

Dan Burdick, daughter Robin and very large tomato plant.
Oh yeah, bike is a Dan's custom Ryan, "Sasquatch."
(Staff photo)

RECUMBENT CYCLIST MAGAZINE READER'S HAVING FUN!



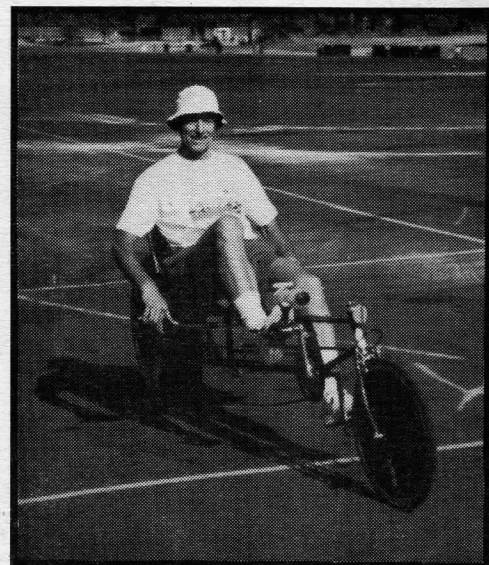
Eric Seemann & friend hang'in on the tarmac – Yreka '92
(Staff photo)



OHPVA members acting very cool – Portland 1992.
(Staff photo)



Steve Delaire's Rotator Super-7 riding in the Seattle rain.
(Staff photo)



David Gordon Wilson riding in Portland – 1990
(Staff photo)"

Recumbent Cyclist MAGAZINE

P.O. Box 58755
Renton, WA 98058-1755 USA

RECUMBENT ARTICLE REPRINTS

The following are articles of interest that we will copy for you at your request. The approximately one dollar per page service charge copy-machine, time, postage and a large flat envelope. Providing these reprints will be on a trial basis only. We will continue to offer this service ONLY if readers demand it.

- Foreign charges: \$1. Orders are: \$1.50 CAN. \$2. Foreign (USA FUNDS)
- \$2 Orders are: \$2.50 CAN. \$4. Foreign (USA FUNDS)
- \$3 Orders are: \$4.00 CAN. \$6. Foreign (USA FUNDS)
- \$4 Orders are: \$5.00 CAN. \$8. Foreign (USA FUNDS)
- \$5 Orders are: \$6.50 CAN. \$10. Foreign (USA FUNDS)

ROAD TEST TYPE ARTICLES

- \$2 __ Infinity & Presto Test-HPV News-RJB, July '90; 2pg.
- \$2 __ Lightning Cycle Tailwind-HPV News-RJB, Sept. '90
- \$2 __ Laid Back Bicycle (Turner) Review-HPV News-RJB, Oct '90; 2pg.
- \$4 __ The Leitra Trike-Bike Tech & English brochure; 3pg.
- \$4 __ The Speedy Windcheetah-New Cyclist July '90; and '92 Speedy brochure 5+ pg.
- \$2 __ The Crystal Trice-New Cyclist, Burrows '90; 1.5 pg.

OTHER ARTICLES OF INTEREST

- \$2 __ The Recumbent Bicycle (LWB susp. by Dan Henry-May '68; 2pg.
- \$1 __ US News & World Report from July '92: Interesting text (no pic's); 2pg.
- \$3 __ Why Your Bicycle Hasn't Changed in 106 Years, Bicycling Science 1990-8pg.

RECUMBENT BICYCLE BUILDING PLANS

- \$39.95 __ Easy Racer Building Plans. USA Postpaid: \$49.95 Foreign/Can. (US funds).
- \$19.95 __ BAT LWB Recumbent Building Plans. \$26.95 Foreign/Can. (US funds).

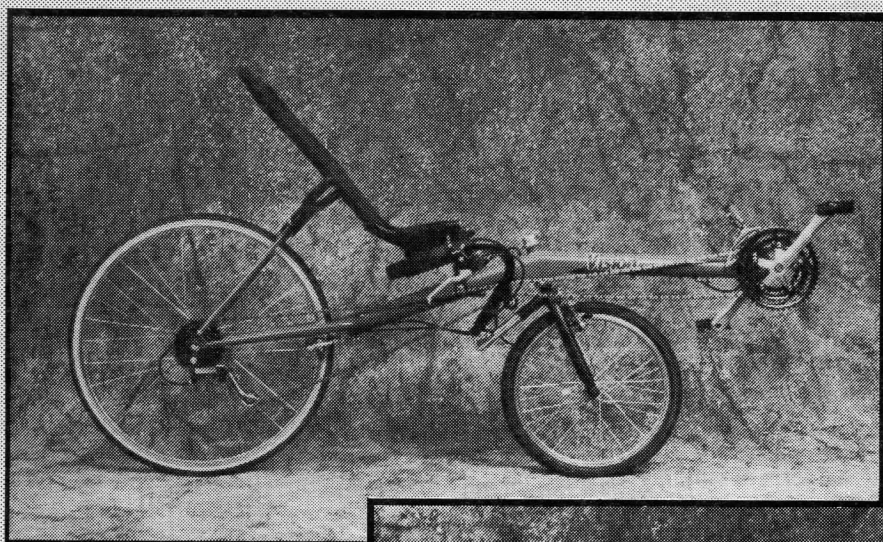
RECUMBENT MANUFACTURERS/DEALER ONLY

- \$5 __ The Recumbent Market; On Selling recumbents from American Bicyclist '92; 1.25 pg. & our informal 1991 Recumbent Market Survey; a brief look at the recumbent retail.
- \$15 __ The 1992-1993 Recumbent Market. A report by Robert J. Bryant, Editor & Publisher of the Recumbent Cyclist Magazine.

Recumbent Cyclist

MAGAZINE

RCM #14 JAN - FEB - MAR 93

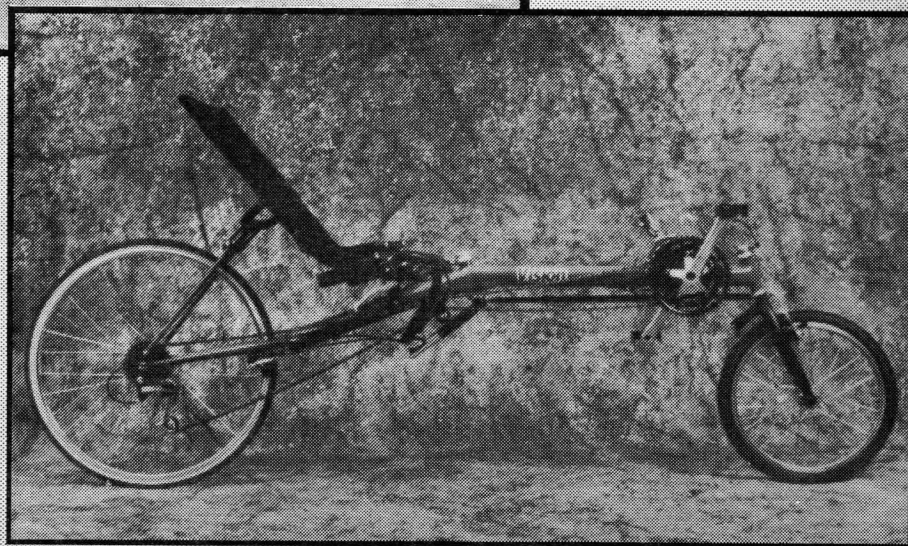


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1993 BUYERS Guide - DOUBLE ISSUE!

RECUMBENT GLOSSARY

Frequently used recumbent terms.

BMX: Bicycle Moto Cross: very tough (generally) kids bikes that use very 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 Zipper).

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

BODY-PARTIAL: A front nose cone or fairing used with a soft material such as 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, Lightning Cycle Dynamics uses lugs.

FILLET BRAZING: A joint is created by flowing brass around the tubing junctures. Usually brass, 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/MWB & 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 freewheel. 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. This defines the system used on the ATP R-20 and Econ-Bent plan built bike sold through CycloPedia

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

CLWB Compact Long Wheelbase 46"-64" A new designation for this year. Bikes 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 or using smaller wheels.

MWB: Medium Wheelbase 40"-45" MWB is sometimes called a SWB (crankset higher and set ahead of front wheel).

SWB: Short wheelbase 33"-39" (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

R.C.M./RCM Recumbent Cyclist Magazine founded by Robert J. Bryant.

RWS: Rear Wheel Steering.

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

STEM EXTENTION: 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 bikes seat, or on a SWB mount to the fork or extend from the head tube.

ZZIPPER: A Lexan recumbent fairing (also available for conventional bikes) built by Zzip Design.

SECOND ANNUAL RECUMBENT BUYERS GUIDE!

Welcome to our largest issue ever, the 1993 Recumbent Buyers Guide. This issue represents the largest undertaking in the history of RCM. We have attempted to provide RCM readers with 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.

Robert J. Bryant
Editor & Publisher

RCM INFORMATION

The **Recumbent Cyclist Magazine** is dedicated to promoting recumbent bicycles and providing and encouraging communications between HPV enthusiasts, home-builders, dealers and commercial manufacturers of recumbent bicycles. We are cycling's future.

Subscription Info The Recumbent Cyclist is published six times per year. To subscribe to the Recumbent Cyclist, please send \$22.95 (bulk-rate-USA), \$29.95 (First Class mail-USA) and \$30 Canada US funds (or \$37 Can. funds) and \$40 (US funds) International Subscription. The First class subscription will get you your issue 2+ weeks earlier than the standard rate. We are closing out the old RBCA patches and have a few left at \$2.50.

Article Submissions: We want your photo's, letters, stories and recumbent information for publication. Send a story/ article about your bike and please don't forget a picture. Print your name on the back of anything sent to the RCM office so we can credit the source. If you can send your submission on computer disc, we use an Apple Macintosh and MacWrite II, that will read IBM 3.5" discs in ASCII format only. If you don't have a computer, we will take it in a letter form or whatever. Please send submissions to:

New Address:

The Recumbent Cyclist
PO Box 58755
Renton, WA 98058-1755.

RCM #14 Cover: The incredible new ATP R-40 "Vision" graces the cover of our 1993 Recumbent Buyers Guide. Cover graphics provided by Mark Colliton of Kensington Design in Kensington, MD.

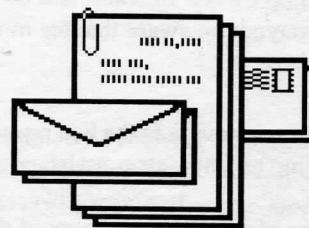
Devoted Production Staff: Publisher (and editor): Robert J. Bryant, Business Manager: Marilyn J. McKee-Bryant, Production Assistant: Jeanene Smith. Graphic Services & Printing provided by DeskTop Publishing & Printing in beautiful downtown Renton, Washington. RCM is written and produced exclusively on an Apple Macintosh computer system.

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New Address: We have had so many complaints about our address being too long and hard to remember that we now have a new one. We will keep the old address for a year while we convert. Please send everything but UPS deliveries to this new address:

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RECUMBENT Mail-Box



READER SWB REPORT

Dear Mr. Bryant,

I just wanted to compliment you on your recumbent bike magazine. I've thought about buying a recumbent off an on for six or seven years. My first and only recumbent ride was during the the 1986 Iowa RAGBRAI ride. It's great to finally find a magazine devoted to recumbents.

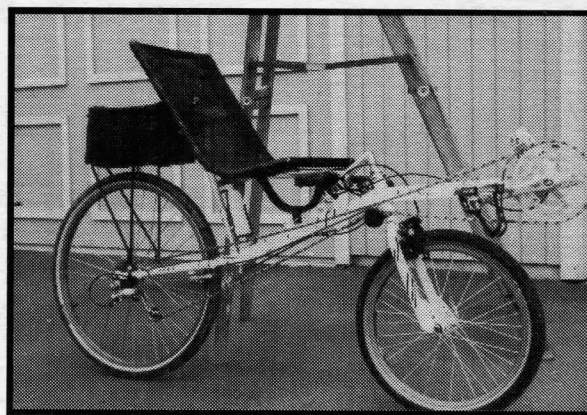
After reading through the back-issues (of RCM), I called Ken Kowal (Kowal Designs) and ordered a frameset. I'm happy to say that the frameset is of excellent quality and a very stable, easy to ride SWB bike. The bike has a 40" wheelbase and weighs just under 30 lbs. with the Blackburn rack, water bottle and Vetta computer.

The component group is Shimano Deore DX with a 12-28 freehub and a 24-36-48 crankset for a 23-108" range. The wheels are Sun Anodized 26" rear and a 20" front with DT SS spokes and Shimano hubs. The tires are 1.5 Avocet Cross rear and a 1.75 ACS RL Edge front. Brakes are DX cantilver rear and an ACS Boa side-pull, front. The bike stops very well. All together, I've got about \$1,000. invested, which I feel is very reasonable considering the quality of the components.

Yours Truly,

Roger Green
Benicia, GA 94510

Roger, thanks for the letter. Your bike is gorgeous, and I have been impressed with what I've heard from Kowal Designs. The bike is an excellent buy. Please write again with further updates on your new bike.



The 1993 Kowal Designs KD-4
(Photo by R. G. Green)

(RECUMBENT) BIKE SHOPS DESERVE RESPECT

Dear Robert,

I really enjoy RCM. Keep up the good work and I am glad you're open to suggestions for improvement. Now let's get down to the nitty gritty.

I am a bike shop owner/ operator and do all my own mechanical work. You may not be aware that for most of us, this profession is a labor of love.

The problem I am having is the bad rap you frequently give bike shops regarding recumbent assistance and availability for test rides.

The real issue should be with some of the manufacturers. First, they want to sell direct, to a market that needs to be wooed and wowed in bike shops with a demo ride. I have never made a solid recumbent sale without letting the potential customer ride first.

Second, it is frustrating to have to explain to some potential customers that I can't stock a particular brand that they may have seen in RCM or some other publication. Mainly because it's sold direct (only).

Granted, it would be difficult for a shop to stock one of every recumbent made, but it sure would be convenient and comforting to know the dealer could order one at a reasonable discount at the same time develop a customer.

In the mean time, I will continue to promote the safety and comfort of recumbents, mainly for love not money.

Sincerely,

David Sader
Bike Rx
Woodland Park, CO.

Dear David,

Thank you for the letter. As you can guess, I can most definitely

relate to the labor of love part of this business. You are also correct about my frequent jabs at bike shops. Please accept my apologies and know that your shop is an exception to the rule, and I wholeheartedly support shops that promote recumbency.

It is a difficult relationship for the dealer to be in competition with the bike's manufacturer. As the recumbent industry matures, you will see less of this. For now, try and deal with manufacturers who believe in selling through professional bike shops. As for models that sell direct only, this is mainly because of the narrow margins, not because a manufacturer wants to sell direct only. You can still sell those bikes, by special order and by adding a assembly/service charge. Most customers should not mind if they can get the warranty and service from a bike shop.

Thanks for being a leader in the cycling industry by selling and supporting recumbent bicycles.

Robert J. Bryant

IN PRAISE OF RCM'S SHORTER ADDRESS

First let me thank you for getting a post office box. I was just about to buy a new memory chip for my Mac so I'd have room to store your street address.

Thanks to (the Doctor) Dr. Recumbent for mentioning my new Harmony bike as a viable option for more than just street use. Before the hills behind my house became a development, we used to ride my recumbents frequently on the trails. Obviously, they will not be as mobile as conventional off-road bikes, but they worked fine for me on hard-pack trails with the average slopes and turns.

Keep up the good work.

Ed Roeters
Alternative Bikelstyles
Bonita, CA.

DR. RECUMBENT**THE DOCTOR DREAMS OF HACK-SAWING HIS SUSPENDED HYBRID/MTB.**

Dear Dr. Recumbent,

Your reply in the November/ December '92 issue included the mention of suspension. Specifically, rear seat and fork suspensions. I've been commuting daily on a Tour Easy for two years now, and on this bike, most of my 211 pounds is supported by the rear wheel. I've bent rear axles on upright bikes plenty of times, while loaded touring or light shopping ("light" to me is anything I can pick up with one hand, which includes 5-gallon water bottles and 50-pound bags of dog food), but this is the first bike on which I've ever snapped an axle. I'm sure that a motorcycle-type rear suspension would ameliorate the stress on the rear end (both the

bike's and mine) and reduce the number of flats, bent & broken parts, and vibration felt by the rider. Is anyone doing any work on developing this kind of suspension for a LWB bike like mine? I've seen fully suspended SWB bikes, but only two.

Cornel Ormsby
West Sacramento, CA.

Dear Cornel,

Gardner Martin, of Easy Racers, has built suspension into one of his racing bikes. The HPV RAAM bike, Gold Rush America, had

rear suspension. I have asked him on several occasions to produce a suspension bike. He said the costs would be prohibitive and it would add a few pounds to the Tour Easy. For these reasons, he feels that most of his customers would not order a suspended version given the choice.

There is talk of suspension amongst some recumbent builders. One unnamed builder has hinted at producing a LWB recumbent based on the Offroad-ProFlex (suspended hybrid & MTB bikes) swing arm/ elastomer bumper system. The suspension is similar to that used on the ATP R20 and the Counterpoint Presto. Here are some other ways to get suspension on a recumbent:

1) Consider switching to a SWB. ATP, Counterpoint and Lightning currently all have a suspension offerings.

2) Attempt to buy a German "Radius." These are Ryan-like LWB underseat steering bikes with a rear swing arm suspension, hydraulic brakes, fenders, racks etc. A loaded tourer/ commuter. The only way to get one in the USA, is to order it from Neatworks in Scotland. The estimated cost would be over \$2000. Allow three plus months delivery.

3) Build or modify a bike yourself. RCM reader David Conn of Vancouver, BC, hired George Georgiev to modify his Tour Easy to utilize a sprung sling seat similar to a Counterpoint. This is one of the nicest Tour Easy's I have ever ridden. Offroad makes a hybrid model conventional bike, called the 252, that uses a steel frame. Building a recumbent from this, should be no harder than building a regular Easy Racer. The Offroad 252 sells for around \$500, complete. Cannibalizing any other suspended MTB is also a possibility.

As an immediate cure for your problem of rear axle failure, we can offer the closest thing to a sure-fire solution. Order the optional 48 spoke Phil Wood hub rear wheel for your Tour Easy. For large riders, tourists or any riders who have had wheel problems in the past, this is the only way to go—Dr. Recumbent.

