

2009

W H E E L S B A R S S T E M S C R A N K S





Team CSC-Saxo Bank // Tour de France Team Competition // Winner

ZIPP: THE SOUL OF SPEED

Think back to what bikes were like 20 years ago: lugged steel frames, down tube shifters, toe clips... and carbon fiber disc wheels.

It's been that long since Zipp introduced the first full carbon disc, and we've been innovating ever since. Many of the products we've pioneered – like ceramic bearings and carbon cranksets – are now commonplace. But no product is ever “fast enough,” so we never stop looking for the breakthrough that will make next year's wheelsets stronger, lighter, and faster. Until we find it, you can always find us working in the wind tunnel or at a pro team training camp.

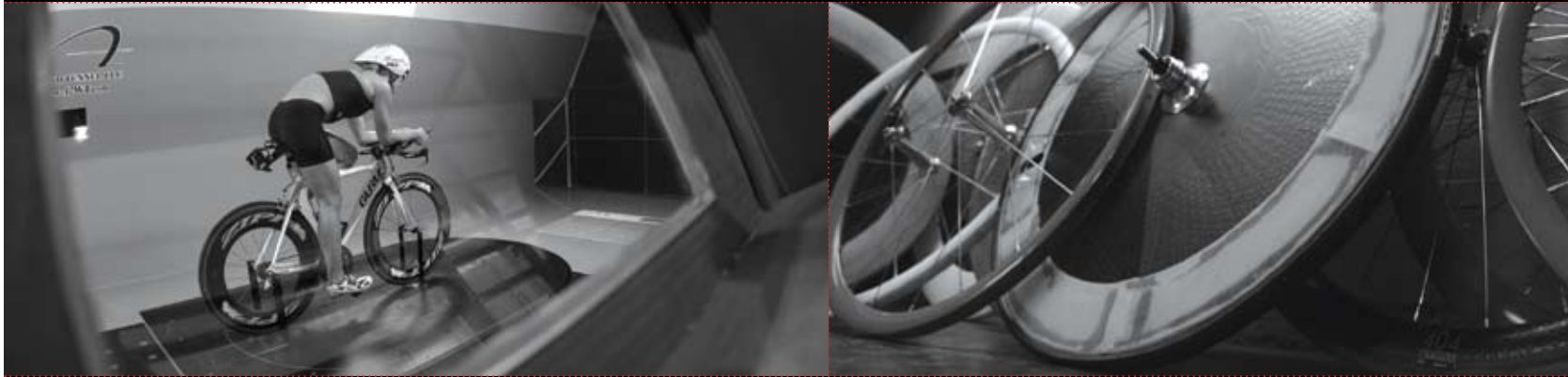
There are plenty of carbon fiber wheels, cranks, stems, and bars on the market. But it's not the competition that drives us. It's you, the people who ride Zipp products. From Tour de France champions to age group triathletes, you push us to push the envelope.

You are the Soul of Speed.



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TECHNOLOGY: THE AERO EDGE



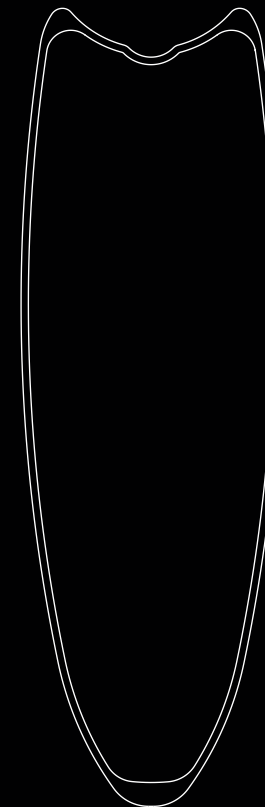
Although there's no substitute for training, aerodynamics is where equipment has the greatest affect on your performance. That's why the wind tunnel is so important, but there's a difference between testing wheels in the wind tunnel and actually developing them there.

Zipp's unrivaled wind tunnel development process is more than just a glorified photo shoot. We start with literally dozens of non-structural SLA prototypes that we can reshape on the spot to hone in on the fastest design. The ones that make the cut return as structurally sound prototypes that we re-test to confirm our original findings before we ever make a production quality molding tool. Zipp's mission is to help you go faster. That's why our wheels are race-ready before they're camera-ready.

For 2009, we've redesigned the most popular wheels in our line, the 808 and 404. Armed with new information from the Sub-9 and 1080 projects, we spent over 100 hours in the wind tunnel with two dozen prototype shapes. The results were astonishing: reduced drag at every wind angle from 0°-25°, and drag savings of 7-28 grams for the 404 and 8-25 grams for the 808. Even better, the biggest improvements for both rims came in the most common range of wind angles between 10°-20°.

The new fully toroidal shapes yielded other benefits, as well. A slight widening of the rim increased stiffness with no additional weight, and the slightly angled brake track improved performance.

In short, the best just got better.



Zipp 420 rim cross-section.

Bulges and Dimples

After 20 years of forward thinking, Zipp rims have a shape and a texture all their own. Our ovalized cross-section, introduced in 2001, creates a toroidal bulge in the rim that maintains optimal aerodynamics with the tires most people use, not just the 19mm tubulars that are only practical in the wind tunnel. The surface of a Zipp rim features our instantly recognizable ABLC™ dimpled pattern, which smoothes airflow across the rim and is tailored to every model from the 202 to the Sub-9 disc. 2009 sees the third-generation of ABLC, with up to 4 times more dimples than before. On the 808 for example, that's over 4,000 dimples per side. Both the toroidal shape and ABLC designs are patented and unsurpassed by the competition.

TECHNOLOGY: BEYOND STRUCTURAL

If 20 years of making carbon fiber wheels have taught us anything, it's that aerodynamics don't have to come at the expense of strength, durability, or comfort. Especially not with the VCLC,[™] M2CM,[™] and Carbon Bridge[™] technologies included Zipp carbon wheels.

VCLC – Ride faster. Longer.

When we say that Zipp wheels are the fastest in the world, we aren't basing that just on testing in the wind tunnel. Because the real world includes rough pavement, potholes and corners, we've designed our exclusive VCLC technology to reduce fatigue and maximize bike handling control for every rider and every road surface.

The key is a visco-elastic material sandwiched between layers of rigid carbon laminate in the rim. When the wheel receives an impact from the road, much of the shock is absorbed by the VCLC system, delivering a 10% reduction in vibration.

That means that your wheel stays glued to the pavement when cornering and transmits less vibration into your body, reducing fatigue and keeping you fresh to carry your top speed all the way to the finish.

M2CM – The best of both worlds.

Zipp's aerodynamic shapes are the world's fastest and our M2CM technology produces nearly indestructible rims with the dependability of an aluminum braking surface while maintaining the ride quality of our tubular rims. This combination is unbeatable by any other carbon clincher wheel design.

