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SRAM'S Uphill Climb

Racing to the top of the bike world



Scott Livingston is President and CEO of Horst Engineering, a sixty-two year old East Hartford, Connecticut manufacturer. He is a graduate of Boston College and completed the Harvard Business School OPM program. He is an active member of the Young Presidents' Organization and chairs the YPO Family Business Network. When not battling business cycles, he makes time to run, bike, kayak, and hike, often with his favorite training partners, wife Debbie, and son Shepard. He is a passionate environmentalist and his favorite work days are those when he commutes by bicycle.



Noah Graff has been working at *Today's Machining World* since 2005. He holds the titles of features editor, videographer, and "the web guy" of the magazine. Noah graduated from the University of Wisconsin majoring in film and history. When he was 19 he took a 50 hour Greyhound bus ride from Chicago to San Francisco to make a documentary about the outrageous, fascinating people he met on the bus. He currently has a reality show on YouTube called "Jew Complete Me" documenting his search to find the Jewish love of his life.



Barbara Donohue received her mechanical engineering degree from MIT. She worked in design, heat transfer and manufacturing for several years before changing careers to become a journalist. Now she writes about technology and business from her home office in Acton, Massachusetts. When not writing, she sings in a choir, volunteers as a literacy tutor, and is weekend "foster mom" to a yellow Lab puppy named Tikva that is training to become a wheelchair assistance dog.



Lloyd Graff has had a lifelong love affair with magazine writing since discovering *Sport* magazine at age eight. During high school he would camp out at the University of Chicago library, endlessly reading periodicals. His writing heroes are Tom Wolfe, Jim Murray, and Ring Lardner. Besides writing, Lloyd's primary current advocacy is watching sports on television. He recently set a personal best of 27-1/2 hours during one recent two-day weekend.

SRAM'S UphillClimb

Racing to the top of the bike world

BY SCOTT LIVINGSTON

The French Alps are a long way from Chicago, Ill., especially when a bicycle is your chosen mode of transport. In July, the Alps are home to the Tour de France, the world's most prestigious multi-day bicycle race. Year round, Chicago is home to SRAM Corporation, one of the most successful bicycle component manufacturers in the world. The pro riders who compete on the Tour are the ultimate test riders for SRAM's high end road cycling components, but it is the average enthusiastic recreational cyclist that has helped drive SRAM's amazing growth.

U.S.-based SRAM Corporation stands tall in the global bicycle marketplace.



sram bike parts



Above: German professional freerider Joscha Forstreuter; Far left: SRAM's race support; Left: Four-Cross race Jill Kinter of the United States.



Red is SRAM's top of the line component group-set for road bikes.

SRAM has progressed tremendously from its launch in 1987 to its present day status as one of the big three bicycle component manufacturers. The company has grown through both traditional internal product development and acquisition, establishing itself as a major player in the mountain bike, road bike, and comfort bike markets. The February 29 issue of *BusinessWeek Chicago* reported that privately held SRAM grew 15-20 percent in each of the last five years and had 2007 fiscal year revenues of \$318 million. Publicly owned Shimano, Inc. of Japan, the market share leader, had bicycle segment revenues in 2007 of more than \$1.5 billion and total revenues of more than \$2 billion. Shimano's other industry leading business is fishing products, including reels, rods, and jigging.

Whether the products are bicycle parts or fishing gear, Shimano is a formidable competitor and SRAM has had to climb to gain its share in a challenging market. The third major player in bicycle components is Campagnolo S.r.l., an Italian based company. While SRAM and Shimano build parts for all segments of the market, Campagnolo focuses on the enthusiast road bike segment. Shimano is well known for its history of technical innovation, and Campagnolo, though also known for some technical innovation, is more known for

their European style and design. Seemingly, SRAM has been able to meld the two together. Their strong position in the mountain bike segment has fueled its leap to the high end road bike segment. Campagnolo used to have a lock on supplying the top European based pro teams, but first Shimano, and now SRAM have made inroads by supplying parts to top teams at the high visibility professional level.

Lennard Zinn is a bicycle frame builder, technical writer for *Velo News*, and author of numerous books on bicycles and bicycle maintenance. He has been follow-

A.



