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PHOTOGRAPHS BY MISHA GRAVENOR

CAUTION: BIKE FREAKS AT WORK

WHEN A COMPANY LIKE SPECIALIZED DREAMS UP A NEW RIDE, DESIGN TEAMS ARE DEPLOYED, TEST FRAMES ARE DESTROYED, AND THE STAKES ARE HUGE. WITH THE 2009 EPIC, THE GOAL WAS SUITABLY GRANDIOSE: TO CREATE THE FASTEST, MOST RESPONSIVE MOUNTAIN BIKE AROUND—AND EARN A WORLD CHAMPIONSHIP TO PROVE IT.

BY ALEX FRANKEL

Specialized A-Teamers: from left, Anthony Trujillo, Brandon Sloan, Jan Talavasek, Mick McAndrews, Sam Pickman, and Chris D'Aluisio

DEEP INSIDE THE HUGE

Northern California warehouse that's home to Specialized Bicycle Components, there's a walled-in testing room with a single window and a locked door. Piled nearby are heaps of coal-black carbon-fiber bicycle frames that have been cracked, bent, twisted, and snapped—all in the name of building better and faster machines.

Here, lab manager Sam Pickman oversees a process that might be too painful for bike lovers to watch: ultimate-strength testing, in which frames are stressed to the point of catastrophic failure. Right now, four are mounted on steel contraptions that push, pull, and flex their tubes in various directions. Carbon fiber, a weave of extremely thin carbon strands bonded with microscopic crystals, is a strong material with little give. When a carbon-fiber tube finally breaks, it doesn't just bend and pop like metal. It detonates, with a sound like an M-80.

"Catastrophic is the ultimate, the best, because it's got everything," says Pickman, a lanky, 27-year-old mechanical engineer who's also a Category 2 road-bike racer. "There's anticipation, and then you're actually scared. Then it explodes."

This torture test is just one step in the complicated process of creating a modern high-end bike. Most frames sent to the lab have been designed on computers by Specialized's engineers and then cast inside molds at an Asian factory, after which they're sent back to California. The menu of abuse includes strength tests that push the head tube until the frame cracks, bottom-out-fatigue tests that simulate a rider going off a large drop, and 24-hour stress tests that mimic 15 years of use and expose microscopic design flaws.

In January 2008, when I stop by the lab, Pickman is knee-deep in broken frames that were designed for a 2009 cross-country mountain bike called the S-Works Epic, the company's upgrade of its popular 2008 Epic. (The S-Works designation is used for high-end bikes.) Before it's all over, more than 100 test frames will be destroyed—the backbones of bikes that will eventually sell for around $8,500 apiece.

In some ways, upgrades are routine—at Specialized, they happen every few years with most major models—but the designers have decided to use the 2009 project as an occasion to fundamentally rethink the bike. When Specialized released the first Epic, in 2001, its full-suspension system was revolutionary, but other companies have since caught up. For the Epic's second major redesign, Specialized is seeking to raise the level of performance even higher by making the whole bike lighter and more responsive.

The amount of planning, manpower, and expense that go into the changes provide a great case study in what happens when a cutting-edge bike company raises the bar for itself. This is especially true with the 2009 Epic, because the goal is nothing less than to create the lightest, strongest, and most responsive mountain bike for racing that anyone has ever built.

SPECIALIZED BEGAN as a company that made absolutely nothing—at first, it consisted of one guy, a bearded college graduate named Mike Sinyard, importing components from Europe. After selling his VW microbus in 1974 to finance his business, Sinyard delivered parts by bike to Bay Area shops and emerging mountain-bike-frame builders. By the early eighties, Specialized was making and selling the hugely popular Stumpjumper, the first mass-market mountain bike. These days, Sinyard, 59, runs a corporate behemoth that designs and sells a large range of bikes—road, hybrid, cross-country, downhill, enduro, freeride, touring, and cyclocross.

The 2009 Epic project launched in April 2007 at Specialized's Morgan Hill, California, headquarters, about an hour south of San Francisco. There, under a strip of fluorescent lights, a group of guys—Specialized's "High-Performance Mountain-Bike Pod"—assembled to lay out project goals on a whiteboard.

THE ENDLESS FINE-TUNING ON THE 2009 EPIC LED TO A FINISHED BIKE THAT WAS LIGHTER THAN THE OLD MODEL BY A POUND AND A HALF. "IF THERE IS SIX GRAMS TO BE HAD IN A NEW DESIGN, WE'LL CHASE IT," SAYS SUSPENSION DEVELOPER MICK McANDREWS.