The key to our clinchers' unsurpassed strength and durability is the M2CM process that permanently fuses a sub-200 gram aluminum hoop to a carbon structure with the same dimpling as our tubular rims and our patented aerodynamic bulge, which acts as a leaf spring to reinforce the aluminum during impacts. The spokes lace directly to the carbon body for a fully structural rim that blends the ride feel of carbon with the braking performance of aluminum.

With M2CM, Zipp clinchers are the strongest rims in the world. The 404 has survived up to 10,000 miles of off-road abuse (which Zipp doesn't recommend, by the way). The 808 has outperformed all comers in drum impact testing in both the U.S. and Europe.



Carbon Bridge – Strength for any surface.

There are no cobblestones in the wind tunnel but there are plenty in Paris-Roubaix. So with our Carbon Bridge, we've utilized a technique from the aerospace industry to improve the impact resistance of our tubular rims by at least 28%.

Improved Impact Resistance in Wheelsets

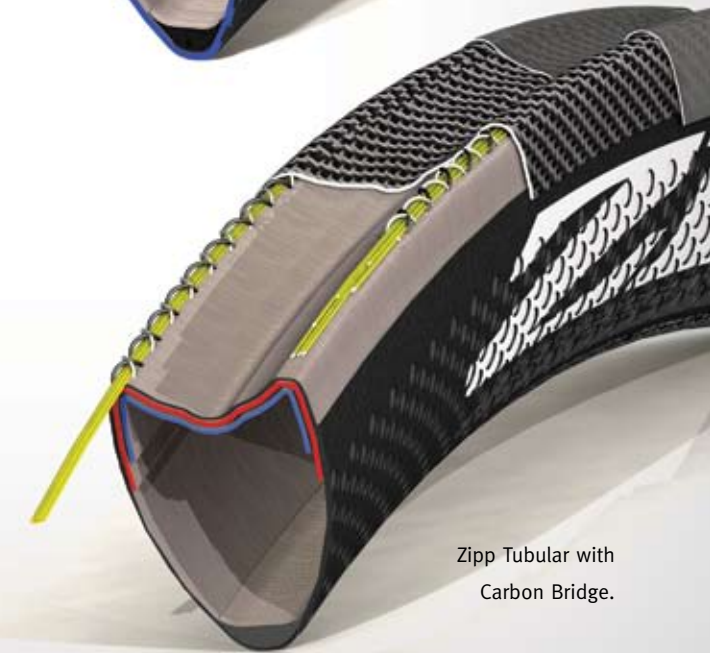
202	<div><div></div></div>	+28%
303	<div><div></div></div>	+34%
404	<div><div></div></div>	+43%

In a typical wheel, two-dimensional sheets of carbon fiber are held together solely by an epoxy resin. A wheel with Carbon Bridge adds Kevlar® thread in a co-axial helix stitch to bind the sheets in three dimensions. Because Kevlar is 350% more impact resistant than carbon, it can disperse shock more evenly throughout the carbon laminate, making for a rim that is practically bulletproof.

This reduces the vulnerability of the rim's tire bed, the area most susceptible to damage from impact. Garmin-Chipotle's Martijn Maaskant probably wasn't thinking about that when he placed fourth in "The Hell of the North" on our lightest wheelset, the 202. But, thanks to Carbon Bridge, Martijn had nothing to worry about.



Zipp Clincher
with M2CM.



Zipp Tubular with
Carbon Bridge.

TECHNOLOGY: THE WORLD'S FINEST HUBS

We sweat every detail so you don't have to.

Even the most aero wheelset won't make you a great climber. The lightest crankset won't improve your descending. The stiffest stem won't make you faster on the flats. But the world's finest hub delivers a little bit of extra speed, every second of every ride, in every condition. That's why Zipp builds it into all our wheels.

For years, Zipp has been the only hub manufacturer using Swiss-made bearings that are two-and-a-half times rounder than any others in the bike industry - rounder even than many ceramic bearings. But for 2009, we added adjustable preload and switched to a slightly larger size that gives us room for a 17mm diameter axle, the stiffest in any road hub. The new bearings also yield a 28% higher load capacity, improve durability, and will save you a watt or two relative to the competition, regardless of conditions.

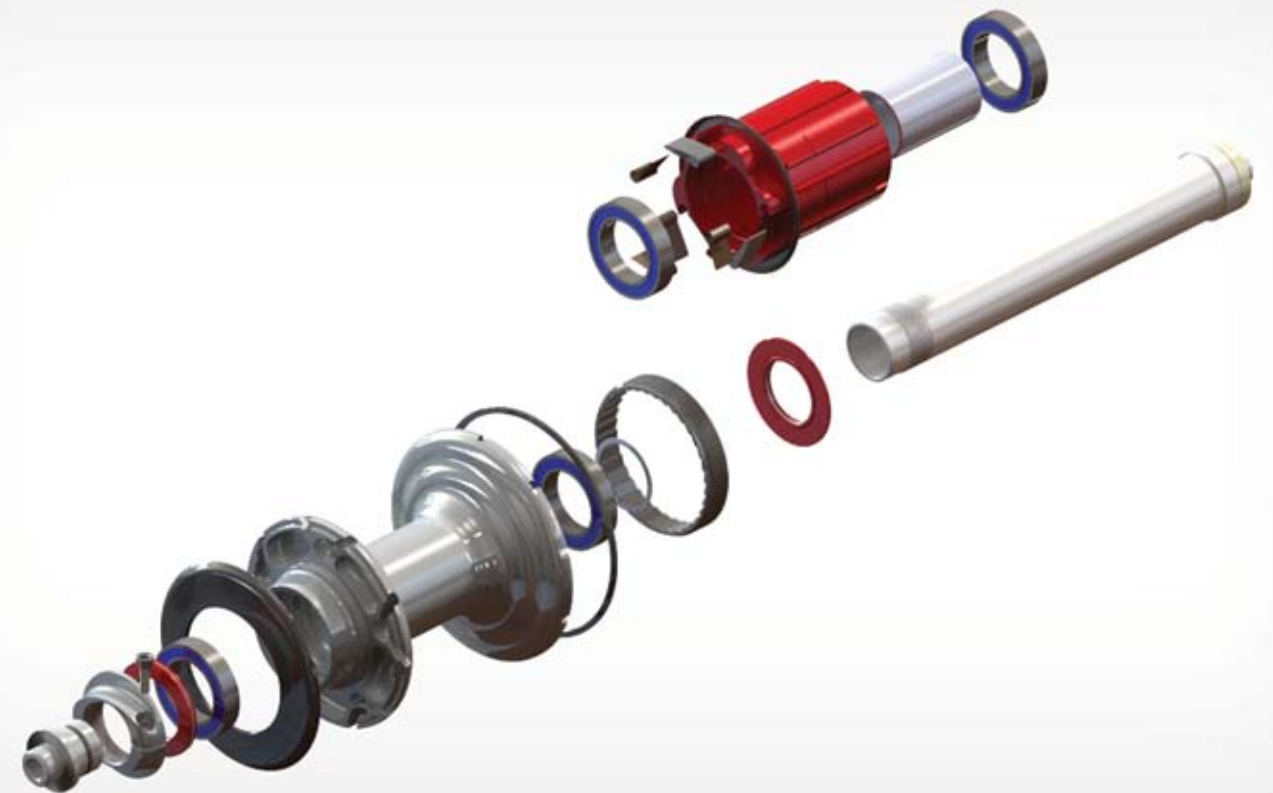
All Zipp hub internals are manufactured using a high-voltage wire EDM technology so specialized and expensive it is usually reserved for making avionics components, Formula 1 gearboxes, and orthopedic joints. This technique lets us machine 50% harder materials at tolerances 20 times greater than standard machining and heat treating. The result is a sub-200g

hub that can handle the torque of a 4-cylinder car engine. Obviously, we think you're worth the trouble.

