCN AWARDS—The Best

▲ **BEST "Best of the Year"—1998: The Bikes!** Air Tech All-Arounders. Besides being the best deal on a suspension recumbent in the world today, this bike may single-handedly open up the world of off-road to recumbentists. Three on a set of knobbies and hit the fire roads, horse trails and back country. Bikes! is also a manufacturer that is delivering bikes with an acceptable price frame. Air Tech's are available NOW! Congrats Bikes!, the 18 months of work on the Air Tech line is very much appreciated.

▲ **BEST Compact "Bent"—1998 (best in class):** The Bikes! Air Tech All-Arounders. What can we say, Bikes! does Compact best. A close second is the Flame Talaria which offers some benefits, though the 60.5" wheel-base technically makes it a LWB.

▲ **BEST SWB "Bent"—1998 (best in class):** The Flame Vio full suspension SWB. This bike is a dream, it's fast, smooth and the most stable and comfortable SWB ride we've tried.

▲ **BEST LWB "Bent"—1998 (best in class):** The Easy Racer Tour Easy EX. This is the best, most refined and near bullet-proof LWB AGO design.

▲ **BEST "Bent Title"—1998 (best in class):** The Greenspeed GT70020. The title from the first down-under is worth the wait.

▲ **BEST "Bent Tandem"—1998 (best in class):** The Flame Scramble.

▲ **BEST "Bent Manufacturer"—1998: Bikes!** They make our hobby look very professional by providing an easy-to-sell, easy-to-show bent that is good enough for enthusiasts and

newbie alike. The accessories make Bikes! a self-contained product. Their presence at the trade-shows and enthusiast events alike shows the kind of support we like to see. The staff is exceptional and there is no lofty attitude, just a helpful and thoughtful crew.

RCN AWARDS—SWB

▲ **BEST SWB "Bent"—1998 (best in class):** The Flame Vio dual suspension.

▲ **BEST SWB USD "Bent"—1998:** The Helios Horizon-A.

▲ **BEST SWB AGO "Bent"—1998:** The Flame Rocket Saturn V, though any Rocket will do.

▲ **BEST SWB "Suspended" "Bent"—1998:** The Flame Vio dual suspension.

▲ **BEST SWB "Swing" "Bent"—1998:** The Angletech Flame Vio. We have high hopes for the Altitude, but haven't seen the latest.

▲ **BEST High-Performance SWB "Bent"—1998:** The Flame V-Flux. Rocket SS is a close second and would be our first choice if gear-throw was equal. Lightning P-30's are probably faster and corners love them. Unfortunately, our experiences with Lightning over the years have truly been lacking at all levels, though we'd love to test another P-30.

RCN AWARDS—LWB

▲ **BEST LWB "Bent"—1998 (best in class):** The Easy Racer Tour Easy EX with Flame suspension (a new mesh seat is rumored...).

▲ **BEST LWB USD "Bent"—1998:** The Helios Vanguard. We like the Linear LWB 50" too.

▲ **BEST LWB AGO "Bent"—1998:** The Easy Racer Tour Easy. The Flame Status is an extremely close second with better components, though the Easy Racers still have refined steering geometry and handling are unequalled. The Flame Gato is a worthy contender as well. The Talaria is the accidental LWB. For \$650 it will give riders most of what they are looking for—in a compact size.

▲ **BEST LWB "Suspended" "Bent"—1998:** The Flame Gato (doesn't have a front shock,

but it's an awesome bike and our choice.

▲ **BEST LWB Touring 'Bent**—1999: The Angletech/Race Glass GL50 model. The Glass is very popular with folks who like LWBs. And without much steering flex-lev.

▲ **BEST LWB High-Performance 'Bent**—1999: The Easy Racer Gold Rush Replica "Bent Gold." It holds the record of 60-minutes on our 20.4-mile test course!

■ RCN AWARDS—Compact

▲ **BEST Compact 'Bent**—1999 (best in class): The *Slice Air Tech All Arounder*.

▲ **BEST Compact USS 'Bent**—1999: The Linear Compact 66.9/Wheel Drive/66.

▲ **BEST Compact A55 'Bent**—1999: The *Slice Air Tech All Arounder*.

▲ **BEST Compact Suspended 'Bent**—1999: The *Slice Air Tech All Arounder*.

▲ **BEST Compact Touring 'Bent**—1999: The *Slice Air Tech All Arounder XL*.

▲ **BEST Compact High-Performance 'Bent**—1999: The *Slice Road* is the hot rod. The *Flare Tailwind*, again, runs a close second, and tested .50 mph faster (4 min.) on our course, but is really a LWB by definition.

■ RCN AWARDS—Trike

▲ **BEST 'Bent Trike**—1999 (best in class): The *Downsped 3TR10200*. The bike runs

like a bird—down-order is worth the wait.

■ RCN AWARDS—Tandem

▲ **BEST 'Bent Tandem**—1999 (best in class): The *Flare Screamer*.

■ RCN AWARDS—"Bent Stuff"

▲ **BEST Seal Bag**—1999: Our favorite is the *Slice* bag. The *Walon* bag is also favorite with its outside zipper pocket.

▲ **BEST 'Bent Hill Climbers**—1999: *Rare H-Racer* and the *Easy Racer Gold Rush Rep.*

▲ **BEST 'Bent Handling**—1999: The *Rare Rocket/Sabam V* and the *Easy Racer GRR*.

▲ **BEST 'Bent Seat**—1999: Hands down the *Flare seat* wins out!

▲ **BEST 'Bent Deal**—1999: For bike that's exciting, the *3320 RedBike* can't be beat.

▲ **BEST Enthusiast Deal**—1999 (going for bucks): The *Rare Tailwind 8050!*

▲ **BEST 'Bent Pain Job**: The *Slice* assembly is very tough and attractive.

▲ **BEST 'Bent Component**: ATP *Walon* independent Pedaling System (IPS.) Now available on *Walon* and *Flare* tandems.

▲ **BEST 'Bent Brakes**: Shimano *V-Brakes* and *Shimano RX100-1050* dual photo.

▲ **BEST 'Bent Painting**: *Zip Designer*

▲ **BEST 'Bent Pairing Deal**: *People Move It!* *50/50* complete riding video.

▲ **BEST Custom-spec/bikes**: Angletech for pre-assembly & pre-delivery road testing.

▲ **BENT Industry Sleazebag**: There are three or four manufacturers who had full listings in the '97 RCN BQ who don't subscribe or read RCN. They didn't complete the '98 *Suzers'* guide questionnaire. How do they feel out what's going on in the bent world? How do they track trends and find out what enthusiasts like you like and dislike? My's thinking of starting a bird to chip in and buy them a sub. (Wayward 'Bent Manufacturer's Fund.)

▲ **BENT Industry Sleazebag II**: A few manufacturers dropped their RCN ads this year. Could it be that they didn't like what we said about their bikes? Don't take it personally.

▲ **BEST Industry Rumor**: Mike Bryant of *Specialized* likes a *Rare V-Brake?*

▲ **BEST Industry Rumor II**: Did *Trike* buy a *Metro* and a *Slice*? Do they have a *Bent prototype*? We keep hearing these rumors.

▲ **WHAT BOB RIDES '99**: These are the bikes that I ride, and have spent my money on: *Fast Bike*—*Easy Racer GRR Black Gold*; *Spot Touring*—*Rare Rocket Sabam V* (fat tire, V-brakes and thinking about a 60-speed upgrade); *All Around* (1999)—*Slice All Arounder Air Tech XL* with *Super Zipper*; *Next Bike*—*Rare H-Racer*—*Mike Recumbency?* Bob Bryant, D

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Teaser: How many birthdays does the average man have?



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Several women appeared in court, each
accusing the other of the trouble in the
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orderly testimony. "I'll hear the oldest
first," he decreed. The case closed for
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The enchanting, romantic Powy Pensione
in Hailey, Idaho.

By Robert
J. Bryant

Consider heel interference, BB height, seat height, pedal angle and your own limitations in the selection process. Imagine what a particular bike would be like at stops, riding over railroad tracks, up steep hills and down the other side.

NOTE: See Recumbent Glossary on page 52 in the RCN Fall Section

There are many reasons to consider buying a recumbent, but first and foremost is comfort. When you ride a recumbent bicycle you will no longer have an aching back, stiff neck, numb wrists or a sore bottom. You will be able to ride longer with less fatigue and arrive at your destination feeling refreshed. The reason for this is the relaxed easy-chair seating position that the recumbent bicycle offers. This laid-back position allows for a better view of the road in front of you as well as the world around you. Another benefit of the recumbent seating position is a more open chest and diaphragm that makes for easier breathing. Recumbents are very versatile machines and can be used for a wide range of applications: recreational and sport riding, daily commuting, as well as a fast century and HPV racing. They are options for long-distance touring.

On the surface, choosing a recumbent may seem difficult. It really isn't, as we will point out with a few basic guidelines:

HOW MUCH TO SPEND

You can still expect to pay twice (or more) for a recumbent over what you would pay for a conventional bicycle. The reasons are low production numbers, bikes that are handmade in the USA, comfortable (and costly) world-class seats and the limited component buying power of small manufacturers. Recumbents are more complicated than upright bikes and take more time to build. Here are the basic levels:

\$200-\$300—Fitness/Bike Trail Cruiser: These are perfect for occasional rides of up to 10 miles. These models get just as many looks and offer incredible riding fun though they can be quite a bit heavier, and use lower end steel wheels and components. These components may wear out under heavy commuting/touring/enthusiast use, so our suggestion is to spend more on your initial purchase. Excellent examples are available from Bellini.

