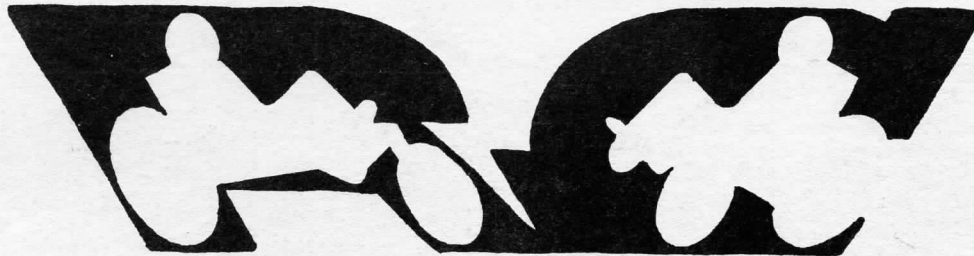


THE
RECUMBENT

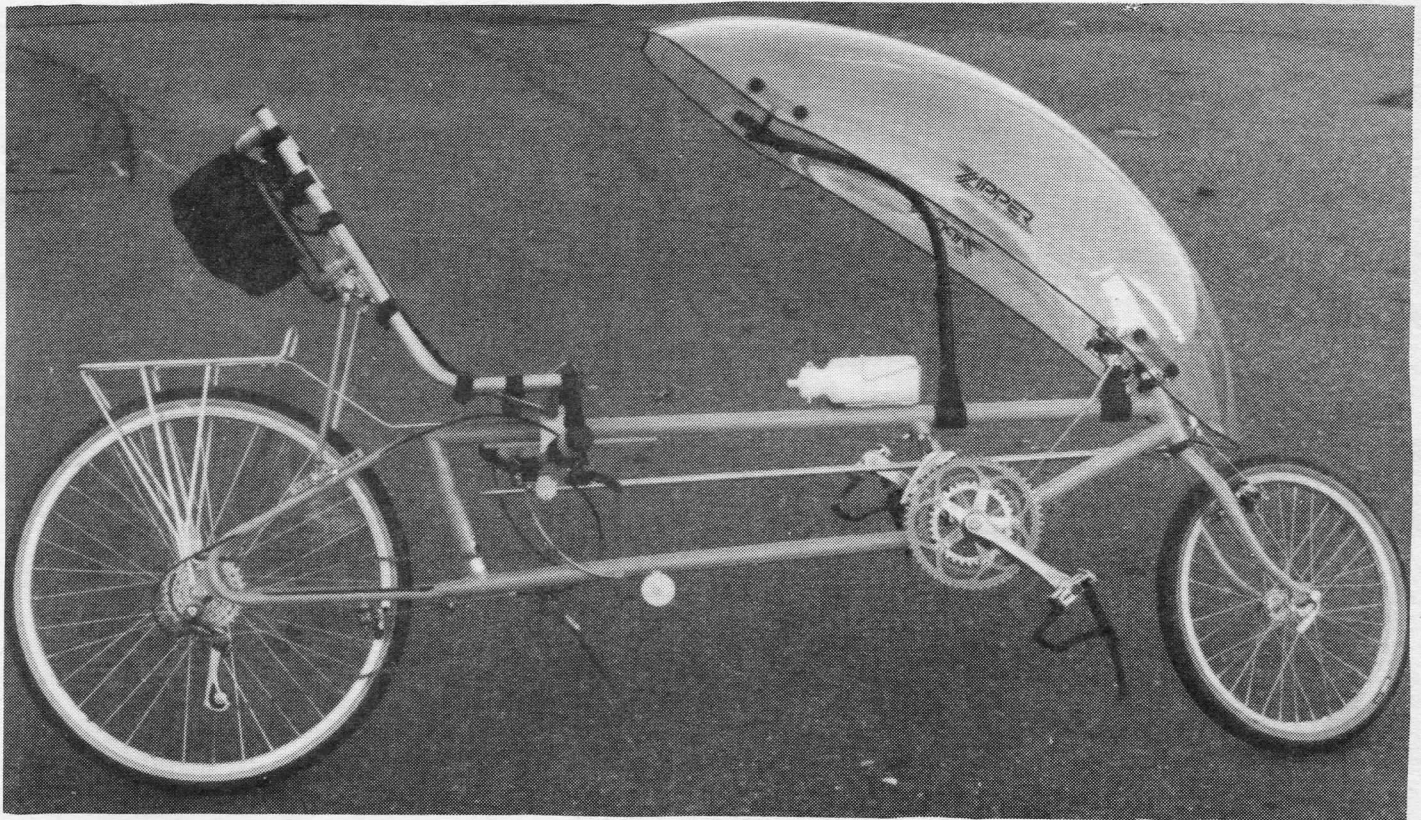


CYCLIST

JAN-FEB 1991

THE OFFICIAL NEWSLETTER OF THE
RECUMBENT BICYCLE CLUB OF AMERICA

VOL. 2--NO. 4



THE RYAN VANGUARD

The history of the Ryan Vanguard Recumbent actually begins back in the early 1980's. Dick Ryan, the company's founder, was involved in the manufacturing of the classic Avatar Recumbent. Dick has always been a firm believer in the LWB underseat-steering recumbent bicycle design. After the Avatar

ceased production, Dick set out to redesign and simplify some of the bike's complex systems. Back in the mid-eighties, the Ryan Vanguard was just an idea. What you get in 1991 is not a copy of a successful design, but a bike that has developed a reputation of its own as a first rate touring and commuting machine. This bike begs to be ridden long distances! RYAN ROAD TEST CONT'D NEXT PAGE

ROBERT J. BRYANT, EDITOR AND PUBLISHER
16621-123rd AVE. S.E. RENTON WA 98058

The Ryan frame is built of oversize True Temper 4130 chro-molly tubing, and is built in the USA. The frame is expertly TIG welded, with a full assortment of braze-ons. This is some of the nicest work that I have seen. The fork is exquisite. It is also chro-molly with lazer-cut and welded pieces that make up the steering rod pivot. My test bike was powdercoat Red, a beautiful and durable finish. Ryan can also provide custom paint jobs in your choice of colors.

The bike's component package is also very good. The Ryan comes stock with a Sakae triple crankset, with chainrings of 32-42-52 and a six-speed freewheel of 13-32T. This makes for a well rounded 26-104 gear inch range. The derailleurs are also SunTour, a rear XC9010 and a front XC7000. My '90 model test bike did not have a chain idler, but the '91 has a lower main tube mounted idler that picks up the slack on the lower chain. This new idler is made of delrin and will retrofit to pre-'91 models. The shifters supplied on my test bike are SRAM Grip Shifts. They are round cylinders that attach to the handlebar ends. To shift, you rotate one click, I found myself riding with my hands on the shifters all of the time. These shifters are very simple in design and the performance is impressive. If you do not like index-shifting, the Grip Shifts are not for you-- they have only an index mode. The '91 Ryan will come with SunTour Bar-end or SRAM Grip-Shifters.

The brakes on the test bike are SunTour XCD Cantelevers in front and Rolle-cam in the rear. The brake handles are SunTour X-1 MTB. The system stops perfectly. The Roller-cam especially has lots of stopping power. Setting up this brake can be difficult, but once set, they are powerful and reliable.

The wheels are worth mentioning because the Ryan comes with a 26" rear a Sun Rim and Panaracer fat slick. The front is a 20" X 1.75" Haro fat slick. The wheels are excellent quality, built with stainless spokes and sealed bearing hubs. Dick Ryan must have had comfort in mind here, or maybe the bumpy streets of Boston.