At Zipp, we understand that the wheel is a system and not just a collection of components. So each hub incorporates 5-axis spoke hole drilling and computer-designed flange geometry to perfectly match the corresponding rim and allow for more balanced rear spoke tension. These subtle features and design concepts lead to stronger, lighter wheels that are optimized for stiffness, strength, durability, and ride quality.

It's not a stretch to say that more design, engineering, refinement, and manufacturing expertise goes into Zipp hubs than goes into many high-end frames, which is why we insist on making every component at our facilities in Indiana. We could probably do a lot less and still be ahead of the game, but that's just not how we do things. Maybe you're the same way.

Zipp's new 188 hub.



Team Garmin-Chipotle // 2008 Tour de Georgia Time Trial // Winner



W H E E L S B A R S S T E M S C R A N K S

SUB-9

PROPULSION IS POSSIBLE

Typically, we think of aerodynamics as the science of reducing drag. You want as little resistance as possible from your equipment while you're producing as much power as you can on the bike. Zipp's Sub-9 disc throws that notion out the window by generating forward lift at certain wind angles when paired with our Tangente tire. Like a sailboat tacking into the wind, your equipment can actually propel you forward.

We've achieved the seemingly impossible by applying what we learned from developing the 1080 and 808 to what we already knew about discs. Ringed by our patented toroidal rim profile, the Sub-9's shape is an odd one, but it works by controlling airflow at the wheel's leading and trailing

edges. And just like our non-disc wheels, the Sub-9 absorbs impacts and vibrations from the road surface, making for a comfortable ride over a long bike leg.

Companies sometimes talk about their products giving you an "extra boost" in a metaphorical sense. But Zipp's Sub-9 physically gives you that boost. We think that's pretty amazing, and Garmin-Chipotle's Tour de France stars, David Millar and Christian Vande Velde, would agree.

Available in Tubular, PowerTap, ZEDTECH.



Specs (Tubular)	Rear
Aero Rim Width	27.5mm
Rim Depth	n/a
Weight	1,003g
Aerodynamics	
808 Front + Sub-9 Rear	
Time and Watt Savings Over 40k	
104 Seconds or 34 Watts	



Today, measuring power is an essential part of racing, not just training. That's why the Sub-9 gives you the option of a PowerTap hub. If getting the most out of your equipment is important to you, then getting the most out of your body should go along with it.



900

VERSATILITY WITHOUT COMPROMISE

The hype around our negative-drag Sub-9 is understandable, but the 900 remains the go-to disc for some of the world's top cyclists and triathletes including Team CSC-Saxo Bank. This stalwart of Zipp's line is available in a myriad of configurations with PowerTap hubs now available for both tubular and clincher versions.

But as you might expect, a Zipp clincher is no ordinary clincher. Rather than post-bonding a rim around a flat or lenticular disc, we've incorporated our patented bulged rim shape and used our proprietary M2CM technology to increase strength and comfort while reducing drag around the interface of aluminum and carbon.

The tubular version of the 900 is one of the lightest disc wheels in the world. At 936 grams, it tackles the hilliest courses with ease and accelerates like a rocket. At the same time, it's stiff enough to handle world-class power outputs on the velodrome.

Zipp was founded 20 years ago to produce carbon fiber discs that were lighter and faster than anything else available at the time. Today, the 900 still reflects that commitment to giving you the perfect tool for whatever situation you find yourself in.

Available in Tubular, Clincher, PowerTap Tubular, PowerTap Clincher, 840 Tubular (650c), ZEDTECH.



Specs	Clincher	Tubular
Aero Rim Width	25mm	21mm
Rim Depth	n/a	n/a
Weight	1,219g	936g
Aerodynamics		
808 Front + 900 Rear		
Time and Watt Savings Over 40k		
88 Seconds or 29 Watts		

1080

VICTORY NEVER COMES EASILY

When Carlos Sastre rolled up the start house for the 2008 Tour de France's all-important final time trial, most pundits were expecting to see his 1'34" lead over Cadel Evans evaporate. But Carlos rode the TT of his life and saved the *maillot jaune*, thanks in part to a Zipp 1080 front wheel – the most aerodynamic non-disc wheel in the world. But if its striking 108mm profile has you thinking that it must be hell in a crosswind, think again. The patented bulged rim shape and dimpling create the ultimate in wind-slicing aerodynamics while generating no more side force than a 3-spoke wheel. At more than 29 seconds faster in 40k than a pair of 3-spokes and 9 seconds faster per 40k than the world's previous fastest wheel, our own 808, the 1080 is truly the weapon of choice when seconds count.

With Carbon Bridge technology in the tubulars, M2CM in the clinchers, and external spoke nipples for serviceability, the 1080 gives you pure speed without a hint of delicacy.

Available in Tubular, Clincher, ZEDTECH.



Specs (Tubular)	Front	Rear
Aero Rim Width	27.5mm	27.5mm
Rim Depth	108mm	108mm
Weight	775g	888g

Aerodynamics

1080 Wheelset

Time and Watt Savings Over 40k

90 Seconds or 30 Watts





808

THE NEW 404?

When we introduced the 81mm deep 808, we saw it mainly as a time trial and triathlon wheelset. It did pretty well in those disciplines, netting an Ironman World Championship with Normann Stadler and the fastest Tour de France time trial in history with David Zabriskie. But lately we’ve seen the 808 more frequently at road races. Fabian Cancellara, no TT slouch himself, has ridden the 808 to victory with his trademark last-kilometer solo attacks at the Tour de France and Milan-San Remo, and it was Fabian who told us, “The 808 is the new 404 for me.”

We’re not ready to say that officially, but we will say that the fully redesigned 2009 version is the fastest road racing wheel ever. The new fully toroidal rim shape uses design cues from the 1080 and Sub-9 development to further reduce the drag by 8-25 grams over the original 808. This equates to a savings on the road of 2-7 watts of power for a pair of wheels at 30mph. Maybe Fabian is right, after all.

Available in Tubular, Clincher, Clydesdale Tubular, Clydesdale Clincher, PowerTap Tubular, PowerTap Clincher, Track, ZEDTECH.



