

INTO THE RIDE #5

Thanks for all the comments on April's article. For those of you who still believe in Doctor A. P. Reel the 1st, well, it was published on April the 1st! Hey, April fool's in a national holiday around here.

ROAD TESTING THE FORMULA

New to the RANS line up in 2003 is the V2 Formula. The Formula is based on an aluminum version of the V2 frame. An array of light components and other weight saving measures has resulted in the 27lb weight with the Hed wheels, and 26.88 lbs with the Velocity wheels. (This is less pedals. Weights previously published were higher; final version is lighter.) This low weight brings exciting performance to the long wheel base design, and should inspire more than a few riders.

Suiting up to ride the Formula one will appreciate the RAD-LOC seat clamp and easy sliding sprint braces. The new sprint brace design not only looks cool, but also is stronger, lighter and has more adjustment range.



With our wide selection of bars and risers you can dial in your Formula perfectly. I have mine set up with the wide Double Delta bars and the medium reach riser. This places the bars just ahead and no higher than my knees and at knee height. At this point my arms are almost extended, placing my hands just behind the knees. I love this placement! It looks sporty and offers excellent control. I find hard turns no problem since my knees will stay inside the bars. On really ridiculous turns, like circling in one lane I hang a knee out if needed.



Notice the bars are ahead and even in height with the knees.

Seat tilt is moderate. I have found extreme angles take away from jump-starts, besides on long hauls I get tired "chinning" my chest. So to save my neck, I run a little more upright, and still get the speed. Seat angle from a 90 degree vertical is 36.

The crank height on the V2 and Formula has allowed us to compact the frame and save some weight, placing the V2 at the short end of the long wheel base class, and the long end of the compact wheel base bike. The crank height is still low enough to make mounting the bike easy. There are all kinds of theories being promoted about the high crank heights, with higher being better. Gee! I am almost to the point of designing a bike with the cranks straight overhead. Would that be called a "down right"? But lets be practical and consider the user-friendly aspect. Crank height is almost a personnel choice, since there are many fine bents out there with plenty of performance with low to high crank heights. So if the bike fits wear it, in the case of the Formula, you will find a crank height similar to our short wheel base models, so if you are comfortable on a SWB, then the Formula will not be too much of a change up.

My test rides have included short road trips with mild hills, as spring unfolds I will attack some greater hills (yes, Kansas has them!), but I can already vouch for this bike's ability to climb and hold speed. The first thing you will notice is the stiffness of the frame, it is like a taught bow ready to release the power. That is good overall since it nets exciting performance, but expect it to be a harsher ride. To reduce weight the Formula is equipped with our new lightweight seat cushion, it offers .7lbs weight savings, and does a respectable job cushioning the road, however if the ride proves a little to hard, you may want to have a standard cushion handy.

Tires play an important part in handling and ride quality. The stock Schwalbe tires run 145 psi, and are like rocks to ride on, but oh boy are they fast. I would like to point out however; you can enjoy nearly the same performance on any larger profile 100-psi tires. So between seat cushions, bars, risers, and tires you can fine tune the ride of your Formula, or enjoy it as intended...optimized for speed.

Acceleration is just plain fun. The low overall weight, stiff frame and seat mesh, combine to yield some great sprints. I have a blast staying with auto traffic from stop light starts. It reminds me of my road bike days in Tulsa OK. I would ride to the front of the line at each stoplight, passing all the same traffic. Some took offense to it and called me names and threw liquids (beer), but hey it was the 70's in Tulsa, and long hairs on bikes were not the norm.

Once away from the city traffic the open road is where the Formula shines. Your cruise will be up a few notches over a heavier bike with softer frame and wheels, and you will suddenly realize your biking world just got smaller. I have increased the distance I usually ride by at least 50%, when on the Formula; it has that much more punch!

The test course is a big rectangle. Because of the many paved roads almost every mile North, South, East, and West, forming a state sized grid, you can select the size of the rectangle you want. By riding in four directions you can experience a balance of tailwind and headwind. With the advent of bents, the wind is somewhat tamed. Still Kansas is measurably windy over many states, and even low-slung aerodynamic bikes will meet their match. The drag signature of the V2 and Formula are the same, but the lighter Formula has the advantage. Remember weight and drag both take horsepower to overcome, and the lighter weight Formula slices the wind a few degrees better.

Fairings you would think would be a constant companion on my rides. They do offer a drag reduction, but also offer adverse sail effects in cross winds. In our early days the Stratus had a fairing that was about as optimized as possible for conditions. The loop style bars featured a fabric fairing that did a good job of cleaning up the flow over the body, but had minimal side area. We used to think it could act as sail, since the cross section was airfoil in shape. However this would only be true at very low

speeds (2 to 3MPH) when the wind was 90 degrees to course. Even then the thrust would be grams! So for practical reasons fairings are not on the test bikes.

Another aspect of the Formula you will really enjoy is the handling. The combination of the new bars, riser, low center of gravity, and long wheelbase make this one fun, but extremely safe feeling rig. I have pushed this bike hard through corners with a confidence not found on higher CG bikes. Compared to a short wheel based equal the Formula has on par handling, I think of it as the long wheel base with the short wheel base handling. In other words there is little to none traded off being long wheelbase.

In summary these design aspects conspire to make the V2 Formula:

1. Light weight, high-pressure tires
2. High quality wheel hubs
3. Stiff box type aerodynamic rims
4. Lightweight power train and brakes
5. Light frame, over 2 pounds lighter than steel
6. Light seat pan, carbon fiber
7. Light weight seat cushion
8. Low energy loss idler system
9. Light weight idler wheels, less than half the norm
10. High power transfer seat mesh
11. Ergonomic bar and riser
12. Low Center of Gravity geometry
13. High bottom bracket
14. Moderate seat tilt

Performance, handling, low weight, and that great look, add up to be the new 2003 RANS Formula



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