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1991 Easy Racer Gold Rush Replica

Cover Story: Easy Racers Test

EASY RACERS' ROAD TEST THE TOUR EASY

So you want a comfortable bicycle, but you don't want to sacrifice speed, you also want to go on a world tour. Well have I got the bike for you. One other added bonus, it's also the fastest bicycle in the world.

The Tour Easy wins on all counts. With the narrow performance wheels and Super Zzipper fairing it is a fast performance bicycle; or you can order the bike with wider tires for the ultimate in comfort and durability. For all out performance, the Gold Rush Replica fits the bill. Easy Racers are not just about racing, Tour Easy's have toured all over the world. People of all ages ride them in all conditions on a daily basis.

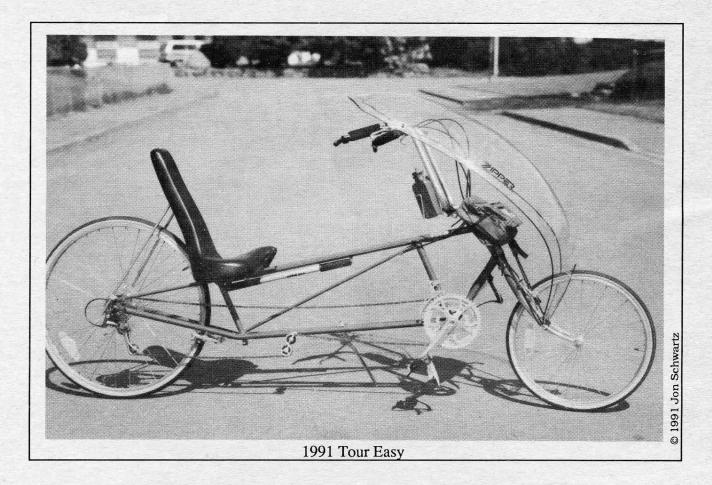
Evolution

The evolution of the Tour Easy began some 17 years ago. In that time the bike has become the best known design due to its original chopper-like looks and super streamlined appearance. Gardner Martin, owner of Easy Racers, has sold over 1100 bicycles in that time and more than 7000 sets of plans. There is no telling how many Tour Easys have been home-built. I have heard of or seen hand and foot pedaling versions (one of Gardner's personal bikes), sus-

pension bikes, a version that separates in the center and even home-built Tour Easy tandems. In my area alone, there are at least a half dozen built or in various stages of being built. Completly open to customer's building Tour Easys from the official building plans, Easy Racers sells most of the special parts and special frame tubes for home construction. Though I must admit there is something very special about a factory built Tour Easy.

Frameset

The Tour Easy frameset is TIG welded of 4130 chro-molly tubing. On every frameset that I have seen the welds and workmanship are flawless. The paint is Baked Epoxy and comes in Candy Red, Blue and Jet Black. This high quality paint allows the bikes to resist wear better than most. The frame comes in three sizes: small, medium and tall and will fit riders 5'2" to 6'4". All bikes come with the Tour Easy trademark fiberglass shell seat. Tour Easy owners like the added support of this style seat. Some riders in warm climates say these seats can be sweaty, the new seat is improved to help relieve this problem. The new "Cobra" seat offers vinyl sides with cloth insert along with more lower back and rear end support. The base of the seat is



almost like that of a tractor. This is where it has improved over the pre-1991 versions. Many recumbent purchasers still insist on the sling/ mesh style seats, adding one as an option could expand the bikes market share. A Tour Easy rider recently mentioned to me that the current seat is a little short (across the base) for larger riders. To satisfy this need, there is a larger (seat base) size Cobra seat in the works that should be out very shortly. For my style of riding, the upholstered shell seats offer more lower back support and seems to be more comfortable. Gardner Martin assured me that the Tour Easy seat will continue to evolve with some new options in the not to distant future.

Direct Sales Experts

Another of Gardner Martin's specialties is that of recumbent direct marketing. When a customer calls Easy Racers there is an excellent chance of talking to the owner. This instills confidence in the product and makes the customer who is spending \$1500+ on a bicycle feel special. Consistency also plays a big part in the way Easy Racers does business. Attention to detail seems to be job #1. We have had the opportunity to assemble several Tour Easys and one Gold Rush Replica. In all of these bikes not one single nut or bolt was missing. It is sometimes the other way around you find unexpected extras, such as replacement tubes, water bottles, assembly tools and even a rear-view mirror inside the shipping box. There's more, all Tour Easy's are pre-assembled before shipping. My feeling is that any recumbent worthy of the \$1500+ price tag should be pre-assembled before being shipped to the customer. What this means to the customer is an effortless assembly. The derailleurs and brakes are assembled and adjusted and the fork is installed. The customer needs to insert the handlebar stem, check the handlebar adjustment, install the quick release wheels, mount the Zzipper fairing and put air in the tires. You're off.

Components

Tour Easys come with a basic twelve speed and regular size Zzipper fairing. Most buyers opt for the \$95 upgrade to 21 speed index shifting and \$95 Super (full length) Zzipper upgrade. My test bike was set up with these options. You also get your choice of round or biopace (oval) 28/44/50 chainrings. Some riders feel that the biopace gives recumbents an extra edge. The rear derailleur is a Sun Tour XCD with Bar-Con shifters. The XCD is an excellent derailleur and it shifts better than some higher priced models. My test bike came with a rare SunTour MounTech front derailleur. These are hard to find and offer fantastic shifting. The seven speed freewheel indexes perfectly. The Tour Easy chain idler helps a lot in this department, by keeping the chain tight. It also makes a slight hum as the chain runs through. This noise is noticable to first time riders. Braking is achieved with a Weinmann alloy side pull (with quick release) in front and a powerful SunTour

Roller-Cam on the rear wheel. The quick release on the front is important so you don't have to let the air out of your tire when you take off your front wheel for transporting. Normally I do not care for the Roller-Cam due to the difficulty of setting them up, but the Tour Easys is completly adjusted and ready to go. This combination of componentry works exceptionally well. Besides being pre-adjusted and pre-tested before the bike is shipped, each component seems to be thoughtfully selected for its intended purpose.