Specs (Tubular)	Front	Rear
Aero Rim Width	26.53mm	26.53mm
Rim Depth	81mm	81mm
Weight	672g	790g

Aerodynamics
808 Wheelset
Time and Watt Savings Over 40k
81 Seconds or 27 Watts





404 THE ESSENCE OF ZIPP

From road to triathlon to track, from mountaintop finishes to field sprints, the 404 does it all. Its 58mm rim depth is the classic in Zipp's arsenal and has carried athletes to victory from the days of Mark Allen and Jacky Durand to Frank Schleck and Carlos Sastre. The 404 has conquered the Queen K, Alpe d'Huez, and countless Tour stages and world championships. For 2009, it's faster than ever with a new fully toroidal rim shape derived from the 1080 and Sub-9 projects. Refined through over 100 hours of wind tunnel testing during co-development with the new 808, the new 404 shows reduced drag at every angle from 0 to 30 degrees.

If we could only make one wheelset, this would be it. But at least it would be available in over 10 configurations including PowerTap. Our mission from the start was to build wheels that help you win, and there's no race that's out of the 404's reach.

Available in Tubular, Clincher, PowerTap Tubular, PowerTap Clincher, 650c Tubular, 650c Clincher, Clydesdale Tubular, Clydesdale Clincher, Track Tubular, Track Clincher, Cyclocross, ZEDTECH.



Specs (Tubular)	Front	Rear
Aero Rim Width	24mm	24mm
Rim Depth	58mm	58mm
Weight	568g	682g

Aerodynamics
404 Wheelset
Time and Watt Savings Over 40k
71 Seconds or 23 Watts

303

A SPECIALTY WHEEL FOR ALL-AROUNDERS

Every Zipp wheel is designed to be versatile, but the 303 might be the most so, incorporating all the aerodynamic features of our deeper rims in a wheelset that's only 101 grams heavier than our lightest, the 202. While it's been used in all kinds of situations since its release in 1999, some of the 303's top results in recent years have come from smaller riders, like ITU World Cup champion Emma Snowsill, who need a wheel less affected by heavy crosswinds. Then again, the big guns of Garmin-Chipotle and CSC-Saxo Bank also love it, so go figure.

The 303 is available with tubular rims using our Carbon Bridge system, clincher rims featuring M2CM technology, in a cyclocross configuration, and with a PowerTap hub. Use it however you want.

Available in Tubular, Clincher, PowerTap Tubular, PowerTap Clincher, Cyclocross, ZEDTECH.



Specs (Tubular)	Front	Rear
Aero Rim Width	22.35mm	22.35mm
Rim Depth	44mm	44mm
Weight	529g	653g

Aerodynamics

303 Wheelset

Time and Watt Savings Over 40k

48 Seconds or 16 Watts



202

MORE THAN MEETS THE SCALE

The 202 is first and foremost a climbing wheelset. Despite its astonishing 4th-place finish at Paris-Roubaix where it became the first carbon wheel to even finish the “Hell of the North,” the 202’s domain is in the high mountains where Carlos Sastre made his Tour-winning assault on the Alpe d’Huez. At 1081 grams per pair, the 202 is well suited to the job of going uphill, but even the most specialized climbing wheel still has to get you to the base of the ascent and back down from the top. So Zipp designed the 202 in this context. As the first climbing wheelset developed in the wind tunnel, it rolls more efficiently on the flats than most 46-50mm rims. Plus, it’s stiff enough to deliver surefooted cornering on the trickiest descents and rapid accelerations to make your attacks even sharper.

For 2009, we’ve spec’d our all-new 88/188 hubset and moved to external spoke nipples for easier service with no aero penalty.

Available in Tubular, PowerTap Tubular, ZEDTECH.

Specs (Tubular)	Front	Rear
Aero Rim Width	23mm	23mm
Rim Depth	32mm	32mm
Weight	477g	604g

Aerodynamics

202 Wheelset

Time and Watt Savings Over 40k

42 Seconds or 14 Watts



TEAM ISSUE

THE EVERYDAY CLASSIC

Specs	Front	Rear
Weight	704g	794g

Our pro cyclists and triathletes get their share of Zipp wheels to play with, but most still want a reliable yet race-worthy wheelset for their daily training. So we give them the hand-built Team Issue with the dependability of a low-profile aluminum rim featuring our exclusive brake wear indicators, and 28 spokes in the front and 32 in the rear. Originally designed for CSC-Saxo Bank but used by many more of our athletes, the Team Issue has plenty of competition-ready Zipp touches such as the world's finest spoke, the Sapim CX-Ray, and custom Swiss-made rims.

The Team Issue may not be the wheel that wins a world championship out on the course, but it is the wheel that helps Zipp's top pros prepare for one.

POWERTAP

WELCOME TO THE INFORMATION AGE





En route to his 5th-place overall finish at the Tour, Garmin-Chipotle's Christian Vande Velde used a Zipp Sub-9 disc with a PowerTap hub to dose his efforts in the crucial time trial stages. You can do the same with the Sub-9, 900 tubular, or 900 clincher – the world's first power measuring discs – and we'll continue, of course, to offer the option of a PowerTap SL or 2.4 Wireless system on most of our spoked wheels.

Why? Because if you're making the effort to collect and analyze power data from training, you shouldn't leave race day to guesswork.

RIMS SPEED À LA CARTE

You can't make the world's fastest wheels without the world's fastest rims – the heart and soul of what we do at Zipp. We're proud that the patented aerodynamic shapes and the Carbon Bridge, M2CM, and VCLC technologies that make Zipp rims unique were developed right here in Speedway, Indiana. They're made by hand here, too.

It's true that we spend our time in the wind tunnel developing each Zipp complete wheel to be faster than the sum of its parts. But we also make those parts available for you to create the wheel that gets you to the finish line quickest.



202 Wheelset: **255 Tubular** (294g, 32mm) A feathery yet stiff climbing rim with an aero profile for the flats and descents.



303 Wheelset: **285 Tubular** (346g, 44mm) & **417 Clincher** (562g, 44mm) A versatile performer that's ideally suited to hilly courses and smaller riders.



404 Track Wheelset: **360 Tubular Track** (428g, 58mm) No braking surface and an extra-stiff laminate for going fast and turning left.



404 Wheelset: **360 Tubular** (396g, 58mm) & **505 Clincher** (578g, 58mm) A new faster and stiffer shape for our top all-around rim that can win any race, anywhere.



404 650c Wheelset: **330 Tubular** (373g, 58mm) & **460 Clincher** (505g, 58mm) Our classic rim depth made available in a light, fast 650c size for all sizes of riders.



808 Wheelset: **420 Tubular** (500g, 81mm) & **520 Clincher** (715g, 81mm)

An updated shape with up to 25g less drag to race against the clock or hold off the field.



1080 Wheelset: **620 Tubular** (604g, 108mm) & **720 Clincher** (951g, 108mm)

Perfect for TT specialists and triathletes looking for the fastest non-disc possible.

