

RCN #19/20 1994 RCN Buyers Guide Double Issue!

Recumbent Cyclist NEWS



**The Most Innovative Recumbent builder in
the USA & the Amazing Presto Ti XL
Titanium SWB Recumbent!**

.....
Vendor-Please Display Throughout 1994

\$7.95 USD/ \$10 First Class Mail/ \$14 Canadian/ \$12 Airmail USD

RECUMBENT GLOSSARY

Frequently used recumbent terms.

BMX: Bicycle Moto Cross: very tough (generally) kids bikes that use tough steel or sometimes alloy components.

FWD: Front Wheel Drive

GEAR INCHES: A formula used to determine range of gears: front chainring divided by rear cog multiplied by drive wheel diameter.

FAIRING TERMS:

FAIRING-PARTIAL: An aerodynamic windscreen, usually made of Lexan plastic (Small Zzipper).

FAIRING-FULL: This fairing shields both the legs and upper body (Super Zzipper/ Ryan Zzipper/ Presto Zzipper).

BODY-PARTIAL: A front nose cone or fairing used with a soft material such as that Lycra or Nylon that fairs the vehicle, removes easily and is usually open at the bottom (Gold Rush Replica or Counterpoint Presto body stockings).

BODY-FULL: An aerodynamic body consisting of front, rear, side and bottom sections. Streetable HPV's use a combination of hard/ soft fairing materials (Lightning F-40/ F-86). Racing HPV's use hard shell bodies throughout (Gold Rush / Lightning X-2).

FRAME CONSTRUCTION TERMS:

TIG WELDING: Tungsten-Inert-Gas; a proven no-lug process common in mountain bikes. Tubes must be metered perfectly. TIG quality is plainly visible. Common on recumbents: Tour Easy, Ryan, Presto & A.T.P.

LUGGED: External butted joints. A traditional form of building bikes. Very rare on recumbents.

FILLET BRAZING: A joint is created by flowing brass around the tubing junctures. Most builders then file or sand to create a smooth nice looking joint. This can be the highest quality of all joints, but there is no way to tell the quality by looking. Skilled builders use a minimum of heat and time to braze; others cover mistakes with body putty and paint. Fillet Brazing is used on some recumbents and the favorite of homebuilders.

H.P.V. Human Powered Vehicle.

HYBRID: a) A popular cross bicycle that is 1/2 road and 1/2 trail, b) human/ Electric power. c) human/ gas power.

IDLER-CHAIN: A modified skateboard wheel, partial rear derailleur cage or derailleur pulley on a custom mount used to carry or direct the excess chain on a recumbent bicycle. These are necessary on SWB & LWB recumbents with wheelbases of 66" or longer.

I.H.P.V.A.: International Human Powered Vehicle Assoc. Publisher of HPV News & Human Power

I.H.P.S.C.: I.H.P.V.A.'s Speed Championship Event held yearly.

INDEX SHIFTING: One click per gear shifting common on most new bicycles

INDIRECT STEERING: Sometimes used to describe underseat steering. This actually means steering via a rod, linkage or cable that connects the handlebar to the fork.

INTERMEDIATE DRIVE: Having two chain drive system with a means of shifting gears in between the crankset and free-wheel. This is traditionally done with a freewheel and a front or rear derailleur to shift the cogs. The bike may then have another rear derailleur at the rear wheel or another front derailleur at the crankset or both.

LWB: Long wheelbase 56"-71" + (crankset low and behind front wheel).

LOW RACER: A SWB recumbent whereas the chain does not go up through idlers to clear the front wheel. The chain travels directly back to the rear drive wheel. Low Racer's are build as low as possible for HPV racing.

CLWB: Compact Long Wheelbase 46"-64." Recumbents that have the LWB configuration where the crank is low and behind the front wheel. the CLWB is for bike where the designers have made an effort to shorten the wheelbase by raising the seat and/or using smaller wheels. This design is compact and user-friendly, but mainly suited for entry-level bikes. With the seat

high, and located farther back on the frame, high speed performance/ handling can suffer. Hard-cornering on a CLWB is next to impossible. As a fitness bike, neighborhood /beach cruiser, rental unit or extra bike for the wife and kids, the CLWB cannot be beat. This is also the largest selling type of 'bent in North America.

SWB: Short wheelbase 33"-45" (crankset high and in ahead of front wheel).

MOULTON: An English full suspension conventional bicycle that utilizes 17" rims and tires (100 and 130 p.s.i.) specially made and commonly used on SWB recumbents.

R.B.C.A.: The Recumbent Bicycle Club of America founded by Dick Ryan. This organization is now active (us) in name only.

RCN/RCM/RCN: Originally, the Recumbent Cyclist Newsletter founded by Robert J. Bryant in 1990. We changed our name to "The Recumbent Cyclist Magazine" in 1991, and then to "Recumbent Cyclist News" in 1993.

RCN CREW: A) This generally refers to the RCN staff/ Robert Bryant's wife (owner of RCN) Marilyn and kids, Amy (5) and Dan (1.5). B) At recumbent/ HPV events, this can refer to anyone in the RCN traveling entourage (anyone who chooses to hang out). C) RCN readers who volunteer/ choose to write on a given subject suggested by RJB. D) RCN volunteers.

RWS: Rear Wheel Steering.

STEERING ROD: The steel or aluminum rod that connects the fork to the bars.

STEERING STRUT/ STEM EXTENSION: Mainly used on SWB recumbents with above the leg steering, although sometimes used on LWB recumbents. An extension that rises from the stem, head tube or false head tube to lift the handlebars high enough to clear the legs.

UNDERSEAT STEERING: Steering via handlebars that on a LWB pivot underneath the bike's seat, or on a SWB mount to the fork or extend from the head tube.

ZZIPPER: A Lexan recumbent fairing built by Zzip Design.

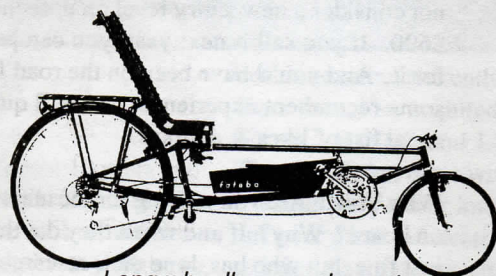
HAVE YOU EVER CONSIDERED A RECUMBENT BICYCLE?

WHY RECUMBENT BICYCLES?

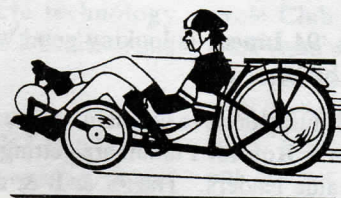
There are many reasons to consider a recumbent. First and foremost is comfort. When you ride a recumbent bicycle you will no longer have an aching back, stiff neck, numb wrists or a sore bottom. You will sit in a relaxed easy-chair position. You will be able to ride longer with less fatigue and arrive at your destination feeling refreshed. The recumbent position offers you a great view of the countryside, while seated you will look straight ahead, this allows your lungs and chest more open and free breathing. Recumbents are very versatile machines, they can be used for a wide range of applications: recreational/ sport riding, for the daily commute, a fast double century and they are great for long distance touring.

RECUMBENT PERFORMANCE:

Recumbents hold all of the human-powered speed records. This is because they are aerodynamically superior to conventional bicycles; less frontal area means less wind resistance. The Lightning F-40 currently holds the Race Across America speed record of five days and one hour. Gardner Martin's Easy Racer Gold Rush ridden by Fast Freddie Markham was the winner of the Dupont Prize for breaking 65 m.p.h. You can currently buy production versions of these bicycles. Fairings for street use are common and optional equipment on most



Long wheelbase underseat steering recumbent.



Recumbent trike

fairing, it can range from 15%-25% faster. With a full body it can be even more. Street use recumbents are not always faster than conventional bicycles. It depends mainly on the individual rider. Your best bet is to do your homework and if your goal is performance and speed, be sure that you look

for a recumbent designed for this purpose.

COMMONLY ASKED QUESTIONS ABOUT RECUMBENT BICYCLES: 1)

Do recumbents

climb hills well? Yes they do, although climbing on a recumbent requires a different technique, you must gear down and spin. Maintaining an efficient spin takes some practice & conditioning, once mastered it takes less physical effort to climb hills. Depending on your riding style, your speeds can range from slower to even faster than on a conventional bicycle. 2) Can recumbents be seen in traffic? Recumbents with a higher seating position may be better suited for riding in traffic than some of the low-slung designs.

The use of proper safety devices such as safety flags and reflective devices is recommended. Recumbent bicycles are different, futuristic and they get noticed. Many riders feel they get more respect from motorists while on their recumbents.

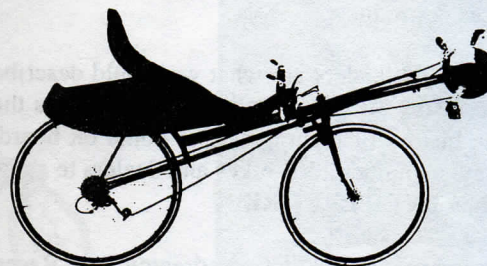
3) Are they safe?

Recumbents are safer than a conventional bicycle due to the low center of gravity, they stop faster. Brakes can be evenly applied to both wheels simultaneously providing more traction without throwing the

rider over the handlebars. In crash situations, the rider goes down to the side absorbing the impact with the hip an leg rather than flying over the handlebars and absorbing the impact on you head and shoulder. Straight ahead vision is also better on a recumbent, however, rear view mirrors are necessary for proper rearward vision.

RECUMBENT PAST HISTORY:

Why are recumbents such a rare sight? Space age technology? New type of bicycle? Not really, recumbent bicycles actually go back as far as the mid to late 1800's with the Macmillan Velocoped and the Challand Recumbent. In the 1930's a series of events took place that changed bicycling history. A French second category professional track cyclist named Francois Faure rode the Velocar,



Short Wheelbase recumbent

a two wheeled recumbent bicycle designed and built by Charles Mochet, to record-shattering speeds breaking

both the mile and kilometer records of the day. This created a storm of controversy within the U.C.I. (United Cycliste International), bicycle rating's governing body. The debate centered on whether the Velocar was a bicycle and were these records legal? In 1934 they ruled against the Mochet-Faure record, banning recumbent bicycles and aerodynamic devices from racing. Were U.C.I. members worried that the recumbent bicycle would displace the conventional design? Did they realize this would freeze bicycle and human-powered vehicle development for the next forty years? This is why bicycles of today look

Continued on page 4.



EDITORIAL LICENSE:

by Robert J. Bryant, Publisher

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WELCOME RECUMBENT CYCLISTS! to our 3rd Annual RCN Recumbent Buyers Guide!

This issue has historically been the most popular, media-attention getting and information-packed 'bent issue of the year for us. We have compiled the most complete package of recumbent information ever put together. We have also tried to help would-be buyers and homebuilders to learn about the various types of recumbents and be able to select the proper type for their budget and style of riding. We hope you enjoy this issue.

Why Wait! With this buyers guide we hope to achieve several things. First and foremost, we want to bring you into the world of recumbent riding. You will soon learn that recumbents are the wave of the future and the absolute most comfortable way to enjoy cycling. If you are a seasoned veteran, welcome to 1994's line of bikes & products.

Why Wait! Some RCN readers are what we would describe as "Couch Enthusiasts." If this is you, listen up, this is the **BEST** time in the history of recumbency to come on board. There are more new manufacturers, bikes and dealers to show you their wares than **EVER BEFORE!**

Why Wait! If you cannot afford that new dreamy Easy Racer, Lightning or Presto, why not drop your sights a bit and get on the road? Pete Lardo, an RCN reader from Florida was in the same boat. Thanks partly to RCN, he now has three 'bents. Pete's first was an Ed Roeters Alternative Bikestyles unpainted frameset plus a second hand upright equals a recumbent for less than \$200! Is this too much? We have listed sources for

NEW FOR 1994!

The 3rd Annual Recumbent Cyclist News Buyers Guide is full of the latest & greatest of the year. There are lots of changes for this year, as well as brand new manufacturers & models. Here is a small sampling of what you will find in this issue.

Right away you will notice ATP's deluxe offerings for '94. The spec's, options and bikes looked so good to us that we awarded ATP with "Editor's Choice For Best Recumbent of 1994." Please keep in mind that you may need a degree in engineering to decipher all of the model names & parts designations. **Rans** is on the move, now more than ever with the new Response, Tailwind and upgraded service. Reports are

building plans & homebuilts so, it's time to get on the road. Why not consider a new entry level recumbent? These start at around \$600. If you sell it next year, you can probably get nearly \$500 for it. And you'd have been on the road for a year! Once you get some recumbent experience, you will quickly compile your personal list of likes & dislikes.

Why Wait! Are you waiting for the major manufacturers to come on board? Why? If and when they do, the bikes will probably be just fine, but who has done their research, design and road trials? Are their bikes similar to what's on the market already? **RCN Fact:** You don't become a recumbent expert overnight, even if you have mastered MTB Technology or Gel Seat Consistency Studies. It is our faithful manufacturers, designers and marketers who know recumbents. 1994 marks the best year ever for recumbent selection. **Do you want a LWB?** Who do you call? Dick Ryan (Ryan), Steve Hansel (Linear) or Gardner Martin (Easy Racers). These are the LWB experts. Do you want a SWB? Who do you call? Joel Smith/ Grant Bower (ATP Vision), Kelvin Clark (Presto) or Milt Turner (Mr. Laid Back). These people and many others listed in this issue are the experts. There is no reason to wait for for "Vapor-Bikes," go with the recumbents that our experts are building NOW! Where are they? They all read and most advertise in RCN! Just order up a recumbent bike and get on the road.

Viva Recumbency!

Robert Bryant, Publisher ☺

PS: Please see our reader survey/ renewal/ order form on page next to the last page of this issue. Check out the special savings!

that the '94 **Linear** is looking good with Grip Shifts, and upgraded brakes.

New Manufacturers to watch in '94 are as follows: The **Haluzak** Horizon & **Rotator** Pursuit are getting good feedback and seem to be value leaders. The **S & B** & turner frame-kits are real bargains and offer riders the opportunity to get on a SWB for a discount price. From the East Coast comes two bikes from the drawing boards of Bill Darby. The **Sprite**, was pictured in RCN last fall, the **NeoByke** is like the Sprite, but in a CLWB format. This looks like an excellent bargain. Also, just before going to press, we heard about the new **Maxam** \$359 recumbent. We hope you enjoy our 3rd Annual Buyers Guide!

The RCN Crew



POLAR-'BENT

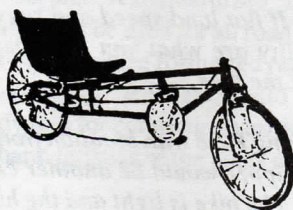
Dear RCN,

I got my first recumbent about 10 years ago from Gardner Martin. I had seen an article on the bike and loved the look of the <recumbent> seat. I've been in love with recumbent riding ever since. I now own four different Tour Easy models ranging from my original large frame, a custom frame for my 6'5" height, a custom frame that allows for a MTB tire which I use here in Barrow Alaska where we have nothing but gravel roads and a small frame for my wife which she loves dearly.

For all those years, I rode in relatively ignorant bliss never knowing there was a world of enthusiasts out there. That all changed the day I saw your ad in the back of a bicycling magazine. I immediately subscribed and the whole world of recum

bent innovation and enthusiasm opened up. Since then, I've acquired a Linear, ReBike, Turner LB-2000 and LB-E for my wife. They are all fun bikes with their own niche. I would have never known of them without your great publication. In case you're wondering what I do with all those bikes, I have a bike rental business in Barrow, Alaska, called "Arctic Circle Cycle." So, if you are ever in Barrow and want to try a recumbent, give me a call (Ph#907-852-2010).

Yours Truly,
Jim Vorderstrasse
Barrow, Alaska



Have You Ever Considered a Recumbent Bicycle Cont'd From Page 2.

very similar to the Starley and Sutton Safety (upright/ conventional) of 1885. Just think where bicycle technology would be today if the U.C.I. decision had gone the opposite way.

MODERN RECUMBENT HISTORY:

Recumbent development was fairly quiet until the late 1960's. Dan Henry received some media attention for his long wheel-base design in 1968. In the early 1970's, the human-power revolution was starting up on both the east coast by David Gordon Wilson, designer of the Avatar, and on the west coast by Chester Kyle. These pioneers recognized the need for further

development of human-powered vehicles. In the late 1970's and early 1980's this led to the first commercial recumbent bicycle designs such as the Avatar, Easy Racer and Hypercycle. In 1990, the Recumbent Bicycle Club of America was founded by Dick Ryan who currently manufactures of the Ryan Vanguard and was also involved with the Avatar project in the early 1980's. In 1988 Recumbent promoter Robert Bryant got his start writing "Recumbent Ramblings," a column for "HPV News." In the Summer of 1990 Robert founded the "Recumbent Cyclist Newsletter," and in just under four years, RCN has become the source for recumbent bicycle information in the world today. □

Viva Recumbency!
Robert J. Bryant

RCN PUBLICATION INFORMATION

Recumbent Cyclist International is a sole-proprietorship in the state of Washington. Recumbent Cyclist News is 100% dedicated to promoting recumbent bicycles and providing and encouraging communications between HPV enthusiasts, home-builders, dealers and commercial manufacturers of recumbent bicycles. We are the only recumbent-only news publication in the world today. We are cycling's future.

SUBSCRIPTION INFO: Recumbent Cyclist News is published 6 times per year. To subscribe, please send: USA Subscription-\$25, Canadian-\$45 (Canadian Funds-personal checks OK), and International/Worldwide Air-\$45 (US funds/ cash). We also offer Deluxe "Supporter" subscriptions ranging from \$40 (1 issue mailed first class) thru-the Supporter-X (10 copies mailed 2nd day priority-\$100). These deluxe subscriptions are mailed the day we get the issue back from the press. They are mailed in a large flat envelope. If you are interested in upgrade information for your subscription send your inquiry to us or leave us a voice mail message at Ph:# 206-852-8149.

RCN SUBMISSIONS:Please write or call for our reader/ writer submission information sheet. This is information is important. Ph:#206-852-8149

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RCN#19/20 COVER: Titanium Presto cover photo courtesy of Angle Tech. Logo graphics provided by Mark Colliton of Kensington Design in Kensington, MD.

DEVOTED PRODUCTION STAFF: Publisher: Robert J. Bryant, Circulation/ Business Manager: Marilyn J. McKee-Bryant, Production Assistant: Jeanene Smith. Issue Layout proudly done at the offices of RCN in beautiful downtown Kent, Washington, USA. RCN is written and produced exclusively on an Apple Macintosh II ci computer system.

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LWB-FAST/ SWB-CLIMB WELL?

Dear Robert,
I enjoyed the comparison between the Tour Easy and the Presto by Ollie Deex in RCN#18. But, But, But; there was one very important attribute I would have liked to hear more about (which for me is the basis for comparison)- climbing ability! I own three recumbents a LWB Rans, A CLWB BikeE, and a SWB Presto. I have noticed that the LWB (low bottom bracket) is very fast going down hill, but a little tough on the climb. The SWB (high bottom bracket) Presto, on the other hand, has excellent climbing ability.

Sincerely,
Richard Belcastro
Schaumburg, IL

Richard, we have had similar results from these bikes. It seems like high bottom bracket bikes get more leverage to the pedals and climb better and the low aerodynamic LWB recumbents are fast down hills and on the flats.

READER DOESN'T LIKE RCN'S "STYLE"

Dear Robert,
I have enclosed my subscription and back issue order. Some friendly advice, Robert. Your publication will be more appealing when you stop your pleas for sympathy and your tendency to snivel. Your current style is not likely to bring any investors.

Sincerely,
Jeff Fettig
Monument, CO.

Blah blah, blah blah blah, blah blah blah blah blah.....

SPEEDY 'BENTS

Hi Robert,
I ride with a group of road riders 100-150 miles per week. I am the only rider who also does the mileage on a recumbent. I have an Infinity.

Next Summer, we plan to ride from Vancouver BC to Lodi, CA; our home. I plan to ride a recumbent. Most of the riders plan to draft the only tandem in our group in order to average some 150 miles per day.

Presently, I can only think of three recumbents that I feel might be able to maintain 21-25 mph on. They are the Kingcycle, Lightning P-38, and Tour Easy. I am not asking you to choose the best for me, however, I would appreciate your insights, suggestions or comments.

Thanks.
Richard Bonjour,
Lodi, CA

Dear Richard, thanks for the letter. I must be very careful in answering a letter like this, but, I think the subject needs to be addressed. Here are some candid personal thoughts on how I feel about these bikes, hopefully, this will help you in your decision making.

I have ridden all of the above bikes except the Kingcycle. I have the fondest memories of my original Tour Easy purchased back in 1987. My current Gold Rush Replica test bike is the fastest recumbent that I have ever ridden--with or without the Lycra body. The Tour Easy with a Zzipper was designed for fast touring, the lighter Gold Rush Replica is more of a high performance bike, however, I've seen them tour before. The drawback of the Tour Easy is the bikes weight. If flat land speed and rugged dependability are what you are after, Easy Racer is the bike.

A Lightning P-38 with Moulton front wheel and a Zzipper would be another excellent choice. The bike is light and the high bottom bracket makes it an excellent hill climber. The drawbacks would be that the bike is not really built for loaded touring, although I know several riders who've done it successfully. And don't go anywhere without at least one extra front tire and a few extra tubes. If out and out speed was the most important factor, the Lightning F-40 would be my choice. When the body is added to the Lightning, it makes for a very fast bike.

The Kingcycle is beautifully crafted bike. The drawbacks for a ride like yours would be that it uses a really odd 18" front tire size. For fast cruising, a Moulton equipped Lightning would be better choice than a Kingcycle. The seat on the P-38 is fabulous and light years ahead of Kingcycle or Tour Easy. Kingcycle has a unique trunk

and nose fairing. This will make the bike more aerodynamic than the P-38 with Zzipper, but not in the range of the F-40.

Other bikes to consider are the Counterpoint Presto and ATP. I have owned and ridden one extensively. Although not as fast as the Gold Rush, the handling, plush suspension and seat make it an excellent choice. If comfort was my #1 goal, this is the bike I'd choose. The new Presto Zzipper and a set of IRC Road Lite EX tires, this bike may give the Lightning a run for its money.

I suggest that you ride all of the bikes that you are considering buying. Call the manufacturers for local riders and get the Easy Racer and Lightning videos. Good luck.

EXPENSIVE RECUMBENTS

Dear Recumbent Cyclist,
I have been a subscriber for over two years. I dream of my ultimate recumbent with every issue of RCN. Here lies the problem. All the recumbents that I like are way out of my price range. For instance, Lightning's P-38, is my current dream. But, \$1800 dollars is.... way too much for my thin wallet. I don't intend to just target Lightning, but all of the recumbents that I would like to own are in that price range.

I understand the dynamics of supply and demand, but the demand will never be high if the cost is too high. If I purchased a butt numbing, hand sleeping diamond frame bicycle for \$1800, I could have a twenty pound carbon fiber bullet. What's a bikeless rider to do?

Sincerely,
Anthony Wasion
Tuscon, AZ.

Anthony, thanks for the great letter. First of all, the top of the line recumbents are not that far out of line when you consider the following: Recumbents are built in small numbers, thus more expensive. If you compare price-wise that \$1800 recumbent to any built in the USA custom bike, you will find that they are not that far out of line. I think the only thing that will bring the price of the \$1800 recumbents down

Letters.....continued on the next page

Letters..... continued

would be if a company like Specialized or Schwinn builds a recumbent. I can almost guarantee you that it will not be anything as thoroughbred as a Lightning P-38 either. If you take a look at Specialized road bikes, you will see that one equivalent to an \$1800 recumbent is over \$1000....and made in the orient....and not lovingly hand-crafted in the US of A. Another thing, would you want an upright bike at all? Or a bike made of, uh, carbon fiber.....The RCN retrogrouches are partial to steel bikes or aluminum ones with great warranties....well, that's a story for another time.

Now that I have defended these blue blooded speedsters, I will tell you how to make the most of your recumbent-buck\$:

A)Take a look at the new "affordable" enthusiast bikes. You can usually get a better deal from an upstart company. Keep in mind that there is no free lunch and veteran manufacturers have learned how much they need to sell bikes for to stay in business. A long term reputation does not come cheap.

B) Buy a frame-set and strip your MTB or roadie down to the frame.

C)Watch RCN classified ads for a used bike. You can save \$500-\$800 on a one to two year old bike. You could even advertise for one-RCN Want ads.

D)Build a 'bent. RCN has done many homebuilder stories and company's like CycloPedia make it easy with the kit-parts they sell.

D)Save your money and/ or sell your car. Think of how much money you will save if you get rid of your car in favor of a recumbent (if you have a car). Most people spend more on car insurance and gasoline in one year than an \$1800 recumbent would cost.

RCN ROAD TEST STANDARDS QUESTIONED

Dear Robert,
Since it is obvious that you and your staff

listen closely to readers. I would like to offer what I hope are some useful ideas to enhance your great publication. Specifically, I have been thinking that more quantitatively formatted reporting may lessen the "personal impression" nature of your tests. This formatted reporting may lessen the "personal impression" nature of road tests. The testing may take the form of "standard condition" tests. For example, the braking portion of the road test could always be done on a designated marked out course, the braking portion starting always at the same point at the speed, with the same size/ weight rider. Handling could be carried out on a standardized slalom course, entering the course always at the same speed, then measuring the speed and elapsed time at the end of the course. A turning radius test would also be enlightening. Straight away speed tests would likewise be standardized, always using a similar bicycle computer to record speeds. Local wind speeds can be measured with a hand held wind velocity meter and reported along with the associated test data.

The second feature of such testing would be the format. A standardized "check list" format would be used for all road tests. You could even create a formatted report file in your computer. Readers would then have a handy tool for comparing various features and characteristics of the bikes reported on.

I hope that some of these ideas may help to take some of the "heat" off your faithful and daring road testers. You are, to this reader, doing a great job and deserve your readers enthusiastic support.

Keep'em rollin'
Ed Katz
Northridge, CA

Dear Ed, Thank you for your support of the Recumbent Cyclist. We strive to make our road test evaluations better with each one we do. The "personal impression" format which you describe was my original intent when I started publishing RCN. Over the past three years, I have tried, with every new road test, to print more fact/spec based information. RCN strives for accuracy and to offer readers the best test we can given RCN's limited resources. RCN

road tests offer the best of both personal impression and the quantitative information. I would be concerned that the testing you described could possibly lead to false representations of various recumbents as the variables during any given test day or bike are just too hard to control. This may lead to huge errors without much effort. I found this to be the case during my experimentation with coast down and braking tests this past summer. No other bicycling magazine does any performance testing. Bicycles are not like cars, where power/ speed=1/4 mile times is nearly a given. The limits of human power, the wind, the pavement, the tire air pressure, power to weight ratio, and how the human machine feels on any given day will all affect testing. Your thoughts are most definitely appreciated and I always want to hear what RCN readers have to say. I am always open to new ideas and ways to test and if it's within our means, we'll try it.

RCN #1 FAN!

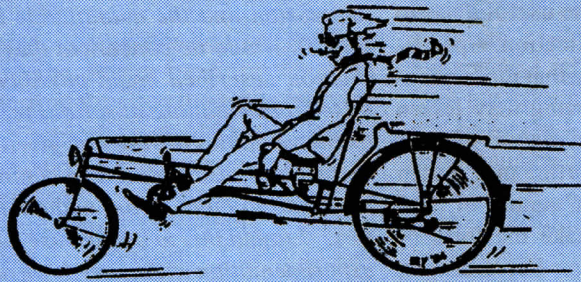
Dear Recumbent Cyclist,
That was an excellent article about the BikeE in the September-October issue. Although it is straightforward, well-thought out design, it is so unusual that many people probably wouldn't find it attractive, unless, perhaps you can see it in glowing anodized colors). Your article made me see this bicycle in a whole new light.

Steve Smith's bike looks great too, and thanks for the article. Can he be reached for detail sketches?

Your magazine is absolutely great! I'm like a twelve year old waiting for Christmas between issues. Where else can a person see truly new engineering and design concepts emerging, read about HPV Speed Week and find tips on building your own bikes? Just great stuff!

Sincerely,
Armand Gibbons
Omaha, NE

Please send more letters just like this one.....☐



DOCTOR RECUMBENT

RECUMBENT HILL CLIMBING

Dear Dr. Recumbent,

Why isn't there a believable or consistent answer to why many recumbents bicycles do not climb as well as traditional bicycles. I own two recumbents, a MWB and a LWB. The MWB seems to climb a little better, while the LWB offers a more shock absorbing ride. (although each bike has it's advantages for other factors). What's your opinion, Doc?

Sincerely,

Richard J. Belcastro
Schaumburn, IL

Dear Richard,

First off, I better say that I am personally slower climbing steep hills on recumbents, but on smaller rolling hills, I am able to keep my flat-land speed up, which keeps my climbing speed faster. We regularly get letters from readers who say they are faster up hills. These are generally very fit athletic riders on performance machines. Gearing, bike weight, bike design, rider weight and fitness level all play a large part in hill climbing. The best hill climbing recumbent we've tested is the Lightning P-38 with its stiff boom, high bottom bracket and light weight. We have also heard that the front wheel drive homebuilts are good climbers. Gearing is also important. Make sure your bike has low gears (a minimum of a 20-25 gear inch low) and learn to spin. After all this ride and practice going up those hills.

Dr. Recumbent

'BENT TIRES

Dear Dr. Recumbent,

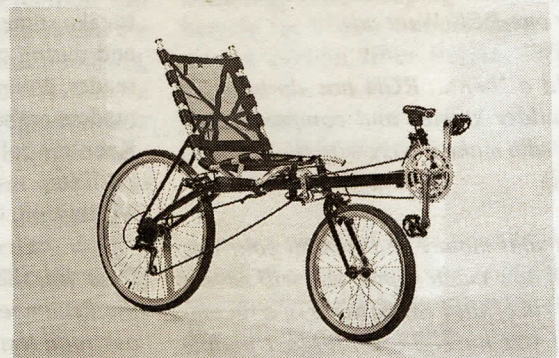
I own an Infinity and live in Austin, TX. I often travel streets that are well paved. There are many areas of my travels where the streets are not in good shape or the traffic forces me to ride on the sidewalks. I want to go from the skinny IRC 100 psi type tire to a fatter tire (front and back) to make these rough roads easier on me and my bike. Question, how wide & beefy can I go and still have a relatively high psi tire.

Keep up the good work!

Eric Ebner
Austin, TX

Dear Eric, we checked our recumbent tire sources for you. First of all, the side-wall pressure rating is somewhat misleading. Usually, this psi rating means that the tire blows out at twice that pressure. We know many riders, dealers and manufacturers who run the Haro 1.5 slick and others rated for 65 psi tires at 100 psi. I will not condone this, but I have done it myself. We called Angle Lake Cycle, the West coast small wheel specialists. They offer the following tires: A Specialized Ground Control 20" x 1.5" 50 psi knobby (which they have run on the Presto before) at \$16; the Haro 1.5 65 psi slick at \$16.99; the Mitsiboshi ST Comp 1.75 90 psi street tread at \$20. This is probably your best bet for an urban assault tire. Haro also has two new tires in their catalog for '94: a 1.75 and 2.125 street tread 20'ers that will sell for under \$20. We have also heard of a new Perrigrine 100 psi tire as well as the ACS 20" x 1.75 tire that is available from CycloPedia. Dr. Recumbent

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.....

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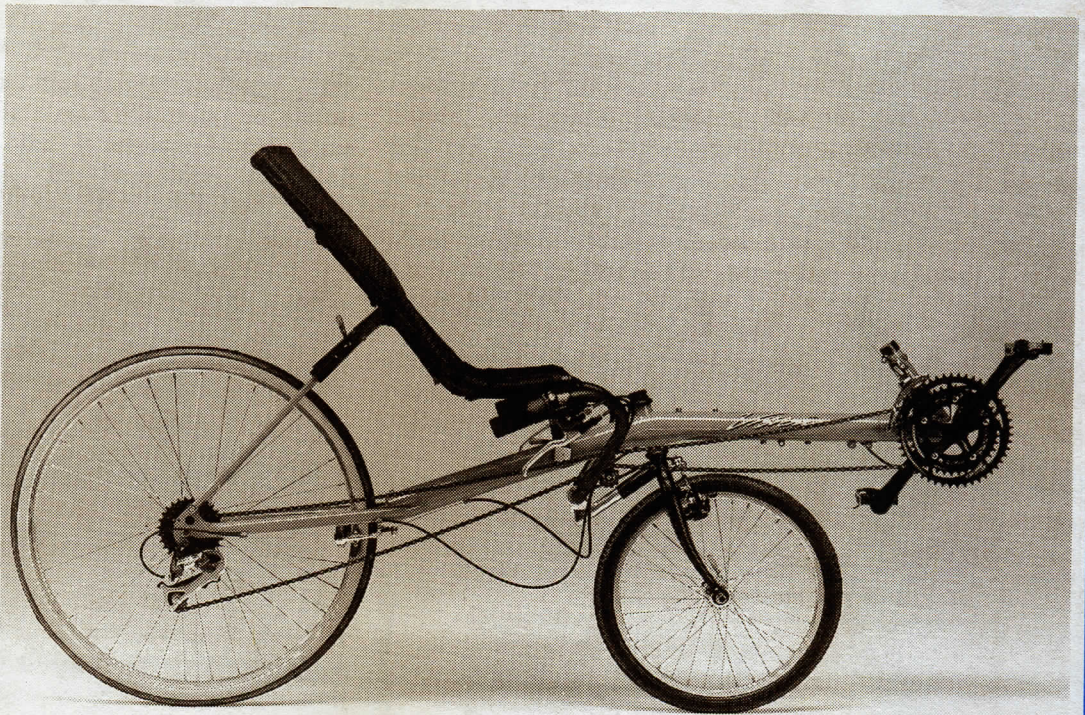
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Santa Rosa, CA 95407

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Welcome to the 3rd Annual Recumbent Cyclist Buyers Guide!

We hope that you will find this issue useful and full of new information for the recumbent enthusiast. Recumbent related companies are offered a chance to be listed in this buyers guide at no charge. As you will find out, many manufacturers and dealer do not respond to our request for buyers guide listings. It is our contention that manufacturers or dealers who do not effectively use this free opportunity to promote their products should not be considered as the most serious in the business. You will also notice some manufacturers do not subscribe to RCN. How do they stay connected with our niche of the bike industry? How do they promote their products? And the final question should be, are they are serious and should you do business with them.

With this 3rd Annual buyers guide as with our previous two versions, we have searched North America for manufacturers of recumbent bicycles. If you know of any recumbent manufacturer not listed here, please let us know and let them know about us. If you do business with any of the manufacturers listed in this issue who are not advertisers or subscribers to RCN, please let them know where you heard about their products. RCN cannot survive without the support of the recumbent industry and those who are making a serious effort to produce & promote recumbent bicycles.



ATP Vision VR-40AU--photo by ATP

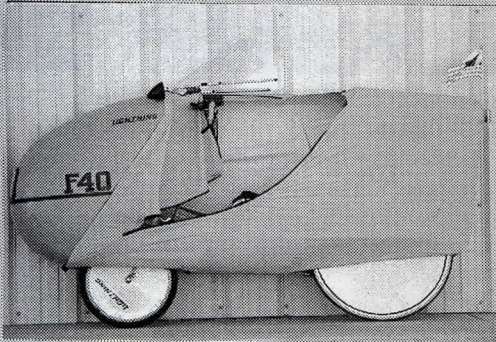
Congratulations to our RCN Editor's Choice Award Winners for this year! We especially want to congratulate Advanced Transportation Products (ATP), builders of the "Vision" for winning, "**Editor's Choice for Best Recumbent of 1994.**"

HOW TO CHOOSE A RECUMBENT & DESIGN INFORMATION REVISED FOR '94!