Every part of this bike tells me she is built to tour. The seat is very unique. It is also very popular among seasoned recumbent riders, especially those into touring. It is made of ventilated nylon mesh that is suspended over aluminum tubes--a very efficient design. It also adjusts in more ways than any similar recumbent seat. The bike's frame is a one size fits all (heights of 5'-6'5"). The seat slides on a custom-machined track that is mounted on the under-side of the bike's main top tube. My test bike, a '90 model, has handlebars adjusting separately from the seat. The '91 model will allow the seat and handlebars to adjust together. You can practically go from a near laying down position to a straight up and down and everything in between position. My first ride on

a Ryan was not quite as comfortable as I would have hoped. After living with the test bike for several weeks, I realized that it takes a while to dial-in all of the adjustable straps and seat angle. Once this is done, the seat offers lots of support and is very comfortable.

The Ryan's handling is in a class by itself. Smoother than many other LWB underseat steering recumbents. It is a very easy bike to control. The excellent handling characteristics are due to several factors: mainly the long wheelbase, but also the fat-slick tires give a softer more controlled ride. Dick Ryan deserves credit for the near perfect steering geometry. All of these factors give the Vanguard a ride that is stable at all speeds. I expected the under-seat/ indirect steering to be noisy, but a pleasant surprise was in store for me--no noise at all. (Some indirect steering recumbents steering linkage rattles over bumps in the road.) A factor that should also be mentioned is the bike's seat height. At 23.5 inches off the ground, it is higher than other LWB recumbents. This could be a consideration for shorter riders, but would not be as noticeable as on a SWB due to the inherent stability of the LWB design.

Many fine options are available for the Ryan. A Zipper fairing designed especially for the bike is available through Zzip designs. The Lexan fairing proved to have reduced drag by 20% when tested at M.I.T. The fairing mounts to the frame via custom anodized aluminum mounts. The total weight of the fairing and mounts is pounds. The current price for the Ryan Zipper is \$275, complete. Ryan also offers custom fenders for the bike, I could have used these on my wet and windy road test. Being a touring machine, touring racks are a must. The Ryan will accept most rack types, rear and/ or front.

The Ryan Vanguard has a classic proven heritage and is a refined touring/ commuting machine. My only criticism of the bike is that it needs to be assembled by a bicycle dealer, or more pre-assembly needs to be done at the factory. Dick Ryan assured me that he is working on this. I actually had to look pretty hard to find anything wrong with this bike. The current retail list price of \$995 is less than half of the Avatar back in 1982. For a recumbent of this quality it is a bargain.

For more information on the Ryan Vanguard contact Dick Ryan at: Ryan Recumbents
58-Lyle St.
Malden Mass. 02148
(617)324-1921

RYAN SPECIFICATIONS:

Size: one size fits riders 5'-6'5".
Weight: 30.5 LBS.
Wheelbase: 65.8"
Head Angle: 69 degrees.
Price: \$995
Drivetrain: SunTour 18 speed.

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 RYAN, PHOTO BY DICK
 RYAN.

**"RC FINALLY GET'S A
 COMPUTER!!!"**

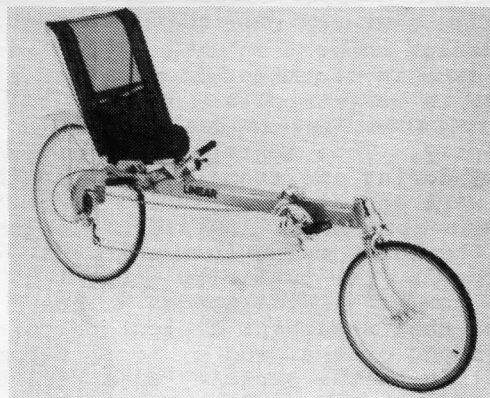
Robert Bryant, RC Editor, finally broke down and purchased a computer system. As of issue #5, RC will be produced on an **APPLE MACINTOSH!** This is a very exciting development, being that all past RC's were produced on a typewriter. Please make any submissions for the newsletter on disk (if you can) My Mac also reads 3½" IBM discs. If you have submitted an article that has not appeared in RC yet, and you have this capability, please resubmit the material on disc. The RC/RBCA will also be looking into electronic mail ASAP.

A NEW RC MASTHEAD?

Thanks to Dan Burdick RBCA member from San Jose CA. for the experimental logo/ masthead on the cover of this issue. We will be experimenting with some other versions of this logo.



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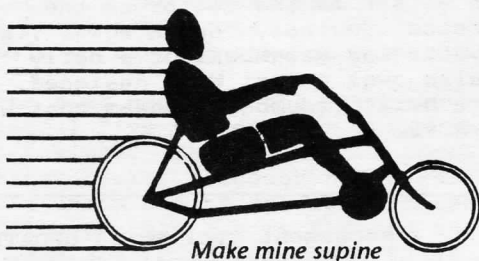


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THE HISTORY OF THE SWB RECUMBENT PART III

The History of the
SWB Recumbent
Corrections and Updates
from Part II (last issue)

In Part-II, I stated that David Gordon Wilson held a design contest in 1970. This rather crucial date in recumbent history was 1967. This date is very important because all modern recumbent developments came subsequently. This contest got world-wide publicity during its running and when the winners were announced in 1969. We believe that the developments in California that led to the IHPVA being formed were stimulated both by the publicity about the contest, in which David Gordon Wilson suggested that recumbent designs be considered among others, and by local reports of Fred Willkie in the Berkeley area riding the two machines that he made to David Gordon Wilson's sketches.

Later in Part-II, I noted that the "Wilson-Willkie recumbent" was very similar to the modern Hypercycle. Actually, the Hypercycle was very similar to the Wilson-Willkie recumbent that was designed a few years earlier, but recieved a great deal of publicity in a Mobil TV ad. I have the utmost respect for these recumbent pioneers, David Gordon Wilson and Fred Willkie. I also misspelled Fred Willkie's last name in Part-II. My apologies to the involved parties.

Robert J. Bryant

Special Thanks to RBCA member David Gordon Wilson for his correspondence that led to these corrections.

The History of
SWB Recumbents
More Comments from
David Gordon Wilson
(continued from RC #3)

If I were to restart recumbent designing now I would explore more over-the-wheel pedaling schemes to arrive at a medium wheelbase design (MWB). But first I would try various configurations of front-wheel drive with conventional pedaling. I would retain front wheel steering. If the cranks turn as the wheel is steered, the steering angle would have to be quite small, (perhaps plus and minus 20 degrees) but this would be quite enough for normal road use. It would limit

very-low-speed stability, when large and rapid steering changes are needed. Some machines have had the steering pivot between the wheels, rather like that on some earth-movers. One can also sit on a sub-frame firmly connected to the front wheel and have the "main" frame pivoted at the normal position. At some point this type of design becomes a rear-wheel steerer (RWS). Some authors in Human Power have written of developments of the kind referred to above can retain the compact lightweight transmission of the RWS with the will-mannered steering of the front-steerer.

David Gordon Wilson
Winchester MA

David Gordon Wilson is the Editor of the IHPVA's Technical Journal, "Human Power", and rides his Avatar LWB Recumbent on a daily basis. He also owns a Kurt Wold designed, Steve DeLaire built recumbent tandem that was pictured in RC#3.



The Recumbent Cyclist Newsletter is dedicated to promoting recumbent bicycles and providing communications between enthusiasts, dealers and manufacturers of recumbent bicycles.