TANGENTE TIRE YET ANOTHER ZIPP INNOVATION

With all our aero rim models, designing an aero tire is so obvious that we're a little embarrassed we didn't do it until 2006. But we've made up for lost time with the Zipp Tangente, the first tire developed in the wind tunnel. To cut through the wind, we've put our patented ABLC dimples on the wheel's leading edge to save 1-3 watts, or up to 9 seconds over 40k. But the Tangente is not just a delicate special event tire. Thanks to our partnership with Vittoria, the Tangente sports a durable yet supple 290tpi casing and a unique rubber compound for low rolling resistance and high cornering grip in wet and dry conditions. Available in 21mm, tubular, or clincher.



88/188 HUBS

HOW ZIPP ROLLS

It's not easy to make a pair of hubs that weighs 276 grams, especially if you're trying to make them strong and durable. But we've certainly shown that it's possible. The new 88 front hub and 188 rear hub feature an axle larger in diameter than most cross-country mountain bike hubs, Swiss bearings higher in precision than most ceramic "upgrades," and the most precise drive internals ever used in a bicycle hub. As a pair, they weigh as much as a lot of high-end rear hubs alone. True perfection is an impossibility, but these hubs are the closest yet.

Front hub available for 16, 18, 24 spokes.

Rear hub for 20, 24, SRAM/Shimano, or Campy compatible.



TRACK HUBS


THE STIFFNESS STANDARD

At this point, a lot of track equipment is more about style on the street than performance on the pista. But to be honest, we have no idea whether our track hubs look cool or not. If you know Zipp, you know that we only have ideas about stuff like rolled stainless steel axles, massively stiff flanges, spoke holes that are forged instead of drilled, and the ability to build with any spoke lacing pattern you can think of.

Front hub available for 20 or 28 spokes. Rear hub for 24 or 28 spokes.



THE RIGHT WEAPONRY FOR ANY SITUATION



We design Zipp wheels to address any terrain and any event, but at the end of the day, every combination of rider and course is unique. So we created the SpeedShop at Zipp.com to let you assemble the perfect wheelset for whatever situation you find yourself in.

Let's say you're a bigger rider who loves to climb. You could pick a 202 up front with a 404 rear wheel to combine light weight with aerodynamics and stiffness. Or you might be a smaller rider facing a windy bike leg. A 303 front / 808 rear combo could be your best bet to maintain bike handling while maximizing aerodynamics.

We could keep going with the hypotheticals, but the point is that the SpeedShop is where you'll find the wheelset that's right for you. Think of it as Zipp's online dating service, minus the awkwardness. Find your match at

ZIPP.COM/SPEEDSHOP

ZEDTECH: THE PINNACLE OF PERFECTION



If victory is your goal and your pursuit is relentless, every gram shaved and fraction of a watt saved are steps along the way. To help light your path, ZEDTECH unleashes Zipp's most advanced speed weaponry with a host of custom features.

For velocity without compromise, all ZEDTECH wheelsets and discs feature dimpled hubs that are ridiculously difficult to manufacture but can cut 4-9 seconds from a 40k time trial. Optional Silicon Nitride ceramic bearings, the world's most precise, subtract another 2-3 ticks of the clock. For ZEDTECH rims, climbers can pick the SL laminate to lose a few extra grams while power riders can take the SS for extra stiffness.

Once you get your technical choices dialed in, ZEDTECH lets you personalize your dream wheels with a host of color choices. You can pick from five colors of anodized spoke nipples (red, silver, black, smoke, and gold) and six colors of hub end caps (red, blue, pink, silver, grey, and gold), and you have the option to select any Pantone® color for your decals. Find the precise match for your bike, your team kit, your alma mater, your car, even your dog if you can get him to hold still. It's all about you.

For Zipp, ZEDTECH represents the farthest reaches of our engineering team's imagination and dedication to the ultimate in design. So if you don't settle for anything less than the ultimate, your choice is clear.





Desiree Ficker // 2006 Ironman World Championships // Kona, HI // 2nd Place

VUKAAERO

WHEN AERODYNAMICS GET PERSONAL



There comes a point where aerodynamics goes from mimicking the pros to doing what works best for you. When you pass that point is when you really start to go fast. To help you get there, Zipp created the VukaAero – the ultimate integrated aerobar.

From an engineering standpoint, the VukaAero is cutting edge all the way. To get rid of drag-inducing fasteners and clamps, we created a patent-pending compression sleeve system that secures the extensions with just two hidden bolts. Don't worry about strength and durability, as the VukaAero is the only integrated aerobar to pass EFB's fatigue testing for high-performance racing equipment. And, at 860g (42cm o-o), weight is not an issue.

Amazingly, the VukaAero achieves near-perfect aerodynamics without sacrificing any adjustability or ergonomics. For instance, you'll most notice the VukaAero's strength when you're wrenching on hand grips that perfectly mimic the position, shape, and texture of standard brake hoods. And the aero compression sleeve design still allows for rotational, horizontal, and even vertical adjustments to the standard chicane extensions or your choice of straight, ski tip, or VukaShift (chicane) extensions.

The VukaAero outperforms the competition in every measurable way, and in the most important: fitting you.

VUKABULL WHY NOT HAVE IT ALL?

If you're going to make a base bar, you might as well make it as light, strong, and aero as possible. That's what we were thinking when we made the VukaBull. It weighs just 195 grams (42cm o-o) but passed EFB's toughest fatigue test with 30% more torque than is typically applied. And it utilizes an innovative shape that can be rotated as much as 5 degrees up or down while maintaining optimum aerodynamics. But we should also mention that it's budget-compatible for most everyone in the time trial and triathlon sets. There's really no downside to the VukaBull.

VukaClip: Customize Your Cockpit.

We've seen pretty much every aerobar system ever made, but we haven't seen a clip more advanced than the VukaClip. It presents only the most stripped-down frontal area to the wind while offering nearly limitless positioning options thanks to the same patent pending compression sleeve design as the VukaAero. You can choose one of four extensions – chicane, ski tip, straight, or VukaShift (chicane) – and one of 42 positions for the EVA foam elbow rests. The VukaClip is sized for 31.8mm clamps, so you can bolt it onto a base bar like the VukaBull, a drop bar like Zipp's SLC2, or a 26.0mm bar with the included machined spacer. The VukaClip is the perfect combination of aerodynamics and adjustability.

VukaBrake: Plug in to Performance.

Utilizing the same lever design as the wind tunnel-developed VukaAero, the VukaBrake levers weigh less than 110 grams per pair but are stout enough to provide stopping power in any situation. These "plug-in" levers route the brake cable internally through the bar for ideal aerodynamics and offer a slight "brake hood" shape to keep your hands firmly located on the bar.

VukaShift: Integration is a Good Thing.

By integrating the bar-end shifter boss into our chicane aerobar extension, we've created something that weighs less and improves ergonomics at the same time. This design saves more than 80 grams over a standard extension and shifter while placing the shift lever 30mm closer to your hand, thus eliminating wrist discomfort without sacrificing your aero position. It's simply a better system than what came before.

SRAM and Shimano versions available.