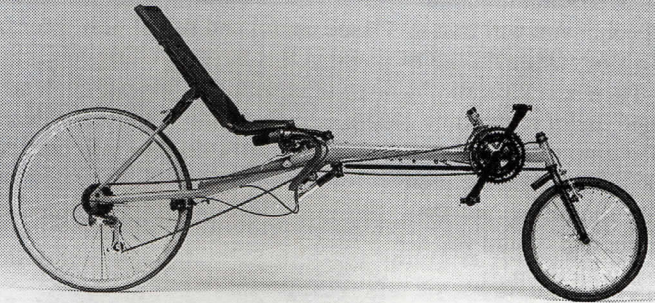
SWB: Short wheelbase: (33"-45"): Short wheelbase recumbents have their front wheel tucked underneath or just ahead of the riders knees. The SWB is a popular design amongst enthusiasts, homebuilders and racers. The SWB design does not have as large a market share as their LWB brethren, but they are gaining popularity every year. These bikes are agile, quick handling, quick accelerating and extremely maneuverable. They can be lighter, with some of the better models weighing in the mid-20 pound range. They fit car racks better and can stow easier than LWB recumbent bicycles. They also have more complicated and slightly noisier drivetrains. Some use two 20" wheels, which

offers a great all-around ride and a large selection of tires; however, this can make the seat too tall for some riders. Other models use the larger rear wheel (26"/27"/700) matched with a 20" front wheel. This works well and makes gearing choices more easily obtainable. The most popular configuration seems to be the 700c/27"/26" rear wheel matched with a 16"/17" front wheel. This lowers the seat height considerably, but the lack of a high pressure/performance rated 16" tires is a consideration. As you are reading this RCN issue, a new 100 psi 16" wheel should hit the market. This is an upgraded version of the current 16" X 1-3/8" tire currently available, but with a stronger side-wall, thus a higher psi capacity. Continued on page 11.

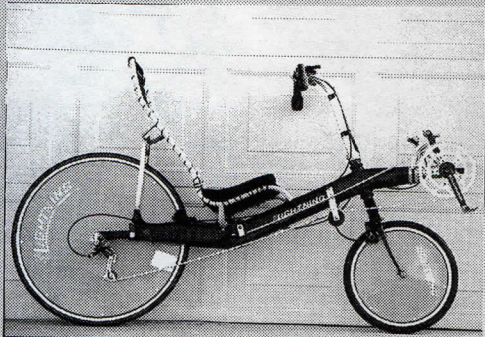
Recumbent Cyclist News



*Tim Brummer's Lightning F-40
photo courtesy Tim Brummer*



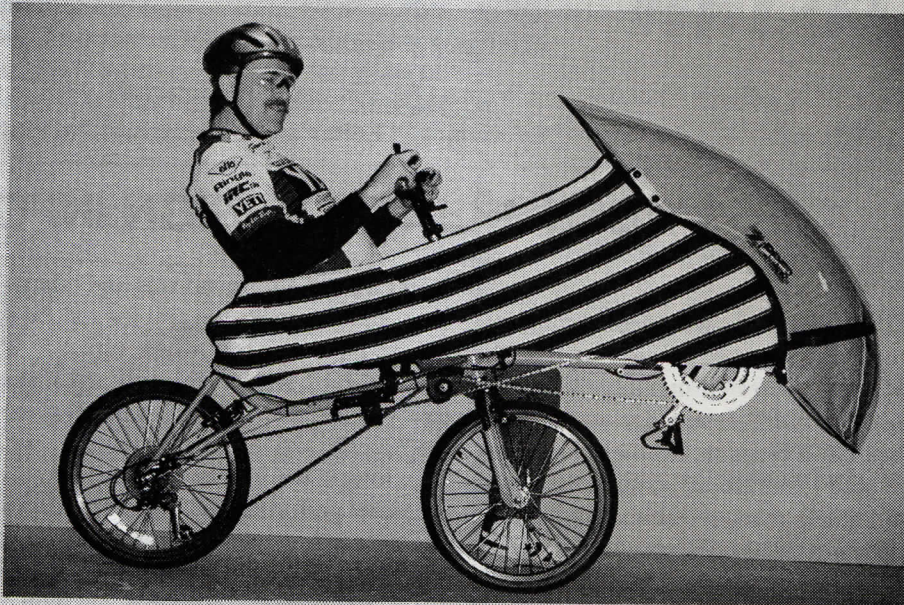
The ATP Vision LWB VR-40BU-photo by ATP



*The composite Lightning R-84
photo courtesy Tim Brummer*



The Ryan Fleetwood Tandem-photo by Ryan



*John Cunningham of Peyton Colorado with the new Presto
Zipper & body stocking-photo courtesy of Angle Tech.*

HOW TO CHOOSE A RECUMBENT CONT'D

SWB recumbents have various degrees of heel interference with the front wheel. With some bikes, you will need to become accustomed to this personality trait. Other SWB models have shorter wheelbases and the seats can appear closer to the front wheel. This is done so that riders of many sizes can pedal with virtually no heel interference. How much heel interference you have on any given bike depends on the bike (ask the manufacturer!) and also on your size. Also, first-time riders may have a harder time with heel interference than seasoned enthusiasts who hardly even notice it after awhile.

The final consideration is handling. On wet pavement or riding in sand, gravel or snow, the SWB can be harder to control. A longer & lower SWB with some tires that bite is probably the better choice for slick pavement. Most SWB riders are almost religious about their choice of bike. It seems to be the choice for HPV racers and enthusiasts. For these riders, this is all worth while to achieve that fast and exciting ride that only a SWB or MWB recumbent can offer.

Pros: fun and exhilarating to ride, quick handling, lighter, more compact, easier to stow, easier to transport, easier to maneuver.
Cons: more complex drivetrains, quick handling, some have heel interference with the front wheel, good 16" tires can be hard to find, SWBs can be harder to master for the beginner.

CLWB: Compact Long wheelbase: (46"-64") This is the newest designation for recumbent bicycles and has quickly become the most popular choice in the world (This is primarily due to the entry level ReBike). A CLWB recumbent has the same configuration as a LWB with a higher seat and low bottom bracket and the front wheel is ahead of the crankset. These are bikes where the designers have made a conscious effort to shorten the wheelbase by making the seat higher or wheel smaller or a combination of both. These bikes are the absolute easiest for new riders to learn on. The shorter LWB, matched with the format of the traditional LWB design format, makes for the perfect all around design. Many new wheel combinations have developed with this new design format. The originals are the 26"/27"/700 rear with a 20" front, but the latest arrival, the ReBike uses a 20" rear wheel and a 16" front wheel, making for a very compact, nimble, and user-friendly bike. New for '94, we have heard of a CLWB with two 20" wheels!

CLWB Performance: If the CLWB falls short in any respect it's in mildly suffering performance. The way in which designers achieve the CLWB design is to move the rider rearward on the bike. This usually means raising the seat up over or near the rear wheel, thus moving the center of gravity (c.g.) of the bike up and back. With more weight on the rear end of the bike and the c.g. higher, the bike just does not handle as well as the LWB or a SWB design. If you use your bike for touring, commuting and recreation, you will probably not notice anything missing. A benefit to the CLWB design is it's superior ability to be seen in traffic and offer the rider the best view of the road possible on a recumbent.

Pros: easy to learn on, nimble, great stability, excellent for fitness or recreational riding. Enthusiast CLWB's make for the best urban commuters due to higher seat height. **Cons:** entry level bikes may not be suited for long distance riding, more weight is concentrated towards the back of the bike, small wheel sizes sometimes create gearing problems for enthusiast-level riders.

LWB: Long wheelbase: (65"-71"): This has been the predominate configuration for enthusiast-level recumbent bicycles in the past several years. These bikes are very smooth, stable, fast and inspire confidence in first-time riders. For some they are less maneuverable than their SWB relatives but usually more stable at speed. LWB recumbents usually come outfitted with the more standard 26" or 27" rear wheels and 20" BMX size front wheels. Some of the negative features of a LWB can be maneuvering on a busy city street or narrow bike trail. The LWB bikes are usually heavier than SWB models, although there are some exceptions such as the Infinity and Easy Racer Gold Rush Replica. There are many LWB models to choose from. There is no heel interference with the LWB and the drivetrains are relatively standard & simple.

Pros: fantastic medium & high speed handling, very stable, very comfortable, fairly easy to learn on, full size rear & front BMX size wheels means unlimited gearing potential and parts standardized, low to the ground- easy to plant both feet on the ground, great load carrying capacity. **Cons:** very long bikes, low speed handling takes practice, heaviest recumbent design, some riders think they are too low.

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HOW TO CHOOSE A RECUMBENT CONT'D

They are comfortable, stable, track straight, predictable and riding quickly becomes second nature. They make excellent commuters and tourers. For most riders this is exactly the ticket.

For "Advanced Riders" who want more out of their ride, a performance recumbent is the only way to go. You don't need to be a veteran recumbent rider to want "advanced riding characteristics"-just feel the need for speed and handling. Gardner Martin's Easy Racer is one of a few LWB 'bents that offers the exhilarating "ride" of a performance bike. The Tour Easy with a Super Zipper is a fast bike. The Gold Rush Replica is faster yet and nearly five pounds lighter. The Counterpoint Presto can also be set up as a performance bike. It handles like an absolute dream, possibly the best recumbent handling we've ever experienced. The Presto has a high seat height and a perfect geometry for weighting and deweighting your body into the turns. If your need for speed or racing is more important than any other characteristic, the Gold Rush Replica, Rotator Super-7 or F-40 Lightning are good choices.

RECUMBENT COMPONENTRY: Recumbent components are the same as what is found on hybrid, mountain and road bikes. Major recumbent manufacturers use what works best on their bikes. The only non-standard parts are: chain idlers, long chains (standard chain/ two-three lengths spliced together), steering rods and linkage (underseat models) and the small front wheels that are generally BMX or other smaller sized wheels. You will find more SunTour equipped bikes than Shimano, which is the exact

opposite of the conventional market. The reason for this is SunTour's commitment to the small builders. Shimano components can be much more expensive and harder to get. General replacement, drivetrain parts and accessories for recumbents are as close as your local bike shop or mail order company.

RECUMBENT SEATS: There are two distinctly different variations of recumbent seats. The (steel/ aluminum) frame with sling/ mesh is what is found on the Presto, Lightning P-38 and the new ATP "Vision." We have found these seats superior in comfort for long distances or when many hours will be spent on the bike.

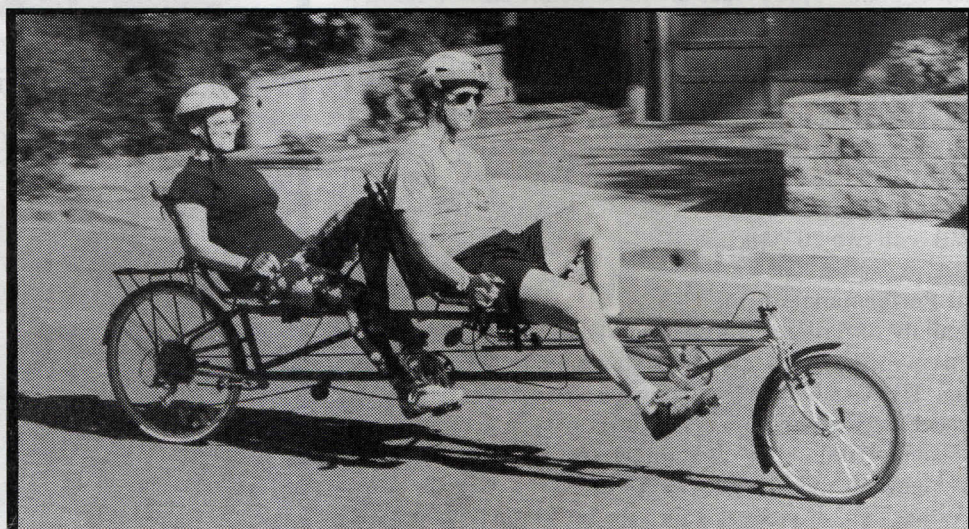
The foam/ shell seats are like what is found on the Easy Racer and DH work well with their respective designs and offer good comfort. These seats can sometimes offer better lumbar or lower back support than the sling/ mesh. They also aid in power generation. Leaders within this category are the Easy Racer Kevlar composite "Cobra" and the DH with it's terrific lumbar support. Seat selection is something that should not be overlooked, it may possibly be the most important feature on your bike. Seat conversions are not impossible, but can be very costly and may not work as well as the seat the bike's designer intended.

SEATING POSITION: Every recumbent rider develops his/ her own theories and ideas on this subject. You should try out many different recumbents to see what type of seat recline angle appeals to you. Bikes like the Ryan & Presto recline you fairly far. The Tour Easy, Infinity & Lightning are slightly more upright, but reclined far enough to take pressure off the tail-bone. The ReBike, BikeE and Linear offer the most upright positions

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HOW TO CHOOSE A RECUMBENT CONT'D

which are great for being seen and riding in traffic, however, this position puts more weight on your tail-bone, which is not as comfortable. Quite possibly the perfect option is the ATP, which offers an adjustable seat recline.

BOTTOM BRACKET POSITION: Seating position in relation to your foot/ bottom bracket position is another important consideration. All designs are not created equal. In layman terms, here is what we have found. The downward pedal angle such as the CLWB ReBike, BikeE, and DH offer the easiest learning/riding position. For the most part, this is not the most efficient pedal position, but certainly the most comfortable. The Tour Easy/Rans Stratus-B position is slightly different. These two bikes have downward pedal angles like the above CLWB's, but also have low seats and long & low frames make for an added bonus in performance, especially when a fairing is used. Power generation is superior, and the tiny footprint into the wind makes for an unequalled aerodynamic advantage, especially when a fairing is used. The downward pedal angle SWB, such as the Vision, S & B and Laid Back are the easiest of the SWB recumbents to ride. SWB recumbents such as the Presto with a foot position/ bottom bracket height that is level with your hips would be the second easiest. This position is very comfortable and aids in hill climbing as power output is improved. The upright seat position with the high bottom bracket (higher than hips) such as the Lightning P-38 offers superior hill climbing abilities and excellent quick acceleration, however, this comes at a price. If asked to pick the hardest recumbent position to become accustomed to, this would be it. It takes practice to learn and some riders complain of poor leg/ foot circulation. If you can be certain this will not be a problem, this format is the high-performance riders dream.

RECUMBENT WHEELS: Most recumbents use standard wheel sizes including BMX & kids bike sizes. **REAR WHEELS:** Many manufacturers still use the venerable 27" X 1-1/4" which is considered a US Touring wheel. Most conventional bike manufacturers have now started offering various sizes of the 700c in place of the 27." When ordering your new enthusiast quality recumbent, consider the 700c if you have the choice. Next is the 26" standard mountain bike wheel, which is tough, durable and many excellent street tires are readily available. For speed, the Specialized FAT BOY 1.25" or Nimbus 1.15" are excellent choices. For durability and comfort, the Tioga City Slicker type of tire should fill the bill. We like the 26" wheel mated with a Specialized Nimbus tire which makes for a total wheel/ tire combo with an overall diameter of 25."

FRONT WHEELS: The 20" is the standard for LWB models and a good choice for the SWB. 20" tires come in three main configurations: the 20" X 1-1/8" IRC 100 p.s.i. Roadlite is the 20" performance leader; the 20" X 3/8" Cheng Shin 65 p.s.i.(a comfortable choice) and finally the extremely durable 20" X 1.5 65 p.s.i. Haro slick and ACS 20" X 1.75" 100 p.s.i. which are the #1 choice for commuters and tourists. NOTE: the 20" X 1.5/ 1.75 uses a different size rim than the 20" X 1-1/8"/ 1-3/8".

Many SWB recumbents use the smaller 16 & 17" front wheels. The two most popular sizes are the 16" X 1-3/8" and the 17" Moulton high performance wheel. The only problem at is the availability of a good high performance tire for the 16" size. 16" X 1.75" is ReBike size, which is readily available and offers a very nice ride. The Weinmann/ Alesa Company seems to have a renewed interest in supplying many small sizes of alloy rims, which is great news for recumbent enthusiasts.

The current high-performance leader, if you don't mind paying the price, is the Moulton 17." There are two models available, with the 100 p.s.i. version selling for \$51 for a tire and tube. The hottest tire available for high performance enthusiasts is the Moulton C3 130 p.s.i.. The cost for the C3 is \$147 for a tire and tube.

For '1994 we are expecting several new recumbent front tire options. A 16" X 1-3/8" 110 psi front tire as well as 20" X 1-3/8 & 1.5" tires are being imported by J & B Imports and should be in the country as you read this. Sun, the rim company, is said to be offering new 16" & 20" X 1" (clincher) high performance rims & tires. These were originally designed for wheel-chair use, but will make great HPV racing tires. These new options may displace the expensive and hard to find Moulton as high-performance choice.

RECUMBENT SHIPPING: If you cannot buy your new recumbent from a local dealer, be sure to ask the manufacturer how much assembly is needed. The key question to ask is if the bike is pre-assembled, bench tested or test ridden before being packed up. This is a good indication if the bike will be easy for you to set up or not. If the bike is not, better shop for bike tools and a manual or look for a bike mechanic or bike shop to do the job for you. Be prepared to spend from two to eight hours (sometimes even longer if you have a problem) assembling your new recumbent or pay a bike shop between \$35-\$135 for the job. Sometimes you can find a shop that is interested in taking a look at how recumbents go together. Other times, shops will want to charge you full price or more.

Listed here are several recumbents that have relatively easy set-up for customers. The easiest of all are those shipped by truck on pallets. This type of shipping is expensive. Ryan Recumbents offers it as an option (\$100-\$200 vs. \$35 UPS +\$100 in bike shop assembly costs). Some manufacturers now ship their trikes fully assembled by truck or Greyhound. The easiest set-ups on UPS'able recumbents are from Counterpoint, A.T.P., Easy Racer and BikeE.

HOMEBUILDERS TAKE NOTE: Yeah, we know this issue is even more commercial than usual, but remember, this is the cutting edge of what is being built and sold in North America. The ideas that you'll see on these pages cannot be seen anywhere else in the world. Please keep those homebuilder stories & articles coming. Nothing gets into RCN faster than a concise, well written article about recumbent homebuilder experiences. □

HOW TO NARROW THE CHOICES FOR YOUR NEW RECUMBENT



Easy Racers out in force-Glen Garner

There are vast differences in the costs of recumbent bicycles. There are four primary steps in choosing a recumbent:

STEP#1: Order all the back issues of RCN.

STEP#2: Read all the back issues of RCN.

STEP#3: Decide how much you are willing to spend on a new bike and stick to it, as you can easily fall victim to the recumbent shopping syndrome, "one-step-itis." This is a key step.

STEP#4: Narrow your choices based on how much bike you can afford, what bikes attract you and what bikes fit you (physically). (Short or tall riders can narrow the choices more easily).

STEP#5: Do your best to decide between a CLWB, LWB or SWB. If you can ride some bikes, do it! We don't want to here excuses about half-a-day drives. We've heard of people flying in from Europe to view bikes. Your best bet is to contact rider-groups and manufacturers/ dealers of the bikes that you are considering. CLWB recumbents are the best-sellers, LWB are a distant second overall (and the best seller for "enthusiasts) and the SWB is third, however gaining on the LWB in the enthusiast market.

STEP#6: Try to choose between underseat and upright handle bar steering. This can be a difficult choice. Tourists, low-key riders, those who value comfort a #1 concern and finally, anyone with hand/ wrist problems should consider underseat steering. Performance riders, racers and cycling traditionalists who are having a hard time in their recumbent transition should consider upright steering.

STEP#7: Consider a used recumbent. Some models are very rare, such as a used Presto or Easy Racers, but they occasionally come available. Watch RCN, your local paper, and get connected with a local recumbent rider group or bike club. We have never heard a single complaint from anyone using RCN classifieds, but please BE SMART and take necessary precautions anyway. Some dealers offer escrow services for used bike buyers/ sellers. *If you are actively searching for a used bike, we suggest a first class subscription to get early access to the classifieds-especially on the East coast.*

NOTE A: Some good deals can be found from new manufacturers/ models.

NOTE B: Manufacturers, some factory second bikes.

NOTE C: Up-RCN subscrip-"Supporter" jump on used classifieds.

NOTE D: Order a frame-set and build up a bike yourself (this usually doesn't save you money unless you have a bike to strip down or a box of spare parts). Be sure to make an accurate price estimate when considering a frame build up. Also ask the manufacturer if there are any special/ hard to find parts needed. *Example: most SWB recumbents need a special front brake that pulls from the left side. This is why the BMX brakes and Dia Compe GX series side-pulls are so popular on recumbents.* □



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or demo

grade your
tion to the
level to get a
b i k e

RCN EDITOR'S RECUMBENT RATINGS:

What RCN Ratings Mean

Star Ratings: ☆☆☆☆☆ is best. Our idea of a five star bike is one with quality construction & finish. A bike suitable to ride around the world. It must be durable, proven and trouble free. This bike will have near top of the line components. Overall star-ratings are based on what the bike was designed to do as it would be difficult to compare a \$500 bike to a \$2000 bike.

☆☆☆☆☆ This is our top Rating, "" Product Perfection"

☆☆☆☆ This is an "Excellent Rating."

☆☆☆ This is a Good to Very good (add 1/2) Rating

☆☆ This is a "Needs Work" to "Fair (add 1/2)."

☆ This is a "Poor Rating"- product needs attention.

A rating of ☆☆☆ will be an average rating which should please most daily riders/ enthusiasts. All of the bikes that we have rated are done with the same criteria.

The **Overall rating** ☆☆☆☆☆ rating is a compilation of the categorical ratings combined, however, we have allowed for up to a half-of-a-star variance at the editors discretion.

Categories Frame/ Welding Quality through Manufacturer Service Rating: we will rate these if we have dealt with or have reader input on the particular manufacturer. As for Overall RCN Bike Rating, we will not rate this classification unless we have road tested the bike or ridden the bike enough to make a fair judgement.

Recumbent durability rating. Has your recumbent had frame failures? How have they been handled? Is the bike notorious for these problems or is the bike bulletproof. Find out.

Recumbent performance & design ratings are up to the discretion of the RCN editor. These are editorial based ratings on how good the bike design is and how the bike performs.

Value Rating: "bang for the buck" or whether or not the bike is a bargain.. It may or not be a great bike, but offers uncommon value for your money.

Manufacturer- Service Rating: is based on our own experience, but more so on reader feedback. This includes: Brochure etc., Phone Staff Service and Shipping/ Pre-assembly. A ☆☆☆1/2 to ☆☆☆ rating would be considered average. ☆☆☆ is average and is the highest rating a manufacturer can get if their recumbent needs derailleur/ brake adjustments or extreme amounts of setup for the direct-mail customer. Highest ratings will go to manufacturer in business for several years and who have consistently offered excellent service for direct-mail and dealer sold bikes. Poor ratings are for areas listed that need work.

Manufacturers: this star-rating system is a bold new move for the RCN buyers guide, please regard this as an industry report-card, meant only to help improve our industry. A ☆☆☆1/2 to ☆☆☆ rating would be considered average. Hopefully, you can learn from it, and improve if necessary. Readers keep in mind that it is the smaller & new companies with potentially lower ratings can offer exceptional bargains.

Company Status: New Manufacturer/ New Model is self explanatory. Veteran Manufacturer is several years of building recumbents.

Recumbent Cost Rating: \$-Recumbents under \$500; \$\$-Recumbents costing \$501-\$1000; \$\$\$-Recumbents costing \$1001-\$1500; \$\$\$-Recumbents costing \$1501-\$2000; \$\$\$\$- Recumbents costing \$2000 or more.

Types of Riding: this is a guideline for the types of use a particular recumbent would be good for. Keep in mind that this is a guideline, and sure enough I'll get a letter from someone who commutes on a racing bike or visa-versa.

Manufacturer Notes: In reading this guide, you will come across the term, "(manufacturers name)- NOTES," this information was supplied to us by the manufacturer and is not editorial or RCN verbiage.

We are ALWAYS interested in hearing about our readers experiences with recumbent manufacturers, but we cannot always respond personally to your letters. If you need a response, please send an SASE with your letter.

RCN brings you these ratings as our continuing commitment for **Excellence in Recumbency**. The following is the entire range of ratings that a bike be awarded.

The "1/2" or "3/4" refers to half of a star, the maximum stars a bike can get is ☆☆☆☆☆.

RCN RECUMBENT RATINGS BIKE RATED:

Frame/ Welding Quality: ☆☆☆☆☆ 1/2

Paint / Finish Quality: ☆☆☆☆☆ 1/2

Drivetrain Components: ☆☆☆☆☆ 1/2

Brake System Rating: ☆☆☆☆☆ 1/2

Wheel Quality Rating: ☆☆☆☆☆ 1/2

Seat Rating: ☆☆☆☆☆ 1/2

Durability Rating: ☆☆☆☆☆ 1/2

Performance Rating: ☆☆☆☆☆ 1/2

Recumbent Design Rating: ☆☆☆☆☆ 1/2

Value/ "bang for buck" Rating: ☆☆☆☆☆ 1/2

Manufacturer Service Rating: ☆☆☆☆☆ 1/2

Overall RCN Bike Rating: ☆☆☆☆☆ 1/2

Cost Rating: \$\$\$\$

The Best Recumbents of 1994

THE A.T.P. VISION R-40

Editor's choice for the Best Recumbent of 1994

This is the single BEST enthusiast recumbent that we have seen for under \$1,000. And it is also the best SWB underseat steering recumbent that we have ever seen. The Vision takes advantage of the previous design work of similar SWB models matched with the design talents of Joel Smith, former Boeing Engineer and founder of ATP (R-20) and Grant Bower, former Engineer and Bower-Bike SWB designer. The Vision has the best attributes of the original ATP R-20 and Grant Bower's Bower-Bikes (which have never been sold commercially). If there is a drawback to the Vision it is the almost limitless adjustments and options to dial-in the bike just for you. It is the perfect entry level/ beginner enthusiast recumbent. Why you may ask? For around \$1200, you can order up enough Vision parts to try out SWB, LWB, upright steer, underseat steer and try and figure out what your personal tastes are for a recumbent bicycle. The Vision could be called the "Ultimate Recumbent Bicycle Experimenters Kit." After you shop or own recumbent for awhile, you come to realize that recumbent bicycles are a series of compromises. Contrary to manufacturer claims, no one bike is the perfect end-all-design. You will also come to realize that your personal recumbent "vision" may change as you gain experience or as you change as a human being. The Vision may not be the perfect bike for everybody, but it is an excellent place to start your recumbent journey. Our pick for "Best Recumbent" is for the entry level R-40, with our favorite version being the SWB R-40 or R-42. **MICRO-CRITIQUE:** We will allow ATP to bask in their glory for awhile. The critique will be in the RCN road test of the Vision—coming soon. **NOTE:** You will notice that ATP has a lengthy list of options & models. Two models for this year are upgraded bikes in the upper echelon of recumbent pricing.

THE COUNTERPOINT PRESTO: Editor's choice for the Best SWB Recumbent of 1994.

What can we say, we love this bike. The Counterpoint Presto is a wonderful riding, truly multi-purpose, SWB recumbent. It handles like an absolute dream. The Presto has a high seat height and a near perfect 'bent geometry. It is quick, stable, easy to ride and it is the only SWB that we would consider taking on a long tour. What makes Counterpoint different than any other recumbent is the time and energy put into component selection, research & development, compatibility and testing. Mail-order sales is another strong point for Counterpoint. The bikes are tested by two different staff members and then taken apart for shipment. Presto's have their own specially designed shipping box, along with the bike's compact size, makes for very easy set-up. *Two Time Winner of this Award.*

In the '93 buyers guide we had this to say about the Presto. "Counterpoint/ Angle Tech have become trend-setters in the recumbent

industry. We suggest you pay close attention." In the past year, we have seen even more innovations from Counterpoint/ Angle Tech. The bike continues to get better with additions such as a suspended front fork, handlebar/ stem extension upgrades, a trike prototype, but the best idea yet is the new '94 Presto SE-63 which offers gear-heads 63 speeds to chose from courtesy of the new Sachs three speed internal hub. "So what" you say, who needs "63 gears." Anyone who has had trouble getting custom personalized gearing ranges from a bike with 20" wheels will appreciate the ability to have almost unlimited choices with the SE-63. Another custom Angle-Tech feature are the Tom Shirey custom paint (Deltron) jobs for Counterpoint bikes. They are the nicest paint finish (optional) on any recumbent we've ever seen. We heard a story of an Angle Tech customer who picked out a helmet in the Angle Lake helmet case and asked to have his bike painted to match. The Shirey custom fade paint job was absolutely stunning. **MICRO-CRITIQUE:** Now that we have your attention, bikes worthy of awards, are also worthy of a critique, so here goes: The only thing we can really pick on for now, is the brake options. How about something stronger, in between the side-pulls and the Magura's..... Also, we liked the commitment to cold-forged cranks, what-happened? For 1995, we would like to see an updated idler cage (chain-guard), a taller seat/ headrest options and a soft body.....which is now available.

THE EASY RACER TOUR EASY: Editor's Choice for the Best LWB Upright-steerer 1994.

The venerable Easy Racer, the grand-daddy of long, low & sleek recumbent bikes. This popular design gets better every year. The LWB upright steering is in a league of it's own; it's fast, stable and completely predictable in handling. To quote Jim Langley of Bicycling Magazine, "I've never flown a plane, but I'll bet it's similar to piloting the Tour Easy." I second that opinion, the Tour Easy is the only recumbent that I have personally ridden at over 50 mph (downhill), and it was a total thrill (do not attempt this at home.....). Marketed for more than a decade by recumbent legend, "Gardner Martin," the Easy Racer was honored as the "Best Buy Recumbent" in the March, 1992 Bicycling Magazine. The Easy Racer continues to be the recumbent by which all others are judged, a fast performance machine for Joe-average and one of the easiest enthusiast recumbents to ride. *Two Time Winner of this Award.* **MICRO-CRITIQUE:** Now that we have your attention, bikes worthy of awards, are also worthy of a critique, so here goes: Our primary motivation for this 1994 award is the fact that so many recumbents have been inspired by the Easy Racer (We won't go into which ones, we'll let you figure it out). With each new CLWB/ LWB innovation, we appreciate the years of work that went into perfecting this design. For '95, we want to see custom paint, a Shimano component option mixed with the fantastic Specialized crank & hubs and we want to see the new seat technology that we keep hearing about..... The Tour Easy makes such a great commuter bike that we'd like to see more commuter related options: bags, braze-ons, weather protection.

MORE RECUMBENT BESTS

Best Recumbent Deal 1994: The Infinity 21st Century at \$649.

Two Time Winner of this Award.

Best Urban Commuter Recumbent 1994: BikeE 16 spd.

Best Recumbent Seat 1994: (tie) P-38 & Presto.

Best Craftsmanship on a Recumbent Bike: Ryan Recumbents.

Best Craftsmanship on a Recumbent Trike: Pedalcraft QuadraPed.

THE MOST.....1994

The Most Over Rated/ Over Priced Recumbent: The Windcheetah Trike. \$5,700 (This, of course, makes us want one even more!) (price quoted doesn't include the body) Imported by Linear Mfg. Inc.

The Most Ultra-over Rated/ Over Priced Recumbent: Light ning R-84/ F-86 composite- \$7000+options!

The Most Under-rated Recumbent: The Rans Nimbus.

The Most Anticipated Recumbent Model: The new \$675 Rans Tailwind twin 20" wheel CLWB!

The Most Promising Bike for 1994: "Horizon" by Bill Haluzak/ Bicycles by Haluzak. (Tie)

The Most Promising Bike for 1994: The "Rotator Pursuit" by Stephen Delaire.

THE BEST COMPONENTS

Best Recumbent Component Group: Presto XL Ti (titanium model)

Best Upgrade Components: Shimano XTR

Best 'Bent Accessory: Clipless pedals--we like SPD's

Best Recumbent Paint Job-stock: Rans.

Best Recumbent Paint Job-Optional: Presto Custom Deltron by Tom Shirey.

Best 'bent Clipless Pedals-all around: Any Shimano SPD clipless pedal

Best 'bent Clipless Pedals-high performance: Speedplay lollipop..

Best Recumbent Brake (Low End): Bull Dog dual pivot side-pulls (Linear) or FSE dual Pivot (Easy Racer).

Best Recumbent Brakes to buy: Shimano Dual Pivot RX100/ 105SC/ Ultegra/Dura Ace.

Best Recumbent Chain: Sachs ATB

Best Recumbent Shifters: Grip Shift SRT500.

Best Recumbent Hubs: Specialized (stock on Easy Racers) or Phil Wood.

Best Recumbent Performance Front Wheel & Tire: 20" IRC Roadlite and the new 16" x 1-3/8" 90 psi tire!

Best Recumbent Workstand: Blackburn WorkStand. *Two Time Winner of this Award.*

Best Recumbent Rear View Mirror: Mirrycle or Zefal Wide Angle car-like bar-end mirror, new for '94!

Best Recumbent Grease: Phil Wood.

Best Recumbent Bell: Specialized Dirt Ringer. *Two Time Winner of this Award.*

Best Recumbent Brochure: The new Easy Racer color brochure & video

Best Recumbent Fairing: Karl Abbe's world famous Zzipper.

Best Recumbent Crank: Shimano XTR, Ritchey MTB triple or Mavic (cold Forged).

Best Recumbent Warranty: Rans-lifetime on frame.

THE BEST RECUMBENT OPTIONS/ UPGRADES

A.T.P. Vision fairing

Counterpoint Presto: RST front Suspension.

Counterpoint Presto Zzipper Fairing which comes with a body zipper presewn in the bubble.

Easy Racer: Super Zzipper fairing and Specialized Triple Crank.

Ryan Vanguard: Ryan Bar End extensions (now standard equipment).

Linear: Big Dog dual pivot point side-pull brakes (now standard equipment!)

Rans: Deore XT Option & custom splash paint.

Infinity: Upgrade brakes, pads and handles.

Lightning: Upgrade to the "S" model (XC-Pro).

THE BEST RECUMBENT HOMEBUILDER PLANS

LWB-The Easy Racer Building Plans

SWB- The Econo-Bent

THE BEST 'BENT CHEAPSKATE BETS

The Best Recumbent Cheapskate Deal 1994: The Infinity 21st Century at \$649.

The Best (Proposed) Ultra-Cheapskate Recumbent Deal 1994 I: Maxam's New Reveille!

The Best (Proposed) Ultra-Cheapskate Recumbent Deal 1994 II: The New Rans Tailwind

The Best Cheapskate Recumbent Component package: ReBike durable and extremely tough low-cost-chrome steel.

THE BEST 'BENT RUMORS

The Cannondale Recumbent Rumor.....that turned out to be true.

The Trek Recumbent Rumor....that turned out NOT to be true.....or did it?

The Angle Lake/ Angle-Tech new Colorado store rumor.....that turned out to be true.

THE BEST RECUMBENT PROMOTERS

We would like to honor some of the professional recumbent manufacturers who displayed their wares at the Interbike Trade-show in Las Vegas this past September. Recumbents have come a long way since the first Interbike that I attended and these 'bent builders deserve a special thank-you for promoting the bikes we all know and love in the most professional manner:

ReBike: Kathie Skewis & Co: (ReBabes, ReReps, ReTechs and ReGis!) has brought our industry to a new high standard. We are very proud of what Kathie and ReBike have done for recumbents.

BikeE Corporation: An industry new-comer whose professional efforts to promote 'bents everywhere they go has not

gone unnoticed. Congratulations: Dave Ullman, Richard Rau, Paul Atwood, Jim Boeder and Co.

Advanced Transportation Products: Another new company whose professionalism has brought our industry to a new level. Congratulations Joel Smith, Grant Bower & Co.

THE BEST RECUMBENT DEALER

Jim Wronski of People Movers in Orange, California. Congratulations gang, we are proud to have you as part of the "RCN Crew."

THE MOST INNOVATIVE RECUMBENT DESIGNER OF 1994

Jim Weaver of Counterpoint in Edmonds, WA. Jim is most creative cutting, edge recumbent designer we know. Take a look at the new Ti Presto & Presto Trike.

RECUMBENT PREDICTIONS:

We predict a weeding out of recumbent manufacturers in 1994. Especially those whose marketing is the lowest priority. The reason for this is the upgrading in the professionalism of our industry along with the possibility of mainstream manufacturers coming into the market.

Recumbent Manufacturer To Watch In 1994: There are several, but Rans & ReBike are hot.....tsssss!