From the start, the new Epic was seen as a top-of-the-line racing steed that would showcase the prowess of Specialized's creative team. The time-tested idea was that racing victories would cast a halo over the company's other product lines, serving as a vital marketing tool. Before it was all over, Specialized would pour around $2 million into the effort.

By starting early, the team hoped Specialized-sponsored athletes could show off the bike in major 2008 races. The main challenge would fall to Christoph Sauser, a pro from Switzerland, whose goal was to win the cross-country world championships on the bike in June, at Val di Sole, Italy. "The Epic is all about absolute speed, about making the ultimate tool for Christoph," Sinyard later explained.

The High-Performance Mountain-Bike Pod, an A-Team of veteran bike builders, would join forces to chase this goal. German engineer Jan Talavasek is a master of the tricky art of carbon-fiber fabrication; product manager Brandon Sloan races downhill competitively; suspension leader Mike "Mick" McAndrews helped create the first batch of RockShox suspension forks, in 1992; and 21-year Specialized veteran Robert Egger has created iconic designs that have found their way into places like the San Francisco Museum of Modern Art.

Sloan's notes from the meeting were both mundane and cryptic. *At least one water bottle cage in main triangle. Minimize weight, meet stiffness goals, keep standover low.* One bolder point was marked "USP" (for "unique selling proposition"): *Fastest XC competition bike ever with real susp.*

Speed on a racing bike comes from a combination of lighter weight, improved power transfer, pedaling efficiency, bump control, and steering precision. The crew had 18 months to get the bike into production, and the mission required them to upgrade the bike's overall efficiency while shaving grams wherever possible.

One way to cut weight and improve ride quality was through what the company had labeled "total suspension integration"—meaning they would build the front and rear suspensions and cranks in-house instead of being locked into using standardized parts sold by others. A major move here was the hiring of Mick McAndrews. The 49-year-old Californian had worked in motorcycle R&D at Kawasaki for a decade before pioneering bicycle suspension at RockShox, Fox Racing, Specialized, and then Maverick American.

The wheels on a modern cross-country mountain bike attach to the frame dynamically, with front and rear suspension that moves up and down over rocks and bumps. A racer's ideal suspension helps him descend more quickly but doesn't slow him down on flats and climbs.

Any bike-suspension mechanism has two components—a spring and a damper—and on a typical fork, each fits into one leg. On the Epic's front shock, a chamber of compressed air acts as the spring. The damper, which controls the spring's up-and-down movement, relies on oil forced through small openings, which impedes spring bounce by adding a tiny amount of resistance. The 2009 Epic's front fork, code-named E100, came from a new idea McAndrews had for a concentric design, which shaved off a sixth of a pound by putting both the damper and spring mechanisms in one fork leg instead of

separate legs. That fork alone required 18 months of design and testing.

With its first Epic model, in 2001, Specialized pioneered rear suspension that vastly reduced pedal bob, the bane of such systems. Bobbing, or rider-induced bouncing, impedes the direct transfer of a pedal stroke to forward motion. For the '09 model McAndrews and his team decided not to radically rethink the rear shock; instead, they would lighten it with a slimmer shock body and incorporate two existing Specialized patents into its design. One was a linkage system that allowed the rear wheel to move only up and down, not fore and aft, thus eliminating the chain-length fluctuations that hinder many systems.

Another device was a so-called inertia-valve system, invented by McAndrews at Specialized in 1998. This valve, known as Brain Technology inside the company, consists of a small cylinder containing a metal weight that's attached to a seatstay and connected by a hose to the shock. Upward forces from rough terrain displace the weight, opening the valve to let oil flow in and engage the suspension. On smooth surfaces, the weight closes the valving and deactivates the shock. The idea is to provide a rider with suspension only when it's needed. Improvements were made to address delays in shock activation and deactivation on the 2008 model.

The payoff of the endless fine-tuning was incremental but crucial. "If there's six grams to be had in a new design, we'll chase it," McAndrews says. With this and other innovations, half a pound was trimmed from the suspension.

WHILE McANDREWS and his team worked on the Epic's shocks, Jan Talavasek designed its frame and managed the eventual production of 21 different men's and women's carbon-fiber and aluminum models.

