



Rodriguez Classic Tandem

Custom-Built and Custom Fit

By Mark and Chris Owings

CONCEPTS

It's not about the bike, to borrow a phrase. Tandeming is about relationships, about doing together, about living life and enjoying it as a tandem team. The bike should not significantly impact this, except as a capable enabler that fades into the background, to be taken for granted and forgotten. As you cycle down the Danube on a warm summer day, for example, the bike you are on together should be much less important to you than enjoying the wonderful moments in life to the fullest. The Rodriguez tandem, it turns out, is a very capable enabler.

THE SETTING

Located not far from the University of Washington on a busy North Seattle street lined with apartments, coffee shops, and specialty shops, R&E Cycles is the home of Rodriguez bicycles – built, sold, and serviced all in this one small building. The frame shop is in the basement; the sales floor and

service area are on the main level, with offices upstairs. Everyone in the shop, and we mean everyone, treats you like family or valued friends. Of the staff of 15, a core crew of 6-7 has been together as a working unit for about seven years, and several have been with R&E for 10-20 years.

THE FITTING

Our first encounter for this experience was with Scott Rock, manager of R&E Cycles, as we kept our initial fitting appointment. Fitting, tour of the shop, and long philosophical discussions meant this visit went just over 2.5 hours. Once in the door we began learning about the significant differences between the Rodriguez and other brands of tandems, ultimately coming to understand that the bike itself differs only slightly, really, from other mainstream brands of tandems, but that the associated processes, including fit, build, and support are very different from say, a Co-Motion or Santana.

Within the first few minutes of arrival at R&E, another customer picking up his new single bike announced to us, "You're not just buying a bike – you're buying a cult." Or as we later learned from owner Dan Towle, the R&E philosophy is you buy the whole shop – not just the bike. Both Dan and Scott are experienced tandem captains who ride with their families.

All Rodriguez single and tandem frames are built and painted onsite; most forks are spec'd to a supplier, but the fork for the test bike was built at R&E. The frame shop produces between 300 and 400 frames yearly, of which about 30 are tandems. About half the tandems are for local buyers and half for out-of-towners; all are custom. Coupled tandems number about 3-5 per year, and tandems equipped with Rohloff hubs about 1-2 per year (note that neither a Gates carbon timing belt nor a fully belted version of the Classic tandem is available due to the longer bottom tube R&E designs into their tandems – see comments below on stoker cockpit design).

RTR Product Review



Opposite page: Left side view of the fully-equipped Rodriguez Classic Tandem.

Fit and design are mostly overseen by Scott and Dan. Frame builder Dennis Bushnell has been actively involved in the construction of frames in the past; frame building methods and technology were developed with his input. There are no stock tandem frame sizes – all are custom made to fit. In the same vein, there are no stock component packages – all bikes are set up specifically for the new owners' needs and planned use. Living close enough to Seattle to appear personally for a fitting session is not required, but it helps. Fit information can be sent via mail or email, from which a bike can be designed, but R&E favors a personal, onsite fit process. Another important note: R&E Cycles in Seattle is the only venue from which Rodriguez tandems are sold; they do not have a presence in any other bike shops. However, if you have a favorite shop in your area with which you want to work, you can let R&E know, and they will contact that dealer to establish a relationship, even though the bike sale is direct to you.

Central to this personal fit process is a custom-designed and built "fit machine" (see photo) that Scott can use to obtain a set of measurements with you on the bike in the position he recommends you to be in when he designs the bike around you for your anticipated use of the bike. These measurements are then entered into a software program – also a proprietary, custom-designed product unique to R&E – that assists Scott in coming up with frame design. He has ultimate control over the frame design, but the computer software provides the basic framework. Scott can tweak the design based on your intended use of the bike. With tandem design, especially for a team of our age (early 60s), Scott recommends the riders have a more relaxed, upright posture. In addition, he very much emphasizes a long stoker compartment.

After we left, during the design phase, Scott maintained regular contact with us via email. He had several additional questions for us, and we had some for him. The final design drawings and setup specifications were sent to us for review and approval prior to start of the build. The price came at this point also, to be agreed upon prior to going further. During the

build, Scott sent us occasional brief emails to let us know where they were in the process, and these included photos taken during the build. It took about six weeks from fitting day until Scott invited us back to pick up the bike.

