

FABRICATING THE FUTURE OF THE POPCORN POPPER.



Since 1885



Inventors of the Popcorn Machine

AMADA partnership represents milestone for C. Cretors & Co.

Four years ago an operator at C. Cretors & Co. admired how a hole aligned perfectly with a feature on a mating flange, made seconds before on its new AMADA HG 8025 press brake. The operator brought the part to the company president, Andrew Cretors, whose eyes popped — not entirely unlike the popcorn C. Cretors' theater popcorn machines have been popping since company founder Charles Cretors invented the first commercial, large-scale popcorn machine in 1893.

The part's bending program had been simulated using Dr.ABE offline bend programming software, the predecessor to AMADA's VPSS3i Bend. It was then air-bent to precision — no warping of the bend line from poor crowning,

no distortion of the stainless-steel workpiece whatsoever.

"It was like nirvana," Andrew recalled. "It actually worked. Our time to market plummeted and chasing tolerances with old-school technology became a thing of the past."

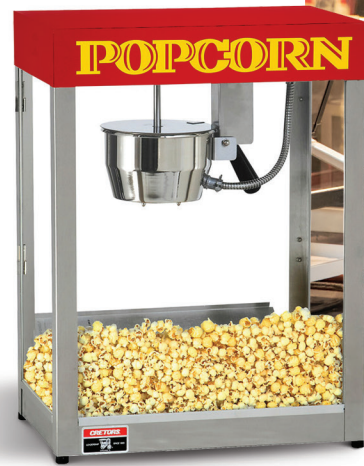
That's when C. Cretors' partnership with AMADA began, and it continued this year as the fifth-generation family business installed an ENSIS 3kW fiber laser and an HRB 1003 press brake. The aim was to boost cutting and bending capacity and give the company's engineers greater possibilities when designing parts, especially for custom and configure-to-order products. More broadly, the move represented a significant milestone in the company's long his-

tory, which goes back to the first steam-driven popcorn poppers of the late 1800s.

With 67 employees, C. Cretors remains a manufacturer of its now iconic theater popcorn machines as well as custom-built industrial poppers that make the pre-popped popcorn sold in grocery stores. Some of its latest hot-air systems can pop more than 5,000 lbs. of popcorn per hour. But now, with more in-house sheet metal fabrication capability, it also has control over a greater portion of the process chain, from blanking and bending to downstream welding and assembly. And as Andrew Cretors explained, AMADA's support and technology made that milestone possible.

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Andrew Cretors, President
of C. Cretors & Co. inside the
company museum.



Training and Support Make the Difference

Shortly after purchasing its first AMADA machine four years ago, C. Cretors sent its operators for training. "That's one big reason why we decided to go with AMADA in the first place," Andrew recalled. "Their training is top-notch, and so is their service network. In fact, that's the first question we asked when looking for new equipment: What's your service network like? If we didn't feel like their service network was adequate, we just didn't continue the conversation."

They did this for good reason. For years, every time an issue arose with its punching equipment, those in the sheet metal department waited and waited, often having no choice but to muddle through with less capacity. "Every time we had a problem, the company had to fly techs out from far away, and it just took forever," Andrew said, shaking his head. "Not again."

Frequent unexpected downtime created a vicious cycle. In one sense, the downtime pushed C. Cretors more toward outsourcing its sheet metal work. But relying too heavily on

outsourcing created other challenges, especially considering the nature of the popcorn manufacturer's product mix.

The most obvious issues emerged from the company's industrial poppers, each one engineered- and made-to-order. The machines pop, sift the kernels, coat the popcorn, then convey them to a packaging machine. "It's all turnkey, and it's all automated," Andrew explained, "and every customer has different requirements."

That design process could wreak havoc in the sheet metal department. More and more, managers found their legacy technology simply couldn't produce the parts they needed reliably. The old press brakes had crowning issues, meaning that operators spent too much time adjusting and tweaking to create a bend that actually fell within tolerance. So C. Cretors continued outsourcing, which in turn slowed its ability to respond to customers.

And that was just on the industrial side of the business. The commercial side, including its signature product lines sold to the country's largest movie theater chains, isn't a straight-forward make-to-stock catalog business. Not every theater popcorn machine is exactly the

same. Sure, C. Cretors has standard models, but many can be configured to order.

"There's a lot of variation in a popcorn machine," Andrew said, adding that the placement of doors and signage depends on where the machine will sit within a theater concession stand.

Moreover, the theater business is forever cyclical. Yes, demand for machines plummeted to a near standstill during the pandemic, but the rebound has been strong, and customer demand for quick response has only increased. That made the inconsistency of older, legacy equipment that much more painful.

"During the beginning of the pandemic, people were predicting the end of movie theaters," Andrew said. "Well, when my grandfather was running the business, and the TV was invented, everyone thought that would be the end of movie theaters. And it wasn't the end. Then the VCR came out, then the DVD, then streaming. And each one of these inventions was thought to put theaters out of business. We're social creatures. We enjoy a night out. Moreover, the studios have found that streaming is not as profitable as selling and distributing movies through theaters."

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That said, the theater business's cyclical nature has guided C. Cretors' manufacturing philosophy for decades. "We've always taken a conservative approach to our business," Andrew said, "mainly because we've seen business fluctuate, especially on the movie theater side. A [movie-theater] chain may do a circuit-wide upgrade, so that year we may sell a bunch of machines. Then the next year, sales drop off significantly."