Zipp has designed an arsenal of wheels to suit every rider and riding style, and so why not do the same for drop bars? That was our starting point, and we're extremely proud of the family of bars we've come up with: the nearly weightless SL, the stout yet light SLC2, and the supremely versatile Countour SL. With 32 different shapes and sizes across the three models, there's bound to be a Zipp bar that's perfect for you. Every rider is different, and now everyone can have something to grab onto.

CONTOUR SL THE STAGE RACER'S BAR

We've put our legendary attention to detail and devotion to innovation into redesigning every millimeter of the 190g (42cm o-o) Contour SL's unique shape. Between the ovalized drops and the airfoil top designed to perfectly hide both cables, your hands will always find the perfect position as you settle into a long climb, hammer a bike leg, or accelerate toward the finish line. There's no situation where the Contour SL doesn't excel.

40, 42, 44, 46cm widths (outside-to-outside) in 2 drops: short/shallow bend: 84.5mm reach, 130 drop; traditional bend: 87.5mm reach, 128 drop.

SL FEATHER LIGHT, TOUGH AS NAILS

Our goal was to design the lightest drop bar available while still passing EFB Laboratory's top performance racing standard. We achieved it with the SL. It weighs a mere 170g (SS drops, 42cm o-o), but it's stiff enough to grunt over the steepest grades and smooth enough for all-day comfort, thanks to Zipp's VCLC vibration-damping technology included in all our bars. A classic look completes the SL package.

40, 42, 44, 46 cm widths (outside-to-outside) in 3 drops: ergo bend: 90mm reach, 150 drop; short/shallow bend: 84.5mm reach, 130 drop; traditional bend: 87.5mm reach, 128 drop.

SLC2 FORGET ABOUT FLEX

Not even our engineers thought that a sub-200g bar could be this stiff and tough, even with clip-on aerobars installed. But the SLC2 passed every EFB test without breaking a sweat. It tips the scales at just 190g (SS drops, 42cm o-o), and the extended 31.8mm clamp diameter section makes it a perfect match for the VukaClip. Trust us, the SLC2 will withstand the efforts of even the fiercest sprinters.

40, 42, 44, 46cm widths (outside-to-outside) in 3 drops: ergo bend: 90mm reach, 150 drop; short/shallow bend: 84.5mm reach, 130 drop; traditional bend: 87.5mm reach, 128 drop.





Kieran Doe // 2007 Ironman Canada // Winner



W H E E L S B A R S S T E M S C R A N K S

SL SPEED STEM

RULES WERE BROKEN

We didn't care what it cost or what we had to do to achieve it. We just wanted to make the lightest all-carbon stem possible without sacrificing strength or stiffness. Enter the SLSpeed.

With an all-carbon body containing not a gram of embedded aluminum and all-external titanium hardware, it's clear that every molecule of the SLSpeed serves a purpose. It's the attention to details like the world's first titanium faceplate with reverse bolts and a self-aligning bolt at the steerer tube clamp that allowed Zipp to make a 100g stem (100mm) with a rock-solid ride quality and absolutely no compromises. For a super-light stem, that's pretty rebellious.

Available in 80-130mm lengths. +/- 6° angle. 31.8mm clamp diameter.



SL145 STEM

STIFF IS JUST THE BEGINNING

There are places on a bike where a little bit of flex is a good thing, but your stem is not one of those places. That was on our engineers' minds when they came up with the SL145 stem, proven by EFBe as the stiffest, strongest carbon stem available. Not bad at just 135g (100mm).

To bring out the best in the SL145, we use three different metals in the clamp alone: an aluminum faceplate with a stainless steel insert and titanium screws. This stem will bring out the best in your sprint, too.

Available in 100-130mm lengths. +/- 12.5° angle. 31.8mm clamp diameter.



Matt Reed // 2008 U.S.A. Olympic Team Member



W H E E L S B A R S S T E M S C R A N K S



VUMACHRONO CRANK

WE EVEN SURPRISED OURSELVES

It took years to develop the VumaChrono and by the time we were done, even our engineers were stunned by the results: 9 seconds faster over 40k compared to the next fastest TT crankset. That's about the same as taking 12 spokes out of your front wheel (which we do *not* recommend).

But VumaChrono breaks new ground with more than its radical shape. It has a unique spider-less design that uses 9 screws to hold the outer ring in place around the perimeter of the carbon face. Meanwhile, the inner ring has its own set of bolts, making the VumaChrono the first crank designed to accommodate both single and double chainring setups. At just 860g (53/39, 172.5), it also happens to be the stiffest crankset we've ever tested for chainring deflection—by a factor of 10.

The VumaChrono features the same ultra-stiff 30mm spindle, ultra-smooth bottom bracket, and 146mm Q-factor as our VumaQuad. Available in 170-180mm lengths and with your choice of 53/39, 54/42, or 55/42 chainrings.

VUMAQUAD CRANK

PERFECTION IS THE ONLY WAY

Zipp designed the world's first carbon crank, and we've paid close attention to their evolution over the years. To design the VumaQuad, we began with a blank slate and reassessed everything we thought we knew. The results of that process have set new standards in every aspect of cranksets.

The VumaQuad weighs 580 grams with 50/34 chainrings or 620 with a 53/39 setup. We're talking crankarms, chainrings, bottom bracket, and all the bolts and hardware. There is no lighter crankset in existence, which makes it all the more impressive that the VumaQuad cruised through CEN's rigorous testing as well as Zipp's even tougher internal protocols.

Much of the VumaQuad's toughness owes to our unique 110mm four-bolt pattern that reduces weight, lets you run compact or standard chainrings, and adds strength by integrating the fourth chainring bolt into the crankarm. The chainrings themselves feature a NoNuts™ system that threads the chainring bolts directly into the small chainring for added stiffness. Plus, we included the first 30mm bottom bracket spindle to be used in an external bearing crankset.

But what's strength without smoothness? We've spec'd American-made steel bearings two-and-a-half times rounder than the industry standard and used the world's most expensive grease. If that's not slick enough for you, we offer the VumaQuad with the roundest ceramic bearings in the industry.

So if “-ests” are important to you, this crankset has them in spades. We demand perfection because you demand perfection. The VumaQuad delivers it.

Available in 170-180mm
lengths and with your choice of 50/34
or 53/39 chainrings. Ceramic or steel bearings.





Carbon Headset Spacers Lightweight and precisely parallel, Zipp carbon headset spacers are about more than just looks. 1-1/8" diameter in 4, 8, 12, and 30mm heights.



Carbon Brake Blocks We've collaborated with the top manufacturers of both bicycle and Formula 1 brakes on these thermally conductive pads for carbon or aluminum rims.



Valve Extensions Zipp's specially designed valve extensions achieve a perfect seal at both ends and come in five lengths to match every Zipp rim depth.



Handlebar Tape Your choice of red, white, or black, with embossed Zipp logos and carbon end plugs. Synthetic cork material.



Skewers High security gripping from an oversized cam and extra-long levers, and just 85g per pair with titanium shaft. Stainless steel available too.