Gardner Martin is very serious about the quality of wheels that go on the Tour Easy, they are top quality. My test bike had a radial laced 20 X 1-1/8" wheel with a 100 PSI tire. There is a no-charge option for a 20" X 1.5 Haro (fat) Slick. This offers a more comfortable controlled ride. With this option you will sacrifice a little top speed and some noticeable acceleration. The rear wheel is a 27 X 1-1/4" with a Kevlar bead 100 PSI tire. There is an optional rear tire for touring and commuting, it is 27" X 1-3/8" 75 psi. You will sacrifice some performance here also, but gain in tire life and have fewer flat tires. The wheels are all hand trued and re-checked for true before the bikes are shipped.

Accessories

A standard Blackburn rear rack is an option on the Tour Easy. It is recommended that you order the rack with the bike to get the Easy Racer's special mounting hardware. Front racks are also a possibility although there are no lowrider braze-ons. Also, if you ever plan to use a front rack, you may want to skip the Super Zzipper option as it would get in the way of the rack. Not to worry though, the regular Zzipper comes with the bike at no extra cost. There are rear rack/ fender bosses built into the dropouts, but there are none on the front. Here I would recommend the tiny Blackburn "C" clamps for fender/front rack mounting. The Tour Easy comes with a pump mount and a waterbottle cage that conveniently clamps to both sides of the handlebar around the stem. An optional method is to order double cages threaded into the handlebars themselves; this is the way the Gold Rush Replica test bike was equiped. The ultimate option for the Tour Easy is the Super Zzipper road fairing, designed and made for this bike. It is the most efficient of the Zzipper fairings, partly because the lower mounts on the fork allow the fairing to straddle the front wheel. One of the Gardner Martin's original ideas was to build a recumbent that did not need a host of special parts. As a result the Tour Easy will accept most bicycle components and accessories.

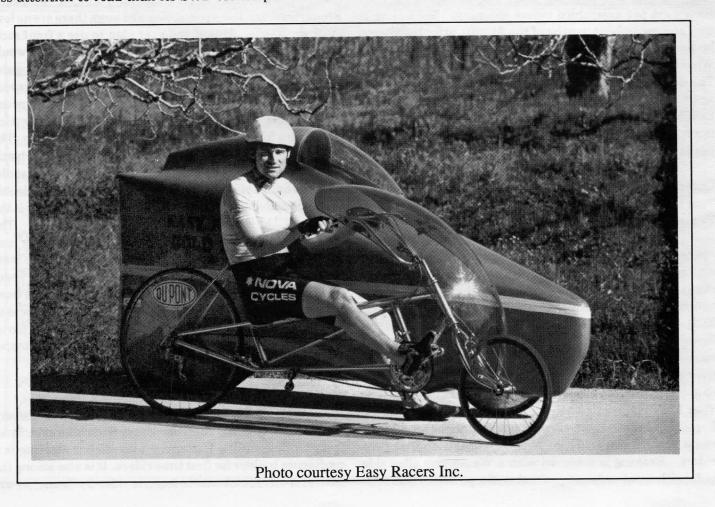
The Ride

"Born to be wild!" This is the tune I hear in my head every time I climb onboard the Tour Easy. This bike even looks fast standing still. The upright handlebar steering is a confidence builder for first time riders. It is also among the easiest of all recumbents to learn to ride. By "learn" we are only talking about a matter of a few minutes and almost anyone can be cruising in comfort. The lower bottom bracket height is also easier to handle in traffic or for starts and stops. The low-slung trademark Tour Easy design is also among the fastest. I'm sure there are SWB riders who may beg to differ, but when riding the Tour Easy equiped with a Super Zipper fairing, I found it significantly faster than any other stock recumbent. As a general rule recumbents with upright handlebar steering are faster due to less air drag from your arms, shoulders and handlebars sticking out the sides, as on an underseat steering recumbent. The acceleration is excellent, as is the high speed stability. My test bike and I went up to 52MPH down a local hill together. (Please do not try this for you at home) The LWB design does not offer the perfect weight distribution, the front wheel can be lightly loaded. In my many miles on LWB's, especially the Tour Easy, this has never been a problem. The Tour easy has perfect road manners. The LWB makes up for its lightly loaded front wheel with great stability in all situations. Many people ask about the steering with those long forks and handlebars. It is a bit tiller-like but no where near what you'd expect. After a few rides on the bike you don't even notice. A real plus for the steering is that it is DIRECT with no rods, cables or linkages; this keeps the bike simple. This long wheelbase bike glides along almost effortlessly. It also takes much less attention to road than its SWB counterparts. Some riders like this and others do not. In all my Tour Easy miles the only real drawback is not in the bike itself, but in how to transport a LWB recumbent, Gardner Martin also had a few neat ideas along that line (this will be covered in a laterissue). To sum it all up, a fellow rider described the Tour Easy to me as "the recumbent from which all others are judged." Now it up to you to decide.

Tour Easy prices start at \$1395 for a 12 speed ready to ride bike. Complete framesets are from \$995. Easy Racer building plans/ blueprints are \$35. Frame sizes are Small/63" wheelbase (5'2"-5'7"), Medium/66" wheelbase (5'7"-6') and Tall/69" wheelbase (5'11"-6'4"). Colors are Candy Red, Candy Blue and Jet Black. For more information write: Easy Racers Inc., 2891 Freedom Blvd., Box 255-RCN, Freedom CA 95019-0255 or call (408)722-9797.

Easy Racer's Records

- First HPV (single rider) to break 50 mph
- Worlds One Hour Record 45.3 mph
- IHPVA 4000 Meter Velodrome Pursuit Record 3'43"
- Dupont Prize—65 mph
- IHPVA Road Race Champion 1982, 1983, 1984, 1985, 1986- 1988 and 1989.
- 1st place 200 Meter Time Trials IHPSC 1990, 55.37 mph



THE LIMITED PRODUCTION EASY RACER'S GOLD RUSH REPLICA

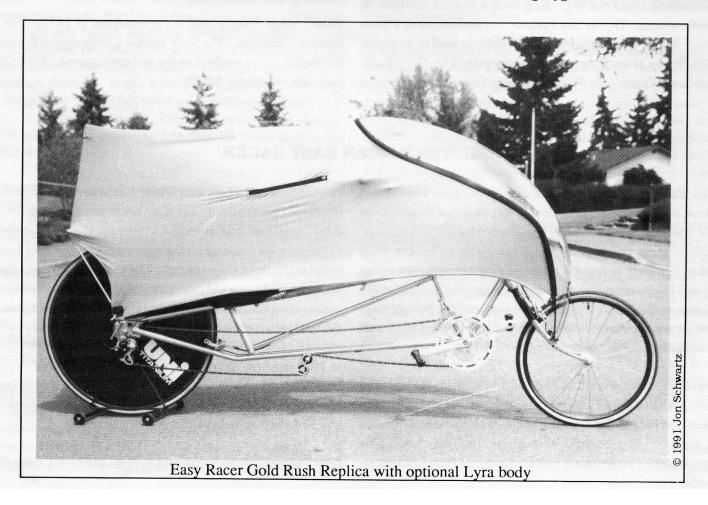
This thoroughbred bicycle is for the recumbent connoisseur only. It is the ultimate final upgrade for Tour Easy riders. The original racing Gold Rush was built for a Dupont prize attempt in 1985. Gardner's idea for a limited production version came a few years later. The name Gold Rush was a natural. The beautiful gold color of the Keviar body, the race for the pot of gold (Dupont Prize) and attempt was made in Northern California's Gold Rush Country.