\$400-\$1300—Entry Level Enthusiast: These are the bread and butter of the recumbent industry. There is lots of value in these models. They are perfect for light touring & commuting as well as some club rides. Some upgrades may be necessary for heavy use or long distance touring. Some items to consider upgrading are the chain, crankset and shifters. Expect a bike in the 28-30 pound range with 21-speeds, and mostly good alloy components. These are the best values in recumbent cycling. Excellent examples are available from Kona and BikesE.

\$1500-\$2100—Medium Level Enthusiast: These models are what most tourists, club riders and enthusiasts need. They have upgraded drivetrains (shifters & cranksets), though some may still need a few tweaks. These models should be good for any kind of abuse the enthusiast rider can dish out. Excellent examples are available from Malnak, Kona, Easy Kona and many others.

\$2100-Up—Advanced Enthusiast: These are the dream bikes. Full suspension, high-end componentry, hydraulic brakes, custom spcs, fittings, etc. They are worth the money, though don't go too overboard on high-tech gizmo components that nobody knows how to work on. Many customers are surprised to find 3-month waiting lists.

CHOOSING A DESIGN

As with conventional bikes, there are recumbent designs for all kinds of riders and all types of riding. These include road bikes, tandems, trikes and specialty bikes. Because there are no arbitrary rules to limit the design process, recumbents come in every shape and size you can imagine. A recumbent may initially feel foreign to you; too sensitive, overly-quick or it may take you some time to get accustomed to the position. These are traits of the recumbent newbie. The words to remember are

RELAX! Lean back in the seat, take a deep breath and enjoy the ride. Many of the symptoms can be traced directly to upper-body stiffness from riding your upright. Allow your body to relax and stay loose.

Your next decision will be which design style to choose. This comes down to budget, riding style, and where you live and ride. Apartment dwellers may not want a LWB or tandem. Do you have any special limitations? Do you ride on smooth pavement, rough roads or even off road? How fast do you want to ride?

Lastly, All-Arounders/Commuters—Tourists—Sport Tourers—High Performance Machines exist in every category of these listings. There are fit and fitting the various (often of the same model) as well as high or low-SS models in each category. Be sure that you understand the differences in order to figure out what design style or variation works best for you.

UNDERSEAT STEERING—USS

USS has the handlebars placed underneath the recumbent seat. The handlebars are connected to the front fork with a steering rod (LWB & SWB) or directly to the fork (SWB). When considering performance, underseat steering is less aerodynamic than most ASS, but can be more comfortable for long rides. Underseat steering can also be harder for novices to learn; however, after a short time, the balance becomes second nature. In saying this, I've never felt as direct a connection with my USS bike as I do with ASS. This equates to my performance as well. I am more aggressive with ASS, and less with USS. USS riders have a more difficult time negotiating through bike trail dividers and in rush-hour traffic mainly due to the wide handlebars.

Handlebar reach can be an issue for some riders on some models. Some manufacturers have bar-end extensions which work to resolve this problem, though the bar-end extensions put controls in an odd position. Bar-end shifters help.

Fitings can be mounted to USS models, but it's more difficult and expensive. The fittings can help make up for most performance loss that USS may create.

The best way to determine if you are an underseat rider is to determine whether you are a passive (touring) or aggressive (high performance) cyclist.

ABOVE SEAT STEERING—ASS

This has been the standard bicycle steering method for over 100 years. It looks more "normal" and acceptable if that's pre-

ferred. ASS can take many forms, but this type of steering is more aerodynamic and all of the serious performance machines use it. Above-seat steering offers better control, is easier to learn to ride with and control ergonomics are near perfect. You can easily mount accessories that are more difficult to mount on USS bikes.

Some LWB models have a tiller-like feel to the steering. In most cases this actually makes the bikes handle better. Look for a well designed system that has been refined and you'll be okay. Riders will get accustomed to ASS quicker than to underseat steering. The major benefit to this set up is that it needs no special parts such as steering rods, rod-bearings, and cables.

SWB models with ASS offer ergonomic controls placed close to your body and the best models have seat recline adjustment. A 90 degree bend in your arm/torso with the ASS bars just clearing your knees with the bars back as far as you feel comfortable is optimum and known as the "begging hawker" position (thanks Kent Peterson). Be aware that some SWB models have wavy seatposts while others (with less than 40") may seem clonophobic.

Which one is better? Most people adapt to ASS easier. Which one you choose will depend on your intended use for the bike and the model itself. Most manufacturers specialize in one type of steering.

BEST FIT

With the wide variety of recumbent styles, it's difficult to select a "BEST" for everyone, so here are a few helpful tips:

SHORTER RIDERS may want to consider models with a low seat or 16" front wheel (to keep it low). The one exception would be the CLWB style, that fit most riders. LWB models can have low seats, though expect a heavier bike. Be sure to compare the seat heights of various bikes.

TALLER RIDERS over about 6'7" may not be able to ride every LWB or Compact model as they can place too much of the rider's weight on the rear wheel. An XL size frame may work. The best choice for very tall riders is probably a SWB with a wheelbase of 46"-48." Keep in mind that the shorter the wheelbase and the longer your legs—the more possibility for lower flex. Taller riders need stiff triangulated frames with short booms.

LARGE RIDERS should consider models with a durable suspension and/or a triangulated steel frame and a lifetime frame warranty. Fat tires, extra spokes, 26" and 48mm EMX 23" wheels work best.

Forget about LWB monotubes, unsupported small diameter stays or ultra-lightweight models. Check with your manufacturer for weight limits and warranties.

Riders who have short legs, are heavy or have a "spare tire" should consider that the higher the peddle/BB, the more your legs will come back into your gut. The low peddle/BB position may be more suitable—if not more comfortable. Larger riders can also benefit more from a fairing and ASS.

HAMMERHEADS: If you are a genuine high-performance rider, and you reel on bars, stems and frames, buy a triangulated, stiff ASS, stiff-framed SWB or LWB known to hold up in these kinds of conditions.

MORE CONSIDERATIONS: Some recumbent models can be extreme. Consider heel interference, bottom bracket height, seat height, pedal angle and your own limitations in the selection process. Imagine what a particular bike would be like at stops, riding over railroad tracks, up steep hills and down the other side. Can you lift it onto a road rack? Can you place your feet on the ground (air-footed)? If you are short with a tall bike, your tippees will get a workout and you may eventually fall at a stop. If you have arthritis, knee problems or are heavy, you may not want a really high BB model. If you have neck problems, don't consider a really laid-back seat. If you have any other injury or ailment problems, you should buy a bike. Or at the very least, test-ride for seat comfort. If you have sensitivity to your groin area, stay away from seats with nose sections and/or seat horns.

Recumbent models vary by how they adjust. Some SWB bikes have sliding booms, others have sliding seats. Booms are a hassle as critical chain adjustment is necessary. Sliding booms or bottom brackets are difficult to align/align perfectly and surprisingly most manufacturers don't scribe a sight-line on booms and frames. The constant adjusting of sliding booms tend to wear out the adjustment bolt threads over time. It is possible for strong riders to get adjustable booms to slip under heavy torque.

Modern design quick-release seats are much easier to use, though be sure to keep the QR tight. Ask your dealer for a seat-adjustment demo. Be sure to get a properly sized bike. There are no bargains if your bike doesn't fit.

BEST SEATS

This is the single most important aspect of a recumbent bike as you cannot dismount your seat or stand on your ped-

als. All other recumbent bikes and figures aside, if you can't be completely comfortable on your recumbent seat, keep trying bikes until you are. Seat comfort is a personal issue—as try many. Seat recline can make the difference as to whether or not you will be comfortable. The more laid-back you are, the less weight will be on your limbs. We've noticed that some recumbents come from the factory with the seats fairly upright, so take the time to adjust the recline of your seat, it will make a difference. If you want the most comfortable recumbent, look for the optimum mix of seat comfort and ergonomic riding position for YOUR body. Here is our overview of seat types:

SHELL/FOAM: This is what works perfect on Easy Racers bikes. If you have a builder who is committed, they can be comfortable—although sitting/mesh seats do have the comfort edge. For performance, the Easy Racers and the Europeans have proven that a hard shell seat enables the rider to develop more power.

The basic fiberglass shell/vinyl covered seats with no or minimal padding are, for the most part, uncomfortable and breed recumbent-burn.

MESH BACK/FOAM BASE: This is a high quality mesh back, Cromb frame with a foam covered composite base. Rans invented and defined this seat design. It has a taught mesh back, wider base and thicker foam. It retrofits easily to homebuilt and other models. This is an extremely comfortable seat and very adjustable (20° recline adjustment). The Rans hybrid seat works best on IWB models and the modern LWB (Glas/Flatwind). On low pedal (SN) models, some riders may ride the forward edge of the seat with the back side of their legs. We have found little or no back flex that would result in power loss.

MESH BACK/BASE: This is a Cromb or aluminum frame that has a nylon mesh attached to the frame. The best one we've

found is on the Halarak. Keep in mind these seats will not work on all designs. The lower the bottom bracket, the more potential for problems.