Mainstream Bike Manufacturer To Watch In 1994: Cannondale & Trek (?????)

RECUMBENT BOO BOO'S 1994

Recumbent "Boo Boo" Seat: Comffy Cycle Sprung "gel."
Any "Boo Boo" Manufacturer Displaying their bike OUTSIDE the Interbike Trade-show.

INFINITY®

The all New "1993 21st Century"

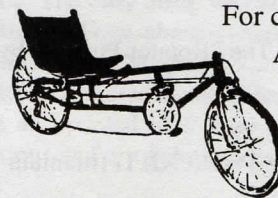
Infinity

All-Aluminum Recumbent

Lighter, Stronger, Faster & more Agile.

NOW AT NEW LOW PRICES . . . from \$349

Discover the aerodynamics and mechanical efficiency of the Infinity design, the stability of under-seat steering, and the strength of square sectioned aluminum tubing. Above all, discover the shock-free comfort of Infinity's fully supported seat, a comfort you must ride to believe!



For catalog, send \$1.00 to:

Ace Tool & Engineering

P.O. Box 326

Mooresville, IN 46158

(317) 831-8798

Finally, a 'bent that won't break you!



At \$650.00, NEOBYKE is the most affordable, high quality, CLWB recumbent bicycle available. With 20 speeds, choice of 3 gear ranges, durable construction and an ultra comfortable riding position, NEOBYKE is as kind to your body as it is to your wallet. If you've been searching for practical size, good looks, sensible style, performance, and flexibility in a safe, easy-to-ride recumbent bicycle, you've found it!

NEOBYKE

It's the most fun you can have . . .
on a bike!

For a free brochure, call

1-800-NEOBYKE

or write to us at

PO Box 2303

Lowell, MA 01851-0503

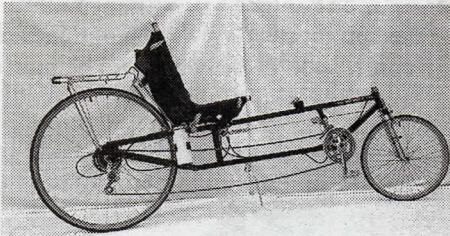
Designed and built for Neobyke by
Bill Darby of Special Purpose Vehicles

RECUMBENT MANUFACTURER LISTINGS

**ACE TOOL & ENGINEERING
INFINITY
RECUMBENTS**

PO BOX 326
Mooresville,
Indiana 46158

Phone: #317-831-8798
Contact: Don Barry
*RCN Editors Choice
for Best Recumbent
Deal 1994*



*The 21st Century Infinity
photot by Infinity*

BIKE: 21st Century Infinity. TYPE: LWB underseat steering/
twin cables. WEIGHT:
27 lbs. WHEELBASE: 67"/63" FRAME: Welded square 6053/
6061 series structural
aluminum. Two sizes that fit riders from 4'11"-6'6."
HEADTUBE ANGLE 73 degrees. DRIVETRAIN: 21-speed
non-index/ Suntour X-1 Derailleurs/ thumbshifters/ SunTour X-
1 triple crankset 28-38-48/ 13-28 freewheel. BRAKES:
Weinmann sidepull brakes. SEAT: Sliding seat aluminum framed
mesh. WHEELS: 27" rear, 20" X 1-1/8" IRC 100 p.s.i. front.
PAINT: Powdercoat White, Red or Blue. FAIRING: Infinity
Zipper available from Zzip Designs. SUGGESTED RETAIL
PRICE: \$649.

NOTES: Infor-
mation \$1.

ROAD TEST:
RCM#20-will
be available as a
regular sub-
scription issue
or as a back
copy this sum-
mer.

**DISCOUNT
FOR READ-**

ERS: 5% off factory direct sales only.

EDITOR'S NOTE: ROAD TEST: RCM#20-or 21 available
this summer for \$5 postpaid USA or \$7 Can./ overseas. The
Vision will be tested in RCN#20.



*The 21st Century Infinity
photot by Infinity*

RCN AWARDS: 2nd year winner The Best Recumbent Cheap-
skate Deal 1994.

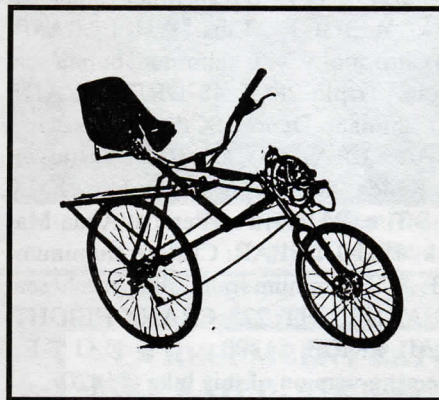
COMPANY PROFILE: Ace Tool is a machine shop that has
been building recumbents for many years. They are a Veteran
Manufacturer having built thousands of entry level aluminum
recumbents. Infinity is one of the best selling recumbents of all
time. **Ace Tool is an RCN Supporter-X Subscriber.**



ADVANCED AMERICAN BICYCLE CONCEPTS:

1408 S. Shamrock
Veradale, WA 99037
Phone#509-924-9480 FAX: 509-924-1029
Contact: Clive Buckler

BIKE: Advanta/ Wedge TYPE: High SWB- indirect underseat
steering/ connected to
fork. WEIGHT: 26-43 lbs. WHEELBASE: 34"-45" FRAME:
Patented modular/ adjust
able size/ tapered-socket joint construction. DRIVETRAIN: Cus-
tom. HEAD-TUBE ANGLE: Adjustable 24-32 degrees.
HANDLEBAR: Custom aluminum-two styles avail
able. SEAT: Fully adjustable rigid dual-density padded seats with-
out a high back rest. SEAT HEIGHT: 34"-38." SHIPPING: Fully
assembled by motor freight/ wheels off-



*Clive Buckler's high
SWBphoto by AABC*

UPS. Freight is in-
cluded in price. SUG-
GESTED RETAIL
PRICE: \$450-\$2400.
NEW FOR '94: The
unique design of the
Advanta and the
Wedge provide a bal-
ance very similar to an
upright, and are thus
easy for first-time rid-
ers to master. They fit
on standard trunk-
racks and work stands
The higher seat posi-
tion ensures visibility
in traffic, forward-

opening handlebars allow safe dismount without contact with bars
or stem. Please write for AABC descriptive brochure, "Why Get
High," which contains photos, reasons for select-
ing this layout, and a history of the 10-year de-
velopment leading to this different approach to
recumbent cycling. Send \$2 for info-pack.

COMPANY PROFILE: Clive Buckler has been
a part of the HPV world for many years. He has
been refining his unique high SWB design for
many years. We can hardly wait for his "Why
Get High" article. AABC is an RCN subscriber.



RCN RECUMBENT RATINGS BIKE RATED: Infinity 21st Century

- Frame/ Welding Quality: ☆☆ 1/2
- Paint / Finish Quality: ☆☆☆
- Drivetrain Components: ☆☆☆
- Brake System Rating: ☆☆ 1/2
- Wheel Quality Rating: ☆☆ 1/2
- Seat Rating: ☆☆☆ 1/2
- Durability Rating: ☆☆
- Performance Rating: ☆☆☆
- Recumbent Design Rating: ☆☆☆☆ 1/2
- Value/ "bang for buck" Rating: ☆☆☆☆☆
- Manufacturer Service Rating: ☆☆☆☆
- Overall RCN Bike Rating: ☆☆☆ 1/4
- Cost Rating: \$\$

ADVANCED TRANSPORTATION PRODUCTS (A.T.P.)

6201 Ravenna Ave. NE

Seattle, WA. 98115

Phone:#206-771-3719

Contact: Joel Smith & Grant Bower

Winner of the RCN Editors Choice for Best Recumbent of 1994

BIKE: ATP Vision VR-40AU TYPE: SWB-direct underseat steering/ connected to fork. WEIGHT: 29.5 lbs. WHEELBASE: 35" FRAME: TIG welded Chro-molly, adjustable boom. CRANKSET: SunTour XC-LTD Triple 28/38/48 DRIVETRAIN: SunTour 21 Speed index/ X-1/ XCE derailleurs/ SunTour Twist Grip Shifters/ 12-28 cassette BRAKES: SunTour Cantilever WHEELS: 16" X 1-3/8" Kenda 90 psi front tire and 26" X 1.25 with a Specialized Fat Boy Tire. PAINT: Powdercoat Aqua-Marine with black seat & fork. HANDLEBAR: Custom aluminum-two styles available. SEAT: ATP aluminum frame sling/mesh/ seat quick releases off bike. SEAT HEIGHT: 22" CRANK HEIGHT: 19." SUGGESTED RETAIL PRICE: \$995. NOTE: VR40AT is the upright steering version of this bike (\$1020).

BIKE: ATP Vision VR-40BU TYPE: LWB-remote underseat steering WEIGHT: 31 lbs. WHEELBASE: 60" SUGGESTED RETAIL PRICE: \$1125. NOTE: VR40BT is the upright steering version of this bike (\$1150).

NOTE: Other spec's are the same as the VR40AU

BIKE: ATP Vision VR-42AU TYPE: SWB-direct underseat steering/ connected to fork. WEIGHT: 27 lbs. WHEELBASE: 35" FRAME: TIG welded Chro-molly with aluminum boom/ seat stays. CRANKSET: Sakae Triple 28/38/48 DRIVETRAIN: Shimano 21 Speed index/ Shimano Deore LX derailleurs/ Grip Shift 500rt/ 12-28 cassette BRAKES: XC Pro Cantilever. WHEELS: 16" X 1-3/8" Kenda 90 psi front tire and 26" X 1.0 with a Specialized Turbo S Tire. PAINT: Powdercoat Aqua-Marine with black seat & fork. HANDLEBAR: Custom aluminum-two styles available. SEAT: ATP aluminum frame sling/mesh/ seat quick releases off bike. SEAT HEIGHT: 22" CRANK HEIGHT: 19." SUGGESTED RETAIL PRICE: \$1390. NOTE: VR42AT is the upright steering version of this bike (\$1420).

BIKE: ATP Vision VR-42BU TYPE: LWB-remote underseat steering/ connected to fork. WEIGHT: 30.5 lbs. WHEELBASE: 60" FRAME: TIG welded Chro-molly frame with aluminum seat stays. CRANKSET: Sakae Triple SUGGESTED RETAIL PRICE: \$1450. NOTE: VR42BT is the upright steering version of this bike (\$1470).

NOTE: Other spec's are the same as the VR42AU

BIKE: ATP Vision VR-45AU TYPE: SWB direct underseat steering/ connected to fork. WEIGHT: 22.5 lbs. WHEELBASE: 35" FRAME: TIG welded Chro-molly frame (1.75" dia main tube) with 6061 aluminum boom/ seat stays. This frame has a CRANKSET: Ultegra double or Deore XT triple DRIVETRAIN: Shimano 16/ 24 Speed index/ Shimano Ultegra/ Deore XT / Grip Shift 500rt 8-spd./ 12-28 cassette BRAKES: XC Pro Cantilever

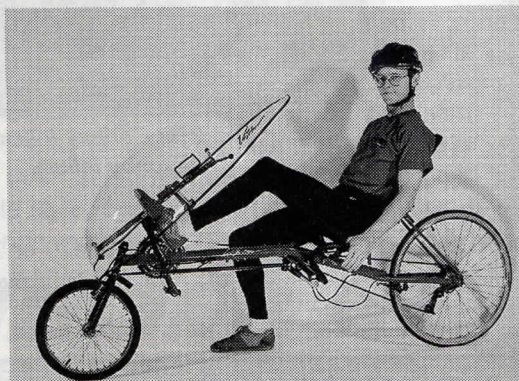
WHEELS: 16" X 1-3/8" Kenda 90 psi front tire and 26" X 1.0 with a Specialized turbo S Tire. PAINT: Custom Powdercoat six colors available. HANDLEBAR: Custom aluminum-two styles available. SEAT: ATP aluminum frame sling/mesh/ seat quick releases off bike. SEAT HEIGHT: 22" CRANK HEIGHT: 19." SUGGESTED RETAIL PRICE: \$2250 NOTE-A: VR45AT is the upright steering version of this bike (\$2275). NOTE-B: R-45 comes in SWB only and will be built to order.



The ATP VR42AT-photo by ATP

EDITORS NOTE: ATP Vision R-40 & R-42 models are fully convertible from SWB to LWB and back as long as you have the correct set-up. This is the only recumbent in history that offered this feature.

ATP NOTE: ATP has designed the VISION's to be high performance bicycles. We also designed the special tooling necessary to offer them at these low prices. Compare a VISION to any other recumbent on the market - we are confident that you will not find a better combination of features and quality - at any price! Please write or call for free information.



The ATP VR40 BU with Zipper photo by ATP

OPTIONS: Vision VF-40 Clear Lexan fairing & frame (606 alum./ 4.2 lbs) \$350. CG40 Lexan Chainguard \$19. CM40 Computer mount \$5. DB40 Seat Back Bag \$65. Thermarest seat cushion \$29.

ROAD TEST: RCN #9 (ATP R-20)-Back issue is available original i

available for \$5 postpaid USA or \$7 Can./ overseas. The Vision will be tested in RCN#19 or #20.

AWARDS: Winner of the RCN Editors Choice for Best Recumbent of 1994.

COMPANY PROFILE: A.T.P. has come a long way since the inception of the ATP R-20 three years ago. ATP is a member of the new breed of recumbent manufacturers and a serious contender in the enthusiast market. ATP was originally founded by partner Joel Smith who marketed the R-20 two years ago. Grant Bower has been an HPV enthusiast who has experimented with SWB and suspension for many years. These two forces united forming the new ATP in late '92. The union of these two HPV forces has created one of the strongest and most promising new companies to come into the recumbent scene in years. ATP is an RCN Supporter-X Subscriber

ARRIBA RECUMBENTS

529 S. Chestnut St.
Lindsborg, KS 67456
Phone#1-800-532-4407
913-227-2800.

PRODUCTS: Arriba recumbents are designed to be adaptable in their geometry, adjustable in wheelbase, seat-position and head-tube angle. This allows for ergonomic optimization for riding ease, comfort, stability & safety. Arriba recumbents are SWB in design. Three models will be available: The Montana will be fitted for rough terrain use. The Corrida will be fitted for high-speed touring and the Andale will be the less expensive street model.

COMPANY PROFILE: New models & new manufacturer. Arriba is an RCN Supporter..

.....

ALTERNATIVE BIKESTYLES

P.O. Box 1344
Bonita, CA 91908

BIKES: The Maverick & Harmony. TYPE: CLWB/ upright handlebar steering. FRAME: MIG welded steel. SUGGESTED RETAIL PRICE: NA.

NOTES: Please enclose S.A.S.E with correspondence. Used bikes, prototypes & demo's are available.

EDITOR'S NOTE: Ed Roeters's do-it-yourself bikes & framesets that can be had for under \$200 unpainted will be in short supply during 1994. If you have been waiting for the right moment, it is now, as Ed reports that a few bikes are still unspoken for. Ed has been building and teaching about recumbents for years and is one of the unsung pioneers of the CLWB design. Also worthy of mention and on the RCN Want List is Ed's one-off woodie recumbent.



The 1994 Arriba Recumbent
photo by Arriba.

RCN RECUMBENT RATINGS

BIKE RATED: ATP R-40

- Frame/ Welding Quality: ☆☆☆ 1/2
- Paint / Finish Quality: ☆☆☆ 1/2
- Drivetrain Components: ☆☆☆ 1/2
- Brake System Rating: ☆☆☆ 1/2
- Wheel Quality Rating: ☆☆☆☆
- Seat Rating: ☆☆☆ 1/2
- Durability Rating: ☆☆☆☆
- Performance Rating: ☆☆☆ 1/2
- Recumbent Design Rating: ☆☆☆☆
- Value/ "bang for buck" Rating: ☆☆☆☆ 1/2
- Manufacturer Service Rating: ☆☆☆☆
- Overall RCN Bike Rating: ☆☆☆☆
- Cost Rating: \$\$

RCN RECUMBENT RATINGS

BIKE RATED: ATP R-45

- Frame/ Welding Quality: ☆☆☆☆
- Paint / Finish Quality: ☆☆☆ 1/2
- Drivetrain Components: ☆☆☆☆
- Brake System Rating: ☆☆☆ 3/4
- Wheel Quality Rating: ☆☆☆☆ 1/2
- Seat Rating: ☆☆☆ 1/2
- Durability Rating: ☆☆☆ 1/2
- Performance Rating: ☆☆☆☆
- Recumbent Design Rating: ☆☆☆☆
- Value/ "bang for buck" Rating: ☆☆☆☆
- Manufacturer Service Rating: ☆☆☆☆
- Overall RCN Bike Rating: ☆☆☆☆ 1/4
- Cost Rating: \$\$\$\$

BICYCLES BY HALUZAK

2166 Burbank Ave.
 Santa Rosa, CA. 95407
 Phone:#707-544-6243
 Contact: Bill Haluzak

Co-Winner of the "Most Promising Bike for 1994"

BIKE: Haluzak Horizon **TYPE:** SWB-underseat remote steering (upright steering optional for '94). **FRAME:** Chro-moly construction. **WEIGHT:** 29 lbs. **DRIVETRAIN:** Shimano or SunTour/ Twist Grip Shifting. **WHEELBASE:** 40.5" wheelbase,

WHEELS: 26" rear /20" front. **BRAKES:** Dia Compe. **SEAT:** Sling/ mesh. **SEAT HEIGHT:** 23"

SHIPPING: UPS SET-UP: Shipped partially disassembled-20 minute to put together. **DELIVERY:** 3-4 weeks. **SUGGESTED RETAIL PRICE:** \$1175.

HALUZAK NOTES: BBH is offering a new recumbent bicycle to the expanding market of alternative transportation.

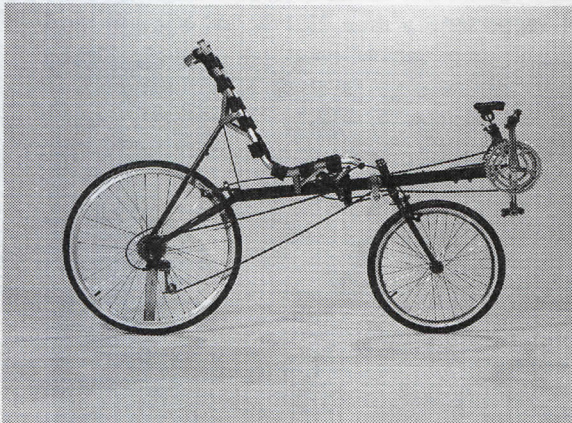
DISCOUNTS: Bicycles by Haluzak will offer free shipping in the USA for RCN readers. SASE for brochure.

ROAD TEST: Look for an upcoming test coming up this summer. **RCN AWARD:** Co-Winner of RCN Editor's Choice for Recumbent to Watch in 1994. **EDITOR'S NOTE:**

RCN has just taken delivery of a new "Horizon for testing this summer.



The Horizon-photo by Bill Haluzak



The Horizon-photo by Bill Haluzak

COMPANY PROFILE: Bill Haluzak has been working very hard perfecting his SWB design over the past year. Haluzak is an RCN Supporter-X Subscriber.

BRAMPTON BIKES

5992-27.15 Lane
 Glandstone, MI 49837
 Phone#906-428-4341
 Contact: Tom Bell

upright handlebar steering **WEIGHT:** NA. **WHEELBASE:** 65.5" **FRAME:** welded mild steel/ Chro-moly **DRIVETRAIN:** 21 speed index/ Shimano SIS. **BRAKES:** Dia Compe Bulldog sidepull. **WHEELS:** 26" rear & 20" front **SEAT:** Aluminum/ high density foam cushion.

SUGGESTED RETAIL PRICE: \$549. **BRAMPTON NOTES:** We offer high quality, good performing recumbent bikes at an affordable price. Send \$1 for information. **COMPANY PROFILE:** New model & new manufacturer.

BIKE: Roadmaster LWB **TYPE:** LWB/



Buncho BikeE's photo by BikeE Corp.



The BikeE-photo by BikeE Corp.

BIKEE CORPORATION

5460 SW Philomath BLVD.
Corvallis, OR 97333
Phone:#503-753-9747
Fax#503-752-8004

Best Urban Commuter Recumbent 1994: BikeE 16 spd.

BIKE: BikeE TYPE: CLWB WEIGHT: 32 lbs. OVERALL LENGTH: 72" WHEELBASE: 54" FRAME: TIG welded rectangular section 6005-T6 aluminum. FORK: Custom BikeE 1018 steel brazed. DRIVETRAIN: 8 index spds./ SunTour XC Expert rear derailleur/ XC Expert Twist Shifters/ SR/ SunTour 54T. 170mm single crank (16-spd 42/54 double)/ 11-28 (8-spd) cassette. GEARING: 8-spd. 37-94 gear inches. 16-spd. 29-94 gear inches. BRAKES: SunTour XCE Cantilevers. PEDALS: Odyssey Svelte Sport. WHEELS: 20" X 1.5" 28 spoke rear and 16" X 1.75" 18 spoke front.

SEAT: Chro-moly steel tubing, mesh back, dual density foam seat. SEAT HEIGHT: 26" PAINT: Anodized Violet, red or blue. RIDER HEIGHT RANGES: 4'10"-6'1" approx. SUGGESTED RETAIL PRICE: 8-spd. from \$895, 16-spd. \$1015, Frameset \$680. ASSEMBLY: 15 minute. SHIPPING: std. UPS box.

OPTIONS: Foul weather kit (front fender, mud flap & chain guard) \$42.90, Kickstand \$39.90, Custom stem \$36. Pannier rack \$79.95, chain-ring disc. \$16.80, 16-spd. kit \$140, Odyssey Svelte Comp. (matching anodized colors to fit your BikeE) \$28.20 as well as two variations of E-shirts are available. **AVAILABLE IN '94:** Zzipper front fairing & tool kit (avail. Jan. '94). Trailer hitch & Rain bonnet (full body rain protection)

(avail. Feb.'94) and Messenger bag & garment bag (avail. Mar.'94). Stretch frames for riders up to 6'6" in height are available by custom order for a slight additional charge. **BIKEE NOTE:** The bicycle that beautifully combines comfort, rideability and quality components. The BikeE offers the ideal reason to switch from a traditional bicycle and invites you to experience a truly unique ride. Send \$1 for information pack.

NEW FOR '94: The big news is the expanding line of BikeE options being unveiled during early '94. Watch for other new BikeE offerings soon. Send \$1 for information pack.

ROAD TEST: RCM#17-Back issue reprint is available for \$5 postpaid USA or \$7 Can./overseas.

RCN AWARD: Best Urban Commuter Recumbent 1994: BikeE 16 spd.

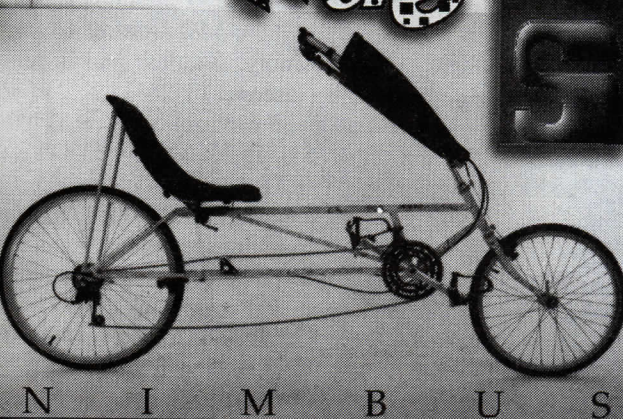
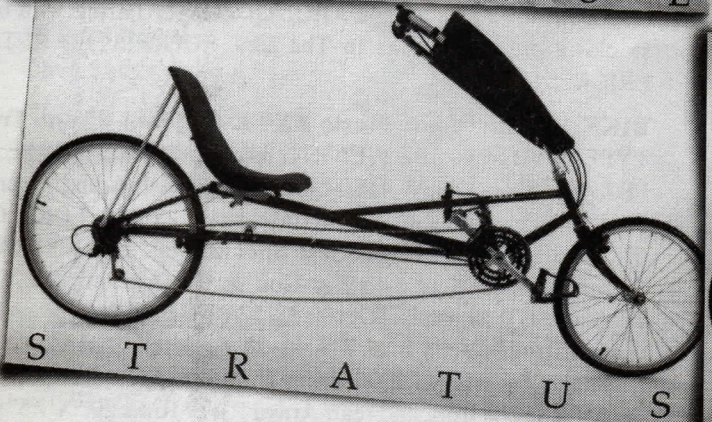
COMPANY PROFILE:

The BikeE company unites several recumbent industry notables as well as several qualified bike industry professionals. BikeE is an RCN Supporter Subscriber.

RCN RECUMBENT RATINGS BIKE RATED: BikeE 16 spd.

Frame/ Welding Quality: ☆☆☆☆
Paint / Finish Quality: ☆☆☆☆
Drivetrain Components: ☆☆☆☆
Brake System Rating: ☆☆☆☆
Wheel Quality Rating: ☆☆☆☆
Seat Rating: ☆☆ 1/2
Durability Rating: ☆☆☆

Performance Rating: ☆☆ 1/2
Recumbent Design Rating: ☆☆☆☆
Value/ "bang for buck" Rating: ☆☆☆ 1/2
Manufacturer Service Rating: ☆☆☆☆
Overall RCN Bike Rating: ☆☆☆ 3/4
Cost Rating: \$\$\$



ran·kle (rang-kel) vt. to annoy or irritate; n. annoyance or anger, irritation and annoyance
rans (RANZ) vt. 1. to cycle in comfort and speed with superb handling n. 2. a form of recumbent cycle adj. 3. to be extremely well crafted, yet a great value n. 4. a really cool company bent on building incredible bikes. ADDRESS: RANS Inc. 4600 Highway 183 Alternate, Hays, KS 67601 Phone: (913) 625-6346 Fax: (913) 625-2795
ran·sack (ran-sak) vt. to search thoroughly

defining
the
Ride



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See Linear Mfg., Inc.

**COUNTERPOINT RECUMBENTS
ANGLE-TECH**

PO Box 1893, 318 N. Hwy. 67

Woodland, Park, CO 80866

Contact: Kelvin Clark

Phone#719-687-7475 or 1-800-793-3038 (24 hours)

(In WA Call #206-776-6787)

Counterpoint Presto: Two year winner of the RCN Editors Choice for Best SWB

BIKE: Counterpoint Presto SE Tour TYPE: SWB-direct upright fold-forward handlebar steering. WEIGHT: 29 pounds WHEELBASE: 36" WEIGHT DISTRIBUTION: 54% front & 46% rear, FRAME: TIG welded 4130 chro-moly, stainless and hi-tensile steel, one size adjustable boom (inseams of 28-35"). DRIVETRAIN: Shimano Deore LX with Bar-Con/ Grip Shift shifters. CRANKSET: Shimano RX100 38/50/61 GEARING: 21 spd. index shifting/ Grip Shift SRT500 (bar con option)/ 11-28 cassette. CHAIN: Sedis BRAKES: Dia Compe Nippon 883 pulls



The Presto SE with optional Zipper fairing & suspended fork photo courtesy of Angle Tech

with Aztec pads. WHEELS: 20" front and rear/ Araya RB17 Rims with 36 stainless spokes. 20" X 1.5" Haro Street Concept. SEAT: Pro-Flex style suspension/ alum. framed/ Sew What full mesh SEAT HEIGHT: 24" PAINT: Powdercoat Rhapsody Blue or Black. (Custom Deltron is optional). FAIRING: Zipper

fairing with body stocking prep. or Roots In The Sky. SUGGESTED RETAIL PRICE: SE Tour model: \$1849.99

BIKE: Counterpoint Presto SE-63 TYPE: SWB-direct upright fold-forward handlebar steering. WEIGHT: 29 pounds WHEELBASE: 36" WEIGHT DISTRIBUTION: 54% front & 46% rear, FRAME: TIG welded 4130 chro-moly, stainless and hi-tensile steel, one size adjustable boom (inseams of 28-35"). FORK: Custom Chro-moly (RST suspension fork optional). HANDLEBARS: Roots custom aluminum. SUSPENSION: Rear KG Engineering Pro Flex elastomer. DRIVETRAIN: Shimano Deore LX with Bar-Con & ProGrip left side twist. CRANKSET: Shimano RX100 38/50/61 GEARING: 63 spd. index shifting/ Sachs 3 X 7 + 11-28 cassette. CHAIN: Sedis BRAKES: Dia Compe Nippon 883/ Aztec. WHEELS: 20" front and rear/ Araya RB17 Rims with 36 stainless spokes. 20" X 1.5" Haro. SEAT: Pro-Flex style suspension/ alum. framed/ Sew What full mesh SEAT HEIGHT: 24" PAINT: Powdercoat Rhapsody Blue or Black. (Custom Deltron is optional). FAIRING: Zipper fairing with body stock-

ing prep. or Roots In The Sky.

SUGGESTED RETAIL PRICE: SE Tour model: \$1999.99

BIKE: Counterpoint Presto

Ti-XL TYPE: SWB-direct upright fold-forward handlebar steering. WEIGHT: 21 lbs. WHEELBASE: 36" WEIGHT DISTRIBUTION: 54% front & 46% rear, FRAME: Titanium. FORK: Titanium HANDLEBARS: Roots custom aluminum. SUSPENSION: Rear KG Engineering Pro Flex elastomer. DRIVETRAIN: 24 speed index shifting/ Shimano Deore



Presto Ti XL full titanium fork photo courtesy of Angle Tech

XTR/ Grip Shift shifters/ Action Tech Ti 8-spd. HEADSET: Aheadset. CRANKSET: Mavic 631. GEARING: 24 spd. index shifting/ Grip Shift SRT500 (bar con option)/ 8 spd. 11-28 cassette. CHAIN: Sedis SL BOTTOM BRACKET: Sampson Ti sealed. BRAKES: IRD Widget. HUBS: Hugi. WHEELS: 20" front and rear/ Araya RB17 Rims with 28 stainless spokes. 20" X 1-1/8" IRC Roadlite EX HUBS: XTR SEAT: Pro-Flex style suspension/ alum. framed/ Sew What full mesh SEAT HEIGHT: 24" PAINT: NA FAIRING: Zipper fairing with body stocking prep. or Roots In The Sky. SUGGESTED RETAIL PRICE: \$4999.99

BIKE: Counterpoint Presto CL TYPE: SWB-direct upright fold-forward handlebar steering. WEIGHT: 29 pounds WHEELBASE: 36" WEIGHT DISTRIBUTION: 54% front & 46% rear, FRAME: TIG welded 4130 chro-moly, stainless and hi-tensile steel, one size adjustable boom (inseams of 28-35"). FORK: Custom Chro-moly (RST suspension fork optional). HANDLEBARS: Roots custom aluminum. SUSPENSION: Rear KG Engineering Pro Flex elastomer. DRIVETRAIN: Shimano Exage HEADSET: Aheadset. CRANKSET: SR 34/46/54 GEARING: 21 spd. index shifting. CHAIN: Sedis BRAKES: Dia Compe Nippon 883 pulls with Aztec pads. WHEELS: 20" front and rear 20" X 1.5" SEAT: Pro-Flex style suspension/ alum. framed/ Sew What full mesh SEAT HEIGHT: 24" PAINT: Powdercoat Rhapsody Blue or Black. (Custom Deltron is optional). FAIRING: Zipper fairing with body stocking prep. or Roots In The Sky. SUGGESTED RETAIL PRICE: \$1599.99

BIKE: Counterpoint Presto AT SE-63 Triad (Presto Trike)

TYPE: SWB-style trike WEIGHT: 34 pounds WHEELBASE: 36" FRAME: TIG welded 4130 chro-moly, stainless and hi-tensile steel, one size adjustable boom (inseams of 28-35"). FORK: Custom. HEADSET: AheadSet/ Specialized. DRIVETRAIN: Shimano Deore LX with Bar-Con & ProGrip left side twist. CRANKSET: Shimano RX100 38/52/61 GEARING: 63 spd. index shifting/ Sachs 3 X 7 + 11-28 cassette. CHAIN: Sedis BRAKES: Sachs VT5000 drum fronts/ Nippon side-pull rear. WHEELS: 20" front and rear/ Araya RB17 Rims 20" X 1.5" with 36 stainless spokes. HUBS: Sachs 3 X 7/ Sachs drum. SEAT:

Pro-Flex style suspension/ alum. framed/ Sew What full mesh. SEAT HEIGHT: 24" PAINT: Powdercoat Rhapsody Blue or Black. (Custom Deltron is optional). FAIRING: Zzipper fairing with body stocking prep. or Roots In The Sky. SUGGESTED RETAIL PRICE: SE Tour model: \$2699.99

SIMILAR MODEL: Presto Triad AT CL is the entry level 21 spd. (single chainwheel up front) version and retails for \$2499.99

NOTE: Titanium Triads are available on special order.

BIKE: Counterpoint Opus IV SE Tandem TYPE: Semi-Recumbent Tandem 1/2 conventional & 1/2. WEIGHT: NA WHEEL-BASE: FRAME: TIG welded 4130 chro-moly. DRIVETRAIN: Shimano Deore DX derailleurs thumbshifter. CRANKSET: Sugino FUSE triple 24/42/52. GEARING: Sachs Aris 13-32 cassette. CHAIN: Sedisport. BRAKES: Magura Hydrostop. WHEELS: 26" rear & 20" front SEAT: Conventional captain & Presto alum. framed sling/ Sew What full mesh stoker. PAINT: Plum Blue, Titanium Silver & Purple (Custom Deltron is optional). FAIRING: Zzipper fairing with body stocking prep. or Roots In The Sky. SUGGESTED RETAIL PRICE: Opus IV SE model: \$3599.99

SIMILAR MODEL: Opus IV CL is the entry level version and retails for \$2999.99

BIKE: Counterpoint Trio AT SE TYPE: Semi-Recumbent Tridem 1/3 conventional & 2/3 (recumbent stokers at the front and rear). WEIGHT: lbs. WHEELBASE: FRAME: TIG welded 4130 chro-moly DRIVETRAIN: Shimano Deore XT derailleurs/

Deore STI/ Deore XT thumbshifters. CRANKSET: Sugino FUSE. GEARING: Aris 12-32/ 12-21. CHAIN: Sedis BRAKES: FSE/ Campy/ Arai drum. WHEELS: 26" rear & 20" front SEAT: Conventional captain & two Presto alum. framed sling/ Sew What full mesh stoker. PAINT: Plum Blue, Titanium Silver & Purple (Custom Deltron is optional). FAIRING: Zzipper fairing with body stocking prep. or Roots In The Sky. SUGGESTED RETAIL PRICE: \$6199.99

OPTIONS: The Counterpoint option list is the most extensive of ANY RECUMBENT MANUFACTURER currently in the business. If it's not on the list, there is still a possibility that it can be done. Counterpoint offers highly customized hand-crafted recumbent bikes. Here is a partial list of options: Pivoting (folding) boom; Presto performance option group: Araya 20A rims, IRC Roadlite EX 20" X 1-1/8" tires, 11-24 cluster and Dia Compe 630GX brakes; Racks; Custom 20" fender-sets; Trunks; packs; bags and even a hand crank & landing gear option for the Opus. Angle Tech also has a wide selection of 20" tires for recumbents, including the Avocet FasGrip 20" X 1.75" baldy designed for solar cars.

COUNTERPOINT NOTE: In developing the Presto model, the primary goal was to create a recumbent that felt as natural as possible to ride. The bicycle must have great handling characteristics and have exceptionally comfortable ride as well. Though it may seem like to much to ask, most of these features have been maximized in the Presto. The handlebar position gives the rider firm and natural control of direction & balance. The handlebars

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BIKEE CORP.