B.



ing SRAM since its founding and says that their growth is very impressive. “If it weren’t for SRAM, the whole industry would have ceded the mountain bike business to Shimano and the road bike business to Shimano and Campagnolo,” said Zinn. He is amazed at the amount of capital that SRAM has pumped into its acquisitions and noted that the inorganic growth has not slowed down its internal product development. Zinn fully expects SRAM to continue its growth.

Pedaling for Growth

How did SRAM move from scrappy upstart to a major player in a market that has changed dramatically in the past 20 years? During the entire history of the bicycle, U.S.-based companies have made big contributions. As the mass market for bicycles commoditized, U.S.

“U.S. manufacturers have led in the development of new technologies.”

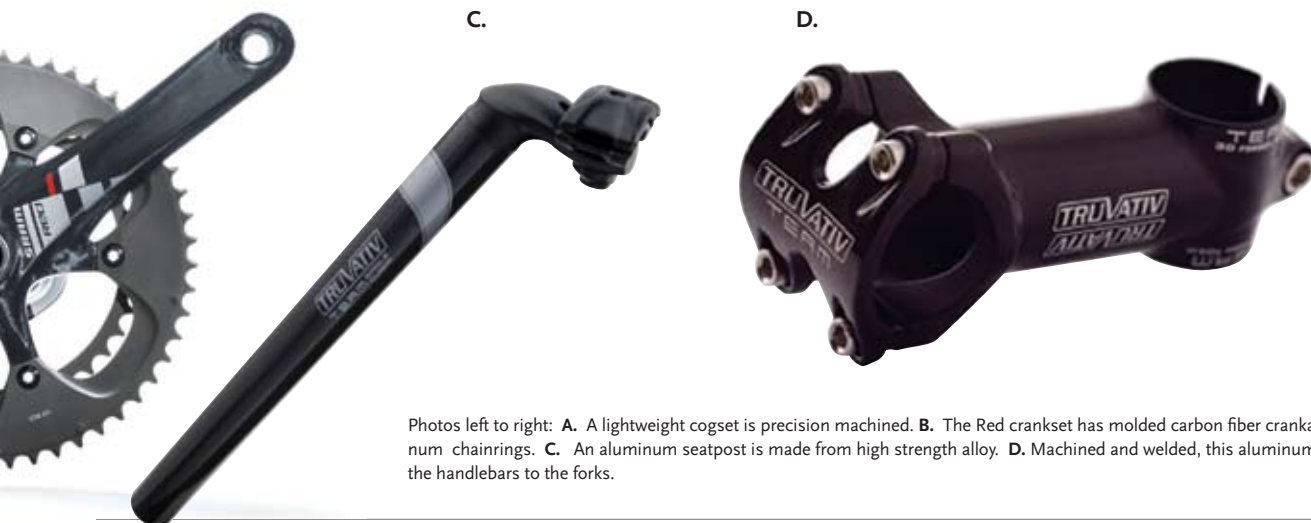
companies lost their grip and domestic manufacturing migrated to the niche bicycle frame building business and small segments of the market where innovation was still thriving. U.S. manufacturers have led in the development of new materials and technologies like suspension and lightweight composite wheels, but until SRAM’s growth kicked in, there wasn’t a dominant U.S. player focused on large scale component manufacturing. Many of the large U.S.-based companies producing complete bicycles, such as Specialized, Trek, Cannondale, Schwinn, and GT have shifted from in-house manufacturing to a

design, market, outsource model of brand development. Some still operate U.S. factories, but there has been a fair amount of consolidation and most of the sourcing is done offshore, primarily in Taiwan and more recently in China.

SRAM started out as many companies do, with a single product idea in the mind of an entrepreneur. Stan Day, Jr. founded SRAM with his brother and three friends. The name SRAM is derived from the first and middle initials of some of the founders. Day’s first design was the GripShift, a handlebar mounted derailleur shifter. The technology for that shifter is still present in their current line of twist shifters. SRAM has grown to be one of the largest component companies that still has internal manufacturing, most of which is offshore. Their line of components and collection of brands is one of the most comprehensive in the industry. Their main brands are: SRAM (drive-train, shifting, and brake components), RockShox (suspension products), Avid (cantilever and disc brakes), Truvativ (cranksets, bearings, seatposts, stems, bars, pedals), Zipp (composite wheels, cranksets, bars, and stems), and Pitstop (bicycle tools and maintenance products).