Rim Tape Closed loop design stretches securely around the rim and leaves plenty of room for the tightest fitting tires. Two rim strips per box.



Water Bottles The updated graphics on Zipp bottles probably won't improve your 40k time, but there's only one way to find out for sure.



Bottle Cage The perfect accent for Zipp wheels is a sturdy, secure 21g full-carbon bottle cage that also happens to look really cool.

For the complete selection of the ever-evolving lineup of Zipp accessories and soft wear, visit your local Zipp dealer or zipp.com.



Hat When you're on the podium, give a shout-out to the wheels that helped you get there! 100% cotton with adjustable strap and embroidered logo. Made by Headsweats®



Beanies Keep your head warm while you cool down from the winter rides that lay the foundation for victories to come. Men's and women's styles available.



Arm and Leg Warmers You can adjust your apparel as the temperature changes, but you can't deny your loyalty to the fastest wheels on earth. Embroidered logos. Sizes S-XL.



Sweaters The old-school "trainer" jersey brings classic style to your post-ride meal with the comfort of cotton. Sizes M-XXXL in black or white.



Socks Be fast on your feet with Zipp socks made by DeFeet®. Black with white and silver logo or white with retro logo in black (pictured). Sizes S-L.



Road Kit Fit and function with Zipp styling to match your exquisite taste in wheels. Jersey has 8-1/2" hidden zipper; bibs or shorts available. Sizes S-XXXL in red or white.



Wheel Bag Protect your investment in the fastest wheels on earth with multiple foam layers and a tough nylon cover. Holds two wheels plus accessory pockets.



Tri Kit The finest quality race-day kit with the dimpled look to match the ultimate speed weaponry. Sizes S-XXL.



T-shirts Various designs and sizes for men and women. Find the one that suits you and your style as well as your Zipp wheels do! Men's M-XXL. Women's S-XL. Visit your local Zipp dealer or zipp.com for the latest Zipp T-shirts.

Visor When you reach Transition 2, pull on a Zipp visor by Headsweats to remind yourself of the speed you carried through the bike leg.



Gear Bag Custom-designed with input from our top athletes, this is the perfect transition zone or race bag with 13 item-specific pockets and zip-away backpack straps.

W H E E L S	Rim Used	Weight Front	Weight Rear	Weight Set	Spoke Count Front	Spoke Count Rear	Spoke Pattern Front	Spoke Pattern Rear Non-Drive	Spoke Pattern Rear Drive	Track Adaptable	Dimpled Surface	Ceramic Bearing Option	Max Tire Pressure
Team Issue	TI Clincher	704g	794g	1498g	28	32	2 Cross	3 Cross	3 Cross	Front	N	Upgrade	125 PSI
202 Tubular	225	477g	604g	1081g	18	24	Radial	Cross	Radial	Front	Y	Upgrade	
202 PowerTap	255	477g	810g	1287g	18	24	Radial	2 Cross	2 Cross	Front	Y	Upgrade	
303 Tubular	285	529g	653g	1182g	18	24	Radial	Cross	Radial	Front	Y	Upgrade	
303 Clincher	417	744g	869g	1613g	18	24	Radial	Cross	Radial	Front	Y	Upgrade	125 PSI
303 PowerTap Tubular	417	529g	862g	1391g	18	24	Radial	2 Cross	2 Cross	Front	Y	Upgrade	
303 PowerTap Clincher	285	744g	1078g	1822g	18	24	Radial	2 Cross	2 Cross	Front	Y	Upgrade	125 PSI
303 Cyclocross	285	556g	653g	1209g	24	24	Radial	Cross	Radial	Front	Y		
404 Tubular	360	568g	682g	1250g	16	20	Radial	Cross	Radial	Front	Y	Upgrade	
404 Clincher	505	750g	865g	1615g	16	20	Radial	Cross	Radial	Front	Y	Upgrade	125 PSI
404 PowerTap Tubular	330	568g	928g	1496g	16	24	Radial	2 Cross	2 Cross	Front	Y	Upgrade	
404 PowerTap Clincher	417	750g	1110g	1860g	16	24	Radial	2 Cross	2 Cross	Front	Y	Upgrade	125 PSI
404 Clydesdale Tubular	360	604g	700g	1304g	24	24	Radial	Cross	Radial	Front	Y	Upgrade	
404 Clydesdale Clincher	505	786g	882g	1668g	24	24	Radial	Cross	Radial	Front	Y	Upgrade	125 PSI
404 Track Tubular	360 Track	828g	902g	1730g	28	28	Radial	2 Cross	2 Cross	Yes	Y		
404 Track Clincher	505	968g	1036g	2004g	28	28	Radial	2 Cross	2 Cross	Yes	Y		125 PSI
404 650c Tubular	330	537g	654g	1191g	16	20	Radial	Cross	Radial	Front	N	Upgrade	
404 650c Clincher	460	669g	786g	1455g	16	20	Radial	Cross	Radial	Front	N	Upgrade	125 PSI
404 Cyclocross	360	604g	700g	1304g	24	24	Radial	Cross	Radial	Front	Y		
808 Tubular	420	672g	790g	1462g	16	20	Radial	Cross	Radial	Front	Y	Upgrade	
808 Clincher	520	887g	1004g	1891g	16	20	Radial	Cross	Radial	Front	Y	Upgrade	125 PSI
808 PowerTap Tubular	420	672g	1032g	1704g	16	24	Radial	2 Cross	2 Cross	Front	Y	Upgrade	
808 PowerTap Clincher	520	887g	1262g	2149g	16	24	Radial	2 Cross	2 Cross	Front	Y	Upgrade	125 PSI
808 Clydesdale Tubular	420	704g	806g	1510g	24	24	Radial	Cross	Radial	Front	Y	Upgrade	
808 Clydesdale Clincher	520	918g	1020g	1938g	24	24	Radial	Cross	Radial	Front	Y	Upgrade	125 PSI
808 Track Tubular	420 Track	854g	950g	1804g	20	24	Radial	2 Cross	2 Cross	Yes	Y		
1080 Tubular	620	775g	888g	1663g	16	20	Radial	Cross	Radial	Front	Y	Upgrade	
1080 Clincher	720	1122g	1236g	2358g	16	20	Radial	Cross	Radial	Front	Y	Upgrade	125 PSI
900 Disc Tubular	n/a	n/a	936g	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Y	Upgrade	
900 Disc Tubular (Track)	n/a	n/a	989g	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Y	Upgrade	
900 Disc Tubular PowerTap	n/a	n/a	1089g	n/a	n/a	n/a	n/a	n/a	n/a	No	Y	Upgrade	
900 Disc Clincher	n/a	n/a	1219g	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Y	Upgrade	125 PSI
900 Disc Clincher PowerTap	n/a	n/a	1369g	n/a	n/a	n/a	n/a	n/a	n/a	No	Y	Upgrade	125 PSI
840 Disc 650c Tubular	n/a	n/a	890g	n/a	n/a	n/a	n/a	n/a	n/a	Yes	Y	Upgrade	
Sub-9 Disc Tubular	n/a	n/a	1003g	n/a	n/a	n/a	n/a	n/a	n/a	No	Y	Upgrade	
Sub-9 Disc PowerTap	n/a	n/a	1152g	n/a	n/a	n/a	n/a	n/a	n/a	No	Y	Upgrade	

