THE DRIVE TO LEAD

A CENTENNIAL HISTORY OF
THE ACTUANT CORPORATION

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Every business enterprise that reaches the century mark has a story to tell. The Actuant Corporation's story is much more interesting—and many times more complicated—than the average American chronicle. On its winding path from past to present, Actuant has experienced multiple name changes, a colorful procession of leaders, sweeping internal transformations, and radical shifts in its product lines.

The business began with a rudimentary hand grinder that provided a platform for expansion into the automotive field, but it was a different technology—hydraulics—that really poised the company for explosive growth. Utilizing the power of fluid under pressure to move mountains, the firm became a global leader in hydraulic tools and systems. Success in that field powered the evolution of all that followed, and by the end of its first century, Actuant was a well-diversified industrial giant with operations on every continent.

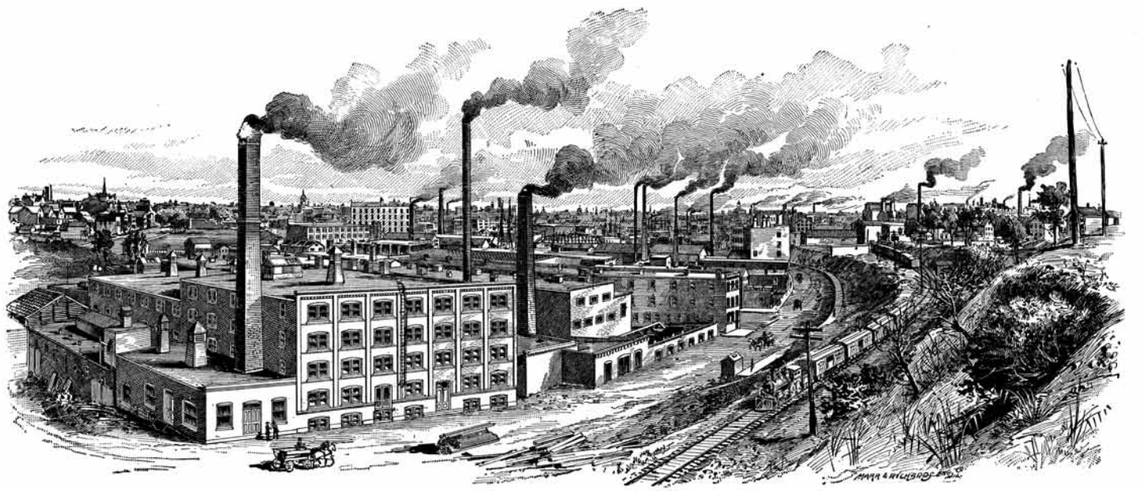
For all the twists and turns in its story—including an ill-timed foray into the electronics field—Actuant is identifiable as a single enterprise from first to last. The company still follows precepts and practices laid down by its early leaders, and one stands out from all the rest: the drive to lead. Whether its executives are seeking new applications for older technologies or exploring entirely new territories, Actuant is determined to be a force in every field it enters. It is that drive to lead that sparked the company's success in its first century, and it is that drive that ensures continued vitality in its second.

Beginning with Grinders

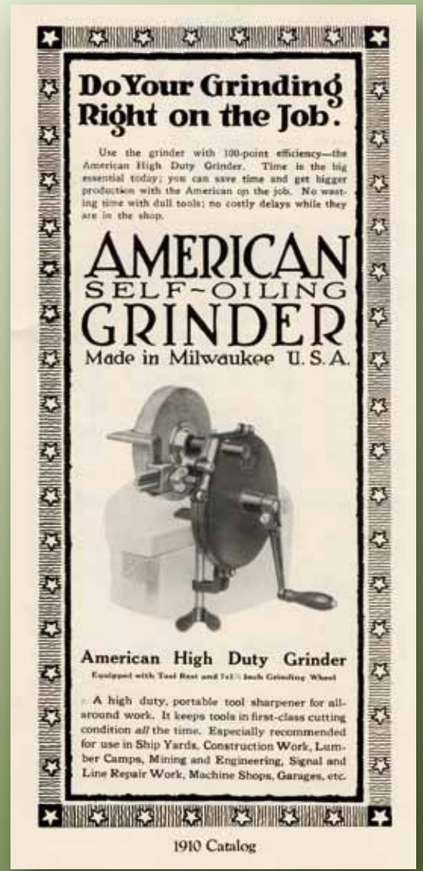
Actuant's origins were, by any measure, humble. In the early 1900s, when the company took form, the Midwest was America's industrial heartland, and Milwaukee was one of its capitals. The city had an abundance of innovators, many of them immigrants, who had found a better way to do things, whether the products they made were steam turbines (Allis-Chalmers), electrical controls (Allen-Bradley, Cutler-Hammer), overhead cranes (Harnischfeger), automobile frames (A.O. Smith), or motorcycles (Harley-Davidson). In 1910, a trio of forgotten tinkerers attempted to take their place in the parade. Their names were Leo Bethke, Frank Lueck, and Charles Krause, and their creation was the American Grinder Manufacturing Company. Krause's occupation is unknown, but city directories of the time list Bethke as a patternmaker and Lueck as a machinist.

The trio's brainchild was a new twist on an ancient technology: a hand-operated, bench-mounted grinding wheel equipped with an oil reservoir for constant lubrication. There was nothing revolutionary about their device—it was apparently not even protected by patent—but sales of the "Self-Oiling American Grinder" were brisk enough to fuel the partners' hopes for better days ahead. They occupied a succession of shops in central Milwaukee, each larger than the last, and experienced at least one brush with future greatness along the way. In 1914, American Grinder leased the top story of a new manufacturing building on E. Michigan Street. The firm's landlord was the Johnson Service Company, which made Prof. Warren Johnson's "automatic temperature regulators" on the floors below. The enterprise is known today as Johnson Controls, a Fortune 100 firm still headquartered in Milwaukee—and still using the Michigan Street building.

Milwaukee was an industrial city of smokestacks and railroad tracks when the Actuant Corporation's earliest ancestor incorporated in 1910.



Promoted as a "high duty, portable tool sharpener for all-around work," American's grinders kept blades "in first-class cutting condition *all* the time," but a superior product was only half the battle. The company also needed executive talent and investment capital that the original partners apparently lacked. Both were supplied by some colorful characters who had made their marks in fields far removed from manufacturing. Charles Moll, who became American Grinder's president in 1911, had made his money in streetlight sales, but his real passion was bowling. Moll founded the Wisconsin State Tenpin League and organized an 1899 event that the *Milwaukee Sentinel* called "the greatest bowling tournament ever played." Moll's treasurer at the grinder firm was Charles Havenor, who ran a thriving clothing business but was better-known as principal owner of both the Milwaukee Brewers, the city's minor-league baseball team, and the Chicago ball diamond that would later become Wrigley Field.



1910 Catalog

Grinding wheels were the first product in the company's long evolution.

Edmund Archambault, the car dealer and confirmed gambler who guided American Grinder from 1913 to 1924

The longest-tenured of this motley executive crew was Edmund Archambault, who served as president from 1913 to 1924. Born in Peshtigo, a small city in northern Wisconsin, Archambault came to Milwaukee in 1899 to seek his fortune, finding it in baseball (with Charles Havenor), mining promotion, and automobile sales. When he took charge of American Grinder in 1913, the thirty-seven-year-old was running a downtown dealership that specialized in the Lozier, a top-of-the-line luxury car manufactured in Detroit.

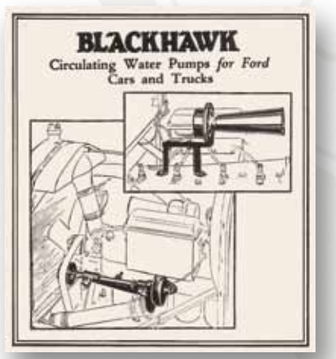
It was Edmund Archambault who launched the diversification efforts that remain an Actuant hallmark to the present day. In the early 1900s, the automotive industry was growing every bit as fast as the electronics business would later in the century, and Archambault, who was already involved on the retail side, wanted his new firm to participate in the boom. World War I (1914-1918) provided his first opportunity. Working as a subcontractor for engine manufacturers struggling to meet wartime deadlines, American Grinder made water and oil pumps that kept military vehicles running efficiently during the conflict. With the return of peacetime in 1918, Archambault used the same technology to produce water pumps for Ford Model Ts. They were an aftermarket product that helped Ford's air-cooled engines perform more smoothly. A line of hand tools provided a second point of entry into the automotive business. Consisting primarily of socket wrenches, the tools were sold to car mechanics across the country.

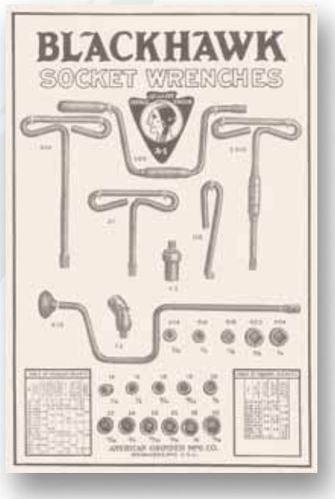
Both the water pumps and the socket wrenches were marketed under the Blackhawk label. The inspiration for the name—the original Black Hawk—was a Sauk chief who had resisted white encroachment on his people's land in 1832, leading federal troops on a wild chase through northern Illinois and southern Wisconsin that ended with his capture on the banks of the Mississippi. Black Hawk became the Midwestern version of Geronimo or Sitting Bull and, as his legend grew, the chief's name was appropriated for everything from parks and schools to a professional hockey team. The logo for American Grinder's Blackhawk products was an arrowhead bearing a rough caricature of the Sauk hero.

With two promising new lines in distribution, the business seemed poised for rapid growth, but all was not well. There was, first of all, the matter of a missed opportunity. In 1920, two employees, Joseph Johnson and William Seidemann, approached Edmund Archambault with a new business idea. Why not, they asked, base Blackhawk's socket wrench line on a system of interchangeable heads rather than making a fixed shaft for every size and shape? That was already an option on Blackhawk wrenches, but Archambault declined to make it the centerpiece of his strategy. Rebuffed by their boss, Johnson and Seidemann left to organize a new firm they called Snap-on Tools, currently a $2.8 billion enterprise based in Kenosha, Wisconsin.

There were also financial problems of indeterminate origin. American Grinder might have been caught in the short but sharp recession that followed World War I, or it may have been hamstrung by Edmund Archambault's gambling debts. (He was a regular in a lunchtime card game at the downtown Elks Club, reportedly playing for the company's payroll on particularly adventurous afternoons.) In either case, American Grinder needed cash, and plenty of it. It was at this point that the Brumder family entered the scene, and their arrival marks the beginning of the company in its modern form.