Some manufacturers offer a foam pad on top of the mesh base. This can add to the seat comfort, though be aware that sometimes the foam pad is covering an objectionable seat form that holds the mesh up at the forward edge of the seat. Velcro seat mesh attachments can sometimes slip or stretch making for power loss.

SEAT RECLINE ANGLE: An adjustable seat recline angle is preferred. Seat recline angles vary dramatically from ultra laid back (30° or so) to a more natural ergonomic upright angle of 30°-45°. The perfect angle is somewhere in between and may vary for different riders. An upright seat back loads up your tailbone. Ride this and recumbent-burn sets in after an hour or two, though it's perfect for city riding and an aid in power generation. An adjustable recline resolves the recumbent-burn and lets you dial in your perfect riding ergonomics.

RIDING POSITIONS

The three primary riding ergonomic positions are as follows:

CLOSED RIDING POSITION: Upright seat back with a high bottom bracket. This makes for awesome sprinting power and acceleration, though riders may suffer on day tours. The upright back loads your rear end, and also makes for a rather drastic angle between back and legs/pedals. This is an aggressive inverted weight power position that can be the most difficult to get accustomed to.

MODERATE RIDING POSITION: Adjustable seat recline angle, with low or high pedals (IB). This is acceptable to most enthusiasts in both comfort and power output. A closed position can be achieved when you want it. This is the trend in North American recumbency and can be found on

any number of bikes that we like such as the Rans Rocket, V/Ran, Vivo, Altitude and others. Compact models and modern LWB (Glas) use a semi-cocooned riding position that offers near ergonomic perfection.

OPEN RIDING POSITION: Very laid back seat along with low pedals (IB). This means a passive comfortable position, though not always the most efficient for climbing or power generation. This position can be found on most Velocis, the Ryan Vanguard and S & B recumbents.

Whatever style you choose, be sure it is ergonomically comfortable for your body.

REAL WORLD PERFORMANCE

Okay, it's true that recumbents hold all of the human-powered speed records. They are aerodynamically superior to conventional bicycles, less frontal area means less wind resistance. The Lightning P-40 currently holds the Euro-Arrest-America speed record of five days and one hour. Gardner Martin's Easy Racer Gold Rush, ridden by Fast Freddy Merckx, was the winner of the DePout Prize for breaking 65-mph and sets in the South African.

Fairings for street use are common and optional equipment on many models. They protect you from rain, cold and wind with up to a 20% reduction in drag. So what does this do in the real world?

The general rule for speed is that an aerodynamic recumbent is about 10% faster than an upright bike. In reality recumbents are about as fast as their equivalent road counterparts, sometimes faster, sometimes slower. It more depends on the following:

Some bikes are more aerodynamic than others—plain and simple. This is what makes the Easy Racers and Lightning fast. Skinny tires and light aero wheels are usually the best, though this can depend on terrain, design and rider size. I had felt laid skills to perform pretty good. Jan Slem from Greenspeed has documented this as well.

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TEST RIDE THEM ALL IN ONE DAY
RENTALS AVAILABLE

USS vs. ABS: I have yet to ride a two-wheeled USS bike that has great performance. Fatings help make up for the wide stance of USS, but ABS rules where performance is concerned.

Recumbent speed is an odd phenomenon. Tests are usually superior on flats, rollers and descents, though sometimes slower up hills (not for me). This speed curve drives the weights crazy.

Weight-fatigue is what the other bike magazines don't talk about. When you get sore, with waist, neck, back and numbness, you don't perform as well. On a "flat," you won't suffer from these ailments. When you are riding a "flat" your performance will be best well into the day/ride when you are passing the roadies. Your performance may exceed all but the most fit roadie.

Partial Fatings: Zipper fittings are the coolest. They make your bike look fast just sitting still. The general rule is a 10% actual speed increase. On his 25 mile test course with 1800' of vertical gain, Ron Leib found that his Gold Rush Explorer Paper Zipper was worth about 5% in speed gain. On a flat course, it's worth more. This also depends on the bike and rider, but a speed increase of 5%-15% is possible.

Full Fatings: A full body may give you a 30% or even 40% increase in speed.

This means that if you can cruise down the bike trail at 17mph untimed, you will be able to go 23-24 mph with a body. Caroplast fitting builder Ed Glin says 25 mph is the threshold in which safety becomes an issue. He also says expect to go down more often with a body. **Stopping** the bike also becomes an issue at these speeds. Flying and sailing are hobbies you should leave if you take up riding a fully fatted bike.

Cardner Martin of Easy Racers and Karl Abbe of Zip Designs are the most easily approachable fatted performance experts. Lightning has the most commercial experience with full bodies. Ed Glin is the exceptional homebuilder's guru. You can buy the video from People Moves.

Protection recumbents are not always faster than conventional bicycles. Your best bet is to do your homework and if your goal is performance, be sure that you look for a recumbent designed for this purpose. Pay attention to speed records, racing distances and how active the manufacturer is/has been in recumbent racing circles. Models can vary by up to 5+ mph for the same rider (untimed). Some riders say "I don't care about speed." With an efficient performance bike, you can ride longer and farther with the same amount of energy.

Hill Climbing: The best recumbent hill

climbers are medium and high-SS SWS performance bikes with stiff booms as well as performance LWB models. SWS models have an edge in low-speed maneuverability primarily due to bike length. Low LWB machines can be more aerodynamic and coast farther over rolling hills. Bike weight matters unless the weight loss results in an overly flexible frame or boom. Aerodynamic additions such as fairs are generally worth the weight penalty. Exceptions to the above can be found. If you are one of those exceptions, chances are you are in shape and in-tune with your machine.

Slight design differentiators are not as important as rider conditioning. You need to develop a smooth powerful spin-to-clip step hills successfully. Cross-train on a stair-stepper or indoor recumbent trainer (intervals and hill simulations really do the trick). Then go out and look for hills to climb. After a month of attacking the hills with a vengeance, you will most likely climb as fast as you did on your wedge and in greater comfort.

The best climber that I've ridden this year is the Rans V-Rex—over the Shogakukan in Colorado, then the Bodon and the Gold Rush Republics because it's that everywhere. I feel more efficient on a medium-SS bike like the V-Rex or Vica. Control-

Recumbent Closeouts! Demos & '97 Leftovers



Recumbent

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Vision VR-40AU Burgandy	\$1,050	\$ 850
Vision VR-40AU Teal	\$1,050	\$ 850
Vision VR-40ELUX Burgandy	\$1,050	\$ 950
Vision VR-44AT Black	\$1,825	\$1,650
Vision VR-44AU Red	\$1,825	\$1,625
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ling a UFF up a grade at very low speeds takes skill because the bike is so long. The Gold Rush climbs well because it's light for a UFF, stiff and descends flat land average speeds work in its favor.

Bikes with more open-riding positions are not as good. Competors tend to climb slower, and some not at all if you are a tall rider on a standard frame. I've ridden bikes that wobble with each pedal stroke up steep grades (check out XL frames).

NEW RIDER TIPS

The most difficult part of all is finding recumbent models to see and ride. If you can, find a recumbent specialist that carries many models or club and try as many bikes as you can. You have already started your quest by purchasing this guide. Your second step will be calling the listed manufacturers and asking them for the name of your closest dealer or owner. Your final step should be the local yellow pages, just to see if you've missed anything.

Become educated, do not expect to get this easily from a dealer or manufacturer. Ride bikes, talk to owners and read BCN issues about models that interest you.

Watch out for dealers trying to cash-in on the recumbent wave. Some telltale signs

are that there is no knowledgeable recumbent salesperson, bikes are poorly setup and often they will only sell one or two bikes. The odds of satisfactorily completing your recumbent education may be hampered and you certainly will not experience the diverse world of recumbent bikes to its full extent. Do yourself a favor and look for a reputable recumbent specialist.

If you have no local dealer, or the bike that you want to see is not represented locally, consider visiting the manufacturer or a regional specialist. Within an hour of test rides you should have an idea of what you want in a recumbent bicycle.

Mail order customers should consider

the issue of bike accessibility. Manufacturers have different and varying levels of accessibility, so be sure to ask. You don't want a box with a frame and another box with parts, when you may be able to pay a few bucks more and be out riding in 15 minutes. If you need to find somebody to help set-up your bike, ask the manufacturer for a referral. Recumbents are expensive and you get what you pay for. While comparing models, keep in mind that even the cheapest ones are built by hand and mostly in the USA by American builders.

Lastly, connect with a rider group or riders on the internet and get some more opinions on what you are considering. ☐

Test Ride Tips

Look for an empty parking lot, or quiet test ride location. No test-to-avoid attention. You do not want an audience your first time out, though an experienced rider is handy.

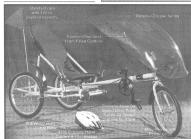
Be sure to leave all of your valuables in your car or with a friend. Wallets, keys and pocket change have a tendency to fall out of your pockets when riding.

Clipless pedals or a Power-Clip type foot retention device is a definite plus for performance once you've mastered the bike.

When standing onto a recumbent, always hold one brake lever as "feet tend to roll backward unless a brake is applied."

Prepare ahead of time for stops, release one foot early and be ready. Recumbents give you less balancing time when coming to a stop.