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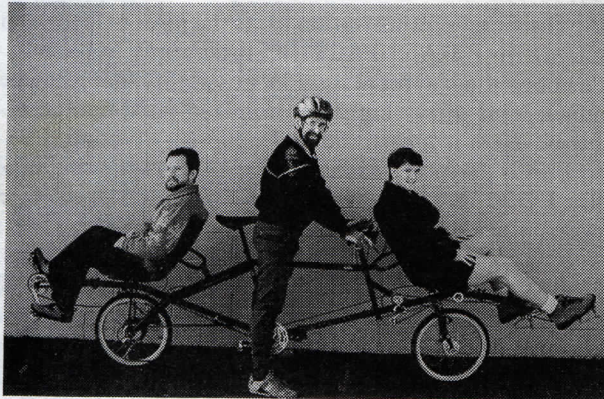
Corvallis, OR 97333

☎ (503) 753-9747



POSITION!

fold forward for safety & easy access. The suspended seat is sprung to cushion the shock of the rear wheel. Counterpoint bikes do not come with standard pedals, there are several optional pedal systems available.



The New Counterpoint Trio photo courtesy of Angle Tech

NEW FOR 94: The Counterpoint Presto Zipper fairing & mounts fit both the Presto & Opus models. The fairing bubble comes fitted with a zipper for future soft-body use. New models for '94 are the Presto SE-63, Triad & Opus Trio. Counterpoint is a seasoned veteran in the world of SWB recumbents in the world today. They offer recumbents & tandems among the finest built in the world today. Angle-Tech Catalog \$2. Stop by the new Angle Tech store in Woodland Park, Colo-

rado.

EDITOR'S NOTE: The Jim Weaver Counterpoint/ Angle-Tech team is certainly an industry leader and builder of, what we consider, the finest SWB recumbents available in the world today.

ROAD TEST: RCM#11-Presto test/ RCN#18 Easy Racer vs. Presto Shootout! Back issue reprint is available for \$5 postpaid USA or \$7 Can./ overseas each.

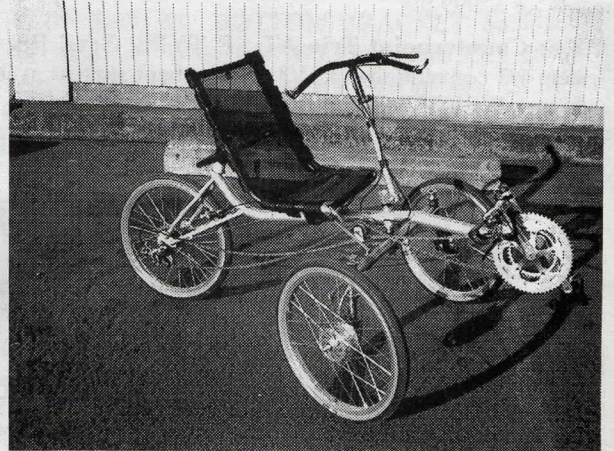
RCN AWARDS: The Counterpoint Presto is the "Two year winner of the RCN Editors Choice for Best SWB" as well as the "Best Recumbent of 1993." Jim Weaver, the Presto designer was named "Most Innovative Recumbent Designer of 1994!"

COMPANY PROFILE :

Counterpoint recumbents & tandems are designed by Jim Weaver of Edmonds, WA. The Angle Tech group does component R & D as well as spec's and builds up each Counterpoint recumbent. Counterpoint is a leader in HPV technology and is a Veteran Recumbent Manufacturer. Angle-Tech is an RCN Supporter-X subscriber.



The New Angle Tech store in Woodland Park, Colorado



The New Counterpoint -Triad photo courtesy of Angle Tech

RCN RECUMBENT RATINGS

BIKE RATED: Presto SE Tour

- Frame/ Welding Quality: ☆☆☆☆☆
- Paint / Finish Quality: ☆☆☆☆
- Drivetrain Components: ☆☆☆☆
- Brake System Rating: ☆☆☆ 1/2
- Wheel Quality Rating: ☆☆☆☆ 1/2
- Seat Rating: ☆☆☆☆ 1/2
- Durability Rating: ☆☆☆☆ 1/2
- Performance Rating: ☆☆☆ 1/2
- Recumbent Design Rating: ☆☆☆☆ 1/2
- Value/ "bang for buck" Rating: ☆☆☆☆
- Manufacturer Service Rating: ☆☆☆☆☆
- Overall RCN Bike Rating: ☆☆☆☆ 1/2

Cost Rating: \$\$\$\$

RCN RECUMBENT RATINGS

BIKE RATED: Presto Ti XL

- Frame/ Welding Quality: ☆☆☆☆☆
- Paint / Finish Quality: ☆☆☆☆☆
- Drivetrain Components: ☆☆☆☆☆
- Brake System Rating: ☆☆☆☆☆
- Wheel Quality Rating: ☆☆☆☆☆
- Seat Rating: ☆☆☆☆ 1/2
- Durability Rating: ☆☆☆☆
- Performance Rating: ☆☆☆ 1/2
- Recumbent Design Rating: ☆☆☆☆ 1/2
- Value/ "bang for buck" Rating: ☆☆☆ 1/2
- Manufacturer Service Rating: ☆☆☆☆☆
- Overall RCN Bike Rating: ☆☆☆☆ 1/2

Cost Rating: \$\$\$\$\$

CUSTOM TRANSPORTATION ALTERNATIVES

6922 Union Ave.
Cleveland, OH 44105
Ph#216-341-6939
Contact: Bart

PRODUCTS: Custom built to order Don Harse Coo's Bay Flyer trikes, Runabout trikes, side by side tandems and the Unicorn Mach II MWB recumbent.

NEW FOR '94: CTA is going into full production with their first full

production-runs of the Coo's Bay Flyer trike, SWB Unicorn and Runabout models. By the time you read this, every model will be in stock and ready for delivery.

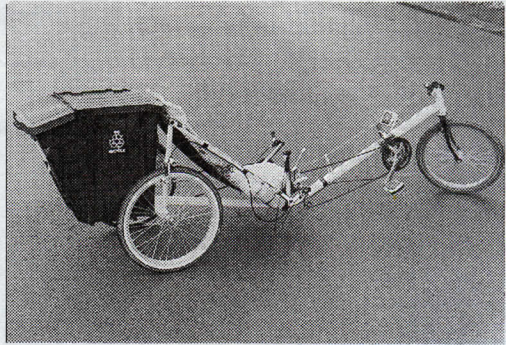
EDITOR'S NOTE: TA builds and sells some custom utility, high performance and very useable designs. Don Harse is the official head-designer, many of you have seen Don's trikes in RCN before.

COMPANY PROFILE:

CTA is a recumbent specialty shop & manufacturer, producing several "Don Harse" design recumbents as well as other interesting HPV's. CTA is an **RCN Supporter-X Subscriber**.



*Unicorn Mach II
-photo by Mke Eliasohn*



The Coo's Bay Flyer



The DH5000-photo by DH



The ATP R-45-photo courtesy of ATP

CUSTOM TRANSPORTATION ALTERNATIVES

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(216) 341-6939



*The Kowal Tandem prototype
Photo courtesy of Kowal*

DH RECUMBENTS, INC.

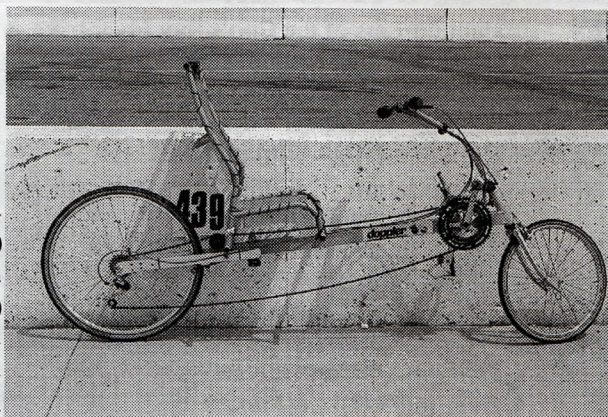
18512 Carrott St., Ste. 428
Spring, TX 77379
Phone:#713-251-5413
Contact: David Hechart

BIKE: DH5000. TYPE: CLWB-in-direct upright steering. WEIGHT:30 lbs. WHEELBASE: Small 56", large 60." FRAME: brazed aircraft 4130 chro-moly. DRIVETRAIN: 21 spd. index shifting/ Shimano Deore derailleurs/ thumbshifters/ 28-42-52 triple crankset / 12-28 cassette. HUBS: Shimano Deore DX/LX BRAKES: Shimano Cantilever rear/ Dia Compe side-pull brake. WHEELS: 700c X 28 rear and 20" X 1-1/8" IRC 100 p.s.i. front. SEAT: hard shell padded seat. PAINT: Powdercoat Blue, Red or Black. FAIRING: DH Zzipper available as an option from DH. SUGGESTED RETAIL PRICE: \$1395.

BIKE: DH1000 WEIGHT: 35 lbs. DRIVETRAIN: 18 spd. index shifting/ Shimano derailleurs/ thumbshifters/28-38-48 triple crankset. BRAKES: BMX alloy side-pulls. WEIGHT: 35 lbs. WHEELS: 26" rear and 20" X 1.5" front (steel rims). SUGGESTED RETAIL PRICE: \$995.

NEW FOR '94: Fat tire option is now available on the DH5000. Magura HydroStop brakes and the new Sachs Twist-Grip shifter are now optional equipment. All DH recumbents now come outfitted with dual (2) steering rods. Send \$1 for more information.

ROAD TEST: RCM#3-Back issue is available when purchased in the complete RCN set only.



Doppler LWB-photo courtesy Doppler

DOPPLER CYCLE TECHNOLOGIES

52 Walnut St.
Kitchener, Ontario
Canada N2G 1P6
Phone 519-579-5103 Fax: 519-745-0582

BIKE: Doppler TM-3 TYPE: LWB-with upright steering. WEIGHT: 27-29 lbs. WHEELBASE: Small 56", large 60." FRAME: TIG welded/ heat treated 6061 Aluminum, 2" square main beam and 6061 swing-arm. FORKS: TIG welded steel. SUSPENSION: Low maintenance elastomer compression spring. DRIVETRAIN: 21 spd. index shifting/ Sachs 5000 rear derailleur & Sachs three speed internal hub with single chainring up front (52) / Power Grip Pro Shifters / Sachs alloy crankset / 12-28 cassette. BRAKES: Weinmann side-pull front brake. WHEELS: 26" rear and 20" X 1-1/8" IRC 100 p.s.i. front.

SEAT: Doppler-made powdercoated aluminum frame with nylon straps/ mesh (air cushion optional). PAINT: Epoxy powdercoat.

SUGGESTED RETAIL PRICE:
\$1450 US/ \$1795 Can. Frame set is \$995US/ \$1285 Can.

NEW FOR '94: The Doppler box-beam construction yields a very stiff frame with small losses exhibited during acceleration and hill climbing. The bike has a very lively ride, and handling which is quicker than other

LWB recumbents. It is very stable during low speed maneuvers and there is no pedal overlap. The suspension is fairly stiff to minimize losses but is effective in dampening road shock. The stem and handlebar are completely adjustable as is the seat. Currently, the TM-3 is available on a made-to-order basis. Information/ spec sheets \$1. **COMPANY PROFILE:** New manufacturer and new model. Doppler is an RCN subscriber.

RCN RECUMBENT RATINGS

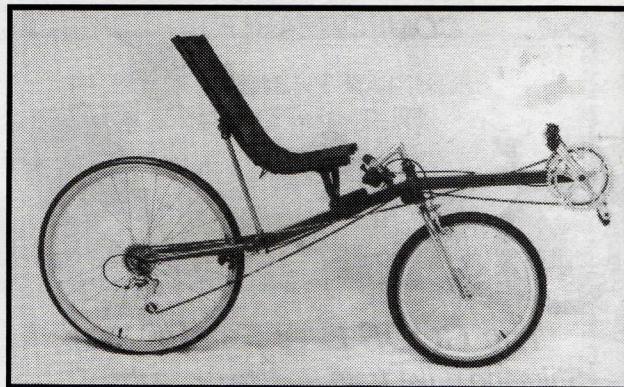
BIKE RATED: DH 5000

- Frame/ Welding Quality: ☆☆☆ 1/2
- Paint / Finish Quality: ☆☆☆ 1/2
- Drivetrain Components: ☆☆☆☆
- Brake System Rating: ☆☆☆
- Wheel Quality Rating: ☆☆☆ 1/2
- Seat Rating: ☆☆☆ 1/2
- Durability Rating: ☆☆☆
- Performance Rating: ☆☆☆
- Recumbent Design Rating: ☆☆☆ 1/2
- Value/ "bang for buck" Rating: ☆☆☆ 1/2
- Manufacturer Service Rating: ☆☆☆
- Overall RCN Bike Rating: ☆☆☆ 1/2
- Cost Rating: \$\$\$\$

COMPANY PROFILE: DH is an RCN subscriber.

K.D.4.

- ▲ Open mesh seat for cool comfort
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\$495.00 frame, fork and seat
\$995.00 complete bike

For more information, send \$2.00 to:

▲ Kowal Designs	202-A W. 18th st. #27
Merced, CA 95340	(209) 722-3107

ECO CYCLE

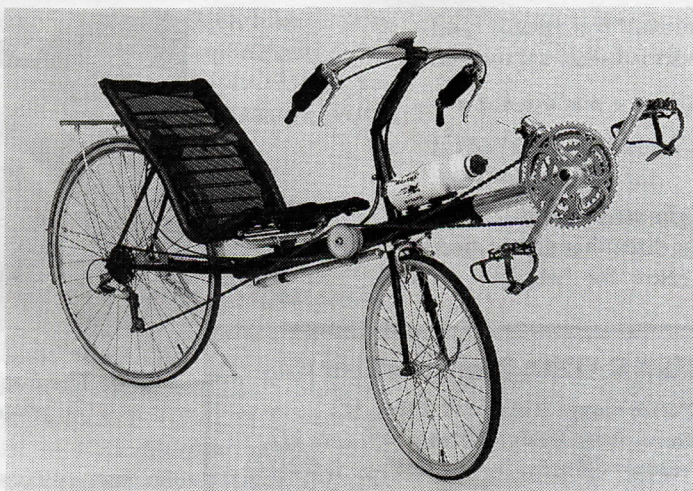
1500 NW 9th St.
Corvallis, OR 97330
Phone: #503-753-5178
Contact: Ken Trueba

TRIKE: **Trice LC** TYPE:

two wheels in front trike (SWB configuration)/underseat steering via extension type handlebars. WEIGHT: N.A. WHEELBASE: 39.4". TRACK WIDTH: 32" or 26". FRAME: Steel, one size adjustable boom. DRIVETRAIN: Suntour XCE derailleurs/ SunTour Bar-Con shifters GEARING: 21-speeds Sakae crankset BRAKES:

Sturmey Archer hub brakes (front wheels), WHEELS: 26" rear, 20" X 1-1/8" 100 p.s.i. or 1-3/8 65 p.s.i. front. SEAT: fiberglass shell with cushion and head rest. SEAT HEIGHT: 12" SHIPPING: UPS requiring assembly or full assembled by motor freight (est. \$150). SUGGESTED RETAIL PRICE: \$1695.

TRIKE: Trice XT TYPE: two wheels in front trike (SWB configuration)/underseat steering via extension type handlebars. WEIGHT: N.A. WHEELBASE: 39.4". TRACK WIDTH: 32" or 26". FRAME: Steel, one size adjustable boom.



The Ross new SWB-photo courtesy Peter Ross

can be adjusted to suit every shape of back. The frame has been simplified, and all points of potential weakness eliminated. The new frame separates into two pieces to simplify carriage by car, rail or plane. Weight remains at 37 lbs. Options include a frame only and a Sachs 30cc gas auxiliary engine.

BIKE: **Ross**

TYPE: SWB-underseat or upright steering. WEIGHT: NA WHEELBASE: NA FRAME: TIG welded 4130 chromoly. DRIVE TRAIN: SunTour S1 System/twist shifters. GEARING: 21 spd. index shifting. BRAKES: Cantilever brakes with the SunTour

"Power Hanger." WHEELS: 20" front and rear 20" X 1.5" SEAT: Pro-Flex style suspension/ alum. framed/ Sew What full mesh SEAT HEIGHT: 24" PAINT: Powdercoat Rhapsody Blue or Black. (Custom Deltron is optional. SUGGESTED RETAIL PRICE: \$est.995 **OPTIONS:** AeroTrice body coming soon. **NOTES:** Information \$2, Video \$10.

NEW FOR '94: Eco Cycles has revamped the model line-up for 1994. Now available are two models of trikes built in the USA as well as the new redesigned Euro-Trice imported from England. Also available is the Aero Trice, the Mark Murphy Aero-Coupe body designed to fit Trice Trikes.

ROAD TEST: RCM#16-Back issue reprint is available for \$5 postpaid USA or \$7 Can./ overseas.

COMPANY PROFILE: Trice trikes are built under license by Eco Cycles. Eco is Recumbent Cyclist Supporter-X subscriber.

WEIGHT: NA WHEELBASE: NA TRACK WIDTH: NA FRAME: Steel, one size adjustable boom. DRIVETRAIN: NA BRAKES: Sturmey Archer hub brakes (front wheels). WHEELS: NA SEAT: Sling mesh. SHIPPING: UPS EuroTrice separates into two pieces or full assembled by motor freight (est. \$150). EST. SUGGESTED PRICE: \$1995 **EURO-NOTES:** The '94 Euro-Trice now comes with a redesigned frame, upgraded components with twist grip shifters. Increases Sturmey axle diameters have eliminated "bump steer" effect of earlier Trice models. A new seat uses an alloy frame covered with mesh fabric which gives ventilation to the body, and

RCN RECUMBENT RATINGS BIKE RATED: Eco Cycles Trice

- Frame/ Welding Quality: ☆☆☆ 1/2
- Paint / Finish Quality: ☆☆☆
- Drivetrain Components: ☆☆☆
- Brake System Rating: ☆☆ 1/2
- Wheel Quality Rating: ☆☆ 1/2
- Seat Rating: ☆☆ 1/2
- Durability Rating: ☆☆ 1/2
- Performance Rating: ☆☆☆ 1/2
- Recumbent Design Rating: ☆☆☆
- Value/ "bang for buck" Rating: ☆☆☆1/2
- Manufacturer Service Rating: ☆☆☆1/2
- Overall RCN Bike Rating: ☆☆☆
- Cost Rating: \$\$\$\$



*The New Euro Trice from Peter Ross
photo by Peter Ross*

DRIVETRAIN: Shimano Deore XT derailleurs/ Shimano Bar-Con shifters GEARING: 21-speed index/ Shimano Deore XT Triple crankset. BRAKES: Sturmey Archer hub brakes (front wheels), WHEELS: 26" rear, 20" X 1-1/8" 100 p.s.i. or 1-3/8 65 p.s.i. front. SEAT: fiberglass shell with cushion and head rest. SEAT HEIGHT: 12" SHIPPING: UPS requiring assembly or full assembled by motor freight (est. \$150). SUGGESTED RETAIL PRICE: \$1995.

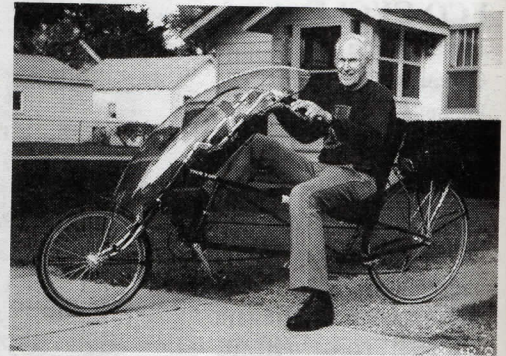
TRIKE: Euro-Trice TYPE: two wheels in front trike (SWB configuration)/underseat steering via extension type handlebars.

EASY RACERS, INC.

2891 Freedom Blvd.
 Watsonville, CA 95076
 Phone: #408-722-9797
 Contact: Luke or Gardner

Editor's Choice for the Best LWB Upright-steer 1994.

BIKE: Tour Easy. TYPE: LWB-upright direct handlebar steering. WEIGHT: 29-33 lbs. WHEELBASE: 63"/66"/ 67.5" (New for '94) /69" FRAME: TIG welded



*The Easy Racer Tour Easy
 photo by Frank Kral*

RCN RECUMBENT RATINGS	BIKE RATED: Easy Racer Tour Easy
Frame/ Welding Quality: ☆☆☆☆	Performance Rating: ☆☆☆☆ 1/2
Paint / Finish Quality: ☆☆☆1/2	Recumbent Design Rating: ☆☆☆☆ 1/2
Drivetrain Components: ☆☆☆ 1/2	Value/ "bang for buck" Rating: ☆☆☆1/2
Brake System Rating: ☆☆☆☆	Manufacturer Service Rating: ☆☆☆☆☆
Wheel Quality Rating: ☆☆☆☆ 1/2	Overall RCN Bike Rating: ☆☆☆☆ 1/4
Seat Rating: ☆☆☆1/2	
Durability Rating: ☆☆☆☆☆	Cost Rating: \$\$\$\$

RCN RECUMBENT RATINGS	BIKE RATED: Gold Rush Replica
Frame/ Welding Quality: ☆☆☆☆☆	Performance Rating: ☆☆☆☆ 1/2
Paint / Finish Quality: ☆☆☆☆ 1/2	Recumbent Design Rating: ☆☆☆☆1/2
Drivetrain Components: ☆☆☆☆ 1/2	Value/ "bang for buck" Rating: ☆☆☆ 1/2
Brake System Rating: ☆☆☆☆ 1/2	Manufacturer Service Rating: ☆☆☆☆☆
Wheel Quality Rating: ☆☆☆☆ 1/2	Overall RCN Bike Rating: ☆☆☆☆ 1/2
Seat Rating: ☆☆☆1/2	
Durability Rating: ☆☆☆☆ 1/2	Cost Rating: \$\$\$\$\$

chro-moly, available in four sizes. FORK: All chro-molly with bright chrome finish. DRIVETRAIN: 21 speed index shifting/ rear-Suntour X-1 derailleur front-XC-LTD/ Bar-End shifters/ Specialized triple crank 24/46/ 52 (or similar)/ Sachs Aris 12-30 freewheel. CHAIN: Sachs. BRAKES: SunTour Roller-Cam rear/ Dia Compe dual pivot front. HUBS: Specialized cartridge sealed. WHEELS: 27" rear, 20" X 1-1/8" IRC 100 p.s.i. or 1.5" Haro 65 p.s.i. front. PAINT: Powdercoat Candy Red & Black. SEAT: The "Cobra" seat, a composite shell with layered foam and Lycra cover.

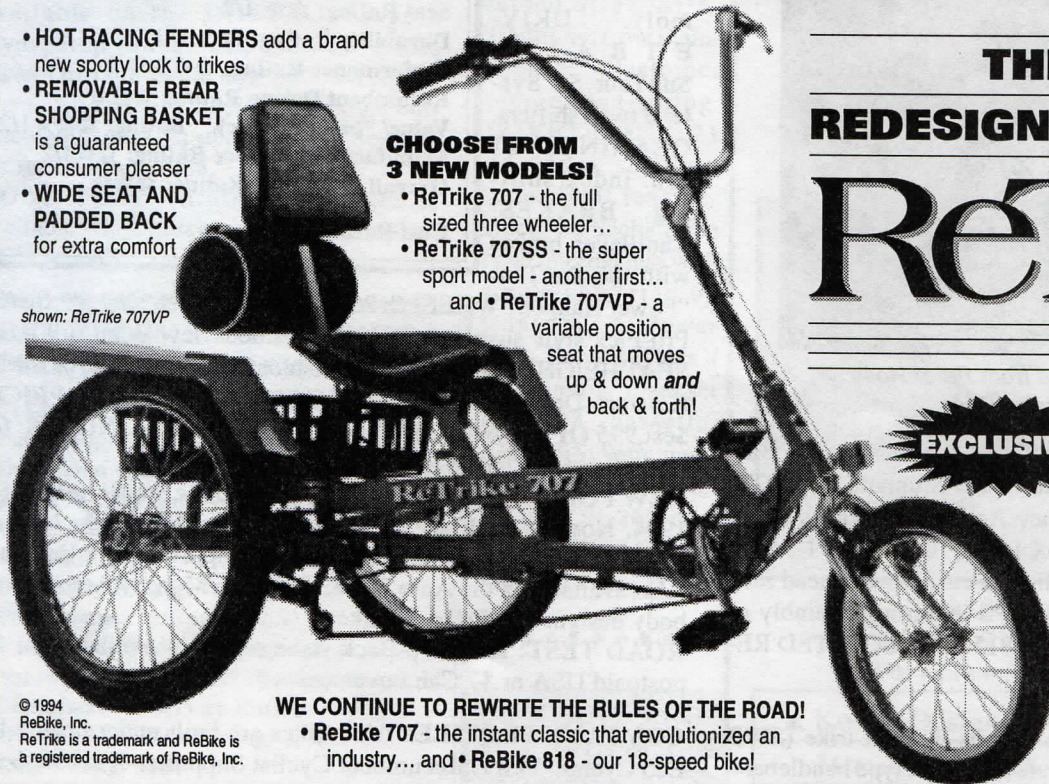
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- ReBike 707 - the instant classic that revolutionized an industry... and
- ReBike 818 - our 18-speed bike!

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SEAT HEIGHT: 20.5"-22" **ASSEMBLY:** Each bike is fully bench tested, all cables set up and adjusted. Requires only set of seat, wheels & pedals to be rideable/ ships UPS. **FAIRING:** Super Zipper fairing upgrade-\$99 (sml. Zipper standard). **SUGGESTED RETAIL PRICE:** \$1695.

Editor's Choice for the Best High Performance Recumbent BIKE: The Gold Rush Replica. TYPE: LWB-upright direct handlebar steering. WEIGHT: 27 lbs. FRAME: TIG welded over-size heat treated 6061-T6 aluminum, comes in three sizes. DRIVE-TRAIN: Full Shimano equipped. Deore XT short cage rear derailleur Suntour XC Pro front/ Specialized crankset, 28-46-54/105-SC dual pivot point, 21 speed index/ 12-28 Shimano Hyperglide cassette. CHAIN: Sachs ATB. HEADSET: Shimano Ultegra Racing. BOTTOM BRACKET: Shimano sealed. PEDALS: SR Alloy Low-Fat with toe straps & clips. HUBS: Shimano 105SC WHEELS: 700C X 28 105 p.s.i. rear, radially spoked 20" X 1-1/8" 100p.s.i. front IRC. RIMS: Hard anodized dark gray rims. FINISH: Hand polished natural aluminum. SEAT: ultra-light Kevlar shell Cobra. (Components subject to availability.) FAIRING: Super Zipper fairing upgrade-\$99 (sml. Zipper standard). SUGGESTED RETAIL: \$1900 frameset, \$2500 for the complete bike.

OPTIONS: Dual water bottles & cages \$15, Side-stand \$10, Zefal Pump \$25, New Carbon Fiber front fender \$55. Blackburn rack \$45.

PLAN-SET: 40 page instruction book on how to build an Easy Racer \$40.

NEW FOR '94: Easy Racers has introduced a new size for the Tour Easy, medium-large., this fits riders in the upper limits of the medium or the lower limits of the large. A new configuration body stocking available soon. Easy Racers is a seasoned veteran in the world of recumbents offering among the finest recumbents in the world today.

EASY RACER NOTES: Ride a world-champion Easy Racer bicycle. Comfortable-Stable-Fast. A pleasure to ride. This low-profile, heads-up riding style cuts wind resistance by 30%, allowing you to travel faster and farther with more comfort. Since 1979 Easy Racers has proudly sold and serviced its products in Freedom, CA. Send \$5 for an info-pack color brochure and video.

ROAD TEST: RCM#6-Back issue reprint is available for \$5 postpaid USA or \$7 Can./overseas.

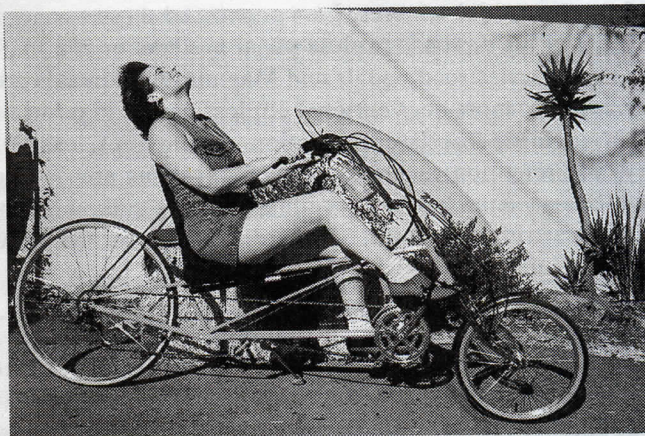
RCN AWARDS: Two year winner of the RCN Editors Choice for Best LWB Upright-Steer & Best High Performance Recumbent.

COMPANY PROFILE: Gardner Martin wrote the book for veteran recumbent manufacturers. Easy Racers bikes are among the most respected and finest built recumbents in the world today.

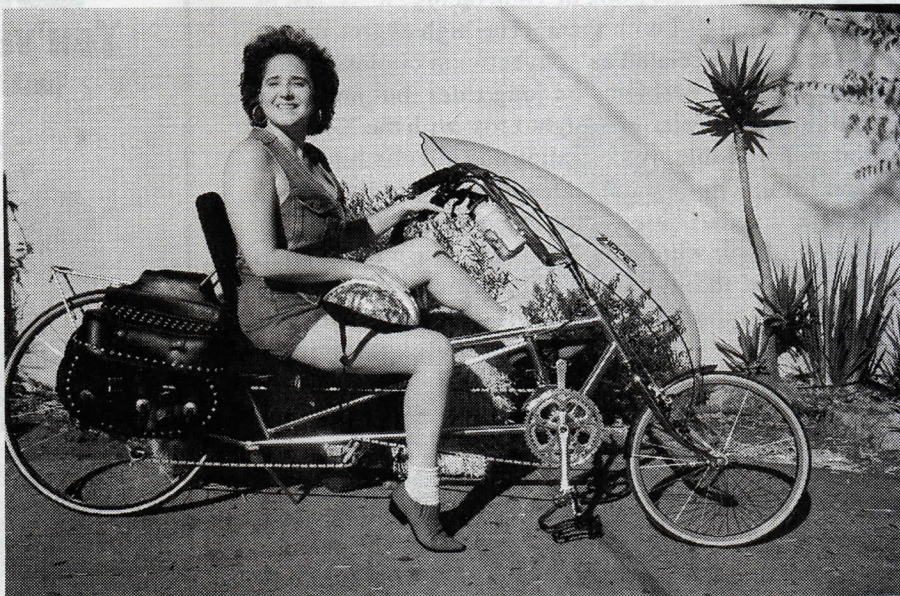
Easy Racers is a Veteran Recumbent Manufacturer and an RCN Supporter-X Subscriber.

KINGCYCLE RECUMBENTS

See Linear Mfg., Inc.



*Easy Racer Tour Easy
Photo courtesy of Easy Racers, Inc.*



*The Easy Racer Gold Rush Replica
photo courtesy of Easy Racers, Inc.*

Zach Tech: Speedplay Pedals by Zach Kaplan

"No Compromise in the Name of Human Powered Transportation"

Every now and then, I find a product which is far ahead of its competition. After extensively using the Speedplay X-1 and Magnum pedal systems, I am convinced these two systems are by far the best clipless pedal systems on the market. The X-series road pedals and Magnum ATB pedals are far superior to more conventional clipless pedals in terms of weight savings, free lateral rotation, ergonomics, ease of entry, and retention security. Both SP systems are double sided for easy entry and use common spindles with user serviceable cartridge bearings. Richard Bryne, a former HPV racer, designed the pedals.

The compact, lollipop shaped titanium spindled X-1 and stainless steel spindled X-2 weigh 140 g and 198 g per pair respectively. Compare that with 400 g to 500 g for conventional clipless pedals. The cleats which fit over the pedals weigh 127 g per pair and are available with the Look 3 hole pattern or Time 4 hole pattern. The X-series features easy ingress/egress and 37 degrees of knee saving free float. The design of the pedals makes them completely immune to inadvertent release while sprinting, yet exiting is quick and simple due to the lack of heavy spring action on the cleat. The X-series is primarily a racing system, although the cleats are easier to walk on than Look or Time racing cleats, just be sure not to walk on dirt with them. The high degree of free float was much appreciated as conventional clipless pedals have given me knee problems on long rides, but not these. The large amount of rotating weight I lost with the X-1s was immediately noticeable. Acceleration and hill climbing were easier and I found my natural cadence increased by about 5 RPM. The X-2 pedals cost a competitive \$165, while the X-1 versions go for a whopping \$290, which isn't bad compared to a top of the line Time pedal which weighs about three times more. Speedplay sells only through retail bike shops.

The Magnum ATB pedals come in two flavours, \$165 steel and \$285 titanium, weighing 224 g and 270 g per pair. The recessed cleats which are compatible with any SPD shoe weighs 94 g per pair. Being designed for mountain bikes, the Magnums are as general purpose as the X-series are specialized. The Magnum pedal will probably appeal more to the majority of recumbent riders, in fact it may just be the world's best all around clipless pedal. Entry and exit are effortless, smoother and quieter than any other pedal, including the X-1. I was impressed by the 56 degrees of float. The


float has even less resistance than the X-1. For my first day of riding, I found myself occasionally hitting my heels on the crankarms, but my feet quickly became used to the freedom. The cleats are walkable and vent mud upon engagement with the pedals. I didn't find the cleats quite as easy to walk on as SPD cleats due to larger surface area, but this could easily be remedied by gluing some tread from old mountain bike tyres onto the sole to isolate the cleat from the ground.

SP pedals have one significant drawback which only affects a small subspecies of recumbent riders, those who ride fully faired HPVs. The high degree of lateral rotation can make it impossible to exit the pedals due to lack of foot twisting space. SP can modify the X-1 to have reduced rotation before release. Anyone with a Dremel tool can easily modify the Magnum cleat for inward release and or reduced angle outward release.

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**For nearest dealer call 319-252-1637
Linear Bicycles, RR 1, Guttenberg, IA 52052**

JUST TWO BIKES, INC. (JTB)

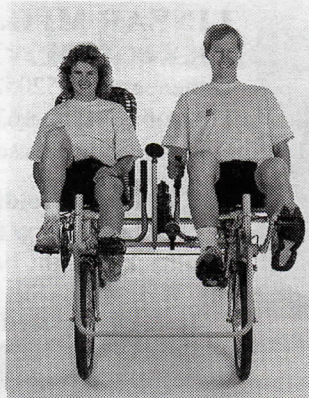
JUST TWO BIKES, INC. (JTB)

1777 Stillwater St.

White Bear Lake, MN 55110

Contact: Jim Muellner

Phone#612-429-9081



*The Montage
photo by*

BIKE: The Montage. TYPE: Underseat steering side by side SWB recumbent tandem. WEIGHT: 120 lbs. OVERALL WIDTH: 43" (26" spacing between bikes). FRAME: Steel. FRAME SIZES: Fits riders from 5"-6'4" DRIVETRAIN: Two independent 21 speed indexed systems. BRAKES: (Two of each) front & rear brakes. WHEELS: 26" rear, 20" front. SEAT: Two-sling/ mesh. STANDARD FEATURES: Fenders, front & rear, headlight & tail lights, two tone horn, speedometer, two water bottles and a large trunk. The trunk is lightweight aluminum and can be replaced with a child carrier or a golf bag holder. OPTIONS: A light canopy can be fitted on the cycle. SUGGESTED RETAIL PRICE: N.A.

COMPANY PROFILE: New model, new manufacturer.

JTB NOTES: Cycling over the years has become a lonesome sport, especially to those who go any distance. While tandem type cycles have brought the riders closer together, they still lack the convenience that JTB has brought to the ride.

Finally a cycle that you can see, talk and share things with your fellow rider, be it a snack, refreshing drink or the scenery. In addition—stability. No more do you have to weave back and forth as you approach a stop sign or in going up a steep incline.

The Montage allows both riders to pedal at their own pace! Each rider gravitates to a gear setting that handles their own weight. Over time, riders tend to cycle in close to the same gear setting. If one rider stops pedalling, the other can continue with little problem.

The height of the seat allows riders to easily sit on the cycle. There is no leg interference when putting your feet on the pedals because of the unique center steering. The rider is visually in contact with drivers of cars on the road.

Only one rider has to steer, allowing the other to enjoy the scenery, read a map, use a camera, have a snack or get a drink. The vertical steering handle is very responsive requiring minimal motion.