The Brumders were already among Milwaukee's first families. Their patriarch, George, had arrived from Europe in 1857 as a German-speaking teenager with little money but plenty of ambition. In 1864, after working as a laborer for a streetcar company and then





As the automobile era gathered momentum, Archambault's firm made water pumps and hand tools under the Blackhawk trademark.

Herbert Brumder (far left) *took over the struggling enterprise in 1924 and changed its name to the Blackhawk Manufacturing Company.*

as a carpenter, he opened a downtown bookstore. Milwaukee was already the most German city in America, and George Brumder sensed that a German-language printing business would find a ready market. Book-selling led to printing, and printing eventually led to publishing. Adding one title after another—newspapers, magazines, books, calendars, and religious works—he developed, over the years, the largest German-language publishing house in America and probably the largest west of Berlin.

The Brumder family's Germania Publishing Company lifted them into the same social sphere as Milwaukee's beer barons, leather-tanners, meat-packers, and machine-makers. They found the company pleasant, but George Brumder had always believed that the life expectancy of the German-language press in America was naturally limited. Watch carefully, he warned his five sons. Make sure you have another horse to ride when your current mount is exhausted. That time came during World War I, when anti-German sentiment reached the point of mass hysteria and practically wiped out the market for German-language publications. George's sons had already heeded his warning, entering fields as varied as banking, job printing, manufacturing, and venture capitalism. When Edmund Archambault came looking for money in 1920, three Brumder brothers and three Mayers—their relatives by marriage—agreed to help. The families received stock in the firm, with an option to purchase more, and the right to appoint a corporate officer. Herbert Brumder, the youngest member of the clan, became American Grinder's treasurer—"in order," he recalled, "to supervise the loans."

The infusion of cash was not sufficient to solve the company's financial problems. In 1923, as another wave of red ink threatened to capsize American Grinder, Herb Brumder offered to buy the business outright. He had grown intimately familiar with the enterprise as its treasurer and, at thirty-eight, he was ready to devote his full time to turning the firm around. Edmund Archambault, whose only alternative was bankruptcy, quickly came to terms, and on February 1, 1924, Brumder became president and controlling stockholder.

Change was not long in coming. The new owner recognized, first of all, that the Blackhawk automotive lines had become the proverbial tail that wagged the dog. In 1925, as water pumps and socket wrenches outnumbered grinders in the sales mix by a wider margin every month, he changed American Grinder's name to the Blackhawk Manufacturing Company. Henry Ford and his fellow automakers forced a much more momentous decision. In the 1920s, when they began to install water pumps as standard equipment on their new models, the aftermarket for Blackhawk pumps started to dry up. With one of his leading lines on the verge of obsolescence, Herb Brumder followed his father's sage advice and found something new to make. In 1927, perhaps responding to a distributor's suggestion, he visited the Hydraulic Tool Company, a small manufacturer of hydraulic jacks located in Los Angeles. It was without doubt the most fateful business trip

Brumder's purchase of a small hydraulic jack company in 1927 set the tone for everything that followed.


Blackhawk Jacks—Hydraulic Oil Power
For Automotive and Industrial Work

Blackhawk's new jack line found a ready market, but it was clear that the hydraulic principle had an infinite number of applications.

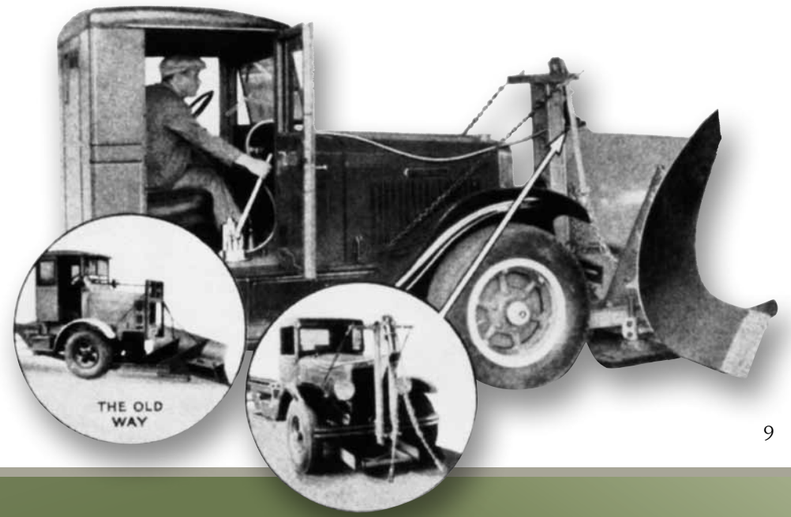
in the company's long history. Here, Brumder quickly realized, was a technology that could sustain long-term growth, and he began to think of hydraulics as a new foundation for Blackhawk's future.

The basic hydraulic principle was simplicity itself: fluid under pressure in a closed system exerts equal force on all areas within that system. The greater the compression of the fluid, the greater the resulting force. The basic hydraulic system has only a few parts—a reservoir to hold oil, a pump to build pressure, and a sliding piston to transmit force—but the energy generated can be an enormous multiple of the energy applied. The hydraulic principle explains why it is easier to stop a car with power brakes and to turn it with power steering.

Herb Brumder bought the Hydraulic Tool Company in 1927, moved its production equipment to Milwaukee, and rebranded the firm's jacks with his own Blackhawk label. They were sold through the same national distributor network that carried Blackhawk wrenches, and to the same automotive customers. The jacks in the new line ranged from a $7.50 "Tourist" model (so simple that a "Child can operate") to an $80 behemoth designed for "extra heavy truck work and axle straightening." Early sales results were so promising that Blackhawk discontinued its doomed water pump line and sold the grinder business that had been its original reason for being. It would not be the last time that a newer product displaced those that had come before.

Jacks, as it turned out, were just the beginning. All of the original models were "bottle" jacks, named for their characteristic shape: pump, reservoir, and piston formed a single, tapered unit. A Blackhawk engineer named Ed Pfauser was the likely author of a radical innovation: splitting the standard hydraulic jack into two components. Pfauser put the pump and reservoir on one end of the assembly, the piston and its cylinder on the other, and connected the two with a flexible high-pressure hose. Hydraulic power was suddenly portable. Instead of simply lifting and lowering a car, the device could now apply force in any direction desired—up, down, or sideways—and it could be controlled remotely. The potential applications were limitless. "This is an hydraulic age," Blackhawk declared in a 1927 magazine ad, and the company's new specialty was "smooth power, easily controlled … unfailing and unbreakable."

Splitting the hydraulic unit into two components was liberating; it set the stage for dramatic diversification in the decades to come. Blackhawk focused its early efforts on the automotive field—the market served by its distributors—but automotive applications sometimes led in surprising directions. In the late 1920s, a snowplow manufacturer asked Blackhawk to devise something better than the laborious hand winch that drivers used to raise and lower their plow blades. Herb Brumder's engineers responded with a cab-operated hydraulic system that met the need precisely. These pioneering remote controls were sold directly to the customer as an integral part of the finished



Remotely operated snowplow controls gave the company its first foothold in the OEM business.

snowplow—an early instance of the OEM (original equipment manufacturer) business that has been an Actuant mainstay ever since.

The Depression was under way before hydraulic controls could gain a foothold in the marketplace. The 1930s were hardly a time for bold experimentation, but Blackhawk continued to expand its hydraulic product line, still concentrating on the automotive side of the market. The personal automobile had become America's preferred means of transportation in the preceding decade, and the growing number of cars on the road meant a steady increase in the number of collisions. Tens of thousands of Hudsons, Nashes, and Packards needed frames straightened, dents pulled out, and crumpled fenders repaired every year. In an innovation born of desperation, Blackhawk unveiled a "complete workshop on wheels" in the mid-1930s. Sold under the Porto-Power trademark, it featured a hydraulic ram and a variety of attachments that could be used to push or pull a damaged car body back into shape. Porto-Power quickly became the national leader in collision repair.

Porto-Power collision repair equipment pushed and pulled Blackhawk to a position of national leadership.

With three popular product lines—Blackhawk hydraulic jacks, Porto-Power hydraulic repair equipment, and Blackhawk socket wrenches—Herb Brumder's company was a familiar presence in the nation's automotive shops. All three lines were produced on the second floor of the Marine Terminal Building in downtown Milwaukee, a leased facility that was soon filled to overflowing. In about 1936, Blackhawk Manufacturing moved its entire operation to a spacious new factory in West Allis, Milwaukee's largest industrial suburb. The Rogers Street plant would remain Blackhawk's home for the next twenty years.

The move to West Allis was a welcome sign that the company was growing while others were going under, and there is no doubt that Herb Brumder provided much of the spark. A Cornell-trained engineer, he was well-versed in the nuances of product design and production methods, but Brumder's primary interest was expanding the market. He traveled the country by rail, developing warm friendships with distributors from coast to coast. With a full range of high-quality products and a growing corps of loyal distributors to sell them, Brumder's firm bucked the downward trend of the Depression. As early as 1937, Blackhawk advertised itself as "the world's largest manufacturers of hydraulic equipment."

World War II prompted a temporary but sweeping shift in priorities. Automobile

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production ceased as soon as the United States entered the conflict in 1941, crippling the company's civilian market, but the military found some novel uses for Blackhawk products. Standard jacks were modified to send new warships down the ways and to lift warplanes for maintenance. A special model with an unusually broad base enabled America's Russian allies to service their tanks in the unrelenting snow and mud of the eastern front. There were also new products, notably a hydraulic pipe- and conduit-bender that was used to create pathways for the miles of electrical wire in the nation's defense plants.

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A new factory in suburban West Allis provided plenty of room for Blackhawk's growing work force, and Herb Brumder remained the head of the corporate family.

Blackhawk employees were acutely aware that they were playing a critical role on the

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Blackhawk products played an important role in the World War II effort.

home front, and there was a nonstop round of activities—War Bond campaigns, blood drives, visits from uniformed servicemen—to keep their morale high. Patriotic posters were everywhere in the West Allis plant: "Remember Pearl Harbor!," "He Needs What You Make—Now!," and "You Can't Spell Victory with an Absent 'T'." The company's single-minded devotion to the war effort earned Blackhawk the coveted Army-Navy "E" Award for excellence in production. Soon after the war ended in August 1945, General Henry "Hap" Arnold, commander of the Army Air Forces, sent a personal letter to the people of Blackhawk Manufacturing, thanking them for "the outstanding services rendered to Your Government and all liberated peoples in supplying the Army Air Forces with the Jack Assembly we needed for successful operations against our two former enemies."