When you start out on a test, place your power-foot in the 1:00 position and give it a gooke. More start-up power is necessary when starting off on a test. ☐



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'BENT SUPERGUIDE

ALL ABOUT COMPACT RECUMBENTS

By Robert
J. Bryant

These bikes are perfect as city bikes for the short-hop commute, casual recreational riding or just plain having fun. The Compact is the easiest, purest and simplest form of recumbent bicycle

Compact Recumbents are the wave of the future. They have all the attributes that will bring recumbency to the forefront of the future of bicycling: adults on a quest for a truly comfortable bicycle. Do we dare tell them it's a recumbent?

Compacts are perfect as city bikes for the short-hop commute, casual recreational riding or just plain having fun. This is the easiest, purest and simplest form of recumbent bicycle.

Compact Long-Wheelbase or "Compact" (CLWB: 67"-69") These are the most popular style of recumbent bicycles. The compact's popularity comes from the rider-friendly design, compact size, comfortable seats, simple controls and relatively low price. Most all commercially available US-built CLWB recumbent bicycles can be mastered by the average rider. All other "lean" styles and configurations are more extreme and less rider-friendly than the cool Compact. Little does the bike industry know, the bike of the future is here!

The most natural ergonomic position is similar to that of driving an automobile. All Compacts and most LWB bikes have it. The downward-pedal-angle offers near-perfect ergonomics and the easiest riding position requiring virtually no learning curve, especially as compared to other "leans." If there is a downside, it's that the position is not the most efficient. For these reasons, Compacts are popular with non-cyclists and those interested in a comfortable, user-friendly recreational machine.

Compacts have a similar configuration to the LWB, but have a higher seat/low pedals/BB (bottom bracket) and the front wheel is ahead of the crankset. The designers have made a conscious effort to shorten the wheelbase to make the bike easier to handle for novice riders. This is primarily done by making the seat higher/wheelbase shorter and the use of smaller 20" (rear)

and 16" (front) diameter wheels.

The 20"/16" wheel combo truly defines the compact and creates an optimized design allowing an easy step-through frame. Dual 20" models offer more stable handling, a smoother ride and better high speed stability, though the step-through frame concept is lost and the wheelbase grows by several inches in the transition to a more serious enthusiast oriented design—and the gap between Compact and LWB closes.

The simplicity of the Compact design is its greatest asset. These bikes are perfect for cruising the beach, the local bike trail or a city commute. They can be the ultimate urban assault vehicle. Urban commuters and those depending on their bicycle to haul groceries and transport up elevators needn't look any further for the right bike. They are the simplest, easiest to ride and are the most affordable recumbents—and we love 'em.

TECH OVERLOAD

Another aspect of recumbent ergonomics is plain and simple economics. Do you get "sweated up" for your rides with all the garb: Lycra, cleats, clipless pedals and aero helmet or do you wear sweats or slacks and running shoes? These are the extremes that may define what type of bike you should buy. Advanced enthusiasts who have the garb may want a high-and-LWB or a performance LWB. If you are a fitness rider who cruises the bike trail every afternoon—we suggest a Compact. As you can see, it's not just the cost of the bike, but it can be the cost of your riding style...the garb.

I love the idea of the relaxed low-pedal/BB riding position and some big wide BMX pedals to place my high-top tennis's on. The low-pedal/BB position is the key to this rider-friendliness. A simple

▲ THUMBS UP

- ▲ Easiest to ride/learn
- ▲ Easy to own/use
- ▲ Easy 7-speed or 3x7 drivetrains
- ▲ Comfortable ride
- ▲ Predictable handling
- ▲ Simple design
- ▲ Low cost—as low as \$329
- ▲ Near perfect ergonomics
- ▲ Best urban/bike trail cruiser
- ▲ Stows and travels easily

▼ THUMBS DOWN

- ▼ Can be heavy
- ▼ Hill climbing may suffer
- ▼ Performance may suffer
- ▼ High seating position/c.g.
- ▼ Seat comfort may suffer with some models
- ▼ Heavily-loaded rear and/or Poor weight distribution (all riders on mid. frames)

guideline for new riders is the higher the pedals, the more practice necessary to master the bike.

Choose the ultimate enthusiastic technowords machine, and you need the staff to go with it. Choose the bike-trail cruiser and just be sure to get a helmet. Don't get the idea that I'm down-playing the Compacts, as they can be at home on long rides, club rides and tours as well.

If the Compact falls short in any respect it's the possibility of widely differing performance. The way in which designers achieve the Compact design is to move the rider rearward on the bike. This usually means raising the seat up, thus moving the center of gravity (c.g.) up and back. Riders edging toward 6' tall may want to consider models with "XL" frame sizes to achieve better weight distribution, more stable handling, and better weight distribution for hill climbing.

Recently on my 22.4 mile test course, a Race Tailwind equaled the speed/time of my Race Rocket, unladen Tour Easy, Helmski SWB and others, while completely surprising me. I had a similar experience on a BikesE RoadE test course. The best part of this Compact performance is that it comes along with an easy going, relaxed Compact riding position.

With their lower price range, Compact seats are not as comfortable for very long rides, though exceptions do exist. The smaller seats work well for the urban riding and even off road. And they are light years ahead of wedge seats.



Single handedly inventing a new sport—the BikesE All Arounder Air Tech. The BikesE test track somewhere in Corvallis, Oregon.

A benefit to the Compact design is its superior ability to see and be seen in urban traffic and it offers the rider the best view of the road possible on a recreational. A major detractor in some models have less than comfortable seats by comparison to SWB and LWB machines.

This is the best entry level style of recreational. Initially, the Compact was not thought of as the best design for touring, however, they have become quite popular.

For tours where you skip the bike or use rail or bus along with riding, the Compact can't be beat. BikesE and Easy Racers have optional accessories mounted in-rider pannier racks that work excellently. BikesE, Race and Vision all have very high quality day bags. Self-contained Compact touring is most definitely within the realm of possibility. We've had reports of BikesE's air for-aign lands and EE-1's touring the Caribbean Islands.

THE COMPACTS

■ BikesE All Arounder/RoadE

BikesE immediately jumps to the forefront as the most respected Compact builder in the world. The reason is that they design, build, torture test, tear-apart, compare-on and sell ONLY Compact bikes. Pioneering designers Dave Ulman and Paul Atwood are the key players behind this incredible bike that has gained a near cult following. Some have dismissed the bike as a toy, but don't let the wacky look fool you. It's a hard working bike. BikesE is

a green company with the "E" standing for Environment. Designer Paul Atwood, and his family are auto-free and are well known in the Corvallis, Oregon area—seen cruising on their BikesE's.

Specializing in the Compact concept has benefits. The promotion of the bike doesn't get lost in a flurry of models. The E & D spreads quickly to the small fleet of models and most overlapping retrofits between models. Best of all for BikesE owners is the ability to have a full line of accessories specifically for the BikesE. The service and support from this company is beyond reproach. Yes, the bikes are not perfect, and there are a few items to criticize. The seat has a base that many riders would like to see made larger. The seat lacks upper back support for really long rides. My position on the BikesE seat has suffered from two recent experiences. I spent an hour on the off-road All Arounder Air Tech doing actual mountain bike-style riding to the amusement of the wedge riders) and found the seat perfect for this purpose. The seat and position make driving possible. We are currently experimenting with adapting a Race seat (Tour Easy model) to the BikesE via three BikesE accessory mounts.

The other place the BikesE seats is in town, and in traffic. It just cannot be beat. The BikesE drivetrain works phenomenally well—3x6c chain and all. There is no need for chain idlers, and the Sachs shifter/demulder/3x7 drivetrain is the easiest and simplest shifting system available on any recreational. We have heard a few seat base and spoke woes, which have been solved

quickly by BikeE.

I was pretty to a BikeE customer complaining about a few problems on the '96. Somebody forwarded the message to BikeE (who has a great on-line presence and web site), who contacted the customer before the customer had a chance to call BikeE. The problem was solved quickly, and the level of respect for the '96r company from Chicago, increases tenfold.

♦ **Road Tests:** ECN417 original feature test; ECN418 test by BikeE; alternate B Street and ECN-1 abstract.

■ Easy Racer EZ-1

The EZ-1 is the entry level Compact model from the builder of the famed Tour Easy and Gold Hawk Replica performance and touring recumbents. Proud of its heritage roots in the Smithsonian Institution as the Gold Hawk was the DuPont prize for breaking 40 mph.

We've always loved the EZ-1—because it's on Easy Racer. The quality is excellent, the seat is similar to that of the Tour Easy. The frame is TIG welded and triangulated. Easy Racers pump every bike for direct delivery and EZ-1's don't need any upgrades. As the prices on the competition climb, the EZ-1 remains a great deal too. The handling and Compact steering geometry are excellent. This is due in part to the custom fork designed specifically for this model.

So what's the deal? Well, the square tubes have become a bit passé and Gartner tends to use slightly retro components that usually work really well. The seat is similar to that of the Tour Easy, but has a aluminum frame, forward and riveted and the recline is not adjustable. The lock gets off some buyers. The spaced off rear frame section appears to end too abruptly. Some have commented that it's a good looking bike from the seat forward. And finally, the rear wheel is a 48mm tall and skinny performance wheel, rather than the nearly standard 40mm BMX size.

Since the EZ-1 is not the primary focus of Easy Racers, the EZ-1 slips into the background. Take note, the EZ-1 is a cool bike, square tubes and all. The handling is textbook Easy Racers and different than the others. The lower pedals and triangulated frame will appeal to many. The friendly Easy Racers service can be a plus if you don't have a dealer nearby. The EZ-1 has many options from dual waterbottle cages, to a Zipper fairs, to midship mounted panniers. EZ-1 customers will get an excellent, usable live bike.