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RBCA
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Robert Bryant
Editor and Publisher
16621-123rd Ave SE
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Recumbent Cyclist #3 UPDATE:

Sticky-Feet: Word is that the Cycle-Binding Company is out of business. Kelvin of Angle Lake Cyclery in Seattle Washington told me about the new TIME walkable cleat clipless system will arrive soon. My budget-recumbent pedal system is Sakae-LoFat mountain bike pedals with Christophe MTB Toe-Clips, Performance straps and NIKE Touring Shoes with a Velcro/plastic cleat. I have found that the higher the bottom-bracket of a recumbent, the more clipless pedals are needed. Although, I think that they will always improve your performance. DeLaire-Recumbent Tandem: RBCA-member Mike Ziegenbein of Doraville Georgia. Mike also rides a Lightning P-38 and was very excited to read about and receive his new tandem--lucky guy.

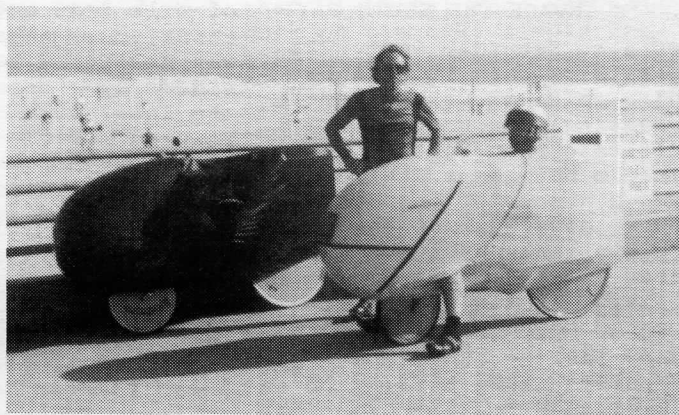
THE OUTRAGEOUS LIGHTNING F-40

The word is out. The outrageous-looking Lightning F-40 is one outrageously fast recumbent bicycle. Don't expect any other bicycle to be pedaled from Los Angeles to New York City in five days and one hour, as the Lightning was in August 1989. Members of the four-man relay team that powered it took turns every hour to two hours, obeyed all traffic laws, lost their hydraulic brake gripping power in torrential rains, had seven flat front tires, accidentally wandered into the fast lane of a freeway, and even broke the long drive chain once during energetic hammering by Bob Forney. Then they went on to finish well over a day ahead of the second and third place HPV teams. The box-stock F-40 is so fast, given the right rider, it is capable of winning any of the increasingly-popular criterium races for GT-class Versatile Vehicle HPVs.

Not so apparent to the casual observer is the F-40's outrageous comfort. Sure, it has the great ergonomics of the Lightning P-38-- and more. The full-length fairing obviously keeps you snugly warm in cool weather. It must be uncomfortably warm on a hot day, you're thinking. That's the outrageous part! The Spandex midsection is an efficient sunshade with controlled ventilation. It's amazingly cool and comfortable in the hot sun. It makes sense then, that four of these rare and exotic machines are in regular use in sunny Southern California. Pete Penseyres cuts 20 minutes off his daily bicycle commute by riding his F-40. Many people find it outrageous that the well-streamlined F-40 can be comfortably and safely ridden in strong crosswinds. Experienced F-40 riders have learned to actually enjoy crosswinds because the fairing acts like a wing sail to increase the already out...uh super speed advantage. Just lean into the wind and the F-40 tracks straight and true.

There are three things about the F-40 that knowledgeable bike connoisseurs agree are not outrageous. The first is the 45-inch wheelbase. This leads to the second item: near perfect weight distribution and handling. The third point of agreement, and the hardest to swallow, is the \$3500 price tag. It's a lot of money for a bicycle. And it's a genuine bargain for the Ferrari F-40 of bicycles. The Ferrari F-40 namesake is not nearly as attention-getting or as superior to other cars as is the Lightning compared to other bikes. One Ferrari F-40 would set you back the price of 100 Lightning F-40 bicycles.

I've owned my F-40 for two years and 12,000 miles of near-daily use. I'm totally spoiled for any other bicycle. Including the unfaired or partially-faired version. The 18-speed gearing range on my bike is 24-132 gear-inches. I can pedal comfortably up steep hills in my 37-pound touring configuration (advertised weight is 32 pounds). I do find it pretty easy to spin out the 54-



tooth chainring/ 11 tooth freewheel cog on any kind of a downhill, though. This means I have to coast when I reach a mere 50 mph where the RAAM racers were able to use slightly higher gearing to advantage and were clocked coasting at 65 mph down some hills.

Designer-builder Tim Brummer of Lompoc, California is currently working on the solution to what I consider the only important design flaw of the F-40. This is the short Reynolds 531 front forkset in which the 17-inch diameter front wheel rides. This size wheel was originally intended to be used only on sprung-suspension Moulton bikes. The large fiberglass front fairing assembly strapped into the forward-located crank bracket of the F-40 is highly stressed when negotiating rough roads at F-40 speed, accentuating the need for shock-dampened front suspension. The upcoming suspension mod will transform the Lightning F-40 from merely outrageous to the definitive practical HPV in a world all too accustomed to mediocre bicycles.

by Gerald Pease
Manhattan Beach California

RYAN CONT'D1991 RYAN UPDATE:

After the above road test was finished, but before press time, I was able to get the latest word on the '91 model. The changes are a more simplified seat/handlebar mounting system. The seat-horn, the fitting that holds the forward section of the seat up, has been lowered a little for even more comfort. The frame is virtually the same except for the bottom-bracket which will be mounted 1.5" higher. The biggest news for '91 is the addition of the chain idler. It can be retrofitted to any Ryan. The cost for the idler is \$19.95 from Ryan Recumbents. A new optional seat-mounted pack is also available.

THE RYAN COMMUTER, A new model, hopefully will be unveiled this Spring. The Commuter will have the same frame built with lower-line components. Price is not available at press time.

Robert Bryant

HPV's INVADE THE SOUTH BAY!

9:00 a.m. Saturday Sept. 22: As the bike path from Santa Monica to Palos Verdes became increasingly crowded with cyclists turning out for the Multiple Sclerosis Charity Ride, a number of peculiar-looking bicycles and tricycles were spotted converging on Burton Chace Park at Marina Del Rey. From a distance they appeared to be small children riding tiny bicycles. Then as they grew closer they looked to some like a motorcycle gang on chopper bikes with pedals. Two bright bullet-shaped vehicles suddenly appeared at high speed. Only the heads of the middle-aged riders were visible above the streamlined shapes, each gliding along on two wheels. Next, an even lower three-wheeler was seen. The rider was laying on his back, seemingly almost scraping the ground as he sped along under a plastic canopy!

Was this an invasion from outer-space? Closer inspection revealed that the supine humanoid forms pedaling feet forward were actually English speaking local inhabitants. They tried to explain to puzzled onlookers in the park that these crazy bikes were Advanced Human Powered Vehicles, a portent of the future. In the near future, gasoline may cost \$10 a gallon and we may all be comfortably zipping around in high-tech, non-polluting pedal cars that don't rely on external energy sources other than a carbohydrate-rich diet for the rider. Mileage? 100 miles per gallon

of milk flat out at 40 m.p.h, thank you. An announcement was delivered to the recumbent riders by a representative of the International Human Powered Vehicle Association. John Paul Mitchell Cosmetic Systems will pay \$5000 to the fastest rider from San Francisco City Hall to Los Angeles

City Hall! No support Vehicles allowed. The prize is to be offered for one year and monitored by the International Human Powered Vehicle Association. Second fastest will win \$3000. Third fastest will get \$2000. Tom Traylor of Torrance (CA), gray haired designer/builder/owner/rider of the sleek, sharklike "Critical Mass", has a contemplative look on his face. He's used to dusting off double century rides faster than strong riders half his age, but this sounds like a real gutbuster. Lesees now.... the winner will probably do the 410 miles in 17 hours, and will definitely earn his \$294 per hour.

