

FORGING

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Lakeview Forge Is Celebrating 100 Years

Our profile presents key milestones in the history of this family business, plus what Matthew Bacon, CEO and president, has planned for the company's hammer forging and finishing operations.

**By Wallace D. Huskonen,
Editor**

Not many forging companies can trace a lineage back 100 years. One that can is Lakeview Forge Corp. in Erie, PA. Its corporate history extends back to 1902 when Frank Bacon founded Erie Tool Works in Erie.

Today, Erie Tool Works is one of two divisions of the corporation, along with Lakeview Forge Co. The company specializes in drop hammer forging and finishing of carbon, alloy, and stainless steel components for customers both large and small in the construction, agricultural, hardware, truck, automotive, aerospace, mining, and military applications. Lakeview also stocks a standard line of clevises and hydraulic fittings.

Some of the company's larger customers include General Electric, Caterpillar, General Motors, McDonnell Douglas Helicopter Systems, Boeing, Rockwell International, as well as the Army, Navy and Air Force.

The company employs 20 in its forging operations and 15 in the finishing operations.

According to Lakeview president and CEO, Matthew L. Bacon, "Our equipment is geared toward products in the middle to lower volumes, and in specialty markets." The great grandson of Frank Bacon, Matthew is the fourth generation of his family to run Lakeview Forge and its predecessor companies.

"I decided some time ago, after many discussions with my father, that we would not move into the press business," Bacon said in an interview. "We want to maintain the hammer business and concentrate on doing the more difficult parts that cannot be done easily in a press, and the smaller volume parts that are not economical to do in a press."

He stresses that hammer forging has an advantage in producing parts in smaller volumes because of the quick setup of a hammer and its "more forgiving" die design. Also, he says, "The hammer is a more versatile tool in dealing with non-symmetrical parts



Custom forgings such as these make up 62% of the business of Lakeview Forge.

that have substantially different volumes or cross-sections from one end to the other."

"We want to stay in the more specialized, custom end of the forging business," Bacon states.

Today, 62% of Lakeview's business volume is in custom forgings. Another 14% is in forged AN fittings and valve bodies, 7% is in clevises and eye ends, and 15% is in suspension lugs and aerospace and defense contracting. The balance of 2% involves contract machining and heat treating.

About a quarter of the overall business involves machining and heat treating.

Business has changed

Over the 100-year span of corpo-



Matthew Bacon, president and CEO, is the fourth generation in his family to run Lakeview Forge Corp., which traces its beginning to the founding of Erie Tool Works in 1902.

rate history, the nature of the business has changed dramatically. At one time or another, the company has been involved in producing its own line of hand tools, and producing them with private brand names for large customers (Sears is one example). While the company still produces a line of standard forged products, the majority of its business is in custom forging. (See sidebar for company history.)

External forces also have shaped the business. Bacon says, "It's a lot more difficult, today, in terms of sales. Offshore competition and lately online bidding have taken away the high volume business that we used to enjoy." He also points to the impact of competitive materials and technologies, such as powder metals, fabrication, stamping. The light weighting trend to aluminum in the automotive industry also has had an effect.

"It's not as fun as it used to be," he muses.

A dozen drop hammers

Lakeview Forge has 12 board drop hammers rated from 1500 to 3500 lb.



Veteran hammerman, Paul Johnson, operates one of the drop hammers at Lakeview Forge.



The company produces and stocks a line of standard forgings, most of which involve machining.

A typical day, however, involves operating four hammers, with the majority of work being performed on 2500-lb hammers.

"The majority of our workforce is made up of people with extensive seniority," Bacon notes. "Our hammermen have plenty of experience, some in other forge shops."

While Lakeview has benefited in certain cases from sons following fathers into the company, Bacon found it difficult until recently to recruit and hire qualified people. "I try to get my managers and foremen involved in hiring new people. It's a difficult part of the business, and it takes up a lot of time."

Shop-floor employees belong to the United Steelworkers.

Finishing operations key to business

Finishing specialties at Erie Tool Works include turning, threading, and drilling. The company also offers heat treating and inspection.

In-house heat treating is available to customers of Lakeview Forge Corp.



For higher volume machining work, the company continues to use multiple spindle chucking machines such as Acme Gridleys.

"We put in CNC lathes to handle the shorter runs and to meet the higher precision requirements of today," Bacon points out. "They help us to meet the need for quick setup and tear down, and also for machining after heat treat. They also are also capable of very high precision threading work."

