

Road Test: The ATP Vision R-44



by Robert J. Bryant

The top-of-the-line ATP Vision is the R-45 SWB. It's a featherlight CroMo 23.5 pound enthusiast SWB with one of the best factory component specs in the industry.

In an exceptional marketing move, ATP has brought this top-line R-45 frame to the masses with the more affordable R-44 spec which includes powdercoat paint and R-42 components. This makes for a value-added enthusiast package that has become a best seller during the '96 season.

With updates in fabrication tooling, the new seat and some hot new models, the '96 Visions are the best ever from this company on the recumbent-fast-track. If you are considering a Vision for the first time, your decision as to whether it's the bike for you will most likely depend on your ideas on wheelbase length, heel interference and ASS/USS steering considerations. All aspects that are hotly debated in recumbent circles. We've made our best attempt to help readers understand the issues better within this review.

WHEELS AND WHEELBASE

The R-44 is available with your choice of a 16" or 20" front wheel, ASS (above-seat steering) or USS (under-seat steering). Our test R-44 was equipped with a 20" x 1.5" 406mm¹ (BMX size) front wheel and has a 37.75" wheelbase. Adding the 20" wheel to the Vision was an initial compromise that has worked out well. At really low speeds the bike is a bit quirky and has some wheel/fork flop, though once you are cruising, the handling is fine. The steering geometry is not quite our ideal "slight oversteer" but it's close. The 20" Vision's borderline fork/wheel flop stems from

adding a 20" fork and wheel to a bike designed for a 16" wheel, though it's hard to criticize this as both Rans and Lightning vary wheel sizes on some models.

When asked my opinion, I feel the 20" wheel is an improvement and will be preferred by large/tall recumbent riders. I've always favored 20" front wheels when given a choice, though small/medium build riders often prefer the 16." ATP's Grant Bower has 25,000 miles and 12 years of SWB riding and very much prefers the more neutral feel and lower seat height of the 16" wheel version. Grant and the ATP guys are very excited about the new ATP/Primo 16" x 1-3/8" tire.

The 20" wheel Vision is something we had been asking for since the bike's inception. It raises the seat height and bottom bracket while reclining the head tube angle a few degrees, thus changing the feel of the bike offering even more modular choices for the Vision rider.

DESIGN PERFECTION?

For recumbents that appear so very similar, there are really vast differences in the design theory between SWB (short wheelbase): 33"-39" and MWB (medium wheelbase): 40"-46."

SWB models have the least amount of heel interference with the front wheel making for a more user-friendly design that is much better for new, casual and enthusiast cyclists who are not concerned with racing or how the bike handles at 40 mph (speeds at which no manufacturer would want you to ride anyway).

MWB recumbents stretch the wheelbase about 3"-7 inches,² which makes heel interference with your heel and the front wheel. Some riders feel that this improves high speed handling

(those speeds at which manufacturers really don't want you riding...), occasionally improving weight distribution and always making the bike a bit less user-friendly.

The bottom line is that you cannot obtain the perceived MWB benefits without heel interference which ultimately effects ease of ride-ability. Each rider must ask themselves what they really want to do with this bike, and whether the additional wheelbase is necessary.

So, here's is the scoop on SWB recumbent design. All designers start off with a list of design aspects, compromises if you will. The designers then sort the list according to their personal design priorities based on what they want from a given recumbent design.

When you choose each design aspect, it can effect other items on the list and this is how your bike begins to take shape. With this simplified formula, you can see how like-designs end up being so different.

For example, if you choose direct USS, it is difficult to have a wheelbase more than 38" long, otherwise the handlebars are too far away. Next, you choose your front wheel size. If you choose a 16", you can keep a low seat. If you choose 20" wheel, a low seat becomes more difficult (20" Vision seat height is +1.5" higher). Your wheelbase and front wheel size also dictates how much heel interference there will be with your design.

You can now see how ATP has come up with their idea of the optimum SWB recumbent. They found direct USS and the smallest amount of heel interference a very important design aspect. What you end up with is a user-friendly direct steering SWB. The R-44/45 are the ultimate version of ATP SWB perfection.

The Vision's short 36"-38" wheelbase can make for a quick maneuvering, quick feeling bike. At high speeds, the ride will be exhilarating to some and possibly a hair-raising experience to others. Keep in mind that speeds approaching 30, over 40 and topping 50 can be a hair raising experience on any bicycle.