TANDEMS & ROOF RACKS

Dear Doctor Recumbent,

I was formerly a subscriber back in the days when your mailing



The 1993 Rotator Companion Tandem
(Photo courtesy of Steve Delaire)

list was in Nashua, NH. I have memories of riding an Avatar in the early days.

I am especially interested in a (recumbent) tandem. I would appreciate any information you may have on (any) tandems.

Also how can you adapt a Yakima roof rack to carry a recumbent?

Sincerely,
Tom Wetmore

Dear Tom,

Recumbent tandems are finally becoming available; however, they are expensive. The semi-recumbent Counterpoint Opus IV has been around for several years and is the most successful model of the group. The Opus IV is a wonderful bike, especially if you have kids. The KidFront- system and separate stoker cadence cannot be beat. Counterpoint Opus tandems are sold through Angle Lake Cycle and prices start at \$2500. The new Ryan Fleetwood is the choice for LWB underseat steering fans. Here is the best way to get your spouse or non-cycling friends out to enjoy the benefits of cycling. The Fleetwood has an XL-LWB (extra long wheelbase) at 104" and has a base price of \$3500. The new Easy Racer's "Two Easy" is a tandem based on the successful Tour Easy single. It is a XL-LWB, with a wheelbase of 96" and 84 indexed speeds. This is the most extravagant tandem of them all. They are custom built to order and sold exclusively by Easy Racers, Inc. base price is \$5500. Steve Delaire builds the Rotator Companion Tandem which is the closest to a SWB style. The overall length is less than a standard Tour Easy single. I have ridden all of these tandems and they are all excellent bikes and highly recommended. How you choose depends on the style of recumbent that you like.

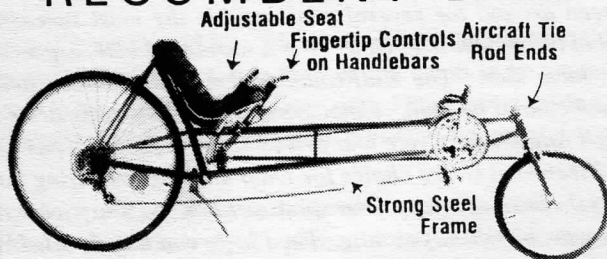
The Yakima roof rack adapts very nicely to recumbent use. The key is to use the old style mounts with a gutter & strap for the rear wheel and a fork quick release for the front wheel. If you have a car with a long roof line, you can stretch your recumbent out to the full wheelbase. If you don't, get a piece of foam to lay in the rear wheel tray, and lay your frame (just ahead of the rear wheel), on top of the foam. It is a good idea to wrap your frame tube with a soft cloth to keep from scratching as you tighten the Yakima tray



The 1993 Easy Racer "Two Easy" Tandem
(Photo courtesy of Steve Delaire)

strap around the frame tube. On most cars, this almost works better than conventional bike mounting. Some recumbent owners with large cars have been successful at mounting their long bikes on bumper mount racks. If you chose this method, be sure to remove the wheels as necessary. We would not recommend this type of rack for driving in downtown rush hour traffic. SWB/MWB and some CLWB recumbents fit most all standard bicycle racks—
Dr. Recumbent.

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EDITORIAL LICENSE: 1993 AFFORDABLE ENTHUSIAST RECUMBENTS

by ROBERT J. BRYANT

RCM PUBLISHER

For the first time in all of the years that I have been involved in recumbent bicycles the market is opening up with many new recumbent manufacturers. The great part about this is they are for the most part, more affordable or in the under \$1000 range. Below are listed a few of the new models that are currently in production:

The A.T.P. R-40 "Vision" (Buyers Guide Cover Bike): This new monotube "convertible" SWB is simpler and less expensive than the R-20. The Vision will be lighter and have a 26"/16" wheel combination to make the bike lower to the ground. This recumbent was designed by Seattle area engineers, Joel Smith & Grant Bower, and will be available by the time you read this. We had the opportunity to test ride a prototype of the new '93 A.T.P. "Vision." It has a 26" rear wheel and a 16" front, a 36" wheelbase and direct underseat steering (ala R20) with 21 speeds. The seat is a much improved version of the R20 seat. It is now fully quick release, removable and has an adjustable recline angle. Components are midrange SunTour with cantilever brakes. This bike reminds me of one of my first recumbent rides on an original Bowerbike with notable custom touches by R-20 designer, Joel Smith.

Now here is the interesting part. The Vision is not just a SWB. It converts to a LWB in about thirty minutes. The boom comes out, you insert a new boom with a head tube attached. You then remove the fork and refit it into the head tube on the new boom. Then connect the linkage from the (SWB) head tube to the fork. Now the bike is a LWB! With the LWB option the bike (with a 6'1" rider) has a 62" wheelbase. Even better, the new A.T.P. "Vision" has a list price of \$895 (LWB option extra), making it the best deal in SWB recumbents! As a LWB, the bike rode equally as well and it had a compact and sporty feeling. Even though it sounds complicated, the Vision was designed on a CAD computer design system and it works beautifully. The combined talents of these two designer/ engineers is very impressive. We feel that this is the bike to watch in '93, so we named the "Vision", the most promising recumbent for 1993: The Vision will be sold through dealers.

The ReBike: This new recumbent was unveiled last Winter. The ReBike has become a media darling and is selling thousands of Low-Tech-Chic recumbents. This bike has class, style and has the most brilliant marketing (and marketer, Ms. ReBike Kathie Skewis) that we've seen.

ReRumors: In a late breaking story from our East Coast bureau, RCM Crew Ace Detective ReReporter says: "Look for lots new in '93, as many as five (????) new models..... It is fast becoming apparent that ReBike is ReWriting the way in which ReCumbents are sold in the USA. The ReBike 707 is just the beginning of, what we feel, will be a full line of production recumbent bicycles. The latest media attention focused on ReBike is from the show bike, "ReHawg," a Harley chopper type bike with leather bags, saddle, lots of chrome and even a leather license plate with the new ReBike logo. Yes, the ReHawg's are available, starting at \$1500, depending on which ReHawg options are ordered."

The BikeE: This new CLWB aluminum recumbent is designed and built in Corvallis, Oregon and is going after the entry level enthusiast market. "The main goal of the BikeE was to produce a recumbent that anyone can jump on and ride with no instruction or practice. It boasts good quality components at a reasonable price (target price is \$795). It can be upgraded to a 16 speed and other versions are planned for later in the year. For now, they can be reached at Pedalcraft in Corvallis, OR." -Rick Pope The Counterpointer.

Kowal Designs New "KD-4:" This all new SWB/ MWB recumbent has a 40" wheelbase with a square section main tube, underseat steering, sling/ mesh seat and a 26"/20" wheel combo. The KD-4 looks like another bike to watch for 1993, early reports from test riders say the KD-4 is an excellent bike (See letter to the Editor-this issue).

Other players in this hot-market segment: Infinity, Laid-Back, Comfort Cycles, DH and the Maxam Prestige.

Veteran Recumbent Manufacturers: With all of the media attention focused on recumbent bicycles, has come a host of new recumbent manufacturing companies. This is a boost to our industry and good for recumbent enthusiasts everywhere. There are some notable recumbent manufacturers who have been making their livings, promoting, selling and gaining acceptance for the recumbent bicycle for quite some time. For these new companies, the veteran recumbent manufacturers have paved the way for you. We felt it necessary to give these manufacturers credit where credit is due and a special thank-you from the Recumbent Cyclist Magazine.

- **Angle Lake Cycle/ Counterpoint**, owners Kelvin & Dale Clark (Angle Lake) Jim Weaver (Counterpoint)(Counterpoint Presto & Opus).
- **Easy Racers, Inc.**, owner Gardner Martin (Tour Easy & Gold Rush Replica).
- **Infinity Recumbents**, General Manager Don Barry (21st Century Infinity).
- **Linear Mfg. Inc.**, owner Steve Hansel (Linear Recumbent).
- **Lightning Cycle Dynamics**, owner Tim Brummer (Lightning P-38/ F-40)
- **Rans Recumbents**, owner Randy Schlitter (Rans Stratus & Nimbus).
- **Ryan Recumbents, Inc.**, owner Dick Ryan (Ryan Vanguard & Sport-Trike).

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RECUMBENT CYCLIST CALENDAR

MAY 8, 1993: ALTERNATIVE TRANSPORTATION PARADE/ INTROSPECT HPV RIDE

California State Capitol in Sacramento, ride leaves at 10am. Ride 15-20 miles to Davis, CA. to the Whole Earth Festival. All recumbent riders welcome! Call B.J. Strass at Introspect for more information, Phone 916-481-2906.

MAY 15, 1993: "THE SECOND ANNUAL RECUMBENT CYCLIST OPEN-HOUSE, RECUMBENT SHOW, AND SWAP." Saturday from 12 noon till 5 pm. Bring your used bikes & parts. Rider's planning to show their bikes should plan to arrive a little early. Attendees will be given a ballot to choose the best of the best. Show space in the garage and driveway is free. Send SASE for driving directions to the world famous Soo's Creek Bike Trail in Kent Washington. R.S.V.P. 206-630-7200, 206-639-2347.

JUNE 5 & 6, 1993: PEDAL POWER POTLATCH

Sat. & Sun. 10am-5pm. A celebration of human powered boats, Center for Wooden Boats, 1010 Valley St., Seattle, WA. 98109, Ph.#206-382-2628.

JUNE 12, 1993: OHPVA RECUMBENT MUSTER. To get on Oregon HPV Assoc. mailing list send \$10 to: PO Box 614, Beaverton, OR 97075. See Rider-Group listings for more info.

AUGUST 14-15 & 17, 1993: INTERNATIONAL HUMAN POWERED SPEED CHAMPIONSHIPS: Pre-Ride Tours.

AUGUST 18-22, IHPSC (Speed Championships) Minneapolis (Blaine), MN. The MnHPVA is the hosting HPV Club. Their address is MnHPVA, 4139 Brookside, St. Louis Park, MN. 55416. A check for \$5 will keep you up-to date as details for this event become available. If you get some news, please send it our way too. MnHPVA Hotline 612-929-4049.

AUGUST 20-22, 1993: EARTH SPORTS EXPO: Blaine, MN. In conjunction with IHPSC, there will be an exposition of earth friendly sports and products to be held at the main arena at the National Sports Center. Current recumbent exhibitors will include Rans Recumbents and Angle Lake Cycle.

September 1993: INTERBIKE 1993

LAS VEGAS, NEVADA-North America's Premiere bike show. Should the RCM Crew have a meeting?

THE BEST RECUMBENTS of 1993

THE COUNTERPOINT PRESTO: Editor's Choice for the Best Recumbent of 1993 and The Best SWB Recumbent of 1993.

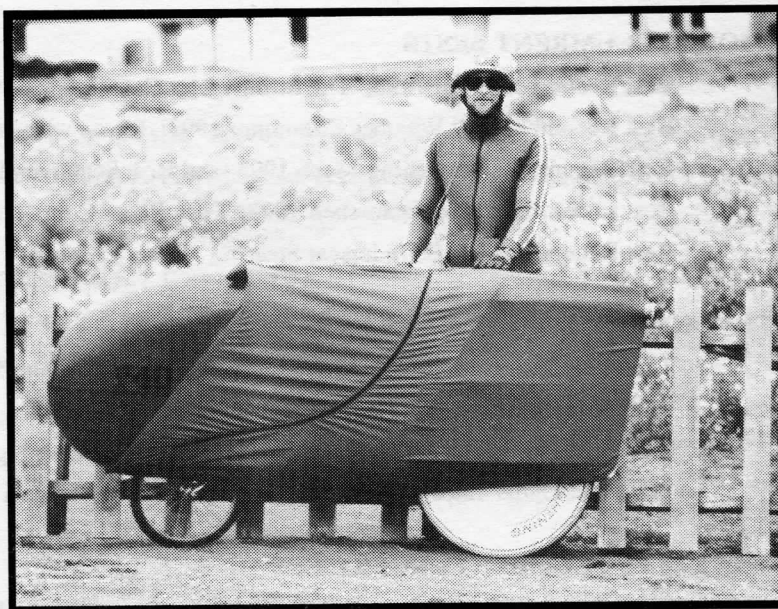
The Counterpoint Presto is a wonderful riding truly multi-purpose SWB recumbent. It handles like an absolute dream, possibly the best recumbent handling we've ever experienced. The Presto has a high seat height and a perfect geometry for weighting and dewatering your body into the turns. It is quick, 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 R & D, compatibility and testing. Mail-order sales is another strong point for Counterpoint. The bikes are tested by two different staff members and then prepared for shipment. Presto's have their own specially designed box, along with the bike's compact size, makes for very easy set-up. Counterpoint/ Angle Lake Cycle have become trend-setters in the recumbent industry. We suggest you pay close attention.



The Counterpoint Presto
(Photo courtesy of Angle Lake Cycle)

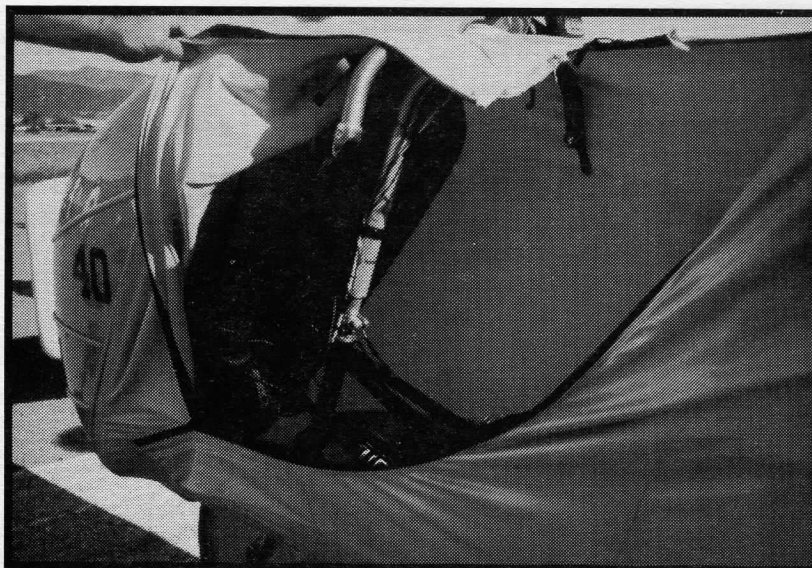
THE EASY RACER TOUR EASY: Editor's Choice for the Best LWB Recumbent of 1993 and The Best Selling Recumbent over \$1000. The venerable Easy Racer, the grand-daddy of long, low & sleek recumbent bikes. This popular design gets better every time we see one. The LWB upright steering is in a league of it's 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 and there is still a waiting list after a year. The Tour Easy is a timeless classic high-performance recumbent bicycle.

THE LIGHTNING F-40/ F-86: Editor's Choice for the Best High Performance Recumbent of 1993. (fully faired/ soft or hard body). The F-40 fully faired series of high performance bicycles are undoubtedly the fastest bicycles in the world. The new composite F-86 with its exotic components and complete (F-40) body with front and rear suspension weighs just 30 lbs. Until this year, it was unheard of for a streamlined bike to be this light. Tim Brummer & Co. deserve much credit for their work in perfecting this "enthusiast's dream bike." The faired Lightnings can be raced out of the box or ridden to work. They have air vents, windshields, headlight openings and even an optional wet weather spandex cover. This is the finest streamlined full fairing for a recumbent available. (The F-40 is designed for serious advanced recumbent riders and may not be suitable for the beginning rider.)



Tim Brummer with his Lightning F-40
(Photo courtesy off Lightning Cycle Dynamics)

Throughout the IHPVA Speed Championships at Yreka (CA), the two bikes that were drawing the most spectator interest were the Counterpoint Presto & Lightning F-40. Even though you may think the bikes are direct competition for each other in the SWB market, they are really different machines, both having their strong points. The two bikes also offer among the finest craftsmanship found on recumbent bicycles today.



Inside the F-40
(Staff Photo)

THE REBIKE: The Best New Recumbent 1993 and The Selling Recumbent under \$1000-1992 (...under \$2000, under \$500 and under \$400..... for 1992): The incredible ReBike set the recumbent world on its ear this year with "Low-Tech Chic." What can we say, the bike has "class," complete with cycling recumbent 'babes, something that this group of "Laid Back Gearheads" has not seen before (a welcome change I might add). In one short year, the ReBike has its place in bicycle history etched in stone. We speculate that the ReBike has sold more laid back chopper-like recumbents than all other 'bent manufacturers put together, however, the exact (top secret) sales number has not been officially available (and boy have we tried to get the "number." We have **RCM** Ace Detective Reporters working on that story for **RCM#15: The ReBike**.

THE LINEAR: The Best Selling "Enthusiast" Recumbent-1992. Steve Hansel's Linear, Mfg. has developed a loyal dealer network both in North America and now in Europe. The strong bike shop presence of the Linear has made it the most popular of the enthusiast* recumbent bicycles for 1993. To clarify "enthusiast," we feel that this means the bike can easily be ridden up and down hills, on tours for long periods of time. With the ingenious folding features, the Linear is also the easiest bike to travel with. A couple from Iowa just finished a round the world tour on a pair of Linears.

MORE RECUMBENT BESTS

Best Recumbent Deal 1993: The Infinity 21st Century at \$649.

Best Recumbent All Weather Commuter 1993: Presto with Root's Accessories.

Best Recumbent Seat/ Sling-Mesh 1993 (and Best Seat overall): Lightning P-38 (aluminum. framed seat).

Best Recumbent Seat /foam-shell 1993: Easy Racer Cobra (composite/ Lycra covered).

Best Recumbent LWB Underseat Steering: Ryan Vanguard

THE MOST.....1993

The Most Promising Bike for 1993: The new A.T.P. "Vision."

The Most Expensive Touring Recumbent: The Presto TiMM (Magic Motorcycle/ Titanium frame)-\$6399.

The Most Expensive Performance Recumbent: The Lightning F-86-\$7,000.

The Most Under-rated Recumbent: The Rans Nimbus -also a good deal.

THE BEST RECUMBENT PROMOTERS

Manufacturer Recumbent Promoter of the Year 1992: "Kathie Skewis" (Ms. ReBike).. Ms. ReBike and 'babes have put more people on recumbents this year than ANY other manufacturer.

Media Recumbent Promoter of the Year 1992: "Vic Sussman" W.H.I.R.L. non-club rider and recumbent owner, Vic wrote the fantastic two page article for U.S. News and World Report, July 6, 1992 issue offering the first glimpse of laid-back cycling to millions of readers. Congratulations Kathie & Vic, we are proud to have you as part of the "RCM Crew."