The Bicycle Shop Owner’s Perspective

Dave Barrow, owner of Tolland Bicycle in Tolland, Conn., is a self-professed, “campy guy,” but that hasn’t stopped him from stocking both mountain and road bikes with SRAM’s products. Though he personally rides Campagnolo parts, he is a dealer for Taiwan-based Giant Bicycles where some models are sold complete with SRAM parts. When asked if SRAM, once the upstart,



Photos left to right: **A.** A lightweight cogset is precision machined. **B.** The Red crankset has molded carbon fiber crankarms and aluminum chainrings. **C.** An aluminum seatpost is made from high strength alloy. **D.** Machined and welded, this aluminum stem connects the handlebars to the forks.



Photos: **A.** The SID air spring suspension fork is a mountain bike standard bearer. **B.** A rear shock is matched with front shocks on full suspension mountain bikes.

is now a viable competitor to Shimano and Campagnolo, Barrow said, “Yes, without a doubt.” He noted that SRAM made really good mountain bike components for years and they are now making their impact with innovative parts for road bikes. He doesn’t think that his average customer knows or cares that SRAM is a U.S. based company. His customers want the best value for their dollar. SRAM’s top component group-sets are “lighter than anyone on the market,” said Barrow.

Weight Weenies

In bicycle-speak, a “weight weenie” is a rider who measures the difference between bicycle components in grams. Even casual riders, who could lose a few grams or pounds themselves, are infatuated with the drive to ride the lightest possible bicycle available. High-end complete bicycles can routinely cost \$5,000 or more, and recently, there have been examples of custom bikes with top components going for double that price. As with any luxury good, the sky is the limit when it comes to customization and cost. Between the frame, the wheels, and the component group-set, the cost per gram of weight savings can be hundreds of dollars. SRAM has developed components that maintain their performance and durability while shaving weight. For the pro riders in the Alps, this may mean the difference between winning and losing, but it won’t make a huge difference for that ride to the coffee shop or that commute to work. Still, the trickle-

down technology from the automotive and aerospace industries, and lighter and more user friendly components, can benefit the average rider when the bicycle is easier to pedal and control.

Jack Greetis is SRAM’s Chicago office Engineering Manager and has been with the company for 10 years. He has witnessed the company’s growth and has a good pulse on SRAM’s global operations. “SRAM’s strategy is to be in locations near our customers,” said Greetis. Many of those customers, the marketers of complete bicycles, have migrated to Taiwan and China. According to Greetis, the high-end bike parts are about “weight and whiz bang stuff. Cycling is fashion.” Hence, the annual product development cycle pumps out new parts every year. SRAM’s successor to Force, their inaugural road group-set, is called

Right: Rear derailleur



Right: Twister shifter

“Red.” SRAM supplied lightweight chains and cassettes to top European pro teams in the past, but only recently began outfitting ProTour teams like Astana, Saunier Duval-Scott, and Agritubel with their full group-sets.

Global Manufacturing

SRAM has thousands of manufacturing employees spread amongst six main factories. Two are located in Taiwan; two are located in China (Shanghai and Guangzhou), one in Germany, and one in Portugal. Over the years, acquisitions have gained small operations in Indiana and Colorado, but Greetis said it has been 10

years since SRAM operated a major metalworking facility in the United States. Labor cost was a big factor in the subsequent moves. He said there was an experiment in Chihuahua, Mexico, but that lasted only two years before the focus was turned to Asia, namely Taiwan, which has been a global center for the bicycle industry for more than 25 years.

SRAM's approach is to perform research and development at engineering centers in Illinois and Germany before establishing production manufacturing at the global plant site that best fits the product. Greetis said both R&D locations are blessed with "strong knowledge bases." When pressed for an explanation why products are still produced in higher cost countries, he went on to say that the "technically challenging products, such as internal gear hubs," are made in Germany, and a specialized factory for bicycle chains is in Portugal.

Like many U.S. based companies, SRAM has focused on design, marketing, and assembly. "We look to experts who are doing what they do best – our expertise is in assembly and we have been adding resources each year," said Greetis. SRAM still has substantial in house manufacturing capabilities, including turning, milling, centerless grinding, carbon fiber molding, plastic injection molding, and die casting. It also outsources some of these processes to gain added capacity, and rely on suppliers for other processes like forging and stamping. SRAM prefers to work with suppliers who are located close to its factories. Greetis said that in Taiwan, there is a cottage industry for bicycles with lots of small family run firms supplying the larger companies.