One statement that's easy to make is that I'd much rather be on a Vision SWB speeding down a steep hill than any upright bike. Have you ever experienced that *deja'vu* feeling of going over on your head when going down a steep hill on your wedgie? It's nice to know that the odds of this happening on a recumbent are very remote.

R-44 FRAME

The 25.5 pound R-44 utilizes the petite and lightweight Vision R-45 frame.³ The frame has a smaller diameter 1.75" CroMo mainframe as compared to the R-40/42's 2" mild-steel frame section. The fork is also the same J & B CroMo, though the handlebar and stem are R-44/45 specific, lighter and more petite in design. The frame quality is excellent, and the workmanship is ATP spot-on predictable and looks great.

With the R-44/45, you are more in-touch with the road as the smaller diameter CroMo mainframe is livelier and more responsive. There is a bit of boom-flex (apparent on many monobeam SWB/

MWB bikes), more so than the R-40/42, though it only measured to about 1/2 inch and was only experienced climbing steep hills. Also during steep climbs we noticed the main-beam flex slightly under the seat,⁴ which can be expected from such a light responsive frame.⁵

WEIGHT DISTRIBUTION

ATP states that an R-44 Vision SWB with a 20" wheel has 50/50 (bk/ft) weight distribution (46/54 with a 16" wheel). This is down from 60 (front)/40 on our test bike in 1993. Since that time, the seat has been moved rearward with an additional seat mount to allow adequate clearance for the ASS option and the seat design has been updated. The 50/50 weight distribution is based on a 5'8" 165 pound rider with the seat in the rear position and the middle of the recline range. Keep in mind that the c.g. (center of gravity) on most recumbents will be at the riders belly-button.

THE ATP SEAT

The R-44 seat is the most comfortable seat we've tried this year. Sling mesh seats have proven themselves as the most comfortable for long distances. The mesh base suspends the rider, a foam cushion on the suspended mesh is icing on the cake. Along with the sling/mesh comfort, comes a slight performance drawback. It's really tough to develop the same level of power from a sling/mesh as you can get from a shell/foam seat.

The seat mounts via two quick releases, one at each end of the seat. This also makes for a variable seat recline, which has almost become expected on new recumbents these days. The ATP seat has a light and stiff top-quality aluminum frame. The new integrated foam pad and lower cross-section make the seat even more comfortable and easier to put your feet down.⁶

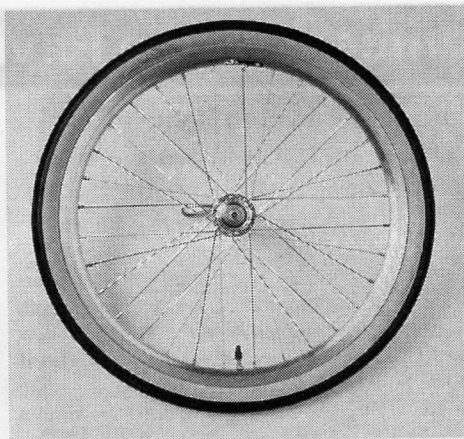
The only seat criticisms we can make are based on the quality of the mesh and seat cover material. Compared to the seats we've reviewed, the mesh quality is very good, though Haluzak and Presto owners like to think their "Sew What" brand seat mesh is better quality. That may be so, but it's our contention that the ATP seat has the comfort edge, though I plan on experimenting with different base-foam densities to dial-in the seat-base comfort even further.

USS STEERING

The USS direct steering handlebar and stem arrangement on the R-44 is different than that of the R-40/42. A tube is welded on to the back side of the fork and a custom ATP stem replaces the inverted/backward road bike stem found on the lower-line models. The new double clamp fork/stem (available on all models) arrangement holds the USS bars tight and keeps them from twisting.

The ATP USS works better than other SWB direct USS steering setups we've tried. The biggest complaint we get about USS in general relates to rider arm-reach to the bars and high-speed control. ATP offers the best adjustment of any SWB USS, though it's extremely important to take the time necessary to adjust the stem position and the tilt-angle of the bar.