The first batch of Gold Rush Replicas were done in the late 1980's and went mainly to preferred customers. The actual limited production versions have been available since 1990. The bike is quite different from it's chro-molly counterpart. The frameset is made of light weight aircraft grade aluminum tubes. They are then TIG welded by Stephen Delaire (Rotator Bicycles) and the beads are not ground to preserve strength. Each frame is then aero-space heat treated to assure full strength and hardness. This frame along with a lightweight Kevlar seat add up to significant weight savings. The frameset is 5 pounds lighter than the Tour Easys. The complete bike offers even more weight savings. The limited production GRR is the closest thing you can get to the bike that is in the Smithsonian Museum. This is not

an exact duplicate-there are some minute changes and rightfully so. Most people who buy a GRR are not planning to go out for the Dupont Prize.

The finished bikes are striking. The aluminum is highly polished to a mirror-like shine. The component selection is a bit different than the stock Tour Easy. Gearing is of course higher, but can be customized to suit your taste. My test bike has chainrings of 24/46/52; this equates to a gear inch range of 24-123. The bike comes with a hand-picked group of upgraded components: a Deore XT short cage rear derailleur, SunTour MounTech front, Shimano thumbshifters, Shimano 105 hubs and 12-28 freehub. One of the nicest features are the outstanding dual-pivot point Shimano 105 SC brakes. These brakes have excellent stopping power. This recumbent's drivetrain performance is among the very best.

So you want the Kevlar body to go along with your Replica chassis. Well, I heard that \$50,000 would do the trick. If this is what you want, I would highly recommend streamliner riding lessons from Fast Freddie Markham. For the rest of us there is a fairing upgrade for the Gold Rush



Replica, the Easy Racer Body Stocking. This is a Lycra softfairing that has a zipper sewn into the Lycra and onto the thicker Lexan Zzipper fairing. The body wraps around you and fastens onto a custom mount behind the seat on a modified Blackburn Mountain rack. Your head sticks through the top and your arms stay inside the Lycra. For this reason thumbshifters are used instead of the Bar-Cons that come on the Tour Easy. Our test bike Lycra fairing came in a gorgeous blue fabric. There are nylon zippers on each side for your hands and one in front of the opening for your head. This is for ease of entry and further streamlining. The Lycra body attaches to a pole on a custom fit Blackburn Mountain Rack. The lower rear mounts are to the bottom of the Blackburn rack. The Lycra is reinforced here. To get in and out you loosen one side of the bottom lower mount, stick your head in through the opening and climb in. It is extremely easy. Mounting and removing the Lycra body is very easy and takes only a minute or so. Whereas Streamliners are difficult for regular riders to handle, Gardner Martin has found the perfect advanced fairing for the rest of us; simple, clean, hot looking and a most definite performance advantage.

Having spent more time on a Tour Easy than any other recumbent I was not expecting such a drastic increase in performance. This is the **fastest** recumbent that I have ever ridden. The Zzippered Tour Easy is said to be about 20% faster than a conventional bicycle. The Gold Rush Replica is faster yet. With the Lycra body it seemed to be

another 10%-15% faster. Take in mind that performance claims are dependent on the rider. Along with speed, the aluminum frame is lively and very responsive; a feeling uniquely Easy Racer. When we photographed the GRR on a sunny blustery Spring day, it was difficult to keep the bike in its stand without falling down. This made me wonder how susceptible to side winds the bike would be. To my surprise, the GRR with the Lycra body was more stable at speed than a stock Tour Easy. The reason for this is the Lycra attaches to the Zzipper fairing that turns with the handlebars/front wheel. This actually dampens the steering and made me more stable. Riding the GRR with the Lycra body was an amazing experience, with speeds unattainable on a conventional bicycle (and only few recumbents) and more attention than you can imagine. You really need to experience it for yourself.

There are only a few faired recumbent/HPV's built in the world today the Gold Rush Replica is one of them. If you have to own the best you should consider this bike. The Gold Rush Replica heritage is two decades worth of race proven technology. Who wouldn't like having Gardner Martin, Stephen Delaire and Fast Freddie Markham as their own personal HPV consultants.

Prices range from \$1500 for a frameset to \$2200+ for a ready-to-ride bike. The body stocking with special Zzipper fairing is custom made to order and cost (approx.) \$550. My test bike retails for \$2795.

HISTORY OF AN EASY RACER

The Easy Racer is a classic among modern recumbent bicycles and HPV's. The driving force behind Easy Racers for the last sixteen years has been the HPV designer/builder/racer Gardner Martin. It all started back in 1975 when Gardner entered a prone (design) recumbent in the first HPV Speed meet at Irwindale Raceway in California. It was at this event that Gardner realized the possibilities for a very comfortable laid back (supine) recumbent that would be suitable for street use.

Gardner's background in racecar and motorcycle building along with his wife's request for a practical street recumbent, led him to the drawing table in an attempt to design a bicycle. For several months he had no luck. The inspiration finally came while riding an old tandem bicycle. The tandem had a lady's style rear frame section with a low top tube. He realized that if he hack-sawed off the front riders seat post and installed a "Stingray" style laid back handlebar, he could sit on the rear section of the frame and pedal at the front riders pedals. The rear seat post was then removed and some old partially inflated inner tubes were wrapped on the seat area. This was the first Easy Racer, a ready to ride recumbent in less than an hour.

In 1976 the first Easy Racer appeared at the Speed Championships. This was not a streamlined vehicle and did not win any races; however, it was by far the most comfortable and practical vehicle at the event.