Dave Barrow, owner of Tolland Bicycle, confirmed that bicycles and components have become a lot more expensive in recent years. Rising commodity costs, shipping



Right: Hydraulic disc brakes



Right: Hollow pin chain and cassette



They have worked with outside experts to implement lean enterprise processes, and some best practices are shared between their facilities, but for the most part, the operations are independent of each other. "In the bicycle industry, innovation is driven by the patent landscape," said Greetis. He said that a lot of time is spent on reviewing previous designs and that much of the lean focus has been on the design process. He leads a group of nine engineers and lean product development has allowed them to launch new designs more quickly. SRAM has posted information about its own patents on their website for others to see.

costs, and manufacturing costs are contributing factors. A recent trip to SRAM's Taiwan and China plants proved to Greetis that costs are rising in Asia. Greetis said, "The euro has gone crazy. China's currency valuation and labor inflation have neutralized some of China's advantage. Four years ago, everyone (in the bicycle industry) was moving away from Taiwan," but that recently, "Taiwan is back to the top and their infrastructure is outpacing the Chinese with the exception of the large lots." SRAM is always looking at their product portfolio to find the missing links. Greetis wasn't at liberty to discuss what developments SRAM was working on, but he said it is a goal



Left: The S7 internal gear hub integrates braking and shifting.

for them to supply all tiers of the bicycle market.

The Market

Seven Cycles is another U.S.-based bike company, though their focus is on custom road and mountain bike frames. It is a small organization compared to SRAM, but Seven Cycles has made a name for itself in the industry. Seven manufactures all of its products in their Massachusetts facility. Jennifer Miller, Seven's Marketing Director, said that the company is "neutral" when it comes to parts manufacturers. Seven features their mountain bike frames with both Shimano and SRAM parts, and road bike frames with Campagnolo, Shimano, and recently, SRAM component group-sets. Since Seven doesn't sell complete bikes, it is up to the customer to work with a bike shop on the parts selection. Two of Seven's sponsored mountain bike professionals, Mary McConneloug and Mike Broderick, are candidates for the 2008 U.S. Olympic Team, and both ride bikes built with SRAM parts, including RockShox suspension forks. Miller noted that SRAM has had a strong presence in the mountain bike segment for many years, but that it has made a recent push to capitalize on the faster growing road bike segment.

Switching Sides

Richard Sachs, a Chester, Conn., custom road and cyclo-cross bicycle frame builder has made the switch to SRAM products. For more than 30 years, Sachs was loyal to the Italian company Campagnolo, but made the significant decision to move to SRAM both personally and professionally. "I'm riding my new bike and loving it," Sachs said. "Last fall, SRAM had a major league presence at the U.S. Grand Prix of Cyclo-cross." Sachs networked with some of SRAM's marketing folks, and ultimately switched. Sachs said, "It looks right on the bike." For years, Sachs favored the look of Campagnolo parts on his bicycles. Trained in England, his work has a European flare that could be considered old school. His frames are hand built from steel tubes, and meticulously brazed together.

Thirty percent of his frames are sold complete with the components and they all used to be specified with Campagnolo's products. However, many of the patient customers, who are next in line on his six-year waiting list, are following his lead and going with SRAM. When pressed to explain his choice in parts, Sachs said, "Shimano is ugly and androgynous; SRAM is organic and beautiful." His output is only four or five frames a month, so his volume isn't going to dictate the direction that the market swings, but his 35 years in the industry have made a difference and people do respect his opinions. Sachs is less concerned where SRAM's parts are made. "Only three things matter; the stuff works, it is beautiful, and I can get it," said Sachs.

So Jack Greetis, the SRAM employee who studied aeronautical engineering at the University of Illinois and was a competitive amateur cyclist in the 1980s, has seen things come full circle. He has worked at SRAM and been part of the fast-paced growth. From the sounds of it, the pace of innovative product development and acquisitions indicate that SRAM will continue to make their mark on and profit from the global bicycle industry.