While bystanders gaped, a group of riders in their mid-sixties sped off for coffee and doughnuts. Shortly afterward, 18 other assorted vehicles braved the bike path, now choked with charity riders of thoroughly obsolete bikes. The laid-back non-conformists were next seen at the Manhattan Pier. Once there, some decided to catch a quick lunch in Hermosa Beach before pedaling home.

Gerald Pease
Manhattan Beach CA.

Gerald Pease is the laid-back leader of the South Bay Recumbent Riders. This informal group is a model for anyone considering an RBCA Chapter. A telephone Roster is kept of active riders. Gerald rides a Lightning F-40 Streamliner and also has Tour Easy. If you are interested in talking to Gerald about his rides or his local group, give him a call. (Ed.)

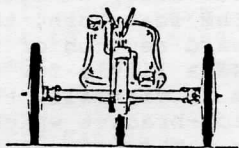
Gerald Pease
(213)336-7731 (day)
(213)379-6663 (eve, wkend)

TNT RECUMBENT RIDE '90

On October 28 1990, recumbent riders met in Van Saun County Park in Paramus, New Jersey for TNT RECUMBENT RIDE '90. About 15 participants met for an HPV festival and ride, but inclement weather forced the ride to be canceled.

TNT Recumbent Ride '90 is the first recumbent ride sponsored by David Thierer of TNT Enterprises, an HPV dealer in New Jersey, and will become an annual event. The ride was to start in Paramus, New Jersey and go to Nyack, New York and back, for a total of 38 miles.

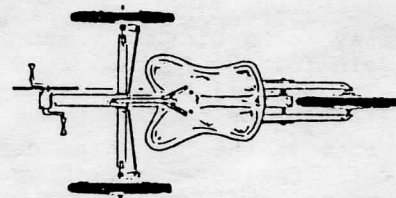
The riders, who came from all over the New York-New Jersey area, showed up on a wide variety of recumbents. There were a number of Laid-Back Bicycles (LB), Lightnings, and Tour Easys, as well as a Vacuum Velocipede, a Velocar prototype, and a Roulandt. There were also many home-built, including a recumbent-



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"Highly recommended", says Robert Bryant of
"Recumbent Cyclist".

TNT Recumbent Ride Cont'd

tandem (with a 10' wheelbase), a recumbent trike and a long wheelbase recumbent, sporting 36 speeds.

With the present gas crisis, the riders wanted to come out in numbers to show the efficiency of HPV's and bicycles in general as an alternative means of transportation. Many of the riders have been solo advocates for human powered transportation, and this event brought many of the participants together for the first time.

Members of the local press interviewed participants and photographed the HPV's riding around the park, because threatening rains cancelled the ride. Many spectators, including members of the Bicycle Touring Club of NJ, were given the chance to ride a recumbent for the first time.

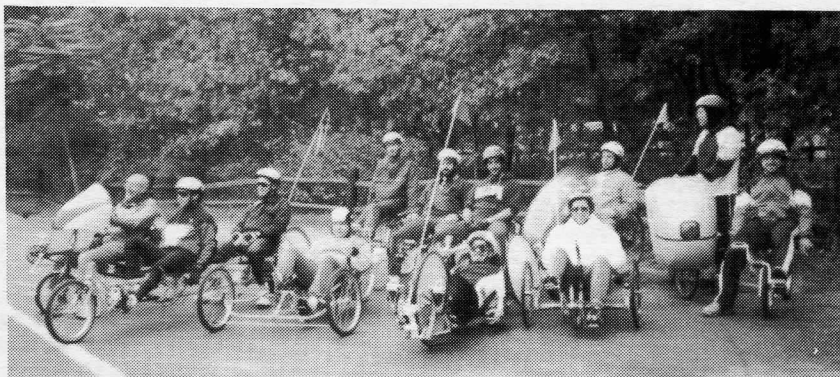
As Frank Reynolds, a Tour Easy rider from New York said regarding the numbers of HPV'ers he was riding with, "Now I don't feel so weird." This seemed to be the overall feeling of the participants. One recumbent rider teased a diamond frame rider (old-fashioned bike) with shouts of "Hey you on that strange bike!"

For further information regarding upcoming events, contact David Thierer at TNT

Enterprises at (201)599-1118.

Editors note: The TNT ride notice arrived only a few days late to make it into RC#3. In the future, we will try to give David plenty of notice for his annual ride. David and his company TNT Enterprises specialize in Turner Laid-Back Recumbents.

David Thierer, TNT Enterprises, New Milford NJ



FROM THE EDITORS DESK:

Welcome Recumbent Cyclists,

By now many of you have received your RBCA membership packet--and you are "OFFICIAL RBCA members". The Recumbent-owners network is taking shape many of you have received a roster of RBCA members and what kind of bikes they ride. If you are looking towards a certain model--please take the time to write or call a fellow recumbent rider for some input on the model that you are considering. Most recumbent owners love to talk about their bikes. We are also growing so fast that the lists become outdated quickly, if you would like the most recent list of recumbent owners, send the RBCA your request with a SASE. RBCA Chapters? I even hesitate to use that term, usually a chapter becomes a one-person-doing-all-the-work type of affair. We want to avoid this like the plague. The RBCA has received an inquiry or two from members wanting to form some sort of Recumbent-Rider-Group. This should be a key phrase, "rider group". For any member interested in starting such a group, the club will supply a current complete RBCA

roster to help find members in any given area. We will also offer space in the Recumbent Cyclist for event or ride scheduling and announcements. We highly recommend "informal-rider-groups" with no rules. The best way to attempt this is through the use of .15¢ postal cards to form a roster. Once the roster is made-up, this usually takes ten bucks of postage or so, the best way for members to communicate after this, is by phone or through the newsletter. So

RBCA chapterhood becomes a telephone list and a few dedicated callers to get people out for a little ride or show-and-tell session. The nearest to perfect model for this is Gerald Pease and the South Bay Recumbent Riders. This is one of the most active recumbent rider groups in the country. If you want to learn more about Gerald's group see his article in this issue. We are also compiling a list of RBCA/recumbent contact people in various parts of the USA (or World), who would like to volunteer to help get people "connected" either with recumbent owners, local dealers or this could lead to

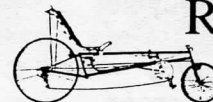
a rider-group. If you would like to be on this list, please drop me a line at the Renton (WA) address. This by no means volunteers you to start a group. So far, there are no structured plans or duties for these "contact-people."

RBCA NAME CHANGE? What do you think? The RBCA was started as an American club to promote recumbent cycling. The membership base is in the USA, but we have many members in Canada, and around the World. The idea was brought up to me to consider a possible club name change. So I am hereby asking what you think. Those RBCA patches and the current logo are so nice.....

Robert J. Bryant
Editor and Publisher
16621-123rd Ave. SE
Renton WA 98058

The RBCA patches are \$3 from the RBCA, Nashua NH.

THE
RECUMBENT
CYCLIST



READER'S WRITE:

A couple of years ago I decided it was time for a new road bike. I had been a member of the International Humam Powered Vehicle Association for awhile and was aware of recumbent bicycles. A ride on a friend RANS Stratus convinced me, though I found the Stratus a bit awkward. The IHPVA Source Guide provided addresses and soon I had quite a collection of brochures and a few names of dealers in Florida. Fifty miles to Gainesville yielded a ride on the Lightning, a used bike. Two hundred miles to Tampa yielded a ride on a used Tour Easy and I looked at a couple of other models. I found both of these bikes easier to handle than the RANS. My first impression was that I preferred the Tour Easy for its handling. It is more stable than the Lightning - Or perhaps I should say less responsive. This is a matter of personal taste, of course, and I have always preferred the ease and stability of a touring bike to the responsiveness (dare I say twitchy) of a criterium racer.