♦ **Road Tests:** BCN428 BCN433.

■ Linear Compact Mk.III

Offbeat or EcoGlide? This newest Linear uses a shorter aluminum extrusion, a smaller wheel-set (28"/24) and shorter-back seat matched with under-seat steering to create a great overall cruiser, the only one with UBS. The Linear Compact is an excellent quality bike, a great value and will fit nicely on your car's bike rack.

For '96, the Compact Mk.III /EcoGlide has been refined further with updated rear stays, and longer mudrakes, yet the wheelbase has remained very compact. The component choices are fantastic and the 32' hub 21-speed drivetrain skills flawlessly. Linear does not use the Dotsik crank like some other Compact manufacturers, in fact they use an apocryphal/BSX-double-crank. They will even leave the extra chainring upon request for manual shifts.

We like the optional taller seat (LWB), adjustable recline seat stays and two Zipper fairs options. Skinny wheels, brake upgrades and even 20-speed offerings are available as well.

Wheel Recombents sells their own version of the Linear Compact, the EcoGlide, that differs slightly in component specs.

Linear has been so busy building and selling record numbers of tents that we haven't really heard much from them in the past few months. New for '96 is an above-seat steering Linear Compact with an ABS specification geometry in a novel dual back bend tube angle as well as newly designed T-bars. Watch for an ABS Mk.III test upcoming. This is an incredible bargain for the new enthusiast.

This is a nice, user-friendly compact LSS bike from a proven dependable manufacturer. The EcoGlide has slightly better spec and a bit lower price and is worth looking out. Linear and Wheel own the compact UBS style. Also keep in mind that the full size Linear LWB folds down to a size smaller than any compact tent.

Linear's owner, Steve Harned, is one of the nicest guys in the industry and Linear has been building great recumbents for years. Wheel Recombents is a division of Wheel & Sprocket Bike Shop in Hales Corner, Wisconsin. The shop is owned by Chris Kogel and run by Harry Wozniak. This is one of the largest bike shops in the USA as well as one of the largest recumbent shops in the midwest. Wheel & Sprocket has developed a national business because they stock many current hard to find models from Bars, Linear and BikeE.

♦ **Road Tests:** BCN448 feature test.

■ Rara Tailwind

Rara is currently the most respected name in recumbent recumbents. The owners at Rara intensely listen to their customers and improve their bikes. With the '96 line, the Rara bikes are invincible. Every bike in the line is equipped with a SRAM Crayfish ESP 24 speed drivetrain and a Sachs chain. There are no short cuts in the component selections. If that's not good enough news for you, the recently redesigned Rara Tailwind has the same highly rated Rara seat that comes on the V-Rex, Vivo and Glis. The mesh back, composite base seat is the most comfortable in the industry today—and superior to every other Compact seat in this article.

Rara does it their way. The Tailwind was updated in '96 with round rail frame (square tube in '96) and the geometry was dialed-in. For '96, the rear stays have been pushed out to the bottom bracket, creating a triangulated rear frame, that just so happens to improve the look for the bike. The handlebars are the Rara 'T' bars straight off the LWB Glis. Ergonomically, they are near perfection, though the built-in flex has been mentioned by nearly every one of our testers. The built-in flex was a conscious decision by Randy Schmitt. As it turns out, it helps keep the bike tracking straight, as the front wheel doesn't send all of its shock to the handlebars.

The Tailwind has one other distinguishable difference—dual 20' wheels. This bike is the Compact equivalent to our BCM favorite SWB, the Rara Kicker, the same component package the same seat, even the same tube-set.

The dual 20' wheels raise up the pedals/BB for a more aggressive position while providing improved handling, stability and tire availability—though the bike is also longer. With a 62.5" wheelbase it's about 8" longer than a standard BMX, and barely edges into the Compact listing. It's nearly the twin to the upgrade rear suspension Glis that we have listed as a LWB. The Tailwind fits into either group.

As a LWB, the Tailwind just may be the perfect crossover platform between the two 'best' styles. It offers exceptional stability and handling, along with a domestic low price of \$999.

The Rara seat bag easily mounts to the Tailwind seat. Installing a rack is possible, however, some of the rack will be forward of the seat stays. Rara is a dealer for BSR trailers which the Tailwind can easily tow for hauling or touring.

Our only complaint about the Taburet is that it gets lost in a myriad of great models that the Race company builds. This limits how many options can be offered.

At \$650, it's the best enthusiast/performance deal in Compact for UWB3
◆ Road Test: RCN431; and we just tested the Taburet in RCN42.

■ ReBike

How can you go wrong with a 'best that costs just \$229? The original ReBike 606 5-speed is absolutely the best bargain in the 'best list. The \$14, an 18-speed model with a 28"/16" wheel combo and sells for \$279—almost half that of the nearest competition. You'll get entry level steel, Shimano index shifting, and a low-tech cool bike that your neighbors and friends will love to try. ReBikes look cool because they are painted bright colors, have a sweet logo and all that chrome shines up nice.

Unfortunately, the chrome and steel parts are heavy as well. The 606 weighs around 45 pounds. Don't buy one with the idea of putting it on a diet. Enjoy your ReBike as it is, or save your money for a lighter fancier bike. It's like trail or beach front judging for you, the ReBike is awesome just the way it is, though don't expect to keep up with the local club riders. For the bucks, the ReBike can't be beat.

ReBike's are now built in Ohio, USA by Huffy. You can order from a dealer or the Huffy website. ReBike will even send a mechanic out to set up your ReBike for \$60. ReBike can easily ship the next day. (The ReBike 2800 (28"/20") will be listed under UWB (2800: 18-spd., and sells for \$299).

■ Vision Metro

The Metro was the media darling for 1997 with RCN inducting among other pressers demo ride on a preproduction prototype. The Metro concept is bordering on greatness though Vision seemingly downplays this model in favor of SH3 (UWB) and they appear to sell the compact design short.

For '98, Vision updated this excellent Compact with two many look-alike component choices. Our test Metro showed up

months late, had a list of ailments, including a mix of drivetrain parts that made for atrocious indexing. The culprit was a Sun Race cassette along with a derailleur/cable housing incompatibility. The Metro uses a Sachs shifter, paired with a Shimano rear derailleur, Sachs 307 and a KMC chain. The Derailleur had an out-of-line crank spider/draining. We're hard on some items other wise as well.

The Metro suspension is a simple sit-on-top. The dampener is a wingnut that tightens over the elastomer. In order to "dial out" the pogo from this basic suspension, we had to torque the nut down tight. We were never able to release the wing nut, as it finally broke.

If you have a '97 Metro, all is not lost. Take it back to your dealer and get a new Shimano cassette, some Kool Stop brake pads, a new derailleur cable, a piece of housing and maybe a Sachs chain—shifting performance should improve itself.

For '98, Vision has solved the cable/housing issue and now uses a Shimano cassette. The KMC chain and stock brake pads remain. The Metro will be offered in steel and red powdercoat that will be done in house later this year.

We love the Compact design and have high hopes for the Metro. For the most part, owners love them too. What bothers us the most about the Metro is how all of these problems, on a bike designed for RCN, could even get out the door.

The Metro design is fine, though it remains to be seen if Vision will market the bike competitively or let it get lost in the herd of Vision models—so many models and variations that it's hard to keep track of them all.

■ Other Bikes

Maxam builds the low priced "Retreat" which has an optional 26" or 28" rear wheel covering the spectrum between Compact and UWB. The Maxam is a valiant concept built with more industrial methods and low-end components that are not even up to entry level standards.

The "Retreat" has a mix of square and round tubes, a mesh back, foam base seat, steel handlebars, bolt-on steel wheels, Feltor components and a KMC chain.

Our editors at getting a test bike have been endless. We've tried for months to get links to no avail. Chris Day sent an email that links to us the way and it never arrived.

Rebender of Florida, most recently known for their classmate-style FWS models will be unveiling a new low priced "compact" look-alike soon. We'll have one of the first production versions soon.

■ Custom Spec

Angletech builds custom spec Bikes! as well as 40-speed Kams Taburet models. Angletech specializes in building your dream 'best. If it's possible, Kelvin Clark & company can do it. We only enter select models from manufacturers however, if we did rate custom spec bikes, Angletech's Bikes and Kams models would be at the top of the list with the highest ratings.

■ RCN Ratings

RCN offers the only Recumbent Bicycle Buyers' Guide in the world today. RCN also RATES the bikes—which is unlike almost any other buyers' guide on the planet! You won't find rebranded brochure material in RCN—we tell it like it is. The 1998 SuperGuide is updated every two months with the most up-to-date information available in the recumbent world. Bicycles are built up, ridden, rated, and critiqued by our staff. We can only conclude that manufacturers who do not submit test bikes are afraid to compete with the best in recumbency! RCN has an award year track record of being THE recumbent publication.

Watch for the next edition of our SuperGuide in RCN44—\$99, RCN43—\$95, RCN46—\$ardus/Trixie, RCN48, RCN47—1998 Preview along with ongoing updates throughout the year. □

RATING KEY

Welcome to the new RCN Rating Guide.