At Specialized for just two years, Talavasek, 31, was a relative newcomer. His engineering career had started at Audi, where he found the pace of automobile innovation too slow. Work at a small German bike company took him to Taiwan. There he met Specialized's engineering director, Mark Schroeder, who eventually hired him and moved him to the U.S. (Specialized works with a subsidiary in Taiwan and China to conduct the bulk of its manufacturing.)

Talavasek started designing the Epic by making simple two-dimensional sketches, playing around with the frame geometry and the way the suspension systems would connect to it. Armed with a few new ideas, he met with Egger, Specialized's creative director, who was responsible for the bike's ultimate look.

Egger, 47, is a tall man with a buzz cut and a wide smile, and he's the lead designer behind most of Specialized's products. Having raced bikes in his native Wisconsin, Egger got a degree in industrial design and worked for companies like Trek and Blackburn. He was wrenching at a bike store called Velomeister, near Specialized, when Sinyard found him in 1986.

One day at the Specialized offices, Egger gives me a tour of the gallery that houses many of his creations. We check out his low-riding Dragstripper concept bike, along with the S-Works E5 road bike that Mario Cipollini rode to win the 2002 Milan–San Remo. Egger shows me how he tries to mimic the curvature of the earth in each frame's central arc and points to midcentury-modern designer Le Corbusier as a master of form and function.

The tour leads into a slide show, on his silver iPhone, of the Tuscan-style house he and his wife have built over the past six years. They lived in a small trailer for two years and spent nights hammering. "There's my garage, and that's a model of a 1965 race car I'm building," he says, pointing as he clicks to other images. "See that garage door? I designed it. See those metal hinges? I forged them."

Egger is the quintessential Specialized employee, a do-it-all-yourselfer who, unlike other designers and engineers, usually eschews the computer for the workshop and sometimes likes to flesh out preliminary designs in wood. He runs his department of 15 staffers with a tight fist, requiring that all workers show up at 8 A.M. and leave by 5:30.

Egger and Talavasek have a solid professional relationship, but it isn't free of disagreements. A bike engineer often leans toward straight, round tubes, while a designer is drawn to more creative, sculptural shapes.

"We have the luxury of advanced materials that allow us to really open our minds as far as how we are shaping tubes," says Egger, who tries to design bikes that communicate their purpose visually. "I look at Christoph Sauser and I think, He's a race engine, and he needs the machine under him to accentuate his ability."

Egger wanted the Epic to have a small, elegant top tube. But Talavasek wanted to create a light tube that had thin walls and a large diameter. Their solution was an ovalized tube that performed the duty of a top tube—reducing side bending—while looking thinner from the side.

Company founder Mike Sinyard

The 2008 Epic had a pretty, asymmetrical rear suspension that put the shock body in the rear triangle. That design demanded stronger, heavier front-triangle tubes to compensate for its side load. Egger and Talavasek agreed to ditch the prior setup, center the shock, and move it into the front triangle. Talavasek designed a two-piece swing link to attach the rear triangle to the front.

Whatever their differences of opinion, the partnership works because, in the end, Egger and Talavasek have the same thing in mind. "Our goal," Egger says, "is always to make a bike that you are just salivating wanting to ride it."

TALAVASEK AND EGGER worked out the final Epic frame design in July 2007, but before moving too far into 3-D modeling, they ordered a rideable aluminum prototype from Taiwan. The sample was neither light nor strong, but as the first proof-of-concept, it would allow them to test the geometry and basic suspension performance.

On trail rides in the Santa Cruz Mountains, Talavasek and Sloan could sense side-to-side flex in the rear triangle. "If you can feel it on the bike, then it's really bad," says Sloan. Lab tests showed that the two-piece swing link was a weak point. Talavasek later designed a new single link to create a stiffer rear triangle. Separately, Egger and his industrial-design team used a 3-D plastic printer to spit out a model of the Epic, which they used to try out the paint job, decals, and other surface aesthetics for the frames.

After settling on a basic frame shape, Talavasek moved into 3-D modeling, using a software program called Pro/Engineer. This allowed him to determine, virtually, the critical qualities of his various designs before they were built. He also could assess the torsional and lateral stiffness of various frame shapes, which would dictate how the bike would steer and how efficiently it would pedal. Kinematics software allowed Talavasek to plot the effects of rider movements and changing terrain on the movement, or travel, of the suspension.

His plan was to start with a light, weaker bike and then, through testing, add to its bulk and strength. By the end of two months, Talavasek had a complex electronic rendering of the bike. He sent a CD-ROM to Specialized's manufacturing partner in Xiamen, China, and, digital file in hand, the manufacturer cut clamshell molds from large pieces of steel that were later machined and polished.