Over the next three years and several thousand miles the

Easy Racer continued to evolve. During this period six prototypes were built. The frame tubes generally came from cut up old bicycles. With each new frame more changes and improvements came. The front wheel size originally was a 27" on the modified tandem. This was first changed to a 24" and then to a 20" which is what the bikes come with today. The first commercially built Easy Racer was delivered to the customer in 1979. In early 1980 the bikes went into a limited production. These early production bikes were all hand brazed in Gardner's Watsonville California shop. Easy Racer #2 is still in use today as an exercise bike in Gardner's home.

In its current form, the Tour Easy uses a chro-molly frame. The wheel sizes are a 27" rear with a 20" front with your choice of 1-1/8"-high performance/100 PSI or 1-1/2"-medium pressure touring tire. The seat has come a long way since the frame taped innertubes. The current design seat has a fiberglass shell covered with vinyl and a more breathable cloth insert.

Along with the desire for a comfortable road machine Gardner Martin had a keen interest in HPV racing. In 1978 Kurt Miller won the IHPVA Speed Championships riding a streamlined Easy Racer. In 1979 Fred Markham (Fast Freddie) won the speed event and was the first human to break 50 MPH. This was done on the prone recumbent streamliner and not the supine Easy Racer. During this race, the supine Easy Racer had to sit out the speed runs for lack of a rider.

The current (1990 version) Gold Rush Streamliner's chas-



sis is based on the Easy Racer "Tour Easy" production recumbent. The differences are very minor, mainly in the upper seat and handlebar positioning. The Gold Rush also has had an aluminum frame since the first Gold Rush was built for the Dupont prize attempt in 1985. (Production Tour Easy's have always been chro-molly.) This bike is available as a limited production model the "Gold Rush Replica". For 1991, Easy Racer has a new secret weapon, "The Gold Rush LeTour." Design information is not available at this time.

Through the course of Easy Racer history they have won many speed awards. The most coveted is the Dupont prize for the first human powered vehicle to break 65 M.P.H. On May 11, 1986, Fast Freddie Markham piloted the Gold Rush Easy Racer Recumbent bicycle to the amazing speed of 65.48 M.P.H. The Dupont prize winning Gold Rush now rests in the Smithsonian Museum in Washington D.C.

Gardner Martin and Easy Racers have never rested on their laurels. The latest news is that the Gold Rush is going to France to attempt some speed records during the Tour de France. Race promoters have recently purchased a Tour Easy and Gardner Martin just got back from France scouting locations for the record attempts this summer.

Besides being an award winning racer, the production version "Tour Easy" is a two time winner (1982 & 1983) of the IHPVA's Practical Vehicle Award. At the '82 event the judges gave the Tour Easy particularly high marks on speed, appearance, safety and stability. Tour Easys have toured the world over from coast to coast, to Japan, China, Russia and Europe. The Tour Easy is also a world class touring bicycle that just happens to have the honor of being "the fastest bicycle in the world."





Do you ride one them there funny bikes?

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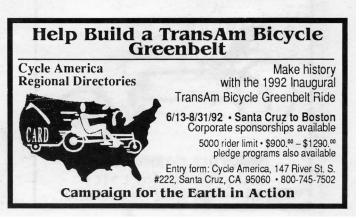
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See address below. (mostly reprints) #1 NWHPVA \$2.75, RC#2/ Flevo \$3.75, RC#3/ DH5000 \$3.75, #4 RC/ Ryan \$3.75 #5 RC/ Linear \$3.75.

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The Recumbent Cyclist Newsletter
Robert J. Bryant, Editor
16621-123rd Ave. S.E.
Renton, WA 98058, USA





S.F. TO L.A. LIGHTNING-FAST

On April 28, 1991 Pete Penseyres took the Lightning X-2 out for a Sunday spin, shattering the San Francisco to Los Angeles HPV record by more than three hours in the

process and making a strong opening bid for the \$5,000 John Paul Mitchell Systems' top prize. Pete started his quad-century jaunt at about 3:30 a.m. at San Francisco City Hall and pulled into Los Angeles City Hall at 9:34 p.m., 18 hours and 4 minutes later. The Lightning X-2 was equipped for the run with a powerful Night Sun headlight, and the heavy battery had to light a tail light and turn signals as well. Riding most of the way on Interstate 5, Pete pedalled the overweight bicycle up Pacheco slightly furrowed brow.

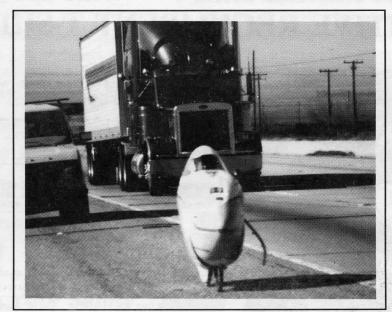
Pete was actually shooting for a 17 hour 45 minute time. He

would have easily done this had he not fallen at a stoplight before he could get a foot down to the ground. Occuring early in the ride, the fall damaged the Kevlar fairing's "landing gear" flaps used to put his feet down. This forced him to ride most of the distance with the doors flapping wide open in a decidedly non-aerodynamic configuration, at least for the one-time 64 m.p.h. X-2. When he fell, Pete was penalized 30 minutes for receiving assistance from a concerned

onlooker (rumored to be a

certain "T. B."). The J.P.M.S. rules require total selfsufficiency for the entire 400 mile journey. Following Pete's inspiring ride, only a first class ultramarathon rider and an extraordinary HPV will even have a shot at the prize. Still, the second fastest self-sufficient rider will take home \$3,000 and the third fastest will get a consolation check of \$2,000.

By Gerald Pease Manhattan Beach, California





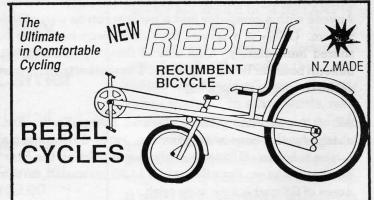
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These are Hanes (USA) Beefy-T, 100% cotton t-shirts in black or navy blue, with white lettering and gold-foil bike and rider.

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RECUMBENTS AND COMPUTERS

What can bicycling have to do with computers? Sure we all have our Cateyes and Vetta's, but there is another world for PC owners and Cyclists.

I have been a subscriber of GEnie for some time now. GEnie is the General Electric network for information exchange. Anyone with a computer and a modem can be part of this system. GEnie is a service that allows information to be shared immediately. One way of thinking about it is a bulletin board or living magazine. The most attractive part of the service is the pricing.