All 400 Blackhawk employees had pulled together during the military emergency, but harmony within the corporate fold proved harder to maintain after the war. Blackhawk had been a union plant for years, and organized labor, in Milwaukee and elsewhere, had grown restless after years of constant overtime and general wage stagnation. There was also a new Brumder rising to prominence in the company. Philip Brumder, the youngest of Herbert's three children, had joined his father in 1941 as a twenty-one-year-old newlywed eager to start his career. Educated at Yale in industrial administration, he began on the production control side of the business. One of Phil Brumder's early moves was to replace what he considered the company's overly generous piecework rates with a "day work plan," which provided a fixed salary and incentives for exceeding quotas. The change was one factor in a strike that shut down Blackhawk for weeks. The workers eventually came back, on Brumder's terms, and he was promoted to executive vice-president after the war—a clear sign that he was being groomed to succeed his father. The day came in December 1951, when Herbert Brumder, who had turned sixty-six earlier in the year, passed the reins to his son and never looked back. Phil was formally promoted to president in early 1952. He would serve as chief executive for the next thirty-four years—more than a third of the company's history to date.

A New Way of Doing Business

It is difficult to exaggerate the roles that the two Brumders, father and son, played in the development of the enterprise that became the Actuant Corporation. Herbert rescued the company from bankruptcy, made hydraulics its core technology, and developed a robust national distributor network. Fueled by the same drive to lead that had motivated his father, Philip built on that solid foundation to give the firm a distinctive way of doing business, one that has endured to the start of its second century. The younger Brumder's corporate vision—part philosophy and part sheer pragmatism—did not develop overnight, but it provided a remarkably consistent view of the world. Its three most important principles are easy enough to articulate: manage by divisions, run lean and light on assets, and grow globally. Although Actuant's present leaders might consider those principles as natural as breathing, they actually have their origins in decisions Phil Brumder made in the 1950s and '60s. Each merits fuller explanation:

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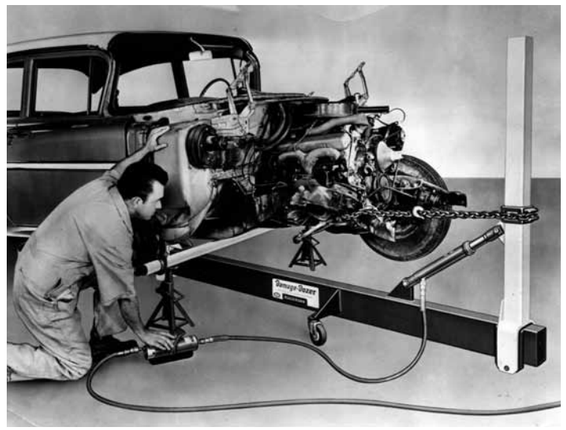
Philip Brumder succeeded his father as president in 1952 and remained at the helm for thirty-four years.

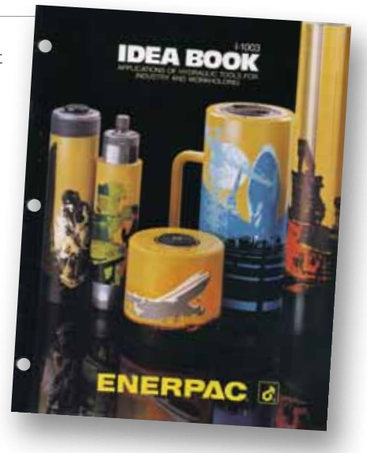
1) My divisions.

Shortly after purchasing the Hydraulic Tool Company in 1927, Herbert Brumder made it the cornerstone of his business. He consigned hand grinders and water pumps to the dustbin and directed his engineers to find new hydraulic applications in machinery control and collision repair. Blackhawk remained, however, a highly centralized enterprise with a single plant that turned out multiple products; one engineering department handled the design specifications for all of them, one manufacturing department managed all aspects of production, and one sales department brought in all the orders. Phil Brumder came to see this unified approach as hopelessly inefficient. Divisionalization, he believed, would enable Blackhawk to focus maximum attention on each of its product lines, with separate management teams taking responsibility for engineering, production, sales, and ultimately profit and loss.

The first task was to decide which lines to put in which division. Phil Brumder took his father's simplification efforts one major step further in 1955, when he sold the firm's socket wrench line—a core product since the World War I era—to the New Britain Machine Company. Blackhawk's business was now all-hydraulic all the time, but there was more than one way to divide the hydraulic pie. The Porto-Power collision-repair line was the most crisply defined application, and it became the nucleus of a full-fledged Automotive Division. The range of non-automotive hydraulic products was limited only by the imagination of the user. With very little effort on its part, Blackhawk was already in the components business; customers used various sizes and configurations of its jacks to accomplish tasks that had nothing to do with lifting and lowering cars. Phil Brumder aggressively expanded the components field, encouraging customers, especially industrial customers, to mix and match Blackhawk's pumps, cylinders, valves, and attachments to do whatever needed to be done, whether the job at hand involved lifting, bending, straightening, pressing, punching, pushing, pulling, holding, or cutting.

Collision-repair products formed the core of the Automotive Division.



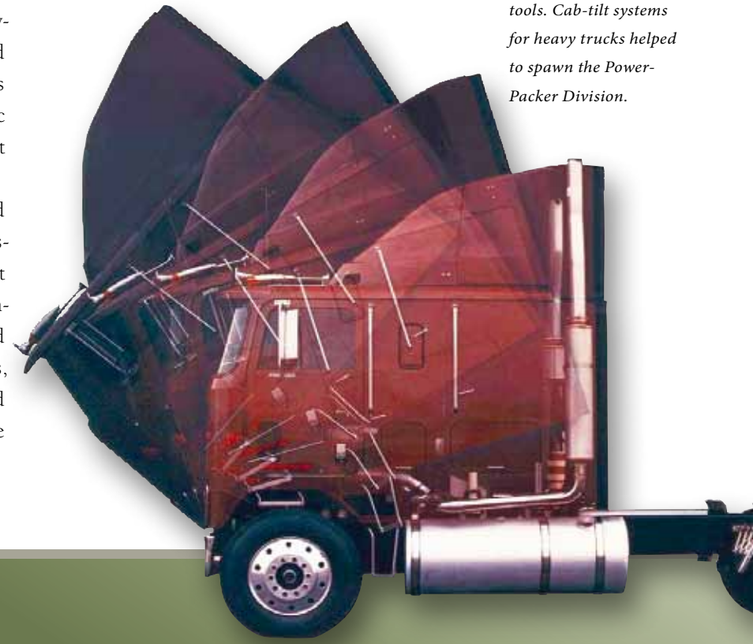


The famous Idea Book illustrated hundreds of applications for the new Enerpac Division's hydraulic tools. Cab-tilt systems for heavy trucks helped to spawn the Power-Packer Division.

Blackhawk's most effective sales tool was the fondly remembered "idea book." Introduced in 1951, it was filled with photos of actual product applications in factories, shipyards, power plants, paper mills, forge shops, and construction projects across the country. Hydraulic power was so portable, and its potential uses so broad, that customers had no trouble visualizing hydraulic solutions to their own problems. "The idea book was dynamite," Phil Brumder recalled. "That really made the business." Hydraulic components took their place alongside finished products like jacks, presses, and benders in Blackhawk's new Industrial Division, but Brumder soon came up with a more distinctive name. Driving to a jack plant he had purchased in Sheboygan, one hour north of Milwaukee, the company's president decided to call his newest division Enerpac—for all the energy packed into every hydraulic tool. The trade name was formally adopted in 1960, and the Enerpac Division has been the company's heartbeat ever since.

A third division coalesced around the need of some customers for complete hydraulic systems—not in their manufacturing plants but in their final products. The snowplow controls of the 1920s were an early example, and there was a steady procession of other ideas, some generated by Blackhawk engineers and others suggested by customers. One of the most successful was the cab-tilt system, which used hydraulics to tilt the cabs of heavy trucks forward so that mechanics could work on their engines. This OEM business—custom-designed products sold as part of a customer's end product—formed the nucleus of the Power-Packer Division, which grew from small beginnings in the 1950s to become an important contributor to the company's bottom line.

Divisionalizing a firm that had always been highly centralized was not a particularly easy task. Phil Brumder encountered stout resistance from some Blackhawk



The firm's multiple business lines were gathered under the Applied Power corporate umbrella in 1961.

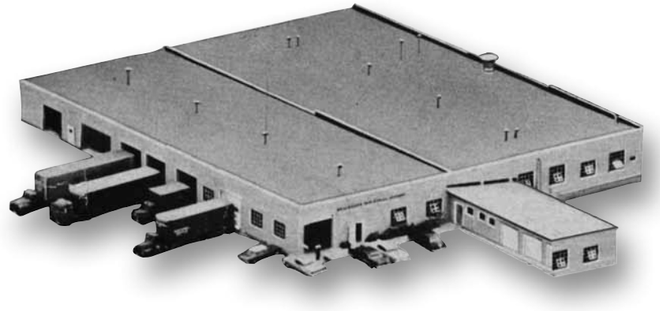
veterans—resistance he overcame by replacing them with more forward-thinking managers. Within a decade, the outline of the future was clear. Brumder based his business on a tripod with three divisional legs: Blackhawk automotive equipment, Enerpac industrial tools, and Power-Packer OEM products. He built, in effect, a company of companies, each with its own management team and its own profit-and-loss statement. It was the brands of each division that went to market; the corporation behind them was largely invisible to most customers. The president did, however, feel the need for what he called an "umbrella name" to cover the multitude of products his employees made. In 1961, Blackhawk Manufacturing Company became Applied Power Industries, Inc. Shortened to Applied Power a dozen years later, the name was a perfect fit for a company that applied hydraulic power to mechanical tasks in settings that ranged from amusement parks to airplane factories.

2) Run lean and light on assets.

Phil Brumder made an interesting discovery in the years after World War II. With the return of peacetime, demand for the company's products soared to levels undreamed-of in the 1930s. For a time, the West Allis plant was so swamped with orders that distributors were put on allocation, and Brumder was finally forced to subcontract some of his machining work to other shops in the Milwaukee area. To his surprise, subcontracting was significantly less expensive than using his own labor force and machine tools. Before long, what had begun as an emergency measure became a standard practice. In the early 1950s, more and more machining tasks were farmed out to area shops with excess capacity, and the work force shrank accordingly. Even the machine tools went out the door. After the process was completed in 1956, Brumder sold the West Allis factory and moved his corporate staff to an office in Butler, a tiny industrial suburb just northwest of Milwaukee. The company would remain a fixture in Butler through the end of its first century.