The Montage, while geared for the fastest riders, can equally as well handle a blind or physically challenged rider. It is ideally suited to adapt to riders of different physical skill. Each can get an excellent workout, while riding in comfort through the park, grocery store, or for long distance cross country rides.

The uniqueness does not end here. If you like, the cycle can be separated and ridden as two individual recumbents by removing a few bolts and the trunk.

Cycling will never be the same again. Share the great outdoors with someone you enjoy. You will change their life forever. Be the first in your community with this unique cycle.

Marilyn and Jim Muellner, the developers of the Montage, have ridden "The Ride Across Minnesota" (TRAM) for M-S, for the past two years on the JTB, a distance of 325 miles. We never had to walk up any hill like many others. We carried our own personal gear unlike other riders.

JTB

JustTwoBikes, Inc

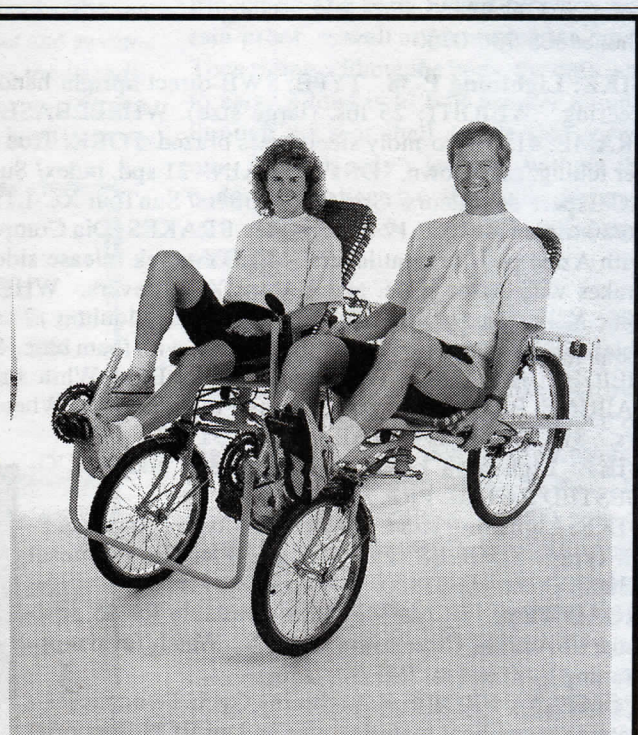
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Introducing, The "Montage" "Designed around comfort and companionship, increasing the enjoyment of cycling."

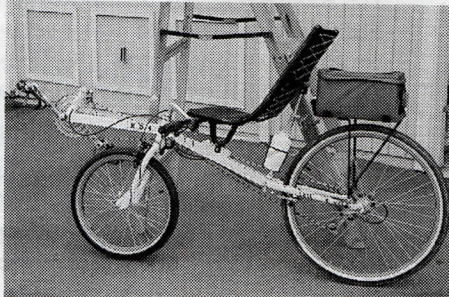
- ☆ Independent Cadence
- ☆ No Heel Interference
- ☆ Made in the USA
- ☆ Side by Side Tandem
- ☆ Detachable SWB
- ☆ Patent applied for

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Phone#612-429-9081**



KOWAL DESIGNS

202-A W. 18th St., #27
Merced, CA. 95340
Phone:#209-722-3107



*The Kowal KD-4
photo by R. G. Green*

BIKE: KD-4 TYPE: SWB-direct underseat steering. **WEIGHT:** 30 lbs. **WHEELBASE:** 40" **FRAME:** MIG welded square section steel & chro-moly. **DRIVETRAIN:** index shifting/ Shimano 105 front derailleur/ Shimano 200GS rear derailleur. /SR Double Crankset. **BRAKES:** Cantilever rear & BMX Side-pull. **WHEELS:** 26" X 1.5" rear & 20" X 1.5" front. **PAINT:** Powdercoat. **SEAT:** Sling/ Mesh. **SEAT HEIGHT:** 28" **ASSEMBLY:** UPS/ 30 minute set-up. **SUGGESTED RETAIL PRICE:** \$NA

BIKE: KD-4 SWB Tandem TYPE: SWB-Tandem **FRAME:** Fillet brazed mild steel & chro-moly. **DRIVETRAIN:** Custom components. **WEIGHT:** 50 lbs. **WHEELBASE:** 60" **WHEELS:** 26" X 1.5" rear & 20" X 1.5" front. **SUGGESTED RETAIL PRICE:** \$2750

NEW FOR '94: The New Kowal tandem!

COMPANY PROFILE: This is the second year for the Kowal KD-4. Kowal will offer free shipping on KD-4's within the USA. Kowal is an RCN Supporter-X subscriber.

LIGHTNING CYCLE DYNAMICS

312 -Ninth St.
Lompoc, CA. 93436
Phone#805-736-0700

BIKE: Lightning P-38. TYPE: SWB-direct upright handlebar steering. **WEIGHT:** 25 lbs. (large size). **WHEELBASE:** 44" **FRAME:** 4130 chro-moly steel/ brass brazed. **FORK:** True Temper tubing, cast crown. **DRIVETRAIN:** 21 spd. index/ Suntour XC Expert derailleurs/ Grip Shift shifters/ SunTour XC-LTD 28/ 46/50 triple crankset/ 12-32 cassette. **BRAKES:** Dia Compe GX with Aztec pads or cantilevers. **ALLOY** quick release side-pull brakes with Aztec pads. and custom XCM levers. **WHEELS:** 700c X 28 rear, 16" X 1-3/8" front (optional Moulton 17" available). **SEAT:** aluminum frame/nylon mesh with foam base. **SEAT HEIGHT:** 18" **PAINT:** Powdercoat: Azure Blue, White or Red. **FAIRING:** P-38 Zipper & Lightning Fiberglass Disc Wheel covers. **SUGGESTED RETAIL PRICE:** \$1750.

BIKE: Lightning F-40. TYPE: P-38 + body **SUGGESTED RETAIL PRICE:** \$4000.

BIKE: Lightning R-84. TYPE: Prototype composite P-38 type. **SUGGESTED RETAIL PRICE:** Frameset \$3000. Complete \$5800.

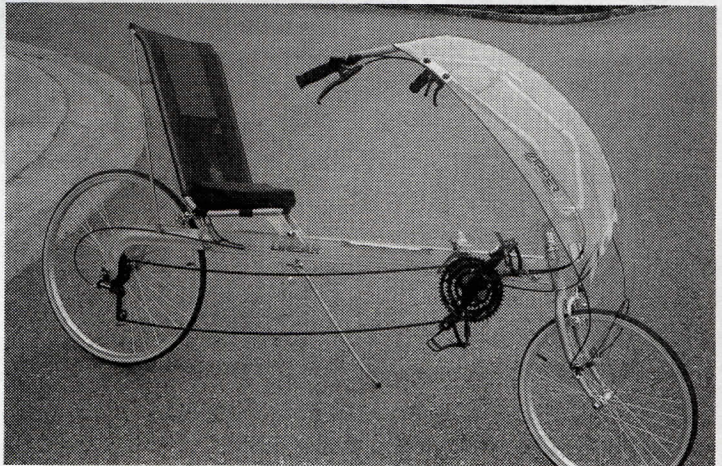
ROAD TEST: RCM#7/ #15 are available for \$5 post-paid USA or \$7 Can./ overseas each. Watch for the upcoming F-40 test in '94!

COMPANY PROFILE: Lightning Cycle Dynamics is a veteran recumbent manufacturer and an RCN Supporter subscriber.

LINEAR MFG. INC.

R.R.1, BOX 173
Guttenberg, IA 52052
Phone:# 319-252-1637, FAX#319-252-3305.
Contact: Steve Hansel

BIKE: Linear folding aluminum. TYPE: LWB-underseat or upright steering/ folding frame indirect underseat via rod, (pullback upright bars area an option). **WEIGHT:** 32-33 lbs. **WHEELBASE:** 62"-68", **FRAME:** aluminum I-beam extrusion, chro-moly fork and head tube. **FRAME SIZES:**



*Linear with upright steering option
& optional Zipper fairing*

36",39",42",45" and 48" **DRIVETRAIN:** 21 spd. index/ Suntour MTB derailleurs/ SunTour Twist-Shifter/ SunTour X-1 triple crankset. **BRAKES:** Big Dog Dual Pivot Point Sidepull. **WHEELS:** 27" rear, 20" X 1-1/8" **SEAT:** Easily adjustable aluminum framed/ mesh with high-density foam cushion at base. **PAINT:** Silver, gold or black anodizing. **FAIRING:** Linear Zipper available from Linear or Zzip Design. **SUGGESTED RETAIL PRICE:** \$1200. **WARRANTY:** Full one year original owner warranty on the frame, seat and handlebars.

LINEAR NOTES: The Linear is a fresh idea in bicycle design that has aluminum construction, 21 speeds, and a comfortable, more enjoyable ride. The clean lines of the extruded single tube aluminum frame, choice of steering options and use of top of the line components add up to a good looking, high quality bicycle. Write or call for free information.

BIKE: Kingcycle. TYPE: SWB upright handlebar steering
Continued on page 36.

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Or Write: S & B Recumbent, PO Box 3061, Compton, CA. 90222

Zach Tech: Kingcycle & Windcheetah Notes by Zach Kaplan

The Kingcycle: I rode the Kingcycle at the Interbike Trade Show in Las Vegas, September 1993. I think it is an excellent bike, very high quality with lots of attention paid to the details. The hand ovalized Reynolds 531 frame is beautiful, a very functional minimalist design. The bike handled and accelerated about like a P-38. I don't like the handlebars as much as the Lightning's though, as they hit my knees while cornering, even on some not so sharp corners. Part of the problem was the bars were set slightly too low for me and the seat was too far forward. Seat adjustment is one of the few problems with the Kingcycle design. To adjust the seat, two nuts must be loosened, one in front of the seat cross member and one behind it. They are both on a long threaded bolt which passes through the seat cross member. Basically, this means no quick seat adjustment. Also, having a moveable seat rather than sliding boom on a SWB can be a problem weight distribution shifts. On the plus side, no adjustments need to be made to the drivetrain when adjusting the seat and the Kingcycle is available in three frame sizes. I personally liked the seat. It had adequate support and a minimum of excess material. Heavier riders may find the seat too narrow. I asked Graham Bell (Neatworks, U.K.) about suspension, he said Kingcycle is introducing a retrofitable elastomer front fork early next

year. After my previous SWB suspension experiences, I believe SWB bikes with out at least front suspension have only two purposes-track racing and setting speed records on smooth surfaces. SWB without suspension is too difficult for the average non-cyclist to handle on rough surfaces, in other words, day to day street riding in places like L.A.

The Kingcycle has the overall highest build quality of any production recumbent I have seen. A well integrated set of accessories is available too, including wheel discs, front fairing, rear trunk fairing, headrest, and nylon rain cover. The rigid rear trunk is unfortunately too small for American style self sufficient camp touring. The full fairing package is open on the bottom and certainly not as fast as an F-40. I think the Kingcycle would be best as a commute/racing bike.

The Windcheetah: I rode the Windcheetah. I loved it. It is certainly more than the sum of its parts. Now I understand why it is the most sought after HPV. Everything felt like it was in the right place. Although I normally prefer mesh seats and less reclined seat-backs, the seat on this trike felt nearly perfect and gave me a very secure feeling. This is the friendliest, most fun HPV I have ever ridden. Anyone can get on it and not have to worry

about balance or any special handling tricks. Cornering ability and security in turns is excellent. I found myself going into turns faster than I should and scrubbing off the excess speed in a controlled way. The handling is very predictable, it is easy to go into a controlled skid to get around a corner faster where any other recumbent tricycle would have flipped over and any two wheeled recumbent would have skidded out from beneath you. I could feel the inside front wheel deweight under very hard cornering, but wasn't able to get it off the ground. As far as braking goes, I believe the brakes were a bit out of adjustment. Never the less, I sprinted up to speed on a short course behind the Interbike and then slammed on the brakes. I came to a stop almost instantly without lifting the rear wheel! This leads me to believe the Speedy has the best braking and balance of any tricycle. I love the way the Speedy can be ridden in such a care free manner. Heavy braking in the middle of a corner is no problem. Due to its excellent handling and stability, I think Speedy would make the ultimate winter commute in icy conditions. The overall width is narrower than most tricycles. The body would be warm and rain-proof, as well as increasing visibility. Then riding without the body, the only way to carry a load is to bolt pannier mounts through the seat shell on the side curvature. Most Speedy's are sold without the body, and I believe it was initially designed to not have a body, but to be used as a training HPV.

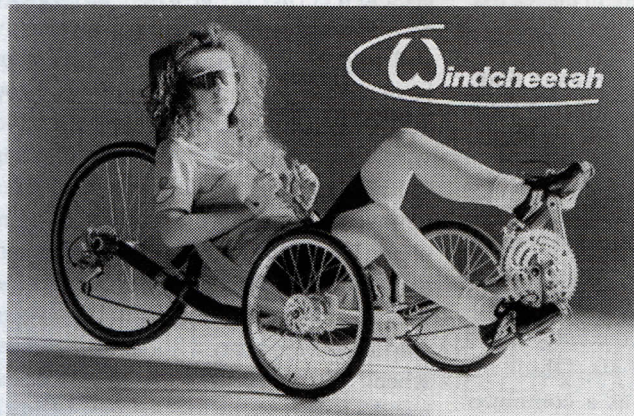
This brings me up to the optional body. The one piece fiberglass body with cloth upper portion is hard to ship and Mike Burrows won't ship it, the customer must ship it on their own. The body adds a lot of weight, bringing the total up to about 55 lbs. The body retails in England for 900 pounds (\$1300 USA). Shipping to the USA would be about \$500, but it might arrive damaged. The Windcheetah is sold exclusively through Linear dealers for \$5700. For more information, contact: Linear Mfg. Inc., Rt. 1, Box 173, Guttenberg, IA, 52052. Ph:#319-252-1637.

RCN RECUMBENT RATINGS BIKE RATED: Linear	
Frame/ Welding Quality: ☆☆☆	Performance Rating: ☆☆ 1/2
Paint / Finish Quality: ☆☆☆ 1/2	Recumbent Design Rating: ☆☆☆ 1/2
Drivetrain Components: ☆☆☆	Value/ "bang for buck" Rating: ☆☆☆ 1/2
Brake System Rating: ☆☆☆☆	Manufacturer Service Rating: ☆☆☆ 1/2
Wheel Quality Rating: ☆☆ 1/2	Overall RCN Bike Rating: ☆☆☆ 1/2
Seat Rating: ☆☆☆	
Durability Rating: ☆☆☆	Cost Rating: \$\$\$

RCN RECUMBENT RATINGS BIKE RATED: Lightning P-38	
Frame/ Welding Quality: ☆☆☆☆	Performance Rating: ☆☆☆☆ 1/2
Paint / Finish Quality: ☆☆☆ 1/2	Recumbent Design Rating: ☆☆☆☆ 1/2
Drivetrain Components: ☆☆☆ 1/2	Value/ "bang for buck" Rating: ☆☆☆☆
Brake System Rating: ☆☆☆	Manufacturer Service Rating: ☆☆☆
Wheel Quality Rating: ☆☆☆ 1/2	Overall RCN Bike Rating: ☆☆☆☆ 1/4
Seat Rating: ☆☆☆☆ 1/2	
Durability Rating: ☆☆☆	Cost Rating: \$\$\$\$

Continued from page 34.

WEIGHT: 11.5 kg. **WHEELBASE:** NA **FRAME:** Hand brazed chro-moly. **FRAME SIZES:** small, standard & large. Fits riders 5'4"-6'5" **DRIVETRAIN:** 21 spd. Shimano Deore XT/ thumbshifters/ Stronglight Triple 36/48/54 / 12-28 freewheel. **CHAIN:** Sedis ATB. **BRAKES:** Magura Hydraulic or Sturmey Archer drum. **WHEELS:** 24" 600 X 28A rear, 18" 450 X 28A **SEAT:** Fully adjustable with headrest mount. **PAINT:** Yellow. **FAIRING:** Tail fairing with lockable trunk and nose fairing are available. **SUGGESTED RETAIL PRICE:** \$2649. (without fairings).



*The Windcheetah
photo by Linear Mfg. Inc.*

BIKE: Windcheetah . TYPE: Recumbent tricycle-two wheels in front. **WEIGHT:** 15 kg. **LENGTH:** 1.98 meters. **TRACK WIDTH:** 700mm. **FRAME:** 6082 aluminum bonded. **FRAME SIZES:** small, medium & large. **DRIVETRAIN:** 21 spd. index/ Shimano Deore XT / thumbshifters / Stronglight Triple 36/48/54 crankset/ Shimano 12-28 freewheel. **CHAIN:** Sedis ATB. **BRAKES:** Sachs drum (front wheels only), rear parking brake. **WHEELS:** 26" ATB narrow. rear, 17" Moulton front **SEAT:** Easily adjustable aluminum framed/ mesh with high-density foam cushion at base. **PAINT:** Green anodized. **FAIRING:** Windcheetah body is now available. **SUGGESTED RETAIL PRICE:** \$5,700.

WINDCHEETAH NOTES: The world famous classic, the Windcheetah, designed by Mike Burrows and developed by him over a ten year period; from the MK1 to the MKIII a "Speedy" version. Immortalized by Richard Balantine his books. This HPV has won design and practicality competitions as well as road and track events throughout Europe, the USA and Canada. The Windcheetah is a practical vehicle whether used for shopping, touring, racing or just having fun!

NEW FOR '94: Linear Mfg. Inc. has now become the exclusive North American distributor for Radius Peer Gynt LWB suspended recumbent, priced from \$3500. Linear also imports high quality English Brompton English folding bicycle from \$740. Linear has announced it's new Blue-Star line. Custom anodizing and upgraded components. Linear has upgraded the rear stay section of the frame and equipped all Linears with Grip Shifts.

ROAD TEST: RCM#5- is available for \$5 postpaid USA or \$7 Can./ overseas

COMPANY PROFILE: The Linear Mfg. Co. is a Senior Re-

cumbent Manufacturer. Linear markets recumbent bicycles exclusively through recumbent dealers. Linear is an RCN Supporter-X Subscriber.

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MAXAM Manufacturing

5595 Fawnwood Lane
Cincinnati, OH. 45247
Contact: John or Chris Day
Phone#513-741-0420

BIKE: Reveille TYPE: LWB-upright handlebar steering. **WEIGHT:** 35-45 lbs. depending on components. **WHEELBASE:** 67" **FRAME:** MIG welded Hi-Ten steel. **FORK:** HT Tubular steel. **DRIVETRAIN:** 18 spd. index/ Shimano Tourney or Falcon derailleur/ thumbshifters/ Steel triple crankset 28/38/48 / 6 spd. 14-28T. **BRAKES:** steel side pulls. **WHEELS:** steel; 26" X 1.75 rear & 20" X 1.75" front. **SEAT:** Foam padded. **SUGGESTED RETAIL PRICE:** \$359.

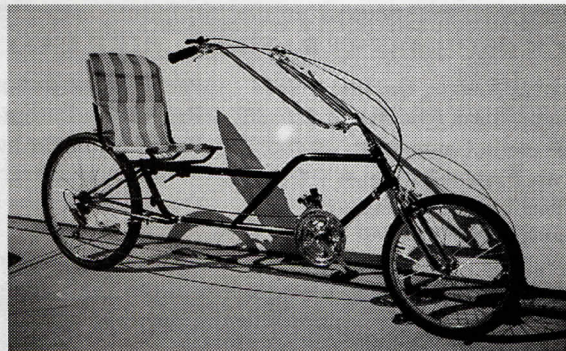
NOTES: The bike shown is the Reveille prototype. We are making final modifications to the handlebars, seat and chain guide, however, the basic appearance will remain the same. We expect to have units available for sale by April 1, 1994. We have spent over four years developing this product and are very happy and excited with our results. We are anticipating the same response from the bicycling consumer.

NEW FOR '94: The frame material has changed, and the bike has a new look, the components are cheaper, basically it's an all new bike with an all new approach for 1994! Last years model was a rare bargain at \$650, but \$359 is a steal. 1994 marks Maxam's second year in the recumbent business, but this year with an ambitious all new model.

EDITOR'S NOTE: The new \$359 bike should be an excellent bargain.

RCN AWARDS: The Best (proposed) Ultra-Cheapskate Recumbent Deal 1994 I: Maxam's New Reveille!

COMPANY PROFILE: Maxam is an ambitious second year manufacturer. They are an RCN subscriber.



*The Maxam Reveille
photo by Maxam*

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M5 Recumbents

(USA distributor is Lightning Cycle Dynamics)

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Tales From A Recumbent Bike Shop by Jim Wronski

Do you recall the movie, "Brainstorm" with Christopher Walken & Natalie Wood (her last film). In it Christopher Walken rode a recumbent bike. It looked so sleek, comfortable and fast that I was immediately intrigued. I'd never ridden one, but I knew that I had to have one.

My search started at local bike shops. No luck! The yellow pages were also a dead end. Where next? Someone suggested looking in the back of magazines. Didn't Popular Science have some kind of bike like that? I was reading my local newspaper's classified ads every day with no luck.

SEPTEMBER 1991: My search had been going on for about a year or so when I spoke to a local bike dealer. He suggested going to the Anaheim Interbike (Bicycle Trade Show) Convention.

The Interbike show was indeed fruitful. I found recumbents there and I didn't just order one, I ordered three! My next hurdle was to explain that to my wife, Linda. She bought the line that I would sell two and keep one for myself.

I discovered more recumbent manufacturers as time went on, and I ordered and sold

more bikes. I set up display booths at local sports & fitness shows. Soon there were ten or twelve bikes in my living room, kitchen and hall. Linda "suggested" that I look for a store....if I expected our marriage to continue. Thirty-five locations later, I found the spot which was to be the first home for People Movers.

JULY 1992: Doors are open for business. I was ready to sell-sell-sell!

JANUARY 1994: It's been eighteen months since People Movers opened it's doors. During that time I have met hundreds of people and made a lot of new friends. We must be doing something right because our customers keep coming back with their friends and families to buy more recumbents. Yet, I realize that I cannot claim all of the credit for our success. Recumbent manufacturers are becoming more interested in a long term dealer, rather than making quick sales. They are starting to realize that the Recumbent Retailer is vital to their continued growth and success. Those who are establishing dealer territories and networks will be the ones that stay in business when the mainstream manufacturers jump into the recumbent business. The vital resource for recumbent manu-

facturers and retailers today is the very publication that you are holding in your hands. Recumbent Cyclist publisher, Robert Bryant, spends hundreds of hours gathering information to pass it on to eager readers. Much of this information is only available through RCN and it helps keep everyone informed on current events in the recumbent industry. The Recumbent Cyclist is an important part of our business plan here at People Movers and should be for everyone else to guarantee future growth of the recumbent industry.

We are very optimistic about the future of recumbents. More manufacturers are bringing new and exciting products into the market. As the number of units sold increases, the prices should come down to a more affordable level. Our goal is to make People Movers a leading retailer in the recumbent field. While profits keep us in business, it's customers who are responsible for our success. We are committed to providing our customers with dependable service, accurate information and competitive prices. Our #1 goal is to help our customers make an informed decision on the perfect recumbent to suit their needs.

NordicTrack
 Dept.: Recumbent Cyclist News
 104 Peavy Rd.
 Chaska MN, 55318-2355
 Phone#1-800-444-7509 Ext. Recumbent Cyclist News

TRIKE: "ForeRunner" TYPE: Four wheel-upright handlebar steering. WEIGHT: approx. 78 lbs. DRIVETRAIN: Patented 9 speed "Reflex-Action Transmission." 9 gears at the touch of a button (ala Yankee/ NordicTrack Fitness Bike).. GEARING: 9 speeds 41"-82" gear inch range. BRAKES: Rim band brake (ala Yankee/ NordicTrack Fitness Bike). WHEELS: 16" front (2) & 20" (2) rear. SEAT: sling/ mesh with padded base. SUGGESTED RETAIL PRICE: \$599+ approx. \$99 shipping.

NORDICTRACK NOTES: Ask for their brochure & free video!

EDITORS NOTE: NordicTrack is a new recumbent manufacturer with an all new product.. If you call and ask for information etc. PLEASE BE SURE to mention that you read about the "



ForeRunner" in Recumbent Cyclist News! SPECIAL THANK YOU's to RCN readers & "Crew Members" Vic Sussman of Washington DC and Ron Schmid of Portland Oregon for bringing this new HPV to our attention just hours before press time.

NEOBYKE

PO Box 2303
Lowell, MA 01851-0503
Phone#508-459-0779/ 1-800-NEOBYKE
Contact: Tom Priest

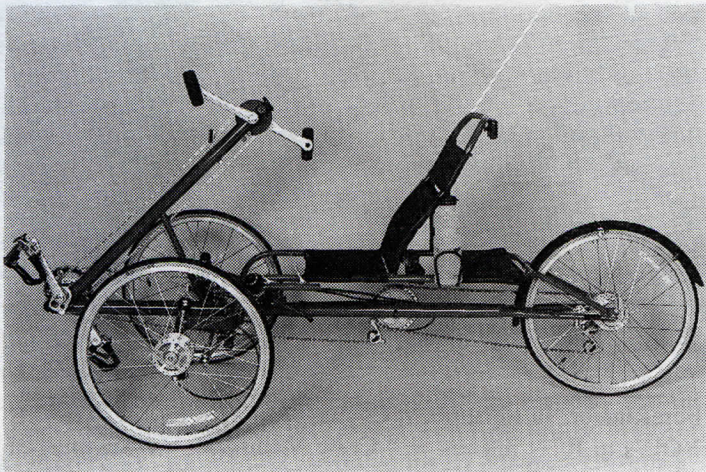
BIKE: NEOBYKE. TYPE: CLWB upright steering/ underseat steering optional. WEIGHT: 43 lbs. WHEELBASE: 53.5" LENGTH: 71" HEAD TUBE ANGLE: 64 degrees. FRAME: MIG welded square section steel. Chro-moly head tube, bottom bracket shell, cross tube & lower handlebar. FORK: Chrome plated BMX. DRIVETRAIN: 20 speed index. GEARING: Two freewheels (four speed-middle 14-22/ five speed-rear 14-30), two indexed derailleurs thumbshifters/ 20 speeds. 24-81 gear inches. BRAKES: Front caliper, rear cantilever. WHEELS: Skyway Tuff-Wheels: front 16" X 1.75, rear 20" X 1.75." SEAT: White, black, aqua / steel frame-woven mesh. SEAT HEIGHT: 21.5-26.5" high (adjustable). PAINT: White, black, aqua or red. SHIPPING: UPS in two boxes. SET-UP: Customer mounts wheels, seat, handlebars and pedals. All cables are attached and pre-adjusted. SUGGESTED RETAIL: \$650. Includes Lifetime warranty on Frame. **NOTE:** NEOBYKE is an affordable, 20 speed recumbent bicycle designed and built by Bill Darby for Neobyke. The bike is designed for for maximum comfort, performance and durability. "It's the most fun you can have....on a bike!" Call 1-800-NEOBYKE for a brochure.

OPTIONS: Underseat steering, basket, fenders, water bottle cages, mirror and chain guard.

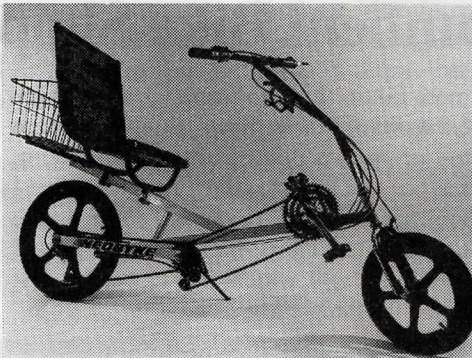
EDITOR'S NOTE: New bike & manufacturer for 1994. Neobyke is an RCN Supporter subscriber.

PEDALCRAFT

5460 SW Philomath BLVD.
Corvallis, OR 97333
Phone/Fax:#503-752-5035.
Contact: Richard Rau



*The QuadraPed-photo
courtesy of Pedalcraft*



*The Neobyke-photo
by Neobyke*

The Most Finely Crafted Trike Available.

TRIKE: Quadraped (standard and Custom models available). TYPE: two wheel in front, hand & foot powered. Tilt of the hand-crank steering. WEIGHT: 43-46 lbs. WHEELBASE: 49" TRACK WIDTH: 35" FRAME: TIG welded/ brazed 4130 chromoly. DRIVETRAIN: 24 speeds (2 X 7 Sachs Orbit hub. 48 speed is optional), SunTour EX Expert derailleurs/ braze-on downtube indexing road shift lever/ SR/ SunTour triple crank. CHAIN: Sachs ATB. BRAKES: three internal drum brakes & parking brake (Sachs rear & Sturmey Elite

fronts. FRONT HUBS: Sturmey Archer Elite Drum. REAR HUBS: Sachs Orbit (two speed internal) WHEELS: Three 20" wheels. SEAT: Sling/ mesh. SEAT HEIGHT: 14" PAINT: Bright Red or Royal Blue Powdercoat. SHIPPING: motor freight-custom cartoon. Fully assembled, bench tested and road tested. SUGGESTED RETAIL PRICE: Standard model from \$2380-\$2900.

DISCOUNTS: 5% Off to RCN subscribers (direct only).

NOTES: Send \$1 for information pack.

NEW FOR '94: Ferrari. Lotus. Bimota. Ducati. QuadraPed. What do they have in common? All are hand built, precision, performance roadsters. The QuadraPed is handmade, hand-assembled, road tested, and shipped ready-to-ride from Corvallis, Oregon. What don't these wonderful vehicles have in common? You

The Thebis 201 Touring Trike

Colour Brochure and Information Pack: Send \$5.

To:

Thebis International, Ltd.
#110-2031 Malaview Ave.
Sidney, B.C., Canada, V8L 3X9
(604) 656-1237

can afford a QuadraPed. A wide variety of options are available, and customized versions of the QuadraPed are available at extra cost. The QuadraPed provides an excellent aerobic workout. It also strengthens and tones the muscles in your thighs, calves, buttocks, arms, chest and shoulders. The QuadraPed will fit anyone, even people with special physical needs.

RCN AWARDS: The Best Craftsmanship on a Recumbent Trike.
COMPANY PROFILE: Richard Rau has been building, refining and marketing the first class Quadraped for several years now. He is also a principal in the BikeE Co.

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RANS RECUMBENTS

1104 E. HWY 40 By-Pass
 Hays, KS 67601
 Contact: Randy or John Schlitter
 Phone: #913-625-6346

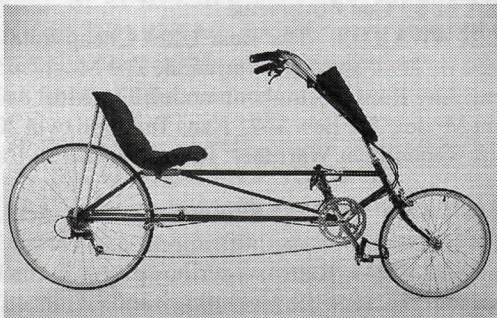
BIKE: Rans Nimbus TYPE: LWB-upright handlebar steering.
 WEIGHT: 30 lbs. WHEELBASE: 67-3/8" (37" frame) FRAME: TIG welded 4130 chro-moly in three sizes. FORK: Rans Steel. HANDLEBAR: Rans "C" type (closed loop) DRIVETRAIN: 14/21 spd. index/ Shimano LX derailleurs/ Grip Shift / Sugino or SR/SunTour 42/52 double or 28/38/48 triple crankset/ 12-28 7 spd. BRAKES: Dia Compe Alpha II side pulls. WHEELS: 700c rear and 20" X 1-1/8" front.

H U B S : Shimano. TIRES: IRC Duotour & Roadlite EX. PEDALS: SR Low-Fat. SEAT: laminated fiberglass with foam cushion. SEAT HEIGHT: 24"

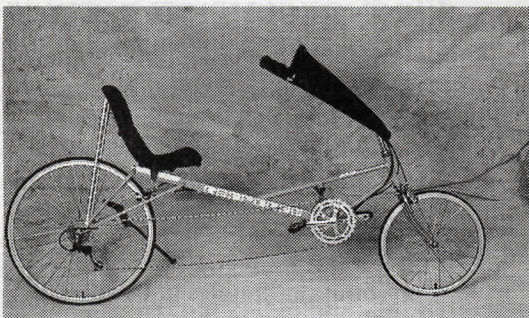
PAINT: Gloss White, Gloss Black, Racing Green, Metallic Blue, Ferrari Red or Saturn Yellow powdercoat. FAIRING: Rans fairing. SUGGESTED RETAIL PRICE: \$1195

STANDARD FEATURES: Chain idler, "C"-Bar, fairing & kickstand.

OPTIONS: Cantilever brakes, rack, waterbottle bosses and custom paint (fades & splatter). "B" bars on request only.



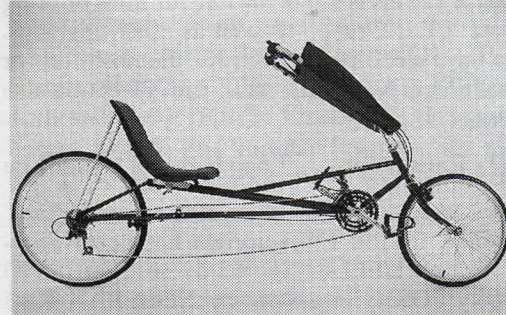
Rans Nimbus with "B" bars photo by Rans Co.



Rans Response with "C" bars-photo by Rans Co.

Customers will also have a choice between XT thumbshifters or Grip Shifts. The brakeset is XT cantilevers. The XT option also includes upgraded wheels.

BIKE: Rans Stratus TYPE: LWB-upright handlebar steering.
 WEIGHT: 30 lbs. WHEELBASE: 63-3/8" (37" frame) FRAME:



Rans Stratus B with "C" bars-photo by Rans Co.

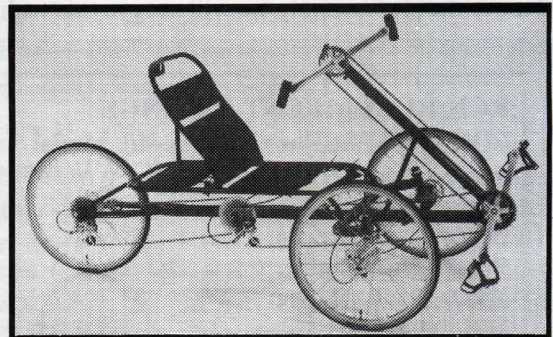
TIG welded 4130 chro-moly in three sizes. FORK: Rans Steel. HANDLEBAR: Rans "C" type (closed loop) DRIVETRAIN: 14/21 spd. index/ Shimano LX derailleurs/ Grip Shift / Sugino or

SR/SunTour 42/52 double or 28/38/48 triple crankset/ 12-28 7 spd. BRAKES: Dia Compe Alpha II side pulls. WHEELS: 700c rear and 20" X 1-1/8" front. HUBS: Shimano. TIRES: IRC Duotour & Roadlite EX. PEDALS: SR Low-Fat. SEAT: laminated fiberglass with foam cushion. SEAT HEIGHT: 22.5" PAINT: Gloss White, Gloss Black, Racing Green, Metallic Blue,

Pedalcraft

Quality craftsmanship, passion for service and excellence. Options for performance & comfort..... standard features on all Pedalcraft recumbents. Fun and excitement to engage body, mind and spirit!

- Quality components
- Wide range gearing
- Comfortable seating
- Tilt steering
- Chro-Mo steel frame
- Quick fit adjustments
- Wide track stability
- Hub brakes



Recumbent Cycles



5460 SW Philomath Hwy, Corvallis, OR 97333
 (503) 752-5035

BIKE: Rans Nimbus XT: This is top of the line for Rans offering a full Shimano Deore XT II Gruppo as well as other upgrades.

Ferrari Red or Saturn Yellow powdercoat. FAIRING: Rans fairing. SUGGESTED RETAIL PRICE: \$1589. **STANDARD FEATURES:** Chain idler, "C"-Bar, fairing & kickstand.

OPTIONS: Cantilever brakes, rack, waterbottle bosses and custom paint (fades & splatter). "B" bars on request only.

