

# **Ajax** *Innovator*

News, Events and Special Features From EJ Ajax

Winter/Spring 2016



## A New Dimension in Measurement

Traditional methods get you by in a pinch.

But today's new 3D devices take quality assurance to a whole new level.

Get the latest on page 3.



### Manager's Message

From Erick Ajax

#### From Mission Control to Quality Control

I wonder if the next generation of manufacturing executives will get excited about the progression of technology the way I do. Maybe they'll view technological leaps as business-as-usual. Me, I still get jazzed.

For instance, during a recent visit to Kennedy Space Center in Florida, I learned the following bit of tech history that really made me think.

In 1969, NASA used several IBM System/360 Model 75 mainframe computers, each costing up to \$3.5 million and boasting *one megabyte* of memory, to contain the six megabytes

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### EJ Ajax Named 2016 Skills Champion

The National Skills Coalition has named EJ Ajax as the 2016 Skills Champion in recognition of the company's work encouraging U.S. policymakers to invest in the skills of American workers.

EJ Ajax invests over 5.5% of its annual payroll in employee education and skill-building, and believes strongly in employer-led partnerships to prepare workers for jobs within American industry.

Over the last decade, EJ Ajax has helped to raise the visibility of the skills gap, sector partnerships, and the need for federal skills policy to be informed by small and mid-sized employers.

Erick Ajax, co-owner, is a founding

board member of M-Powered, an award-winning, fast-track training program that has successfully trained hundreds of Minnesotans for a manufacturing career. M-Powered serves dislocated workers, the unemployed, and underemployed and provides priority service to veterans and spouses of veterans.

Ericks efforts to bring manufacturers together with federal, state and local economic development professionals, manufacturing industry associations, and community partners has created a repeatable success model that will assist future workforce program development.

The National Skills Coalition honors and congratulates EJ Ajax for their efforts on behalf of America's skilled workforce.



## Events

### Connect with Erick Ajax, Don Wellman, and other EJ Ajax pros during our 2016 industry events.

Plans are underway for EJ Ajax to exhibit at several industry trade shows and industry events during 2016. Please check [metalfformingblog.com](http://metalfformingblog.com) for 2016 event dates and locations.

#### Design-2-Part



The Design-2-Part Show is the most efficient place to meet hundreds of high-quality, reliable American manufacturers to help you improve quality, lower costs, and get products to market faster. From design and prototypes to production, finishing, and assemblies, you'll find the answers you need at this show.

#### AHR Expo

AHR Expo is the featured annual event for air conditioning, heating & ventilation and refrigeration buyers and companies.



In January, EJ Ajax exhibited at AHR Expo 2016 in Orlando, Florida. EJ Ajax met with dozens of existing, new, and potential customers there in Orlando. We look forward to meeting everyone again in 2017 in Las Vegas.

## Customer Feature - D.A. Distribution

# Rock Stars Partner With EJ Ajax

Visual, tactile and emotional. That's how D.A. Distribution describes their products. If you viewed their products in person, you'd agree.

The people at D.A. Distribution have a very special talent: forming concrete into stone and brick building materials that look and feel completely natural, even when examined closely. The product line includes indoor and outdoor architectural stone veneers, thin brick veneers, hearthstones, keystones, sills, wall caps, post caps, and manufactured stone and brick accessories. These unique products are used on residential and commercial buildings, signage, entryways, patios, fireplaces, and bars to name just a few.

The Minneapolis, Minnesota-based company has been in business since 1977 and has additional distribution centers in California, Pennsylvania, and Texas. Their products are used by architects, builders, property managers, and residence owners who want

natural-looking decorative veneers that last like stone or brick, but with a very affordable array of colors and styles that make it easy to meet design goals while reducing installation costs.

The company recently recognized a new market opportunity for a modular, manufactured stone siding product that could be fastened to most any type of interior and exterior wall. So they created Waypost Stone Siding.

Through experience, the product managers at Waypost knew their new siding would be far more attractive if an all-weather, easy-to-use mechanical fastening system could be offered. That way, general tradesmen or even do-it-yourselfers could perform the installation work without hiring professional masons or buying specialized equipment.

Antony Petkov, Director of Engineering at Boulder Creek, solved this problem by designing a special bracket that

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# Waypost Stone Siding



## Rock Stars (cont.)

used high-strength fasteners to attach the siding to the building. The bracket would make the siding easy to install and permanent, but it was specialized and not available off-the-shelf. Panhead fasteners were best suited for this application, so the bracket's fastening point would need to be countersunk to provide clearance for the fastener head.

"We knew there would be a few manufacturing challenges," Antony said. "We needed the bracket to be perfectly flat. Any twist or warp in the bracket would cause installation problems and slow down the installer's work."

Antony tried other vendors, including manufacturers in China, but none were able to meet all of Waypost's requirements. Then Antony brought this manufacturing challenge to Don Wellman, VP of Sales at EJ Ajax of Minneapolis.

"We shopped around quite a bit," Antony said. "But after talking to Don and inspecting the plant and some of the other metal parts they had produced, we felt confident going with EJ Ajax."

The EJ Ajax build team went right to work to determine the appropriate material and the best workflow, production methods, and machinery for the task.

"We began with selecting the right material," Don said. "Part of this bracket is molded into the concrete siding, while the remainder is exposed to outdoor elements. The combination of the concrete mix, water and air often causes a chemical reaction that can corrode the metal surface. When metal corrodes, it swells. That expansion would weaken the surrounding concrete and ultimately create gaps in the installation. Avoiding this problem was an absolute must."

