WIN WITH GIANT.

THE TRUTH ABOUT ROAD FRAME TESTING

RIDE LIFE.
RIDE GIANT.

GIANT®

WE'RE NOT GOING TO BE SILENT ANYMORE.

We've never before presented the data you find here. These are the test results comparing our premium road bicycle frames against those of our relevant competitors. We purchased their **full production framesets** – the same framesets anyone can buy -- and tested them alongside our handcrafted **TCR Advanced SL, TCR Advanced, TCR Composite,** and **TCR SL** (ALUXX SL Ultralight-Edition aluminum) full production framesets. We test in three key areas: **Weight, Steering Stiffness, and Pedaling Stiffness.**

Some of our competitors have done these same tests but they don't include Giant in their published results. That's because the Giant bikes are superior, and they can't figure out a way around that superiority. So they just leave Giant out.

Here are the full results. We show how we test and why we win. Ride one of our road bikes at your local Giant retailer, and see why *you* win with Giant.

WEIGHT

We weigh our road frames against those of our relevant competitors – the full production frame, uncut fork, full paint and graphics, and all production hardware like derailleur hangers, water bottle bolts, and cable guides. All the frames are equivalent sizes. If they don't have an Integrated Seat Post, like the Giant TCR Advanced SL (ISP), we add 250 grams – the average weight of a high-quality composite seat post – to the frame weight.

The TCR Advanced SL (ISP), the same bike frame ridden by the Rabobank Team, is the lightest. No question.

THE RESULTS

TCR ADVANCED SL (ISP)
Cannondale Super SIX EVO
Scott Addict
Cervelo R5
Specialized S-WORKS Tarmac SL4
Cervelo R3
TCR ADVANCED SL (W/O VECTOR SP)
Trek Madone 6.9
Cannondale Super SIX
TCR ADVANCED (W/O VECTOR SP)
Trek Madone 6.5
Canyon Ultimate Pro Series
Cervelo S3 (Aero)
TCR COMPOSITE
TCR SL (ULTRA-LIGHT ALUXX SL)
Specialized S-WORKS Venge (Aero)
Look 595
Felt AR1 (Aero)
Cervelo S5 (Aero)
Look 596 (Aero)

MODEL	SIZE	FRAME WEIGHT NO S.POST	FORK WEIGHT	AVG. LIGHTWEIGHT SEATPOST WEIGHT SIMULATION	FRAME/FORK W/ SIMULATED SP WEIGHT COMBINED WEIGHT
		grams	*grams*	*grams*	*grams*
TCR ADVANCED SL (ISP)	**M**	**968**	**332**	**ISP**	**1300**
Cannondale Super SIX EVO	54	747.7	317.5	250	1315
Scott Addict	54	804	317.5	250	1372
Cervelo R5	56	863.4	343.7	250	1457
Specialized S-WORKS Tarmac SL4	L-56	871.3	352.6	250	1474
Cervelo R3	56	870	360	250	1480
TCR ADVANCED SL (W/O VECTOR SP)	**M**	**920**	**332**	**250**	**1502**
Trek Madone 6.9	54	940	350	250	1540
Cannondale Super SIX	54	925	375	250	1550
TCR ADVANCED (W/O VECTOR SP)	**M**	**968**	**338**	**250**	**1556**
Trek Madone 6.5	56	987	368	250	1605
Canyon Ultimate Pro Series	56	1058	348	250	1656
Cervelo S3 (Aero)	56	1068	360	250	1678
TCR COMPOSITE	**M**	**932**	**500**	**250**	**1682**
TCR SL (ULTRA-LIGHT ALUXX SL)	**M**	**1050**	**388**	**250**	**1688**
Specialized S-WORKS Venge (Aero)	56	1112	376	250	1738
Look 595	M	1181	360	250	1791
Felt AR1 (Aero)	56	1189	400	250	1839
Cervelo S5 (Aero)	56	1286	358	250	1894
Look 596 (Aero)	M	1549	645	250	2444

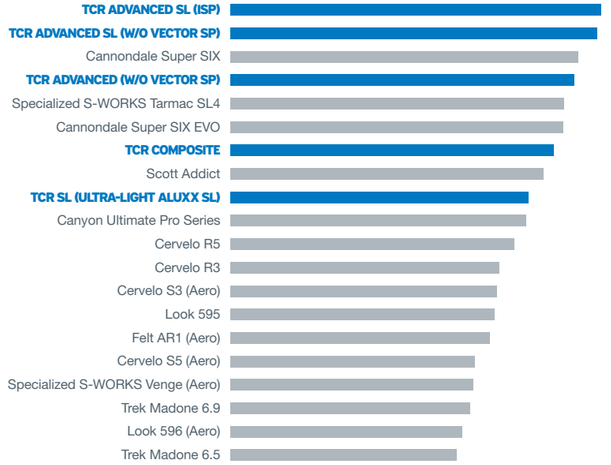
STEERING STIFFNESS

Steering stiffness is felt under hard cornering and is a result of the fork, headset, and headtube all flexing under load. Unlike some of our competitor's testing – which substitutes a steel bar for the fork – Giant uses the production fork included with the frameset providing complete system performance information that translates directly to ride quality.