THE BEST COMPONENTS

- Best Recumbent Component Group: Shimano Deore LX-Presto
- Best Recumbent Pedals: Shimano SPD Clipless (727 or 525).
- Best Pedal Accessory: Winwood Instep Pedal Insert (for SPD's): allows you to ride your recumbent with SPD pedals in your Birkenstocks.
- Best Recumbent Chain-Sachs Sedisport, ATB, or SL Silver.
- Best Recumbent Brake (Low End): Dia Compe GX/ Q.R. or FSE (dual Pivot).
- Best Recumbent Brakes (High End): Magura or Mathausser Hydraulic .
- Best Recumbent Shifters: Thumbshifters or Bar-Ends
- Best Recumbent Hubs: Any cartridge Sealed (Am. Classic, Specialized , Hugi or Phil W.
- Best Recumbent Touring Wheel & Tire: 20" Araya RB-17 with the limited issue Avocet Fasgrip 20" tire (manufactured for solar cars)-Presto.
- Best Recumbent Performance Front Wheel & Tire: 17" Moulton C-3, 130 p.s.i.-Lightning R-84/ F-86.
- Best Recumbent Workstand: Blackburn WorkStand with Tool Tray.
- Best Recumbent Rear View Mirror: Mirrycle.
- Best Recumbent Grease: FinishLine (also the best polish, degreaser etc.).
- Best Recumbent Bell: Specialized Dirt Ringer.
- Best Recumbent Brochure: (tie) Rans and Lightning Cycle Dynamics.

THE BEST RECUMBENT OPTIONS/ UPGRADES

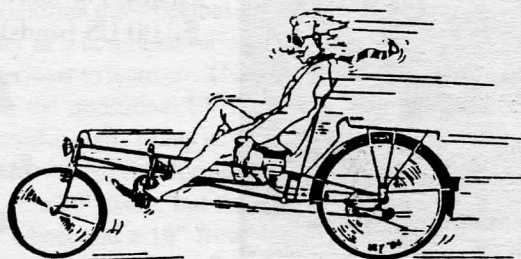
- Counterpoint Presto: Magura Hydraulic brakes. (pre '92 bikes: Offroad's new elastomer).
- Easy Racer: Super Zzipper fairing and Specialized Triple Crank.
- Ryan Vanguard: Pedersen SE Energized Brakes, Ryan Bar End extensions.
- Lightning P-38: XC Pro crank & Sedis chain. (P-38 "SS" option)
- Linear: Aztec Brake pads.
- Rans: Deore XT Option.
- Infinity: Brake upgrade.

THE LONGEST & THE SHORTEST

- The Shortest Recumbent Wheelbase: The Laid-Back E "small size" approx. 34" wheelbase.
- The Longest Recumbent Wheelbase: The Ryan Fleetwood, at 104" wheelbase. A close second is the Easy Racer "Two Easy Tandem" at 96."

THE HEAVIEST LEAST EXPENSIVE & THE LIGHTEST MOST EXPENSIVE

- The ReBike 707 weighs in at 48 lbs. 14 oz. (with ReRack & kickstand) and lists for \$399 or \$8.14 per pound.
- The Lightning F-86 composite weighs in at 30 lbs. and costs \$7000 or \$233.33 per pound.

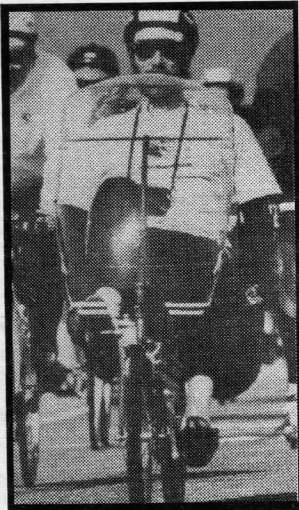


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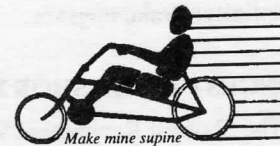
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RECUMBENT DESIGN INFORMATION

SWB/MWB: Short wheelbase: (33"-39")/ Medium wheelbase: (40"-45"): Short and Medium wheelbase recumbents have their front wheel tucked underneath or just ahead of the rider's knees. The SWB is a popular design, and chosen as the **RCM** reader's "Design for the Future" in **RCM**'s reader survey. The SWB/MWB does not have as large a market share as their LWB brethren, but they are gaining popularity. 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/or slightly noisier drivetrains. Some use a 20" front and rear wheel combo, which gives you 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 easy. 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. If you need performance, upgrade to the 17" Moulton tire.

The final consideration is handling. On wet pavement or riding in sand, gravel or snow, the SWB can be harder to control. Most SWB/MWB 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, can be harder to master for the beginner.

CLWB: Compact Long wheelbase: (46"-64") This is the newest designation for recumbent bicycles and has actually been around for some time (Rans Nimbus-64" w/b and DH recumbents 56"-60" w/b). After an exciting first year, the ReBike has really put this designation on the map. Overall, it is the best selling style of recumbent. 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. They 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.

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 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.

UNDERSEAT STEERING: This is when the handlebars are placed underneath the recumbent bike's seat. The steering on the LWB underseat models are via aircraft cables or a steering rod. Both work well and are viable options. Some SWB underseat steerers offer direct steering with handlebars mounted at the fork or in the head tube. When considering performance, underseat steering is also less aerodynamic than upright handlebars, but is generally more comfortable for long rides. Underseat steering can also be harder for recumbent novices to learn on; however, after a short time, the balance comes to you. Our only objection to underseat steering is when riding in dense urban situations (rush-hour commutes), the handlebars out to the side can be make the bikes wider. You will need to be aware of the bikes width more so than on an upright steering bike. Fairings can be mounted to underseat steering recumbents, but it is more difficult and expensive. For the LWB's, aluminum mounts that fasten on the frame top tube. For SWB's, boom mounted nose fairings can be easily adapted.

UPRIGHT HANDLEBAR STEERING: This is your standard bicycle steering set up. With recumbents it can take different

forms. Consider the long sleek Tour Easy bars or the forward" bars from the Counterpoint Presto that allow easy entrance and exit. This type of steering is more aerodynamic and all of the serious performance machines use it. Some riders feel that upright handlebars offer more control and are easier to learn to ride with. Others complain of tiller-like feel on the LWB types. You will get used to upright handlebars quicker than you will to underseat steering. The major benefit to this set up is that it needs no special parts such as steering rods, rod-bearings, and cables. Upright handlebars are much easier to mount fairing to. They generally mount directly to the bars with little or no complicated mount systems.

EASE OF RIDEABILITY: In extensive testing from '90-'92, we have compiled information on which types of recumbents are easiest to ride. I will prerequisite this information by stating that any commercially built recumbent is within the range of the average bike rider to learn to ride with practice. We found that the easiest bikes to ride were the upright handlebar CLWB and LWB models. Next are the underseat steering LWB models. Inside this group, the models with the fatter tires were the easiest. The SWB models are sometimes more difficult to master; however, their nimble SWB makes them easier to handle in other ways. Most cycling enthusiasts will have no trouble with any of these designs. The trikes that we have experienced were all easy to ride. The main benefit is that with three wheels, no balance is needed. Keep in mind that trikes are harder to design. Here are some trike questions and concerns to ask about: Does the trike have heavy steering, as some two wheel in front trikes do? Do the front wheels scrub the rider in tight turns? Can the trike be easily seen (rider

height)? Will the trike roll over when pushed hard? Does the trike have adequate brakes?

ADVANCED RIDING: The rides differ between recumbents. You must decide whether you want to "RIDE" your recumbent or "drive" it. LWB and CLWB recumbents allow you to ride in laid back luxury. 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. For the most part, this comes in a MWB or SWB recumbent; however, Gardner Martin's Easy Racer is the only LWB 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 dewatering your body into the turns. If your need for speed is more important than any other characteristic, Lightning Cycle Dynamics offers the fastest production bicycle in the world. The P-38 is a fantastic performer, weighing in at only 25 pounds, this bike climbs and accelerates with ease. The F-40 fairing transforms the bike into a performance machine like no other recumbent available.



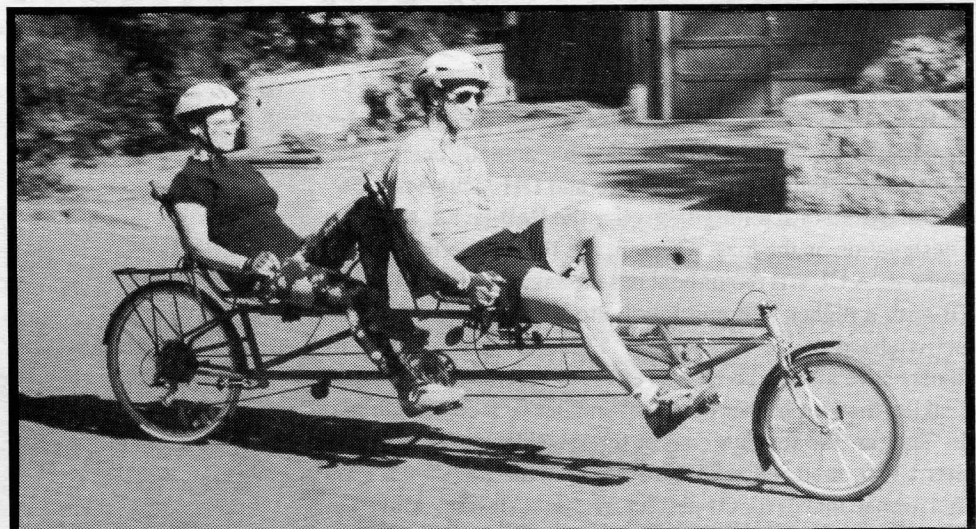
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RECUMBENT COMPONENTRY: Recumbent components are the same as what is found on hybrid, mountain and road bikes. Major recumbent manufacturers use what works best on their bikes. The only non-standard parts are: chain idlers, long chains (standard chain/ 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. 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.

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 present is the availability of a good high performance tire for the 16." 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 high-performance leader 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 price for the C3 is \$147 for a tire and tube.

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.

Listed here are several recumbents that have relatively easy set-up for customers. The easiest of all are those shipped by on pallets. This type of shipping is expensive. Ryan Recun offers it as an option (\$100-\$200 vs. \$35 UPS +\$100 in bike assembly costs). R & D Tech also ships their trikes by truck. The cost on our test trike was \$160. The easiest set-ups on UPS' able recumbents are from Counterpoint, A.T.P., Easy Racer and Linear, however, Linear's are generally sold through bike shops.

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 RCM faster than a concise, well written article about recumbent homebuilder experiences.

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HOW TO NARROW THE CHOICES FOR YOUR NEW RECUMBENT

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

1. 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."
2. Do your best to decide between a SWB/ MWB or CLWB/ LWB. 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.
3. Try to choose between underseat and upright handle bar steering. This can be a difficult choice, because there seems to be more affordable underseat steering recumbents available.
4. Consider a used recumbent. Some models are very rare, such as a used Lightning, Presto or Easy Racers, but they occasionally come available. Watch **RCM**, your local paper, and we've heard of good deals from Nashbar's used bike paper. We have never heard any complaints from purchasers of used bikes from the **RCM** classifieds. 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: Contact the manufacturers, some have used, factory second or demo bikes.

NOTE C: 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/ MWB 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.

RECUMBENT CATEGORIES & USES (Recumbents that were available at press time)

BEACH CRUISER-FITNESS-RECREATION: Under \$500: ReBike & Alternative Bikestyles.

BEACH CRUISER-FITNESS-RECREATION: \$500-\$1000: R & D Tech Easy Rider, Bullett, Tri Com, Laid Back, and BikeE.

This category generally includes 1,3,5,6,7 or 8 speed recumbents that are perfect for their intended use, but may not be light-weight

enough or have proper gearing for enthusiast-level riding, commuting or touring.

ENTRY LEVEL ENTHUSIAST RECUMBENTS: \$500-\$1000: Alternative Bikestyles, ATP, Infinity, Laid Back, DH, Prestige, KD-4, BikeE (16 spd) and Avante.

This category generally includes bikes with wide-range gearing suitable for enthusiast level riding, but some have heavier frames or lower-level components (exceptions exist).

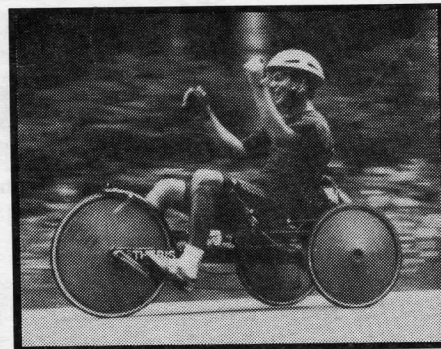
ENTHUSIAST RECUMBENTS: \$1000-\$1500: Counterpoint Presto, Ryan Vanguard, Linear, Rans & DH.

ENTHUSIAST RECUMBENTS: \$1500+: Counterpoint Presto, Easy Racers, Lightning, Trice, Quadraped, Kingcycle, Windcheetah, Peach Ridge, Rans, Rotator and Thebis.

This category generally includes recumbents suitable for most any purpose, whether world-tour, daily commute, or double century. Components are serious enthusiast level, and frames are light-weight (light weight can be 25 lbs for a SWB, 28 lbs for a LWB or even 35 lbs for a trike. Like types should be compared. If you compare performance recumbents as a like-type, the lighter SWB/MWB has the distinct advantage).

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RECUMBENT MANUFACTURER LISTINGS

ACE TOOL & ENGINEERING

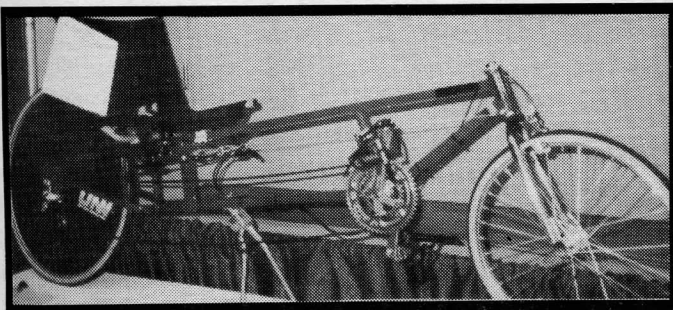
INFINITY RECUMBENTS

P.O. Box 325, 292 W. Harrison St.
Mooresville, Indiana 46158
Phone: #317-831-8798
Contact: Don Barry

Bike: 21st Century Infinity. TYPE: LWB underseat steering/ twin cables. WEIGHT: 27 lbs. WHEELBASE: 67" FRAME: Welded square structural aluminum, one size, sliding seat. Fits riders from 4'11"-6'2" or better.. HEADTUBE ANGLE 73 degrees. DRIVETRAIN: 21-speed non-index/ Suntour XCE/ X-1 Derailleurs/ thumbshifters/ SunTour X-1 triple crankset 28-38-48 with a 13-28 freewheel. BRAKES: Weinmann sidepull brakes SEAT: Aluminum framed mesh. WHEELS: 27" rear, 20" X 1-1/8" 100 p.s.i. front. PAINT: Powdercoat White, Red or Blue. FAIRING: Infinity Zipper available from Zzip Designs.

Suggested retail price: \$649.

Notes: Information \$1.



Infinity
(Staff photo)

New for '93: The new Infinity now comes with 21-speeds standard. If you want one of these very popular bikes, plan to order early.

Special features: The Infinity is one of the best selling recumbents of all time. Ace Tool has given thousands of riders their first ride on a recumbent. The new 21st Century continues to lead the way

in affordability with a ready to ride 21 speed for \$649.

Road test: The Infinity has never been tested by RCM. We have just received a test bike from Ace Tool and plan to publish a test this year.

Bulldog update: The latest word is Infinity has been continuing experimenting and prototyping of this design but no production dates have been announced. A new shorter Infinity with a 63" wheelbase for riders to 5'8" will be available soon. Configuration is the same as the current model.

ADVANCED TRANSPORTATION PRODUCTS

550 3rd Ave. N
Edmonds, WA. 98020
Phone:#206-789-7323

Contact: Joel Smith, Grant Bower and Greg Bower.

Bike: ATP "VISION" TYPE: SWB-direct underseat steering/ connected to fork. WEIGHT: est. 28 lbs. WHEELBASE: 36.5" FRAME: TIG welded Chro-molly, adjustable boom. DRIVETRAIN: SunTour 21 Speed index/ XC-Expert derailleurs/ SunTour Twist Grip Shifters BRAKES: SunTour Cantilever WHEELS: 16" X 1-3/8" GoldenBoy tire front and 26" X 1.15 with a Specialized Nimbus Tire. PAINT: Powdercoat Aqua-Marine with black seat & fork. SEAT: ATP aluminum frame sling/mesh/ seat quick releases off bike+. SEAT HEIGHT: 22." SUGGESTED RETAIL PRICE: \$895 (LWB kit \$79). The "Vision" will be available March 1993.

Special features: The "Vision" has an optional LWB-kit that converts the SWB Vision into a LWB Vision. We watched co-designer, Joel Smith transform the Vision in less than 20 minutes. The new seat features a quick release recline angle adjustment.

Notes: '93 A.T.P. information pack \$2.

Special features: See New Recumbents under \$1000.-Ed.

Road test: RCM#9 (ATP R-20)-Back issue is available; the "Vision" will be tested soon.

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:** Framesets from \$200, complete bikes from \$395. Used bikes, prototypes & demo's are available.

Notes: Please enclose S.A.S.E with correspondence.

New for '93: "My philosophy is keep it simple, rugged, reliable and inexpensive. We offer ready-to-ride 10 speed recumbents for \$400. A do-it yourselfer can get an unpainted frameset for \$150 and finish the bike completely with standard bicycle components," Ed Roeters.

Special Features: Ed Roeter is the low cost recumbent leader. If you want to do some painting and component scavenging, you can get on the road very inexpensively.



The Alternative Bikesstyles "Harmony" (unpainted) prototype
(Staff photo)

AVANTE'

PO Box 184
Colts Neck, NJ 07722
Contact: Don Chambers

Bike: Sitback. TYPE: CLWB-indirect upright handlebar/ twin steering rods. BIKE WEIGHT: 34 lbs. WHEELBASE: 64" FRAME: Silver brazed 4130 Chro-moly DRIVETRAIN: Shimano derailleurs. GEARING: 21-spd. Shimano 300LX 28/

38/48 crankset BRAKES: Dia Compe XCM Alloy cantilevers. WHEELS: 700c rear and a 20" X 1-1/8" front with Sun alloy rims SEAT: High density foam with Lycra cover. COLORS: Silver Metallic, White or Red. **Suggested Retail Price:** \$985.