Z E D T E C H W H E E L S	Rim Used	Weight Front	Weight Rear	Weight Set	Spoke Count Front	Spoke Count Rear	Spoke Pattern Front	Spoke Pattern Rear Non-Drive	Spoke Pattern Rear Drive	Track Adaptable	Dimpled Hub	Dimpled Rim	Ceramic Bearing Option	Laminate Type	Spoke Count Customization	Max Tire Pressure
Zed 2 Tubular	255	477g	604g	1081g	18	24	Radial	Cross	Radial	Front	Y	Y	Upgrade		N	
Zed 3 Tubular	285	529g	653g	1182g	18	24	Radial	Cross	Radial	Front	Y	Y	Upgrade	SS or SL	N	
Zed 3 Clincher	417	744g	869g	1613g	18	24	Radial	Cross	Radial	Front	Y	Y	Upgrade	SS or SL	N	125 PSI
Zed 4 Tubular	360	568g	682g	1250g	16	20	Radial	Cross	Radial	Front	Y	Y	Upgrade	SS or SL	Y	
Zed 4 Clincher	505	750g	865g	1615g	16	20	Radial	Cross	Radial	Front	Y	Y	Upgrade	SS or SL	Y	125 PSI
Zed 8 Tubular	420	672g	790g	1462g	16	20	Radial	Cross	Radial	Front	Y	Y	Upgrade	SS or SL	Y	
Zed 8 Clincher	520	887g	1004g	1891g	16	20	Radial	Cross	Radial	Front	Y	Y	Upgrade	SS or SL	Y	125 PSI
Zed 10 Tubular	620	775g	888g	1663g	16	20	Radial	Cross	Radial	Front	Y	Y	Upgrade		N	
Zed 10 Clincher	720	1122g	1236g	2358g	16	20	Radial	Cross	Radial	Front	Y	Y	Upgrade		N	125 PSI
Zed Disc Tubular	n/a	n/a	950g	n/a	n/a	n/a	n/a	n/a	n/a	Front	Y	Y	Upgrade		N	
Zed Disc Clincher	n/a	n/a	1222g	n/a	n/a	n/a	n/a	n/a	n/a	Front	Y	Y	Upgrade		N	125 PSI
Zed Sub-9 Disc Tubular	n/a	n/a	1000g	n/a	n/a	n/a	n/a	n/a	n/a	No	Y	Y	Upgrade		N	

Spoke lengths available at [zipp.com](https://www.zipp.com). All ZEDTECH wheels feature choice of black, gold, red, silver, or smoke nipples and red, blue, pink, silver, grey, or gold end caps and custom decal colors as available upgrades.

R I M S	Rim Type	Wheels Utilized In	Rim Weight	Effective Rim Diameter	Aero Rim Width	Rim Depth	Hole Count	Carbon Bridge	M2CM	Max Tire Pressure
255	Tubular	202	294g	575mm	23.00mm	32.00mm	18/24	Y	N	
285	Tubular	303	346g	569mm	22.35mm	44.00mm	18/24	Y	N	
330	Tubular	404 (650c)	373g	484mm	22.50mm	58.00mm	16/20	Y	N	
360	Tubular	404	396g	525mm	24.00mm	58.00mm	16/20	Y	N	
360 Track	Tubular	404 Track	428g	525mm	24.00mm	58.00mm	28/28	Y	N	
420	Tubular	808	500g	483mm	26.54mm	81.00mm	16/20	Y	N	
620	Tubular	1080	604g	423mm	27.50mm	108.00mm	16/20	Y	N	
417	Clincher	303	562g	567mm	21.50mm	44.15mm	18/24	N	Y	125 PSI
460	Clincher	404 (650c)	505g	477mm	22.50mm	58.00mm	16/20	N	Y	125 PSI
505	Clincher	404	578g	525mm	22.50mm	58.00mm	16/20	N	Y	125 PSI
520	Clincher	808	715g	477mm	24.00mm	81.25mm	16/20	N	Y	125 PSI
720	Clincher	1080	951g	423mm	24.20mm	108.00mm	16/20	N	Y	125 PSI

H U B S	Wheels Utilized In	Weight Set	SRAM Compatible	Shimano Compatible	Campagnolo Compatible	Hole Counts
88	202, 303, 404, 808, 1080	88g				16, 18, 24
188	202, 303, 404, 808, 1080	188g	Y	Y	Y	20, 24
108	Team Issue	108g				28
208	Team Issue	208g	Y	Y	Y	32
Track Hub Front	404 Track and 808 Track	301g				20, 28
Track Hub Rear	404 Track and 808 Track	403g				24, 28

B A R S	Sizes (out-out)	Weight (SS 42 cm)	Clamp Diameter	Ergo Bend	Traditional Bend	Short-Shallow Bend	Clip Compatible
SL	40	170g	31.8	Y	Y	Y	N
	42	170g	31.8	Y	Y	Y	N
	44	170g	31.8	Y	Y	Y	N
	46	170g	31.8	Y	Y	Y	N
	40	190g	31.8	Y	Y	Y	Y
SLC2	42	190g	31.8	Y	Y	Y	Y
	44	190g	31.8	Y	Y	Y	Y
	46	190g	31.8	Y	Y	Y	Y
	40	190g	31.8	N	Y	Y	N
	42	190g	31.8	N	Y	Y	N
Contour SL	44	190g	31.8	N	Y	Y	N
	46	190g	31.8	N	Y	Y	N
	390g						
	42	195g	31.8				Y
	42	860g	31.8			Integrated	

S T E M S	Weight (100mm)	Sizes	Clamp Diameter	Angle
SL145	135g	100, 110, 120, 130	31.8	+/- 12.5
SLSpeed	100g	80, 90, 100, 110, 120, 130	31.8	+/- 6

C R A N K S	Lengths (mm)	Assembled Weight	BB Thread	Chainrings	Bearing Type	BCD
VumaQuad	170, 172.5, 175, 180	580g (50/34)	Italian (70), English (68)	50/34, 53/39	Precision Steel or Ceramic	110
VumaChrono	167.5 170, 172.5, 175, 180	860g (53/39)	Italian (70), English (68)	53/39, 54/42, 55/42	Precision Steel or Ceramic	



Time and watt savings over 40K are calculated using a top-selling aluminum race wheel as the baseline and assuming an output of 300 watts. All numbers are calculated at a 10° relative wind angle at 30 mph with Fabian Cancellara on Cervelo P3 pedaling at 300 watts. All tests were conducted using Team CSC Vittoria tires (Zipp Tangente Tires can save an additional 3-9 seconds or 1-3 watts). Numbers are based on rider on bike data – not wheel-only data. Note: If you are going slower, the total time and watt savings are greater as you will be riding for a longer time.

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