THE DELIVERY

One of the main advantages of having a bike custom-built to our specific measurements was that bike pick-up was a breeze. All aspects of fit were within a few millimeters of perfect, so this was pretty much a get on and ride off affair. We had Scott put on our preferred saddles, our rack, our bike computer, and our pedals. He already equipped the bike with fenders. The R&E crew had test-ridden the bike. Scott set it up on a stationary trainer, and we got on for a few minutes of final tweaking of positions, which actually were already close to spot on. Then we were out the door for a short spin around the neighborhood, after which the bike was slotted into our van, and we were off for home.

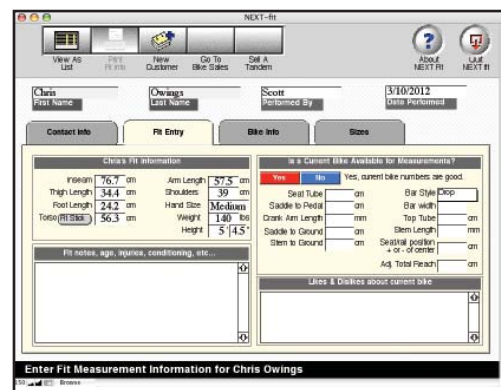
THE BIKE

Ok, let's get a few details out of the way right off. First of all, the weight of the bike, as you see it here, was 50 pounds. That included the rack, the fenders, the kickstand, and the rack trunk without the usual tools, spare tire, and patch kit we carry. The frame and fork are steel, and the objective was for us to test an all-purpose machine, not necessarily with an eye to keeping weight to a minimum. Had we chosen the travel option with S&S couplers, the bike would have been a couple of pounds heavier. In addition, getting the coupled version for travel would have dictated using round tubes rather than the elegantly shaped and tapered tubes used for this bike. The bike was designed with a sloping captain top tube to improve stand-over. Highlights of the final design include, for the captain:

Head tube angle: 70.5 degrees
Seat tube angle: 72.0 degrees
Top tube length: 55.1 cm
Seat tube length: 46.4 cm
Reach 64.0 cm
Saddle to pedal: 87.8 cm
Stand over: 78.6 cm
Stem: 90 mm
Rake: 55 mm



Above: Mark on the NEXT-fit, with Scott making adjustments. Below: Scott transcribes each rider's measurements from the NEXT-fit to be entered into the proprietary sizing program.



Computer screen shot show fit and design software at work.



Trail: 63.8 mm
Bars 2.0 cm above seat
Crank: 170 mm

and for the stoker:
Seat tube angle: 74.0 degrees
Saddle to pedal: 84.0 cm
Reach: 56.2 cm
Stand over: 72.5 cm



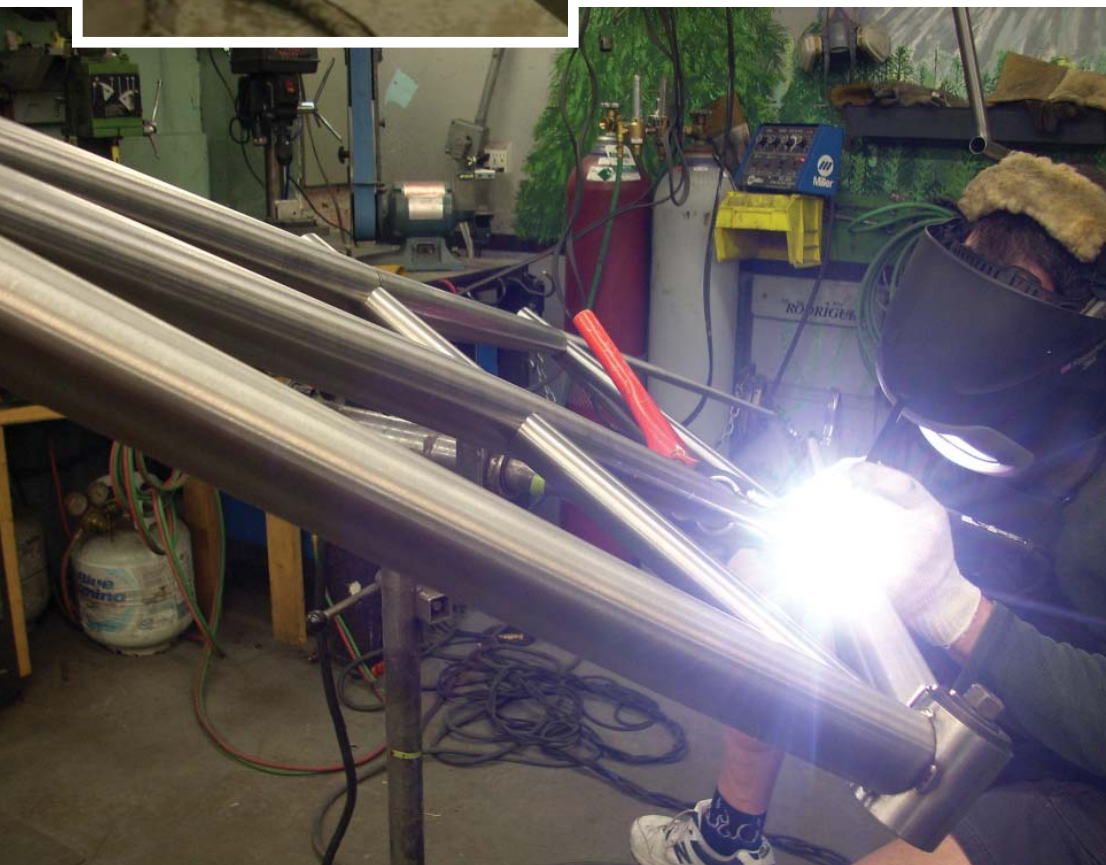
Stem: 90 mm x 35 degrees
Bars 2.0 cm above seat
Crank: 170 mm

