



PHOTOS: JUSTIN STEINER



**C**arbon fiber was once the prized material used to create stiff and light competition road bikes. But in the past few years, more carbon mountain bikes have been rolling from production lines with enticing frame shapes and ride qualities. Enter the so-called "firm tail" Ellsworth Enlightenment 29. It's fast-handling, light, and capable of efficiently knocking off singletrack miles. A few characteristics help to set Ellsworth's 29"-wheeled bike apart from the competition.

To produce the frame, Ellsworth uses their Rare Earth Carbon Fiber. This hi-modulus material is sourced in Japan and shipped through Korea in refrigerated containers to Taiwan. Chilled carbon fiber comes in one end of the factory and a high-end frame comes out the other. Labeled as gloss-black,

nipples hold a claimed 30% higher tension. The front is laced with 24 spokes in a two-cross pattern and the rear uses 32 spokes in a three-cross pattern. Both use Ellsworth's aluminum hubs that spin on oversized steel bearings. The front hub is compatible with standard quick release or 15mm thru-axle using an adaptor. Total wheelset weight is 1,745g.

Completing the build is a Fox F29 RLC FIT 100mm suspension fork. It provides the reliable travel that Fox is known for, and of course it was set-and-forget. The exception to the "forget" is the lockout, which I used frequently when riding to the trailhead or during long climbs. SRAM X9 derailleurs and shifters functioned flawlessly, but under pressure, the Truvativ Noir crankset had trouble dropping the chain to the granny gear. Avid Elixir 5 hydraulic brakes with 160mm rotors

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the finished product is rather stealth-like; no fancy paint or gaudy stickers cover up the intricately wrapped weave. A tapered head tube and internal shift cable and hydraulic hose routing complete the look. The Enlightenment's interchangeable rear dropouts can accommodate geared or singlespeed use, and the drive-side seatstay is also split for belt drive compatibility.

Ellsworth's XC 29" hand-built wheelset further distinguishes the Enlightenment. Their house brand 29mm-wide, tapered-wall rim allows the tire to create a wide contact patch, offering more stability and control. The quadruple-butted spokes (2.0mm-1.6mm-1.2mm-2.6mm) and 14-gauge aluminum

front and rear seemed underpowered; I felt no pad contact until halfway through the stroke. They made me miss the pad contact adjustment that the CR model has. I did appreciate the fast-rolling Kenda 29"x2.1" Small Block 8 tires, although they broke traction easily in high-speed turns and skidded when scrubbing speed. The Easton Monkey Lite SL handlebar was too narrow for me, so I swapped it for a wider bar and felt more comfortable thereafter.

Because of the Enlightenment's carbon frame, swoopy shape, large bottom bracket area, and conjoined top and down tubes, I thought the frame was going to ride extremely harshly. That was,

however, not the case. The frame is rigid and is an efficient climber. It's also laterally stiff and transfers leg and body power to the rear wheel solidly when standing. But the force-directional carbon layup and curvy features allow the frame to damp much of the trail and provide an enjoyable platform that doesn't beat you up as hours in the saddle go by. It's stiff where it needs to be, has some flex in the top tube, and is smooth the whole way around.

The size large Enlightenment has an aggressive 72.5° head tube angle and 43" wheelbase for quick turning compliance. Combined with an 11.5" bottom bracket height, the Enlightenment's low center of gravity makes carving through corners a treat. The low BB was at times problematic for me; it's nearly 0.75" lower than my personal 29er and I smacked my pedals off more rocks than I can remember. I had to be more aware of pedal placement and hit sections of rocks faster to clear through them without pedaling. I frequently hung up the front chainring on the top of log piles and sometimes clipped a pedal rolling down the backside, which also put a stutter in my flow.

Given the choice, I would sacrifice a slightly higher center of gravity, if it meant pedaling uninterrupted more often. But I got used to keeping the pedals even and adapted to this characteristic.

At just over 24lbs, this bike is light and rides even lighter. It doesn't require much muscle to lift the front end or to kick up the rear. I nearly pitched myself over the bars when jumping the first fallen tree I encountered. It was surprisingly pleasing not to get ping-ponged all over the trail when hitting rocks, and I had plenty of control to maintain my intended direction and catch a little air.

Rolling downhill, the frame's damping mutes a lot of vibration while creating a ride that's sharp and quick to respond to my input. The smooth-rolling Ellsworth wheels easily pick up speed. Combined with the fork and frame package, everything feels solid, yet light. It made maintaining that speed enjoyable, while looking ahead at the next corner to lean into.

I experienced a creaking/popping noise that came from the rear quick release slipping slightly in the dropout. After closing the QR as tightly as I could, I had to ratchet

the lever another quarter-turn to remedy the slipping. Exchanging the QR got rid of the problem, and Ellsworth told me that future QRs will be Shimano brand.

Cross country racers will love the Enlightenment's nimble handling, overall light weight, and superb wheelset. Twenty-four-hour race riders or those pedaling the long days away will enjoy this bike's carbon damping characteristics and wide tire footprint. At nearly two grand for the frame, this bike obviously isn't in everyone's budget, but...it is one badass frame to consider if a quality carbon fiber two-niner frame is in your future.

**TESTER:**  
Shannon Mominee  
**AGE:**  
37  
**HEIGHT:**  
6'  
**WEIGHT:**  
180lbs.  
**INSEAM:**  
33"

**VITAL STATS:**  
**COUNTRY OF ORIGIN:**  
Taiwan  
**PRICE:**  
\$3820 as tested  
\$1995 frame only  
**WEIGHT:**  
24.2lbs. w/pedals  
**SIZES AVAILABLE:**  
Small/Medium,  
Large (tested)  
**CONTACT:**  
www.ellsworth.com