Blackhawk Manufacturing, soon to be Applied Power, did not become a virtual company after leaving the Rogers Street plant. Once the thousands of necessary parts had been cast, forged, molded, turned, tapped, bored, faced, and otherwise prepared for duty by other firms, they had to be assembled into final products. Opening assembly plants was the second part of Phil Brumder's new strategy. Deciding that he had had enough of industrial unions, Brumder gravitated to open-shop communities well-removed from major metropolitan areas—places like Columbus, Sheboygan, Baraboo, Westfield, and Mineral Point in Wisconsin and Hebron in Illinois. The Columbus plant, located in a picturesque small city about sixty miles northwest of Milwaukee, opened as Blackhawk Products in 1958. Expanded several times, it became the Enerpac Division's main facility, where the company's hydraulic tools are still assembled, tested, painted, and shipped to customers all over the world.

Subcontracting the major production tasks—a practice known today as outsourcing—created logistical challenges and occasional vendor headaches, but Applied Power prospered under the new system. Without a major investment in fixed assets, the company conserved its cash for growth and gained a great deal of operational flexibility. Product lines could be changed and costs adjusted practically overnight simply by changing suppliers, and an extraordinarily lean corporate staff could direct the energies of a much larger enterprise.



A plant in Columbus, Wisconsin, was typical of Phil Brumder's emphasis on rural production.

3) Grow globally.

The company that became Applied Power had been a national enterprise from its earliest years. Although there were plenty of customers for hand grinders and hand tools in an industrial stronghold like Milwaukee, the firm used its broad-based distributor network to serve customers all over the country. Phil Brumder was determined to serve them all over the world. As he looked to the future, his family's international background began to assert itself. Just as George Brumder, the clan's patriarch, had crossed an ocean in search of opportunity, his grandson decided to cross oceans in the opposite direction for precisely the same reason.

Pieter Buys (left)*, shown with visiting Wisconsin governor Warren Knowles, spearheaded Applied Power's European expansion, beginning with a plant in the Netherlands.*

Blackhawk already had a modest export business, but it was never pursued with much vigor. In the late 1950s, earlier than most American business leaders, Brumder heeded the rumblings that presaged the European Union and began to plan for the day when Europe would function as a single economic entity. He canceled his importer contracts and started to develop his own distributor network on the Continent. In 1960, Brumder hired Pieter Buys, a Dutch citizen who established a manufacturing presence for Applied Power, beginning in the Netherlands and England. Although Buys equipped the first plants with a full complement of machine tools, he was quick to see that subcontracting was ultimately less expensive, and the American preference for outside vendors became the European practice as well. Although most product ideas originated in the United States, innovation was a two-way street. It was in Europe that cab-tilt systems for heavy trucks were perfected, and it was Applied Power's European engineers who developed the technology to repair lightweight unibody cars. Their American counterparts imported that system in the 1980s, when United States automakers stopped building cars with independent frames.

Success in Europe encouraged Phil Brumder to establish beachheads elsewhere in the world. By 1967, less than a decade after entering Europe, Applied Power had distribution centers on four continents and plants in England, the Netherlands, Germany, South Africa, Canada, and Mexico as well as the United States—a rather startling geographic spread for what had been a little Milwaukee enterprise. Sales outside the United States soared from 4 percent of the company's total business in 1959 to 27 percent in 1968. "Applied Power Industries," the firm noted in its 1968 annual report, "is a global company which simply regards the United States as a major market."

The company Phil Brumder developed was noticeably different from the one he had inherited. Divisionalization sharpened its focus, outsourcing increased its flexibility, and globalization extended its reach. The results of Brumder's three major initiatives were apparent in Applied Power's sales results. When he took the helm in 1952, the company's annual volume was barely $6 million. Sales roughly doubled every five years thereafter, breaking the $100 million barrier in 1973. The number of employees increased from 400 in 1952—all located in Wisconsin—to nearly 3,000 in 1975, with almost a third of them working outside the United States. From its humble beginnings in hand grinders, Applied Power had become an international leader in its chosen fields.

Changing Gears: The Automotive Strategy

Managing three high-stepping divisions was a little like having three race horses in the same stable. Each had its own strengths and its own challenges, and each had to adjust to track conditions that changed with every shift in the economic weather. Enerpac proved to be Applied Power's long-distance runner. There had always been a demand for the division's hydraulic products—jack sales topped the one-million mark by 1960—and there were always new products to create more demand. Many were suggested by customers. Describing itself as "an ideas company," Enerpac issued "an invitation to inventors" in one catalog: "If you've had to think up a new kind of hydraulic tool or system to overcome a specific engineering, production or maintenance problem—or any other purpose—we'd like to hear from you."

Whether they were home-grown or came in over the transom, the range of hydraulic applications was mind-boggling. In the 1960s and '70s, Enerpac equipment was used to level machinery, remove fence posts, cut cable, straighten I-beams, bend pipes, punch holes, move houses, compact trash, hold work on industrial machines, lift bridges for repair (without disrupting traffic), and extricate accident victims from crumpled cars. There was apparently very little that couldn't be done with

The Enerpac Division offered an unparalleled range of hydraulic tools for thousands of applications.

hydraulic power, a technology that the company described as "economical, uncomplicated, compact, easy to control, quiet, and non-polluting." Enerpac itself was promoted more assertively as "Industry's Most Valuable Tool."

The Power-Packer Division, which led an emerging fluid power group, was a younger, smaller race horse than Enerpac, but it was somewhat more nimble. The division's specialty was lower-pressure hydraulic systems for the OEM market, which generated smaller profits but potentially much higher volumes than standard products sold off the shelf. Power-Packer's cab-tilt systems for heavy trucks ruled the world market by the late 1960s, and they were used almost exclusively in Europe, where the cab-over-engine design was universal. New applications of the 1960s and '70s included a hydraulic leveling system for "camping trailers"—the precursors of recreational vehicles—as well as power-steering equipment for boats and patient-positioning controls for hospital beds and examination tables.

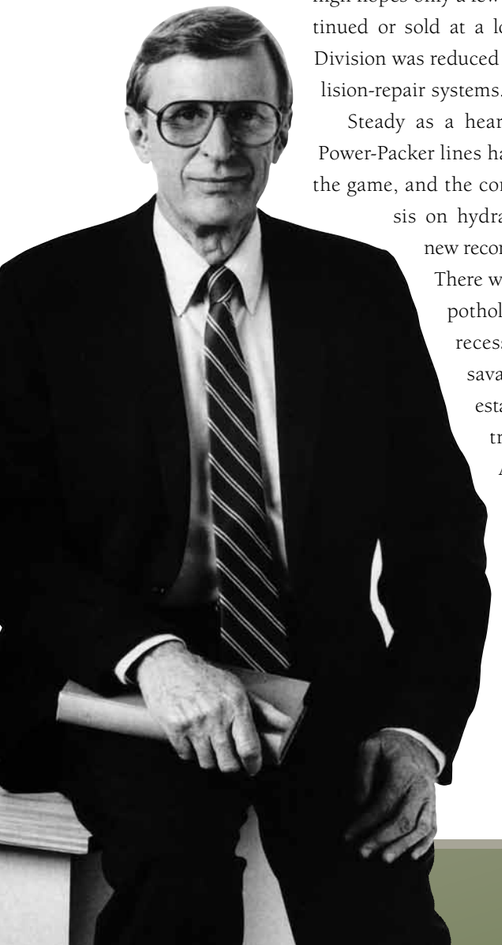
One of Power-Packer's most successful products crossed the line into the automotive market. In the early 1980s, division engineers developed an electro-hydraulic system that raised and lowered convertible tops with the touch of a button. Their device dominated the global market within a few years, and Power-Packer actuation systems became standard equipment on cars ranging from Volkswagens and Chevrolets to Mercedes and BMWs. The division's growing reputation led to a special order from the Sultan of Brunei, an oil-rich country in Southeast Asia. The potentate had Power-Packer turn his entire fleet of Mercedes-Benz limousines—the largest in the line—into convertibles with hydraulic controls.

It was Applied Power's third division—Automotive—that became the favorite steed in the stable for a time. Collision repair remained its focus through most of the 1960s, but Phil Brumder decided that there was even more potential in what he called "the automotive service business." The need for regular maintenance and occasional repairs gave the field "a built-in stability that is denied many industries." With the Blackhawk collision-repair line as its foundation, the company branched out into other sectors of the automotive aftermarket, growing largely by acquisition. Between 1968 and 1971, Applied Power spent nearly $15 million on companies that made battery chargers, engine analyzers, wheel balancers, studded tires, welders, engine stands, brake testers, and alignment systems. By 1972, the Automotive Division's sales force was twice the size of Enerpac's and Power-Packer's combined, and automotive products accounted for a surprising 66 percent of Applied Power's total sales. The company was essentially reinventing itself.

The acquisitions were, in the end, a casualty of poor timing. A growing wave of cheap imports eroded sales of the company's lower-tech products, and the steady shift to computerized controls forced Applied Power to make some major investments in new technologies. Although the

Applying hydraulics on a smaller scale, the Power-Packer Division became the world leader in convertible-top actuation systems.

Phil Brumder stepped down as Applied Power's chief executive in 1986, ending sixty-two years of family leadership.



Automotive Division continued to lead the way in sales volume, its earnings dropped from 52 percent of Applied Power's pre-tax income in 1972 to -4 percent in 1977. The division, in other words, was actually losing money. Faced with an untenable situation, Phil Brumder decided to undo his original decision. Between 1978 and 1980, the product lines acquired with such high hopes only a few years earlier were discontinued or sold at a loss, and the Automotive Division was reduced once again to its core collision-repair systems.

Steady as a heartbeat, the Enerpac and Power-Packer lines had kept Applied Power in the game, and the company's renewed emphasis on hydraulics pushed sales to a new record of $187 million in 1980. There were, however, some major potholes in the road ahead. The recession of the early 1980s savaged America's industrial establishment, and the industrial market was critical to Applied Power's success. Although global diversification tempered the decline, sales volume dropped for three straight years after 1980, and the company's net income plummeted from $4.8 million in 1979 to a paltry $208,000 in 1983. Applied Power wasn't losing money, but it certainly wasn't gaining ground. Phil Brumder, in the meantime, was nearing his sixty-fifth birthday and beginning to consider a more leisurely pace. It was time for a change.