BIKEE CORPORATION

5460 SW Philomath BLVD.
Corvallis, OR 97333
Phone:#503-753-9747
Fax#503-752-5035

Bike: BikeE TYPE: CLWB WEIGHT: 32 lbs. WHEELBASE: 54" FRAME: TIG welded rectangular section 6005-T6 aluminum. FORK: 1018 steel brazed. DRIVETRAIN: 8 index spds./ SunTour XC Expert rear derailleur (only)/ indexed XC Expert Twist Shifters/ SR/ SunTour single crank BRAKES: SunTour Cantilevers. WHEELS: 20" X 1.5" 28 spoke rear and 16" X 1.75" 18 spoke front. SEAT: Chro-moly steel tubing with adjustable Leno mesh back EPC foam seat covered with Darlex. SEAT HEIGHT: 24.5" PAINT: Powdercoat. **Suggested Retail Price:** 8 speed from \$795.

Notes: Send \$1 for information pack.

Road Test: Upcoming in mid. '93.



The 1993 BikeE
(Photo courtesy of BikeE Corp.)

**BURROWS SPEEDY/
WINDCHEETAH TRIKES**

See Linear Mfg., Inc.

COUNTERPOINT RECUMBENTS

ANGLE LAKE CYCLERY

20840 Pacific Hwy S.

Seattle, WA. 98198-5999

Phone: #206-878-7457 Toll Free 1-800-793-3038.

Contact: Kelvin, Dale or Matt.

Bike: Counterpoint Presto SE Tour TYPE: SWB-direct upright fold-forward handlebar steering (for ease of entry). WEIGHT: 28 pounds (narrow wheel version 26 lbs.). WHEELBASE: 36.75" 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. GEARING: 21 spd. index shifting/ Shimano Deore LX derailleurs/ Sachs Cold Forged Triple crank 38-50-61/12-28 freehub. BRAKES: Dia Compe Nippon 883 pulls with Aztec pads. WHEELS: 20" front and rear/ Sun Rims with stainless spokes. 20" X 1.5" or 20" X 1-1/8." SEAT: Pro-Flex style suspension/ alum. framed mesh seat. SEAT HEIGHT: 24" PAINT: Powdercoat



The Presto "Triad" trike prototype 2/15/93
(Staff photo)

Rhapsody Blue or Black. (Imron/ Deltron/ Ice colors are optional. **Suggested Retail Price:** SE Tour model: \$1699.99 and framesets are \$1099.

The pivoting (folding) front boom option is \$100.

Notes: AngleTech Catalog \$2

New for '93: Counterpoint offers a seemingly never ending array of options for the Presto. This year eight different models are listed, with several upgrades being added to this years bike. Options include: Magura Hydraulic brakes, backpacks, panniers, Roots in the Sky body parts, Latex 20" tubes and the biggest news—a Ti Cycles-built Titanium frameset. The weight for a

Titanium Presto is 3.5 pounds lighter, making a 23.5 lb. Presto a possibility.

1993 updates that span the Presto line are: optional Grip Shifters, new Ritchey rear dropouts, a new lighter fork & custom Presto stem, steering strut and bars. The most notable upgrade is the new Offroad Pro-Flex "Yellow" elastomer for the rear suspension (available for retrofit upgrades). Here are the new Presto models: The Presto CL (#1) is the price-leader at \$1499. It is outfitted with Shimano 400LX components. The TiCL (#2) is the Titanium price leader at \$3599.99. The Presto SE Tour (#3) is the best-seller, it has been upgraded with Shimano Deore LX components and a Sachs (or SunTour) triple crankset. The TiSE (#4) is the Titanium version of the SE Tour and lists for \$3749.99. A new model designation for 1993 is the Presto CA, for Campagnolo (#5), comes with a mix of Campy, SunTour and Shimano components. The nice part about this bike is the stock 11T. Campy freehub cog (making for a high gear of 111 gear inches), list price is \$2119.99. The TiCA (#6) is the corresponding Titanium model at \$4189.99. Pride of the '93 fleet is the Presto MM (#7): this model has Magic Motorcycle wheels, hubs & spokes along with Magura brakes and Shimano XTR Derailleurs. This extreme top of the line bike lists for \$4299.99, the TiMM, or corresponding Titanium version (#8, whew!) lists for \$6399.99.

Presto Trike: By the time you read this, the new Presto Trike "Triad" will be a reality. This canted inward-two-wheel trike is unlike any other, and will make for an easy conversion from your Presto two wheeler. You remove the fork and front wheel from your Presto and install the trike front end, and "presto!", a "Triad." The Triad will come as a ready to ride unit for



Counterpoint Presto 2-wheel recumbent
(Photo courtesy of Ran D. St. Clair)

(approx.)\$2500 and will include Magura Hydraulic brakes. It will also be available as an upgrade for existing Presto's.

Opus: The Counterpoint Opus semi-recumbent tandem continues to be the best selling recumbent (type) tandem. We expect an early Spring introduction of the new Counterpoint Opus Triple,

"Trio" with the official unveiling at the Seattle Bike Expo this month. This new design should have a forward and a backward facing recumbent rider, along with the Captain in the middle.

Special Features: Counterpoint & Angle Lake continues to impress RCM readers, editors, roadies and even the competition. They are very serious about making the Presto into one of the accomplished bikes available. This is undoubtedly the best, most up-to-date model/ component line up that we have ever seen from



The DH5000
(Staff photo)

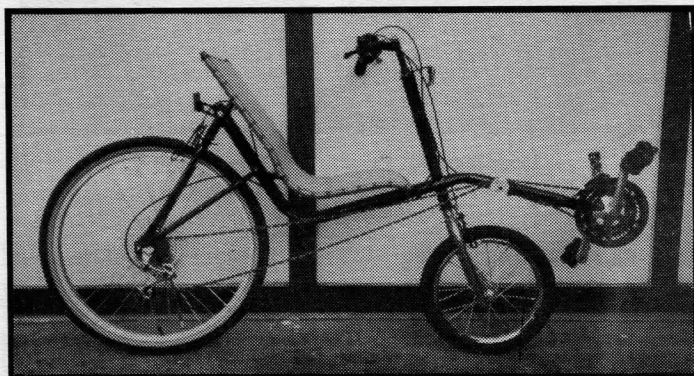
a recumbent manufacturer.

Road Test: RCM#11-Back issue is available.

COMFORT BIKES

742 San Rafael St.
Sunnyvale, CA 94086
Contact: Ran D. St. Claire

Bike: C2 TYPE: SWB-direct upright handlebar steering. WEIGHT: 37 lbs. WHEELBASE: 44" FRAME: 4130 chro-moly & mild steel tubing with American (over-size) bottom bracket.



The Comfort Cycle
(Photo courtesy of Ran D. St. Clair)

FORK: Wald steel BMX **DRIVETRAIN:** Shimano front & rear derailleur/ Thumbshifters/ 28/38/48 triple crankset/ 14-28 Free-wheel. **BRAKES:** Center-pull rear, side-pull front. **WHEELS** 26" X 2" rear and 16" X 1.75" front. **SEAT:** Vinyl coated sling/ mesh. **PAINT:** Powdercoat red. **SUGGESTED RETAIL:** \$650. **NOTE:** The "C2" will not be available until Fall 1993. Send a large SASE with correspondence and you will get info when becomes available.

DH RECUMBENTS, INC.

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

Bike: DH5000. TYPE: CLWB-indirect 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. **BRAKES:** Shimano Cantilever. **WHEELS:** 700c X 28 rear and 20" X 1-1/8" IRC 100 p.s.i. front. WEIGHT: 30 lbs. **SEAT:** hard shell covered with foam and cloth. **PAINT:** Powdercoat Blue, Red or Black. **FAIRING:** DH Zipper 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:** \$999.

Notes: \$1 for more information.

New for '93: Fat tire option is now available on the DH5000. Updated sliding seat adjuster and steering extension. Magura HydroStop brakes and the new Sachs Twist-Grip shifter are now optional equipment.

Special Features: The DH line of recumbents are among the easiest to ride of the bikes we've tested. The CLWB makes for a ride that is very similar to a conventional bicycle. DH Recumbents are beautifully crafted and hand built to order in Spring Texas by David Hechart & Co.

Road Test: RCM#3-Back issue is available.

ECO CYCLE

5755-Fair Oaks Dr.
Corvallis, OR 97330
Phone: #503-753-5178
Contact: Ken Trueba

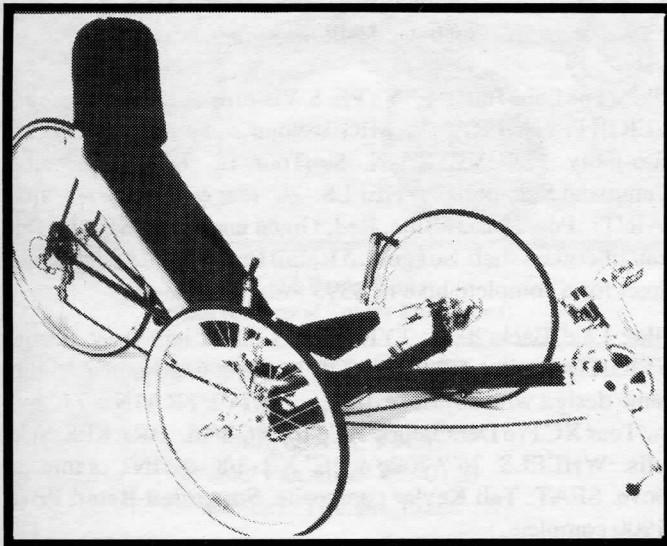
TRIKE: Trice TYPE: two wheels in front trike (SWB configuration)/underseat steering via extension type handlebars. WEIGHT: N.A. WHEELBASE: 39.4". TRACK WIDTH: 32" or 26". FRAME: Steel, one size adjustable boom. **DRIVETRAIN:** Suntour

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" **Suggested Retail Price:** \$1995.

Notes: \$2 for information package and \$9 for video.

New for '93: A 26" rear wheel is now available. The Trice also is available with optional Shimano Hyperdrive components. The "Root's in the Sky" accessories should soon be offered as optional equipment.

Road Test: Scheduled for this year.



Trice Trike
(Photo courtesy of Eco Cycles)

EASY RACERS, INC.

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

Bike: Tour Easy. TYPE: LWB-upright direct handlebar steering. WEIGHT: 29-33 lbs. WHEELBASE: 63"/66"/69" FRAME: TIG welded chromoly, available in three sizes. DRIVETRAIN: 12 spd. (21 speed optional) index shifting/ Suntour XC-Expert derailleurs/ Bar-End shifters/ Sakae SX double crank (optional Specialized triple crank). BRAKES: Dia Comp Roller-Cam rear/ Weinmann side-pull front. WHEELS: 27" rear, 20" X 1-1/8" IRC 100 p.s.i. or 1.5" Haro 65 p.s.i. front. PAINT: Powdercoat in Candy Red, Blue or Black. SEAT: The "Cobra" seat, a composite shell with layered foam and Lycra covering. SEAT HEIGHT: 20.5"-22" **Suggested Retail Price:** \$1595-base model. 21 speed upgrade-\$99. Super Zipper fairing upgrade-\$99.

Notes: \$2 for catalog. Easy-Video: a "must-have" for the Tour Easy fan, call for information. Be sure to allow a minimum of 6-8 weeks delivery when ordering a 1993 Easy Racer.

Planset: 40 pg instruction book - how to build an Easy Racer \$40.

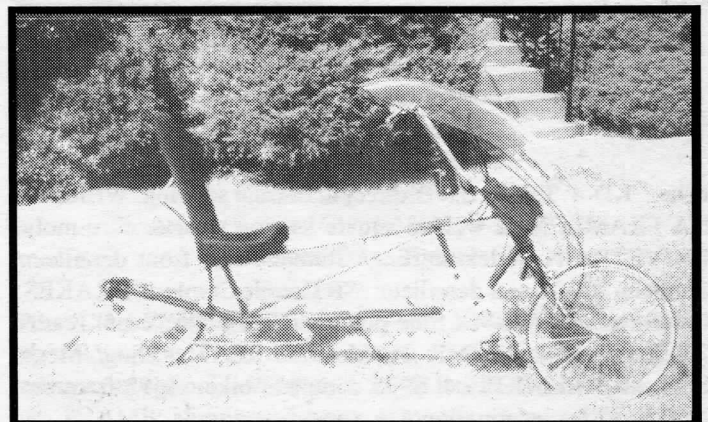


The Gold Rush Replica with body stocking
(Photo courtesy of Easy Racers, Inc.)

New for '93: The new lighter Kevlar/carbon fiber/ fiberglass composite "Cobra" seat is now standard on all bikes. Choice of two seat base sizes. The Super Zipper Lycra body is optional equipment on both the Tour Easy & Gold Rush Replica.

Bike: The Gold Rush Replica. TYPE: LWB-upright direct handlebar steering. WEIGHT: 27 lbs. FRAME: TIG welded oversize heat treated aluminum, comes in two sizes. DRIVETRAIN: Shimano Deore XT short cage rear derailleur Suntour XC Pro front/ Specialized crankset, 28-46-54/105-SC dual pivot point & hubs, 21 speed index. WHEELS: 700c X 25 125 p.s.i. rear, aero rim-aero spoked 20" X 1-1/8" 100p.s.i. IRC. PAINT: Hand polished natural aluminum finish. SEAT: ultra-light Kevlar shell Cobra. (Components subject to availability.) **SUGGESTED RETAIL:** \$1900 frameset, \$2500 for the complete bike. The Lycra body-stocking is a \$450 upgrade.

New for '93: Easy Racers has improved their drivetrain for 1993 with the addition of an optional Specialized Triple crank, Specialized sealed hubs and the Sachs ATB Sedisport.



The Easy Racer Tour Easy
(Photo courtesy of Norman Moyer)

Easy Racer Tandem: The latest news is the "Two-Easy" Custom Tour Easy tandem. This supreme road-limo weighs 50 pounds, has 56 indexed speeds forward and gears ranging from 15"-150." Braking is done via Magura Hydraulics and the wheels are extra tough 48 spokes. This is the ultimate Hi-Tech Cruiser. Tandems are \$5500, and built custom order only.

Special Features: The timeless Tour Easy is enjoying a wave of popularity after being named "Best Buy Recumbent 1992" in *Bicycling Magazine*. The Easy Racer is one of the most recognized recumbent designs. More than 2000 factory built bikes are on the road along with 7000 plan-sets have been sold and who knows how many homebuilt bikes.

Road Test: RCM#6-Back issue reprints are available.

INTROSPECT CYCLE

1029 Amberwood Rd.
Sacramento, CA. 95864
Phone: #916-481-2906
Contact: B.J. Strass

Bike: Rapide. TYPE: CLWB direct above-bar steering. WEIGHT: 28 lbs. WHEELBASE: 59.5" FRAME: TIG welded Chro-moly monotube. DRIVETRAIN: SunTour 21 speed BRAKES: SunTour Cantilever rear, ACS Caliper front. WHEELS: 20" X 1.5" rear and a 16" X 1-3/8" front. SEAT: Mesh/ sling; height to ground 22.5" PAINT: Powdercoat. COST: Frameset starting at \$649.95. Complete bikes starting at \$995.95.

NOTE: Send \$3 for '93 Catalog.

New for '93: Bikes are built to order, available mid-March.

Similar model: Quest DIFFERENCES: underseat steering.

KINGCYCLE RECUMBENTS

See Linear Mfg., Inc.

KOWAL DESIGNS

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

Bike: KD-4 TYPE: SWB-direct underseat steering. WEIGHT: NA 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. **Suggested Retail Price:** \$995 complete bike. \$495 frameset. **NOTE:** \$2 for information.

New for '93: The KD-4 was designed to meet the need for a reasonably priced high quality SWB recumbent.

Special Features: The KD-4 is especially practical for riders who want to strip down a mountain bike for parts and go recumbent riding. The bike will accept the MTB rear brake, wheel and drivetrain parts. The only major parts that you will need to buy are the front wheel and brake.

LAID-BACK RECUMBENTS

TURNER ENTERPRISES

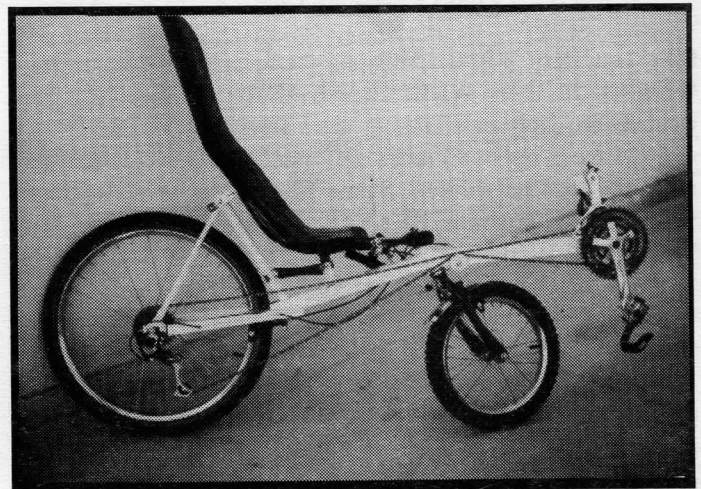
PO Box 36158
Los Angeles, CA 90035
Phone: #213-383-0030.
Contact: Milton Turner

Bike: The Laid-Back "E" TYPE: SWB-direct underseat steering. WEIGHT: NA FRAME: MIG welded square section steel & chro-moly. DRIVETRAIN: SunTour 12 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 Retail Price:** \$699 Manufacturer direct for a complete bike or \$395 for the frame-set.*

Bike: Laid Back-2000 TYPE: SWB-direct underseat steering WEIGHT: 28 lbs. FRAME: TIG welded Chro-moly/ tri-tube frame design with adjust seat. DRIVETRAIN: 21 spd. SunTour XC Pro Derailleurs/ XC Pro 28/38/48. BRAKES: Side-pulls. WHEELS: 26"/ 700c & 16" X 1-3/8" PAINT: same as above. SEAT: Tall Kevlar composite. **Suggested Retail Price:** \$1900 complete.