Probably the most notable feature of this bike compared to other mainstream tandems is the stoker compartment. It is longer than most, with a bottom tube length of 780 mm. This length allows the stoker stem to come off the captain's seat tube and then connect to a second stem that rises almost vertically, resulting in a stoker position that is more upright and farther behind the captain than on most other tandems. I wondered if this stoker position might result in the captain sensing more frame flex and stoker movement due to the longer stoker top and bottom tubes, but that turned out not to be the case (see comments below on frame flex, and stoker steer).

Additional highlights:

Bars, captain and stoker: Kalloy Uno drop bars 42 cm

Left: Stoker bottom bracket intersection during the building process.



Captain stem: Origin Profit
Head set: FSA sealed
Rims: Velocity Deep V 48 spoke
Hubs: White Industries Daisy (rear disc)
Spokes: DT Stainless 14 gauge
Skewers: Salsa
Tires: Serfas Seca 700x28
Crank: Sugino 170 mm
Bottom brackets: Shimano sealed
Front derailleur: Shimano Tiagra triple (chain rings 53/42/30)
Rear derailleur: Shimano Deore
Shifters: Shimano Tiagra STI 9 speed
Cassette: Shimano Hyperglide 9 speed 11-32
Brakes: Trillium Big Squeeze
Drag brake: Avid BB7 disc, operated by friction lever on captain's right bar end.
Note that the Trillium Big Squeeze brakes are designed and produced by R&E; they appear similar to the old cantilever brakes, but route the cable a bit differently, resulting in improved braking effectiveness.

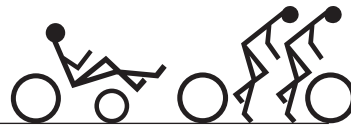
The kickstand mount is brazed onto the frame, a feature we've not seen on any other tandem. Having the kickstand is nice for parking, though I must admit we are very accustomed to finding a place to lean the bike, especially with a third brake that can be used as a parking brake. Taking the kickstand off (and the third brake too, for that matter) would be one way to save on weight. However, on a loaded tour having the kickstand could be worth the extra few ounces in our opinion.

While on the subject of braze-ons, as mentioned, the bike came with full coverage for water bottles, racks, fenders, and the kickstand. There was also a bottle opener brazed on a stoker seat tube! The builders appreciate some finer points of life!

The finish on this bike was impeccable. The paint was done as a pearl white to silver-to-black fade, with raised, chromed decals. Welds were all uniform and smooth. R&E welds are never buffed off or sanded down, and set a high industry standard. They used a high-quality bar wrap that was color matched to the frame. What a beauty. Final price, including everything except the pedals, rack, and bike computer was \$4414.00 before tax. But, what about the ride?

THE RIDE

Let's get this thing out on the road, crank it up, and see what it can do! We rode the bike



350 miles, with a longest ride of 35 miles, in varied terrain and weather. Most of the test rides were on our regular morning loop of 18 miles on city streets, with 600 feet of climbing. We did one ride with packed rear panniers (40 pounds) to simulate handling on a loaded tour.

From the captain:

My first words to my wife on our initial test ride were "This is the most stable bike we've ever been on." Let me clarify: At speeds of 14-15 mph and greater, this bike was as if on a rail. We could ride no hands, and we actually did, – though I don't recommend it. There was very little sensation of stoker movement or stoker steer, and corners, either fast or slow, were smooth with no tendency to over or under steer. The frame was flexible enough to be comfortable on all road surfaces, but sufficiently stiff to allow no significant flex under power or when standing together. It seems likely to me that the sloping top tube helps create a frame with high stiffness-to-length ratio. Also, the design of the joint where the lateral tube meets the bottom tube, stoker seat tube, and the chain stays favorably impacts stiffness; this joint is fabricated with a triple miter, so the lateral tube contacts the bottom tube, the stoker seat tube, and the stoker bottom bracket, a design that is used by very few builders (see photo of this joint during the build).