For this test, each frameset is fixed and locked at the rear dropouts. Side force, simulating cornering, is applied to the production fork dropouts to duplicate input forces from steering and terrain. The deflection at the fork dropouts is measured; the higher the value, the stiffer the frameset.

Again, we win. Hands down.

THE RESULTS



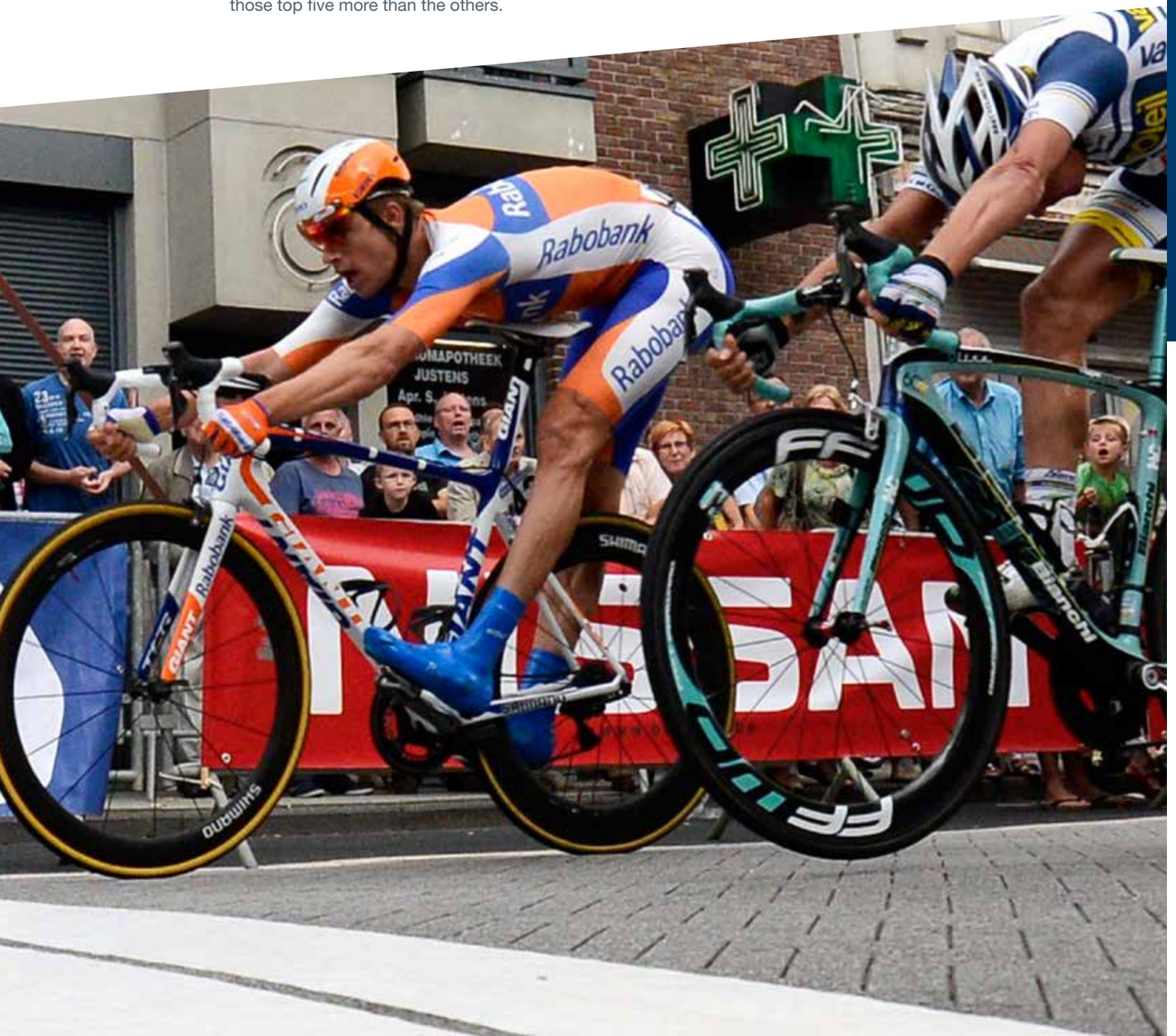
MODEL	SIZE	TORSIONAL STIFFNESS
		(Nm/ °)
TCR ADVANCED SL (ISP)	**M**	**162.44**
TCR ADVANCED SL (W/O VECTOR SP)	**M**	**160.73**
Cannondale Super SIX	54	152.2
TCR ADVANCED (W/O VECTOR SP)	**M**	**150.8**
Specialized S-WORKS Tarmac SL4	L-56	146.27
Cannondale Super Six EVO	54	146.01
TCR COMPOSITE	**M**	**141.57**
Scott Addict	54	137.38
TCR SL (ULTRA-LIGHT ALUXX SL)	**M**	**130.56**
Canyon Ultimate Pro Series	56	129.54
Cervelo R5	56	124.5
Cervelo R3	56	117.78
Cervelo S3 (Aero)	56	116.84
Look 595	M	115.76
Felt AR1 (Aero)	56	113.81
Cervelo S5 (Aero)	56	107
Specialized S-WORKS Venge (Aero)	56	106.47
Trek Madone 6.9	54	105.1
Look 596 (Aero)	M	101.71
Trek Madone 6.5	56	99