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

Similar Models: The LB-2000-R; a 14 speed version with a fiberglass seat shell, but with the same chro-moly handlebars, frame & fork. **Suggested Retail Price:** \$1450. The LB-E Offroad is available by custom order.



The Laid Back-E ATB
(Photo courtesy of Turner Enterprises)

New for '93: All of the '93 Laid Backs now have the LB-2000 rear drop-outs and derailleur hangers. The LB-2000 now has a chromoly fork and handlebars (optional on the "E").

Road Test: RCM#10; LB-E-Back issue is available.



Laid Back 2000
(Photo courtesy of Turner Enterprises)

LIGHTNING CYCLE DYNAMICS

312 -Ninth St.
Lompoc, CA. 93436
Phone/ Fax:#805-736-0700
Contact: Tim Brummer

Bike: Lightning P-38. TYPE: MWB-direct upright handlebar steering. WEIGHT: 25 lbs. (large size). WHEELBASE: 44" FRAME: 4130 chromoly steel/ brass brazed. FORK: True Temper tubing, cast crown. DRIVETRAIN: 21 spd. index/ Suntour XC Expert derailleurs/ Grip Shift shifters/ SunTour XCT 28/46/ 50 triple crankset/ 12-32 freehub. BRAKES: Dia Compe GX 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: MWB-direct upright handlebar steering. WEIGHT: 33 lbs. (large size). WHEELBASE: 44" FRAME: 4130 chromoly steel/ brass brazed. FORK: Custom coil spring suspended. DRIVETRAIN: 21 spd. index/ Suntour XC Pro derailleurs/ Grip Shift shifters/ 28/50/54 triple crankset/ 11-32 Campagnolo freehub. BRAKES: Mathausser Hydraulic. WHEELS: 700c rear/ Moulton 17" front. HUBS: Campagnolo. SEAT: Aluminum frame/nylon mesh with foam base. PAINT: Powdercoat: Yellow, White or Red. FAIRING: Fiberglass nose and Disc Wheel covers. Spandex middle and rear with aluminum support frameset. **Suggested Retail Price:** \$4000.

Bike: Lightning R-84. TYPE: MWB-direct upright handlebar

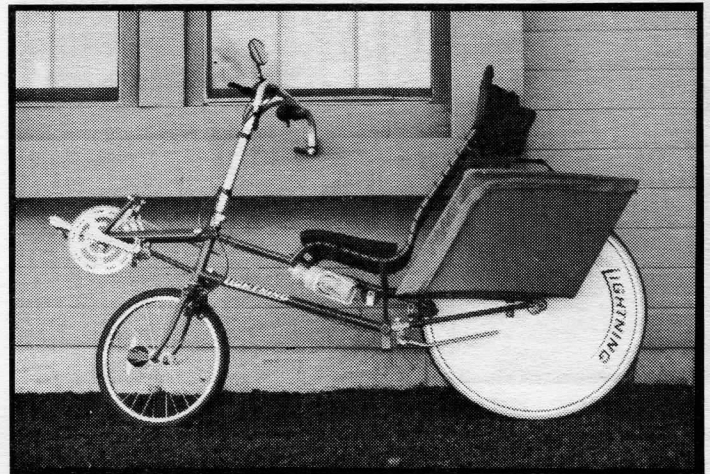
steering. WEIGHT: 21.2/ 30 lbs.. F-86. FRAME: Molded Carbon Fiber Unibox. Rear swing-stay suspension. Elastomeric mechanism. FORK: Lightning S-2 suspended. DRIVETRAIN: 21 spd. index/ Suntour XC Pro MD front & rear derailleur/ Grip Shift shifters/ 36/55 Bullseye crankset/ 12-21 Hugi. BRAKES: Mathausser Hydraulic. WHEELS: 700c rear/ Moulton 17" front with AM C-3 tire. HUBS: Nuke Proof. SEAT: aluminum frame/ nylon mesh with foam base. PAINT: Powdercoat: Yellow, White or Red. FAIRING: will accept F-40 body. **Suggested Retail Price:** Frameset \$3000. Complete \$5800.

New for '93: Lightning has also become the new North American distributor for "M5" SWB recumbents imported from the Netherlands. M5 Recumbents sell for slightly more than what the equivalent P-38 would cost. Several models are available, including a tandem.

Notes: \$2 for Info.

Special Features: The P-38 is the lightest most responsive high-performance recumbent available today. Tim Brummer's work in production streamliners (F-40 & F-86) is unequalled. Bar-none, these are THE FASTEST production bicycles in the world.

Road Test: RCM#7-Back issue is available. Look for a Lightning design article by Tim Brummer coming up in the next few RCM's. Also, we may be testing an F-40 soon.



The P-38
(Photo courtesy of Lightning Cycle Dynamics)

LINEAR MFG. INC.

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

Bike: Linear folding aluminum. TYPE: LWB-underseat 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, chromoly fork and head tube. FRAME SIZES: 36",39",42",45" and 48" DRIVETRAIN: 18/21 spd. index/ Suntour MTB derailleurs/ thumbshifters/ SunTour X-1 triple crankset. BRAKES: Dia Compe

Q.R. side pull brakes. WHEELS: 27" rear, 20" X 1-3/8" 65 p.s.i. front. (optional 1-1/8" IRC is available). SEAT: Easily adjustable aluminum framed/ mesh with high-density foam cushion at base. PAINT: Silver or gold anodizing. FAIRING: Linear Zipper available from Zzip Design.

Suggested Retail Price: \$1200.

Notes: The Linear remained the best selling "enthusiast" recumbent in the world, for 1992! Sold exclusively through retail bike dealers and has found a new popularity around the world. The folding feature allows the bike to fold with no tools and fit onto standard bicycle bumper racks. All quick release joints are stainless steel. Linears ship in one UPS carton and each bicycle is fully assembled, test run and folded for shipment. Call or write for color brochure.



The 1993 Linear
(Photo courtesy of Linear Mfg. Inc.)

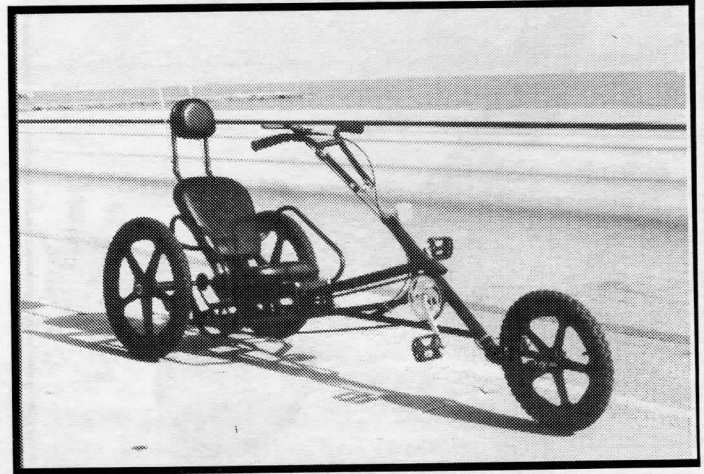
New for '93: Linear Mfg. Inc. has become the North American Distributor for Kingcycle and Burrows Windcheetah Trikes. The Kingcycle is a record holding very fast SWB from England. It is designed with twin oval tubes The European version has an 18" front wheel and a 24" rear, 21 speeds, Magura Hydrostop brakes, Sachs Aris components and optional front fairing and rear aerodynamic trunk. The Speedy Windcheetah trike by Burrows Engineering is the classic HPV, immortalized in Richard Ballantine's "Richard's New Bicycle Book," and probably the most sought after recumbent vehicle in the USA.

Special Features: The Linear is the most popular enthusiast recumbent in the USA and the world. It's key features are the leisurely ride & smooth handling and the bikes ability to fold up into a very compact package with virtually no tools.

Road Test: RCM#5-Back issue is available.

ORIGINAL SURREY CO.

3106 AVE. S.
GALVESTON, TX 77550
Phone:#409-765-8968



The Bullett Trike
(Photo courtesy of the Original Surrey Co.)

TRIKE: Bullett Tricycle **STYLE:** two wheel in back. **DRIVETRAIN:** 1 speed/ 3 speed. **BRAKES:** Side-pull. **WHEELBASE:** 57.5" **TRACK:** 24" **SEAT:** Foam/shell. **Suggested Retail Price:** \$749 (1 spd.), \$849 (5 spd).

Notes: SASE for information.

New for '93: The Bullett is mainly used as a beach-rental type trike. It is equipped with front hydraulic brakes, spring loaded seat, heavy duty tires, safety lights and flags, and a three speed drivetrain.

M5 RECUMBENTS

See Lightning Cycle Dynamics

PRESTIGE RECUMBENTS

Maxam Manufacturing
5595 Fawnwood Lane
Cincinnati, OH. 45247
Contact: John or Chris Day

Bike: Prestige **TYPE:** LWB-upright handlebar steering. **WEIGHT:** N.A. **WHEELBASE:** 68" **FRAME:** TIG welded aluminum 6061-T6 **DRIVETRAIN:** 21 spd. index/ Shimano 200GS derailleurs/thumbshifters/Shimano Exage triple crankset **BRAKES:** Alloy side pulls. **WHEELS:** 27" rear and 20" X 1-3/8" front. **SEAT:** Foam padded. **SEAT HEIGHT:** 23." **Suggested Retail Price:** \$650.

PEACH RIDGE/ COO'S BAY BIKES

Transportation Alternatives?
 9607 Rosewood Ave.
 Cleveland, OH. 44105
 Phone:#216-341-6939
 Contact: Bart

Products: The "Banana" SWB, the SBS four wheel Side-By-Side tandem, the Runabout, a pedal-powered pickup and Don Harse' Coo's Bay Flyer trike. Plans are also available for the trike.

Notes: Send \$2 for catalog. Coo's Bay Trike plans @ \$25.

PEDALCRAFT

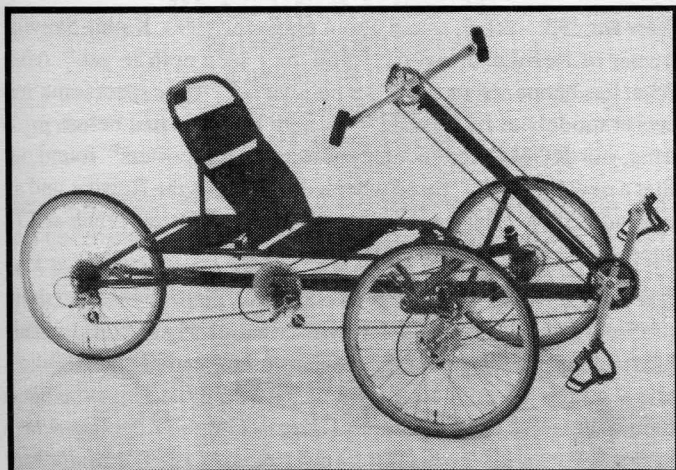
5460 SW Philomath BLVD.
 Corvallis, OR 97333
 Phone/Fax:#503-752-5035.
 Contact: Richard Rau

TRIKE: Quadraped Custom. TYPE: two wheel in front, hand & foot powered. Tilt of the hand-crank steering. WEIGHT: 42 lbs. WHEELBASE: 48"-50" FRAME: TIG welded/ brazed 4130 chro-moly. DRIVETRAIN: 48 speeds (24 X 2 spd. rear Sachs Orbit hub.), Shimano Deore DX derailleurs/ braze-on downtube indexing road shift lever/ SR/ SunTour triple crank BRAKES: three internal drum brakes & parking brake (Sachs rear & Sturmey Elite fronts). WHEELS: Three 20" wheels. SEAT: Sling/mesh. PAINT: Powdercoat. **Suggested Retail Price:** Deluxe model from \$2900.

Similar Model: Quadraped DIFFERENCES: One-size fits all frame, lower line components, limited color selection and 20" X 1-3/8" wheels. **Suggested Retail Price:** \$2200.

Notes: Send \$1 for information pack.

New for '93: Pedalcraft continues to refine this hand & foot powered trike. The low-cost version is new for '93. Pedalcraft is also the manufacturer for the new BikeE Recumbent.



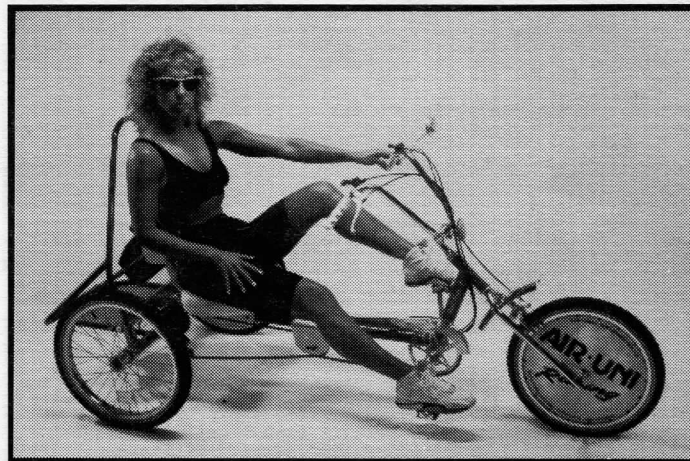
The Pedalcraft Quadraped
 (Photo courtesy of Pedalcraft)

R & D Tech

149 N. Harvey
 Jackson, MI. 49201
 Contact: James Thompson
 Phone:1-800-968-2450.

TRIKE: Easy Rider-3 TYPE: two wheel in back. WEIGHT: 50-65 lbs. WHEELBASE: 56" FRAME: MIG welded mild steel. DRIVETRAIN: 6 or 18 spd. index/ Shimano derailleur/thumbshifter/BMX steel crank BRAKES: Two calipers. WHEELS: Three 20" wheels. SEAT: foam/ shell PAINT: Powdercoat. **Suggested Retail Price:** \$599.

Similar Model: Easy Rider Performance. DIFFERENCES: 18



The R&D Tech Trike
 (Photo courtesy of R&D Tech)

speeds via unique three speed hub/ two-chain drive, alloy wheels and high pressure tires. **Suggested Retail Price:** \$799.

Similar Model: Easy Rider 4-wheeler. DIFFERENCES: 6 or 18 speeds.

New for '93: R & D Tech is working on a front drum brake for the trike, a gas power assist for the four wheeler and working on a new trike that will UPS.

RANS RECUMBENTS

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

Bike: Rans Stratus B TYPE: LWB-upright handlebar steering. WEIGHT: 29.9 lbs. WHEELBASE: 63-67" FRAME: TIG welded 4130 chro-moly. DRIVETRAIN: 18/21 spd. index/ SunTour derailleurs/ thumbshifters/ triple crankset BRAKES: Dia Compe side pulls. WHEELS: 27" rear and 20" X 1-1/8" front. SEAT: laminated fiberglass with foam cushion. PAINT: Dark Green, Blue, Red or Hi-Tech Gray. FAIRING: Rans cloth fairing or Super Zzipper from Zzip Design.

Suggested Retail Price: \$1095 - \$1595 (full Shimano Deore XT component option).

Similar Model: Stratus-A **DIFFERENCES:** The Stratus A has tiller type closed loop handlebars and a joy stick on the main-frame that houses the shifters and brake lever. Everything else is the same as above.

Similar Model: Nimbus. **DIFFERENCES:** The Nimbus is an CLWB with a wheelbase of 63" Everything else same as above.

Notes: Call or write for color brochure.

New for '93: Rans has added a new dark green color. We are told that a new prototype seat is being tested.

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 LIFETIME warranty.

Road Test: RCM#12-Back issue is available.



The 1993 Rans Nimbus
(Photo courtesy of Rans Recumbents)



The 1993 Rans Stratus-B
(Photo courtesy of Rans Recumbents)

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-



The ReBike 707
(Photo courtesy of ReBike)

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:** \$399.

New for '93: When asked about plans for 1993, Kathie Skewis, owner of ReBike, answers, "You ain't seen nothin' yet." After what has happened in 1992, we believe her. We expect some top secret models to be unveiled by late Spring. Just before press time, our RCM "Ace recumbent detective reporters" found out that a new "ReTrike" three wheeled version of the ReBike and an upgraded model designated the 818 (due to its triple crank and 18 speeds) are both part of 1993's line-up.

Special Features: What can we say? No matter what you think of the ReBike, this cute beach cruise that nearly anyone can ride has had more media coverage than any other recumbent. ReBike's allow many people who otherwise would not know what a recumbent is, to ReDiscover Cycling, ReCumbent cycling, which is our favorite kind. Kathie Skewis & staff (ReBabes) are very supportive of the entire recumbent movement.

ROTATOR CYCLES

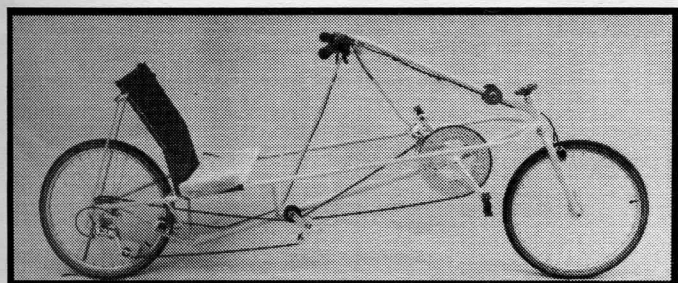
915 Middle Rincon Rd.
 Santa Rosa, CA 95409
 Phone:#707-539-4203
 Contact: Stephen Delaire

Bikes: Rotator Companion Tandem TYPE: Face forward recumbent tandem. SWB configuration. WHEELBASE: 56" STEERING: Adjustable upright. DRIVETRAIN: 21 speed, gearing from 34"-100." Shimano with Sachs Twist Grip Shifting. WHEELS: 20" front & rear with Sun Rims and DT spokes. SEAT(S): Rotator designed frame/mesh. PAINT: Powdercoat. BRAKES: Magura Hydraulic. **Suggested Retail Price:** Tandems from \$3500, Framesets & drawings available.

Bike: Super-7. TYPE: LWB upright handlebar cable steering WEIGHT: 28 lbs. FRAME: TIG welded chro-moly tubing. WHEELBASE: 68" DRIVETRAIN: 21 spd./ Shimano Deore DX derailleurs/ Sachs Twist Grip shifters. BRAKES: Magura Hydraulic WHEELS: 20" front and rear. SEAT: Rotator vented nylon mesh. PAINT: Powdercoat. **Suggested Retail Price:** \$2000.

Notes: S.A.S.E. for with correspondence.