Going Public

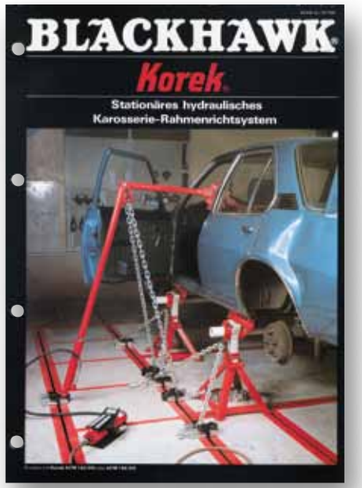
The Brumder family had been the major constant in Applied Power's operations ever since 1924. The fact that the company was family-owned and family-run gave it a freedom, a flexibility, and a personalism that seemed to belong to another time. For sixty-two years, first Herbert and then Phil Brumder demonstrated an unwavering drive to lead. Building their enterprise on a single technology, they oversaw a progression that was organic but hardly pre-ordained. Applied to snowplows in the 1920s, hydraulic controls evolved into the Power-Packer Division. Applied to collision repair in the 1930s, hydraulic pushing and pulling devices underpinned the Blackhawk automotive line. Applied to industrial and construction tasks in the 1950s, hydraulic tools became Enerpac, the company's largest and least-changing division. These three major business lines and their growing international presence gave Applied Power a stability and a diversity that were uncommon in American business.

With no more Brumders in the executive pipeline, it was obvious that Applied Power's next leader would have to come from outside the family. After an extensive search and multiple interviews, Phil Brumder chose Richard Sim. Born and raised in Scotland, Sim had come to America in 1970 as a young engineer in search of opportunity. He found it in a number of corporate settings, most notably a thirteen-year stint as an executive at GE Medical Systems in Waukesha, just west of Milwaukee. Dick Sim joined Applied Power as chief operating officer in 1985 and rose to the chief executive's post a year later, when he was forty-two. Other changes followed in short order. An initial public stock offering in 1987 raised $20 million for expansion and enabled a number of Brumders to monetize their holdings. Applied Power was rapidly evolving from a closely held family firm to a public company whose shares were traded on the open market. The transition was practically complete in 1988, when Phil Brumder sold most of his remaining stock and retired as board chairman.

Dick Sim had already made a bold first impression. With his Scottish burr and brisk manner of speech, the new CEO was a memorable figure, but it was his energy level that subordinates found most impressive. A fountain of ideas and a sworn enemy of the status quo, Sim was, like the Brumders, driven to lead, although not necessarily in the same direction as his predecessors. He tried early on to instill a new sense of urgency in his management team, exhorting them to move the company off its plateau and get it growing again. "I think about passion, I think about intensity, I think about desire," he told a reporter in 1986. Not unlike Phil Brumder in the early 1950s, Sim terminated a number of senior executives whom he felt were under-performing and replaced them with younger leaders, several of whom are still on the job. He refined the company's acquisition strategy and broadened its international focus, but the new leader's overriding goal was to create a performance-based culture at Applied Power, a "meritocracy" whose one and only standard was results. Sim launched an employee stock-ownership plan, beefed up management incentives, and set aggressive financial goals. "Work is work," he said. "We're all paid by the shareholders to deliver value, and everyone in the company has to deliver value every year."

This insistence on performance applied to divisions as well as individuals. The Blackhawk collision-repair line—a mainstay since the 1930s—was plagued by low-priced foreign imports and customer credit problems in the 1980s. Once a star performer, it

Brumder's successor was Richard Sim, a Scottish dynamo who continued the firm's entrepreneurial tradition.



The collision repair business, a staple since the 1930s, was sold in 1987.

had become a drag on corporate earnings. Although some old-timers had a sentimental attachment to the division, the entire business was sold in 1987 to Hein-Werner, an Applied Power customer and sometime competitor. Although the Blackhawk trade name was used overseas for another decade, the company was shedding its association with one of its oldest product lines and acquiring new capital for expansion.

With the Blackhawk Division gone, the corporate deck was ripe for reshuffling. One of Dick Sim's dominant traits during his years at Applied Power was a penchant for reorganization—multiple times under multiple conceptual schemes, sometimes by product, at other times by application or even by distribution channel. Enerpac and Power-Packer remained the company's primary business lines, and Dick Sim developed detailed plans for both divisions. One of his first priorities was "revitalizing existing businesses" in order to "regain the high growth profile that Applied Power enjoyed in the 60's and 70's." Enerpac kept adding sizes, shapes, and capacities to its lines of hydraulic tools and components, growing the number of different items to more than 5,000 by 1988. Some of the division's hydraulic tools saw rather unusual service, including a remote-controlled device used by the German government to defuse unexploded bombs from World War II. As more customers discovered what Enerpac could do for them, there was also a surge of interest in synchronous lifting systems. Calls came in at the rate of fifty or sixty a day, and the division's technical staff learned to handle questions that would have seemed exotic in any other business—queries like "How do you jack up a 100-ton bridge?" One of the more novel synchronous applications involved lifting a 440-year-old British warship from its resting place on the ocean floor and positioning it for display in a maritime museum.

Power-Packer broadened its product platform as well. The division was already an established global leader in convertible-top actuation systems, cab-tilt equipment for heavy trucks, and patient-positioning devices in medical settings. None of these products gave Power-Packer much visibility in the marketplace, but all were integral parts of the equipment they supported. The division had always been a powerful presence in Europe, and that presence grew under the leadership of Gustav Boel, a Dutch national who joined Applied Power in 1971 and rose to the top ranks of the corporate hierarchy. Boel and his American counterparts were constantly seeking avenues of growth for Power-Packer, and two of the most promising were in markets the division already served. Expertise in patient-positioning systems led to hydraulic motion controls for MRI and CAT-scan machines, and the cab-tilt line provided a platform for cab-suspension systems, which enabled the drivers of heavy trucks and armored military transports to pilot the vehicles without losing their kidneys.

New hydraulic applications ranged from precise positioning of bridge decks to patient-positioning systems in medical settings.

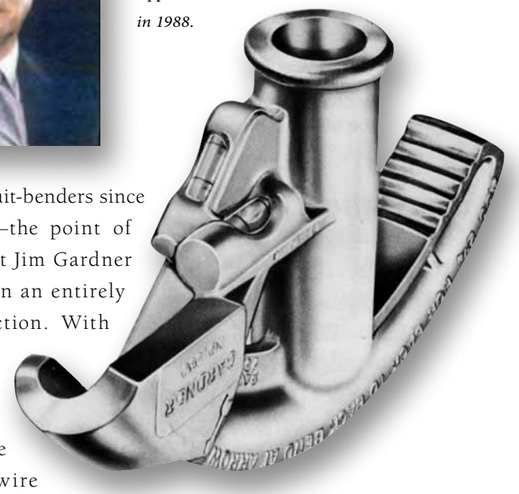
MRI controls and cab-suspension systems were excellent examples of growth by adjacency: using existing product lines as points of entry into markets that were related but different. Another connect-the-dots growth initiative extended the limits of hydraulic technology. Combining computerized feedback systems with minutely tuned proportional valves, Applied Power engineers developed a line of automatic, feather-fine hydraulic controls that kept off-road vehicles level on rough terrain, ensured an even flow of salt or sand from road spreaders, and prevented end-loaders and cherry-pickers from spilling their contents. Another new application enabled an automobile's suspension system to "read" the road at sixty miles an hour and instantly adjust each shock absorber for the smoothest ride possible. Marrying hydraulics and electronics became the province of a new division called Apitech, whose activities required a rather lavish outlay of research capital and management attention. Although the division was a relatively minor contributor to Applied Power's bottom line, Apitech signified the company's determination to lead, not follow, the parade of technological progress.

Feather-fine hydraulic controls enabled road crews to spread salt and sand with absolute precision.

There were inevitably disappointments along the way, but the company's overall direction was uniformly upward. Sales results left their plateau in 1988, and earnings rose even faster. Applied Power was on the move again—a fact that Dick Sim delighted in pointing out to stock analysts. His enthusiasm proved infectious on Wall Street; shares that had traded at $15.75 when the company made its initial offering in 1987 climbed to a split-adjusted $54.50 only three years later. The *Milwaukee Journal*, taking a new look at an old local standby, pronounced Applied Power "a very, very hot company" that had become "a darling of investors on both sides of the Atlantic."

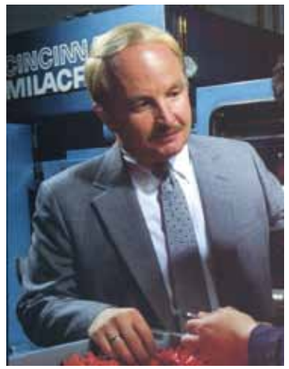
Much of the company's growth was organic—new hydraulic tools and controls were natural extensions of existing product lines—but acquisitions played an even more decisive role. As much as he wanted to expand internally, Dick Sim knew that progress on that front would necessarily be incremental and relatively slow. Acquisitions, on the other hand, meant instant gratification; the acquired company's volume became yours with the stroke of a pen. Sim was particularly suited to the strenuous art of deal-making. A swashbuckler by nature, he relished the give and take of spirited negotiation, and he once actually invited a reporter to sit in while he worked out the details of a corporate takeover with his legal team. All, he stated, was done in the interest of growth and in the larger interest of corporate diversification. "Our game is not to keep polishing the same old apple," Sim said in 1991. "Our game is to collect apples and oranges and pears and polish them all."

Jim Gardner's pipe-bender anchored the Gardner Bender line of electrical products purchased by Applied Power in 1988.



Applied Power made dozens of acquisitions during Dick Sim's tenure, but two proved particularly significant: Gardner Bender and Barry Wright. Although the principle of adjacency still applied, the connections were more tenuous and the markets Applied Power entered were essentially new. Gardner Bender, the first acquisition, was the brainchild of Jim Gardner, a master mechanic in a Milwaukee aluminum can plant who spent his free time as an inventor. In 1959, after watching the electricians at his plant struggle with an inferior device, Gardner invented an aluminum pipe-bender so promising that he decided to manufacture it himself. Applied Power had been making hydraulic pipe- and conduit-benders since World War II—the point of adjacency—but Jim Gardner took the idea in an entirely different direction. With the bender as his lead product, Gardner added fish tape (for pulling wire through conduit), wire connectors, hand tools, and a host of other electrical specialties. Targeting do-it-yourselfers as well as professional electricians, Gardner Bender sold its products through national hardware store chains, including Ace and True Value, and then through "big box" retailers like Home Depot, Lowe's, and Menard's. Sales of the Milwaukee-based firm reached $1 million in 1975 and $25 million in 1988, when Applied Power purchased the company.