The EJ Ajax team had only three practical choices to effectively avoid corrosion: aluminum, stainless steel, or galvanized steel. Aluminum is less expensive than stainless steel and resists corrosion, but

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## A New Dimension in Measurement



EJ Ajax Quality Technician Adam Lorig scans a coil plate using the FARO Arm Edge. The overhead LCD display (sample left) provides a visual of the scanned part.

Here's an impressive new measurement technology that we believe EJ Ajax customers will really appreciate. This is the new FaroArm Edge from FARO Technologies, a leading manufacturer of 3D imaging and measurement solutions.

This computer-controlled coordinate measuring device enables the EJ Ajax quality team to quickly and accurately perform 3D metal part inspections, tool certifications, part comparisons, dimensional analysis, even reverse engineering.

With its laser scanning head and special probe, touchscreen computer, and smart technology, this arm can efficiently scan metal formed parts with ultra-high precision. When operated by a fully-trained and experienced quality engineer, this state-of-the-art measurement device speeds the production process, reduces the likelihood of error, and gives EJ Ajax customers even greater assurance that the parts we deliver will be perfectly on spec, every single time.

The EJ Ajax quality engineer uses the laser probe at the end of the arm to click on each measurement point on the part. The arm's computer uses special encoders to compute the exact position of the probe within 3-dimensional space. The data from each probe click is then recorded by the arm's software, and the results are saved to a database and are viewable on the overhead computer display.

Once the scan is complete, the EJ Ajax production team can then analyze the results using a 3D overlay of the scan on the original part file. Any unacceptable variances can be quickly identified, and any necessary corrections to tooling or processes can then be made with confidence. As always, it's the know-how of the production team that makes this new technology so effective for EJ Ajax customers.

EJ Ajax customers rely on our team to make sure the metal formed parts we deliver are perfectly on spec, every single time without exception. With the addition of this new measurement technology, and with the training and experience the EJ Ajax workforce is known for, we'll take our customer experience to the next level.

Please check [metalformingblog.com](http://metalformingblog.com) to see a video of this device in action. For more information about this and all the other machines and technologies we use every day here at EJ Ajax, please visit our web site at [ejajax.com](http://ejajax.com).

## Rock Stars (cont.)

lacks the tensile strength needed to prevent product failure over time. Stainless steel is both strong and resistant to corrosion, but is far more expensive. Regular steel is plenty strong for this application, and affordable, but would require a physical barrier between the concrete and the steel surface to prevent corrosion. Enter galvanizing.

Galvanizing is a zinc coating applied to raw steel through a process called “continuous hot-dip,” in which the steel passes through a bath of molten zinc. The zinc bonds to the iron particles in the steel, forming a protective layer on all sides. Because the zinc coating does not flake, chip or peel, it can be metalformed. Plus it’s economical. The team had the material they needed.

“The next challenge was method of manufacture,” Don explained. “We needed a process that could perform the blanking, embossing, and metal forming perfectly, without tearing the hit points or warping the length. But we also needed to provide Waypost managers with a means to vary the bracket lengths to accommodate any changes in

product style or size without worrying about production setup.”

The build team discussed several options and ideas, finally arriving at a single design that would satisfy all requirements.

“The finished tooling was one of the most sophisticated machine tool builds that EJ Ajax has ever been involved with,” Don recalled. “When our customers ask about our tooling capabilities, this is the project I point to. Simply an amazing machine tool.”



Once the material and tooling hurdles were cleared, the build team was able to quickly finish up the production plan and get the project online. The team produced part samples that were presented to Waypost managers. After several process modifications to perfect the outcome, the team was able to get the project into final production. The results were excellent, and management at D.A. Distribution could not be happier.

“Our sales for this product are running according to projections,” Antoni said. “We’re looking forward to a solid 2016.”

## Manager’s Message (cont.)

of code required for Neil Armstrong’s moon landing mission. Each computer performed 41 million cycles per second and required a tape drive the size of a refrigerator. A huge building was needed to power, cool, backup, and secure these computers, though engineers were able to reduce a version of the 360 to the size of a large suitcase in order to squeeze it into Neil’s capsule.



Fast forward 47 years: the phones you and I carry in our pockets have upwards of 64 gigs of memory and speeds of 1.3 billion cycles per second, enabling such important tasks as mapping a route to a new restaurant. The *complete* NASA mission file from 1969 would be a tiny phone app by today’s standards. That’s how far computing has come.

With delicious irony, I learned that on the *very day* I visited Kennedy Space Center, our new FAROArm Edge 3D measurement system arrived at the EJ Ajax quality lab.

This device enables our quality team to perform 3D metal part inspections, tool certifications, part comparisons, dimensional analysis, reverse engineering, and a few more

new functions that I’m just now learning about. I find myself saying “cool” and “wow” a lot, like I did at Kennedy. You can’t ride the FAROArm to the moon, but this thing is impressive.

What our customers will care about is this: it speeds the production process, reduces the likelihood of error, and provides even greater assurance that the parts we deliver will be perfectly on spec. I like the sound of that, don’t you?

We’ve created a new high-definition online video to help you learn more about the FAROArm system. We posted this 3½-minute video on our blog at [metalfformingblog.com](http://metalfformingblog.com). Take a look. Pretty amazing stuff.

Three generations of my family’s metal forming business have witnessed progress similar to NASA’s. The technology we use today is as far from my grandfather’s 1945 tools and methods as I am from Neil Armstrong’s footprints.

But no matter how cool the new technologies are, good communication, top customer service, and teamwork remain essential. We at EJ Ajax are committed to learning how to apply new devices as a team. That’s the best way to provide our customers with simply spectacular results.