My opinion is that USS takes more attention to the road. Greg Bower believes just the opposite and feels the direct USS connection offers opti-



The new ATP/Primo 16" x 1-3/8" tire that is optional on the R-44.

mum control. We both agreed that it may it may be more related to the individual riders learning curve which seems to be longer with USS. I've seen Greg ride and he has no problem with "attention to the road" on his R-44. ATP USS was designed to emulate the least stressful, most comfortable hands down-at-your-sides arm position and it shows.

The majority of Visions (90%) are delivered with USS, though the ASS is readily available. My only criticism of the ATP ASS is the height of the stem bolt which can be a bit close to the vital parts of the human anatomy. Some RCN readers have installed Haluzak ASS on Visions as well.

R-44 DRIVETRAIN

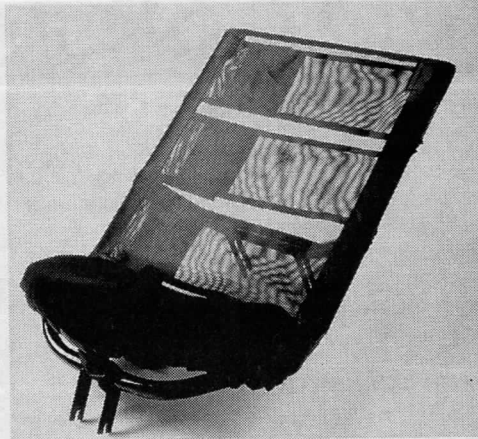
Our test R-44 was outfitted with a Shimano Deore LX rear derailleur, a SunTour XC Pro front, and a SunTour XC LTD crankset⁷. The drivetrain is shifted via SRAM Gripshift SRT 600 with KMC chain. The brakes stop well and in their day were Suntour's top-of-the-line. The bottom-bracket is a Curve cartridge sealed unit. The USS Vision has close chain-line tolerances between stays, cable housing and handlebars. The custom ATP brand cartridge sealed delrin chain idler carries the chain carefully through its path, though it's amazing that nothing rubs. On our test R-44, the KMC chain shifted fine, though it's not our favorite brand.

BRAKES AND WHEELS

ATP uses Suntour XC-Pro cantilever brakes that work just fine.⁷ ATP seems to have the SWB front cantilever hanger set-up down pat resulting in the best working front cantilever brakes of any SWB/MWB recumbent we've tried. We'd like to see ATP use a current model cantilever brake on the high end models, as the outdated XC Pro brakes are found on every ATP model from the \$995 R-40 to the \$3400 R-82 Double Vision.

The R-44 wheelset includes the trademark "no-dish" rear wheel which to some gives the appearance that the frame is built off-center, though don't let anyone tell you your wheels need to be rebuilt. The R-44 wheels are hand-built with Sun M14/CR16 32 hole rims with stainless spokes. The wheels work well and were true for the entire length of our test. They are a marked improvement over our R-40 wheelset, which had rim-ridges that you could feel every time you brake.

The R-44 comes with a 26" x 1" Ritchey Tom



The most comfortable seat we've tried this year is now standard on all ATP models.

Slick in the back and a 20" x 1.5 (406mm/BMX size) Kenda front tire which will soon be replaced by the Schwalbe City Marathon tire. The 16" version comes with the new ATP Primo 16" x 1-3/8" 90 psi tire⁸ which looks to be the best 16" tire in recumbent history.

OPTIONS

The ATP option list is extensive. ASS or USS, 16" or 20" front wheels. There is an excellent seat bag that slips over the top of the seat back. The chain guard is made of clear Lexan and seems to work well, though the one on our test bike had broken from being jammed into something and was noisy and clunky. We'd like to see a plastic "chain-tube" like that of the Greenspeed and BikeE. The ATP Zipper fairing has updated mounts that hold it down better and there is now a rain poncho for the wet Seattle winter months (...and wet spring, and wet summer and wet fall....). This fairing will work on other SWB recumbents as well, though it's not a guaranteed bolt-on.