All of the services (GEnie, Delphi, CompuServe, Etc.) charge by the hour with premium rates during normal business hours. GEnie recently began offering the Star* services package. For a flat rate of \$4.95 per month, certain areas of GEnie become wide open.

So where do recumbents fit in? I am glad you asked. We read the newsletter for articles, classified ads, the whole ball of wax. I do not propose that GEnie replace the newsletter, but it can compliment it. One of the better

sections of GEnie is in SPORTS, sub-section Cycling. There are topics within Cycling to cover everybody's interest, including a recumbent (HPV) topic.

I am officially offering my services as a consultant for anyone who wants to call. I will help you to the best of my ability.

Obviously you need a computer. ANY computer will do the job, even the one in your closet collecting dust. The next item is a modem, a device to send computer signals over a telephone line. Modem prices have dropped drastically over the last few years. GEnie supports 2400 baud, so unless you have specialized applications, that should do you well. OK, you have the hardware, now you need the software. The program is called communications software, or terminal software. There are as many choices as there are bicycles.

Set your system to 2400 baud, half duplex (local echo) and dial 1-800-638-8369. After you connect, type HHH. You will get a prompt from GEnie that appears as: U#=. Type

XTX99514, GENIE and press return. The system will start asking for personal information so have a credit card ready. You will be given an account number and other instructions to process your account.

GEnie charges no sign-up fee, but you will be billed \$4.95 per month for Star* services.

Star*Services are sections of GEnie that you are permitted to access between 6pm and 8am weekdays and all day Saturday and Sunday. These areas are typically message sections or online services, and there are hundreds (?) of

them. Steven K. Roberts of Computing Across America fame has his own Star*Services area. There are other sections, file libraries, real-time conferences, etc. that are not part of the \$4.95/month. These are charged by the hour at a rate of \$6 per. That may sound like a lot, but if you are like I am, very little time is spent there. I was online for 1 hour and 47 minutes in one session and it was all in the Star*Services area for Cycling and all for \$4.95.

GEnie's Star*Services also include an electronic mail system that allows you to send private messages to anyone else

in the GEnie system. (Like ME!) Robert Bryant could utilize that feature to receive articles for the newsletter in electronic form any reader ready for editing.

If you decide to take a go at it, remember I volunteer my services to assist you. Call Fred at (904)767-5768 6:30 pm to 9 pm weekdays or anytime weekends. If you are a GEnie member, I can be reached GEmail at Fred.U

Drop me a line, give me a call, I'll see you in SPORTS, category 9, topic 11!

Fred & Ginnie Ungewitter 1964-Forrest Ave. Daytona Beach, FL 32119-1591

Editors note: Since Fred sent me this article in late March we at the Recumbent Cyclist have logged onto GEnie. If you want to leave a message or article for me, send it to "R.BRYANT14" on GEmail. Anybody up for starting a Recumbent Cyclist Newsletter Bulletin Board? The modem that I purchased for my "Mac" was a Prodigy/ Haves modem. In other words, marketed by Prodigy with they're startup kit. Prodigy is very commercial, lots of product advertisements and not as much cycling bulletin board activity. It seems as though GEnie is the online place to be. I would love some RC reader input on these services. This could be really fun if we could get more RBCA'ers online.



RBCA CALENDAR

JUNE 15 Waterford Michigan, JUNE 16 Bay City Michigan <u>MIDWESTHPV RACE SERIES</u> Other events to coincide with IHPSC. For more information contact Don Berry at Infinity Recumbents (317) 831-8798

JULY 3-7 L.A.W. NATIONAL RALLY (League of American Wheelman) to be held at Evergreen State College Campus in Olympia WA. Drop by and see the Recumbent Cyclist booth on Saturday July 6th. We will have a display of recumbent bicycles sponsored by Millennium Recumbent Cycles.

JULY 19-21 **DAVINCI DAYS-CORVALLIS** Included in this celebration of art, science, technology and human power will be a recumbent display and demonstration. A practical vehicle competition with prize money is also planned. This will be held in downtown Corvallis Oregon. For more information contact Paul Atwood (503)929-6137.

JULY 20 NW STREAMLINER RACING SERIES Northwest Classics 10 mile criterium Redmond WA, also events to coincide with the IHPSC in Milwaukee. For more info contact: Stewart DeLaire, 1365 Fox Run Blvd. NW, Bremerton WA 98310. Phone (206) 692-9738.

AUGUST 14-18 1991 The IHPVA 17th Annual Human Powered Speed Championships (IHPSC). This year in Millwaukee Wisconsin. For more information contact the IHPSC, PO Box 51255, Indianapolis IN 46251.

SEPTEMBER 7 **RECUMBENT MUSTER** Oregon Human Powered Vehicles. NW Series events and a fun recumbent get-together. Contact: Jake Jacobsen (503)644-7038 or Rick Pope (503)244-0908

SEPTEMBER 20-22 **INTERBIKE 1991** to be held in Anaheim CA.

The role of the RBCA/ Recumbent Cyclist is to promote recreational and practical uses of recumbent bicycles / HPV's. We have listed the race information above as a service to our members who are the race promoters. Generally these races turn into recumbent bicycle get togethers. Especially the IHPSC in Millwaukee which will have a Practical Veh. Competition.

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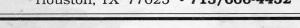
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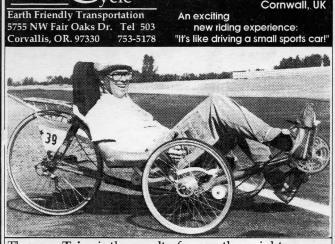
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Companion The

ome time ago, an article appeared in Bike Tech that discussed the concept of having individual cadence capabilities on tandem bicycles...

Recently I finished a recumbent tandem that is designed so each rider can select his or her own pedaling rate. Of course the extra complexity creates more weight... however, it also adds some distinct benefits:

- start-up is smoother
- •less power-induced steering oscillations
 •the stronger rider cannot overpower the
 - weaker rider and cause early burn out •the weaker rider cannot hold back the
- stronger rider
 •shifting can be done at any time. While
 one person carries the load, the other
 can select the proper gear. This is a
 tremendous asset for hill climbing.

Is it faster? So far, we haven't done conclusive testing to say yes or no. My intuition tells me it will be.

Modern automobiles continue to become more complex with four valves per cylinder, twin overhead cams, and turbo charged engines. This makes sense because it improves performance.