Such finishing capabilities figure prominently in the future of Lakeview Forge. "More and more today, we find that companies don't want to have to do quality surveys and issue numerous purchase orders to get a finished part. We find it is very important for us to try to do all the operations, such as machining and heat treating, after meeting the forging requirements. It eliminates a lot of freight costs, and a lot of quality survey requirements.

"Customers like being able to issue one purchase order. We think that is a big advantage to us," said Bacon. "Today we are selling that more and more."

Role of computers at Lakeview

CAD/CAM is a subject Bacon displays a personal interest in. "I've tried to personally drive our involvement in CAD/CAM. I want to increase our capability both in the machining aspect

and the die sinking.

Erie Tool has been involved in computer-aided machining (CAM) since 1987; the computer-aided design (CAD) was added last year.

"It took us awhile to move into the CAD part of it, because full 3-D software has been available only recently for small companies like us on our limited budgets. The tremendous advances in the computer industry have helped the situation."

At the moment, "We don't do a lot of die sinking in house," Bacon says. "There are a lot of economical die-sinking houses in this area, but we have invested money in die-sinking equipment and software to bring some of that in-house economically."

He explains, "We're in the process of working on this, particularly with our large inventory of dies for AN fittings — standard aircraft hydraulic fittings. These are high repeating jobs, made of either carbon or stainless



Many Lakeview Forge customers value the CNC machining capability offered by its Erie Tool Works subsidiary.

A FAMILY BUSINESS FOR FOUR GENERATIONS

Frank Bacon founded Erie Tool Works in Erie, PA, in 1902 to produce hand tools. He and his descendants have managed the successor organizations for 100 years. Except for a half dozen years beginning in the late 1960s, the business was family-owned also. Frank's son, Edwin Warner Bacon, and grandson, F. Warner Bacon, served at the helm of the business, and currently, Frank's great grandson, Matthew L. Bacon, is president and CEO.

For much of its history, Erie Tool specialized in hand tools and vises for the plumbing trade. In fact, for more than 30 years, Erie Tool produced a line of plumbing tools for Sears. Another significant chunk of the business involved producing hand tools under private brand names.

In the early 1950s, Erie Tool moved to larger quarters in Erie and acquired Lakeview Forge, also in Erie, to serve its growing need for forgings.

In the late 1960s, the Bacon family sold the companies to Textron, which was looking for a captive forging operation to serve its defense contracting needs.

F. Warner Bacon bought back the companies from Textron in 1973 and created Lakeview Forge Corp. with Lakeview Forge Co. and Erie Tool Works as divisions.

Later in the 1970s, the hand tool business was sold, but the Erie Tool Works name and operation was retained because it had a good reputation in defense contracting.

Matthew Bacon began working full-time

steels. We own those dies and keep them in stock. On repeat jobs we want to use those as our first CNC die-sinking projects. Replacements and reworking of all our fitting dies will be done on the CNC. We want to have this project fully rolling this year."

Setting the stage for this evolution, the company has acquired a CNC vertical machining center that is interfaced with a PC that takes care of the large amount of software code. "It takes a fairly good-sized machine to handle die blocks," Bacon observes.

What's ahead for Lakeview Forge?

"One of the other things that we are doing here is moving towards ISO



For more information on Lakeview Forge, go to www.lakeviewforge.com.

at Lakeview Forge in 1975 after studying mechanical engineering at Worcester Polytechnic Institute. He was already familiar with the operations after working summers throughout high school for his father, whom he considers his inspiration.

Matthew took over supervision of Erie Tool Works in 1978 when its manager took an early retirement. With help from his father, whose office was located two miles away at Lakeview Forge, he quickly learned about machining, heat treating, and prime government defense contract, the main activities at Erie Tool. He became vice president of operations of both plants in 1993.

In 1998, F. Warner Bacon handed off the titles of president and CEO to his son, Matthew, retaining only the board chairman's role. Joining Matthew on the board was his sister Kitty Bacon Koch, who works for the company in sales. Dale Massing, chief financial officer, and James Cullen, the company's labor attorney, round out the company board.

"It makes me very proud to be able to say we are a fourth-generation business," said Bacon, "and with a little luck, maybe we'll be around for a fifth generation."

9001:2000," Bacon says. "Our plan is to be ISO-9001 compliant by the end of the first quarter and ISO-9001 certified by the end of the second quarter."

Another plan involves upgrading the forging operations. "My intention is to bring in an operating cell with induction heating and an air-operated power hammer," Bacon reveals. "It's one of the things we've spent a lot of time and effort on, but it's going to be a tough decision to move ahead with that given today's economy."

Finally, Bacon is looking to expand Lakeview's network of manufacturers representatives, because "It will be one of the keys to increasing our sales, to bring in new business." 