New for '93: Rotator has added custom designed vented nylon seats and made the Companion UPS shippable.



The 1993 Rotator Super-7
 (Photo courtesy of Steve Delaire)

RYAN RECUMBENTS

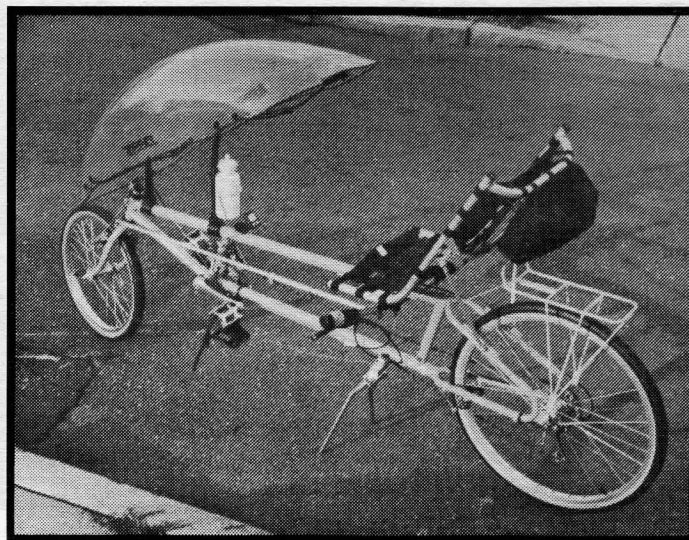
3910-Stewart Rd. Unit F
 Eugene, OR 97402
 Contact: Dick or Karl Ryan
 Phone:#503-485-6674

Bike: VANGUARD. TYPE: LWB-underseat steering via indirect underseat single steel rod.(tandem=double-rod). WEIGHT: 30.5 lbs. WHEELBASE: 66" FRAME: TIG welded 4130 chromoly. DRIVETRAIN: 21 speed index/ SunTour XC Pro derailleurs/ Suntour X-Press or Bar-End shifters/ Sakae or SunTour triple crank. BRAKES: Suntour (or Pedersen SE Energized - optional) cantilever. WHEELS: 26"/ 700c rear, 20" X 1.5" or 1-1/8" front. SEAT: aluminum frame/mesh. SEAT HEIGHT: 24" PAINT: Red, blue, black, teal and charcoal grey. Additional custom colors are available. FAIRING: Ryan Zzipper is available from Zzip design:

Suggested Retail: \$1395

Similar Model: Ryan Sport-Trike DIFFERENCES: three wheels (two in back format) WHEELS: 3-20" DRIVETRAIN: 21 spd. indexed SunTour Microdrive.

Notes: \$2 for information package.



The Ryan Vanguard
 (Photo courtesy of Ryan Recumbents)

New for '93: The new Fleetwood tandem, one of the longest and finest road-limo's available. New options for this year include a Therma-Rest inflatable covered seat cushion (\$39), Custom Bar-End's designed for use on underseat steering recumbents to bring the controls closer to you. They are long enough to hold brake levers and Bar-End shifters, Bar-End price is \$40 (does not include shifters or brake levers). Contact Ryan for the latest in state-of-the-art underseat technology.

Special Features: Dick Ryan is another recumbent legend, he has pioneered the LWB underseat steering design from his days working with the Avatar. The Ryan has evolved into the finest underseat steering recumbent available in North America.

Road Test: RCM#4-Back issue reprint is available.

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 WEIGHT: 33 lbs. DRIVETRAIN: 21 spd. index/ Sachs Huret Aris BRAKES: Mathausser Hydraulic. WHEELS: 24" X 1" front, 20" X 1-1/8" rears. SEAT: Sling/ mesh. SEAT HEIGHT:14" PAINT: Anodizing. **Suggested Retail Price:** \$1990 Factory Direct.

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

New for '93: Thebis has lowered the price for the 201 trike by over \$1000! The '93 suggested retail price is \$1990.

Special Features: The Thebis has an interesting rear wheel steering arrangement unlike any other recumbent currently available.



The Thebis 201 Wine Touring Trike
(Photo courtesy of Thebis)

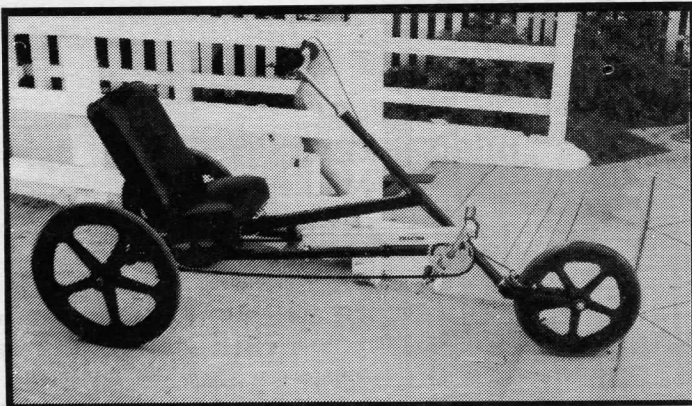
TRI-COM TRIKES

Sold by Angle Lake Cycle

Trike: Tri-Com HPV Tricycle **STYLE:** two wheel in back. **DRIVETRAIN:** 1 speed/5 speed. **BRAKES:** Side-pull. **WHEEL-BASE:** 57.5" **TRACK:** 24" **SEAT:** Foam/shell. **Suggested Retail Price:** \$919.99 (1-spd.), \$1039.99 (5-spd.).

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

New for '93: The Tri Com is built in the Northwest and mainly used as a beach-rental type trike. Angle Lake offers special needs options including hand crank or hand and foot crank versions.



Tri-Comm Trike
(Photo courtesy of Dan Burdick)

SPACE AGE BICYCLES

438-1st St.

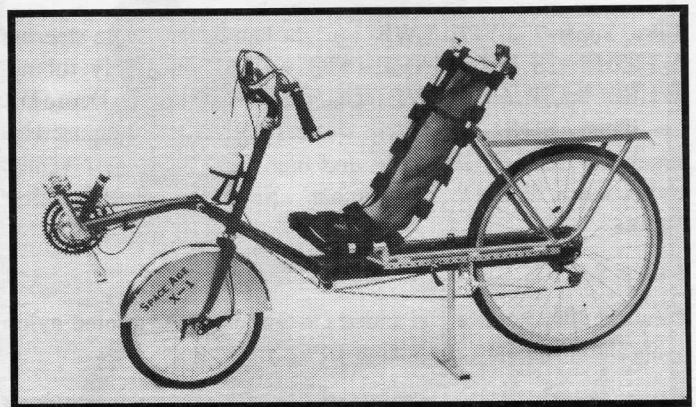
Lake Oswego, OR. 97034-3123

Contact: Robert Como

Phone: 1-800-477-2001

Bike: N.A. **TYPE:** MWB-direct upright handlebar steering. **WHEELBASE:** N.A. **WEIGHT:** N.A. **FRAME:** TIG welded chro-moly & rectangular section mild steel. **DRIVETRAIN:** 21 spd. SunTour. **BRAKES:** N.A. **WHEELS:** N.A. **SEAT:** Aluminum frame/mesh. **PAINT:** Powdercoat

Notes: \$3 for Info. Production target date early summer 1993.



Space Age Cycles

(Photo courtesy of Robert Como)

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, Varna Bicycle and FWD trike (as pictured in RCM#13).

LATE ADDITIONS:

BILL HALUZAK

2166 Burbank Ave.

Santa Rosa, CA. 95407

Phone:#707-544-6243

Product: A new MWB recumbent with a 41" wheelbase, available with a 700c/20" or 26"/20" wheel combo. The yet unnamed bike will have a full chro-molly frame, indirect underseat steering and Shimano Deore LX components with Dia Compe Brakes.

Note: Send a large SASE with correspondence and you will get info when it is available.

CURRIN'S CYCLES

PO Box 5123
Klamath Falls, OR 97601
Contact: Hugh Currin

Products: Currin's Cycles is currently finalizing designs for custom limited production SWB recumbent. Deliveries are scheduled for mid-1993.

Note: Send a large SASE with correspondence and you will get info when it is available.

MEL-WEN INDUSTRIES

11141 W. Mallory Ave.
Hales Corners, WI, 53130-1235

Product: An interesting low-cost, low-tech conversion that allows you to convert two conventional bicycles into a LWB recumbent. A neat concept.

NOTE: Send SASE with correspondence and you will get info when it is available.

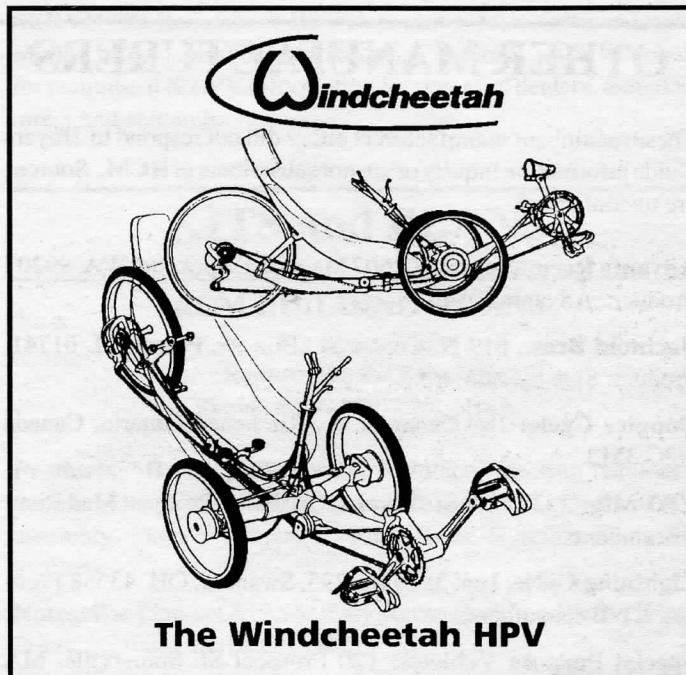


The 1993 Mel Wen Special
(Photo courtesy of Melvin Wenzel)

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 Reply coupons. 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 not ship to the U.S. The North American distributor is Linear Mfg., Inc.



The Windcheetah HPV
(Drawing courtesy of Burrows Engineering)

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

M5 (See US Importer, Lightning Cycle Dynamics)

KINGCYCLE: This very competitive SWB recumbent is built in England. The 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. The Radius company has never responded to our many cards & letters, so we will no longer print their address to save our readers postage money. We have heard the bike is very nice.

ROSS: Peter Ross builds two models of the Trice trike and a few variations of the SWB Ross Recumbent. Crystal Engineering, Copper Hill House, Buller Hill, Redruth TR 16 6SR. England.

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.

OTHER MANUFACTURERS

These recumbent manufacturers either did not respond to Buyers Guide information inquiry or are not subscribers of RCM. Sources are unconfirmed.

Advanta Recumbents: N.2607 Magnolia, Spokane, WA. 99207
Product: Advanta SWB.

Bachtold Bros., 619 N. Center St., Box 98, Forrest, IL 61741.
Product: Side by side trike.

Doppler Cycle: 189 Cedar St. S., Kitchener, Ontario, Canada N2G 3M2.

ERT Mfg: 2338 18th St., Eureka, CA 95501 Product: Mad River Recumbents.

Lightning Cycle, Inc: 3819 Rt. 295, Swanton, OH. 43558 Product: LWB recumbents.

Special Purpose Vehicles: 120 Prospect St. Somerville, MA 02143. Product: HPV resource.

Trailmate: 2359 Trailmate Dr., Sarasota, FL, 34243 Product: Banana Peel trike.

RECUMBENT DEALERS AND PARTS SUPPLIERS

NOTE: This is only a partial listing of the dealers within the USA that stock recumbents and consists of RCM 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: Kelvin, Dale or Matt

Products: Counterpoint Recumbents & tandems, Ryan, Linear, ReBike and Tri-Com recumbents, as well as parts & service. A full service bike shop.

NOTE: Send \$2 for 1993 Angle-Tech Catalog

BIKE Rx

706 Red Feather Lane
Woodland Park, CO 80863
Contact: David Sader

Products: Full service bike shop, Linear, Laid Back and 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", 17", 20".... 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.

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 BICYCLE WORKS

455 W. 1st Avenue
Eugene, OR. 97401
Phone:# 503-683-3397

Products: Recumbent Sales and Rentals.

GRAN DESIGN (Recumbent T-Shirts)

2053 Echo Park Ave.
Los Angeles, CA 90026

Products: The definitive recumbent T-Shirt. Available in Black or Navy, sizes S-XL , available in LWB (Easy Racer) or MWB (Lightning) styles. T-Shirts are \$13.50+\$2.50 shipping+7% sales tax (CA residents).

INTROSPECT CYCLE

1029 Amberwood Rd.
Sacramento, CA. 95864
Phone: #916-481-2906
Contact: B.J. Strass

Products: ATP, Linear, Ryan ReBike, Trice and others. Used bikes, sales parts & service.

Note: Send \$2 for 1993 Catalog.

**RECLINE DIVINE-RECUMBENT
BIKES OF ALASKA**

HC04 Box 9976H
Palmer, AK 99645
Contact: Bob Traut

Products: Infinity & ReBike

**RECUMBENT CYCLIST BIKE
SALES OUTLET (MILLENNIUM CYCLES);**

PO Box 58755
Renton, Wa 98058-1755
Phone: #206-630-7200 recorded info.
Phone: #206-639-2347 office.
Contact: The Recumbent Hotline!

Note: send \$1 or four first class stamps for monthly "Hot Sheet" & used bike listings.

Products: RCM Test bikes, factory seconds, demo's and some new recumbents—SAVE \$\$\$\$\$. We also buy and sell used recumbent bicycles.

PEOPLE MOVERS Recumbent Bicycles

811 So. Tustin Ave. (At 22 Fwy. in Orange)
Orange, CA. 92666
Phone: #714-633-3663
Contact: Jim Wronski

Products: Ryan, Linear, Laid-Back, Trice, ReBike, ATP, used recumbents and consignments. A full service bike shop specializing in recumbents. A visit to the greater L.A. area is not complete without a stop at People Movers.

WHISTLE STOP

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

Products: Rans, Ryan, Infinity, Linear, Turner, and ReBike. Framesets, new and used parts.

SERVICES

GRAN DESIGN (Recumbent T-Shirts)

(See dealers & parts suppliers.)

RECUMBENT CYCLIST CONSULTANTS

PO Box 58755
Renton, Wa 98058-1755
Phone: #206-630-7200 recorded info.
Phone: #206-639-2347 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.

KITS and PLANS

RCM BUILDING PLANS

PO Box 58755
Renton, Wa 98058-1755
Phone: #206-639-2347 office.

Products: "BAT" LWB upright handlebar steering recumbent homebuilder plans. Bike uses an existing rear triangle for ease of assembly. Plans are metric. Easy Racer Building Plans also available.

Notes: Bat Plan-set \$19.95/ Easy Racer Building Plans (\$39.95 Prices postpaid in the USA).

ECON-BENT

(see above CycloPedia listing).

EASY RACER PLANS

(see above Easy Racer Inc. listing).

BIKECAR CORPORATION

Products: four wheel recumbent bike-car plans, parts and information.

Notes: \$12.95 for plans. Bikecar is currently working on a new plan-set to convert a BMX bike to a 4-wheel recumbent.

COMPOSITE FRAME RECUMBENT PLANS

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

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.

PRELUDE RECUMBENT PLANS

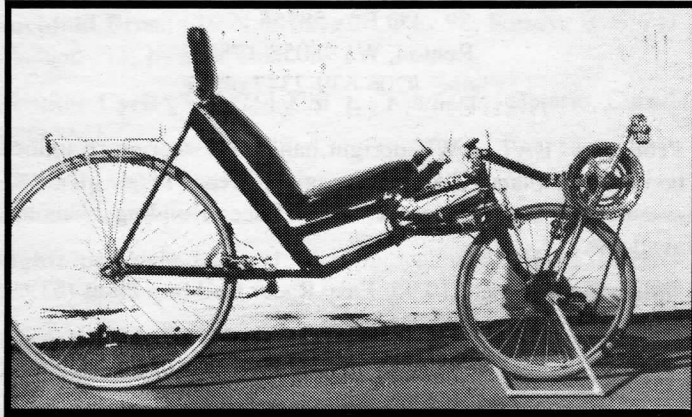
J. Benditt Co.
P.O. Box 335
Pensboro, WV 26415-0335

Products: Prelude LWB kit & plans.

HARPER FWD PLANS

W.A. HARPER
 P.O. Box 491871
 Redding, CA 96049

Products: front wheel drive recumbent building plans.
Notes: \$2 for information package and \$12. for plans.



The Harper FWD from plans
 (Photo courtesy of Harper)

REBEL CYCLE PLANS

Tony Woodroffe
 Aardmore Airfield
 Papakura, Auckland
 New Zealand

Products: Rebel Cycle (SWB)
Notes: Info Pack \$2, plans \$20.

HOMEBUILDER PARTS

ACE TOOL & ENGINEERING
INFINITY RECUMBENTS
 (See recumbent manufacturers)

Products: Recumbents seats, parts etc.

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.

LOOSE SCREWS

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

Products: Bicycle small parts, large catalog.

MORNINGSTAR TOOLING PRODUCTS

40 Fourth, #214
 Petaluma, CA 94952-3040
 Phone:#707-778-6580

Products: Freehub lubrication insert retro fit lube kit-turns most
 any wheels and pedals into grease injectable items.

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

BLUE-SKY DESIGN

PO Box 2014
 Thousand Oaks, CA. 91358
 Contact: Mark Murphy

Products: Body shell kit for three wheeled HPV's. Brochure \$3. Canopy kit \$695.

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
 Contact: Karl Abbe

Products: Largest recumbent fairing manufacturer. Fairings & mounting kits for Ryan, Tour Easy, Linear, Infinity, Lightning along HPV experimenter kits and fairings for conventional bicycles.

Notes: Call or write for a free brochure.

UNUSUAL COMPONENTS

AIRLESS TECHNOLOGY GROUP, INC.

1931 Lynx Pl.
 Ontario, CA. 97761-8055
 Phone:# 714-923- 7026

Products: Bicycle tubeless tires; several sizes.

ANGLE LAKE CYCLERY

(see previous 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.

CYCLE-AWARE

921-Alma St.
 Palo Alto, CA 94301
 Phone:#1-800-252-2927

Products: Electric safety horn for bicycles. This product has been very popular with recumbent bicyclists.