We use a potential five star system with

the following SuperGuide ratings:

★ POOR/NEEDS WORK

★★ FAIR/EDGING TOWARD GOOD

★★★ GOOD AND BETTER MEDIAN

(the competitively priced middle)

★★★★ VERY GOOD—SUPERIOR

(it's the BEST—THE BEST)

Overall Rating is not an average. Ratings

can vary by design, price range and how

everything works together.

PERFORMANCE

★ or ★★ - City/Commuter

★★★ - Recreational or Tourer

★★★★ - Fast sport touring

★★★★★ - High performance/Race.



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BikeE All Arounder AT

RCM Rating Card

- SEAT COMFORT: ****
- RIDE SMOOTHNESS: **** 1/2
- HANDLING: ****
- PERFORMANCE: ****
- FRAME/BUILD-FINISH QUALITY: **** 1/2
- COMPONENTS: **** 1/2
- BRAKING: **** 1/2
- CHAIN MANAGEMENT: ****
- VALUE FOR MONEY: **** 1/2
- OVERALL RATING: **** 1/2

■ SUGGESTED USE:

- ✓ *Cruiser / Recreational / LT touring / HD commuting*
- **NOTES:** The 2000 model brings us the first suspension Comfort available in the world today. Seat foam is softer than on previous bikes.
- **TEST BIKE PROBLEMS:** One of our test bikes has a scratch in the stem tube, though fixed offered to replace it. The rear fender is very strong, though you can feel the rim seem (as a tip). The chain tube makes some noise, but works well.
- **MAILING:** 2000 (7-404) (1000) (1-404)

Editor's Choice
Best Recumbent
1999



BikeE RoadE

RCM Rating Card

- SEAT COMFORT: ***
- RIDE SMOOTHNESS: ***
- HANDLING: **** 1/2
- PERFORMANCE: **** 1/2
- FRAME/BUILD-FINISH QUALITY: **** 1/2
- COMPONENTS: ****
- BRAKING: ****
- CHAIN MANAGEMENT: ****
- VALUE FOR MONEY: **** 1/2
- OVERALL RATING: ****

■ SUGGESTED USE:

- ✓ *Bike Trail Cruiser / LT touring / commuting*
- ✓ *Recreational/idea / High Performance*
- **NOTES:** The RoadE is the most compact 100 for 100 test there is. It's light, fast and of exceptionally high quality. The lean forward position offers great performance, though is not sustainable for hours on end.
- **TEST BIKE PROBLEMS:** We had 2 flats in 2 rides. It seemed to be a tubular problem. One steady rear stay (hard tail) was spotted with a drop of oil.
- **MAILING:** 2000 (7-404) (1000) (1-404) AT



Easy Racer EZ-1

RCM Rating Card

- SEAT COMFORT: ***
- RIDE SMOOTHNESS: ***
- HANDLING: **** 1/2
- PERFORMANCE: *** 1/2
- FRAME/BUILD-FINISH QUALITY: **** 1/2
- COMPONENTS: ****
- BRAKING: **** 1/2
- CHAIN MANAGEMENT: **** 1/2
- ROAD TEST DURABILITY: **** 1/2
- VALUE FOR MONEY: **** 1/2
- OVERALL RATING: **** 1/2

■ SUGGESTED USE:

- ✓ *Cruiser / Recreational / LT touring / commuting*
- **NOTES:** The EZ-1 is a recumbent hybrid that races and performs well and will give a long life of racing fun. The new wide base seat will be more comfortable.
- **TEST BIKE PROBLEMS:** Easy Racer (bikes are very dependable. 2000er falling mounts very close to your hands, yet retains simple Easy Racer mounts. On the '00 test (like the wheels did not hold true during our test.
- **MAILING:** 2000



Linear Compact MkIII

RCN Rating Card

- SEAT COMFORT: ***
- RIDE SMOOTHNESS: ***
- HANDLING: ***
- PERFORMANCE: ***
- FRAME/BUILD-FINISH QUALITY: *** 1/2
- COMPONENTS: *** 1/2
- BRACING: ***
- CHAIN MANAGEMENT: *** 1/2
- VALUE FOR MONEY: *** 1/2
- OVERALL RATING: *** 1/2
- SUGGESTED USE:

✓ Cruiser ✓ Recreational ✓ LT touring ✓ HD-commut.

■ NOTES: Linear wants to say GOOD to see the component choices, though they vary with availability. Our experience with Linear has been exceptional.

■ TEST BIKE PROBLEMS: This bike was new and test results were mixed to up. R & D had been completed and the '98's should mean improved. We had no test problems with either test bike. We are testing a '99 HD version with upgrades for testing soon.

■ M.S.R.P. \$1,000 (1-speed) \$1,100 (2-speed)



Rans Tailwind

RCN Rating Card

- SEAT COMFORT: **** 1/2
- RIDE SMOOTHNESS: *** 1/2
- HANDLING: ****
- PERFORMANCE: *** 1/2
- FRAME/BUILD-FINISH QUALITY: ****
- COMPONENTS: ****
- BRACING: *** 1/2
- CHAIN MANAGEMENT: *** 1/2
- VALUE FOR MONEY: **** 1/2
- OVERALL RATING: ****
- SUGGESTED USE:

✓ Cruiser ✓ Recreational ✓ LT touring ✓ HD-commut.

■ NOTES: An incredible bike at an unbelievable low price. The bike performed beyond expectation. Availability on this model will be tough. Contact dealer who placed large production orders at once.

■ TEST BIKE PROBLEMS: The rear brake on our preproduction prototype was not as effective as the front brake but better than previous Tailwinds. We have requested a second test bike.

■ M.S.R.P. \$999



Vision VR30

RCN Rating Card

- SEAT COMFORT: ***
- RIDE SMOOTHNESS: *** 1/2
- HANDLING: ***
- PERFORMANCE: ***
- FRAME/BUILD-FINISH QUALITY: ***
- COMPONENTS: *** 1/2
- BRACING: *** 1/2
- CHAIN MANAGEMENT: *** 1/2
- VALUE FOR MONEY: ***
- OVERALL RATING: ***
- SUGGESTED USE:

✓ Cruiser ✓ Recreational ✓ LT touring/commuting

■ NOTES: A great concept, but don't live up to our expectations (based mainly on preproduction prototype).

■ TEST BIKE PROBLEMS: Our Metro was months late and had a lot of issues, including the wrong size chain. It didn't mesh well at all and the front wheel had not been spoked. Vision was slow in responding to our queries. Our test bike ratings are from a '97 without updates. Vision has offered us a second test Metro.

■ M.S.R.P. \$600 (7-speed) \$700 (21-speed)