At the time of the acquisition, Gardner Bender sold hundreds of different products, from wire nuts to lineman's pliers, through 20,000 separate consumer outlets. Together they provided "the perfect solution to all of your wire connecting, cutting, stripping, testing, fastening, crimping, wire fishing, conduit bending, grounding and replacement switch needs." There was very little overlap with Applied Power's standard lines, and the retail distribution channel was utterly foreign, but Gardner Bender became a full-fledged division of its new parent. Under Ted Lecher, the gifted executive who remained president after the acquisition, the business continued to prosper. Combining internal growth with strategic acquisitions, Gardner Bender increased its sales fivefold within a decade and provided a great deal of Applied Power's forward momentum.



Ted Lecher remained Gardner Bender's president after his company joined Applied Power.

The Barry Wright acquisition took the company even farther afield. Headquartered in Watertown, Massachusetts, Barry Wright was a mini-conglomerate in its own right. The point of adjacency with Applied Power was workholding devices—hydraulic clamps, essentially, that represented a growth area for Enerpac—but Dick Sim was also intrigued with the compounds that the engineers of the Barry Controls division had developed to dampen vibration in airplanes, naval vessels, trucks, and other severe-duty applications. Two more businesses—Wright Line office furniture and DataFile color-coded filing systems—were simply add-ons, excess cargo that came with the divisions that Applied Power really wanted to buy.

There was one initial obstacle: Barry Wright did not really want to sell any of its divisions. Despite mediocre financial performance and plenty of criticism from its public shareholders, the company's management rebuffed Dick Sim's initial advances. The result was a hostile takeover that showed Sim at his most determined. Conducting what he described as "a military campaign" that ended with an all-night bargaining session, the chairman and his lieutenants were ultimately victorious. In June 1989, Applied Power acquired Barry Wright for $118 million in cash—almost four times what the company had paid for Gardner Bender.

Taken together, the deals were transformative. Two major acquisitions and a number of smaller ones boosted the company's sales from $129 million in 1987 to $445 million in 1990—the steepest rise in the company's history to that time. The trade-off for this stunning performance was, as Dick Sim noted, "an equally impressive increase in our corporate debt." Applied Power's long-term borrowings jumped from $5.4 million in 1987 to $169 million in 1989, when they represented 68.5 percent of the company's capitalization. Any concerns about the firm's financial exposure were far outweighed by optimism about the bright future that awaited the newly enlarged enterprise.

Up to this point, certain essentials had not changed. The drive to lead was a given. Global growth was just as important. ("We're really not an American company," said Dick Sim in 1988. "We're a foreign company headquartered in Milwaukee.") Hydraulics was still the reigning technology, and Enerpac remained the dominant division. There were also new constants, particularly an insistence on continuous improvement in the manufacturing process. Some of these earmarks would prove to be permanent, but the Barry Wright acquisition introduced, for the first time since the 1920s, the possibility of real change in the firm's identity. Not at first, however. Applied Power developed a fairly straightforward plan for its Barry Wright acquisition: integrate the workholding lines into Enerpac, grow the Barry Controls and DataFile businesses, and sell off the Wright Line furniture division. That was the plan, but a different reality materialized over the next five years. In perhaps the most dramatic turnabout in the company's history, Wright Line—a piece of excess baggage that was basically an afterthought in the transaction—became the cornerstone of a new corporate strategy.

Engine mounting systems from Barry Controls helped to dampen vibration in heavy trucks.

The office furniture unit had been in a tailspin when it became part of Applied Power, suffering through five straight years of sales declines. Sim and his team tried at first to "stabilize" Wright Line in order to make the business "more attractive to potential buyers." No buyers materialized, however, and the division was discontinued in 1992. Then came the turn. Although the business was no longer officially on the books, Phil Burkart, the young executive in charge of Wright Line, proposed a shift in its focus from generic office furniture to the technical side of the market, making consoles, work stations, testing benches, and cabinets for high-tech environments. It was an inspired vision. As telecommunication and data processing centers multiplied, all that high-priced equipment had to sit somewhere, and Phil Burkart's team wanted to make Wright Line the supplier of choice. Dick Sim approved their

BARRY CONTROLS

business plan and began to commit resources to the division. The unwanted stepchild was about to become the favored child.

When its sales rose 29 percent in 1994, Wright Line was readmitted to the corporate fold. When they increased 42 percent in the following year, Dick Sim sensed that he had a tiger by the tail. High-tech companies, including a new class known as "dot-coms," were watching in delight as their order rates—and their stock prices—soared into the stratosphere. Wright Line, Sim reasoned, was a perfectly low-tech gateway to the high-tech market. The division left behind the desks and filing cabinets of tradition and supplied its customers with a comprehensive range of "furnishings and enclosures utilized in technology intensive business environments." Wright Line's direct sales force increased from 200 people in 1996 to 340 a year later, and the product lines they promoted grew just as fast. The main plant in Worcester, Massachusetts, added new models every year, but acquisitions accounted for most of the growth. Applied Power went on a buying spree that far surpassed all previous efforts, spending over $1 billion to acquire more than a dozen companies between 1996 and 1999. Lenders were eager to fund such a promising performer, and the company's long-term debt climbed from $153 million in 1997 to $809 million in 1999.

As high-tech electronic enclosures became the company's new specialty, the older industrial businesses were overshadowed, leading ultimately to an internal divorce.

Reflecting the global nature of the electronics business, the acquired firms were scattered all over the world, from California's Silicon Valley to Ireland and England. The particular mix of acquisitions also reflected a more expansive corporate strategy. Some companies simply added sizes or configurations of cabinets, but others introduced entirely new elements, including thermal-management systems, wire harnesses, cables, backplanes, and even circuit boards. Applied Power was moving from basic cabinets to assemblies so sophisticated that customers could simply plug in their equipment and go to work. Just add computers, the company was saying, and we'll take care of the rest.

Through the last half of the 1990s, Dick Sim and his team pursued the electronics business with single-minded zeal, and their dreams became realities with dizzying speed. In 1999, only five years after reactivating the Wright Line division, Applied Power proudly described itself as "the largest and most vertically integrated electronic enclosure systems company in the world." Once again, the company had essentially reinvented itself. As giants like IBM, Hewlett-Packard, Compaq, and Sun turned to the Milwaukee firm for their enclosure needs, sales skyrocketed from $527 million in 1995 to $1.75 billion in 1999. The tail was wagging the dog again. Applied Power had become a different kind of enterprise, and the time was ripe for an internal divorce.

Enter Actuant

The company's older industrial businesses, led by Enerpac, Power-Packer, and Gardner Bender, had not been sleeping while Dick Sim and his colleagues pursued their electronics strategy. Each division was making its own contribution to the bottom line, and each had benefited from acquisitions that increased its scope and capabilities. It was apparent, however, that Applied Power had become a somewhat schizoid enterprise. It consisted, on the one hand, of stable, "old economy" businesses whose markets seemed relatively mature and, on the other hand, of a high-growth, high-tech division that seemed to be on the leading edge of a global revolution. When the Wright Line designation began to seem too restrictive, the division was renamed APW Electronics (after the company's New York Stock Exchange symbol) to distance it from the very idea of "applied power." There was no question where senior management's interests lay. After three years of feverish acquisition activity, APW Electronics generated 50 percent more revenue than all the other businesses combined in 1999, and planning its next steps absorbed the majority of Dick Sim's attention.

apw electronics

Actuant

Applied Power's stock price, in the meantime, climbed from $19.375 in 1994 to $38.875 five years later—part of a general upward movement that favored tech stocks. Analysts predicted that it would rise even higher if the Electronics Division were uncoupled from the industrial businesses. There was a general feeling that the high-flying technical enclosures unit was, in a sense, shackled to its more earthbound older sibling. In September 1999, Dick Sim made an announcement that caused jaws to drop throughout the corporation: All of the industrial divisions were for sale. "If everything goes according to plan," Sim predicted, "APW will be fully committed to building a large business supporting electronic manufacturers in the next century." The decision did nothing for employee morale in the industrial divisions, but it was explained as a necessary way to "unlock shareholder value" in Applied Power.

For the next several months, employees on the industrial side were in limbo, with no idea whose signature would appear on their next paychecks. Despite the best efforts of senior management, the industrial businesses were so diverse—from wire nuts to bridge-lifting equipment—that no single buyer wanted them all. In January 2000, Dick Sim unveiled Plan B: splitting Applied Power into two separate public companies. The electronics business would be spun off as APW Limited, a Bermuda corporation, with electronic enclosure systems as its sole activity. The remaining lines would constitute the Actuant Corporation, the legal successor to Applied Power. Dick Sim would run APW, and Robert Arzbaecher, who had joined the firm as controller in 1992 and served most recently as its chief financial officer, would lead Actuant. The spin-off was accomplished on July 31, 2000, when all existing stockholders received, in a tax-free special dividend, one common share of APW for every Applied Power share they owned. The two businesses were now free to pursue their own destinies, but they did not begin on an equal footing. Actuant came into existence with the lion's share of Applied Power's debt—a total of $451 million, or more than the new company's total assets. Actuant, in other words, commenced operations with a negative net worth. Some employees felt that they had been set adrift in a life raft while their sleeker, sexier sibling steamed into the future without them.

The early results seemed to confirm their forebodings. There was a mass exodus of shareholders from the industrial side to the electronics spin-off in the initial stock trading, a trend that pushed Actuant's shares down to $3 and lifted APW's to $50. Within a year, however, APW was in trouble. Dick Sim's infatuation with the electronics industry underpinned a strategy that was, in hindsight, extraordinarily dangerous. After years of touting the diversity of their product lines and the markets they served, Sim and company had willfully bet their future on one segment of one business—the most dynamic business in the world at the time, but still one business. Other firms were doing precisely the same thing, sparking a market frenzy that Federal Reserve chairman Alan Greenspan famously characterized as "irrational exuberance." When the dot-com bubble finally burst in 2001, technology stocks took one of the worst beatings the market has ever dealt a single sector of the economy. APW was not spared. Mired in new debt taken on to fund yet another round of acquisitions, the company was forced into bankruptcy when demand for its core products evaporated. APW stock plummeted to one dollar a share and then sank out of sight entirely.

Actuant, by contrast, was doing just fine. Although they had been nearly lost in the glare surrounding the electronics start-up, the company had some world-class assets. Enerpac, Gardner Bender, and Power-Packer were all entrenched leaders in their respective markets, with solid profit margins, high barriers to entry, global sales networks and, most important, excellent cash flow. Whether their

Reborn as Actuant in 2000, the industrial divisions came to new life under the leadership of Bob Arzbaecher.