Dual cadence tandems make sense because they improve rider harmony which will help increase performance.

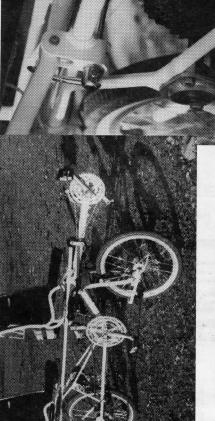
Every **ROTATOR** product is hand built to the customer's requirements. Quality craftsmanship is our foremost pursuit.

..Stephen Delaire



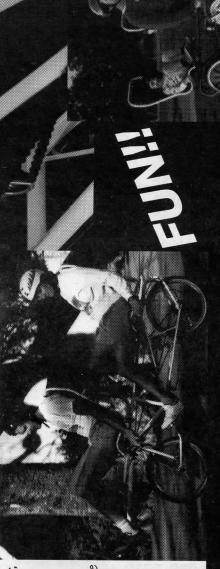
by Rotator

Tandem



NOW AVAILABLE WITH

INDIVIDUAL CADENCE!



BUILDERS CORNER: The LWB Composite Recumbent Bicycle

Dennis kerns of Lake Station Indiana is the builder of a above the fork and headtube. Dennis says the construction

LWB composite bicycle of which he currently sells plans time is approximately 100 hours. The valuable informa-

for. The idea is to use composite technologies instead of traditional frame building skills. The main frame has a core of styrofoam that is sanded and formed to shape. You then lay up layersoffiberglass cloth and mat with epoxy resin. The steel chainstays, headtube and bottom bracket are then epoxy-filleted right into the mainframe. The



tion on simple composite technology alone is worth the price of \$14.95 for plans.

Pictured is a custom built moldless method composite construction (ala Rutan/ aircraft) recumbent tandem. The bike weighs 49 pounds, has a wheelbase of 103" and was built by RBCA

design is a long, low slung recumbent with thecrankset member John Sheffels of Great Falls Montana.



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AMERICA'S #1 RECUMBENT SOURCE

FUTURE-TECH: The SRAM Grip Shift

There are all kinds of new bicycle shifters available these days. Shimano has the STI push-button system with more than 40 moving parts. They also take a lot of thumb pressure to push. SunTour's new X-press is a little better, although very rare on production bicycles in comparison to the Shimano. The SunTours actually ratchet into various positions and are much simpler in design. They are also separate from the brake levers as the Shimano are not. Campagnolo has Bullet twist grip shifters available with an eight speed drivetrain. This system is very expensive. The system that is getting lots of press these days is the SRAM Grip Shift.

These shifters are actually simpler than an old fashioned thumbshifter in design. There are only a few moving parts. Basically there is a mandrel that slides onto your handlebars and allen-bolt clamps to them. Then the controller/shifter slides over the mandrel. By twisting the grip/controller you are pulling a slide-stud running on a slide channel (inside the shifter) out farther into the controller. The slide-stud rides on valleys or detents in the controller. The cable runs into the slide stud and thus pulls the cable with each twist into the next valley/detent. The valleys/detents make the "click" for each gear.

The Grip Shifter also has adjustment detents for the front derailleur to accommodate slight adjustments between chainrings. The product quality is very good. Once set up, they seem more durable than any other shifting system. It is very important that you use index compatible/ SIS/

Accushift housing. We have found that the more bends and/or excess housing on your bike, the worse Grip Shift performance is. This usually means that it takes more effort to turn the shifters.

In my testing I have set them up using Phil Wood grease inside the controller and Finish Line Creamy Teflon Grease. The Finish Line really made a big difference on how easy the controllers were to turn. It is very important to carefully lube the inside of the controller, mandrel and slide channel. The SRAM people told me that they machine test Grip Shifts without lubricant for one million shifts without failure. Most bicycle shifter springs will fail long before this.

When I first installed Grip Shifts on the Ryan Vanguard test bike last October it took me over four hours to figure them out. Once you understand how they work, you can set them up and adjust them in less time than it takes for thumbshifters. I have found that they also index better than most thumbshifters. My biggest concern is that they are made to index shift and do not have anything remotely resembling a friction mode. You either have to pay your local bike shop to adjust them or learn yourself. It is a very easy process once you understand how index shifting works. If you stay on top of adjustments, the cable will become slack and shifting performance will suffer.

Some riders may find the "wrist twist" in between front chainrings to be too much. We found that if you plan your

front-end shifts and position your hand in the correct position for the length of the shift there is usually no problem. The rear is flawless, just one short click per gear. Grip Shifts come in several different models for all different speeds and derailleurs.

There are two models for grip positions. The road model has the grips on the end of the bars. (This is the model used on the Ryan.) The ATB model moves the grips inboard next to the brake handle. This model may not work on some

underseat steering recumbents due to the clearance between the seat and handlebar. On the Ryan Recumbent, the road model Grip Shift's placement on the handlebar makes you want to ride using them as handlebar grips. Most riders like this hand position. The majority of the Ryan riders that I talked to preferred the Grip Shifts to Bar-Cons or thumbshifters. SRAM Grip Shifts cost (approx.) \$90. For more information contact: SRAM Corp., 2039 W. Carroll Ave., Chicago IL 60612 or (800)346-2928.

The Next Generation Road Bicycle

by Gerald Pease

The Death of the Traditional Road Bike

The road bike is dead; long live the road bike. In the past few years I have talked to many bicycle owners concerning how they feel about their bicycles. After a century of unquestioning acceptance of the same old thing, the winds of change are finally stirring. The number of bicyclists of all kinds trading their lightweight, skinny-tire road bikes in for mountain bikes is nothing short of amazing. Even more significant to me is the very recent recognition by the cycling public of the recumbent bicycle. Racers have stopped trying to race me when I pass them with my Lightning F-40. They know they don't have a prayer of staying with me longer than 30'seconds on a flat road. And I know exactly how they felt when they first discovered that they couldn't keep up with a 53 year-old arthritic desk worker pedaling a 40 pound enclosed easy chair. That's not fair!

With time comes acceptance, and the realization that the old rules of how things should have changed. Road racers have to train with aero bars to avoid being humbled by triathletes. Mountain bikers delight in inviting their 14-speed friends to accompany them on roads that invariably turn out to be in a shocking state of disrepair. Recumbent bikes fly past club pacelines on descents. In Southern California it's getting so the roadies are becoming an extinct species, hiding out in remote canyons. Even there they are outnumbered by fun-loving mountain bikers who snicker at the pretentiousness of the lighter-than-thou disciples. Always they have to live with the awareness that if they don't stay in peak condition, they could be passed on a climb by a mountain biker or even (horrors) a recumbent rider.