I did note that the original equipment rims were a little on what I would consider to be the narrow side. I measured the 700 x 28 tires at an actual width of 26 mm, and I would have liked to have tried 32 or even 35 mm

tires, but I think these Deep V rims are too narrow for that. Velocity does make rims that can accommodate the larger tire sizes, and that would have probably been a better choice here, in my opinion.

The only thing I noticed was that, at low speeds, there was a mild wheel flop. This was not enough to cause trouble – just enough to be noticeable. The bike accelerated smoothly and maintained speed well. The brakes were effective; I judge the effectiveness of these custom brakes to be intermediate in effectiveness between standard V brakes and disc brakes. They squeal a little during hard braking, but not too badly.

The shifting was very smooth and precise, and the bike was quiet – no extraneous rattles or buzzes or other bothersome noises. The Shimano Tiagra shifters have gear indicators in little windows on top of the shifter bodies, which is very helpful so you don't have to look back between your legs to see what gear you are in.

So, my first impression was that this is a very stable bike. My final impression was that it was very stable except for the mild wheel flop at low speeds, and in all other respects, a joy to ride. I communicated with Scott about maybe designing that wheel flop out with a change in the fork design. He indicated the fork design was a compromise between wheel flop and toe clearance (see side bar). I had easily 2" of toe clearance, so I think if this were my bike, I would request a fork with slightly less rake and therefore, hopefully no tendency for the wheel flop. And I also wonder if using a wider tire might decrease wheel flop as well. However, I emphasize that the



Bike pick up – on the trainer for final adjustments to the captain and stoker's positions.

wheel flop was mild and went away at speed, so really did not impact the overall character of the bike. The more upright position, though, did impact my final opinion about the bike. Let me explain:

On my personal tandem, I ride in what I consider to be a pretty aggressive position – quite stretched out with a long reach to the bars and sharp upper-body angle. The San Marco Rolls has become my favorite saddle over the years, and has worked out well for me until more recently. Specifically, in my usual position and with the Rolls saddle, I feel comfortable and can easily generate the power needed to cruise at 18-20 mph on the flats. When Scott set me up just a little more upright on the Rodriguez tandem (I kept my Rolls

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saddle) I felt reasonably comfy, but I didn't feel I could pedal as smoothly or generate as much power as on my personal bike in my usual position. So, my final opinion included the conviction that I was not as fast on the Rodriguez as on my own bike, and that was due to position. So, what happened to change that opinion? Well, it's a bit of a long story:

We recently have had the opportunity to ride a bike (our daughter's triplet) with a captain position very similar to the setup Scott made for me on the Rodriguez test tandem. On the triplet, I did not ride with my Rolls saddle, but rather used a Terry Liberator. I chose the Liberator because it is wider and is slotted (as with many captains, I've been having some issues with saddle pressure on the prostate area and wanted to get some relief from that). Riding the triplet in the more upright posture, with shorter reach, on the Liberator saddle, felt just right. I had as much power and efficiency as with the Rolls saddle on my own tandem.

I realized immediately that I made a mistake by insisting on keeping my old saddle when Scott put me in a more upright position on the test tandem; had I changed to the Liberator or similar saddle at that point I think my comfort, efficiency, and power would have been just fine. So, I've changed my mind about that aspect of the Rodriguez tandem, and I now believe it actually was an excellent design for us and I would not want to change it. I congratulate Scott for knowing,

based on his years of experience, the best bike to design for me. I wish I came to my senses sooner and could have ridden the Rodriguez with the Liberator saddle. (Scott would have spec'd the WTB Silverado saddle, had I not insisted on Rolls).

Ok, enough already. As I mentioned earlier in the review, the Rodriguez Classic Tandem is a very capable enabler, meaning it doesn't fight you or dictate how to ride – it just blends into the experience and becomes an extension of your bodies. Besides which it's easy on the eye. We received many compliments on "our" bike! You can't ask much more of a tandem. I liked it.

From the stoker:

The view from the back seat, as most of us know, is largely one of our captain's jersey and helmet. We spend a lot of time back there trying to see out! It is with a nod toward ameliorating some of this issue that the Rodriguez design team has worked to enlarge the rear compartment on their tandems, and to move the stoker to the rear away from the captain. A slightly longer distance view around the captain's shoulder and the extra "breathing space" was noticed and welcomed by this stoker, even though we are not as disparate in size as some tandem teams may be (6 ft. / 5 ft. 4 in.).