"Considering this, we've always staffed and built our sheet metal capacity to meet the demands of our lowest point of business, so we're not constantly hiring and firing when business goes up and down. When we'd have surges in demand, we'd farm out a fair bit of sheet metal parts. Fast forward to the pandemic, though, and we had a rude awakening. We found we weren't able to meet demand. Over the years our business had really grown, but our internal sheet metal capacity was simply too low, and some of our trusted outside fabricators hadn't weathered the worst of the pandemic as well as we had hoped."

Andrew added, however, that the company is having difficulty adding capacity by increasing the headcount in today's economy, especially in the sheet metal department. It's instead turning to technology to make each person more productive. "We cross train extensively," he said. "With fewer and fewer operators, we have fewer backups. Our lead person doesn't need to be an expert on every piece of equipment, but he needs at least a good working knowledge of everything in the shop."

The AMADA software and modern equipment has eased cross-training significantly. As Andrew explained, the current situation stands in stark contrast to the state of the shop five years ago. At that time, only certain people with the right tribal knowledge knew how to operate certain equipment. One old press brake was a prime example. Only the press brake lead knew how to tweak the crowning just right to create accurate bends (and even then, he didn't always succeed). Now, with modern software and machinery, operators can move from machine to machine, look at the modern control, and pick up right where the last operator left off. Knowledge of machine operation is no longer locked inside one person's head.

Andrew also said that the recent AMADA equipment investment represents a shift in thinking about C. Cretors' core competency. The core competency itself hasn't changed; the

company still is first and foremost a maker of popcorn equipment and related machinery. It's not, and likely never will be, a custom or contract fabricator specializing in challenging work no one else would tackle. Using this rationale, company leaders kept its in-house fabrication capability limited. They just didn't see sheet metal fabrication as a core competency.

Problem was, the limited in-house sheet metal capacity left C. Cretors vulnerable. "We made the investment in AMADA equipment to take control of our supply chain," Andrew said. "We're an engineering-driven company, and we needed the equipment to make those engineering innovations a reality."

Expanding into laser cutting was key to this strategy. "The simplicity of laser cutting, particularly with the AMADA equipment, really caught our eye," Andrew explained. "We were investing too much time in programming for the punching systems. There were the tool maintenance issues, and then the deburring we'd need to do, especially if the tools weren't quite as sharp as we thought they were. To meet growing demand, and really for its ease of use and speed of processing, we replaced one of our punch presses with the ENSIS 3kW fiber system."

On the Right Path

Some of Andrew's earliest memories of the family business include images of his grandfather poring over blueprints on his desk. As a young mechanical engineer during World War II, his grandfather had designed products for the military — including radio parts and stabilizer pads for anti-aircraft guns — as C. Cretors shifted to defense work to support the war effort.

Years later, Charles D. Cretors — the fourth-generation Cretors in the business — sat at his desk, created drawings, and manually working out bend allowances and bend deductions for the "tin shop," named after the tanners and tinsmiths that populated the floor since before the turn of the century. Andrew chuckled. "To this day, we still call it the tin shop."

For most of the 20th century C. Cretors' home was on Cermak Road near the south branch of the Chicago River. There, during the company's early years, tanners had worked belt-driven machines, including manual punch presses and wooden leaf brakes, a few of which are on display in the company museum.

Such craftsmanship built the firm's foundation, but market realities changed — and so did demands put on C. Cretors' sheet metal department. Even the company's most experienced brake operators spent too long setting up jobs.

Andrew recalled a press brake operator struggling with a challenging sheet metal part with positive and negative bends creating return flanges that had to mate precisely at the corner. The notch between the flanges had to be punched just so, and a slot cutout near the outside bend, the one formed first in a sequence of eight bends (four bends on each side), created even more challenges. Again and again, slight errors early on stacked up over multiple bends to throw the workpiece out of tolerance.

Not long after, C. Cretors purchased its first AMADA press brake and brought that same operator through AMADA training, starting with offline bend simulation. Andrew then recalled a similar part formed with one of the company's new AMADA press brakes. The same operator made the first bend and



used the DigiPro angle measurement tool that connects wirelessly with the brake control. It communicated any error (such as those caused by slight material thickness changes) to the machine control, which then made the necessary adjustments to form that first bend perfectly. Multiple bends later, the operator completed the first workpiece and saw how perfectly the edges mated. Shortly thereafter, Andrew walked by the bending station, gave a thumbs up, and smiled.

"That was likely the most complex part we make, a piece on the lower frame of our Mach 5 popcorn machine. It's so satisfying to see the corners line up perfectly. I had to give [our brake operator] props. At that point, I knew we were on the right path."



Abbreviated History

- Charles Cretors forms C. Cretors Co. to sell a steam-engine-driven peanut roaster. 1885
- Charles Cretors patents the first modern commercial popcorn machine. 1893
- The company introduces and starts production of the Cretors Model popcorn wagon. 1897
- The company moves to Cermak Road in Chicago and remains there for 76 years. 1900
- As a licensed automobile manufacturer, Cretors builds its own popcorn truck using components from the Buda Engine Co. The Buda Truck becomes one of the first concession food trucks in the U.S. 1901
- Cretors introduces first popcorn machine that can be used both indoors and out. 1924
- Movie theater operators start seeing the value of selling popcorn, and sales grow. 1938
- Regular manufacturing work resumes after spending the past five years fabricating products to support the war effort. 1946
- The company revolutionizes the market for industrial-scale snack-food processing with the Flo-Thru hot-air popcorn machine. 1967
- Cretors expands into nacho equipment, cotton candy machines, and warmers. Export business grows. 1988
- The Mach 5, one of Cretors most popular models, is introduced. 2009
- The company relocates from Chicago to Wood Dale, IL. 2014