Talavasek flew to China in October 2007 to watch the first bikes come out of their molds. Before leaving, he requested a run of Revision One—first samples of manufactured carbon frames—to be sent to the Morgan Hill test lab.

As part of the endless push to create lighter bikes, building materials for high-end racing equipment have evolved from steel to chrome-moly steel, aluminum, titanium, and the current favorite, carbon fiber, which is notable for its high strength-to-weight ratio. Working with carbon fiber increases the complexity of an engineer's job. When you're using steel or aluminum, the tubes have a limited number of attributes, based on their typically oval or round shape. Working with carbon offers an almost infinite number of design possibilities, because the shapes can be more sculptural.

The process of making carbon fiber and fabricating a bike frame is a complex blend of science, industrial process, and artistry. Starting off as threadlike carbon strands, spools of carbon fiber are spun into sheets resembling a tapestry. Those sheets, which look like mosquito netting, are covered in a highly viscous liquid, and the entire gooey fabric is sandwiched between huge pieces of wax paper. To make bike tubes, many specifically shaped carbon-fiber pieces are layered on like papier-mâché around rigid forms. These forms are removed and replaced by plastic bladders, and then the whole enchilada is placed inside a metal mold for final shaping. Air pressure inflates the bladders and forces the carbon mesh against the inside walls of the mold, at which point heat hardens the sticky material into a solid. The mold yields a cured "monocoque," a fancy word for a single-shell construction technique that supports loads with its skin. The carbon-fiber Epic would have two such pieces, which would be fused together to complete the bike's one-piece frame.

Though the mold for the 2009 Epic was now set, the exact thickness of each section had yet to be decided. Confirming the placement, direction, and thickness of the carbon would consume Talavasek's time for several months, starting in November 2007. Computer models could not tell him exactly how to lay up the plies of carbon fiber—a process that requires not just number crunching but experience and feel. As he sought to push weight limits and make the Epic frame as light as possible, the test lab confirmed what his computer models could only predict.

"Watching how a bike behaves during a test, you can learn a lot," Talavasek said. "Often, I just sit in front of the machine for 15 minutes and watch the frame. You get a sense for where it flexes, whether you need to add or take out material, if there is room for saving weight or making it stronger."

By March 2008, with the world championships only three months away, Talavasek still hadn't decided whether to use heavier aluminum in the rear triangle of the bike or to go with an all-carbon frame. Lab tests showed him that he could cut weight from the chainstay and still get the stiffness he needed with carbon. Testing would help him remove almost half a pound and produce a 3.64-pound frame. In the end, with all its

Sam Pickman, destroyer of frames; below, Robert Egger

The 2009 Epic, inside the Specialized test lab

parts, the 2009 Epic would weigh just 21.7 pounds, nearly a pound and a half lighter than the 2008 model.

CREATIVE DIRECTOR ROBERT EGGER SAYS HE TRIES TO CREATE BIKES THAT COMBINE FORM AND FUNCTION AND COMMUNICATE THEIR PURPOSE VISUALLY. "OUR GOAL," HE SAYS, "IS ALWAYS TO MAKE A BIKE THAT YOU ARE JUST SALIVATING WANTING TO RIDE IT."

THE LUNCH RIDE is a long-standing Specialized tradition that occurs every day at 12:15. It's an all-out hammerfest in which a group of 20 or more riders blitz around on loops near Morgan Hill. Staffers ride, shower, wolf down a burrito, and are back at their desks in the space of 90 minutes.

Like any company involved in cutting-edge technology, Specialized has its own advanced R&D department. It has a staff of two, Egger and a Cat 1 road racer named Chris D'Aluisio, who's charged with exploring new concepts. D'Aluisio may ride more than anyone at the company, a fanatic among fanatics.

As loose as his job description sounds, D'Aluisio has produced more than 25 patents, including winners such as shock-absorbing Zertz elastomeric frame inserts and a five-point-star-flange hub. The Epic would feature a set of extremely light carbon cranks he designed, which cut 120 grams (a quarter-pound) from the previous model.

Another key department, marketing, is led by Ben Capron, a 15-year Specialized veteran. Capron, 37, grew up near Mount Tamalpais, in Marin County. In high school he invented the Marinovative mountain-bike brake, which foreshadowed Shimano's break-through V-brakes. After college he worked at a bike store until, like Egger, he was poached by Specialized. He began as a bike tech, went on to manage the brand, and now directs global marketing.