PERFORMANCE

This light bike will be the fastest SWB around. R-40/42 riders will notice the difference in the light frame within ten feet. At 25.5 pounds, the R-44 is 3 pounds lighter than the R-42 and a full 4 pounds lighter than the R-40. The weight loss is noticeable in every aspect of the ride. On the flats, you can ride in a higher gear and you can power over small hills where you may have shifted down on your R-40. Higher average speeds are also maintained easier. On the downhills, the bike seemed quicker and in need of more attention to the road than the R-40. Hill climbing is wonderful on this bike. The light weight, limited heel interference and excellent rider ergonomics (BB lower than the seat) makes hill climbing a breeze. The USS allows easy breathing in a less restrictive cockpit as compared to ASS short bikes.

For SWB riders and ATP owners, the R-44/45 will be the ultimate performance upgrade. Add a Zipper fairing and this bike will be fast.

It's my opinion that the R-44/45 is not as aggressive and quite possibly not as fast as more performance oriented makes, though this may be it's strong suit—SWB performance with user-friendly ergonomics and without complication. If you're serious about speed and racing, you may want to consider a recumbent manufacturer with

ATP R-44 Road Test Continued

a race team and speed records.

In saying this, the Vision R-44 is no slouch, and we know riders who claim to eat Lightnings for breakfast with their R-45's. Performance generalizations are difficult to make and are highly dependent on the individual riders. With this in mind, our best advice is to ride one and find out for yourself.

RECOMMENDATIONS

ATP is attempting what no other recumbent company is—the mass marketing of SWB recumbent 100% through dealers. There is no doubt that the Vision line is getting better and more refined with each passing season. In getting up to speed, we have experienced some glitches in ATP's quality control, though the '96 models are the finest Vision's built to date. We do not recommend that readers buy this bike mail-order as it needs to be setup by a competent bike mechanic. This bike that appears so straight forward in design actually requires additional setup time by an experienced dealer to achieve optimum chain and boom length.

The R-44 spec is pretty good, as long as you don't mind the old stock Suntour parts. Our only recommended update is to change-out the chain to a Sachs Sedis. The R-45 offers one of the nicest component specs in our industry and is not a bad buy, even at \$500 more. ATP really backs up their products with an exceptional lifetime warranty on the frame, seat frame and fork.

SWB recumbents can be the most fun to ride and own. They are compact, easy to stow and haul around. They actually fit on most bike racks, though they are a bit wider than your road bike with the USS. The ATP bikes are also among the quickest handling recumbents made today thanks to their sub-38" wheelbase and Vision riders seem to prefer it this way. ATP's Joel Smith put it this way, "the bike is the sports car of recumbents." Greg Bower adds, "if you think the SWB is too quick, buy the Vision R-40/42 LWB." An excellent point.

One thing is for certain, the ATP bikes are the easiest to buy in North America. There are many dealers and modular variations of the Vision models. The optimum R-44/45 customer is probably average height and weight, or a Vision rider looking for the ultimate upgrade. Another application would be for the lightweight, shorter or lower-power rider looking for lightweight and user-friendly high performance. In saying all this, I should mention that there are many big and tall riders who love their Visions, including ATP's own Greg Bower who stands at 6'4" and graciously loaned us his R-44 test bike and gets five stars in road test participation.

With the new seat, upgrades in the way Visions are built and the unbeatable warranty, ATP is the most serious and committed recumbent manufacturer in North America. All of the company owners and employees ride and test the recumbents themselves and their livelihood depends on the successes of Vision recumbents.

The R-44 sells for \$1800 (US\$) and \$1825

Human Powered Vehicles CD-ROM Take a spin around the wide, wide world of recumbency

by Vinny Minchillo

If you're looking for a seamless user interface with jazzy graphics and lavish 16-bit sound, you may not like Human Powered Vehicles, a new CD-ROM compiled by Oliver Zechlin. But if you're hooked on recumbent compendiums like the RCN Buyer's Guide you can't live without this CD.

Human Powered Vehicles is a few hundred megabytes of photographs, movies, animation, audio files, computer programs and other digital odds and ends that cover practically every kind of human-powered conveyance on the planet. Look at pictures from your favorite events, compare your favorite types of recumbents and, best of all, see these machines in action.

As soon as you get the CD into your machine, go straight to the movies folder. The kinetic sculpture and hydrofoil wipe-out videos are a hoot, but the movie from International HPV Championships in Lelystad is the highlight. Over six and a half minutes of the most diverse collection of recumbents you've ever seen racing head-to-head, roaring around town and generally making a spectacle of themselves. This movie alone is worth the price of the CD.