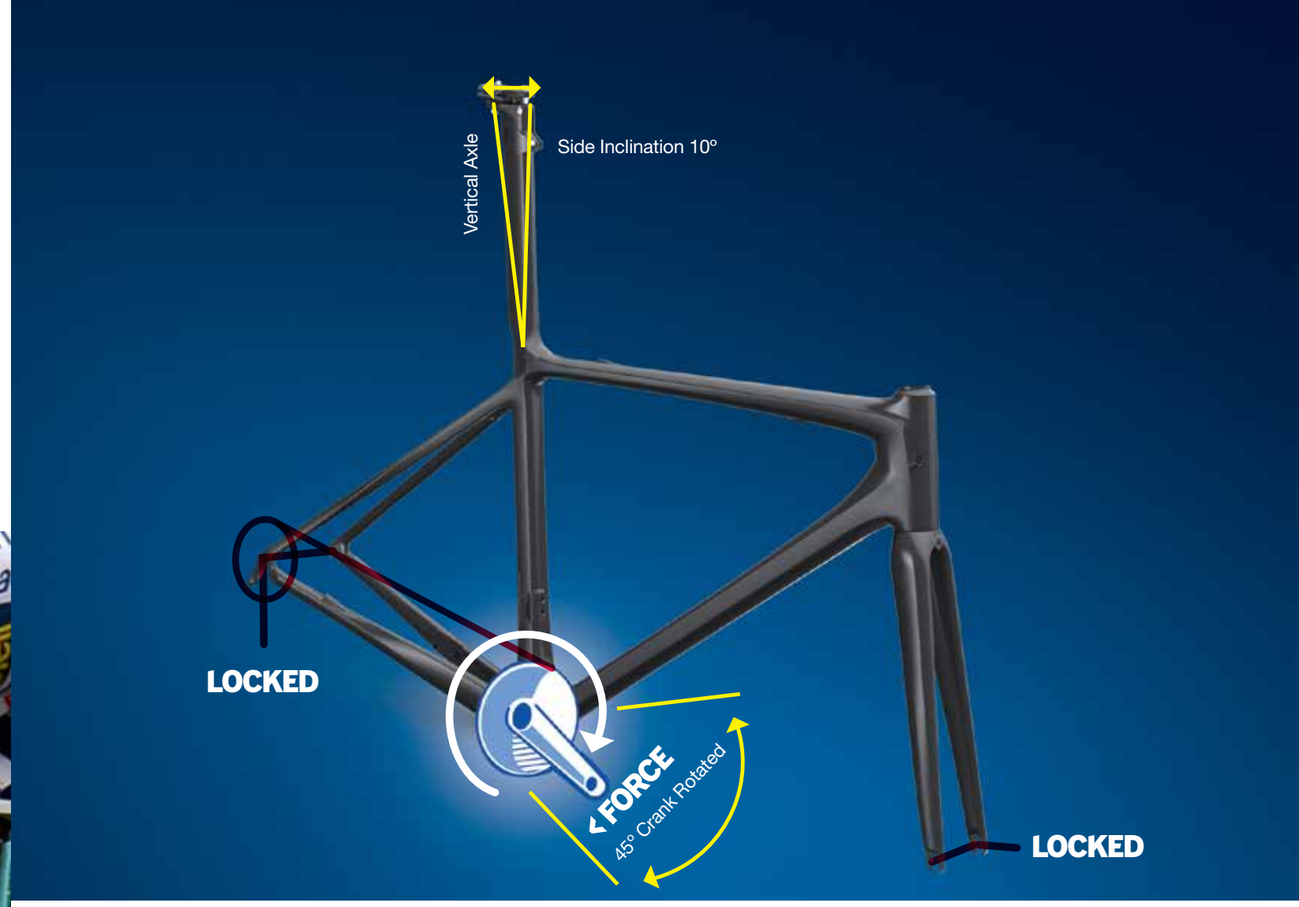
PEDALING STIFFNESS

Pedaling stiffness can be felt under heavy pedaling (such as sprinting) and is the result of the side-to-side motion of the bottom bracket area. With pedaling stiffness, more is better. The less bottom bracket flex, the more power will be transferred through the drivetrain to the rear wheel – propelling you forward faster.

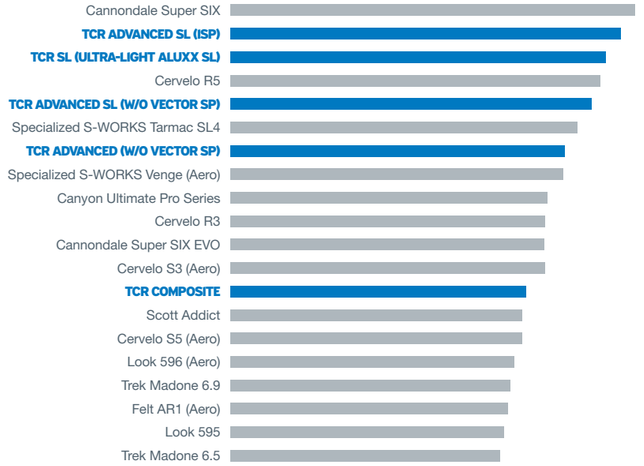
For this test, each frameset is fixed and locked at the fork dropouts and the rear dropouts, inclined to 10-degrees, and a steel crank is installed and rotated to 45-degrees. Force is applied to the end of the crank arm. The deflection at the bottom bracket is measured; the higher the value, the stiffer the frameset and better the pedaling efficiency.

We're number two here, and we're okay with that. That's because among the top five framesets (and note that Giant frames occupy three of those top five), the stiffness is so substantial that no rider is going to flex any one of those top five more than the others.





THE RESULTS



MODEL	SIZE	PEDALING STIFFNESS
		(N/ mm)
Cannondale Super SIX	54	79.81
TCR ADVANCED SL (ISP)	**M**	**76.96**
TCR SL (ULTRA-LIGHT ALUXX SL)	**M**	**74.01**
Cervelo R5	56	72.91
TCR ADVANCED SL (W/O VECTOR SP)	**M**	**71.18**
Specialized S-WORKS Tarmac SL4	L-56	68.36