BIKE: Rans Stratus XT: This is top of the line for Rans offering a full Shimano Deore XT II Gruppo as well as other upgrades. Customers will also have a choice between XT thumbshifters or Grip Shifts. The brakeset is XT cantilevers. The XT option also includes upgraded wheels.

SIMILAR MODEL: Rans Stratus A: Loop bars and joystick on frame for controls.

BIKE: Rans Response TYPE: LWB-upright handlebar steering. WEIGHT: 30 lbs. WHEELBASE: 63-67" FRAME: TIG welded 4130 chro-moly. FORK: Rans Steel. HANDLEBAR: Rans "C" type (closed loop) DRIVETRAIN: 14 spd. index/ Shimano LX derailleurs/ Grip Shift / Sugino or SunTour 42/52 double crankset / 12-28 7 spd. BRAKES: Dia Compe Alpha II side pulls. WHEELS: 700c rear and 20" X 1-1/8" front. HUBS: Shimano. TIRES: IRC Duotour & Roadlite EX. PEDALS: Well-Go. SEAT: laminated fiberglass with foam cushion. SEAT HEIGHT: 24"-26" PAINT: Racing Green, Midnight Blue, Candy Apple Red or Glare Yellow powdercoat. FAIRING: Rans fairing. SUGGESTED RETAIL PRICE: \$965.

OPTIONS: Triple crank, cantilever brakes, kickstand, rack, waterbottle bosses and custom paint (fades & splatter). "B" bars on request only.

TO BE INTRODUCED SOON

BIKE: Rans Tailwind TYPE: LWB-upright handlebar steering. SUGGESTED RETAIL PRICE: est. \$675

SPECIAL FEATURES: The Rans Recumbents offer quality & performance at a competitive price. The bikes are lightweight compared with other LWB's and the frames come with a LIFE-TIME warranty.

NEW FOR 94: Rans is a seasoned veteran in the recumbent business and is a company to watch for 1994! Our major changes for 1994 are in the pre-assembly we will not provide with each Rans

recumbent. When a customer or dealer receives his '94 Rans, there will be two boxes. The first will have wheels with tubes, tires, cassette installed. The seat will also be in the box with seat cover installed. If they request "B" type handlebars, these will also be in the box with stem, shifters and brake levers installed. The second box has the frame with fork, bottom bracket, crankset, brakes and derailleurs all installed. All the customer has to do is install the wheels, sprint braces, seat and handlebar. For '94 we have made the "C" bars (a unique closed loop-a cross between the "A" & "B" bars) standard. Other improvements are the addition of 700c rear wheels as standard and using Shimano RM-50 hubs front & rear for all bikes except the Deore XT upgrade bikes. In addition we are offering SRAM Grip Shifts on the "C" bar, which makes for very comfortable shifting.

RANS NOTES: Now that we install seat cushion & cover at the factory, we've had very few complaints about seats hitting the frame. We are also using a new 1.5" higher density foam that offers a more comfortable ride. Rans also sells frame-kits and parts. Look for a 1994 updated Rans catalog soon!

WARRANTY: Rans frames are warranted for the lifetime of the original owner.

RANS NOTES: The Rans Co. is a pioneer in the recumbent industry. We built our first recumbent in 1974 and continue to be the innovative leader in the recumbent industry. Please write or call for more information.

ROAD TEST: RCM#12-Back issue is available for \$5 postpaid USA or \$7 Can./overseas.

RCN AWARDS: The Best Ultra-Cheapskate Recumbent Deal 1994 II: The New Rans Tailwind; The Most Under-rated Recumbent: Any Rans Recumbent model; The Most Anticipated Recumbent Model: The new \$675 Rans Tailwind twin 20" wheel CLWB!; Best Recumbent Warranty: Rans-lifetime on frame.

COMPANY PROFILE: Randy & John Schlitter of Rans are veteran recumbent manufacturers and certainly a company to watch in 1994! Rans is a serious player in the kit-airplane business and much of the technology and advanced eventually show up on their recumbent bikes. Rans was really the first commercial recumbent manufacturer with their sail trike. Rans is an RCN Supporter-X Subscriber

RCN RECUMBENT RATINGS

BIKE RATED: Rans Nimbus-std. Model

Frame/ Welding Quality: ☆☆☆☆ 1/2

Paint / Finish Quality: ☆☆☆☆ 1/2

Drivetrain Components: ☆☆☆

Brake System Rating: ☆☆☆

Wheel Quality Rating: ☆☆☆

Seat Rating: ☆☆ 1/2

Durability Rating: ☆☆☆☆ 1/2

Performance Rating: ☆☆☆☆

Recumbent Design Rating: ☆☆☆ 1/2

Value/ "bang for buck" Rating: ☆☆☆☆

Manufacturer Service Rating: ☆☆☆☆

Overall RCN Bike Rating: ☆☆☆ 3/4

Cost Rating: \$\$\$\$\$

RCN RECUMBENT RATINGS

BIKE RATED: Rans Stratus B - "XT"

Frame/ Welding Quality: ☆☆☆☆ 1/2

Paint / Finish Quality: ☆☆☆☆ 1/2

Drivetrain Components: ☆☆☆☆ 1/2

Brake System Rating: ☆☆☆☆ 1/2

Wheel Quality Rating: ☆☆☆☆

Seat Rating: ☆☆ 1/2

Durability Rating: ☆☆☆☆ 1/2

Performance Rating: ☆☆☆☆

Recumbent Design Rating: ☆☆☆ 1/2

Value/ "bang for buck" Rating: ☆☆☆☆

Manufacturer Service Rating: ☆☆☆☆

Overall RCN Bike Rating: ☆☆☆☆ 1/4

Cost Rating: \$\$\$\$

REBIKE

103 NW 43rd St., Ste. #1
 Boca Raton, FL 33431
 Phone:#407-750-1304

BIKE: ReBike 707 TYPE: CLWB-upright handlebar steering. WEIGHTS: 49 lbs. (with ReRack & kickstand). WHEELBASE: 52" FRAME: TIG welded square section steel. DRIVETRAIN: 7-spd index/ SunTour Edge derailleurs/ thumbshifters/ Steel single crankset BRAKES: Cantilevers. WHEELS: 20" X 1.75 rear, 16" X 1.75 front with matching ReBike 70 p.s.i. tires SEAT: Foam cushion with backrest. PAINT: Powdercoat Blue, Black, Red or Pink. SUGGESTED RETAIL PRICE: starts at \$428.95 + shipping.

BIKE: ReBike 818 TYPE: Similar to the ReBike 707 but with a triple crank/ 18 speeds. SUGGESTED RETAIL PRICE: starts at \$499.95 + shipping.

BIKE: ReTrike 707 TYPE: CLWB-upright handlebar steering. WEIGHTS: 58 lbs. OVERALL LENGTH: 72" TRACK WIDTH: 29.5" FRAME: TIG welded square section steel. DRIVETRAIN: 7-spd index/ SunTour Edge derailleurs/ thumbshifters/ Steel single crankset BRAKES: Cantilevers. WHEELS: 20" X 1.75 rears, 16" X 1.75 front with matching ReBike 70 p.s.i. tires SEAT: Foam cushion with backrest. SEAT HEIGHT: 25" PAINT: Powdercoat Black or Red. SUGGESTED RETAIL PRICE: starts at \$549.95 + shipping. OPTIONS: Removable shopping basket or small basket. NOTE: The full size adult version.

BIKE: ReTrike 707SS TYPE: CLWB-upright handlebar steering. WEIGHTS: 57 lbs. OVERALL LENGTH: 72" TRACK WIDTH: 29.5" FRAME: TIG welded square section steel. DRIVETRAIN: 7-spd index/ SunTour Edge derailleurs/ thumbshifters/ Steel single crankset BRAKES: Cantilevers. WHEELS: 20" X 1.75 rears, 16" X 1.75 front with matching ReBike 70 p.s.i. tires SEAT: Foam cushion with backrest. SEAT HEIGHT: 18" PAINT: Powdercoat Black or Red. SUGGESTED RETAIL PRICE: \$NA OPTIONS: Removable shopping basket or small basket. NOTE: The Super-Sport Model, another industry first.

BIKE: ReTrike 707VP TYPE: CLWB-upright handlebar steering. WEIGHTS: 50 lbs. OVERALL LENGTH: 65" TRACK WIDTH: 29.5" FRAME: TIG welded square section steel. DRIVETRAIN: 7-spd index/ SunTour Edge derailleurs/ thumbshifters/ Steel single crankset BRAKES: Cantilevers. WHEELS: 20" X 1.75 rears, 16" X 1.75 front with matching ReBike 70 p.s.i. tires SEAT: Foam cushion with backrest. SEAT HEIGHT: 19" TO 23.5" (with quick release adjustments). PAINT: Powdercoat Black or Red. SUGGESTED RETAIL PRICE: starts at \$579.95 + shipping. OPTIONS: Removable shopping basket or small basket. NOTE: The Variable Position Seat moves back & forth and up & down. The VP "Very Popular" is shorter, has smaller handlebars, shorter stem and works great for kids.

ReNOTES: ReBike-the fastest selling, lowest priced recumbent bicycle in America-proudly presents ReTrike, the remarkable new design destined to redefine the three-wheeler. Available in three distinctive models, the 7-spd. ReTrike features all of the original ReBike's design elements which made it an instant classic. An extra wide seat, padded back rest and high handlebars provide unprecedented riding comfort. Unique to the ReTrike is our exclusive cambered back wheel system making this the most stable performance trike on the market.

ReOPTIONS: "ReGear, the premier collection," the exciting new line of jewelry, clothing & accessories for select riders. Order ReBike logo pins in your choice of Gold, Silver or Austrian Crystal studded, T-Shirts, license plates, hats, coffee cups, and even a ReWatch. Classy stuff!

NEW FOR '94: While Regis wasn't looking, our RCN Ace Recumbent Detectives saw a super-spy photo of a ReTrike Tandem. We are sure that this will not be the only ReSurprise from the ReCumbent capitol of the USA. One surprise is so hot it would melt this page.....we must be patient.

EDITOR'S NOTE: Kathie Skewis's famous ReBike has changed the face of recumbent history with it's introduction and soar to the top of sales charts. ReBike continues to achieve media recumbent fame, which will undoubtedly help the future of recumbency!

ROAD TEST: RCM#15-Back issue original is available for \$5 postpaid USA or \$7

Can./ overseas

RCN AWARDS: *The Best Selling Recumbent in the World!*

COMPANY PROFILE: ReBike has sold more laid-back semi-recumbent cruisers than any other company in recumbent history. **ReBike is an RCN Supporter-X Subscriber.**



RCN RECUMBENT RATINGS

BIKE RATED: ReBike 707/ 818

Frame/ Welding Quality: ☆☆☆

Paint / Finish Quality: ☆☆☆

Drivetrain Components: ☆☆ 1/2

Brake System Rating: ☆☆ 1/2

Wheel Quality Rating: ☆☆ 1/2

Seat Rating: ☆☆☆

Durability Rating: ☆☆☆

Performance Rating: ☆☆☆

Recumbent Design Rating: ☆☆☆ 1/2

Value/ "bang for buck" Rating: ☆☆☆☆

Manufacturer Service Rating: ☆☆☆☆

Overall RCN Bike Rating: ☆☆☆☆ 1/4

Cost Rating: \$

NOTE: The ReBike is NOT an "enthusiast" 'bent..

RCN RECUMBENT RATINGS

BIKE RATED: QuadraPed Trike

Frame/ Welding Quality: ☆☆☆☆ 1/2

Paint / Finish Quality: ☆☆☆☆ 1/2

Drivetrain Components: ☆☆☆☆ 1/2

Brake System Rating: ☆☆☆☆ 1/2

Wheel Quality Rating: ☆☆☆☆

Seat Rating: ☆☆☆ 1/2

Durability Rating: ☆☆☆☆

Performance Rating: ☆☆☆

Recumbent Design Rating: ☆☆☆☆

Value/ "bang for buck" Rating: ☆☆☆ 1/2

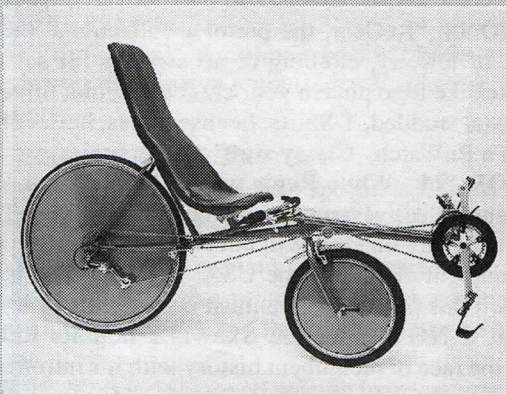
Manufacturer Service Rating: ☆☆☆ 1/2

Overall RCN Bike Rating: ☆☆☆☆

Cost Rating: \$\$\$\$\$

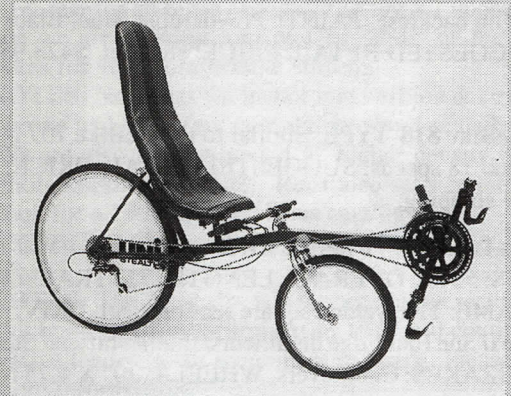


The ReHog-photo courtesy of ReBike



The Laid-Back 2000-photo by Turner

The World's Most Advanced Bicycle



The Turner LB Recumbent: One ride says it all! Complete frame-kit...including fork, seat & handlebars. From \$375!

For complete information:

Turner Enterprises

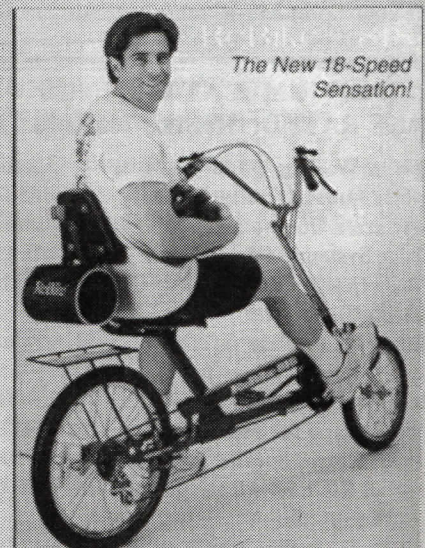
1350 E. Flamingo Rd. #73
Las Vegas, Nevada 89119
Call (602) 290-5646

RCN RECUMBENT RATINGS BIKE RATED: Ryan Vanguard

Frame/ Welding Quality: ☆☆☆☆	Performance Rating: ☆☆☆
Paint / Finish Quality: ☆☆☆ 1/2	Recumbent Design Rating: ☆☆☆☆ 1/2
Drivetrain Components: ☆☆☆ 1/2	Value/ "bang for buck" Rating: ☆☆☆☆
Brake System Rating: ☆☆☆	Manufacturer Service Rating: ☆☆☆☆☆
Wheel Quality Rating: ☆☆☆☆	Overall RCN Bike Rating: ☆☆☆☆
Seat Rating: ☆☆☆ 1/2	
Durability Rating: ☆☆☆☆☆	Cost Rating: \$\$\$

RCN RECUMBENT RATINGS BIKE RATED: Ryan Fleetwood Tandem

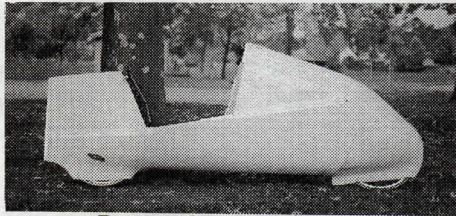
Frame/ Welding Quality: ☆☆☆☆ 1/2	Performance Rating: ☆☆☆ 1/2
Paint / Finish Quality: ☆☆☆ 1/2	Recumbent Design Rating: ☆☆☆☆ 1/2
Drivetrain Components: ☆☆☆☆	Value/ "bang for buck" Rating: ☆☆☆☆
Brake System Rating: ☆☆☆☆	Manufacturer Service Rating: ☆☆☆☆☆
Wheel Quality Rating: ☆☆☆☆	Overall RCN Bike Rating: ☆☆☆☆ 1/2
Seat Rating: ☆☆☆ 1/2	
Durability Rating: ☆☆☆☆☆	Cost Rating: \$\$\$\$\$



The New 18-Speed Sensation!

ROTATOR CYCLES

915 Middle Rincon Rd. Santa Rosa, CA 95409 Phone: #707-539-4203 Contact: Stephen Delaire

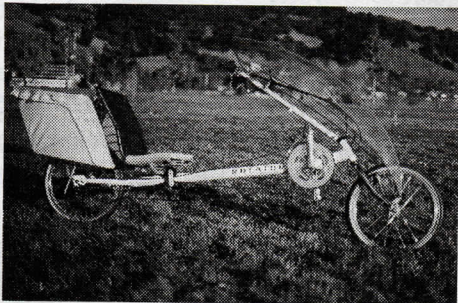


Rotator Super-7 with body photo courtesy of Rotator

Co-Winner of the "Most Promising Bike for 1994"

BIKE: Rotator Pursuit TYPE: LWB direct upright handlebar steering. WHEELBASE: 60"-66" FRAME: Brazed Hi-Ten brass Chromo-moly/ three frame sizes. DRIVETRAIN: 21 speed, gearing from 26"-100." Shimano Deore LX with Sachs Twist Grip Shifting/ Sachs triple 38/48/60 / 12-28 freewheel. WHEELS: 20" X 1.75 ACS tires front & rear. SEAT: Rotator designed steel frame/mesh. PAINT: Powdercoat white & black. BRAKES: Magura Hydraulic. FAIRING: Super-Zzipper. SUGGESTED RETAIL PRICE: \$995. OPTIONS: Different seat heights available/ fabric aero panniers.

NEW FOR 94: Rotator Interceptor will be introduced mid-year. It is similar to the Pursuit, but offers upgraded components. The frame will be a revolutionary two piece unit with a unique aluminum pannier that creates a monocoque rear section of the bike. The monocoque section will incorporate the seat, rear frame, panniers and rear stays. When stowed, the two 20" wheels will fit into the panniers. The gearing is 35 indexed speeds with one front chainring and a five speed intermediate drive (and seven speed freewheel). The gear inch range will be 20" to 170." The Interceptor will come stock with a Super-Zzipper fairing.



Rotator Pursuit with accessories photo by Rotator

BIKE: Super-7. TYPE: LWB upright handlebar cable steering FRAME: TIG welded chromo-moly tubing. WHEELBASE: 68" WHEELS: 20" front and rear. SEAT: Rotator vented nylon mesh. SUGGESTED RETAIL PRICE: \$3500. Super-7's are custom order only.

ROTATOR NOTES: The Rotator Pursuit is a development of 10 years experience in recumbent racing, fabrication and design. S.A.S.E. for with correspondence.

RCN AWARDS: The Pursuit is the Co-Winner of RCN Editor's Choice for Recumbent to Watch in 1994.

COMPANY PROFILE: Stephen Delaire has been involved in the HPV business for several years. He has done preproduction work for Lightning and currently is the frame-builder of the Easy Racer Gold Rush Replica aluminum frames. Rotator is an RCN Supporter.

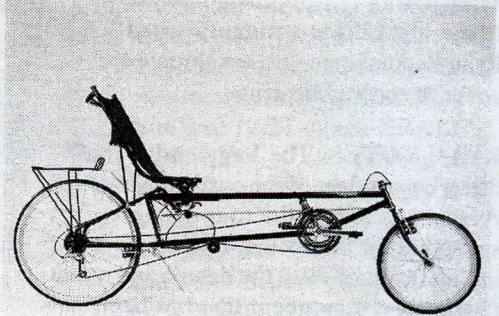
RYAN RECUMBENTS

One-Chestnut St., 4th Floor Nashua, NH 03060 Contact: Dick or Karl Ryan Phone:#603-598-1711

Editor's Choice for the Best LWB Underseat-steerer 1994.

BIKE: VAN-GUARD. TYPE: LWB-underseat steering via indirect underseat single steel rod. WEIGHT: 31 lbs. WHEELBASE: 66" FRAME: TIG welded 4130 chromo-moly. DRIVETRAIN: 21 speed index/ SunTour XC Pro derailleurs/

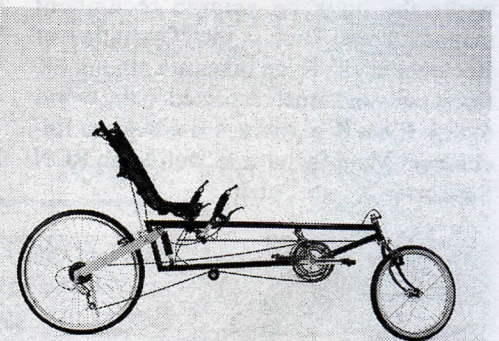
Suntour Bar-End shifters/ Sakae crank 32/42/52 /13-30 freewheel. BRAKES: Suntour XC cantilever. WHEELS: 26" (700c rear-special order), 20" X 1.5" front (20" X 1-1/8"-special order). SEAT: Aluminum frame/mesh. SEAT HEIGHT: 24" PAINT: Powdercoat Black & Red. FAIRING: Ryan Zzipper is available from Zzip design: SUGGESTED RETAIL: \$1495.



The Ryan Vanguard-photo courtesy of Ryan Recumbents

BIKE: FLEETWOOD. TYPE: LWB-underseat steering via indirect underseat single steel rod. WEIGHT: 51 lbs. WHEELBASE: 102" FRAME: TIG welded 4130 chromo-moly. DRIVETRAIN: 21 speed index/ SunTour XC Pro derailleurs/ Suntour Bar-End shifters/ Sugino triple crank. BRAKES: Pedersen SE Energized cantilever with Arai Drum. WHEELS: 26" 40 spoke rear, 20" X 1.5" ACS 100 psi front. SEAT: aluminum frame/mesh. SEAT HEIGHT: 24" P A I N T : Powdercoat Black & Red. FAIRING: Ryan Zzipper is available from Zzip design: SUGGESTED RETAIL: \$3400.

BIKE: VANGUARD-S. TYPE: Suspended (Trek) LWB-underseat steering via indirect underseat single steel rod. WEIGHT: 33 lbs. WHEELBASE: 66" FRAME: TIG welded 4130 chromo-moly. DRIVETRAIN: Component selection was not available at press time. WHEELS: 26" rear & 20" X 1.5" SEAT:



The Vanguard "S"-photo courtesy of Ryan Recumbents

aluminum frame/mesh. SEAT HEIGHT: 24" PAINT: Not available at press time. FAIRING: Ryan Zipper is available from Zzip design. SUGGESTED RETAIL: Component selection was not available at press time.

WARRANTY: Lifetime guarantee on frame and all parts manufactured by Ryan Recumbents, Inc. (excluding seat cover & rod end bearings).

RYAN NOTES: The Vanguard is the direct descendant of the costly and rare Avatar. As one of the four people responsible for the Avatar, Dick Ryan is uniquely qualified in the design and manufacture of a recumbent that has been imitated but never equaled. The Ryan Vanguard! Uncompromising quality! \$2 for information package.

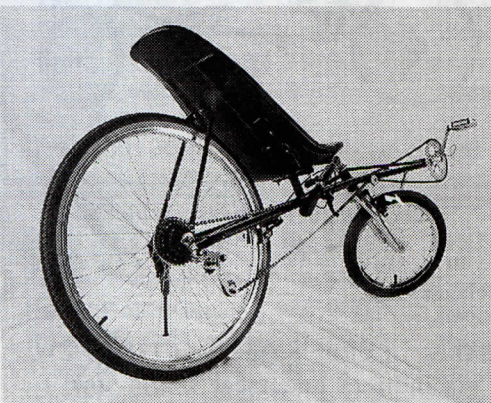
NEW FOR '94: Advent bar-ends are now standard on all Ryan models.

ROAD TEST: RCM#4-Back issue reprint is available for \$5 postpaid USA or \$7 Can./overseas

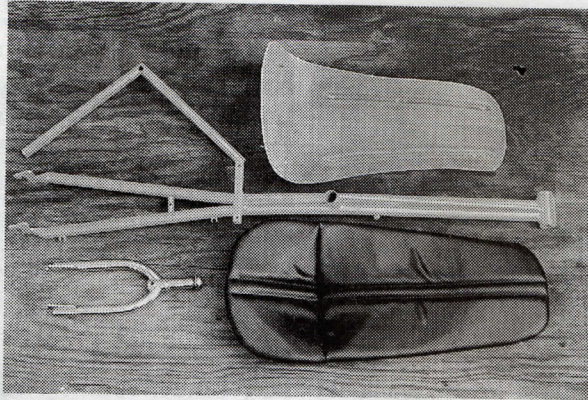
RCN AWARDS: Two year winner of the RCN Editors Choice for Best LWB

Underseat Steerer. Best Craftsmanship on a Recumbent Bike.

COMPANY PROFILE: Dick Ryan co-wrote the book on veteran recumbent manufacturers, Dick is the "Godfather of Recumbency!" Ryan bikes are among the finest built and most respected in the world today. Ryan Recumbents is a Veteran Recumbent Manufacturer as well as an RCN Supporter-X Subscriber



The S & B-photo by S & B



The S & B "Frame-kit"
photo by S & B

S & B RECUMBENTS

PO Box 3061

Compton, CA 90222

Ph#310-608-0008 Ph/FAX: 310-762-2243

BIKE: S & B TYPE: SWB-direct underseat steering. WEIGHT: NA FRAME: MIG welded square section steel & chro-moly. DRIVETRAIN: Shimano 100 GS/ Sugino GT Crank. GEARING: 6, 12, 18 or 24 speed. BRAKES: Odyssey System 2000. WHEELS: 26" rear & 16" X 1-3/8" front PAINT:

Powdercoat Blue, Red, Green and Black SEAT: Tall-seat/ fiberglass shell. SUGGESTED RETAIL PRICE: Frame kits from \$380. Complete bikes priced from \$492.

OPTIONS: Cloth seat \$20 extra.

S & B NOTES: The S & B is the most affordable recumbent on the market today. We offer fine workmanship at a moderate cost, below all recumbents on the market. Our package sets this recumbent a level above all the rest. **NOTE:** Frame-kit= frame, seat & pad, fork, head-set & bottom bracket. S & B also builds Jr. size framesets from \$300. Accepts Mastercard & Visa. Call or write for a brochure.

EDITOR'S NOTE: This is the value-leader in SWB recumbents. "It looks like it's going 100 mph just standing still." Quoted from the '94 S & B brochure.

COMPANY PROFILE: New manufacturer & model. S & B is an RCN subscriber.

SPECIAL PURPOSE BICYCLES

120 Prospect St.
Somerville, MA 02143
Ph#617-625-9030
Contact: Bill Darby

BIKE: Sprite. TYPE: MWB upright steering. WEIGHT: 39 lbs. LENGTH: 62" FRAME: MIG welded rectangular steel. DRIVETRAIN: 20 speed index. GEARING: Two freewheels, 20 speeds. BRAKES: Front caliper, rear cantilever. WHEELS: Skyway Tuff-Wheels: front 16" X 1.75, rear 20" X 1.75." SEAT: White, black, aqua sling mesh. PAINT: White, black, aqua or red. SUGGESTED RETAIL: \$595.

Custom Vehicles: Genie. A high quality, space frame construction mid-wheel recumbent with 24 speeds and sling seat. Prices start at \$2400. **Sandblaster:** A sporty trike for 7-12 year olds. This single speed coaster brake trike comes with dual joystick steering. It is an off-street recreation vehicle with exceptional stability. **Adult Tricycle** \$595. **Four-wheeled** two person vehicle with plenty of room from



Bill Darby's "Sprite"-photo
courtesy of SPB

golf clubs to baby seats.

EDITOR'S NOTE: We have seen the Genie SWB and the four wheeler.....very nice. Bill Darby has been in and around HPV's for years.

COMPANY PROFILE: SPB is a new manufacturer and an RCN subscriber.

STIBER TECHNICAL

1621-Occonee St.
Athens, GA 30605

PRODUCTS: One of our readers alerted us to the "What's New" section of the January '94 Popular Science issue. This hand-built semi-recumbent bicycle is designed with front & rear suspension integrated into the frame. The bike also has an adjustable steering system that tilts to accommodate different arm lengths and torso sizes, and a padded adjustable seat for lower back support (a very low-back recumbent seat—by RCN standards). The bike costs about \$5,000.

EDITOR'S NOTE: New bike and new manufacturer currently in the prototype stage.

COMPANY PROFILE: At this time, Stiber is not an RCN subscriber. Please mention our name when you contact them.



THEBIS INTERNATIONAL

110-2031 Malaview Ave.
Sidney, BC, Canada V8L 3X9
Phone:# 604-656-1237

TRIKE: Thebis 201 Trike. STYLE: two wheel in back, rear wheel steered FRAME: ZK60A-T5 Magnesium WEIGHT: 33 lbs. DRIVETRAIN: 21 spd. index/ Sachs Huret Aris WHEELS: 24" X 1" front,



The Thebis Trike-photo courtesy of Thebis



20" X 1-1/8" rears. SEAT: Sling/ mesh. SEAT HEIGHT:14" PAINT: Anodizing. SUGGESTED RETAIL PRICE: \$1990 Factory Direct US dollars.

NOTES: \$5 for a brochure/ information package.

ROAD TEST: RCM#10-Back issue original is available for \$5 postpaid USA or \$7 Can./ overseas.

EDITOR'S NOTE: The Thebis has been in development for many years. 1994 marks an exciting new low price and more changes for this interesting rear-wheel steered trike.

COMPANY PROFILE: Thebis is a Veteran Recumbent Manufacturer and an RCN Subscriber.



TURNER ENTERPRISES

1350 E. Flamingo Rd. #73
Las Vegas, NV 89119-5263
Contact: Milton Turner

BIKE: The Laid-Back "E" and "E-ATB" TYPE: SWB-direct underseat steering. WEIGHT: approx. 37 lbs. FRAME: MIG welded square section steel & chro-moly. DRIVETRAIN: SunTour 12/21 speed. BRAKES: Weinmann Side-pulls. WHEELS: 26" rear & 16" X 1-3/8" front PAINT:

Powdercoat Blue, Red, Green and Black SEAT: Tall-seat/ fiberglass shell. SUGGESTED RE-

TAIL PRICE: \$699-900 \$395 for the frame-set.*

SIMILAR MODEL: The Turner LB2000 is a TIG welded chro-moly high performance version.

*Turner Frame-sets include: painted frame, seat shell & cover, handlebars and fork.

TURNER NOTES: "The World's Most Advanced Bicycles." Turner Enterprises offers a wide variety of frames, forks, seats, demo's etc. Send for their new brochure today.

ROAD TEST: RCM#10-Back issue original is available for \$5 postpaid USA or \$7 Can./ overseas.

COMPANY PROFILE: At this time, Turner Laid Back is an RCN Supporter-X subscriber.



VARNA RECUMBENTS

Site 54, R.R. 2
Gabriola Island, B.C.
Canada V0R 1X0
Phone:#604-247-8379.

Contact: George Georgiev

PRODUCTS: Varna SWB Recumbent from \$1400, Varna Bicycle and FWD trike (as pictured in RCM#13).

COMPANY PROFILE: Varna/ George Georgiev is a custom HPV builder & fabricator.



RCN RECUMBENT RATINGS
BIKE RATED: Thebis Trike
Frame/ Welding Quality: ☆☆☆ 1/2
Paint / Finish Quality: ☆☆☆1/2
Drivetrain Components: ☆☆☆ 1/2
Brake System Rating: ☆☆☆
Wheel Quality Rating: ☆☆☆ 1/2
Seat Rating: ☆☆☆ 1/2
Durability Rating: ☆☆ 1/2
Performance Rating: ☆☆ 1/2
Recumbent Design Rating: ☆☆ 1/2
Value/ "bang for buck" Rating: ☆☆☆ 1/2
Manufacturer Service Rating: ☆☆☆ 1/2
Overall RCN Bike Rating: ☆☆☆
Cost Rating: \$\$\$\$\$

RCN RECUMBENT RATINGS
BIKE RATED: '93 Turner LB "E"
Frame-kit only
Frame/ Welding Quality: ☆☆☆
Paint / Finish Quality: ☆☆☆
Seat Rating: ☆☆☆
Durability Rating: ☆☆☆☆
Recumbent Design Rating: ☆☆☆ 1/2
Value/ "bang for buck" Rating: ☆☆☆ 1/2
Manufacturer Service Rating: ☆☆☆

NOTES: The majority of LB's are sold as "Frame-kits only. We have never tested a "complete bike."

EUROPEAN RECUMBENTS

The following is a list of European recumbents that are available within the USA or companies that will ship to the USA. For information on any of these recumbents, please send two International Postal Reply coupons. Europe is advancing very quickly in the world of recumbents. Your best bet for coverage of the Euro-market is through Bike Culture and Encyclopedia and Richard Ballantine's, "Richard's Ultimate Bicycle Book." Another new book has just come on the scene, "Das Liegerad," by Gunnar Fehlau. This book is written in German, but has great pictures. It is a fantastic book on recumbents. (see publication listings). USD= USA Dollars.

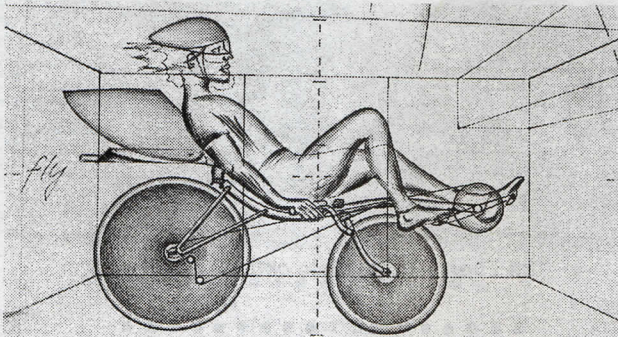
BURROWS WINDCHEETAH: The legendary "Speedy" is finally available in ready to ride form and it will be expensive. Casting kits are available from the manufacturer in England. The Speedy body will now ship to the U.S., but is indeed pricey. The exclusive North American distributor is Linear Mfg. Inc.

LEITRA: The only fully faired commuter trike in the world. These trikes have been sold in 11 countries including Japan and Canada. The price for a ready to ride trike is \$2000 US dollars. The full body is another \$2000 USD, for a total of \$4000 USD. Shipping from Denmark is \$700-\$800 USD. Designer and builder C.G. Rasmussen reports 1,000,000 kilometers without anyone being hurt. Mr. Rasmussen has been building three wheeled com-

muter vehicles since 1950. Leitra APS, PO Box 64, DK-2750 Ballerup, Denmark. Send two Int'l Postal Reply Coupons with correspondence.

KINGCYCLE: This very competitive SWB recumbent is built in England. The exclusive North American distributor is Linear Mfg. Inc. See Linear Mfg., Inc.

RADIUS: German LWB similar to the Avatar/ Ryan. The Peer Gynt model comes with rear suspension and Magura Hydrostop brakes. This is certainly the Mercedes Benz of recumbent bicycles. The exclusive North American distributor is Linear Mfg. Inc. See Linear Mfg., Inc.



Varna by Klaus Schmid

ROSS & TRICE: See Eco Cycle
TWIKE: Side-by-side recumbent tandem with complete body, electrical system and auxiliary power. We have been told this bike sells for nearly \$14,000 USD. TWIKE AG, Kirchrain 11, CH-4460, Gelterkinden Switzerland. If you write them, let 'em know

where you heard about it.

EUROPEAN DELIVERY DEALER: NEATWORK: Dealer for Radius Recumbent bicycles and trikes, wheelchair tandems, English style work bikes and Kingcycles Recumbents. Will ship to the USA: Neatwork, The Lees Stables, Coldstream, Berwickshire, Scotland TD12-4NN. Phone/ Fax# 011-44-890-8834-56.

COUNTERPOINT



PRESTO

RECUMBENT

"The best recumbent of 1993"
Recumbent Cyclist

New!

Titanium Presto, Presto Trike,
& Presto with front
suspension fork!