Despite the slight preference for the handling of the Tour Easy, I bought the Lightning. The main reason was a friendlier dealer and my preference for the color blue. I have since fiddled with the gearing and added a ZZipper Experiment Long Bubble Fairing. Both Tim Brummer and Karl Abbe of ZZipper were most helpful.

Now that I have lived with it for a couple of years and a fair number of miles I have formed some better opinions. First, I'm glad I got a recumbent. It really is more comfortable; no more neck and shoulder pain, and no more tired bottom, although I still get a little numb in my right foot on long rides. And it really is faster. I average about 15 mph on long rides

now, I used to do about 12 mph, I got about half the difference by switching to a recumbent and the other half when I put the fairing on. You can tell I'm a recreational class rider. I expect a strong rider would see a larger gain, as aero drag is a better part of his work load.

About the Lightning itself, I am pleased. It is nicely made of good material, a quality product. I like the mesh sling seat which is comfortable and allows air circulation to my back. I like the (upright) handlebar steering, although it is a bit close to my body, and having all the controls at my fingers. I am not so pleased with the size of the front wheel. There are two options, a 16" X 1-3/8" and a 17" Moulton. Both are difficult to find tubes and tires for. The 16" is a fairly low pressure tire and the Moulton is very expensive.

Since getting this bike, I have tried a few others for short first impression rides. I liked the RANS Nimbus better than the Stratus. It handles more like a Tour Easy. I also had a chance to try a classic Avatar, the only one so far with under-seat steering. It was as strange as I had imagined; a couple of passes through the parking lot and it was going where I wanted it to.

This year my wife admitted she wants a recumbent too, so we are back in the market. It remains to be seen what we'll get for her.

David R. Hoekzema
St. Augustine Florida

When Choosing a Recumbent— Add Up the Features First



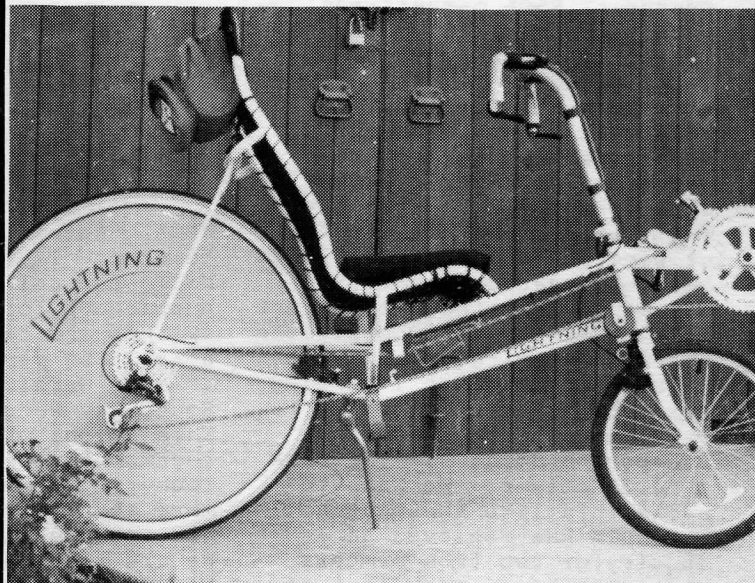
DH Series Model 5000

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1990 Lightning P-38
photo courtesy of Tim Brummer
Lightning Cycle Dynamics
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Johan Vrieling and the FLEVO BIKE

At the house of Vrieling, ordinary bicycles are not visible, nearly all inhabitants ride the futuristic FLEVO BIKE. The Flevo was designed and built by Johan Vrieling, a recumbent pioneer.

The bike is named after the Flevo Polder in the Netherlands, a polder being somewhat equivalent to a county in the USA.

Vrieling is an entrepreneur who has built sailboards, ice boats, land sailers and cars. "What I saw (says Ton Ten Brinke), his hands made". Vrieling operates under the motto, "I want to make it myself". His first HPV project was a recumbent trike similar to the Burrows Windcheetah (Speedy), using square tubing. He builds the Flevos out of square tubes. Why not round tubes? Because the ease of working with square tubes. You can build every possible angle much easier than building with round tubes. Johan Vrieling and the Netherlands HPV Associations unofficial motto is, "Nothing is impossible and everything can be done--differently".

For years Johan Vrieling experimented with this design. He is a metallurgy teacher in the capital of Flevo Polder, can you imagine a better occupation? The first Flevo started out as an old bike frame and some square tubing. During Johan's recovery from a bicycle accident, he was able to spend more time on the design. The Netherlands HPV Association (NVHPV) members were also a big inspiration during the design and building stages.

In the Spring of 1988 the Flevo Bike was born. It's main attributes are a short chain, compactness and the unique suspension. The Flevo is front wheel steered, the handlebars are mounted to the rear section of the bike and there is a hinge/ headset under the seat that connects the front and rear sections. The rear section also detaches and easily converts to a trike, the Flevo Trike. The idea here is to change a sporty commuter to a family workhorse, the Flevo Trike is great for carrying groceries, a passenger and even camping equipment.

LATE-LATE FLEVO NOTE: RBCA foreign correspondent and article co-translator Mats Nilsson (Umea Sweden) recently informed me that he has placed an order for a Flevo. Mats also has a Lightning P-38, Roulandt, Trice trike and most recently an Infinity.

Flevo Bike plans are available through Ton Ten Brinke in care of NVHPV, Postbus 10075, 1301 AB Almere, The Netherlands. Ten Brinke is a Flevo owner and is interested in spreading information on the bikes. Keep in mind that the Flevo design's simple steering is rather special and the bikes takes a little time to become accustomed to.

by Ton Ten Brinke
The Netherlands

translated by:
Mats Nilsson, Umea Sweden and Peter DeGroot,
Coloma Michigan and submitted by Mike
Eliasohn of St. Joseph Michigan.

Flevo Special Report

As we were going to press, we recieved a letter from RBCA member Li Hock Hung, the RBCA's only member in Singapore. He was intrigued by the "aura of mystery" surrounding the Flevo articles in the previous issues of the Recumbent Cyclist. He has become a Flevo owner and writes the following: "The bike is the creation of Johan Vrieling and his son Edwin, address: DeMorinel 55, 8251-HD -Dronten, The Netherlands. Dronten is 50 miles from Amsterdam. Father and son speak good english but have difficulty writing it. They produce fifteen bikes per month, hence the three month waiting period. Cost is \$1000 (+shipping) USA dollars for the standard 5-speed. The Flevo can also be fitted with a 12-speed derailleur. Specs: steel frame--45 pounds, 20" wheels, Magura Hydraulic brakes and of course the square tubes. Performance: It is front wheel steered rather like the Brike (trike from Oregon), by banking--to use an aviation expression--with leg and body tilts. The Flevo looks state of the art but manueverability is limited to large turning circles or watch out for instability, because of this handling characteristic, speed has to be sacrificed."

Sleuthing for Johan and the Flevo Bike took lots of faxing to the Netherlands Embassy in Singapore who finally got me in contact with Hans Goes, editor of Fiets, a Dutch bicycle Magazine, and from him to Johan.

Li Hock Hung
Singapore

Li Hock Hung is currently the only RBCA member in Singapore and owns a Counterpoint Presto, a Ryan Vanguard and a Flevo Bike.