Like many at Specialized, Capron is unwilling to take the world as he finds it. After buying a $3,000 Tempur-Pedic mattress, he had no problem slicing it open with an X-acto so he could stiffen it up with a sheet of plywood. When not riding, he commutes in a 1981 Mercedes that can run on waste vegetable oil.

One day Capron takes me for a drive in the hills west of the Specialized offices. As we motor along, he tells me about Specialized's sponsorship of Quick Step, the Belgian road-racing team. In 2007, after Specialized replaced Time Sport International as team bike sponsor, they presented a new bike, the Tarmac SL2, to the riders. Team sprinter Tom Boonen, a Belgian, told engineers that the back end of the frame was not stiff enough.

To road-bike engineer Luc Callahan, it didn't make sense. According to results of the three primary stiffness tests, it *was* sufficiently stiff. The crew developed a new test, called Test 14, which proved that Boonen was right. Specialized started designing stiffer chainstays and seatstays, and to Capron the episode was proof that testing has its limits. You also have to just ride the thing and listen to what it's telling you.

Capron and I pull into a dusty parking lot, where a one-eyed terrier ambles about. Riders from Specialized often use Santa Teresa County Park to test bikes, and I can see flashes of red and white Lycra on the hill above. The three main product testers have flown in from all over: off-road triathlete Conrad Stoltz from his home in South Africa; Christoph Sauser from Zurich; and Ned Overend, the first mountain-bike world champion and a Specialized ambassador, from Colorado.

It's February 2008, a sunny winter afternoon, and the three are doing the first major field tests of the 2009 Epic. They ride again and again on a 100-yard stretch of bumps.

Nearby stands their audience: frame designer Talavasek and rear-suspension engineer Anthony Trujillo. They expect vocal criticism, but the riders are pleased with the new Epic. A couple of issues come up, including the clackety-clack of the suspension. Trujillo will spend the next two months quieting it down. Overend says he isn't getting the unwanted "feedback" he's gotten from the 2008 Epic, and Sauser thinks it transfers between up and down fluidly.

"It takes off up the hill like a jet fighter," he says, "but going downhill continued on page 162

GYM JONES **continued from page 140**

as demand warranted. At night, or early in the mornings, he was chipping away at a book, a comprehensive philosophy behind his training methods. And he's currently finishing a dimension of the Web site that will cater exclusively to paying members, who will be able to interact with Twight and other coaches, exchange ideas, and create the kind of virtual community that will mirror the real ones beginning to materialize all around him.

The trickiest part, he said, is communicating the essence of his project. Changing your body is just mechanics; it's changing your mind that presents the real challenge.

"If the mind is not first trained to enjoy hard work, to relish suffering, to address the unknown, then no program, no amount of training can be effective," he told us during the seminar. "The muscle we are interested in training is inside the skull."

For all the clanking iron and sweaty caterwauling, what Twight has created at Gym Jones is not a place where its denizens are guaranteed to succeed but an environment in which they're allowed to fail—sometimes catastrophically. "The risk of failure, social or physical, is paramount, because failure and dissatisfaction are the parents of thought," he said. "Success and fulfillment do not inspire or require introspection."

We reached the top of a high pass. Twight wanted to keep going down the other side, but I told him I was too spent from the weekend. "Fair enough," he said as we about-faced.

I wondered if the world is ready for what he has to offer, if people are prepared for such serious commitment. Clearly, at least a few are. No-frills outfits created in the spirit of Gym Jones are beginning to sprout everywhere—Mountain Athlete, in Jackson, Project Deliverance, in St. Louis—places devoted to helping us endure the kind of flogging that training like this entails. Twight had told me about a young climber from France who'd found out about him on the Web, flown to Salt Lake, slept in a city park, and showed up at Twight's house the next day. No e-mails. No phone calls. "I want to train at Gym Jones," he told Twight, who was so impressed he invited him to stay for the next three months.

What Twight rails against is mediocrity—not in terms of output, but effort—and, for him, too much of what fitness has become in America engenders exactly that. He's matured considerably since his days as a tortured alpinist, but he hasn't relinquished his rebellious inner punk, pushing back against so much of what we're told and sold every day. Fitness for him will never be a program, because, by definition, it has to be a perpetual and ever-evolving process—individually crafted and constantly reevaluated and revised. "It's easy to be hard, but it's hard to be smart," he wrote to me, quoting an old Marine saying, but it was cold comfort, since such insight implies that the progression never gets any easier.