CYCLOPEDIA, INC.

(See Recumbent Dealers and Parts Suppliers)

INNOVATIVE BICYCLE COMPONENTS

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

PRODUCT: Paradigm CV Posi variable ratio drive system & Mathausser hydraulic brakes. The new Paradigm transmission will be available soon.

LIGHTNING CYCLE DYNAMICS

(See Recumbent Manufacturers listing.)

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

OHO DESIGNS

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

Products: Component R & Dand special drivetrain modifications.

MAGIC MOTORCYCLE

PO Box 332
Langley, WA. 98260
Phone# 206-321-4809

Products: State of the art hub sets, freewheels, rims, cassettes and spoking systems. Very expensive and futuristic. They advertise as being the "World's Best, World's Lightest High performance parts. They offer a 9-tooth cassette, but you must use their hubs & spokes.

PARAGON MACHINE WORKS

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

Products: Aluminum & Titanium Chainrings (sizes 20-T.-62-T.) & custom work

OBUS FORME BACKREST

550 Hopewill Ave.
Toronto, Ontario, Canada, M6E 2S6.

Products: The Obus Forme Backrest

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.

QUICK-STAND

RTS Trainer Corp.
4334 NE 11th Ave.
Ft. Lauderdale, FL 33334

Products: A flywheel trainer designed for indoor cycling. Adjusts to different wheel sizes. We also saw something like this in the Performance Bicycle Catalog.

AUXILIARY POWER FOR RECUMBENT 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.

MX-5: National Sales Company 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. Contact: National Sales, attn: Mike Chen, PO Box 7205-E677, Santa Cruz, CA. 95061-4362. Phone# 408-479-4362

Staton-Phillips, Inc.: offers small motors from 24cc-48cc. Staton-Phillips, Inc., 4303 Ryan Dr. NE, Piedmont, OK 73078. Ph# 405-373-1620.

Sachs Moped kit: 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. These motors are fun, but expensive and the question of parts availability remains. H.T.C. Marketing, Box A, 1415-41st Ave. Capitola, CA. 95010. Phone 408-662-7806.

Doran Motor Company: Sells Elec. three wheeled auto. plans, Eco-Scoot electric moped and now markets parts & kits for an electric mini-bike (could be adapted to a recumbent. PO Box 976, San Luis Obispo, CA. 93406.

Palmer Industries: Builder of an electric bicycle/ tricycle kit. Palmer Industries, PO Box 707, Endicott, NY. 13760, Ph#1-800-847-1304.

SOLAR MIND: Electric vehicle source: Contact Joe at 759 So. State St., #181, Ukiah, CA 95482

PUBLICATIONS

ALTERNATIVE VEHICLE FORUM: Chapter of the Inventors Workshop International. Members seem to be interested in 2, 3 & 4 wheeled alternative energy vehicles. Contributing members receive newsletter, \$6 @ yr. Tad Winiecki, 4534 La Cuenta Dr., San Diego, CA. 92124.

ALTERNATIVE TRANSPORTATION NEWS: PO Box 743, Mariposa, CA. Quarterly \$20 @ yr. An excellent publication.

BIKECENTENNIAL: Bicycle Touring organization: PO Box 8308, Missoula, MT. 59807.

BICYCLE GUIDE MAGAZINE: mainstream cycling publication.

BICYCLING MAGAZINE: mainstream cycling publication.

BICYCLE USA: League of American Wheelman, 190 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, Rick Pope, 6305 SW Roundtree Ct., Portland, OR 97219.

IHPVA (International Human Powered Vehicle Assoc.) The IHPVA membership includes the newsletter HPV News and Human Power: PO Box 51255, Indianapolis, IN 46251-0255.

HUMAN POWERED HAPPENINGS: This newsletter is published by Elliptic and will keep Northern California recumbent enthusiasts informed of local events. Write to: Steve des Jardins, 26 Club Drive, San Carlos, CA. 94070 or phone 415-591-3737.

MnHPV ASSOC. NEWSLETTER: See rider groups

NEW CYCLIST: An English cycling magazine with European HPV/recumbent coverage. £57.75 Pounds, anywhere in the world air mail subscription to: New Cyclist, Unit 1, Hainault Rd., Romford, Essex, RM6 5NP, England.

OHPV 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.

SOLAR MIND: Joe Stevenson, 759 S. State #81(RCM), Ukiah CA. 95482. This newsletter covers solar, electric and Electrathon racing.

RECUMBENT RIDER GROUPS

(please send an S.A.S.E. with any correspondence).

BAY AREA RECUMBENT RIDERS GROUP: "The official newsletter of the unofficial Bay Area Recumbent Riders Group" is now being published by Elliptic of San Carlos, CA. The newsletter will keep Northern California recumbent enthusiasts informed of local events. To join the "BAARG" Call: Steve des Jardins (editor) at Ph.#415-591-3737.

H.P.V. SOUTHERN ONTARIO: Dennis Taves, 7-Claremont St., Toronto, Ontario, Canada, M6J 2 MI 416-601-1124.

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: Gaylord Hill 517-263-5803.

MINNESOTA HPV ASSOC.: This is a very organized IHPVA Chapter that has a newsletter, meetings, rides, homebuilder workshops and is putting on the 1993 IHPSC! Write to: MnHPVA, 4139 Brookside, St. Louis Park, MN. 55416. (I want to move here....ed)

OREGON HUMAN POWERED VEHICLES:(Portland area) Meetings, Muster's and a bimonthly newsletter. Contact: Rick Pope 503-244-0908.

SEATTLE AREA RECUMBENT RIDERS: New rider group forming. This group need a direction and a leader. If you want to be involved in the shaping of the NW recumbent future, call now! Contact: Robert Bryant 206-639-2347. Dedicated & motivated individuals within the greater King County area need apply.

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.

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). No rules, No by-laws and No meetings, "Just a bunch of men and women who ride cool bikes together," says non-club non-organizer Vic Sussman. For more info contact: Vic Sussman at 301-897-5959 or Allan Pollock at 202-363-2244.

RIDER GROUP INFO: How do you get your rider groups name on this roster? A) Add RCM to your mailing list for newsletters, calendars, events etc. B) Say nice things about RCM & encourage subscribers.

In the Feb. 8, 1993 issue of Velo News in the Gadgets section (pg.

MEDIA WATCH: "Why The diamond frame is a classic jewel."

62), frame builder, Dave Moulton, was the guest writer, with an article entitled "Why The diamond frame is a classic jewel." Mr. Moulton's backward thinking article discusses why the diamond frame bicycle is as good as the bicycle is going to get. He exclaims, "The diamond shaped frame does its job very well, and therefore really can't be improved upon." He then proceeded to continue spreading his wisdom with this critique of recumbents, "To gain maximum power—to climb a hill, or make sudden

explosive burst of speed—you must get out of the saddle. This is something you can't do on a recumbent bicycle, and is one reason why this aerodynamically superior design doesn't work for everyday riding."

It is quite apparent by Mr. Moulton's comments about "everyday riding" that he is just plain out-of-touch with the majority of cyclists. We invited recumbent manufacturer and spokesman

Dick Ryan for some commentary, wit and wisdom on this subject.

It is always interesting to hear from another "expert" whose opinions seem to be based on the belief that the diamond frame design was declared by God as the official bike of the human race.

The most self-serving aspect of Moulton's article in which he labels recumbents unsuitable for everyday riding is his implied definition of "everyday riding." Has he ever considered the possibility that there are people out there who want to ride in comfort while enjoying all the benefits inherent in cycling without fear of being launched head first over the handlebars and couldn't possibly care less about "an explosive burst of speed?" I doubt it. That wouldn't fit in with his biased version of the only way a bicycle should be ridden. Lycra-suited road warriors are the only "real bicyclists." Everybody else is just common rabble.

Well, let me fill you in on some facts you obviously haven't had exposure too (or tried to find). Our customers (just simple folk, you see) enjoy riding in comfort. They like to view the scenery rather than read their handlebar logo.

We have had many letters in response to an owner survey we did. Nothing fancy, no scientific studies, we just asked straight questions about things like comfort, stability and safety. And guess what? They love their recumbents. These people don't care about the same things you and your crowd are obsessed with. Yes, hard to believe, but nonetheless, true. Our customers have more time

to ride because they don't spend it reading the medical columns in the bike mags trying to find cures for the pains inflicted upon them by the "classic jewel."

I might also mention that many of our customers tell us they've sold their classic jewels! (In some cases due to numb family jewels.)

And yes, recumbents are slower climbing hills and not as fast as light-weight racing bikes, but so what. Do you ride continuously uphill? Is speed the most important aspect of cycling? I suggest you either consider re-evaluating your definition of everyday cycling or qualify your remarks by naming the intended audience.

Dick Ryan, President
Karl Ryan, Vice President
Ryan Recumbents, Inc.
Eugene OR.

"Sudden explosive burst of speed." This is a comment that I may use in describing the Easy Racers Gold Rush Replica or Lightning F-40, certainly not a conventional road bike—oops classic jewel.
- Ed

Dave Moulton is a frame-builder from California and is no relation to Dr. Alex Moulton, noted bicycle manufacturer. VeloNews is edited by John Wilcockson at: VeloNews, 1830 North 55th St., Boulder, CO. 80301.

GRASS ROOTS RECUMBENT DEALERS TAKE OVER CALIFORNIA

If you are a Southern California area resident and you have not stopped by Jim Wronski's People Movers shop in Orange, you are really missing out. Jim's shop is in a small strip-mall just off of the 22 freeway, located on Tustin Ave. The shop is wonderful, Jim stocks, Linear (he claims to have the only Black Linear in the USA?), Ryan, ReBike, Rans, ATP and Lightning, along with some rare production (collector?) recumbents, one-off bikes, used and consignment bikes. People Movers is the only RECUMBENT ONLY bicycle shop on the west coast, and maybe the

USA. If Jim doesn't have it, he'll get it, he just could be biggest recumbent wheeler-dealer on the west coast. Give Jim a call, phone:# at 714-633-3663

In the recumbent wheeler-dealer category, B.J. Strass is man to see in the Sacramento area. He sells recumbents from his home and with his mobile recumbent display. B.J. sells used recumbents, Ryan, ATP, Kowal Designs SWB, Kingcycle, Trice and Linear. He is planning to manufacture his own recumbent, which is due out later this year. To find out where the recumbent display will be next, or to arrange a test ride, give B.J. a call at, #916-481-2906.

Not to be outdone, Steve des Jardins company, "Elliptic," in San Carlos, California is another recumbent specialist. Steve sells Ryan, ReBike, Lightning and others. He also rents recumbents. Steve has a part time showroom and runs the "BAARG" local rider group. If you're in the bay area, give Steve a call. Elliptic, phone#415-591-3737.

RCM supports these grass-roots recumbent specialists 100%. We highly recommend purchasing your recumbent from a local dealer, if at all possible. Give Jim, B.J. or Steve a call when your in the neighborhood.



"Mr. People Movers" Jim Wronski in front of his recumbent specialty shop in Orange, CA
(Staff photo)

RECUMBENT NEWS

NEWS FROM BRADFORD-ON-AVON: In an article from the Moultoneer (sent to us from Mike Eliasohn) reporter Ian Wright states, ".... Dr. Moulton, who was as usual in fine form. Of particular interest was the fact that he disclosed that he is currently looking into the design of recumbent bicycles." Dr. Moulton once dismissed recumbents as a bicycle design. If he were to produce a Moulton recumbent bike, it would certainly be one of the best around, we can hardly wait...and we'll be saving our pennies, dollars and looking into second home mortgages.. **WEINMANNSPORTS:** will be marketing several new small alloy rim sizes for 1993. They will include all of our favorites, 20", 16" and even the sought after alloy 16" X 1-3/8" and 1-3/4" alloy's! In another unconfirmed rumor, we have heard that a 100 p.s.i. 16" X 1-3/8" tire may also be out this year. Stay tuned. 70 p.s.i. 16" Tires! **INTERNATIONAL HPV-RACER MYSTERY & INTRIGUE:** Washington D.C. W.H.I.R.L.'s Allan Pollock, Vic Sussman and Mark Colliton rescuing a Soviet Union HPV from the U.S. Customs crusher. The fully faired streamliner (code name WHIRLAWAY) was snafued by bureaucracy on its way to the HPV conclave at Yreka this past summer. Rumors abound that the W.H.I.R.L. non-group has been interviewing young Freddie Markham look-a-likes. This bike was designed by Soviet Aerospace Engineers. If you have the desire to ride a winner, give the non-racers at W.H.I.R.L. a call—see group listings-ed. **RECUMBENT MANUFACTURERS** take note: Joe Sandschulte of J & B Imports in Kent, WA. called to mention the possibility of manufacturers getting together for a group fork or other specialty component order. Joe says that special 16"/20" chro-moly forks can be custom ordered in quantities of as few as 200.

CLASSIFIED ADS

SUBSCRIBER ADVERTISING NOTE: Effective January 1st 1993, RCM will charge for some subscriber/ personal classified ads. See page 37 for rates.

WANTED: RECUMBENTS & PARTS

WANTED: CYCLE-BINDING PEDALS, pedal parts and shoes, new or used. Also Cat-Eye Solar Computers & mounts-new or used. Larry Edmonson, 7821 Bellflower Dr., Buena Park, CA. 90620. Phone#714-521-7083. (CA)

WANTED: USED RECUMBENTS: We buy used Prestos, Ryans, Tour Easys and what have you. Trade-ins accepted. Call us first. "Recumbent Hotline" 206-639-2347.(WA)

WANTED: Parts, Frames, Misc? Home-builder needs parts to make first recumbent. Send Info to or call: J. Franks, PO Box 7695, Colorado Springs, CO 80933. Phone#719-389-1607.

RECUMBENT DEALERS

ELLIPTIC RECUMBENT BICYCLES. Full service recumbent dealer for the San Francisco and Northern California. Custom selection and special orders to suit YOU. Try before you buy. New, Used, Accessories, Repairs, Rentals. Call Stephen @ 415-591-3737 for showroom hours. (CA)

EUGENE BICYCLE WORKS: Recumbent Sales and Rentals. Test ride your next recumbent on Eugene's Willamette River Bicycle Path. Oregon's best selection. 455 W. 1st Avenue, Eugene, OR. 97401. Phone 503-683-3397. (OR)

INTROSPECT CYCLE: Your Northern California recumbent dealer. We offer ReBike, Infinity, Linear, Ryan, A.T.P. R-40, Trice and others. Recumbent accessories and custom modifications. Specials: A.T.P. R-20 \$1300 + shipping. Call for our current listing of used recumbents. Showroom hours by appointment only. 1029 Amberwood Road, Sacramento, CA. 95864. Call B.J. at Ph#916-481-2906. (CA)

PEOPLE MOVERS: We specialize in Ryan, Linear, Rans, Infinity, Laid-Back & A.T.P. recumbent bicycles, Land Rowers and Chainless Bicycles. 811- So. Tustin Ave. (At 22 Fwy. in Orange) Phone# 714-633-3663. Your full service recumbent shop. (CA)

THE WHISTLE STOP: Northern Colorado recumbent specialists. We stock Rans, Infinity, Ryan, Linear, Turner, and ReBike recumbents and framesets. Rentals, sales, plus new and used parts for buildups. Phone#303-224-5499. (CO)

RECUMBENT PARTS

FOR SALE: AEROCOUPÉ AERODYNAMIC BODY SHELLS For ultralight HPV's or electric vehicles. Only \$695.00 Info \$3. Competition or Commuting Award winning design can save you time and money! (Chassis kits coming soon) BLUE SKY DESIGN, P.O. Box 2014, Thousand Oaks, CA. 91358-0912.

FORSALE: 20" X 1-1/8" Recumbent Performance Road Wheels, Deore XT Hubs, 36 hole, Sun Mistral or Arai rims with quick release axles. \$59.95 TO \$69.95 each plus shipping. Call People Movers Ph#714-633-3663.

FOR SALE: FLASHING SAFETY LIGHTS (like Vista). They have three L.E.D.'s which can be set to flash or remain steady. They come with a clip in back. Regularly \$12+, available for just \$6.49 or 3 for \$15 (plus shipping) Call People Movers Ph#714-633-3663.

NEW RECUMBENTS

FOR SALE: 1993 LINEAR, RYAN & BikeE: One of each, new and in the box, price to low to print.. We are also expecting a new '93 ATP "Vision." Call the Recumbent Cyclist Bike Sales

Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

FOR SALE: Fresh-built SWB 27" front & rear, laid-back nylon mesh seat, very slick bike. Two SWB 20" BMX based bikes and two LWB with cable under-seat steering. \$300 or less. Paul Carter, 1603 Pioneer, Philomath, OR Ph# 503-929-3577. (OR)

FOR SALE: 1993 21st Century Infinity, 18 speed, rack mount and kickstand. White with red, white and blue accents. Ready to go \$599 shipped anywhere in the USA (48 states) Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

USED RECUMBENTS

FOR SALE: ECON-BENT SWB Recumbent. Built like the plans except for 20" X 1.75" rear wheel (with 100 p.s.i. tire) and a 16" X 1-3/8" front wheel. It has a 45" wheelbase, 18 speeds with decent components. Should fit riders with a 31"- 33" inseam. Medium blue with yellow/ blue seat. \$475. Call Tom Briggs at Phone#207-583-4183. (ME)

FOR SALE: 1991 Ryan Vanguard: American Classic hubs, red, computer & mount, new seat, tires and seat-bag. \$975. Send \$1 for our current listing of new, used and discount recumbents. Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

FOR SALE: TWO RYAN RECUMBENTS: (Red) One stock with Grip Shifts \$1099. The other with Deore XT Components, Ultra Hard Anodized Sun Mistral Rims (700c rear), very nice bike! \$1499. Both ridden less than 100 miles. Call after 7pm. Ph#206-378-7166. (WA)

FOR SALE: Ryan Vanguard frames (XL size factory seconds). Call for more information. Ryan Recumbents, 3910 Stewart Rd., Unit F, Eugene, OR 97402. Phone #503-485-6674. (OR)

FOR SALE: TOUR EASY'S: A pair of red, small size Tour Easy's with racks, pumps, water bottles, seat-bags, Super Zipper fairings and triple cranks. These bikes are in absolutely mint condition. \$1499 each + shipping. Call Angle Lake Cycle at Ph#206-878-7457. (WA)

FOR SALE: 1992 Tour Easy: Blue medium size, 21 speed, Super-Zipper, 1200 1-owner miles. \$1349. Rare and ready to ship, why wait? Call ASAP or it will be gone! Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

FOR SALE: '92 ROSS SWB Road test-demo/ Yreka racer: Imported from England, Green underseat steering mode, 21 speed, sling seat along with the European riding position. A very light weight. Rare! \$1500+ replacement cost. \$1199 + shipping.