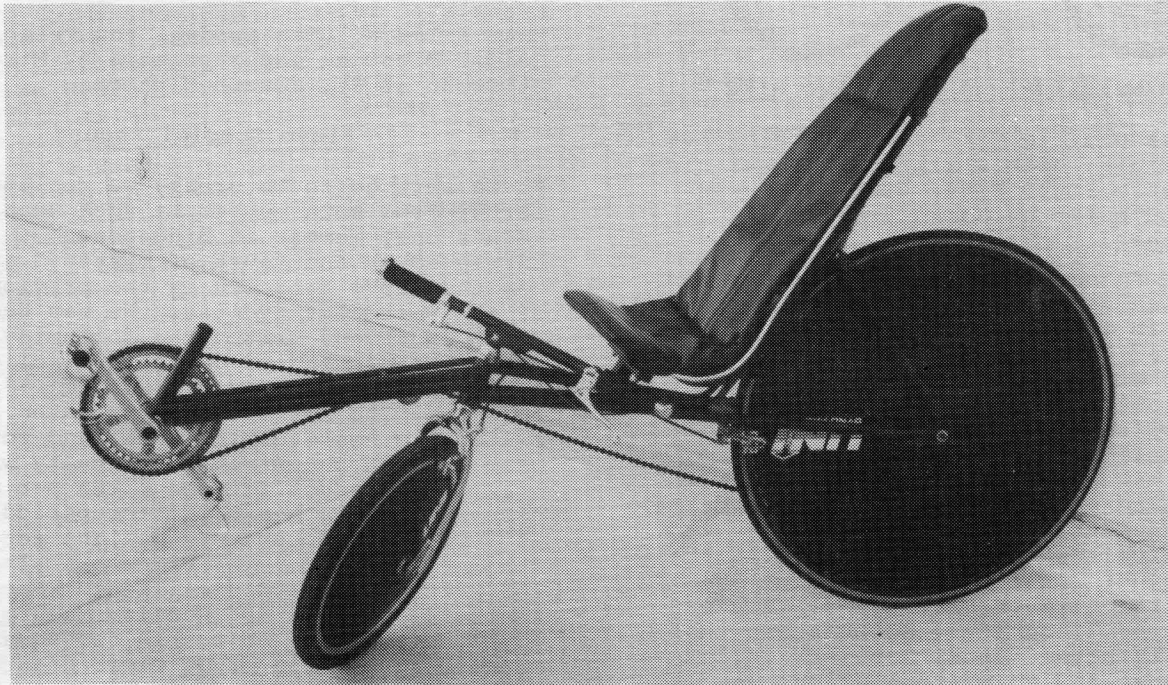
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**From the desk of Dick Ryan
Founder of the RBCA
and Owner of Ryan Recumbents**

Performance! Invariably it is defined as how to get from point A to point B as fast as possible. The articles about training are endless. Also, the articles about how to trim weight off your toe-clips, or tests of the latest \$700+ disc wheel that will reduce your time trial by three seconds.

The physical extremes that people can go to in the name of performance are amazing. For instance, Paul Solon, the winner of the 1989 RAAM in a letter to Bicycling Magazine, "I still have a bit of numbness in my left foot. My left hand is shriveled and I've lost strength in one of my biceps." If I remember correctly, his crew had to create a makeshift head brace because he could no longer hold his head up for the last day or two. It's interesting that Greg Lemond was asked about competing in RAAM, he replied that he couldn't conceive of sitting on a bicycle for more than eight hours.

I think that there is a fine line between macho and masochism. In the past I have raced motorcycles, automobiles, flown hang gliders and took up ice hockey at the age of 45. All of these activities entail some risk and in most people's opinions would fall into the macho category, but to drive yourself to the point of permanently damaging yourself on a bicycle borders on masochism, or at least obsession.

I get the impression that consciously or unconsciously most of the editorial people feel that unless you are willing to overcome pain and suffering you are not a real bicyclist; bikes that are comfortable and safe just don't fit in with their perception of what bicycling is all about. Also, to the best of my knowledge, there is only one person that I know of amongst all the editorial people who write for the two major bicycling publications that has ever put any serious mileage on a recumbent!

The feedback we get from customers tells us that the majority of them are less interested in performance than they are in simply enjoying the pleasures of bicycling and that they aren't interested in the macho pain and suffering routine. (Although many of them tell us that on long rides they are often passed by the macho riders early in the day, but by the end of the ride these people are often behind them.) It seems to me than another definition of performance is in order, perhaps some kind of a pleasure to pain ratio type of scale could be devised for the 100 year old design. In any case, we are interested in performance, but the type of performance that leaves people smiling, not the type that leaves people sitting around discussing carpal tunnel syndrome, saddle sores and all the other things that we read about in the medical columns of the bicycling magazines.

The attitudes of the shop owners is another story. Whenever I travel, I stop at the local shop and ask about recumbents. The answers range from "what's a recumbent", to "those things are no good, they are dangerous", "they don't go up hills", and a bunch of other misinformation. If you ask them if they came to those conclusions through personal experience you will usually find they have never even been on a recumbent. Almost all of our customers report the same type of experience at their local shop. One of our customers told us

that his local shop refused to work on his bike simply because it was a recumbent. Obviously not all shop owners are of the same opinion, but enough of them have it, that it makes it difficult to market our product.

There are some valid reasons why the shops don't want to carry them. Obviously, they feel that they are not going to sell enough of them to warrant stocking the bikes. They are unfamiliar with setting them up, they feel that they would have to spend too much time teaching people to ride them and they take up a lot more floor space. I believe that until the demand reaches the point that the shops can see that they can make a decent profit from recumbents their attitudes won't change.

Ten years of experience with recumbents tells us that we have a viable product, the number of companies has grown from three to about twenty in the last ten years. We have thousands of bikes on the roads of the world. It is hard to understand how the people who have the power to popularize these bikes can continue to ignore them, let's face it, the name of the game is profit! Profit for the manufacturer, profit for the bike shops and profit for the bicycling press. If someone out there can tell me how to convince these people that they are missing an opportunity to increase their profits--please let me know.

Dick Ryan
Malden Mass.

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CAR-TOPPING RECUMBENTS

One of the few disadvantages of a long-wheelbase recumbent is that it is more difficult to transport by car. Very soon after I started riding a LWB in 1982, I discovered that the bike could be transported up-side-down on the roof of a small car. Recently I have been using a more secure version of this technique. The system is made up of a Yakima rack cross member, a Yakima kayak stacker with custom diameter tube insert, a padded wooden cross-member that attaches to the top of the seat, and rope.

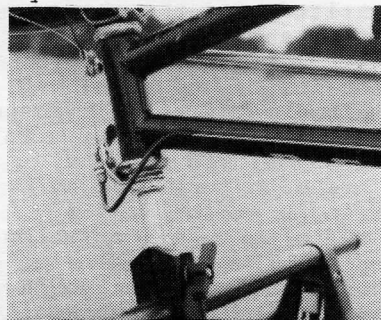
The system works like this: first I attach the Yakima rack cross-member to the roof. The kayak stacker is attached to the cross-member but not tightened down. The wooden piece is attached to the top of the bike seat. The bike is tipped upside-down and placed on the roof of the car with the kayak stacker tube being inserted into the steerer tube of the bicycle. The bike is centered, the kayak stacker is tightened down and the ropes are attached.

The system has been used for about 3,000 miles, but be advised that it is experimental. It appears that quite a bit of stress is placed on the head tube area of the bicycle. An alternative may be to simply tie the head tube to the rack cross-member to keep the rope from sliding side to side in cross-winds. The system has allowed me to easily transport a LWB recumbent on a car with a very short roof. It would have been difficult to do this by any other means.