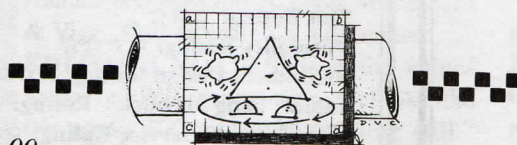
The refinement continues with new models based on the short wheelbase recumbent that "THE RECUMBENT CYCLIST" calls "the best".

PRESTO SE63: a 3-speed internal rear hub mated with 7 external cogs with a triple crank up front makes for a 63-speed range from a 19 to a 139 inch gear.

PRESTO Ti: Full Titanium frame plus Full Titanium fork equal a lightweight performance bike with the ride quality of a Lexus.

PRESTO/ZZIPPER FAIRING: After extensive development it's here. OPUS also. Optional ZZIPPER integrated body stocking also available.

Retrofitable PRESTO Titanium or suspended front forks available to bring your PRESTO up to the edge.



"ANGLETECH"

P.O. Box 1893 318 N. Highway 67
Woodland Park, CO. 80866
719.687.7475 800.793.3038

"BIKE TECHNOLOGY FROM A DIFFERENT ANGLE." San Diego Show: March 12-13



OPUS IV

TANDEM

The tandem which allows
different pedaling cadences
and better maneuverability

Roadshow where we will be so
you can see us in the flesh:
Chicago Show: March 5-6
Portland Bike Show: March 12-13
San Diego Show: March 12-13

RECUMBENT DEALERS AND PARTS SUPPLIERS:

NOTE: This is only a partial listing of the dealers within the USA that stock recumbents and consists of RCN subscribers, advertisers and dealers who answered our call for mfr./dealer information ONLY! To find a dealer in your area, we suggest calling the manufacturer of the bike you are considering and have them find your closest dealer. There is no way that we can list every dealer that stocks recumbents.

ANGLE LAKE CYCLERY

20840 Pacific Hwy. So.
Seattle, Wa. 98198-5999
Phone: #206-878-7457/ 1-800-793-3038

Contact: Matt, Dale or Bob

PRODUCTS: A full service bike shop selling Counterpoint recumbents.

ANGLE-TECH

PO Box 1893, 318 N. Hwy. 67
Woodland, Park, CO 80866
Phone#719-687-7475 or 1-800-793-3038

NOTE: The newest location from the Angle Tech group.

BIKE RX

PO Box 1346
Green Valley, AZ 85622
New number as of Feb. 1, 1994 Ph#602-398-9226

Contact: David Sader

PRODUCTS: Full service bike shop, Rans, Linear, Laid-Back, BikeE, Vision R-40 and ReBike Come see us at 28000-300 Foxwood Way, in Amado, AZ.

BUCKINGHAM BIKE SHOP

3170 N. Broadway
Chicago, IL 60657
Phone#312-975-0050

Contact: Josh Samos

PRODUCTS: Full service bike shop selling BikeE, Linear & ReBike.

CYCLOPEDIA

PO Box 884
Adrian, MI 49221
Phone #517-263-5803 Information
Phone#1-800-678-1021 order-line.

Contact: Gaylord Hill

PRODUCTS: hard to find bicycle parts and accessories, wheel-building and HPV/ recumbent parts specialty. A full line of 16," 20," 24," 26" & 700c wheels and tires.

NOTES: Main Catalog \$2, Frame Building Parts Catalog \$1 and the legendary

HPV/ Recumbent Parts Catalog \$1.

BUILDING PLANS: Econ-Bent SWB Recumbent \$30.

NEW FOR '94: Now offering Sun M14A 28/36 hole aero-rims (not available anywhere else). New triple-cross recumbent lace wheels. New recumbent tire line: 16 X 1-3/8," 20 X 1-3/8," and 20" X 1.5 CycloPedia is also offering the all new 16" X 1" & 20" X 1" rims and tires coming from Sun. All new rims & tires will be available in mid-March.

ELLIPTIC RECUMBENT BICYCLES

2306 American Ave.
Hayward, CA 94545

Phone: #415-591-3737

Contact: Steve des Jardins, Owner.

PRODUCTS: Ryan, Turner, Lightning, ReBike, new lines are being added all of the time. Try before you buy. New, used, accessories repairs and rentals. Call for showroom hours.

EUGENE CYCLE SPORTS

446 E. 13th Ave.
Eugene, OR. 97401

Contact: Kurt Jensen

Phone:# 503-343-5362

PRODUCTS: ReBike, ATP Vision & Ryan Vanguard. Eugene Cycle Sport is a full service bike shop.

HAL'S CUSTOM BIKES

Phone# 310-376-5882

PRODUCTS: Los Angeles area recumbent dealer specializing in Radius, Windcheetah, Kingcycle & Linear.

INNOVATIVE BICYCLE COMPONENTS

3832-148 Ave. NE
Redmond, WA 98052
Phone#1-800-473-6457

Contact: Mike Regan

PRODUCTS: IBC Hydraulic brakes.

INTROSPECT CYCLE

1029 Amberwood Rd.
Sacramento, CA. 95864
Phone: #916-481-2906

Contact: B.J. Strass

PRODUCTS: Wheels, tires, parts & custom modifications available. Upright handlebar steering kits.

NOTE: Send \$2 for 1994 Info-Packet.

New Millennium Recumbents-Coming Soon!

J & B PACIFIC

7845 S. 212
Kent, WA 98032
Phone#1-800-333-0441

Contact: Joe Sandschulte.

PRODUCTS: The USA's premier recumbent wholesale supplier. J & B just unveiled a line of recumbent tires that appear to be excellent quality. We have seen a 16" x 1-3/8" 90 psi gum-wall, 16" x 1.75" 90 psi gum-wall, 20" x 1-3/8" 90 psi gum-wall and a 20" x 1.75" 90 psi gum-wall. These tires are specifically designed for recumbents.

NOTE: J & B is a wholesale only source. This means bike dealers, designers and manufacturers. Others should contact their local recumbent manufacturer or dealer for orders. Second location: Call Phil Sweet at J & B East in Florida, ph#1-800-666-5000.

PEOPLE MOVERS Recumbent Bicycles

811 So. Tustin Ave. (At 22 Fwy. in Orange)
Orange, CA. 92666

Phone: #714-633-3663

Contact: Jim Wronski

PRODUCTS: ATP Vision, Haluzak, Ryan, Linear, Laid Back, ReBike, Rotator, Infinity and most other major brands. We Buy, Sell & Trade Used Recumbents. We are a full service bike shop specializing in recumbents and accepting Visa, Mastercard & Discover. We ship anywhere You can now charge your RCN subscription, renewal or back copy order here 7 days a week. A visit to the greater L.A. area is not complete without a stop at People Movers. Shop us last for your best price! RCN Editors Choice for Best Recumbent Dealer of 1994.

RECUMBENT CYCLIST NEWS

PO Box 58755
Renton, Wa 98058-1755

PRODUCTS: RCN Test bikes & demos—SAVE \$\$\$\$\$. We also buy and sell used recumbent bicycles. See RCN Classifieds for available bikes.

WHISTLE STOP

410 Jefferson
Ft. Collins, CO. 80524
Phone:#303-224-5499

Contact: James Fentress

PRODUCTS: Rans, Ryan, Infinity, Lin-

ear, Turner, and ReBike. Framesets, new and used parts.

SERVICES

CURRIN'S CYCLES

PO Box 5123
Klamath Falls, OR 97601
SERVICES: Custom built recumbent frames and complete bicycles. Emphasis on SWB designs, but LWB, tandems and special purpose designs also available.

INTROSPECT CYCLE

1029 Amberwood Rd.
Sacramento, CA. 95864
Phone: #916-481-2906
Contact: B.J. Strass
SERVICES: Recumbent parts, fabrication & modification etc.

RECUMBENT CYCLIST T-SHIRTS

Kensington Design
2815 Peregoy Dr.
Kensington, MD 20895
Contact: Mark Colliton
SERVICES: Official RCN T-Shirt's are now being designed. Send SASE for information when it becomes available.

RECUMBENT CYCLIST CONSULTANTS

PO Box 58755
Renton, Wa 98058-1755
Phone: #206-852-8179 office.
Contact: Robert & Marilyn Bryant
SERVICES: Recumbent-HPV Consulting/ Manufacturer-Dealer Market Information/ Market Research & Study. The #1 source for recumbent & HPV information for potential dealers, manufacturers and research. Let us help you select your new recumbent bike. Phone consulting & customized reports available.

SEW WHAT!

Design & Manufacturing
1000 E. Street SE
Auburn, WA 98002
SERVICES: Custom recumbent seats, panniers etc.

WORKBIKES Human Powered Machines

PO Box 1005
Eugene, OR 97440
SERVICES: HPV design & custom fabrication.

KITS and PLANS

ECON-BENT

(see above CycloPedia listing).
RCN Rating ☆☆☆☆ 1/2 "Best SWB Plans."

EASY RACER PLANS

(see manufacturer listing).
RCN Rating ☆☆☆☆ 1/2 "Best LWB Plans" and "Best Recumbent Homebuilder Plans."

BIKECAR CORPORATION

PO Box 72
Ocala, FL 32678-0072
PRODUCTS: four wheel recumbent bike-car plans, parts and information.
RCN Rating ☆ ☆

COMPOSITE FRAME RECUMBENT PLANS

D. KERNS
2751 Union St.
Lake Station, IN 46405

DIET RIDE

PO Box 16614
Duluth, MN 55816
PRODUCTS: Plans for a unique four wheeled two seat recumbent pedal-car.

CUSTOM TRANSPORTATION ALTERNATIVES

6922 Union Ave.
Cleveland, OH 44105
Ph#216-341-6939
PRODUCTS: Don Harse Coo's Bay Flyer Trike Plans.
NOTES: \$29 for plans.

RCN Rating ☆ ☆ ☆

HARPER FWD PLANS

W.A. HARPER
P.O. Box 491871 Dept. RC
Redding, CA 96049
PRODUCTS: front wheel drive recumbent building plans.
NOTES: \$2 for information package and \$12. for plans.
RCN Rating ☆ ☆ We liked these plans, but two star rating is due to lack of text. Required FWD reading.

TRAYLOR F.W.D. PLANS

T.D. Traylor
22407 Warmside Ave.
Torrance, CA 90605
PRODUCTS: front wheel drive recumbent building plans.
NOTES: \$13 for plans.
RCN Rating ☆ ☆ We liked these plans, but two star rating is because the bike depicted in the plans is outdated. Current Traylor bikes are monocoque. Recommended FWD reading.

PRELUDE RECUMBENT PLANS

J. Benditt Co.
P.O. Box 335
Pennsboro, WV 26415-0335
PRODUCTS: Prelude LWB kit & plans.
RCN Rating ☆ ☆ 1/2 The plans were good, many sets have been sold, many bikes built, but the plans are hard to read. They are worthwhile because they are the only LWB underseat plans available.

REBEL CYCLE PLANS

Tony Woodrooffe
Aardmore Airfield
Papakura, Auckland
New Zealand
PRODUCTS: Rebel Cycle (SWB) **NOTES:** Info Pack \$2, plans \$20.
RCN Rating ☆ ☆ 1/2 The plans were good, however, the plans are now outdated as there have been many changes to the original Rebel. The Rebel design looks like a poor mans Kingcycle.

RECUMBENT CYCLIST NEWS:

PO Box 58755
Renton, WA 98058-1755
PRODUCTS: Many RCN issues have our column, "Recumbent Homebuilders Corner" or related homebuilder articles. Back copies/ reprints are available for \$5. each or 6 for \$25.

HOME BUILDER PARTS

We do not have the space to list every single recumbent manufacturer here, but most manufacturers will sell at least some parts from their bikes. If you see something you need on a factory built bike, give the manufacturer or your local recumbent dealer a call.

ADVANCED TRANSPORTATION PRODUCTS (ATP)
(See recumbent manufacturers)

ACE TOOL & ENGINEERING/INFINITY RECUMBENTS
(See recumbent manufacturers)
PRODUCTS: Recumbents seats, parts etc.

ANGLE TECH/ ANGLE LAKE CYCLE
(See Counterpoint/ recumbent manufacturers)
PRODUCTS: Full service bike shop/ small wheel specialists/ parts etc.

AIRCRAFT SPRUCE & SPECIALTY
PO BOX 201 W. Truscow Ave.
Fullerton, CA 92632
Phone: #714-870-7551
PRODUCTS: Steel and aluminum tubing. Catalog available.

EASY RACERS, INC.
(See recumbent manufacturers)
PRODUCTS: Tour Easy building parts: seats, frame tubes, fairings, etc.

INTROSPECT CYCLE
1029 Amberwood Rd.
Sacramento, CA. 95864
Phone: #916-481-2906
Contact: B.J. Strass
PRODUCTS: Wheels, tires, parts & custom modifications available. Upright handlebar steering kits.
NOTE: Send \$2 for 1994 Info.

LAID-BACK RECUMBENTS
TURNER ENTERPRISES

(See recumbent manufacturers)
PRODUCTS: Recumbent parts, seats, frame-kits, etc.

LOOSE SCREWS

12225 Hwy 66
 Ashland, OR. 97520
 Phone:#503-488-4800

PRODUCTS: Bicycle small parts, large catalog.

RYAN RECUMBENTS, INC.

(See recumbent manufacturers)
PRODUCTS: Recumbent parts, seats, bar-end extensions, seat pads, etc.

THE THIRD HAND

PO Box 212
 Mt. Shasta, CA 96067
 Phone:#916-926-2600

PRODUCTS: Bicycle repair tools and books. Catalog available.

WICKS AIRCRAFT SUPPLY

410 Pine St.
 Highland, IL 62249
 Phone: #618-654-7447

PRODUCTS: Steel and aluminum tubing, foam, fiberglass, resins etc.

FAIRINGS

ADVANCED TRANSPORTATION PRODUCTS (A.T.P)

(See Recumbent Manufacturers)

PRODUCTS: Zzipper large size (similar to Ryan/ Super Zzipper) fairing bubble & mounts for SWB recumbents. This fairing should fit most

SWB recumbents with a front derailleur tube.

BLUE-SKY DESIGN

PO Box 26154
 Eugene, OR 97402
 Contact: Mark Murphy

PRODUCTS: Aerocoupe Cyclecar body shell kit for three wheeled HPV's (AeroTrice).

COROPLAST INC.

3025 Skyway Cir. N.
 Irving, TX 75038
 Phone #1-800-435-2241

PRODUCTS: Twinwall corrugated plastic sheeting suitable for recumbent fairings.

FOMEBOARDS CO.

2211 N. Elston
 Chicago, IL 60614
 Phone #1-800-362-6267

PRODUCTS: Light-weight foam/plastic laminate suitable for recumbent fairings.

SIERRA PLASTICS

7601 4th St.
 White City, OR 97503
 Phone:#1-800-888-0532

Contact: Scott
PRODUCTS: Sierra builds injection moulded plastic parts and can build one-off HPV bodies, tooling or production. Services are geared for the small businessman.

ZZIP DESIGNS

P.O. Box 14-RC
 Davenport, CA 95017
 Phone #408-425-8650

FAX: 408-425-1167
 Contact: Karl Abbe
PRODUCTS: Largest recum-

bent fairing manufacturer. Fairings & mounting kits for Ryan, Tour Easy, Linear, Infinity, Lightning and Presto along HPV experimenter kits and fairings for conventional bicycles.

ZZIP NOTES: "Streamline your dreams with a Zzipper Fairing!"

NEW FOR '94: Zzip is currently working on a Presto body skin that will mount to the new Presto Zzipper.

NOTES: Call or write for a free brochure.

UNUSUAL COMPONENTS

ANGLE TECH/ ANGLE LAKE CYCLERY

(see other listings)

CYCLOPEDIA, INC.

(See Recumbent Dealers and Parts Suppliers)

INNOVATIVE BICYCLE COMPONENTS

3832-148th Ave. NE
 Redmond, WA. 98052
 Phone #1-800-473-6457

PRODUCTS: Paradigm CV Posi variable ratio drive system & Mathausser hydraulic brakes. The NEW, new Paradigm transmission will be available soon (soon = does this mean sometime in the next decade?).

LIGHTNING CYCLE DYNAMICS

(See Recumbent Manufacturers listing.)

PRODUCTS: Lightning fiberglass & composite wheel covers, aerodynamic panniers and high-performance parts.

LOWRIDER BICYCLE, INC.

PO Box 702
 Walnut, CA 91788
 Ph#909-594-7411
 FAX#909-594-5471

PRODUCTS: Lowrider bicycle components, chrome chains, 20"/24" suspended forks, trike conv. kits, Stingray-type frames, 16"/20" fenders and custom fat white wall tires in 16"/20"/26." Custom gold-plated parts are also available.

OHO DESIGNS

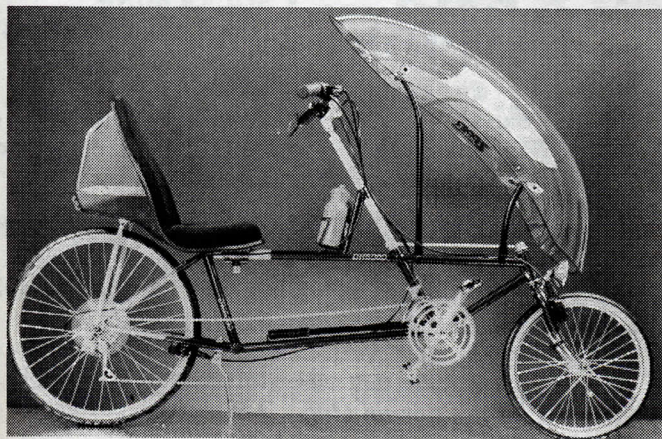
Contact: Conrad Oho
 Phone:#415-924-9143

PRODUCTS:Component R & D, special drivetrain modifications including custom free-wheel/ gearing and grease ports.

PARAGON MACHINE WORKS

61 Industrial Way
 Greenbrae, CA. 94904.
 Phone#415-927-0348

PRODUCTS: Aluminum & Titanium Chainrings (sizes 20-



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DH Recumbents, Inc. 18512 Carrot St.
 Suite 428 • Spring, Tx 77379 (713) 251-5413

T-62-T.) & custom work. Also available a kit to convert a double crank to a triple.

SACHS BICYCLE COMPONENTS

22445 E. LaPalma Ave. Suite J
Yorba Linda, CA 92686
Phone #714-692-6696

Contact: Russ Okawa

PRODUCTS: Sachs Components: Orbit ATB hubs: 2 spd rear drum brake hub, matching front ATB drum brake hub. Three piece Twist-Grip ATB Shift system including two controls and a rear derailleur. Available direct or through many bike shops, recumbent dealers and manufacturers.

TECHNIBIKE

3350 Kurtz St.
San Diego, CA 92110

Contact: Robert W. VonHeck

PRODUCTS: The BioMax/Orbital crankarm. The space-age orbital-crankarm employs cyclically acting, constantly gyrating outer-arms while solid inner-arms rotate conventionally, entirely pivotal in function. No power robbing sliding-modtin as in the past. *Doubles cyclists leg power. *No increase in bike weight. *Greatly improved hill climbing. *Less fatigue. Limited production manufacturer direct price \$450 (\$395 for RCN readers).

INDOOR RECURBENT EQUIPMENT

This product listing contains rear wheel stands to move your recumbent indoors. The ones we list offer adjustable rear wheel size. Also listed are stationery recumbent bicycles. This is a market-segment that we have not been able to move into. Recumbent exercise equipment is now main stream and apparently they do not need the likes of RCN? Of the ones we have seen, these are the ones we liked. The one we would buy is the NordicTrack Fitness

Rider or the Precor. The one we would not buy is the new Schwinn (not listed). They apparently haven't learned that recumbent seats should be comfortable. In searching for a stationery recumbent you will find salesman who KNOW more than you do. They have their own terminology that will be fun for long time recumbent enthusiasts to here. If you contact any of the listed company's, please let them know where you heard about them.

BLACKBURN RX-6 TRAKSTAND

PH#1-800-776-5677

PRODUCTS: Adjustable rear wheel size indoor training stand. Rated Best Overall by *Bicycling Magazine*.

LIFEFITNESS

PH#1-800-351-3737

PRODUCTS: Top-of-the-line stationery recumbent exercise bike.

NASHBAR C-FORCE (same as Quickstand)

PH#1-800-NASHBAR

PRODUCTS: Adjustable rear wheel size indoor training stand. Rated Best Value by *Bicycling Magazine*.

NORDICTRACK

104 Peavy Rd.

Chaska, MN 55318-2355

PH#1-800-441-7510

PRODUCTS: The Fitness Rider is a beauty. As with most of the NordicTrack exercisers, they as nice to look at with the many wood parts as they are to ride. This model offers upper body training too. Ask for a brochure and free video! Rumor has it that NordicTrack has recently introduced a 4-wheeled recumbent vehicle.

TUNTURI

PH#1-800-827-8717

PRODUCTS: Stationery recumbent exercise bike.

PERFORMANCE TRAVELTRAC II

PH#1-800-727-2453

PRODUCTS: Adjustable rear wheel size indoor training stand.

PRECOR/ MODE-1

PH#1-800-786-8404

PRODUCTS: Stationery recumbent exercise bike.

AUXILIARY POWER FOR RECURBENT VEHICLES

This is one of the most controversial subjects within bicycle and human power groups. We have found a few good sources for small gas motors and electric assist kits, so here is our listing.

CHRONO'S

4186 Sorrento Valley Blvd.,
Suite H

San Diego, CA 92121

PRODUCTS: Mo-Hill-Electric motor assist for hill climbing. Free brochure. Video available.

EVFAB & SUPPLY

PO Box 47

Elk, CA 95432

Phone#707-877-3541

PRODUCTS: Electric motive packs, minimalist HPV & frame sets, kits for recumbent hybrids & zero emission vehicles. Company builds a Cycle Car Chassis frame that is compatible with Mark Murphy Aerocoupe trike body. The chassis weighs 24 lbs and is MIG welded rectangular 1 x 2 steel. Cost is \$1050. SASE for information.

MX-5

National Sales

PO Box 7205-E677

Santa Cruz, CA. 95061-7205.

PH# 408-479-4362.

PRODUCTS: offers a bolt on 33.6 cc two stroke gas motor. It has a friction roller drive, automatic clutch and offers 30 mph & 200 mpg. **RCN NOTE:** *This is the bike motor that was designed for the Korean Mili-*

tary and offers speeds to 30 mph, making it one of the rare bike motors that offers faster speeds than recumbent pedallers can sustain.

MCGREEN DEVELOPMENT-ZAP

PO Box 1217

Alameda, CA 94501

PRODUCTS: Single or dual electric bicycle motors that mount on front forks at the brake-bolt:

STATON PHILLIPS

4303 Ryan Dr. NE

Piedmont, OK 73078.

PH# 405-373-1620.

PRODUCTS: small motors from 24cc-48cc.

SACHS MOPED KIT

Sax Energy Corp.

PO Box 91702

West Vancouver, Canada, V7V 3P3.

PH#604-922-5562 or 604-945-7695.

PRODUCTS: Includes a small Sachs two-stroke gas 30cc motor, clutch, 26" aluminum mag wheel with drum brake, muffler, gas tank (in a waterbottle). This efficient unit gets 150 MPG (during constant use), weighs 22 lbs. and offers a top speed of 22 MPH. For more information:

PALMER INDUSTRIES

PO Box 707

Endicott, NY. 13760

PH#1-800-847-1304.

PRODUCTS: Builder of an electric bicycle/ tricycle kit.

SOLAR MIND

Dept. Recumbent Cyclist

759 So. State St., #181

Ukiah, CA 95482

Contact: Joe

PRODUCTS: Electric vehicle source

WHIZZER MOTORBIKE

15671 Commerce Lane

Huntington Beach, CA 92649

PH#714-893-7674

PRODUCTS: a real-to-life kit to convert your cruiser bike into a Whizzer-bike right out of the

40's! Whizzer is manufacturing their own 4 cycle 4 hp engine. Information is \$2.95

ZIPPER BICYCLE ENGINES

Seismic Engineering
715 7th Ave.
San Diego, CA 92101
Ph#619-232-1158

PRODUCTS: A gas motor for bicycles.

PUBLICATIONS OF INTEREST

BRITISH HUMAN POWER CLUB (BHPC)

The newsletter from the likes of the Kingsbury's and Burrows. We love the dry english humor and state of the art HPV's & discussions. We rely on BHPC to keep me informed on Euro-happenings. Send a couple of bucks for a sample issue to: John Kingsbury, 22 Oakfield

Rd. Bourne End, Bucks, England SL8 5QR. *An RCN Favorite!*

BICYCLE GUIDE MAGAZINE

Mainstream cycling publication whose new ownership has not shown signs of recumbent friendliness—the new format seems to be directed at racer types. Former recumbent-friendly editor has gone to Winning Magazine, which is now looking more like the old Bicycle Guide (whew!). BG's all new coverage of "fast" (racing type) bicycles promotes the sad state of the bicycle media today.

BICYCLING MAGAZINE

Mainstream cycling publication. We keep hope'in and cross'in our fingers that Jim Langley (friend to recumbenteurs) can get more 'bent stuff in North America's premier cycling publication.

BIKE CULTURE

The former editor and writers of the New Cyclist have started two new publications of interest to recumbenteurs. Encycloepedia is a full glossy color book that spotlights interesting HPV's, recumbents and unique products of interest to the alternative cycling fan. This 93/94 version includes a close-up look at the Radius Peer Gynt, the new Radius SWB, the Swiss Twike and many other unique HPV's. Bike Culture is the best alternative cycling publication (aside from RCN) that we have ever seen. It is like a cross between RCN Bicycling and Human Power, but with no advertising whatsoever. These publications get two thumbs up from RCN! A yearly subscription costs £25 including postage. Your subscription includes the yearly **Encycloepedia** issue as well as the quarterly Bike Culture. Bike Culture, Open

Road Ltd., 4 New Street., York Y01 2RA, England. *An RCN Favorite!*

BICYCLE USA: League of American Wheelman

90 W. Ostend St., Ste. 120, Baltimore, MD, 21230. voice 410-539-3399/ fax 410-539-3496.

COUNTERPOINTERS

A newsletter for Counterpoint Presto & Opus owners & enthusiasts published by Rick Pope. Counterpointers, Jim Weaver, Po Box 763, Edmonds, WA. 98020.

CYCLE AMERICA Regional Directories

Recumbent enthusiast Martin Krieg publishes regional cycle directories for California and beyond. These are of particular interest to bicycle/ recumbent tourists. Martin always manages to get several recumbent "plugs" into each publica-

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tion. His latest efforts include a new book called, "Awake Again." Martin plans a cross country bike tour to promote his new book. 147 S. River St., Ste. 222 Santa Cruz, CA 95060

DAS LIEGERAD: A German book that outlines recumbents & HPV's. The text is in German, but we have been told that there are great pictures of new & rare Euro-HPV's. To order this book, send \$34 to: "Das Liegerad" c/o Babette Schemesnky, 108 Ryerson Ave., Newton, NJ 07860

HUMAN POWERED VEHICLES NEW ZEALAND (HPVNZ)

Editor, Paul Dunlop has really made this into a nice publication. The last two issues had a great interview with David Gordon Wilson that I wished I'd done (David and his wife recently toured NZ). Format is similar to BHPC and equally enjoyable. Send a couple of bucks for a sample issue to: Paul Dunlop, 4 River St., Mataura, Southland, New Zealand. *An RCN Favorite!*

IHPVA (International Human Powered Vehicle Assoc.)

The IHPVA membership includes the newsletter HPV News and Human Power. The new monthly HPV News is on the upswing. The best news is that former notoriously late editor Kor has been replaced by Len Brunkalla. Len is a friend of recumbents and has the right idea, although articles are short & sweet. David Gordon Wilson edited, Human Power, is reliable and as always, an excellent resource for HPV tech-fans. Membership is \$25 per year. IHPVA, PO Box 51255, Indianapolis, IN 46251-0255.

LOWRIDER BICYCLE MAGAZINE

From the producers of low Chevys with hydraulic suspensions now brings you a glossy color magazine for customized

bicycle builders. The action is mainly in the SW and California. Some of the parts, techniques and styles will be of interest to 'bent experimenters. Lowrider Bicycle Magazine/ Park Ave. Publishing, PO Box 648, Walnut, CA 91788-0648. Ph#909-598-2300.

MnHPV ASSOC. NEWSLETTER

See rider groups

NEW CYCLIST: An English cycling magazine with waning HPV coverage. Most of the HPV'ers went to Bike Culture. £57.75 Pounds, anywhere in the world air mail subscription to: New Cyclist, Unit 1, Hainault Rd., Romford, Essex, RM6 5NP, England.

OREGON HPV ASSOC. NEWSLETTER

(See rider groups.)

RICHARD'S NEW BICYCLE BOOK/ RICHARD'S ULTIMATE BICYCLE BOOK

by Richard Ballantine, Ballantine Books. These excellent books on cycling give equal coverage to HPV's and recumbent bicycles.

ZZIP DESIGNS: Karl Abbe has several copies of the 1993 Encyclopedia (Bike Culture Yearly) issues available. These are \$20 postpaid USA.

RECUMBENT COMPUTER CONNECTIONS:

GENIE: This is the first recumbent bulletin board (BB) that we know of. As of late, attendance is down due to GENIE's rate hike. "Recumbent's & Cycling" is in the cycling area. We hope GENIE BB and former (post rate hike) BB/ recumbent enthusiasts will consider coming back to this formerly quite busy BB. RCN & Robert Bryant log on to GENIE on a weekly basis.

AMERICA-ONLINE: We are aware of a recumbent BB on AO. Bicycling Magazine has just opened a BB here, so the recumbent area may take off. RCN is considering a BB here.

COMPUSERVE: We have heard of recumbent activity from this system. RCN is considering a BB here.

INTERNET: For techies & HPV racers with access to Internet, the "HPV Mailing List" is a busy BB.

SO YOU WANT TO GET INTO THE BIKE BIZ?

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The Manet Guild
Box 57073-D
Babson Park, MA 02157-0073
Ph#617-449-3792

PRODUCTS: book, "Designing & Building Your Own Frameset"

BICYCLE REPAIR. OF AMERICA, INC.

PO Box 24106
Minneapolis, MN 55424.
SERVICES: Sells mobile bicycle shop training & business opportunity. Info \$1

FRUSTRATED MECHANICS?

PO Box 7355
Menlo Park, CA 94026
Ph#510-713-2669
SERVICES: Start your own mobile bike shop. training & business opportunity.

PATEREK FRAMES

Rt. 2, Box 234
River Falls, WI 54022
Ph#715-425-9327
SERVICES: Frame building courses and manuals.

UNITED BICYCLE INST.

423 Williamson Way
PO Box 128
Ashland, OR 97520
SERVICES: Professional bicycle mechanic & shop

management training.

RECUMBENT VIDEO

EASY RACER VIDEO
(See manufacturer listing)
PRODUCT: Video & Easy Racer Info \$5. *An RCN Favorite!*

ECO CYCLE VIDEO
(See Manufacturer listing)
PRODUCT: Video \$10.

FAMOUS CYCLING VIDEO

704 Hennepin Ave., Box C1
Minneapolis, MN 55403
Ph#612-333-4594 and (order)
1-800-359-3107

PRODUCTS: BICYCLE: A Celebration of the Invention. This BBC produced video is the best we have ever seen for the cycling enthusiast. Cycling history as well as HPV/ recumbent coverage. *An RCN Favorite!*

IHPSC VIDEO

Steve Iles
5419 Crestlawn Dr.
E. Canton, OH, 44730
Ph#216-488-2470

PRODUCTS: Video from the International Human Powered Vehicle Speed Championships. Available tapes: IHPSC#19, IHPVA#18 & IHPVA#17. Available in two hour NTSC-VHS or 8mm. \$25 ea. US/ \$30 ea. elsewhere. **EDITORS NOTE:** We just previewed this video and even though it is blatant IHPVA propaganda (joke...), if you cannot get to IHPSC, buy this video! *An RCN Favorite!*

Turner Enterprises

(See manufacturer listings)
PRODUCTS: Laid Back "E" offroad video. \$20 includes postage.

OTHER VIDEO

that we know of:
Introspect Cycle
Lightning
Ryan Recumbents



HOMEBUILDERS CORNER

To Build a 'Bent

by Charles Hall

I have just finished building an Econ-Bent SWB recumbent from plans by Cyclo-Pedia, (517) 263-5803. It is my first recumbent bicycle, as well as my first metalworking project and my first welding project. It is also the first time I've ever built anything from plans alone, rather than from a kit. It all began when I was talking to Gaylord Hill at Cyclo-Pedia while placing an order for some conventional bicycle parts. In addition to selling me on the benefits of recumbents in general, he mentioned that you could make one from muffler pipe and an old ten-speed! Cyclo-Pedia has both an HPV Parts and a Frame Builder's Catalog (\$1 each). The plans for an Econ-Bent are \$30. To my unskilled eyes, it looks most like a Lightning P-38. The plans consist of a thirty-page booklet, with a few oversize drawings. (Since I bought mine, a new edition is out, with a few additions.)

I. Get the Parts

The first step was to locate an old ten-speed, preferably one with side-pull brakes. It's best if the front brake cable pulls from the left, and the rear from the bottom. I wound up with a girl's frame Sears Free Spirit. These go for about \$25 around here. The next major component, the muffler pipe, was a pleasant surprise. Meineke Muffler bent it to shape and sold it to me for only \$25. My understanding is that Midas would not have done it, because they use pre-bent pipes, while Meineke bends their own. The guys at Meineke also offered to weld it into a bike for me, but I declined! At this point, you retire to the workshop with a hacksaw and a 10" half-round file and perform surgery. Really, these are the only tools you need. Filing the bicycle steel is tougher than the muffler pipe, but it all goes faster than you might think. The joints are pretty complex, since it's always two cylinders intersecting at an angle. You can't measure everything, sometimes you just file until things look good.

II. Buying Welding Equipment

This was the toughest phase for me. The local welding supply houses carry brazing supplies, but they know almost nothing about it. They want to sell you a MIG welder for from \$500 to \$2000. I took a welding class, but that only covered arc welding and oxyacetylene cutting. The bike shop people generally don't remember where they got their welding equipment, or how much it costs.

It's just always been there. They do know brazing, but they can't tell you why a MIG welder won't work just as well. To make a really long search short, I bought a Victor portable oxyacetylene torch. It came with brazing and cutting tips and its own carrying case. The total cost was \$360, more than I wanted to spend. You could probably save some money by buying a cheap torch, then going to the welding supply house for "portable" tanks. When the tanks are empty, they cost about \$10 each to refill (one tank for acetylene, one for oxygen). The torch came with excellent instructions. There are several good books in print (see references below). One, Practical Welding, is available at Northern Handyman stores, a good source of welding supplies. You'll also want to pick up a hand-held disc grinder with a wire wheel (\$60). This amazing device will clean up any welding splatter in a jiffy, just remember to WEAR YOUR SAFETY GLASSES.

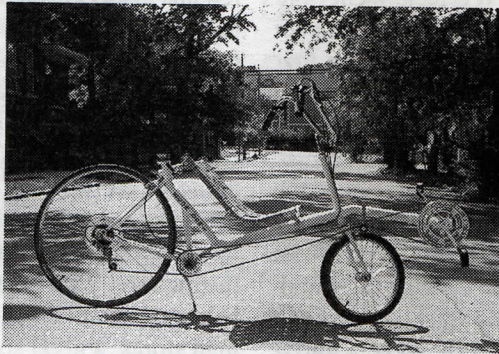
III. Assembly

Learning to braze is easy. In part, this is because the oxyacetylene torch produces an abundance of heat, far more than you need. The object is to melt the brass brazing material without melting the steel tubes. Therein lies the distinction between welding and brazing: in welding the steel melts together, in brazing a thin layer of molten brass bonds the steel together. It is rather like soldering, but with brass instead of solder. The Econ-Bent plans say nothing about welding, but give many hints on how to insure alignment of the pieces being assembled. It is now that you must spend more money: \$4 on electrical conduit (for the seat), \$90 for a front fork and head tube (from Cyclo-Pedia), \$7 for a bottom bracket shell. The latest plans include some scheme for building your own fork, but I haven't seen them. Attachment of the various bits requires some guesswork unless you have a finished Econ-Bent to take measurements from. The plans don't, and can't, cover all possibilities. The trick is to take your best guess and move on to the next step. After ordering a few more miscellaneous braze-on's (hey, this is fun!) you will be ready to paint. Realize that no paint job you do at home will be as tough or as pretty as a factory's. The closest you can come is to use something like Imron paint, but even that requires special skills and equipment to apply (I'm told). The cheapest you can have it done is probably about \$100. Since I wasn't sure the thing would work, I just used cans of regular primer and spray paint. It looks OK and I'm not worried

about damaging the finish. By now you have something that looks like a bike frame. I waited until this point to order the remaining parts because I wasn't sure I'd get this far. Now you're spending money fast, but you're on your way to riding a recumbent: front wheel & tire \$46, rear tire \$17, 3 chains \$36, brake cables and housing \$10, new thumb shifters and derailleurs \$47 (Cyclo-Pedia). At this point it's really shaping up. Your friends will be amazed (at least mine were). Gaylord will even send you an Econ-Bent sticker for it.