As an added bonus, there's even a movie that shows a partially faired recumbent leading a peloton of uprights. Kind of gives you a warm feeling right there.

In compiling this disk, Zechlin appears to have gone to the ends of the earth to show us anything and everything human powered. There's great coverage of the recumbent bikes and trikes we all know and love, but also plenty of megabytes dedicated to one-off creations that are decidedly on the edge. Of course, which edge they're on is open to your interpretation.

In taking this everything-but-the-kitchen-sink approach, Zechlin does something wonderful for those of us who enjoy a good-natured bike argu-

ment. No matter what theories you may subscribe to, Zechlin includes some evidence to support your position. Front wheel drive, rear wheel steering, arm power, linear power, and one of my personal favorites, impossibly high bottom brackets - they're all in there. Argue it anyway you want, Oliver's there to back you up.

If you like your data served up on a shiny silver platter, this may not be your CD. Forget the slick graphical interface, this ain't Microsoft Encarta. When you start it up you're presented with tons of folders and then left to your own devices to find what's interesting. The exploring is fun and always fruitful, but still, we'd like to see some kind of search engine that could help us locate our favorite bikes. (Word is Zechlin is planning a more user-friendly interface for HPV-CD II which is in production now.)

One place the CD really shines is as a collection of word-of-mouth wisdom. Zechlin's CD contains some of the lesser-known, but more useful, pearls from the recumbent world. Homebuilders will love the shareware tube mitering program and you can't help but get sucked into the several years+ worth of mail from the Internet's HPV mailing list as you follow discussions on every subject from which 16? tire is fastest to ways to make your own fairing from old political candidate signs.

Running the HPV-CD requires patience and dedication, but riding a recumbent does, too. Opening the files themselves often requires patience and considerable fiddling, especially if you're running it on a Mac. But it can be done and, in the end, it's definitely worth the effort.

While it may not be the end-all of recumbent bike resources, Human Powered Vehicles is the most wide-ranging and interactive. So if you're ready for the wide, wide world of recumbents, load up Oliver Zechlin's CD-ROM and take it out for a spin.

Human Powered Vehicles CD-ROM, by Oliver Zechlin available through People Movers, ph#714/633-3663.

(ASS). The dream-spec R-45 is \$2320 and has the same frame.

For more information on ATP Vision Recumbents, contact your local dealer or Advanced Transportation Products, 952 Republican St., Seattle, WA 98109, Ph#206-467-0231 Fax#206-467-0175, Email: ATPVision@aol.com, Web Site:<http://cyclery.com/vision>

¹The fat front 1.5" 406mm tire is a good choice for the R-44. Keep in mind that if you change to a 451mm skinny 20" front wheel, your steering geometry will change and the handling will be faster, quicker and more advanced...though you will probably go faster.

²The Vision R-44 wheelbase is: 36" (16" ft. whl.) and 37.75" (20" ft. whl.). The Rans Rocket and V-Rex have a 40" wheelbase, and the Lightning P-38 has a 45" wheelbase. Heel interference generally occurs during low-speed pedaling turns and can even surprise the most seasoned rider.

³The R-44/45 frame weighs 7 pounds 1.5 oz. with the seat, seat mesh, seat struts, fork, and idler.

⁴To track the main-beam flex, we simulated it with a sit-flex test where we put pressure on the pedals while braking, standing still.

The main-beam does indeed arch slightly under the seat.

⁵If you are a big/strong/tall rider, you may want to opt for the stiffer R-42 frame, though benefits of the light R-45 frame will be noticeable for any size rider, especially when climbing steep hills.

⁶See RCN#34: tandems for more ATP seat info.

⁷The SunTour components are excellent quality, though now out-of-production.

⁸A 20" x 1-3/8" version of the Primo will be out in a taller 451mm size later this summer, though it changes the steering geometry and takes a different brake braze-on (not available from ATP).

Editors Note: Sometimes riders with "roadie" backgrounds place too much importance on gram-counting when they should be more concerned with aerodynamics. In my neighborhood, two local riders, Joe Kochanowski and Nick Hein are well-known for dusting wedgie-riders and expensive commercially built performance recumbents on their Kochanowski designed and built 90 pound, cardboard-faired, low racers. I pay attention and learn a lot from these guys.