Compact 'Bent Listings

MANUFACTURER & MODEL	TYPE & DIMENSION	FRAME & SEAT	COMPONENTS
Black All Around 3.01 apt. Tel: 1-800-222-2120 http://www.black.com 9020 17-apt 9020 21-apt	Compact ABS 90-27 94-27 98H-17 97-26 97 02T, 74% (94/200%) Colors: black, olive, red, metallic Gear Inches: 25-27 or 25-18	Frame: 6005 Alum., mainframe extrusion, CroMo fork, investment cast CroMo fork base; 20 seat frame, 20 barstems, mesh back, plastic base/ foam cover. Steer: Standard & L.	Seat: Center 30" (21 apt), 30" SH (20). Saddle crank, KMC chain, Atwood, Shimano C80 80, Tektex Cantilever brake & levers, 20" x 1.75" tire with Puma V-Mountain tire, 18" x 1.75" (200mm), Olson Shim tire.
Black All Around All Tech Suspension 9020 17-apt 91200 21-apt.	Compact ABS Same as above. Gear Inches: 25-27 or 25-18	Same as above with CroMo swing arm and Chain-Drive ACS shock.	Same as above.
Black Roadie 7.01 apt. 9020 17-apt 91200 21-apt.	Compact ABS Same as above. Gear Inches: 25-27 or 25-18	Same as above (partial).	Same drivetrain, Shimano LX 9- speed (rear), P8 100 (front), 20" and 18" x 1.50" (200mm) 80 ps.
Black Roadie All Tech Suspension 9120 17-apt 91200 21-apt.	Compact ABS Same as above. Gear Inches: 25-27 or 25-18	Same as above with CroMo swing arm and Chain-Drive ACS shock.	Same drivetrain, Shimano LX 9- speed (rear), P8 100 (front), 20" and 18" x 1.50" (200mm) 80 ps.
Angletech Black AT3 HD (All Around) Tel: 718-887-7470 Angletech@aol.com \$1799.99	Compact ABS Same as above. Gear Inches: 21-22 or 22-18	Handled or optional suspension.	Epiphany ESP 9-20, Sachs 3x7 (21- apt), Midway Logic crank, Sachs chain, Atwood, P8 80, Magura brakes, 20" x 1.75" PWS w/Thru BT Comp, 18" x 1.75" PWS w/Comp.
Angletech Black R21 HD2 (Roadie) Tel: 718-887-7470 www.angletech.com \$1899.99	Compact ABS Same as above. Colors: black, olive, red and blue Gear Inches: 20-22 or 22-18	Handled or optional suspension.	Epiphany ESP 9-8 SL, Sachs 3x7 (21- apt), SH (20) alloy forged crank, Sachs PWS 100 chain, Atwood, Ultrag 88, Magura HD20 brakes, 20" x 1.75" PWS w/adjustable City Jet tire, 18" x 1.7" (200mm) PWS Comp.
Bay Racer 82-1 Tel: 408-722-8767 Toscano7@aol.com http://www.essports.com \$888 (21 speed)	Compact ABS 90-27 97-24.2 98-27 10" 97-26 97 02T, 70% (90/200%) Colors: red or black (optional) Gear Inches: 23-26	Frame: 6110 30, steel mainframe, mainframe CroMo fork, alum. barstems, alum. base; stem shell, (tube covered) base Steer: Standard & Large.	Shimano Acera-X 21-apt, Sachs Power Logic PWS, Shimano BX 20/200 chain, Shimano 80 100 400 & Cantilever brake, 20" x 1.50" PWS & 18" PWS w/Primo Control tire.
Linear Compact Black II Tel: 916-252-1917 http://www.linear.com/Linear/ Linear.htm \$1399.00	Compact ABS (optional ABS) 99-24, 27 & 30" 91-27 98H-17" 97-30 97 02T, 70% (90/200%) Options: Shimano, alum. shock or steel. Gear Inches: 21-18.4	Frame: 61 Alum. mainframe extrusion, CroMo fork, alum. ABS & bars, base; alum. frame, mesh back, nylon covered base/base Steer: 39", 42" and 47"	Seat: 30cs 20" 21-apt, Sachs Tektex 200, Shimano PWS crank, Shimano Cantilever (optional) brakes, ultrag front, 20" x 1.50" PWS, 18" x 1-50" PWS w/Primo Control.
Wheel Roadie 100E Tel: 1-800-383-4527 \$1399.00	Compact ABS Same as above. * Colors: Painted with clearcoat. Gear Inches: N.A.	Same as above.	Shimano 100, 24-speed, lightweight BRT80, Shimano 100 alloy crank, Mechatronic 10-crank & levers, 20" x 1.50" PWS, 18" x 1.50" PWS w/ Primo Control high pressure tire.
Wine Tailwind Tel: 916-252-8240 Maxwell-Raven.com \$999	Compact ABS 98-26.5 94-27 98H-17" 97-30 97 02T -varies (olive seat) Options: 10" PWS (optional) Gear Inches: 25-18.4	Frame: CroMo mainframe, CroMo fork, steel T-bar frame, steel chain base, comp. base, nylon-covered front seat Steer: 20" 20-20.5-26-22.5	Epiphany ESP 9-6/7-10-apt., Shimano 8-1 20-20.5, Sachs chain, YST 90, Shimano C80 80, Shimano Cantilever brakes & levers, 20" x 1.50" PWS w/Primo Control tire.
Angletech/Raven Tailwind 6L20 Tel: 718-887-7470 Angletech@aol.com MSL: www.angletech.com \$1099.99	Compact ABS 98-26.5 94-27 98H-17" 97-30 97 02T -varies (olive seat) Options: 10" PWS (optional) Gear Inches: 21.4-14.0	Same as above.	Epiphany ESP 9-6-10, Sachs 3x7 43- apt, Midway Logic frame 55/50H-17" crank, BT 80 PWS 140, PWS 80, Sachs chain, Shimano HD20, 20" x 1.75" (200) P w/Thru BT Comp
Redline 990-919 Tel: 1-888-Redline (732-4421) http://www.redline.com 3330-9000 9170 9-10 9120 2000 (w. a. 2000)	Compact ABS 98-27 94-27 98H-17" 97-30 97 02T, P.A. Colors: Red, Green, Blue & Black downcast Gear Inches: N.A.	Frame: 6110 mainframe & fork, steel barstems, steel nylon covered front hook and base Steer: one size	Shimano 10-apt. (200) 11-apt. (21.1), PumaShifters, steel 1-piece (200) style seats 20/200 (21.1), KMC chain, PWS cantilever brakes, 20" x 1.125" lock-up PWS, 18" x 1.75" lock-up PWS white Pong tire.
System Beta VR20 Tel: 604-987-0271 http://www.system.com/index 9900 (Frame 7-apt) \$1200 (21-apt.)	Compact ABS 98-27 94-27 98H-17" 97-30 97 02T -Varies Options: PWS 10" PWS downcast, Gear Inches: 20.8-20	Frame: CroMo mainframe, metal CroMo fork, steel, aluminum, steel, alum. frame, nylon mesh back, metal foam base. Steer: Standard & L.	Seat: Center 30" 21-apt or 30" Rear 7-apt., Chain crank, KMC chain, Shimano C80 80, hand rear brake, cantilever brake, 20" x 1.75" PWS, 18" x 1-50" (200mm) w/Comp tire.

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The Notebook of an Unreasonable Man

By **Kent
Peterson**

peterson@twikey.com

■ Kent's Mission Statement

◆ Okay, Bob Bryant's gone and done it now. Under the influence of far too many grand larcies he's agreed to give me some space in each RCN to write about my adventures in the world of recumbency. My best will be a little different. I cover the back alley heroics, the garages and dumpsters where new bikes don't come powdercoated and old bikes live on with the help of duct tape and determination. Bob didn't give me this column because I'm a great writer or even because I'll work for t-shirts and the occasional bike part. No, I got this job because I ride a lot (2,000 miles per year), I'm always thinking, and I'm obsessed with bikes. Each issue, I'll write about whatever is currently grabbing my attention. It may be a bike built from discards, a \$20 tailbox, Joe Kochowski's latest basement-built steamcycle, or my latest theory on what street clothes makes good "best-uses." I'll probably work in a few rants and raves or maybe I'll just write about my last ride in the rain or what I think makes for a good bike shop.

It's All Perfectly Normal

"The reasonable man adapts himself to the world. The unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man." — George Bernard Shaw

Recumbent riders tend to be an entrepreneurial bunch. It's only natural. After all, we've taken the road less-travelled and it has made all the difference. We ride bikes that are fast and comfortable. When we see other rides on the bikes that we found unacceptable, inefficient or dangerous, we just have to set them straight...

But perhaps this isn't the best way to win friends and influence people. I was actually delayed in my entry into the world of recumbency by one of these well-meaning enthusiasts. This particular fellow was a fervent gear geek who not only rode a recumbent, he rode the best recumbent. He had bought the frame but had it spec'ed with his own component choices because, of course, he knew better than the manufacturer what was best. The "best" was a screaming theme with this fellow. Never mind that he didn't ride that much or that he wasn't fun to be around. He had the best. If you didn't believe it, all you had to do was ask. Oh wait around for more than 30 seconds and he'd start telling you anyway. But my reaction to this fellow was that I did not want to emulate him. I figured if recumbent rides were like this guy, they weren't the kind of folks I'd like to hang out with.

Most of us aren't as extreme as the fellow I've just described though we all have those tendencies. And it doesn't help that we get quizzed at stoplights about our bikes and that total stranger-calls out "cool bike!" as we whiz past. A friend of mine has pointed out that a big part of a recumbent's appeal is it's oddness. "You like all the attention. Its like being in a parade."

My friend is right in some ways but in another sense all the attention gets to be wearing. Who wants to be in a parade all the time? And when I hop on my bike to

return a book to the library, I really don't feel like I should have to be an ambassador from the land of recumbency. I'm just a guy on his bike. It's all perfectly normal...

And that's when the light went on. That's what I want. I want a world where recumbents are normal. Yes, it's easy to get caught up with enthusiasm but it's also easy to fall into an attitude that says "I ride a better bike than you do, so I must be smarter." But that attitude is not only wrong, it's obnoxious. And it doesn't lead to more people riding recumbents.

But why should any of us care who rides what? Why should I care if every one else chooses to ride an upright bike? I've got my recumbent and it's great. Why do I want other folks to ride a bike like mine? Well, I can think of a few reasons.

◆ **VINDICATION:** No matter how independent-minded we are, there still is a part of us that responds to those voices telling us our bikes are cool and by extension that we are cool. And one of the strongest realizations of our choice is seeing other people make a similar choice.

◆ **SURVIVAL:** If I ride a Tour Easy, it's in my best interest to make sure that Gasden Martin makes enough money to stay in business so that five years down the road when I bust a chain drive, I'll have someone to turn to.

◆ **ECONOMIES OF SCALE:** This one is simple. If more people rode recumbents, the demand would increase. The companies making them could scale up production and prices would drop. Bigger companies would see that there is money to be made in recumbents and soon we'd have a company like Trek producing a good quality entry level "best" for \$300.

◆ **COMPANIONSHIP:** When I started

riding. Even I learned early on that I didn't ride at the same pace as I did when I rode as a sprint. It was faster on the flats and the downhill and I'll admit that I was slower on the climbs. Riding with upright bikes meant I spent a lot of time trying to adjust my pace to match that of the other riders. Eventually I hooked up with other "fast folk" and while we don't all ride at the same speed, we ride at a similar rhythm. And besides those folk were just so cool!

RE EDUCATION: Often when I'm talking to someone about recumbents, the only one they've ever seen is the one I'm sitting on. And while I can say that I'm comfortable with people choosing whatever bike they like to ride on, if they don't even know recumbents exist, I don't think that they are making an informed choice. So even though I've moved to these days the level of my recumbent preaching, I still make sure that people know that a bike doesn't have to have a diamond frame and big wheels.

Finally, it comes down to this desire of mine to live in a recumbent friendly world. And the more I thought about how great this world would be, the more I saw how I could help make it happen. The key is not to change the world, but rather, as John Lennon said "love your mind instead."