IV. Road Test

My nearest recumbent dealer (Morgan's Cyclery, Rocky Mount NC) gave me a test ride on an LWB recumbent once. The starting technique is to put the right crank arm at 12 o'clock and push off with your left foot. The same thing works on SWBs. The initial rides were scary. The steering is very sensitive until you get used to it. You can hit the front wheel with your heel in sharp turns (usually at slow speed). You can relax your arms or use them to lift yourself slightly to ride over rough spots. How does it compare to a regular bike? It's very fast on the level, but seems to use different muscles than those I developed for regular bikes. It's heavy (40 lbs.) and going up hills is tough. When I buy some new cogs for the intermediate drive gears this should improve. Weight distribution is roughly 72% front, 28% rear - if I built another one I could do a little better. It's hard to know what dimensions are important from the plans alone, and I could have moved the rear wheel forward several inches if I had known.



Homebuilt Econ-Bent-photo
by Charles Hall

BOTTOM LINE

I spent at least \$340 for parts and about \$360 on welding equipment. It also took a lot of work and time. (I was almost afraid to finish it because it might not work!) So much for costs, on the other side of the ledger I had more fun than I've had in years. I think of new non-bike welding projects every day. Even with the welding equipment I still spent less than \$700 (compared to a Lightning P-38 at over \$2000). One final note, there don't seem to be many books in print on bike building. The only one I know of is *Designing and Building Your Own Frameset* by Richard Talbot. It's interesting, but not as applicable to recumbents as you might wish.

References

Finch, Richard and Monroe, Tom. *Welder's Handbook*. HP Books. 1985.

Geary, Don. *The Welder's Bible*, 2nd Edition. TAB Books. 1993.

Talbot, Richard. *Designing and Building Your Own Frameset*. Manet Guild. 1984.

Scheck, LeRoy and Edmondson, G. C.. *Practical Welding*. Glencoe/MacGraw

Hill. 1984.

(All of these books are still in print.)

Editor's Note: RCN has rated the Econ-Bent plans ☆☆☆☆ 1/2 "Best SWB Plans." Gaylord Hill's Cyclo-Pedia is an indispensable resource for recumbent / HPV enthusiast.. We also find the editorial filled HPV catalog a wonderful read!

Welding Options

If the cost of an oxyacetylene rig seems too high, here are the problems with the other options: Propane with a brass nozzle - Not enough heat. Propane with stainless steel nozzle - Lots more heat than the simple brass nozzle, but still not enough. Some of these can use MAPP gas as well. MAPP gas is hot, but you don't get much control with the broad flame these generate. Oxy-MAPP - The advantage here is that small disposable tanks of MAPP gas and oxygen are available at local stores (like Builder's Square). The drawback is that oxygen costs \$8 a tank. I'm not sure, but my estimate is that a tank of oxygen might last about 10-15 mins. That could get expensive quick! AC Arc Welder - You can buy a small arc welder for about \$100. This can't be used for brazing (see MIG below), but there is an attachment called a carbon-arc torch that can. It costs about \$25. It consists of two carbon rods held close together. When the spark jumps between them the heat it generates can be used to braze. Unfortunately, as the rods burn down you must slide them closer together. This can be pretty tricky while you're working on a big joint. It also seems to spray carbon dust on the work,

and cleanliness is important for a good brazed joint. In short, I couldn't get it to work. Oxy-Acetylene - The cheapest torch kit is about \$100 and add \$100 for small tanks. You'll need a holder for the tanks (for safety reasons) and \$10 each to fill the two tanks. You may also need to pick up an adapter when you buy the small tanks. One of them takes a fitting different than the more common large tanks. MIG welder - This is an improvement over the simpler "stick" electrode welders. The welding rod is a small wire that is fed into the work with a trigger. The problem with all arc welding is that the amount of heat generated not only melts the steel, it also warps everything near it. On a bike, this is unacceptable. Plus, although the muffler pipe is pretty tough, most bike tubes are so thin they would just burn through. TIG welding - From what I'm told, this is the dream tool. It's uses electricity to generate a controllable flame, protected from the air by an inert gas. Unfortunately, you just left my price range! Hire a Welder? - This might be an option, but there's plenty of setup to do between brief periods of welding. Hiring a pro could get expensive.

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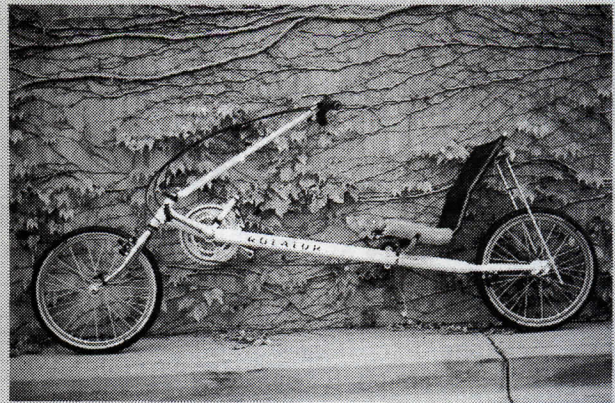
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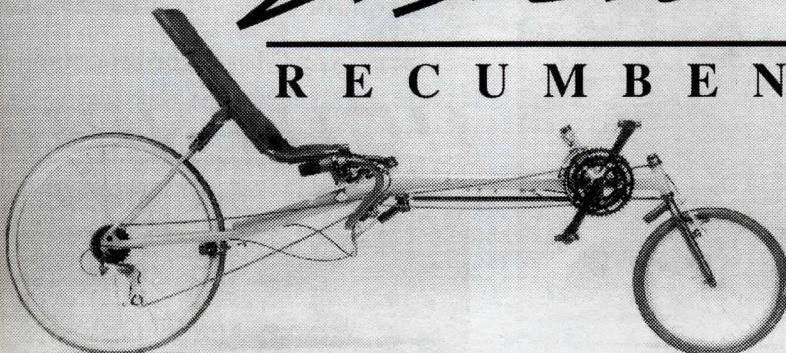
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The Underground HPV'er's RECUMBENT GRUDGE MATCH COMPARISONS!

The RCN alter-ego, mostly correct, but always provocative. This is the back parking lot gang that hangs around the back doors of recumbent shops, spies on manufacturers and reports the no-holds-barred truths of recumbency. Like it or not, the "Underground HPV'er" is at it again....

Component Shootout!

Presto Grip Shifts vs. Bar-Cons: We pride ourselves on being retrogrouches, but the new SRT 500 Grip Shifters are absolutely heavenly! The Bar Con's are an ooh soo close second.

Crankset Shootout: Presto Shimano RX100 vs. Easy Racer Specialized Triple vs. Lightning SunTour XC LTD. Easy Racer wins this one. Second is the Presto, but we recommend upgrading to the optional Mavic. The P-38'XC LTD comes in third (our test bike had a very cheap XCT, which we are glad to hear has been upgraded).

Deraillieur Shootout: ATP SunTour XCE vs. Presto Shimano Deore LX vs. BikeE XC Expert. Ooh a close one. We will always choose Shimano for quality shifting, but the BikeE shifts ooh soo sweet, a close second.

Zzipper Fairing Shootout: Counterpoint Zzipper (\$599) vs. Vision Fairing (Zzipper bubble)(\$350). The Vision fairing mounts with a single mount—a MTB converted stem inserted into the deraillieur tube (which should mount onto most SWB 'bents). The Counterpoint comes with specially designed mounts to fit the Opus & Presto AND has a built in zipper "track" for future fairing use. The winner? Both win! Buy the bargain rated Vision fairing if you are on a budget or own an ATP product. If you own a Counterpoint, hold out for the Counterpoint Zzipper.

Wheel Shootout: Easy Racer Tour Easy wheelset vs. Linear wheelset. No contest, the Tour Easy has the BEST wheelset available on a stock recumbent. The Specialized cartridge sealed bearing hubs are built up using top quality parts by Fast Freddie himself. The Linear wheels are good, but what can we say.

Brake Shootout: Linear "Big Dog" dual pivot point side pull brakes vs. Rans Stratus side-pulls. The new Big Dog's are great stoppers using the latest BMX technology, however, upgrade the Rans to the Deore XT model and the XT cantilevers win hands down.

Seat Shootout!

Counterpoint Presto vs. Lightning P-38. We prefer the "bend" and the height of the P-38 seat. The Presto seat is suspended (a big plus!), has a better quality mesh and ingeniously removes from the bike leaving just a tube on the frame. The Lightning leaves unprotected stays, so be careful. Tie.

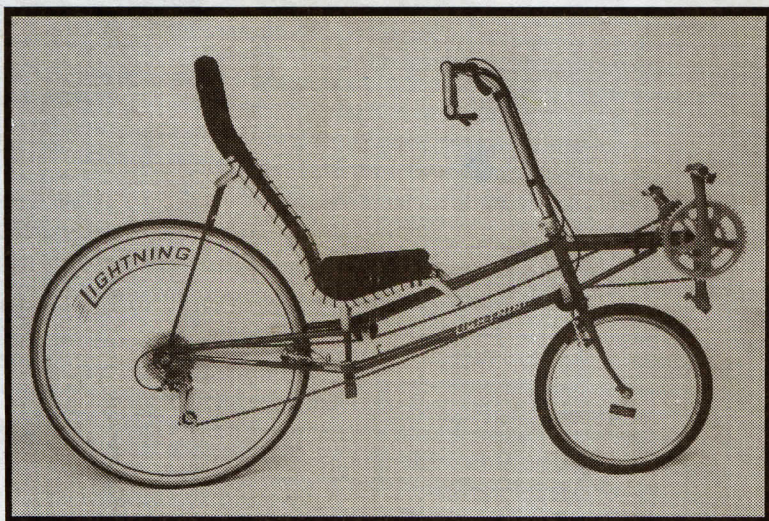
Linear vs. BikeE. These two even look alike. We have to say that the Linear seat is better on all counts. We'd like to see BikeE "shape" the foam a bit.

Easy Racer vs. Rans. Easy Racer hands down. This layered foam "Cobra" seat is excellent as shell seats go. The Rans seat needs upgrading, however it does suspend the rider and has been improved since the last bike we've seen. Randy Schlitter has some neat ideas, but we think this is the one component on the Rans that keeps it from being world class! Continued on the next page.

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Underground HPV'er-continued from page 56.

Ryan vs. ATP. Both seats have a similar problem, they have a "seat horn" which seems to cause discomfort for some riders (but not the employees of ATP & Ryan....). There is a solution! Buy the optional. "Thermarest" inflatable seat bag from either company, you won't even notice the "horn." We like the way the ATP seats "pops off" the bike with just two quick releases....Dick, are you listening.....

DH vs. Easy Racer. This is a tough one. In the past RCN has rated both "Best Shell Seat." The DH is more curvy & comfy, but the Easy Racer seat fits the bike better and is built tougher than the DH. Both are winners here, take what you get on your respective bikes.

Frame Shoot-Out!

Presto vs. Lightning P-38. The space frame of the Lightning is a work of art and must be labor intensive to build. It is also very light. We like the simplicity, suspension and durability of the Presto frame when pushed for a decision, but both are great designs.

Rans Stratus vs. Tour Easy. So similar, but so different. The Tour Easy frame is bullet-proof strong and very rigid, offering a very firm ride. This gives an added boost for getting power to the

pedals. The Rans frame is designed to suspended/ flex and soak up the bumps. This makes it incredibly comfortable, moreso than the Tour Easy. We favor the Tour Easy's confidence building rigidity, but are impressed by the Rans commitment and lifetime frame warranty. Both winners. you must choose between the Cadillac Rans ride or the Corvette Easy Racer ride.

Linear vs. Infinity. The underground HPV'er has to be careful here. The Infinity is made with square aluminum stock and Infinity has had frame failures. The Infinity frame is one of the most shock absorbent available, some riders feel too much so. The Linear is an I-beam aluminum. It soaks up the road shock & folds too! The I-beam has never caused any problems that we've heard of, but you must learn to live with the different look of the beam. Linear "beefed" up the rear stays in '94 making the rear-end less flexy. Keep in mind when buying an aluminum frame. You must have 100% trust in the manufacturer of your bike in case warranty or post warranty claims become a reality. Do some warranty research prior to purchase. Bottom line on these two, we like the Linear reliability & construction quality better, but the Infinity is a superior bargain, costing just a hair more than half the price of a Linear. The Infinity design is low-tech, simple & utterly brilliant.

Ryan vs. All other LWB Recumbents. The Ryan frame is a fortress. The overside TIG welded tubes are sheer recumbent art, and there is so flex here. This is one of the nicest recumbent frames in the world, brought to you from from the "Godfather" himself.

Recumbent Suspension Shootout!

Presto vs. Lightning P-38. The new Lightning fork looks like a technical work of art and performs fairly well. Counterpoint uses an RST elastomer 20" BMX/ MTB suspended fork. It isn't as much of a high-tech work of art as the Lightning fork, but we liked the cushier elastomer RST ride better. Counterpoint offers to paint the RST fork to match your bike for a few bucks more.

Presto vs. All others considering suspension. Yeah, we know, this is not the way motorcycle or car suspensions work. Yeah, we've heard it all before about suspended seats vs. suspended bikes. Yeah, we are aware that a suspended seat and suspended fork is an odd combination. We also feel this is the simplest, most trouble free and best ride of any suspension recumbent we've tried.

THE TOP TEN FASTEST RECUMBENT BICYCLES

Disclaimer: RCN firmly believes that some recumbents are faster than others. This is the closest approximation of the top ten fast recumbents in North America. We write this as editorial and not, by any means, proven fact. A "*" will show bikes that we have not actually test-ridden, but believe them to be in the noted approximate performance position. Performance estimates are give or take two-three positions. Hill climbing performance would be different from the below positions.

- 1) Lightning F-40*
- 2) Rotator Super-7 (with body)
- 3) Kingcycle (with nose & tail body)*
- 4) Easy Racer Gold Rush Replica (with Super Zipper)
- 5) (tie) Rotator Pursuit (with Super Zipper)*
- 5) (tie) Easy Racer Tour Easy (with Super Zipper)
- 5) (tie) Rans Stratus-B (with Super Zipper fairing).
- 6) ATP Vision R-45 (with Vision Zipper)
- 7) Lightning P-38 (with P-38 Zipper)
- 8) Counterpoint Presto Performance (with Presto Zipper)
- 9) ATP Vision R-40/ R-42 (with Vision Zipper)
- 10) Burrows Windcheetah Trike (with body)

NOTE: we have no idea where this elusive performance machine would fit in, we will list it #10, but believe that it should be much higher on the list.

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FOR SALE-LIGHTNING P-38: 1993 model, large size, blue, very low miles. Standard component group. \$1400. Ken (w) Ph:#404-235-6550 X-3493, (h) 404-939-5912. (GA/19)

FOR SALE: Large Tour Easy '86 Fully Equipped, including small Zzip fairing & wide range gearing. \$950 complete.

FOR SALE: Linear, large size, silver, 21 spd. good condition \$860. Call Stephen@ Elliptic Ph#510-782-4566 (CA/19)

FOR SALE: RYAN VANGUARD, standard size, blue, about 2,000 miles total, recently overhauled with replcaed chainrings and chain. Asking \$700 OBO. Call Bill Ph#206-228-0653 evenings till 8:15 PST. (WA/19)

FOR SALE: TURNER LAID BACK-"E" SWB. Less than one year old, blue, low miles. Combination Deore/ Exage components, SRAM Grip Shifts SRT500, 21 speed, alloy wheels with stainless steel spokes, ultra strong honeycomb seat, and Blackburn ATB rack. Fits inseams less than 31 inches. \$695 plus shipping. Call Bill at (W) Ph#719-594-2404 (7-3); (H) Ph#719-687-0383. (19)

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FOR SALE: EAGLE DUO-Recumbent Tricycle Parallel Tandem, 2 adjustable seats (side by side) with forward folding fluted back cushions and padded rollbars. Robust frame, 6061 aluminum square tubing: 1-1/2 x 1-1/2 x 1/8 wall, 2-position stoker bottom bracket. 15-speeds, 28-78 gear inches (31/126 OP.). SR 175mm cranks, 42 teeth, Sedisport primary chains to Sakae triple chainring (40-50-60) on ball bearing countershaft, secondary chain to 14-38 SunTour freewheel. Shimano Deore front and rear derailleurs, K & S thumbshifters, Dia Compe center pull brakes, 26 x 2.125 Carlyle "Lightning" tires (22-

USED RECUMBENTS

FOR SALE: 1993 Counterpoint Opus IV. Show quality bike. Custom paint (Giro) Ocean Spray Deltron Turquoise to Purple fade with painted custom fenders, crank-arms & rear Blackburn rack.). Two seat posts & two seats: easily convertible for 5'4"/6'1" Captains. Deore XT drivetrain, Magura's, Avocet Altimeter computer & Transverse trunk. This bike is less than a year old and is in MINT condition. Could be sold as new. Includes Opus Kidfront. \$ave \$\$\$ over new \$3499 + shipping. Ph:#206-852-8179

FOR SALE: 1994 Easy Racer Tour Easy: fat tire 21 speed, Super-Zzipper. This bike is new and still in the box. \$1700+shipping. Call Robert at (206)852-8179. (WA/19)

FOR SALE: 1994 Haluzak Horizon RCN test bike with front suspension. Size for a 6' rider. This bike will be available in the Spring. \$ave \$\$\$ Call Robert at (206)852-8179. (WA/19)

USED RECUMBENTS

30 psi) on Worksman KT 4190 36 spoke (.105GA) alloy rims front & rear, Schrader valves. Large diameter, low pressure tires facilitate curb crossing. Well outfitted for comfortable touring with rear rack, 2-weather proof cargo boxes (750 CU. IN ea.) spring hold down, zippered tool bag. 2-24 oz. water bottles, large bore air pump, dual Pyramid chrome rear mirrors. Triple tone bulb horn, chrome fenders, number plate, and high visibility safety streamers. A "natural for lovers." \$950 Phone#313-835-0403 (19/ MI)

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FOR SALE: 1994 Counterpoint Presto SE-63 RCN test bike with front suspension. \$ave \$\$\$ Call Robert at (206)852-8179. (WA/19)

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RECUMBENT PERSONALS

"DAS LIEGERAD" Author, Gunnar Fehlau, will be visiting the USA August 1-7, 1994 to attend the Eureka, CA., IHPSC. He is interested in finding a cheap place to stay possibly in the home of a recumbent/ HPV enthusiast. Gunnar is also looking for a ride from LA or SF to Eureka for he and his bike (a SWB Harig Aeroproject. If you can help, please write to Gunnar Fehlau, Richard-Zanders-Strabe 42, 51469 Bergisch Gladback, Germany. Ph#001-2202/37775 Fax /41822. (Euro /19)



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RECUMBENT CYCLIST CALENDAR

APRIL 15 & 16, 1994

BAKERSFIELD HUMAN POWERED VEHICLE RACE

\$1000 in Prize Money. Race is sponsored by the Bakersfield Californian newspaper and sanctioned by the IHPVA. Racing will take place at the Mesa Marin Speedway. For more information, Ph#805-395-7329.

MAY 21, SATURDAY,

RECUMBENT CYCLIST 3RD ANNUAL SHOW & SWAP.

Somewhere in WA. State. The event will be held on a Saturday afternoon from noon to 5:30 pm. Bring your bike for the show and you old parts etc. for swap. This will be a pot-luck affair, so bring some food or whatever. This is the most fun NW event of the year! We may go for a ride—depending on where this years event will be held (we don't know yet, ourselves.) If you would like to be on our mailing list for this event, please send an SASE to the RCN address.

JULY 15-17

SEER (SOLAR ENERGY EXPO & RALLY)

Redwood Empire State Fairgrounds, Ukiah, CA. Alternative energy expo & vehicle races which include a class for Hybrid Pedal/ Electric, and for the first time, there will be HPV races on the Fairgrounds 1/4 mile oval track. Contact SEER Ph#707-459-1256

JULY 22, 23 & 24

DA VINCI DAYS:

Oregon's annual HPV fest. This is the best event in the NW. For more information regarding the HPV segment of this community event, contact Paul Atwood Ph#503-752-6410. DaVinci festival information Ph:#503-757-6363.

AUGUST 1-7, 1994

IHPVA SPEED 20TH ANNIV. CHAMPIONSHIPS

These are the dates for next years event to be held in Eureka, California (not to be confused with Yreka, Ca.). The newly formed official IHPVA Chapter Redwood HPV Assoc. is the host chapter. If you would like to offer advice, sponsorship, or volunteer to help, contact: REHPV, Al Krause, 2338-18th St., Eureka, CA 95501*Ph:#707-443-8261.

AUGUST 26-28

EUROPEAN HPV CHAMPIONSHIPS

Contact: Jurg Holzle, Future Bike, Spizackerstrasse 9, CH-4410, Liestal, Switzerland. FAX 33-28-30-39

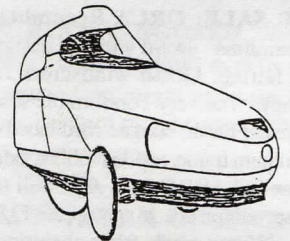
SEPTEMBER 9-12 INTERBIKE 1994

Bicycle Industry Trade Show. Anaheim, CA.

SEPTEMBER 26-28

1994 INTERNATIONAL HPV SYMPOSIUM 1994

The American Institute of Aeronautics & Astronautics invites all aviation engineers, enthusiasts, and students to an exhibition and the presentation of Technical Papers, Demonstration of HPV's of all kinds, and exhibits on the progress of human-powered flight. Those interested in participating should contact: Museum of Flight, 9404 E. Marginal Wy. S., Seattle, WA 98108.



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RECUMBENT CYCLIST NEWS

subscription information

Read all about it! New product information, the latest on all commercially built recumbent bicycles, readers shared experiences and the latest new bicycle technologies. We are positive that you will find our issues and information the most concise every written on the subject of recumbent bicycles. This is the #1 source for recumbent bicycle information in the world today! Become part of bicycling's future today!

1994 SUBSCRIPTION RATES

- | | |
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| <input type="checkbox"/> \$25 USA Subscription (3rd Class/ bulk). | <input type="checkbox"/> \$ 45 USA Subscription 2-yr. bulk . |
| <input type="checkbox"/> \$40 Supporter-I (1 copy mailed 1st class in flat envelope). | <input type="checkbox"/> \$ 45 Canadian Sub. / Canadian funds-check O.K. |
| <input type="checkbox"/> \$50 Supporter-III (3 copies mailed 1st class in a flat envelope). | <input type="checkbox"/> \$ 35 Canadian Sub. / US funds -cash or bank draft. |
| <input type="checkbox"/> \$100 Supporter -X: (10 copies / mailed 2nd Day Priority-US/ Can. | <input type="checkbox"/> \$ 45 Worldwide Air Mail -US Funds-cash/ draft |
| | <input type="checkbox"/> This is a subscription renewal. |

BACK ISSUE ordering information

The Recumbent Cyclist back issues can be a valuable resource to new recumbent enthusiasts. They make an excellent recumbent resource library, like a college course on recumbent bicycles & HPV's. Some back issues are high-quality reprints, others are first printings.

- | | |
|--|--|
| <input type="checkbox"/> \$5.00 RCN#4-Ryan Vanguard Review. | <input type="checkbox"/> \$5.00 RCM#12-Rans Road Test/ Underground HPV News (Yreka '93) |
| <input type="checkbox"/> \$5.00 RCM#5-Linear LWB Review. | <input type="checkbox"/> \$5.00 RCM#13-R & D Tech E-Z Rider Trike/ Homebuilt SWB. |
| <input type="checkbox"/> \$5.00 RCM#6-Tour Easy/ Gold Rush Reviews. | <input type="checkbox"/> \$5.00 RCM#15 -The ReBike & Tim Brummer's P-38 design. |
| <input type="checkbox"/> \$5.00 RCM#7-Lightning P-38 Review. | <input type="checkbox"/> \$5.00 RCN#16-The Trice Trike |
| <input type="checkbox"/> \$5.00 RCM#8-'92 Buyers Guide/ Homebuilder | <input type="checkbox"/> \$5.00 RCN#17-The BikeE/ Draising/ RCN Policy |
| <input type="checkbox"/> \$5.00 RCM#9-A.T.P. R-20 SWB/ BMX homebuilt | <input type="checkbox"/> \$5.00 RCN#18- Presto vs. Tour Easy Shootout/ LWB homebuilder |
| <input type="checkbox"/> \$5.00 RCM#10-Laid Back / Thebis reviews. | <input type="checkbox"/> \$10. RCN#19/20-1994 Recumbent Buyers Guide! (avail. Mar. 1, '94) |
| <input type="checkbox"/> \$5.00 RCM#11-Presto Test/ SWB Homebuilder. | <input type="checkbox"/> \$5.00 RCN#21 -ATP Vision test.(avail. May 15, '94) |

POSTAL INFORMATION

- US RUSH / CANADIAN SERVICE—ADD \$.50 PER ISSUE
- WORLDWIDE-AIR MAIL ADD \$2.ea. ISSUE (Specials below not valid)
- SPECIAL-A: Any six back-issues mailed 2nd Day priority for \$27.00 (#2, #3, #14 & #19 not avail. in special)
- SPECIAL-B: A complete set of back issues #2-#19 (no #14) mailed priority for \$89.95 mailed 2nd Day Priority.
- RCN #2, #3, #14 Are only available in the complete RCN issue set above.

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Return address

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98058-1755 USA**

FIRST CLASS

If your renewal date (top line of your mailing label) says 12/93, 1/94 or 2/94 this is your last issue.

1994 RCN READER SURVEY

Welcome Readers! Please take a few minutes to fill this out and return this survey ASAP. Information from our readers is the most valuable source for us to keep up to date on what our readers prefer. Survey answers must be on this form. Please check boxes in categories listed and write in answers only when asked for. If you would like to expand on any categories here, please complete this form AND send a long a letter to RCN.

SAVE CASH! If you use this tear-out survey/ renewal form to renew your RCN subscription, please deduct \$1 bulk/ \$2 Can./ Air/ \$3 Supporter-I/ \$20 Supporter-X. or send us a free classified ad (Must be postmarked by May 15, 1994—ONLY and include this completed reader survey.

RECUMBENT INFORMATION

Questions #1-#10, please list your favorite recumbent type. Please select one choice only.

- 1) Wheelbase: SWB___; LWB___; TRIKE___; FWD/ other___.
- 2) Wheel Choices (select one front and one rear) Rear wheel: 24"___; 26"___; 27"___; 700c___; 20"___ Front wheel: 16"___; 17"___; 18"___; 20"___; 24"___.
- 3) Your favorite frame material: Chro-moly___; mild-steel___; aluminum___; composite___; Other___.
- 4) Built for: performance/ racing___; touring; ___; recreation ___; commuting___.
- 5) Handlebars: Above the leg handlebars___; underseat remote steering___; Other___.

YOUR INTERESTS

- 6) What kind of recumbent do you own_____
- 7 Please rate it? Poor___; Fair___; Good___; Excellent___.
- 8) What is your favorite recumbent bicycle: (please limit your choices to bikes that are currently available in this issue of RCN._____
- 9) What is the recumbent design of the future: SWB___; CLWB___; LWB___; Trike___; FWD/ Other___.
- 10) Is it a currently available bike? Yes___; No___ Brand name:_____.
- 11) Are you interested in fairings___; bodies___.
- 12) Are you interested in European recumbents that are not available here? Yes___; No___.
- 13) What else are you interested in? (short answer please)_____

RCN ADVERTISING

- 14) Do you read RCN advertising? Yes___; No___.
- 15) Do you patronize RCN advertisers over non-advertisers? Yes___; No___.
- 16) Do you enjoy the advertising in RCN: Yes___; No___.
- 17) Do RCN ads tell you how serious a manufacturer. is? Yes___; No___.
- 18) How many recumbents do you own? 1___; 2-3___; 3-5___; 6 or more___.
- 19) Are you planning to make a bent purchase in the next year? Yes___; No___.

RCN ARTICLES

- 20) Do you enjoy RCN road tests? Yes___; No___ Would you like our road tests to: remain the same___; more tests of a shorter length___; more reader written tests___ Fewer road tests___.
- 21) RCN has become somewhat equipment oriented. Do you like this. Yes___; No___.
- 22) Would you like more articles on: 'bent people___; touring___; commuting___; HPV racing___; 'bent comparisons___; 'bent accessories___; reader written articles___; homebuilder stories___.
- 23) What do you like the most about the current RCN: road tests___; letters Dr. R. ___; 'bent News___; Homebuilder corner___; reader written stories___; Zach-Tech___; Classified ads___; display ads___.
- 24) What do you like least about the current RCN: road tests___; letters/ Dr. R. ___; 'bent News___; Homebuilder corner___; reader written stories___; Classified ads___; display ads___.

RCN ISSUES/ PRICES

- We are currently experimenting with different issue sizes, printing and mailing types. We would like your input on this.
- 25) Our current format calls for six issues (24-32 pg.) per year, however, we have had a double issue buyers guide in both '93 & '94. What format would you like best? A) Six issues per year (24-32 pg) with no buyers guide___; B) Five issues per year including the annual buyers guide___; C) Quarterly 42-48 page RCN (no buyers guide)___; D) Quarterly 42-48 page RCN (incl. buyers guide)___; E) Eight or ten smaller RCN issues per year (no buyers guide)___.
 - 26) We have found that First Class mail speeds delivery of RCN by up to three weeks. We would like to see if the majority of readers would be willing to pay more for this type of delivery. How much would you pay for your choice of Q#26 mailed first class? \$25___; \$30___; \$35___; \$40___ This is too expensive, \$_____ is all I am willing to pay.
 - 27) What type of paper do you like for RCN issues: RCN#9 (newsprint)___; RCN#8/#10 (bleached newsprint)___; RCN#14/#17 (#60 bond)___; RCN#18 (#50 book-white)___.
 - 28) What RCN format do you like the best? RCN#2 (non-computer)___; RCN#5/#6/#7(basic computer)___; RCN#8-#17(basic computer)___; RCN#18/#19 (in-house computer)___ Any ideas?
 - 29) Would you support a second publication devoted to homebuilder road HPV's. Yes___; No___.
 - 30) Are you interested in seeing unconventional upright bikes in RCN? Yes___; No___.

OPTIONAL QUESTIONS

- 31) What is your annual household income: \$0K-10K___; 11K-20K___; 20K-30K___; 30K-40K___; 40K+___.
- 32) Would you like info on becoming an RCN advertiser? Yes___ I am a mfr./ dlr./ designer:_____ (please sign).

Reader Surveys must be postmarked by May 15, 1994, to be counted.
Please mail to: RCN, PO Box 58755, Renton, WA. 98058-1755.

RECUMBENT RIDER GROUPS

BAY AREA RECUMBENT RIDERS GROUP: To join the "BAARG" Call: Steve des Jardins at Ph:#415-591-3737.

GREAT LAKES HPV RACING: CycloPedia 1345 University Ave., Adrian, MI, 49221. (Newsletter available)

H.P.V. SOUTHERN ONTARIO: Dennis Taves, 7-Claremont St., Toronto, Ontario, Canada, M6J 2 M1 Ph:#416- 601-1124. (Newsletter available)

INDIANA HPV: David Pearson, PO Box 46158, Mooresville, IN 46158. Ph:#317-831-0767

LASERR: Loose Assemblage of SouthEast Recumbent Riders: New rider group now forming in Florida, Georgia and Alabama. Drop a line to: Fred Ungewitter, 1964 Forest Ave., Daytona Beach, FL., 32119 and Larry Wilkinson, 3069 Wilkinson Rd., Mt. Olive, AL., 35117.

MICHIGAN HPV ASSOC. Meetings, race events and a quarterly newsletter Contact: Linda Jayne, 2878 Renewal, Troy, MI, 48098. Ph:#303-689-7898. (Newsletter available)

MINNESOTA HPV ASSOC.: IHPVA Chapter that has a newsletter, meetings, rides, homebuilder workshops and is putting on the 1993 IHPSCI Write to: MnHPVA, 4139 Brookside, St. Louis Park, MN. 55416. (Newsletter available)

NW RECUMBENT RIDERS/ HOMEBUILDERS: NW Recumbent Rider/ Homebuilder Group is meeting the 2nd or 3rd Saturday of each month at the downtown Kent, King County Public Library. We are planning events for '94. For more information, please call Jim Kneebone at Ph:#206-481-5598.

OREGON HUMAN POWERED VEHICLES: (Portland area) Meetings, Muster's and a bimonthly newsletter. Contact: Rick Pope Ph:#503-244-0908. (Newsletter available)

RECUMBENT BIKE CLUB OF ORANGE COUNTY, Cautious rides through pot-holed, filled, drug infested and crim ridden back alleys of Orange County. New for '94: Shaky rides through the "Earth-Quake Capital of the World" Contact Jim Wronski at People Movers, Ph#714-633-3663.

SACRAMENTO VALLEY HPV & RECUMBENT: B.J. Strass, Introspect Cycle, Ph#916-973-1945.

SOUTHBAY RECUMBENT RIDERS: (Los Angeles area) Riders meet at Burton Chase Park every third Sunday of the month at 10-11 am. Contact: Tom Howe, 10634 Valparaiso #23, Los Angeles, CA 90034. Ph# 310-838-8634 Eves. or 310-798-5850, Gerry Pease 310-379-6663 Eves.

SOUTHERN RECUMBENT CYCLING ENTHUSIASTS: 3rd Saturday of each month; 25 mile ride in New Orleans with a stop for lunch. For more information contact: Ashby Spratley at Ph:#504-885-2508/ Scot or Dave Hughes at Ph:#504-271-5540.

WISIL HPVers: The Wisconsin HPV Chapter, 260 S. Channing, #2, Elgin, IL 60120-6619. A very active "IHPVA" chapter. Ph:# 708-742-5818 (Alternative Cycling newsletter available)

WASHINGTON DC AREA: W.H.I.R.L. (Washington's Happily Independent Recumbent Lovers) The folks meet at the Viers Mill Rec. Center. MD, north end of Beach Dr., weekend mornings, weather permitting, 9 am (winter hours). For more info contact: Vic Sussman at Ph:# 301-565-3050 or Allan Pollock at 202-363-2244.

BRITISH HUMAN POWER CLUB, John Kingsbury, 22 Wakfield Rd., Bourn End, Bucks, SL8 5QR, England. (Excellent publication available/ send \$3 for sample issue).

HPV NZ New Zealand, Paul Dunlop, 4 River St., Matura, Southland, 03 203 8050 New Zealand. (Excellent publication available/ send \$3 for sample issue).

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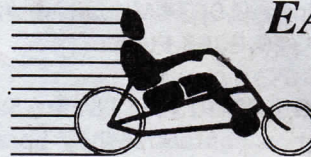
Dear Gardner,

I had meant to write long before this, but I wanted to put some miles on the Gold Rush Replica before dropping you a line. In a word: I totally love this bike! However corny it may sound, the GRR really is the recumbent I've only dreamed about. The awesome speed, stability, and traffic-stopping good looks (the bike, not me) thrill me every time I hop on the machine.

We recumbent hardcore are fond of talking mystically about being "one-with-the-bike." I know I feel that way about my Gold Rush Replica.

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Best Regards,
Vic Sussman
Nationally published writer



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