The Identity Crisis

Probably the biggest problem facing acceptance of the recumbent bicycle is, paradoxically, the wonderful variety of these machines. Their owners are exceptionally individualistic, often designing and building their own unique vehicles. The absence of standards for such fundamentals as wheelbase, handlebar location, or even the number of wheels proves to most people that the recumbent concept must be fatally flawed. It's high time an established manufacturing company looks at the best recumbent bikes available and integrates their finest features into a single rational design. My humble guess is that this bike will have two wheels, direct

steering, and a short to medium wheelbase. Why? Each of these choices is the most familiar to the average cyclist, and has been well proven with practical recumbent applications. Yes, there have been brilliant and successful three and four wheel designs, some bikes with handlebars under the seat that can hold a line through a turn, and many long wheelbase designs that are extremely easy to ride. But the compact two-wheeler with direct steering will be lighter, less expensive, more maneuverable, and easier to transport. Equally important, it will have satisfactory recognition and buyer acceptance from the decidedly non-individualistic buying public.

The Wonderful Future

Here's where there is plenty of time to expand on the basic theme. The conservative design I've just outlined is ideal for a full-length yet lightweight frame-mounted fairing. Crosswind side forces could be converted to forward motion by using the fairing as a sail. This is perhaps best accomplished by independently steering the rear wheel to "crab" it off the front wheel tract and point the entire "sailfaired" bike and rider into the wind a little. Since the rear wheel would not actually be used to steer the bike, three clickstop positions would suffice, corresponding to left, right, or straight- ahead pointing. Suspension systems will lower rolling resistance and greatly improve ride quality. Because pedaling forces are horizontal with the SWB recumbent design, a dampened suspension will not resonate or

bounce with hard pedaling.

A regenerative braking system consisting of a two pound rubber band attached to a bevel gear on the left side of the rear wheel, three lightweight clutches, and a simple rotation-reversing gear mechanism could drastically improve pedaling and braking efficiency. In fact, Dr. Paul MacCready has calculated that one pound rubber band can store enough energy to accelerate a 200 pound rider/vehicle combination to 20 mph from a reversing mechanism and bevel gear to wind the rubber band while stopping the bike, another would hold it under tension until the energy to the back wheel. Only one clutch would be engaged at any given time; the other two would freewheel. More aesthetically appealing, but less efficient and more expensive, would be an electric motor/generator and battery system. A compressed air pump/motor system using frame tubing for storage would probably work very well. Valve timing could be used to switch from pumping to driving. Also, there would be no need to carry a separate tire pump! Even if the whole thing ended up weighing six pounds, you can bet it would be the hot setup for stop-and-go traffic or a course

with tight turns.

All this stuff isn't even high technology compared with today's computerized cars. Yet it seems wonderful when you look at existing bicycles. I can imagine a bicycle so superior that I would even be happy to trade my Lightning F-40 for it! I am somewhat disappointed that the best HPV inventors and tinkerers are apparently not yet up to the task of building such a "superbike." It probably takes a company with the vision and R & D resources of Honda to design and build this dream machine. Right now it only exists in my imagination and on crude sketches that encourage me that it can be done (no, I won't publish them yet-but I hope you draw your own). Projects like this require a lot of money and time; are rare commodities in the HPV world. Sadly, tradition-bound companies like Schwinn are out of the running. Who will buy such an exotic bike, you ask? Well, how many car buyers do you see shopping for a 1900 style horseless carriage? That's how many serious, well-heeled cyclist won't buy a better bike. Dream on, you say. Yes! It's only a matter of time before such dreams come true, you know.

RECUMBENT NEWS

Zzip Designs announces NEW windscreen/ fairings and mounts for both the Linear underseat steering model and the Infinity. Both designs are very similar to the Ryan mount. The Linear model comes with either a slide on mount or a clamp on version. The Infinity version has a square insert in the fairing mount clamps for a better fit. Both fairings with mounts are priced at under \$300 complete. Zzip Designs, PO Box 14, Davenport CA 95017, Ph. (408)425-8650. We welcome the RANS INC., recumbent manufacturers to the R.B.C.A. Company President Randy Schlitter writes that they are considering a bubble type canopy for their bikes similar to the one that goes on the airplanes that his company builds. They are also experimenting with a new drivetrain, tension-field seats and a new seating position. No indication was given as to when these changes would hit he market. Rans Inc.,1104 E. Hwy 40 By-Pass, Hays kansas 67601. THEBIS INTERNA-TIONAL builds a classy new recumbent trike with an unusual design: short wheelbase (SWB), rear wheel steering (RWS), two wheels rear/ one in front, magnesium frame and a total weight of only 28 pounds! For more information write: Thebis, 2031 Malaview Ave. Suite #110, Sidney BC Canada V81-3X9, Ph.(604)656-1237. TURNER LAID-BACK The all-new LB-E made its debut in late May. The bike has a much cleaner frame design eliminating the mess at the main tube and chain stay junction. Other changes include a front derailleur post, (Yeah!) english size bottom bracket and headset, replacing the BMX size. The frame is still mostly square mild steel stock with new round seat tube and seat stays. This new frame is a remarkable improvement over the old LB-Jr, I had a chance to see frame #1 just as we were going to press. The LB-E comes as a frame-set only (including frame, seat, forks and handlebars) and the seat is Turner's low back design. The new frameset's suggested price is \$300. The new tall seat options is around \$100 extra. Turner Enterprises, PO Box 36158, Los Angeles CA 90036. CYCLOPEDIA has just announced a couple of new recumbent parts that should be of interest. First of all, an upright steering kit for Laid-Back Recumbents. The kit includes steering extension, stem, handlebars and grips. The extension is hinged and folds backward and forward for ease of entry and exit. The kit is \$150. Another innovative new part is the Lightning-Hyper-Drive, an intermediate idler freewheel (like CycloPedia's Econ-Bent) that will bolt onto your frame and create a two chain drive system. The kit uses the idler freewheel as a triple crank shifted by a front derailleur usually mounted under the recumbent's seat, you then need no multiple chainring crankset.(unless you're a real gear-head). This works best on recumbents that utilize 20" rearwheels and are have gearing problems. Call for more details: CycloPedia 1-800-678-1021. The R.B.C.A. and Recumbent Cyclist mourns the loss of two recumbent/ HPV advocates who have passed away in recent months Herbert Rose of

Clarkston Michigan and Sam Cox of Tubac Arizona (Geriatric Jalopy), our thoughts are with their families.