Andy Lampereur became Arzbaecher's chief lieutenant in managing the "new" enterprise.

products were used to lift stadium roofs, retract convertible tops, or install new wiring in the family rec room, Actuant's divisions did things that few enterprises on earth could duplicate and whose diversity none could match. The "new" company also had superior leadership. Bob Arzbaecher, who was forty when he took the reins, was affable, transparent, and informal to the bone, but he also focused with laser-like intensity on the task at hand. One of his very first acts as CEO was to bring all Wisconsin employees—nearly half the company's work force—to a meeting in Milwaukee for an introduction to "what and who Actuant is." His goal was to restore confidence in a group whose self-esteem had suffered and to chart a course for the future. Arzbaecher spoke with feeling of the inherent strength in Actuant's businesses and issued a call for "world-class performance." Even the most skeptical employees soon learned that their new CEO meant business.

It mattered that Bob Arzbaecher and Andy Lampereur, his chief lieutenant and chief financial officer, were accountants by training. Their first priority was to chip away at the mountain of debt that stood in the way of a secure future for Actuant, including some particularly onerous 13-percent "junk" bonds. Cutting costs, selling off marginal assets, issuing more stock, and making full use of the Enerpac Division's legendary cash-generating ability, they reduced Actuant's debt from $451 million at the time of the spin-off to $327 million a year later and $193 million in 2002—exceeding even the aggressive targets the pair had established at the start. Such dramatic progress in just two years was truly impressive, and Wall Street took notice. Companies with superior cash-flow performance were the market's new darlings after the high-tech hangover began to ease, and Actuant's share price soared from a split-adjusted $3.75 in 2000 to $9.75 in 2002. It began to seem obvious, in retrospect, that the APW spin-off was almost providentially well-timed. If the two sides had not been separated in 2000, there was the distinct possibility that the industrial businesses would have gone down with the electronics ship.

Instead, it was the once-doubtful employees of Actuant who found themselves cruising off into the sunset.

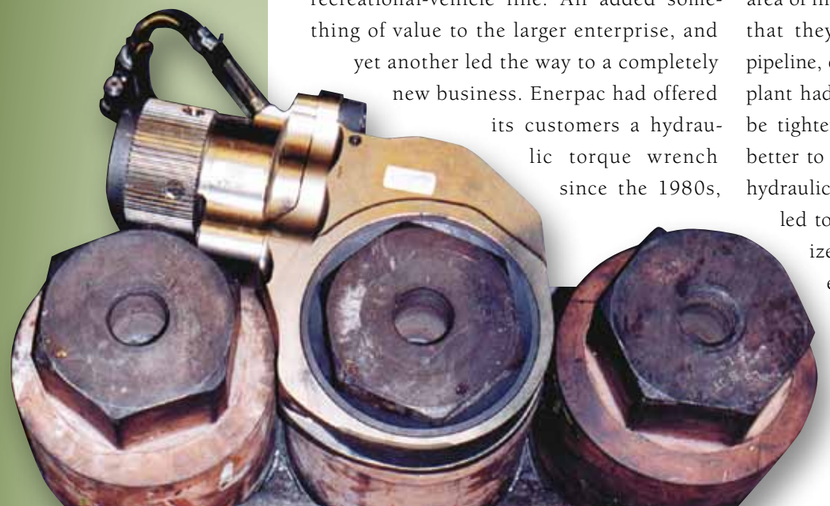
After repairing its balance sheet, Actuant was ready to add sails and pick up speed. The major divisions had all broadened their market horizons in the preceding years. Enerpac, still the company's flagship, developed a growing global market for its synchronous lifting systems, and one project lifted the division's public profile dramatically. In 2000, an Enerpac system raised San Francisco's Golden Gate Bridge just enough to allow the installation of seismic motion isolators—while cars and trucks continued to stream across overhead. Bob Arzbaecher used the project to make an important point. "We're a classic Rodney Dangerfield," he told a reporter. "We get no respect. But we do respectable things, big things. We raised the Golden Gate Bridge."

Actuant's other divisions had been doing big things of their own. Power-Packer, still a global leader in convertible-top actuation devices, cab-tilt systems, and patient-positioning controls, expanded its product offerings in those fields. Power Gear, a new division that served America's recreational-vehicle industry, was generating impressive results with a full line of electric slide-outs and hydraulic leveling systems for the growing number of RVs on the open road. In terms of products offered, the division led by Gardner Bender showed the most dramatic growth, increasing the number of items in its line-up to over ten thousand by 2000. Once confined largely to the do-it-yourself electrical market, the division was serving automotive and marine customers as well.

All this activity had been under way before the 2000 spin-off, and it accelerated after Actuant's debt load had been reduced to a manageable level. Although organic growth was important, acquisitions remained the surer route to greater volume, and the familiar concept of adjacency still applied. Actuant acquired nearly two dozen firms in its

(far right)
From lifting the Golden Gate Bridge to leveling recreational vehicles, Actuant continued to find new applications for hydraulics.

Actuant's Electrical segment added both products and customers, while Enerpac's search for a better torque wrench (below) *led to the formation of a new Energy segment.*



first decade. One boosted electrical sales in Europe, another gave Enerpac an affiliate in China, and two more helped to fill out the recreational-vehicle line. All added something of value to the larger enterprise, and yet another led the way to a completely new business. Enerpac had offered its customers a hydraulic torque wrench since the 1980s, but never in large quantities and never for the most demanding energy applications. When the oil and gas industry became an area of interest, the division's leaders decided that they needed something better. Every pipeline, drilling platform, refinery, and power plant had thousands of bolts that needed to be tightened to precise specifications. How better to tighten them than with a high-end hydraulic torque wrench? Enerpac's search led to a pair of British firms that specialized in "joint integrity," i.e., bolt-tightening. Purchased separately in 2005 and combined under the Hydratight brand name, they led Actuant to other companies that made leak-sealing, machining, and pipe-flanging equipment and even custom-engineered umbilicals, ropes, and cables. The thread that tied the newly acquired firms together was energy, whether oil, gas, wind, or nuclear, and Actuant combined them all in a new Energy business segment. By 2009, the Energy subsidiaries accounted for 21 percent of the company's sales volume—and it had all started with Enerpac's search for a better torque wrench.

There were so many additions to the Actuant roster that no single brand name could encompass all of a particular division's activities. Bob Arzbaecher and his leadership team soon undertook one more in a century of reorganizations. In 2008, Actuant began to describe itself as an industrial company with four major segments: Industrial (anchored by Enerpac), Electrical (with Gardner Bender as its foundation), Engineered Solutions (which included Power-Packer and Power Gear), and Energy. The obvious advantage of the structure was diversification. Vivid memories of the APW debacle underscored the dangers of concentrating attention—and capital—on a single business. Actuant behaved like a canny investor after the 2000 spin-off, spreading its risk across multiple industries and multiple continents.

As it moved forward, the company, paradoxically, seemed to look back as well. The Actuant of the twenty-first century marks a return, in some important ways, to Applied Power as it existed before APW and even as it operated under Phil Brumder. It was Brumder who pioneered the "company of companies" approach in the 1950s, and it is the "company of companies" approach that Bob Arzbaecher still follows fifty years later. Decentralization enables each business to focus on its own market and each employee to feel a personal sense of identification with his or her workplace. Incentive plans include measures for divisional and company-wide performance, but the emphasis is on results that employees can see and influence from their own work stations. Local entrepreneurship and personal accountability remain two of Actuant's fundamental goals.

The company resembles Phil Brumder's enterprise in other respects. After so many years of operating abroad, the global nature of the business has become second nature. There has been, however, a radical shift in the company's geographic focus. Brumder was most interested in Europe, while Arzbaecher has concentrated on China and other emerging markets, both to supply components for Actuant operations elsewhere in the world and to

hydratight®

Completed in 2008, the Taicang facility gave Actuant a significant presence in China.

generate new sales. The Chinese sourcing staff alone grew from 50 people in 2005 to 100 in 2006, and two of Enerpac's highest-profile recent projects were Chinese ventures. The company's role in moving the Shanghai Concert Hall and in placing the roof on the Bird's Nest Olympic Stadium in Beijing generated press coverage around the globe.

Operating an asset-light business is another Brumder commandment that Actuant continues to observe. The electronics companies of APW were heavily involved in manufacturing, but not the current firm's business

Two high-profile Chinese projects involved moving the Shanghai Concert Hall and (center) *positioning the roof on the Bird's Nest Olympic Stadium.*

units. Bob Arzbaecher, like Phil Brumder, prefers to leave the heavy investment in capital equipment to his vendors and to focus Actuant's efforts on design, procurement, assembly, and testing. The same emphasis on simplicity applies to corporate headquarters. A staff of roughly 80 people, still based in Wisconsin, guides the activities of nearly 6,000 employees around the world.

For all the current company owes to its earlier incarnations, there are significant differences as well. The first is an unrelenting emphasis on continuous improvement. In the late 1990s, the company began to adopt some of the "lean" practices that were transforming industries all over the world, including Kaizen events, Kanban systems, Poka-Yoke controls, value stream mapping, Six Sigma, Demand Pull, Continuous Flow, Management by Fact, and other ideas from the ample lexicon of the quality movement. They were formalized at Actuant as LEAD: Lean Enterprise Across Disciplines. First offered as a "toolbox" that each business could borrow from as it saw fit, LEAD has evolved into a standard, integrated process that is applied to every unit of every division. The results have been dramatic—lower inventories, higher productivity, and improved cycle times—but the job is never finished. Guus Boel, the company's lean manufacturing pioneer and currently its chief implementer, describes LEAD as "a never-ending journey that continually asks what the customer expects of us." The point, says Boel, is to focus on those elements that drive value in the business process and, in his words, to "eliminate everything else."

ACTUANT LEAD CONTINUOUS IMPROVEMENT

The Actuant Corporation of today is a vibrant blend of old and new. Updating historic practices in some areas and introducing fresh approaches in others, the company has developed a distinctive way of doing business. Its current operating philosophy emerged from a lengthy process of trial and error; Bob Arzbaecher and his team dropped what didn't work and kept what did, crafting a business model every bit as coherent as Phil Brumder's was in the 1950s. Above-average organic growth is the first step; each unit of each division is expected to continuously expand its served markets. "Bolt-on" or "tuck-in" acquisitions come next. They fill the space adjacent to existing businesses or create new platforms, adding both volume and expertise to the larger enterprise. LEAD is utilized to create efficiencies and reduce waste across the divisions, both old and new. The result is improved cash flow, which can be deployed to reduce debt or to develop new business opportunities.

Guus Boel, perhaps the most well-traveled executive in Actuant's history, uses the LEAD process to make continuous improvement a way of organizational life.

Actuant's business model underlines the role of cash flow in generating corporate momentum.

Applied with discipline and intelligence, the Actuant model is a self-sustaining circle of energy that keeps the enterprise growing in both size and quality every year.