John Riley
Toronto Ontario Canada

CAR-TOPPING
THE EXPENSIVE WAY

Not having access to recumbent cyclists hints, a few years ago I was searching for a way to haul my Tour Easy on top of a VW Fox. The basic rack that I used was, again, the Yakima. I purchased a tandem mount that was rather expensive. The tandem mount rests on top of the rack and quick releases to the front forks of the bike and then resting on the bottom bracket. The problem with this system is that there is no way to support the rear of the bike, because the bottom bracket of a LWB is close to the front fork drop-outs. The problem was solved by making a wood pedestal out of 2 X 4's. I used three cut sections of 2 X 4 and bonded them together with wood glue and screws, in an "I" formation. The bottom of the "I" was hose clamped on to the tandem mount and the top of the "I" was upholstered with vinyl and foam so that my LWB would rest comfortably



on the pad. The measurement of the center section of the "I" is crucial. You want to make sure that the pedestal height lifts the bike high enough to easily anchor down at the fork and bottom bracket. I then had to modify the Tour Easy with a quick release front brake because of always having to take off the front wheel.

John Davy, of Renton (WA), hauls his DeFelice on top of a Honda Civic. The car came with a factory luggage rack. He then found some aluminum channel at the nearby Boeing Surplus store. He attached this to the car's luggage rack and presto! It sounds like a very simple and inexpensive system.

You may want to check the availability of a Yakima "extender kit", that would use the standard front fork mount and rear wheel/gutter mount, but provide an extension forward on the front. It will take a little detective work to find out if this is actually available. Hauling the LWB around in the back of my Toyota Pickup is not a problem. I like the looks of the pickup bed fork mount racks. Anyway you look at it, hauling your LWB around on a car can be difficult.

RJB

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The 1990 Trice Recumbent Tricycle

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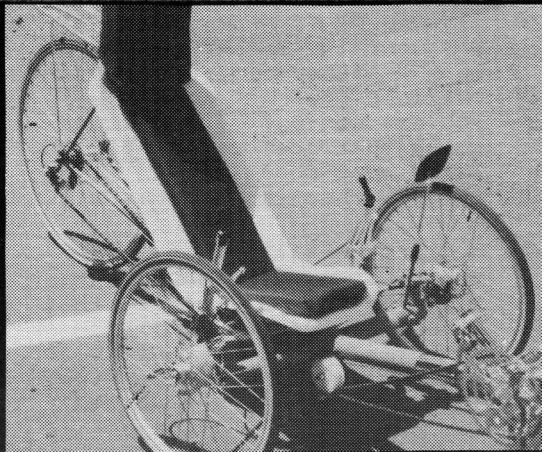
The front wheels are 20" and the rear a standard 700C. Both are high pressure narrow track tires on the *Speed* while the front are 1 3/8" low pressure tires on the *Touring*.

To further reduce weight the *Speed* has an aluminum pedal tube while the *Touring* has a chromium plated steel tube. Loosening one clamp allows the pedal tube length to be adjusted.

The rear of the frame uses Reynolds 531 stays allowing the use of quick release hubs.

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THE RECUMBENT CYCLIST**FUTURE-TECH--ALTERNATIVE DRIVETRAINS**

A few issues ago, (NWHFVA #1) we published an article that discussed the rumored Shimano FM-5, five speed internally geared crankset. We received many cards and letters requesting more information on this new system. It seems that HPV/ recumbent riders are more open minded to these new ideas. This is just a brief update on current offerings in the internal gear/ drum brake hubs.

The Shimano FM-5 is not part of Shimano's 1991 component line. No new information is available on it. I was able to find a little modern history on the idea. The FM-5 is a licensed version of a gearing system made by Bridgestone-Japan (called the FM-4?). The Bridgestone version has four internal crankset gears. The unit is currently used in Japan on commuter bikes and has been for some time, according to my source.

Sachs-Huret currently markets the two-speed internal hub-drum brake--the Orbit. The most recent version is the "ATB" model. Ron Eskes of Enumclaw (WA) was lucky enough to get one of these rare and gorgeous units. He also has the matching front drum brake. The Orbit has two internal planetary gears. The high is a 1:1 lockup and the low is a 25% reduction accessible at the flip of a lever. All Orbit hubs have threading for a 5,6 or 7 speed freewheel or cassette (ATB version)--enabling 10,12 or 14 speeds without a front derailleur. The unit is also available without a drum brake. The only drawback that I could see was the hub's weight; it is heavy--especially the brake version. Quantities of the Orbit are limited. Special orders are possible, but can take several months.

Sachs also produces the "Pentasport Hub", an internal five speed (with a rumored six in the making). The Pentasport comes with a coaster brake, although nonbrake and drum brake units can be special ordered. The gearing on this hub is figured this way: Gear #1 is a 33% reduction; Gear #2 is a 22% reduction; Gear #3 is a 1:1 lockup. Gear #4 is a 28% increase and #5 a 50% increase. These are widely spaced gears but you couldn't ask for a simpler system. Pentasport coaster brake hubs are usually in stock at Sachs in California. Pentasports with optional drum brakes have to be special ordered--and can take six months or longer for delivery.

Sturmey-Archer (SA) builds similar hubs: a three and five speed internal hub/ drum brake and a drum brake/ freewheel hub. (Sorry no internal two-speed/ freewheel hubs.) Availability is much better on the SA and they are less expensive than the Sachs. For information on the SA line of hubs, contact Cyclo-Pedia in Adrian Michigan. Just check this issue for Cyclo-Pedia's ad.

All of these durable, time proven hub/ brake gear systems are viable alternatives for the recumbent/ HPV or that project than needs special gearing or braking applications. These units are widely used in Europe and Japan for commuter bikes. Even Alex Moulton bicycles offer internally geared versions of the AM series of superior upright bicycles. Many other European manufacturers use the Orbit or SA hubs/ brakes on upper-end market touring bicycles. The Orbit used with a seven-speed freewheel and a double crank will yield 24 gears and a fine drum to boot.

Robert Bryant

In the next "Future-Tech", we will examine the Paradigm CV-Posi-Drive-Variable-ratio/ non-derailleur drivetrain. If you cannot wait, send \$2 for a copy of Paradigm's brochure.

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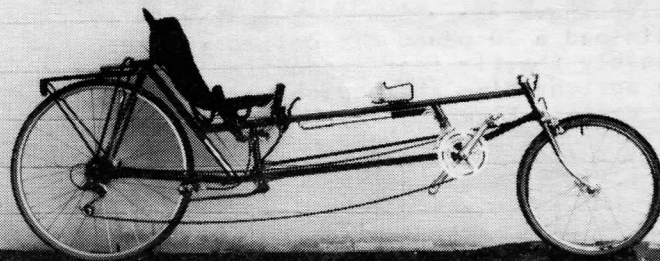
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INTERBIKE '90

Anaheim California is where most all bicycle-industry people flocked to last October for the spectacle they call, "Interbike."

This was my first time at Interbike and I was amazed. It was the largest and flashiest show that I have ever been to. The show was huge. We spent two full days there and still did not see it all.

Bikes and bike parts and accessories from all over the World were present. The new global MTB bike industry was noticeably present. New suspension MTB models from Scott, Offroad and Cannondale made their debuts. Main stream components from SunTour and Shimano were displayed, although no real changes were noticeable other than fine-tuning last year's less than popular STI and X-Press button type shifters. These large manufacturers gave no mention of the severe component shortage that plagued the USA bicycle industry this year. For this reason I spent a lot of time at the Sachs-Huret display. They are marketing the Orbit two-speed drum brake hub for MTB bikes this year. A lower end Schwinn MTB was spotted with the new Sachs twist-shifter with gear number display. Campagnolo is offering an 8-speed index system this year for road bikes--if you can afford it. They also have a new twist-grip MTB shifter with gear number display. The most promising product in the show was the PARDIGM-CV-POSI-VARIABLE RATIO DRIVE-TRAIN. Imagine, no derailleur or chain slop. This product will be examined further in a future RC.