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Letter to the Editor

Dear Robert:

After calling Jim Langley, who is the senior editor/technical of BICYCLING Magazine's west coast editorial office, I am convinced we as recumbent cyclist can be heard. Each and every one of us needs to write to Joe Kita, Senior Managing Editor, and let him know we want recumbent bicycles featured in BICYCLING Magazine. Our membership is approaching 500, that's 500 potential letters Mr. Kita would have in his hands from recumbent cyclists. There is a significant percent of cyclists that continue to be plaqued with chronic pain and discomfort from the traditional upright bicycle. We can make a difference by exposing these individuals to recumbency through BICYCLING Magazine. Take the time and write a letter and get your friends to write. Together we can make it happen!

Send all correspondence to: BICYCLING Magazine 33 E. Minor St. Emmaus, PA 18098 Attention: Joe Kita To Health and Recumbency,

William L Ross, D.C.

CLASSIFIED ADS

LIGHTNING F-14 Recumbent Close-out.

Same layout and geometry as the P-38. SunTour 3000 components, 12 speed. \$650. Used bike, Lightning F-40 Prototype also for sale. 48 lbs., not for hilly areas, \$1800 OBO. Lightning Cycle Dynamics, 1500 E. Chestnut Ct., Lompoc CA 93436. (805) 736-0700

FOR SALE: INFINITY-I

LWB Recumbent, used, in very good condition, 10speed, silver satin finish, Suntour bar-Con shifters, Blackburn rear rack, SR pedals, BMX fork and new seat panel \$300. Contact: J. Bolt, 5125 So. Ellis Ave., Chicago IL 60615, (312) 324-8331.

FOR SALE: Sachs drum brake hubs, Roulandt OEM parts. SASE for list. Write: Bikes, PO Box 73, Mercer Island, WA 98040

SUMMER DEMO SALE:

1991 TOUR EASY:Candy red, 21 speed, medium size, Super Zzipper fairing, biopace rings, pump and bag. MINT COND.! Suggested Retail \$1640 NOW \$1449. 1990 INFINITY: Brand New Demo. This bike is new, blue and has about 5 miles on it. It also has a SunTour freewheel, SunTour XCE rear derailleur, XCM front, SunTour X-1 full indexing thumbshifters, 18-speed Sakae triple crank, Dia Compe GX brakes with QR and Kool Stop pads. The nicest Infinity you'll find-REDUCED \$600. Millennium Recumbent Cycles Call 11am-6:30 pm Pacific time. (206) 255-9479

CLASSIFIED ADS are free to RBCA members. We invite you to advertise your used recumbents, trikes, frames or components. Commercial ads are \$25 per insertion.

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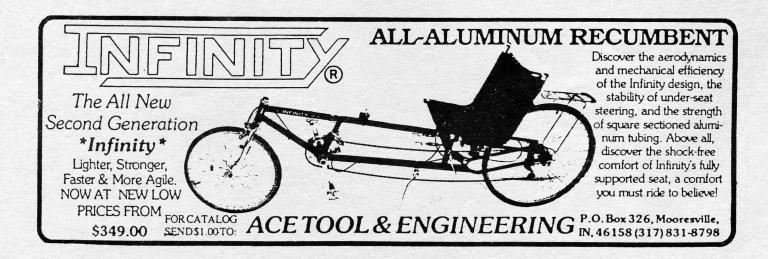
Welcome Recumbent Cyclists, the "readers survey" has been a success, about 150 have come back so far. We will be publishing a recap of the very interesting results. One disappointing result was our readership's lack of interest in this column. Do readers seem to want less editorial? Basically, I try not to use this as a "Rant" or how I spent my summer vacation-personal ramblings column, but a way for our members and readers to keep in tune with club business.

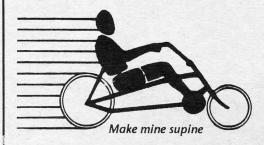
"Recumbent Movement" The RBCA and Recumbent Cyclist are getting more recognition as THE media authority on recumbent bicycles. We are getting more and more referrals and mentions in many mainstream bicycle publications. The latest being the June '91 Bicycle Guide with the Ryan Road Test. As a club we all need to do our part to raise public awareness for recumbency. Here are some easy ways for you to do your part: Show up at organized rides on your recumbent, organize a local recumbent rider group, contact parade, bike show or Festival organizers for booth space, Write an article for your local bike clubs paper, become involved in environmental or transportation alternative groups. We are in the process of preparing a "flyer" with two purposes 1.) to promote the RBCA/ Recumbent Cyclist and 2.) tell people about recumbent bicycles. This will be available to all members for photocopying and distribution when you are out riding. If you are interested in a copy of this flyer, send an SASE to the RC office in Renton WA. These will not be ready until late June.

The way the members can help the RBCA/Recumbent Cyclist become financially solvent would be to tell your friends, family, other riders about our publication. We will send out samples to anybody you like for a cost of \$3 each. We will also be raising our ad rates to help reduce each issues \$300+ cost deficit. If you have any other ideas to make the Recumbent Cyclist a better, stronger publication please write or give me a call. (206) 255-9479 11am-6:30 pm Pacific time.

Robert J. Bryant

Here is the up-to-date list of RBCA Contact People: Los Angeles area: South Bay Recumbent Riders: Gerry Pease (213)336-7731. Oregon: Oregon Human Powered Vehicles: PO Box 614, Beaverton OR 97075. Jake Jacobsen (503)644-7038. Colorado: Chet Rideout, 3183 Worthington, Ft. Collins CO 80526 Texas: Gary Klein, 5801 Hollister #1704, Houston Texas 77040. Eastern WA: Lawrence Walters, PO Box 265, Vera Dale WA 99037. Florida: David Hoekzema, 29 Hildreth Drive, St. Augustine FL 32095. Toronto: John Riley, 150 Gough Ave, Toronto Ontario, Canada M4K 3PI. British Columbia: David Conn, 248 Waterford Dr., Vancouver BC, Canada V5X 4T4. Western WA: (volunteer wanted-PLEASE!) call Robert (206)255-9479. If you would like to be added to this list or taken off, please write me at the RC office in Renton WA.





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