How effective has the Actuant business model been? The results speak for themselves. Between 2000 and 2008, Actuant's sales soared from approximately $500 million to $1.7 billion, and earnings grew even faster. With the Enerpac Division doing most of the heavy lifting, both figuratively and literally, Actuant became an even larger enterprise than Applied Power had been before the electronics spin-off. The global recession that began in late 2008 temporarily halted the company's steady forward progress. A steep decline in discretionary spending practically gutted the market for recreational vehicles, boats, and convertibles—all important end users of Actuant products—but virtually every business segment was affected. Sales fell from $1.7 billion in 2008 to $1.2 billion in 2009, and the prevailing stringency forced a 20-percent reduction in the company's total work force. The downturn was deeply disappointing, of course, but Actuant saw it as an interruption rather than a catastrophe. There was no panic in the corporate offices. Maintaining its traditionally tight fiscal discipline, the company actually finished 2009 with free cash flow of $150 million—a figure nearly identical to the previous year's record showing on significantly lower revenues. Conserving cash, streamlining operations, and exploring new strategic directions, Actuant has positioned itself for robust growth in the recovery ahead.

After a Century

It has been 100 years since a motley crew of Milwaukee tinkerers introduced their hand-operated grinding wheel to a world that was not exactly waiting for it. The trio would have been flabbergasted beyond words if they had known that their little company would grow into an enterprise with operations in more than thirty countries and sales exceeding $1,200,000,000. You can almost picture them counting the zeroes in disbelief. Although the contrast in scale is practically beyond imagination, it was from that tiny seed that the Actuant Corporation of today emerged. The company might have perished at any of several points along the way: when Henry Ford started to make his own water pumps, when Edmund Archambault came close to drowning in debt, when the Depression threatened even the healthiest companies, or when the dot-com bubble burst. But the firm always found its second wind, always earned its second chance, whether through an inspired product change, a timely infusion of cash and talent from the Brumder family, or an unsought divorce from a doomed electronics venture. The business survived all sorts of crises, and despite numerous product shifts and name changes—from American Grinder to Blackhawk to Applied Power and then to Actuant—it finished its first century as one entity with an unbroken record of enterprise.

Why did the company survive when most others perish long before reaching the 100-year mark? Simple chance may have something to do with it. Intelligent leadership is another part of the answer. But Actuant has also developed a personality that gives it some resemblance to, of all things, a bird—Bob Arzbaecher's favorite, in fact: the roadrunner. In 2002, when Dick Crowther, the former vice-chairman of Illinois Tool Works, retired from Actuant's board of directors, he presented Arzbaecher with a plaque that still occupies a prominent place on the CEO's desk. "Welcome to the Desert," the inscription begins. In an "inhospitable and difficult environment," Crowther wrote, Actuant's leaders have "adapted to the environment; they were innovative, decisive and fast on their feet. Best of all, they are ready to sprint and to zig and zag to catch a lot of lizards and snakes in the coming years."

The comparison is not especially glamorous, but it is certainly apt. From hand grinders to hydraulics to the heady assortment of products offered today, Actuant and its predecessors have demonstrated remarkable agility—a nimbleness, an ability to adjust to changes in their environment and to find sustenance in areas that others typically overlook. When one strategic direction failed to deliver results, the company's leaders promptly chose another. No product is forever; no business plan lasts for all time. The company's inherent dynamism has enabled it to not simply survive but to thrive. Underlying that dynamism is an even more fundamental trait. There are more plot twists in Actuant's story than there are in the some detective novels, but at the story's core is a simple constant, a quality that has been there since the beginning: the drive to lead.

Actuant
THE DRIVE TO LEAD

Actuant Family History

From the simple hand grinders of 1910 through the automotive specialties of the 1920s, Actuant's predecessors struggled to find a sustaining technology. The search ended in 1927, when the company made hydraulics the foundation of its future.

Although hydraulics provided the most important platform, Actuant was never afraid to grow in other directions as well. The company, in fact, has shown a remarkable capacity to reinvent itself. The range of hydraulic applications has grown exponentially, and precisely targeted acquisitions have made Actuant a world leader in the industrial, electrical, engineered solutions, and energy businesses.

Today's Actuant goes to market through more than thirty distinct brands, but the company behind those brands operates with a single will and a common purpose: to be the leader in every field it serves.

Actuant Timeline

1910 American Grinder Manufacturing Co. incorporates (October 22)

1913 Edmund Archambault becomes president

1918 American Grinder makes water pumps for Model Ts

1919 Blackhawk hand tools are added to product line

1920 Brumder family makes a crucial loan

Two employees leave to launch Snap-On Tools

1924 Herbert Brumder buys a controlling interest and becomes president

1925 American Grinder's name is changed to Blackhawk Manufacturing

1927 Blackhawk buys Hydraulic Tool Co. of Los Angeles

1920s OEM business begins with snowplow controls

1930s Survives Great Depression

1936 Collision repair line is introduced

Blackhawk moves to new plant in West Allis, Wisconsin

1937 Blackhawk declares itself "the world's largest manufacturers of hydraulic equipment"

1941 Philip Brumder joins his father at Blackhawk

WWII Blackhawk earns Army-Navy "E" Award for production excellence

1947 Demand is so great that distributors are put on allocation

1951 First "idea book" of product applications is published

1952 Phil Brumder becomes president

1955 Socket wrench line is sold

1958 Columbus (WI) plant opens as Blackhawk Products

1959 Gardner Bender electrical firm is founded by Jim Gardner

Enerpac brand name is adopted for hydraulic tools and systems

European manufacturing begins under Pieter Buys

1961 Blackhawk Manufacturing becomes Applied Power Industries

1968 Applied Power begins to acquire automotive aftermarket companies

1969 Leveling system for "camping trailers" is introduced

1971 Power-Packer becomes a separate division

1973 Sales top $100 million for first time

Hospital bed actuation controls are introduced

1980s Convertible top actuation system is perfected

1983 Recession forces suspension of dividends

1985 Applied Power has 10 plants on 5 continents

Richard Sim is hired as COO

1986 Sim becomes CEO, Brumder moves up to board chairman

1987 Blackhawk collision repair business is sold

Applied Power makes initial public stock offering

1988 Gardner Bender is purchased

1989 Barry Wright Corp. is purchased

Debt is 68.5% of Applied Power's capitalization

1992 Bob Arzbaecher joins as controller

1996-99 Over $1 billion is spent to acquire electronics firms

1997 LEAD continuous improvement process begins

1999 APW Electronics leads the global electronic enclosures market

2000 APW Electronics spins off from Applied Power; remaining industrial businesses become Actuant Corporation

Enerpac system raises Golden Gate Bridge

2002 Actuant successfully completes follow-on equity offering, using proceeds to retire portion of allocated debt

2003 Actuant acquires Heinrich Kopp A.G. (European Electrical)

2004 Actuant acquires Kwikee Products (RV), and Dresco B.V. (European Electrical)

2005 Actuant acquires Hedley Purvis and Hydratight Sweeney, initiating the Joint Integrity platform, and completes its largest acquisition to date: Key Components, Inc., which included Gits, Marinco, Acme, and Elliott

2006 Actuant acquires D.L. Ricci, Precision Sure-Lock, Actown, and BEP Marine

2007 Actuant reaches $1.5 billion in revenues and acquires Veha, Injectaseal, Maxima, TTF, and BH Electronics

2008 Actuant acquires TK Simplex and Superior Plant Services; reaches $1.6 billion in total revenues

2009 Actuant acquires Cortland, adding a new platform (electro mechanical cables & umbilicals and engineered synthetic rope) to the portfolio

Company successfully navigates great recession

2010 Actuant acquires Team Hydrotec, Hydrospex, Biach Industries, and Selantic

Actuant celebrates its centennial

Actuant

Actuant TODAY

BUSINESS SEGMENTS

Our Industrial segment is the global leader in high force hydraulic tools and equipment for diverse industrial applications. We serve a vast array of end markets where our products are used to increase productivity and make work safer and easier to perform.

Products: hydraulic pumps, cylinders, valves, torque wrenches and other attachments sold individually or combined into an integrated system

Primary End Markets: industrial MRO, infrastructure, production automation, power generation, oil & gas, aerospace, rail, construction, shipbuilding, mining, other industrial

Brands: Enerpac, Milwaukee Cylinder, Precision SureLock, Simplex, TTF

Energy

Our Energy segment provides joint integrity maintenance, repair and leak sealing products and services for global oil & gas and power generation customers. We also provide highly engineered umbilical, rope, slings and cable solutions for energy and other diverse markets.

Products: torque wrenches, tensioners, pumps, machining equipment, emergency pipeline connectors, electro-mechanical cables and umbilicals, synthetic rope as well as product rental and technical services

Primary End Markets: oil & gas, power generation, wind, nuclear, marine, medical, defense, aerospace

Brands: Biach, Cortland, D.L. Ricci, Hydratight, Morgrip, Puget Sound Rope, Selantic

Electrical

Our Electrical segment provides branded electrical tools and consumables for the professional and retail / Do-It-Yourself (DIY) channels, harsh environment electrical products, transformers for low voltage applications and utility switching equipment.

Products: electrical tools and consumables, wire management products, harsh environment power cords and connections, low voltage transformers, utility switches

Primary End Markets: retail/DIY, electrical wholesale distributors, medical, power generation, production automation, marine, utilities, other industrial

Brands: Acme Electric, BEP, Del City, Gardner Bender, Kopp, Marinco, Turner Electric

Engineered Solutions

Our Engineered Solutions segment serves OEMs with highly engineered position and motion control systems, severe duty air flow solutions, flexible shafts and harsh environment electronic controls and instrumentation.

Products: hydraulic position and motion control systems, engine and turbocharger air flow systems, severe duty instrumentation and electronic controls, flexible shafts, steel cable & assemblies, latches

Primary End Markets: vehicle OEMs (truck, auto, off-highway equipment, agriculture, RV, military), engine and turbocharger OEMs, medical, security, aerospace, lawn & garden, nuclear

Brands: Elliott, Gits Manufacturing, Maxima, Nielsen Sessions, Power-Packer, Power Gear, , Stewart Warner

ACTUANT TODAY

PEOPLE , FACILITIES, EVENTS

golden A AWARD

Actuant's Global Family

Each of our 6,000 employees across the globe has played an important part in the first 100 years of this enterprise, and in the past 10 years as part of Actuant. We look forward to leaving a lasting legacy as other employees have done before us.

CONTINUOUS IMPROVEMENT

ACTUANT
LEAD
CONTINUOUS IMPROVEMENT