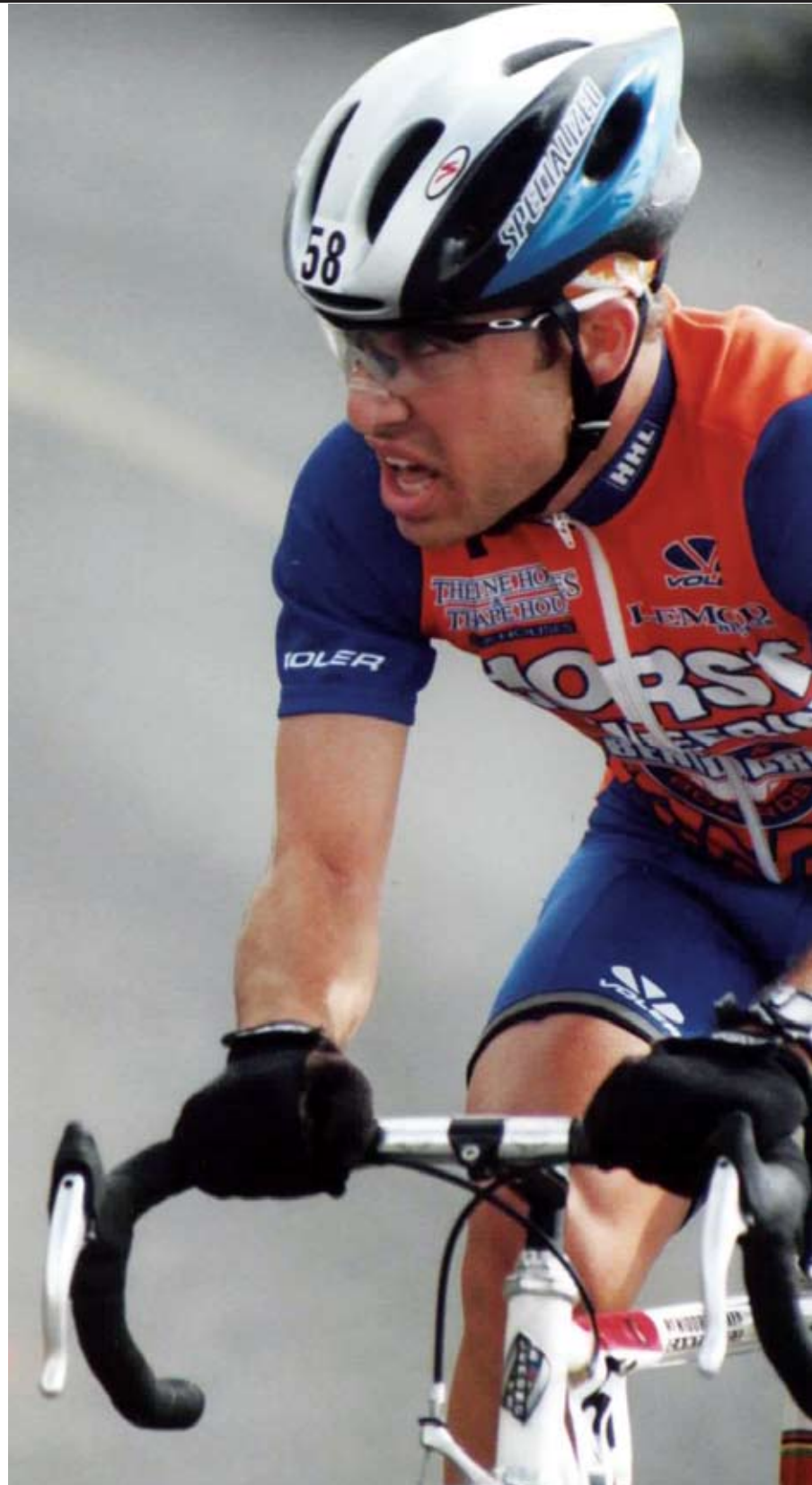


An in-house machining cell pumps out precision bicycle parts.

WHO READS

Driven folks like
Scott Livingston,
president of
**Horst Engineering &
Manufacturing Co.**
in East Hartford, CT.

*"I live my life at warp speed, but make time to read **Today's Machining World**. I read the magazine for best practices and ideas, and not just about business. Friends often wonder why I pile so much on an already full plate. I'm a husband, father, CEO of a precision machining company, runner, cyclist, kayaker, hiker, board member, photographer, writer, and environmental advocate. I can't see past the pile of books next to my bed and my Amazon.com "wish list" will break me. I'm a Gen-X'er with eclectic interests. **Today's Machining World** delivers the mix I like."*



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