



## CANNONDALE SUPERSIX

Cannondale has always been known as an aluminum bike frame company. However carbon fiber has been making inroads into their model line these past years. Finally they have taken the plunge and have constructed a full carbon fiber frame, the SuperSix.

The SuperSix is constructed from a high modulus, unidirectional carbon fiber layup, and team HealthNet will be banging bars with this model through 2008. A feature of the bike which I suspect will eventually become an industry standard is the BB30 bottom bracket. The BB30 designation refers to the width of the bottom bracket shell, but it doesn't stop there. The bearings are pressed directly into the shell, reducing weight by eliminating the conventional threads. The SuperSix's beefy, one-piece bottom bracket and chainstays provide maximum power transfer. Attached to the BB30 bracket is the Hollowgram Si crankset, which, according to Cannondale, is one of the stiffest and lightest combinations possible. The bike's oversized headtube is another feature that is rapidly becoming an industry standard. Several manufacturers have taken the cue and started to design bikes with this chunky, Rubenesque tube design. The tube tapers from 1.8" to 1.5" at the crown, reducing weight and increasing front end stiffness. Like the bottom bracket, the bearings are pressed directly into the head tube, reducing weight by eliminating hardware. The full-carbon SuperSix fork is carbon fiber from the steerer tube down to dropouts. In contrast to the super-sized bottom bracket and headtube are the seat stays, which are bow shaped and pencil thin. This design provides vibration absorption. The top tube of

the SuperSix has a standard diameter, but the tubes are so thin in this area that I could squeeze the top tube with my fingers. But before you start to panic about crumpled tubes, remember that these areas are a low stress. Many bike companies use a thin top tube to reduce the overall weight of the bike and add a bit of compliance to the ride.

### HOW DOES IT FEEL?

After riding compact frames these last few months, getting some chamois time on a standard, diamond-style bike frame was a nice change of pace. The Super Six is their first full carbon race bike. The BB30 bottom bracket as well as their oversized headset are also becoming Cannondale's standard in the bike industry, and for good reason. The BB30 proves that placing the bearings inside the bottom bracket shell reduces stress as well as stiffening the frame. The same reasoning applies for the headset. Oversizing the headtube junction creates more surface area, which results in a stiffer frame. With all of these frame-stiffening measures, you might be concerned that the frame would be too rigid. After a few shake-out rides on the SuperSix, I headed for the hills to see if the ride was as smooth, yet stiff, as advertised. Up my first climb of the day, the SuperSix quickly rolled up speed. The overall lightness of the bike, combined with the Mavic's Special Edition Kysrium E5 wheels, helped. Out of the saddle, the SystemSix shines. The bottom bracket, which can be an Achilles' heel for carbon frames, felt stiff as I threw my weight into the pedals. I know this climb so well that I know what gear ratios to use and exactly when to use them. This day, the plot had changed. Where I usually shifted to


### ANGLES

Measurements in centimeters [TT= top tube; SA= seat angle; HA= head angle]

SIZE	48	50	52	54	56	58	60	63
TT	51.5	52.5	53.5	54.5	56	57.5	59	60
SA	74.5°	74.5°	74°	73.5°	73.5°	73°	72.5°	72°
HA	72°	72.5°	73°	73°	73°	73.5°	73.5°	73.5°

the small front ring, I stood, shifted to a larger cog in the back and continued to pound the pedals with reckless abandon. When the gradient slackened, I sat back down and shifted to a harder gear and kept my speed rolling. Just like my climb, I know the descent so well I can apply the brakes and know where to lean with my eyes closed (Kids don't try this at home; I'm a highly-trained amateur). Again, my established convention was thrown out the window. I sprinted to terminal velocity and leaned the SuperSix hard into every turn. The SuperSix had a death grip on the road that would make a serial killer proud. Where I might have speed-checked the brakes, I just leaned harder, and each time the bike responded. I feel that the headtube area was the source of my reckless abandon on the descent. It was rock solid. The only hiccup occurred when I did have to apply the brakes at the bottom of my speed defying descent. The Cannondale-labeled, dual-pivot brakes did not match the stopping power of Dura-Ace calipers. While not a hugely disproportionate performance between the two calipers, it is noticeable.

### LAST CALL

This is a ProTour caliber frame with all the bells and whistles. And at around 15 pounds this bike will not hold you back on the climbs or the sudden bursts for city limit signs. 



## THE LOW DOWN

Price: \$5500 (frame, fork & stem)

Weight: 14.9 lbs. (60cm)

Sizes: 48-60 (2cm); 63cm

Color(s): Race Red; Clear Coat

Information: cannondale.com

#### Chassis

Frame: High modulus unidirectional carbon fiber

Fork: Full carbon fiber

#### Wheelset

Wheels: Mavic Special Edition Kysrium E5

Tires: Maxxis Xenith Hors Categoric

#### Cockpit

Brake levers/shifters: Shimano Dura-Ace

Brakes: Shimano Dura-Ace

Handlebar: FSA K-Force Carbon Compact

Stem: Control Tech IPOST Carbon

Headset: SuperSix Carbon

Saddle: f'zi:k Arione K:iium

Seatpost: Control Tech Scored 99, Scandium

#### Drivetrain

Crankset: Shimano Dura-Ace

Bottom Bracket: Cannondale BB30 (cer. bear.)

Cassette: Shimano Dura-Ace

Chain: Shimano Dura-Ace

Derailleurs (F/R): Shimano Dura-Ace