Worse, perhaps, was my gathering awareness that I'd bought it. Gym Jones had introduced me to the whole picture: How to create a rock-solid foundation and how to build off that to achieve my specific athletic goals. What that might be I wasn't quite sure, but I'd lost five pounds since I started training with Carolyn Parker, and despite the beating I'd taken in Salt Lake, I already felt stronger. I realized I'd drunk generously from Twight's rancid punch and, in a strange, masochistic way, looked forward to returning to the grassy field in Albuquerque, where Parker would continue doling out the punishment.

I tried to keep Twight in sight as we descended, whooshing past a few other cyclists grimacing through their long grind up the canyon. I couldn't remember the last time I'd gone so fast on a bike, and it was exhilarating and terrifying at once—hunched over the handlebars, swooping around the switchbacks, hurtling toward a future in which I imagined that what we were doing and what we were capable of doing had somehow, suddenly, become the same thing. ○

CONTRIBUTING EDITOR NICK HEIL'S FIRST BOOK, *DARK SUMMIT*, CAME OUT IN MAY FROM HENRY HOLT.

SPECIALIZED **continued from page 120**

feels like landing a jumbo jet airplane. I like the stiff platform without any bleed."

Talavasek and Trujillo write down the Delphic utterings of the athletes. Though not terribly technical, their articulations will guide the next frame and suspension designs—propelling the new bike toward production, and toward something that's truly race-worthy.

TALAVASEK HAS GREAT respect for Sauser—a racer he converses with in German and who shares his interest in small technical details. With bikes in production, Talavasek can now focus on Sauser's needs for the cross-country mountain-bike world championship. He designs a custom front derailleur attachment that will save a few more precious grams.

Capron and the marketing department thought out the Epic's public unveiling long ago. The plan is to send Sauser the new bike a month before the championship race in Italy. He'll discreetly practice on it beforehand. On race day, he'll unveil it at the start line and stow it quickly after the finish. In a best-case scenario, he'll win, and the cycling press will demand to know what he's riding.

But there's no guarantee he'll stand on the podium. Sauser has raced since 1993 and won bronze in the 2000 Olympics. At the world-championship cross-country race, he's placed in the top ten eight times and come in second twice, yet victory has eluded him.

By May 2008, the first Epic frames are in production in China. Frames from the pilot run are sent to HQ for still more testing, which shows that a vital part of the rear suspension is failing because a component has been poorly machined. Talavasek fears that racing the bike can lead to shock damage. Capron worries about bad publicity in the event of a mechanical failure. Days tick by as Trujillo works to get the vendor to recut the part. Sauser has been involved in the bike's development and believes it will help him win. When he's told about the problems, he makes it clear that he has to race on the new bike.

The svelte, matte-black frame and superlight cranks arrive in Milan just days before the race. Sauser's friend and mechanic, Benno Willeit, quickly builds it up with the parts he's stockpiled all spring. Sauser and Willeit make up one of the more maniacal racer-mechanic partnerships on the pro circuit, and the bike they build is a good two pounds lighter than the one Specialized will ultimately sell. They outfit it with extra-light plastic water-bottle-cage fasteners and sketchy, wafer-thin aluminum disc-brake rotors and caliper bolts. They put on flat carbon handlebars, grip shifters, a custom seatpost, and just two chainrings. The lower weight will aid Sauser's acceleration on flats and climbs. But he has just four days to try out the new bike.

The race lasts a little more than two hours, and mechanic Willeit watches closely, hoping the bike won't fail. After the third lap, Sauser takes a commanding lead. On an uphill section, he jokingly tells his team manager that he's in "standby" mode. Sauser crosses the line as the new world champion almost three minutes ahead of his compatriot Florian Vogel. The press swarms around the victorious racer, mainly to ogle his bike at close range and snap photos.

"I was the best rider in the world, riding the best bike in the world," he tells them. Back in Morgan Hill, Talavasek and the rest of the crew celebrate. And then, soon enough, they turn their attention to the next iteration of the Epic. ○

ALEX FRANKEL'S LATEST BOOK, *PUNCHING IN: ONE MAN'S UNDERCOVER ADVENTURES ON THE FRONT LINES OF AMERICA'S BEST-KNOWN COMPANIES*, COMES OUT IN PAPERBACK IN NOVEMBER.

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