I made one slight adjustment. For too long, I'd been recumbent in my address. I'm a recumbent guy on a recumbent bike, I thought. But hey, everybody is weird. I'm unique, but so is everybody else. As a matter of fact, a lot of folks are weirder than me.

We all tend to live in our own versions of the world. George Carlin pointed out that when we are driving, we always drive at the proper speed. Anyone driving slower than us is a mason while anyone driving faster is a maniac. But we are always normal and right. Of course the truth is that one person's mason is another's maniac.

So I've decided that I'm normal. It's

perfectly normal to ride a recumbent bicycle to get everywhere I need to go. And the guy on the Kestrel or the woman in the Masala, well, they're normal too. But rather than defensively arguing about my choice of vehicle, I ask them about their ride. "So, I bet a light bike like that can really climb," I say to the Kestrel guy. "That Masala sure is a nice car. How do you like it?" Once strangers get used to another stranger making conversation at a stoplight, what he's riding isn't much of an issue. Of course I still get asked questions about the bike and I answer them cheerfully but my answers these days now stress the normalcy of a recumbent as the address.

"Yeah, Angle Lake Cyclery has the best selection," I say, "but Bike Works or Montlake Cycle has some nice recumbents as well." Wow, I've just honestly listed three local shops that carry recumbents in response to someone's question. You know, these things are perfectly normal!

And I've noticed a change in the most common questions I get at intersections and in parking lots. I'm getting fewer "What is that?" questions and a lot more "How do you like your recumbent?" questions. And I think that's a good sign.

We are still far from a world where all bike shops have small diameter high pressure tires in stock. Where bike computers come with cables that are long enough to reach from the wheel to the computer without my having to splice in a length of speaker wire. Where I can easily find unspliced bike shorts and jerseys with front pockets. But we're getting closer.

Newspapers when I go to a bike shop I might ask them what recumbents they carry or what 20 inch 300 psi tires they have in stock. Yes, I get a lot of blank stares and people thinking I'm weird, but sometimes I get someone saying "We just sold our last Road, but we're getting another shipment in next week," or "What kind of tires should

we have? We can order anything you need." And that, my friends, is progress.

If a man walks into a bike shop, asks about recumbents and is turned away disappointed, the shop owners may think he's weird and ignore him. But if a couple of days later another customer walks in and asks about recumbents, if the shop is smart, they'll take notice. And if the third and fourth and fifth customers come in and ask about recumbents, well then the shop owners would have to be nervous not to recognize a market when it walks in the door.

Recumbents aren't weird bikes and the people that ride them aren't weirdies. By being out there on the road, talking to strangers and voting with our wallets we are changing the world. And the shops who choose to turn away our business? Well, I don't like to judge but to me they just seem weird. ☐



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■ MIDWEST "BENT" ROUNDUP

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■ MIDWEST RECURRENT RALLY

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■ CRUIERS OF THE MOON BENT TOUR

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■ WORLD SPEED CHAMPIONSHIPS

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■ BIKE CULTURE WEEK

July 15-25, 1998

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Dylan McDonald Tel. 21/3458-1040, Fax: 21/345-4359 Email: Dyand@btadventure.com

■ CYCLESIDE '98

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John Bradshaw Tel. 0144 4524 5270, Fax: 0144 41 3241841070 Email: Johnbradshaw@UC09A.ac.uk

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PLANNING A BENT EVENT Are you planning a bent event this season? If so, let us know ASAP so we can place it in the 1998 calendar. Do you want to form a bent group? Pick a name, call and send it to us with contact info.

■ **ALABAMA**—North Georgia. Meets first Saturday of the month, 9 a.m., from Holden Staff, City Hall-Cat Cave @ 205/492-3454 or Email: dogdays@sybryna.com

■ **CALIFORNIA**—Hatsanville. 3rd Sat. of each month at 9:30am Day Races @ 408/702-8997.

■ **CALIFORNIA**—LA area. Third Sat. of every month, 10 a.m. at Burton W. Chaco Park, Miraloma Hwy. Miraloma Del Rey CA. Chris Brown Email: cbrown@erco.com

■ **CALIFORNIA**—Orange County 2nd Saturday of the month ride to the beach. Meets at People Movers Call Jim @ 714/523-2800

■ **CALIFORNIA**—Palo Alto. Call Alvin Chin @ 650/571-5147

■ **CALIFORNIA**—San Francisco (SFO) Day Area Recourbent Cyclists. 1st Sat. of each month, 10am at the Larkspur Landing fountain off of Sir Francis Drake. Will ride in any weather. Contact Zach Kaplan (415) 381-8728 or zkaplan@earthlink.net.

■ **CALIFORNIA**—San Diego. Last Sat. of every month from the Mission Bay Yc. Ca. Hill Vets @ 619/524-8223 or Email: bill_cole@bigdip.com

■ **CALIFORNIA**—Sacramento. Recourbent Riders of Sacramento national and overnight ride along the Am. River Flwy. Days @ 916/494-1498, Dave @ 916/483-4435 or Email: Recurbent@aol.com

■ **CALIFORNIA**—San Diego. 52nd Year of San Diego (1-30 mi. E of LA) 1st Sat. are workout type rides of 25-50 mi. Sun. are casual/breasted rides of 10 - 20 mi. Contact: edward@www.erco.com or edward@bigdip.com

■ **CONNECTICUT**—Recurbent Yankee Pedalers meet the second Sunday of Jan. Dave Tipping @ 203/334-0807 or Email: rtj@juno.com

■ **FLORIDA/POOLS CROW CYCLES, LAMERS, (Bike)meets** Call for schedule. Ed Dearden @ 804/224-4787 or email: edde@freelink.net

■ **GAHO—HAWLEY** (San Valley area) 800 or People @ 208/788-6432

■ **ILLINOIS**—Chicago. Contact: Len Brunick, 200 S. Channing Apt. 47, Elgin, IL, 60120-5819.

■ **ILLINOIS**—Chicago. Contact: Fred Kede @ 617/3207-8504

■ **ILLINOIS**—Champaign/Edwardington. Tom Smith @ 217/551-7385 or Email: tomsmith@jps.net

■ **MASSACHUSETTS**—North Shore. Riders wanted Contact: Bob Wood @ 508/774-8908

■ **MICHIGAN**—Michigan HPV Michael Blazynski @ 616/828-6288

■ **MICHIGAN**—Michigan Silver-bents (S.S. Group) Meets 2nd Sat. at Willow Metropark, Inter through New. Email: SAGE for Hwy. 800 Anniversary, 700 Dwight St., Trifurco, MI 49784, (715) 987-8000 or 800biker@compuserve.com

■ **MINNESOTA**—Minneapolis. MHPV Meets 2nd Wed. 7:30 PM Lake Nokomis Community Ctr. Pre-1987 Ride 6:00 PM - Max-Carl, Mark Stokich @ 612/934-3000

■ **MISSISSIPPI**—Omaha. County Outlets Meet 2nd Sat. 9:30 mi. Contact: Armand Gilbois @ 405/533-4472 or <http://www.ridely.com/~armangr.html>

■ **NEW MEXICO**—Albuquerque. Ride one Sunday morning per month. Contact: Heater at Aesthetically Recourbent @ 505/348-7700

■ **NEW YORK**—Rochester. RARE (Rochester Area Recourbent Enthusiasts) Contact: Hank Nussler @ 716/238-4257, Michael Blazynski @ 716/481-8284, Dave Larson @ 716/238-4118

■ **OHIO**—HPV Assoc. Meetings followed a monthly newsletter. Ride contact: Jeff Mills @ 502/254-2735 or Email: jmills@pacbell.com OPRK, PO Box 814, Beaverton, OH 43725

■ **TEXAS**—N. Texas. R-1000? 4th Saturday of the month. Call for time and location, @ 972/326-1228 or Web: <http://web2.aolmail.net/~frank23@earthlink.net>

■ **TEXAS**—Houston. Ride on the 2nd Saturday, 8am start. Meet at Katy Hill year round. Come join us Contact: Pat @ 281/287-0807

■ **UTAH**—Riverdale. Comfortable Crotch Club Monthly get-togethers. West Padgett @ 801/568-2447

■ **WASHINGTON**—Seattle. So. King Co. LOW-DOWN SLACKBACK. Bent Riders: Meet Fri 1st Saturday at 8:30 am at the Lake Mead Interlocking Iron Rail. Local group ride weekly. Meet @ 8:00 for schedule. scw@erco.net 1-972 or Email: Dr-Recurbent@usa.net

■ **WASHINGTON**—Reverier. Meet on the 3rd Sat. from the Old Holland Bakery. Gabe Simpson @ 360/84-1947

■ **WASHINGTON**—SE. WPTW? Two Wheelers. Recourbent Riding Tomatoes Teachers of Valley Falls. Wor@erco.net

■ **WASHINGTON/DC AREA, MALLS, Meets** Saturdays weekly @ 8:15. (8 a.m. starts) at the West Hill (see Center, MD, north end of Beach Drive, weather permitting, at 8am. Contact: Wc Susanna @ 301/588-3200 or wrn@erco.net

■ **WISCONSIN**—Greater Madison. Recourbent Bikers. Last Sat. Sun at State St. corner of the Capitol. Meet Sat. Sept. Contact: mfr@ho.nrc.edu

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