Send \$1 for our current listing of new, used and discount recumbents. Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

FOR SALE: LWB "PRELUDE RECUMBENT", 27" rear wheel + 20" front wheel, under-seat steering, Shimano Deore DX shifters, special fluorescent green paint with black "spiderweb" overlay, black Lightning seat, see to appreciate. \$400. 510-746-5491. (CA)

FOR SALE: Linear Recumbent, 1991 silver, 18 spd. with very few miles, underseat steering, fenders, rack and water bottle cages. \$550. Larry Lookabill, 711 Deer Cliff Rd. NE, Bainbridge Island, WA 98110. Ph#206-780-9206.

FOR SALE: 1988 Tour Easy, Red medium, Zzipper, SIS, triple crank, pump, rack, seat bag, lights, fenders, dual water bottle cage, two-legged kick stand, Call today, this bike is in the box and ready to be shipped. Own a Tour Easy at a bargain price, \$675 shipped anywhere in the USA (48 states). Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

1992 Tour Easy: Blue medium size, 21 speed, Super-Zipper, 1200 1-owner miles. \$1349. Rare and ready to ship, why wait? Call ASAP or it will be gone! Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

FOR SALE: 1992 Lightning Cycle Tailwind Micro. Custom built by Gene Lemle. 20" wheels front and rear, underseat steering, red Imron paint, Shimano 105SC Components, 14 speed index shifting (21 speed drivetrain is optional.) This bike is rare and in excellent condition. \$949. Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

FOR SALE: 1991-1/2 Counterpoint Presto Performance. Blue, Campagnolo hubs, 20" X 1-1/8" wheels with IRC Roadlite tires, SunTour drivetrain and 14 speed index shifting (triple crank conversion is optional). An excellent bike at a very special price. This bike was a left over '91 model and is not even one year old. Replacement cost is over \$1800! Must sell \$1250. Call the Recumbent Cyclist Bike Sales Outlet at at 206-630-7200 (Hotline) & 206-639-2347 (Office). (WA)

UPRIGHT BIKES

FOR SALE OR TRADE: 1993 Offroad Proflex 353 Suspended hybrid rare Euro-version with factory rack & fenders. Shimano 700 CX STI Plus, 700c wheels metallic red paint, 20" frame, Girven stem and Terry seat. Replacement cost \$1000 — sell for \$750 or trade for a recumbent. Recumbent Cyclist 206-639-2347. (WA)

RECUMBENT T-SHIRTS

"DEFINITIVE" RECUMBENT T-SHIRTS-LWB (Tour Easy) or MWB (Lightning); Black or Navy; Medium, Large or X-Large: \$16. each, postpaid. Please send check or money order to: GRAN DESIGN 2053 Echo Park Ave., Los Angeles, CA 90026. Ph#310-829-5662.

RECUMBENT PERSONALS

RCM HELP WANTED: The Recumbent Cyclist would like artistic talent. The perfect candidate would be able to do a cartoon-like or semi-scale drawing of a described recumbent/HPV. Like to Tad Burness, "Auto Album?" Any ideas? Give us a call, Ph#206-639-2347.

I want Recumbent Pen Pals! Everyone reading this should respond. Send SASE to: Father Earth, 1731-W. 13th St., Brooklyn N.Y. 11223-1020.

CYCLING BOOKS AND PUBLICATIONS

Cycle America Regional Directory for the Central Coast of California from San Jose to Santa Barbara. Special section on

recumbents! Help build a TransAmerica Bicycle Greenbelt. Pocket size. Only \$7.95 to Cycle America, 147-River Street South, Suite 222, Santa Cruz, CA 95060.

You can try to be heard alone.....OR YOU CAN ADD YOUR VOICE TO OURS. IT'S THAT SIMPLE. The League of American Wheelman has been protecting bicyclist's rights since 1880. Your \$25 membership can help to continue this effort. Join us to preserve your access to America's trails and roads. League of American Wheelman, 190 W. Ostend St., Ste. 120, Baltimore, MD, 21230. voice 410-539-3399/ fax 410-539-3496. The National organization of Bicyclists.

Classified Ads Rates

"Parts Wanted", "Parts For Sale" & "Personal ads" all free to subscribers. "Bikes For Sale"—0 to 50 words \$5, 51 to 100 words \$10. If your bike does not sell, one ad rerun is free. Non-subscriber rates are: 0-50 words \$20. Commercial classifieds are \$1 a word (35 word minimum). Name, address & phone counts as 10 words. Please call our office to receive an up to date display ad rate card. 206-639-2347. Ask about first timer discounts.

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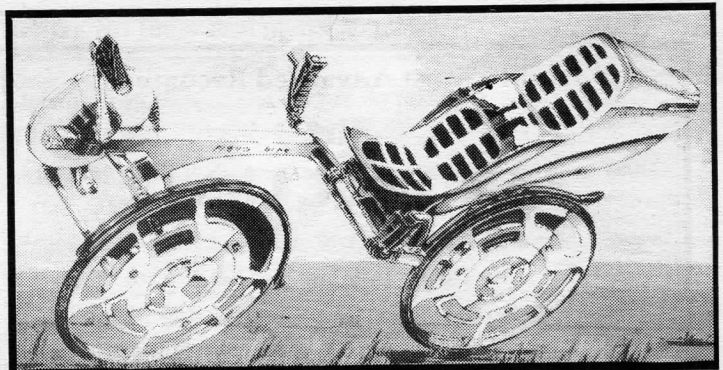
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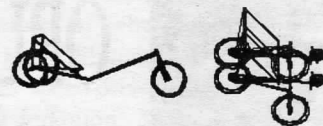
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Cyclo-Pedia Inc.

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RECUMBENTS & HPV'S 101

ROBERT J. BRYANT, RCM PUBLISHER

It is our vision that the recumbent riding position will become even more popular with cycling enthusiasts in the years to come. Already apparent is the lead recumbents are taking within the entry level market. The first year's sales & success of the ReBike have been phenomenal. The ReBike's initial market has been the non-cyclist. This increased exposure has bike dealers, bicycle enthusiasts and the American public demanding more information. We have noticed a new respect for recumbents both in bike shops and bike clubs. With recumbents now so visible to cycling enthusiasts, we anticipate the next level of interest to be the enthusiast sport rider or tourist.¹ We expect that recumbents will soon have equal billing within the realm of bicycle types: road bikes, mountain bikes, hybrids, recumbents and tandems.

One area in which the future seems to have recumbents dominating is practical HPV's (Human Powered Vehicles). A virtually untapped market exists in streetable weatherproof HPV's. HPV's, whether power assisted or strictly human powered, will have strong appeal for the future. The cost of automobile ownership has risen to the point of being outrageous. Today's costs include \$1.45²(USA) per gallon gasoline, hundreds of dollars in upkeep, \$1000+ in insurance, \$1000's in yearly depreciation, this is not even considering what the internal combustion engine continues to do to our fragile planet.

We expect recumbent bicycles & HPV's will be the transportation bargain of the next century. When you consider the costs related to automobile ownership, the \$1K+ recumbent is a bargain. Bicycles are cheap to insure; sometimes they are even covered by homeowners' insurance. How about fuel costs? High energy foods, a good diet and regular exercise can get you into commuting -shape. How does that compare to \$1.45 per gallon for Super Unleaded? So far, we have saved \$1000 or so on insurance and \$1000 or so on gasoline. We haven't even considered the cost of an automobile, which for anything as good as a hand-crafted HPV, is \$20,000, including car payments of several hundred dollars per month.

In reality, until a company like Toyota or Honda builds one, recumbent all-weather-HPV's will be expensive. Lightweight bodies and componentry strong enough to withstand the rigors of day to day use will not come cheap. Currently, of the few HPV's available³, the price seems to center around \$4000. This should come down with increased production.

Before you add a body to create the marketable HPV of the next century, you must start with a bullet-proof recumbent chassis. With 90's technology, we expect this to be a chro-moly "space" frame⁴, which keeps the strength up and the costs lower than that of composites. If you want to ride a recumbent/ HPV capable of 20-30 mph speeds, you must be able to stop the machine. Standard bike brakes are not enough; stronger and more expensive hydraulics or disc brakes are needed.

What makes a recumbent or HPV chassis so expensive in today's market? The largest part of the cost of a recumbent is the product itself. Components, US-craftsman labor and the often overlooked basic costs of doing business. The next part is the cost of marketing. Retail businesses and bike shops in particular need to make standard retail markups on everything they sell. When you add this to the manufacturer's profit, and the actual cost of manufacturing the product and then figure in the expenses of rent, phone, employees etc., you end up with serious enthusiast recumbents suitable for commuting or world travel costing upwards of \$2000. What will lower this cost? Recumbent sales increasing ten-fold, larger companies producing along with the purchasing power that sales of 10,000 units gets you. It is our opinion, that a fully faired HPV will always be expensive, with their ultra-light bodies, electrical systems and possibly auxiliary power.

To give you an idea of recumbent/ HPV prices in relationship to weight & technology, we have put together the following information in simplified terms. Compare bikes by cost per pound.

COST OF TECHNOLOGY:

| | |
|--|--------|
| ReBike 707 (mild steel frame/ no fairing) | \$399 |
| 49 lbs. \$8.14 @ lb. | |
| Lightning P-38 (Cro-mo frame/ no fairing) | \$1750 |
| 25 lbs. \$70. @ lb. | |
| Lightning F-40 (Cro-mo frame/ ft. susp./full body) | \$4000 |
| 33 lbs. \$121.21 @lb. | |
| Lightning F-86 (composite/ ft. & rr. susp/ full body) | \$7000 |
| 30 lbs. \$233.33 @ lb. | |

Here is another example:

| | |
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| ReBike 707 (mild steel frame/ no fairing) | \$399 |
| 49 lbs. \$8.14 @ lb. | |
| Easy Racer Tour Easy 21 spd./ Zzipper (steel frame) | \$1793. |
| 32 lbs. \$56.03 @ lb. | |
| Easy Racer Gold Rush Replica 21 spd. / Zzipper | \$2550 |
| 27 lbs. \$94.44 @lb. | |
| Easy Racer Gold Rush Replica with body stocking | \$3000 |
| 29 lbs \$103.45 @ lb. | |

We consider both ReBike, Easy Racers and Lightning to be state of the art in their respective markets. This is a simplified listing; unaccounted for is the production numbers which effect cost.

As you can see, the cost of technology rises as the weight decreases or a body is added. The Lightning F-86 is the lightest, fastest, fully suspended, fully faired road bike in the world today. It has room for lights, a computer, fenders, storage and the

optional Gortex fairing which protects you from rain and road spray.

Many of your heads are probably reeling at \$7000 for a bike⁵. We acknowledge the leaders in our industry who are doing the R & D that will make these HPV's both available and more affordable in the future. I don't know how many times I have heard riders scoff at the high cost of some production recumbents. I can attest to the fact that no recumbent manufacturers (or publishers) are getting rich from selling \$2000+ bikes. Most are on a mission, a cause and will not rest until recumbents and HPV's are commonplace and they need our support. One manufacturer once said that he cannot even afford to ride one of his own bikes. When I talk to prospective manufacturers I always heed warning of underpricing the product, because if you underestimate the retail cost of your product and have to raise the price at a later date, the consumers may not care for the fact that they are paying \$500 more for something they could have purchased six months prior for \$500 less.

LOW-COST HIGH-TECH

We understand that not everyone can afford \$1K-7K for a bike. This is why RCM has made a commitment to cover what's new in homebuilder technology. If you think this editor is off his rocker, and \$4000 for a bicycle is out of this world, take a few deep breaths, calm down and keep reading. If this describes you, be prepared to do something about the high cost. Many self-professed homebuilders spend a few months to many years talking about it, which wastes valuable recumbent riding time. In many cases, you don't know what you are going to like until you try out or even own several designs.

Two local riders, Joe Kochanowski and Nick Hein, put their own labor and ingenuity into their projects rather than invest big bucks. Joe is a bike shop mechanic/ inventor/ veteran HPV builder and Nick is a Boeing Airplane Co. Engineer who commutes daily on one of Joe's bikes. The "Rain Bike" is a MWB format, but is as long as most LWB recumbents. It is built from old bike frames, spare parts and shop discards. The body is made from composite cardboard-type⁶ panels salvaged from Boeing Surplus. The body is modular and shock mounted with old bicycle innertubes. This is a wonderful idea because if you have an accident and smash the body, you can quickly fabricate and install a new body section. The Rain Bike's gearing range is achieved with standard bike shop parts and an intermediate drive, thus saving the high cost of large chainrings and small cogs. As for brakes, good old '70s centerpulls and inexpensive all weather drum brakes are used. The result is a homebuilt all weather commuter streamliner. The only drawback to homebuilding a bike like this is the weight. The Rain bike is very heavy, weighing in at two to three times that of a Lightning F-40.

Recumbents and HPV's for practical use are a reality and available today; however, we need to get the politicians and powers that be excited about our forward-thinking ideas. RCM

will continue to report all useable aspects of recumbent cycling. As enthusiasts, get political. Write and send letters to government officials. Order a second subscription for an influential person in government, energy office, newspaper or even your local library.⁷ We already send out many sample issues and we plan to do even more. If you have any ideas, please drop us a line. Remember, the best way to change the way people view human power is for you to get involved and make a difference.

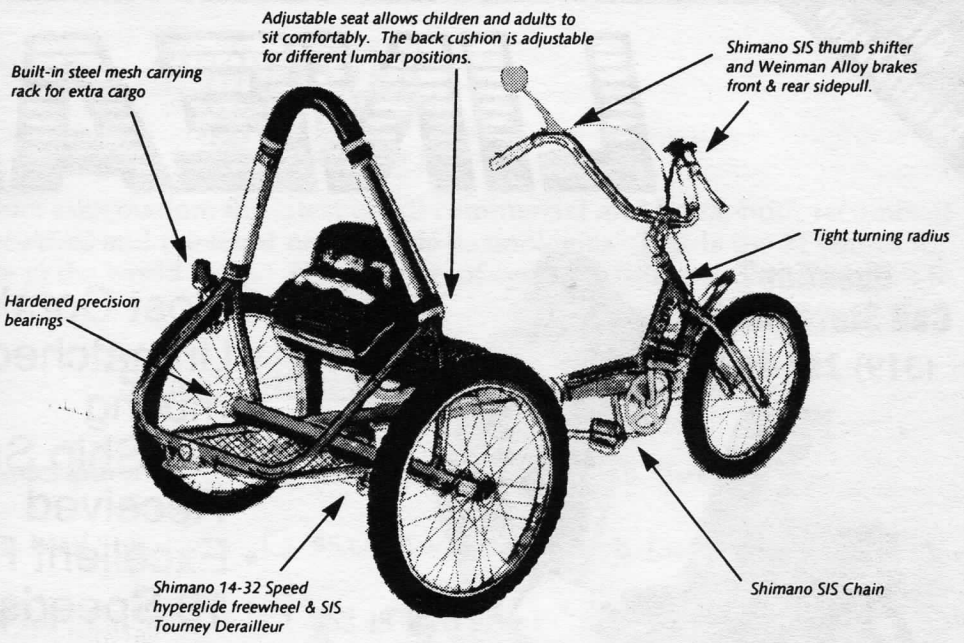
Footnotes

1. The main reason for this is the high-cost of a good quality recumbent. Enthusiasts are the only riders who can justify the cost of a \$1800 bike. What may change this are the new entries into the under \$1000 range. When the price gets down to \$600-\$800, your market will include riders who buy hybrids and MTB bikes.
2. In the USA, our gasoline is cheap when compared to anywhere else in the world where it can be two, three or even more times higher. I am sure our readers in Europe are laughing at \$1.45 per gallon (This is what I pay for Super-Unleaded).
3. HPV's currently available: Leitra trike-\$4000+ shipping to the USA, Presto with Root's Accessories- \$2500+, Lightning F-40/ F-86 \$4000+ and the classic Burrow's Wincheetah- \$4000+ body.
4. Space frames made from several small tubes brazed or welded, such as that of a Moulton conventional bicycle.
5. The difference in weight between an F-40 and F-86 is approx. 3 lbs. The difference in cost is \$3000, or in simplified terms, \$1000 @ lb. Please note that the F-86 also has rear suspension and exotic components that also play a part in the additional price.
6. Bodies similar to this one can be built with small dia. PVC pipe and/ or aluminum tubing or stripping with Chorpplast or Corex (plasticized cardboard) for the body material. For further information see RCM#2: CSPC HPV Uses for cardboard composite and RCM#5: Omega HPV.
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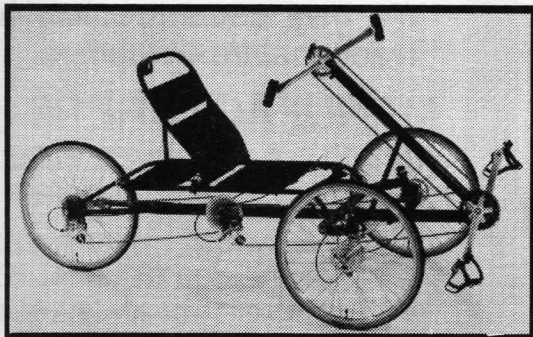
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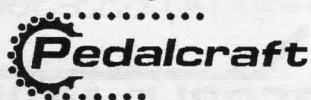
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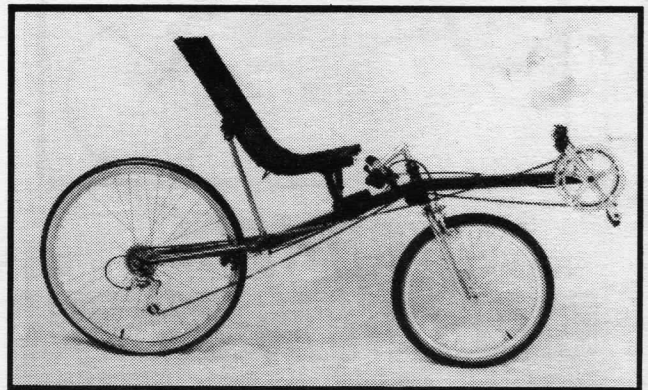
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