TCR ADVANCED (W/O VECTOR SP)	**M**	**65.91**
Specialized S-WORKS Venge (Aero)	56	65.66
Canyon Ultimate Pro Series	56	62.47
Cervelo R3	56	62.07
Cannondale Super Six EVO	54	61.92
Cervelo S3 (Aero)	56	61.92
TCR COMPOSITE	**M**	**58.3**
Scott Addict	54	57.55
Cervelo S5 (Aero)	56	57.49
Look 596 (Aero)	M	55.99
Trek Madone 6.9	54	55.17
Felt AR1 (Aero)	56	54.64
Look 595	M	53.9
Trek Madone 6.5	56	53.13

CONCLUSION

Giant wins. The reason is because Giant is the only major bicycle manufacturer in the world that controls the entire process from start to finish – from the raw carbon thread (or from Giant's own aluminum forge), to a finished bicycle, to the Giant retailer, to your hands. No other major manufacturer has this complete control, so they can't hit these numbers.

Every Giant bicycle - every angle, curve, and tube junction - is born from world-leading technology and craftsmanship. Giant's continuous research, development, testing, and refining means unrivaled performance for the ultimate ride.

But ultimately the test that *really* matters is yours. Visit a Giant retailer and ride one of our On-Road Performance bikes. Discover how you, too, win with Giant.

RIDE LIFE. RIDE GIANT.

Photos by Chris Milliman and Cor Vos

GIANT-BICYCLES.COM

RIDE LIFE.
RIDE GIANT.

GIANT

Version 1-Sept 2012