Modern Upright-Technology was alive and well. The new suspension models; gee, didn't Alex Moulton have this idea back in the 60's? Klein had a 20 pound MTB called the Adroit--possibly the lightest production MTB ever. The upright bike that caught my eye was the New Western-Flyer Springer reproduction--50's style, cruiser bars, sprung leather seat and a chrome springer fork--now that's progress.

Recumbents were represented at Interbike. The Thebis Wine Touring trike from Sidney BC

was present. Tim Brummer displayed the P38 and the beautiful F40 fully faired HPV. Linear Recumbents reported the best year ever from Interbike. Linear Recumbents are sold exclusively through bicycle shops. The DeLaire Companion-Tandem was also seen cruising about the streets of Anaheim during the show.

Although the presence of upright bikes was overwhelming, my hat is off to the recumbent manufacturers who were there. They make the statement that there is more to bicycling than the countless variations of upright bicycles. One thing is for sure--bicycling is gaining popularity by leaps and bounds as we head into the 90's! Some of those new bikes will most definitely be recumbents.

THE SEATTLE BIKE SHOW

NOV. 24 & 25 1990

The Recumbent Cyclist Newsletter sponsored a first-ever recumbent bicycle display at the Seattle Bike Show. The display was paid for by the following recumbent manufacturers: **Easy Racers Inc., Linear Recumbents, Laid-Back Recumbents and Ryan Recumbents.** We had six bikes on display and we also were able to offer some test rides inside the Seattle Center Exhibition Hall while record-breaking rains, floods and sinking floating bridges were just outside the doors. The display was very popular among the many show visitors, although the local bike dealers did not seem overly enthusiastic about the presence of these futuristic bicycles. A few booths down from us was the Puget Sound Vintage Cycle Enthusiasts display of bikes from the turn of the century to the present. As I pointed out to some of our visitors, besides our recumbents, most all of the bikes in the show looked just like the turn of the century bikes, with the addition of modern breakthroughs, such as day-glo paint, gel saddles and push-button shifters.

Special thank-you's to all of the RBCA members who came by the booth and especially Marilyn and Amy Bryant, Lawrence Walters and Stewart DeLaire who helped out in the booth.

RJB

MORE NEAT PUBLICATIONS:

**IHPVA's HPV News, a must--what else can I say. The IHPVA is responsible for getting me started in recumbents. 6-HPV News issues and 4-Human Power issues, \$20 per year, \$25 outside the USA: IHPVA, PO Box 51255, Indianapolis, IN 46251-0255.

**Puget-Sound-Vintage-Cycle-Enthusiasts put out a neat classic bike newsletter, \$15 per year. 10533- Greenleaf Rd. Bothell WA 98011, \$2 would probably get you a sample issue.

**Message Post-Light Living, A newsletter for people interested in a non-materialistic-Light type of lifestyle--very interesting. \$1 for a sample: LLL, POB 190, Philomath OR 97370.

**Cycling Science, is a cycling technical journal that covers new developments for the technical enthusiast. This publication comes out quarterly and is edited by Chester Kyle. Subscriptions are \$19.97 per year. From Cycling Science Publications, PO Box 1510, Mount Shasta CA, 96067. Phone: (916)938-4411.

**BUY-SELL-TRADE Nationally Antique and Classic Bicycles \$1 for a sample issue: John Lannis Jr., POB 5600, Pittsburgh PA 15207.

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- #2-Recumbent Cyclist-\$3.50
- #3-Recumbent Cyclist-\$3.50
- **Road-tests and out of print recumbent information--SASE:

RC Editor and Publisher
Robert Bryant
16621-123rd Ave SE
Renton WA 98058

RECUMBENT NEWS: Gaylord Hill's Cyclo-Pedia HPV Mail-Order catalog stocks many hard to find items including: Moulton and 16" wheels, tires and tubes. Gaylord started selling plans for a SWB recumbent last year, the Econ-Bent. Cyclo-Pedia has some neat stuff that will become available sometime in 1991. Conversion kit to convert a Turner LB'90 to upright steering, lightweight Infinity forks and more new parts for his line of Econ-bent plan-built recumbents. Among the new plans available for '91: SUPER-LIGHT--a lighter version of the bike, with a chromolly frame building option, a Econ-Bent tandem (yes, yes, yes!) and finally a Traveling E.B. with a seperating frame? If you do not have the CycloPedia HPV catalog, give Gaylord a call at 1-800-678-1021 or (517)263-5803. **INFINITY: codename "Bulldog":** Don Barry and the crew from Infinity are at it again, bringing us more affordable recumbent bikes. The new "Bulldog" is said to be 13" shorter in wheelbase (54"), with the bottom bracket higher and 4" ahead of the head-tube. The seat is only slightly higher than the stock bike. Infinity, POB 326, Mooresville IN 46158, (317)831-8798. The new bike is not available yet. We will keep you posted. **A NEW WORLD RECORD** by an HPV of 46.96 miles in one hour was established on Sept. 8 of this year. Pat Kinch, driving the ultra-dynamic "Bean" recumbent two-wheeler, beat the previous American held record of 45.36 miles. The Bean was designed and built by Miles Kingsbury who also builds a commercial version called the kingcycle. The Bean version front wheel drive ran on special tires provided by Dr. Alex Moulton, designer of the fully-suspended Moulton upright bicycles. The RBCA/ RC offers our congratulations to Miles Kingsbury, Pat Kinch and the Bean team. **J. Benditt Co.** marketers of the "Prelude" recumbent building plan are now offering kits and parts for the Prelude: tubing kits, bottom brackets, seats, tie-rods or all of it for \$129.75. Mr. Benditt is also experimenting with a bike called the REM-ATV which stands for "Recumbent Electric Muscular All Terrain Vehicle. For more information send a SASE to: J. Benditt, PO Box 335, Pennsboro, WV 26415-0335 **REBEL-CYCLE** Tony Woodroffe of Auckland New Zealand has some neat plans mentioned in the last RC (#3). Tony also has a great fairing that goes with the Rebel. For more information send \$5 (NZ dollars) to: Rebel-Cycles, Aardmore Airfield, Popakura, Auckland, New Zealand. **THEBIS RECUMBENT TRIKE:** I ran into the Perkins brothers at Interbike in Anaheim (CA)

They're unique trike, the "Wine Touring Trike", or Tour De Vin is a two wheel in the rear, one-in-front design. It is rear wheel steered and driven, although the crank axle passes through the freely rotating front hub. This is a must see. For more information write to: Thebis Int'l, 2031-Malaview Ave Suite #110, Sydney British Columbia Canada V8L-3X9. Those neat **LAID-BACK BICYCLES** from Turner Enterprises in California usually offer the LB'90 in only a "frame-kit". Turner has recently announced a dealer

network that can offer you a completely built up and ready to ride LB. For information on your nearest dealer call: Turner Enterprises (213)383-0030. Gardner Martin and his **World Famous Tour Easy** have been experimenting with a new seat. It will be offered as an option or standard on the aluminum Gold Rush Replica. The new seat is made from Kevlar and is significantly lighter than the standard seat. Tour Easy Inc. was America's first recumbent manufacturer dating back to 1975. The Tour Easy will be tested in an upcoming RC.

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FOR SALE DeFelice LWB, perfect condition, frame fits 31" to 34" inseam, Shimano Deore components and Phil Wood Hubs. Rare bike \$1095 negotiable. John (206)772-1202

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Lighting F-14 Recumbent closeout. Same layout and geometry as the P-38. SunTour 3000 components, 12 speed. \$650. Lightning Cycle Dynamics, 1500 E. Chestnut Ct., Lompoc CA 93436. (805)736-0700.

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