Of more significant note for us, however, is the change to a more upright positioning of the riding team, particularly the stoker.

I suppressed the urge to tell Scott what my shape on the bike looks/feels like and remained open to his explanations on the settings he was dialing in. With some requested input from me, he worked with the fit machine to align my body on the bike for the most comfortable riding position for me. He accommodated my shorter than average legs and longer than average arms to a well-supported position; slight bend at the elbow to discourage locking the arms and hanging in the shoulders, straightened wrist position to help eliminate hand/wrist discomfort over time and distance and a more upright torso to center more body weight on the bike seat and less on the hands, which also allowed for less of a tendency to hyper-extend the chin and strain the neck. My preference is for riding with drop bars because I use multiple hand positions as we ride for climbing, rapid/technical descents (we live in hilly country!), sprinting and just casual "toodling along," so those were chosen for the bike.

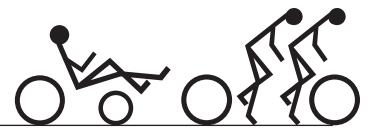
I am pleased to note that my wait-and-see approach on the custom positioning fit was well worth it. When we took possession of the bike the "new" more upright position felt roomy and stretched out to this stoker without compromising the amount of power generated. It is, however, also fair to say that to be completely comfortable, it was necessary to develop different pressure points where the bum meets the saddle! For



That's a bottle opener on the left seat stay, lots of attention to detail is evident.



The stoker's cockpit features a special stem for a more upright riding position.



stokers with a larger body type, higher center of gravity, and/or lesser core body strength this custom-designed positioning could be a huge step toward greater comfort on the bike, especially for longer distance rides and touring. In the past months, we have participated in two large regional tandem rallies, and anecdotally I have been able to observe stokers using a variety of handlebar adaptations to achieve a more upright position... some ride with drop bars turned upside down so hands can rest higher on the bottom of the drops; some ride on the tips of bullhorn bars, some even angle the bullhorn ends toward the back of the bike and use them like swept back handlebars. The design philosophy behind Rodriguez would suggest that a more individually designed fit will offer greater riding comfort, and being comfortable makes the riding together more enjoyable.

SUMMARY

The Rodriguez Classic Tandem is a beautiful, custom-designed and hand-built bicycle intended for general use (e.g. Casual riding, organized rides/events, personal fitness, day/distance tours, etc.) and also intended to last you a lifetime. It comes complete with its own bike shop and support crew, assuming you are close enough to R&E Cycles to take advantage; they are always available to chat by phone or email.

Things we liked about the bike:

- Stability at speed. We really felt confident on this bike. High-speed turns and maneuvers were very smooth and comfortable.
- The longer stoker compartment.
- The sloping top tube and subsequent low stand over.
- No significant stoker steer or bothersome sensation of stoker movement.
- The personal approach to design and fit.
- The commitment to support after the purchase.
- The beautiful finish and paint.
- The value – this bicycle, with its quality and with the personal touches, is very competitively priced.

Things we did not like about the bike:

- Mild wheel flop, but this was a very minor dislike.



Things we would do differently if the bike were ours, all of which R&E can easily accommodate:

- We probably would take the kickstand and third brake off, unless on a loaded tour, to save weight.
- We would talk to Scott about a different fork, to ameliorate the wheel flop.
- We would put on wider Velocity rims, so we could use tires up to 32 or 35 mm wide.
- I would put on longer captain crank arms (this is just a matter of personal preference).
- We would get the bike with S&S couplers, because we travel a lot with our tandems.
- We would most likely get the bike with a Rohloff hub instead of derailleurs. We are big fans of the Rohloff hub. This bike and a Rohloff hub would be dynamite together!

CONTACT INFORMATION

Our sincere thanks go to Scott Rock, Dan Towle, and all the crew at R&E Cycles in Seattle. We very much appreciate the effort they expended to help us review this great bike for our readers. You can find their website, filled with all kinds of interesting

Above: Happy test riders give the Rodriguez Classic Tandem a try after receiving the tandem from the R&E shop in Seattle, Washington.

and helpful information, at <http://www.rodcycle.com/>

You can give them a call at 1-206-527-4822. Better yet, you can drop in to see them in person at 5627 University Way NE, Seattle, Washington 98105.

If you can, call ahead to make sure Scott and/or Dan will be there to discuss your needs and answer your questions. ■

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